



AGENDA
MONDAY, DECEMBER 11, 2023 AT 6:00 PM
JOINT MEETING WITH
KAUFMAN CITY COUNCIL AND
PLANNING AND ZONING COMMISSION
CITY HALL COUNCIL CHAMBERS
209 S. WASHINGTON STREET
KAUFMAN, TEXAS 75142
AND VIA VIDEOCONFERENCE/TELECONFERENCE

**This meeting will be held using
videoconferencing/teleconferencing
technology with public access via:
WWW.ZOOM.US/JOIN OR
(888)788-0099 (TOLL-FREE)
MEETING/WEBINAR ID: 883 6927 8412
PASSWORD: 562304**

PLEDGE OF ALLEGIANCE

CALL CITY COUNCIL MEETING TO ORDER Mayor calls the City Council Meeting to order, states the date and time, states Councilmembers present, and declares a quorum present.**

CALL PLANNING AND ZONING COMMISSION MEETING TO ORDER Chairman calls the Planning and Zoning Commission Meeting to order, states the date and time, states Commissioners present, and declares a quorum present.**

CITIZENS COMMENTS / REQUEST TO SPEAK ON AGENDA ITEMS (5 MINUTES) Comments about any of the Joint Session agenda items may be taken into consideration at this time or during the agenda item. Comments are limited to five (5) minutes per individual unless additional time is otherwise required by law for translation. Speaking time is not transferable. Citizens may address the City Council and Planning and Zoning Commission on any subject but must first complete a Request to Speak Form so that the Mayor may call your name to speak at the appropriate time on the Agenda. Comments must be directed to the Council and Commission as a whole. When addressing the Council and Commission, please step forward to the speaker's podium, state your name and address, and direct your comments to the Mayor and City Council and/or the Chair and the Planning and Zoning Commission.

EXECUTIVE SESSION

1. The City Council and Planning and Zoning Commission will recess into Executive Session pursuant to Texas Government Code for an executive session regarding the following:
 - a. Sec. 551.071(1) and (2); CONSULTATION WITH ATTORNEY: (1) To consult with City Attorney on a matter in which the duty of the attorney to the governmental body under the Texas Disciplinary Rules of Professional Conduct of the State Bar of Texas clearly conflicts with the Texas Open Meetings Act and (2) for Council to seek the advice of its attorney about pending or contemplated litigation: Subdivision Regulations and State law.

RECONVENE INTO OPEN SESSION In accordance with Texas Government Code, Chapter 551, the City Council and Planning and Zoning Commission will reconvene into Regular Session.

DISCUSSION/ACTION ITEMS - CITY COUNCIL AND PLANNING AND ZONING COMMISSION

2. Joint work session with the Planning and Zoning Commission to receive a presentation, review, and discuss the proposed rewrite of the City of Kaufman Subdivision Regulations.

ADJOURNMENT OF PLANNING AND ZONING COMMISSION

DISCUSSION/ACTION ITEMS- CITY COUNCIL

3. Consider and take appropriate action on Senate Bill 2038 petition for release from the Extraterritorial Jurisdiction (ETJ) received from Petitioner Bullhead Energy, LLC and East Fork Trinity, LLC on November 3, 2023, for property located in the S. Thompson Survey, A-528 and the S. Gilleland Survey, A-167.

ANNOUNCEMENTS AND REPORTS FROM CITY MANAGER

4. Receive an update and discussion regarding the following:
 - a. Employee Christmas Luncheon - December 13
 - b. TIRZ #3 and Regular City Council Meeting - December 18th

ADJOURNMENT OF CITY COUNCIL

I, JESSIE HANKS, CITY SECRETARY, DO HEREBY CERTIFY THAT THIS NOTICE OF MEETING WAS POSTED ON THE WINDOW AT KAUFMAN MUNICIPAL COMPLEX, 209 S. WASHINGTON, KAUFMAN, TEXAS, A PLACE CONVENIENT AND READILY ACCESSIBLE TO THE GENERAL PUBLIC AT ALL TIMES AND SAID NOTICE WAS POSTED AT THE KAUFMAN MUNICIPAL COMPLEX, 209 S. WASHINGTON, KAUFMAN, TEXAS AT 4:30 P.M. ON FRIDAY, DECEMBER 8, 2023, AND REMAINED SO POSTED CONTINUOUSLY FOR AT LEAST 72 HOURS PRECEDING THE SCHEDULE TIME OF SAID MEETING.



JESSIE HANKS
CITY SECRETARY



THE CITY COUNCIL AND PLANNING AND ZONING COMMISSION RESERVE THE RIGHT TO ADJOURN INTO EXECUTIVE SESSION AT ANY TIME DURING THE COURSE OF THIS MEETING TO DISCUSS ANY OF THE MATTERS LISTED ABOVE, AS AUTHORIZED BY THE TEXAS GOVERNMENT CODE, SECTION 551.071 (CONSULTATION WITH ATTORNEY).

****PURSUANT TO SECTION 551.127, TEXAS GOVERNMENT CODE, ONE OR MORE COUNCILMEMBERS OR EMPLOYEES MAY ATTEND THIS MEETING REMOTELY USING VIDEOCONFERENCING TECHNOLOGY. THE VIDEO AND AUDIO FEED OF THE VIDEOCONFERENCING EQUIPMENT CAN BE VIEWED AND HEARD BY THE PUBLIC BY ACCESSING WWW.ZOOM.US/JOIN OR (888)788-0099 (TOLL FREE) MEETING/WEBINAR ID: 883 6927 8412 PASSWORD: 562304**

THE BUILDING IN WHICH THE ABOVE MEETING WILL BE CONDUCTED IS WHEELCHAIR ACCESSIBLE AND PARKING SPACES FOR THE MOBILITY IMPAIRED ARE AVAILABLE. PERSONS WITH DISABILITIES WHO PLAN TO ATTEND THIS MEETING AND WHO MAY NEED AUXILIARY AIDS OR SERVICES SUCH AS INTERPRETERS FOR PERSONS WHO ARE DEAF OR HEARING IMPAIRED, READERS, OR LARGE PRINT ARE REQUESTED TO CONTACT THE CITY SECRETARY'S OFFICE AT 972-932-2216 AT LEAST TWO (2) WORKING DAYS PRIOR TO THE TIME OF THE MEETING SO THAT APPROPRIATE ARRANGEMENTS CAN BE MADE.



Meeting
Date: 12/11/2023

Date: 11/27/2023

Item #: 2.

Dept.: Development
Services

Discussion Item

SUBJECT:

Joint work session with the Planning and Zoning Commission to receive a presentation, review, and discuss the proposed rewrite of the City of Kaufman Subdivision Regulations.

BACKGROUND:

This is a joint meeting of the Planning and Zoning Commission and City Council to discuss a proposed overhaul of the City's subdivision regulations and the adoption of standards for design & construction of public infrastructure.

City Staff and the City's planning, engineering, and legal consultants involved in the preparation of the revised subdivision regulations and the standards for design & construction of public infrastructure will be there to present the draft revisions, respond to questions and concerns, and receive feedback before making final revisions and presenting the new regulations for adoption in early 2024.

Author: Andrew Bogda, Director of Development Services
Reviewed: Mike Holder, City Manager

Cost: Funds Available: Source:

Recommendation: No action required.

Safe & Secure	Business Friendly/Economic Development	Partnership & Community Involvement	Healthy & Environmentally Cons. Comm.	Financial & OPS Stewardship
■	■	■	■	■

CITY OF KAUFMAN

Kaufman Subdivision Ordinance

VOLUME 1



City of Kaufman, Texas

Adopted _____, 2024

Ordinance O-__-24

Draft for 12-11-23 Work Session

Kaufman City Council

Jeff Jordan, Mayor

Matthew Phillips, Mayor Pro Tem

Charles Gillenwater

Lisa Parker

Jason Nelson

Ashlea Longenecker

Quattro Borders

Kaufman Planning and Zoning Commission

Richard Dunn, Chairman

Burton Brown, Vice Chairman

Kathy Thorpe

Porfilo Lopez

Kathleen Sisson

Mike Slye

[Vacant]

Mike Holder, ICMA-CM, City Manager

Rachel Balthrop Mendoza, Assistant City Manager

Andrew Bogda, AICP, Director of Development Services

Tim Hopwood, Director of Public Works

Prepared by:

Ratcliff Planning Consultants

&





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ARTICLE 02.03.000.....GENERAL SUBDIVISION AUTHORITY OF THE CITY

SEC. 02.03.001AUTHORITY, PURPOSE & APPLICABILITY.

- (a) **Authority.** The regulations of this CHAPTER are authorized under the TEXAS LOCAL GOVERNMENT CODE, CHAPTER 212 (including SUBCHAPTER B), as amended, and the City's Charter. The provisions of this Chapter expressly extend to all areas inside the City limits and throughout the City's extraterritorial jurisdiction (ETJ), as either may be adjusted in the future, and as provided in the City's interlocal agreement with Kaufman County, in accordance with CHAPTER 242 of the TEXAS LOCAL GOVERNMENT CODE, as amended.
- (b) **Purpose.**
- (1) The development and subdivision of land, as they affect a community's quality of life, are activities for which regulation is a valid function of municipal government. The regulations contained within this Chapter are intended to protect the interests of the public and of private parties by granting certain rights, privileges, and obligations. The requirements in this Ordinance are also intended to establish a fair and rational procedure for developing and subdividing land such that land will be developed in accordance with existing physical, social, economic, and environmental conditions.
 - (2) The provisions of this Ordinance are intended to implement standards and requirements provided for herein and shall be requirements for the platting and developing of subdivisions within the City and its ETJ.
 - (3) The provisions of this Ordinance are intended to implement the following objectives:
 - i. Promote the development and the utilization of land in a manner that provides an attractive and high-quality community environment in accordance with the *Comprehensive Plan*, the *Zoning Ordinance*, and other development-related ordinances of the City;
 - ii. Assist orderly, safe, efficient, and coordinated development within the City's limits and its ETJ;
 - iii. Guide and assist property owners, Developers, and applicants in the correct procedures to be followed, and to inform them of the required standards;
 - iv. Protect the public interest by having standards that include, but are not limited to, the location, design, class and type of streets, sidewalks, trails, alleys, utilities, and essential public services;
 - v. Integrate the development of various tracts of land into the community and coordinate the future development of adjoining tracts;
 - vi. Promote the most efficient and beneficial provision of public facilities and services for each tract being subdivided;
 - vii. Provide for compatible relationships between land uses and buildings;
 - viii. Provide for efficient traffic circulation throughout the municipality;
 - ix. Provide for pedestrian and bicyclist movement that is appropriate within the context of various uses of land and buildings;
 - x. Minimize pollution of the air, streams, bodies of water, and aquifers; promote the adequacy of storm drainage facilities; minimize erosion; safeguard both surface and groundwater supplies, as well as natural resources and endangered or threatened plant and animal life; and encourage the wise use and management of natural resources throughout the municipality in order to preserve the integrity, stability, and beauty of the community and the value of the land;
 - xi. Preserve the natural beauty and topography of public and private properties by encouraging the incorporation of natural features and landforms into developments as amenities;
 - xii. Establish processes that ensure accurate records of land subdivision;

- xiii. Provide for necessary infrastructure that will have sufficient capacity to serve existing and future developments as well as current and future citizens within the City and its ETJ;
- xiv. Provide for adequate light, air, and privacy; safety from fire, flood, and other dangers; and prevent overcrowding of the land and undue congestion of population;
- xv. Encourage the development of residential areas that incorporate a range of housing and lifestyle choices;
- xvi. Provide that the cost of improvements to minimum standards which primarily benefit the tract of land being developed be borne by the owners or Developers of the tract, and that the cost of improvement to minimum standards which primarily benefit the whole community be borne by the whole community as contained in this Ordinance; and
- xvii. Provide for the City's overall public health, safety, and welfare.

(c) **Applicability.**

- (1) The provisions of this Chapter, as authorized by CHAPTER 212 of the TEXAS LOCAL GOVERNMENT CODE (TLGC), including Appendix 1, *Standards of Design and Construction (SDC)* shall apply to the following forms of land subdivision and development activity within the City's limits and its extraterritorial jurisdiction (ETJ):
 - i. Any non-exempt (see Section 02.03.031(d), *Exemptions*) division of land, into two or more tracts, lots, sites, or parcels; or
 - ii. The combining of two or more continuous tracts, lots, sites, or parcels for the purpose of creating one or more legal lots in order to achieve a more developable site, except as otherwise provided herein; or
 - iii. Any division or partition of land for the purpose of development or for laying out lots or building lots, or any lots and streets, alleys or parts or other portions intended for public use or the use of purchasers or owners of lots fronting thereon or adjacent thereto; or
 - iv. For tracts where any public improvements are proposed; or
 - v. All subdivisions of land whether by metes and bounds division or by plat, which were outside the jurisdiction of the City's subdivision regulation in Kaufman County, Texas and which subsequently came within the jurisdiction of the City's subdivision regulations through:
 - a. Annexation; or
 - b. Extension of the City's ETJ; or
 - vi. A plan or proposal to divide land lying with the City or its ETJ into two (2) or more tracts, and claims exemption from SUBCHAPTER A of CHAPTER 212 of the TEXAS LOCAL GOVERNMENT CODE for purposes of development that results in parcels or lots all greater than five (5) acres in size; or in the event that development of any such tract is intended, and where no public improvement is proposed to be dedicated, shall first obtain approval of a development plat that meets the requirements of the TEXAS LOCAL GOVERNMENT CODE CHAPTER 212, SUBCHAPTER B, Regulation of Property Development, as amended.
- (2) No permit shall be issued for any building or *structure* on a property until a plat has been approved unless specifically exempted herein.
- (3) Any Land Preparation requires a plat. The Director of Development Services may allow the submission of an early grading permit application, for review and approval, prior to approval of the associated plat.
- (4) The addition of a dwelling unit onto a tract of land that is not a lot of record. The Director of Development Services may allow a minor modification for the first home on unplatted acreage in an estate residential homestead situation.
- (5) The provisions of this ordinance apply to all properties in the City limits and the ETJ, at all times, whether in conjunction with or in absence of a plat application.

- (d) **Subdivision Rules.** The provisions of this Chapter, the standards governing constructed facilities applicable to plats in other portions of the Kaufman Code of Ordinances, and the technical standards contained in Appendix 1, *Standards of Design and Construction*, and adopted plans and Ordinances of the City identified in this Chapter, constitute the *subdivision* rules of the City, which apply to applications for plat approval inside City limits and within the City's ETJ.
- (e) **Appendix 1, Standards of Design and Construction.** The City of Kaufman adopted Appendix 1, *Standards of Design and Construction*, and these standards, as they exist or may be amended, shall remain in force of law and effect, and are herein incorporated into this Chapter. These standards may be drafted or revised, from time to time, at the discretion and determination of the City Engineer, with approval by the City Council. As these revised standards are approved and adopted by the City Council, said standards shall be included and substituted for the existing *North Central Texas Council of Governments Technical Construction Standards and Specifications manual (TCS manuals)* and the *City of Kaufman Drainage Design Manual*, and shall thereafter have the same force of law and effect as if originally adopted hereby. Any individual may request to receive written notice of any new or amended provision to these standards by providing said request in writing to the Director of Development Services. A copy of the current *Standards of Design and Construction*, as amended, shall be kept on file and available for review with the Director of Development Services office and on the City's website.
- (f) **Compliance with City Plans & Ordinances Required.** Compliance with all City ordinances pertaining to the subdivision and development of land, and the *Comprehensive Plan* (where applicable), shall be required prior to approval of any application pursuant to this Ordinance. All such ordinances and the *Comprehensive Plan* shall be construed to mean those documents as they exist or may be amended. It is the applicant's responsibility to be familiar with, and to comply with, City ordinances, the *Comprehensive Plan*, and the provisions of this Ordinance. Applicable City ordinances and plans with which all applications must comply include, but are not limited to, the following and all amendments thereto:
- (1) *Comprehensive Plan* (Ordinance No. O-08-14), as amended;
 - (2) *Zoning Ordinance* (Code of Ordinances of the City, Chapter 118, *Zoning Ordinance* No. O-02-07), as amended;
 - (3) *Parks, Recreation and Open Space Master Plan* (Ordinance No. O-15-19), as amended;
 - (4) *Kaufman Trail Concept Master Plan* (Ordinance No. O-??-??), as amended;
 - (5) *Appendix 1, Standards of Design and Construction*, as amended;
 - (6) *International Building, Residential, and Fire Codes*; as amended
 - (7) *National Electrical Code*, as amended;
 - (8) *International Energy Conservation Code*, as amended;
 - (9) *Impact Fee Ordinance for Water Facilities* (Ord. No. O-33A-19), as amended;
 - (10) *Impact Fee Ordinance for Roadway Facilities* (Ord. No. O-33B-19), as amended;
 - (11) Federal, State, and Local Environmental Regulations, as amended; and
 - (12) Other applicable portions of the *Kaufman Code of Ordinances*, as amended.
- (g) **Special Provisions.**
- (1) The City of Kaufman does not issue permits for the installation of septic tanks in the ETJ or within the corporate City Limits. The City of Kaufman has an interlocal agreement with Kaufman County to issue permits for installation of septic tanks and to perform inspections at the time of installation and thereafter on an annual basis. Permits for septic tanks are limited to lots that are greater than one (1) net acre (or usable open space) in size, exclusive of the house footprint, right-of-way, ponds, floodplain areas, drainage easements and utility easements and not located within 300 feet of a City wastewater collection line, unless otherwise allowed by the Director of Public Works and/or the City

Engineer based up projected loads and use. Citizens may elect to connect to a wastewater collection line that is greater than 300 feet from the property but must individually bear the cost of the installation. A septic system shall not be installed upon any lot in a subdivision for which an associated plat has not been approved and filed for record, or upon any lot in a subdivision in which the standards contained herein or referred to herein have not been complied with in full. All septic systems shall be permitted, inspected, and meet all the adopted Kaufman County Subdivision and Land Development Regulations regarding septic systems, as amended.

- (2) No building permit shall be issued by the City for any construction that will expand a structure's footprint on a lot in a subdivision for which an associated plat has not been approved, nor for construction on a lot or for any structure on a lot within a subdivision in which the standards contained herein or referred to herein for the lot and/or the structure have not been complied with in full.
- (3) The City shall not authorize any other person, nor shall the City itself repair, maintain, install, or provide any streets or public utility services in any subdivision for which the standards contained herein, or referred to herein, have not been complied with in full.
- (4) No supply of any water, gas, electricity, or wastewater collection service shall be provided to a subdivision for which associated plat has not been approved, nor in which the standards contained herein or referred to herein have not been complied with in full.
- (5) In accordance with applicable law, the City may institute appropriate action in a court of competent jurisdiction to enforce the provisions of this ordinance or the standards referred to herein with respect to any violation thereof which occurs within the City, within the extraterritorial jurisdiction (ETJ) of the City as such jurisdiction is determined under the Municipal Annexation Act, or within any area subject to all or a part of the provisions of this Chapter.
- (6) If any subdivision exists for which an associated plat has not been approved or in which the standards contained herein or referred to herein have not been complied with in full, the City Council may pass a resolution reciting the fact that such noncompliance or failure to secure an associated plat approval, and reciting the fact that the provisions of paragraphs (1), (2), (4) and (5) of this section will apply to the subdivision and the lots therein. The City Secretary shall, when directed by the City Council, cause a certified copy of such resolution under the corporate seal of the City to be filed in the Deed Records of Kaufman County. If full compliance and the associated plat approval are secured after the filing of such resolution, the City Secretary shall forthwith file an instrument, in the Deed Records of the county stating that paragraphs (1), (2), (4) and (5) no longer apply.
- (7) The provisions of this section shall not be construed to prohibit the issuance of permits to any lots upon which a residential building exists and was in existence prior to passage of this Chapter, or to prohibit the repair, maintenance, or installation of any street or public utility services for any residential building, or abutting any sale lot, the last recorded conveyance of which prior to passage of this ordinance was by metes and bounds, and/or any subdivision, or lot therein, recorded or unrecorded, which subdivision was in existence prior to the passage of this ordinance.

SEC. 02.03.002ENFORCEMENT.

(a) Observation of Construction.

- (1) The City of Kaufman, or its duly authorized representative, is authorized to make periodic observation of the construction of improvements for subdivisions. Inspection of improvements by the City Engineer and/or the Director of Public Works or his representative, is not intended to and does not relieve the Developer or his contractor, from ensuring that the improvements are constructed in accordance with the approved plans and specifications for development. The Developer or his contractor shall maintain contact with the City Engineer and/or the Director of

Public Works or his representative during construction of improvements.

- (2) No wastewater, water, or stormwater pipe shall be covered without approval of the City or its duly authorized representative. No flexible base material, subgrade material, or stabilization shall be applied to the street subgrade without City approval. No concrete shall be poured, nor asphaltic surface applied to the base, without approval of the Director of Public Works and/or the City Engineer.
- (3) The City of Kaufman, or its duly authorized representative, may at any time cause any construction, installation, maintenance, or location of improvements to cease when, in his judgment, the requirements of this Article or the standards and specifications as herein provided have been violated. Reconstruction or other work as may be necessary to correct any such violation may be required by City at the expense of the Developer. The cost of materials testing shall be borne by the Developer.

(b) **Maintenance Bond/Financial Assurances.** For maintenance bond and other financial assurance requirements refer to Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements* of this Chapter.

(c) **Filing, Plat & Other Fees.**

- (1) The fees and charges shall be paid to the City when any plat or other filing is tendered to the Planning & Zoning Commission, City Council, or any other authorized board or agency of the City. Each of the fees and charges provided herein shall be paid in advance, and no action of the Commission or any other board or agency of the City shall be valid until the fees and charges shall have been paid to the City.
- (2) Except as herein provided, these fees and charges shall be charged on all plats and filings, regardless of the action taken by the Commission, Council or any other board or agency of the City and whether the plat or filing is approved or denied. All fees are listed as shown in the City's adopted Fee Schedule and/or other applicable ordinances of the City.

Sec. 02.03.003 to Sec. 02.03.009. RESERVED

ARTICLE 02.03.010.....AUTHORITY OF DECISION-MAKERS

SEC. 02.03.011GENERAL PROVISIONS.

- (a) **Source of Authority.** Authority under this Chapter shall be vested in and delegated to the officials and decision-makers designated in Section 02.03.012, *Responsible Official Assigned*, and under the City's Charter, the Constitution and laws of the State of Texas, and the Kaufman Code of Ordinances. This authority shall be deemed supplemental to any other authority lawfully conferred upon the officials and decision-makers. The omission of a citation in this Chapter to any authority conferred upon the officials and decision-makers under the City's Charter, the Constitution or laws of the State of Texas, or the Kaufman Code of Ordinances, or the failure to identify in this Article authority conferred by other provisions of this Chapter, shall not be construed as limiting the actions of such officials and decision-makers taken in accordance with and in reliance upon such authority.
- (b) **Implied Authority.** The officials and decision-makers shall have all implied authority necessary to carry out the duties and responsibilities expressly delegated by CHAPTER 212 of the TEXAS LOCAL GOVERNMENT CODE as amended, and this Chapter, to the extent that the implied authority is not in conflict with the expressly delegated authority.
- (c) **Limitation on Authority.**
- (1) **City Policy.** It is the policy of the City that the standards and procedures applicable to development of property within the City limits and within the City's extraterritorial jurisdiction (ETJ) are as stated in this Chapter, notwithstanding any representation by any City official summarizing, paraphrasing, or otherwise interpreting such standards to the contrary, whether generally or as applied to development of specific property.
 - (2) **Representations.** The applicant shall not rely on any representation made by an employee of the City, a member of an appointed board or Commission, or a member of the City Council concerning the likelihood of an outcome of that official's decision or the decision of an appointed board, Commission, or City Council, on any application that has yet to be filed or is pending before the City. An official may, however, convey information concerning that official's position on a pending application in accordance with his role as the Responsible Official for such application or as the City staff contact person.
 - (3) **Effect of *Comprehensive Plan* or Development Standards on Liability Claims.** The City's approval of an application under the standards and procedures of this Chapter does not guarantee or ensure that development of the property in accordance with the standards will prevent, minimize, or mitigate harm to adjoining property. A person who undertakes development activities shall not rely on the City's approval of an application as ensuring that the development activities will not result in harm to adjoining property. The regulations contained in this Chapter constitute an exercise of the City's governmental authority, and approval of an application shall not give rise to any liability on the part of the City or its officers, agents, and employees, nor will an approval release the applicant from any liability for harm arising out of development of the property under applicable law.
 - (4) **Exceptions.** Except as expressly provided for in this Chapter, no official, board or Commission of the City, or the City Council, shall have authority to waive any requirement or standard for an application. Any attempted exception of a requirement or standard for an application in contravention of this section shall hereby be deemed null and void, and, upon discovery, shall be grounds for revocation of a permit or approved application.
- (d) **Conflict in Authority.** If any of the provisions of this Chapter are in apparent conflict, the Director of Development Services shall, after due consideration as to the purpose and intent of each conflicting provision, make a determination as to which provision shall apply. The Director of Development Services shall make every effort to be fair and consistent in such interpretations and his decision may be appealed to the City Manager (see Section 02.03.016, *City Manager & Other Officials*), unless otherwise noted

within.

SEC. 02.03.012RESPONSIBLE OFFICIAL ASSIGNED.

- (a) **Responsible Official.** The Responsible Official shall be the Director of a designated City department who is assigned responsibility under this Chapter for taking the following actions with regard to a particular type of application authorized under this Chapter:
- (1) Accepting the application for filing, and processing an application;
 - (2) Reviewing and making recommendations concerning an application;
 - (3) Seeking advice of other City departments, and coordinating any recommendations from such departments concerning an application;
 - (4) Determining a request for exemption;
 - (5) Preparing reports to and advising any board, Commission or the City Council that has responsibility for making recommendations on or approving/denying an application;
 - (6) Promulgating additional or modified policies, standards, and administrative rules for adoption by the City Council that apply to an application;
 - (7) Initiating enforcement actions concerning compliance with the standards applicable to an application and the conditions imposed thereon; and
 - (8) Taking all other actions necessary for administration of the provisions of this Chapter with respect to an application, petition, approval, or appeal.
- (b) **Delegation.** The responsible official may delegate the official authority under this Chapter to subordinate employees, who shall thereupon be deemed the responsible official for purposes of carrying out the delegated duties.

SEC. 02.03.013DIRECTOR OF DEVELOPMENT SERVICES.

- (a) **Responsible Official.** The Director of Development Services is the responsible official for the following types of applications, waivers, exceptions, and petitions:
- (1) Review of application and accompanying exhibits and documents;
 - (2) Compile staff report, including a staff recommendation for approval, approval with condition(s) or denial, for any type of plat;
 - (3) Process written request for extension of a Preliminary Plat approval, as outlined in Section 02.03.034, *Preliminary Plats*;
 - (4) Time extensions for Construction Plans, as outlined in Section 02.03.041(i), *Extension of Expiration Date*;
 - (5) Appeal of a staff decision on any application; and
 - (6) Certain types of Minor Exceptions (related to construction requirements), as outlined in Section 02.03.086, *Exceptions & Minor Modifications*.
- (b) **Final Decision-Maker.** The Director of Development Services is the final decision-maker for the following types of applications (subject to any appeal):
- (1) Conveyance Plat, as outlined in Section 02.03.033, *Conveyance Plats*;
 - (2) Minor Plat, as outlined in Section 02.03.036, *Minor Plats*;
 - (3) Amending Plat, as outlined in Section 02.03.038, *Amending Plats*;
 - (4) Extension for a Preliminary Plat approval, as outlined in Section 02.03.034, *Preliminary Plats*;
 - (5) Extension for Construction Plans approval;
 - (6) Certain types of Minor Exceptions (related to construction requirements), as outlined in Section 02.03.086, *Modifications, Appeals & Exceptions*; and
 - (7) Certain types of Vested Rights petitions, as outlined in Section 02.03.087, *Vested Rights*;
 - (8) Early Grading Permit, as outlined in Section 02.03.??? *Early Grading Permit*; and
 - (9) Grading Permit, as outlined in Section 02.03.??? *Grading Permit*.
- (c) **Appeals.** Notwithstanding the foregoing subsection, the Director of Development Services may defer its decision-making authority under this Section as outlined in Section 02.03.086, *Modifications, Appeals and*

MExceptions. Additionally, the Developer may appeal minor modifications as outlined in Section 02.03.086, *Modifications, Appeals and Exceptions*

SEC. 02.03.014 RESERVED.

SEC. 02.03.015DIRECTOR OF PUBLIC WORKS AND CITY ENGINEER.

- (a) **Responsible Official and Initial Decision-Maker.** The Director of Public Works and/or the City Engineer as applicable is the responsible official for the review and/or approval of the following types of applications:
- (1) Construction Plans, including all engineering plans and related construction tasks, and approval of contracts for public improvements, including without limitation cost estimates for public improvement construction, as outlined in Section 02.03.041, *Construction Plans*;
 - (2) Construction Releases, as outlined in Section 02.03.044, *Facilities and Public Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*;
 - (3) Appeal related to an application for which the Director of Public Works is the responsible official;
 - (4) Certain types of Exceptions (related to construction requirements), as outlined in Section 02.03.086, *Exceptions & Minor Modifications*;
 - (5) Vested rights petition for an application for which the Director of Public Works is the responsible official, as outlined in Section 02.03.087, *Vested Rights*; and
 - (6) *Reviews Parks and Open Space Master Plan*, and parkland dedication, and makes recommendations to the Parks Board and for carrying out the Board's decisions.
- (b) **Final Decision-Maker.** The Director of Public Works in conjunction with the City Engineer is the final decision-maker for the following types of applications (subject to any appeal):
- (1) Approval of Construction Plans, not including engineering plans and related construction management tasks, and approval of contracts for public improvements, including sufficiency of cost estimates for public improvement construction;
 - (2) Construction Release; and
 - (3) Certain types of Vested Rights petitions for an application for which the Director of Public Works is the initial decision-maker.
- (c) **Appeals.** Notwithstanding the foregoing subsection, the Director of Public Works and/or City Engineer may defer its decision-making authority as outlined in Section 02.03.086, *Modifications, Appeals and Exceptions*. Additionally, the Developer may appeal minor modifications as outlined in Section 02.03.086, *Modifications, Appeals and Exceptions*.

SEC. 02.03.016CITY MANAGER & OTHER CITY OFFICIALS.

- (a) **City Manager.** Any decision that cannot be resolved by the Director of Development Services, or the Director of Public Works shall be appealed to the City Manager, who is the appellate decision-maker for any appeal for which the Director of Development Services or the Director of Public Works is responsible. A decision of the City Manager may be appealed as outlined in Section 02.03.086, *Modifications, Appeals and Exceptions*.
- (b) **Fire Chief.** No provision contained in this Chapter shall be deemed or interpreted as a limitation on the Fire Chief's exclusive authority as set forth in the International Fire Code, especially as the decision relates to health and safety issues.
- (c) **Other City Officials.** The City Attorney and any other official delegated responsibilities under this Chapter or other provisions of the Code of Ordinances are authorized to take all actions necessary to carry out their responsibilities in accordance with the requirements and limitations prescribed herein.

SEC. 02.03.017PLANNING & ZONING COMMISSION.

- (a) **Organization, Powers, & Duties.** The Planning & Zoning Commission (also referred to as the "Commission") shall hold meetings and have the powers and duties as provided for in the Code of

Ordinances of the City (Code of Ordinances, Chapter 118, *Zoning*, as amended), and as authorized by CHAPTER 211 AND 212 OF THE TEXAS LOCAL GOVERNMENT CODE. Such powers and duties shall include exercising all the authority and control conferred by law relating to platting.

- (b) **Staff Liaison.** The Director of Development Services shall act as the staff liaison to the Commission and shall abide by the City's usual record-keeping and retention policies for boards and commissions, as amended, in maintaining records of the Planning & Zoning Commission's meetings and actions.
- (c) **Authority to Recommend Applications.** The Commission is the recommending body and shall have the authority to make a recommendation to the City Council on the following types of applications:
 - (1) Preliminary Plats;
 - (2) Land Study;
 - (3) Final Plats;
 - (4) Replats (at a public hearing);
 - (5) Development Plats; and
 - (6) All other types of plats, with the exception of Conveyance Plats, Minor Plats and Amending Plats (which may be approved by the Director of Development Services, unless deferred to the Commission).
- (d) **Authority to Recommend Exceptions.** The Commission is the recommending body and shall have the authority to make a recommendation to the City Council on the following exceptions:
 - (1) Any Exception petition on an application for a Land Study, Preliminary Plat, Final Plat, or Replat;
 - (2) Any Conveyance Plat, Minor Plat, or Amended Plat that is deferred by the Director of Development Services, as outlined in Section 02.03.033(i), *Deferral of Decision on Conveyance Plat Application*, Section 02.03.036(i), *Deferral of Decision on Minor Plat Application*, or Section 02.03.038(j), *Deferral of Decision on Amending Plat Application*, as applicable;
 - (3) Any other requirement so authorized by this Ordinance.

SEC. 02.03.018CITY COUNCIL.

- (a) **Authority for Deciding Applications.** The City Council shall have the final authority to act on the following types of applications:
 - (1) Preliminary Plats;
 - (2) Land Study;
 - (3) Final Plats;
 - (4) Replats (at a public hearing)
 - (5) Development Plats; and
 - (6) All other type of plats, with the exception of Conveyance Plats, Minor Plats and Amending Plats (which may be approved by the Director of Development Services, unless deferred to the Commission)
- (b) **Authority for Deciding Appeals.** The City Council shall hear and decide appeals from final decision-makers (Director of Development Services, Director of Public Works and/or City Engineer and City Manager) who:
 - (1) Deferred its decision-making authority as outlined in Section 02.03.013(c), *Appeals*, and Section 02.03.015(c), *Appeals* ;
 - (2) Received a petition from the Developer appealing for relief from a final decision that could not be resolved by City staff, relative to Section 02.03.013(b), *Final Decision-Maker*, Section 02.03.015(b), *Final Decision-Maker*, and Section 02.03.016(a), *City Manager*.
- (c) **Authority for Deciding Exceptions.** City Council shall hear and decide the following Exceptions after receiving a recommendation from the Commission:
 - (1) Any Exception petition on an application for a Preliminary Plat, Final Plat, or Replat;

- (2) Any Conveyance Plat, Minor Plat, or Amended Plat that is deferred by the Director of Development Services, as outlined in Section 02.03.033(j), *Deferral of Decision on Conveyance Plat Application*, Section 02.03.036(i), *Deferral of Decision on Minor Plat Application*, or Section 02.03.038(i), *Deferral of Decision on Amending Plat Application*, as applicable;
- (3) Any Exception Petition on an application for Construction Plans
- (4) Any other requirement so authorized by this Chapter.

SEC. 02.03.019RESERVED.

ARTICLE 02.03.020 SUBMITTAL PROCESS

SEC. 02.03.021PRE-SUBMITTAL MEETING (DEVELOPMENT REVIEW COMMITTEE MEETING).

- (a) **Development Review Committee Meeting – Pre-application Submittal.** Prior to the submission of an application for development, including without limitation plats, Construction Plans, and commercial building plans, for review and consideration, applicants are required to contact the Development Services staff to schedule a Development Review Committee (DRC) Meeting. The Development Services Director, at his discretion, may waive the DRC meeting requirement when determined unnecessary due to the size of the development, the existing available infrastructure and/or other development issues.
- (b) **Members of DRC.** Members of DRC are made up of representatives from the departments that have direct communication with all aspects of the development process: Planning, Engineering, Building, Fire, Public Works, Health, and Parks.
- (c) **Meeting Request.** To schedule a DRC Meeting, the applicant requests a DRC Meeting with the Development Services staff, and such request shall describe the type of development desired and/or the type of application intended for submittal along with an initial concept plan. The applicant shall then be notified by the Development Services staff of the time and place for the requested meeting.
- (d) **Vested Rights.** The purpose of the DRC meeting is to have a general discussion regarding applicable City requirements in order to alert the applicant to the ordinances that apply to a potential project. Neither the holding of a DRC meeting nor review of documents at a DRC meeting under this section should be construed as the filing of an application for permit or plan for development. Therefore, there shall be no vested rights conveyed based upon attendance at or submission of documents at a DRC Meeting.
- (e) **Effect.** Following the DRC Meeting, the applicant may proceed with the submittal of the appropriate application(s), for development.

SEC. 02.03.022APPLICATION CONTENTS.

- (a) **Application Contents Generally.** All applications shall be submitted on the City designated application form approved by the Development Services Director and shall include all required information and exhibits as stated on the application form in order to be considered complete. An incomplete application shall not be deemed filed for purposes of determining vested rights and is subject to expiration in accordance with CHAPTER 245 of the TEXAS LOCAL GOVERNMENT CODE, as amended, or other applicable law.
- (b) **Application Timing/Completeness.**
 - (1) **Application Timing.** The date and timeframe for submittal of all applications will be established at the discretion of the Director of Development Services.
 - (2) **Complete Application.** In accordance with CHAPTER 245 of the TEXAS LOCAL GOVERNMENT CODE (TLGC), as amended, and other applicable law, a permit application filed with the City shall expire on or after the forty-fifth (45th) day after the date the application is filed if:
 - i. The applicant fails to provide documents or other information necessary to comply with the technical requirements relating to and conforming with the form and content of the City's permit application; and
 - i. On or before the tenth (10th) business day after the date the application is filed, the City provides the applicant with written notice of the failure the applicant to comply with the requirements of subparagraph (i), and the written notice specifies the necessary documents or other information and the date the application will expire if the documents or other information is not provided; and

- ii. The applicant fails to provide the specified documents or other information within the time provided in the notice.
- (c) **Fees Required.** Every application shall be accompanied by the prescribed fees set forth in the City's Fee Schedule, as approved by City Council and as may be amended from time to time. Fees are not refundable and are not a guarantee of approval. Review of the application will not begin until the appropriate fees have been received from the applicant and processed by the City.

SEC. 02.03.023 DEVELOPMENT APPLICATION SUBMITTAL PROCESS.

- (a) **Initiation by Owner.** An application required under this Chapter shall be initiated only by the owner(s) of the land subject to the application, or by the owner's duly authorized representative(s). If the applicant is a representative of the property owner, the application shall include a written notarized statement from the owner, authorizing the representative to file the application on the owner's behalf or such additional documentation that the City determines necessary to verify the owner's authorization.
- (b) **Applicability.** The procedures within this Chapter shall apply to all applications that are required by the City and submitted in accordance with this Chapter.
- (c) **Official Filing Date.** The submission date established by the City upon which a plat application is filed in accordance with this Chapter shall be the "official filing date" for purposes of determining the time frame within which the city is required to act upon a plat to approve, approve with conditions, or deny with conditions.
- (d) **Owners Dedication Language.** Refer to the plat checklist for the appropriate owner dedication language which shall be included on the plat and all other appropriate plat signature block wording and form.
- (e) **Land Study Checklist.** A Land Study checklist containing the required features for a Land Study Exhibit in conjunction with specific associative plats as described in Section 02.03.032 *Land Study Procedures and Requirements* is included in **Table 02.03.0112** *Required Land Study Features*, attached hereto, and incorporated herein.
- (f) **Plat Checklist.** A plat checklist containing the required features for each type of plat application is included in **Table 02.03.113** *Required Plat Features*, attached hereto, and incorporated herein. In addition to any other requirements of this Chapter or other applicable ordinance, all plats shall include the required items listed for each plat type in the plat check list.

SEC. 02.03.024DEVELOPMENT APPLICATION REVIEW AND ASSESSMENT.

- (a) **Action by Responsible Official.** After the submission of a development application regulated by this Chapter, the Responsible Official for an application shall initiate internal (i.e., by City departments) review and assessment of the application according to the City's development review procedures. The Responsible Official shall also, to the extent possible, work with the applicant by advising on and communicating revisions that shall be necessary to bring the application into compliance with City regulations in preparation for consideration by the appropriate decision-maker.
- (b) **Revisions to Exhibits.** The Responsible Official shall enumerate to the applicant such revisions to the exhibits as are necessary to bring the exhibit into compliance with this Chapter. Such revisions shall be made by the applicant or his agent in a timely fashion.

SEC.02.03.025 DEVELOPMENT APPLICATION APPROVAL

- (a) **Decision.** The decision-maker for the application as identified in this Chapter shall approve, approve with conditions, or deny the application within the time period prescribed by this Chapter.

- (b) **Conditions Attached.** The decision-maker shall attach such conditions to the approval of an application as are reasonably necessary to ensure compliance with all applicable requirements of this Chapter. These conditions of approval shall be completed prior to the plat being filed for record in Kaufman County.
- (c) **Notification of Decision – Conditional Approval or Disapproval.** When the Commission or the City Council conditionally approves or disapproves a plan or plat under this Article, the Director of Development Services shall provide the applicant a written statement of the conditions for the conditional approval or reasons for disapproval articulating each specific condition for the conditional approval or reasons for disapproval. Such notice shall include conditions or reasons directly related to the requirements upon which the conditional approval or disapproval relate and include a citation to the applicable federal, state, or local ordinance or regulation that is the basis for the conditional approval or disapproval.

SEC. 02.03.026AMENDMENTS /REVISIONS OF APPROVED APPLICATIONS.

- (a) **Amendments/Revisions to an Approved Application.** Unless another method is expressly provided by this Chapter, any request to amend or revise an approved application shall be considered a new application, which must be considered in accordance with the procedures governing the original application and the standards in effect at the time such new application is filed with the City.

SEC. 02.03.027 EXPIRATION OF CURRENT DEVELOPMENT APPLICATIONS.

- (a) **Expiration of Preliminary Plats and Construction Plans.**
 - (1) Unless otherwise expressly provided by this Chapter, an approved application for a Preliminary Plat or Construction Plans shall automatically expire one (1) year following the approval date of the application (see Section 02.03.041(g), *Expiration of Construction Plans*), and shall become null and void, and all activities under the application thereafter shall be deemed in violation of this Chapter, if:
 - i. The applicant fails to satisfy any condition that was imposed by this Chapter or as part of the approval of the application or that was made under the terms of any Development or Facilities Agreement, within the time limits established for satisfaction of such condition or term; or
 - ii. The applicant fails to submit a subsequent complete application required by this Chapter within the time so required; or
 - iii. A Facilities Agreement has not been approved for the development.
 - (2) The Director of Development Services may extend the time of expiration for the Preliminary Plat or Construction Plans by one (1) year if the applicant has requested the extension in writing and listed the cause for the delay. Any further extension of the expiration date shall be considered by the City Council and the Council's decision shall be final.
 - (3) If no time limit for satisfaction of conditions is specified in the decision on the application, the time shall be presumed to be two (2) years following the date the application was approved, except as provided through a vested rights petition.
 - (4) An expiration date may differ from the first anniversary of approval upon approval of a different date being determined pursuant to a vested rights petition as outlined in Section 02.03.087, *Vested Rights*.
- (b) **Effect of Preliminary Plat and Construction Plan Expiration.** Upon the expiration of an approved Preliminary Plat or Construction Plan applications, all previously approved applications for the same land shall also expire on the expiration date if the filing of an application was required to avoid expiration for the previously approved application(s), except as provided in Section 02.03.027, *Expiration of Development Applications Approved Prior to the Establishment of this Subdivision Ordinance*. Thereafter, a new application must be submitted for consideration and approval subject to regulations in effect at the time

the new application is filed.

SEC. 02.03.027EXPIRATION OF DEVELOPMENT APPLICATIONS APPROVED PRIOR TO THE ESTABLISHMENT OF THIS SUBDIVISION ORDINANCE.

- (a) **Two-Year Expiration Established.** Notwithstanding any other provision of this Chapter, for any approved development application for which no expiration date was in effect on the date this Chapter was duly adopted by City Council, an expiration date of two (2) years following the date of approval of the application shall apply, unless the applicant files a written petition before such date for a vested rights determination pursuant to Section 02.03.087, *Vested Rights*, alleging that progress has been made toward completion of the project for which the application subject to expiration was filed. If a vested rights petition is timely filed and subsequently approved, the City Council shall determine the expiration date of the application in deciding the petition.
- (b) **Five-Year Expiration Established.** Notwithstanding any other provision of this Chapter, once a development application has expired as described above, all previously approved applications for the same land also shall expire no later than five (5) years following the date of filing of the first application for the project for which the expired application was filed, unless the applicant files a written petition before such date for a vested rights determination pursuant to Section 02.03.087, *Vested Rights*. If a vested rights petition is timely filed and subsequently approved, the City Council shall determine the expiration date of the previously approved applications in deciding the petition.

SEC. 02.03.028 to 02.03.029.....RESERVED.

ARTICLE 02.03.030SUBDIVISION PROCEDURES AND PLAT TYPES

SEC. 02.03.031SUBDIVISION PROCEDURES & PLAT TYPES.

(a) **Approval Required.**

- (1) Unless and until any plat, plan, or replat shall have been first approved in the manner provided by law, it shall be unlawful for any person, firm, corporation, or organization to construct or cause to be constructed any streets, utilities, buildings, or other improvements to any tract of land within the City limits or the ETJ; and any official of the City shall not issue any permit for such improvements or to serve or connect said land, or any part thereof, or for the use of the owners or purchasers of said land, or any part thereof, with any public utilities such as water, wastewater, lights, gas, etc., which may be owned, controlled, distributed, franchised, or supplied by the City.
- (2) Where the land to be platted lies within the ETJ of the City, pursuant to the existing or amended interlocal agreement with Kaufman County under State law, a complete application shall be submitted to the City.
- (3) No building permits will be issued for the construction of any building on any unplatted land within the City. Minor repair permits may be issued for an existing structure. When additions, alterations, or repairs increase the lot coverage or reduce the distance of structures from surrounding property lines on previously unplatted property, the land upon which such building or structure is located shall be platted in accordance with the provisions of this Chapter.

(b) **Improvements Required.**

- (1) Responsibility for Improvements. All the improvements required under these regulations, or improvements specified in the *Comprehensive Plan* and other adopted plans of the City, or improvements which, in the judgment of the Director of Public Works and the City Engineer, are necessary for the adequate provision of streets, utilities, drainage, services, and facilities to the subdivision and to the surrounding areas of the City, shall be constructed at the sole expense of the Developer, unless otherwise provided for and approved by City Council. All improvements required by this ordinance shall be constructed after the plat is filed for record with the Kaufman County Clerk's office. All the improvements required by this ordinance shall be constructed and recommended for approval by the Director of Public Works and the City Engineer prior to acceptance by City Council, unless otherwise specified in a binding contractual Facilities or Development Agreement approved by City Council. Payment for any and all improvements that are not to be made at the time of the primary construction of the subdivision or development shall be made a part of the signed and executed Facilities Agreement.
- (2) Plats Prior to Development. Plats shall not be used as a mechanism to establish boundaries without the dedication of required infrastructure, such as public utilities easements, drainage easements, right-of-way dedication, and any other requirement of this Chapter. Platting of property is reserved for those properties that are anticipating immediate development, with the exception of Conveyance Plats.

(c) **Types of Plats Required.** The following plat types shall be required for subdivision or development as specified in Section 02.03.001, *Authority, Purpose & Applicability* or as otherwise specified in this Chapter.

- (1) Final Plat or a Minor Plat. A Final Plat, or Minor Plat shall be approved prior to commencement of any new development or construction project (See Section 02.03.035, *Final Plats* and Section 02.03.036, *Minor Plats*).
- (2) Preliminary Plat. A Preliminary Plat shall be required prior to Final Plat as outlined in Section 02.03.034, *Preliminary Plats*.
- (3) Conveyance Plat. A Conveyance Plat may be approved but no vertical construction shall occur as

outlined in Section 02.03.033, *Conveyance Plats* until an associated Final Plat or Minor Plat is approved.

- (4) **Development Plat.** A Development Plat shall be approved prior to any land subdivision that is subject to these regulations including new development on an existing unplatted parcel prior to commencement of any new development or construction project as outlined in Section 02.03.039 *Development Plats*.
- (5) **Replat.** A Replat in accordance with State Law and the provisions of Section 02.03.037, *Replats*, shall be required any time a platted, recorded lot is further divided, combined, or expanded, thereby changing the boundary and dimensions of the property.
- (6) **Amending Plats.** In the case of minor revisions to recorded plats or lots, an Amending Plat may be utilized if allowed by State Law and if in accordance with Section 02.03.037, *Replats*, and 02.03.038, *Amending Plats*, respectively.

(d) **Exemptions.** The platting provisions of this Chapter shall not apply to:

- (1) Existing cemeteries complying with all State and local laws and regulations;
- (2) New cemeteries or expansion of existing cemeteries; or
- (3) Development of a lot of record for which a legally approved and recorded plat was filed of record in the Plat Records of Kaufman County, Texas prior to MONTH, Day 2024; or
- (4) Sale, inheritance, or gift of land by metes and bounds of tracts upon which no improvements, subdivision or alteration is occurring; or
- (5) A division of land created by order of a court of competent jurisdiction, provided however, that prior to construction of improvements, a plat meeting the requirements of this Ordinance shall be approved and recorded prior to the issuance of permits; or
- (6) When a building permit is requested for unplatted or already platted parcels for the following activities:
 - i. Replacement or reconstruction of an existing primary single-family or duplex structure, but not to exceed the square footage of the original structure;
 - ii. Single family residential additions (i.e.; increasing square footage of structure) of not over twenty percent (20%) of the gross floor area;
 - iii. Single family residential accessory buildings;
 - iv. Remodeling or repair (i.e., no expansion of square footage);
 - v. Moving a structure off of a lot or parcel, or for demolition permits.

(e) **Zoning.** A property within the City's corporate limits that is being proposed for platting or development must be properly zoned by the City prior to submission of an application for approval of any concept plan or plat. In addition, the proposed development layout or subdivision design shown on the proposed concept plan, where required, and/or plat must be in conformance with all standards and requirements prescribed in the City's zoning ordinance and this division.

- (1) **Conformance with Existing Zoning.** All applications shall be in conformance with the existing zoning on the property, as applicable.
- (2) **Request to Rezone Prior to Platting.** If an applicant seeks to change the zoning for the property, the request to rezone the land shall be submitted and approved prior to acceptance of an application for any type of plat for recordation unless as otherwise provided below:
 - i. It is not necessary to rezone the tract prior to the submittal and approval of a Conveyance Plat which is exclusively for the purpose of the sale of land and not as a precursor to development.
 - ii. It is not necessary to zone or rezone the tract prior to the submittal and approval of any plat

within the City's ETJ, since the ETJ is not subject to the Zoning Ordinance.

(f) **Stages of Plat Approval, Staff Review, & Approval.**

- (1) **Preliminary and Final Plats.** The platting process of land not previously platted typically involves two approval stages: submission and approval of a Preliminary Plat (and a Land Study as may be required by Section 02.03.032, *Land Study Requirements*) or Conveyance Plat under certain circumstances) and subsequent submission and approval of an associated Final Plat. However:
 - i. An applicant may proceed with the final plat to be recorded without an approved Conveyance Plat or Preliminary Plat if one of the following conditions apply:
 - a. A Minor Plat is sufficient for submittal; or
 - b. The tract in question is less than two acres in size and will be developed in one phase.
 - ii. After approval of Construction Plans for a development described above in subsection 02.03.031(f)(i)(a and b), an applicant may submit a Final Plat (or Minor Plat) in lieu of a Preliminary Plat, if a Facilities Agreement and appropriate surety (see Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*) are submitted along with the application.
- (2) **Staff Review.** Unless otherwise specified under the regulations for a specific type of plat:
 - i. The Director of Development Services shall be the responsible official for processing a plat and shall be responsible for the initial review of a plat for conformance with this Chapter and any other applicable ordinances of the City.
 - ii. The Director of Development Services shall direct the City Engineer and other City departments as deemed necessary, to review all applications for conformance with this Chapter and with other applicable City regulations and supply to the applicant a list of revisions necessary for compliance with this Chapter, if warranted.
 - iii. Determine whether the plat substantially conforms to an associated Conveyance Plat, Preliminary Plat, or other applicable Land Study and/or Concept Plan, and to any approved Facilities Agreement and/or Development Agreement.
 - iv. The Director of Development Services shall provide and make available the plat exhibit and reports to the Commission and Council for review.
 - v. Schedule the plat for consideration on the agenda of the next available meeting of the Commission and Council.
 - vi. Take
- (3) **Approval.** Authority for the approval of plats is granted by the State to the City Council with recommendation from Planning & Zoning Commission.
- (4) **Signatures Required on Filed Plats.** When any plat is prepared for filing with Kaufman County, each copy to be certified by the County shall be signed by both the Mayor, the Planning and Zoning Commission Chairperson for Preliminary, Final, Development Plats and Replats, and the City Manager or designee shall sign Conveyance, Minor and Amending plats approved administratively. All signatures shall be attested by the City Secretary.
- (5) **Building Permit.** All conditions of plat approval shall be satisfied, all public land shall be dedicated, and all public improvements shall be completed and installed in accordance with City's specifications and accepted by City prior to the issuance of a building permit unless otherwise approved as part of a Facilities or Development Agreement.

SEC.02.03.032LAND STUDY PROCEDURES AND REQUIREMENTS.

- (a) **Purpose.** The purpose of the Land Study is to allow the Planning and Zoning Commission and City Council to review an exhibit showing all proposed road, thoroughfare and collector street patterns, land use, environmental issues, conformance to the *Comprehensive Plan, Zoning Ordinance, Future Land Use Plan,*

Park Land Dedication, Master Thoroughfare Plan (City's and Kaufman County's), and other applicable plans and regulations, and the property's relationship to adjoining subdivision or properties. The Land Study exhibit shall be used to assist in evaluating the impacts of developing the land to be platted on provision of supporting public facilities and services, the environment, provision of open space and recreational opportunities and the general, health, safety, and general welfare of the community.

- (b) **Applicability.** A Land Study shall be submitted in conjunction with the following circumstances:
- (1) In conjunction with a Preliminary Plat application for any tract of land twenty-five (25) acres or more, or for a smaller tract, where the land is part of a larger parcel twenty-five (25) acres or more, which is ultimately to be developed under this Chapter;
 - (2) In conjunction with a Development Plat; or
 - (3) Where an existing or proposed road or thoroughfare is proposed to be realigned.
 - i. ...The Director of Development Services has the authority to override this requirement if the realignment is deemed to be insignificant.
- (c) **Extent of Area Required for Land Study.**
- (1) When the Preliminary Plat or Development Plat designates the land to be developed in phases, the Land Study exhibit shall include the entire property from which the phase is being subdivided and an approximate development schedule.
- (d) **Accompanying Applications.**
- (1) The applicant shall furnish as part of the Land Study acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Land Study.
 - (2) The Land Study application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to the dedications and covenants that may be contained in the Preliminary Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full as a condition of approval, if applicable.
 - (3) Specific feature requirements for the Land Study exhibit are outlined in Table 02.03.113, *Required Plat Features*.
 - (4) The Land Study and all accompanying data shall conform to the associated approved Conveyance Plat, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreement and/or a Planned Development district.
- (e) **Standards for Approval.** The following criteria shall be used by staff, the Commission and Council to determine whether the Land Study exhibit shall be approved, approved with conditions, or denied:
- (1) The Land Study conforms to the associated plat exhibit;
 - (2) The Land Study conforms to all conditions imposed at the time of the approval of the Conveyance Plat, Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development District;
 - (3) The preliminary layout of the subdivision development meets all standards for adequacy of public facilities contained in this Chapter;
 - (4) The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration, easements and rights-of-way are adequate to serve the development, meet applicable standards of this Chapter and conform to the City's adopted master plans for those facilities;
 - (5) The Land Study is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ),
 - (6) The Land Study is consistent with all zoning requirements for the property, including any applicable

Planned Development zoning standards, and with any approved Facilities and/or Development Agreements, if applicable;

- (7) The Land Study meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
- (8) Specific feature requirements for Land Study Exhibit are outlined in Table 02.03.112, *Required Land Study Exhibit Features*; and
- (9) The proposed development represented on the Land Study exhibit does not endanger public health, safety, or welfare.

(f) **Action by Staff.**

- (1) Initiate review of the Land Study in conjunction with the appropriate plat application or in any instance where any existing or proposed road and/or thoroughfare is to be realigned.
- (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions;
- (3) Determine whether the Land Study exhibit substantially conforms to the associated Conveyance Plat, or other applicable Concept Plan in an associated Facilities and/or Developers Agreement, and/or a Planned Development District;
- (4) Provide and make available the Land Study exhibit and report to the Commission for review;
- (5) Schedule the Land Study exhibit in conjunction with the appropriate plat application for consideration on the agenda of the next available meeting of the Planning and Zoning Commission and City Council.

(g) **Action by Planning and Zoning Commission and City Council.**

(1) Planning and Zoning Commission:

- i.....Consider the Land Study exhibit, the findings and recommendation of staff, and any other information available. From all such information, the Commission shall determine whether the Land Study conforms to the regulations of this Chapter.
- ii.....Act within thirty (30) calendar days following the official submittal date of the appropriate plat application. If no decision is rendered by the Commission within the thirty (30) day period, the Land Study is considered approved.
- iii.Take one of the following actions:
 - a. Recommend for approval the Land Study exhibit;
 - b. Recommend for approval the Land Study exhibit with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Land Study shall be considered to have been approved once such conditions are fulfilled; or
 - c. Recommend denial (including a citation to ordinance, statute or regulation that is the basis for the conditions of the Land Study exhibit with reasons for denial; or
 - d. Recommend granting an extension of the Land Study exhibit upon receipt of a written request by the plat applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.

(2) City Council. The decision of the City Council is final.

- i.....Take one of the following actions:
 - a. Approve the Land Study exhibit in conjunction with the appropriate plat application;
 - b. Approve the Land Study exhibit in conjunction with the appropriate plat application with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Land Study shall be considered to have been approved once such conditions are fulfilled; or

- c. Deny the Land Study exhibit in conjunction with the appropriate plat application with reasons for denial (including a citation to ordinance, statute, or regulation that is the basis for the denial); or
- d. Approve or deny granting a thirty (30) day extension of the Land Study exhibit in conjunction with the appropriate plat application upon receipt of a written request by the plat applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.

(h) **Land Study Expiration.**

(1) Two-Year Validity:

- i.....The approval of a Land Study exhibit in conjunction with the appropriate plat application shall remain in effect for a period of two (2) years following the date of approval, during which period the applicant shall submit and receive approval for Construction Plans.
- ii.....Any proposed use or development depicted in the Land Study exhibit shall not be deemed authorized or approved unless the development is part of the approved appropriate plat application.

(2) Phased Developments. A Final Plat and Construction Plans must be approved within two (2) years of the approval of the Land Study exhibit in conjunction with a Preliminary Plat application, or the Land Study exhibit shall automatically expire.

- i.....If a project is phased and bona fide progress has been made toward the installation of infrastructure in one or more phases of the project, then upon approval the Director of Development Services, the Land Study exhibit in conjunction with the approved Preliminary Plat may be extended for a period of one (1) year from the date of the expiration, during which time a subsequent Final Plat and Construction Plans must be approved.

(3) Void If Not Extended. If the Land Study exhibit in conjunction with the approved Preliminary Plat is not extended as provided herein, it shall expire and shall be null and void after a period of two (2) years of the date of approval.

(i) **Land Study Extension.** A Land Study exhibit in conjunction with the approved Preliminary Plat may be extended pursuant to Section 02.03.34(i) Preliminary Plat Extension.

SEC. 02.03.033CONVEYANCE PLATS.

(a) **Purpose.** There are several purposes of a Conveyance Plat:

- (1) To subdivide land and to provide for recordation of same, for the purpose of conveying (i.e., selling) the property without developing. A Conveyance Plat may be used to convey the property or interests therein; however, a Conveyance Plat does not constitute approval for any type of development on the property. A Conveyance Plat is an interim step in the subdivision and development of land.
- (2) To record a tract that is not intended for immediate development.
- (3) To record the subdivision of property into parcels, five (5) acres or smaller in size, that are not intended for immediate development.

(b) **Exemptions.**

- (1) A Conveyance Plat is not required when the following conditions apply:
 - i. The subdivision of the property into parcels greater than five (5) acres, that are not intended for immediate development.

(c) **Subsequent Filing of a Final Plat.** No Final Plat processed and approved in association with a Conveyance Plat shall be filed without the concurrent or prior filing of the associated approved Conveyance Plat for the remainder of the subject property.

(d) **Conveyance Plat Limitations.**

- (1) A Conveyance Plat may be used within the corporate city limits to add to an existing tract that cannot meet the minimum lot requirement, but it shall not create a future lot that will not meet the minimum lot size.
- (2) No building or development permit shall be issued nor permanent utility service provided for land that has only received approval as a Conveyance Plat. A Final Plat, Minor Plat or Development Plat must be filed prior to issuance of a building permit and for permanent utility service.
- (3) No utility service shall be provided for lots conveyed in the City's ETJ that has only received approval as a Conveyance Plat. A Final Plat, Minor Plat or Development Plat shall be filed prior to permanent utility service.
- (4) A Conveyance Plat may be superseded by a revised Conveyance Plat or a Final Plat in total or in part through compliance with the procedures and requirements of this Ordinance for approval of a Final Plat.
- (5) A Conveyance Plat shall not take the place of a Preliminary Plat.

(e) **Accompanying Applications.**

- (1) The applicant shall furnish as part of the Conveyance Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Preliminary Plat;
- (2) The Conveyance Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to the dedications, reservations, and covenants that may be contained in the Conveyance Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full as a condition of approval, if applicable;
- (3) Specific feature requirements for the Conveyance Plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
- (4) The Conveyance Plat and all accompanying data shall conform to a previously approved Concept Plan in an associated Facilities and/or Development Agreement and/or a Planned Development district.

(f) **Standards for Approval.** The following criteria shall be used by staff to determine whether the application of a Conveyance Plat shall be recommended for approval, approval with conditions, or denial:

- (1) Compliance with Zoning. All lots located within the corporate city limits shall meet the minimum requirements of the zoning district in which they are located, including any applicable Planned Development zoning standards, and with any approved Facilities and/or Development Agreements, if applicable;
- (2) The Conveyance Plat is consistent with the *Comprehensive Plan*, and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
- (3) The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration as required, easements and rights-of-way are adequate to serve the development, meet applicable standards of this Chapter, and conform to the City's adopted master plans for those facilities;
- (4) Access. All lots created by a Conveyance Plat shall have access to an improved public street that meets the City's minimum design and paving standards. All lots created by a Conveyance Plat shall provide points of access as required by the Zoning Ordinance and/or by this Ordinance, including without limitation driveway standards;
- (5) Reservation of Rights-of-Way. Conveyance plats must provide for the reservation of future rights-of-way of planned roadways, as shown on the Thoroughfare Plan. Right-of-way reservation acknowledges the future obligation to dedicate right-of-way for public thoroughfares and streets

specified on Kaufman County's and/or the City's Thoroughfare Plan or other type of plan approved by City Council. The requirement for reservation and dedication shall be included in a plat note. Reservation of right-of-way does not grant any right or interest in the property to the City, State, or other government entity. The final alignment of such roadways shall be adjusted upon Final Platting in order to meet the standards of the *Appendix 1, Standards of Design and Construction* and to comply with the *Thoroughfare Plan* in effect at the time of final platting. A plat note reflecting compliance with the requirements of this section shall be included on each Conveyance Plat;

- (6) Dedication of Rights-of-Way. Dedication of right-of-way shall be required where a Conveyance Plat is used to record the remainder of a tract created by the Final Platting of a portion of the property. The required right-of-way dedication shall be limited to that which is necessary to provide access to the property proposed for the Final Plat approval and to complete turn lanes, intersections, and transitions in road pavement width resulting from development of the property proposed for the Final Plat approval and what is considered to be roughly proportional to the impact of the development (see Section 02.03.088, *Rough Proportionality*, for more information). The Director of Public Works, the City Engineer, or Fire Marshal may require a temporary paved turn-around if a street is stubbed pending future construction;
- (7) The Conveyance Plat meets all applicable County standards to be applied under any interlocal agreement between the City and Kaufman County under State law, where the proposed lot is located in whole or in part in the ETJ of the City and in the County;
- (8) Specific feature requirements for the Conveyance Plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
- (9) The proposed Conveyance Plat does not endanger public health, safety, or welfare.

(g) **Action by Staff.**

- (1) Initiate review of the Conveyance Plat and materials submitted;
- (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.;
- (3) Determine whether the Conveyance Plat substantially conforms to any applicable Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district;

(h) **Approval of Conveyance Plats.** The Director of Development Services is authorized to approve, approve with conditions, or disapprove Conveyance Plats. However, the Director of Development Services may defer the decision of any Conveyance Plat for any reason to the Planning and Zoning Commission and City Council in accordance subsection 02.03.03(i), *Deferral on Conveyance Plat Application*. Conveyance Plats may be approved on the Consent Agenda.

(i) **Deferral of Decision on Conveyance Plat Application.** The Director of Development Services may defer the Conveyance Plat application to the Planning & Zoning Commission for consideration and recommendation to City Council.

(1) Planning and Zoning Commission.

- i. Consider the Conveyance Plat application, the findings and recommendation of staff, and any other information available. From all such information the Commission shall determine whether the Conveyance Plat conforms to the regulations of this Chapter.
- ii. Act within thirty (30) calendar days following the official submittal date of the Conveyance Plat application in accordance with State law.
- iii. The Commission shall, upon simple majority vote, make a recommendation for one of the following actions:
 - a. Recommend for approval the Conveyance Plat;
 - b. Recommend for approval the Conveyance Plat with conditions (including a citation to

ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Conveyance Plat shall be considered to have been approved once such conditions are determined by the City to be fulfilled; or

- c. Recommend for denial the Conveyance Plat with reasons for denial (including a citation to ordinance, statute, or regulation that is the basis for the denial).
- d. Recommend granting an extension of the Conveyance Plat upon receipt of a written request by the plat applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.

(2) Council Decision. The decision of the Council is final.

- i. The recommendation of the Commission shall be submitted to the City Council for consideration and decision. The Council shall, upon simple majority vote, take one of the following actions:
 - a. Approve the Conveyance Plat;
 - b. Approve the Conveyance Plat with conditions (including a citation to ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Conveyance Plat shall be considered to have been approved once such conditions are determined by the City to be fulfilled; or
 - c. Deny the Conveyance Plat with reasons for denial (including a citation to ordinance, statute, or regulations that is the basis for the conditions).
 - d. Approve or deny granting a thirty (30) day extension of the Conveyance Plat in conjunction with the appropriate plat application upon receipt of a written request by the plat applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.

(j) **Procedures for Recordation Following Approval**. The applicant shall supply to the Development Services Department the required number of original signed and executed copies of the Conveyance Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that shall be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.

(1) General.

- i. *Signatures*. After approval of the Conveyance Plat, the Director of Development Services shall procure the appropriate City signatures on the Conveyance Plat.
- ii. *County Requirements*. It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
- iii. *Recording Upon Approval*. The Conveyance Plat shall be recorded after:
 - a. The Conveyance Plat is approved by the Director of Development Services or City Council and all conditions have been satisfied.
 - b. All Kaufman County filing requirements are met.

(k) **Effect of Approval**

- (1) The approval of a Conveyance Plat authorizes the sale of the lot(s) created thereon but does not authorize any type of development on the property. The applicant and future owner(s) of the property remain obligated to comply with all provisions in this Chapter upon future development of the property including, but not limited to, all requirements for platting, required public improvements, utility extensions, street improvements or assessments, right of way and easement dedication, and all other requirements in this Chapter.
- (2) Neither reservation nor dedication of right-of-way shall relieve the Developer from obligations for street construction or assessments associated with public street improvement programs.
- (3) Easements for access, utilities, and drainage may be recorded on Conveyance Plats.
- (4) No building permit shall be issued nor permanent utility service provided for land which has only

received approval as a Conveyance Plat. Notwithstanding the above, the Building Official may authorize temporary building permits, temporary occupancy permits, and temporary utility service prior to Final Plat approval and recordation, if deemed appropriate.

- (l) **Revisions Following Approval.** Revisions submitted by the applicant following Conveyance Plat approval shall only be processed and approved as a new Conveyance Plat, Preliminary Plat or Final Plat, as applicable.

SEC. 02.03.034PRELIMINARY PLATS.

- (a) **Purpose.** The purpose of a Preliminary Plat is to determine the general layout of the subdivision, the adequacy of public facilities needed to serve the intended development, and the overall compliance of the land division with applicable requirements of this Chapter and the Zoning Ordinance regulations for each zoning district. A Preliminary Plat is not recorded in the County.
- (b) **Exceptions.**
 - (1) A Preliminary Plat is not required when a Replat, Minor Plat or Amending Plat has the following conditions:
 - i. No right-of-way dedication is required;
 - ii. No extensions of public utilities are required;
 - iii. No public drainage improvements are required;
 - iv. The lot in question is less than two acres in size and will be developed in one phase.
- (c) **Accompanying Applications.**
 - (1) Prior to making an application for a Preliminary Plat the associated Preliminary Drainage Plan, the Preliminary Utility Plan, and other plans deemed necessary by the Director of Development Services, the Director of Public Works, and/or the City Engineer shall be submitted, reviewed, and approved by the City Engineer. unless the City Engineer has determined that the only remaining items are minor and allows the Preliminary Plat application to proceed during the time that the Preliminary Plans are still in review. The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations.
 - (2) An application for a Preliminary Plat, if applicable, shall be accompanied by a Land Study exhibit in accordance with Section 02.03.032 *Land Study Procedures and Requirements* and with Table 02.03.112 *Required Land Study Exhibit Features*.
 - (3) The applicant shall furnish as part of the Preliminary Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Preliminary Plat.
 - (4) The Preliminary Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to the dedications and covenants that may be contained in the Preliminary Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full as a condition of approval, if applicable.
 - (5) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*.
 - (6) The Preliminary Plat and all accompanying data shall conform to the associated approved Conveyance Plat, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreement and/or a Planned Development district.
- (d) **Standards for Approval.** The following criteria shall be used by staff, the Commission and Council to determine whether the application for a Preliminary Plat shall be approved, approved with conditions, or

denied:

- (1) The Preliminary Plat conforms to the associated approved Conveyance Plat or per previously approved Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district (if applicable);
- (2) All conditions imposed at the time of approval of the Conveyance Plat or Concept Plan, as applicable have been satisfied;
- (3) The preliminary layout of the subdivision development meets all standards for adequacy of public facilities contained in this Chapter;
- (4) The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration as required, easements and rights-of-way are adequate to serve the development, meet applicable standards of this this Chapter, and conform to the City's adopted master plans for those facilities;
- (5) The Preliminary Plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design and Construction*,
- (6) The Preliminary Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
- (7) The Preliminary Plat is consistent with all zoning requirements for the property, including any applicable Planned Development zoning standards, and with any approved Facilities and/or Development Agreement, if applicable;
- (8) The ownership, maintenance and allowed uses of all designated easements shall be stated on the Preliminary Plat.;
- (9) The Preliminary Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
- (10) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
- (11) The proposed development represented on the Preliminary Plat does not endanger public health, safety, or welfare.

(e) **Action by Staff.**

- (1) Initiate review of the plat and materials submitted (including the required Preliminary Drainage Plan and Preliminary Utility Plan);
- (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.;
- (3) Determine whether the Preliminary Plat substantially conforms to the associated Conveyance Plat, or other applicable Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district;
- (4) Provide and make available the plat exhibit and reports to the Commission for review.
- (5) Schedule the Preliminary Plat for consideration on the agenda of the next available meeting of the Planning and Zoning Commission and City Council.

(f) **Action by Planning and Zoning Commission and City Council.**

- (1) Planning and Zoning Commission
 - i. Consider the Preliminary Plat application, the findings and recommendation of staff, and any other information available. From all such information, the Commission shall determine whether the Preliminary Plat conforms to the regulations of this Chapter.
 - ii. Act within thirty (30) calendar days following the official submittal date of the Preliminary Plat

application. If no decision is rendered by the Commission within the thirty (30) day period, the Preliminary Plat, as submitted, shall be considered approved.

- iii. Take one of the following actions:
 - a Recommend for approval the Preliminary Plat;
 - b Recommend for approval the Preliminary Plat with conditions (including a citation to ordinance, statute or regulation that is the basis for the conditions), which shall mean that the Preliminary Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c Recommend denial (including a citation to ordinance, statute or regulation that is the basis for the conditions), of the Preliminary Plat with reasons for denial; or
 - d Recommend granting or not granting an extension upon receipt of written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.
- (2) City Council. The decision of the Council is final.
 - i. Take one of the following actions:
 - a Approve the Preliminary Plat;
 - b Approve the Preliminary Plat with conditions (including a citation to ordinance, statute or regulation that is the basis for the conditions), which shall mean that the Preliminary Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c Deny the Preliminary Plat, with reasons for denial (including a citation to ordinance, statute or regulation that is the basis for the conditions); or
 - d Approve or deny granting a thirty (30) day extension upon receipt of a written request by the applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.
- (g) **Procedure for Execution of Preliminary Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Preliminary Plat documents (whether Mylar or paper originals, as required by the City). All documents shall be originals and no copies of the exhibits will be accepted.
 - (1) General.
 - i. *Signatures.* After approval of the Preliminary Plat, the Director of Development Services shall procure the appropriate City signatures on the Preliminary Plat.
 - ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
 - iii. *Filing Upon Approval by City Council.* The Preliminary Plat shall be filed in the City records once all conditions have been satisfied.
- (h) **Expiration.**
 - (1) Two-Year Validity. The approval of a Preliminary Plat shall remain in effect for a period of two (2) years following the date of approval, during which period the applicant shall submit and receive approval for Construction Plans and a Final Plat of the land area shown on the Preliminary Plat, except as specifically provided in subsection (2) for phased development. If Construction Plans and a Final Plat application have not been approved within the two (2)-year period, the Preliminary Plat shall automatically expire.
 - (2) Phased Developments. A Final Plat and Construction Plans must be approved within two (2) years of the approval of the Preliminary Plat, or the Preliminary Plat shall automatically expire.
 - i. If a project is phased and bona fide progress has been made toward the installation of infrastructure in one or more phases of the project, then upon approval by the Director of Development Services, the Preliminary Plat may be extended for a period of one (1) year from

the date of expiration, during which time a subsequent Final Plat and Construction Plans must be approved.

(3) Void If Not Extended. If the Preliminary Plat is not extended as provided herein, it shall expire and shall become null and void after a period of two (2) years of the date of approval.

(i) **Extension.** Pursuant to the provisions of this Section, upon written request of an applicant, a Preliminary Plat may be extended for a period not to exceed one (1) year beyond the Preliminary Plat's expiration date. A request for extension shall be submitted to the Development Services Department in writing sixty (60) calendar days prior to the date of expiration of the Preliminary Plat and shall include reasons why the Preliminary Plat should be extended.

(1) Decision by the Director of Development Services.

i. The Director of Development Services will review the extension request and shall approve it, approve it with conditions to be met during the extension period, or deny the extension request within thirty (30) calendar days following the official filing date of the request.

(2) Considerations. In considering an extension, the Director of Development Services shall consider whether the following conditions exist:

- i. A Final Plat has been submitted and/or approved for any portion of the property shown on the Preliminary Plat;
- ii. Construction Plans have been submitted and/or approved for any portion of the property shown on the Preliminary Plat;
- iii. Construction is occurring on the subject property;
- iv. The Preliminary Plat complies with new ordinances that impact the health, safety, and general welfare of the community; and/or
- v. If there is a need for a park, school or other public facility or improvement on the property.

(3) Additional Conditions.

- i. In granting an extension, the decision-maker may impose such conditions as are needed to ensure that the land will be developed in a timely fashion and that the public interest and safety is served. Any extension may be predicated upon compliance with new development regulations and/or the applicant waiving any vested rights.
- ii. All applicable City taxes shall be current prior to the consideration of any extension of the Preliminary Plat expiration date. Time extensions will not be considered for any property on which taxes are delinquent. Proof of payment shall be entered into the file.

(4) Appeal of Denial for Extension.

- i. *Appeal of the Director's Decision.* The denial of an extension by the Director of Development Services may be appealed to the Commission.
 - a A written request for such an appeal shall be received by the Development Services Department within fourteen (14) calendar days following the denial.
 - b The Commission shall hear and consider such an appeal at the first scheduled public meeting that meets the published deadlines of the Development Services Department.
 - c The Commission shall affirm, modify, or deny the decision of the Director of Development Services by simple majority vote.
- ii. *Appeal of the Commission's Decision.* The denial of an extension by the Commission shall be appealed to the City Council.
 - a A written request for such an appeal shall be received by the Director of Development Services within fourteen (14) calendar days following the denial.
 - b Once the formal appeal is made, staff will schedule the hearing to be heard by the City Council at the first scheduled public meeting that meets the published

deadline of the City Secretary.

- c The City Council shall affirm, modify, or reverse the decision of the Commission by simple majority vote. The decision of the Council is final.

(j) **Effect of Approval.** The approval of a Preliminary Plat shall allow the applicant to proceed with the following:

- (1) Submit complete, signed, and sealed Construction Plans in accordance with Appendix 1, *Standards of Design and Construction* and as outlined in the check list Table 02.03.011?, (need a table name reference).
- (2) Submit the Final Plat application.
- (3) Approval of the Preliminary Plat shall be deemed general approval of the subdivision's layout only and shall not constitute approval or acceptance of the Construction Plans or the associated Final Plat.

(k) **Amendments to Preliminary Plat Following Approval.**

- (1) Minor Amendments. Minor amendments to the design of the subdivision subject to an approved Preliminary Plat may be incorporated in an application for approval of the associated Final Plat without the necessity of submitting a new application for reconsideration of a Preliminary Plat. Minor amendments include, but are not limited to, minor adjustments in street or alley alignments, street lengths and paving details, adjustments to the boundaries of phases and minor adjustments to lot lines that do not result in creation of additional lots or any non-conforming lots (that do not comply with Zoning standards), provided that such amendments are consistent with the intent of the previously approved application.
- (2) Major Amendments. All other proposed changes to the design of the subdivision subject to an approved Preliminary Plat shall be deemed major amendments that require submittal and approval of a new application for approval of a Preliminary Plat (including new fees, new reviews, new official filing date, etc.) before approval of Construction Plans and/or a Final Plat.
- (3) Determination. The Director of Development Services shall make a determination of whether proposed amendments are deemed to be minor or major, thereby requiring new submittal of a Preliminary Plat or may refer the matter to the Council for final determination.

SEC. 02.03.035FINAL PLATS.

(a) **Purpose.** The purpose of a Final Plat is to ensure that the proposed subdivision and development of the land is consistent with all standards of this Chapter pertaining to the adequacy of public facilities, that all requirements and conditions have been satisfied or provided for to allow the Final Plat to be recorded.

(b) **Exceptions.**

- (1) A Final Plat is not required when a Minor Plat or a Development Plat is sufficient (refer to Section 02.03.036, *Minor Plats* or Section 02.03.039, *Development Plat*).

(c) **Accompanying Applications.**

- (1) Prior to making an application for a Final Plat the associated Construction Plans shall be submitted, reviewed, and approved by the City Engineer, unless the City Engineer has determined that the only remaining items are minor and allows the Final Plat application to proceed during the time that the Construction Plans are still in review;
- (2) Subject to the exception listed above in Section 02.03.035(c)(1), the Final Plat application shall be accompanied by approved Construction Plans, in accordance with Section 02.03.041, *Construction Plans* and Appendix 1, *Standards of Design and Construction*, a Facilities Agreement with approved cost estimates and appropriate surety in accordance with Section 02.03.044, *Facilities and*

Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements, if public improvement are proposed, and other plans deemed necessary for thorough review by the Director of Development Services, Director of Public Works and/or the City Engineer.

- (3) The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations;
- (4) The applicant shall furnish as part of the Final Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Final Plat.
- (5) The Final Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to the dedications and covenants that may be contained in the Final Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full prior to filing of the Final Plat.
- (6) If applicable submit the proposed Facilities and Professional Services Agreement for review and approval. A Facilities and Professional Services Agreement shall be prepared in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, of this Chapter; and
- (7) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*.
- (8) Previously Approved Preliminary Plat, Conveyance Plat or Concept Plan. The Final Plat and all accompanying data shall conform to the associated approved Preliminary Plat or Conveyance Plat, or as the initial plats may have been amended subsequently incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreement and/or a Planned Development district.

(d) **Standards for Approval.** The following criteria shall be used by staff, the Commission and Council to determine whether the application for a Final Plat shall be approved, approved with conditions, or denied:

- (1) Final Plat Approval with Prior Approved Conveyance Plat, Concept Plan, or Preliminary Plat.
 - i. The Final Plat conforms to the associated approved Conveyance Plat, Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district, or Preliminary Plat except for minor amendments that are authorized under Section 02.03.034(j), *Amendments to Preliminary Plats Following Approval*, and that may be approved without the necessity of revising the approved associated plat;
 - ii. (The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration as required, easements and rights-of-way are adequate to serve the development, meet applicable standards of this this Chapter, and conform to the City's adopted master plans for those facilities;
 - iii. All conditions imposed at the time of approval of the Conveyance Plat, Concept Plan, or Preliminary Plat, as applicable, have been satisfied;
 - iv. The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
 - v. The Construction Plans conform to the requirements of Section 02.03.041, *Construction Plans, Appendix 1, Standards of Design and Construction*, and have been approved by the City Engineer;
 - vi. The plat conforms to design requirements and construction standards as set forth in Appendix

1, *Standards of Design and Construction*;

- vii. The Final Plat is consistent with all Zoning Ordinance requirements for the property, including any applicable Planned Development zoning standards and with any approved Facilities or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
- viii. The Final Plat is consistent with the Comprehensive Plan, and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
- ix. The ownership, maintenance and allowed uses of all designated easements shall be stated on the Final Plat;
- x. The Final Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
- xi. Specific feature requirements for the Final Plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
- xii. The proposed development represented on the Final Plat does not endanger the public health, safety, or welfare.

(2) Final Plat Approval with No Prior Approved Conveyance Plat, Preliminary Plat.

- i. A Final Plat may be approved without prior approval of a Preliminary Plat when in accordance with Section 02.03.034.b, *Exceptions*;
- ii. The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
- iii. The construction plans conform to the requirements of Section 002.03.041, *Construction Plans*, and have been approved by the City Engineer;
- iv. The plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design Construction*;
- v. The Preliminary Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
- vi. The Final Plat is consistent with all Zoning Ordinance requirements for the property (if applicable), and approved Facilities or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
- vii. The ownership, maintenance and allowed uses of all designated easements shall be stated on the Final plat;
- viii. The Final Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
- ix. Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*, and
- x. The proposed development represented on the Final Plat does not endanger public health, safety, or welfare.

- (e) **Facilities Agreement.** The Developer shall be required to execute a Facilities Agreement as a condition of plat approval and filing whenever the installation of Community Facilities or public improvements is required. A Facilities Agreement shall be prepared after the construction plans and cost estimates have been approved in accordance with Section 02.03.044, *Facilities and Professional Service Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, of this Chapter.

- (f) **Early Grading.** The Director of Development Services may allow the early grading of the subject property prior to the approval of a Final Plat subject to the following conditions:
- (1) Execution of a waiver or other documentation required by the City;
 - (2) The approval of an early grading permit by the City Engineer; and
 - (3) Approval of the Construction Plans by the City Engineer or the City Engineer allowing the early grading to proceed because the remaining Construction Plans review comments are minor as determined by the City Engineer.
- (g) **Action by Staff.**
- (1) Initiate review of the Final Plat exhibit, materials and/or documents submitted as outlined in Section 02.03.035(c), *Accompanying Applications* along with any other plans necessary for review by the Direction of Development Services and the City Engineer.
 - (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.
 - (3) Determine whether the Final Plat substantially conforms to the associated approved Conveyance Plat, Preliminary Plat, and/or a Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district.
 - (4) Provide and make available the plat exhibit and report to the Commission and Council for review.
 - (5) Schedule the Final Plat for consideration on the agenda of the next available meeting of the Planning and Zoning Commission and City Council.
- (h) **Action by the Planning and Zoning Commission and City Council.**
- (1) Planning and Zoning Commission.
 - i. Consider the Final Plat application, the findings and recommendation of staff, and any other information available. From all such information, the Commission shall determine whether the Final Plat conforms to the regulations of this Chapter.
 - ii. Act within thirty (30) calendar days following the official submittal date of the Final Plat application, in accordance with State law.
 - iii. Take one of the following actions:
 - a. Recommend for approval the Final Plat;
 - b. Recommend for approval the Final Plat with conditions (including a citation to ordinance statute or regulation that is the basis for the conditions), which shall mean that the Final Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Recommend denial of the Final Plat with reasons for denial (including a citation to ordinance, statute or regulation that is the basis for the denial); or
 - d. Recommend granting or not granting an extension upon receipt of a written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.
 - (2) City Council. The decision of the Council is final.
 - i. Take one of the following actions:
 - a. Approve the Final Plat;
 - b. Approve the Final Plat with conditions (including a citation to ordinance, statute or regulation that is the basis for the conditions), which shall mean that the Final Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Deny the Final Plat, with reasons for denial (including a citation to ordinance, statute or regulation that is the basis for the denial); or
 - d. Approve or deny granting a thirty (30) day extension upon receipt of a written request by the applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.

- (i) **Procedures for Recordation of Final Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Final Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.
 - (1) General.
 - i. *Signatures.* After approval of the Final Plat, the Director of Development Services shall procure the appropriate City signatures on the Final Plat.
 - ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
 - iii. *Recording Upon Approval by City Council.* The Final Plat shall be recorded after:
 - a The Final Plat is approved by the City and all conditions have been satisfied;
 - b All Kaufman County filing requirements are met.
- (j) **Effect of Approval.** The approval and filing of a Final Plat:
 - (1) Supersedes any prior approved Preliminary Plat for the lots Final Platted;
 - (2) Authorizes the applicant to install any improvements in public rights-of-way in conformance with approved Construction Plans and under a Facilities Agreement (refer to Section 02.03.044, *Facilities and Professional Service Agreements, Financial Assurances, and Construction Contracts for Public Improvements*), as applicable;
 - (3) Authorizes the applicant to implement the physical changed to the property as approved by the Construction Plans in accordance with the Section 02.03.041, *Constructions Plans* and Appendix 1, *Standards of Design and Construction*;
 - (4) Authorizes the applicant to seek Construction Release (refer to Section 02.03.041(j), *Construction Release*); and
 - (5) Apply for a Building Permit for vertical construction in accordance with an approved Development and/or Facilities Agreement as applicable.
- (k) **Revisions Following Approval.** Revisions submitted by the applicant following Final Plat approval shall only be processed and approved as a Replat or Amending Plat, as applicable.

SEC. 02.03.036MINOR PLATS.

- (a) **Purpose.** The purpose of a Minor Plat is to simplify divisions of land under certain circumstances as outlined in State law. A subdivision meeting the following requirements is considered a minor plat:
 - (1) The proposed division results in four (4) or fewer lots;
 - (2) All lots in the proposed subdivision front onto an existing public street and the construction of a new street or the extension of an existing street or alley is not required to meet the requirements of this Chapter; and
 - (3) The proposed development does not require the extension of any public facilities.
- (b) **Exceptions.**
 - (1) A Final Plat is required when the proposed plat does not meet the definition of a Minor Plat as described above in Section 02.03.036(a), *Purpose*;
 - (2) A Preliminary Plat is not required.
- (c) **Accompanying Applications**
 - (1) Prior to making an application for a Minor Plat the associated site plan, if applicable, and other construction type plans (i.e. grading, drainage or utility plans) deemed necessary for thorough review by the Director of Development Services, Director of Public Works and/or the City Engineer shall be approved by the Director of Development Services, Director of Public Works, and/or the

- City Engineer may be required to be submitted.
- (2) The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations.
 - (3) The applicant shall furnish as part of the Minor Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Minor Plat.
 - (4) The Minor Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to any applicable covenants that may be contained in the Minor Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full prior to filing of the Minor Plat.
 - (5) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*.
 - (6) Previously Approved Conveyance Plat or Concept Plan. The Minor Plat and all accompanying data shall conform to the associated approved Conveyance Plat, or Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district, or as the initial plat may have been amended subsequently incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities or Development Agreement and/or a Planned Development district.
- (d) **Standards for Approval.** The following criteria shall be used by the Director of Development Services to determine whether the application for a Minor Plat shall be approved, approved with conditions, or denied:
- (1) Minor Plat with Prior Approved Conveyance Plat, Concept Plan, or Site Plan.
 - i. The Minor Plat conforms to the associated approved Conveyance Plat, Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district, or a Site Plan;
 - ii. All conditions imposed at the time of approval of the Conveyance Plat, Concept Plan, or Site Plan as applicable, have been satisfied;
 - iii. The final layout of the subdivision or development is already adequately served by an improved public street frontage and by all required City utilities and services and by alleys, if applicable that meet all the standards of this Chapter;
 - iv. All lots in the proposed subdivision front onto an existing public street and the construction of a new street or the extension of an existing street or alley is not required,
 - v. The associated Construction Plans deemed necessary in Section 02.03.036(c)(1) conform to the requirements of Section 02.03.041, *Construction Plans, Appendix 1, Standards of Design and Construction*, and have been approved by the City Engineer;
 - vi. The plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design Construction Details*;
 - vii. The Minor Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - viii. The Minor Plat is consistent with all Zoning Ordinance requirements for the property (if applicable), any approved Facilities and/or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
 - ix. The ownership, maintenance and allowed uses of all designated easements shall be stated the Minor Plat;

- x. The Minor Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
 - xi. Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
 - xii. The proposed development represented on the Minor Plat does not endanger the public health, safety, or welfare.
- (2) Minor Plat Approval with No Prior Approved Conveyance Plat, or Concept Plan. A Minor Plat may be approved without prior approval of a Conveyance Plat, or Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district, when the following conditions are met:
- i. A Minor Plat may be approved without prior approval of a Preliminary Plat when in accordance with Section 02.03.034(b), *Exceptions*;
 - ii. The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
 - iii. The associated Construction Plans conform to the requirements of Section 002.03.041, *Construction Plans, Appendix 1, Standards of Design and Construction*, and have been approved by the City Engineer;
 - iv. The plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design Construction*;
 - v. The Minor Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulations, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - vi. The Minor Plat is consistent with all Zoning Ordinance requirements for the property (if applicable), and approved Facilities and/or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
 - vii. The ownership, maintenance and allowed uses of all designated easements shall be stated on the Minor Plat;
 - viii. The Minor Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
 - ix. Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Feature*, and
 - x. The proposed development represented on the Minor Plat does not endanger the public health, safety, or welfare.
- (e) **Early Grading.** The Director of Development Services may allow the early grading of the subject property prior to the approval of the Minor Plat subject to the following conditions:
- (1) Execution of a waiver or other documentation required by the City;
 - (2) The approval of an early grading permit by the City Engineer; and
 - (3) Approval of the Construction Plans by the City Engineer or the City Engineer allowing the early grading to proceed because the remaining Construction Plans review comments are minor as determined by the City Engineer.
- (f) **Action by Staff.**
- (1) Initiate review of the Minor Plat exhibit, materials and/or documents outlined in Section 02.03.036(c), *Accompanying Applications* submitted along with any other plans necessary for review by the Director of Development Services and the City Engineer.

- (2) Request written comments from the City Engineer and other City departments as deemed necessary, which will be submitted to the applicant for compliance and revisions.
 - (3) Determine whether the Minor Plat substantially conforms to any associated approved Conveyance Plat, or Concept Plan, and incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreements and/or Planned Development District;
 - (4) Approval of a Minor Plat is outlined below in Section 02.03.036(h), *Approval of Minor Plats*.
- (g) **Action by Director of Development Services.** The Director of Development Services shall:
- (1) Determine that the requirements of submission have been met and accept the Minor Plat which shall begin the thirty (30) calendar day process.
 - (2) The Director of Development Services is authorized to take one of the following actions:
 - iv. Approve the Minor Plat and submit to appropriate City officials for signatures;
 - v. Approve the Minor Plat with conditions, which shall mean that the Minor Plat shall be considered to have been approved once such conditions are fulfilled; or
 - vi. Defer the Minor Plat to the Council for consideration prior to expiration of the required 30-day approval period.
- (h) **Approval of Minor Plats.** The Director of Development Services is authorized to approve, approve with conditions, or disapprove Minor Plats. However, the Director of Development Services may defer the decision of any Minor Plat for any reason to the Planning and Zoning Commission and City Council in accordance with the Section 02.03.036(i), *Deferral on Minor Plat Application*. Minor Plat may be approved on the Consent Agenda.
- (i) **Deferral of Decision on Minor Plat Application.** The Director of Development Services may defer the Minor Plat application to the Planning & Zoning Commission for consideration and recommendation to City Council.
- (1) Planning and Zoning Commission.
 - i. Consider the Minor Plat application, the findings and recommendation of staff, and any other information available. From all such information the Commission shall determine whether the Minor Plat conforms to the regulations of this Chapter;
 - ii. Act within thirty (30) calendar days following the official submittal date of the Minor Plat application in accordance with State law;
 - iii. Take one of the following actions:
 - a. Recommend for approval the Minor Plat; or
 - b. Recommend for approval the Minor Plat with conditions (including a citation to ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Minor Plat shall be considered to have been approved once such conditions are determined by the City to be fulfilled; or
 - c. Recommend for denial the Minor Plat with reasons for denial (including a citation to ordinance, statute, or regulation that is the basis for the *denial*); or
 - d. Recommend granting or not granting an extension upon receipt of written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.
 - (3) Council Decision. The decision of the Council is final.
 - i. Take one of the following actions:
 - a. Approve the Minor Plat;
 - b. Approve the Minor Plat with conditions (including a citation to ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Minor Plat

shall be considered to have been approved once such conditions are determined by the City to be fulfilled; or

- c. Deny the Minor Plat with reasons for denial (including a citation to ordinance, statute, or regulations that is the basis for the conditions); or
 - d. Approve or deny granting a thirty (30) day extension upon receipt of a written request by the applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.
- (i) **Procedures for Recordation of Minor Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Minor Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.
- (2) General.
- i. *Signatures.* After approval of the Minor Plat, the Director of Development Services shall procure the appropriate City signatures on the Minor Plat;
 - ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County;
 - iii. *Recording Upon Approval by City Council.* The Minor Plat shall be recorded after:
 - a. The Minor Plat is approved by the City and all conditions have been satisfied;
 - b. All Kaufman County filing requirements are met.
- (j) **Effect of Approval.** The approval and filing of a Minor Plat:
- (1) Authorizes the applicant to implement the physical changes to the property as approved by the Construction Plans in accordance with Section 02.03.041 Construction Plans and Appendix 1, *Standards of Design and Construction*;
 - (2) Authorizes the applicant to seek Construction Release (refer to Section 02.03.041(i), *Construction Release*);
 - (3) Apply for a Building Permit for vertical construction in accordance with any approved Development Agreement, as applicable.
- (k) **Revisions Following Approval.** Revisions submitted by the applicant following initial Minor Plat approval shall only be processed and approved as a Replat or Amending Plat, as applicable.

SEC. 02.03.037REPLATS.

- (a) **Purpose.** The purpose of a replat is to allow division to a previously recorded Final Plat, or Minor Plat, or a combination of subdivisions previously approved, ensuring the subdivision and development of the land is consistent with all the standards of this Chapter. Unless otherwise specified, any change to a recorded plat shall be subject to approval by the City Council in accordance with the applicable procedures set forth in this Chapter.
- (b) **Applicability and Terminology.**
 - (1) The procedures outlined in this section, and 02.03.038, *Amending Plats*, shall apply only if a Developer seeks to change any portion of a plat that has been filed for record with Kaufman County.
 - (2) The term “Replat” includes changes to a recorded Final Plat, whether the change is effected by replatting without vacation or replatting by vacating the recorded plat (Section 02.03.039, *1 Plat Vacation*) and approving a new application.
- (c) **Exceptions.** A Replat is not required when an Amending Plat is sufficient as outlined in Section 02.03.038, *Amending Plats*.

- (d) **Application and Approval Procedures.** Unless otherwise specified, application and all related procedures and approvals, including recordation, for a Replat shall be the same as specified for a Final Plat.
- (e) **Partial Replat Application.** If a Replat is submitted for only a portion of a previously platted subdivision, the Replat must reference the previous subdivision name and recording information and must state on the Replat the specific lots that are being changed along with a detailed “Purpose for Replat” statement.
- (f) **Replats Requiring a Zoning Ordinance Variance or Subdivision Ordinance Exception.** Replats requiring a Zoning Ordinance Variance or Subdivision Ordinance Exception must be considered as a public hearing item.
- (1) In these cases, notification in the official newspaper of the City a minimum of fifteen (15) days prior to the public hearing is required.
 - (2) In addition, written notices of the proposed residential replat requiring a Zoning Ordinance Variance or Subdivision Ordinance Exception shall be mailed to all property owners located within 200 feet of the subject property a minimum of fifteen (15) days prior to the public hearing.
 - (3) Notice of the public hearing shall also be posted with the agenda at the City Hall and on the City’s website within the prescribed time limits, as required by State law.
- (g) **Requirements for Residential Replats.**
- (1) Written notices of the proposed residential replat shall be mailed to all property owners located within 200 feet of the subject property a minimum of fifteen (15) days prior to the public hearing.
 - (2) In addition, a notice shall be published in the official newspaper of the City a minimum of fifteen (15) days prior to the public hearing.
 - (3) Notice of the public hearing shall also be posted with the agenda at the City Hall and on the City’s website within the prescribed time limits, as required by State law.
- (h) **Requirements for Non-Residential Replats.** Non-residential replats do not require noticing by newspaper or to adjacent property owners. However, a public hearing shall be held on any non-residential replat that requires a Zoning Ordinance Variance or Subdivision Ordinance Exception.
- (i) **Construction Management.** If the subdivision, as replatted, requires construction of additional public improvements, the provisions of the Facilities Agreement between the City and the Developer shall apply (see Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*). If in the determination of the City, the subdivision as replatted does not require any appreciable alteration or improvement of utility installations, streets, alleys, building setback lines, etc., then no additional Construction Plans shall be required.
- (h) **Accompanying Applications.**
- (1) Prior to making an application for a Replat Plat the associated Construction Plans shall be submitted, reviewed, and approved by the City Engineer, unless the City Engineer has determined that the only remaining items are minor and allows the Replat Plat application to proceed during the time that the Construction Plans are still in review.
 - (2) The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations.
 - (3) Subject to the exception listed above in Section 02.03.034(c)(1), the Replat Plat application shall be accompanied by approved Construction Plans, in accordance with Section 02.03.041, *Construction Plans*, a Facilities Agreement with cost estimates and appropriate surety in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, if public improvement are proposed, and other plans deemed necessary for thorough review by the Director of Development Services, Director of Public Works and/or the City Engineer.

- (4) The applicant shall furnish as part of the Replat Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Replat Plat.
 - (5) The Replat Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to the dedications and covenants that may be contained in the Replat Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full prior to filing of the Replat Plat.
 - (6) Previously Approved Preliminary Plat, Conveyance Plat or Concept Plan. The Replat Plat and all accompanying data shall conform to the associated approved Preliminary Plat or Conveyance Plat, or as the initial plats may have been amended subsequently incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreement and/or a Planned Development district.
 - (7) If applicable submit the proposed Facilities Agreement for review and approval. A Facilities Agreement shall be prepared in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, of this Chapter; and
 - (8) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*.
- (i) **Standards for Approval.** The following criteria shall be used by staff, the Commission and Council to determine whether the application for a Replat Plat shall be approved, approved with conditions, or denied:
- (1) Replat Approval Prior Approved Conveyance Plat, Concept Plan, Preliminary Plat or Replat.
 - i. The Replat Plat conforms to the associated approved Conveyance Plat, Concept Plan in an associated Facilities and/or Development Agreement, and/or a Planned Development district, or Preliminary Plat except for minor amendments that are authorized under Section 02.03.034(j), *Amendments to Preliminary Plats Following Approval*, and that may be approved without the necessity of revising the approved associated plat or Final Plat
 - ii. All conditions imposed at the time of approval of the Conveyance Plat, Concept Plan, Preliminary Plat, or Final Plat as applicable, have been satisfied;
 - iii. The Replat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - iv. The Replat layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
 - v. The Construction Plans conform to the requirements of Section 02.03.041, *Construction Plans*, and have been approved by the City Engineer;
 - vi. The plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design and Construction*;
 - vii. The Replat Plat is consistent with all Zoning Ordinance requirements for the property (if applicable), any approved Facilities or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
 - viii. The ownership, maintenance and allowed uses of all designated easements shall be stated the Replat Plat;
 - ix. The Replat Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
 - x. Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat*

Features; and

- xi. The proposed development represented on the Preliminary Plat does not endanger public health, safety, or welfare.
- (2) **Final Plat Approval with No Prior Approved Conveyance Plat, or Preliminary Plat, or Concept Plan.** A Final Plat may be approved without prior approval of a Conveyance Plat or a Preliminary Plat when the following conditions are met:
- i. A Final Plat may be approved without prior approval of a Preliminary Plat when in accordance with Section 02.03.034.b, *Exceptions*.
 - ii. The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
 - iii. The Construction Plans conform to the requirements of Section 02.03.041, *Construction Plans*, and have been approved by the City Engineer;
 - iv. The plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design and Construction*;
 - v. The Final Plat is consistent with all Zoning Ordinance requirements for the property (if applicable), and approved Facilities or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
 - vi. The Final Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - vii. The ownership, maintenance and allowed uses of all designated easements shall be stated on the Final plat;
 - viii. The Final Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County; and
 - ix. Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
 - x. The proposed development represented on the Preliminary Plat does not endanger public health, safety, or welfare.
- (j) **Facilities Agreement.** If applicable the owner of the property shall be required to execute a Facilities Agreement as a condition of plat approval and filing whenever the installation of Community Facilities or public improvements is required. A Facilities and **Professional Services** Agreement shall be prepared after the final engineering plans and cost estimates have been approved in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, of this Chapter.
- (k) **Early Grading.** The Director of Development Services may allow the early grading of the subject property prior to the approval of a Replat Plat subject to the following conditions:
- (1) Execution of a waiver or other documentation required by the City;
 - (2) The approval of an early grading permit;
 - (3) Approval of the Construction Plans by the City Engineer or the City Engineer allowing the early grading to proceed because the remaining construction plan review comments are minor as determined by the City Engineer.
- (l) **Action by Staff.**
- (1) Initiate review of the Replat and materials submitted.
 - (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.

- (3) Determine whether the Replat Plat substantially conforms to the associated approved Conveyance Plat, Preliminary Plat, Final Plat or Concept Plan in an associated facilities and/or Development Agreement, and/or a Planned Development district.
- (4) Provide and make available the plat exhibit and report to the Commission and Council for review.
- (5) Schedule the public hearing for the Replat Plat for consideration on the agenda of the next available meeting of the Planning and Zoning Commission and City Council.

(h) **Action by the Planning and Zoning Commission and City Council.**

(1) Planning and Zoning Commission.

- i. Conduct a public hearing and consider the Replat Plat application, the findings and recommendation of staff, and any other information available. From all such information, the Commission shall determine whether the Replat Plat conforms to the regulations of this Chapter.
- ii. Act within thirty (30) calendar days following the official submittal date of the Replat Plat application, in accordance with State law.
- iii. Take one of the following actions:
 - a. Recommend for approval the Replat Plat;
 - b. Recommend for approval the Replat Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Replat Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Recommend denial of the Replat Plat with reasons for denial (including a citation to ordinance, statute or regulation that is the basis for the denial); or
 - d. Approve or deny an extension upon receipt of a written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.

(2) City Council. The decision of the City Council is final.

- i. Conduct a public hearing and take one of the following actions:
 - a. Approve the Replat Plat;
 - b. Approve the Replat Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Replat Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Deny the Replat Plat, with reasons for denial (including a citation to ordinance, statute or regulation that is the basis for the denial); or
 - d. Approve or deny granting a thirty (30) day extension upon receipt of a written request by the applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.

(i) **Procedures for Recordation of Replat Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Replat Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.

(1) General.

- i. *Signatures.* After approval of the Replat Plat, the Director of Development Services shall procure the appropriate City signatures on the Replat Plat.
- ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
- iii. *Recording Upon Approval by City Council.* The Replat Plat shall be recorded after:
 1. The Replat Plat is approved by the City and all conditions have been satisfied;

2. All Kaufman County filing requirements are met.

- (j) **Effect of Approval.** Upon approval and recording of the Replat, it is controlling over the previously recorded plat for the portion replatted.
- (1) Supersedes any prior approved Final Plat for the lots Replatted.
 - (2) Authorizes the applicant to install any improvement in public right-of-way in conformance with approved Construction Plans and under a Facilities Agreement (refer to Section 02.03044, *Facilities and Professional Services Agreements, Financial Assurances and Construction Contracts for Public Improvements*) as applicable;
 - (3) Authorizes the applicant to implement the physical changes to the property as approved by the Construction Plans in accordance with Section 02.03.041, and *Appendix 1, Standards of Design and Construction*;
 - (4) Authorizes the applicant to seek Construction Release (refer to Section 02.03.041(j), *Construction Release*) and
 - (5) Apply for a Building Permit for vertical construction in accordance with an approved Development and/or Facilities Agreement, as applicable

SEC. 02.03.038AMENDING PLATS.

- (a) **Purpose.** The purpose of an Amending Plat shall be to provide an expeditious means of making minor revisions to a recorded plat consistent within the provisions of State law.
- (b) **Applicability.** The procedures for an Amending Plat shall apply only if the sole purpose of the Amending Plat is to achieve one or more of the following:
- (1) To correct an error in a course or distance shown on the preceding plat;
 - (2) To add a course or distance that was omitted on the preceding plat;
 - (3) To correct an error in a real property description shown on the preceding plat;
 - (4) To indicate monuments set after the death, disability or retirement from practice of the engineer or surveyor responsible for setting monuments;
 - (5) To show the location or character of a monument that has been changed in location or character or that is shown incorrectly as to location or character on the preceding plat;
 - (6) To correct any other type of scrivener or clerical error or omission previously approved by the municipal authority responsible for approving plats, including lot numbers, acreage, street names, and identification of adjacent recorded plats;
 - (7) To correct an error in courses and distances of lot lines between two (2) adjacent lots if:
 - i. Both lot owners join in the application for amending the plat;
 - ii. Neither lot is abolished;
 - iii. The amendment does not attempt to remove recorded covenants or restrictions; and
 - iv. The amendment does not have a material adverse effect on the property rights of any of the owners in the plat;
 - (8) To relocate a lot line to eliminate an inadvertent encroachment of a building or other improvement on a lot line or easement;
 - (9) To relocate one (1) or more lot lines between one (1) or more adjacent lots if:
 - i. The owners of all those lots join in the application for amending the plat;
 - ii. The amendment does not attempt to remove recorded covenants or restrictions; and
 - iii. The amendment does not increase the number of lots;
 - (10) To make necessary changes to the preceding plat to create six (6) or fewer lots in the subdivision or a part of the subdivision covered by the preceding plat if:
 - i. The changes do not affect applicable zoning and other regulations of the municipality;
 - ii. The changes do not attempt to amend or remove any covenants or restrictions; and

- iii. The area covered by the changes is located in an area that the Commission or other appropriate governing body of the municipality has approved, after a public hearing, as a residential improvement area; or
 - (11) To replat one (1) or more lots fronting on an existing street if:
 - i. The owners of all those lots join in the application for amending the plat;
 - ii. The amendment does not attempt to remove recorded covenants or restrictions;
 - iii. The amendment does not increase the number of lots; and
 - iv. The amendment does not create or require the creation of a new street or make necessary the extension of municipal facilities.
- (c) **Certificates of Correction.** Certificates of Correction are prohibited.
- (d) **Notice.** In accordance with State law, the approval and issuance of an Amending Plat shall not require notice, hearing, or approval of adjacent lot owners.
- (e) **Accompanying Applications.**
 - (1) An application for an Amending Plat may be accompanied by site plan, or other plans (i.e. grading, drainage, or utility plans) deemed necessary for thorough review by the Director of Development Services, Director of Public Works, and/or the City Engineer;
 - (2) The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations.
 - (3) The applicant shall furnish as part of the Amending Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Amending Plat;
 - (4) The Amending Plat application shall be signed by each owner, or the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to any applicable covenants that may be contained in the Amending Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full prior to filing of the Amending Plat;
 - (5) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, Required Plat Features.
- (f) **Standards for Approval.**
 - (1) The layout of the subdivision development meets all standards for adequacy of public facilities contained in this Chapter;
 - (2) The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration as required, easements and rights-of-way are adequate to serve the development, meet applicable standards of this this Chapter, and conform to the City's adopted master plans for those facilities;
 - (3) The Amending Plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design and Construction*,
 - (4) The Amending Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - (5) The Amending Plat is consistent with all zoning requirements for the property, including any applicable Planned Development zoning standards, and with any approved Facilities and/or Development Agreement, and all other requirements of this Chapter that apply to the plat, if applicable
 - (6) The ownership, maintenance and allowed uses of all designated easements shall be stated on the

Amending Plat.;

- (7) The Amending Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
- (8) Specific feature requirements for the Amending Plat exhibit are outlined in Table 02.03.113, Required Plat Features; and
- (9) The proposed development represented on the Amending Plat does not endanger public health, safety, or welfare.

(g) **Action by Staff.**

- (1) Initiate review of the Amending Plat exhibit, materials and/or documents outlined in Section 02.03.038(e), Accompanying Applications submitted along with any other plans necessary for review by the Director of Development Services and the City Engineer.
- (2) Request written comments from the City Engineer and other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.
- (3) Determine whether the Amending Plat substantially conforms to any associated approved Preliminary Plat, Final Plat, Replat, or Concept Plan and incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities and/or Development Agreements and/or a Planned Development District.

(h) **Action by Director of Development Services.** The Director of Development Services shall:

- (1) Determine that the requirements of submission have been met and accept the Amending Plat which shall begin the thirty (30) calendar day process.
- (2) The Director of Development Services is authorized to take one of the following actions:
 - i. Approve the Amending Plat and submit to appropriate City officials for signatures;
 - ii. Approve the Amending Plat with conditions, which shall mean that the Amending Plat shall be considered to have been approved once such conditions are fulfilled; or
 - iii. Defer the Amending Plat to the Planning and Zoning Commission and City Council for consideration prior to expiration of the required 30-day approval period.

(i) **Approval of Amending Plats.** The Director of Development Services is authorized to approve, approve with conditions, or disapprove Amending Plats. However, the Director of Development Services may defer the decision of any Amending Plat for any reason to the Planning & Zoning Commission and City Council in accordance with Section 02.033.038(j) Deferral of Amending Plat Application. Amending Plat may be approved on the Consent Agenda(*look for similar language under final plat*).

(j) **Deferral of Decision on Amending Plat Application.** The Director of Development Services may defer the Amending Plat application to the Planning & Zoning Commission for consideration and recommendation to City Council.

(1) Planning and Zoning Commission.

- i. Consider the Amending Plat application, the findings and recommendation of staff, and any other information available. From all such information the Commission shall determine whether the Amending Plat conforms to the regulations of this Chapter;
- ii. Act within thirty (30) calendar days following the official submittal date of the Amending Plat application in accordance with State law;
- iii. Take one of the following actions:
 - a. Recommend for approval the Amending Plat; or
 - b. Recommend for approval the Amending Plat with conditions (including a citation to ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Amending Plat shall be considered to have been approved once such conditions

- are determined by the City to be fulfilled; or
 - c. Recommend for denial the Amending Plat with reasons for denial (including a citation to ordinance, statute, or regulation that is the basis for the *denial*); or
 - d. Recommend granting or not granting an extension upon receipt of written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.
- (3) **Council Decision.** The decision of the Council is final.
 - i. Take one of the following actions:
 - a. Approve the Amending Plat;
 - b. Approve the Amending Plat with conditions (including a citation to ordinance, statute, or regulations that is the basis for the conditions), which shall mean that the Amending Plat shall be considered to have been approved once such conditions are determined by the City to be fulfilled; or
 - c. Deny the Amending Plat with reasons for denial (including a citation to ordinance, statute, or regulations that is the basis for the conditions); or
 - d. Approve or deny granting a thirty (30) day extension upon receipt of a written request by the applicant when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.
- (k) **Procedures for Recordation Following Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Amending Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.
 - (1) **General.**
 - i. *Signatures.* After approval of the Amending Plat, the Director of Development Services shall procure the appropriate City signatures on the Amending Plat;
 - ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
 - iii. *Recording Upon Approval by City Council.* The Amending Plat shall be recorded after:
 - a. The Amending Plat is approved;
 - b. All Kaufman County filing requirements are met.
- (l) **Effect of Approval.** The approval and filing of an Amending Plat:
 - (1) Upon approval, an Amending Plat shall be recorded and is controlling over the previously recorded plat without vacation of that plat. Upon approval, a certificate stating that the Amending Plat has been reviewed and approved by either the Director of Development Services or the City Council shall be provided to the applicant, as required by State law.
 - (2) Authorizes the applicant to seek Construction Release (refer to Section 02.03.041(i), *Construction Release*);
 - (3) Apply for a Building Permit for vertical construction in accordance with any approved Development Agreement, as applicable.

SEC. 02.03.039..... DEVELOPMENT PLAT.

- (a) **Purpose.** This section is adopted pursuant to the TEXAS LOCAL GOVERNMENT CODE, CHAPTER 212, SUBCHAPTER B, Section 212.041 through 212.050, as amended. The purpose of a Development Plat is to ensure that the proposed development complies with the applicable standards of the Zoning Ordinance and Subdivision Regulations including but not limited to requirements for easements, infrastructure, setbacks, adjacency standards, and that there are no property line encroachments. For the purposes of this

section, the term “development” means the construction of any building, structure, or improvement of any nature (residential or nonresidential), or the enlargement of any external dimension thereof. This section shall apply to any land lying within the City or within its extraterritorial jurisdiction in the following circumstances:

- (1) The development of any tract of land which has not been platted or replatted prior to the effective date of this Chapter, unless expressly exempted herein;
 - (2) The development of any tract of land for which the Developer claims an exemption from the City’s Subdivision Ordinance (see SUBCHAPTER A of Section 212 of the TEXAS LOCAL GOVERNMENT CODE, as amended), including requirements to replat, which exemption is not expressly provided for in such regulations;
 - (3) The development of any tract of land for which the only access is a private easement/street;
 - (4) The division of any tract of land resulting in parcels or lots, each of which is greater than five (5) acres in size, and where no public improvement is proposed to be dedicated.
- (b) **Exceptions.** A Development Plat shall not be required where the land to be developed has received plat approval prior to the effective date of this Ordinance.
- (c) **Accompanying Applications.**
- (1) Prior to making an application for a Development Plat the associated site plan, or other construction type plans (i.e. grading, drainage or utility plans) deemed necessary for thorough review by the Director of Development Services, Director of Public Works and/or the City Engineer shall be approved by the Director of Development Services, Director of Public Works, and/or the City Engineer.
 - (2) If applicable submit the proposed Facilities Agreement for review and approval. A Facilities Agreement shall be prepared in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, of this Chapter; and
 - (3) The Director of Development Services, the Director of Public Works, and/or the City Engineer may require the submission of additional documents as determined necessary to allow a full review of the application for compliance with City regulations.
 - (4) The applicant shall furnish as part of the Development Plat acceptable proof of ownership, identifying all persons having an ownership interest in the property that is the subject of the Minor Plat.
 - (5) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*.
 - (6) The Development Plat application shall be signed by each owner, or by the representative of the owners authorized to sign legal documents for the owners, effectively denoting that they are consenting to the platting of the property and to any applicable covenants that may be contained in the Minor Plat. Such consent shall be subject to review and approval by the City Attorney, and the applicant shall reimburse the City for all related legal costs for review. This reimbursement shall be paid in full prior to filing of the Minor Plat.
 - (7) Previously Approved Conveyance Plat or Concept Plan. The Development Plat and all accompanying data shall conform to the associated approved Conveyance Plat, or Concept Plan, or as the initial plats may have been amended subsequently incorporating all conditions imposed or required by City Council, or per any previously approved Concept Plan in an associated Facilities or Development Agreement and/or a Planned Development district.
- (d) **Standards for Approval.**
- (1) The Development Plat conforms to the associated approved Conveyance Plat, Concept Plan in an

- associated Facilities and/or Development Agreement, and/or a Planned Development district;
- (2) All conditions imposed at the time of approval of the Conveyance Plat, or Concept Plan, as applicable, have been satisfied;
 - (3) The final layout of the subdivision or development meets all standards for adequacy of public facilities contained in this Chapter;
 - (4) The proposed provision and configuration of public improvements including, but not limited to roads, water, wastewater, storm drainage, park facilities, open spaces, habitat restoration as required, easements and rights-of-way are adequate to serve the development, meet applicable standards of this this Chapter, and conform to the City's adopted master plans for those facilities;
 - (5) The Development Plat conforms to design requirements and construction standards as set forth in the Appendix 1, Standards of Design and Construction,
 - (6) The applicable Construction Plans conform to the requirements of Section 02.03.041, *Construction Plans* and have been approved by the City Engineer;
 - (7) The Development Plat conforms to design requirements and construction standards as set forth in the Appendix 1, *Standards of Design and Construction*;
 - (8) The Development Plat is consistent with the *Comprehensive Plan* and any other approved plan or regulation, except where application of the Plan may conflict with State law (e.g., land use in the ETJ);
 - (9) The Development Plat is consistent with all zoning requirements for the property (if applicable), any approved Facilities or Development Agreement (if applicable), and all other requirements of this Chapter that apply to the plat;
 - (10) The ownership, maintenance and allowed uses of all designated easements shall be stated the Development Plat;
 - (11) The Development Plat meets all applicable County standards to be applied under an interlocal agreement between the City and Kaufman County under State law, where the proposed development is located in whole or in part in the ETJ of the City and in the County;
 - (12) Specific feature requirements for the plat exhibit are outlined in Table 02.03.113, *Required Plat Features*; and
 - (13) The proposed development represented on the Development Plat does not endanger the public health, safety, or welfare.

(e) **Action by Staff.**

- (1) Initiate review of the plat and materials submitted (???? Don't know what that is exactly)
- (2) Request written comments from other City departments, as deemed necessary, which will be submitted to the applicant for compliance and revisions.
- (3) Provide and make available the plat exhibit and reports to the Commission for review.
- (4) Schedule the Development Plat for consideration on the agenda of the next available meeting of the Planning and Zoning Commission and City Council.

(f) **Action by the Planning and Zoning Commission and City Council.**

- (1) Planning and Zoning Commission.
 - i. Consider the Development Plat application, the findings and recommendation of staff, and any other information available. From such information, the Commission shall determine whether the Development Plat conforms to the regulations of the Chapter.
 - ii. Act within thirty (30) calendar days following the official submittal date of the Development Plat application in accordance with State law.
 - iii. Take one of the following actions:
 - a. Recommend for approval of the Development Plat;

- b. Recommend for approval of the Development Plat with conditions (including a citation to ordinance, statue, or regulation that is the basis for the conditions), which shall mean that the Development Plat shall be considered to have been approved once such conditions are fulfilled; or
- c. Recommend denial (including a citation to ordinance, statue or regulation that is the basis for the denial), of the Development Plat with reasons for denial; or
- d. Approve or deny an extension upon receipt of a written request by the applicant for a thirty (30) day extension when received fifteen (15) days prior to the meeting date.

(2) City Council. The Decision of the Council is final.

i.Take one of the following actions:

- a. Approve the Development Plat;
- b. Approve the Development Plat with conditions (including a citation to ordinance, statue, or regulation that is the basis for the conditions), which shall mean that the Development Plat shall be considered to have been approved once such conditions are fulfilled; or
- c. Deny the Development Plat, with reasons for denial (including a citation to ordinance, statue or regulation that is the basis for the denial); or
- d. Approve or deny granting an extension upon receipt of a written request by the applicant thirty (30) day extension when received fifteen (15) days prior to the Planning and Zoning Commission meeting date.

- (g) **Procedures for Recordation of Development Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Development Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted.

(1) General.

- i. *Signatures.* After approval of the Development Plat, the Director of Development services shall procure the appropriate City Signatures on the Development Plat.
- ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County.
- iii. *Recording Upon Approval by City Council.* The Development Plat shall be recorded after:
 - a. The Development Plat is approved by the City and all conditions have been satisfied;
 - b. All Kaufman County filing requirements are met.

- (h) **Effect of Approval.** The approval and filing of a Development Plat:

- (1) Apply for a Building Permit for vertical construction in accordance with any approved development and/or facilities agreement as applicable, utility connection permit, electrical permit or similar permit.

SEC. 02.03.0391PLAT VACATION.

- (a) **Purpose.** The purpose of a Plat Vacation is to provide an expeditious means of nullifying a recorded plat in its entirety, consistent with provisions of State law.

(b) **Initiation of a Plat Vacation.**

- (1) By Property Owner. The property owner or Developer of the tract covered by a plat may submit an application to vacate the plat at any time before any lot in the plat is sold.
- (2) By All Lot Owners. If lots in the plat have been sold, an application to vacate the plat must be submitted by all the owners of lots in the plat.
- (3) City Initiation. City Council may take such action to vacate a plat to protect the public

health, safety, and welfare or as otherwise allowed by law.

- (b) **Notice.** Published notice of the public hearing on the Plat Vacation application shall be given in accordance with State law. The hearing shall be conducted by the Planning and Zoning Commission and City Council.
- (c) **Accompanying Applications.**
 - (1) The applicant for a Vacation Plat shall provide written documentation from each appropriate entity evidencing that the right-of-way to be vacated, abandoned, and relinquished is free of all public and private utilities including, but not limited to water, wastewater stormwater, electricity, gas, and franchise utilities.
 - i. If public or private utilities are present within the right-of-way, a utility easement of an appropriate size and location, as determined by the City Engineer and/or the Director of Public Works, will be retained. A drainage easement shall also be retained, as determined by the City Engineer and/or the Director of Public Works.
- (d) **Standards for Approval.**
 - (1) Written documentation from each appropriate entity evidencing that the right-of-way to be vacated, abandoned, and relinquished is free of all public and private utilities including, but not limited to water, wastewater stormwater, electricity, gas, and franchise utilities has been provided.
 - i. A utility easement of an appropriate size and location, as determined by the City Engineer and/or the Director of Public Works, will be retained for any present public or private utilities within the right-of-way.
- (e) **Action by Staff.**
 - (1) Initiate review of the Plat Vacation application **and materials submitted;**
 - (2) Request written comments from other City departments, if deemed necessary;
 - (3) The Director shall consider issues of utility and drainage easements, franchise utilities, and traffic access to determine whether to retain all or specific portions of road rights-of-way, or easements shown on the plat being considered for Plat Vacation. If determined all or any portion of easements and/or rights-of-way are to be retained as a condition of approval they shall be conveyed to the City in a separate legal document using forms provided by the City Attorney's office;
- (f) **Action by the Planning & Zoning Commission and Council.**
 - (1) Planning and Zoning Commission.
 - i. Consider the Plat Vacation application, the findings and recommendation of staff, and any other information provided. The Commission shall conduct a public hearing and from all such information make a finding as to whether or not the plat should be vacated.
 - ii. Act within thirty (30) calendar days following the official submittal date of the Vacation Plat application, in accordance with State law.
 - iii. Take one of the following actions:
 - (a) Recommend for approval the Vacation Plat;
 - (b) Recommend for approval the Vacation Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Vacation Plat shall be considered to have been approved once such conditions are fulfilled; or
 - (c) Recommend denial of the Vacation Plat with reasons for the denial (including a citation to ordinance, statute, or regulation that is the basis for the denial); or
 - (d) Approve or deny an extension upon receipt of a written request by the applicant for a thirty (30) day extension when received fifteen (15) calendar days prior to the meeting date.
 - (2) City Council. The decision of Council is final.

- i. Take one of the following actions:
 - a. Approve the Vacation Plat;
 - b. Approve the Vacation Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Vacation Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Deny the Vacation Plat with reasons for the denial (including a citation to ordinance, statute, or regulation that is the basis for the denial); or
 - d. Approve or deny granting a thirty (30) day extension when received fifteen (15) calendar days prior to the Planning and Zoning Commission meeting date.

- (f) **Action by the City Council.** If the City Council chooses to approve a Plat Vacation, an ordinance shall be adopted and said ordinance shall be filed for record with the Kaufman County Clerks' Office. A metes and bounds description and a visual depiction or exhibit showing the location and limits of the vacated right-of-way shall be attached to the ordinance. If the City Council adopts an ordinance vacating a plat in part, it shall cause a revised Final Plat to be recorded along with the ordinance and filing number which shows that portion of the original plat that has been vacated and that portion that has not been vacated.

- (g) **Procedures for Recordation of Vacation Plat Documents upon Approval.** The applicant shall supply to Development Services Department the required number of original signed and executed copies of the Vacation Plat documents (whether Mylar or paper originals, as required by both the City and Kaufman County) that will be needed to file the Plat, upon approval, with Kaufman County. All documents shall be originals and no copies of the exhibits will be accepted
 - (1) General.
 - i. *Signatures.* After approval of the Vacation Plat, the Director of Development services shall procure the appropriate City Signatures on the Vacation Plat;
 - ii. *County Requirements.* It is the responsibility of the applicant to comply with the platting requirements of Kaufman County;
 - iii. *Recording Upon Approval by City Council.* The Development Plat shall be recorded after:
 - a. The Vacation Plat is approved by the City and all conditions have been satisfied;
 - b. All Kaufman County filing requirements are met.

- (h) **Effect of Approval.**
 - (1) On the execution and recording of the vacating instrument, the previously filed plat shall have no effect. Regardless of the City Council's action on the petition, the property owner(s) or Developer will have no right to a refund of any monies, fees or charges paid to the City, nor to the return of any property or consideration dedicated or delivered to the City.
 - (2) The plat is vacated when a signed, acknowledged instrument declaring the plat vacated is approved and recorded in the manner prescribed for the original plat.
 - (3) The City Council, at its discretion, shall have the right to retain all or specific portions of road rights-of-way, or easements shown on the plat being considered for vacation. However, the City Council shall consider plat vacation upon satisfactory conveyance of easements and/or rights-of-way in a separate legal document using forms provided by the City Attorney's office.
 - (4) Once a plat is duly vacated, according to the regulations above, the property lines of the adjacent properties shall extend to the centerline of the plat, unless specific arrangements between or among the adjacent property owners has been agreed upon.

SEC. 02.03.0392RIGHT-OF-WAY VACATION, ABANDONMENT AND RELINQUISHMENT.

- (a) **Purpose.** From time to time, as the City's vehicular circulation needs and traffic patterns change, rights-of-way previously dedicated to, or acquired by, the City for public travel may no longer be necessary.

Therefore, in accordance with the TEXAS LOCAL GOVERNMENT CODE § 272 and the Texas Transportation Code § 311.007, the City may choose to vacate, abandon, relinquish or close a street or alley on its own accord or upon receipt of a petition from property owners adjacent to, abutting or directly served by the right-of-way sought to be closed and/or abandoned.

- (b) **Notice.** Prior to the vacation, abandonment and relinquishment of a public street or alley right-of-way, a public hearing shall be held by the City Council.
- (1) Written notices of the proposed right-of-way vacation abandonment, and relinquishment shall be mailed to all property owners immediately adjacent to the subject property a minimum of ten (10) days prior to the public hearing.
 - (2) A notice shall be published in the official newspaper of the City a minimum of fifteen (15) days prior to the public hearing in accordance with State law.
- (c) **Accompanying Applications.**
- (1) The applicant for a Right-of-Way Vacation, Abandonment and Relinquishment Plat shall provide written documentation from each appropriate entity evidencing that the right-of-way to be vacated, abandoned, and relinquished is free of all public and private utilities including, but not limited to water, wastewater stormwater, electricity, gas, and franchise utilities.
 - i. If public or private utilities are present within the right-of-way, a utility easement of an appropriate size and location, as determined by the City Engineer and/or the Director of Public Works, will be retained. A drainage easement shall also be retained, as determined by the City Engineer and/or the Director of Public Works.
- (d) **Standards for Approval.**
- (1) Written documentation from each appropriate entity evidencing that the right-of-way to be vacated, abandoned, and relinquished is free of all public and private utilities including, but not limited to water, wastewater stormwater, electricity, gas, and franchise utilities has been provided.
 - i. A utility easement of an appropriate size and location, as determined by the City Engineer and/or the Director of Public Works, will be retained for any present public or private utilities within the right-of-way.
- (e) **Action by Staff.**
- (1) Initiate review of the Right-of-Way Vacation, Abandonment and Relinquishment application and **materials submitted**;
 - (2) Request written comments from other City departments, if deemed necessary;
 - (3) The Director shall consider issues of utility and drainage easements, franchise utilities, and traffic access to determine whether to retain all or specific portions of road rights-of-way, or easements shown on the plat being considered for Plat Vacation. If determined all or any portion of easements and/or rights-of-way are to be retained as a condition of approval they shall be conveyed to the City in a separate legal document using forms provided by the City Attorney's office;
- (f) **Action by the Planning & Zoning Commission and Council.**
- (1) Planning and Zoning Commission.
 - i. Consider the Plat Vacation application, the findings and recommendation of staff, and any other information provided. The Commission shall conduct a public hearing and from all such information make a finding as to whether or not the plat should be vacated.
 - ii. Act within thirty (30) calendar days following the official submittal date of the Vacation Plat application, in accordance with State law.
 - iii. Take one of the following actions:
 - (a) Recommend for approval the Vacation Plat;

- (b) Recommend for approval the Vacation Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Vacation Plat shall be considered to have been approved once such conditions are fulfilled; or
 - (c) Recommend denial of the Vacation Plat with reasons for the denial (including a citation to ordinance, statute, or regulation that is the basis for the denial); or
 - (d) Approve or deny an extension upon receipt of a written request by the applicant for a thirty (30) day extension when received fifteen (15) calendar days prior to the meeting date.
- (2) City Council. The decision of Council is final.
- i. Take one of the following actions:
 - a. Approve the Vacation Plat;
 - b. Approve the Vacation Plat with conditions (including a citation to ordinance, statute, or regulation that is the basis for the conditions), which shall mean that the Vacation Plat shall be considered to have been approved once such conditions are fulfilled; or
 - c. Deny the Vacation Plat with reasons for the denial (including a citation to ordinance, statute, or regulation that is the basis for the denial); or
 - d. Approve or deny granting a thirty (30) day extension when received fifteen (15) calendar days prior to the Planning and Zoning Commission meeting date.
- (g) **Action by the City Council.** If the City Council chooses to vacate, abandon, and relinquish a right-of-way, an ordinance shall be adopted and said ordinance shall be filed for record with the county clerk. A metes and bounds description and a visual depiction or exhibit showing the location and limits of the vacated right-of-way shall be attached to the ordinance.
- (h) Effect of Approval
- (3) The City Council, at its discretion, shall have the right to retain all or specific portions of right-of-way or easements being considered for vacation or abandonment.
 - (4) Once a right-of-way is duly vacated, according to the regulations above, the property lines of the adjacent properties shall extend to the centerline of the right-of-way or as otherwise approved by Council.
 - (5) Zoning of the adjacent property shall be designated in accordance with the zoning ordinance. also automatically extend to the centerline of the right-of- way.
 - (6) Any subsequent platting or replatting shall include the ordinance and subsequent filing number of the right-of-way vacation.

ARTICLE 02.03.040CONSTRUCTION PLANS & PROCEDURES

SEC. 02.03.041CONSTRUCTION PLANS.

- (a) **Purpose.** This Construction Plans section, which includes design criteria and standards for the City of Kaufman is intended primarily for use by the Developer's engineer. The adopted Appendix 1, *Standards of Design and Construction*, as amended, shall also be used in designing the Construction Plans. These criteria and standards should enable the engineer to design the required Community Facilities in a manner acceptable to the City. There may be special circumstances which would call for requirements in excess of those outlined. In most cases, additional requirements will be apparent to the Developer's engineer while preparing the plans for the subdivision or during conferences/discussions with the City staff.
- (b) **Applicability.** Construction Plans for public improvements shall be submitted to the City prior to application for the associated Final, Replats and Minor Plats, as applicable.
- (c) **Submitting Plans.** Signed and sealed engineered Construction Plans shall be submitted in accordance with the policies of the Development Services Department. Specific feature requirements, necessary items and exhibits to be included in the Construction Plans are outlined in **Table 02.03.0114, Construction Plan Feature Requirements**. Incomplete Construction Plans will not be accepted, and such plans shall be returned to the applicant.
- (d) **Responsible Official and Decision.** The Director of Public Works and the City Engineer shall be responsible for the overall final approval of Construction Plans. The Director of Development Services shall oversee the official review from other City departments and City Engineer, as deemed necessary.
 - (1) The Director of Public Works and the City Engineer shall also be the initial decision-maker for Construction Plans. In this capacity, therefore, the Director of Public Works and the City Engineer shall approve, identify required modifications, or deny the Construction Plans.
- (e) **Approval Required & Timing of Construction.** Construction Plans shall be approved in accordance with this Chapter and *Standards of Design and Construction*, as amended, prior to the submittal of an application for the associated plat, unless otherwise stated within this Chapter or a Facilities and/or Development Agreement.
- (f) **Criteria for Approval.** Listed below is the criteria for Construction Plans approval:
 - (1) Compliance Required. Prior to making an application for the associated plat, the Construction Plans shall be submitted and approved by the City Engineer in accordance with Section **02.03.044(d)(1), Responsible Official and Decision** provided however if the Director of Public Works and/or the City Engineer has determined that the required modifications will take longer than 30 days to remediate, the plat application may not be filed until such modifications are completed. The Developer shall comply or provide for compliance with the policies and procedures set forth in these regulations and *Standards of Design and Construction* for construction of public and private improvements and shall meet the following criteria:
 - i. The plans are consistent with the approved associated Preliminary Plat, and the preliminary grading, utility, and drainage plans;
 - ii. The plans conform to the subject property's zoning and planned development district standards, if applicable, and to the standards for adequate public facilities, contained in this Chapter, and all other applicable Code of Ordinances.
 - iii. The working drawings, specifications, and Facilities and/or Development Agreement required herein have been reviewed and approved by the City Engineer, affected City departments, and as required, by the City Attorney.
 - iv. No building, sewer, electrical or plumbing permit shall be issued by the City prior to approval of the associated plat, the Facilities Agreement, and Construction Plans as applicable.
 - (2) Standards of Design and Construction. Appendix 1, *Standards of Design and Construction* are hereby

adopted and incorporated into and made a part of these regulations, design criteria, and standards which shall be controlling in design, construction and installation of street paving, curbs and gutters, sidewalks, utilities, and other public improvements required herein. All references to *Standards of Design and Construction* shall mean and include those standards and specifications, together with all exhibits, charts, drawings, and diagrams, adopted by the City Council, and placed on file in the office of the City Secretary.

- (3) Conformance to NCTCOG Standards. When the *Standards of Design and Construction* lack the specificity required in certain circumstances, the specifications of the latest edition of the Standard Specifications for Public Works Construction, published by the North Central Texas Council of Governments shall apply.
- (4) Installation and Financing. The Developer shall sequence all construction in accordance with the approved Facilities and/or Development Agreement.
- (g) **Effect.** Approval of Construction Plans authorizes the applicant to submit an application for the associated plat, then after approval of the associated plat and Facilities Agreement, schedule a Pre-Construction Meeting in accordance with Section 02.03.042, *Pre-Construction Meeting*, and apply for Construction Release in accordance with Section 02.03.041(j), *Construction Release*.
- (h) **Expiration.** The approval of Construction Plans shall remain in effect for a period of one (1) year from the date of approval, or for the duration of construction of the project, provided that construction of the project has commenced and is continuous without a lapse of more than ninety (90) days in any six (6) month period, unless an extension is granted in accordance with Section 02.03.041(i), *Extension of Expiration Date*.
- (i) **Extension of Expiration Date.** Construction Plans may be extended for a period of six (6) additional months beyond the expiration date. A request must be made in writing to the Director of Development Services for such extension prior to expiration of the plans and shall include reasons why the plans should be extended.
 - (1) Decision by the Director of Development Services.
 - i. The Director of Development Services will review the extension request, and shall approve, approve with conditions, or deny the extension request within thirty (30) calendar days following the date the request for extension is received.
 - ii. Should the Director of Development Services fail to act on an extension request within thirty (30) calendar days, the extension shall be deemed to be approved.
 - (2) Consideration. The Director of Development Services shall extend Construction Plans approval for a period of six (6) additional months beyond the plans' expiration date if all of the following conditions are met:
 - i. The associated plat has been approved or filed of record for any portion of the property shown on the Construction Plans;
 - ii. The Construction Plans comply with all ordinances, statutes, and regulations that impact the health, safety, and general welfare of the community;
 - iii. Demonstrable forward progress has been made to proceed with construction or required improvements; and
 - iv. A Facilities Agreement (Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*) and/or Development Agreement, if applicable, is still valid and in full effect.
 - (3) Conditions. In granting an extension, the Director of Development Services may impose such conditions as are needed to ensure that the land will be developed in a timely manner and that the public interest is served. Any extension may be predicated upon compliance with new development regulations and/or the applicant waiving any vested rights.
 - (4) Additional Extension. A second, six (6) month extension may be requested using the same process

outlined above.

- (j) **Construction Release.** Upon approval of the associated plat and the Construction Plans, the Facilities Agreement, receipt of all documentation (e.g., insurance information, bonds, etc.), receipt of required fees, and required park land dedication or fees in lieu of, if applicable, and after the Pre-Construction Meeting with City staff, the Director of Public Works and/or the City Engineer may release the plans for construction if all City requirements pertaining to construction have been met. The Construction Release shall remain in effect for a period of one (1) year from the date of issuance, or for the duration of construction of the project, provided that progress toward completion of the project continues to be demonstrated. Expiration, and possible extension, of the Construction Release shall be the same as for the Construction Plans in Section 02.03.041(i), *Extension of Expiration Date*.

SEC. 02.03.042PRE-CONSTRUCTION MEETING.

- (a) **Purpose.** The purpose of the Pre-Construction Meeting is to discuss administrative, communication, and operating procedures for the project prior to the onset of construction. A list of typical inspection items, procedures, and acceptance criteria for items in public right-of-way and easements as outlined in **Table 02.03.115 Construction Approval**, Typical Inspections, Procedures and Criteria shall be furnished to the applicant prior to the meeting.
- (b) **Notice.** The applicant shall receive written notice from the City Engineer that Construction Plans have been approved. The project is eligible for a Pre-Construction Meeting once the associated plat and Facilities Agreement has been approved.
- (c) **Required Attendance.** The applicant, along with key construction managers, shall attend a Pre-Construction Meeting with the City Engineer and the Director of Public Works and/or his designee and other appropriate City officials following the approval of Construction Plans, the approval of the associated plat, and prior to commencement of any construction on the property.
- (d) **Effect.** Following the Pre-Construction Meeting and upon approval of the Construction Plans and full compliance with all pre-construction requirements, the City Engineer and/or the Director of Public Works shall authorize Construction Release, allowing the applicant to commence with construction of Community Facilities and public improvements of the project. The applicant may also be issued a Building Permit in accordance with an approved Facilities and/or Developer Agreement, provided that a Building Permit application has been submitted and approved and all other Building Permit requirements have also been met.
- (e) **Fees Due.** Fees for the Development application, fees identified Section 02.03.041(j) *Construction Release* and fees associated permits are due prior to the Pre- Construction Meeting.

SEC. 02.03.043TIMING OF PUBLIC IMPROVEMENTS.

- (a) **Final Inspection of Public Improvements.** When the applicable public and/or private improvements such as street, alley, drainage, water, and sanitary sewer improvements have been completely constructed, the contractor shall notify the City Engineer and the Director Public Works requesting a final inspection of such improvements. The City Engineer and the Director of Public Works and/or his designee(s) shall inspect all the applicable required improvements to ensure compliance with all the specifications herein, the approved associated plat, the Construction Plans, and the Facilities and/or Development Agreement as applicable. The inspection shall find either:
 - (1) The work is not satisfactory and issue in writing to the Developer and the contractor a punch list denoting items remaining to be completed;
 - i. The contractor shall notify the City Engineer and the Director of Public Works requesting another Final Inspection when all the items on the punch list have been completed;
 - ii. If the work is again not satisfactory, a written punch list shall be issued to the Developer and the contractor denoting the items remaining to be completed. This process may be repeated

to ensure compliance with all the specifications herein, the approved associated plat, the Construction Plans, and the Facilities and/or Development Agreement as applicable; or

- (2) The work is satisfactorily completed and in accordance with all the applicable Construction Plans, documentation, and specifications herein, then the City Engineer and/or the Director of Public Works Director shall issue a letter of acceptance to the Developer and contractor in accordance with Section 02.03.046(e)(3), *Letter of Final Acceptance*.
- (b) **Phased Development.** If the development is being platted and constructed in phases, improvements shall be completed as platted areas are approved and phases are constructed. Also refer to Section 02.03.034(i), *Expiration*, for details regarding phased development and Preliminary Plat validity.
- (c) **Easements for Utility Providers.** The applicant is responsible for contacting all utility providers prior to beginning construction, and for securing all necessary easements for same prior to the associated plat approval and recordation. The applicant's engineer shall provide the City Engineer with written certification that all necessary easements are secured for the various utility providers, and such easements shall be shown on the associated plat with the recording information for each (if previously platted) or established through the recordation of the associated plat.
- (d) **Off-Site Easements.** All necessary off-site easements required for installation of required off-site public improvements to serve the development shall be acquired by the applicant prior to the approval and recordation of the Final Plat. Off-site easements shall be conveyed and recorded in Kaufman County by filing the off-site easement in a separate instrument prior to filing the Final Plat. The instrument recording information shall be included on the associated plat prior to its recordation. If there is an existing off-site easement that has been dedicated by plat that needs to be modified, an amending plat may be required to modify the easement.
- (e) **Oversized Facilities.** At its' sole discretion, the City may participate with the Developer on major items of construction, such as oversizing of water and wastewater lines, lift stations, bridges, or streets adjacent to the subdivision, which benefit existing or future development in addition to that being subdivided, in accordance with a Development and/or Facilities Agreement. (See Section 02.03.044(d)(2), *Oversizing of Infrastructure*, and Section 02.03.045, *City Participation* below).

SEC. 02.03.044FACILITIES AND PROFESSIONAL SERVICES AGREEMENTS, FINANCIAL ASSURANCES, AND CONSTRUCTION CONTRACTS FOR PUBLIC IMPROVEMENTS.

- (a) **Required Contract Purpose.** An owner of property and/or Developer shall be required to execute a Facilities Agreement with the City as a condition of the associated plat approval whenever the installation of Community Facilities or public improvements is required.
- (b) **Approval of contract.**
 - (1) The owner of property shall be required to execute a Facilities Agreement as a condition of plat approval whenever the installation of Community Facilities or public improvement is required. A Facilities Agreement shall be prepared after the final construction plans and cost estimates have been approved.
 - (2) No construction work shall begin on a development before the Facilities Agreement is approved and executed by the City. This provision may exclude the moving of dirt, clearing of land and tree removal when such work is done pursuant to an early grading permit authorized by the Director of Development Services, a waiver of claims on a form provided by the City has been executed by the Developer, and the Developer has provided all study and relevant documentation required by the City.
- (c) **Changes in contract/scope of project.** Any subsequent changes in the plans and specifications of the approved project which result in an increase in the project scope shall necessitate an amendment to the Facilities Agreement and amendments to all required financial assurance instruments. An increase in the project scope shall also require an increase in the inspection fee, as applicable and authorized in Section

02.03.044.(g)(4) *Performance Bonds, Payment Bonds, Maintenance Bonds and Financial Assurances* below. The Developer shall bear the full cost of any additional work required by the City Attorney and/or City Engineer in revising and/or reviewing the revised documents, and approval shall not be granted until such additional fees are paid.

(d) **Applicability.**

(1) Improvements. Prior to commencement of required public improvements, the Developer shall execute a Facilities Agreement, subject to City approval, to ensure the completion of all required public improvements. The associated plat shall not be filed until the applicable Facilities Agreement has been approved by the City.

(2) Oversizing of Infrastructure. Any required oversizing of infrastructure (and responsibility for costs) may be documented in the Development and/or Facilities Agreement. The provisions providing for oversizing of infrastructure as adopted in *Chapter 12, Utilities, of the City's Code of Ordinances*, as amended.

(e) **Authority of the City to Complete Work.** This Facilities Agreement shall be based upon the requirements of this Chapter and shall provide the City with specific authority to complete, and financial assurances to pay for the costs of completion, of the improvements required in the Facilities Agreement in the event of default by the Developer, or its contractors. Completion of infrastructure by the City shall be at the sole discretion of the City.

(f) **Joint Obligations.** The Facilities Agreement shall be a legally binding agreement between the City and the Developer specifying the individual and joint responsibilities of both the City and the Developer. Unusual circumstances relating to the subdivision shall be considered in the Facilities Agreement such that the purpose of this Chapter is best served for each particular subdivision. The Facilities Agreement shall include a hold harmless and indemnity clause requiring the Developer to hold the City harmless against any claim arising out of the subdivision of the property or any actions taken therein.

(g) **Performance Bonds, Payment Bonds, Maintenance Bonds and Financial Assurances.**

(1) Performance Bonds. Performance bonds, sureties, or irrevocable letters of credit on forms approved by the City Attorney meeting the requirements of CHAPTER 2253 of the TEXAS LOCAL GOVERNMENT CODE, where applicable shall be required for all public improvements or Community Facilities prior to the execution of the Facilities Agreement, the filing of the associated plat and issuance of any building permits. Bonds, irrevocable letters of credit, certificates of deposit or cash deposits shall be provided by the Developer, or by a single general contractor for the development. The amount of the performance bond or other financial assurance shall be one hundred percent (100%) of the value of the public infrastructure for the development and shall also provide coverage for costs of adjustments necessary for increases in actual construction costs. The City Engineer shall be responsible for review of submitted constructions costs and for verifying the construction costs of all public improvements and Community Facilities to be constructed for the development and may require modifications to reflect costs of construction more accurately.

i. A cash deposit may be made with the City in lieu of the performance bond. The cash deposit shall be in an amount equal to one hundred percent (100%) of the value of the public infrastructure for the development (subject to the verification of the City Engineer as provided above) and shall also provide coverage for costs of adjustments necessary for increases in actual construction costs. The cash deposit shall be held in escrow by the City in a regular insured savings account and shall accrue interest at the then-current available regular savings account rate of interest. Interest shall accrue in the account to the benefit of the Developer and shall be returned to the Developer with the cash deposit upon satisfactory completion of the facilities and acceptance by the City.

ii. A letter of credit may be submitted in lieu of the performance bond in an amount equal to one hundred percent (100%) of the value of the public infrastructure for the development

(subject to the verification of the City Engineer as provided above) and shall also provide coverage for costs of adjustments necessary for increases in actual construction costs. The letter of credit shall:

- a Be irrevocable;
 - b Be in a form approved by the City Attorney;
 - c Be for a term sufficient to comply with the timeframe for the completion of the improvements covered by the letter of credit, but in no event less than two (2) years;
 - d As portions of the public improvements are completed in accordance with *Standards of Design and Construction* and the approved Construction Plans, the Developer may request the Director of Public Works and/or the City Engineer reduce the amount of the original letter of credit. If the Director of Public Works and/or the City Engineer is satisfied that such portion of the improvements have been completed in accordance with the requirements of this Chapter and all other regulations, the Director of Public Works and/or the City Engineer may (but is not required to) cause the amount of the letter of credit to be reduced by such amount that the Director of Public Works and/or the City Engineer deems appropriate so that the remaining amount of the letter of credit adequately ensures the completion of the remaining public improvements.
- (2) Payment Bonds. The Developer shall provide a material and labor payment bond on a form approved by the City Attorney meeting the requirements of CHAPTER 2253 of the Texas Government Code in the amount of one hundred percent (100%) of the contract price for the public infrastructure for the development and shall also provide coverage for costs of adjustments necessary for increases in actual construction costs.
- (3) Maintenance Bonds. The Developer shall provide a maintenance bond on a form approved by the City Attorney guaranteeing and agreeing to pay any necessary maintenance for a period of two (2) years after final acceptance by the City and shall be in the amount equal to one hundred percent (100%) of the value of the construction costs of all facilities to be constructed by the Developer, and such bond shall also provide coverage for costs of adjustments necessary for increases in actual construction costs. The Developer may submit any of the other forms of financial guarantee described in subsection (1)(i), and (ii), of this section in lieu of providing the maintenance bond; providing, however, that the same conditions shall prevail as under subsection (1)(i), and (ii) as applicable, for an irrevocable letter of credit or a cash deposit.
- (4) Inspection Fees and all Other Fees. The Developer shall pay the zoning/development fees including but not limited to the engineering/infrastructure inspection fees in accordance with the City's adopted fee schedule. The Developer shall be responsible for obtaining any other permits which may be required by other federal, state or local authorities.
- (5) Financial Assurances. The Developer shall furnish and maintain at all times prior to the City's final acceptance of the public improvements and Community Facilities, an owner's protective liability insurance policy naming the City as additional insured for property damage and bodily injury. Coverage shall be on an "occurrence" basis and shall be issued with a combined bodily injury and property damage minimum limit of six hundred thousand dollars (\$600,000.00) per occurrence and one million dollars (\$1,000,000.00) aggregate. The City shall be named as an additional insured on that policy.
- (6) Approved Forms. All financial assurance provided under this section shall be submitted on a form approved by the City Attorney. Each financial assurance submitted by a Developer on a form other than the one which has been previously approved by the City as "acceptable" shall be submitted to the City Attorney at the Developer's expense.
- (7) Third Party Assurances. As an alternative means for compliance with the requirements contained in the subsections (1), (2), and (3) of this section, the Developer may submit to the City financial

assurances for performance, payment, and maintenance from a single general contractor for the projection provided that such assurances meet all other requirements and name the City as dual obligee.

- (8) Type of Security. The Developer shall guarantee proper construction of all improvements, in accordance with the City's *Standards of Design and Construction* and with this Chapter, by providing financial assurances for performance, payment, and maintenance as required by Section 02.03.044 *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements.*
- (9) Cost and Security Approval.
 - i. Security shall be issued in the amount of one hundred percent (100%) of the cost to construct, complete, and maintain all required public improvements to the City's standards as approved by the City Engineer and in accordance with Section 02.03.044 *Facilities and Personal Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements.*
 - ii. Security shall be subject to the review and approval of the City Attorney. The applicant shall reimburse the City for all related legal costs for the City's legal review.
- (10) Security for Construction in Extraterritorial Jurisdiction (ETJ). Where all or some portion of the proposed development is located in the City's ETJ, the security shall be provided in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements.*

(h) **Escrow Policies and Procedures.**

- (1) Request for Escrow. The City may require, or the Developer may petition the City to defer required public improvements to a time prior to or after the recordation of the associated plat for a development in exchange for a deposit of escrow when the Developer can demonstrate that construction of the improvements would be untimely and would result in a hardship or damage to the public infrastructure due to a planned future public improvement project of the City, County, State or other governmental entity. The Director of Public Works and/or the City Engineer may require the Developer to provide studies and other supporting information determined necessary to evaluate the request to support the Developer's request to delay construction and escrow funds.
- (2) Escrow Deposit with the City. When the Director of Public Works and/or the City Engineer requires, or agrees to accept escrow deposits, the Developer shall deposit in escrow with the City an amount equal to one hundred percent (100%) of the total costs including, but not limited to, (i.) the design, (ii.) construction, (iii.) any required studies performed by a qualified third party, (iv.) permitting, (v.) acceptance and (vi.) inflation costs related to the improvements. The Director of Public Works and/or the City Engineer shall review and approve the amount, which shall be approved and paid to the City prior to the pre-construction meeting.
- (3) City Usage of Escrowed Funds. The City may use the escrowed funds, including accrued interest thereon, in participation with another entity (such as TxDOT, Kaufman County, etc.) to jointly construct the public improvements for which funds have been escrowed. Additionally, the City may use the escrowed funds for a City project to construct all of the improvements for which funds have been escrowed, or if such City project is for the construction of a portion of the public improvements for which funds have been escrowed, the City may utilize a proportionate share of such escrow funds.
- (4) Termination of Escrow. Escrows, or portions of escrowed amounts, including accrued interest, which remain unused after a period of ten (10) years following the date of such payment shall, upon written request, be refunded to the Developer. Such refund of escrowed funds does not remove any obligations of the Developer for construction of the required improvements. Notwithstanding the foregoing, if a project for public improvements for which funds have been escrowed has commenced prior to the expiration of the ten (10) year period described above, then the escrowed

funds allocated to the project, including interest thereon, shall not be refunded. Project commencement shall occur upon any one or more of the following events:

- i. A contract for the construction public improvements for which funds have been escrowed is awarded by the City or other governmental entity in conjunction with the City,
 - ii. Engineering design work has commenced and/or will be completed within one (1) year after the date that such engineering design work is commenced.
- (5) Refund. If all or a portion of a street or other type of public improvement for which escrow is deposited is constructed by a party other than the City or other governmental entity in conjunction with the City, the remaining unused escrowed funds, including accrued interest thereon, shall upon written request, be refunded to the Developer after completion and City acceptance of the street or public improvement.
- (6) Interest on Escrowed Funds. When escrowed funds are returned or refunded to the escrowing Developer pursuant to this section, the accrued interest shall be paid to the Developer.
- (7) Escrow Fee Agreement. An escrow fee agreement shall be executed as a condition of escrow approval.
- (i) **Professional Services Agreement.** The City will utilize consulting firms to assist City staff in the review for compliance with any report and/or study requirements as established by this Chapter, Appendix 1, Standards of Design and Construction , and/or any applicable City regulations relating to development of Property. The cost of the study, by the consultants, shall be borne by the Developer.
- (1) Before commencement of any work on a proposed Development Agreement or as otherwise required by City policy, the Developer shall enter into a Professional Services Agreement with the City to retain consultants to provide a wide variety of professional services including, but not limited to engineering, financial and legal services as needed to review and analyze the development project.
 - i. The City shall provide periodic invoices that describe the work performed by date and time entries as the study progresses;
 - ii. The Developer shall deposit funds as set forth in the Professional Services Agreement and shall replenish such funds as required by the terms of the Professional Services Agreement. Failure of the Developer to fund the Professional Services Agreement in accordance with its terms will result in the suspension of the City's work on the project;
 - iii. Any unused funds deposited with the City pursuant to the Professional Services Agreement shall be refunded to the Developer upon completion of review and analysis of the development project or as otherwise as provided by the Professional Services Agreement.
- (j) **Authority.** The City Council has the sole authority to approve the following types of agreements unless such authority has been delegated to the City Manager:
- (1) Facilities Agreements and/or;
 - (2) Escrow Fee Agreement and/or;
 - (3) Maintenance Bond Agreement and/or;
 - (4) Development Agreement and/or;
 - (5) Professional Services Agreement.
- (k) **Agreement to Run with the Land.** Such Agreements as listed above shall provide that the covenants and other terms of agreement contained therein shall run with the land and shall bind the Developer and all successors, heirs, and assignees. All existing owners and/or Developers shall be required to execute such agreement or provide written consent to the covenants and other terms contained in such agreements.
- (l) **Termination of Agreement.** The Developer shall have a continuing responsibility under the Facilities Agreement, the Escrow Fee Agreement, or the Development Agreement until all facilities and improvements required under the Facilities or Escrow Fee Agreement have been completed, inspected, and accepted by the City and the maintenance period has expired. When the construction of required

improvements has proceeded to the point that certain parts of the subdivision are adequately served, the Director of Public Works and/or City Engineer may release specified portions of the subdivision for use prior to the completion of all improvements, unless the release of such improvements will jeopardize or hinder the continued construction of required improvements. Any approved and signed agreement as required by Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, shall remain in force for the entire subdivision until all public facilities and improvements required under the applicable agreement are completed, inspected, and accepted by the City, and the maintenance period has expired.

- (m) **Agreement Review and Fees.** The Developer shall be responsible for reimbursing the City for all legal, and engineering costs associated with the review of Facilities, Professional Services, Development, Escrow Fee and Maintenance Bond Agreements. Additionally, the Developer shall be responsible for reimbursing the City for all filing fees associated with filing the agreements with Kaufman County. The direct cost of third-party review, including without limitation, the City Attorney's, the City's Financial Consultant, and the City's Engineer review of the applicable agreements shall be passed through to the Developers.

SEC. 02.03.045CITY PARTICIPATION

- (a) At its' sole discretion, the City may participate with the Developer on major items of construction, such as oversizing of water and wastewater lines, lift stations, bridges, or streets adjacent to the subdivision, which benefit existing or future development in addition to that being subdivided. The amount of financial responsibility of each party and the terms of discharging such responsibility shall be provided for in a Facilities Agreement, Development Agreement, or other agreement as approved by the City.
- (b) The construction of certain facilities required by the provisions of this Chapter may not be possible or practical at the time the Developer prepares his plans for public improvements. Such deletion or delay of improvements shall be specified in the Facilities Agreement, Development Agreement, Escrow Fee Agreement, or other agreement as approved by the City, together with provisions for escrow deposits or future payment by the City and/or Developer.
- (c) See the Kaufman Code of Ordinances, Chapter 12 Utilities for additional regulations relating to City participation.

SEC. 02.03.046INSPECTION, MAINTENANCE & ACCEPTANCE OF PUBLIC IMPROVEMENTS.

- (a) **Inspections.**
 - (1) The Director of Public Work and/or the City Engineer shall inspect the construction of improvements while in progress, as well as upon completion. The applicant, or his contractor, shall maintain contact with the Director of Public Works and/or the City Engineer during all phases of construction.
 - (2) Construction shall be in accordance with the approved Construction Plans. Any significant change in design required during construction shall be made by the applicant's engineer and shall be subject to approval by the Director of Public Works and/or the City Engineer.
 - (3) Any changes in design required during construction should be made by the engineer whose signature and seal are shown on the approved Construction Plans. Another engineer may make revisions to the original Construction Plans if so authorized by the owner of the Construction Plans and if those revisions are noted on the Construction Plans or documents. All revisions must be approved by the Director of Public Works and/or the City Engineer. Any associated Facilities, Professional Services, Development, Escrow Fee or Maintenance Agreements shall be reviewed and revised as needed for consideration of approval by City Council.
 - (4) If the Director of Public Works and/or the City Engineer finds, upon inspection, that any of the required public improvements have not been constructed properly and in accordance with the approved Construction Plans, the applicant shall be responsible for completing and/or correcting the public improvements to bring such into compliance.

- (b) **Maintenance during Construction.** The owner and/or the Developer shall maintain all required public improvements during construction of the development phases or until the City approves the improvements and accepts same.
- (c) **As-built Construction Plans and Submission of Record Drawings for Filing.**
- (1) After construction is completed, the owner and/or Developer shall provide the City a signed and sealed digital copy and one (1) signed and sealed eleven inches by seventeen inches (11" x 17") paper set of as-built Construction Plans of all streets, alleys, sidewalks, drainage, underground utilities, signs, signals, street lighting and any other pertinent physical improvement of the subdivision.
 - (2) The City shall accept required public improvements when the applicant's engineer has certified to the Director of Public Works and/or the City Engineer, through submission of detailed "record" or "as built" drawings of the project and filed copies of any off-site easements, unless otherwise noted within the Chapter, that the public improvements have been built in accordance with the approved Construction Plans. Unless otherwise provided in any associated Facilities Agreement and/or Escrow Fee Agreement and/or Development Agreement the City will not release the subdivision for development until all required improvements have been accepted by the City Council.
- (d) **Revisions Documented on Plat.** Each record drawing sheet shall document all changes made in the plans during construction, and on each sheet, there shall be a "record" stamp bearing the signature of the engineer and date. Detailed requirements for such drawings and stamps are outlined in Table 02.03.0116 *Final Acceptance Checklist*.
- (e) **Acceptance or Rejection of Improvements by Director the Director of Public Works and/or the City Engineer.**
- (1) Responsible Official. Using Table 02.03.0116 *Final Acceptance Checklist*, the Director of Public Works and /or the City Engineer shall be responsible for inspecting all required public improvements shown in the approved Construction Plans, and for accepting completed subdivision improvements intended for dedication to the City.
 - (2) Final Inspection. After completion of all improvements, franchise utilities, grading, and erosion control, the Director of Public Works and/or City Engineer and other designated representatives (as applicable) will perform a final inspection before recommending acceptance of the improvements.
 - (3) Letter of Final Acceptance. If all improvements are completed, inspected, tested (when applicable), and determined by the City to be in conformance with this Chapter and the *Standards of Design and Construction*, then the Director of Public Works and/or the City Engineer shall recommend Council accept all the improvements. The Director of Public Works and/or the City Engineer, after Council acceptance, shall issue a Letter of Final Acceptance on behalf of the Council, to the applicant, thereby notifying the applicant of the City's acceptance.
 - (4) Effect of Acceptance. Acceptance of the improvements shall mean that the applicant has transferred all rights to all the public improvements to the City for title, use, and maintenance.
 - (5) Rejection. If any portion of the Construction Plans fails to comply with the City's standards and specifications, the Director of Public Works and/or the City Engineer shall reject the complete set until the failure is remedied.
- (f) **Disclaimer.** Approval of the associated plat by Council, or Construction Plans by the Director of Public Works and/or City Engineer, shall not constitute acceptance of any of the public improvements required to serve the subdivision or development. No public improvements shall be accepted for dedication by the City except in accordance with this section.
- (g) **Acceptance or Rejection of Improvements in Extraterritorial Jurisdiction (ETJ).** Where the improvements to be constructed under a Facilities Agreement, and/or Development Agreement, and/or an Escrow Fee Agreement are located within the City's ETJ and are to be dedicated to Kaufman County, the Director of Public Works and/or the City Engineer shall inform the County officials that the public improvements have

been constructed in accordance with approved Construction Plans and are ready for acceptance by the County.

- (h) **Maintenance Bond Following Acceptance.** The applicant shall furnish to the Director of Public Works and/or the City Engineer a sufficient maintenance bond with a reputable and solvent corporate surety registered with the State of Texas, in favor of the City, to indemnify the City against any repairs. The bond shall be in effect for two (2) years from the date of final acceptance of the entire project. The bond, which is a part of the requirements for final acceptance, shall be a minimum of one hundred percent (100%) of the value of the work constructed. The applicant shall reimburse the City for all related legal costs for review (this reimbursement shall be paid in full prior to final acceptance of the subdivision or development ~~filling of the Final Plat~~). The direct cost of the City Attorney's review of the maintenance bond shall be passed through to the applicant.

SEC. 02.03.047BUILDING PERMITS AND CERTIFICATES OF OCCUPANCY.

- (a) No building permit shall be issued for a lot or building site unless the associated plat ~~Final Plat~~ has been approved by the Council and all public improvements as required for the associated plat ~~Final Plat~~ approval have been completed, except as permitted below:
- (1) Building permits may be issued for nonresidential and multiple-family development provided that the associated plat is approved by Council and Construction Plans have been released by the Director of Public Works and/or City Engineer. Building construction will not be allowed to surpass the construction of fire protection improvements.
 - (2) The Director of Development Services may authorize the issuance of residential building permits for a portion of a subdivision, provided that the associated plat has been approved by Council and all public improvements have been completed for that portion of the development, including but not limited to those required for fire and emergency protection. Notwithstanding, no lot shall be sold, or title conveyed until all the public improvements have been completed, inspected and ~~a~~ have been accepted by Council.
 - (3) No certificate of occupancy shall be issued for a building permit or the use of a property unless the approved associated plat has been recorded in the County and all subdivision improvements have been completed. Notwithstanding the above, the Director of Development Services may authorize the temporary occupancy of a structure provided that a Facilities and/or a Development Agreement providing cash escrow, a letter of credit, or other sufficient surety is approved by the City for the complete construction of all remaining public improvements. The temporary certificate of occupancy may be revoked if the remaining public improvements have not been completed or the Construction Plans are not accepted by Council.
 - (4) The temporary certificate of occupancy shall state on its face that the recipient accepts all liability resulting from occupancy of the building or space and indemnifies the City thereof.

SEC. 02.03.048 - 02.03.059.....Reserved for future use.

ARTICLE 02.03.060SPECIAL EXTRATERRITORIAL JURISDICTION POLICIES & REGULATIONS

SEC. 02.03.061KAUFMAN & KAUFMAN COUNTY REGULATIONS

- (a) The City has executed interlocal cooperation agreements, as authorized under CHAPTER 242 of the TEXAS LOCAL GOVERNMENT CODE, with Kaufman County.
- (b) Kaufman County has assigned to the City its' authority to approve plats in the City's ETJ. The agreement also provides for the City to enforce its' Subdivision Regulations, together with the adopted Subdivision and Land Development Regulations of Kaufman County, as amended from time to time and the Kaufman County Transportation Plan, as amended from time to time, within the City's ETJ via Interlocal Cooperation Agreements.
- (c) In the event that the *Kaufman County Subdivision and Land Development Regulations* and/or the *Kaufman County Transportation Plan* provide a more stringent standard than those of the City, then the more stringent standards shall apply.
- (d) Adopted International Fire Codes apply to all ETJ properties for health, life, and safety purposes.

SEC. 02.03.062GENERAL POLICIES IN THE EXTRATERRITORIAL JURISDICTION (ETJ).

- (a) **Application of Requirements.** Unless otherwise stated within this Chapter, all standards, specifications, and regulations herein shall apply to development within the City's extra-territorial jurisdiction (ETJ).
- (b) **Extension of City Services.** Given that land proposed for development in the City's ETJ must be served adequately by essential public facilities and services, including those related to adequate water distribution, wastewater collection and treatment, streets, pedestrian circulation, storm drainage conveyance, and park and recreational facilities, the following policies for the provision of infrastructure services provided by the City of Kaufman into the City's ETJ shall apply:
 - (1) It is in the City's best interest to encourage development in areas adjacent to compatible development already receiving City services, and particularly where those services have excess capacity.
 - (2) It is in the City's best interest to annex areas that:
 - i. Need to be protected in order to prevent or reduce flood damage in existing urban areas;
 - ii. Possess unique physical characteristics;
 - iii. Have requested City services; or
 - iv. Minimize the City's fiscal liability.
 - (3) It is in the City's best interest to withhold all water and sewer extensions outside the City's limits except in instances where the extension will serve a large-volume user who has agreed in writing to annexation at a predetermined date, and who has demonstrated that a significant community benefit will accrue to the City if it provides such service outside the City's limits, and where no significant fiscal liabilities will be incurred by the City.
 - (4) It is in the City's best interest to provide services, other than water and wastewater service, to individual users beyond the City's limits:
 - i. Upon request and under contracts or cost-sharing arrangements that minimize future City fiscal liability;
 - ii. Upon request and under contracts or cost-sharing arrangements that encourage compact development;
 - iii. Upon request and under contracts or cost-sharing arrangements that ensure compliance with City subdivision, building, electrical, plumbing and fire codes; and
 - iv. When it is not in the City's best interest to annex the areas to be served.
 - (5) The City shall therefore provide for extension of public facilities and services only under the

following circumstances:

- i. Such extension is part of an Annexation Agreement that provides for development consistent with established City objectives and policies, as described and illustrated in the *Comprehensive Plan*;
 - ii. Such extension allows the City to retain its right under State law to annex the property in the future;
 - iii. The quality of the development that is occurring or will be occurring is consistent with City standards;
 - iv. The use or development offers significant public benefits to the City; and
 - v. The proposed development and land uses comply with City Building and Fire Codes (as agreed to in an Annexation Agreement with the City).
 - vi. The area to be served is, or becomes a part of, the City's Certificates of Convenience and Necessity (CCN) when required by State law.
- (c) **Design and Construction Standards for Public Improvements in the City's Extraterritorial Jurisdiction (ETJ).** All public improvements constructed in conjunction with a new development in the City's ETJ shall be designed, engineered, and constructed in accordance with this Chapter, the *Standards of Design and Construction*, and all the City's regulations, standards, and all other applicable City master plans (e.g., the *Comprehensive Plan*, *Thoroughfare Plan*, *Parks Recreation and Open Space Master Plan*, *Trail Concept Master Plan*, *Water and Wastewater Master Plan*, Fire Codes, etc.).

SEC. 02.03.063CITY PARTICIPATION IN IMPROVEMENTS IN THE ETJ.

- (a) **Improvements.** The City shall not be required to participate in the cost of any public improvements where such improvements required by this Chapter are outside the corporate limits of the City (i.e., they are within the City's ETJ area).
- (b) **Certificates of Occupancy/Utility Connections.**
 - (1) Utility connections for all developments in the City's ETJ shall not be issued until a letter of final acceptance for any public improvements has been issued by the City or appropriate utility district, as applicable, and a copy of such letter has been submitted to the Building Official by the Developer, unless otherwise authorized by the City Manager (refer to Section 02.03.046(e), *Acceptance or Rejection of Improvements by the Director of Public Works and or the City Engineer in ETJ*).

SEC. 02.03.064OTHER ETJ REGULATIONS.

- (a) **Minimum Lot Size without Platting.** Any subdivision of land within the ETJ must be platted unless the resulting subdivided lots are divided into parts greater than five (5) acres each, each subdivided lot has minimum required lot frontage and access to a public street, and no public improvements are being dedicated. This regulation is to encourage platting of land within the ETJ.
- (b) **No Land Uses Shown on Plats.** Proposed land uses may not be shown on plats within the ETJ, unless specifically allowed by the Director of Development Services. Proposed land uses that may be shown on plats prior to the adoption of this ordinance do not in any way establish zoning or vest any rights to the use of the property in the future.

SEC. 02.03.065TREE PRESERVATION IN THE ETJ. (Section 02.03.072 Tree Preservation pg 66)

- (a) **Purpose.** The purpose of this section is to encourage the preservation of mature trees which, once removed, cannot be replaced by equivalent trees, to preserve the health and viability of retained trees during construction, and to control the removal of protected trees when necessary. It is the intent of this section to achieve the following:
 - (1) Prohibit the indiscriminate clearing of property;
 - (2) Protect and increase the value of residential and commercial properties within the City;

- (3) Maintain and enhance a positive image for the attraction of new business enterprises to the City;
- (4) Protect healthy quality trees and promote the natural ecological environmental and aesthetic qualities of the City; and
- (5) Help provide needed shaded areas in order to provide relief from the heat by reducing the ambient temperature.

(b) **Construction Regulations.**

- (1) Tree pruning restrictions. No protected tree shall be pruned in such a manner which significantly disfigures the tree or in a manner which would reasonably lead to the death of a tree, except where such pruning is necessary for the safety of the public or to maintain utility service. Utility companies may prune trees as necessary to re-establish disrupted utility service. The practice of "topping" trees, either ornamental or canopy, is absolutely prohibited except when necessary for utility provision, public safety or some other official nuisance.
- (2) Fill and grading. The area within the drip line of a protected tree shall not be filled or graded.
- (3) Maintenance after development. If any of the trees required to be retained or trees planted as a part of this division should die within a period of one year after completion of the activities associated with construction, the owner of the property shall replace the trees within six (6) months at a ratio of three-to-one (3:1) with an approved large canopy tree from the recommended plant materials chart, which is the same size as the tree removed.

(c) **Regulations Prior to Construction.**

- (1) Tree flagging. All protected trees on the subject property within forty (40) feet of a construction area or surface improvements such as driveway, walks, etc., shall be flagged with bright fluorescent colored vinyl tape wrapped around the main trunk at a height of five (5) feet or more such that the tape is highly visible to workers operating construction equipment. This shall not include the flagging of protected trees adjacent to ROW within approved residential subdivisions during the construction of the roadway.
- (2) Protective fencing. Solid, protective fencing a minimum of three (3) feet in height will be located at the drip lines of all protected trees that border the limits of construction. In situations where a protected tree is located within the immediate area of intended construction, protective fencing will be located at or beyond the drip line.

(d) **Regulations During Construction.** The following activities shall be prohibited within the limits of the critical root zone of any protected tree, subject to the requirements of this division:

- (1) Material storage. No materials intended for use in construction or waste materials accumulated due to excavation or demolition shall be placed within the limits of the critical root zone of any protected tree.
- (2) Equipment cleaning/liquid disposal. No equipment shall be cleaned or other liquids deposited or allowed to flow overland within the limits of the critical root zone of a protected tree. This would include paint, oil, solvents, asphalt, concrete, mortar or similar materials.
- (3) Tree attachments. No signs, wires or other attachments, other than those of a protective nature shall be attached to any protected tree.
- (4) Vehicular traffic. No vehicular and/or construction equipment traffic or parking shall take place within the limits of the critical root zone of any protected tree other than on an existing street pavement. This restriction does not apply to single incident access within a critical root zone for purposes of clearing underbrush, emergency restoration of utility service, or routine mowing operations.
- (5) Grade changes. No grade changes (cut or fill) shall be allowed within the limits of the critical root zone of any protected tree unless adequate construction methods are approved by the Director.
- (6) Impervious paving. No paving with asphalt, concrete or other impervious materials in a manner which may reasonably be expected to kill a tree shall be placed within the limits of the critical root

zone of a protected tree.

- (7) Removal of protective fencing. Protective fencing may only be removed from the construction site at the time of the installation of additional, permanent landscaping features.

(e) **Permanent Construction Methods & Standards.**

- (1) Boring. Boring of utilities under protected trees may be required in certain circumstances. When required, the length of the bore shall be the width of the critical root zone at a minimum and shall be a minimum depth of 48 inches.

- (2) Trenching. All trenching where possible shall be designed to avoid trenching across the critical root zone of any protected tree. This shall not inhibit the placement of necessary underground services such as electric, telephone, gas, etc.

- (3) Root pruning. It is recommended that all roots two (2) inches or larger in diameter which are exposed as a result of benching or other excavation be cut off square with a sharp medium tooth saw and covered with pruning compound within two (2) hours of initial exposure.

- (f) **Fees**. Any fees for removal or destruction of trees pursuant to this Section are listed in the adopted master fee schedule.

SEC. 02.03.065 to 02.03.069.....RESERVED.

ARTICLE 02.03.070SUBDIVISION REQUIREMENTS

SEC. 02.03.071GENERAL SUBDIVISION POLICIES.

(a) Conformance to Plans.

- (1) Public Improvements. Proposed public improvements serving new development shall conform to and be properly related to the public facility elements of the *Comprehensive Plan*, other adopted master plans for public facilities and services, and applicable capital improvements plans, and shall at a minimum meet the service levels specified in such plans.
- (2) Conformance with Master Thoroughfare Plan. All property within the City and its ETJ, and any corresponding plats and/or Construction Plans, shall provide for thoroughfares as shown in the City of Kaufman *Thoroughfare Plan* and the *Kaufman County Transportation Plan*. Minor adjustments to thoroughfare alignments may be allowed without amending the *Master Thoroughfare Plan* if the Director of Public Works and/or the City Engineer determines the new alignment meets the spirit and intent of the *Master Thoroughfare Plan* and will not compromise public safety or traffic efficiency. The design and construction of all proposed thoroughfares shall be in conformance with the *Standards of Design and Construction* and is subject to approval by the Director of Public Works and/or the City Engineer. Such approvals shall be required prior to any Plat approval.
- (3) Master Thoroughfare Plan Amendment. If a significantly different roadway alignment or a road type other than what is shown on the *City of Kaufman Thoroughfare Plan* or the *Kaufman County Transportation Plan* is proposed, then the applicable *Plan* shall be amended prior to any Construction Plan approval or plat application submittal. Submission of a Traffic Impact Analysis (TIA) of the proposed amendment by the Developer may be required if the Director of Development Services and the Director of Public Works and/or the City Engineer determine that such an analysis is necessary to fully assess the impact of the proposal upon the public health, safety, and welfare, and the City's overall thoroughfare network.
- (4) Water and Wastewater Plans. The design and construction of the water system and wastewater system to serve the development shall be in conformance with the City's master plans for water and wastewater facilities and with the *Standards of Design and Construction*. The design is subject to approval by the Director of Public Works and/or the City Engineer prior to approval of the Construction Plans and the associated plat.
- (5) Storm Drainage Standards. The design and construction of the storm drainage system to serve the development shall be in conformance with, but not limited to, the City's master plans for storm water drainage, as applicable, with the City's storm drainage policies, and the *Standards Design and Construction*. The design is subject to approval by the Director of Public Works and/or the City Engineer prior to approval of the Construction Plans and the associated plat.

(b) Provision of Adequate Public Facilities.

- (1) Developer's Responsibilities. The Developer shall be responsible for, but not limited to, the following:
 - i. Facilities Impact Studies. The City may require that a Developer prepare a comprehensive Traffic Impact Analysis (TIA), flood or drainage study or downstream assessment, or other facilities impact studies in order to assist the City in the evaluation of public health, safety, and welfare impact and in determining whether a proposed development will be supported with adequate levels of public facilities and services concurrent with the demand for the facilities created by the development. The cost of such study or studies shall be borne by the Developer;
 - ii. Timing and Approval of Facilities Impact Studies. Any outside study shall be subject to approval

- by the Director of Public Works and/or the City Engineer prior to approval of the Preliminary Plat and prior to the approval of the Construction Plans. The City also may require, at the time of approval of subsequent applications (e.g., Final Plat), an update of a facilities impact studies that were approved in conjunction with a prior application (e.g., Preliminary Plat). Although not explicitly required as part of the plat application process, the Developer shall be required to provide Facilities impact studies as specified in this Chapter, *Standard of Design and Construction* and any other applicable regulation as a part of the Construction Plan review process;
- iii. *Future Extension of Public Facilities.* The Developer shall make provisions for future expansion of the public facilities as needed to serve future developments, subject to the City's oversize participation policies, if applicable;
 - iv. *Approvals from Utility Providers.* The Developer shall obtain all necessary approvals from the applicable utility providers other than the City and shall submit written verification of such approvals to the City with the Construction Plans;
 - v. *Compliance with Utility Providers.* The Developer shall comply with all requirements of the utility providers, including the City and applicable utility districts;
 - vi. *Dedication and Construction of Improvements.* The Developer shall dedicate all rights- of-way and easements for, and shall construct and extend, all necessary on-site and off-site public improvements for water distribution, wastewater collection and treatment, streets, storm drainage conveyance, and other improvements that are necessary to adequately serve each phase of a proposed development at service levels that are consistent with the City's applicable master facilities plans and the *Standard of Design and Construction*;
 - vii. *Fiscal Security.* The Developer shall provide all fiscal security required for the construction of the public facilities;
 - viii. *Operations and Maintenance of the Public Improvements, Infrastructure, and/or Facilities.* For any public infrastructure, facilities, or improvement within an easement that is on private property, the Developer shall provide access for maintenance. The Developer is responsible for maintaining his property in a condition that allows the City to readily access and maintain public infrastructure located upon such private property;
 - ix. *Abutting Substandard Streets.* Where a substandard street abuts or traverses a proposed development, the City may require the Developer to dedicate additional right-of-way and to improve the street to the current City design and construction standards as set forth in the *Standards of Design and Construction*. Such requirements to improve the substandard street to the City's current standards shall only be imposed following careful review of factors including, but not limited to:
 - a. The impact of the new development on the street;
 - b. The timing of the development in relation to need for the street; and
 - c. The likelihood that adjoining property will develop in a timely manner;
 - x. In the case of frontage or service roads for state or federally designated highways, the entire abutting right-of-way shall be dedicated to the City and improved to the County, State or Federal agency's applicable construction design standards if such improvement is approved by the agency;
 - xi. *Right-turn Lanes Mandatory.* The City reserves the right to require free right turn lanes into any development from a Collector or higher category roadway. Should the applicant request a waiver from this requirement, the applicant must provide to the City a Traffic Impact Analysis by a qualified third party that justifies the elimination of the required free right turn lane. The determination of necessity is within the sole discretion of the City based upon public

health, safety, and welfare impact. The cost of such study or studies shall be borne by the Developer; and

- xii. *Operations and Maintenance of Privately Owned Amenities and Improvements.* The Developer, HOA, or, property owner, as applicable shall provide for all operations and maintenance or maintenance of the privately owned amenities and improvements located on private property or shall provide proof that a separate entity will be responsible for the operations and maintenance of the facilities. Privately owned amenities and improvements shall include but are not limited to open space, parks, detention facilities, privately owned utilities, sidewalks, trails, amenity centers, recreational facilities, landscaping, screening, signage, retaining walls, parking lots and access easements.
- (2) Adequate Services for Areas Proposed for Development. Land proposed for development in the City and in the City's ETJ shall be served adequately by essential public facilities and services, including, but not limited to, water distribution, wastewater collection and treatment, roadways, pedestrian circulation, storm drainage conveyance, open space and park and recreational facilities. Land shall not be approved for platting or development until adequate public facilities necessary to serve the development exist or provisions have been made for the facilities, whether the facilities are to be located within the property being developed or offsite.
- i. *Street Access.* A plat will not be approved unless all of the proposed lots have safe and reliable street access or frontage for daily use and emergency purposes.
 - a. A plat will not be approved unless all of the proposed lots have access to an improved public street (or a public street that will be improved during construction of the proposed development) that meets the City's minimum design and paving standards, or to an approved public way or mutual access easement that is connected to an improved public street.
 - b. All development shall have at least two (2) means of access or approach. Where development phasing or constraints of the land prevent the provision of a second, separate means of access, the City may, but is not required to, accept a temporary, paved street connection provided that a second permanent access point can be reasonably anticipated with future development of adjacent properties. Such access will be secured by a public right-of-way or access easement during the platting process either as a condition of plat approval or plat recording. Notwithstanding the foregoing, access shall be provided in accordance with applicable regulations and codes including, without limitation, the Fire Code and an approved Traffic Impact Analysis, as applicable.
 - c. In certain circumstances where providing two (2) means of access to a development is not feasible, the City Council may waive this requirement if staff can demonstrate that the site can be adequately served by emergency vehicles and that life and safety issues have not been compromised.
 - d. For properties situated adjacent to an existing or planned median-divided thoroughfare, at least one (1) of the required access points shall occur at, or through access easement connection to, a median opening. (See Diagram 02.03.112, *Median & Cross Access*)
 - ii. *Water.* A Plat will not be approved unless all of the proposed lots are connected to a public water system which is capable of providing adequate water for health and emergency purposes.
 - a. Except for lots along an approved cul-de-sac, all lots shall be provided service connections from a looped water main providing water flow from two (2) directions or sources.
 - b. Water service shall be sufficient to meet the fire flow requirements of the proposed development, except where a suitable alternative means of fire protection is approved by the Fire Chief.
 - c. The City may require the phasing of development and/or improvements to the water

system to ensure adequate fire protection.

- iii. **Wastewater.** A Plat will not be approved unless all of the proposed lots are served by an approved means of wastewater collection and treatment.
 - a. The projected wastewater discharge of a proposed development shall not exceed the proposed capacity of the wastewater system.
 - b. The City may require the phasing of development and/or improvements to the sanitary sewer system so as to maintain adequate wastewater capacity.
 - c. Plats located within three hundred (300) feet of the sanitary sewer system are required to pay adopted fees and make connection thereto in the manner and at the location required by the ordinances of the City.
 - d. Plats for lots located in the ETJ are required to have a minimum of one (1) net acre for installation of an aerobic septic system or other on-site sewerage facilities. Aerobic septic systems are allowed for those lots not within three hundred feet (300') of the City's sewer district. Kaufman County, per the adopted interlocal cooperation agreement permits and inspects all on-site sewerage facilities in the ETJ.
 - iv. **Storm Drainage.** Increased storm water runoff attributable to new development shall not cause impacts to the adjoining, upstream, or downstream properties. Impacts are defined as the change (delta) in runoff between pre- and post-development counts. Where the projected runoff from a new development exceeds runoff from pre-development conditions, the City may require the phasing of development, the use of control methods such as retention or detention, obtaining off-site drainage easements, and/or the construction of off-site drainage improvements as means of mitigation. All designs shall comply with the *Standards of Design and Construction*, as it exists or may be amended.
- (3) **City's Cost of Review.** Should the City deem that adequate review of the roadway, water, wastewater, or drainage submittal should be outsourced to a qualified third party, the cost of such review shall be passed through to the Developer or applicant.
- (c) **Provision of Utilities.** All electrical, cable, telecommunications and other similar utility systems for new development shall be located underground with the exception of regional transmission and **feeder** lines in accordance with the requirements of the Comprehensive Zoning Ordinance.

SEC.02.03.072TREE PRESERVATION REQUIREMENTS.

- (a) **Purpose.** Trees provide vital benefits by cleaning the air, conserving energy, preventing soil erosion, and providing shade, thus, the City has determined that trees, both within its corporate limits and in its extraterritorial jurisdiction, should be protected as vital assets of the community as they serve the public health, safety and welfare by protecting the environment and providing aesthetic beauty. This section establishes rules and regulations to protect and preserve trees within the City and its extraterritorial jurisdiction.
- (b) **Applicability.** The provisions of this section apply to:
 - (1) All vacant and undeveloped property, and
 - (2) All property to be redeveloped, including additions and/or alterations.
- (c) **Exemptions.**
 - (1) This section does not apply to individual single-family, duplex, and townhouse lots after initial Development and final inspection of the dwelling units by the Development Services Department. Individual single-family and duplex lots ten (10) acres or less in size created through a minor plat in accordance with the City's Subdivision Regulations are also exempt. However, Clear-Cutting is prohibited on all individual single-family, duplex and townhouse lots ten (10) acres or larger in size.
 - (2) For all new single-family developments, the Buildable Area, as defined in **Section ???**, plus the area needed to establish proper drainage, detention and retention areas, sidewalks, septic systems and

- lateral lines, fences, screening walls, swimming pools and decking, driveways, public street rights-of-way, private street lots and utility easements are exempt. Sufficient area to allow the normal operation of construction equipment for these improvements is also exempt.
- (3) For all nonresidential and multifamily developments, the Building Pads, proposed public street rights-of-way, utility easements, areas needed to establish property drainage, detention and retention areas, drive aisles, sidewalks and fire lanes are exempt. Sufficient area to allow the normal operation of construction equipment for these improvements is also exempt.
 - (4) During the period of an emergency such as a tornado, severe thunderstorm, ice storm, flood, or other natural disaster, the requirements of this section may be waived as deemed necessary by the City Manager or designee.
 - (5) In addition to rights granted by easement, utility companies franchised by the City may remove trees during the period of an emergency that are determined by the company to be a danger to public safety and welfare by interfering with utility service.
 - (6) Any plant nursery (growing for commercial sales) shall be exempt from the terms and provisions of this section only in relation to those trees planted and growing on the premises for the sale or intended sale to the public.
 - (7) Utility and drainage easements required by the City and utility companies to install and maintain infrastructure.
 - (8) Trees that are diseased or dead unless the tree was required to be planted as part of an approved landscape plan or tree mitigation plan.
 - (9) The City may approve selective thinning of trees protected by this section, upon the recommendation of a certified arborist engaged by the Developer, that will enhance the likelihood of survival of a larger tree or trees.
 - (10) Exempt Tree Species: the following tree species are exempt from the provisions of this section if less than eight (8) Caliper Inches in DBH, or if located in a Floodplain, or as otherwise determined in writing by the City Manager or designee:

Exempt Tree Species if < 8 Caliper Inches in DBH or Located in a Floodplain	
Scientific Name	Common Name
<i>Acer saccharinum</i>	Silver Maple
<i>Celtis occidentalis</i>	Common Hackberry
<i>Maclura Pomifera</i>	Bois d’Arc
<i>Melia azedearach</i>	Chinaberry
<i>Morus alba</i>	Mulberry
<i>Populus spp.</i>	Cottonwood

- (d) **Tree Preservation Requirements.** The following requirements must be met:
 - (1) In all zoning districts, no Clear-Cutting of land is allowed without a permit. An approved Tree Preservation Plan or approved site plan is the permit that allows the removal of trees subject to this section.
 - (2) Removal and clearing of underbrush (but not Grubbing) is allowed and does not require a permit.
 - (3) No tree eighteen (18) Caliper Inches in DBH may be removed unless located in areas specifically exempted by this section, the City has approved removal based on the tree’s health and condition, or the City has approved removal after assessment of a Tree Mitigation Fee.
- (e) **Tree Survey and Preservation Plan Requirements.**
 - (1) Tree Survey: A Tree Survey must be submitted with all site plan, and preliminary plat applications. A Tree Preservation Plan, if applicable, shall be submitted with all final plat applications. The

Development Services Department is authorized to maintain a list of required information for tree surveys and tree preservation plans. The Tree Survey shall include the exact location, size, condition if damaged or diseased, and common name of each tree protected by this section, including those located in a Floodplain. Trees that will be used to qualify for tree preservation incentives in accordance with subsection (i) below must also be shown on the Tree Survey. The Tree Survey for properties with ten (10) or fewer protected trees may be shown on the site plan or preliminary plat instead of a separate plan.

- i. In lieu of a Tree Survey, the applicant may submit a statement from a certified arborist certifying that there are no protected trees on a property.
- ii. Tree Preservation Plan: The Tree Preservation Plan shall indicate which trees are to be preserved, which are to be removed and the manner in which they will be protected during the construction period. A tree mitigation plan, if required, must be included as part of the Tree Preservation Plan.

(f) **Requirements for Tree Preservation.** Developers shall adhere to the following tree protection measures on all construction sites:

- (1) Prior to grading, brush removal, or construction, the Developer shall clearly tag or mark all trees to be preserved.
- (2) The Developer shall erect Protective Fencing around each tree or group of trees to prevent the placement of debris or fill within the root protection zone. The fence shall be installed prior to the release of any permit. If the protection fence is found removed, down, or altered at any time during construction prior to final inspection or landscape installation, a stop work order may be issued.
- (3) During the construction phase of Development, the Developer shall prohibit cleaning, parking, or storage of equipment or materials under the canopy of any tree or group of trees being preserved. The Developer shall not allow the disposal of any waste material such as, but not limited to, paint, oil solvents, asphalt, concrete, mortar, etc. in the canopy area.
- (4) No attachments or wires of any kind, other than those of a protective nature shall be attached to any tree.
- (5) No fill or excavation may occur within the Drip Line of a tree to be preserved unless there is a specific approved plan for use of tree wells or retaining walls. Major changes of grade (six (6) inches or greater) will require additional measures to maintain proper oxygen and water exchange with the roots.

(g) **Tree Replacement and Mitigation.**

- (1) If protected trees eighteen (18) Caliper Inches and larger DBH are removed from a property, Replacement Trees a minimum of three (3) Caliper Inches must be planted to equal three (3) times the aggregate diameter of the tree(s) removed. If trees protected by this section less than eighteen (18) Caliper Inches in DBH are removed from a property, Replacement Trees a minimum of three (3) Caliper Inches must be planted to equal the aggregate diameter of such tree(s) removed. Replacement Trees are a credit towards the trees removed from the property and shall be in addition to trees required by other landscape requirements of the City's Code of Ordinances.
- (2) Replacement Trees planted to mitigate tree removal may be located on the property being developed or in a location mutually agreed upon by the City and Developer.
- (3) If all Replacement Trees cannot be properly located, the Developer may pay a Tree Mitigation Fee to the City in lieu of tree replacement. All fees shall be paid prior to the issuance of any building permits associated with the Development or project.

(h) **Incentives for Preservation of Protected Trees:** These incentives are designed to maintain a more natural and less manicured aesthetic through the preservation of existing trees. These incentives shall not be used to reduce the landscaping requirements in the City's Code of Ordinances.

- (1) Tree Preservation. The following incentives are applicable for existing trees that are protected by this section and that are preserved:

- i. Reduction in parking. For developments requiring fifty (50) parking spaces or more, the number of parking spaces may be reduced by two (2) spaces for every one (1) protected tree preserved. However, in no case shall the parking requirement be reduced by more than twenty percent (20%).
- ii. Tree credits. Credit toward the total number of trees required as outlined in the following:

Tree Credits	
DBH of Existing Tree	Credit Against Tree Requirement
4 inches to 6 inches	1.5 trees
Over 6 inches to 8 inches	2 trees
Over 8 inches to 10 inches	2.5 trees
Over 10 inches to 12 inches	3 trees
Over 12 inches to 15 inches	4 trees
Over 15 inches	5 trees

- (i) **Tree Mitigation Fee.** The Tree Mitigation Fee shall be in the amount deemed necessary to purchase, plant, and irrigate a new tree, as provided below. The fee shall be reviewed on an annual basis to ensure its adequacy for its designated uses by the Development Services Director. The fee shall be assessed and collected from the owner of the property to be developed as provided for in these Subdivision Regulations. The Director of Development Services, or designee, shall collect the fee and deposit the fee into the Tree Mitigation Fund.

Tree Mitigation Fee		
Tree Mitigation	In City	Out City
Tree Mitigation Fee (per Caliper Inch of a protection tree that is removed)	\$125	\$125

- (j) **Penalty; Enforcement.** In addition to the penalties provided by **Section 1.12 of Article I** of the City's Subdivision Regulations, no building permit(s), certificate of occupancy, or acceptance of public improvements shall be issued or authorized by the City until any and all violation(s) have been mitigated by replacement of the protected tree or payment of the Tree Mitigation Fee in accordance with this section. Unless otherwise specifically set forth herein, or in state law as adopted, allegation and evidence of culpable mental state are not required for the proof of an offense defined by this section. Each tree removed or transplanted without a permit shall constitute a separate offence. Violation of this Section shall not constitute an exemption to the replacement requirements of this Section.

SEC. 02.03.073WATER, WASTEWATER & DRAINAGE REQUIREMENTS & ENVIRONMENTAL STANDARDS.

- (a) **Water & Wastewater Basic Policy.**

- (1) Construction Requirements.

- i. All public water and wastewater mains shall be located in the frontage of the property along streets, or in easements adjacent to the development in order to provide service to adjacent property.
- ii. Public water and/or wastewater mains shall not be located within a private street, drive, or access easement unless a public utility easement is provided.
- iii. The minimum easement width for water or wastewater mains shall be fifteen (15) feet, or as determined by the City Engineer and/or the Director of Public Works. Where it is necessary for water and wastewater facilities to be located within the same easement, the easement shall be a minimum of twenty (20) feet in width, or as determined by the City

Engineer and/or the Director of Public Works.

- iv. No portion of a structure (including, but not limited to, walls, foundations, porches/patios and porch/patio covers, canopies, roof extensions/overhangs, chimneys, fire flues, etc.) shall encroach over or into any easement, except that wall-attached window awnings, “bay” style windows, and roof eaves shall be allowed to encroach into an easement a maximum of twenty-four (24) inches.
 - v. A water or wastewater easement between two (2) lots must fall entirely on a single lot and shall not straddle the lot line unless specifically approved by the City Engineer and/or the Director of Public Works for cause.
 - vi. Easements shall be dedicated for exclusive use for water and wastewater facilities and shall be shown on the associated plat for the specific purpose intended. When it is necessary for additional utilities to be placed within such utility easement, additional width shall be provided, and the easement shall be labeled for its additional intended purpose on the associated plat.
 - vii. When it is necessary to relocate or replace an existing water or sewer facility to accommodate a proposed subdivision, the Developer is responsible for all costs associated with the relocation, except as agreed to by City Council as specified in a Developer’s Agreement and/or Facilities Agreement (see Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances and Construction Contracts for Public Improvements*).
- (2) Construction Plans. Plans for construction of all water and wastewater facilities required by these regulations shall be prepared in accordance with the requirements and specifications contained in the *Appendix 1, Standards of Design and Construction*, the regulations of the Texas Commission on Environmental Quality (TCEQ), National Sanitation Foundations (NSF), Texas Department of Insurance, Insurance Services Office, and the City's current adopted Fire Code, which are incorporated by reference and made a part hereof. Plans for the improvements must be prepared by a licensed engineer and accepted by the City Engineer and/or the Director of Public Works.
- (b) Acquisition of Easements. The Developer shall be responsible for the acquisition of all required off- site easements. If the Developer is unable to acquire the necessary off-site easement, the City shall be provided with easement or right-of way survey documents and exhibits, documentation, including evidence of a reasonable offer made to the affected property owner. Upon receiving a written request for assistance, the City may, at its option, acquire these easements either through negotiations or through condemnation in appropriate situations. The Developer shall reimburse the City for the costs of acquiring the necessary easements including but not limited to attorney fees, expert fees, and title searches.
- (c) Preliminary Utility Plan.
- (1) Submittal of Plans. Concurrent with the submission of a Preliminary Plat, Final Plat, Replat or Minor Plat, the Developer shall submit a plan showing the location and size of water, wastewater, and storm drainage mains that will be required to provide adequate service and fire protection to the lots specified in the proposed plat. Plans and specifications for fire hydrant systems shall be submitted to the Fire Marshal for review prior to construction.
 - (2) Plan Document. The plan shall conform to Appendix 1, *Standards of Design and Construction*.
 - (3) Coordination with other Utility Providers.
 - i. *Preliminary Plat*. When the subdivision is located in an area served by a utility provider other than the City, the Developer must provide a water system analysis.
 - ii. *Minor Plat, Replat*. When a subdivision is located in an area served by a utility provider other than the City, the Developer must provide a letter from the utility provider stating that the existing facilities provide adequate domestic service and fire protection. If the City has reason to believe that there may be water supply or pressure concerns, a water system analysis may

be required.

- iii. *Final Plat*. The final plat will not be filed with Kaufman County until a letter has been provided from the utility provider stating that they have accepted the plans for construction.

(d) **Miscellaneous Requirements.**

- (1) No new building or building expansion shall be constructed or placed within or over an existing wastewater, lateral, water main or storm drain easement.
- (2) In the case of an existing building or structure located over an existing wastewater, lateral, water main, storm drain line or easement the City, the County and/or public utility provider has the authority to enter the easement property to make the necessary repairs or improvements to the line. Additionally, should the City, the County and/or public utility provider require access to said easement that any repairs to the affected building, or structure shall be solely at the expense of the Developer.
- (3) Monument signs, flatwork, fencing, screening walls, and vegetation and other appurtenances may be constructed over an existing wastewater, lateral, water main or storm drain easement if approved by the City Engineer and/or the Public Works Director in a signed and an executed Facilities Agreement stating that should any disturbance, repair, or realignment conducted by the City or a franchise utility company within the easement that may affect the improvement requires that the Developer make all necessary repairs to the improvement including the entire replacement of the improvement, at the owner's sole expense.
- (4) Ownership and maintenance of water and wastewater mains and service connections shall be regulated as follows:
 - i. The title to all wastewater lines constructed, including wastewater service connections located in a right-of-way or dedicated easement, shall be vested in the City or the applicable utility provider.
 - ii. The Developer, or single customer, shall be responsible for all maintenance of the wastewater service connection, unless replacement of the service is required in the right-of-way. When replacement is determined to be necessary by the City Engineer and/or the Director of Public Works, the City shall assume the responsibility for replacement of that portion in the right-of-way under the pavement.
 - iii. The title to all water mains and water meters constructed, and installed, including the title to service connections, shall be vested in the City or the applicable utility provider.
- (5) The City makes no guarantee that water supply or wastewater capacity will be available at any particular time or place.
- (6) The service lines shall extend across the lot in question to provide future service connections to the adjacent lot.
- (7) Water and wastewater service lines shall be maintained by the property owner.
- (8) Public water and wastewater mains adjacent to federal, state, or county roadways shall be constructed outside the right-of-way in a separate easement unless otherwise agreed upon by those agencies.

(e) **Water.**

- (1) Design & Construction.
 - i. *Installation of Water Facilities.* Where water is to be provided through the City system, the Developer shall install adequate water facilities, including fire hydrants, in accordance with the City's *Standards of Design and Construction*, the adopted Fire Code, the current Rules and Regulations for Public Water Systems of the Texas Commission of Environmental Quality (TCEQ), and the firefighting standards of the Texas Board of Insurance. If any such requirements conflict, the most stringent requirement shall apply.

- ii. *Facilities for Health and Safety Emergencies; Alternative Water Sources.* All water facilities connected to the City's water system shall be capable of providing water for health and emergency purposes, including fire protection and suppression. Water supply facilities shall be in accordance with the *Appendix 1, Standards of Design and Construction*. The design and construction of water system improvements and alternative water sources shall also comply with the following standards:
 - a. Design and construction of a water source on the site shall be in accordance with applicable regulations of the Texas Commission on Environmental Quality (TCEQ).
 - b. Design and construction of water service from the City shall be in accordance with the standards in the City's *Appendix 1, Standards of Design and Construction*.
 - c. Design and construction of a fire protection and suppression system shall be in accordance with the standards in the *Appendix 1, Standards of Design and Construction*, and in accordance with the City's Fire Department and adopted Fire Code.
- (2) Location.
- i. *Shown on Construction Plans.* The location and design of all fire hydrants, all water supply improvements and the boundary lines of special districts, private systems, and certified water service areas, indicating all improvements proposed to be served, shall be shown on the Construction Plans.
 - ii. *Extension of Lines.* Extension of water lines shall be made along the entire frontage of the development adjacent to a street. If the subdivision is not adjacent to a street, the extension of water lines shall be accomplished in such a manner as to allow convenient future connections to said lines by new subdivisions and the Developer shall provide stub out connections at the property line at the time of water infrastructure installation.
 - iii. *Exception from Requirement.* If new subdivisions will never be constructed beyond a developing subdivision due to physical constraints, the City Engineer and/or the Director of Public Works may approve a Minor Exception for this requirement in accordance with Section 02.03.086, Exceptions and Modifications, of this Ordinance prior to action on the Construction Plans or prior to action on any plat.
- (3) Cost of Installation. The cost of installing all water supply improvements to be made by the Developer, including off-site improvements, shall be included in the performance guarantees and Facilities Agreement, if applicable (refer to Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*).
- (4) Cost of Extension to Serve Developers.
- i. Where the City's water distribution system is not planned to be extended in time to serve a proposed new development, all necessary water facilities to serve such development shall be provided by and at the expense of the Developer. If oversizing of a water facility is deemed necessary by the City Engineer and/or the Director of Public Works for future developments, then the City may participate in such oversizing costs as part of a Developer's and/or a Facilities Agreement.
 - ii. The Developer will pay one hundred percent (100%) of the construction cost of the size mains required to serve his development, including the design, construction, and City inspection of the approach main(s).
 - iii. When the Developer desires that water mains be extended to serve his property, he will submit a request in writing to the City Engineer and/or the Director of Public Works. The property to be served shall be listed showing the lot, block and subdivision. If the area to be served is a part of a larger area that is owned or controlled by the Developer and which is reasonably expected to be served by water in the future, a tentative design of a main layout will be made of the entire area. The cost estimate will be made on that portion of the

subdivision to be served immediately.

(5) Individual Wells in ETJ.

- i. *Well Approval.* Individual wells to provide potable water within the City's ETJ shall be subject to approval by the Kaufman County health official, and this approval shall be documented by the health official's signature on the water system statement on the Preliminary and Final Plat. The Developer must submit with the Preliminary, Final Plat and Replat applications a certificate from a professional engineer or a geoscientist who are licensed to practice in the State of Texas verifying the adequacy of the proposed well water supply and potability prior to a Preliminary Plat application submittal or Construction Plan approval.
- ii. *Compliance with Other Regulations.* Installation, operations, and maintenance of individual wells shall comply with City standards, regulations of the Texas Commission on Environmental Quality (TCEQ), and any other applicable County or State rules and regulations. In the event of conflict among these regulations, whichever is the most stringent shall apply.

(f) **Wastewater.**

- (1) Extension of and Connection to the City's Wastewater Collection System. Extension of, and connection to, the City's wastewater collection system shall be required for all new developments within the City limits. Extension of, and connection to, the municipal wastewater collection system shall also be required for new developments within the City's ETJ for any proposed development, lot, tract, or parcel that is less than one (1) net acre in size. The City is not in any way obligated to allow extension of municipal wastewater collection lines outside the City limits. The required extension of, and connection to, the municipal wastewater collection system may be waived only in accordance with a Developer's Agreement approved by City Council after determining that such extension would require unreasonable expenditures and that an on-site wastewater disposal system (see **Section 02.03.072(e)(5)**, *On-Site Wastewater Disposal Systems*) will function properly and safely. The decision to allow an exception is in the sole discretion of the City.
- (2) Design & Construction. It is the policy of the City to require all wastewater collection lines to have gravity flow. The use of lift stations and force mains is prohibited unless a gravity design is impractical, as determined by the City Engineer and/or the Director of Public Works. The location, design and sizing of all wastewater improvements shall be shown on the Construction Plans and are subject to approval by the City Engineer and/or the Director of Public Works.
- (3) Cost of Installation. The cost of installing all wastewater improvements to be made by the Developer, including off-site improvements, shall be included in the performance guarantees and Facilities Agreement, if applicable.
- (4) Wastewater Collection Line Extension, Generally. All wastewater collection line extensions shall be designed in accordance with the latest applicable rules and regulations as published by the Texas State Department of Health and Texas Commission for Environmental Quality (TCEQ). All wastewater collection lines shall be designed with consideration for serving the full drainage area subject to collection by the wastewater collection system in question except as modified with the concurrence of the City Engineer and/or the Director of Public Works because of the projected rate of development or the financial feasibility of the proposed extension.
- (5) Cost of Extensions to Serve Developers.
 - i. Where the City's wastewater collection system is not planned to be extended in time to serve a proposed new development, all necessary wastewater facilities to serve such development shall be provided by and at the expense of the Developer. If oversizing of a wastewater facility is deemed necessary by the City Engineer and/or the Director of Public Works for future developments, then the City may participate in such oversizing costs as part of a Developer's and/or a Facilities Agreement.

- ii. The Developer will pay one hundred percent (100%) of the construction cost-of-the size mains required to serve his development, including the design, construction, and City inspection of the **approach** main(s). wastewater lines to all lots to be served by a sewer located in the right-of-way. Sewer lines will be constructed at the same time as a part of the same contract as all other public improvements in the Developer's addition.
 - iii. When the Developer desires that the wastewater mains be extended to serve his property, he will submit a request in writing to the City Engineer and/or the Director of Public Works. The property to be served shall be listed showing the lot, block, and subdivision. If the area to be served is a part of a larger area that is owned or controlled by the Developer and which is reasonably expected to be served by the wastewater collection system in the future, a tentative design of a main layout will be made of the entire area. The cost estimate will be made on that portion of the subdivision to be served immediately. The City Engineer and/or the Director of Public Works shall determine the size of the approach main required to serve Developer's property and the actual size to be constructed. Should the City elect to construct a main larger than the Developer's required approach main, the Developer will not be charged for the additional upsizing.
 - iv. The amount of Developer's payment shall be determined using unit bid prices contained in the award contract.
 - v. All service lines shall be designed and constructed in accordance with the Wastewater Master Plan.
- (6) Required Stub-Out to Adjacent Properties. All lateral and wastewater mains installed within a subdivision must extend to the borders of the subdivision as required for future extensions of the collecting system regardless of whether or not such extensions are required for service within the subdivision.
- (7) Lift Stations or Separate Treatment Facilities. The provision for lift stations or separate treatment facilities will not be permitted unless the cost of constructing such lift stations or separate facilities is at least twenty percent (20%) less than the costs of constructing an adequate outfall or approach sewer from the existing system.
- (8) Connections. No connection shall be made to any wastewater collection system within the City which will permit the entrance of surface water or waste of other than domestic wastewater characteristics without the specific authorization by the City Council.
- (9) On-Site Wastewater Disposal Systems.
- i. In cases where the City Engineer and/or the Director of Public Works determines that extension of and connection to the City's wastewater collection system is impractical or not feasible, and where the City Engineer and/or the Director of Public Works approves the use of an on-site wastewater disposal systems, such on-site systems shall provide adequate sewage disposal for all lots, tracts, parcels, and structures in the development that cannot be connected to the City's sewer system.
 - ii. All on-site wastewater disposal systems shall be designed, permitted, constructed, operated, and maintained in compliance with all applicable local, County and State regulations, and a permit for such system shall be acquired prior to Preliminary Plat and Construction Plans approvals.
 - iii. On-site wastewater disposal facilities requiring soil absorption systems may be prohibited where such systems will not function properly in conditions of high ground water, flooding, unsuitable soil characteristics, or other topographical or environmental issue.
 - iv. Each lot, tract, parcel, and structure that utilizes an on-site wastewater disposal system shall have a minimum land area of at least one net (1) acre.
 - v. No portion of any on-site wastewater disposal system shall be constructed within a minimum

150-foot radius around any water well either on-site or on other properties.

- vi. In order to protect the public health, safety and welfare, an existing on-site wastewater disposal system shall be upgraded, or reconstructed, if necessary, to comply with the City's standards by the owner, at the owner's expense, if the operation of the facility does not comply with government regulations or if it causes objectionable odors, unsanitary conditions, pollution, etc.

(g) **Stormwater.**

- (1) Adoption. This Ordinance is in compliance with the adopted Floodplain Regulations Ordinance and Appendix 1, *Standards of Design and Construction Ordinance* of the City of Kaufman.
- (2) Purpose and Scope. The purpose of policies and design standards set forth herein is to ensure adequate stormwater drainage and flood control within the City of Kaufman. The policies and standards are included in the most recent version of Appendix 1, *Standards of Design and Construction* and are intended to protect public health and safety, to prevent property damage due to flooding, to equitably distribute the cost of necessary drainage improvements, and to minimize the maintenance cost of drainage facilities constructed. Any development or improvement of property affecting storm drainage and flood control in the City of Kaufman is subject to the provisions of this Ordinance.
 - i. The development of land shall consider all drainage elements normally used in the engineering standards of design.
 - ii. Evaluation of stormwater runoff characteristics shall consider development conditions of the watershed as specified in *Standards of Design and Construction*.
 - iii. Stormwater design shall evaluate flow rate, volume, and velocity characteristic standards, considering the maximum results from a design storm as specified in *Standards of Design and Construction*.
- (3) Standard Provisions for Storm Drainage. All construction for storm drainage in the development or improvement of real property within the City of Kaufman shall conform to the requirements set forth in *Standards of Design and Construction*.
- (4) Responsibility of Developer for Storm Drainage.
 - i. The Developer of property to be developed or used shall be responsible for all storm drainage flowing through or abutting such property. This responsibility includes the drainage directed to that property by prior development as well as the drainage naturally flowing through the property by reason of topography. It is the intent of this Ordinance that provision be made for storm drainage in accordance with Section 02.03.071(f)(2) above and the *Standards of Design and Construction*, at such time as any property effected is proposed for development use.
 - ii. Where the improvement or construction of a storm drainage facility is required along a property line common to two (2) or more owners, the owner hereafter proposing development or use of his property, shall be responsible for the required improvements at the time of development, including the dedication of all necessary right-of-way or easements, to accommodate the improvements.
 - iii. Where a Developer's entire proposed development or use of only a portion of his property, provision for storm drainage in accordance with Section 02.03.071(f)(2) above and *Standards of Design and Construction*, shall only be required in that portion of the property proposed for immediate development or use, except as construction or improvements of a drainage facility outside that designated portion of the property is deemed essential to the development or use of that designated portion.
 - iv. The owner or owners shall dedicate to the City the required drainage easements. Minimum

easement requirements are set forth in *Standards of Design and Construction*. Final determination of easement requirements shall be made by the City Engineer and/or the Director of Public Works.

- v. In the event that an owner or Developer desires to impound stormwater by excavation, filling, or construction of a dam within a property, thereby creating a lake, pond, or lagoon as a part of the planned development of that property, the following provisions shall apply:
 - a. An engineering plan for such construction, accompanied by complete drainage design information, prepared by a registered professional engineer, shall have been approved by the City Engineer and/or the Director of Public Works;
 - b. The owner or Developer shall have agreed to retain under private ownership the lake, pond, or lagoon constructed, and to assume full responsibility for the protection of the general public from any health or safety hazards related to the lake, pond, or lagoon constructed;
 - c. The owner or Developer shall have agreed to assume full responsibility for the maintenance of the lake, pond, or lagoon constructed;
 - d. The obligations herein shall run with the land and shall be a continuing obligation of the owner or owners of such land;
 - e. The requirements of the Texas Water Code pertaining to impoundment of surface water are complied with including the design, construction, and safety of the impounding structure;
 - f. On any existing structure, the owner will furnish a study or design prepared by a professional engineer for the City for approval.
- (5) Responsibility and Participation of the City in Storm Drainage Improvements.
- i. The City may, in its sole discretion, participate in the cost of such improvements as are required by this Ordinance.
 - ii. The City may, in its sole discretion, participate in any project of improvements by the levy of a special assessment against the lands to be enhanced in value by such improvements.
 - iii. The City may acquire drainage easements necessary for such improvements by acceptance of dedication, purchase, or condemnation.
 - iv. The City may, upon acquisition of the drainage easement and the completion of improvements as hereinabove provided, assume full responsibility for the maintenance of such drainage facilities.
- (6) Engineering Design. The design of all storm drainage facilities in the development or improvement of real property shall be in accordance with the requirements set forth in the *Engineering Standards* and the following requirements:
- i. Storm sewer inlets shall be provided along paved streets at such intervals as are necessary to limit the depth of flow according to the requirements set forth in Appendix 1, *Standards of Design and Construction*.
 - ii. A closed storm sewer system shall generally be required to accommodate a run-off exceeding the street capacity, as provided above and as specified in Appendix 1, *Standards of Design and Construction*. Design of open channel systems in lieu of a closed system shall adhere to the requirements set forth in Appendix 1, *Standards of Design and Construction*.
 - iii. The criteria for drainage improvements as hereinabove set forth in paragraphs i. and ii. of this section shall be applicable to publicly owned lands solely at the discretion of the City of Kaufman.
 - iv. Excavation, fill, and grading operations within the city limits shall be undertaken only after a proper permit has been obtained from the City.
- (7) Easements. Drainage easements shall be dedicated for public drainage features in accordance with

requirements of this Ordinance and Appendix 1, *Standards of Design and Construction*.

- (8) Stormwater Quality. Designs for new development shall manage stormwater in a manner that protects water quality by addressing the development's potential to cause erosion, pollution, siltation, and sedimentation in the Municipal Separate Storm Sewer System (MS4) and natural waterways. The goal is to maintain after development, to the maximum extent practical, the predevelopment characteristics in the waterway, which ultimately receives stormwater runoff from the development. It is the Developer's responsibility to ensure that designs for new development meet the stormwater management requirements in the General Permit for Stormwater Discharges Associated with Construction Activities (TXR150000) issued by the TCEQ and its successor agencies. This permit includes the requirement for measures that will be installed during construction to control pollutants in stormwater discharges after construction operations have been completed.
- (9) Minimum Finish Floor Elevations. The City Engineer and/or Director of Public Works may require minimum finish floor elevations (MFF) to provide flood protection on certain lots contained within the subdivision. The MFFs shall be shown on the plat. These elevations shall incorporate the most current floodplain management criteria or other criteria as necessary to avoid damages. The minimum finish floor elevation shall conform with the requirements set forth in the Floodplain Ordinance and *Standards of Design and Constructions*. The following note or an amended version appropriate to the specific plat shall be added to any plat upon which the City Engineer and/or Director of Public Works requires the establishment of minimum finish floor elevations:

"The City reserves the right to require minimum finish floor elevations on any lot contained within this addition. The minimum elevations shown are based on the most current information available at the time the plat is filed and are subject to change."
- (10) Off-Site Drainage. When any proposed development requires off-site grading where stormwater runoff has been collected or concentrated, it shall not be permitted to drain onto adjacent property except in existing creeks, channels, storm sewers or streets. In such a case, a drainage easement shall be dedicated and shall be of a width sufficient to comply with the criteria outlined in this Ordinance and in *Standards of Design and Construction*.
- (11) Building or Structure Setback Requirement. Any building or structure constructed, reconstructed, or relocated adjacent to an open drainage channel shall conform to the set-back requirements established in *Standards of Design and Construction*.
- (12) Construction Over Drainage Facilities. No building or structure shall hereafter be constructed, reconstructed, or relocated over or across any storm drainage facility, unless specifically approved by the City Engineer and/or the Director of Public Works and pursuant to the criteria established in *Standards of Design and Construction*.
- (13) Stormwater Storage. Temporary storage of stormwater on-site is allowable pursuant to the criteria established in the *Engineering Standards*.

(h) **Preliminary Stormwater Management Plan.**

- (1) A preliminary stormwater management plan (SWMP) shall be prepared for all developments in accordance with *Standards of Design and Construction*. The purpose of the SWMP is to identify permanent water quality feature opportunities for the development.
- (2) The preliminary SWMP shall be prepared in coordination with the preliminary drainage plan on all projects where both are required. The preliminary SWMP and the preliminary drainage plan may be shown on the same sheet.
- (3) The preliminary SWMP must comply with the standards and criteria outlined in this Ordinance, Appendix 1, *Standards of Design and Construction*, and the Floodplain Ordinance. The plan may satisfy the stormwater management portion of the SWPPP that is required for construction activities; however, the SWMP is not a substitution for the SWPPP. The City's review of the

preliminary SWMP does not constitute acceptance of the final SWMP or the final development plans.

- (4) The Developer shall provide a preliminary SWMP for the area proposed for development. For amended plats or plats with a previously accepted preliminary SWMP, the accepted preliminary SWMP shall be enforced unless a revised preliminary SWMP is required.
- (5) Electronic copies of the preliminary SWMP plan shall be submitted with the submittal of a preliminary plat, replat, or minor plat for review and acceptance. The plan shall be labeled as "Preliminary." Upon acceptance of the plan, the plan shall be signed, sealed, and dated by the engineer, or shall contain a statement showing the engineer's name and license number and affirming the plan was prepared under the direction of the engineer and that the plan is preliminary. At the discretion of the City Engineer and/or Director of Public Works, an earthwork permit may be issued prior to the plat being filed so long as a floodplain development permit, if necessary, and a SWPPP have been approved. The Developer takes the financial risk of grading the tract prior to final approval of the plat and Construction Plans.

(i) **Preliminary Drainage Plan.**

- (1) The City Engineer and/or Director of Public Works may require a Hydrologic and Hydraulic Analysis and reserves the right to review.
- (2) This plan shall show the watershed affecting the development and how stormwater will be conveyed to, through, and from the development. It must comply with the standards outlined in this Chapter and the drainage design criteria found in *Standards of Design and Construction*. The preliminary drainage plan is a guide for the detailed drainage design. The review of the preliminary drainage plan does not constitute final drainage plan approval or authorize an exception to this Chapter.
- (3) For any property involved in the development process, a preliminary drainage plan shall be provided, at the Developer's expense, for the area proposed for development. For property with a previously accepted preliminary drainage plan, the accepted preliminary drainage plan may be submitted and enforced unless a revised preliminary drainage plan is required by the City due to lot reconfiguration or other conditions created by the new plat. The City Engineer and/or Director of Public Works may waive the requirement for a preliminary drainage plan if the submitted plat is not anticipated to cause any significant change in runoff characteristics from a previously accepted drainage study or for single residential properties where no drainage problems are anticipated. If the applicant requests an exception in writing, a copy of any previous drainage plan shall be provided.
- (4) At the request of the City, the Developer shall submit additional studies, including but not limited to the following, as deemed appropriate and necessary by the City, as part of the Preliminary Plat submittal requirements. These studies shall be considered during review and approval of the Preliminary Plat. For any study required by the City that is outsourced to a third party, the cost of such study shall be passed through to the Developer or applicant.
 - i. Environmental Assessment;
 - ii. Wetland Delineation Study;
 - iii. Habitat Study;
 - iv. Vegetative Study;
 - v. Erosion Hazard Setback Study;
 - vi. Storm Drainage Study;
 - vii. Riparian (i.e., Tributary) Study;
 - viii. Flood Study; and
 - ix. Downstream Assessment Study.

- (5) Electronic copies of the preliminary drainage plan shall be submitted with the submittal of a preliminary plat, replat, or minor plat for review and acceptance. The plan shall be labeled as "Preliminary." The plan shall be stamped and dated by the engineer and be accompanied by a floodplain development application describing the hydrologic and hydraulic impacts of the development and all associated supporting data files.

(j) **Major Creeks.**

- (1) Definition. Major creeks shall be defined by the most recent "Major Creek" map maintained by the City of Kaufman and available to Developers upon request.
- (2) Major Creek Restrictions. All major creeks shall be maintained in an open natural condition. All major creeks are subject to the requirements set forth in *Standards of Design and Construction* and the additional following requirements for all types of development:
- i. The 100-year floodplain and Erosion Hazard Setback shall be dedicated on the Final Plat to the City as a single lot or shall be owned and maintained by an HOA or POA, pursuant to Section 02.03.079(d), *HOA Requirements*, of this Chapter.
 - ii. At no time shall any portion of the 100-year floodplain encroach upon any single-family or two-family residential lot.
 - iii. The Council may waive any of these dedication requirements for a Replat that was originally platted prior to the adoption of this Chapter.
- (3) Access. Public access to parks and open space shall be dedicated for maintenance purposes as required by the City Engineer and/or the Director of Public Works.

(k) **Floodplain Development Requirements.**

- (1) 100-Year Floodplain Restrictions. All development proposed adjacent to or within the 100-year floodplain shall be in accordance with this Chapter, the City's Floodplain Ordinance, and the *Standards of Design and Construction*. A floodplain development permit and earthwork permit must be submitted and approved by the Director of Engineering prior to any construction on the site.

(l) **Detention & Compensatory Flood Storage Facilities.**

- (1) Intent. The City of Kaufman encourages the use of detention basins and compensatory flood storage areas for the benefits of the community outlined below:
- i. *Control of flood discharges*. The intent of detention basin and compensatory flood storage design shall be to reduce flood discharges for the ultimate watershed development conditions without increasing peak discharges above the peak discharges for undeveloped watershed conditions. This storage method serves as a key strategy of the stormwater management plan.
 - ii. *Environment*. As development occurs, there is a loss of wildlife and bird life habitat. It is possible to create a natural micro-environment around ponds and storage areas that can offset this loss of habitat. These "natural" environmental pockets in conjunction with natural open space areas can help maintain the rural setting of the City. Detention ponds also benefit downstream water quality by allowing the sedimentation of pollutants.
 - iii. *Recreation*. Detention basins and storage areas offer many recreational opportunities in an urban setting; for example, a normally dry detention basin could be used for athletic fields or picnic areas, while the banks of a pond offer valuable park space.
 - iv. *Aesthetics*. As an integral part of the City of Kaufman, a detention basin or flood storage area needs to blend into the landscape and into the community. Measures such as gentle side slopes, planting of trees and shrubs, and other landscaping features can transform the detention facility into an attractive amenity for the neighborhood.
- (2) Requirements.
- i. All detention and compensatory flood storage facilities shall be designed and constructed according to the requirements set forth in the *Standards of Design and Construction*.

- ii. Detailed engineering studies of the drainage basin according to the requirements set forth in the *Standard of Design and Construction* shall be required to evaluate the timing of hydrographs from regional and on-site facilities, as well as backwater calculations to determine the effect of the detention/retention and flood storage facilities on upstream water surface elevations.
- iii. All detention and compensatory flood storage facility designs shall be performed by a professional engineer registered in the State of Texas and shall meet the requirements of Permanent Rule 31, TEXAS ADMINISTRATION CODE (TAC) CHAPTER 299, and other requirements, as applicable.
- iv. Detention ponds shall have trees planted on the perimeter of the facility at a rate of one large canopy tree for every fifty (50) linear feet.
- v. Detention ponds shall be designed in a manner to be an amenity to the development by providing a gentle six-to-one (6:1) slope. Detention “pits” with sheer exterior walls are prohibited for residential subdivision designs. The Director of Engineering may provide a Minor Modification to the slope requirements of a detention pond, such as retention ponds with aerators.
- vi. Detention ponds may not be located in a landscape buffer area adjacent to perimeter roadways.

SEC. 02.03.073STREET & ALLEY STANDARDS.

(a) Streets Basic Policy.

- (1) Street Improvements. In platting a new development, the Developer shall provide additional right-of-way needed for existing or future streets as required by the *Standards of Design and Construction* and as shown on the City of Kaufman Thoroughfare Plan (see Table A, *Thoroughfare Types & Standards*) or the Kaufman County Transportation Plan
- (2) Existing Substandard Streets.
 - i. When a proposed residential or nonresidential development abuts one (1) or both sides of an existing substandard street, the Developer shall be required to improve the substandard street and its appurtenances (such as curbs and gutters, sidewalks, barrier-free ramps, street trees, etc.) to bring the same to City standards, or to replace it with a standard City street, at no cost to the City other than as may be provided in the City’s cost-sharing policies, including any ordinances that are in effect at the time of Final Plat approval.
 - ii. If the proposed development is located along only one (1) side of a substandard street, and if the City makes a determination that it is not feasible to improve the full width of said substandard street at that time the City may require the Developer to pay into escrow, in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, funds for the future improvement of the street as a condition of Final Plat approval for the development.
 - iii. When a Traffic Impact Analysis (TIA) is required or voluntarily submitted, the findings determined shall not be imposed upon, alter, or supersede the requirements, alignment, rights-of-way, and number of lanes shown on the Master Thoroughfare Plan, as it exists or may be amended, except as expressly approve by the City. The TIA may be used to justify amendments to the Thoroughfare Plan, but in no case shall the TIA dictate such amendments.
- (3) New Perimeter Streets.

When a proposed residential or nonresidential development is developed abutting an existing or planned major thoroughfare, minor thoroughfare or collector street as shown on the Master Thoroughfare Plan, the Developer shall construct a portion of the abutting street and its appurtenances (such as curbs and gutters, sidewalks, barrier-free ramps, street trees, etc.) to the City’s standards for that type of street (per the *Standards of Design and Construction*). If the City Engineer and/or Director of Public Works determines that it is not feasible to construct the abutting street and its appurtenances at the time of development, the City may require the Developer to pay into escrow, in accordance with Section 02.03.044, *Facilities and*

Professional Services Agreements, Financial Assurances and Construction Contracts for Public Improvements, funds for the future construction of the street as a condition of associated plat approval for the development. The funds placed in escrow, or the value of the lanes constructed shall be roughly proportional to the amount of traffic estimated to be generated by the development itself.

- i. When a proposed residential or nonresidential development is constructed and has designed an unplanned perimeter street in order to provide access to the site and/or adjacent land, the Developer shall construct a portion of the abutting street as described in Section 02.03.073(a)(4), *New Internal Streets*, below, and under the same conditions.
 - ii. Streets at the entrance to residential, multiple-family, and non-residential developments shall have decorative pavers or stamped concrete to delineate the entrance. Single family developments shall have a divided entrance with the median being a common area lot to be owned and maintained by the HOA. An entrance monument sign may be located on this lot.
- (4) New Internal Streets.
- i. All new streets and their appurtenances internal to a proposed residential or nonresidential development shall, at a minimum, be built to a width and design that will adequately serve the development and shall conform to the City's standards as described in the *Standards of Design and Construction*. If oversizing of an internal street is deemed necessary by the City Engineer and/or the Director of Public Works for traffic safety or efficiency (such as adjacent to a school or park site), then the City and/or the applicable entity may participate in such oversizing costs as part of a Development Agreement/Facilities Agreement with the Developer.
 - ii. Streets which temporarily dead end at power lines, railroads or similar rights-of-way shall be constructed for at least one-half (½) the distance across these rights-of-way, or provision shall be made to place the construction cost for said improvements in escrow with the City in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*.
 - iii. When, in the judgment of the Director of Engineering, it is not feasible to construct an internal street or appurtenances at the time of development of the subdivision, the City may require the Developer to pay into escrow funds for the future construction of the street or its appurtenances as a condition of Final Plat approval for the development, in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances and Construction Contracts for Public Improvements Facilities Agreements*.
- (5) Impact Fees. All fees due on the project shall be paid in accordance with the City's Impact Fee Ordinance and/or executed Development Agreement/Facilities Agreement.

(b) Street Design & Appurtenances.

- (1) Application of Requirements. Street design requirements are subject to the provisions included in the *Standards of Design and Construction*, Development and Facilities Agreements and Planned Development Ordinance (if applicable to the subject property) as well as the regulations contained within this Chapter.
- (2) Conformity to the Thoroughfare Plan. The general location of streets shall conform to the *Thoroughfare Plan*. For streets that are not shown on the *Thoroughfare Plan*, such as local residential streets, the arrangement of such streets shall:
 - i. Provide for the continuation or appropriate continuation of existing streets or street stubs from or into surrounding areas – refer to street stub requirements outlined in Section 02.03.073(b)(8), *Stub Streets*, and connectivity requirements in Section 02.03.073(b)(9), *Street Connectivity*;

- ii. Conform to any plan for the neighborhood approved or adopted by the City to address a particular situation where topographical or other conditions make continuance or conformity to existing streets impractical; and
 - iii. Not conflict with existing or proposed streets or driveway openings, including those on the opposite side of an existing or planned thoroughfare, as described within Appendix 1, *Standards of Design and Construction*.
 - iv. New streets that intersect with divided arterials shall align to the greatest extent possible with opposite streets such that median openings can be shared.
- (3) Relation to Adjoining Street System. The proposed street system shall extend all existing major and minor arterials and such existing collector and local streets as may be necessary for convenience of traffic circulation and emergency ingress and egress.
- (4) Maximum Street Length. No street shall be more than twelve hundred (1,200) feet in length without an intersection with another street which will provide some degree of flexibility in traffic patterns and public convenience.
- i. See *Standards of Design and Construction* for specific design requirements.
 - ii. In certain circumstances, the City may consider minor exemptions to the maximum street lengths if sought by the applicant. These circumstances include, but are not limited to:
 - a. Rerouting of streets;
 - b. Decreasing the lot count by five percent (5%) or more from the previously approved Preliminary Plat or Final Plat; or
 - c. Approval by the Council through a Subdivision Ordinance Exception. Any exception approved by the Council shall include the curvilinear requirement and street calming methods, as described below in Section 02.03.073(b)(6) and (7).
- (5) Maximum Cul-de-Sac Length. No cul-de-sac shall exceed six hundred (600) feet in length, measured from the center of the cul-de sac to the center of the intersecting street, as described in *Standards of Design and Construction*.
- i. In certain circumstances, the City may consider minor exemptions to the maximum cul-de-sac length if sought by the applicant. These circumstances include, but are not limited to:
 - a. Rerouting of streets;
 - b. Decreasing the lot count by five percent (5%) or more from the previously approved Preliminary Plat or Final Plat; or
 - c. Approval by the Council through a Subdivision Ordinance Exception. Any exception approved by the Council shall include the curvilinear requirement and street calming methods, described in Section 02.03.073(b)(6) *Curvilinear Requirement*.
- (6) Curvilinear Requirement. When a residential street length exceeds five hundred (500) feet, but is less than twelve hundred (1,200) feet in length, the design of the street shall include a curve of between one hundred to two hundred (100 to 200) feet radius for a length equal to the curve radius.
- (7) Additional Street Calming Methods. One or more of the following street calming methods may be required by the City and incorporated into the design in addition to the curvilinear requirement (above) in order to reduce traffic velocity and increase safety to pedestrians and cyclists, subject to the review and approval of the City Engineer and/or Director of Public Works:
- i. Stop signs;
 - ii. Street width narrowing with landscaped islands placed approximately every 400 feet or other distances as necessary to provide traffic calming;
 - iii. Roundabouts placed approximately in the center of the street length or near a major entrance to the development; and/or
 - iv. Landscaped medians that include pedestrian crossing oases included for a minimum of one-third ($\frac{1}{3}$) of the street length.

- v. Speed humps/bumps are prohibited from being installed in alleys, private aisles, and any fire lanes, unless approved in writing by the Director of Engineering.
- (8) Street Widths & Rights-of-Way. Street widths and related rights-of-way shall be designed in accordance with the following:
- i. *Master Thoroughfare Plan* (existing, and as amended);
 - ii. Planned Development Ordinance (if applicable to the subject property); and
 - iii. All streets shall be constructed in accordance with *Standards of Design and Construction*.
- (9) Street Names, Street Name Signs, and Traffic Control Signs.
- i. *Street Names*. New streets shall be named so as to provide naming continuity with existing streets, and so as to prevent conflict or “sound-alike” confusion with similar street names. All street names shall be approved by the Kaufman County 911 prior to any plat application submittal, and prior to submittal of the Construction Plans and should comply with Kaufman County 911’s approved street name policy, as it exists or may be amended.
 - ii. *Cost of Signs*. The cost of street name signs and traffic control signs shall be paid for and installed by the Developer.
 - iii. *City Standards*. All street name signs and traffic control signs shall conform to the City’s details for street name sign design and the latest edition of the Texas “Manual of Uniform Traffic Control Devices” (TMUTCD).
- (10) Traffic Studies. The City Engineer and/or the Director of Public Works may require a Traffic Impact Analysis (TIA) or other type of engineering study from the Developer prior to Construction Plan approval or the submittal of any associated plat applications to ascertain technical data pertaining to the potential traffic impact of the proposed development on the City’s street system. For any study required by the City that is outsourced to a qualified third party, the cost of such study shall be passed through to the Developer or applicant. See specific requirements as outlined in Section 02.03.074 *Traffic Impact Analysis and Mitigation*
- (11) Stub Streets.
- i. See *Standards of Design and Construction* for all design requirements.
 - ii. Future connections are required to adjacent vacant properties at locations as approved by the City Engineer and/or the Director of Public Works, and the Director of Development Services.
 - iii. When a residential development is constructed in phases requiring a temporary stubbed street, a paved temporary turn-around shall be provided for maneuvering by emergency equipment.
 - iv. A note shall be clearly placed on the Final Plat indicating that the stub street will be extended with future development (see requirements for temporary turn-arounds in *Standards of Design and Construction*).
 - v. All stub streets shall have barricades that meet TMUTCD standards.
 - vi. All stub streets shall have a sign prominently posted at the terminus of the street to indicate no through traffic and that the street will be extended in the future.
 - a. The sign shall comply with standards established by the City Engineer and/or the Director of Public Works, and
 - b. Installation and cost of the signs shall be the responsibility of the Developer.
- (12) Connectivity.
- i. New residential developments shall provide street connections to adjacent developments, as determined by the Director of Development Services, allowing access between developments for neighborhood traffic and to enhance pedestrian and bicycle connectivity as recommended in the *Comprehensive Plan*.

- ii. Residential developments shall not have direct vehicular access to adjacent commercial or retail developments. Pedestrian and/or bicycle access may be provided, as approved by the Director of Development Services.
- iii. Commercial developments shall provide off-street connections to other businesses through mutual access easements and shared access drives to thoroughfares.

(c) Street Lighting.

(1) Street Lighting Required.

- i. Street lighting shall be provided by the Developer along all streets and thoroughfares in accordance with *Standards of Design and Construction*. Perimeter sidewalks, site entrances, and other public areas and parking lots shall be adequately illuminated (minimum average of three (3) foot candle visibility).
- ii. The Developer is responsible for the installation of street lighting, and they shall be installed to City standards prior to the City accepting responsibility for the future provision of electricity to the street lights.

The City Engineer and/or the Director of Public Works shall be the responsible official for decisions related to street lighting, and may authorize a minor exception to these regulations, in accordance with Section 02.03.086, *Exceptions*, for a street lighting requirement if such exception will not compromise public health, safety, security and convenience.

- (2) New Subdivisions. New subdivisions are required to prepare and submit a street lighting plan. This plan is reviewed by the City Engineer and/or the Director of Public Works to ensure conformance with current street lighting policies. Financial responsibility for purchase of lighting equipment and construction is the responsibility of the Developer. In the City of Kaufman, power is provided by franchise utility companies. Upon completion of the street light system, the appropriate power server will be the owner and maintenance provider of the street light equipment and the City of Kaufman will become responsible for the monthly electrical and maintenance expenses.

- (3) Street Lighting Placement. Street lighting shall be chosen and installed according to *Standards of Design and Construction*.

~~(4) Subdivisions with Existing Street Lighting.~~

- ~~i. Residents or a Home Owners Association (HOA) of a subdivision with existing street lighting may request additional light or lights by completing a petition and request for additional street lighting form. The petition must be signed by adjacent property owners of each proposed light location and by at least eighty percent (80%) of the overall property owners within 300 feet in each direction of the proposed light location.~~
- ~~ii. Upon receipt of the petition and request form, City staff will contact the appropriate power provider to prepare an estimate of the cost to install the requested lighting. Additionally, the provider will be requested to provide information about necessary easements for light pole and other facilities required for installation.~~
- ~~iii. The HOA or residents requesting the additional street light shall be responsible for obtaining all required signatures for easements and shall be financially responsible for all costs to purchase and install additional lighting.~~
- ~~iv. Upon receipt of executed easement documents and deposit of funds with the City based on the installation estimate, the City will issue a request to the electric provider for installation.~~
- ~~v. Following installation and acceptance of the lighting facilities, the City will pay for all future electrical charges, repair and maintenance.~~

(5) Subdivisions without Existing Street Lighting.

- i. Residents of subdivisions without existing street lighting or infrastructure required to support street lighting should submit a petition for street lighting form to the Department of Development Services (form available online).

- ii. Upon receipt of the petition, City staff will contact the appropriate power provider to prepare an estimate of the cost to install the requested lighting. Additionally, the provider will be requested to provide information about necessary easements for light pole and other facilities required for installation.
- iii. The petition and request form will be presented to the City Council during the budgeting process. At this time Council will determine if the City will participate in the funding to complete the lighting request or establish assessments to the property owners for the cost to construct the requested lighting system.

(d) Private Streets.

- (1) Private Streets. Private streets within the City and/or the ETJ may be allowed in accordance with the Zoning Ordinance. Private streets shall be designed and constructed to the same standards as for public streets, in accordance with *Standards of Design and Construction*.
- (2) City Council Action Required. Dedicated streets and rights-of-way shall not be designated or used as private streets and such use is prohibited, except where specific approval is given by action of the City Council for properties within the City's extraterritorial jurisdiction and upon approval of a Specific Use Permit for properties within the City limits. The City Council may add any conditions as deemed appropriate as part of the approval of a Private Street Development.
- (3) Private Street Development.
 - i. Private Street Developments are subject to provisions of the Master Thoroughfare Plan and this Chapter, as it exists or may be amended. Private Street Developments shall only be permitted by the approval of a Specific Use Permit or through a Planned Development District. Private Street Developments shall be restricted to an area that is surrounded on at least three (3) sides, and in any event no less than approximately seventy-five percent (75%) of the perimeter, by natural barriers or similar physical barriers created by man. Examples of natural barriers would be creeks and floodplains. Examples of similar barriers created by man would be a golf course, school location, park, railroad tracks or a limited access roadway. Non-qualifying man-made barriers include screening walls, local roadways, man-made drainage ditches, detention ponds, landscape easements, earthen berms, utility easements and rights-of-way. Private Street Developments may not cross an existing or proposed thoroughfare as shown on the City's adopted *Master Thoroughfare Plan* nor shall a private street development disrupt an existing or proposed hike & bike route.
 - ii. Private Street HOA Fund. A Developer requesting private streets must show that adequate funds will be set aside and held in reserve for private street maintenance and replacement costs by the associated Homeowners Association (HOA).
- (4) Connectivity. The *Comprehensive Plan* calls for all plans for development in the City to include a high degree of connectivity within developments and between one development and another. Any proposed Private Street Development adjacent to an existing public street subdivision that can be reasonably connected, including by constructing a bridge or culvert, for example, should not be approved as a Private Street Development. The two adjacent subdivisions should allow cross-connectivity using public streets. This is especially important when one of the two adjacent subdivisions has a school site within the development that will be accessed by both developments.
- (5) Criteria for Approval for Private Streets in New Developments. Private Street Developments within the City may be considered through the Specific Use Permit (SUP) process or through a Planned Development District. The Planning & Zoning Commission and City Council shall use any of the following criteria:
 - i. Non-disruption of planned public roadways or facilities/projects (thoroughfares, parks, park trails, public pedestrian pathways, etc.);

- ii. Non-disruption to and from properties of future developments either on-site or off-site to the proposed subdivision;
 - iii. No negative effect on traffic circulation on nearby public streets;
 - iv. Not less than one hundred (100) feet of street frontage on which to locate the main entrance gate;
 - v. No more than two (2) gated street entrances, subject to approval by the Director of Engineering, may face the same thoroughfare;
 - vi. No impairment of access to and from public facilities including schools or public parks;
 - vii. No impairment of the adequate and timely provision of essential municipal services (emergency services, water/wastewater improvements or maintenance, etc.);
 - viii. The main entrance to the private street development shall have adequate throat depth to provide for residents, their guests and any accidental access and have an escape aisle for those vehicles not admitted into the subdivision,
 - ix. Existence of natural and/or qualifying man-made boundaries around seventy-five percent (75%) of the development; and/or
Absence of a concentration of Private Street Developments in the vicinity of the requested Private Street Development.
- (6) Conversion of Public Streets to Private Streets. The criteria for converting existing public streets to private streets includes all the criteria, issues and procedures involved with new developments, listed above, plus:
- i. Submittal of a petition signed by one hundred percent (100%) of the owners in the existing subdivision requesting conversion to private streets;
 - ii. Existence of a property owners' association that would be responsible for owning and maintaining the converted streets and rights-of-way;
 - iii. Applicants must agree to contract with the City for the purchase of the installed infrastructure and rights-of-way from the City of Kaufman at fair market appraised value for cash in full payment, and agree to maintain the infrastructure and rights-of-way at City standards thereafter prior to the approval of the Specific Use Permit;
 - iv. All documents are subject to the review and approval of the City Attorney; and/or
 - v. Subsequent to the approval of the Private Street designation, the entire subdivision affected shall be re-platted to reflect the right-of-way ownership changes.
- (7) Conversion of Private Streets to Public Streets. The City may, but is in no way obligated to, accept private streets for public access and maintenance. Requests to convert private streets to public streets shall be subject to all of the following provisions:
- i. The homeowners' association (HOA) shall submit a petition signed by at least sixty-seven percent (67%) of its members/lot owners (or a greater number of signatures, if required by the HOA documents or declarations).
 - ii. All of the infrastructure shall be in a condition that is acceptable to the City Engineer and/or Director of Public Works.
 - iii. All security stations and other structures not consistent with a public street development shall be removed by the HOA, at its cost, prior to acceptance of the streets and appurtenances by the City.
 - iv. All monies in the reserve fund for private street maintenance shall be delivered to the City. Money in the reserve fund in excess of what is needed to bring the streets and appurtenances up to City standards will be refunded to the HOA. Private Street developments that exist as of the adoption of this ordinance are not required to deliver a reserve fund balance to the City.
 - v. The HOA shall prepare and submit a replat to Development Services for review. Upon approval, the HOA shall file the replat to dedicate the streets and appurtenances to the City.

vi. The HOA shall modify and re-file, at its cost, the HOA documents to remove requirements specific to Private Street developments. The City Attorney shall review the modified HOA documents prior to their filing. The HOA shall be responsible for the cost of review by the City Attorney.

(7) HOA Requirements. Private Street developments and the related HOA shall meet all requirements of Section 02.03.079, *HOA Requirements*, of this Ordinance.

(e) Alleys.

- (1) When Alleys are Optional. Alleys are optional for all single-family residential lots that are equal to or greater than sixty (60) feet in width at the front building line.
- (2) When Alleys are Required. Alleys are required for single-family residential lots that are less than sixty (60) feet in width at the front building line. When so utilized, alleys shall be constructed according to design criteria in *Standards of Design and Construction*.
- (3) Alleys Required for Single-Family Attached Residences. Alleys are required for all duplex (two-family residences) and townhomes.

Alley Design. Permanent dead end and “hammerhead” alleys are prohibited. All alleys shall have adequate turnouts and street entrances such that vehicular traffic flow is continuous and efficient. Where a temporary dead end alley situation is unavoidable (such as due to project phasing), a temporary, paved turn-around bulb or turnout onto a street, either of which will require a temporary alley easement, shall be shown on the plat.

(4) Street Access when Alleys are Present. No driveway shall access a street when an alley is available unless specifically allowed in writing by the City Engineer and/or the Director of Public Works.

(f) Mews Streets.

- (1) Definition. A mews street is a grassy, landscaped area on which houses, or housing units may face in lieu of facing a paved street.
- (2) Minimum Width of Mews. The common area of the mews shall be a minimum of forty (40) feet in width.
- (3) Fire & Emergency Access. Since fire and other emergency vehicles must access the homes from the alley, the alley shall be a minimum of twenty-four (24) feet in width within a thirty (30) foot right-of-way.
 - i. The mews alley shall be striped as a fire lane.
 - ii. Fire hydrants shall be placed in the alley and spaced as they would on any similar residential street.
 - iii. No parking is allowed within the fire lane.
 - iv. A rear door to the home shall be provided that is a minimum of thirty-six (36) inches wide and is not through the garage. This door shall have a doorbell or means to alert the occupant.
- (4) Maximum Mews Length. The maximum mews length is 500 feet. Minor modifications may be considered by the Fire Department and Director of Engineering.
- (5) Garage Set-Back. Garages shall be set back either a minimum of twenty (20) feet to allow tandem parking or a maximum of three (3) feet where no parking, tandem or parallel, is allowed.
- (6) Trash Receptacles. Trash receptacles shall be placed on a concrete pad that is outside the limits of the fire lane.
- (7) Parking. Additional parking for visitors and delivery trucks shall be provided at the terminus of the mews street.
- (8) Vehicle Access. Dead-ended mews streets and alleys are prohibited.
- (9) Sidewalks. Sidewalks within the mews street shall be a minimum of six (6) feet in width if located at or near the center of the mews or a minimum of five (5) feet if two sidewalks are provided on each side of the mews.

- (10) Side Yards. No side yard shall be paved.
- (11) Signage. Wayfinding signs that include address numbers shall be provided at the end of the mews to direct pedestrians to the houses facing the mews.
- (12) Addressing. Individual house or unit addressing shall be provided at the entrance to the mews, with an additional street number and street name sign on each house or unit's rear and side façade. Addresses shall be posted on the building prominently. Both wayfaring signs and individual house numbers shall be illuminated for nighttime viewing. All such signage is subject to the discretionary review and approval by the Fire Department.

SEC.02.03.075 TRAFFIC IMPACT ANALYSIS AND MITIGATION

- (a) **Purpose**. The purpose of a Traffic Impact Analysis (TIA) is to assess the effects of specific development activity on the existing and planned thoroughfare system. Development activity may include but is not limited to rezoning, preliminary site plans, site plans, preliminary plats, driveway permits, certificates of occupancy and Thoroughfare Plan amendments.
- (b) **Pre-submission Meeting**. Prior to the commencement of a TIA, an initial or pre-submission meeting with the Development Review Committee (DRC) is required to establish a base of communication between the City and the applicant. This meeting will define the requirements and scope relative to conducting a TIA and ensure that any questions by the applicant are addressed.
- (c) **Applicability of TIA Requirements**.
 - (1) Zoning. These TIA requirements shall apply to all zoning requests for land uses which will generate 2,500 or more vehicle trips per day or contain a density of 0.75 Floor Area Ratio (FAR) or greater. Applicable requests include zoning requests and Thoroughfare Plan amendments if no previous traffic assessment was performed.
 - i. Special circumstances, including but not limited to development with no case history, which no not meet the daily trip generation threshold, may also require a TIA. Such circumstances, as determined by the City Engineer or designee may include, but not limited to , impacts to residential neighborhoods from non-residential development, inadequate site accessibility, the implementation of the surrounding Thoroughfare Plan is not anticipated during the estimated time period of the proposed development, the proposed land use differs significantly from that contemplated in the *Comprehensive Plan*, or the internal street or access is not anticipated to accommodate the expected traffic generation.
 - (2) Development. These TIA requirements shall apply to all development requests for land uses which will generate over 100 total trips during the AM or PM peak hour. Applicable development requests include concept plans, preliminary site plans, site plans and preliminary plats.
 - i. Special cases, in which site generated peak hour trip activity is different from that of the adjacent street (weekdays 7:00-9:00 am and 4:00-6:00 pm), may require an additional separate analysis as determined by the by the City Engineer or designee. Such circumstances may include, but ar not limited to, commercial/retail, entertainment, or institutional activity.
 - ii. The City Engineer or designee may waive the TIA for a development request if a TIA was performed previously with the Zoning request and conditions listed in the report are still current.
 - (3) Single-Family Residential Exception. A TIA for single-family residential development will not be required if the development contains fewer than six (6) dwelling units unless special circumstances exist, as determined by the City Engineer or designee.
 - i. These special circumstances may include, but are not limited to, impacts to other residential development from cut-through traffic inadequate site accessibility, the implementation of the surrounding Thoroughfare Plan is not anticipated during the estimated time period of the proposed development, the internal street or access system is not anticipated to accommodate the expected traffic generation, or the development is outside the urban core of the community.
 - (4) Daycares and Schools. All development requests and/or specific use permit requests for a daycare, Montessori school, private school, charter school, or public school shall include, at a minimum, a traffic circulation study.

- i. This study shall include the estimated maximum peak hour trip generation of the facility, the planned circulation of inbound and outbound traffic during drop-off and pick-up operations, and the estimated length of the queue of cars waiting to pick up students at the peak periods. The design of the site and the circulation plan shall ensure that school traffic does not back up onto any public street at any time.
 - ii. The traffic circulation study shall include a statement that the owner and/or operator of the daycare or school agree to operate the facility in accordance with the approved circulation plan. The circulation plan must be approved by the City Engineer or designee before the development request, or the specific use permit can be approved. The traffic circulation study must remain current and filed onsite and with the City.
 - iii. Each daycare and school, by November 1 of each year, is required to update the traffic circulation study if site conditions change (e.g., circulation, expansion, number of students) and provide the update to the Development Services Department. If no changes have occurred from the previous year, the daycare or school must notify the City that the current traffic circulation study is still current.
- (5) Carwashes and Other Commercial Uses that may fall below a TIA threshold. At the discretion of the City Engineer, a traffic circulation study may be required.
- i. This study shall include the estimated maximum peak hour trip generation of the facility, the planned circulation of inbound and outbound traffic during drop-off and pick-up operation, and the estimated length of the queue of cars waiting to pick up students at peak periods. The design of the site and the circulation plan shall ensure that traffic does not back up onto any public street at any time.
 - ii. The traffic circulation study shall include a statement that the owner and/or operator of the site agree to operate the facility in accordance with the approved circulation plan. The circulation plan must be approved by the City Engineer or designee before the development request, or the specific use permit can be approved.
- (6) Determination of Applicability. The need for a TIA shall be determined by the City Engineer or designee based upon the results and recommendation from a pre-submission meeting. It shall be the responsibility of the applicant to demonstrate that a TIA should not be required. If a TIA is required, the level of effort for a TIA submission shall be determined based on the criteria set forth in **Table ???**. Depending upon the specific site characteristics of the proposed development, one or more of the following elements may also be required as part of the TIA: an accident analysis, sight distance survey, traffic simulation, traffic signal warrant analysis, queuing analysis, turn lane analysis, and/or traffic circulation plan.

Table ??? Criteria for Determining TIA Study Requirements

Analysis Category	Site Trips Generated at Full Build-Out	TIA Analysis Periods⁽¹⁾	Minimum Study Area⁽³⁾
I	>50 peak hour driveway trips; or 100-500 total peak hour trips	<ol style="list-style-type: none"> 1. Existing year 2. Opening year⁽²⁾ 3. Five years after opening 	<ol style="list-style-type: none"> 1. All site access drives 2. All signalized intersections and/or major un-signalized intersections within 0.5 mile to 1 mile of site boundary
II	>500 total peak hour trips	<ol style="list-style-type: none"> 1. Existing year 2. Opening year of each phase 3. Five years after initial opening 4. Ten years after final opening with full build-out 	<ol style="list-style-type: none"> 1. All site access drives 2. All signalized intersections and/or major un-signalized intersection within 1.5 miles of site boundary

⁽¹⁾Analysis periods shall include build and no-build scenarios. Assume full occupancy when each phase opens.

⁽²⁾Assume full build-out.

⁽³⁾For certain projects, the City may require an enlarged study area. Land Uses within the study area should include recently approved or pending development adjacent to the site.

- (d) **Requirements for TIA Updates.** A TIA shall be updated when time or circumstances of the original study fall within the parameters presented in **Table ???**. The applicant is responsible for preparation and submittal of appropriate documentation in order for City staff to process the zoning or development application. A TIA for site development request must be updated if two years have passed since the original submittal, or if existing or assumed conditions have changed within the defined study area. The City Engineer or designee shall make the final determination as to the extent of a TIA update.

Table ??? Criteria for Determining TIA Update Requirements

Original TIA Report was based on:	Changes to the Originally Proposed Development:	
	Access Changed ⁽¹⁾ or Trip Generation Increased by more than 10%	Access Not Changed and Trip Generation Increased by less than 10%
Zoning; or Preliminary Site Plan or Site Plan that is less than 2 years old	Prepare New Study. Must meet all current TIA requirements	Letter Documenting No Change (No analysis is required)
Preliminary Site Plan or Site Plan that is more than 2 years old	Prepare New Study. Must meet all TIA requirements	Prepare New Study. Must meet all current TIA requirements.

⁽¹⁾Changed access includes proposed new access or refinement of general access locations not specifically addressed in original proposed development.

SEC. 02.03.076SIDEWALKS & TRAIL STANDARDS.

Sidewalks are required adjacent to all public streets, shall be provided according to the regulations in the *Standards of Design and Construction*, and shall stub out to the adjacent property. No meter valves or drainage inlets may encroach into sidewalks. Bicycle and pedestrian trails shall be a minimum of twelve (12) feet in width and be constructed of an improved surface. Any portion of a sidewalk or trail located on private property shall be shown on the filed plat. Trails and sidewalks shall comply with any City adopted Parks or Trail Plans. Sidewalks perpendicular to and in front of head-in parking shall be a minimum six (6) feet in width to accommodate the over-hang of vehicles. Sidewalks in front of buildings shall be a minimum 10' in width. Any trails near a cul-de-sac or other sidewalk shall provide a connection, including any barrier-free-ramp that may be needed. See also Section 02.03.084, *Hike & Bike Trail Requirements*.

SEC. 02.03.077DRIVEWAYS, FIRE LANES, RETAINING WALLS, & ACCESS.

- (a) **Driveways, Generally.** All driveway approaches, curbs, gutters, pavements and appurtenances necessary to provide access to properties shall be provided by the Developer, shall be designed, constructed and maintained in accordance with standards in the City's *Standards of Design and Construction*, Zoning Ordinance, and Planned Development Ordinance (if applicable to the subject property).
- (b) **Driveways, Residential.**
 - (1) Residential driveway approach widths and curb cuts shall not be wider than the combined width of the garage door or doors, or the edge of house on driveway past the garage door. In certain large lot cases, additional pad sites may be allowed for vehicle parking, at the discretion of the Director.
 - (2) Residential tracts smaller than ¼ acre in size may have only one drive per lot.
- (c) **Fire Lanes.** Fire lanes are to be designed in accordance with the City's adopted Fire Code and *Standards of*

Design and Construction. Fire lane easements shall be shown on the Site Plan (see the *Zoning Ordinance*) and on any associated plat, and shall be maintained to the City's standards by the property owner. For safety and emergency accessibility reasons during construction, developments other than single-family detached or two-family residential subdivisions shall not be allowed to proceed with vertical structural construction above the foundation prior to:

- (1) Completion and City inspection of all fire lanes and fire hydrants on the site (unless otherwise approved by the Fire Chief); and
 - (2) Issuance of a Building Permit for the structure.
- (d) **Retaining Walls.** Any retaining wall over four (4) feet in height requires engineered plans. Contractors shall incorporate a form liner or add a brick or stone façade. Plain concrete retaining walls are prohibited.
- (e) **Cross Access & Access Easements.** Vehicular cross access (including the access easement) shall be provided. For safety, emergency response purposes, improved value for all tracts, and increased connectivity, cross access between adjacent (single family, non-residential, and multi-family) parcels is required, as determined by staff. Properties that abut an undeveloped tract shall provide a paved stub-out for future connections, including the access easement. Adjacent properties shall be provided cross access, unless the Director of Development Services or the Director of Engineering provides a Minor Modification for a challenging geographical feature (e.g. creek) or for when a single family neighborhood is adjacent to a multi-family or non-residential parcel. All other instances require cross access, including the access easement. Pedestrian cross access is required in all instances, even single family adjacency, except for when a Minor Modification is provided by the Director for a geographic frustration. Life Connected is the guiding principle.

SEC. 02.03.078LANDSCAPING & SCREENING ADJACENT TO ROADWAYS.

- (a) **Median Landscaping Improvements Required.** Landscaping improvements shall be installed within the medians of all proposed or planned or divided roadways within the city limits as shown on the City Master Thoroughfare Plan. Frontage is wherever a property abuts the right-of-way of the divided thoroughfare, and separate frontages exist on each side of the thoroughfare.
- (1) Developer obligation. The subdivider or Developer shall be fully responsible for the construction and installation of the required landscaping and maintenance of the improvements for a period of one year. During the first year following installation, the subdivider or Developer shall replace any tree, shrub, sod, groundcover or hardscape in substandard condition. Following the first year, the Director of Engineering shall inspect the installation and determine what, if any, plant materials and/or hardscape must be replaced prior to the City taking over maintenance.
 - (2) Installation or deferment. In the event that the Director of Engineering, in his sole discretion, determines that the installation of improvements at any given time period is impractical due to further road construction or other factors, the subdivider or Developer shall pay a fee-in-lieu into an escrow account for future median landscaping and/or maintenance. This fee-in-lieu of installation is collected once from each frontage and described more fully in Section 02.03.075(d).
 - (3) City participation. At the discretion of the Director of Engineering, the subdivider may install the median landscaping across the full width of the median, and be reimbursed by the City for the landscaping provided for the second frontage at the per linear foot of frontage rate or the actual cost of the improvements, whichever is less, if funds are available.
 - (4) Plan design burden/escrowed cost. In the case where undeveloped land exists on both sides of a divided public street, the first to develop shall carry the burden of submitting plans for landscaping, hardscape and irrigation of the median, along with escrowing the fee-in-lieu, as described in Section 02.03.075(d). At the discretion of the Director of Engineering, the City or County may contribute to this escrow account in order to facilitate the implementation of the landscape plan.

- (5) Installation burden. If the City declines to participate in the immediate landscaping of the median in question, the second to develop will utilize the approved plans (or modify the approved plans with City approval of the modifications) and shall be responsible for the purchase and installation of the median improvements, using the escrowed account from the first Developer and shall contribute an equal amount to the overall cost of the median landscaping. In the event that the original escrow amount has fallen short of current material and/or installation costs, the City will make up the difference in cost or the plans shall be modified to be installed within the cost allotted. Any surplus funds shall be placed in the City's landscape maintenance account.
- (6) Design. The median design shall be approved by the Director of Engineering and the City may elect to create the design for the landscaped median in house.

(b) **Minimum Requirements for Median Landscaping.**

- (1) Only developments or subdivisions abutting or adjacent to a divided roadway, as defined in the Master Thoroughfare Plan, shall be subject to this section.
- (2) All trees and plant materials shall be chosen from the City's approved plant list;
- (3) One small ornamental tree per forty (40) linear feet of median. Ornamental trees shall be a minimum two-inch (2") caliper and eight feet (8') in height at time of planting and shall be used primarily as accent trees near the median nose and dispersed within the canopy trees;
- (4) One large canopy tree per forty (40) linear feet of median, with a minimum of four-inch (4") caliper trunk, and a well-formed canopy that is typical of the species. Canopy trees shall be planted no closer than thirty (30) feet from streetlights located in the median, no closer than twenty (20) feet to an intersection, and no closer than fifteen (15) feet from any overhead electrical line;
- (5) Ornamental and canopy trees need not be evenly spaced and may be clustered for a more pleasing aesthetic effect, so long as shade is provided to all pedestrian areas;
- (6) A minimum of twenty percent (20%) of the landscaped area shall be planted in evergreen shrubs, ground cover and/or native grasses;
- (7) Planting beds shall be separated from turf grass using 14-gauge steel edging to define ground cover beds and reduce weed incursion;
- (8) Irrigation installation shall include bubblers or drip irrigation for all canopy and ornamental trees and irrigation to uniformly water the planting beds and shall be equipped with rain-freeze sensors; and
- (9) Landscape and installation plans shall be subject to review and approval by the Director of Development Services and the Director of Engineering. The location and placement of landscaping shall conform to the City street design standards and shall be placed to accommodate the ultimate number of traffic lanes, although shrubs, native grasses and ornamental trees may be placed in future traffic lanes if it is determined that these lanes will likely not be constructed in less than ten years.

(c) **Roadway Landscape Easements or Buffers.** Roadway landscape easements/buffers are defined as open, landscaped areas between the property line (right-of-way) and any built structure (vertical or horizontal) on a lot. The roadway parkway is the portion of right-of-way that is typically sodded and kept clear of trees or deep-rooted shrubs since this is often the location of underground or above-ground infrastructure, such as water and wastewater collection lines and electrical wiring, respectively. In some cases, underground utilities will be placed entirely or in part within the landscape easement/buffer and therefore this easement/buffer shall be shown on the associated plat. The following easement standards apply unless a more stringent standard applies due to the lot being located in an overlay district.

- (1) Minimum width of landscape easements along roadways.
 - i. Adjacent to all six-lane divided streets and limited access roadway service roads, as shown on the Thoroughfare Plan, the landscape easement shall be a minimum forty (40) feet wide.

- ii. Adjacent to all four-lane divided streets, as shown on the Thoroughfare Plan, the landscape easement shall be a minimum of thirty (30) feet wide.
 - iii. Adjacent to all other streets called out on the Thoroughfare Plan, the landscape easement shall be a minimum twenty (20) feet wide.
 - iv. Adjacent to residential streets and other streets not called out on the Thoroughfare Plan, the landscape easement shall be a minimum of ten (10) feet wide.
- (2) Setbacks. The following setbacks apply based on zoning district adjacency:
- i. Adjacent to single-family district (either attached or detached districts).
 - a. Any non-residential building that is one (1) or two (2) stories in height shall be setback from the single-family district property line a minimum of forty (40) feet.
 - b. Any non-residential building that is three (3) stories in height shall be setback from the single-family district property line a minimum of sixty (60) feet.
 - c. Any non-residential building that is four (4) stories in height or greater shall be setback from the single-family district property line a minimum of one hundred (100) feet.
 - d. Parking and/or drive aisles may be located within these setbacks.
 - ii. Adjacent to any district other than single-family district. When a non-residential building is adjacent to a similar land use, the setbacks shall be the minimum allowed by the adopted Building Codes and Fire Codes.
- (3) Intent & application of the Ordinance. When circumstances exist that may restrict the ability of an applicant to comply with the precise minimum widths referenced above, the Director may allow some flexibility so long as the overall intent of the ordinance is met.
- (4) Landscaping & screening within easements or buffers. Street trees, native grasses, sod, and shrubs may be planted within the landscape easement, avoiding conflicts with any utility service, as shown on the approved site plan or concept plan.

Signs located within easements or buffers. Any applicant who places a monument sign within a landscape easement that may also be the location of underground or above ground infrastructure shall be required to allow the City and/or utility company access the facilities located beneath or above the monument sign and must sign a facilities agreement authorizing the City and/or utility company to carry out needed repairs or replacement with no obligation to rebuild or compensate the owner/applicant for the removal, repair, or loss of the sign.

(d) **Minimum Requirements for Landscaping within Roadway Landscape Easements.**

- (1) Landscape easements shall be made up of an attractive mix of sod, native grasses, berms, and trees between the right-of-way and the screening wall.
- (2) All trees and plant materials shall be chosen from the City's approved plant list.
- (3) One large, canopy tree per forty (40) linear feet of street frontage, with a minimum of three-inch (3") caliper trunk, and a well-formed canopy that is typical of the species.
- (4) One small, ornamental tree per forty (40) linear feet of street frontage. Ornamental trees shall be a minimum two-inch (2") caliper and eight feet (8') in height at time of planting and shall be used primarily as accent trees dispersed within the canopy trees.
- (5) Ornamental and canopy trees need not be evenly spaced and may be clustered for a more pleasing aesthetic effect within the landscape easement or buffer.
- (6) A minimum of twenty percent (20%) of the landscaped area shall be planted in evergreen shrubs, ground cover, and/or native grasses. Along all vehicular use areas shall be a continuous row of evergreen shrubs.
- (7) Planting beds shall be separated from turf grass using 14-gauge steel edging to define ground cover beds and reduce weed incursion.
- (8) Irrigation installation shall include bubblers or drip irrigation for all canopy and ornamental trees

and irrigation to uniformly disperse water over the planting beds and shall be equipped with rain-freeze sensors.

- (9) No drainage retention or detention for the property shall be placed in the landscape easement.
 - (10) Landscape and installation plans shall be subject to review and approval by the Director of Development Services and the Director of Engineering. The location and placement of landscaping shall conform to the City street design standards and shall be placed to accommodate the ultimate number of traffic lanes, although shrubs, native grasses and ornamental trees may be placed in future traffic lanes if it is determined that these lanes will likely not be constructed in less than ten (10) years.
 - (11) At corner intersections, a Subdivision Entrance sign is required for branding.
- (e) **Fee-in-Lieu.** Should the Director of Engineering, at his sole discretion, determine that the immediate installation of median or roadway easement landscaping is impractical; a fee-in-lieu of installation shall be collected and placed in escrow at the rate listed in the current Fee Schedule. The fee-in-lieu shall be collected prior to plat filing. Said fees-in-lieu of installation shall be applied to construction, reconstruction, upgrading, and installation of median landscaping of divided roadways within the adjacent median landscape areas and any roadway easement or landscape buffers.
- (f) **Refund of Fees.** Any fees not expended within ten (10) years of collection shall be returned to the Developer or subdivider who deposited the fees with the City. The time period for the expenditure of fees escrowed with the City for the construction of median landscaping shall not begin to run until such time as the roadway medians have been constructed on such divided roadways, the roadway medians have been accepted by the City, and the roadway medians are ready for standard median landscaping and irrigation. Notwithstanding the provisions of this subsection, the City shall not be required to return fees that have not been expended if roadway medians have not been constructed on divided roadways within the adjacent roadway benefit area thus preventing the purchasing, planting, growing and/or irrigation of the required standard median landscaping and irrigation.
- (g) **Screening Requirements.**
- (1) Screening adjacent to roadways.
 - i. Single Family residential land uses adjacent to roadways shall install a solid masonry screening wall that is a minimum six (6) foot high and maximum eight (8) foot.
 - ii. Maintenance easement. A three (3) foot wide maintenance easement shall be provided on any boundary line where a required screening wall or devise may be installed currently or in the future, to allow access for repairs or replacement.
 - iii. Residential fences adjacent to streets. All wood residential fences that face a street must be minimum of six (6) feet in height and constructed of cedar board-on-board with a decorative cap and support poles facing the inside of the lot. Residential fences that only face the interior of the lot are not required to be board-on-board construction.
 - iv. Conflict of fences. No parallel, adjacent fencing (i.e. back-to-back fencing) is allowed, nor is the creation of a “maintenance gap” between two fencing devices. When a non-residential use is proposed adjacent to an existing residential wooden fence, the wooden fence shall be removed and the masonry screening wall becomes the mutual boundary line between the properties.
 - v. When single family residential land uses are adjacent to perimeter roadways that are not part of the Master Thoroughfare Plan, then a 20’ wide landscape buffer applies, and enhanced wooden fencing (6’ tall cedar, board-on-board fence with a decorative cap, with metal posts on the inside, with periodic masonry columns; all to be maintained by the HOA) may be installed in lieu of the masonry wall. In this instance, evergreen shrubs shall be planted along the enhanced wooden fence in addition to the standard landscaping already required.

- vi. The Neighborhood Vision Book allows for additional options such as decorative metal fencing (with masonry columns and associated landscaping) in lieu of the masonry wall along open spaces, floodplains, cul-de-sacs, and U-shaped streets.
- (2) Screening between land uses.
- i. Non-residential and multiple-family uses adjacent to single family detached zoning districts or uses.
 - a. A solid masonry screening wall is required, minimum eight (8) feet in height, along the property line.
 - b. In some cases, at the Director's discretion, a decorative iron or wrought iron screening walls may be allowed in lieu of a solid masonry screening wall. This decorative iron or wrought iron screening shall have regularly spaced masonry columns, along with medium-sized evergreen plants that will grow to a minimum height of six (6) feet within two (2) years of planting.
 - c. In some cases, at the Director's discretion, enhanced wooden fences constructed of cedar board-on-board with a decorative cap, and support poles facing the inside of the lot may be allowed.
 - d. In some cases due to topography or other natural land features, at the Director's discretion, industrial quality metal fencing or welded wire fence panels may be allowed, such as *DesignMaster*[®] fencing products.
 - ii. Non-residential uses (including multi-family) adjacent to other similar non-residential zoning districts or uses (including multi-family). No screening wall is required. Perimeter fencing, gates across drive aisles or fire lanes, and other similar devices are not allowed for non-residential or multi-family uses. Kaufman believes in "Life Connected", which in this instance means fewer barriers, more openness, and more freedom of movement. The Director of Development Services may provide a Minor Modification to this (e.g. industrial use).
 - iii. Uniformity. Each development shall have a uniform screening wall in terms of materials and height, subject to approval by the Director during the site plan process.
 - iv. Maintenance easement. A three (3) foot wide maintenance easement shall be provided on any boundary line where a required screening wall or device may be installed currently or in the future, to allow access for repairs or replacement.
 - v. Generally speaking, decorative columns should be spaced every 100 linear feet (and at transitions) for masonry walls, decorative metal fences, and enhanced wooden fences for all land uses and situations within the Screening section. Staff may provide minor modifications to this.
- (3) Site elements required to be screened. The following site elements shall be screened from the public view:
- i. Mechanical & utility equipment.
 - a. Ground located equipment. A solid masonry "wing" wall of sufficient height to effectively screen the equipment.
 - b. Roof-mounted equipment. Roof-mounted equipment shall be screened from view from the adjacent right-of-way. Appropriate screening includes wall extensions, such as a parapet wall.
 - ii. Utility Substations & Tower Facilities. For electric substations, wastewater pump stations, communication towers, generator plants, or any other free-standing utility facility, the above ground mechanical equipment shall be screened to mitigate its negative visual impact and safely secure the site. The screening device shall be scaled accordingly to the height, size, scope, and area of the proposed facility, to be no less than six (6) feet in height and might be up to twelve

(12) feet in height, subject to discretionary review and approval by the Director. Generally, masonry screening walls are required with the allowance for decorative metal in limited application for visibility, ventilation, and access points. Larger facilities shall also provide large evergreen screening trees every twenty (20) feet on center. Concrete vehicle access shall be provided, in addition to associated easements necessary for development. Any associated utility lines shall be buried, with the exception of regional transmission lines.

- iii. Trash & recycling enclosures. Screening enclosures shall consist of a solid masonry wall or architectural element of the building that is a minimum six (6) feet in height with a solid metal gate (primed and painted) that is to remain closed at all times other than servicing.
 - a. Single trash & recycling enclosures shall be a minimum of twelve (12) by fourteen (14) feet in size.
 - b. The number of enclosures required for each development shall be determined by staff.
- (4) Screening adjacent to open space, creeks, or other view corridors. Notwithstanding the obligation of a Developer to construct a solid masonry screening wall surrounding the property, when portions of that property are adjacent to a dedicated open space, natural land feature such as a creek, or other notable views such as a golf course, the screening shall be decorative iron with regularly spaced masonry columns or industrial quality metal fencing or welded wire fence panels, such as DesignMaster® fencing products, with Director approval.
- (5) Prohibited screening elements. No screening wall visible from a public street shall be:
 - i. Screening walls shall not be located within any required visibility triangle;
 - ii. Screening walls shall not be constructed with any of the following materials: Surface painted or coated concrete, chain-link, concertina wire, barbed wire, corrugated metal, or fiberglass panels.

In no case shall a screening wall be placed parallel and in the immediate vicinity of an existing residential fence causing a close back-to-back fence arrangement. When a residential fence exists at the time of commercial development, the required masonry screening wall shall replace the residential fence, with access easements provided for maintenance to be shown on the associated plat.

SEC. 02.03.0790LOT AND BLOCK DESIGN.

- (a) **Zoning Compliance.** All lots shall conform to the zoning district requirements, unless located in the ETJ in which they shall comply with any interlocal agreements between the City and Kaufman County.
- (b) **Residential Lots Adjacent to Drainage Areas.** Lots shall be exclusive of any portion of a natural drainage area (i.e., major creek, stream, tributary, etc.), maintenance access, and/or erosion hazard setback, as defined in Section 02.03.102, *Definitions*. Retaining walls may be allowed on lots adjacent to natural drainage areas, as approved by the Director of Engineering.
- (c) **Lot Shape.** The City reserves the right to disapprove any lot which, in its opinion, will not be suitable or desirable for the purpose intended, or which is so oddly shaped as to create a hindrance to the logical lot layout of surrounding properties and/or create an irregular building envelope. The following requirements shall also apply:
 - (1) Lots shall be generally rectangular in shape; sharp angles between lot lines shall be avoided.
 - (2) Flag lots are prohibited (See Diagram 02.03.113).
 - (3) Irregularly shaped lots shall have sufficient width at the building line to meet minimum lot width and frontage requirements for the appropriate zoning district (if applicable) and shall provide the minimum building pad required by zoning without encroachment into front, side or rear yard setbacks or into any type of easement.

(d) Lot Lines and Legal Buildable Lots.

- (1) Side Lot Lines. Side lot lines shall be generally perpendicular to street right-of-way lines to the greatest extent possible (side lot lines may vary from 80° to 100° angles from the street frontage - see Diagrams 02.03.115 and 02.03.116). The Director of Development Services may grant a minor modification if unusual circumstances exist on the subject property or on adjacent property that make it difficult to comply with this requirement.
- (2) Lot Lines and Jurisdictional Boundaries. All lot lines, to the greatest extent possible, shall align along county, school district, and other jurisdictional boundary lines such that lots are fully within one county, school district, or other jurisdiction. The Director of Development Services may grant a minor modification to this requirement if a county, school district, or other jurisdictional boundary line will bisect a lot, provided that the entire residential dwelling or main structure is constructed entirely within one county, school district, or other jurisdiction (i.e., the structure does not “straddle” school district or jurisdictional boundary line even though the lot line may straddle the jurisdictional line).
- (3) Legal Buildable Lots. Any portion of a lot that is non-buildable for any reason shall be clearly shown as such on the Preliminary and Final Plats. A typical detail shall be submitted along with the Preliminary and Final Plats, and shall verify that the buildable portion of such a lot can accommodate a dwelling or main structure that complies with applicable City zoning regulations (if located within the City limits) and building codes (if located either within the City limits or the ETJ).

(e) Lot Orientation Restrictions. Major and Minor Arterials.

- (1) No single-family, two-family, or townhome lots shall front onto or have a driveway onto Major or Minor Arterials or any street with a right-of-way of sixty (60) feet or greater, as described within the *Appendix 1, Standards of Design and Construction*, unless the house was existing prior to the roadway being designated as such on the City's *Master Thoroughfare Plan*.
- (2) No residential lots shall face a Collector or higher designation street.

(f) Lot Frontages.

- (1) Street Frontage.
 - i. *Adequate Frontage*. Each lot shall have access to a street (or an approved public way) by having frontage on such a street that is not less than fifty (50) feet at the street right-of-way line, or as otherwise specified in the *Zoning Ordinance* or a Planned Development (PD) Ordinance, if applicable. Lots fronting onto an eyebrow or bulb portion of a cul-de-sac shall also have a minimum frontage of forty (40) feet at the building setback line, unless approved by the Director of Engineering.
 - ii. *Frontage Exception*. For non-residential developments ten (10) acres or greater, the lots may be platted to a private street or access easement instead of a dedicated street.
- (2) Double Frontage.
 - i. *Single-Family, Two-Family and Townhome Lots*. Double frontage lots are prohibited, except that single-family, two-family or townhome lots may back or side onto a Collector street or larger thoroughfare, as described within the *Appendix 1, Standards of Design and Construction*, with appropriate screening. Where lots back or side onto a Collector street or larger thoroughfare, no driveway access is allowed onto the thoroughfare from the rear or side of the lot.
 - ii. *Establishment of Building Lines*. Where any lot has frontage on more than one (1) street, a front building line shall be established for each street, regardless of orientation of the structure.
- (3) Lots Facing Other Lots. Whenever feasible, each residential lot shall face the front of a similar lot, or shall face or side onto a park or open space if one exists or is planned (see Section 02.03.081,

Applicability and General Requirements. In general, an arrangement placing adjacent lots at right angles to each other should be avoided. The Director of Development Services may grant a Minor Exception, in accordance with Section 02.03.086, *Exceptions*, if unusual circumstances exist on the subject property or on adjacent property that make it difficult to comply with this requirement.

- (g) **Lots in Relation to Parks/Open Space/Creeks.** All lots that are located directly across a street from a park/open space shall face or side onto the park/open space, where feasible. For lots or streets adjacent to floodplain or creeks, a minimum of 100' or 10% of street length, whichever is greater, shall be single loaded. Concrete pedestrian connections into the neighborhood should be integrated into the design.
- (h) **Large Lots and Tracts.** If the lots or tracts of land in a proposed development are large enough to suggest possible further subdivision in the future, or if portions of the property are not subdivided or developed immediately, then the Preliminary Plat shall show how such large tracts or remainder portions of the property can be subdivided into conforming lots at a later time, and shall also show how streets can be extended and how median openings can be aligned and shared in the future.
- (i) **Lot and Block Numbering.**
 - (1) All lots within each phase of a development are to be numbered consecutively within each block. Each block shall have an alphabetical designation (e.g., "Block A, B, C" etc.). Each lot shall have a numeric designation (e.g. Lot 1, 2, 3, etc.).
 - (2) Different phases shall begin with different block numbers – in other words, a single block may not straddle more than one construction phase.
 - (3) Subsequent replat numbering shall be indicated with an "R" suffix for the first revision (e.g. from Lot 3 to Lot 3R) and any additional replatting changes to the lot shall be indicated with a numeric suffix following the "R" designation (e.g. Lot 3R-1) and continue numerically as changes occur (Lot 3R-2, Lot 3R-3, etc.).
 - (4) All dwelling units shall be located on an individually platted lot with its own lot number.
- (j) **Building Setback Lines.** Building setback lines adjacent to public rights-of-way and alleys shall be shown on all plats.
- (k) **Addressing.** The Director of Development Services, in conjunction with the Kaufman County 911 Addressing and Kaufman County Geographic Information Systems department, shall assign addresses that are in compliance with standards established by the *U.S. Postal Service*. Only one address shall be issued to each lot, and only one electric meter shall be provided for each address.
- (l) **Other Block Requirements.** See the *Standards of Design and Construction*.

SEC. 02.03.0791 OTHER SUBDIVISION REGULATIONS.

(a) Easements.

- (1) Easements Shown on Plats. The type, size, and location of easements shall be determined by the Director of Engineering. All existing and proposed easements shall be shown on the Preliminary, Final Plats, and Replats. All easements shall be labeled on the plat and dedicated for the specific purpose intended (e.g., "City Utility Easement," "City Drainage Easement," "Trinity Valley Electric Cooperative Easement," etc.).
- (2) Off-Site Easements. Off-site easements that are necessary to fulfill City requirements or are required by the City shall be dedicated to the City by the Conveyance Plat or Final Plat and shall be approved as to size and location by the Director of Engineering. In certain circumstances, a separate instrument may be accepted to dedicate required off-site easements, if approved by the Director of Engineering. If the abutting property is already platted, then a Replat of that property shall be required to establish the new off-site easement.

- (3) Maintenance Easements. When a retaining wall is proposed for construction, the associated plat must show a minimum three (3) foot maintenance easement on both sides of the proposed wall.

(b) Reservations.

- (1) Permitted Uses. No land contained in the proposed subdivision shall be reserved for any use other than a use permitted by the Zoning Ordinance for the district in which the land to be reserved is located or for future roadways as shown on the *Master Thoroughfare Plan*.
- (2) Designation on Plat. The specific use for which each parcel of land is to be reserved must be shown on the plat by an appropriate label or description. Provision for abandonment of a reservation in the future as may be appropriate must likewise be shown on said plat.
- (3) Parks and Open Space. The location and size of parks and open space areas shall be in conformance with this ARTICLE 02.03.080, *Parks & Open Space*, and the *Zoning Ordinance*. All areas retained as floodway shall be reserved for public use, unless other provisions are approved by the City Council.
- (4) Schools. The location and size of school sites shall be in conformance with the *Comprehensive Plan* and the recommendations of the applicable school district.
- (5) Public Facilities. The location and size of sites for public buildings, major utility facilities, and related Community Facilities shall be in conformance with the *Comprehensive Plan* and the recommendations of the Director of Development Services.

(c) Monuments & Markers.

- (1) General Placement. Monuments consisting of a minimum three-eighths (3/8) inch diameter steel rods, at least twenty-four (24) inches in length shall be placed at all:
 - i. Lot and block corners (wherever a lot line bearing changes);
 - ii. Intersection points of alley and block lines; and
 - iii. Curve and tangent points along block, lot, and right-of-way lines within the subdivision.
- (2) Subdivision Monumentation. At least two (2) property corners shall be marked with monuments of three (3) dimensional coordinates established from the City's *Standards of Design and Construction*. The corners so marked should be at opposing ends of the property unless otherwise approved by the Director of Engineering.

- (d) **Subdivision Names**. New subdivisions shall be named so as to prevent conflict or "sound-alike" confusion with the names of other subdivisions. Subdivisions with similar names (e.g., Preston Lakes and Preston Hills) shall be located in proximity to each other, not in different areas of the City. Subdivision names shall be reviewed and approved by the Director of Development Services to ensure that the proposed subdivision name will not cause confusion or misdirection, especially for emergency responders.

(e) Franchise Utility Policy.

- (1) General Requirements. The Director of Engineering may require easements for poles, wires, conduits, gas, telephone, cable TV, internet, or other utility lines if necessary or advisable in the opinion of the Director of Engineering.
- (2) Locations. Utility easements may be located as follows:
 - i. Utilities shall be located in the alley rights-of-way along the rear property lines of lots or tracts whenever an alley is provided.
 - ii. Utilities shall be located in easements adjacent to the street rights-of-way along the front of lots or tracts whenever an alley is not provided. Utility easements shall be a minimum width of seven and a half feet (7½') unless specifically reduced by the Director of Engineering.
- (3) Ground-Mounted Equipment. Ground-mounted equipment shall not be placed in visibility, access or maintenance easements.
 - i. All ground-mounted equipment within view of a public street right-of-way shall be screened from the adjacent street by minimum five (5) gallon evergreen shrubs, or larger, placed three

(3) feet on center on the side facing the right-of-way, as well as along both sides of the equipment such that it will be fully screened from view from the street.

- ii. Planting materials selected shall be such that will grow at least to the height of the equipment height and will provide a continuous and generally solid/opaque living screen, within two (2) growing seasons from the date planted. The planting material shall be selected from the list of approved materials set forth in the City's Zoning Ordinance.
- (4) **Installation and Financing.** The Developer shall arrange with the City and with utility companies franchised to serve the area in which the subdivision is located for the construction costs of streets and alleys, utility lines and other public improvements. The Developer shall also arrange for the sequence of work so that underground utilities shall be installed in those portions of streets intended for vehicular traffic before such streets shall be surfaced. If the several improvements required herein have not been installed or constructed prior to submission of the Final Plat, then the Final Plat shall bear a restriction that no lot shall be occupied and that no municipal services shall be extended thereto until the specified utilities and improvements have been constructed as required.
- (f) **Fiber Optic Network Conduit and Fiber Optic Cable.** All residential and multiple-family subdivisions must make best efforts to install fiber optic capability before receiving a Certificate of Occupancy. In addition, the Developer must inform the City of the provider chosen to serve the development and specify both the overall speed (minimum 1 GB) and the speed to each individual house or unit.
- (g) **Retaining Walls.** On any development, whether residential or non-residential, the slopes located at the perimeter of the property shall be graded so that there shall be no retaining walls necessary between the development being constructed and future adjacent developments, unless approved by the Director of Engineering.
- (h) **Amenity Lot Irrigation.** Residential subdivisions containing 500 lots or more shall irrigate their common area lots from on-site wells or detention/retention devices. All open space areas that are not left in a riparian condition shall be irrigated. The Director of Engineering may provide a Minor Modifications for this.

SEC. 02.03.0792REQUIRED SUBDIVISION AMENITIES.

- (a) **Description & Definition.** The term "amenity" is defined within Section 02.03.102, *Definitions*, of this Ordinance. This Section may be enhanced by the Neighborhood Vision Book.
- (b) **Requirements.** Where amenities are proposed in conjunction with a development, such amenities shall be reviewed and approved in accordance with the following:
 - (1) Plans and illustrations, along with a written statement of such concepts, shall be submitted for review and approval with the Construction Plans.
 - (2) Plans for amenities shall be incorporated into the Screening Plan and Landscape Plans, when applicable, for submittal as part of the Construction Plans.
 - (3) Structural elements shall be sealed by a licensed professional engineer and shall be approved by the City.
 - (4) Any screening or retaining wall shall be located in a common area lot or within a wall-maintenance easement (minimum three (3) feet wide) to facilitate repair as needed.
 - (5) A Site Plan, reviewed and approved in accordance with the *Zoning Ordinance*, is required for private recreational facilities, amenity centers and parks.
 - (6) City review and approval of plans for amenities shall be required prior to issuance of a Letter of Final Acceptance for the subdivision improvements (refer to Section 02.03.046, *Inspection, Maintenance & Acceptance of Public Improvements*).
 - (7) All open space, landscaped areas, common areas, screening walls, subdivision signs, and other

amenities proposed and/or built with a residential development shall be owned and maintained by the HOA and shall not be closed, removed from the system, shut down, inaccessible to residents, abandoned, or otherwise discontinued or have operations cease without express approval from the City Council, excluding general and routine maintenance and adjustments for construction projects. Should any private/public financing partnership be in place, the common areas, open space, and amenities may benefit from such lawful financing reimbursements or payments. At no time shall the ownership of any open space, landscaped areas, entry features, common areas or other amenities associated with the development pass to the City, unless specifically approved by the City Council.

- (8) Every residential unit must be located within two (2) miles of an outdoor siren early warning system.
- (9) Every residential and multiple-family development shall have, at the minimum, security cameras located at entrances to the community.

(c) **Design of Amenities.** The design of amenities shall conform to the following:

Entry features shall be constructed entirely on privately owned property (i.e., not within public right-of-way), and shall not suspend over a public right-of-way, unless otherwise approved by a **license agreement** approved by the City. The primary entry feature, with identifying monument sign and/or other identifying branding or focal point, shall be placed within a separate HOA-owned (i.e. common area) lot within a divided entry access point. An entry feature having a water pond, fountain, or other water feature shall only be allowed if approved by the Director of Engineering and the Fire Chief.

- (1) No entry feature, other than screening walls or extensions of screening walls, may be constructed on any portion of a single-family, two-family, or townhome lots. All such features shall be constructed on lots that are platted as “non-buildable” common-area lots and dedicated to an HOA for private ownership and maintenance.
- (2) Entry features shall not encroach into visibility easements or otherwise impair pedestrian, cyclist or driver visibility.
- (3) Private recreation facilities, if provided in a development, shall, to the greatest extent possible, be centrally located within the overall development. (See Diagram 02.03.117)

(d) **Homeowners Association (HOA) Requirements.**

- (1) Purpose. The purpose for the establishment of an HOA (also referred to as “Association”) for residential developments is to create an organization that owns and is responsible for maintaining commonly owned properties and amenities including, but not limited to, private rights-of-way, club houses, recreational facilities, open space lots, and riparian areas used for the communal good of the development’s property owners and residents. The ownership and maintenance of said property and amenities shall be organized and established to exist in perpetuity.
- (2) Applicability. An HOA shall be established for any development that contains any of the following: a minimum of six (6) housing units, a private amenity (such as a clubhouse or pool), private street, a major creek or tributary, or thoroughfare screening. For purposes of this section, the terms “Homeowners Association,” “HOA,” and “Association” are interchangeable with the term “Property Owners’ Association” for multi-family and non-residential developments.
- (3) Elements Requiring an HOA. Any one (1) or more of the following elements created as part of the development shall require formation and continued operation of a mandatory HOA:
 - i. *Amenities.* Where proposed in conjunction with a development, the word “amenity” shall be as defined in Section 02.03.102, *Definitions*, and shall include, but not be limited to, the following:
 - a. Amenity center (e.g., private swimming pool, club house, conference or assembly rooms, tennis courts, etc.);
 - b. Private recreational facility;

- c. Entry features, including signage and screening walls and other perimeter fencing;
 - d. Open space;
 - e. Ponds and detention features;
 - f. Water fountains or features;
 - g. Hike & bike trails; and
 - h. Other commonly owned facilities.
 - ii. *Major Creeks*. As defined in Section 02.03.102, *Definitions*, and as generally regulated by Section 10.08.02(j), *Major Creeks*, of this Ordinance, major creeks that run adjacent to or within a subdivision shall be maintained by the HOA.
 - iii. *Private Streets*. (Also see Sections 14.03.301(i) and (j) of the Zoning Ordinance) As defined in Section 02.03.102, *Definitions*, and as generally regulated by Section 02.03.073(c), *Private Streets*, of this Ordinance, private streets shall be owned and maintained by the HOA. This shall include all infrastructure including streets, alleys, sidewalks and other appurtenances within designated access easements, as well as associated structures as follows:
 - a. Security station structures and equipment (including gates, access card readers, perimeter security fencing, etc.);
 - b. Greenbelts; and
 - c. Other infrastructure necessary for vehicular circulation and neighborhood security.
 - (4) Maintenance Agreement. All detention facilities shall be owned and maintained by the HOA and the HOA Board shall enter into a maintenance agreement with the City to ensure that adequate maintenance will be forthcoming over the life of the facility.
- (e) **Procedure for Establishing an HOA**. The establishment of a required HOA shall occur in conjunction with the recordation of the subdivision Final Plat, and shall generally be established as follows:
- (1) Documents Submitted for Review. The declaration, covenants and other necessary documents establishing the HOA shall be submitted to the City for conformance with this and other applicable ordinances prior to submission of the Final Plat, and prior to issuance of a Letter of Final Acceptance for the development. HOA documents shall include descriptions of any amenities, private streets, stub streets, thoroughfare screening, major creeks or tributaries, and other areas or structures for which the Association has maintenance responsibility, and shall outline the organization and board of the Association.
 - (2) Approval by City Attorney. All HOA documents shall be reviewed by the City Attorney prior to recordation of the Final Plat. The applicant shall reimburse the City for all related legal costs incurred by the City for review of the HOA documents. This reimbursement shall be paid in full prior to recordation of the Final Plat.
 - (3) Recordation. All HOA documents shall be recorded in Kaufman County prior to or with the recordation of the Final Plat. All copies of the HOA documents shall be submitted to Development Services along with the appropriate County fees and current tax certificates (with raised seals) for staff to complete the Final Plat recordation process.
 - (4) Additional Phases. An additional phase to an existing subdivision is not required to establish a separate and distinct HOA, provided that:
 - i. The existing, recorded Association documents are amended to incorporate the area of the new subdivision phase and to adopt the responsibility of its amenities, private streets, major creeks and tributaries, thoroughfare screening, and other areas for which the HOA is responsible for maintenance.
 - ii. The applicant shall provide a draft of the amended covenants to the City Attorney for review prior to the recordation of the associated plat.
 - (5) Revisions to HOA Documents. As revisions are made to the HOA documents, a copy of the revised

documents shall be forwarded to the Director of Development Services for the City's files.

- (f) **Notice to Purchasers.** The Developer shall be required to post notice in a prominent place at all model homes and sales offices stating the following:
- (1) That an HOA has been established for the subdivision;
 - (2) That membership in the HOA is mandatory for all lot owners;
 - (3) That the Developer and/or builder is required to provide to any potential buyer, upon their request, a complete copy of the Association documents and a five (5) year projection (at a minimum) of HOA dues, income, and expenses; and
 - (4) Any other assessment on the property which may have resulted from a PID, TIRZ, or other public/private financial agreement with the City, including the duration of said assessment and manner of collection.
- (g) **General Requirements.** The following shall be set forth in the HOA documents:
- (1) A statement that membership in the Association is mandatory for all owners of property within the subdivision;
 - (2) A listing of all required maintenance responsibilities, and where possible, the lot numbers, legal descriptions, street names, etc. as shown on the approved plat for areas to be the responsibility of the Association;
 - (3) By-laws related to the governance of the Association;
 - (4) Covenants for maintenance assessments, which shall run with the land;
 - (5) Responsibility for liability insurance and local taxes;
 - (6) Statement that the authority for enforcement of Association rules and regulations is solely the responsibility of the Association and is not, in any way, the responsibility of the City;
 - (7) Authority for the Association to secure funds from its members sufficient to meet its responsibilities. This authority shall include the ability to collect dues, to increase dues, to charge special assessments (such as fees associated with a Public Improvement District), and to place liens against property for failing to pay dues, assessments, and fines.
 - i. Dues shall be calculated based on a cost projection for the maintenance of all amenities and based on eventual build-out of the subdivision;
 - ii. Dues shall not be based on calculations which include monies from the Developer which will not be provided following the transfer of the Association from the Developer to the lot owners.
 - iii. Dues shall be required to be disclosed to all lot owners at the time of property purchase by the lot owners.
 - (8) Provision that no amendment of the Association documents relating to maintenance of amenities, private streets, major creeks and tributaries, thoroughfare screening, any other Association-maintained area or facility, or related reserve funds (as applicable) shall occur without prior City approval;
 - (9) Written release of liability for maintenance to benefit the City; written indemnification of the City outlining that under no circumstances shall the City be liable to the Association or any individual property owner or their respective heirs, executors, administrators, devisees, personal representatives, successors or assigns for any damages, injuries (including death), and/or liability resulting from any amenity, on the private streets, within or adjacent to any Major Creek or tributary, associated with any thoroughfare screening or common landscaping, or from any other Association-owned and maintained area or facility;
 - (10) Written assurance of adequate funds based on an accredited cost projection analysis within a specific reserve account of the Association for the maintenance and removal of amenities as determined by the City; and

- (11) Written consent giving the City the authority to take appropriate actions for violations as set forth in Section 02.03.079(h), *Violations, Revocations and Liens*.
 - (12) Other City requirements as applicable.
- (h) **Supplementary Requirements.** The HOA shall also comply with the following regulations, where applicable:
- (1) Compliance with the Zoning Ordinance. Association documents shall not overrule the landscaping or other provisions of the *Zoning Ordinance* by penalizing or restricting water conserving landscapes, or by requiring landscape materials that do not comply with *Zoning Ordinance* landscape requirements.
 - (2) Compliance with the Neighborhood Design Guidelines. Association documents shall comply with the adopted *Neighborhood Design Guidelines*.
 - (3) Amenities. The following regulations shall apply to any subdivision that includes an amenity, as described in Section 02.03.078, *Required Subdivision Amenities*, and defined in Section 02.03.102, *Definitions*:
 - i. Where amenities are proposed in conjunction with a development, the applicant shall comply with those regulations outlined in Section 02.03.078, *Required Subdivision Amenities*, of this Ordinance.
 - ii. All developments that require the provision of common open space shall submit covenants to maintain open space, recreational areas, and other commonly owned facilities for review with the Final Plat application.
 - (4) Private Streets. Whenever a public street becomes private following plat recordation, an HOA is required to be established, if not already in existence, that would be responsible for owning and maintaining the converted streets and rights-of-way. The following regulations shall apply to any subdivision that includes private streets, except those that exist prior to the effective date of this Ordinance.
 - i. The Association shall own and be responsible for the maintenance of private streets and appurtenances (such as alleys, storm sewers, sidewalks, barrier-free ramps, street lights and signs, etc.) and shall provide for the payment of dues and assessments required to maintain the private streets and appurtenances.
 - ii. The Association documents shall state that if the approval of the Specific Use Permit for the Private Street Development is revoked or the private streets are otherwise converted to public streets, the reserve fund shall become the property of the City (see the City's *Standards of Design and Construction* for conversion process).
 - iii. In addition to any other requirements set forth in this section, the HOA's documents shall specify the following:
 - a. That the streets within the development are private, that they are owned and maintained by the Association, and that the City has no obligation to maintain, repair or reconstruct the private streets.
 - b. A statement that the City may, but is not obligated to, inspect private streets and require repairs necessary to ensure that the same are safe for travel and are being maintained to City standards.
 - c. A statement that the Association may not be dissolved without the prior written consent of the City Council, which consent shall not be withheld by the City if it determines that an adequate reserve fund exists, and the streets and alleys are in satisfactory condition for conversion to public streets, as determined by the Director of Engineering.
 - d. That failure to bring the subdivision into compliance with these regulations may cause the City to revoke the approval or the Specific Use Permit for the Private Street Development

and take appropriate action.

- iv. The HOA documents shall note that certain City services may not be provided in Private Street Developments. The services that may not be provided include, but are not limited to: police enforcement of traffic and parking ordinances and preparation of accident reports. Depending on the characteristics of the proposed development, other services may not be provided.
 - v. The HOA documents shall contain a provision that requires the Association to provide unrestricted access to emergency vehicles, utility personnel, the U.S. Postal Service, and governmental employees, agents or representatives in the performance of their official duties. All access gates shall be designed and constructed in accordance with emergency access design standards listed in the *Standards of Design and Construction* and shall be equipped with an emergency access controlled gate opening system (e.g. Opticom® or Knox-Box®) or with another emergency operating system that is acceptable to the Fire Chief.
- (5) Major Creeks, Tributaries, Ponds and Water Features (100-Year Floodplain). For single-family and two-family residential developments, the area within the 100-year floodplain shall be owned and maintained by a Homeowners Association, subject to City approval. The Final Plat shall reflect, and the Association documents shall provide:
- i. City access for emergency vehicles, equipment and personnel and for the improvement and maintenance of the 100-year floodplain in the event they are not being properly maintained, as determined by the Director of Engineering; and
 - ii. Should the Association fail to maintain the floodplain area to the standards of the City, the Association shall reimburse the City for all costs incurred by the City for adequate maintenance.

(i) Violations, Revocations & Liens.

- (1) The City will notify the HOA of violations of any of the regulations specified within this section.
- (2) Failure to bring the subdivision into compliance with these regulations may cause the City to revoke the specific approval of the Association or take other remedies outlined in this section.
- (3) The City shall have all liens, assessments and enforcement rights granted therein to the Association, and the City shall have the ability to enforce the liens and assessments, and avail itself of any other enforcement actions available to the City pursuant to State law and/or City regulations.
- (4) Should the Association fail to carry out its duties as specified in this Ordinance, the City shall have the right and ability, after due notice to the Association, to perform the duties required by this or any other Ordinance, regulation or agreement with the City in order to bring the Association into compliance therewith. The City shall have the right and ability, after due notice to the Association, to assess the Association for the full amount owed and/or assess the property owners on a pro rata basis for all costs incurred by the City in performing said duties if the Association fails to do so. Said assessment shall constitute a lien, in favor of the City, upon the properties for which the assessment is made.

ARTICLE 02.03.080PARKLAND DEDICATION AND DEVELOPMENT & OPEN SPACE

SEC. 02.03.081PARK LAND REQUIREMENTS FOR NEW RESIDENTIAL DEVELOPMENTS

- (a) **Purpose.** This Section is intended to provide open space and recreational areas in the form of parks as a function of subdivision and site development in the City and its Extra-Territorial Jurisdiction (ETJ).
 - (1) Open space and recreational areas in the form of trails, parks and preserves are necessary for the health and welfare of the residents and that the only adequate procedure to provide for parks is by integrating such requirements into the procedure for planning and developing property or subdivision in the City and its ETJ to accommodate the associated and proportional impact on the Parks and Recreation System, whether such development consists of subdivision, new construction on vacant land, or rebuilding and remodeling of structures on previously developed property.
 - (2) Parks provide for a variety of indoor and outdoor recreational and health living opportunities and are located in various locations throughout the City. The land area of the City being less than nine (9) square miles shall be prima facie evidence that any park located therein is within a convenient distance from any residence located therein. The primary cost of purchasing or acquiring, developing, and improving parks shall be borne by the landowners of residential property or projects who, by reason of the proximity of the property to such parks, are the primary beneficiaries of such facilities.
 - (3) Due to the City's small size, a typical park is designed to serve the needs of residents from the entire community no matter where the park is or will be located in the City. Parks serve both active and passive leisure and recreation needs of residents and their visitors, in addition to serving the essential purposes of providing open space to maintain the rural character of the City as desired by the community. The purchase, acquisition, development and improvement of the basic infrastructure and facilities for parks are based upon the demand from the residents they are intended to serve.
 - (4) Recognizing that there are different sizes, scales, and types of park facilities, the required level of service has been designed based on the smallest of park facilities at existing level of service, a neighborhood park of five (5) to ten (10) acres, to meet the "basic" infrastructure and facilities standard. Any fees collected per these requirements can, however, be utilized in the purchase or acquisition of parkland development, and/or improvement of any size or scale park facility as planned for or recommended in the *Parks, Recreation, and Trails Master Plan* (expressly or via intent), as may be amended from time to time, which is hereby adopted by reference and incorporated herein for all purposes. the goals and objectives of the City to meet the additional needs created by new residential development.
- (b) **Scope.** The provisions of this Article shall apply to a Developer who subdivides for which a Final Plat or Preliminary Plat is required to be submitted to the City for approval or develops land for residential uses located within the City or within its ETJ ~~all new residential development within the City.~~
- (c) **Exemptions.** The provisions of this Article shall not apply to the following:
 - (1) ~~Senior living facilities and senior care facilities, including assisted living facilities, senior congregate care facilities, memory care facilities and nursing homes. However, independent living and retirement communities or age-restricted housing developments shall be subject to the provisions of this Article.~~
 - (2) ~~Residential development for property to be located on a lot of record that was approved prior to the effective date of the ordinance from which this article derives.~~
 - (3) ~~A record plat, minor plat, or replat which was approved prior to the effective date of the ordinance from which this article derives.~~
 - (4) Residential development constructed or to be constructed in accordance with a building permit

issued prior to the effective date of the ordinance from which this article derives.

(d) Parkland Guidelines and Requirements. (Formerly Section 9.8)

- (1) Parks must be easy to access and open to public view to benefit area development, enhance the visual character of the City, protect public safety, and minimize conflict with adjacent land uses.
- (2) Usable open space (which must be platted as an HOA X lot) shall have one (1) large canopy tree planted every 5,000 square feet. Staff may authorize minor modifications for tracts with extensive perimeter ROW tree requirements, tracts with extensive tree cover, or for areas intended for active recreation or detention.
- (3) The following guidelines and requirements shall be used in designing and accepting parks and adjacent development:
 - i. Any land dedicated to the City under this Subchapter must be suitable for park and recreation uses.
 1. This dedication shall be free and clear of any all liens and encumbrances that interfere with its use for park purposes. The City Manager or his designee shall determine whether any encumbrances interfere with park use.
 2. Mineral may be reserved from the conveyance provided that there is a complete waiver of the surface use by all mineral owners and lessees.
 3. A current title report must be provided with the land dedication.
 4. The Developer shall pay all taxes or assessments owed on the property up to the date of acceptance of the dedication by the City. A tax certificate from the Kaufman County Tax Assessor, whichever is applicable, shall be submitted with the dedication or plat.
 - ii. Land in floodplains or designated greenways is not preferred but can be considered on a fifty percent (50%) basis, at the discretion of the City Council (i.e. four acres of floodplain or greenway will be equal to two acres of potential parkland). The following factors shall be considered for potential parkland in the floodplain or in designated greenways.
 1. Sites should not be severely sloping or have unusual topography that would render the land unusable for recreational activities or for improvements. At least fifty percent (50%) of a parkland site shall be less than ten percent (10%) grade, well drained and suitable for active play, unless the intent of the dedication is to provide a beneficial connection or to preserve an environmental, natural or cultural resource/asset.
 2. Placement of recreational or parkland support amenities, including paths or access for maintenance purposes, can be placed in the area in compliance with applicable watershed requirements.
 3. It is preferred that the floodplain area provide suitable passive recreation, scenic view, wildlife habitat protection, water quality protection, tree protection, and/or trail connectivity to the more intensive uses in non-floodplain areas.
 - a. Parks shall have access to water, wastewater , and electric lines prior to or upon acceptance of the park improvements. Site plans and subdivision applications must demonstrate sufficient water and wastewater capacity to serve the park.
 - b. Where appropriate, sites with existing trees or other scenic elements or natural assets are preferred.
 - c. Detention/retention areas shall not be utilized to meet dedication requirements unless they are designed in an innovative manner so as to provide for suitable recreational purposes, but they may be accepted in addition to the required dedication. If accepted as part of the park, the

- detention/retention area design must meet the standards as specified in all City codes and regulations.
- d. Where park sites are adjacent to greenways, schools, or existing or proposed subdivision, access way may be required to facilitate public access and to provide public access to parks.
 - e. It is preferred that a minimum fifty percent (50%) of the perimeter of a park should abut a public street. Parks shall have at least a portion of the property adjacent to a public street or shall have associated public access easements and improvements to allow for ready access. Public view of the park from a public street is desirable to facilitate community connections and provide for crime prevention through environmental design.
 - f. Community scale parks should be accessible from major arterial streets so as to be accessible by large numbers of people.
 - g. Areas for potential parkland that are encumbered by overhead utility lines or easements of any type which would limit the opportunity for recreational and park development are not preferred.
 - h. All rubbish, trash, junk, and other offensive materials shall be removed from all dedicated lands and the property returned to its natural condition except as approved construction and improvements thereon.
 - i. For dedication of more than two (2) acres of land and upon the request of the City, and Developer funded environmental or engineering study, audit, or assessment may be required in some cases demonstration that the property is in a condition that would allow the City to utilize the property for public park purposes without expenditures to remove or mitigate environmental or hazardous materials or conditions, suitable and safe for use as a public parks, and free from environmental or engineering related problems.
4. Where physically feasible, parks shall be bounded by streets, or by other public uses (e.g. a school, library, recreation center).
- iii. Where residential lots are directly adjacent to a park, lots must be oriented to side and not back to the park. In this instance, cul-de-sac and looped streets must be used to access the lots and park.
 - iv. Residential lots may back to a park, open space, or greenbelt only when the site's physical character (e.g., shape, topography, drainage) does not reasonably permit an alternative design or the layout of the subdivision complements the use of the park (e.g., lots backing to a golf course). Lots backing to a linear park, neighborhood park, or natural drainage corridor shall only be allowed upon approval by the City Manager or designee. A proposed subdivision adjacent to a park may not be designed to restrict reasonable access to the park from other area subdivisions.
 - v. Street connections to existing or future adjoining subdivisions may be required to provide reasonable access to parks.
 - vi. Alleys shall not abut a park.
 - vii. Public access to a park shall not be less than fifty (50) feet at the curb and in width to the Base Floodplain and/or Maintenance and/or Access Dedication and shall not be part of a residential lot. The Developer shall install a Hike & Bike trail connection from the street to the Hike & Bike trail/park prior to final acceptance of the subdivision. This trail must be blocked from motor vehicle traffic. However, the Developer may request to escrow funds

for the contracted amount prior to final acceptance of the subdivision with City approval. The escrow amount will remain in place until the trail has been completed and accepted by the City.

- viii. A twenty-five (25) foot level surface shall be provided for all public Hike & Bike trails. The twenty-five (25) foot wide level surface can be provided within and/or outside of the Base Floodplain and/or Access Dedication. The parkway for the public street may count towards the twenty-five (25) foot wide level surface.
- ix. All proposed Hike & Bike trails shall be shown on the Preliminary Plat. The Parks and Recreation Department shall make the final determination of the placement of the public Hike & Bike trail at the time of the Final Plat.
- x. No development shall interrupt future trail routes or otherwise hinder efficient public access to or from an existing or future planned trail. Gated and other limited access developments shall be designed such that they facilitate, and do not impede, through public access, emergency ingress and egress, usage and enjoyment of public trails.
- xi. Streets abutting a park shall be built in accordance with the Thoroughfare Plan, the standards of this Ordinance, and all other applicable construction standards and/or ordinances, as they exist or may be amended. However, the City may require any residential street built adjacent to a park to be constructed to collector street width to ensure access and prevent traffic congestion.
 - 1. When park land is acquired, the City shall reserve sufficient land to provide the additional right-of-way required for an abutting collector size street, sixty (60) feet of right-of-way, unless otherwise approved by the City.
 - 2. The proposed street alignment fronting on City parks is subject to City approval. Land owners shall also provide street access to all Major Creeks and/or Access Dedications.

SEC. 02.03.082PARK LAND DEDICATION REQUIREMENTS.

- (a) **Land Conveyance or Payment in Lieu of Land Required.** ~~The owner of any property to be developed for residential or multiple-family purposes shall convey land for park purposes or make a payment of money in lieu of land, or a combination of both, to the City at the time of platting to provide for the recreational needs created by such development, in accordance with the provisions of this article (the "park land dedication fee").~~ Generally, the Developer of property with residential uses must address the following requirements: dedication of land for park use or pay of a Fee-In-Lieu thereof and payment of a park development fe for parks or construction of the park improvement to which such fee relates. Requirements herein are based on actual or approved dwelling units for an entire development or project. Increases or decreases in final dwelling unit count may require an adjustment in fees paid or land dedication. If the acutal number of dwelling units exceeds the original estimate, additional parkland and additional park development fees may be required in accordance with the requirement in this Section.
- (b) ***Parks, Recreation and Open Space Master Plan and Kaufman Trail Concept Master Plan.*** The *Parks, Recreation and Open Space Master Plan*, and the *Trail Concept Master Plan* as may be amended by Council, comprise the park and trail planning basis for this Article. The City shall consider the need to regularly update the *Parks, Recreation and Open Space Master Plan* and the *Trail Concept Master Plan* to ensure that the Plan remains current and provides an equitable, effective framework from which to pursue the acquisition and development of public parks throughout the City.
- (c) **Fee Calculations and Updates.**

- (1) The schedule of fees and required land dedications, along with the associated methodology and level of service standard, are attached as **Table 02.03.080.?**, **Table 02.03.080.??**, and **Table 02..03.080.???** respectively and are incorporated and made a part of this Article for all purposes.
- (2) A quantifiable and reasonable methodology was established to base the parkland dedication requirements, fees-in-lieu of dedication, and parkland development fees contained herein on data and levels of service relevant to the City that are based on density as well as best practices. The park development fee is calculated utilizing empirical details of how much the average neighborhood park costs in the City based on the community feedback gathered in the Parks, Recreation Open Space Master Plan and its associated analysis. The methodology and fees shall be reviewed every three (3) years and updated in tables contained herein.
- (3) Staff shall submit, as directed by the Park Board or Council, a fee derived from a parkland dedication requirement per person. The parkland dedication requirement per person will be calculated from the variables and formula(s) reflected in **Table 02.03.080.??** Staff shall submit, as directed by the Park Board or the Council, a fee derived from a land cost per person. The land cost per person will be calculated from the variables and formula(s) reflected in **Table 02.03.080.??** Staff shall submit, as directed by the Park Board or the Council, a fee derived from a park development cost per person. The park development cost per person will be calculated from the variable and formula(s) reflected in **Table 02.03.080.??** The updated fees and dedication will be presented for adoption Council with the City's Fee Schedule.

(d) **Land Dedication.**

- (1) The amount of land to be dedicated for parkland purposes shall be as set forth in **Table 02.030.080.?** The required dedication may be met by payment of cash in lieu of land, or dedication of open space, when permitted or required by other provisions of this Section. The total amount of land dedicated for a development or project shall be dedicated to the City in fee simple:
 - i. Prior to the issuance of any building permits for multi-family development on an associated plat or via a deed or record or separate instrument;
 - ii. Concurrently with the final plat for a single-phase single family residential development clearly labeled and dedicated as City parkland (or with applicable notes as stipulated in the Section for the ETJ);
 - iii. For a multi-phased single family residential development, the entire park(s) shall be either platted concurrently with the plat of the first phase of the development, clearly labeled and dedicated as City parkland (or with applicable notes as stipulated in the Section for the ETJ);
 - iv. The Developer may provide the City with financial security against the future dedication by providing a bond, irrevocable letter of credit, or other alternative financial guarantee such as a cash deposit in the amount equal to the number of acres parkland required and, in a form acceptable to the City. The amount of the financial guarantee shall be the amount of Fee-in-Lieu of Land Dedication as set forth in **Table 02.03.080.?** The financial guarantee will be released to the Developer, without interest, upon the filing of the final plat for the phase that dedicates the required parkland.
- (2) For development located within the ETJ of the City, the dedication requirements of this Section may be met through the creation of private parkland in the same amount required as set forth in **Table 02.03.080.?** provided the Developer enters into a written agreement that all such private parkland be dedicated to the City at the time of full purpose annexation into the City and provided that any plat related to such development, is inscribed with a notation regarding same.
- (3) The obligation of an applicant/Developer to dedicated parkland or make payments or improvements in lieu thereof shall be in addition to/independent of the requirements of the

applicant/Developer to provide open space in accordance with a Planned Development (PD) zoning application. If the open space in the proposed Planned Development (PD) exceeds thirty thousand (30,000) square feet and is dedicated and accepted by the City as public parkland, the required dedication or payment may be reduced in applicable proportion.

(e) **In Lieu of Land.**

- (1) **Fee In Lieu of Land.** In lieu of dedicating parkland, a Developer may request to meet some or all of the parkland dedication requirements through payment of a Fee-in-Lieu thereof in the amounts set forth in **Table 02.03.080.?** Such fees shall be due prior to filing an associated plat for record for single family residential uses and prior to the issuance of a building permit for multi-family residential uses.
- (2) **Open Space In Lieu of Land.** In lieu of dedication parkland, a Developer may request to meet some or all the parkland dedication requirements through dedication of open space in the amounts set forth in **Table 02.03.080.?**

(f) **City Approval.** The Council shall have the final authority in determining how much, if any, open space or fee may be accepted in lieu of required parkland dedication.

- (1) The Council may, from time to time, require that a fee be submitted in lieu of land dedication in amounts as set forth in **Table 02.03.080.?**
- (2) The Council may, from time to time, require that open space land be dedicated in amounts as set forth in **Table 02.03.080.?**

(g) **Approval Process for Parkland Dedication.**

- (1) Land dedication equal or exceeding two (2) acres, and dedications of Floodplains and greenways:
 - i. For any proposed required parkland dedication equaling or exceeding two (2) acres of land or equaling or exceeding payment of a fee-in-lieu thereof or for any proposed land dedication containing Floodplain or greenway, the Developer must:
 - a. Obtain a recommendation from the Park Board, and
 - b. Obtain approval from the City Council.
 - ii. Should a proposed dedication go before the Planning and Zoning Commission as part of a required project approval, the Planning and Zoning commission shall consider the recommendation from the Park Board and both recommendations shall be forwarded to the Council for consideration.
- (2) Criteria for consideration.
 - i. For any proposed required parkland dedication equaling or exceeding two (2) acres of land or equaling or exceeding payment of a fee in-lieu thereof or for any proposed land dedication containing Floodplain or greenway, the Park Board, Commission and Council shall utilize the following criteria for considering approval of the proposed parkland dedication:
 - a. The proposed plat shall clearly identify the proposed public parkland to be dedicated.
 - b. The proposed dedication or fee shall provide a sufficient amount of parkland in the area of the proposed development for required parkland dedication;
 - c. Where the proposed dedication is insufficient for a park site under existing park design standards, some or all of the dedication requirements may be in the form of a fee in amounts as set forth in **Table 02.03.080.?**
 - d. Determination of acceptability of a proposed parkland dedication is based upon the *Parks, Recreation, and Open Space Master Plan* and *Trail Concept Master Plan* as may be amended from time to time and the criteria contain herein;
 - e. The proposed development of the park is at a minimum consistent with the City's level of

- service for neighborhood parks as set forth in **Table 02.03.080.???** and in the *Parks and Recreation, and Open Space Master Plan*, as may be amended from time to time.
- f. Land is usable and compatible with the *Comprehensive Plan, Parks, Recreation and Open Space Master Plan, Trail Concept Master Plan*, and other approved public plans.
 - g. There is a level of service need in the immediate vicinity of the proposed park area.
 - h. There is no nearby existing park that would be served with the funds better or more by expansion or improvement.
 - i. Public access considerations.
- (3) Development and maintenance of a park less than two (2) acres in size for public park purposes is impractical and does not allow for appropriate improvements consistent with necessary level of service. Therefore, if fewer than one hundred (100) dwelling units as specified in the **Table 02.03080.?** under Land Dedication are proposed by a plat for single family residential or a building permit for multi-family residential, the Developer shall pay the applicable cash in lieu of land dedication.
- i. An exception may be considered if the dedication is voluntarily greater than two (2) acres or will increase the size of an existing park adjacent to the proposed parkland dedication or will provide a beneficial trail connection or right-of-way or will provide a synergistic benefit not otherwise listed, at the discretion of the Council.
 - ii. Additionally, Council, in its sole discretion, may accept park land dedications of less than two (2) acres upon a determination by Council that the proposed park will meet all other requirements of this Article and upon satisfaction of any additional conditions and/or requirements as approved by Council.
- (4) **Park Development Fee.** In addition to the land dedication requirements for parks, there is a park development fee established herein sufficient to develop parks in ways that meet the City's level of service as determined in the *Parks, Recreation, and Open Space Master Plan*.
- i. The park development fee assessed to a Developer, subject to the Section, is as shown in **Table 02.03.080.?** The process for the approval and collection of park development fees shall be the same as for the parkland dedication requirements to which the development relates and shall be processed simultaneously with the parkland dedication requirements.
 - ii. The City shall have the final authority in determining how much, if any, land or fee may be accepted in lieu of required park development. **Table 02.03.080.?** Likewise, the City may, from time to time, require that parks be developed to a level of services as reflecting **Table 02.03.080.??** and the no fee-in Lieu of park development will be accepted.
- (5) **Construction of Park Improvements in Lieu of Park Development Fee.** A Developer may elect to construct required park improvements in lieu of paying the associated Park Development Fee as set forth herein. In such event:
- i. A park site plan, developed in cooperation with staff, must be reviewed and approved by the Park Board and Council upon submission of final plat for single family residential uses or upon application for a building permit for multi-family residential uses, whichever is applicable.
 - ii. Detailed plans and specifications for park improvements hereunder shall be due and processed in accordance with the procedures and requirements pertaining to public improvement for final plats and for building permits issuance, whichever is applicable.
 - iii. All plans and specifications shall meet or exceed the City's level of service standards and/or scale-specific intent as specified in the *Parks, Recreation and Open Space Master Plan* and in **Table 02.03.080.??**, as may be amended from time to time, and the criteria contained herein, in effect at the time of the submission.

- iv. If the improvements are constructed on land that has already been dedicated to and/or is owned by the City, then the Developer must post payment and performance bonds in accordance with Section 02.03.044 *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements* to guarantee the payment to subcontractors and suppliers and to guarantee the Developer completes the work in accordance with the approved plans, specification, ordinance, and other applicable laws.
 - v. The construction of all improvements, including any required trails, must be completed in accordance with the requirements relating to the construction of public improvement for final plats and issuance of building permits, whichever is applicable. This includes the guaranteeing performance in lieu of completing the park improvements prior to final plat approval. Notwithstanding any other applicable ordinance, park improvements should be completed within two (2) years from the date of the approval.
 - vi. Park development will be considered complete upon council acceptance after the following requirements are met:
 - a. Improvements have been constructed in accordance with the approved plans and as-built drawings have been provided to the City;
 - b. All parkland upon which the improvements have been constructed has been dedicated as required under the Section; and
 - c. All warranties as specified herein have been provided for any equipment installed in the park as part of these improvements.
 - vii. Prior to acceptance by Council, the Developer shall warrant the improvements for a period of two (2) years by providing a maintenance bond in accordance with Section 02.03.044, *Facilities and Professional Service Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, in a form acceptable to the City and City Attorney covering the total cost of improvements.
 - viii. The Developer shall be liable for any costs required to complete park development if:
 - a. Developer fails to complete the improvements in accordance with the approved plans;
 - b. Developer fails to complete the improvements within the required timeframe; and/or
 - c. Developer fails to complete any warranty work.
- (6) **Standards for Private Parkland.**
- i. A Developer may submit an application satisfy up to one hundred percent (100%) of the parkland dedication and development required for a development or project by providing a Public Access and Recreational Easement rather than deeding the land to the City in Fee simple.
 - ii. In order to earn credit for private parkland, the park shall:
 - a. Provide signage visible from a right-of-way frontage to be reviewed and approved through the application and consideration process, and the sign shall state that the area, including any recreational amenities, is open and available for public use, the park hours and City contact information, and it must be posted at the park entrance or in a location visible to the public; and
 - b. Provide language in the Public Access and Recreational Easement document or associated plat that specifies maintenance, capital replacement, the right of the City to conduct safety inspections, future construction rights, add penalties and arrangements for lack of compliance and language that specifies that re-payment of the credits will be required via alternate land or compensations for release of the easement.

- c. Provide a design and features consistent with the guidelines and requirements contained herein.
 - iii. The required dedication and development shall be calculated per the requirements in **Table 02.03.080.?** and then the proposal shall be evaluated to determine the amount of parkland dedication and/or development credit to be given using the following factors:
 - a. The presence of active recreational amenities including, but not limited to, playscapes, sport courts, table game recreation, and climbing or exercise structures or trails.
 - b. The ability of the public to access and use the land for recreation purposes in perpetuity.
 - c. The presence of group gathering spaces, such as open lawns, seating, picnic areas, plazas or pavilions.
 - d. Landscaping that enhances the City and the park by providing shade, educational opportunities, trees, and/or wildlife habitat.
 - e. The ability of the City to provide programming in the space.
 - iv. If park development fees are credited, recreational amenities and other improvements must be construction on site and approved by the City during site plan or subdivision review at a specific time concurrent or prior to residential uses, as stipulated in the associated Development Agreement. Amenities must be shown on the site plan and/or construction plan as determined by the City.
 - v. A Developer must post cash escrow or irrevocable line of credit in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements* ~~in a form approved by the City~~ for amenities included on private parkland during site plan or subdivision review.
 - vi. If credited acreage does not satisfy the entire parkland requirement, the City will calculate the remaining fee using the same requirements in **Table 02.03.080.?**, proportionally assessed.
- (7) **Submitting Fee.** Any fees required to be paid pursuant to this Section shall be remitted:
- i. Prior to the issuance of any building permits for multi-family use or development; or
 - ii. Prior to filing an associated plat for record for single family residential use or development.
- (8) **Use of Fees.**
- i. Fees may be used only for the purchase, acquisition, development, and/or improvement of park facilities in the City. Potential parkland in underserved areas within one (1) mile of developments that have paid parkland dedication fees, which have not yet been refunded, shall be a top consideration (but not the only consideration) when evaluating potential land for purchase or acquisition for future parks.
 - ii. Unimproved parkland or parks in need of additional improvements within one (1) mile of developments that have paid park development fees, that have not yet been refunded, will be a top consideration (but not the only consideration) when evaluating parks for potential development and/or improvement. Parks may be purchased, acquired, developed, or improved with parkland fees in any portion of the City due to its small size since any existing or future resident in the City is and will be within a convenient distance to any existing or future park in the City.
- (9) **Reimbursement for City Acquired Parkland.** The City may from time to time acquire and/or develop land for parks in or near an area of actual or potential development. If the City does acquire and/or develop parkland in a particular area near a development or subdivision that should come forward for consideration, the City may require subsequent dedication to be in fee-in-lieu land and Parkland Development Fees instead of dedication development. This will be to reimburse the City for the

cost(s) of acquisition and/or development.

(h) **Prior Dedication or Absence or Prior Dedication.**

- (1) Depending on the circumstances, additional proportionate dedication may be required for the increase in dwelling units from what was originally proposed and may be either land dedication or money in lieu of land or development, at the discretion of the City Council. At the discretion of the City Council, any former gift of land or cash to the City may be credited toward eventual land dedication or development requirements imposed on the Developer.
- (2) The City Council shall consider recommendations of the Park Board and Commission in exercising its discretion under this section.

(i) **Planning Considerations.** The City's approved plans, including the *Comprehensive Plan* and the *Parks, Recreation, and Open Space Master Plan*, and the *Trail Concept Master Plan* are intended to provide the Park Board with a guide upon which to base its recommendations and for the City to take action. Because of the need to consider specific characteristics in the site selection process, the park locations and trail locations and sizes indicated in the plans are general. The actual locations, sizes, and number of parks will be determined when development occurs or when sites are acquired by the City, including by donations.

(j) **Special Fund; Right to Refund.**

- (1) All parkland dedication fees will be deposited in a fund specifically dedicated to the purchase and/or acquisition of parks in the City. All park development fees will be deposited in a fund specifically dedicated to the improvement and/or development of parks in the City.
- (2) The City shall account for all fees in lieu of land dedication and all park development fees paid under this Article with reference to the individual plat(s) involved. Any fees paid for such purposes must be encumbered or expended by the City within ten (10) years from the date received by the City for purchase, acquisition, development, and/or improvement of a park as required herein. Such funds shall be considered to be spent on a first-in, first-out basis.
 - i. The Developer of the property on the last day of the ten (10)-year period shall be entitled to a pro rata refund, that includes the original contribution, computed on a per dwelling unit basis, if the fees are not encumbered by contract or purchase order or expended or if the property under which fees were paid has not received benefit from a park acquired or developed within the City with the fees paid. The property owner of the property must request the refund in writing, within one year of entitlement, or the right shall be deemed permanently waived. Any interest earned with these funds shall remain in these funds and be used for the fund's intent.

(k) **Warranty Required.**

- (1) All materials and equipment provided to the City shall be new unless otherwise approved in advance by the City Manager or his designee and all work will be of good quality, free from faults and defects, and in conformance with the designs, plans, specifications, and drawings, and recognized industry standards. This warranty, any other warranties express or implied, and any other consumer rights, shall inure to the benefit of the City only and are not made for the benefit of any party other than the City.
- (2) All work by the Developer not conforming to these requirements, including, but not limited to, unapproved substitutions, may be considered defective.
- (3) This warranty is in addition to any rights or warranties expressed or implied by law.
- (4) Where more than a two-year warranty is specified in the applicable plans, specifications, or submittals for individual products, work, or materials, the longer warranty shall govern.
- (5) This warranty obligation may be covered by any maintenance bond tendered in compliance with this Ordinance.

- (6) If any of the work performed by the Developer is found or determined to be either defective, including obvious defects, or otherwise not in accordance with this Chapter, the designs, plans, drawings or specifications within two (2) years after the date of the issuance of a certificate of final completion of the work or a designated portion thereof, whichever is longer, or within two (2) years after acceptance by the City of designated equipment, or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by this ordinance, Developer shall promptly correct the defective work at no cost to the City, as set out in the maintenance bond in accordance with Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*, which is required before Council acceptance
- (7) The failure, including cracking or other indication of failure, of an improvement shall be deemed conclusive that the workmanship or product is defective.
- (8) During the applicable warranty period and after receipt of written notice from the City to begin corrective work, Developer shall promptly begin the corrective work. The obligation to correct any defective work shall be enforceable under this Code of Ordinances. The guarantee to correct the defective work shall not constitute the exclusive remedy of the City, nor shall other remedies be limited to the terms of either the warranty or the guarantee.
- (9) If within twenty (20) calendar days after the City has notified Developer of a defect, failure, or abnormality in the work, Developer has not started to make, and continuously worked to complete, the necessary corrections or adjustments, the City is hereby authorized to make the corrections or adjustments, or to order the work to be done by a third party. The cost of the work shall be paid by Developer.
- (10) The cost of all materials, parts, labor, transportation, supervision, special instruments, and supplies required for the replacement or repair of parts and for correction of defects shall be paid by Developer, its contractors, or subcontractors or by the surety.
- (11) The guarantee shall be extended to cover all repairs and replacements furnished, and the term of the guarantee for each repair or replacement shall be two years after the installation or completion. The two-year warranty shall cover all work, equipment, and materials that are part of the improvements made under this Chapter.

Name?? I

Parkland Dedication and Park Development Fees

(a) **Dedication Requirements.**

(1) Parkland Dedication.

- i. Single-family: one (1) acre per 26 dwelling units
- ii. Multi-family: one (1) acre per 64.3 dwelling units

OR

(2) Open Space In Lieu of Parkland Dedication.

- i. Single-family: one (1) acre per 104 dwelling units
- ii. Multi-family: one (1) acre per 257.2 dwelling units

OR

(3) Fee-In-Lieu of Parkland Dedication.

- i. Single-family: $\$2,455.50 \times 28\%$ (City Required Percentage) = \$687.54 per dwelling unit
- ii. Multi-family: $\$2,291.80 \times 12\%$ (City Required Percentage) = \$275.02 per dwelling unit

(b) **Park Development Fees.**

(1) Residential Park Development Fees.

- i. Single-family: $\$2,862.93 \times 28\%$ (City Required Percentage) = \$801.62 per dwelling unit
- ii. Multi-family: $\$2,672.07 \times 12\%$ (City Required Percentage) = \$320.65 per dwelling unit

OR

(2) Open Space Development Fees.

- i. Single-family: $\$2,862.93 \times 52\%$ = \$1,488.72 per dwelling unit
- ii. Multi-family: $\$2,672.07 \times 22\%$ = \$587.86 per dwelling unit

(c) **Total Park Fees.**

- i. Single-family: $\$5,318.43 \times 28\%$ (City Required Percentage) = **\$1,489.16** per dwelling unit
- ii. Multi-family: $\$4,963.87 \times 12\%$ (City Required Percentage) = **\$595.67** per dwelling unit

The City only requires thirty-nine thousandths percent (.039%) of its single-family land dedication and nine thousandths percent (.009%) of its multi-family land dedication to satisfy the land dedication requirement of this Article. Additionally, the City only requires twenty-eight percent (28%) of its single-family land and park fees and park fees and twelve per (12%) of its multi-family land and park fees to be paid to satisfy the park dedication requirements under this Article Chapter.

NAME?? II

PARKLAND DEDICATION AND PARK DEVELOPMENT METHODOLOGY

Variable	Calculation Factor	Description
Parkland Dedication Inputs		
Existing City Population	7,788	2019 City population estimate (US Census Bureau)
Existing City Park Acres	398.047	Acres of dedicated, City-owned parkland
Parkland Level of Service	20 people per 1 acre (rounded up from 19.56)	Existing City population/ existing City park acres
City Persons per Household -Single-family:	3	2014-2018 Persons per Household per most recently available US Census data
Multi-family:	2.8	
Fee-in-Lieu of Land Inputs		
Existing City Population	7,788	2019 City population estimate (US Census Bureau)
Existing City Park Acres	398.047	Acres of dedicated, City-owned parkland
Parkland Level of Service	20 people per 1 acre (rounded up from 19.56)	Existing City population/ existing City park acres
Existing City Market Value – Kaufman County	\$16,370.00	October 22, 2020 value of vacant land purchased by the City of Kaufman
Existing City Acres	1,860	City of Kaufman land area, excluding ETJ
Parkland Cost Factor	\$825,481.44 per 1 acre	Certified City market value/ existing city acres
City Persons per Household Single-family:	3	2014-2018 Persons per Household per most recently available US Census data
Multi-family:	2.8	
Park Development Fee Inputs		
Existing City Population	7,788	2019 City population estimate (US Census Bureau)
Number of Developed City Parks	9	Count of all City-owned, developed parks
Facilities Level of Service	865 people per developed City park (rounded down from 865.33)	Population/ number of developed City parks
Park Development Cost Factor	\$825,481.44	Cost estimate of developing one Neighborhood Park to desired level of service
City Persons per Household Single-family:	3	City of Kaufman 2014-2018 Persons per Household per most recently available US Census data
Multi-family:	2.8	

Fee Methodology Using Table Above

(a) **Dedication Formulas:**

(1) Parkland Dedication Formula:

Parkland Level of Service/City Person Per Household = Parkland Dedication Requirement

- i. Single-family: $20 / 3 \times 390\% = 1$ acre per 26 dwelling units
- ii. Multi-family: $20 / 2.8 \times 900\% = 1$ acre per 64.3 dwelling units

OR

(2) Open Space In Lieu of Parkland Dedication Formula:

Dwelling Units Per 1 Acre of Required Parkland Dedication x City Required Percentage = Open Space Dedication Requirement

- i. Single-family: $26 \times 400\% = 1$ acre per 104 dwelling units
- ii. Multi-family: $64.3 \times 400\% = 1$ acre per 257.2 dwelling units

OR

(3) Fee In Lieu of Parkland Dedication Formula

- i. STEP 1. Parkland Cost Factor / Parkland Level of Service= Land Cost Per Person
 $\$16,370$ Per Acre / 20 people Per Acre = $\$818.50$ Per Person
- ii. STEP 2. (City Persons Per Household x Land Cost Per Person) x City Required Percentage=
 Fee In-Lieu of Land
 Single-family: $3 \text{ PPH} \times \$818.50 \text{ Per Person} = \$2,455.50 \times 28\% = \mathbf{\$687.54 \text{ Per Unit}}$
 Multi-family: $2.8 \text{ PPH} \times \$818.50 \text{ Per Person} = \$2,291.80 \times 12\% = \mathbf{\$275.02 \text{ Per Unit}}$

(b) **Development Fee Formulas:**

(1) Parkland Development Fee Formula:

- i. STEP 1. Parkland Development Cost Factor / Facilities Level of Service = Park Development Cost Per Person
 $\$825,481.44$ Neighborhood Park Cost/ 865 People Per Developed Park = $\$954.31$ Per Person
- ii. STEP 2. (City Persons Per Household x Park Development Cost Per Person) x City Required Percentage = Parkland Development Fee by Density
 Single-family: $3 \text{ PPH} \times \$954.31 \text{ Per Person} = \$2,862.93 \times 28\% = \mathbf{\$801.62 \text{ Per Unit}}$
 Multi-Family: $2.8 \text{ PPH} \times \$954.31 \text{ Per Person} = \$2,672.07 \times 12\% = \mathbf{\$320.65 \text{ Per Unit}}$

OR

(2) Open Space Development Fee Formula:

- i. Parkland Development Fee by Density x City Required Percentage = Open Space in Lieu of Land Park Development Fee by Density
 Single-family: $\$2,862.93 \times 52\% = \$1,488.72$ Per Unit
 Multi-family: $\$2,672.07 \times 22\% = \587.86 Per Unit

(The City requires a greater City Required Percentage of development fees when open space is accepted in lieu of parkland as the Developer contributes less open space than parkland to satisfy this Article.)

(c) **Total Parkland Fee Per Unit**

(Fee In-Lieu of Land by Density + Parkland Development Fee by Density X City Required Percent = Total Parkland Fee Per Unit

Single-Family: $\$2,455.50 + \$2,862.93 = \$5,318.43 \times 28\% = \mathbf{\$1,489.16 \text{ Per Unit}}$

Multi-Family: $\$2,291.80 + \$2,672.07 = \$4,963.87 \times 12\% = \mathbf{\$595.67 \text{ Per Unit}}$

(To satisfy this requirements of this Article, a Developer shall dedicate the required parkland and pay the required park development fee. If the Council excepts a Developer from dedicating parkland, the Developer may dedicate open space or pay a fee in lieu, as approved by the Council. Then, the Developer shall pay the City a park development fee to develop the parkland into a park. If a Developer is dedicating open space, such Developer shall abide by the open space development fees provided herein. If a Developer is providing a fee in lieu of parkland, such Developer shall pay the fee in lieu and the parkland development fee).

Name III. Parkland Development: Neighborhood Park Level of Service Estimate



**Opinion of Probable Cost
KAUFMAN PARK
Kaufman, Texas
January 19, 2021**

ITEM	UNIT	QUANTITY	PER EACH	TOTAL
Earthwork / Site Preparation	L.S.	1	\$ 5,500.00	\$ 5,500.00
8' Concrete Sidewalk (1/2 mile)	S.F.	21,120	\$ 7.00	\$ 147,840.00
Picnic Unit (Slab, Table, Trash Receptacle, Grill)	Each	3	\$ 4,500.00	\$ 13,500.00
Shade Pavilion (Slab and Shelter)	L.S.	1	\$ 60,000.00	\$ 60,000.00
Benches	Each	5	\$ 1,000.00	\$ 5,000.00
Trash Receptacles	Each	3	\$ 700.00	\$ 2,100.00
Drinking Fountain	Each	1	\$ 5,000.00	\$ 5,000.00
Playground (Equipment, Surfacing, and Drainage)	L.S.	1	\$ 175,000.00	\$ 175,000.00
Parking Lot (8 Spaces)	Each	8	\$ 2,500.00	\$ 20,000.00
Site Utilities (Water Meter, Electrical Service, Etc.)	L.S.	1	\$ 10,000.00	\$ 10,000.00
Area Lighting (12' Height)	Each	3	\$ 7,000.00	\$ 21,000.00
Shade Trees	Each	10	\$ 700.00	\$ 7,000.00
Finish Sodding, Grading and Seeding	L.S.	1	\$ 30,000.00	\$ 30,000.00
Irrigation	L.S.	1	\$ 200,000.00	\$ 200,000.00
Subtotal:				\$ 701,940.00
Contingency 5%:				\$ 35,097.00
Construction Total:				\$ 737,037.00
Soft Costs (Design, Surveying, Geotechnical, Engineering) 12%:				\$ 88,444.44
Typical Neighborhood Park Total:				\$ 825,481.44

- (l) **Factors Considered.** In making a determination of which type of dedication, or combination thereof, shall be made, the City Manager or designee shall evaluate what would be in the best interest of the City, based upon relevant factors that may include, but not be limited to, the following:
- (1) Whether the proposed land to be conveyed for park purposes would be suitable as a regional, linear, community, school, or other City park;
 - (2) Any adopted park plan or sub-area plan for the area in which the development is located;
 - (3) Whether the proposed land to be conveyed for park purposes is adjacent to an existing or proposed school site.
 - (4) Whether there is sufficient existing public or private park land in the area of the proposed development;
 - (5) Whether the park needs of the area where the proposed development is located would be best served by expanding or upgrading existing parks;
 - (6) Whether the land is located adjacent to a greenbelt park which is intended to be preserved in its natural state;
 - (7) Whether the development of a park in the location proposed reflects the guidelines of the *Comprehensive Plan*; and
 - (8) Whether there is a significant natural resource on the site that should be preserved and/or protected through parkland dedication.
- (m) ~~**Dedication: Conveyance of Land Requirements.** The City Manager or his designee shall make the determination regarding whether a conveyance of land shall be accepted in whole or in part or whether it would be more beneficial to the City to accept the market based cash equivalent. When the City elects to accept the conveyance of land to meet the Park Land Dedication requirement, the following provisions shall apply:~~
- ~~(1) **Amount.**~~
 - ~~i. The required conveyance of land shall be one (1) acre of land per fifty (50) residential single-family units, or a dollar amount per square foot of the land in lieu of land dedication, as listed in the Master Fee Schedule.~~
 - ~~ii. The required conveyance of land for multi-family units shall be a flat per unit fee, as listed in the Master Fee Schedule.~~
 - ~~(2) **Manner and Method.** Plats required to be submitted to the City for approval shall show thereon a fee simple conveyance to the City of the land required for park purposes as a condition to approval of such plat by the Commission. The City may further require the conveyance of the park property by general warranty deed. As a condition to acceptance of the plat or deed by the City, the Developer shall provide the City with an owner's title policy of insurance in an amount equal to the value of the land conveyed, which amount shall be determined by the City.~~
 - ~~(3) **Credit for Private Recreation Facilities.** Where private recreation facilities are built for the residents for the subdivision or development, a credit may be granted with a recommendation from the City Park Board and approval by the City Council. The value of these private recreation facilities shall be determined by the City Council, but shall not exceed fifty percent (50%) credit of conveyance, and must make the facilities open to the public.~~
 - ~~(4) **Credit for Prior Dedications.** Where a gift of land was made prior to the effective date of the ordinance from which this article is derived by the owner of land required to convey land under the~~

~~provisions of this article, the former gift of land shall be credited on a per-acre basis toward the required conveyance provided by this article when the City Council finds that:~~

- ~~i.—The gift was made within five (5) years of the effective date of this ordinance;~~
 - ~~ii.—The land given was within one-half mile of the new development for which land is required to be conveyed;~~
 - ~~iii.—The land given is not being presently used for purposes incompatible with park purposes and is suitable for park purposes; and~~
 - ~~iv.—A credit may be given for on-site improvements that are compatible with long-range development plans for the proposed park.~~
 - ~~v.—The credit provided for herein shall not be transferable and shall only be given to the donor of the land who is the owner of the property being developed for which a conveyance of land is required by this article, unless said prior conveyances were included as a part of an executed facilities and/or development agreement between the City and the developer.~~
- (5) Credit for Conveyance of Floodplains. In cases where floodplain and or property is proposed to be conveyed to satisfy the Park Land Dedication requirements, a credit will be given based upon the following formula or ratio: three (3) acres of floodplain shall equal one (1) acre of land outside the floodplain, if approved by the Park Board.
- (6) Suitability of Land for Regional Parks, Linear Parks, Community Parks, School Parks, or Other City Parks. The Park Board shall be the arbiter of what land is suitable for park land dedication, subject to final approval by the City Council. A proposed conveyance of land shall not be considered suitable for Neighborhood Parks, Community Parks, or Open Space purposes if it has one or more of the following characteristics:
- ~~i.—Located within the 100-year floodplain, as shown on the latest flood insurance rate map or Floodplain Ordinance adopted by the City on which the Federal Emergency Management Agency (FEMA) has delineated both the areas of special flood hazard and the risk premium zones applicable to the community. The City may accept no more than the twenty percent (20%) floodplain land, unless a greater percentage of land within the floodplain is determined in the best interest of the City.~~
 - ~~ii.—The proposed dedication is less than seven and a half (7.5) acres for a school park or less than twenty (20) acres for a community park, unless the proposed dedication is located in such a manner in which it could be combined with other dedications to create a park of adequate size.~~
 - ~~iii.—It has unusual topography or slope or has utility easements that render it unsuitable for organized recreational activities or passive park needs, depending on the City's intended use for the property.~~
 - ~~iv.—It does not, or would not, front an improved public street or would not be readily accessible, in whole or in part, to the public.~~

~~(n) **Dedication: Payment in Lieu of Land Provisions.** Where the City Manager or designee determines that a payment of money in lieu of land shall be made, the following provisions shall apply:~~

- (1) Determining the Amount of Payment.
- ~~i.—Any payment of money required to be paid shall be in an amount equal to the average per-acre value of the whole property included within the residential development or the amount set forth in the Fee Schedule, as it currently exists or may be amended, whichever is greater.~~
 - ~~ii.—In determining the average per-acre value of the total land included within the proposed residential development, the City Manager or designee may base its determination on one or more of the following:~~
 - ~~a.—The most recent appraisal of all or part of the property made by the county central~~

appraisal district; or

b. ~~Confirmed sale prices of all or part of the property to be developed, or comparable property in close proximity thereof, which has occurred within two (2) years immediately preceding the date of determination; or~~

iii. ~~Where, in the judgment of the City Manager or designee, Section 02.03.082(f)(1)(i) or 02.03.082(f)(1)(ii) above would not, because of changed conditions, be a reliable indication of the current value of the land being developed, an independent appraisal of the whole property obtained by the City and paid for by the Developer; or~~

(2) ~~Time of Payment.~~ Any payment of money required herein shall be paid as a condition to the approval of any Final Plat or replat. Payment shall be made prior to the filing of the plat unless otherwise stated in an agreement approved by the City Council.

(3) ~~Park Land Dedication Fund.~~ All cash payments paid to the City in accordance with this Section shall be deposited in a separate Park Land Dedication Fund. The City shall account for all such payment with reference to each development for which the payment is made.

(4) ~~Use of Funds.~~ Any payments made to the park development fund must be used for the acquisition and development of parks, Hike & Bike trails, or public open space located within the City.

~~(o) **Compliance, Penalties, Sanctions and Redeterminations.**~~

(1) ~~Requirements to be Satisfied Prior to Development.~~ It shall be unlawful for any person who is required to convey land, or pay money in lieu of land, as required by this article, to begin, or allow any other person or contractor to begin, any construction or improvements on any land within any development to which this article applies until the required conveyance of land or payment of money in lieu of land is made to the City in accordance with this article.

(2) ~~Permits and Services to be Withheld.~~ No building permits shall be issued for, and no permanent utility services shall be provided to any land within any land within any development to which this article applies until the required conveyance of land or payment of money in lieu of land is made to the City in accordance with this article.

(3) ~~Redetermination of Requirements for Proposed Additional Dwelling Units.~~ After the City Council has made a determination of the requirements of this article, or after the requirements of this article have been met, based upon the proposed number of residential dwelling units for any land to which this article applies, any person who desires to construct a number of dwelling units in excess of the number of dwelling units for which the requirements of this article were determined or met must submit to the City Council a revised calculation for the total number dwelling units in the development. If the additional number of dwelling units changes the density of the development, a zoning change may be required. If the additional dwelling units are accepted by the City through a process determined by the City Manager or his designee, the Developer shall either convey the additional park land through a plat or replat or shall pay a fee in lieu of park land for the additional dwelling units at the issuance of the first building permit for all the additional units, regardless of whether all of the units are being constructed at one time.

SEC. 02.03.083PARK IMPROVEMENT FEES

~~(a) **Purpose.**~~

(1) ~~A park improvement fee ("park fee") is hereby imposed on residential development for the purpose of ensuring that regional, linear, community, school, or other city park facilities are available and adequate to meet the needs created by new residential development.~~

(2) ~~The park fee is imposed in conjunction with and in addition to requirements for the dedication of open space and linear park land and the construction of open space and linear park improvements for which contributions the Property Owner may be reimbursed from proceeds of park fees imposed, as provided in Section 02.03.083(f), *Use of Park Improvement Fee.*~~

- (3) ~~Park improvement fees are collected on a per unit basis prior to the issuance of a building permit and are listed in the Master Fee Schedule.~~
- (b) ~~**Applicability of Park Fee.** In all cases in which parkland is dedicated or cash is paid in lieu of parkland dedication, the Developer shall also pay to the City a sum of money, as set forth by Section 02.03.083(d), *Amount of Park Improvement Fee*. This subsection does not apply to activities involving the replacement, reconstruction, remodeling, rehabilitation or other improvements to an existing residential structure, or to the rebuilding of a damaged structure or to permits required for accessory uses, unless such activity results in a change in the type or increase in the number of dwelling units.~~
- (c) ~~**Imposition of Park Fee.** Imposition of the park fee does not alter, negate, supersede or otherwise affect any other requirements of City, county, state or federal legislation or regulations that may be applicable to a residential development, including City zoning and/or subdivision regulations that may impose open space and park requirements and standards.~~
- (d) ~~**Amount of Park Improvement Fee.** The established park fee for single family, duplex, townhome and multifamily dwelling units as listed in the Fee Schedule.~~
- (e) ~~**Timing and Processing of Park Improvement Fees.**~~
- (1) ~~The park improvement fee shall be a paid by the home builder prior to the issuance of a Building Permit.~~
- (2) ~~The amount of the park improvement fee for single family, two family, and multi family units is set forth in the City's Master Fee Schedule, as it currently exists or may be amended.~~
- (3) ~~All park improvement fee payments shall be segregated in a separate fund to be spent only for the improvement of park facilities, funding of staff, or purchase of park land within the City.~~
- (4) ~~The City shall maintain and keep financial records for park improvement fees, which shall show the source and disbursement of all fees collected.~~
- (f) ~~**Use of Park Improvement Fees.** Park fees must be used for the following purposes:~~
- (1) ~~To acquire, develop, and provide equipment for Parks.~~
- (2) ~~To repay Developers for the reasonable costs of any park improvements constructed and accepted by the City.~~
- (g) ~~**Additional Voluntary Park Improvements.** A Developer may request permission to construct, at his own expense, additional park improvements. The City may accept or reject voluntary dedications of park land and/or additional park improvements. All improvements in public parks and open spaces shall be consistent with the design criteria and objectives of the City and any adopted park plan, and shall, upon installation, become the property of the City. Prior to constructing such additional park improvements, the Developer shall enter into a facilities agreement with the City that defines, among other things, the work to be performed, construction schedules, improvement costs, performance surety, the amount to be reimbursed by the City (if any), and the timing of such reimbursement (if any).~~
- (h) ~~**Appeals and Exceptions.**~~
- (1) ~~The Developer may appeal the following decisions of the City Manager to the City Council:~~
- i. ~~The applicability of the park fee;~~
- ii. ~~The amount of the fee due; or~~
- iii. ~~The amount of refund due, if any.~~
- (2) ~~The Developer must file a notice of appeal with the City Council within thirty (30) days following the determination by the City Manager. If the notice of appeal is accompanied by a bond or other sufficient surety satisfactory to the City Attorney in an amount equal to the park fee due as calculated by the City Manager, the development application shall be processed. The filing of an~~

~~appeal shall not stay the collection of the fee due, unless a bond or other sufficient surety has been filed.~~

- ~~(3) City Council may grant exceptions from any requirements of this Chapter, upon written request by a Property Owner, following a public hearing, and only upon a finding that a strict application of such requirement would result in a substantial hardship that is not common to similarly situated property owners.~~

- ~~(i) **Park Fee as Additional and Supplemental Requirement.** The Park Fee is in addition and supplemental to and not in substitution of Park Land dedication or fees in lieu of land conveyance, or any other requirements imposed by the City on the residential development of the land.~~

SEC. 02.03.084HIKE & BIKE TRAIL REQUIREMENTS.

- (a) **Hike & Bicycle Trail Master Plan.** Hike & Bike trails located within or adjacent to the development shall be constructed at the Developer's expense in accordance with any adopted master plan, and as amended.
- (b) **Requirements.** Hike & Bike Trails, especially those providing access to and along a Major Creek and other open spaces, shall be in accordance with the following design criteria unless otherwise approved by the Director of Parks & Recreation and the Director of Development Services:
- (1) A minimum twenty-five (25) foot wide level ground surface shall be provided for a twelve (12) foot wide public Hike & Bike trail, where required. The twenty-five (25) foot wide, level ground surface may be provided within and/or outside of the 100-year floodplain.
 - (2) The parkway of a public street may count toward the twenty-five (25) foot wide, level ground surface, upon approval of the Director of Parks & Recreation.
 - (3) Low water crossings for the Hike & Bike trail may be allowed upon approval from the Director of Engineering and the Director of Parks & Recreation.
 - (4) The Hike & Bike trails shall be designed so as to minimize visibility blind spots from public streets for public safety purposes.
 - (5) Construction Plans for the development shall include engineered drawings of trail cross-sections in accordance with the City's *Appendix 1, Standards of Design and Construction*. Trail geometric design, signage, and safety measures shall be in accordance with AASHTO standards.
 - (6) Hike & Bike trails shall be shown on the Final Plat and dedicated as "trail easements."
 - (7) Sidewalks and streets, including cul-de-sacs, adjacent or near a trail shall provide a concrete pedestrian connection to the trail, including any necessary barrier free ramps and bollards.
 - (8) All sidewalks shall be adequately lit for public safety purposes and shaded.
- ~~(c) **Locations & Easements.** Locations of all trails shall be consistent with the locations designated in any adopted master plan, and are subject to approval by the Director of Parks & Recreation and the Director of Development Services.~~
- ~~(1) The Director of Parks & Recreation and the Director of Development Services shall have the authority to determine the placement of future Hike & Bike Trails at the time of Conveyance Plat or Preliminary Plat review and approval.~~
 - ~~(2) No development shall interrupt future trail routes or otherwise hinder efficient public access to or from an existing or future planned Hike & Bike Trail. Gated and other limited access developments shall be designed such that they facilitate, and do not impede, through public access, emergency ingress and egress, usage, and enjoyment of public trails.~~
 - ~~(3) Residential developments that own, by means of an HOA, open space, must provide a minimum 25' wide pedestrian access easement to allow future Hike & Bike Trails to transverse the property that have plantings and irrigation.~~

- ~~(d) **Trails Along Major Creeks & Greenways.**~~

~~(1) Hike & Bike trails shall be located adjacent to Major Creeks or greenways whether shown on the~~

~~master trails plan or master parks plan or not. These trails shall be staked in the field by the Developer, provide stub-outs to any local sidewalk system and approved by both the Director of Parks & Recreation and the Director of Development Services prior to the submittal of a Conveyance Plat or Preliminary Plat.~~

~~(2) The location of the trail shall be specified on the Conveyance Plat or Preliminary Plat as the approved location for the Hike & Bike trail, and an easement for such shall be shown on the Conveyance or Preliminary Plat and the associated Final Plat for any portions of the trail that traverse private property.~~

~~(e) **Trails in Relation to Golf Courses.** When a trail system is extended through a golf course, improvements shall be made to protect and provide separation between users of the trail system and the golfers, at the Developer's expense. Such improvements include, but are not limited to, a series of berms and trees to help protect trail users from airborne golf balls. Upon approval of the Director of Parks & Recreation and the Director of Development Services, a golf cart path of sufficient width to accommodate both golf carts and bicycles may serve as a trail.~~

~~(f) **Future Trails and Access for New Developments.** When development is adjacent to an undeveloped property, a pedestrian access stub-out in conjunction with a street connection to the edge of the development shall be required to allow for future access between developments.~~

ARTICLE 02.03.085RELIEF PROCEDURES

SEC. 02.03.086MODIFICATIONS, APPEALS AND EXCEPTIONS.

- (a) **Purpose.** The purpose of these relief procedures is to allow a Developer to differ from a particular interpretation, and/or standard and/or requirement of this Chapter or the *Standards of Design and Construction* that would substantially limit the Developer’s ability to utilize the land in a manner requested.
 - (1) The rules and regulations of this Chapter are the standard requirements of the City. Suspension of any of these rules and regulations may be granted upon a good and sufficient showing by the Developer that there are special circumstances or conditions affecting the property in question, or that enforcement of the provisions of this article will deprive the applicant of a substantial property right and that such suspension, if granted, will not be materially detrimental to the public health, safety, or welfare, or injurious to other property or property rights in the vicinity.
 - (2) Each and every application for an Exception shall be decided solely and entirely on its own merits and the disposition of any prior or pending application for an Exception shall not be allowed to enter into or affect any decision on the application in question.
 - (3) Pecuniary interests (i.e. financial issues) standing alone shall not be justification for the granting of an Exception.
- (b) **Definitions of Levels of Relief.** The Director of Development Services shall be responsible for classifying any relief procedure as “minor” or “major.” Minor Modifications or Appeal of a decision may be acted upon by the Director of Development Services, or the Director of Public Works and/or the City Engineer or the City Manager, as applicable. Major Modifications, termed as an Exception, and as defined in Section 02.03.102, *Definitions*, of this Chapter, require consideration by City Council with a recommendation from the Planning and Zoning Commission.
- (c) **Decision-Makers & Appeals.**
 - (1) Defer Approval. The Director of Development Services, the Director of Public Works and/or the City Engineer, as outlined in Sections 02.03.013(b) and 02.03.015(b) respectively, have the ability to defer its decision-making authority on specified types of applications for any reason directly to the Planning and Zoning Commission and City Council. The decision by the City Council is final.
 - (2) Minor Modifications. A Minor Modification or Appeal of an interpretation of a decision-maker is acted upon by the Director of Development Services, or the Director of Public Works and/or the City Engineer, as applicable.
 - i. A Developer may Appeal a Minor Modification or interpretation decision made by the Director of Development Services or the Director of Public Works and/or the City Engineer (as applicable) to the City Manager. The City Manager will be the final staff decision maker for Minor Modifications or interpretation decisions.
 - ii. The Developer may Appeal the City Manager’s final decision to City Council as outlined below in subsection 02.03.086(d), *Minor Modification Procedure*. The decision by the City Council is final.
 - (3) Major Modifications (Exceptions). An Exception to the requirements of this Chapter and the *Standards of Design and Construction* is acted upon by the City Council with a recommendation from the Planning and Zoning Commission. The decision by the City Council is final.
 - (4) No petition for a Minor, or Major Modification, or Appeal shall not be accepted in lieu of a vested rights petition (see Section 02.03.087, *Vested Rights*). If there is a question as to whether a vested rights petition is required, instead of a petition for relief, such determination shall be made by the Director of Development Services, or the Director of Public Works and/or the City Engineer, as applicable.

(d) **Minor Modification or Decision-Maker Appeal Procedure.**

- (1) A Developer may petition in writing to the Director of Development Services or the Director of Public Works and/or the City Engineer, as applicable; for a Minor Modification or Appeal of an interpretation decision to the requirements of (1) this Chapter, or (2) the *Standards of Design and Construction*, or (3) from any other ordinance or regulation relative development
- (2) The written petition for a Minor Modification shall be made by the Developer within five (5) days following the date of the decision. The decision of respective Director shall be final if not timely Appealed

- i. A written petition for a Minor Modification or Appeal of an interpretation decision:
 1. May include more than one (1) particular standard or requirement of this Chapter or the *Standards of Design and Construction*, and;
 2. Shall specify in nature (i.e., how much or less), and ;
 3. Shall include detailed grounds of justification for relief consideration that are specific only to the associated plat, Land Study, or Construction Plans.
- ii. The Director of Development Services, or the Director of Public Works and/or City Engineer , as applicable, shall determine what criteria apply for any relief petition that is considered “minor” in nature or Appeal of an interpretation decision on a case-by-case basis. A Minor Modification petition or Appeal of an interpretation decision shall not be approved solely based on monetary interests. Minor Modification and Appeal petitions from a final decision-maker are heard on a case-by-case basis and do not establish precedent.
 1. The Director of Development Services, or Public Works, or the City Engineer shall respond in writing to the Minor Modification petition within five (5) working days.
- iii. A written petition appealing a respective Director’s decision shall be heard by the City Manager. The appealing petition shall be submitted within five (5) days of the Director’s decision.
 1. The City Manager shall respond in writing to the Appeal petition within five (5) working days.
 2. The Developer may Appeal the City Manager’s decision directly to City Council. Such written petition shall be submitted within five (5) days and placed on the next City Council agenda for a final decision.

- (3) Effect of Minor Modification or Appeal Approval. Following the granting of a Minor Modification or Appeal of a final decision-maker, the Developer may submit or continue the processing of the associated plat, land study, or Construction Plans, as applicable.

- i. The granted Minor Modification or Appeal shall remain in effect for the period the associated plat, land study, or Construction Plans are in effect, and shall expire upon expiration of any of those applications. Extension of those applications shall also result in extension of the Minor Modification or Appeal of a decision-maker.
- ii. The approval of a Minor Modification or Appeal of a final decision-maker relieves the applicant of the imposition of the particular standard or requirement for which a Minor Modification or Appeal of a decision-maker was sought following the finding of just cause for such Minor Modification to be allowed.

(e) **Major Modification/Exception Applicability.**

- (1) A Developer may petition an Major Modification/Exception to a particular standard or requirement of this Chapter, and/or the *Standards of Design and Construction* applicable to an associated plat, Land Study, or Construction Plans The Exception petition shall be:
 - i. Specific in nature as outlined below in Section 02.03.086(f)(2), and
 - ii. Shall only involve relief consideration for one (1) particular standard or requirement.
 - iii. A Developer may, if desired, submit more than one (1) Exception petition, if there are

several standards or requirements at issue.

(f) **Exception Submission Procedure.**

- (1) An Exception petition shall be submitted by the Developer in conjunction with the submittal of an associated plat, Land Study, or Construction Plans, as applicable. No relief may be considered or granted unless the Developer has made such petition request and paid the applicable fee for each Exception.
- (2) The Developer's Exception request shall state (1) the specific section of this Chapter, or the *Standards for Design and Construction* being requested to be exempted from; (2) the specific amount (i.e. number or percentage) requesting to be Excepted; (3) the grounds for the Exception request; (4) all of the facts relied upon by the Developer for making such request and (5) address all of the *Exception Criteria* found below in Section 02.03.086(g). Failure to submit a necessary Exception application will result in denial of the associated plat, Land Study, or Construction Plans application.

(g) **Exception Criteria.**

- (1) An Exception to regulations within this Chapter, and the *Standards of Design and Construction* may be approved only when, in the City Council's opinion, undue hardship will result from strict compliance to the regulations.
- (2) The City Council shall take into account the following factors:
 - i. The nature of the proposed land use involved and existing uses of the land in the vicinity;
 - ii. The number of persons who will reside or work in the proposed development; and
 - iii. The effect such Exception might have upon traffic conditions and upon the public health, safety, convenience, and welfare in the vicinity.
- (3) No Exception shall be granted unless the City Council finds:
 - i. That there are special circumstances or conditions affecting the land involved or other constraints such that the strict application of the provisions of this Ordinance would deprive the applicant of the reasonable use of the land; and
 - ii. That the Exception is necessary for the preservation and enjoyment of a substantial property right of the applicant, and that the granting of the Exception will not be detrimental to (1) the public health, safety, convenience, or welfare; and/or (2) injurious to other property in the area; and/or (3) injurious to property rights in the vicinity and
 - iii. That the granting of the Exception will not have the effect of preventing the orderly subdivision of other lands in the area in accordance with the provisions of this Chapter.
- (4) An Exception may be granted only when in harmony with the general purpose and intent of this Chapter so that the public health, safety, and welfare may be secured, and substantial justice done. Financial hardship to the applicant shall not be deemed to constitute undue hardship.
- (5) No Exception shall be granted unless it represents the minimum degree of variation of requirements necessary to meet the needs of the Developer.
- (6) The City Council shall not authorize an Exception that would constitute a violation of, or conflict with, any other valid ordinance, code, regulation, master plan, or *Comprehensive Plan* of the City.
- (7) Any falsification of information by the Developer shall be cause for the Exception request to be denied. If the Exception request is approved based upon false information, whether intentional or not, discovery of such false information shall nullify prior approval of the Exception, and shall be grounds for reconsideration of the Exception request.

(h) **Burden of Proof.** The Developer bears the burden of proof to demonstrate that the requirement for which an Exception is requested, if uniformly applied, imposes an undue hardship or disproportionate burden on the Developer. The Developer shall submit the burden of proof with the original Exception application submittal.

(i) **Decision.** The City Council shall consider the Exception application and, based upon the criteria set forth in Section 02.03.086(g), *Exception Criteria*, and shall take one of the following actions:

- (1) Deny the petition, and impose the standard or requirement as it is stated in this Chapter, and the Standards of Design and Construction ; or
 - (2) Grant the petition, and waive in whole or in part the standard or requirement as it is stated in this Chapter or in the *Standards of Design and Construction*.
- (j) **Notification of Decision on Petition.** The applicant shall be notified of the decision on the Exception by the Director within fourteen (14) calendar days following the decision.
- (k) **Effect of an Exception Approval.** Following the granting of a major modification or Exception, the applicant may submit or continue the processing of an associated plat , Land Study, or Construction Plans, as applicable. The major modification or Exception granted shall remain in effect for the period the associated plat, Land Study, or Construction Plans are in effect, and shall expire upon expiration of any of those applications. Extension of those applications shall also result in extension of the major modification or Exception.

SEC. 02.03.087VESTED RIGHTS.

- (a) **Purpose.** The purpose of a vested rights petition is to determine whether an application should be processed under the terms of a previous ordinance, to provide a process for determination of possible vested status, and to determine when certain permits are subject to expiration.
- (b) **Applicability.**
- (1) A vested rights petition may be submitted for any application authorized under this Chapter.
 - (2) A vested rights petition cannot be submitted by a Developer along with submission of a request for a text amendment to this Ordinance, a Zoning Map amendment, or any other request for a legislative decision by the City Council.
- (c) **Submission.** A vested rights petition shall be submitted to and officially filed with the City's responsible official (see Section 02.03.023(g), *Application Submittal Process* in accordance with State law prior to the filing of an application. Submission of a vested rights petition as provided in Section 02.03.087(e), *Form of Petition*, of this Chapter shall stay the filing of the related application until a final decision is reached on the vested rights petition.
- (d) **Effect.** If a properly submitted vested rights petition is approved in whole or in part, the responsible official shall then process the original application and the decision-maker shall decide the application in accordance with the standards specified in the **relief order** based on prior ordinance requirements or development standards existing at the date vesting is established, or shall extend the validity of the original application that would otherwise be subject to expiration pursuant to this Chapter.
- (e) **Form of Petition.** The vested rights petition shall allege in writing that the Developer has a vested right for some or all of the land subject to the application under State law that requires the City to review and decide the application under standards that were in effect prior to the effective date of the currently applicable standards. The applicant shall reimburse the City for all related legal costs for review of the vested rights petition. This reimbursement shall be paid in full prior to any decision on the petition The petition shall include the following information and documents:
- (1) A written vested rights petition form, with a notarized original signature of the property owner(s);
 - (2) A narrative description of the grounds for the petition, including a statement as to whether the petition asserts a vested right related to a specific standard or to an entire project;
 - (3) A copy of each approved or pending application that is the basis for the contention that the City may not apply current standards to the application;
 - (4) The official filing date of the application;
 - (5) The date the subdivision for which the application was submitted was commenced;
 - (6) Identification of all standards otherwise applicable to the application from which relief is sought;
 - (7) Identification of any current standards which applicant agrees can be applied to the application at issue
 - (8) A narrative description of how the application of current standards affect proposed landscaping,

open space, or park dedication, shown on the application for which the petition is filed;

- (9) A copy of any prior vested rights determination involving the same land; and
- (10) Whenever the applicant alleges that an application subject to expiration should not be terminated, a description of the events constituting progress toward completion of the subdivision for which the application was approved..

(f) **Timing for Filing Petition.** A vested rights petition shall be filed with an application for which a vested right is claimed, except that the petition may be filed before the date of expiration of any already approved application when filed pursuant to Section 02.03.089, *Dormant Projects*. Where more than one (1) application is authorized to be filed simultaneously by this Chapter, the petition may be filed simultaneously for each application.

(g) **Processing and Decision.**

(1) Responsible Official. The responsible official for a vested rights petition is the same as that for processing the application with which the petition is associated, except where a petition is submitted pursuant to Section 02.03.027, *Expiration for Projects Approved Prior to the Adoption of Subdivision Ordinance*. Where multiple applications are submitted, and there is more than one (1) responsible official, the decision of each responsible official shall be coordinated with that of any other responsible official on the vested rights petition.

i. The City Attorney shall also be notified of the vested rights petition following its filing and acceptance for processing. The applicant shall reimburse the City for all related legal costs for review of a vested rights petition. This reimbursement shall be paid in full prior to the filing of the application for which vested rights is claimed. **(Revised 04-05-22 per Patricia)**

(2) Action and/or Decision by Responsible Official.

i. If the responsible official is the decision-maker on the original related application, that official shall determine whether the relief requested in the vested rights petition should be granted in whole or in part, and shall formulate a written report summarizing the official's reasoning and recommendation.

ii. The responsible official may defer making a decision on the vested rights petition and instead forward the petition to the Council for a decision, in accordance with the process outlined below in Section 02.03.087(g)(3), *Decision by City Council*.

iii. The applicant shall be notified of the decision within thirty (30) calendar days following the date the vested rights petition was filed at the City.

(3) Decision by City Council. ~~on the related application, or for any petition submitted pursuant to Section 02.03.089, *Dormant Projects*~~ **(Review Dormant Projects Language)** The responsible official for that type of application shall submit a report in the form of a recommendation on the vested rights petition to the City Council. The Council shall render a decision on the vested rights petition within thirty (30) calendar days following the date the petition was filed with the City. The City Council's decision on a vested rights petition shall be approved or disapproved by a simple majority vote of the City Council and shall be final. **(Revised 04-05-22)**

(4) Appeal of Decision. The applicant may appeal to City Council the responsible official's decision on the vested rights petition by submitting written notice of appeal to the applicable responsible official within fourteen (14) calendar days following the date of such decision. The City Council shall hear and decide the appeal within thirty (30) calendar days following receipt of the notice of appeal by the City. Appeal to the City Council shall be approved or disapproved by a simple majority vote of the City Council and shall be final. **(Revised 04-05-22)** **(see Section 02.03.087(k), *Appeal*).**

(5) Effect on Related Applications. A final decision on the vested rights petition or appeal under this section must be achieved prior to filing of the related application. Upon such final resolution and decision on a vested rights petition, the application may be filed, and the responsible official shall commence processing, review and consideration for the related application as provided in this

Ordinance.

(h) **Criteria for Approval.**

- (1) Factors. The decision-maker shall decide the vested rights petition based upon the following factors:
- i. The nature and extent of prior applications filed for the land subject to the petition;
 - ii. Whether any prior vested rights determinations have been made with respect to the property subject to the petition;
 - iii. Whether any prior approved applications for the property have expired or have been terminated in accordance with State law or local ordinances;
 - iv. Whether current standards adopted after commencement of the project affect proposed use of the land, landscaping or tree preservation, open space or park dedication, lot size, lot dimensions, lot coverage or building size based upon the proposed application;
 - v. Whether any statutory exception applies to the standards in this Chapter ~~current Subdivision Ordinance~~ from which the applicant seeks relief;
 - vi. Whether any prior approved applications relied upon by the applicant have expired;
 - vii. For petitions filed pursuant to Section 02.03.027 of this Chapter, *Expiration for Projects Approved Prior to the Adoption of Subdivision Ordinance*, whether any of the events in Section 02.03.027 have occurred; and
 - viii. Any other applicable provisions of State law.

(i) **Action and Record of Action.**

- (1) Action. The decision-maker may take any of the following actions:
- i. Deny the relief requested in the petition, and direct that the application shall be reviewed and decided under currently applicable standards; or
 - ii. Grant the relief requested in the petition, and direct that the related application be reviewed and decided in accordance with the standards contained in identified prior regulations; or
 - iii. Grant the relief requested in part, and direct that certain identified current standards be applied to the related application, while standards contained in identified prior regulations also shall be applied; or
 - iv. For petitions filed pursuant to Section 02.03.027, *Expiration for Projects Approved Prior to the Adoption of Subdivision Ordinance*, specify the expiration date or the conditions of expiration for the related application(s). (Marcy to review)
- (2) Record. The responsible official's report and the decision on the vested rights petition shall be recorded in writing in an order identifying the following:
- i. The nature of the relief granted, if any;
 - ii. The related applications upon which relief is premised under the petition;
 - iii. Current standards which shall apply to the related application for which relief is sought, if applicable;
 - iv. Prior standards which shall apply to the related application for which relief is sought, including any procedural standards, if applicable;
 - v. The statutory exception or other grounds upon which relief is denied in whole or in part on the petition;
 - vi. To the extent feasible, subsequent related applications that are subject to the same relief granted on the petition; and
 - vii. For petitions filed pursuant to Section 02.03.027, *Expiration for Projects Approved Prior to the Adoption of Subdivision Ordinance*, the date of expiration of the related application.

(j) **Associated Applications Following Final Decision.**

- (1) Following the City's final decision on the vested rights petition, the applicant shall, if necessary, revise the related application such that it conforms to the City's decision on the vested rights petition.

- (2) The decision-maker on the related application shall review and consider the revised application in accordance with the procedures for deciding that type of application, as outlined in this Ordinance, and in conformity with any relief granted.
- (3) If the relief granted on the vested rights petition is consistent with the related application on file, no revisions shall be necessary, and the related application shall be deemed officially filed at the time of the final decision on the vested rights petition.

(k) **Appeal.**

- (1) Initiation of an Appeal. The applicant may appeal the decision of the Commission by submitting a written notice of appeal to the Director of Development Services within fourteen (14) calendar days following the date of the Commission’s decision.
 - i. For a City Council-initiated appeal, the Council shall consider and act on whether it will appeal the Commission’s decision at its first regular meeting (for which there is time to include such appeal on its posted agenda, as required by State law) that occurs after the Commission meeting at which the decision was made.
 - ii. Written notice of the City Council’s vote to appeal shall be submitted to the Director of Development Services within seven (7) calendar days following the City Council’s vote to appeal the decision.
 - iii. For an applicant-initiated appeal, a letter stating the reasons for the appeal, citing the specific applicable sections of the Chapter, shall be submitted by the applicant.
 - iv. The Director of Development Services may, on his/her own initiative, appeal the decision of the Commission by scheduling an appeal on the City Council’s next regular meeting (for which there is time to include such appeal on its posted agenda as required by State law) that occurs after the Commission meeting at which the decision was made.
- (2) Council Decision. The City Council shall consider the appeal at a public meeting no later than thirty (30) calendar days after the date on which the notice of appeal is submitted to the Director of Development Services. The City Council may affirm, modify, or reverse the decision of the Commission by simple majority vote. The decision of the City Council is final

(l) **Expiration & Extension.**

- (1) Expiration. Relief granted on a vested rights petition shall expire on occurrence of one of the following events:
 - i. The applicant fails to submit a revised application that is consistent with the relief granted, if any, within sixty (60) calendar days following the final decision on the vested rights petition;
 - ii. The application for which relief was granted on the vested rights petition is denied; or
 - iii. The application for which relief was granted on the vested rights petition expires.
- (2) Extension. Extension of the date of expiration for the application for which relief was granted on a vested rights petition shall result in extension of the relief granted on the vested rights petition for the same time period.

SEC. 02.03.088ROUGH PROPORTIONALITY.

- (a) Notwithstanding anything in this Ordinance to the contrary, if the City requires as a condition of approval for a property development project that the Developer bear a portion of the costs of municipal infrastructure improvements by the making of dedications, the payment of fees, or the payment of construction costs pursuant to this Ordinance, the Developer’s portion may not exceed the amount required for infrastructure improvements that are roughly proportionate to the proposed development as approved by a professional engineer retained by the City. Municipal infrastructure improvements have the meaning set forth in the TEXAS LOCAL GOVERNMENT CODE SECTION 212.904, as that term is interpreted by the Texas Attorney General and Texas courts.
- (b) The dedication or construction of an infrastructure improvement imposed by the City as a condition of

plat or site plan approval in accordance with the City's adopted subdivision and development regulations shall be deemed to be the City's determination, upon the advice of a professional engineer duly licensed in this state and retained by the City, that such requirements, together with any impact fees due for the development, are roughly proportionate to the impacts created by the development on the City's municipal infrastructure.

- (c) A Developer who disputes the determination made under subsection (b) above, may appeal to the City Council. Prior to filing the appeal, the Developer shall notify the Director of Development Services, in writing, of the pending dispute. The Director shall send the Developer their written response, reviewed and approved by the Engineering Division or other professional engineer on behalf of the City, to the proportionality issues raised by the Developer and in so doing may revise the dedication or construction requirement(s) at issue. If the Developer is not satisfied with the Engineering Division's response, they may file an appeal to the City Council with the City Secretary. At the appeal, the Developer may present evidence and testimony under procedures adopted by the City Council.
- (d) The City may not require a Developer to waive the right of appeal authorized by this section as a condition of approval for a development project.
- (e) For municipal infrastructure improvements for which the City has enacted impact fees, the measure of rough proportionality shall be the maximum impact fee per service unit then in effect for that category of infrastructure improvements, as may be amended from time to time, unless an alternative measure is approved by the Director of Engineering or his designee. To the extent that the impact fee charged against a new development, as may be amended from time to time, is less than the maximum impact fee per service unit, such difference is hereby declared to be founded on policies unrelated to measurement of the impacts of the new development on the City's infrastructure systems. The maximum impact fee per service unit may be used in evaluating any claim by a Developer that the dedication of land for right-of-way or construction of an infrastructure improvement within an impact fee service area, which is imposed as a condition of development approval pursuant to the City's subdivision or development regulations, together with the imposition of an impact fee, is disproportionate to the impacts created by the development on the City's infrastructure system for that category of infrastructure improvements.
- (f) After hearing any testimony and reviewing the evidence, the City Council shall make its determination within thirty (30) days following the final submission of any testimony or evidence by the Developer. The Council shall decide whether requirements imposed by this Ordinance is roughly proportional to the nature and extent of the development proposed. In reaching such determination, the Council shall take into account the information in the evidence supplied by the applicant, the measure of proportionality in Subsection (e) or any alternative measure proposed by the Director of Engineering or his designee, the total costs to the City for supplying infrastructure capacity to the proposed development and all developments associated with the original plat of which the proposed development is a part, and the extent to which requirements imposed by the City benefit the proposed development.
- (g) If the City Council finds that the requirement is not roughly proportional to the nature and extent of the development being proposed, it may take any of the following actions:
 - (1) Waive in whole or in part a dedication or construction requirement imposed by the City's development regulations and/or reduce the amount of impact fees due; or
 - (2) Direct that the City participate in the costs of acquiring or constructing such a municipal infrastructure improvement pursuant to standard participation policies; or
 - (3) Require some combination of such measures.

SEC. 02.03.089DORMANT PROJECTS.

- (a) **Definitions.** For purposes of this Chapter only:
 - (1) Initial permit means any of the following types of approvals granted under this Subdivision Ordinance, or any predecessor subdivision or development-related ordinance that was in effect

prior to the adoption of this Chapter: Preliminary Plat, Construction Plans, Construction Release, Exceptions to any requirement in this Chapter, or any other application that was approved subject to a schematic drawing illustrating the location, arrangement, orientation or design of development, lots or improvements on a site intended for development.

- (2) *Final permit* means a Final Plat, Replat, Minor Plat, Amending Plat, or Development Plat approved under this Chapter, or any predecessor subdivision or development-related ordinance that was in effect prior to the adoption of this Ordinance.
- (b) **Expiration of Permits.** Any application for an initial permit that was approved or filed before, but that was not subject to an expiration date, two (2) years prior to the adoption date of this Chapter shall expire on the effective date of this Chapter.
- (c) **Reinstatement.** The Developer of the land subject to an initial permit that expires under Section 02.03.089, *Dormant Projects*, may petition the Commission to reinstate such permit by filing a written petition within sixty (60) calendar days following the effective date of this Chapter. The petition shall clearly state the grounds for reinstatement, and shall be accompanied by documentation of one of the following:
- (1) As of two (2) years prior to the effective date of this Chapter, one of the following events had occurred:
 - i. A final permit to continue toward completion of the project was submitted to the City for all or part of the land subject to the approved initial permit and was approved by the City, or was filed and was subsequently approved by the City;
 - ii. An application for a final permit to continue toward completion of the project was submitted to the City for all or part of the land subject to the expired initial permit, but such application was rejected on grounds of incompleteness consistent with State law;
 - iii. Costs for development of the land subject to the initial permit, including costs associated with roadway, utility and other infrastructure facilities designed to serve the land in whole or in part, but exclusive of land acquisition costs, were incurred in the aggregate amount of five percent (5%) of the most recent appraised market value of the land;
 - iv. Fiscal security was posted with the City to guarantee performance of obligations required under this Chapter, including the construction of required improvements associated with the proposed development, for all or a part of the land subject to the approved initial permit; or
 - v. Utility connection fees or impact fees for all or part of the land subject to the approved initial permit were paid to the City.
 - (2) After two (2) years prior to the adoption date of this Chapter, but before the expiration date specified in Section 02.03.089(b), *Expiration of Permits*, one of the following events had occurred:
 - i. A final permit was approved for all or part of the land subject to the approved application, and remained in effect for such land on such expiration date; or
 - ii. A complete application for approval of a final permit for all or part of the land subject to the approved initial permit was pending for decision on such expiration date.
- (d) **Commission Action on Reinstatement.** The Commission may take one of the following actions:
- (1) Reinstatement the expired initial permit without an expiration date, if it finds that the applicant has met any of the criteria listed in Section 02.03.089(c), *Reinstatement*;
 - (2) Reinstatement the initial permit for all or part of the land subject thereto, if it finds that the applicant has met any of the criteria listed in Section 02.03.089(c), *Reinstatement*, subject to such expiration dates or other conditions that ensure that the remaining land that is not subject to an approved or pending final permit application will be developed in a timely fashion. In granting relief under this provision, the Commission may require that development of such remaining land is subject to standards enacted after approval of the initial permit;

- (3) Deny the reinstatement petition, if it finds that the applicant has failed to meet any of the criteria in Section 02.03.089(c), *Reinstatement*, or
- (4) Reinstatement the permit for only that part of the land subject to a pending final permit application, if it finds that the applicant has met the criteria in Section 02.03.089(c), *Reinstatement* and the pending application subsequently was approved, and deny the reinstatement petition for the remaining land subject to the expired initial permit.

ARTICLE 02.03.090AMENDMENTS; FEES; VIOLATIONS; CONFLICTS



SEC. 02.03.091TEXT AMENDMENTS.

The City may initiate changes to this Chapter. The Planning & Zoning Commission may review the proposed changes and make a recommendation to the City Council. The City Council will conduct a public hearing, review the proposed changes, consider any recommendation from the Commission and City staff, and take action upon the proposed amendments to the Chapter.

SEC. 02.03.092FILING FEES & CHARGES.

- (a) **General.** Fees shall be paid to the City when any application authorized by this Ordinance is submitted to Development Services. Each of the fees, as provided in Section 02.03.092(c), *Calculations & Charges*, shall be paid in advance, and no action of the Commission, the City Council, or any other City board or commission shall be valid until all required fees have been paid. Fees paid for the review and consideration of plats and applications under this Ordinance are non-refundable.
- (b) **Consequence of Non-Payment of Fees.** Fees that are not paid within thirty (30) days of the date they are due shall cause any action or application to be null and void.
- (c) **Calculations & Charges.** Fees and charges shall be calculated in accordance with the following:
 - (1) All fees shall be as established by City ordinance, as amended.
 - (2) These fees shall be charged on all plats and applications authorized by this Ordinance, regardless of the action taken by the decision-making authority and whether the application is approved, denied, withdrawn, or otherwise closed.

ARTICLE 02.03.100DEFINITIONS, USAGE AND INTERPRETATION

SEC. 02.03.101 USAGE & INTERPRETATION.

- (a) **Usage.** The definitions within this ARTICLE 02.03.102 are intended to provide descriptions for words and terms used within this Chapter. Absent any conflict, words and terms used in this Chapter shall have the meanings ascribed thereto in this ARTICLE 02.03.101.
- (b) **Conflicts.** When words and terms are defined herein, and are also defined in other ordinance(s) of the City, they shall be read in harmony unless there exists an irreconcilable conflict, in which case the definition contained in Section 02.03.102 and subject to the terms of this Article shall control.
- (c) **Present & Past Tenses.** Words used in the present tense include the future; words in the singular number include the plural number, and words used in the plural number include the singular number.
- (d) **Usage of Shall & May.** The words shall and must are mandatory and not directory. The word may is directory and not mandatory.
- (e) **Certain Terms & Words.** Certain terms and words are to be used and interpreted as described and/or defined within the sections of this Chapter wherein they apply to certain regulations.
- (f) **Words of Gender.** Words of masculine gender shall include the feminine gender and vice versa.

SEC. 02.03.102 DEFINITIONS.

The following definitions shall apply to terms and words used within this Chapter:

100-Year Hazard Setback. A distance measurement required between _____ a private lot or street right-of-way and a stream bank. **The erosion hazard setback shall be determined as follows: for stream banks composed of material other than rock, locate the toe of the natural stream bank and project a 4:1 line sloping away from the bank until it intersects finished grade. From this intersection, add fifteen (14) feet away from the bank. This shall be the limit of the erosion hazard setback.**

100-Year Floodplain. A flood having a one percent (1%) chance of being equaled or exceeded in any given year, based upon a fully developed watershed and the City’s criteria to accommodate a 100-year storm in any designated drainage way ~~a Major Creek~~ **z.**

Abutting. Adjacent, adjoining, and contiguous; to physically touch or border upon; or to share a common property line with a right-of-way or easement, or with a physical improvement such as a street, waterline, park, or open space, or other property.

Access. A means to enter a property or the ability to traverse a property (such as in the use of an easement, including without limitation, a mutual access easement).

Acreage, Gross. The total acreage included within the boundary line of a particular subdivision, tract, parcel, lot, etc. without any exclusions.

Acreage, Net. The acreage included within the boundary line of a particular subdivision, tract, parcel, lot, etc., but **excluding all public ways**., excluding floodplain, public and private parks, public rights-of-way, and private streets.

Agreement, Annexation. A written agreement with the owner(s) of land in which a landowner consents to annexation of its property into the corporate limits of the City and which contains standard for City’s provision of services to the property in accordance with state law.

Agreement, Development A written agreement between the City and Developer(s) for the purpose of establishing mutually agreed upon standards and conditions that will govern development of the property. The terms of a Development Agreement may include but are not limited to the following: conditions to mitigate the project impacts, development incentives, clarification of project phasing and timing of public improvements. allocation of responsibility for the construction of water, wastewater, and road and drainage infrastructure and the sharing of

costs; payment of impact fees, and other charges related to the development; dedication of parkland, open space, drainage, conversation and/or greenbelt areas; annexation; intensity of development, land uses; provisions for City services such as fire protection, emergency medical services, and trash collection.

Agreement, ETJ Development. A written agreement as authorized by and in accordance with the TEXAS LOCAL GOVERNMENT CODE, including Section 212.172 as amended, between the City and the owner of property and/or Developer(s) located within the extraterritorial jurisdiction (ETJ) of the City.

Agreement, Escrow. A written agreement between the City and a Developer(s) of property providing a financial assurance from the Developer(s) to the City as a guarantee that certain public improvements will be constructed by the Developer(s) in accordance with City regulations or in lieu of construction of thoroughfares, water, wastewater, stormwater or drainage facilities by the Developer(s) prior to the City's issuance of a permit.

Agreement, Facilities. A written agreement between the City and a Developer(s) that is required as a condition of final plat approval and complies with the requirements of Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements* of this Chapter, the purpose of which includes but is not limited to, ensuring that new development is adequately served by Infrastructure and that Infrastructure improvements are constructed according to City regulations, providing financial guarantees for project completion, payment of contractors and maintenance of Infrastructure improvements after acceptance by the City, providing for fees, dedication of land and other matters related to development of the subject property.

Agreement, Maintenance Bond or Maintenance Guarantee. A bond, letter of credit, cash escrow, or other financial assurance in the form required by the City to ensure that Infrastructure dedicated to the City for public use or as part of a public system, will be maintained and in good repair and working order for a period of two (2) years from the date of final acceptance by City pursuant to action by the City Council, and such guarantee shall be for 100% of the value of such Infrastructure as set forth in an approved Facilities Agreement.

Agreement, Professional Services. A written agreement between the City and a Developer(s) that is required as a condition of submission of Construction Plans and complies with the requirements of Section 02.03.044, *Facilities and Professional Services Agreements, Financial Assurances, and Construction Contracts for Public Improvements*. Whereby the City will retain consultants to provide a wide variety of professional services including, but not limited to engineering services and legal services as needed to (i) assess the City's current ordinances, and potentially draft new ordinances, (ii) assess infrastructure needs and demands, traffic needs and demands, City services needs and demands, and water and wastewater infrastructure needs and demands, and (iii) assess legal issues that will be associated with or necessitated by the possible development of the Property.

Alley. A minor right-of-way, generally dedicated to public use, which affords a secondary means of vehicular access to the back or side of properties otherwise abutting a street, and which may be used for utility service purposes.

Amending Plat. See *Plat, Amending*.

Amenity. Aesthetic or other physical improvements added to a development that increase its quality, desirability, and/or marketability to the public, and that are described within Section 02.03.079(c)(1), *Elements requiring a HOA*, of this Ordinance.

Appeal. A request for review of and relief from any decision or provision of this Chapter when expressly authorized in this Chapter.

Appendix 1, Standards of Design and Construction. A document adopted by the City that is intended to establish standards for the design and construction of public facilities within the City of Kaufman.

Applicant. The person or entity responsible for the submission of an application who is either the legal owner of the property for which an application is submitted or is a duly authorized representative of the property owner.

Also, see *Developer*.

Application. The package of materials, including but not limited to an Application Form, exhibits, completed checklist, Tax Certificates or other proof of ownership, Construction Plans, special drawings or studies, and other informational materials, that is required by the City to initiate City review and approval of a development project.

Application, Complete. See *Complete Application*.

Application Form. The written form (as provided by and as may be amended by the City) that is completed and executed by the Applicant and submitted to the City along with other required materials as a part of an Application.

Approval. A determination by the official, board, commission or City Council, as required by this Chapter and/or applicable City Ordinance, responsible for making the determination that the submitted Application complies with the minimum requirements of this Chapter and/or other applicable City Ordinances. Approval does not mean that the City has approved engineering or surveying information contained in the plans, as the design engineer or surveyor that sealed the plans is responsible for the adequacy of such plans.

Arterial. A general term for a Street or Thoroughfare, which has a more specific meaning when used in conjunction with a class distinction, such as Major, Minor, Type A, Type B, etc. Each class provides a certain degree of continuity, capacity and accessibility to adjacent land uses.

Arterial, Major. A Thoroughfare designed to accommodate cross-city traffic movement, distributing traffic to and from minor thoroughfares and collector streets. **Major Thoroughfares** are divided roadways that typically have an ultimate width of six lanes. Such streets shall also be as described within Appendix 1, *Standards of Design and Construction*, and as described and defined in the Master Thoroughfare Plan. Also is referred to as "Type A-"

Arterial, Minor. A Thoroughfare designed to accommodate neighborhood-to-neighborhood (intra-city) traffic movement, distributing traffic to and from collector streets. **Minor Thoroughfares** are divided roadways that typically have an ultimate width of four (4) lanes with a median to accommodate turn lanes and landscaping. Such streets shall also be as described within the *Appendix 1, Standards of Design and Construction*, and as described and defined in the Master Thoroughfare Plan. Also is referred to as "Type B."

Block. A grouping of Lots that are partially or fully surrounded by one or more streets. Lots separated only by an alley are within the same block.

Buildable Area. The portion of a lot exclusive of required minimum yard and other area requirements, including without limitation, easements and setbacks, within which a structure or building improvements may be erected.

Building. Any structure intended for shelter, occupancy, housing or other type of enclosure of persons, animals or property. **When separated by dividing walls without openings, each portion of such structure so separated shall be deemed a separate building.**

Building Line. A line parallel, or approximately parallel, to any front lot line at a specific distance therefrom, marking the minimum distance from the front lot line to the point where a building may be erected.

Building Pad. The actual foundation area of a building and a ten foot (10') clear area around the foundation necessary for construction and grade transitions.

Building Permit. An official certificate issued by the City through the Chief Building Official that indicates conformance with or approved conditional exception from City regulations and authorizes construction of Buildings or other described construction on the premises for which it is issued.

Build-to Line. A parallel or approximately parallel line to any front property line at a specific distance determined by zoning district, marking the maximum distance from the front property line to the point where a building may be erected.

Building Official. The person so designated by the City Manager to serve as the Building Official of the City of Kaufman with the authority provided under state law, this Chapter, and other applicable ordinances of the City. This term shall also include any designee of the Building Official.

Caliper Inch. Method of measuring the trunk diameter of a nursery grown tree. The point of measurement is approximately six (6) inches above the top of the root ball.

Centerline, Streets or Alleys. An imaginary line erected midway between the outer boundary lines of the right-of-way area of a street or alley. Where the bounding right-of-way lines are irregular, the centerline is to be determined by the Director of Public Works and/or the City Engineer. Engineering.

Certificate of Occupancy. An official certificate issued by the City through the Building Official that indicates conformance with or approved conditional exception from City regulations and authorizes legal use of the premises for which it is issued; may be referred to as an Occupancy Permit.

Certified Land Division. A map, drawing or chart delineating parcels of land offered for rent or lease for other than agricultural uses and which: is not required by state statute to be filed in the map and plat records of the county; does not involve or require the dedication of public streets or alleys; and has been certified by the City Council as having met the conditions of this Chapter. A certified land division shall be treated as a subdivision plat under these regulations, except that it is properly certified for filing with the City Secretary rather than the county clerk. In addition, a plat of the property indicating legal boundaries and any public dedications and easements shall be prepared, reviewed by staff, approved by the City Council, and filed with the Kaufman County Clerk.

City. The municipal corporation of the City of Kaufman, Texas.

City Attorney. The person(s) so designated by the City Council to provide oversight for and have legal responsibility for the City. This term shall also include any designee of the City Attorney.

City Council. The duly elected governing body of the City of Kaufman, Texas.

City Engineer. The person so designated by the City Manager to provide oversight for and have responsibility of the Engineering Division/Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the City Engineer.

City Manager. The person so designated by the City Council, or the City Manager's designee.

City Official or Administrator. Any person, elective or appointive, or any employee, or any board or commission authorized or constituted by City ordinance or state law to act on behalf of the municipality.

City Required Percentage. The percentage of land dedication as well as the percentage of fees the City of Kaufman requires to be dedicated and/or paid in order to satisfy the requirements only of Section 02.03.080 Parkland Dedication and Development.

Clear-Cutting. The random cutting, plowing, or grubbing of trees without regard to type or size for the purpose of clearing the land.

Code. Shall mean the entire City of Kaufman's Code of Ordinances.

Commencement. The date of the official start of the development of the project – usually considered at the initial disturbance of soils.

Commission. The Planning & Zoning Commission of the City of Kaufman. See *Planning & Zoning Commission*.

Community Facilities. Improvements which are not dedicated to the public, but which provide for common use by multiple property owners, such as neighborhood amenities (amenity center buildings swimming pools, playgrounds, sports courts, seating areas, shade structures, picnic and grilling area, dog parks, ponds fountains, plaza, etc.), private parks, open space lots, private sidewalks, and trails, private drainage facilities, private water

and wastewater collection systems, franchise utilities, landscaping and hardscaping improvements, signage, entryway features, common driveways and alleys, parking lots, shared trash facilities, etc. The facilities are often owned and maintained by a homeowners' association or other property owners' association, a utility company, or the specific property owners' who benefit from the improvement.

Comprehensive Plan. The City's officially adopted *Comprehensive Plan* which includes policies, in written and graphic form, on (but not limited to) thoroughfares, land use, parks, open space, hike and bicycle trails, and other facets of the City's physical form; such policies govern the future development of the City and consist of various components governing specific geographic areas, functions, and services of the City.

Commercial Building Plans. (include MF permits

Construction Plans. The drawings and technical specifications that conform to this Ordinance and all other applicable ordinances of the City. This definition includes but is not limited to Construction Plans for public and/or private infrastructure improvements required as part of the platting process, wastewater, water, streets, drainage, bid documents, contract conditions, facilities agreements, maintenance agreements and escrow agreements, where applicable, provide a graphic and written description of the character and scope of the work to be performed in construction of a development. Also known as civil construction plans.

Construction Release. Official authorization by the City, through the Director of Engineering, that indicates conformance with City regulations and authorizes construction of improvements or other described construction, in conformance with approved Construction Plans, on the premises for which it is given.

Crosswalk. A public right-of-way, four (4) feet or more in width between property lines, which provides pedestrian circulation.

Day, Business. Shall be defined as Monday through Friday, excluding City-recognized holidays.

Day, Calendar. Each day of a particular calendar year.

Dead End Street. A street, other than a cul-de-sac, with only one (1) outlet.

Deed Restriction. A limitation on the use of land set forth or referred to in the title deed of such land. Such limitations run with the land and are binding upon present and subsequent owners of the land. Deed restrictions are not enforced by the City.

Developer. A person or entity, limited to the property owner or duly authorized representative thereof, who proposes to undertake or undertakes the division or improvement of land and/or other activities covered by this Chapter so as to constitute a *subdivision*, including the preparation of a plat showing the layout of the land and the public improvements involved therein. The word *Developer* is intended to include the terms *subdivider*, *property owner*, and, when submitting platting documents, *applicant*.

Developer. As used only in Section 02.03.080 Parkland Dedication and Development, a landowner(s) of the subject property containing a proposed development or project.

Development. Any activities related to the platting or physical subdivision of land including the construction, reconstruction, conversion, or enlargement of buildings or structures; the construction of impervious surfaces (e.g., parking lots); the installation of utilities, roadways, drainage facilities or other infrastructure; or any disturbance of the surface or subsurface of the land in preparation for such construction activities, including grading, drainage, storage, paving, clearing, filling, and/or removal of vegetation or soil, and any mining, dredging, excavation or drilling operations.

Development. As used only in Section 02.03.072 Tree Preservation, Any manmade change to improved or unimproved real estate including, but not limited to, buildings and other structures, paving, drainage, or utilities, and agricultural activities.

Development Agreement. See Agreement, Development.

Development Application. An application for any type of plat or construction plan/drawing authorized or addressed by this Chapter. Also may be referred to as a *permit* within the TEXAS LOCAL GOVERNMENT CODE, CHAPTER 245.

Diameter at Breast Height (DBH). The diameter of the tree trunk diameter measured in inches at a height of four feet (4') above the soil line. For multiple-trunk trees, the diameter of the tree trunk shall be the sum of the diameter of the individual trunks for the purpose of measuring DBH.

Director of Development Services. The person so designated by the City Manager to provide oversight for and have responsibility of the Development Services Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the Director of Development Services.

Director of Engineering. The person so designated by the City Manager to provide oversight for and have responsibility of the Engineering Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the Director of Engineering.

Director of Parks & Recreation. The person so designated by the City Manager to provide oversight for and have responsibility for the Parks & Recreation Division/Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the Director of Parks & Recreation.

Director of Public Works. The person so designated by the City Manager to provide oversight for and have responsibility of the Public Works Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the Director of Public Works.

Drip Line. A vertical line run through the outermost portion of the crown of a tree and extending to the ground.

Driveway. A paved entranceway serving primarily vehicles that allows for access to a lot or facility and is intended for vehicular movements between the roadway and any portion outside the street right-of-way.

Dwelling Unit. Any building, structure or mobile home, or part thereof, which is designed, used or intended to be used for human occupancy as the living quarters, of one housekeeping unit or family.

Dwelling Unit. As used only in Section 02.03.080 Parkland Dedication and Development, any building or portion thereof, which contains living facilities, including provisions for sleeping, eating, cooking and sanitation, as required by this code, for not more than one family. Dwelling units include temporary or quasi-dwelling units such as: suites within hotel or motel-type uses, suites within senior care or assisted care-type facilities, accessory dwelling units, and mobile or semi-mobile living facilities since they all house people who will impact the Parks and Recreation System.

Easement. A specific right in a particular area of real property that exists because of an express or implied agreement between the landowner and another party that grants the right to use or access the land area, but not ownership.

Electrical, Transmission Line. Electrical lines operated at voltages of 60,000 volts or higher that bring power from a generating plant to an electrical sub-station.

Electrical, Feeder Line. An electrical line that emanates from an electrical sub-station or hub to distribute power throughout an area.

Electrical, Lateral Line. An electrical line that emanates from a feeder line, typically through a sectionalizing device like a fuse or a disconnect, to distribute power to smaller areas of electric consumers, such line can be either single or three phase.

Electrical, Secondary Service Line. An electrical line which, through a transformer, connects a lateral line to a

customer's electrical service entrance.

Engineer. A person who has been duly licensed by the Texas Board of Professional Engineers to engage in the practice of engineering in the State of Texas. (Also known as *Professional Engineer, Registered Engineer, Registered Professional Engineer, or Licensed Engineer.*)

Entry Turnaround. An esplanade opening or other accommodation provided at the entrance to a private street development in order to allow vehicles denied access to reenter the public street with a forward motion without unduly disturbing other vehicles at the entrance.

Erosion Hazard Setback. A defined area adjacent to a stream on which development is prohibited due to significant hazards associated with a flood situation unless major channel stabilization has occurred.

ETJ. See *Extraterritorial Jurisdiction.*

Exception. An exception to a particular standard or requirement of this Chapter that is granted because compliance with the Ordinance requirements would substantially limit the applicant's ability to utilize the land in a manner requested and requires City Council approval.

Exemption. A specified reason why a particular development is not subject to the requirements to plat or to a specific provision of this Ordinance.

Extraterritorial Jurisdiction (ETJ). The unincorporated area, not a part of any other municipality, which is contiguous to the corporate limits of the City, the outer limits of which are measured from the extremities of the corporate limits of the City outward for the distance as stipulated in CHAPTER 42 OF THE TEXAS LOCAL GOVERNMENT CODE, according to the population of the City, and in which area the City may regulate subdivisions and enjoin violation of provisions of this Chapter.

Facilities. Infrastructure and other structures that support a development including, but not limited to, water distribution lines, wastewater collection lines, storm water lines and other storm water management devices, thoroughfares, sidewalks, private utilities, etc.

Facilities Agreement. See *Agreement, Facilities.*

File/Filed/Filing. See *Official Filing Date and Submission.*

Fire Chief. The person so designated by the City Manager to provide oversight for and have responsibility of the Fire Department. As used for responsibility and review purposes within this Chapter, this term shall also include any designee of the Fire Chief.

Fire Lane. See definition in the City's adopted Fire Code.

Flood Plain. The area designated as being within the one hundred (100) year flood plain on the Federal Emergency Management Agency flood insurance map.

Green Belt. An open space area consisting primarily of natural features that may be located in a floodplain or along a creek channel, be used as a buffer between land uses, or be used as an open space linkage between various land uses.

Grubbing. Excavating or removing a significant part of the root system.

Habitat Study. A completed research project that gathers and compiles information pertinent to the natural habitat for threatened or endangered species and habitats used for nesting birds listed in the Migratory Bird Treaty Act.

Hike & Bike Trail. A paved and maintained pathway for pedestrians and bikers that serves as a linkage for access to recreational and educational areas and facilities.

Homeowners Association (HOA). A community association that is organized within a development in which individual owners share common interests and responsibilities for open space, landscaping, amenities, or facilities, and which operates under recorded land agreements. This term also includes Property Owners' Associations (POAs) and Property Management Corporations (PMCs) which are more typically formed for multi-family and nonresidential developments.

Improvement. Any man-made fixed item that becomes part of or placed upon real property.

Improvement, Public. Any improvement, facility or service together with its associated public site, right-of-way or easement necessary to provide transportation, storm drainage, public or private utilities, parks or recreational, energy or similar essential public services and facilities, for which the City ultimately assumes the responsibility, upon a Letter of Final Acceptance being issued, for maintenance, operation and/or ownership.

Infrastructure. Facilities and services needed to sustain industrial, residential, commercial and all other land use activities. The term infrastructure includes but is not limited to water, wastewater collection lines, and other utilities, streets and roads, communications, and public facilities, such as fire houses, civic buildings, parks, and schools.

iSWM. The acronym for integrated Storm Water Management, which is a guide for the construction and design of developments. This guide is intended to help mitigate the impact of developments on storm water runoff by considering such runoff during early site planning and design phases and was created by the North Central Texas Council of Governments (NCTCOG).

Landscape Buffer. An area of permanent vegetation that is adjacent to a residential subdivision, non-residential property, vacant land, but not thoroughfare.

Land Planner. Any person skilled in the art and science of arranging and designing the layout of land so as to create adequate and desirable building sites, a coordinated street system, and space appropriate to the efficient removal of stormwater and the provision of public services and utilities, all consistent with long range goals and the objectives of the *Comprehensive Plan*. A land planner may be trained in any of several specialties; and, where appropriate to his experience, the term may include architects, engineers, landscape architects, and surveyors.

Land Preparation. Means any grading, site work, paving (including all-weather material), filling, alterations to the elevation, tree removal, utility extensions or work, or other activity that lends itself to making land more development ready or augments its natural state. Legitimate private agricultural activities and their associated facilities are excluded from this definition.

Lot. An undivided tract or parcel of land that is or may be offered for sale, conveyance, or improvement and is occupied or intended to be occupied by a building or group of buildings. A lot has its principal frontage on a public street or on an officially approved private street, as shown on a plat of record or described by metes and bounds.

Lot Depth. The horizontal distance measured perpendicularly between two (2) points on the front lot line and two (2) points on the rear lot line which creates an area that meets (or exceeds) the zoning district's minimum width and depth requirements. Lot depth shall not include easements that are located behind the front building line that impair the use of the lot surface as a yard.

Lot Frontage. That dimension of a lot or portion of a lot abutting on a street, excluding the side dimension of a corner lot.

Lot Lines. The lines bounding a lot as defined herein. May also be referred to as a *Property Line*.

Lot Line, Front. The narrower side of the lot abutting a street. Where two (2) lot lines abutting streets are of equal length, the owner shall have a choice in designating which shall be designated as the *Front Lot Line*, and therefore the lot frontage. For a lot which has a boundary line which does not abut the front street line, is not a rear lot line and lies along the same general directional orientation as the front and rear lot lines, said line shall be considered

a front lot line in establishing minimum setback lines. (see Zoning Ordinance, Appendix A, Illustrations).

Lot Line, Rear. The lot line farthest from and most parallel to the front lot line. For triangular lots, the point opposite the front lot line shall be considered the rear lot line and have a value of zero. (see Zoning Ordinance, Appendix A, Illustrations).

Lot Line, Side. Any lot line not the front or rear lot line.

Lot of Record. A lot which is part of a subdivision, the plat of which has been recorded in the office of the County Clerk of Kaufman County or a lot subdivided by metes and bounds description prior to February 1984.

Lot Width. The horizontal distance measured between side lot lines parallel to the front lot line, and measured from the point on the building line that is closest to the front lot line.

Lot, Corner. A lot which has at least two (2) adjacent sides abutting for their full lengths on a street, provided that the interior angle at the intersection of such two (2) sides is less than one hundred thirty-five degrees (135°).

Lot, Double Frontage. A lot having a frontage on two (2) non-intersecting streets, as distinguished from a corner lot.

Lot, Flag. A lot having access to a street by means of a parcel of land having a depth greater than its frontage, and having a width less than the minimum required lot width. May also be referred to as a Panhandle Lot.

Lot, Interior. A lot other than a corner lot.

Lot, Key. A corner lot that is designed such that the lots located directly behind it face the side street of the corner lot and are not separated by an alley.

Major Arterial. See *Arterial, Major*.

Maximum. For the purposes of this Ordinance, “the maximum” is the amount that is the upper limit allowed by this ordinance less than the maximum may be allowed, unless otherwise specified.

Metes and Bounds. A method of describing the boundaries of land by directions and distances from a known point of reference.

Minimum. For the purposes of this Ordinance, “the minimum” is the amount that is the least amount required of a Developer but more than the minimum may be provided, unless otherwise specified.

Minor Modification. A minor change to the standards, but not the intent, of this Chapter, which involves Director’s approval unless otherwise noted.

Mobile Home Park. A tract of land designed, used or intended for the renting or leasing, but not sales, of sites for the location, occupancy, or accommodation of one or more mobile home dwellings.

MS4. The acronym for the City’s Municipal Separate Storm Water System.

Official Filing Date. Defined as the date on which the plat has met all the requirements of the Chapter following staff or administrative review, fees have been paid, and that plat is scheduled for final approval by the Planning & Zoning Commission by placement on the Commission agenda.

Off-Site (also known as “off-premises”). Any premises not located within the area of the property to be subdivided, whether or not in common ownership with the applicant submitting an application.

Open Space. Any land parcel or natural area that is set aside, dedicated, designated, or reserved for public use and enjoyment, or for private use and enjoyment of owners and occupants of the land adjoining or neighboring such open space area. Open space includes, but is not limited to greenbelts, trails, landscaped pedestrian paths, bicycle paths, natural or landscaped streams, natural or artificial lakes and other water features. Open Space does not include streets, alleys, utility easements, public parks or required building setbacks. Open space typologies for

~~residential developments are described in the Kaufman Neighborhood Vision Book.~~

Ordinance (also referred to as “this Ordinance”). Refers to this Subdivision Ordinance of the City, as may be amended in the future.

Park. Includes a variety of parks, trails, open spaces, natural preserves, gathering spaces and recreation opportunities and facilities that are open and accessible to the general public and located within a convenient distance of the residences to be served thereby. ~~An area developed for active or passive play and recreation that includes open space, sports courts or fields, play equipment, and trails.~~

Park, Community. A park of approximately 50 to 75 acres, serving an area two (2) miles in diameter, serving a population of approximately 20,000 persons and encompassing the service areas of four or more school parks. Community parks may typically contain lighted athletic facilities for more active play purposes, such as ball fields for football, softball, baseball and soccer, and a recreation center or swimming pool. These parks may be located adjacent to existing or proposed greenbelt areas and proposed junior and senior high school sites.

Park, School. A park of approximately 10 to 25 acres, serving an area one-half mile in diameter and serving a population of approximately 20,000 people. School parks should be designed to service a specific neighborhood area and may include playground apparatus and other space for active recreational purposes, along with some areas for passive use. School parks should be located adjacent to elementary and/or junior high school sites, and existing or proposed greenbelt areas whenever possible.

Parks, Recreation, and Trails ~~Open Space~~ Master Plan. The City’s officially adopted Plan that includes policies in graphic and text form; such policies govern the future development of the City’s park system, open space, and recreation programs, including the hike-and-bike trail system.

Parks, Regional. A park of approximately 75 to 100 or more acres, serving an area of at least 2 miles in diameter and serving a population of approximately 10,000 persons. Regional parks should be located adjacent to preserved natural resources, such as creeks, woodlands and/or native grasslands. Regional parks may include paved and unpaved trails, parking, amphitheatres, playgrounds and open space.

Pavement Width. The portion of a street available for vehicular traffic. Where curbs are paved, it is the portion between the face of the curbs.

Pedestrian Access. A specifically designated place, path, means, or way by which pedestrians shall be provided safe, adequate, and usable circulation through the interior of a property or development.

Permit. A license, certificate, approval, registration, consent, permit, contract or other Facilities Agreement for the construction or provision of service from a utility owned, operated, or controlled by the City, or other form of authorization required by law, rule, regulation, order, or ordinance, which has been approved by the City, that a person or entity must obtain to perform an action or initiate, continue, or complete a project for which the permit is sought, and for which the application for the permit or information required to be submitted for consideration provides notice of the project to the City.

Person. Any individual, association, firm, corporation, governmental agency or political subdivision.

Planning & Zoning Commission (also referred to as the “Commission”). A decision-making body appointed by the City Council which is responsible for subdivision and plat approval, as permitted by State law, and which has any other authority conferred upon it by the City Charter, this Ordinance, or other regulations of the City.

Plat. A map, drawing or exhibit which shows the exact layout and proposed construction of a proposed development into one (1) or more lots, blocks, streets, parks, school sites, easements, alleys and/or any other elements as required by this Ordinance, including any engineering or construction standards for related improvements, and which conforms to all requirements of this Ordinance and any other applicable City ordinance, and which is subject to approval by the Planning & Zoning Commission, unless otherwise specified.

Plat, Amending. A map, drawing or exhibit that modifies a recorded final plat, record plat, or minor plat in accordance with the provisions of this Chapter.

Plat, Conveyance. A map, drawing or exhibit which conforms to Section 02.03.032, *Conveyance Plats*, of this Chapter for the purpose of sale or conveyance. A conveyance plat may be the first step in the development of a project, especially if the project will be developed in phases and off-site easements need to be platted prior to the final platting of the entire tract.

Plat, Development. A map, drawing or exhibit for a parcel of land that is five (5) acres or larger for which the owner or subdivider claims exemption from CHAPTER 212, SUBCHAPTER "A" of the TEXAS LOCAL GOVERNMENT CODE, which conforms to Section 02.03.039, *Development Plats*, of this Chapter and is submitted to the City for consideration for final approval by the City Council. The plat illustrates that the subdivision of land is consistent with all standards of this Chapter pertaining to the adequacy of public facilities and the installation of or provision for public improvements. Once approved, such plat is submitted to the County Clerk of Kaufman County for recording.

Plat, Final. A map, drawing or exhibit which conforms to Section 02.03.035 *Final Plats*, of this Chapter and is submitted to the City for consideration for final approval by the City Council. The plat illustrates that the subdivision of land is consistent with all standards of this Chapter pertaining to the adequacy of public facilities and the installation of or provision for public improvements. Once approved, such plat is submitted to the County Clerk of Kaufman County for recording.

Plat, Minor. A map, drawing or exhibit dividing land into no more than four (4) lots that meets the submission and approval requirements of Section 02.03.036, *Minor Plats*, of this Ordinance. The Director of Development Services may approve such plat. Such plat is also considered a Final Plat.

Plat, Preliminary. A map, drawing or exhibit which conforms to Section 02.03.034, *Preliminary Plats*, of this Chapter and is submitted to the City for consideration for initial approval by the City Council. Such plat is not to be recorded, but illustrates the general layout of a proposed subdivision, the adequacy of public facilities needed to serve the proposed subdivision, and the overall compliance of the applicable requirements of this Ordinance. Such plat is reviewed and decided prior to approval of a Final Plat.

Plat, Replat. The re-subdivision of all or part or all of any block or blocks of a previously platted subdivision, addition, lot or tract, that is beyond the definition of an Amending Plat, and which does not require the vacation of the entire preceding plat. Such plat also conforms to Section 02.03.037, *Replats*, of this Chapter. A Replat may function as a Final Plat for a property.

Progress (towards completion). Shall have the same meaning set forth in Section 245.005(c) of the TEXAS LOCAL GOVERNMENT CODE, as it exists or may be amended, unless another meaning is specified.

Project. An endeavor over which the City exerts its jurisdiction and for which more than one (1) permit is required to initiate, continue, or complete the endeavor.

Property Owner. The legally recognized proprietor of the land for which an application is being submitted. (Also, see *Developer*)

Property Owners Association. An organization similar to a Homeowners' Association that is established for the ownership, care, and maintenance of private streets and other private commercial facilities.

Protective Fencing Chain link, orange vinyl construction fence or other fencing at least four feet (4') in height.

Public Improvement. See *Improvement, Public*.

Public Way. An officially approved, privately maintained street or roadway, constructed to City street standards, open to unrestricted and irrevocable public access, serving two (2) or more lots that provides the primary means of access and providing fire lane and utility easements.

Record Drawings. A group of drawings or plans that depicts the final configuration of the installed or constructed improvements of a development, improvements that have been verified by the contractor as their installation or construction occurs during development. The record drawings shall reflect the Construction Plans (or working drawings) used, corrected, and/or clarified in the field.

Replacement Tree. Trees planted to mitigate the loss of protected trees during Development.

Residential Development. The actual or proposed use of land for one or more buildings or structures that are designed or intended to be used, in whole or in part, as dwelling units.

Residential Uses. As used only in Section 02.03.080 Parkland Dedication and Development includes single-family residential and multi-family residential uses.

Residential, Multi-Family. As used only in Section 02.03.080 Parkland Dedication and Development includes structure(s) or projects with more than one dwelling unit on one lot or mix-use structures containing at least one dwelling unit. Includes two-family or duplex residential. Includes group or community home-type uses. Structures that have restricted usage of one person per room (documentation must be provided with building permit application), dwelling unit count shall be assessed based on the number of rooms available for residential living, divided by the person per household number stipulated in **Section 02.03.080 Parkland Dedication and Development Methodology**, to ascertain number of dwelling units to be utilized in determining dedication and/or fees required. Multi-family residential projects shall be assessed parkland fees and pay parkland fees **in the adopted fee schedule** prior to the issuance of a building permit.

Residential, Single-Family. As used only in Section 02.03.080 Parkland Dedication and Development includes structure(s) with one dwelling unit on one lot, not to include mixed use or live-work structures. Any one proposed lot containing only one proposed dwelling unit shall be assessed parkland fees and pay parkland fees prior to filing an associated plat for record.

Responsible Official. The City staff person who has been designated by the City Manager to perform one or more of the specific tasks (this term also includes designees), including without limitation those persons identified in Section 02.03.012 of this Article

Right-of-Way. A use of land dedicated by plat or metes and bounds to and for use by the public, which is separate and distinct from the lots and parcel abutting it, and which is not included within the dimensions or areas of such lots or parcels. The term *right-of-way* generally describes an area used for the provision of streets and utilities. Unless otherwise specified, the term *right-of-way* shall refer to a public right-of-way.

Riparian Study. An ecologically-based study that addresses the three (3) major components of a stream (channel, Floodplain, and transitional upland fringe).

Road, or Roadway. See *Street*.

Roadway Landscape Easement. An area of permanent vegetation that is adjacent to a thoroughfare that may include utility easements, sidewalks, and be crossed by drives providing ingress and egress.

Screening. A barrier intended to separate and limit visibility between that which is on either side of the barrier, for example, a thoroughfare and adjacent land uses.

Security Station (i.e. guard house). A building and gate system to control vehicular access to private street developments, which may be a mechanical device or a manned structure.

Sidewalk. A concrete walking surface of various widths intended primarily for pedestrian use.

Stacking Area. A vehicle setback measured from a point on a building designed for drive-up service and the area assigned for queuing.

Street or Thoroughfare. A roadway for vehicular traffic and other public uses, whether designated a street, highway,

thoroughfare, parkway, throughway, road, avenue, boulevard, lane, place or however otherwise designated. An alley is not considered a street.

Street, Centerline. An imaginary line designated midway between the bounding right-of-way lines of a street or alley.

Street, Collector (also feeder streets, secondary thoroughfares, etc.). A paved roadway that provides vehicular circulation within neighborhoods and from minor streets to major thoroughfares. Due to similarity of traffic volume and wheel loadings, streets through commercial and industrial areas are frequently constructed to the same design as collector streets.

Street, Cul-de-Sac. A roadway having but one outlet to another street, and terminated on the opposite end by a vehicular turn-around.

Street, Dead-End. A roadway, other than a cul-de-sac, with only one outlet.

Street, Improved. A roadway that has been constructed or reconstructed to meet the City's minimum standards regarding right-of-way width, pavement width, and/or pavement type, as defined in Appendix 1, *Standards of Design and Construction*.

Street, Local Residential (also Minor Thoroughfares or streets, etc.). A paved roadway that is primarily used for providing direct vehicular access to abutting residential property.

Street, Local. A roadway that is intended to provide a high level of access to adjacent developments and, generally, a low level of mobility. Such streets shall also be as described within the *Comprehensive Plan* and Appendix 1, *Standards of Design and Construction*.

Street, Major Thoroughfare (also arterial streets, primary thoroughfares, etc.). A paved roadway that provides vehicular movement from one neighborhood to another, to distant points within the urban area or to freeways or highways leading to other communities.

Street, Mews. A mews street is a grassy, landscaped area on which houses or housing units may face in lieu of facing a paved street (See Section 02.03.073(f), *Mews Streets*, for regulations).

Street, Minor Thoroughfare. A paved roadway that is primarily used for providing through access from neighborhood to neighborhood or commercial areas.

Street, Private. A privately owned roadway within a subdivision for which the private owners assume full responsibility for maintenance and control and which has not been dedicated to the use of the public. This term is inclusive of related alleys.

Street, Stub. A roadway that has been designed to allow for the future extension of the street through subsequent subdivisions.

Street, Substandard. An existing street that does not meet the current minimum street standards of the City.

Street, Unimproved. A roadway that does not meet the City's minimum standards regarding right-of-way width, pavement width, and/or pavement type, as defined in the *Appendix 1, Standards of Design and Construction*. Most unimproved streets are former country roads that were built before an area was annexed into the City limits and/or before the City implemented thoroughfare design standards.

Subdivider or Developer. An individual, firm, association, syndicate, partnership, corporation, or other organization dividing or proposing to divide land, or making improvements to such land, so as to effect a subdivision of land.

Subdivision. The division of any lot, tract, or parcel of land into two or more lots or sites for the purpose of sale or of building development, whether immediate or future. The term includes resubdivision or replatting of an existing

subdivision, building upon, or other development of land, but does not include the division of land into tracts where each resulting lot is more than five acres in size; does not involve or require any new street, alley or easement of access; and no public improvement is being dedicated. As part of a subdivision, if any lot is proposed to be five acres in area or smaller, the entire parent tract must be platted together with such other lots or tracts. When appropriate to context, the term subdivision shall relate to the process of subdividing or to the land subdivided. The definition does not include the combining of two or more continuous tracts, lots, sites, or parcels for the purpose of creating one or more legal lots in order to achieve a more developable site, except as otherwise provided herein. (Need something about combining tracts into a lot.)

Subdivision Ordinance or Subdivision Regulations means the Kaufman Subdivision Ordinance duly adopted by the Kaufman City Council, Ordinance No. O-24-99, as amended, prior to the effective date of this Ordinance.

Subdivision Plan. A subdivision development plan, subdivision plan, subdivision construction plan, land development application, site development plan or site plan require for approval of a Plat, which is authorized under *TEXAS LOCAL GOVERNMENT CODE, CHAPTER 212, SUBCHAPTERS A and/or B*. A subdivision Plan excludes a Zoning Plan. A Subdivision Plan does not include a site plan required for a Zoning Plan or for building permit approval.

Substandard. A condition of a road or other public improvement that does not meet the City's current right-of-way, design, capacity or construction standards.

Substantial Activity.??

Surety. A bond, letter of credit, or letter of financial guarantee from a financial institution authorized to operate in the State of Texas.

Surveyor. A person who practices the profession of surveying and is licensed by the State of Texas as a State Land Surveyor or a Registered Public Surveyor.

TCEQ. The acronym for the Texas Commission on Environmental Quality.

TLGC. The acronym for the TEXAS LOCAL GOVERNMENT CODE.

Thoroughfare. See definition of Street.

Thoroughfare Plan Map. A component of the *Master Thoroughfare Plan* that generally represents the proposed grid-system of major and minor thoroughfares that will support the *Future Land Use Plan*. The exact locations of future roadways cannot be determined without engineering and environmental analysis, but the Map should be used as a guide as development occurs in terms of how connections should be made and by what type of thoroughfare. The Thoroughfare Plan Map also shows existing railroads and proposed transit rail stations.

Tree. Any self-supporting woody plant which will attain a trunk Caliper of three inches (3") or more Diameter at Breast Height (DBH) and which normally attains a height of at least fifteen feet (15') at maturity, with one (1) or more main stems or trunks and many branches

Tree Mitigation Fee. The Tree Mitigation Fee shall be the amount deemed necessary to purchase, plant, and irrigate a new tree, as provided in Section 02.03.072(k) Tree Mitigation Fee.

Tree Preservation Plan. A plan or drawing that illustrates which trees are to be preserved, which trees are to be removed, and the manner in which trees will be protected during the construction process.

Tree Survey. A plan or drawing that identifies the size, location and species of trees eighteen (18) Caliper Inches Diameter at Breast Height (DBH) on a property, as well as smaller trees that will be used to qualify for incentives under Section 02.03.072(j) Incentives for Preservation of Protected Trees.

Tributary. A riparian branch that feeds (i.e., flows into) a Major Creek, as identified and defined in the City's Riparian

Study, as amended.

TxDOT: The acronym for the Texas Department of Transportation.

Underground Utilities. ???

Utility Easement. An easement dedicated to the public for access, construction, reconstruction, and maintenance to water lines, wastewater collection lines, storm water collection lines, and those franchises granted permission by the City, utility district, or county to occupy the easement.

Utility, Private. Services, and any related facilities (e.g., distribution lines), not customarily provided by the City or public entities; such services generally include electricity, natural gas, and telecommunications.

Utility, Public. Services, and any related facilities (e.g., distribution lines), typically provided by the City, County, or publicly owned entity; such services include potable water distribution, wastewater collection, and storm water management.

Vegetative Study. A study in which the main purpose is identification and consideration of unique vegetative communities that are important for conserving biotic diversity and are rare due to conversion to other land uses.

Violation. Any failure to comply fully with this Chapter.

Wetland Delineation Study. A study in which the main purposes are to determine jurisdictional wetlands and to ensure compliance with SEC. 404 OF THE CLEAN WATER ACT and other applicable regulations of the U.S. Army Corps of Engineers.

Wetland. An area that is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

Zoning Ordinance. The City of Kaufman Zoning Ordinance.

Zoning Plan. A concept plan, site plan or similar document required to determine compliance with land use regulations which are authorized under Tex. Loc. Gov't Code, Ch. 211 as amended.

SEC. 02.03.103COMMONLY USED ABBREVIATIONS.

BOA. Board of Adjustment

CA Factor. Coefficient of Run-Off and Drainage Area

CC. City Council

CCN. Certificates of Convenience and Necessity

CCRs. Conditions, Covenants, and Restrictions (limitations placed on homeowners by the subdivision itself)

DRC. Development Review Committee (made up of representatives of various City departments who review development applications.

ETJ. Extraterritorial Jurisdiction (the geographical area outside the City limits that the City is allowed to annex into the City limits – the distance from the City limit boundary is set by the state and relates to population)

FEMA Federal Emergency Management Agency

GIS. Geographical Information Systems (mapping)

HOA. Homeowners' Association

MFF. Minimum Finished Floor Elevation (relates to floodplain)

NCTCOG. North Central Texas Council of Governments

P&Z. Planning & Zoning Commission

ROW. Right-of-Way (the paved roadway, grassy area adjacent to the roadway, and the center median)

TCEQ. Texas Commission on Environmental Quality

TIA. Traffic Impact Analysis (a study of the future impact of a particular set of circumstances, such as a new subdivision, on the entire traffic network)

UE. Utility easement

WME. Wall maintenance easement

Table 02.03.111: Applications - Responsible Officials, Initial Decision-Makers, and Appeals

Type of Application or Petition	Approval Authority	Appeal
<u>Amending Plat</u> <i>Section 02.03.038</i>	City staff	City Council
<u>Construction Plans</u> <i>Section 02.03.041</i>	City staff	n/a
<u>Construction Plans, Extension</u> <i>Section 02.03.041(h)</i>	City staff	n/a
<u>Construction Plan Release</u> <i>Section 02.03.041(i)</i>	City staff	n/a
<u>Conveyance Plat</u> <i>Section 02.03.033</i>	City staff	City Council
<u>Facilities & Professional Services Agreements, Financial Assurances</u> <i>Section 02.03.044</i>	City Council	n/a
<u>Development Plat</u> <i>Section 02.03.039</i>	City Council	City Council
<u>Final Plat</u> <i>Section 02.03.054</i>	City Council	City Council
<u>Land Study</u> <i>Section 02.03.032</i>	City Council	City Council
<u>Minor Plat</u> <i>Section 02.03.036</i>	City staff	City Council
<u>Plat Vacation</u> <i>Section 02.03.031</i>	City Council	City Council
<u>Alley or ROW Vacation</u> <i>Section 02.03.032</i>	City Council	n/a
<u>Preliminary Plat</u> <i>Section 02.03.034</i>	City Council	City Council
<u>Preliminary Plat Extension</u> <i>Section 02.03.034(k)</i>	City staff	n/a
<u>Replats</u> <i>Section 02.03.037</i>	City Council	City Council
<u>Exceptions to Subdivision Ordinance</u> <i>Section 02.03.086</i>	City Council	City Council
<u>Minor Modifications to Subdivision Ordinance</u> <i>Section 02.03.086</i>	City staff	City Council
<u>Vested Rights Petition</u> <i>Section 02.03.087</i>	City staff	City Council

TABLE 02.03.112 - REQUIRED LAND STUDY FEATURES

TABLE 02.03.112 - REQUIRED LAND STUDY FEATURES		Land Study
(a)	North Arrow;	■
(b)	Scale (both graphic and written) appropriate for the level of detail (typically: 1" = 200')	■
(c)	Legend identifying and describing all symbols used on the plat;	■
(d)	Location/Vicinity Map showing the location of the subject property by references to existing streets or highways	■
(e)	Title Block (located in the lower right corner) including the following information: (1) Titled Land Study Exhibit of proposed name of the addition with section or phases which matches the appropriate plat application (ex: "Land Study Exhibit of the Preliminary Plat of ____ Addition; (2) The name, address, phone number and email address of the Developer; (3) The name, address, phone number and email address of the land planner, engineer, or surveyor responsible for the design or survey illustrated on the exhibit; (4) Reference to original survey name and abstract number or previous plat with recording information; (5) Gross acreage; (6) Total number of lots and HOA/Open Space Lots; (7) Right-of-way acreage, if dedicated and/or reserved; and (8) Date of preparation and subsequent revisions	■
(f)	Subdivision boundary marked with heavy weighted lines with the bearings and length of each boundary line matching the appropriate plat exhibit;	■
(g)	Location, dimensions, purpose, and filing information for all existing and proposed easements, rights-of-way dedications, and right-of-way reservations, including, but not limited to streets, highways, alleys, and railroads, within and abutting the property;	■
(h)	Subdivision name of all adjacent platted properties (P.R.K.C.T.) within 200 feet shown in dashed lines, labeling the lot and block numbers, subdivision name, street names and plat record reference or record ownership information of all adjacent unplatted properties (D.R.K.C.T.) within 200 feet, to include owners across any adjacent right-of-way with recording information;	■
(i)	Proposed street names matching the associative plat, subject to the review and approval by Kaufman County;	■
(j)	Location and dimensions (full width and edge to centerlines) of all existing and proposed streets, thoroughfares, and alleys including corner clips acceleration/d deceleration lanes and turning lanes matching the associative plat;	■
(k)	Location and dimensions of non-residential driveways (full width and edge to centerlines) within the Land Study area and the adjoining land within 200 feet;	■
(l)	The uses of adjacent property within 200 feet, a general arrangement of future land uses including the approximate number of lots and any non-residential uses anticipated and a generalized circulation plan.	■
(m)	All existing, recorded and proposed residential lots, parks, public areas, and/or land dedication within or contiguous to the subject property;	■
(n)	Location of numbers and dimensions of existing lots, blocks, building lines, water courses, ravines, bridges, culverts, or other existing structures on the subject property;	■
(o)	The existing zoning and proposed uses of the Land Study area and on adjoining land, existing	■

TABLE 02.03.112 - REQUIRED LAND STUDY FEATURES

TABLE 02.03.112 - REQUIRED LAND STUDY FEATURES		Land Study
	permanent buildings, and railroad rights-of-way;	
(p)	Proposed densities, lot sizes and number of residential lots and blocks and the number of multi-family units;	■
(q)	The topography with existing drainage channels, or creeks, and other important natural features, all substantial natural vegetation, adjacent political subdivisions, or corporation limits, ETJ boundaries and school district boundaries;	■
(r)	Indicate existing floodplain and floodway boundaries with elevations listed from the FEMA Flood Insurance Rate Maps for Kaufman County,	■
(s)	Proposed general arrangement of land uses, included but not limited to park and school sites, public facilities, private open space, flood plains, and drainage ways, phasing plan and proposed non-residential and residential densities;	■
(t)	Note the phasing of development or the order of platting; and	■
(u)	Match lines & key map (if more than one sheet). Each sheet of a multi-page plat should be labeled as Sheet 1 of 3, Sheet 2 of 3, etc. in the lower right corner;	■

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
GENERAL FEATURES							
(a) Legal Description by metes and bounds, of the land to include the current owner’s deed record reference, survey name and abstract number, city, county, state, and gross acreage;	■	■	■	■	■	■	■
(b) North Arrow;	■	■	■	■	■	■	■
(c) Scale (both graphic and written) appropriate for the level of detail (typically 1” = 100’)	■	■	■	■	■	■	■
(d) Legend identifying and describing all symbols used on the plat;	■	■	■	■	■	■	■
(e) Location/Vicinity Map showing the location of the subject property by references to existing streets or highways	■	■	■	■	■	■	■
(f) Title Block (located in the lower right corner) including the following information: (1) Titled with Plat Type (ex: “Final Plat”, “Preliminary Plat”, etc.) (2) Subdivision name with section or phase, if applicable (Preliminary, Final and Minor Plats shall not have the same spelling as or be pronounced similarly to the name of any other existing subdivision located within the City or ETJ); (3) Total number of lots and HOA/Open Space Lots (4) Reference to original survey name and abstract number or previous plat with recording information; (5) City, County, State; (6) Gross acreage; (7) Right-of-way acreage, if dedicated and/or reserved; (8) Date of preparation and subsequent revisions	■	■	■	■	■	■	■
(g) Blocks with the following information: (1) Name(s), address, phone number and email of preparer, record owner, Developer, engineer, and/or surveyor (2) 3”X3” block for County recording seal;	■	■	■	■	■	■	■
(h) Lot and block numbers in consecutive order (lot numbers are numbers; block numbers are letters). Common areas must be assigned a lot number followed by an “X” and a block number;	■	■	■	■	■	■	■
(i) Location and dimensions of all boundary lines, lot lines, the City limit line (if any), and/or the outer border of the City’s extraterritorial jurisdiction when such lines or borders traverse or are contiguous to or within 200 feet of the subdivision.	■	■	■	■	■	■	■

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
(j) Location, dimensions, purpose, and filing information for all existing and proposed easements, rights-of-way dedications, and right-of-way reservations, including, but not limited to streets, highways, alleys, and railroads, within and abutting the property;	■	■	■	■	■	■	■
(k) Provide written certification that all necessary easements are secured for the various utility providers, and include the locations, dimensions, purpose and filing information of such easements within and abutting the property	■	■	■	■	■	■	■
(l) An amending plat may be required to modify an existing off-site easement that has been dedicated by plat that needs to be modified (See Section 02.03.043(d), Off-Site Easements)	■						
(m) Subdivision name of all adjacent platted properties (P.R.K.C.T.) within 200 feet shown in dashed lines, labeling the lot and block numbers, subdivision name, street names and plat record reference or record ownership information of all adjacent unplatted properties (D.R.K.C.T.) within 200 feet, to include owners across any adjacent right-of-way with recording information;	■	■	■	■	■	■	■
(n) Proposed street names, subject to the review and approval by Kaufman County;			■	■		■	■
(o) Acreage or square footage of right-of-way dedicated should be shown, including corner clips and deceleration/turn lanes on the Plat;			■	■		■	■
(p) Dimensions of streets (full width and edge to centerlines) drives and alleys;	■	■	■	■	■	■	■
(q) Show length and radii of all street segments;	■	■	■	■	■	■	■
(r) Curve table for existing and proposed streets, drives and alleys;	■	■	■	■	■	■	■
(s) All existing, recorded and proposed residential lots, parks, public areas, and/or land dedication within or contiguous to the subject property;	■	■	■	■	■	■	■
(t) Location of numbers and dimensions of existing lots, blocks, building lines, water courses, ravines, bridges, culverts, or other existing structures on the subject property;	■	■	■	■	■	■	■
(u) Subdivision boundary marked with heavy weighted lines with deed record dimensions or field surveyed dimensions if available, matching the legal description;	■	■	■	■	■	■	■
(v) Bearings and length of each boundary line;	■	■	■	■	■	■	■
(w) Acreage and square footage of individual proposed lots to 3 digits for each lot, tract, or site (e.g. 3.657 acres), such information shall	■	■	■	■	■	■	■

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
be shown in a table on the plat;							
(x) Proposed densities, lots size, and number of residential lots and blocks;	■	■	■	■	■	■	■
(y) Indicate existing floodplain and floodway boundaries with elevations listed from the FEMA Flood Insurance Rate Maps, 100-year, the City Master Drainage Plan, or other analyses approved by the City Engineer;	■	■	■	■	■	■	■
(z) Indicated the minimum finished floor elevation for all lots adjacent to the floodplain or other significant drainage ways	■		■	■	■	■	■
(aa) Match lines & key map (if more than one sheet). Each sheet of a multi-page plat should be labeled as Sheet 1 of 3, Sheet 2 of 3, etc. in the lower right corner;	■	■	■	■	■	■	■
(bb) Old lot lines and numbers should be “ghosted” if being abandoned;	■		■	■	■		■
(cc) State Plane Coordinates (grid) – primary control points of descriptions, and monumentation ties to such control points to which all dimensions, angles, bearings, block numbers, and similar data shall be referred;	■	■	■	■	■	■	■
(dd) Locations, materials, and size of all monuments found and set;	■	■	■	■	■	■	■
(ee) Layout of lots and blocks as well as setbacks or easements for existing and proposed water, wastewater, stormwater , drainage, access, fire lane, and any other easements with dimensions;	■	■	■	■	■	■	■
(ff) All proposed rights-of-way dedication or reservation shall be in conformance with the City of Kaufman and Kaufman County Thoroughfare Plans;	■	■	■	■		■	■
(gg) All building setbacks along all rights-of-way in accordance with the City of Kaufman Zoning Ordinance and Kaufman County Subdivision Ordinance for lots in the ETJ;	■		■	■	■	■	■
(hh) Lot number shall be noted as follows: (1) The first replat shall include the letter “R” following the lot number, as “Lot 1R, Block A” (2) Any subsequent replats shall include a number following the “R”, as in “Lot 1R-1, Block A”;	■						■
Standard Notations							
(ii) “All lots comply with the minimum size requirements of the zoning district.” (ETJ plats shall omit);	■	■	■	■	■	■	■

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
(jj) "All lots comply with the minimum size requirements for aerobic septic systems." (Applicable to ETJ plats and those lots w/i the city served by an aerobic septic systems)	■	■	■	■	■	■	■
(kk) "This property may be subject to charges related to impact fees and the applicant should contact the City regarding any applicable fees due."	■	■	■	■	■	■	■
(ll) "All common areas, drainage easements, and detention facilities will be owned and maintained by the HOA/OA. Any common areas within the City's right-of-way are required to be an HOA "X" lot."	■		■	■	■	■	■
(mm) "All common area/HOA lots or floodplain may contain a public trail and shall provide an access easement for the public to use the trail" (only applicable to those plats where an there is an existing or proposed trail);	■		■	■		■	■
(nn) "Notice – selling a portion of this addition by metes and bounds is a violation of City ordinance and State law and is subject to fines and withholding of utilities and building permits.";	■	■	■	■	■	■	■
(oo) "This plat does not alter or remove existing deed restriction, if any, on this property.";	■	■	■	■	■	■	■
(pp) "Minimum finished floor elevations are at least 2 feet above the 100-year flood plain."	■		■	■	■	■	■
(qq) The City reserves the right to require minimum finish floor elevations on any lot contained within this addition. The minimum elevations shown are based on the most current information available at the time the plat is filed and are subject to change."	■		■	■			■
(rr) "The subject property does not lie within a 100-year flood plain according to Community Panel No. _____, dated _____, of the National Flood Insurance Rate Maps for Kaufman County, Texas." (Indicate which lots are applicable to this notation);	■	■	■	■	■	■	■
(ss) "The purpose of this plat is _____ (state the purpose) _____."	■						■
(tt) "The purpose of the Conveyance Plat is to provide for its legal conveyance without developing the subject property and for land recordation functions only. Approval and the subsequent filing of the Conveyance Plat does not constitute approval of any type of development on the subject property, as no building or development permits shall be issued, not permanent utility services provided, for land that has only received approval as a Conveyance Plat."		■					

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
(uu) "Bearings are based on the State Plane Coordinate System, Texas North Central Zone (4202), North American Datum of 1983 (NAD'83)."	■	■	■	■	■	■	■
(vv) "No overhead utilities are permitted on the subject property.";	■	■	■	■	■	■	■
(ww) If property is located in ETJ and there is private parkland include the following notation as required in Section 02.03.080?????: The Developer has entered into a written agreement that such private parkland shall be dedicated to the City at the time of full purpose annexation into the City .				■			
OTHER PLANS							
(Need note reference to refer back to plat types if these plans will be required)							
(xx) Preliminary Drainage Plans and if applicable a Preliminary Stormwater Management Plan (SWMP) (maybe shown on the same sheet);	■		■	■	■	■	■
(yy) Preliminary Utility Plans;	■		■	■	■	■	■
(zz) Hydrologic and Hydraulic Analysis						■	
(aaa) Floodplain Study, if applicable;	■		■	■	■	■	■
(bbb) Environmental Assessment Study, if applicable;						■	
(ccc) Wetland Delineation Study, if applicable;						■	
(ddd) Habitat Study, if applicable;						■	
(eee) Vegetative Study, if applicable;						■	
(fff) Erosion Hazard Setback Study, if applicable;						■	
(ggg) Storm Drainage Study, if applicable;						■	
(hhh) Riparian (i.e., Tributary) Study, if applicable;						■	
(iii) Flood Study, if applicable;						■	
(jjj) Downstream Assessment Study, if applicable;						■	
(kkk) Traffic Impact Study, if applicable;			■	■	■	■	■
(lll) Tree Survey, or statement of no protected tress on site."			■	■	■	■	
(mmm) Land Study; (*required for road or thoroughfare realignment)			■	*		■	
(nnn) Phasing Plan;			■			■	
(ooo) A survey or site plan (applicable for those lots or tracts with existing structures);	■	■	■	■	■	■	■
SIGNATURE BLOCKS (SEE BELOW)							
(ppp) Certificate of Registered Professional Land Surveyor	■	■	■	■	■	■	■
(qqq) Owner's Acknowledgement and Dedication	■	■	■	■	■	■	■
(rrr) Certificate of Plat Approval	■	■	■	■	■	■	■

TABLE 02.03.113 REQUIRED PLAT FEATURES

	Amending	Conveyance	Development	Final	Minor	Preliminary	Replat
ITEMS REQUIRED FOR FILING A PLAT							
(sss) Size and number of mylar and black line paper copies of the plat with all original seals and signatures as required by the City of Kaufman and Kaufman County for filing purposes.;	■	■	■	■	■	■	■
(ttt) Provide the required number and sizes of plat exhibits as described in the plat applications with all original seals and signatures.;	■	■	■	■	■	■	■
(uuu) Tax Certificates from each taxing entity, signed and sealed from County Tax Office.	■	■	■	■	■	■	■
(vvv) Filing fee as determined by Kaufman County Clerk's Office	■	■	■	■	■	■	■

(bbb) (Certificate of Registered Professional Land Surveyor example)

CERTIFICATE OF REGISTERED PROFESSIONAL LAND SURVEYOR

STATE OF TEXAS §
COUNTY OF _____§

I, the undersigned, a (Licensed Professional Engineer/Registered Professional Surveyor) in the State of Teas, hereby certify that this plat is true and correct and was prepared from an actual survey of the property made under my supervision on the ground.

(Engineer or Surveyor's Seal)

Licensed Professional Engineer
Or Registered Professional Surveyor

Date

STATE OF TEXAS §
COUNTY OF _____§

BEFORE ME, the undersigned authority, on this day personally appeared _____, known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he executed the same for the purposes and considerations therein stated.

Given under my hand and seal of office this ____ day of _____, 20__.

NOTARY PUBLIC

_____ County, Texas

(ccc) (Owner's Acknowledgement and Dedication example)

OWNER ACKNOWLEDGEMENT AND DEDICATION

STATE OF TEXAS §
COUNTY OF _____§

I (we), the undersigned, owner (s) of the land shown on this plat within the area described by metes and bounds as follows:

(Metes and Bounds Description Boundary)

NOW, THEREFORE, KNOW ALL PERSON BY THESE PRESENTS:
THAT _____, acting herein by and through its duly authorized officer, does hereby adopt this plat designating the hereinabove described property as _____ (lot/block/subdivision), an addition to the City of Kaufman, Texas, and does hereby dedicate to the public use forever by fee simple title, free and clear of all liens and encumbrances, all streets, thoroughfares, alleys, fire lanes, drive aisles, parking spaces, parks and trails, and to the public use forever easements for sidewalks, storm drainage facilities, floodways, water mains, wastewater mains, and other utilities and facilities, and any other property necessary to serve the plat and to implement the requirements of the subdivision regulations and other City codes and do hereby bind ourselves, our heirs, successors and assigns to warrant and to forever defend the title on the land so dedicated. Further, the undersigned covenants and agrees that he/she shall maintain all easements and facilities in a state of good repair and functional condition at all times in accordance with City codes and regulations. No buildings, fences trees shrubs or other improvements or growths shall be constructed or placed upon, over, across the easements as shown, except that landscape improvements may be installed, if approved by the City of Kaufman. At no point shall any overhead utilities be installed on the subject property. The City of Kaufman and public utility entities shall have the right to access and maintain all respective easements without the necessity at any time of procuring permission from anyone.

By: _____ (Company Name if applicable)____
Owner: _____
Title: _____
Date: _____

STATE OF TEXAS §
COUNTY OF _____ §

BEFORE ME, the undersigned authority in and for _____, County, Texas, on this day personally appeared _____, known to me to be the person and officer whose name is subscribed to the foregoing instrument known to me to be the person whose name is subscribed to the foregoing instrument, and acknowledged to me that he/she is _____, and that he/she is authorized to execute the foregoing instrument for the purposes and consideration therein expressed, and in the capacity therein stated.

GIVEN UNDER MY HAND AND SEAL OF OFFICE this _____ day of _____, 20 _____.

Notary Public in and for the State of Texas

Type or Print Notary's Name

My Commission Expires: _____

(ddd) (Certificate of Plat Approval example for **Amending, Conveyance and Minor Plats**)

<p>CERTIFICATE OF PLAT APPROVAL</p>	
<p>Approved</p>	
<p>_____</p> <p>City Official City of Kaufman, Texas</p>	<p>_____</p> <p>Date</p>
<p>Witness by hand this _____ day of _____, 20_____.</p>	
<p style="text-align: right;">_____</p> <p style="text-align: right;">City Secretary City of Kaufman, Texas</p>	

(ddd) (Certificate of Plat Approval example for **Preliminary, Final, Replats, Development and Vacation Plats**)

<p>CERTIFICATE OF PLAT APPROVAL</p>	
<p>Approved</p>	
<p>_____</p> <p>Planning and Zoning Commission Chairperson City of Kaufman, Texas</p>	<p>_____</p> <p>Date</p>
<p>_____</p> <p>Mayor City of Kaufman, Texas</p>	<p>_____</p> <p>Date</p>
<p>Witness by hand this _____ day of _____, 20_____.</p>	
<p style="text-align: right;">_____</p> <p style="text-align: right;">City Secretary City of Kaufman, Texas</p>	

TABLE 02.03.0114 CONSTRUCTION PLAN FEATURE REQUIREMENTS

WAITING FOR A LIST FROM CITY ENGINEER

Table 02.03.115 Construction Approval, Typical Inspections, Procedures and Criteria

TABLE 02.03.115 CONSTRUCT PLAN APPROVAL, TYPICAL INSPECTIONS PROCEDURES AND CRITERIA	
TYPICAL ITEMS NEEDS FOR PRE-CONSTRUCTION MEETING	
(a)	Recorded associated plat
(b)	Approved Facilities and/or Development Agreement(s)
(c)	Executed off-site easements (if necessary)
(d)	Approved set of Construction Plans
(e)	Approved TxDOT permit and approved TxDOT plans for access driveways or other improvements to TxDOT roads (if located along a TxDOT roadway)
(f)	Inspection Fee Payment (3% of the cost of the infrastructure)
(g)	Payment/Performance/Maintenance Bonds for the public infrastructure
(h)	Project schedule
(i)	Trench Safety Plan
(j)	SWPPP
(k)	Contact list all contractors/sub-contractors
(l)	Contract documents
(m)	Reimbursement fees to the City for review of plans and documents as needed
(n)	
(o)	
(p)	
(q)	
(r)	
(s)	

Table 02.03.0116 *Final Acceptance Checklist.*

Need the checklist from City Engineer

CITY OF KAUFMAN

Kaufman Standards of Design and Construction

Appendix 1



City of Kaufman, Texas

09/14 Final Draft

2023



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STANDARDS OF DESIGN AND CONSTRUCTION
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ARTICLE 02.031.000 GENERAL REQUIREMENTS

SEC. 02.031.001 INTRODUCTION.

- (a) Applicability. The “Standards of Design and Construction” are generated to implement the provisions of the Subdivision Ordinance and to provide for the orderly safe, healthy, and uniform development of the area within the corporate city limits and within the surrounding City extraterritorial jurisdiction (ETJ)
- (b) Supplemental Applicability. The *5th Edition of the North Central Texas Council of Government (NCTCOG) Standard Specifications for Public Works Construction* dated November 2017 as amended by the City of Kaufman Special Provisions are supplemental and are made a part of the Standards of Design and Construction. These documents are to be considered as the minimum requirements of engineering design. The adherence to the requirements of these documents and/or the approval by the City of Kaufman and its agents in no way relieves the developer or their engineer of the responsibility or adequacy of design, which may require more stringent stands than these, the completeness of plans and specifications or the suitability of the completed facilities. In unusual circumstances, the City of Kaufman may determine that designs other than those of the Standards are necessary and will inform the developer of such requirements before final engineering review.
- (c) Deviations. The developer and/or their representative shall obtain authorization from the City of Kaufman, in writing, for any deviations from the requirements set forth in the Standards of Design and Construction, Standard Specification for Public Works Construction.

SEC. 02.031.002 STANDARDS OF DESIGN AND CONSTRUCTION.

- (a) Authority. The “Standards of Design and Construction”, as adopted by the City of Kaufman, are set forth herein. These standards shall be considered as the minimum requirements, and it shall be the responsibility of the developer to determine if more stringent requirements are necessary for a particular development. It is not intended that the “Standards of Design and Construction” cover all aspects of a development.
 - (1) For those elements omitted, the developer will be expected to provide designs and facilities in accordance with good engineering practice and to cause the facilities to be constructed utilizing first class workmanship and materials.
 - (2) The City Engineer reserves the right to request additional information not covered within the “Standards of Design and Construction” to be included in the design plans by the developer/design engineer in order to validate the intent, safety, constructability, readability, and competence of the design plans.
 - (3) The developer/engineer must ensure that all design and construction is in accordance with all Federal, State, and local regulations, and must provide certification on the final plans. A copy of all determinations, permits, and approvals received from Federal, State, and local agencies must be provided to the Development Services Department prior to approval.
 - (4) All engineering design and plans submitted to the Development Services Department by the developer/design engineer shall be in conformance with he adopted “Standard of Design and Construction” that are in affect when the first submittal is received by the Development Services Department.
 - i. If subsequent submittals have not been received within one (1) year of the previous submittal, any subsequent submittals must conform to the current adopted “Standards of Design and Construction”. Approved construction plans will expire within one (1) year of approval date and must be reviewed and revised to meet the current adopted “Standards of Design and Construction”.

SEC. 02.031.003 STANDARD OF SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION.

- (a) The City of Kaufman Special Provision to the NCTCOG Standard Specifications for Public Works Construction, 5th Edition, November 2017, as adopted by the City of Kaufman is referenced in this document. The Standard Specifications for construction set forth the minimum requirements for materials and workmanship for streets, parking lots, sidewalks, drainage, water and wastewater systems.
- (b) In an effort to have uniformity and to facilitate maintenance, the City has adopted the North Central Texas Council of Governments (NCTCOG) Standard Drawings as modified by the City of Kaufman Special Provisions for certain facilities such as manholes, street sections, sidewalks, water, wastewater, storm water, curb inlets, barrier free ramps, etc. The City of Kaufman Special Provisions can be obtained from the Public Works Department. The NCTCOG Standard Specifications can be obtained from the North Central Texas Council of Governments web page (www.NCTCOG.org).

SEC. 02.031.004 INSPECTION OF CONSTRUCTION BY CITY PERSONNEL.

- (a) Inspection of construction and verification of compliance to the plans and specifications shall be conducted by the City of Kaufman staff under the direction of the City Engineer and/or the Director of Public Works. The facilities included in this inspection requirement are streets, sidewalks, parking lots, alleys, storm drainage facilities, water distribution systems, wastewater collection system, etc. The developer shall advise all of his construction contractors of this requirement.
- (b) No development will be accepted by the City until all construction has been approved by the City of Kaufman's staff. The developer shall be responsible for any additional expense to the City at a rate established by the City at that time when inspection is done after normal business hours of the City. The date of acceptance will be when all items have been accepted by the City Council. Twenty (20) months from the date of acceptance the City will determine any failures or defects and repairs will be made by the contractor.
- (c) The accepted method of inspection for underground utilities shall be videoed and the City will require a copy of such inspection. The developer or contractor shall be responsible for the cost of the videoed inspection.

SEC. 02.031.005 FRANCHISE AND PUBLIC UTILITIES TO BE UNDERGROUND.

- (a) All franchise and public utilities within a residential and commercial development shall be placed underground. Utilities are defined for this purpose as water pipelines, wastewater pipelines, storm water pipelines, natural gas pipelines, telephone wires, cable TV wires and electric wires.
- (b) In case of special or unique circumstances, the City may grant exceptions to this requirement (See Subdivision Regulations, Article 02.03.086 Exceptions and Minor Modifications). Any request for an exception should be submitted in writing to the City of Kaufman setting forth the justification for an exception. The granting of an exception by the City Council will be in writing. No work will be accepted without written approval from the City Engineer or in the case of franchise utilities, the Director of Public Works.

SEC. 02.031.006 SUBMITTAL TO UTILITY COMPANIES.

- (a) The developer shall be responsible for submittal of information needed to design private utilities for the development. This information shall be submitted to the franchise (gas, electric, phone, and cable) companies. Written confirmation from the franchise companies shall be submitted to the Public Works and Development Services Department, verifying that the affected utility companies have installed their respective utilities prior to engineering acceptance of project.

SEC. 02.031.007 REQUIREMENTS OF THE FINAL ENGINEERING DRAWINGS.

- (a) The final engineering drawings shall conform to the established “Engineering Drawings Requirements” and these Standards of Design. The Engineering Drawings Requirements are outlined in Exhibit “?”
- (b) The final engineering drawings will consist of drawings showing all information necessary to completely review the engineering design of improvements proposed for or affected by the site and sealed a Registered Professional Engineer within the State of Texas.

SEC. 02.031.008 ENGINEERING PLAN APPROVAL/CONSTRUCTION PERMIT RELEASE.

- (a) All review fees (plan, flood study, TIA, Lift station, etc.) shall be paid prior to commencement of construction and submittal of building permit as applicable.

SEC. 02.031.009 EASEMENTS AND RIGHT-OF-WAY.

- (a) All easements and right-of-way required for construction of a proposed project must be approved and accepted for filing prior to the approval or release of the final design/construction drawings.
- (b) Requirements for On-Site Easements and Right-of-Way Dedication to the City:
 - (1) All easements and right-of-way shall be dedicated on a plat. No separate instruments will be allowed.
 - (2) No structures (buildings, walls, fences, decks, swimming pools, signage/monuments, etc.) are allowed in or over any easements or rights-of-ways. No trees shall be planted within ten (10) feet of any public water or sewer line ten (10) inches in diameter or larger. No trees shall be planted within five (5) feet of any public water and sewer line less than ten (10) inches in diameter. No trees shall be planted within five (5) feet of any public storm system.
 - (3) All drainage and detention easements shall be maintained, repaired, and replaced by the property owner. This statement is to be noted on the plat.
 - (4) No public utilities allowed in detention easements.
 - (5) All rights-of-ways shall have a minimum ten (10) foot utility easement dedicated adjacent to them.
 - (6) Easement dimensions and other special requirements can be found in the utility’s respective section of these Standards.
- (c) Requirements for Off-Site Easements Dedicated to the City:
 - (1) All easement and right-of-way documents shall be on forms provided by the City.
 - (2) Owner/Developer shall furnish the City a current title report and, metes and bounds description, and exhibit that is signed and sealed by a Texas Registered Professional Land Surveyor that shows the easements’ and/or right-of-way, location, and current ownership information.
 - (3) All easements shall be reviewed and approved by the City Engineer prior to releasing the documents for signatures by the property owners.
 - (4) The individual or entity requesting the easement shall pay all fees plus filing fees required by the City of Kaufman and Kaufman County.
 - (5) The individual or entity shall return, to the Development Services Department, all originally signed documents, pay all outstanding fees plus a check for filing fees made out to Kaufman County for filing.

- (6) All filing information for all easements must be shown on all plats.
- (7) After recordation, a copy of the filed document will be forwarded to the property owner.

SEC. 02.031.010 FINAL ACCEPTANCE OF CONSTRUCTION PLANS.

- (a) Final Acceptance shall occur when all the items on the Checklist for Final Acceptance as outlined in Exhibit "A". Items on the checklist for final acceptance will vary per project and additional items not shown on the check list may be required.
- (b) After improvements have been constructed, the developer shall be responsible for providing to the City "As Built" or "Record Drawings". The Design Engineer shall furnish all digital files of the project formatted in Auto Cad 2020, or any other format required by the City or newer, and Adobe Acrobat (.pdf) format with a flash drive. The drive shall include a full set of plans along with any landscaping for residential subdivisions, wall plans, and details sheets.
- (c) Submit one (1)-set of printed drawings of the "Record Drawings" containing copies of all sheets. The printed sheets will be reviewed by the construction inspector **PRIOR** to producing the "Record Drawing" digital files on disk or flash drive. This will allow any revisions to be addressed prior to producing the digital files.
- (d) Record Drawing Disk drawings shall have the Design Engineers seal, signature and must be stamped and dated as "Record Drawings" or "As Built Drawings" on all sheets.
- (e) The City of Kaufman will not accept any Record Drawing disk drawings which include a disclaimer with the like or similar verbiage. A disclaimer shall not directly or indirectly state or indicate that the design engineer or the design engineer's surveyor/surveyors did not verify grades after construction, or that the Record Drawings were based solely on information provided by the construction contractor/contractors. Any Record Drawings which include like, or similar disclaimer verbiage will not be accepted by the City of Kaufman.

Example of Acceptable Disclaimer: To the best of our knowledge ABC Engineering, Inc., hereby states that this plan is As-Built. This information provided is based on surveying at the site and information provided by the contractor.

SEC. 02.031.011 CHANGES IN STANDARD OF DESIGN AND CONSTRUCTION AND SPECIFICATIONS AND THIS DOCUMENT.

- (a) These Standards of Design, Construction Specifications and this document can be modified by City Council through an ordinance. This document can also be updated from time to time to reflect changes in City requirements. It is the responsibility of the user to obtain the latest revisions of the City's requirements.

SEC. 02.031.012 to SEC. 02.031.019 RESERVED.

ARTICLE 02.031.020 STREETS

SEC. 02.031.0211 GENERAL.

- (a) The street system, including the street layout, shall be in accordance with generally accepted engineering practices and in compliance with the Comprehensive Plan, the latest City Master Thoroughfare Plan and Kaufman County Transportation Plan, the Zoning Ordinances, the Subdivision Regulations and other applicable regulations, as amended.
- (b) The drainage system, as incorporated into the street system, shall comply with **Section 3** of this document. The plans and specifications, design computations, if required, and other applicable data shall be submitted to the City for review.
- (c) Construction shall not commence prior to approval of the plans and specifications by the City. All changes during construction shall be submitted to the City Engineer and the Public Works Department for approval prior to any construction modifications.

SEC. 02.031.0212 STREET ARRANGEMENT.

- (a) Unless otherwise approved by the City, provisions shall be made for the extension of existing major arterials, collector streets and local streets in accordance with the City and Kaufman County Master Thoroughfare Plan and any specific street alignments as adopted by the City Council.
- (b) Off-center intersections will be considered for approval only for minor collectors and local streets and only when there is a minimum property line separation of one-hundredtwenty-five (125) feet unless otherwise approved by the City Engineer.
- (c) Within residential areas, the following design elements are encouraged:
 - (1) Developing only a limited number of access points to arterial streets bordering the subdivision;
 - i. More than one point of access;
 - ii. Incorporate curvilinear streets into the plan; and
 - iii. Incorporating a discontinuous residential street network, which utilizes three-way intersections in lieu of four-way intersections. When these factors are incorporated into a residential street plan, the result is enhanced character and traffic safety.

SEC. 02.031.0213 THOROUGHFARE AND STREET GEOMETRY.

- (a) Geometric Design Standards. Geometric design standards are presented in two (2) formats within this section, **Table 2.1** Thoroughfare Geometric Design Standards identifies specific design criteria for each standard roadway type. Figure 2.1A and 2.1B shows the typical cross-section for each standard roadway type. It is noted that dimensions shown are to the face of curb, unless specifically identified otherwise.
- (b) Each roadway type is keyed to the City Master Thoroughfare Plan, with the exception of local streets. The reader is referred to this document for information as to the locations where these roadways are to be used.

Table 2.1 Thoroughfare Geometric Design Standards

Thoroughfare Designation	P6D	M4D	M4U	Minor Collector	M3U		
Thoroughfare Type	Principal Arterial Divided 6-Lane	Minor Arterial Divided 4-Lane	Major Collector Undivided 4-Lane	Minor Collector/ Local Commercial Undivided	Minor Collector w/ Continuous Left Turn Lane	Local (Residential)	Alley
Number Traffic Lanes	6	4	4	2	2	2	1
Minimum Lane Width (feet)	12	12	11	11 +2 Parking	12	14.5	12
*Minimum R.O.W. Width (feet)	110	85	65	60	70	*50	20
Design speed (m.p.h.)	45	40	35	30	30	30	20
Posted Speed (m.p.h.)	40	35	30	25	30	?	—
Stopping sight distance (feet)	400	325	275	200	200	200	125
**Median Width (feet)	**16	**14	—	—	Left Turn Lane Width 14'	—	—
Minimum Lateral Clearance (feet)	6	6	6	6	6	—	—
Parking Permitted	NO	NO	NO	COM.-SOME RES.-YES	NO	RES.YES	NO
Minimum Horizontal Centerline Curvature (feet)	1200	850	Com.-700 Res.-600	Com.-500 Res.-350	Com.-500 Res.-350	Res.-250 Elbow -50'	See Details
Crest Vertical Curve Minimum K Value	120	80	50	30	30	30	10
Sag Vertical Curve Minimum K Value	90	70	50	40	40	40	20
Maximum Grade (%)	7.5(For max length of 200')	7.5(For max length of 200')	7.5	7.5	7.5	10.0	10.0
Minimum Grade (%)	0.7	0.7	0.7	0.7	0.7	0.7	0.7

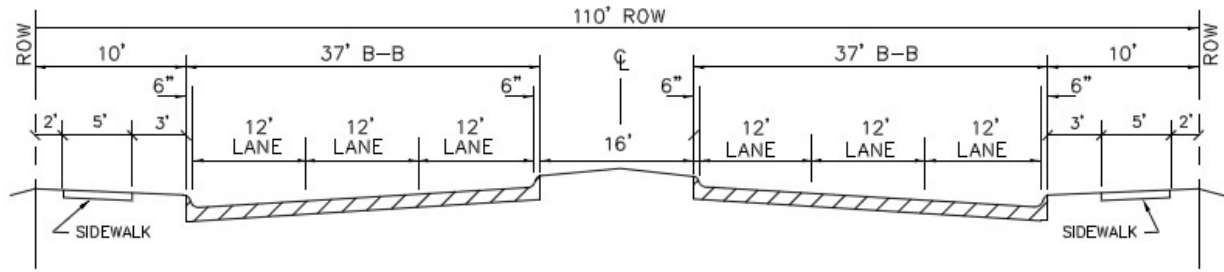
*RIGHT-OF-WAY REQUIREMENTS FOR STATE HIGHWAYS AND/OR THE PROVISION OF RIGHT TURN LANES OR OTHER INTERSECTION IMPROVEMENTS MAY EXCEED THIS MINIMUM R.O.W. STANDARD.

**LARGER MEDIANS MAY BE REQUIRED TO PROVIDE FOR MULTIPLE TURN LANES.

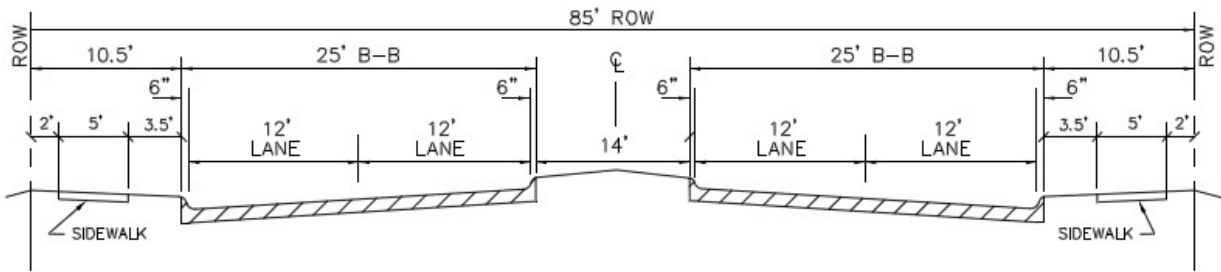
***LOCAL RESIDENTIAL CUL-DE-SACS SHALL HAVE A MINIMUM R.O.W. RADIUS OF FIFTY-SEVEN AND HALF FEET (57.5').

****CROSS-SLOPE VARIANCE NEEDS APPROVAL FROM CITY ENGINEER.

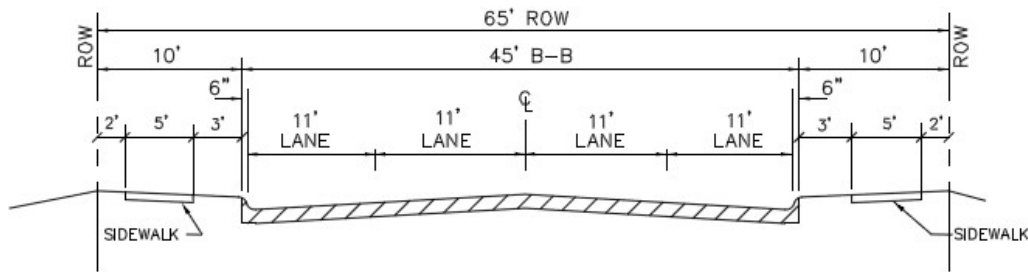
Figure 2.1A. Typical Thoroughfare Cross Sections



PRINCIPAL ARTERIAL DIVIDED 6-LANE
P6D

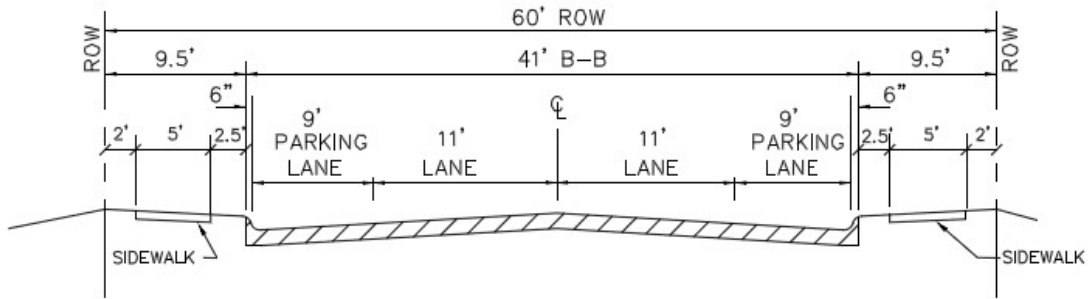


MINOR ARTERIAL DIVIDED 4-LANE
M4D

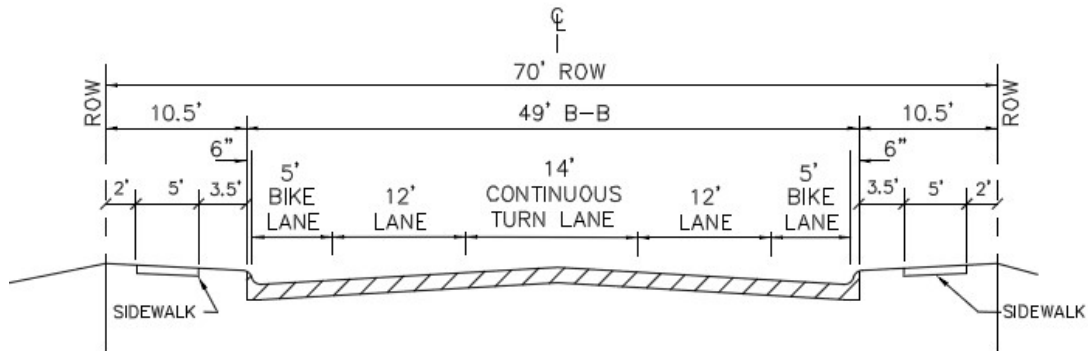


MAJOR UNDIVIDED COLLECTOR 4-LANE
M4U

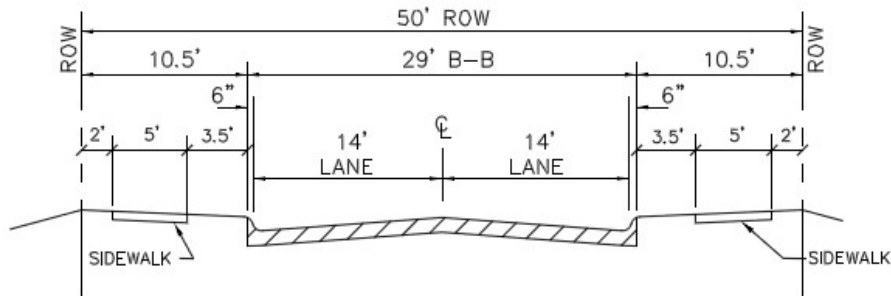
Figure 2.1B: Typical Thoroughfare Section



MINOR COLLECTOR AND/OR LOCAL COMMERCIAL UNDIVIDED

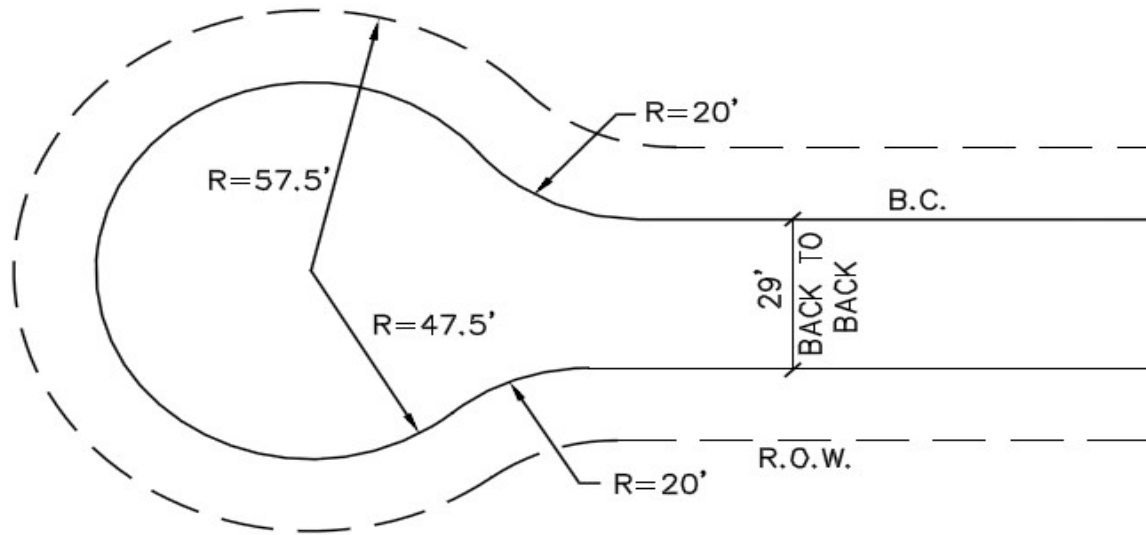


MINOR COLLECTOR – 2 LANE WITH CONTINUOUS LEFT TURN LANE
M3U

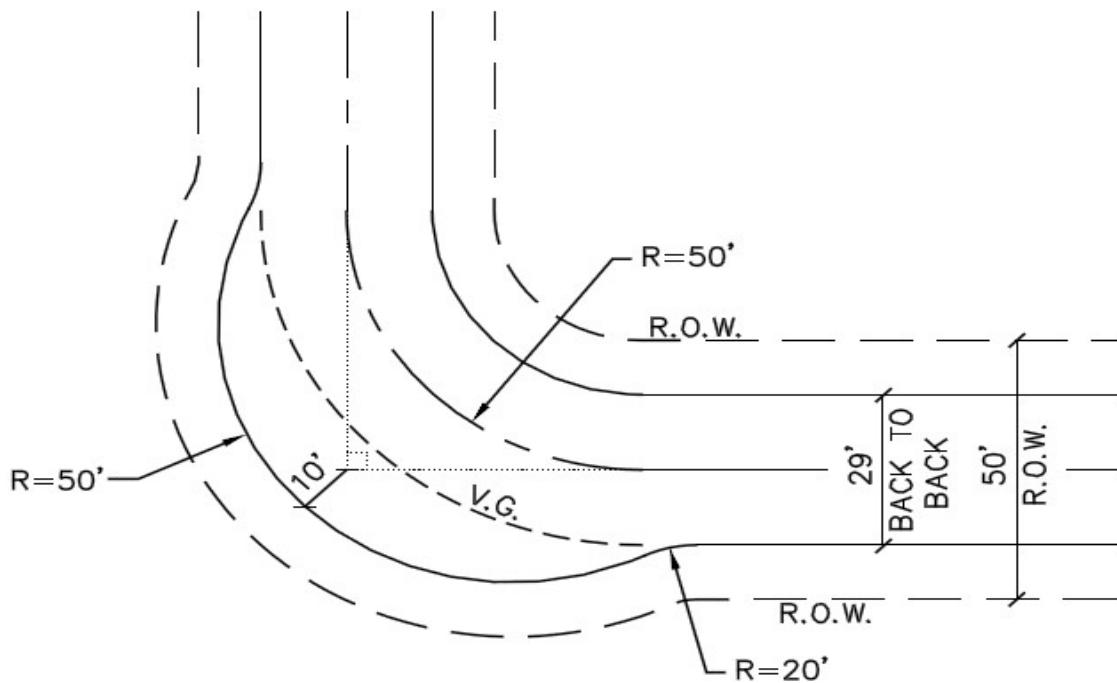


LOCAL (RESIDENTIAL STREET)

Figure 2.1C: Typical Thoroughfare Cross Sections



TYPICAL CUL-DE-SAC



TYPICAL EYEBROW

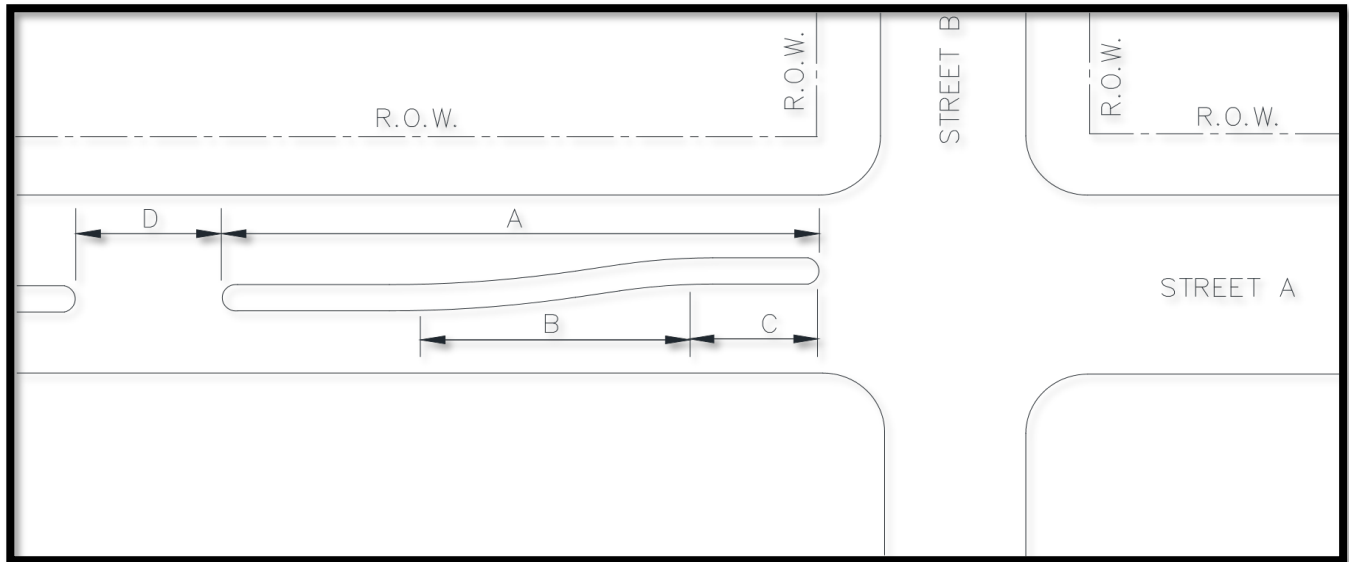
SEC. 02.031.0214 Turn Lanes.

- (a) All left turn storage areas shall be eleven (11) feet wide with minimum storage requirements for left-turn lanes as in Figure 2.2.
- (b) The transition curves used in left-turn lanes shall be two (2), two hundred-fifty (250)-foot radius reverse curves with a total transition length of one-hundred -feet (100') .
- (c) Medians less than seven (7) feet wide (face to face) are required to be constructed of reinforced integral stained and stamped color concrete a minimum of six (6) inch thick median pavement.
- (d) All median noses are to be constructed of City approved integral stained and stamped color concrete. The color and pattern to be approved by the City.
- (e) The paver system shall be installed a distance of ten (10) feet from the end of the nose.

SEC. 02.031.0215 MEDIAN OPENINGS, WIDTH, LOCATION AND SPACING.

- (a) Arterial thoroughfares in Kaufman have raised medians. Arterials having continuous two-way left turn lanes are discouraged and may be utilized only in special circumstances with the approval of the City Council.
- (b) Median openings at intersections shall be from right-of-way to right-of-way of the intersecting street, unless otherwise approved by the City Engineer.
- (c) The width of mid-block median openings shall not be less than sixty (60) feet, but no greater than seventy (70) feet.
- (d) Using the above requirements, examples of the minimum distance between median openings on a divided street where left-turn storage is provided in both directions are:
 - (1) Three hundred ten (310) feet from nose to nose of the median from the intersection of two major thoroughfares to a street or drive (see **Figure 2.2**);
 - (2) Two-hundredsixty (260) feet from nose to nose of the median from the intersection of two secondary thoroughfares or a secondary thoroughfare and a major thoroughfare to a residential street or a drive (see **Figure 2.2**), and;
 - (3) Two-hundredtwenty (220) feet from nose to nose of the median for intersection combinations of drives and/or residential streets (see **Figure 2.2**).
- (d) Medians less than seven (7) feet wide are required to be constructed of a City approved paver or stamped concrete system. All median noses are to be constructed of City approved paver or stamped concrete system, a distance of ten (10) feet from the end of the nose.
- (e) Any median that has landscaping requires a mow ramp to be installed for access.
- (f) Noses shall be a solid poured steel reinforced concrete bullet nose.

Figure 2.2: Median Design Standards



INTERSECTING STREET TYPE		MINIMUM LENGTH (FEET)			
STREET A	STREET B	A	B	C*	D**
Principal Arterial (6 Lanes)	Principal Arterial (6 Lanes)	310	100	150	60
Principal Arterial (6 Lanes)	Minor Arterial (4 Lanes)	260	100	100	60
Principal Arterial (6 Lanes)	Major Collector (4 Lanes) Minor Collector (2 Lanes)	260	100	100	60
Principal Arterial (6 Lanes)	Local/Private (2 Lanes)	260	100	60	60
Minor Arterial (4 Lanes)	Principal Arterial (6 Lanes)	310	100	150	60
Minor Arterial (4 Lanes)	Minor Arterial (4 Lanes)	260	100	100	60
Minor Arterial (4 Lanes)	Major Collector (4 Lanes) Minor Collector (2 Lanes)	260	100	100	60
Minor Arterial (4 Lanes)	Local/Private	220	100	60	60

LEFT-TURN STORAGE AREA WIDTH 11' MINIMUM

MEDIAN WIDTH (See Table 2.1 Geometric Design Standard For Principal And Minor Arterial).

***MINIMUM LENGTH – ACTUAL LENGTH DEPENDENT UPON ANTICIPATED TURN VOLUME**

****OR STREET WIDTH + 8 FEET – WHICHEVER IS GREATER. AN EXCEPTION MAYBE GRANTED BY CITY COUNCIL ON A CASE-BY-CASE BASIS.**

SEC.02.031.0216 DRIVEWAY SEPARATIONS.

- (a) Minimum standards for driveway separation accessing the same site are shown in **Figure 2.3**. This standard applies to all non-residential uses. The Director of Development Services and/or the City Engineer
- (b) There is a minimum distance upstream and downstream from adjacent intersections within which driveways should not be located. This separation distance varies with the classification of street and is shown in **Figure 2.3**. This standard applies to all non-residential users.
- (c) At mid-block access points, there is a minimum distance from a median nose, within which driveways should not be located. This is shown in **Figure 2.3** and is equally applicable along both major and minor arterials for non-residential uses. All proposed paving connections to existing paving require a longitudinal butt joint connection.

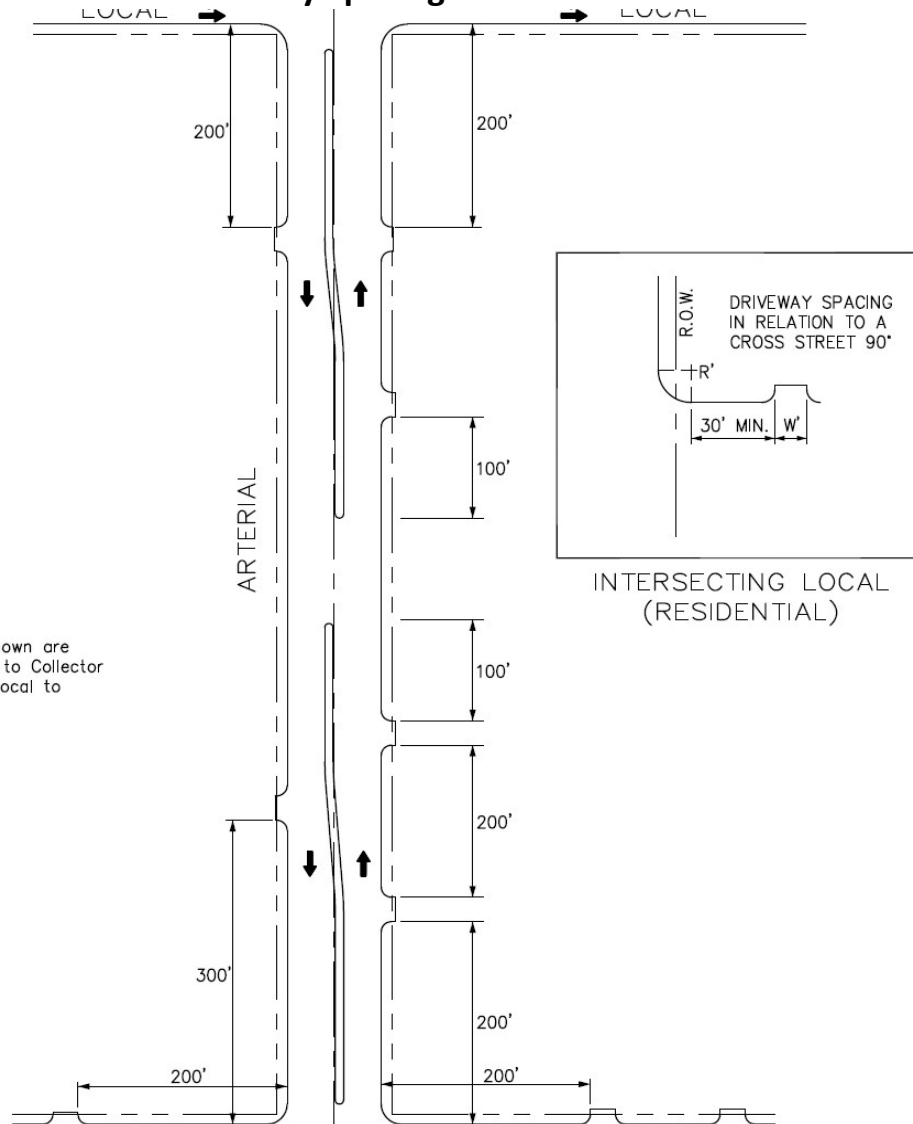
SEC. 02.031.0217 DRIVEWAYS ON TXDOT FACILITIES.

- (a) Driveways on TxDOT facilities shall be placed in accordance to City Standards set forth in this section and the requirements of the current TxDOT's Access Management Manual and require TxDOT Driveway Permit approval.
- (b) TxDOT Driveway Permits shall be processed through the Development Services.
 - (1) TxDOT Permit Plan sets shall be 11"x17" in size and signed and sealed by a licensed professional engineer with the State of Texas.
 - (2) Permit plan sets shall include: typical sections, paving plan, and profile, all applicable TxDOT standard details, traffic control plans sheets, striping plans, demo plans, drainage plans (drainage area map, storm sewer plans and profiles, culvert plans and profiles), and any other items required by TxDOT or City Engineer to construct the driveway.

SEC. 02.031.0218 BLOCK LENGTHS.

- (a) In general, streets shall be provided at such intervals as to serve cross traffic adequately and to intersect with existing streets. Where no existing plats control, the blocks shall be not more than twelve hundred (1,200) feet in length. Block arrangements must provide access to all lots, and in no case shall a block interfere with traffic circulation.

Figure 2.3 Minimum driveway Spacing and Corner Clearance



NOTE:
All dimensions shown are
minimums. Local to Collector
to be same as Local to
Arterial.

SEC.02.031.0219 STREET INTERSECTIONS.

- (a) More than two streets intersecting at one point shall be avoided. All streets and thoroughfares should intersect other streets and thoroughfares at an angle of ninety (90) degrees unless otherwise approved by the City Engineer.
- (b) Arterial and collector street intersections shall have property line corner clips with a minimum tangent distance of thirty (30) feet. Residential streets shall not normally be required to have a ROW corner clip at their intersection with other streets or thoroughfares, but a 10-foot by 10-foot sidewalk corner easement will be required.
- (c) Visibility easements will be required for all ninety-degree (90°) angle intersections. For all intersections that are not ninety-degree (90°) angles, an engineered visibility easement is required by the design engineer.
 - (1) Arterial/Collector street intersection – thirty (30) foot by thirty (30) foot easement;
 - (2) Residential street intersections – twenty (20) foot by twenty (20) foot easement;
 - (3) Alley to street intersections – ten (10) foot by ten (10) foot easement
- (d) Curb radii at intersections shall have a minimum radius of thirty (30) feet along arterials, twenty-five (25) feet along collectors and residential streets.
- (e) In any case where streets intersect at an angle of other than ninety (90) degrees, the City may require non-standard right-of-way corner clips and curb return radii. (
- (f) All proposed paving connections to existing paving require a longitudinal butt joint connection.

SEC.02.031.0220 RELATION TO ADJOINING STREETS.

- (a) The system of streets designed for the development, except in unusual cases, must connect with streets already dedicated in adjacent developments. Where no adjacent connections are platted, the streets must be the reasonable projection of streets in the nearest subdivided tracts and must be continued to the boundaries of the tract development, so that other developments may eventually connect with the proposed development.
- (b) Strips of land controlling access to or egress from other property or any street or alley or having the effect of restricting or damaging the adjoining property for development or subdivision purposes or which will not be taxable or accessible for special improvements shall not be permitted in any development unless such reserve strips are conveyed to the City on fee simple.
 - (1) This determination is made by the Director of Development Services or the City Engineer and/or the Public Works Director. When such access is needed to maintain permanent City owned utilities, the roadway will be an improved right-of-way. If the utilities are temporary, an improved easement may be approved.

SEC. 02.031.0221 DEAD-END STREETS, CUL-DE-SACS, AND COURTS.

Cul-de-sacs are permitted within residential subdivisions. Use of this design shall provide proper access to all lots and shall not exceed six hundred (600) feet in length, measured from the center of the cul-de-sac to the center of the intersecting street (not a dead-end street).

Cul-de-sac shall have a minimum paving radius of forty-seven and half (47 ½) feet and a minimum right-of-way radius of fifty-seven and half (57 ½) feet. Specific aspects of the standard cul-de-sac design are given in Figure 2.1C. In lieu of the typical design shown, the City may approve alternative concepts for a specific application.

SEC. 02.031.0223 ALLEYS AND ALLEY WIDTHS.

- (a) Alleys may be provided in all residential areas and shall be paved with steel reinforced concrete. No alley may be over twelve hundred (1,200) feet long.
- (b) The minimum width of an alley shall be twenty (20) feet. All alleys shall be privately maintained as a common area lot. Dead-end alleys shall not be permitted. The City may waive this requirement where such dead-end alleys are unavoidable and where adequate turnaround facilities have been provided.
- (c) Adequate provisions shall be made at all intersections in order that equipment, such as garbage collection vehicles and maintenance vehicles, can maneuver the corners.
- (d) The interior edge of the pavement, at the corners, shall have a minimum radius of thirty (30) feet.
- (e) The exterior edge of the pavement, at the corners, shall have a minimum radius of twenty (20) feet.

The alley paving is to be flared at the street intersection.

- (f) The alley width limits specified in these regulations shall be expanded, if necessary, beyond the minimum requirement in order to include all of the paved sections and utilities within the alley.
- (g) Alley turnouts shall be paved to the property line and shall be fifteen (15) feet wide at that point.
- (h) All alleys shall have a minimum of fourteen (14) feet of steel reinforced paved concrete roadway.
- (i) Alley shall have a minimum thickness of seven (7) inches on the exterior edges and five (5) inches in the center sections.

SEC.02.031.0224 STREET GRADES.

- (a) Arterial streets may have a maximum grade of seven and one-half (7 ½) percent, for a maximum continuous distance of two-hundred(200) feet.
 - (b) **Collector streets may have a maximum grade of seven and one-half (7 ½) percent.**
 - (c) **Residential streets may have a maximum grade of ten (10) percent, unless otherwise approved by the City Engineer and/or the Public Works Director, where the natural topography is such as to require steeper grades.**
 - (d) **All streets must have a minimum grade of at least seven-tenths (0.7) of one (1) percent.**
 - (e) **Centerline grade changes with an algebraic difference of more than one (1) percent shall be connected with vertical curves in compliance with the minimum length requirements set forth in Table 2.2A and Table 2.2B.**

Table 2.2A: Crest Vertical Curves

Design Speed (MPH)	Coeff. of Friction (a)	Stopping Sight Dist. (Ft.)	Stopping Sight Dist. Rounded for Design (Ft.)	K	K Rounded for Design
15	0.42	72.98	75	4.01	5
20	0.40	106.83	125	8.59	10
25	0.38	146.70	150	16.19	20
30	0.36	193.58	200	28.20	30
35	0.34	248.72	250	46.55	50
40	0.32	313.67	325	74.03	80
45	0.31	383.12	400	110.44	120

(a) AASHTO, p. 316

ROUNDED

MINIMUM LENGTH OF VERTICAL CURVE IN FEET (L = KA)

For Speeds and K Values Shown Below

Algebraic Grade Diff. (%) (A)	MPH	15	20	25	30	35	40	45
	K	5	10	20	30	50	80	120
1		5	10	20	30	50	80	120
2		10	20	40	60	100	160	240
3		15	30	60	90	150	240	360
4		20	40	80	120	200	320	480
5		25	50	100	150	250	400	600
6		30	60	120	180	300	480	720
7		35	70	140	210	350	560	840
8		40	80	160	240	400	640	960
9		45	90	180	270	450	720	1080
10		50	100	200	300	500	800	1200
11		55	110	220	330	550	880	1320
12		60	120	240	360	600	960	1440
13		65	130	260	390	650	1040	1560
14		70	140	280	420	700	1120	1680
15		75	150	300	450	750	1200	1800

Table 2.2B: Sag Vertical Curves

Design Speed (MPH)	Coeff. of Friction (a)	Stopping Sight Dist. (Ft.)	Stopping Sight Dist. Rounded for Design (Ft.)	K	K Rounded for Design
15	0.42	72.98	75	8.13	10
20	0.40	106.83	125	14.75	20
25	0.38	146.70	150	23.56	30
30	0.36	193.58	200	34.78	40
35	0.34	248.72	250	48.69	50
40	0.32	313.67	325	65.69	70
45	0.31	383.12	400	84.31	90

(a) AASHTO, p. 316

(b) AASHTO, p. 312

ROUNDED

**MINIMUM LENGTH OF VERTICAL CURVE IN FEET
For Speeds and K Values Shown Below**

(L = KA)

Algebraic Grade Diff. (%) (A)	MPH	15	20	25	30	35	40	45
	K	10	20	30	40	50	70	90
1		10	20	30	40	50	70	90
2		20	40	60	80	100	140	180
3		30	60	90	120	150	210	270
4		40	80	120	160	200	280	360
5		50	100	150	200	250	350	450
6		60	120	180	240	300	420	540
7		70	140	210	280	350	490	630
8		80	160	240	320	400	560	720
9		90	180	270	360	450	630	810
10		100	200	300	400	500	700	900
11		110	220	330	440	550	770	990
12		120	240	360	480	600	840	1080
13		130	260	390	520	650	910	1170
14		140	280	420	560	700	980	1260
15		150	300	450	600	750	1050	1350

SEC. 02.031.0225 PAVEMENT DESIGN.

- (a) Traffic projections for next thirty (30) years, engineered paving designs, and subgrade conditions are required for the pavement design section determinations of all collector and arterial streets.

SEC. 02.031.0226 SUBGRADE.

- (a) Subgrades shall be compacted and finished to a smooth uniform surface. Subgrades of native material which have a Plasticity Index (P.I.) of fifteen (15) or more shall be lime stabilized to a minimum depth of six (6) inches. The lime stabilization shall be used for the full width of the street, back of curb to back of curb, plus twelve (12) inches on outside of the curb. The minimum lime content shall be six (6) percent of the dry weight of the material (at least 27 lbs. per square yard).
- (b) Lime stabilization or concrete stabilization may be required for soils showing a P.I. of 15 or less. Type of stabilization and paving design will be determined prior to pavement construction by a certified geotechnical testing lab. The subgrade materials will be tested in accordance with the Standard Specifications for Construction, unless otherwise approved by the City.
- (c) In general, the soils testing will include the testing of Atterburg limits and testing of sulfates to determine if lime stabilization is infeasible. Laboratory tests must be submitted to the City Engineer and/or the Public Works Director for approval to determine amount of lime required.
- (d) Subgrades should be compacted to ninety-five (95) percent standard densities.
- (e) No sand is allowed under any paving.

SEC.02.031.0227 STEEL REINFORCED CONCRETE PAVEMENT.

- (a) All concrete pavement shall be steel reinforced. The size and spacing shall conform to the design standards in **Table 2.3** below. All non-structural cracks in paving shall be routed and sealed as determined by the City. All reinforcing steel placed within the public right-of-way shall be grade 60 steel and comply with Texas Department of Transportation.
- (b) Fly ash may be used in concrete pavement locations provided that the maximum cement reduction does not exceed 20% by weight per cubic yard of concrete. The fly ash replacement shall be 1.25 pounds per 1.0 pound of cement reduction.
- (c) At a minimum all concrete pavement shall conform to the design standards in **Table 2.3 below**.
- (d) Concrete batch designs for all paving, sidewalks, and sewer/storm structures are to be reviewed and approved by the City Engineer and/or the Public Works Director. All batch designs shall be submitted with history of recent cylinder breaks for each separate strength requirement (machine placement and hand placed). All batch designs shall have the current date, project name, and use labeled on each design. Submit batch designs to the City Engineer and/or the Public Works Director a minimum of ten (10) days prior to the projected placement date for review and approval. Submit concrete batch plant permit to the Development Services Department for location approval.
- (e) During construction the contractor shall furnish the following at his own expense:
 - (1) Batch plant control from a qualified commercial laboratory. Laboratory personnel shall be competent to determine free moisture in aggregates and make needed adjustments in control of the mix and slump.
 - (2) Prepare a minimum four (4) compression cylinders for each one-hundredfifty (150) cubic yards of concrete or fraction thereof, with one (1) cylinder break at seven (7) days, one at fourteen (14) days, and a minimum of two cylinders broken at twenty-eight (28) days. **Note* No averaging on cylinder breaks.**

- (3) Testing labs are to submit copies of any and all concrete cylinder breaks that do not meet the twenty-eight (28) day break specifications. Cores are to be taken within ten (10) days of any twenty-eight (28) day cylinder break failures.
- (4) Test data and copies of all laboratory reports for site work are to be directed to the attention of the designated engineering construction inspector that is assigned to the project.

Table 2.3: Steel Reinforced Concrete Pavement Design

Street/Pavement Type	Minimum Thick-ness (inches)	Strength 28-Day (psi)	Minimum Cement (sacks / CY)		Steel Reinforcement	
			Machine placed	Hand Placed	Bar #	Spacing (O.C.E.W.)
Arterial *	10"	3,600	6.0	6.5	#4 bars"	18"
Collector *	8"	3,600	6.0	6.5	#4 bars	18"
Residential	6"	3,600	6.0	6.5	#3 bars	24"
Alley	7"-5"-7"	3,600	6.0	6.5	#3 bars	24"
Fire Lane	6"	3,600	6.0	6.5	#3 bars	24"
Driveways	6"	3,600	6.0	6.5	#3 bars	24"
Barrier Free Ramps	6"	3,600	N/A	6.5	#3 bars	24"
Sidewalks	4"	3,000	N/A	5.5	#3 bars	24"
Parking Lot/Drive Aisles	5"	3,000	5.0	5.5	#3 bars	24"
Dumpster Pads	7"	3,600	6.0	6.5	#3 bars	24"

* Paving section designs for arterials and collectors shall be based off thirty (30) year projected traffic volumes and geotechnical analysis/report. (Paving section design shall include but not limited to the following: pavement thickness, reinforcing size and spacing, pavement strength, subgrade thickness, subgrade treatment type (lime or cement))

- (f) The City of Kaufman may suspend concreting operations if the quality of the concrete being placed is not acceptable or due to adverse climate conditions. Concrete placement shall cease if the concrete temperature meets or exceeds ninety-five (95) degrees Fahrenheit. If in the opinion of the owner or the City of Kaufman concrete placement operations shall cease if a combination of temperature, wind, and humidity create conditions which are adversely affecting the condition of the concrete.
- (g) Concrete placement shall also cease if concrete temperature is below forty (40) degrees Fahrenheit and falling. Except by specific written authorization of the owner or the City of Kaufman, no concrete shall be placed when the air temperature is less than forty (40) degrees Fahrenheit and falling but may be placed when the air temperature is above thirty-five (35) degrees Fahrenheit and rising, "Pending No Freezing Weather is Imminent" with the temperature being taken in the shade away from artificial heat.
 - (1) When and if such permission is granted, the contractor shall furnish sufficient protective material and devices to enclose and protect the fresh concrete in such a way as to maintain the temperature of fifty (50) degrees Fahrenheit for a period of at least five (5) days.
 - (2) No concrete shall be placed on frozen subgrades. If in the opinion of the owner or the City of Kaufman concrete operations shall cease if a combination of temperature, wind, and humidity create conditions which are adversely affecting the condition of the concrete, then concrete

placement shall cease. It is to be distinctly understood that the contractor is responsible for the quality and strength of the concrete placed under any weather conditions.

- (h) Maximum time intervals between the addition of mixing water and/or cement to the batch, and the placing of concrete in the forms shall not exceed standards in Table 2.4 below. The use of an approved set-retarding admixture will permit the extension of the below time maximums, by thirty (30) minutes for agitated concrete only.

Table 2.4: Needs a Name

Air or Concrete Temperature of Water to Placement	Maximum Time from Addition Whichever is Higher
Non-Agitated Concrete	
Up to 80 degrees Fahrenheit	30 Minutes
Above 80 degrees Fahrenheit	15 Minutes
Agitated Concrete	
Up to 75 degrees Fahrenheit	90 Minutes
75 degrees to 89 degrees Fahrenheit	60 Minutes
Over 89 degrees Fahrenheit	45 Minutes

SEC. 02.031.0228 PARKWAYS, GRADES AND SIDEWALKS.

- (a) All parkways shall be constructed to conform to top of curb grades with a standard transverse slope of one-quarter (1/4) inch per foot rise from top of curb to right-of-way. All City rights-of-way shall be sodded if disturbed.
- (b) Where the natural topography is such as to require steeper grades, transverse slopes (except for sidewalk) up to three-quarter (¾) inch per foot may be used with approval of the City of Kaufman.
- (c) Sidewalks are required adjacent to all public streets. ~~Shall be provided for all residential streets in subdivisions zoned for one or two family dwellings and on all streets designated on the adopted Master Thoroughfare Plan.~~ Barrier free ramps and sidewalks along screening walls, landscaped areas, trails, parks, open space, greenbelts, and/or drainage ways, shall be installed by the Developer with street construction and the sidewalks in front of residential lots shall be installed by the home builder. The City may require sidewalks in other locations.
 - (1) Sidewalks shall be five (5) feet in width and shall have one (1) foot ~~two (2)~~ feet of green space between the Right of Way line and the outside edge of sidewalk. Sidewalks shall be located wholly within the street Right of Way, sidewalk corner clip easement, or road easement. If a fire hydrant is too close to the sidewalk, swerve sidewalk toward the right-of-way line to maintain five (5) feet clear path.
 - (2) Sidewalks placed adjacent to the back of the curb must be six (6) feet wide and lugged into the curb. Sidewalks to be placed against the back of curb shall be approved by the City Engineer.
- (d) If sidewalk has to be built outside the right-of-way, a sidewalk easement shall be required. This requirement may be waived by the City Council as provided for in Section 24-17 of the Code of Ordinances.
- (e) Sidewalks/Trails wider than 5' will be required to have engineered details.

SEC. 02.031.02 ROAD RECONSTRUCTION.

Article 02.03.030 STORM DRAINAGE FACILITIES

Sec. 02.031.0311..... GENERAL STANDARDS

- (a) Drainage facilities shall be designed and constructed at such locations and of such size and dimensions to adequately serve the development and the contributing drainage area upstream of the development. The developer shall provide all the necessary easements and rights-of-ways required for drainage structures including, but not limited to, storm drains and open channels, (lined or unlined), flood detention facilities, and stormwater diversion or containment facilities (such as levees, dams, berms, and stream diversions).
- (b) The design flows for the drainage system shall be calculated by the Rational Method in accordance with the requirements set forth in this document unless otherwise noted within these Standards (such as where the unit hydrograph methods are required). Curbs, inlets, manholes, etc. shall be designed and constructed in accordance with the *Standard Details*. Materials and construction procedures shall conform to the requirements of the *North Central Texas Council of Government (NCTCOG) Standard Specifications for Construction*.
- (c) The developer shall provide plans, specifications, and design calculations for all drainage structures. All open channels that are not concrete lined shall be designed to prevent erosion (**Table 3.11 Roughness Coefficients for Open Channels and Maximum Velocity**). If an existing open channel is experiencing erosion or velocities that are calculated to be erosive, the channel shall be modified to prevent erosion. The City Engineer and/or the Director of Public Works shall specifically approve the type of methods used for prevention of erosion.
- (d) The design, size, type, and location of all storm drainage facilities shall be subject to the approval of the City Engineer and/or the Director of Public Works. The requirements set forth herein are considered minimum requirements. **The developer and their engineers shall bear the total responsibility for the adequacy of design. The acceptance of the facilities by the City in no way relieves the developer and their engineer of this responsibility.**
- (e) The design factors, formulas, graphs, and procedures described shall serve as means to prove that adequate conveyance of storm water and adequate flood prevention within the City is being provided. Responsibility for the actual design remains with the developers and design engineer of record. Deviation from the requirements of these standards shall require the approval of the City Engineer and/or the Director of Public Works.
- (f) The City, as a participant in the National Flood Insurance Program (NFIP), must enforce all parts of its adopted Flood Damage Prevention Ordinance, as approved by the Federal Emergency Management Agency (FEMA). Therefore, the requirements of that ordinance are adopted and included as a part of the City's *Standards of Design and Construction*.
- (g) The developer shall be responsible for the necessary facilities to provide drainage patterns and drainage controls such that properties within the overall watershed, whether upstream or downstream of the development, are not adversely affected by storm drainage from facilities on the development. These are outlined in the *Storm Drainage Management Plan* **Section 3.4. (last section)**
- (h) The storm drainage management plan provided as part of the final engineering drawings shall address how storm water on the proposed development and affected adjoining properties will be controlled during phased and completed development. Off-site improvements may be required to carry the additional flows caused by the proposed development. If the downstream system is insufficient to carry the proposed flow from the fully developed drainage area without causing potentially increased flood damages, detention will be required to release only the proportionate flow amount capable of being

carried in the existing system for the drainage area. One site may not utilize all remaining capacity if undeveloped property is part of the drainage area.

- (i) Storm drainage released from the site will be discharged to a natural water course or storm sewer system of an adequate size to convey the one hundred--year (100-year) storm runoff expected after development.
- (j) All storm drainage structures shall be constructed with a minimum of four thousand two-hundred pounds per square inch (4,200 psi) concrete in twenty-eight (28) days with a cement content of not less than seven (7) sacks per cubic yard. Fly ash shall not be allowed. All batch designs shall be reviewed and approved by the City Engineer and/or the Director of Public Works.
- (k) All batch designs shall have the current date, project name, and use labeled on each design. Submit batch designs to the City Engineer and/or the Director of Public Works a minimum of ten (10) days prior to the projected placement date for review and approval. If pre-cast structures are being utilized, shop drawings must be submitted to the City Engineer and/or the Director of Public Works for approval along with the batch design which is provided by the manufacturer. All drainage structures shall be double formed. No earth forms will be allowed.

Sec. 0.03.0312 MINIMUM EASEMENT STANDARDS

- (a) The minimum easement widths for drainage facilities shall be per **Table 3.1. Drainage Easements – Minimum Width**. Wider easements may be required by the City Engineer and/or the Director of Public Works. For detention pond easements, water lines and wastewater lines shall not be allowed in the easement. An exception to allow retaining walls in a detention easement will require a recommendation by the Planning and Zoning Commission and approvals and appeals being heard by the City Council.
- (b) For new single-family residential subdivisions storm sewer infrastructure, detention ponds, floodplain, open channel setback, and drainage easements shall not be located on a residential lot and must be fully within a Homeowners’ Association (HOA) maintained lot.

Table 3.1: Drainage Easements – Minimum Width

		Minimum Easement Width (ft)
Conduit Size	18” – 48” RCP	20’
	48” – 72” RCP	25’
	Box 3’ – 4’ span, RCB	20’
	Box 5’ – 8’ span, RCB	25’
	Box 9’ – 12’ span, RCB	30’
Depth of Conduit	< 14’	20’
	14’ - 16’	25’
	17’ – 20’	30’
	21’ – 23’	35’
	> 23’	40’
Open Channel		15’ wider than top width of channel
Emergency Overflow Flume		20’
Creeks/Stream/Floodplains		See Section 3.27 Open Channel Setbacks
Detention Ponds		10’ beyond the top of the pond berm or at the toe of the berm whichever is greater

SEC. 02.03.0313. STORM DRAINAGE CRITERIA

- (a) **Rational Method.** For all drainage areas less than one-hundred(100) acres, the Rational Method of computing runoff may be used for design of small drainage facilities (such as storm sewer systems, inlets, street gutter, and small detention facilities). The Rational Method is shown by **Equation 3.1** below:

$$Q = C \times I \times A$$

Equation 3.1 where:

Q = The storm flow rate at a given point (cfs)

C = runoff coefficient (the ratio of rainfall to peak runoff) as indicated in **Table 3.2**
Runoff Coefficient for Types of Land Use

I = The average intensity of rainfall, for a period equal to the time of flow from the most hydraulically remote point of the drainage area to the point of design (i.e., point with longest flow time to the design point) and is obtained from **Table 3.5**
AMS-Based Precipitation Frequency Estimates for Kaufman County (inches/hr)

A = The area that is contributing to the point of design (acres)

- (1) Runoff Coefficient (C) - For design of proposed drainage facilities using the Rational Method, runoff coefficients shall be based on the future land use. The runoff coefficients for different land uses should be taken from **Table 3.2**, *Runoff Coefficient for Types of Land Use*. A weighted runoff coefficient shall be used if different land uses are contributing to a discharge design point.

Table 3.2: Runoff Coefficient for Types of Land Use

TYPE OF AREA OR LAND USE	ADOPTED RUNOFF COEFFICIENT
Parks or Open Areas	0.35
Single Family Zoning Categories	
SF-20	0.50
SF-8 or SF-10	0.58
SF-6	0.62
TH (PH, SFA, 2F)	0.80
School	0.70
Multi-Family or Apartments	0.75
Churches	0.80
Industrial	0.90
Commercial Business	0.90
Mercantile District	0.90
Retail	0.90
Parking Lot	0.90

TYPE OF AREA OR LAND USE	ADOPTED RUNOFF COEFFICIENT
Major and Minor Arterials – R.O.W.	0.90

- (2) Time of Concentration - The time of concentration is defined as the longest time, without unreasonable delay, that will be required for water to flow from the upper limit of a drainage area to the point of concentration. The time of concentration to any point in a storm drainage system is a combination of the “inlet time” and the time of flow in the storm drain. The inlet time is the period of time required for water to flow over the surface of the ground to the storm drain inlet.
- i. Using the Rational Method for small drainage areas under average conditions, the minimum time of concentration from the upstream end of a drainage system will coincide below with **Table 3.3** Minimum Inlet Time of Concentration.

Table 3.3: Minimum Inlet Time of Concentration

TYPE OF AREA OR LAND USE	MINIMUM INLET TIME (minutes)
Parks or Open Areas	15
Single Family Residential or Duplex	10
School	10
Apartments	10
Townhouse	10
Churches	10
Industrial	10
Commercial Business	10
Mercantile District	10
Retail	10
Parking Lot	10
Major and Minor Arterials – R.O.W.	10

- ii. Under circumstances which will produce times of concentration in excess of those shown in **Table 3.3**, *Minimum Inlet Time of Concentration* the following National Resources Conservation Service (NRCS) TR55 methodology shall be used to determine the time of concentration (Tc). This method separates the flow through the drainage area into sheet flow, shallow concentrated flow, and open channel flow. The Tc is the sum of travel times for sheet flow, concentrated shallow flow and open channel flow. The time of concentration flow path and sheet flow path and following calculations shall be shown in the plans.

1. Sheet Flow: The maximum allowable length for sheet flow shall be no more than one-hundred-feet (100'), if not prior to one hundred-feet (100'). Guidelines for determining the maximum allowable sheet flow length are provided in the Unit Hydrograph Method Section 02.03.03???. The T_t in minutes for sheet flow is determined **Equation 3.2** below:

$$T_t = \frac{0.007(nL)^{0.8}}{(P_2)^{0.5}S^{0.4}}$$

Equation 3.2 where

T_t = travel time, (hr)

n = Manning's roughness coefficient, (**Table 3.4** Sheet Flow 'n' Values)

L = flow length

P_2 = 2-year, 24-hour rainfall, (**Table 3.6a** Precipitation Frequency Estimates for Kaufman, TX)

S = land slope of hydraulic grade line (ft/ft)

Table 3.4: Sheet Flow 'n' Values

Surface Description	n ⁽¹⁾
Smooth surfaces (concrete, asphalt, gravel, or bare soil)	0.011
Fallow (no residue)	0.050
Cultivated soils:	
Residue cover less than 20%	0.060
Residue cover greater than 20%	0.170
Grass:	
Short Prairie Grass	0.150
Dense grasses	0.240
Bermuda grass	0.410
Range (natural)	0.130
Woods:	
Light underbrush	0.40
Dense underbrush	0.80

¹These "n" values are only applicable for flow depths of approximately one hundredth foot (0.1') or less where sheet flow occurs. For greater flow depths, typically concentrated shallow overland flow or channel flow occurs, with lower "n" values typical of those generally used in open-channel flow.

2. Shallow concentrated flow travel time is computed as shown in **Equation 3.3**

$$t_{sc} = \frac{L_{sc}}{3600KS_{sc}^{0.5}}$$

Equation 3.3 where:

t_{sc} = shallow concentrated flow time, (hr)

L_{sc} = shallow concentrated flow length, (ft)

K = 16.13 for unpaved surface, 20.32 for paved surface

S_{sc} = shallow concentrated flow slope, (ft/ft)

3. Channel Flow travel time shall be computed by dividing the channel length by the flow rate obtained from Manning's Equation as shown by **Equation 3.4**:

$$t_{sc} = \frac{nL^{ch}}{3600(1.49)R^{2/3}S_{ch}^{1/2}}$$

Equation 3.4 where:

t_{ch} = channel flow time, (hr.)

L_{ch} = channel flow length, (ft)

S_{ch} = channel flow slope, (ft/ft)

n = Manning's roughness coefficient (**Table 3.11** Roughness Coefficients for Open Channels and Maximum Velocity)

R = channel hydraulic radius (ft), $R = a/p_w$

where: a = cross sectional area (ft²)

p_w = wetted perimeter (ft)

4. Since urbanization is anticipated on all drainage areas, all drainage improvements shall be designed for the case of fully developed watersheds. It is generally not practical to design improvements to gravity drainage systems in stages to match development, except in the case of unlined ditches, and then, it is essential that ultimate rights-of-way be obtained at the outset. When the watershed in question is basically undeveloped, the developer shall attempt to anticipate future fully developed conditions and storm water drainage patterns and flow characteristics when determining the time of concentration.

- (3) Rainfall Intensity (I) - The Rainfall intensity shall be taken from **Table 3.5 AMS-Based Precipitation Frequency Estimates for Kaufman County** below for the minimum inlet time in **Equation 3.1** above.

Table 3.5 AMS Based Precipitation Frequency Estimates for Kaufman County

AMS-Based Precipitation Frequency Estimates for Kaufman County									
Hours	Duration	Average Recurrence Interval (Years)							
		1	2	5	10	25	50	100	500
		Intensity (inches per hour)							
0.083	5-min	5.24	5.65	7.24	8.41	9.95	11.08	12.20	14.89
	6	5.03	5.42	6.95	8.08	9.55	10.64	11.72	14.28
	7	4.82	5.19	6.66	7.74	9.16	10.20	11.24	13.66
	8	4.61	4.96	6.36	7.40	8.76	9.77	10.75	13.04
	9	4.40	4.74	6.07	7.07	8.36	9.33	10.27	12.42
0.167	10-min	4.19	4.51	5.78	6.73	7.97	8.89	9.79	11.81
	11	4.05	4.36	5.59	6.50	7.69	8.58	9.44	11.41
	12	3.91	4.21	5.40	6.28	7.42	8.27	9.10	11.01
	13	3.78	4.06	5.20	6.05	7.15	7.96	8.76	10.62
	14	3.64	3.92	5.01	5.82	6.87	7.65	8.42	10.22
0.250	15-min	3.50	3.77	4.81	5.59	6.60	7.34	8.08	9.82
	16	3.43	3.69	4.72	5.48	6.47	7.19	7.91	9.62
	17	3.36	3.62	4.62	5.37	6.33	7.04	7.74	9.42
	18	3.29	3.54	4.52	5.25	6.20	6.89	7.58	9.22
	19	3.22	3.47	4.43	5.14	6.06	6.74	7.41	9.02
	20	3.15	3.39	4.33	5.03	5.93	6.59	7.25	8.82
	21	3.08	3.32	4.23	4.91	5.80	6.44	7.08	8.62
	22	3.01	3.24	4.14	4.80	5.66	6.29	6.91	8.42
	23	2.94	3.17	4.04	4.69	5.53	6.14	6.75	8.23
	24	2.87	3.09	3.94	4.58	5.39	5.99	6.58	8.03
	25	2.81	3.02	3.85	4.46	5.26	5.84	6.42	7.83
	26	2.74	2.94	3.75	4.35	5.13	5.69	6.25	7.63

Table 3.5 AMS Based Precipitation Frequency Estimates for Kaufman County

AMS-Based Precipitation Frequency Estimates for Kaufman County									
Hours	Duration	Average Recurrence Interval (Years)							
		1	2	5	10	25	50	100	500
		Intensity (inches per hour)							
	27	2.67	2.87	3.65	4.24	4.99	5.54	6.09	7.43
	28	2.60	2.79	3.56	4.12	4.86	5.39	5.92	7.23
	29	2.53	2.72	3.46	4.01	4.72	5.24	5.75	7.03
0.500	30-min	2.46	2.64	3.36	3.90	4.59	5.09	5.59	6.83
	31	2.43	2.61	3.32	3.85	4.54	5.03	5.53	6.76
	32	2.40	2.58	3.29	3.81	4.49	4.97	5.46	6.68
	33	2.37	2.55	3.25	3.77	4.43	4.92	5.40	6.61
	34	2.34	2.52	3.21	3.72	4.38	4.86	5.34	6.53
	35	2.32	2.49	3.17	3.68	4.33	4.80	5.28	6.46
	36	2.29	2.46	3.13	3.63	4.28	4.75	5.22	6.39
	37	2.26	2.43	3.09	3.59	4.23	4.69	5.15	6.31
	38	2.23	2.40	3.05	3.54	4.18	4.63	5.09	6.24
	39	2.20	2.37	3.02	3.50	4.12	4.58	5.03	6.17
	40	2.17	2.34	2.98	3.46	4.07	4.52	4.97	6.09
	41	2.14	2.30	2.94	3.41	4.02	4.46	4.91	6.02
	42	2.12	2.27	2.90	3.37	3.97	4.40	4.84	5.94
	43	2.09	2.24	2.86	3.32	3.92	4.35	4.78	5.87
	44	2.06	2.21	2.82	3.28	3.87	4.29	4.72	5.80
0.750	45-min	2.03	2.18	2.79	3.23	3.81	4.23	4.66	5.72
	46	2.00	2.15	2.75	3.19	3.76	4.18	4.60	5.65
	47	1.97	2.12	2.71	3.15	3.71	4.12	4.53	5.58
	48	1.94	2.09	2.67	3.10	3.66	4.06	4.47	5.50

Table 3.5 AMS Based Precipitation Frequency Estimates for Kaufman County

AMS-Based Precipitation Frequency Estimates for Kaufman County									
Hours	Duration	Average Recurrence Interval (Years)							
		1	2	5	10	25	50	100	500
		Intensity (inches per hour)							
	49	1.92	2.06	2.63	3.06	3.61	4.01	4.41	5.43
	50	1.89	2.03	2.59	3.01	3.56	3.95	4.35	5.35
	51	1.86	2.00	2.55	2.97	3.50	3.89	4.29	5.28
	52	1.83	1.97	2.52	2.92	3.45	3.84	4.22	5.21
	53	1.80	1.94	2.48	2.88	3.40	3.78	4.16	5.13
	54	1.77	1.91	2.44	2.84	3.35	3.72	4.10	5.06
	55	1.74	1.88	2.40	2.79	3.30	3.66	4.04	4.99
	56	1.72	1.85	2.36	2.75	3.25	3.61	3.98	4.91
	57	1.69	1.82	2.32	2.70	3.19	3.55	3.91	4.84
	58	1.66	1.79	2.29	2.66	3.14	3.49	3.85	4.76
	59	1.63	1.76	2.25	2.61	3.09	3.44	3.79	4.69
1	60-min	1.60	1.73	2.21	2.57	3.04	3.38	3.73	4.62
2	2-hr	0.98	1.06	1.39	1.63	1.96	2.22	2.48	3.17
3	3-hr	0.72	0.79	1.04	1.23	1.50	1.71	1.93	2.52
6	6-hr	0.42	0.46	0.62	0.75	0.92	1.06	1.21	1.61
12	12-hr	0.24	0.27	0.37	0.44	0.55	0.64	0.73	0.99
24	24-hr	0.14	0.16	0.21	0.26	0.32	0.37	0.43	0.58
48	48-hr	0.08	0.09	0.12	0.15	0.18	0.21	0.24	0.32
72	3-days	0.061	0.067	0.090	0.108	0.133	0.152	0.172	0.229

- (b) **Unit Hydrograph Method.** For contributing drainage areas greater than one hundred (100) acres, the unit hydrograph method shall be used to determine the peak storm discharge quantities. This method

shall also be used for verification of adequacy of stormwater detention facilities with contributing drainages areas that are equal to or greater than twenty (20) acres.

- (1) The use of a unit hydrograph method shall be based upon standard and accepted engineering principles used in the profession. Acceptable methods include the Natural Resources Conservation Service (NRCS) and the Snyder unit hydrograph methods. When the flood study involves a watershed that does not already have any available hydrology model, or in the case where conversion of an existing model to a later version hydrology model is desired, the City's preference is the latest version of HEC-HMS model available.
- (2) When the unit hydrograph method is used, a flood study report shall be prepared and provided to the City Engineer and/or the Director of Public Works, documenting the methodology, assumptions, derivation of all data used, and results of the study. In order to maintain consistency of all hydrologic studies within the City, the following requirements/conditions shall be used when performing the unit hydrograph method. These requirements/conditions shall be included in the plan set and the flood study report:
 - i. Use the NRCS 24-hour Type III Rainfall Distribution.
 - ii. Use wet antecedent soil moisture conditions (AMC-III).
 1. Storm runoff/loss parameter calculations, such as NRCS runoff curve numbers (*CN*). *CN* values should first be computed based on average antecedent soil moisture conditions (AMC-III) to the nearest 0.1 value (*CN*₂), based on hydrologic soil group, land cover and treatment practices. Then compute the *CN*₃ value for AMC-III conditions, to the nearest 0.1 value, using the NRCS conversion as shown in **Equation 3.4a** as follows:

$$CN_3 = \frac{23CN_2}{10 + 0.13CN_2}$$

- iii. Compute both pre-construction conditions (based on existing off-site watershed conditions) and post-construction conditions and show comparison in summary table of results.
- iv. In addition to No. 3 compute projected future fully developed conditions to determine design elevations and erosion protection.
- v. 24-hour rainfall storm totals, (See **Table 3.5** *AMS-Based Precipitation Frequency Estimates for Kaufman, Texas*)
- vi. Time of Concentration (*T_c*) and Lag Time Calculations, computed to the nearest one (1) minute: The lag time is generally considered to be 0.6 x *T_c*. The *T_c* calculations should include sheet flow travel time, shallow concentrated flow travel time, channel flow travel time, and travel time associated with any storm sewer system pipes, street gutter flow, and other travel times. Storm sewer pipe travel time may be derived based on design velocities and pipe flow lengths from available or proposed sewer pipe plans. General guidelines pertaining to NRCS TR-55 methodology for determining flow times for sheet flow, concentrated shallow flow, channel flow, and other flow types are included in the Storm Drainage Design Criteria **Section 02.03.0313 (a)** above. The length of sheet flow used with

the unit hydrograph method should be determined based on the following procedures to determine where sheet flow ends:

1. Field investigations, where possible, to detect overland drainage patterns and where sheet flow transitions to other types of overland or pipe flow (such as observation of beginning of overland flow rill erosion patterns or entrance to a storm water inlet).
2. Information from topographic maps, such as deflections in elevation contours indicating where sheet flow ends, and shallow concentrated flow or channel flow may begin.
3. For areas where previous construction has occurred, review of as-built drainage plans.
4. High-resolution photography, which may indicate locations where overland flow begins to form shallow concentrated flow as evidenced by erosion patterns.
5. If the length of sheet flow cannot be determined by the above procedures, or if it is determined by the above procedures to be greater than one hundred feet (100'), the maximum length to be used shall be the lesser of one hundred feet (100') or the length computed by in **Equation 3.4b** below [as taken from the NRCS National Engineering Handbook, Part 630 – Hydrology, Chapter 15]:

$$L = \frac{100S^{0.5}}{n}$$

Equation 3.4b where:

L = limiting sheet flow length, (ft)

S = land slope over length L , (ft/ft)

n = Manning's roughness coefficient over length L

- vii. When using a unit hydrograph procedure, mixing the hydrology modeling data with data based on differing procedures is not acceptable:
 1. The time of concentration should be calculated using actual travel time computations. [Do not assume a 10-minute inlet time as assumed in Rational Method].
 2. Use total storm precipitations (inches) listed in **Table 3.5 AMS-Based Precipitation Frequency Estimates for Kaufman, Texas**. [Do not use rainfall intensities (inches/hour) or derive total storm precipitation based on the Rational Method rainfall intensities].
 3. For detention ponds with drainage areas greater than twenty (20) acres, if a proposed pond and dam is first designed based on Modified Rational Method but is found to be inadequate when checked with the unit hydrograph method, then it should be re-designed to safely pass the maximum required design storm using the unit hydrograph method, without flow passing over the top of the dam (and with required freeboard) and without increased discharges being passed downstream from the project site.

- viii. Drainage areas shall be rounded to the nearest 0.01 acre (0.000001 sq. mi.) in hydrology models, as well as for areas of land use and soil categories when computing composite runoff curve numbers.
- ix. Impervious areas of a drainage basin should be included within the computed composite runoff curve number calculations used in the hydrology models (instead of using a percentage of impervious area in combination with a weighted curve number in hydrology models that contain that option).
- x. Stream reach hydrograph routing computations within hydrology models must be performed using a procedure that accounts for the effects of channel and floodplain storage (such as Modified Puls method), so that impacts on flood discharges due to loss of flood valley storage within the reach, whether caused by currently proposed construction or due to future development, can be determined.
- xi. NRCS runoff curve numbers listed in NRCS's TR-55 for urban and residential districts are generally inappropriate for typical developments in the City of Kaufman, due to the indicated low percentage of impervious areas indicated with the values. Therefore, curve numbers typical of conditions in the City of Kaufman are included in **Table 3.6 NRCS. Runoff Curve Numbers (AMC-II) for Various Land Use Classifications**. These values should be used in most cases; however, other curve numbers for conditions not listed in **Table 3.6 NRCS. Runoff Curve Numbers (AMC-II) for Various Land Use Classifications** may be derived and used if reasonably justified and documented.
- xii. Options available in hydrology models to automatically compute pond spillway discharges, based on spillway or outlet type or configuration, are sometimes limited and often do not adequately represent the designed spillway. In such cases, pond water surface elevations versus discharges may need to be computed by other methods and entered into the hydrology model as user defined paired data.

Table 3.6: NRCS Runoff Curve Numbers (AMC-II) for Various Land Use Classifications

Land Use Classification	Hydrologic Soil Group			
	A	B	C	D
Wooded (Wf)	36	60	73	79
Wooded (Wg)	30	55	70	77
Open Space/Range/Pasture (OSf)	49	69	79	84
Open Space/Range/Pasture (OSg)	39	61	74	80
Cultivated, Straight Row (Csr)	72	81	88	91
Cultivated, Contoured w/o Terracing (Cc)	70	79	84	88
Cultivated, Contoured and Terraced (Cct)	66	74	80	82
Residential (SF-20)	66	78	85	88

Table 3.6: NRCS Runoff Curve Numbers (AMC-II) for Various Land Use Classifications

Land Use Classification	Hydrologic Soil Group			
	A	B	C	D
Residential (SF-8 & SF-10)	69	80	86	89
Residential (SF-6)	74	83	88	91
Residential (TH, PH, SFA, 2F)	80	87	91	93
Bare Soil	77	86	91	94
Commercial/Business/Multifamily (CBM)	89	92	94	95
Industrial	81	88	91	93
Dirt or Gravel Roads, R.O.W. (Rd)	76	85	89	91
Paved Roads, R.O.W. (Rp)	83	89	92	93
Inundated (W)	100	100	100	100
Urban High Runoff Equivalent *	83	89	92	94

*Urban high runoff equivalent is used only for projected fully-developed watershed conditions.

(c) **Design Storm Frequencies.**

- (1) The design storm frequencies shall be the five (5) year, ten (10) year, twenty-five (25) year, fifty (50) year and one hundred (100)year storms.
- (2) For the Rational Method the relationship between rainfall intensity, duration and frequency is set forth in **Table 3.5 AMS Based Rainfall Frequency**.
- (3) For the Unit Hydrograph Method the total rainfall for the 24-hour duration storm is used. See **Table 3.6** Precipitation Frequency Estimates for Kaufman, Texas.

(d) **Drainage Calculations Summary Tables.** The calculations of the storm water discharge shall be provided to the City. As a minimum, the engineering plans shall include:

- (1) Existing and Proposed Drainage Area Calculations Table using **Form 3.1.**,
- (2) Inlet Calculations Table using **Form 3.2.** *Storm Sewer Calculations Table* using **Form 3.3.**
- (3) Open Channel Calculations Table using **Form 3.4**
- (4) Culvert Design Calculations Table using **Form 3.5**

Form 3.1 Drainage Calculations Table

Areas Drained					Weighted Runoff Coeff. C	C*A
Area ID	Total Drainage Area	Parks or Open Area (C=0.35)	Residential (C=var.)	Comm. (C=0.9)		
	(acres)	(acres)	(acres)	(acres)	(acres)	(acres)
(1)	(2)	(3)	(4)	(5)	(6)	(7)

Time of Concentration T _c	Design Storm Frequency	Intensity I	Storm Runoff Q	Drains To/ Remarks
(min)	(yrs)	(in/hr)	(cfs)	
(8)	(9)	(10)	(11)	(12)

Instructions for Form 3.1: Drainage Area Calculation Table

Instructions for Form 3.1: Drainage Area Calculation Table	
Column (1)	Drainage area identification number or designation
Column (2)	Total Drainage area in acres
Column (3 to 5)	Area drained for each land use type in acres (add additional columns for different land use areas as needed) Runoff Coefficient taken from Table 3.2
Column (6)	Weighted Runoff Coefficient calculated from Columns 2 to 5
Column (7)	Product of Column (2) and Column (6)
Column (8)	Minimum inlet time of concentration taken from Table 3.3
Column (9)	Design Storm Frequency, shall be 100-yr for all areas
Column (10)	Using the time of concentration and design storm frequency, the rainfall intensity is taken from or Table 3.5 AMS Based Precipitation Frequency Estimates for Kaufman County
Column (11)	Solution of the Rational Method Equation 3.1 (see Section 02.03.0313(a))
Column (12)	A detailed description of where the drainage area drains to including but not limited to Inlet ID, Street Location, Creek Name, Detention Pond Designation, etc.

- (e) **Flow in Streets.** Capacity of Arterials, Collectors and Residential streets shall be calculated using a straight crown: Storm water flow in streets having a straight crown shall be calculated as shown below in **Equation 3.5:**

$$Q = \frac{0.56}{n} S_x^{5/3} S^{1/2} T^{8/3}$$

Equation 3.5 where:

- Q = gutter flow rate, (cfs)
- n = Manning's roughness coefficient; value = 0.0175
- S = the longitudinal slope of the street gutter, (ft/ft)
- S_x = pavement cross slope, (ft/ft)
- T = ponded width, (ft)

- (f) **Flow in Alleys.** Capacity of alleys should be taken from Manning's Equation as shown below in **Equation 3.6:**

$$Q = \frac{1.49}{n} A R^{2/3} S^{1/2}$$

Equation 3.6 where:

- Q = alley flow rate, (cfs)
- n = Manning's roughness coefficient; value = 0.0175
- A = cross sectional area of flow, (ft²)
- R = hydraulic radius, (ft)
- S = the longitudinal slope of the alley, (ft/ft)

- (g) **Permissible Spread of Water (Ponding Width)**

- (1) General. Spread of water refers to the amount of water that may be allowed to collect in streets during a storm of specific design frequency. The following **Equation 3.7**, a re-arranging of **Equation 3.5**, shall be used to determine the ponding width "T" for straight crowned streets. (Arterials, Collectors and Residential).

$$T = 1.24 \left(\frac{Q}{S_x^{5/3} S^{1/2}} \right)^{8/3}$$

Equation 3.7 where:

- Q = gutter flow rate, (cfs)
- n = Manning's roughness coefficient; value = 0.0175
- S = the longitudinal slope of the street gutter, (ft/ft)
- S_x = pavement cross slope, (ft/ft)
- T = ponded width, (ft)

- (2) In order that excess storm water will not collect in streets during a storm of the design frequency, the following spread of water values shall be used for the various types of streets.

- i. Major and Minor Arterials (P6D & M4D) – Divided. Based on pavement cross-slope of two percent (2.0%), the one-hundred-year (100-yr) Design Frequency flow shall not exceed the

elevation of the lowest top of curb. The design engineer shall verify that one lane of traffic in each direction shall remain free of ponding in the one-hundred-year (100-yr) storm event.

- ii. Collector Streets – (M4U, M3U & Minor Collector). Based on a straight cross-slope with a roof top crown of six-inches (6”), the one-hundred-year (100-yr) storm event flows shall not exceed the top of curb, six-inches (6”).
- iii. Residential Streets. Based on a straight cross-slope with a roof top crown of six (6) inches, the 100-year storm event flows shall not exceed the top of curb, six (6) inches.
- iv. Alleys. The one-hundred-year (100-yr) Design Frequency shall not exceed the capacity of the alley pavement, a depth of five-inches (5”). No ponding will be allowed beyond the pavement edge. Alley paving to be warped to drain the paving toward the inlet.
- v. Parking Lots. The one-hundred-year (100-yr) design frequency shall not exceed a depth of six-inches (6”) except where on pavement detention is occurring where one-foot (1’) in depth is permissible.

(h) **Inlet Design**. Determination of the required size of the storm drain inlets will be based on the calculations called out in this section and the instructions for **FORM 3.2: Inlet Design Calculations Table**.

- (1) Types of Inlets. City requires the use of depressed curb inlets. A depressed curb inlet is more efficient than a non-depressed inlet because a depressed inlet induces a greater cross-flow toward the inlet allowing less water to flow past it. Also, the transition out of the depression causes a backwater effect, which further increases the capacity of the storm drain. A gutter depression for all curb inlets shall be six-inches (6”), as shown in the Standard Details. Inlets shall be sized in multiplier of ten feet (10’), fifteen-feet (15’) and twenty-feet (20’). Construction of inlets shall be in accordance with the Standard Details. Use **Table 3.6 Storm Drain Inlets** for the selection of inlets to be used within the City. No grate inlets are allowed without approval from the City Engineer.

TABLE 3.6: STORM DRAIN INLETS

<u>INLET DESCRIPTION</u>	<u>AVAILABLE INLET SIZES</u>	<u>WHERE USED</u>	<u>DESIGN EQUATIONS</u>
Standard Curb Opening Inlet on Grade	10’ 15’ 20’	Collectors) Local (Residential) Alley	Equation 3.8 through 3.16
Standard Curb Opening Inlet at Low Point	10’ 15’ 20’	Collectors Local (Residential) Alley	Equation 3.17 & 3.18
Recessed Curb Opening Inlet on Grade	10’ 15’ 20’	Arterials Collectors	Equation 3.19 through 3.20
Combination Inlet at Low Grade	4’ 6’ 8’	Alleys City Engineer Approval Required	

TABLE 3.6: STORM DRAIN INLETS

<u>INLET DESCRIPTION</u>	<u>AVAILABLE INLET SIZES</u>	<u>WHERE USED</u>	<u>DESIGN EQUATIONS</u>
Grate Inlet	2 Grate 3 Grate 4 Grate 6 Grate	No grate inlets are allowed without approval from the City Engineer	
Drop Inlet	2'x2' 3'x3' 4'x4' 5'x5'	Open Channels/Area Drain	Equation 3.19 & 3.20

(2) Inlet Location. All inlets (edge of opening) shall be a minimum of ten feet (10') feet from street or driveway curb return. Recessed inlets will be required to be installed at all inlet locations where the street grade is to be six percent (6%) or greater except on residential streets. At locations where depressed inlets are expected to interfere with pedestrian activity, usually at crosswalks or interior spans of the block used for parking, a depression of less than six inches (6") may be required. These locations may require additional inlet width to compensate for the reduced depression. The City will consider all variances from a standard six-inch (6") gutter on an individual basis.

- i. Major and Minor Arterials (Divided): Inlets shall be located at street intersections, at low points of grade or where the gutter flow exceeds the permissible spread of water criteria. Inlets shall be located, when possible, on lesser traveled streets or alleys when grades permit. Inlets located on arterials and where street grade is six percent (6%) or greater shall be recessed in order to minimize interference of the gutter depression with travel lanes. In super-elevated sections, inlets placed against the center medians shall have no gutter depression and shall intercept gutter flow at the point of vertical curvatures to prevent flow from crossing the arterial. Unless expressly approved by the City Engineer, storm waters will not be allowed to cross arterials on the surface in valley gutters or otherwise. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the one-hundred-year (100-yr) design storm flow coming to the sag point.
- ii. Collector Streets: Inlets shall be located at street intersections, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. Inlets shall be located, when at all possible, on lesser traveled streets or alleys where grade permits. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the one-hundred-year (100-yr) design storm flow coming to the sag point.
- iii. Residential Streets: Inlets shall be located at street intersections, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. All sag inlets will require a reinforced concrete emergency overflow flume unless the design engineer calculates that the street will carry the overflow above the crest of the roadway without the water surface elevation exceeding the top of curb. The capacity of the emergency overflow flume shall equal or exceed the one-hundred-year (100-yr) design storm flow coming to the sag point.

- iv. **Alleys:** Inlets shall be located before intersections with streets, alley to alley intersections, change in alley directions, low points of grade or where the gutter flow exceeds the permissible spread of water criteria. All sag inlets will require a reinforced concrete emergency overflow flume. The capacity of the emergency overflow flume shall equal or exceed the one-hundred-year (100-yr) design storm flow coming to the sag point.
 - v. **Parking Lots:** Inlets shall be located at all sag points and before ponding exceeds six inches (6") in depth except when on pavement detention is occurring.
- (3) **Curb Inlets On-Grade.** Curb inlets on-grade shall be sized based on the following **Equations 3.8 through 3.16** and **Figure 3.3**. **Figures 3.4 through 3.9** are provided as reference for On-Grade Curb Inlet Capacities on the City Thoroughfares.

$$L_r = 0.6Q^{0.42}S^{0.3} \left(\frac{1}{nS_e} \right)^{0.6}$$

Equation 3.8 where:

L_r = length of curb inlet required (ft)

Q = flow rate in gutter (cfs)

S = longitudinal slope (ft./ft)

n = Manning's roughness coefficient, value = 0.0175

S_e = equivalent cross slope (ft./ft.)

$$S_e = S_x + \frac{a}{W} E_0$$

Equation 3.9 where:

S_e = equivalent cross slope (ft/ft)

S_x = cross slope of the road (ft/ft)

a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)

W = gutter depression width (ft) - standard inlets $W = 2.0$ ft, recessed inlets $W = 3.0$ ft

E_0 = ratio of depression flow to total flow

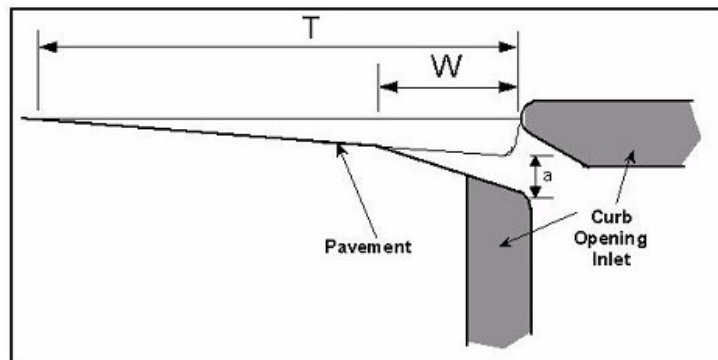


Figure 3.2: Gutter Cross Section Diagram

$$E_0 = \frac{K_w}{K_w + K_0}$$

Equation 3.10 where:

E_0 = ratio of depression flow to total flow

K_W = conveyance of the depressed gutter section (cfs)

K_0 = conveyance of the gutter section beyond the depression (cfs)

$$K = \frac{1.486A^{5/3}}{nP^{2/3}}$$

Equation 3.11 where:

K = conveyance of cross section (cfs)

A = area of cross section (ft²)

n = Manning's roughness coefficient, value = 0.0175

P = wetted perimeter (ft)

$$A_W = WS_x \left(T - \frac{W}{2} \right) + \frac{1}{2} aW$$

Equation 3.12 where:

A_W = area of depressed gutter section (ft²)

W = gutter depression width (ft) - standard inlets $W = 2.0$ ft, recessed inlets $W = 3.0$ ft

S_x = cross slope (ft/ft)

T = calculated ponded width (ft)

a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)

$$P_W = \sqrt{(WS_x + a)^2 + W^2}$$

Equation 3.13 where:

P_W = wetted perimeter of depressed gutter section (ft)

W = gutter depression width (ft) - standard inlets $W = 2.0$ ft, recessed inlets $W = 3.0$ ft

S_x = cross slope (ft./ft)

a = gutter depression depth (ft), all inlet depressions shall be 0.50 feet (6 inches)

$$A_0 = \frac{S_x}{2} (T - W)^2$$

Equation 3.14 where:

A_0 = area of gutter/road section beyond the depression width (ft²)

S_x = cross slope (ft/ft)

W = gutter depression width (ft) - standard inlets $W = 2.0$ ft, recessed inlets $W = 3.0$ ft

T = calculated ponded width

$$P_0 = T - W$$

Equation 3.15 where

P_0 = wetted perimeter of the depressed gutter section (ft)

T = calculated ponded width (ft)

W = gutter depression width (ft) - standard inlets $W = 2.0$ ft, recessed inlets $W = 3.0$ ft

For determining the bypass of a curb inlet on grade use the following **Equation 3.16** which factors in the ratio of the actual length of curb inlet (L_a) to the length of inlet required (L_r)

$$Q_{bypass} = Q \left(1 - \frac{L_a}{L_r} \right)^{1.8}$$

Equation 3.16 where:

Q_{bypass} = carryover discharge (cfs)

Q = total discharge (cfs)

L_a = design length of the curb opening inlet (ft)

L_r = length of curb opening inlet required to intercept the total flow (ft)

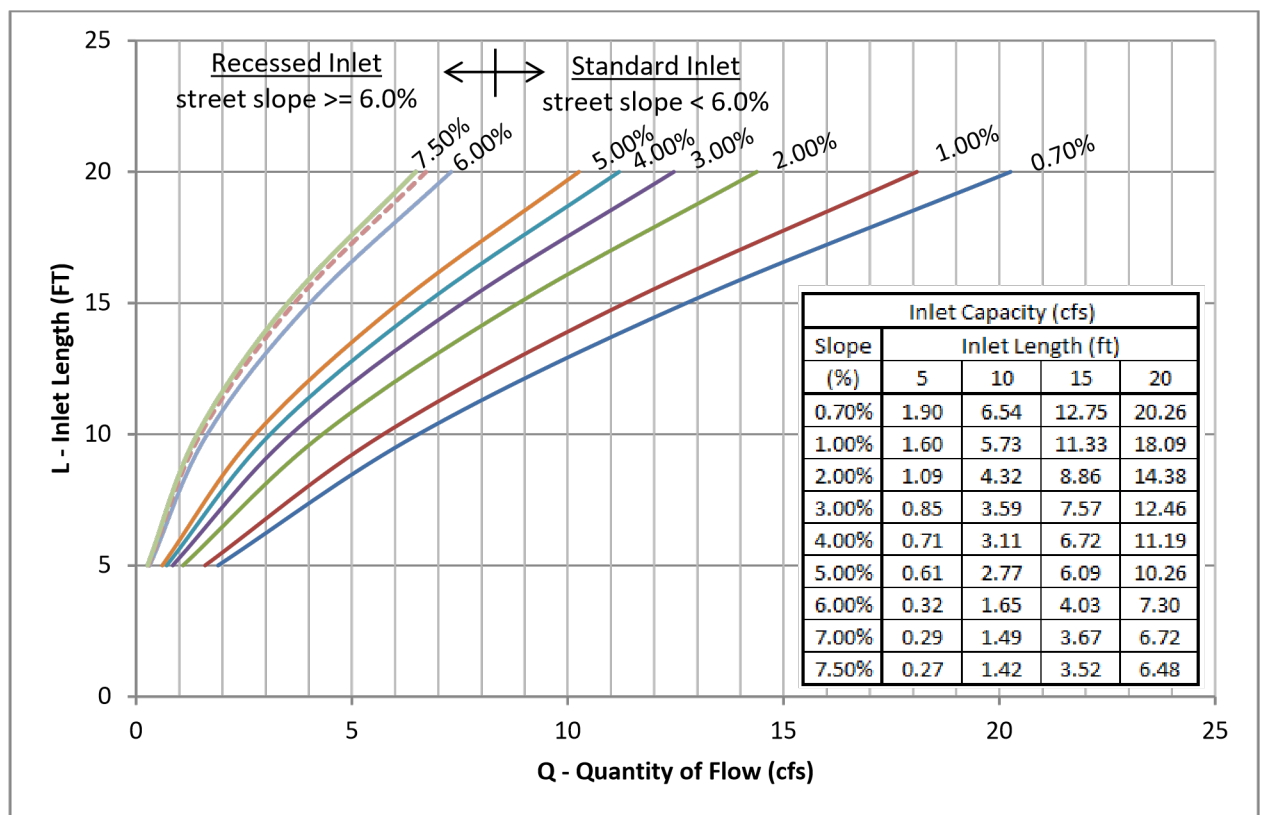


Figure 3.??: Curb Inlet Capacity On-Grade Principal & Minor Arterial (P6D & M4D??) (No title given just my guess I thought this table had been deleted)

- (4) Curb Inlet at Sag/Low Point. Determining the capacity of curb inlets at sag/low point shall be taken from **Equation 3.17** while the inlet operates as a weir until the water depth approaches 1.4 times the curb opening height.

$$Q = 2.3(L + 1.8W)y^{1.5}$$

Equation 3.14 can be rearranged to find the required curb inlet length at a sag point as shown in Equation 3.18.

$$L = \frac{Q}{2.3y^{1.5}} - 1.8W$$

Equation 3.17 and 3.18 where:

Q = total flow reaching inlet (cfs) y = depth of flow (ft)

L = length of curb inlet opening (ft)

W = gutter depression width (ft) - standard inlets W = 2.0 ft, recessed inlets W = 3.0 ft

Figures 3.10 through 3.11 are provided as reference for Standard and Recessed Sag Curb Inlet Capacities

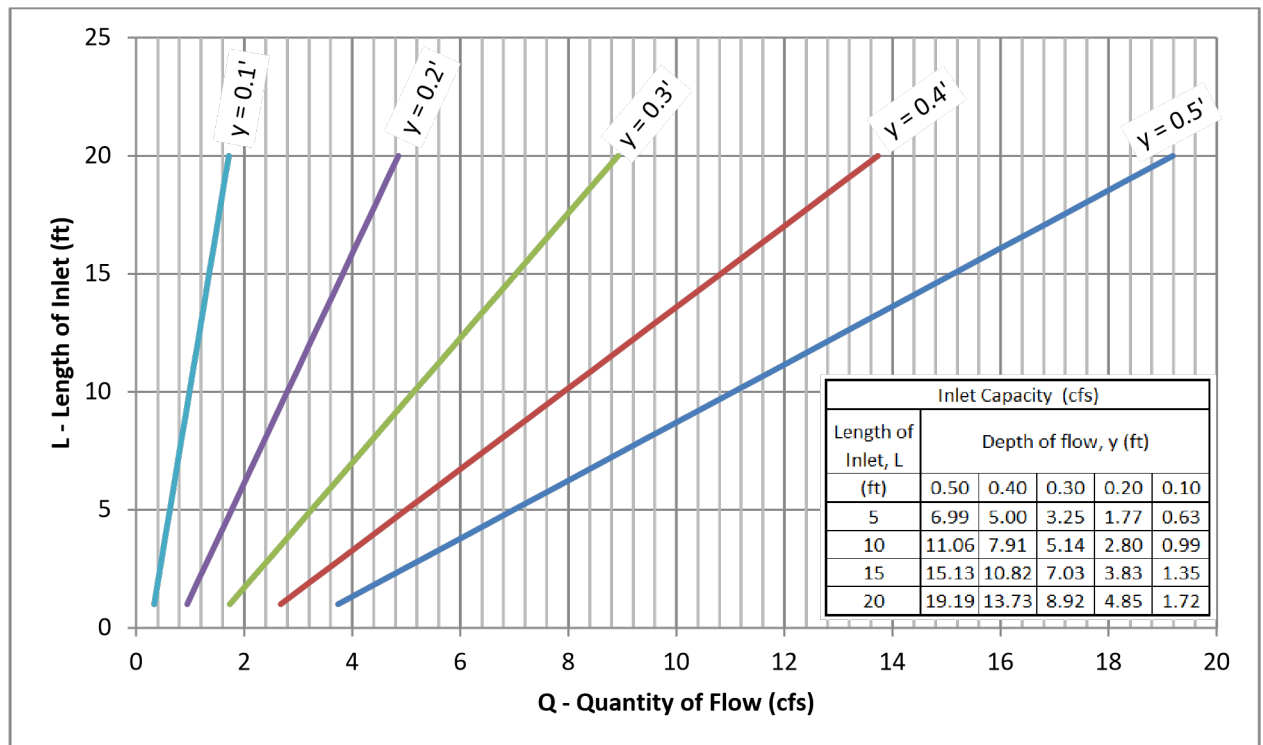


Figure 3.??: Standard Curb Inlet Capacity Sag/Low Point

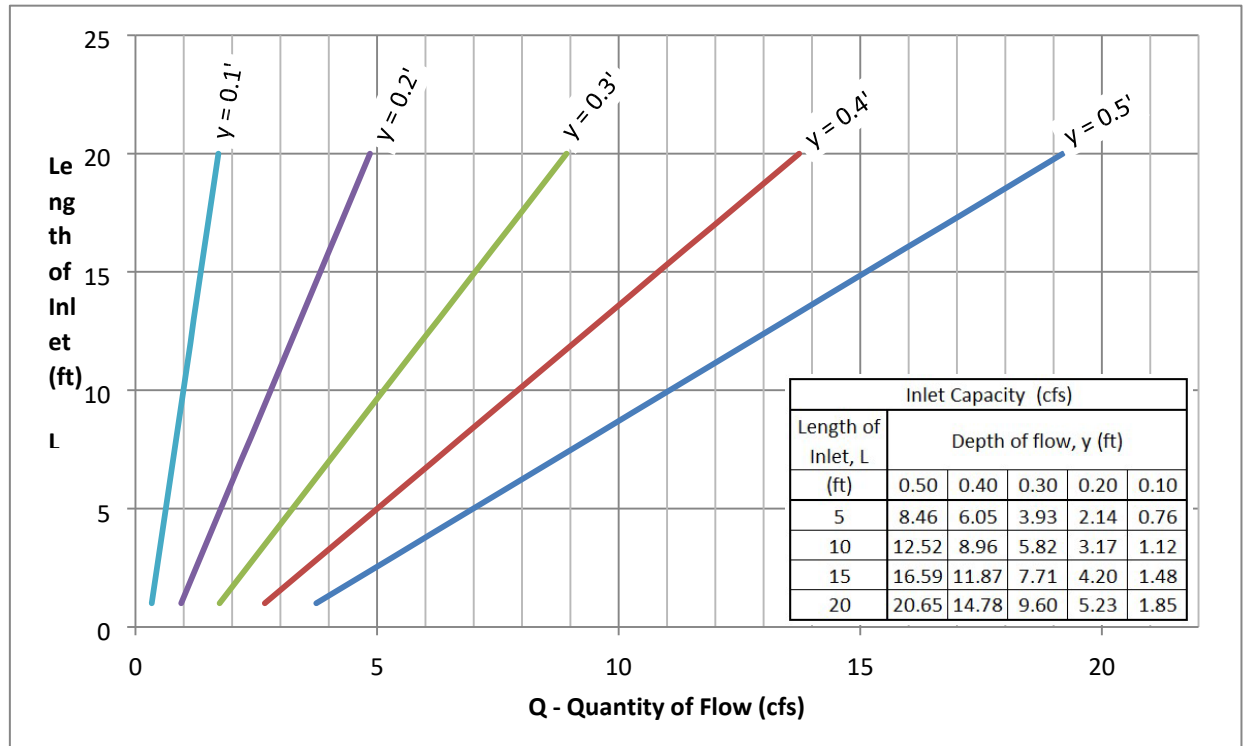


Figure 3.??: Recessed Curb Inlet Capacity Sag/Low Point

- (5) Drop Inlets / 'Y' Inlet Design. The capacity of drop inlets shall be taken from the **Equation 3.19**. All drop inlets shall be sized to have a maximum allowable head (depth of water) on the inlet to be six (6) inches.

$$Q = 3.087Ly^{3/2}$$

The equation can be rearranged to find the length of Drop Inlet opening as shown in **Equation 3.20**.

Equation 3.20 where:

Q = flow to inlet (cfs)

L = length of inlet opening (ft)

y = depth of water (head) at inlet (ft)

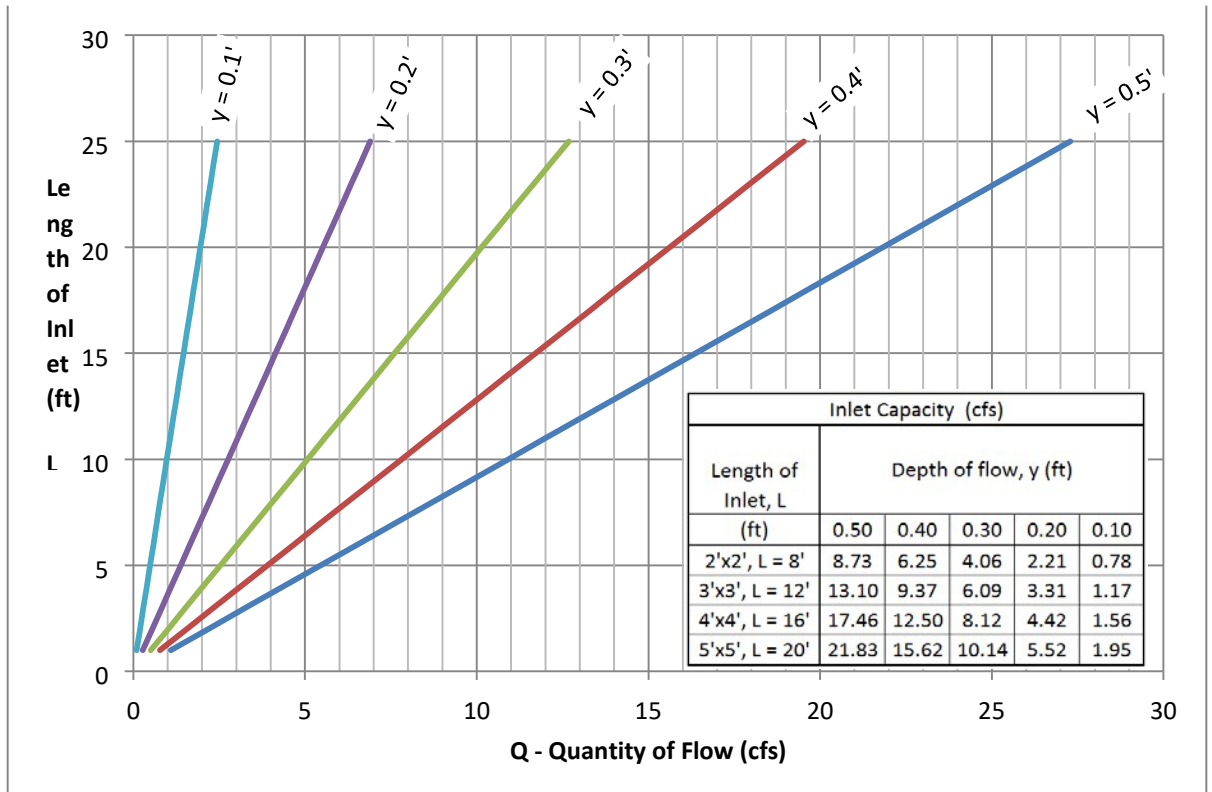


Figure 3.??: Drop/'Y' Inlet Capacity

(6) Combination and Grate Inlet Design. When allowed by the City Engineer combination and grate inlets shall be sized using **Figures 3.13** through **Figure 3.20** (**Figures 3.13.thru Figure 3.20 were deleted so which figure do we reference**)

Form 3.2: Inlet Design Calculations Table

Inlet ID	Location			Design Freq. (yr+++)	C	Area Runoff				
	Alignment	Station	Offset			Area ID	Time of Concentration T _c (min)	Intensity I (in/hr)	Area A (acres)	Runoff Q (cfs)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)

Upstream Bypass C*A	Total Gutter Flow Q _a	Gutter Flow							
		Thorough-fare Type	OnGrade/Sag	Manning's n	Long Slope S	Crown Type	Cross Slope S _x	Depression	
								Depth a	Width W
(cfs)	(cfs)				(ft/ft)		(ft/ft)	(ft)	(ft)
(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)

Gutter Flow					Inlets Capacity			
Ponding Width/Spread		Depth of Gutter Flow		Max. Allowable Flow based on Max. Allowable Ponding Width Q _{allow gutter}	Depressed Gutter Section		Section Beyond Depression	
(allow) T _{allow}	(actual) T _{actual}	(allow) Y _{allow}	(actual) Y _{actual}		Area	Wetted Perimeter	Area	Wetted Perimeter
(ft)	(ft)	(ft)	(ft)		A _w	P _w	A _o	P _o
(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)

Inlets Capacity							Inlet By-pass			Remarks
Conveyance		Ratio of Depression flow to Total Flow E _o	Equivalent Crossslope, S _e	Inlet Length		Inlet Capacity Q _c	Flow Q _{bypass}	C*A	To Inlet ID	
Depression Section K _w	Section Beyond Depression K _o			Required L _{Req'd}	Actual L _{Actual}					
(cfs)	(cfs)		(ft/ft)	(ft)	(ft)	(cfs)	(cfs)			
(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)

Instructions for Form 3.2: Inlet Design Calculation Table	
Column (1)	Inlet number or designation, starting with the most upstream inlet.
Column (2)	Street Alignment/ Name in which the inlet is located.
Column (3)	Station along the alignment in which the inlet is located.
Column (4)	Offset distance and side (RT/LT) inlet is located.
Column (5)	Design Storm Frequency shall be 100-yr for all inlets.
Column (6)	Runoff coefficient taken from Table 3.2 .
Column (7)	Contributing drainage area ID.
Column (8)	Minimum inlet time of concentration taken from Table 3.3 .
Column (9)	Using the time of concentration and design storm frequency, the rainfall intensity is taken from Figure 3.1 .
Column (10)	Runoff area to inlet in acres.
Column (11)	Solution of Equation 3.1 .
Column (12)	Taken from Column (39) of the upstream inlet.
Column (13)	$= \text{Column (9)}\{\text{Column (12)} + \{\text{Column (6)} * \text{Column (10)}\}\}$
Column (14)	Thoroughfare Type Taken from Section 2 Streets, (P6D, M4D, M4U, M3U, Minor Collector, Local, Alley, Parking).
Column (15)	Determined by location of inlet (On-Grade or Sag).
Column (16)	Manning's n value.
Column (17)	Street longitudinal gutter slope of the street taken in (feet/feet).
Column (18)	Street crown type on which the inlet is located.
Column (19)	Street cross-slope in feet/feet .
Column (20)	Gutter depression depth, reference Figure 3.3 .
Column (21)	Gutter depression width, reference Figure 3.3 .
Column (22)	Determined by the type of thoroughfare in the permissible spread width section.
Column (23)	Solution of Equation 3.7 .
Column (24)	The product of Column (22) and Column (19).
Column (25)	The product of Column (23) and Column (19).
Column (26)	Solution of Equation 3.5 using the maximum allowable pond width from Column (22).
Column (27)	Solution of Equation 3.12 .
Column (28)	Solution of Equation 3.13 .
Column (29)	Solution of Equation 3.14 .
Column (30)	Solution of Equation 3.15 .
Column (31)	Solution of Equation 3.11 using Columns (27) and (28).
Column (32)	Solution of Equation 3.11 using Columns (29) and (30).
Column (33)	Solution of Equation 3.10 .
Column (34)	Solution of Equation 3.9 .
Column (35)	Solution of Equation 3.8 for on-grade curb inlets, Equation 3.18 for sag curb inlet, or Equation 3.20 for drop inlets.

Instructions for Form 3.2: Inlet Design Calculation Table	
Column (36)	Selected Inlet Size.
Column (37)	The capacity of the selected inlet size of Column (35), solution found by iteratively solving for capacity based on Equation 3.8 for curb inlets, Equation 3.17 for sag curb inlets, Equation 3.19 for drop inlets.
Column (38)	For on-grade inlets the solution of Equation 3.16 .
Column (39)	Equal Column (38) divided by Column (9).
Column (40)	Next downstream inlet to which by the by-pass is going.
Column (41)	Special design comments are entered here.

(i) **Flow in Storm Drain Conduits and Their Appurtenances**

(1) Hydraulic Gradient of Conduits.

- i. A storm drainage conduit must have sufficient capacity to discharge a design storm with a minimum of interruption and inconvenience to the public using streets and thoroughfares. The size of the conduit is determined by accumulating runoff from contributing inlets and calculating the slope of a hydraulic gradient from Manning's Equation:

$$S_f = \frac{Qn^2}{1.49AR^{2/3}}$$

Equation 3.21 where:

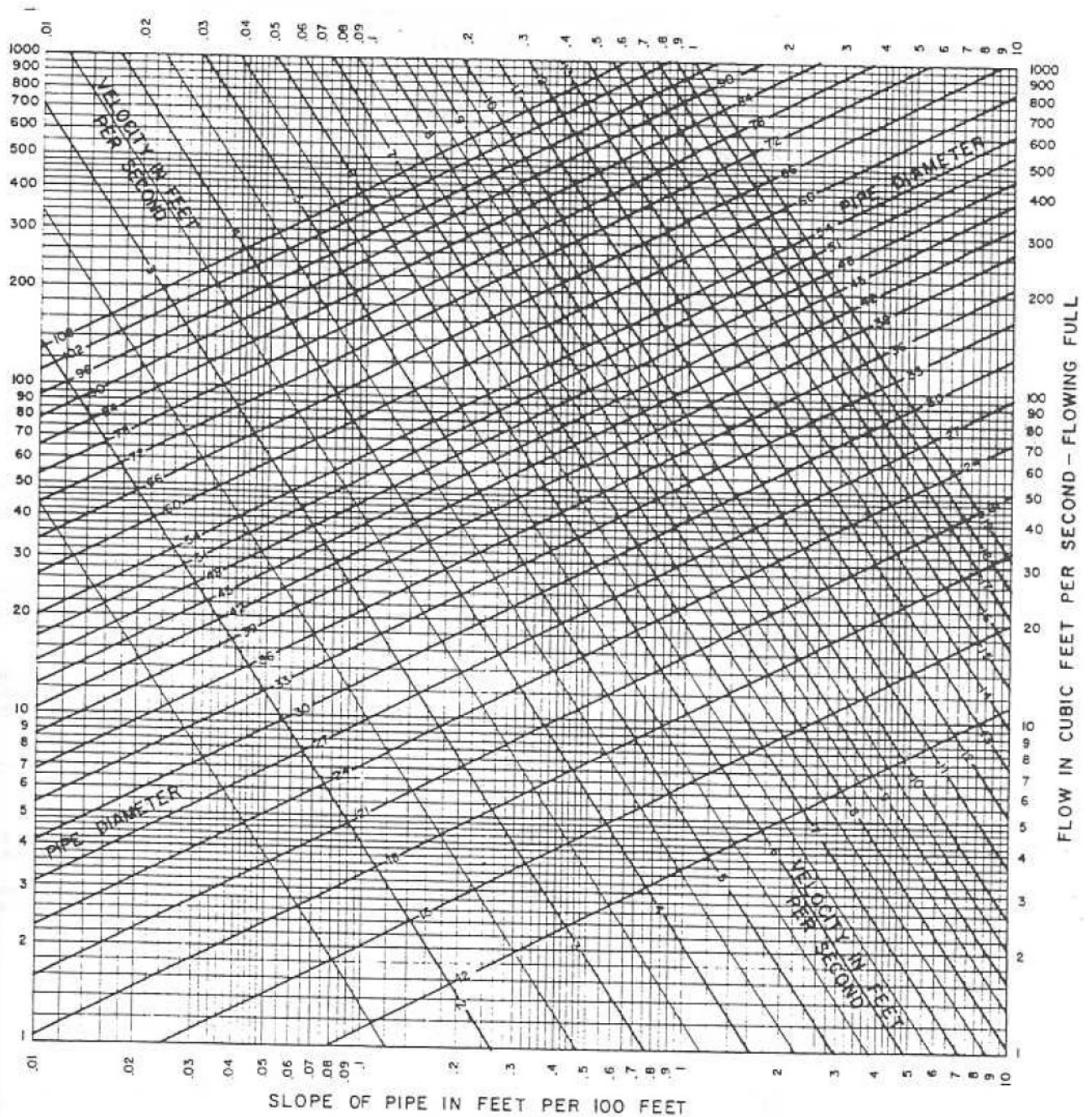
Q = flow in conduit, (cfs)

n = Manning's roughness coefficient; value = 0.013 A = cross sectional area of flow, (ft²)

R = hydraulic radius, (ft)

S_f = hydraulic friction slope, (ft/ft)

- ii. Hydraulic gradient for the selected conduit size shall be 1.50' below gutter (2.0' below top of curb) for each contributing inlet to ensure that the selected conduit will carry the design flow at an elevation below the gutter profile. As the conduit size is selected and the hydraulic gradient is plotted between each inlet pickup point, a head loss due to a change in velocity and pipe size must be incorporated in the gradient profile.
- iii. At an outfall/headwall the starting hydraulic grade line (HGL) for a conduit system shall be set to the greater of the following: the conduit soffit or the one-hundred-year (100-yr) water surface elevation for the receiving channel or detention pond. In situations where the drainage area for the receiving stream is significantly larger than the drainage area for the site, an evaluation may be performed to determine the water surface elevation and resulting HGL that is appropriate for the site.
- iv. Concrete pipe conduit shall be used to carry the storm water, and flow chart, **FIGURE 3.21**, based on Manning's Equation may be used to determine the various hydraulic elements including the pipe size, the hydraulic gradient, and the velocity. Special hydraulic calculators are also available for solution of Manning's Equation. All public storm lines shall be sized to carry the 100-year flow or greater.
- v. The roughness coefficient 'n' for storm sewer conduit shall be 0.013.



**CAPACITY OF CIRCULAR
PIPES FLOWING FULL**

A GRAPHICAL SOLUTION
OF
MANNING'S EQUATION

$$V = \frac{1.486}{n} R^{2/3} S^{1/2}$$

n = 0.013

Figure 3.21: Capacity of Circular Pipes Flowing Full

vi. With the hydraulic gradient established, considerable latitude is available for establishment

of the conduit flow line. The hydraulic gradient at every inlet should be plotted directly on the construction plan profile worksheet and adjusted as necessary.

- vii. All public storm sewer systems shall be reinforced concrete pipe. In order to facilitate pipe inspection, where pipe sizes change, the flowlines shall match. Storm sewer pipe with two-feet (2') feet or less of cover are required to be Class IV reinforced concrete pipe. All storm pipes and laterals are required to have a plan and profile on engineering plans. All flow data (Q100, Qcap, velocity, hydraulic slope) is required at every change in pipe size, slope and/or change in flow rate.
- (2) Minor Head Losses. When establishing the hydraulic gradeline of a storm sewer, minor head losses at points of turbulence shall be calculated and included in the computation of the hydraulic gradeline.
- i. Entrance Losses. Entrance losses to a closed storm sewer system from an open channel or lake shall be calculated using **Equation 3.22**.

$$H_L = K_E \frac{V_1^2}{2g}$$

Equation 3.22 where:

H_L = head loss (ft)

K_E = head loss coefficient (see Table 3.7).

V_1 = velocity in the downstream conduit (ft/s)

g = the acceleration of gravity (32.3 ft/s²)

Table 3.7: Entrance Loss Coefficients

Type of Structure and Design of Entrance	Coeff. K_E
Pipe (Concrete)	
Projecting from fill, socket end (groove-end)	0.2
Projecting from fill, square cut end	0.5
Headwall or headwall and wingwalls	
Socket end of pipe (groove-end)	0.2
Square-edge	0.5
Rounded (radius = 1/12D)	0.2
Mitered to conform to fill slope	0.7
End-section conforming to fill slope	0.5
Beveled edges, 33.7- or 45-degree bevels	0.2
Side- or slope-tapered inlet	0.2
Pipe, or Pipe-Arch, (Corrugated Metal)	
Projecting from fill (no headwall)	0.9
Headwall or headwall and wingwalls square-edge	0.5
Mitered to conform to fill slope, paved or unpaved slope	0.7
End-section conforming to fill slope	0.5
Beveled edges, 33.7- or 45-degree bevels	0.2
Side- or slope-tapered inlet	0.2

Box (Reinforced Concrete)	
Headwall parallel to embankment (no wingwalls)	
Square-edged on 3 edges	0.5
Rounded on 3 edges to radius of 1/12 barrel dimension or beveled edges on 3 sides	0.2
Wingwalls at 30- to 75-degrees to barrel	
Square-edged at crown	0.4
Crown edge rounded to radius of 1/12 barrel dimension, or beveled top edge	0.2
Wingwall at 10- to 25-degrees to barrel	
Square-edged at crown	0.5
Wingwall parallel (extension of sides)	
Square-edged at crown	0.7
Side- or slope-tapered inlet	0.2

- ii. Inlet Losses. Inlet losses shall be calculated using **Equation 3.23**.

$$H_L = 1.25 \frac{V_{LAT}^2}{2g}$$

Equation 3.23 where:

H_L = head loss (ft)

V_{LAT} = velocity in the lateral (ft/s)

g = the acceleration of gravity (32.2 ft/s²)

- iii. Expansion Losses. For pipe size expansions, head loss shall be calculated using **Equation 3.24**.

$$H_L = \left(1 - \left(\frac{D_1}{D_2} \right)^2 \right) \frac{V_1^2}{2g}$$

Equation 3.24 where:

H_L = head loss (ft)

V_1 = upstream velocity (ft/s)

D_1 = upstream conduit diameter (ft)

D_2 = downstream conduit diameter (ft)

g = the acceleration of gravity (32.2 ft/s²)

- iv. Manhole and Bend Losses. Head losses associated with manholes for pipe direction changes and bends in pipes of equal diameter shall be calculated using **Equation 3.25**.

$$H_L = K_j \frac{V_2^2}{2g}$$

Equation 3.26 where:

H_L = Head loss (ft)

V_1 = Velocity in the upstream conduit (ft/s)

V_2 = Velocity in the downstream conduit (ft/s) K_j = Head loss coefficient from **Table 3.8**.

g = the acceleration of gravity (32.2 ft/s²)

- v. Junction Losses. Head losses associated with wye connections or manholes branch laterals entering the main line shall be calculated by using **Equation 3.26**.

$$H_L = \frac{V_2^2}{2g} - K_j \frac{V_1^2}{2g}$$

Equation 3.26 where:

H_L = Head loss (ft)

V_1 = Velocity in the upstream conduit (ft/s)

V_2 = Velocity in the downstream conduit (ft/s) K_j = Head loss coefficient from **Table 3.8**

Head Loss Coefficients for Closed Conduits.

g = the acceleration of gravity (32.2 ft/s²)

Table 3.8 Head Loss Coefficients for Closed Conduits

MANHOLE AT CHANGE IN PIPE DIRECTION		
DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT K_j
<p>D1</p> <p>D2</p> <p>ANGLE</p> <p>D1 = D2</p>	90°	0.55
	60°	0.48
	45°	0.42
	30°	0.3
	0°	0.05
BENDS IN PIPES		
DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT K_j
<p>ANGLE</p>	90°	0.5
	60°	0.43
	45°	0.37
	30°	0.25
JUNCTION		
DESCRIPTION	ANGLE	HEAD LOSS COEFFICIENT K_j
<p>ANGLE</p> <p>V_1</p> <p>V_1</p> <p>V_2</p>	0°	1
	22 1/2°	0.75
	45°	0.5
	60°	0.35
	90°	0.25

(3) Minimum Grades.

- i. Storm drains should operate with flow velocities sufficient to prevent excessive deposits of solid materials; otherwise objectionable clogging may result. The controlling velocity with regard to sediment deposition is near the bottom of the conduit and considerably less than the mean velocity of the storm.
- ii. Storm drains shall be designed to have a minimum mean velocity flowing full of 2.5 feet per second (f.p.s.). **Table 3.9** *Minimum Grades for Storm Drain Pipelines* indicates the minimum grades for concrete pipe with "Manning's "n" = 0.013 and flowing at 2.5 f.p.s.

Table 3.9: Minimum Grades for Storm Drain Pipelines

Pipe Dia. (Inches)	Slope (foot/foot)
18	0.0018
21	0.0015
24	0.0013
27	0.0011
30 -96	0.0010

- (4) Maximum Velocities. The slope of a storm sewer should also be such that excessive velocities will not damage the pipeline or drainage structures. **Table 3.10** *Maximum Velocities in Closed Conduits* delineates the maximum desirable velocities for storm sewer.

Table 3.10: Maximum Velocities in Closed Conduits

Type of Conduit	Maximum Velocity
Culverts	15 f.p.s.
Inlet Laterals	15 f.p.s.
Storm Sewer Pipe	12.5 f.p.s.

(5) Discharge of Storm Drain Pipe.

- i. For discharging into retention ponds or other water features with a normal pool, the outfall must be at minimum the same level of the normal water surface elevation. Pipes may not be designed or discharged to retain water within the pipe longer than forty-eight (48) hours.
- ii. Where storm drain pipes discharge into water courses, the invert of the pipe shall be at the same grade as the low point of the water course and angled a maximum of sixty-degrees (60°) to flow downstream. Adequate grouted rock riprap or other erosion protection shall be provided no matter the velocity. Storm sewers shall discharge into open channels at a maximum velocity of eight feet per second (8' f.p.s.)

(6) Manholes.

- i. Storm drain manholes shall be located at intervals not to exceed five hundred feet (500') for all underground storm conduit systems.
- ii. Manholes shall also be placed at locations where CCTV and Vac-con equipment can inspect/clean entire system without getting stuck or unable to make bends/wye connection turns. Therefore manholes shall also be placed where there is no more than one (1) bend or wye connection between manholes or inlets.
- iii. Inlet and manhole lids shall be twenty-four inches (24") with locking lids.

(7) Underdrains/French Drains.

- i. The use of French Drains shall be approved by the City Engineer. The minimum size of underdrains/French drain shall be six-inches (6") in diameter. Piping shall be installed per standard detail R-6080 and connect to the nearest downstream inlet.
- ii. Cleanout shall be placed at the most upstream point and at a maximum spacing of four-hundred-feet (400').
- iii. Horizontal location shall be adjusted as needed in order to prevent conflict with other proposed or existing utilities within corridor.
- iv. Ninety-degree (90°) bends in small lines are prohibited. Forty-five-degree (45°) bends or clean outs are recommended.
- v. Any private underdrains/French drains that are discharging into City right-of-way or easements shall connect to the closest City underdrain, storm drain pipe or inlet. A clean out shall be placed at the right-of-way line to the private underdrain lateral.
- vi. If a private underdrain is not in close proximity to a larger storm drain pipe or inlet system, a pop-up drain shall be installed in private property.
- vii. No cutting or "punching" into City curb with pipes will be allowed.

- (j) **One Hundred-Year (100-yr) Flood Zones.** Where the Federal Emergency Management Administration (FEMA) has defined a flood hazard area with regard to a drainage course as shown on the effective Flood Insurance Rate Maps (FIRMs), the flood hazard zone and the floodplain, floodway, cross-section lines and water surface elevations at each cross-section, if available, shall be shown on the plat and engineering plans.
- (k) **Local One-Hundred-Year (100-yr) Flood Zones.** Where flood information has not been determined for streams, creeks, channels, or impoundments located within or adjacent to a proposed development, the one-hundred-year (100-yr) fully developed flood elevations and flood boundaries shall be determined by the developers' engineers. The local floodplain, cross-section lines and water surface elevations at each cross-section shall be shown on the plat and engineering plans.
- (l) **Inlet Markers.** The City will provide "No Dumping, Drains to Waterway" inlet markers to be installed on each inlet by the Developer.
- (m) **Fueling Stations.** If there is a fueling station on the site, the storm line serving the fueling station drainage area shall have an oil/water separator installed before leaving the site. This private system shall discharge into a storm system and cannot discharge into a wastewater system.

- (n) **Testing.** If there is a fueling station on the site, the storm line serving the fueling station drainage area shall have an oil/water separator installed before leaving the site. This private system shall discharge into a storm system and cannot discharge into a wastewater system.

SEC.02.03.0314..... STORM SEWER DESIGN – CLOSED CONDUIT

- (a) **General.** To facilitate the design of closed conduit storm sewers, design will be based on the calculations called out in this section and the instructions for Form 3.3: Storm Sewer Calculations. **Form 3.3 Storm Sewer Calculation Table** in its entirety shall be included in the plans and calculations shall be provided for each system including laterals.

Form 3.3: Storm Sewer Calculations Table

SYSTEM ID	Conduit Properties								
	Collection Point Station		Length	# of Barrels	Pipe Size	Box		Type	Area
	U/S	D/S				Span	Rise		
			(ft)		(inches)	(ft)	(ft)		(ft ²)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)

Conduit Properties						Incremental Drainage Area			
Wetted Perimeter P _w	Hydraulic Radius	Manning's n	Flowline Elevation		Slope	Inlet ID	Area	Runoff Coeff. C	Incremental C*A
			Upstream	Downstream					
(ft)	(ft)				(ft/ft)		(acres)		
(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)

Accum-ulated C*A	Upstream T _c	Design Storm Freq.	Intensity I	Runoff Q	Conduit Capacity Q _c	Partial Flow	Velocity V	Time in Conduit
	(min)	(yr)	(in/hr)	(cfs)	(cfs)	(Yes/No)	(ft/s)	(min)
(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)

Friction Slope S_f	Friction Headloss	HGL		Headloss Calculations					Design HGL	Top of Curb Elev.	HGL Depth Below T/C	Remarks
		U/S	D/S	$\frac{V_{12}}{2g}$	$\frac{V_{22}}{2g}$	Jct. Type	Coeff. K_j	Headloss H_L				
(ft/ft)	(ft)			(ft)	(ft)			(ft)			(ft)	
(30)	(31)	(32)	(33)	(34)	(35)	(36)	(37)	(38)	(39)	(40)	(41)	(42)

Instruction for Form 3.3: Storm Sewer Calculation Table

Column (1)	System ID, if private label (ex. Line-A, Line-B,; Lat-A1, Lat-A2,)
Column (2)	Storm sewer line station at the upstream end of conduit section
Column (3)	Storm sewer line station at the downstream end of conduit section
Column (4)	Length of Conduit segment, equal to Column (2) minus Column (3)
Column (5)	Number of barrels of conduit
Column (6)	Size of Pipe in inches
Column (7)	Span of Box Conduit
Column (8)	Rise of Box Conduit
Column (9)	Conduit Type (ex. RCP, RCB, PVC, HDPE,)
Column (10)	Conduit area
Column (11)	Wetted Perimeter
Column (12)	Equal to Column (10) divided by Column (11)
Column (13)	Manning's Roughness Coefficient
Column (14)	Conduit flowline elevation at the upstream end of conduit section
Column (15)	Conduit flowline elevation at the downstream end of conduit section
Column (16)	Conduit slope in feet/feet
Column (17)	The incremental drainage area ID contributing to the conduit section
Column (18)	The incremental drainage area in acres contributing to the conduit section
Column (19)	The incremental drainage area runoff coefficient contributing to the conduit section
Column (20)	Equal to Column (18) multiplied by Column (19)
Column (21)	Equal to Column (20) plus Column (21) of the upstream conduit section
Column (22)	Equal to inlet Tc if most upstream conduit section, or the sum of previous conduit section Column (22) and Column (19)
Column (23)	Design Storm Frequency shall be 100-yr
Column (24)	Shall be taken from Figure 3.1 using Columns (22) and (23)
Column (25)	Solution of Equation 3.1 using Columns (21) and (24)
Column (26)	Solution of Manning's Equation 3.6 where the conduit is flowing full (depth of flow is equal to height of conduit)
Column (27)	Yes, if Column (25) < Column (26). No, if Column (25) ≥ Column (26)
Column (28)	The actual velocity within the conduit
Column (29)	Equal to Column (4) divided by Column (28) divided by 60 sec/min

Column (30)	Solution of Equation 3.21
Column (31)	Equal to Column (4) multiplied by Column (30)
Column (32)	Upstream Hydraulic Grade Line. Equal to Column (33) plus Column (31)
Column (33)	This is the beginning hydraulic gradient of the line. It is equal to the Design HGL Column (38) for the next downstream segment, or the beginning HGL of the system.
Column (34)	Velocity Head of the incoming pipe at the wye, junction, inlet or manhole.
Column (35)	Velocity Head of the outgoing pipe (the pipe segment being analyzed) at the wye, junction, inlet, or manhole.
Column (36)	Upstream junction type (ex. Inlet, 60° Wye, 30° Bend, Jct. Box,)
Column (37)	Taken from Tables 3.8
Column (38)	Taken for Equations 3.23 through 3.26 depending on Junction Type
Column (39)	Upstream Hydraulic Grade Line design point of the conduit segment. Column (24) plus Column (32)
Column (40)	The top of curb elevation at which the inlet is located
Column (41)	Equal to the Column (40) minus Column (39)
Column (42)	Special design comments are entered here.

SEC. 02.03.0315 STORM SEWER DESIGN – OPEN CHANNELS

(a) General.

- (1) All channels shall be designed to have a minimum bottom width of six feet (6'), a minimum flow line slope of one 0.5%, and shall be sized for the anticipated design.
- (2) Side slopes of channels shall not be steeper than one foot (1') rise to four feet (4') horizontal distance. Where slopes are steeper than four to one (4 to 1), the slopes shall be lined for slope protection with concrete, gabions, or another approved method.
- (3) In unlined open channels, the side slopes and channel slopes shall be such that erosion is controlled and the channel is stable. Channels discharging into water courses shall have the same invert level as the water course.
- (4) Open channel modeling and design should be done using HEC-RAS when the flow is greater than fifty cubic feet per second (50 cfs) or there are existing or proposed crossings of the channel.
- (5) When flow is less than fifty cubic feet per second (50 cfs) and there are no existing or proposed crossings, calculation may be performed manually using **Form 3.4 Open Drainage Channel Calculations Table**. The instructions for **Form 3.4: Open Drainage Channel Calculations Table**, have been included in this section to facilitate the hydraulic design of an open channel.

Instruction for Form 3.4 Open Drainage Channel Calculations

Column (1)	Downstream limit of the section of channel under consideration.
Column (2)	Upstream limit of the section of channel under consideration.
Column (3)	Type of channel as shown shall be either Type I natural unimproved channel, Type II unlined with maintenance section, (concrete pilot channel) or Type III, concrete lined channel.
Column (4)	Flow in the section of channel under consideration.
Column (5)	Roughness coefficient of the channel cross-section taken from TABLE 3.11 .
Column (6)	Slope of the channel which is most often parallel to slope of the hydraulic gradient.
Column (7)	Square root of Column (6).
Column (8)	Calculation is made using the values in Columns (4), (5) and (7).
Column (9)	Assumed width of the bottom width of the channel.
Column (10)	Assumed depth of flow.
Column (11)	Assumed slope of the sides of the channel.
Column (12)	Area of flow which is calculated based on Columns (9), (10) and (11).
Column (13)	Wetter perimeter calculated from Columns (9), (10) and (11).
Column (14)	Value is calculated from Columns (12) and (13).
Column (15)	Column (14) raised to 2/3 power.
Column (16)	Product of Column (13) times Column (15).
<p>When the value of Column (16) equals the value of Column (8) the channel has been adequately sized. When the value of Column (16) exceeds the value of Column (8) by more than five percent, the channel width or depth should be decreased, and another trial section analyzed.</p>	
Column (17)	Calculation is based on the values of Columns (4) and (12)
Column (18)	Calculation is based on Column (17)
Column (19)	Remarks concerning the channel section analyzed may be entered.

Table 3.11: Roughness Coefficients for Open Channels and Maximum Velocity

Channel Description	Manning's n	Max. Permissible Channel Velocity (ft/s)
Fairly Regular Section		
1. Some grass and weeds, little or no brush	0.030	6
2. Dense growth of weeds, depth of flow materially greater than week height	0.035	6
3. Some weeds, light brush on banks	0.035	6
4. Some weeds, heavy brush on banks	0.050	6
5. Some weeds, dense willows on banks	0.060	6
For trees within channels with branches submerged at high stage, increase above values by	0.010	6
Irregular section with pools, slight channel meander, increase above values by	0.010	6
Floodplain - Pasture		6
1. Short grass	0.030	6
2. Tall grass	0.035	6
Floodplain - Cultivated Areas		6
1. No crop	0.030	6
2. Mature row crops	0.035	6
3. Mature field crops	0.040	6
Floodplain - Uncleared		6
1. Heavy weeds/scattered brush	0.050	6
2. Wooded	0.12	6
MAJOR NATURAL STREAMS		
Roughness coefficient is usually less than for minor streams of similar description on account of less effective resistance offered by irregular banks or vegetation on banks. Values of "n" for larger streams of mostly regular sections, with no boulders or brush.	Range from 0.280 to 0.060	6
UNLINED VEGETATED CHANNELS		
Clays (Bermuda Grass)	0.035	6
Sandy and Silty Soils (Bermuda Grass)	0.035	5
UNLINED NON-VEGETATED CHANNELS		
Sandy Soils	0.030	2.50
Silts	0.030	1.50
Sandy Silts	0.030	3
Clays (Bermuda Grass)	0.030	5
Coarse Gravels	0.030	6
Shale	0.030	10

Table 3.11: Roughness Coefficients for Open Channels and Maximum Velocity

Channel Description	Manning's n	Max. Permissible Channel Velocity (ft/s)
Rock	0.025	15
LINED CHANNELS		
Grass Lined	0.035	6
Concrete Lined	0.015	15
Rock Riprap	0.040	12
Grouted Riprap	0.028	15

SEC.02.03.0316..... CULVERT DESIGN

(a) General.

- (1) The design of culverts shall be sized to convey the discharge of the design flood frequency of one-hundred-year (100-yr) fully-developed watershed. The hydraulic calculations shall be entered into Form 3.5 Culvert Design Calculations, which is further described herein. If computer modeling software is used in culvert design such as HY-8, HEC-RAS, etc. all input and output parameters shall be included in the plans, or in a certified report referenced in the plans.
- (2) Where a parallel culvert is to be placed in a roadside ditch under a driveway or roadway, the culvert headwalls shall start at the end of the curb return and extend beyond the return.
- (3) The instructions for **FORM 3.5: Culvert Design Calculations Table** have been included in this section to facilitate the hydraulic design of a culvert.

FORM 3.5.INFORMATION IN THE UPPER RIGHT-HAND CORNER OF FORM

Culvert Location	This is a word description of the physical location.
Length	The actual length of the culvert
Total Discharge, Q	This is the flow computed on Form 3.1: Design Storm Frequency – 100-year storm
Roughness Coefficient	n-value = 0.013
Maximum Discharge Velocity	Obtained from Table 3.12
Tailwater	This is the design depth of water in the downstream channel and is obtained in connection with the channel design performed on Form 3.4 .
D.S. Channel Width	This is the bottom width of the downstream channel. The culvert should be sized to approximate this width whenever possible.
Entrance Description	This is a listing of the actual condition as shown in the "Culvert Entrance Data" shown on the calculation sheet.
Roadway Elevation	The elevation of the top of curb at the upstream end of culvert.
U.S. Culvert F.L.	The flow line of a the culvert at the upstream end.
Difference	The difference in elevations of the roadway and the upstream flow line.
Required Freeboard	The vertical distance required for safety between the upstream design

FORM 3.5. INFORMATION IN THE UPPER RIGHT-HAND CORNER OF FORM

	water surface and the roadway elevation or such other requirements, which may occur because of particular physical conditions.
Allowable Headwater	This is obtained by subtracting the freeboard from the difference shown immediately above.
D.S. Culvert F.L	The flow line elevation of the downstream end of the culvert
Culver Slope, S	This is the physical slope of the structure calculated as indicated.

Table 3.12: Culvert Discharge Velocities

<u>Culvert Discharges On</u>	<u>Maximum Allowable Velocity (f.p.s.)</u>
Earth (Sandy)	6
Earth (Clay)	6
Sodded Earth	6
Concrete	15
Shale	10
Rock	15

INSTRUCTIONS FOR FORM 3.5: CULVERT DESIGN CALCULATIONS

Columns 1 through 10 deal with selection of trial culvert size and are explained as follows:	
Column 1	Total design discharge, Q, passing through the culvert divided by the allowable maximum velocity gives trial total area of culvert opening.
Column 2	Culvert width should be reasonably close to the channel bottom width, W, downstream of the culvert.
Column 3	Lower range for choosing culvert depth is trial area of culvert opening, Column 1 divided by channel width, Column 2.
Column 4	Allowable headwater obtained from upper right of sheet.
Column 5	Trial depth, D, of culvert corresponding to available standard sized and between the numerical values of Columns 3 and 4.
Columns 6, 7 and 8 are solved simultaneously based on providing a total area equivalent to the trial area of opening in Column 1.	
Column 6	Number of culvert openings.
Column 7	Inside width of one opening.
Column 8	Inside depth of one opening if culvert is box structure or diameter if culvert is pipe.
Column 9	Column 6 multiplied by Column 7 and Column 8.
Column 10	Total discharge divided by number of openings shown in Column 6.

INSTRUCTIONS FOR FORM 3.5: CULVERT DESIGN CALCULATIONS

Columns 11 through 15 (Inlet Control) and 16 through 27 (Outlet Control) deal with headwater calculations which verify hydraulics of trial culvert selected and are explained as follows.	
Column 11	Obtained from upper right of sheet.
Column 12	When the allowable headwater is equal to or less than the value in Column 8, enter Case I. When the allowable headwater is more than the value in Column 8, enter Case II.
Column 13	Column 10 divided by Column 7.
Column 14	Obtained from FIGURE 3.22 for box culverts or FIGURE 3.23 for pipe culverts.
Column 15	Column 14 multiplied by Column 8.
Column 16	Obtained from upper part of sheet.
Column 17	Obtained from FIGURE 3.24 for box culverts and FIGURE 3.25 for pipe culverts.
Column 18	Tailwater depth from upper right of sheet.
Column 19	Culvert slope, S, multiplied by culvert length, both obtained from upper right of sheet.
Column 20	Sum of Columns 17 and 18, minus Column 19.
Column 21	Obtained from FIGURE 3.24 for box culverts and FIGURE 3.25 for pipe culverts.
Column 22	Critical depth obtained from FIGURE 3.26 for box culverts and FIGURE 3.27 for pipe culverts.
Column 23	Sum of Columns 22 and 8 divided by 2.
Column 24	Tailwater depth from upper right of sheet.
Column 25	Enter the larger of the two values shown in Column 23 or Column 24.
Column 26	Previously calculated in Column 19 and may be transposed.
Column 27	The sum of Columns 21 and 25 minus Column 26.
Column 28	Enter the larger of the values from either Column 15, Column 20, or Column 27. This determines the controlling hydraulic conditions of the particular size culvert investigated.
Column 29	When the Engineer is satisfied with the hydraulic investigations of various culverts and has determined which would be the most economical selection; the description should be entered.

FORM 3.5: CULVERT DESIGN CALCULATIONS TABLE

CULVERT DESIGN CALCULATIONS

CULVERT LOCATION: _____ LENGTH, L: _____

TOTAL DISCHARGE, Q: _____ DESIGN STORM FREQ. _____

ROUGHNESS COEFF., n: _____ MAX. VEL. _____

TAILWATER _____ D.S. CHANNEL WIDTH _____

ENTRANCE DESCRIPTION _____

RDWY. ELEV. _____ U.S. CULV. F.L. _____

U.S. CULV. F.L. _____ U.S. CULV. F.L. _____

DIFFERENCE _____ DIFFERENCE _____

REDD. FREEBOARD _____ FT. CULV. SLOPE, S_o: _____

ALLOW. HEADWATER _____ FT. S_o: _____

CULVERT ENTRANCE DATA

CONCRETE BOX CULVERT

TYPE	FLARE ANGLE	ENTRANCE EDGE	K _e
1A	30° to 75°	Square	0.4
1B	30° to 75°	Round	0.3
2A	15° to 30° & 75° to 90°	Square	0.5
2B	15° to 30° & 75° to 90°	Round	0.3
3A	0° (Extension of Sides)	Square	0.7
3B	0° (Extension of Sides)	Round	0.5

CONCRETE PIPE

TYPE	ENTRANCE DESCRIPTION	K _e
4	Spigot End With Headwall	0.5
5	Bell End With Headwall	0.2
6A	Bell End Projecting With No Headwall	0.3
6B	Spigot End Projecting With No Headwall	0.6

OUTLET CONTROL

CASE I: INLET NOT SUBMERGED

CASE II: INLET SUBMERGED

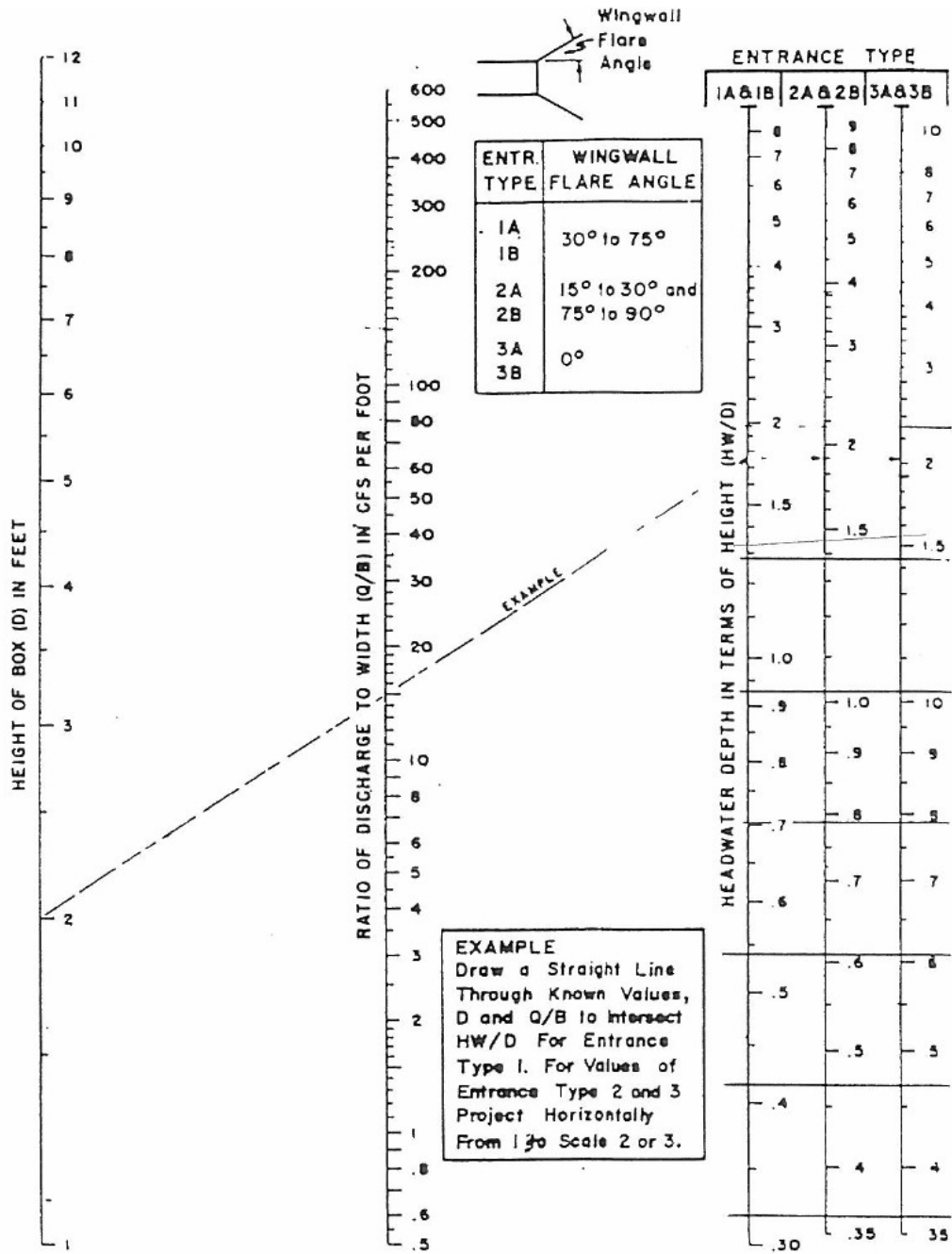
CASE III: OUTLET SUBMERGED

TYPICAL PIPE CULVERT

HEADWATER CALCULATION

Trial Area of Opening (Ac) (sq. ft.)	Channel Width (W) (feet)	Depth (D) (feet)	POSSIBLE CULVERT SIZES				INLET CONTROL (See Figure 25.6.26)				OUTLET CONTROL (See Figure 27.28, 29, & 30)				The Greater Head	SELECTED CONDUIT SIZE													
			No. Openings	Width of Box (B) (feet)	Box Depth or Pipe Dia. (D) (feet)	Total Culvert Area (Ac) (sq. ft.)	"O" Each Opening (Co) (c.f.t.)	Entrance Type	Case No.	Q/B (c.f.t.)	HW/D (figure 25.8.26)	HW + H + TW (feet)	"TW" (figure 27.8.28)	"HW" (figure 27.8.29)			"H" (figure 27.8.30)	HW x H x No. (figure 27.28, 29, & 30)	Water Inlet or Outlet (feet)										
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
				</																									

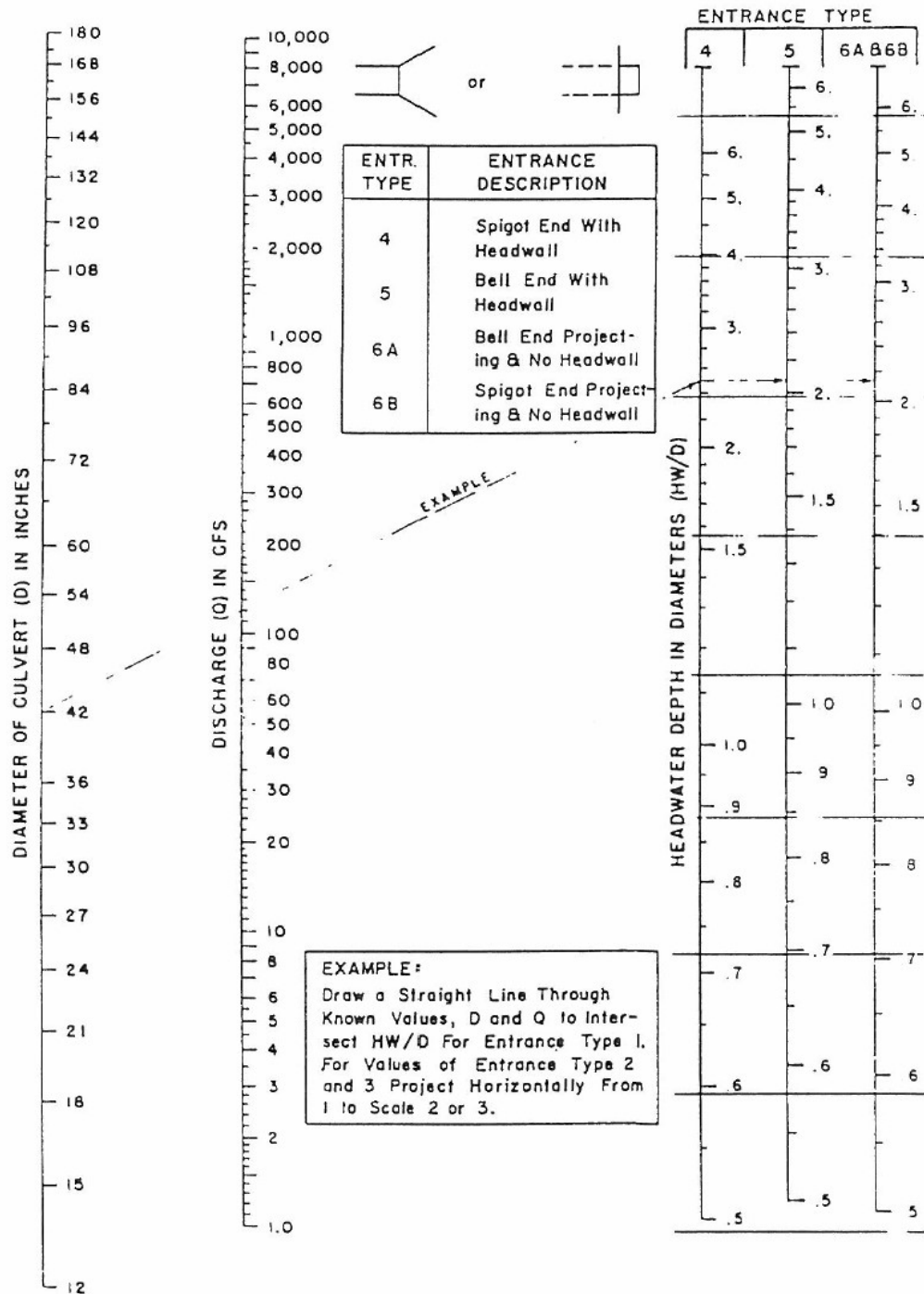
Figure 3.22 Headwater Depth for Concrete Box Culvert with Inlet Control



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**HEADWATER DEPTH
FOR CONCRETE BOX
CULVERT WITH
INLET CONTROL**

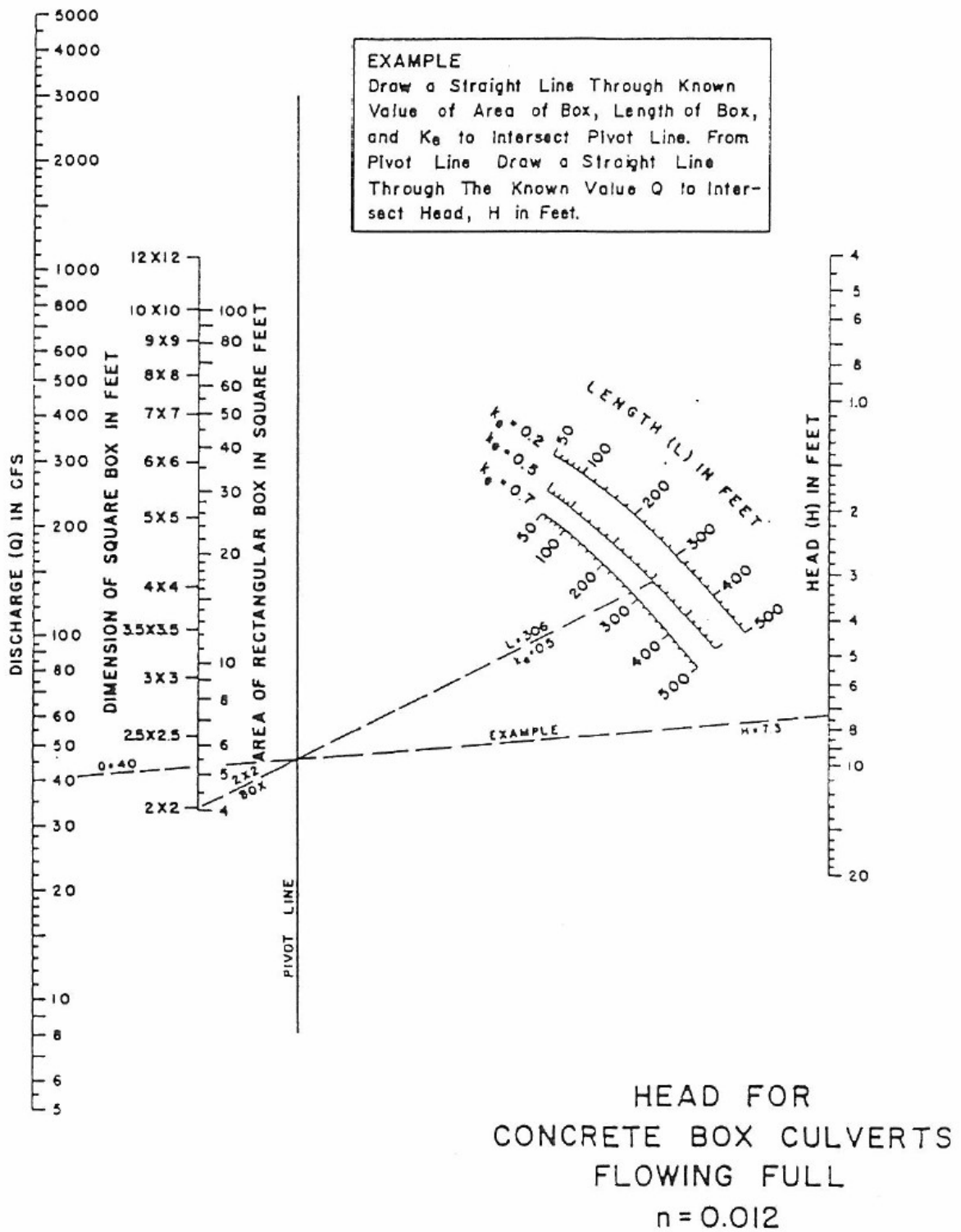
Figure 3.23: Headwater Depth for Concrete Pipe Culvert with Inlet Control



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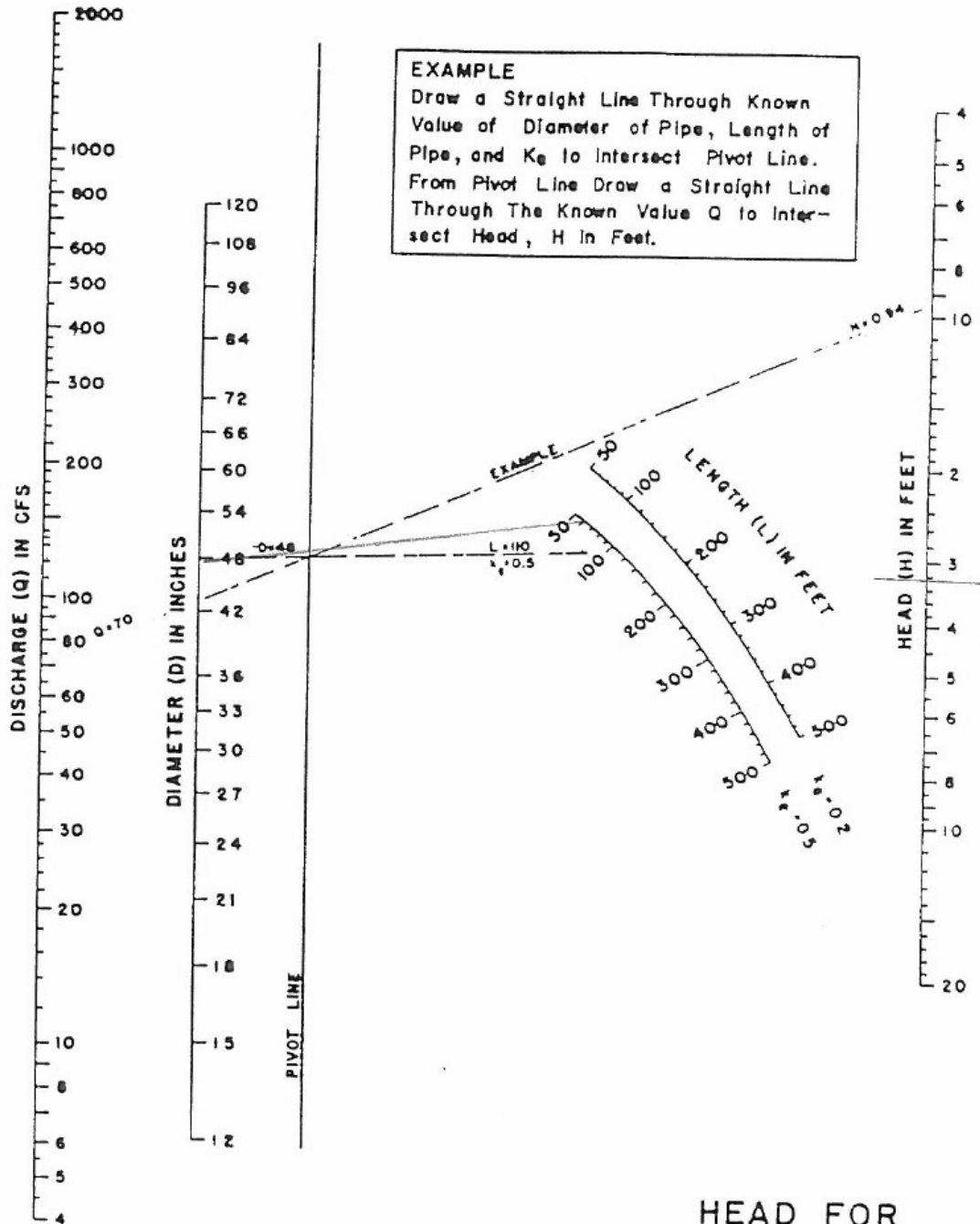
HEADWATER DEPTH FOR
 CONCRETE PIPE CULVERTS
 WITH INLET CONTROL

Figure 3.24: Head for Concrete Box Culvert Flowing Full



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Figure 3.25: Head for Concrete Pipe culverts Flowing Full



HEAD FOR
 CONCRETE PIPE CULVERTS
 FLOWING FULL
 $n = 0.012$

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Figure 3.26: Critical Depth of Flow for Rectangular Conduits

EXAMPLE

Known:

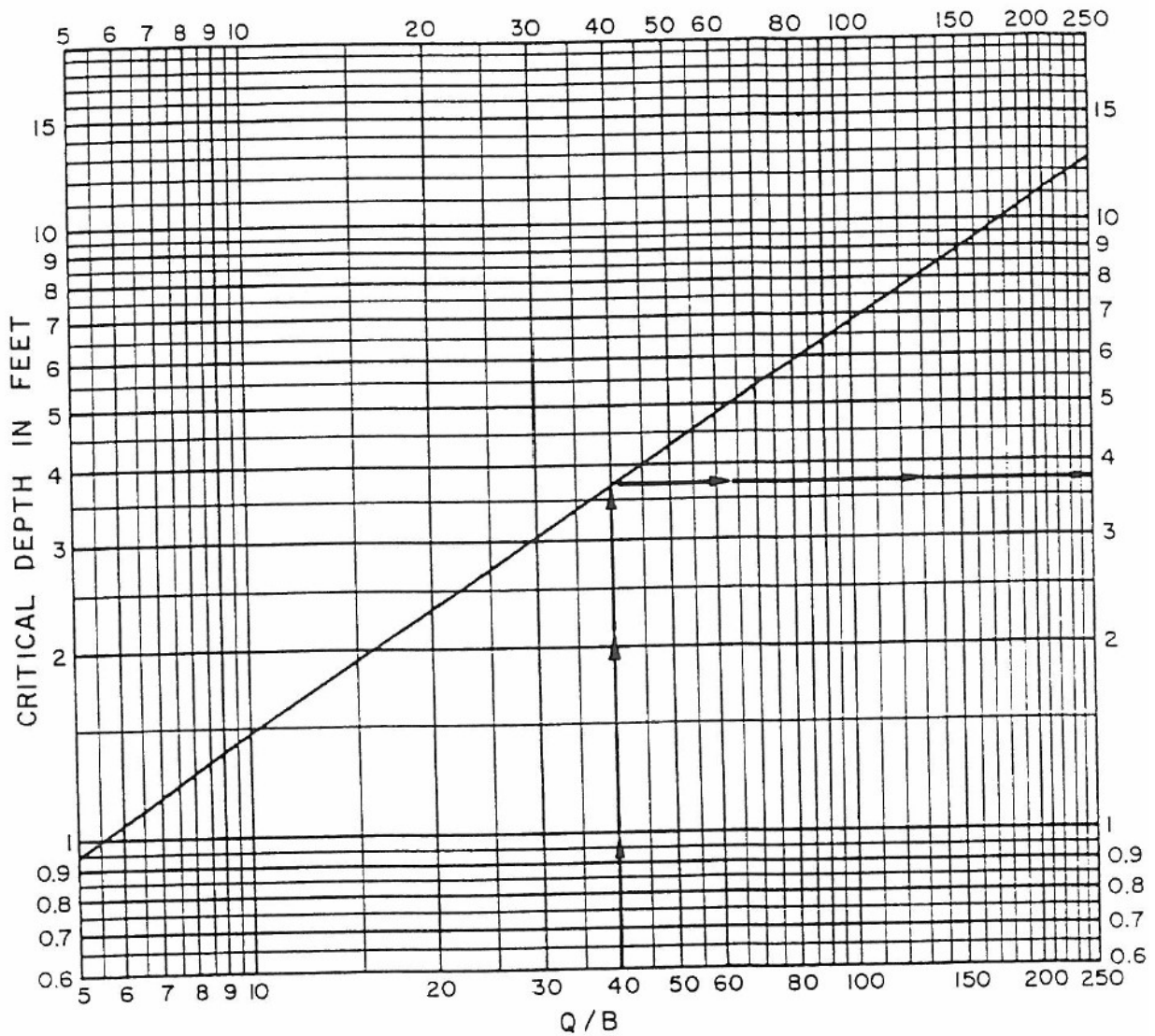
Discharge = 200 c.f.s.
Width of Conduit = 5'
 $Q/B = 40$

Solution:

Enter Graph at $Q/B = 40$
Intersect Critical Depth
at 3.7

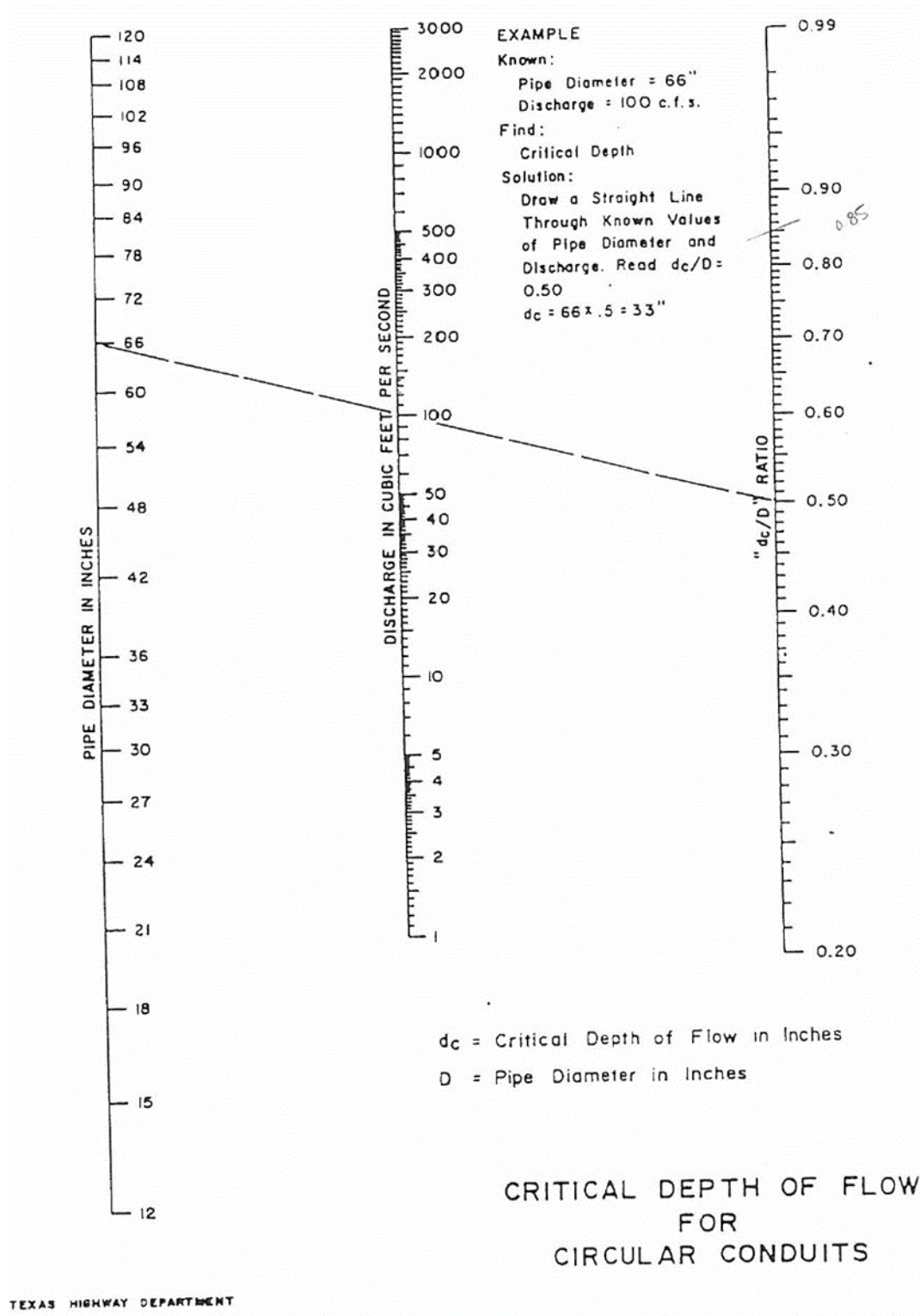
Find:

Critical Depth



**CRITICAL DEPTH
OF FLOW FOR
RECTANGULAR CONDUITS**

Figure 3.27: Critical Depth of Flow for Circular Conduits



SEC. 02.03.0317 BRIDGE DESIGN

- (a) A scour analysis shall be performed and submitted in or with the design plans.
- (b) A flood study report shall be prepared by the Developer and provided to the City Engineer and/or the Director of Public Works, documenting the methodology, assumptions, derivation of all data used, and results of the study.
- (c) The 100-yr projected fully developed water surface elevation shall not be increased upstream or downstream of the bridge.

SEC. 02.03.0318 OPEN CHANNEL OR EROSION HAZARD SETBACKS

(a) Definition and Purpose.

(1) Open channel Erosion hazard setbacks shall be determined for every stream and creek (flowing or not) in which natural channels are to be preserved or channels are to be graded or lined. The purpose of this setback is to reduce the potential for any damage to a private lot, building, utilities or street right-of-way caused by the natural erosion of the creek bank and to minimize the expenditure of public funds for stream bank stabilization projects and to allow for ongoing maintenance of manmade channels.

(2) The open channel or erosion hazard setback shall be maintained by the property owned.

(b) Setback Determination. Setback dimensions vary based on the type of channel. Setbacks shall be provided on both sides of the channel. Where a property does not contain both sides of the channel, the City will evaluate the importance of establishing setbacks on both sides at the time of development and will notify the Developer of the expectation.

(1) Natural Creeks and Earthen Channels. The purpose of setbacks in natural creeks and earthen channels is to protect adjacent property from erosion. Where creeks will be left in their natural condition, the setback shall be labeled a non-encroachment easement and will be ten-feet (10') beyond the limit of the freeboard elevation.

(2) Lined Channels. The purpose of setbacks in lined channels is to provide access for maintenance. For lined channels, the setback will be labeled an access easement and will be ten-feet (10') from the top of channel. Setback dimensions vary based on the type of channel. Setbacks shall be provided on both sides of the channel. Where a property does not contain both sides of the channel, the City will evaluate the importance of establishing setbacks on both sides at the time of development and will notify the developer of the expectation.

(c) Non- Permitted Structures.

(1) The following structures are not allowed within the erosion hazard open channel setbacks: building, wall, parking lot, driveway, fences, decks, swimming pools, signage, monumentation, detention structures/ponds or other structures.

(2) Water and wastewater lines shall be placed in an area with at least a four to one (4:1) slope line the pipes shall be concrete encased when there is less than four foot (4') of cover.

(d) Modifications. Any modifications to the erosion hazard open channel setback will require the following items and approval by the City Engineer and/or Director of Public Works:

(1) A stream geomorphological stability analysis prepared by a qualified geomorphologist.
The City reserves the right to verify the geomorphologist qualifications.

- (2) Structural plans, calculations, and report of any permanent stream bank stabilization measures signed and sealed by a licensed professional structural engineer within the State of Texas.
- (3) Grading permit.
- (4) Adequate access to maintain the stream bank stabilization measures indefinitely.

SEC. 02.03.0319 MINIMUM FREEBOARD REQUIREMENTS

- (a) To help prevent flood damages and protect public safety, all design elevation requirements related to water surface elevations and flood elevations shall be based, at a minimum, on the 100-year flood, fully-developed watershed conditions. The difference between a minimum design elevation above the one-hundred-year (100-yr) flood is commonly referred to as minimum freeboard.
 - (1) **Table 3.13** *Minimum Free Board Requirements* provides a summary of absolute minimum freeboard requirements for design and construction in the City of Kaufman. However, prudent engineering in setting design elevations should be incorporated into any design. In some situations, a greater freeboard than those listed in **Table 3.13** *Minimum Free Board Requirements* may be required by the City, at the discretion of the City Engineer and/or the Director of Public Works, or as required by State and Federal regulations and guidelines, depending on flood hazard potential in relation to property damages and public safety. The City’s minimum freeboard requirements are not intended to take precedence over State and Federal regulations (except when the City’s requirements exceed those set by State and Federal regulations).
 - (2) The minimum elevations of all flood protection levees and all dams must meet requirements of all State and Federal regulations and guidelines. If the minimum floor elevation based on floodplain is less than that based on roadway gutter elevation, the higher elevation of the frontage portion of the roadway shall be the minimum elevation.

Table 3.13: Minimum Freeboard Requirements

Description	Minimum Freeboard above 100-year Flood Elevation (ft)*
Minimum Floor Elevations (including basements and sunken floor areas):	
Residential	2.0
Non-Residential (unless flood proofed; see flood damage prevention ordinance)	2.0
Building Pad Elevations for Structures (at lowest adjacent structure grade)	1.0
Dams (freeboard above effective crest elevation of dam, after allowing for settlement and consolidation of embankment):	
Less than or equal to 5-ft maximum height	1.0
More than 5-ft maximum height (must meet State and Federal Requirements)	2.0
Dams with entire embankment having overflow protection (such as concrete)	1.0
Detention and Retention Ponds (freeboard along all shoreline areas around the pond):	
When detention berms are classified as dams.:	
With Dams less than or equal to 5-ft maximum height	1.0
With Dams more than 5-ft maximum height	2.0
Incised Ponds (no dam)	1.0

Table 3.13: Minimum Freeboard Requirements

Description	Minimum Freeboard above 100-year Flood Elevation (ft)*
When detention berms are not classified as dams:	
Up to and including 5 acres	1.0
Greater than 5 acres	2.0
Flood Protection Levees, Dikes, or Walls (City Engineer Approval Required):	
Significant or High Hazard Flood Damage or Public Safety Potential	3.0
Low Hazard Flood Damage Potential or Public Safety Potential	2.0
Others	
Public Roadways, Alleys, and Parking Lots (as measured from edge of pavement/top of curb)	1.0
Channels	1.0
Bridges (as measured from lowest point of low chord)	1.0
Culverts (as measured from edge of pavement/top of curb)	1.0
Sanitary Sewer and Water Manhole Covers	2.0

SEC. 02.031.0320 DETENTON

- (a) **Intent.** It is the City’s intent to utilize detention (or detention/retention) of storm water runoff as a solution towards control of potential flood hazards created by storm water runoff including; reduction in the impact on downstream storm water drainage facilities; prevention of erosive conditions in water drainage ways; protection against downstream and adjacent property damage; and preservation of existing floodplains along major creeks. Detention basins may also improve water quality by allowing some sediment to settle out.
- (b) **Where is Detention Required.**
 - (1) Generally, non-residential development shall construct detention facilities. In some cases, detention may increase water surface elevations depending on its placement in the watershed and timing of discharges. When detention facilities are proposed adjacent to creeks and channels, a timing study will be required to determine impacts of the site on the adjacent creek or channel. If it can be shown that there will be no adverse impacts to surrounding properties or downstream, then detention may not be required.
 - (2) Residential developments shall construct detention facilities if it is determined that the downstream system does not have adequate hydraulic capacity for the developed flow. In addition a downstream assessment must be performed to show no adverse impacts.
- (c) **Type of Detention Facilities.** The following detention facilities are to be utilized for detention.
 - (1) Site of Greater than One (1) Acre, On-Site.
 - i. Underground

ii. Detention Basin

1. Side slopes four to one ratio (4 to 1), or less (no fencing allowed).
2. Area to be landscaped.
3. Retaining walls not allowed within detention pond.
4. Maintained by Developer.
5. Additional amenities preferred
6. Ownership stays with property owner.
7. Dams over five-foot (5') to be approved by State. Dam must meet state dam safety guidelines.

(2) Greater Than One-Half (1/2) Acres, Off-Site Shared.

i. Detention Basis Shared with Other Developments

1. May expand existing pond.
2. No increase in one-hundred-year (100-yr) flood plain elevation.
3. Capacity expanded above existing water surface.
4. Need engineering study.

ii. Flow to Regional Detention Basin

1. Regional Facility Manager (owner of facility) must approve improvements.
2. Developer(s) funds improvements to regional basin.
3. Developer(s) improves stormwater conveyance system to basin (based on fully-developed one-hundred-year (100-yr) flow).
4. Dams over five-feet (5') to be approved by State. Dam must meet State dam safety guidelines.
5. Dam cannot be over fifteen-feet (15') tall.
6. Basins with water retention to have stored water depth of at least four-feet (4').
7. Need landscaping and amenity features (Approved by Development Services Department).
8. Facility Manager to assure good, retained water quality.
9. Trash collectors required at outfall structures.
10. Side Slopes to be four to one ratio (4 to 1) or less.
11. Developer/Owner owns and maintains basin.
12. Facility Manager to develop and perform maintenance program.
13. Underground (preferred), natural open channel (existing creek with one-hundred-year (100-yr) developed capacity), Developer(s) to obtain addition drainage easement for one-hundred-year (100-yr) developed flow area, no concrete or gabion sidewalls.

14. Possible Pro-rata from other developments that utilize basin.

iii. Existing Ponds. Developer(s) improve existing undesirable detention facilities.

1. Remove fencing where possible.
2. Provide concrete pilot channel in bottom.
3. Provide landscaping.
4. Improve maintenance access.
5. Reconstruct with underground system.
6. Remove pond by conveying stormwater flow to shared detention facility without adverse impacts to other properties.

(d) **Geometry, Restrictions and Appurtenances.**

- (1) Detention ponds shall have a side slope four to one ratio (4:1) or flatter. No retaining walls are allowed in detention ponds.
- (2) The detention pond bottom grade shall be at a minimum of one-percent (1%) slope. A four-inch (4") thick concrete low flow pilot channel shall be installed from the pond's inlet structure/structures to the outfall structure.
- (3) All detention ponds and reserved shoreline shall have the appropriate amount of freeboard as called out in **Table 3.13** – *Minimum Freeboard Requirements* from the one-hundred-year (100-yr) water surface, based on flood inflows determined assuming fully-developed watershed conditions (without consideration of any future upstream detention), including incised ponds (without embankment/dams), or a higher design criteria if required by the State.
- (4) The State of Texas has jurisdiction of all dams, regardless of dam height or impoundment storage size, if they are classified by State regulations and guidelines with hazard classifications as "high – or significant-hazard". [Reference: Texas Administrative Code, Title 30, Part 1, Chapter 299, Subchapter A, (a)(3)].
 - i. ..Dams with maximum height of over five feet (5') must be approved by the State, unless the dam maximum height is less than fifteen feet (15') and a registered professional engineer licensed in Texas adequately shows, with an engineering study using the State of Texas Dam Safety guidelines and regulations, that a sudden breach of the dam during a major flood event, as specified and determined by the State's procedures, would not cause any significant increase in flooding or significant increase in flood damages as compared to a non-breach of the dam during a non-breach flood event.
 - ii. ..For dams permanently impounding water, the study should also determine the extent of additional flooding that would be caused by a sudden breach of the dam during non-flooding events. If the breach of the dam can be proven to not cause any significant flood damages (other than to the dam embankment), then it can be proven to be classified as a "low-hazard" dam by State definition, and the dam may be exempt, at the City Engineer's and/or the Director of Public Work's discretion, from requiring State review and approval.
 1. However, regardless of whether the dam design is reviewed by the State, all dams, regardless of size, must have an emergency spillway and be designed, constructed, maintained, and operated per State Dam Safety Guidelines, including emergency

action management. The maximum height of the dam, hazard classifications, and “significant” increased flooding (as related to embankment breach analyses) are determined based on the State’s definitions and regulations.

- (5) No detention is allowed in the Federal Emergency Management Agency (FEMA) one-hundred-year (100-yr) and local one-hundred-year (100-yr) fully developed floodplain.
 - (6) No franchise utilities (Gas, Electric, Cable, Telephone, Communications, etc.), water lines and wastewater lines (except storm systems) are allowed in detention ponds, and detention easements.
 - (7) Underground detention systems must be a fully enclosed pipe system or other system approved by the City Engineer and/or the Director of Public Works.
 - (8) The detention pond shall have an emergency overflow in case the main outfall structure gets clogged. The emergency overflow shall be sized to pass the fully-developed one-hundred-year (100-yr) flood at a minimum, or greater based on State Dam Safety requirements. City-approved erosion protection shall be placed along the length of the emergency overflow to the flowline of the receiving structure, creek, or channel, and extended as necessary to prevent erosion of the dam structure.
 - (9) The detention systems are to be installed and verified for design compliance along with the associated storm sewer and outfall structures and drainage channels, prior to any paving operations. All constructed detention ponds, drainage ways, and open channels shall have the sides and bottom stabilized with sod or anchored seeded matting prior to any paving construction (including building slab). The matting or sod shall be anchored at high velocity locations if deemed necessary. Erosion protection is to be placed at the pond’s outflow structure along with any associated erosion BMP’s noted on the erosion control plan.
 - (10) Sometimes a detention facility will be utilized by several developments, and then a pro-rata agreement/detention masterplan may be entered into with the development constructing the facility and the other developments utilizing the facility. Without a pro-rata agreement/detention master plan of all parties in advance of construction of all combined developments, no new proposed development will be allowed to take credit for any “over detention” of a previous development or the reduction of discharges from a previous development within the watershed in the determination of detention requirements.
 - (11) Detention pond outfall structures shall be fitted with a trash rack to confine floatable and other trash within the detention pond.
 - (12) Detention ponds shall be designed to be fully emptied within twenty-four (24) hours.
 - (13) Detention ponds shall be designed, graded, and maintained so that standing water does not remain after the designed discharge timeframe.
 - (14) Detention ponds shall be irrigated.
 - (15) Detention ponds for new single-family residential subdivisions shall be located within a homeowner’s association (HOA) maintained lot. Detention ponds and associated easements may not be located on a non-HOA lot. Non-single family residential development’s detention system shall be maintained/repaired by property owner.
- (e) **Detention Calculations.** The detention design calculations and outfall rating curves shall be included in the plans and flood study. Increased peak discharges from the detention basin are not allowed for the

two (2) year, five (5) year, ten (10) year, twenty-five (25) year and one hundred (100) year frequency floods based on existing off-site conditions.

- (1) Methodology. Detention facilities that have a drainage area of less than twenty (20) acres may be sized using the Modified Rational Method. If the drainage area is equal to or greater than twenty (20) acres a Unit Hydrograph Method shall be used. The Modified Rational method may be used for preliminary sizing for drainage areas more than twenty (20) acres, but the Unit Hydrograph Method must be used for the design of all detention facilities serving more than twenty (20) acres.

i. The following conditions shall be used when implementing the Modified Rational Method:

1. The proposed development will construct detention facilities to detain the increase in runoff between the existing one-hundred-year (100-yr) flows. The “C” value is based on zoning, not pervious/impervious areas. Large area of dedicated open space dedicated to City can be considered by City in this value.
2. The storm rainfall intensity (in/hr) for different storm years is found in **Table 3.5 AMS-Based Precipitation Frequency Estimates for Kaufman County**.
3. The following is an example calculation on how the Modified Rational Method is performed to determine the required detention volume.

MODIFIED RATIONAL METHOD DETENTION BASIN DESIGN SIZING

Given: A ten (10) acre site, currently agricultural use, is to be developed for townhouses. The entire area is the drainage area of the proposed detention basin.

Determine: Maximum release rate and required detention storage.

Solution:

1. Determine one hundred-year (100-yr) peak runoff rate prior to site development. This is the maximum release rate from site after development.

NOTE: Where a basin is being designed to provide detention for both its drainage area and a by-pass area; the maximum release rate is equal to the peak runoff rate prior to site development for the total of the areas minus the peak runoff rate after development for the by-pass area. This rate for the by-pass area will vary with the duration being considered.

2. Determine inflow hydrograph for storms of various durations in order to determine maximum volume required with release rate determined in Step 1.

NOTE: Incrementally increase durations by ten (10) minutes to determine maximum required volume. The duration with a peak inflow less than maximum release rate or where required storage is less than storage for the prior duration is the last increment.

PROCEDURE

STEP 1. Present Conditions (Agricultural)



$$Q = C \cdot I \cdot A$$

$$C = 0.35$$

$$T_c = 20 \text{ minutes}$$

$$I_{100} = 8.3 \text{ in/hr}$$

$$Q_{100} = (0.35)(8.3)(10 \text{ acres}) = 29.05 \text{ cfs (Maximum release rate)}$$

STEP 2. Future Conditions (Townhouses)

$$C = 0.80$$

$$T_c = 10 \text{ minutes}$$

$$I_{100} = 9.8 \text{ in/hr}$$

$$Q_{100} = (0.80)(9.8)(10 \text{ acres}) = 78.40$$

Check various duration storms:

15 minutes	I = 9.0	Q = (0.80)(9.0)(10 acres)	= 72.0 cfs
20 minute	I = 8.3	Q = (0.80)(8.3)(10 acres)	= 66.4 cfs
30 minutes	I = 6.9	Q = (0.80)(6.9)(10 acres)	= 55.2 cfs
40 minutes	I = 5.8	Q = (0.80)(5.8)(10 acres)	= 46.4 cfs
50 minutes	I = 5.0	Q = (0.80)(5.0)(10 acres)	= 40.0 cfs
60 minutes	I = 4.5	Q = (0.80)(4.5)(10 acres)	= 36.0 cfs
70 minutes	I = 4.0	Q = (0.80)(4.0)(10 acres)	= 32.0 cfs
80 minutes	I = 3.7	Q = (0.80)(3.7)(10 acres)	= 29.6 cfs
90 minutes	I = 3.5	Q = (0.80)(3.5)(10 acres)	= 28.0 cfs
100 minutes	I = 3.4	Q = (0.80)(3.4)(10 acres)	= 27.20 cfs
110 minutes	I = 3.2	Q = (0.80)(3.2)(10 acres)	= 25.6 cfs

Storage Volume required is determined by deducting the volume of runoff released during the time of inflow from the total inflow for each storm duration.

10 min. storm	Inflow = (10) (78.4 cfs)(60 sec/min) =	47,040 cf
	Outflow = (0.5)(20 min)(29.05 cfs)(60 sec/min) =	<u>-17,430 cf</u>
		29,610 cf
15 min. storm	Inflow = (15) (72.0 cfs)(60 sec/min) =	64,800 cf
	Outflow = (0.5)(25 min)(29.05 cfs)(60 sec/min) =	<u>-21,788 cf</u>
		43,012 cf
20 min. storm	Inflow = (20) (66.4 cfs)(60 sec/min) =	79,680 cf
	Outflow = (0.5)(30 min)(29.05 cfs)(60 sec/min) =	<u>-26,145 cf</u>

		53,535 cf
30 min. storm	Inflow = (30) (55.2 cfs)(60 sec/min) =	99,360 cf
	Outflow = (0.5)(40 min)(29.05 cfs)(60 sec/min) =	<u>-34,860 cf</u>
		64,500cf
40 min. storm	Inflow = (40) (46.4 cfs)(60 sec/min) =	111,360 cf
	Outflow = (0.5)(50 min)(29.05 cfs)(60 sec/min) =	<u>-43,575 cf</u>
		67,785 cf
50 min. storm	Inflow = (50) (40.0 cfs)(60 sec/min) =	120,000 cf
	Outflow = (0.5)(60 min)(29.05 cfs)(60 sec/min) =	<u>-52,290 cf</u>
		67,710 cf
60 min. storm	Inflow = (60) (36.0 cfs)(60 sec/min) =	129,600 cf
	Outflow = (0.5)(70 min)(29.05 cfs)(60 sec/min) =	<u>-61,005 cf</u>
		68,595 cf
70 min. storm	Inflow = (70) (32.0 cfs)(60 sec/min) =	134,400 cf
	Outflow = (0.5)(80 min)(29.05 cfs)(60 sec/min) =	<u>-69,720 cf</u>
		64,680 cf
80 min. storm	Inflow = (80) (29.6 cfs)(60 sec/min) =	142,080 cf
	Outflow = (0.5)(90 min)(29.05 cfs)(60 sec/min) =	<u>-78,435 cf</u>
		63,645cf
90 min. storm	Inflow = (90) (28.0 cfs)(60 sec/min) =	151,200 cf
	Outflow = (0.5)(100 min)(29.05 cfs)(60 sec/min) =	<u>-87,150 cf</u>
		64,050 cf
100 min. storm	Inflow = (100) (27.2 cfs)(60 sec/min) =	163,200 cf
	Outflow = (0.5)(110 min)(29.05 cfs)(60 sec/min) =	<u>-95,865 cf</u>
		67,335 cf
110 min. storm	Inflow = (110) (25.6 cfs)(60 sec/min) =	168,960 cf
	Outflow = (0.5)(120 min)(29.05 cfs)(60 sec/min) =	<u>-104,680 cf</u>
		64,380 cf

Maximum volume required is 68,595 cf at the 60 min. storm duration.

(2) Outfall Structures.

- i. Detention out fall structures shall be multi-staged and designed to detain the two-year (2-yr), five-year (5-yr), ten-year (10-yr), twenty-five-year (25-yr), and one hundred-year (100-yr) storm events without increasing the peak discharge. A chart shall be furnished by the design engineer showing the allowable flows verses the actual flows through the detention pond outflow structure for two-year (2-yr), five-year (5-yr), ten-year (10-yr), twenty-five-year (25-yr), and one hundred-year (100-yr) storm events.
- ii. When the design is based on the Modified Rational Method, outfall structures shall be designed in accordance to the equations established in Hydraulic Engineering Circular No. 22, Urban Drainage Design Manual (HEC-22) and Hydraulic Engineering Circular No. 14, Hydraulic Design of Energy Dissipators for Culverts and Channels (HEC-14). The Engineer shall include all calculations/ equations for the outfall structure in the plans, including each stage of the structure (two-year (2-yr), five-year (5-yr), ten-year (10-yr), twenty-five-year (25-yr), and one hundred-year (100-yr) storm events).
- iii. When the detention pond and outfall structure is designed using a Unit Hydrograph Method (hydrology model) and a hydraulic model is being prepared (such as for a detention pond with dam located across a stream for which flood elevations will be determined), the outfall structure discharges may be determined with the hydraulic model. All flow characteristics and conditions of the outfall structure should be adequately represented in the hydraulic model or other calculations to account for orifice flow conditions, weir flow conditions, and full-pipe and partially-full pipe flow conditions for all discharge openings, pipes, and overflow areas of both the discharge structure and the dam. The resulting discharge versus pond flood elevation data should be adequately represented in the hydrology model to ensure that the flood elevations computed with the hydrology model reasonably agree with those computed by the hydraulic model for all ranges of discharges.
- iv. City approved erosion protection shall be placed around the outfall structure and shall extend downstream the entire flow path length to the flowline of the receiving structure, creek, or channel. The erosion protection shall extend to two feet (2') feet above the one hundred-year (100-yr) water surface elevation.

SEC. 02.03.0321 FLOODPLAIN STUDIES, RCLAMATION AND MODIFIATION

- (a) All floodplain studies, reclamation, modification, flood boundary delineations and design of structures within or adjacent to creeks or streams shall meet the following guidelines set forth in this section and the most current Flood Hazard Damage Prevention and Control Ordinance.
- (b) The qualified professional engineer licensed in the State of Texas shall prepare a flood study report documenting all data, methodology, and assumptions used in the study.
 - (1) The study report shall be properly signed and sealed, and include a concluding statement certifying that the hydrologic and hydraulic study is based on standard engineering practice, that the project is constructed, or proposed to be constructed, as shown in certified engineering plans used in the study such that there will be no adverse increases in flooding or flood damages on other properties and that the project meets the requirements of all parts of the City's current Flood Damage Prevention Ordinance.

- (c) Flood studies shall follow the general procedures set by FEMA for applying for a Letters of Map Revision (LOMR) or Condition Letters of Map Revision (CLOMR), including hydrologic and hydraulic modeling; drainage area workmap; floodplain workmap; annotated Flood Insurance Rate Map (FIRM); FEMA forms; and complete technical documentation of all data used in the study, including, but not limited to, calculations of times of concentrations or lag times and calculations of other runoff parameters such as NRCS curve numbers.
- (1) For hydrology models, drainage areas should be determined to the nearest one hundredth (0.01) acre (fifteen million thousandths (0.000015) square miles); times of concentration and lag times should be computed to the nearest one hundredth (0.01) hour (six (6) minutes); and Natural Resources Conservation Service (NRCS) composite runoff curve numbers should be computed to the nearest one tenth (0.1) value.
 - (2) Other requirements are contained in Unit Hydrograph Method Section of these standards. These procedures shall be performed even for flood studies not being submitted to FEMA.
- (d) Floodplains and watersheds shall be modeled using standard practice engineering models that are public domain. The use of computer modeling software that is not public domain will require approval by the City Engineer and/or the Director of Public Works. [The most recent versions of HEC-HMS and HEC-RAS are currently the City's required hydrology and hydraulic models for flood studies. The use of these models is required in cases where a conversion from older models is desired or in previously-unstudied areas where new models are to be created].
- (e) All design elevations shall be based on computed flood elevations using flood discharges for one hundred-year (100-yr) projected fully-developed watershed conditions, including the effects of changes in storm water runoff and effects of encroachment and changes in flood valley storage caused by the proposed project.
- (f) All flood study models shall utilize the most current available models from the City or FEMA as base models (if available) and shall incorporate all additional known modifications that have occurred since the last update of these models. Conversion of base models to newer approved digital models is allowed, as noted below.
- (g) Results of hydrology and floodplain hydraulic computer models shall be summarized in tabular form, to show differences in computed one hundred-year (100-yr) flood discharges and flood elevations. The computer model results to be included in the comparison tables include:
- (1) The original effective base hydrology and hydraulic models, if available, as provided by the City or FEMA.
 - (2) Improved modeling procedures may be allowed and included, such as conversion of original models to newer versions of computer modeling software, such as conversion of HEC-2 models to HEC-RAS and conversion of TR-20 or HEC-1 models to HEC-HMS. Conversion to computer software that is not free public domain software and that is not on FEMA's approved list of computer modeling software must receive approval by the City Engineer and/or the Director of Public Works. Results of conversion to improved modeling should be performed prior to any updates or corrections to the model data and compared in tabular form with the original base model results.
 - (3) Corrected hydrologic and hydraulic models (commonly referred to as "corrected effective" models by FEMA procedures) to include any improved data or needed corrections, such as new surveyed

floodplain cross sections, inclusion of additional cross sections, or improved topographic mapping, but should not include any man-made changes to the watershed or floodplain.

- (4) Pre-project hydrologic and hydraulic models, to update the computer models by adding man-made changes that have occurred in the watershed and floodplain since the date of the original effective base models. [If there are no updates based on man-made changes, then the “corrected effective” and “pre-project” models are the same].
 - (5) Post-project hydrologic and hydraulic models, to include all changes that are included in the pre-project models, plus hydrologic and hydraulic characteristics that are representative of changes based on the project’s proposed final completed construction. The post-project hydrology should include changes in runoff conditions related to modifications of land cover and grading, changes in times of concentration or lag times, alteration of stream channels and floodplain areas (including changes in floodplain valley storage and changes in flow velocities), changes in drainage areas and drainage patterns, and any proposed mitigation to prevent increases in flood discharges. The post-project hydraulic models should include effects to floodplain hydraulic characteristics, including changes in floodplain and channel configuration, such as encroachments, excavations, channelization, proposed hydraulic structures, clearing of areas that will be continually maintained, and changes in hydrology (flood discharges). The effects of temporary clearing of vegetation in areas that will not be maintained should not be included.
 - (6) Hydrologic and hydraulic computer modeling must be provided for both existing watershed conditions (both pre-project and post-project conditions), with summary comparisons of various steps (“a” through “e”, above) shown in tabular form, to include computed one hundred-year (100-yr) discharges and flood elevations. The results of hydrology and hydraulic post-project models will be compared with results of pre-project models to verify compliance of City Standards requiring no increased flooding on other properties. Additionally, hydrology and hydraulic models must be provided based on fully-developed watershed conditions with the proposed project. The results of the fully-developed condition models will be used to determine compliance with the City’s design elevation standards. When construction of a project will be in phases, the City Engineer may require flood studies to be submitted for each phase.
- (h) When transferring discharges computed by the hydrology models as input data entered into the hydraulic models, round-off of discharges is allowed only to the nearest one (1) cfs. All hydrology models should be set to compute discharges to the nearest one (1) cfs and flood elevations (such as in ponds) to the nearest one hundredth (0.01) ft. All hydraulic models should be set to compute flood elevations to the nearest one hundredth (0.01) ft. Locations of flow changes in the hydraulic model should be carefully determined to avoid undue under-calculation of flood elevations. For example, in order to prevent unreasonable undercalculations of flood elevations along portions streams, discharges computed at sub-basin outlets along a stream should normally be used in the hydraulic model for a reasonable extended portion of the upstream floodplain reach, in order to avoid neglecting all of the lateral inflow within the upper stream reach in the hydraulic model computations.
- (i) The completed flood study, including detailed technical documentation; printed hydraulic and hydrological model input data and output results, digital model files (as listed in “F”, above, for both existing and projected future fully developed watershed conditions), supporting calculations, drainage area maps, floodplain boundary maps, and certification statement (as noted in “A.”, above) and all CAD/GIS data shall be submitted to the City for review.
- (j) The watershed work map(s) should include the following:

- (1) Multiple watershed work maps may be submitted for pre-project and proposed project conditions, as long as all of the following items are provided.
 - (2) Total watershed drainage area and sub-basin drainage delineation boundaries, including those representative of the original base hydrology model, the corrected drainage delineations (if any), and proposed project changes in drainage delineations and any added sub-basins. All subareas should be labeled in agreement with sub-area labels used in the hydrology models.
 - (3) Topography overlaid on high-resolution aerial photography, with elevation contour labeling.
 - (4) Delineation of hydrologic soil groups and land cover conditions (these may be included on a separate map, with drainage delineations).
 - (5) Property boundaries of the tract of land where the proposed project is located, including any proposed division lines for the current and future project phases.
 - (6) Proposed project, with proposed grading and changes in land cover.
 - (7) Stream channel centerline flow path, with flow direction indicated.
 - (8) Flow path used in determining times-of-concentration or lag times (both pre-project and modifications based on proposed construction).
 - (9) Title block, legend, north arrow, and bar scale.
- (k) The floodplain work map(s) should include the following:
- (1) Multiple floodplain work maps may be submitted, as long as all of the following items are provided.
 - (2) Floodplain cross sections, with location and orientation relative to the floodplain, with labels in agreement with the stations referenced in the hydraulic models. If the study involves a stream that has been previously studied, stream stationing should be in general agreement with stationing used in the previous study. For streams with no previous flood studies, the stream stationing should be based on channel distance upstream from the stream's point of termination (downstream location of where the stream enters a larger receiving stream or major lake).
 - (3) Topography overlaid on high-resolution aerial photography, with elevation contour labeling.
 - (4) Floodplain boundaries and flood elevations for the one hundred-year (100-yr) flood using discharges for both pre-project existing watershed conditions and modifications based on proposed project discharges.
 - (5) Floodplain boundaries identified on the Flood Insurance Rate Maps (FIRM) as Special Flood Hazard Areas, and floodplain boundaries from previous studies (if available from the City) with one hundred-year (100-yr) flood elevations.
 - (6) Floodplain boundaries and flood elevations for the one hundred-year (100-yr) flood based on projected fully-developed watershed conditions, with the proposed project.
 - (7) Stream channel centerline (invert) with direction of flow indicated (for both pre-project and any changes in stream channel centerline based on the proposed construction).
 - (8) Property boundaries of the tract of land where the proposed project is located, including any proposed division lines for the current and future project phases.
 - (9) Title block, legend, north arrow, and bar scale.

- (l) In order for the City to maintain and update their hydrology and hydraulic computer models, after construction is completed, the developer's engineer must update and submit to the City their final certified flood study report, with hydrology and hydraulic models, along with all supporting calculations, maps, report, AutoCAD (.dwg files), and GIS files and other exhibits to adequately represent as-built conditions. If the project has been submitted to FEMA for a LOMR, the updated models and revisions to flood study reports should include all modifications that were approved by FEMA.
- (m) The City Engineer and/or the Director of Public Works will determine whether the proposed development will require a LOMR or CLOMR. All documentation prepared for submitting to FEMA (LOMRs/CLOMRs) will be reviewed by the City. The City will not approve the flood study prepared for a LOMR, nor sign a LOMR application form, until construction grading associated with the LOMR has been completed, certified "as-built" plans are submitted to the City, construction has been verified by onsite inspection(s), and all required Local, Federal, and State permits and approvals have been received.
- (n) The City will utilize an engineering consulting firm to assist City staff in the review of a flood study. The cost of this consultant review shall be borne by the developer, engineer, or property owner submitting the flood study. The City shall first obtain a cost estimate from the engineering consultant for the flood study review at time of the initial flood study submittal. Before the review begins, the developer, engineer, or property owner submitting the flood study shall deposit with the City funds equal to the cost estimate. The City shall disburse the funds to the consulting engineer as the review progresses. Should the consultant fees exceed the initial estimate, the developer, engineer or property owner submitting the flood study shall be informed of the shortage and a new estimate made by the consultant engineer to complete the flood study review. Additional funds will then be deposited with the City by the developer, engineer or property owner submitting the flood study to cover the estimated shortfall before the review of the study resumes. Any unused funds to be reimbursed to the developer, engineer or property owner submitting the flood study. If review process is performed by City staff, the City will submit a cost estimate for flood study review at time of the initial engineering submittal.

SEC. 02.031.0322 STORM DRAINAGE MANAGEMENT PLAN

- (a) **General.** Storm drainage facilities shall include all elements of a drainage system consisting of streets, alleys, storm drains, channels, culverts, bridges, swales and any other facility through which or over which storm water flows, all of which the City must have a right in, either in the form of a dedicated right-of-way, or drainage easements.
- (b) **Site Drainage.** All new subdivisions shall provide as part of the Construction Plan review process a complete storm drainage management plan. This plan will include, but not be limited to, the following:
 - (1) A complete review of all on-site, upstream, and downstream drainage within the impacted watershed;
 - (2) Determination of all onsite and downstream drainage facility improvements due to the increased runoff from the proposed development and future upstream and downstream developments; and
 - (3) Calculations necessary to determine compliance with the Standards of Design herein.
 - (4) ~~Detention will be required if the downstream storm system is not capable of handling the proposed drainage flows.~~ The plan shall be done, using current zoning conditions or land use prescribed by the City's Future Land Use Plan (whichever creates the greatest storm water runoff), with ultimate development considered throughout the watershed.

- (5) The storm drainage plan shall show all necessary improvements with flow data provided at each point of interception of water.
 - i. As part of the storm drainage plan, the developer shall show a lot grading plan to direct all water to proper intersection points avoiding cross flow of water from lot to lot.
 - ii. All upstream discharge shall be intercepted and carried through the proper intersection points avoiding cross flow of water from lot to lot.
 - iii. All upstream discharge shall be intercepted and carried through the proposed development in compliance with the Standards of Design herein.
 - iv. All discharge from the proposed development shall be designed in accordance with the Standards of Design herein with all necessary improvements being installed by the developer to protect downstream property and adjacent properties from damage. The determination of necessary improvements to existing drainage facilities downstream of a proposed development shall be reviewed by the City Engineer and/or the Director of Public Works for compliance and adequacy.
 - v. Deviations from the City Engineer's recommendations and the Standards of Design herein may be approved through the requesting and granting of an exception by the City Council.
 - vi. If a storm drainage plan has been completed prior to new proposed development in question, the developer may use this plan if the City Engineer and/or the Director of Public Works deems the existing plan is adequate.

(c) **Subdivision Development.**

- (1) All subdivision developments shall be built in complete compliance with a storm drainage plan as outlined herein. All lots shall be graded at the time of development in accordance with the plan. All grading shall not exceed a slope of four to one (4 to 1) unless approved by the City Engineer and/or the Director of Public Works.
- (2) Approved erosion control shall be provided as part of the development construction on any or all lots within the development to protect the drainage, lot development and adjacent property.
- (3) The finish building pad for all subdivision developments shall be elevated to a minimum of 1.0 foot above the crown of the road. In no circumstance shall a building pad and finish floor of any structure be placed below street grade

(d) **Construction Erosion Controls.** Developer is required to follow all requirements within the TCEQ Stormwater General Permit for Construction Activities (TXR150000). Construction Erosion Controls shall follow the guidelines set out in NCTCOG's integrated Storm Water Management (iSWM™) Technical Manual: Construction Controls updated November 2020 or more recent revision.

- (1) In order to address the requirements of pollution reduction at construction sites, a variety of controls should be employed to:
 - i. Reduce soil erosion,
 - ii. Reduce sediment loss from the site, and
 - iii. Manage construction-generated waste and construction related toxic materials.
 - iv. Controls consist of both temporary and permanent methods to reduce pollution from a construction site. The majority of controls address loss of soil from the site. Soil loss in the form of erosion and sediment due to storm events and wind constitute the majority of

pollution generated from construction sites. Controls that address erosion and sediment are typically more site specific than waste and toxics management. Erosion and sediment controls are dependent on-site slopes, drainage patterns and drainage quantities along with other site-specific conditions. Materials and waste management consists primarily of “good housekeeping” practices which are dependent on the type of construction and the quantity and type of building materials.

- (2) The City Engineer will review the information submitted for compliance with the approved grading and drainage management plan. Accepted City streets are not to be used as an erosion control. No inlet protection is allowed in an accepted City street.
- (3) Control measures shall follow the control selection guide set forth in the iSWM manual. Control measures from each of the three categories; Erosion Controls, Sediment Controls and the Material and Waste Controls shall be used in the design of an Erosion Control Plan for a site. Standard details called out in Division 1000 of NCTCOG’s Standard Specifications and Standard drawing shall be utilized as well in the development of an erosion control plan.
- (4) Control Measures (such are silt fences, inlet protection, rock berms, etc.) shall be removed from the site once grass cover has been established to an efficient level. Types of erosion control may be removed depending on amount of disturbed area remaining. Erosion control shall remain and be maintained when the overall project has reached the minimum amount of disturbed area, one (1) acre. Grass cover shall be determined by the Section 4, Vegetation of these Standards.
- (5) Erosion control for a development shall remain until the phase has the minimum disturbed are, one (1) acre, for the overall phase, not individual lots. By approval of the City Engineer and/or the Director of Public Works, erosion control may remain in place after phase is complete in anticipation of future phases.
- (6) Erosion control shall be inspected by the contractor weekly, and before and after rain events. Deficiencies shall be corrected within a timely manner. If a deficiency is identified before a rain event, it shall be corrected before the end of the day or before the rain begins. Types of deficiencies include, but not limited to:
 - i. Holes or tears in silt fencing;
 - ii. Fallen silt fencing;
 - iii. Debris or sediment clogging erosion control device;
 - iv. Rock check dams or construction entrance rock sedimented over or covered; and
 - v. All other approved construction site erosion control devices shall be maintained to Storm Water Pollution Prevention Plan (SWP3) and City Public Works Inspector requirements.
- (7) Construction Entrance: No crushed concrete is allowed and rock must be a minimum of twelve inches (12”) thick using well graded rock with minimum diameters of four (4) to six (6) inches.
- (8) Silt Fence: No wooden stakes to be allowed on any erosion control device.
- (9) Performance: Erosion from construction sites can be a significant water quality problem. Developing areas are cleared of vegetation during construction leaving the soil exposed and susceptible to erosion. Runoff then transports eroded sediment from these areas and deposits it downstream. ~~The accumulation of silt in streams and ponds is a form of water pollution that is unattractive and impedes drainage.~~

- i. Prevention is a key aspect of erosion control. Many of the control methods presented herein can be placed in a manner that will protect highly erodible areas such as steep slopes. The prevention of erosion requires prior planning to ascertain the placement of selected control methods. The rewards of this planning will be a significant reduction in soil loss. Not only can soil loss be prevented, but eroded soil can be recovered on the construction site and used for fill.
- ii. The particulate material in construction site runoff is generally heavier and larger than particulates in urban runoff. These attributes facilitate the removal of the material whether the removal is by settling in a sediment trap or by filtration through a filter fence. Temporary sediment traps, filters, and routing devices can effectively control erosion for construction sites if properly applied. These methods are even more effective when permanent management techniques are used in an effort to control temporary increases in sediment loads.
- iii. Keep dirt/mud/debris off of all public streets, and fire lanes. It is required to have sufficient equipment and material on-site to safely remove dirt/mud/debris from the public streets, and fire lanes. Such equipment includes but not limited to: traffic control items, brooms, shovels, and personal protection equipment.
- iv. Required documents and permits prior to construction release include:
 1. Storm Water Pollution Prevention Plan (SWP3). A copy of the executed SWP3 is to be submitted electronically to the City Engineer and/or the Director of Public Works if the project disturbs one (1) acre or more of land.
 2. Storm Water Notice of Intent (NOI). An electronic copy of the executed NOI will be required to be submitted to the City Engineer and/or the Director of Public Works, if the disturbed area of land of the project is:
 - a. five (5) acres or more, or
 - b. if the project will disturb land one (1) or more acres, but less than five (5) acres and is part of a larger common plan of development or sale that will disturb five (5) acres of land.
 3. Texas Pollutant Discharge Elimination System (TPDES) General Permit No TXR 150000. Provide an electronic executed copy of the general permit to the City Engineer and/or the Director of Public Works, if the project is one (1) acre and less than five (5) acres of disturbed land.

(e) Lot Development.

- (1) All lot developments shall include a drainage plan preventing all diversion of water from the approved path of discharge. The builder at the time of permit application shall furnish a grading plan in compliance with:
 - i. The appropriate chapter of the building code adopted by the City,
 - ii. The grading plan for the development; and
 - iii. The storm drainage plan approved for that particular development.
- (2) Residential lots shall generally drain to streets. Residential development shall be Type "A," "B," or "C" drainage for each lot within the subdivision.

- i. Type "A": Drainage: All portions of the lot drain to the front.
 - ii. Type "B" Drainage: Drainage is split between drainage to the front and drainage to the rear and sides.
 - iii. Type "C" Drainage: All drainage is to the rear.
- (3) The engineer shall provide grading information and spot elevations to show how the drainage type will be achieved. Generally, no more than one lot may drain through another.
 - i. In cases where more than one lot will drain through a single lot, an improved drainage system (pipe or flume) may be required.
 - ii. If the site is complex and an overall site grading plan cannot be developed in accordance with City standards, an individual grading plan for each lot shall be submitted by the Engineer prior to issuing the building permit. The individual grading plans shall be coordinated with surrounding lots. For individual grading plans, an "as-built" letter signed and sealed by a professional engineer in Texas shall be submitted prior to final inspection.
- (4) The City reserves the right to set a minimum lot or finished floor elevation for any property for flood protection purposes.
- (5) If the re-grading of a lot is necessary, the builder shall be required to furnish a new drainage plan indicating the diversion and rerouting of the affected storm water.
 - i. When the re-grading of a lot prevents the drainage from flowing to the proper structures as designated in the drainage plan, then the builder will furnish a registered engineer's review for adequacy of existing structures to which the water is diverted.
 - ii. If improvements are necessary to provide for adequate drainage due to regrading of a lot, then the improvement must be made at the builder's expense before a grading permit or other permits for construction will be issued by the City.
 - iii. The City Engineer and/or Director of Public Works will review the information submitted for compliance with the approved grading and drainage management plan.
 1. Accepted City streets are not to be used as an erosion control.
 2. No inlet protection is allowed in an accepted City street.
- (6) Off-Site Cost Sharing: The developer shall be fully responsible for the construction of off-site drainage improvements necessary for his subdivision and the surrounding area, unless other provisions are approved by the City Council. Provisions for reimbursement of cost in excess of those necessary to serve his subdivision, and any other provisions, shall be made a part of a facilities agreement. For any subsequent subdivision utilizing such facilities, any cost due prior developers shall be pro-rated based on the increased contribution of storm water runoff. Such pro-rated amounts shall be made a part of any subsequent agreement, collected by the City and repaid to the original developer making such improvements.
 - i. The original developer shall provide the City with acceptable documentation of actual construction cost from which calculation of reimbursable amounts will be made for inclusion in the facilities agreement.
- (7) Exemptions: when a development is of two lots or less and in the City Engineer's and/or the Director of Public Works opinion does not affect existing drainage facilities or affect the adjacent

property, the City Engineer and/or the Director of Public Works may allow the developer to waive any off-site pro-rata costs.

- (8) All City rights-of-way shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.
- (9) Before Acceptance of Streets and Alleys silt fencing shall be placed at the back of curb/edge of all pavement.



Article 02.031.040 .. VEGETATION

SEC. 02.031.0411 GENERAL.

All seeding, sodding and fertilizer requirements are to be done in accordance with the North Central Texas Council of Governments (NCTCOG) *Standards and Specifications (Under Item 202)* as modified by the City of Kaufman.

SEC. 02.031.0412.... COVERAGE.

- (a) The developer shall establish grass and maintain the seeded area, including watering, until a Permanent Stand of Grass is obtained at which time the project will be accepted by the City. A Stand of Grass shall consist of 75% to 80% coverage of the whole project area and a minimum of one (1) inch in height as determined by the City.
- (b) There shall not be more than one (1) acre of land without proper grass coverage at the time of City acceptance. Re-seeding will be required in all washed areas and areas that have not been established.
- (c) All City rights-of-way shall be sodded if disturbed. No artificial grass is allowed in any City right-of-way and/or easements.

SEC. 02.031.0413 PLANTING SEASON.

Type No.	Variety	Hulled or Unhulled	Weight/Acre	Planting Season
Type 1	Bermuda Grass	Hulled	50 LBS/Acre	April thru June
Type 2	Annual Rye Grass	N/A	40 LBS/Acre	September thru March
Type 3	Bermuda Grass	Unhulled	50 LBS/Acre	January thru March & July thru August

- (a) A mix of seed shall be used in overlapping planting seasons. A seed mix shall be submitted prior to application.

SEC. 02.031.0414 ADDITIONAL INFORMATION.

- (a) For a public utility less than ten inches (10”) in size no tree shall be planted within five feet (5’) of the utility.
- (b) For a public utility greater than or equal to ten inches (10”) in size no tree shall be planted within ten feet (10 ‘) of the utility.
- (c) If trees are approved by the Development Services Department and/or City Council to be within the right-of-way, then a City approved root barrier will be required to be installed in order to keep roots from degrading the pavement structure.
- (d) Vegetation over two feet (2’) in height shall not be planted in any visibility easement or potential sight visibility (including medians).

Article 02.03.0500... WATER AND WASTEWATER SYSTEMS

SEC. 02.031.0511 GENERAL REQUIREMENTS.

- (a) The design and construction of the water and wastewater system to serve the development shall be in accordance with good engineering principles, with these Standards of Design and Construction and the Standard Details and with the requirements of the Texas Commission on Environmental Quality (TCEQ).
- (b) All on-site and off-site water and wastewater mains shall be sized and located to conform to projected demands in accordance with the current *Water Master Plan* and *Wastewater Master Plan* and the computer model with regard to the impact of each development on the existing and proposed water system. The alignment of future water and wastewater lines in the *Water Master* and *Wastewater Master Plans* may vary depending on design or layout. The water and wastewater lines in the *Master Plans* shall be minimums and should connect to the systems shown in the *Plans*.
- (c) No construction shall commence prior to the approval of the plans and specifications by the City.
- (d) The term “water main” shall refer to a water system that water meters, hydrants, and fire lines are connected to.
 - (1) Water mains may be located on private property but shall be within an easement and maintained by the City.
- (e) The term “wastewater main” shall refer to a wastewater system that serves more than one (1) property.
 - (1) Wastewater mains may be located on private property but shall be within an easement and maintained by the City.
 - (2) If a system serves only one (1) property and is located on private property it shall be a private sewer service and not a wastewater main and therefore considered private unless to serve off-site properties.
 - (3) Manholes or cleanouts on a sanitary sewer line does not indicate or require the system to be a wastewater main.
- (f) Water and wastewater mains should not cross a single-family lot unless along a street right-of-way or within an easement. Mains crossing between rights-of-way within a residential subdivision shall be within right-of-way, or within an easement, or within a HOA owned and maintained lot.

SEC. 02.031.0512 SYSTEM CAPACITY STUDIES

- (a) A water and wastewater system capacity study shall be performed for all developments or re-developments that propose a change in existing land use (change in density or higher water and sewer usage) that does not conform to the City’s current Water and Wastewater Master Plan.
- (b) The City will utilize an engineering consulting firm to assist City staff in performing a water and wastewater system capacity studies. The cost of this study, by the consultant(s), shall be borne by the Developer through a Professional Services Agreement, where required by the City and as described in the Subdivision Regulations in Section 02.03.0344 or applicable fees shall be paid in accordance with the fee schedule ~~engineer, or property owner requesting the proposed change in land use.~~
 - (1) Before the study begins, the Developer submitting for a change in land use shall enter into a Professional Services Agreement with the City to retain consultants to provide a wide variety of professional services including, but not limited to engineering services and legal services as needed to (i) assess the City’s current ordinances, and potentially draft new ordinances, (ii) assess

infrastructure needs and demands, traffic needs and demands, City services needs and demands, and water and wastewater infrastructure needs and demands, and (iii) assess legal issues that will be associated with or necessitated by the possible development of the Property.

- i. The City shall provide periodic invoices that describe the work performed by date and time entries as the study progresses.
- ii. Should the Professional Service Agreement costs exceed the initial estimate, the Developer submitting for the change in land use shall be informed of the shortage for the consulting engineer and legal services needed to complete the study. Additional funds as set forth in the Professional Services Agreement will then be deposited with the City by the Developer to cover the remaining reviews.
- iii. Any unused funds to be reimbursed to the Developer submitting for a change in land use.
- iv. If review process is performed by City staff, the City will submit a cost estimate for the study at time of the initial submittal.

SEC. 02.031.0513 CONNECTION FOR FUTURE ADJACENT DEVELOPMENTS

- (a) All development shall accommodate future adjacent and upstream/downstream developments by extending water and wastewater lines across the proposed development in order to create water and wastewater systems connectivity. This connectivity will provide for ease of future development and limited disturbance to existing developments. These extensions of the water and wastewater facilities shall match the City's *Water Master Plan* and *Wastewater Master Plan*.
- (b) If the property adjacent to the proposed development is a Utility owned or City owned property, extension may be required across the subject property.

SEC. 02.031.0514 EASEMENTS.

- (a) If a water or wastewater main is located on private property, the mains shall be within an easement that conforms to the minimum width in **Table 5.1 Water & Wastewater Line Easements- Minimum Width**.
- (b) The utility shall be centered within the easement or have a minimum of half the required easement width on both sides of utility.

TABLE 5.1 WATER & WASTEWATER LINE EASEMENTS – MINIMUM WIDTH

		Minimum Easement Width (ft)
Conduit Size	<= 48" diameter	20'
	> 48" diameter	Approval City Engineer
Depth of Conduit	< 14'	20'
	14' - 16'	25'
	17' – 20'	30'
	21' – 23'	35'
	> 23'	40'

SEC. 02.031.0515 SEPARATION OF WATER AND WASTEWATER LINES.

- (a) All water lines and wastewater lines shall be separated ten-foot (10') horizontally and per TCEQ Rules and Regulations. Refer to the following for additional requirements:
 - (1) Chapter 290-Public Drinking Water SUBCHAPTER D: RULES AND REGULATIONS FOR PUBLIC WATER SYSTEMS §§290.38 - 290.47.
 - (2) Chapter 217-Design Criteria for Domestic Wastewater Systems SUBCHAPTER C: CONVENTIONAL COLLECTION SYSTEMS §§217.51 - 217.70.
- (b) For separation between stormsewer lines, a spacing of five-foot (5') horizontal shall be maintained from outside dimension of storm pipe to the water or wastewater line.

SEC. 02.031.0516 WATER AND WASTEWATER LINES WITHIN TEXAS DEPARTMENT OF TRANSPORTATION (TXDOT) RIGH-OF-WAY (ROW).

- (a) Water and wastewater lines within or crossing a TxDOT ROW shall meet the requirements of the TxDOT District Office and the TxDOT Utility Manual. Utility permits for lines within or crossing TxDOT rights-of-way shall be processed through the City's Development Services Department.
 - (1) TXDOT permit plan sets shall be eleven-inches by seventeen inches (11"x17") in size and signed and sealed by a licensed professional engineer with the State of Texas. Plan sets shall include all applicable TxDOT standard details and traffic control plans sheets to construct the lines.
- (b) New proposed utility lines shall be outside of TxDOT ROW, on private property, within an easement.

SEC. 02.031.0517 BORING, JACKING AND TUNNELING.

- (a) All water and wastewater mains to be installed in steel casing under existing roadways, railroads, and creeks and shall be installed by a method other than open cut, unless otherwise approved by the City Engineer and/or the Director of Public Works.
 - (1) All boring of existing water lines mains shall be by dry bore methods.
 - (2) All boring of water and wastewater lines shall be by dry bore methods.
 - (3) No wet bores shall be allowed.
- (b) Steel casing thickness and diameter size shall be designed by the engineer of record for construction and maintenance of the carrier pipe per the requirements below. Raci patented casing spacers, or approved equal, shall be used. No bends and/or curves are permitted with casing pipes.
- (c) The construction bore and receiving pit shall be located at a minimum distance of four feet (4') behind the back of curb. The engineer of record shall provide a distance greater than four feet (4') where there is no curb or barrier protection at the edge of pavement.
 - (1) Additional bore setback distances or shoring shall be required to maintain roadway integrity and the safety of construction personnel.
 - (2) When bore and receiving pits are located on private property, permanent water and wastewater easements for the pits will be required for the installation and future maintenance of the line.
- (d) The engineer of record shall design the pipe casing for the following loading conditions and/or applicable combinations thereof:
 - (1) Cooper's E-80 Railway loading or AASHTO HS20 loading, as applicable.

- (2) Earth loading with the height of fill above the casing as shown on the plans as existing or finish grade whichever is greater.
- (3) All other applicable loading conditions, including loads applied during transportation and handling.
- (4) Maximum casing deflection of one-half-inch (½") from the above loading conditions.
- (e) Engineer of records shall consider the location, size, and depth of bore and receiving pits relative to existing utilities when establishing the beginning and ending stations.
- (f) Manufacturers: Paint Manufacturers for pipe casing shall be 46-465 H.B. Tnemecol – Tnemec Inc. or approved equal.

SEC. 02.031.0518 CROSSINGS.

- (a) City Roadway Crossings: All City roadway crossings shall be by dry bore. Open cut is by City Engineer written approval only and shall require full panel concrete replacement at a minimum.
- (b) Creek Crossings: Water and wastewater lines at creek crossing shall be designed to go under the flowline of the crossing. The lines shall be in steel encasement pipe with a minimum vertical clearance of four-feet (4') from the encasement pipe and the flowline of the creek to protect from future creek undercutting. The encasement pipe shall be extended to the creek's Erosion Hazard Setback line for future maintenance of the carrier pipe.
 - (1) Where an Erosion Hazard Setback does not exist due to a shallow creek the encasement pipe shall extend fifteen-feet (15') on either side of the main channel of the creek.
 - i. All creek crossings shall be profiled and shall show the Erosion Hazard Setback line along with the projected 4(H):1(V) sloping line and fifteen-foot (15') buffer from the intersecting point of the ground.
 - (2) Aerial crossing of water lines is not allowed.
 - (3) Aerial crossings for wastewater lines may be used only when all other alternatives have been evaluated and determined not to be feasible. Aerial crossings of wastewater lines require approval of the City Engineer and/or the Director of Public Works. If an aerial crossing is to be installed, reference additional requirements in the Wastewater System Section. No syphons are allowed.
- (c) TxDOT Highway Crossing: A steel encasement pipe shall be used to encase the carrier pipe at all TxDOT highway crossings. The crossing shall be at ninety degree (90°) (perpendicular) to the highway.
 - (1) All boring of water and wastewater lines shall be by dry bore methods. No wet bores will be allowed unless approved in writing by the TxDOT District Office.
- (d) Railroad Crossings: Prior to the design of any railroad crossing, the engineer of record shall contact the railroad and the appropriate regulatory agency to determine if there are any special design and/or construction requirements and shall copy the City Engineer and/or the Public Works Director on all correspondence with each regulatory agency and approved permits.

SEC. 02.031.0519 WATER SYSTEM.

- (a) **General.** All facilities shall be sufficient size to provide adequate capacity for ultimate development as called out in the *Water Master Plan*, as amended. The water mains shall be sized to meet the maximum instant domestic requirements plus an appropriate allowance for fire protection water. The design criteria for water demand shall be submitted to the City with the plans and specifications.

- (1) The City reserves the right to require larger water mains than required for the proposed development in order to provide capacities for areas outside the development. The Developer will be responsible to construct water mains adjacent to his property in accordance with the Water Master Plan, as amended or as required by the City Engineer and/or the Public Works Director.

(b) **Connections to Existing Distribution System.**

- (1) Preliminary discussions concerning take-off points in the water system should be conducted with the City Engineer and/or Director of Public Works Department prior to finalizing the preliminary designs of the water system, which will serve the development.
- (2) Connections to the City's existing water system will be allowed only at locations where sufficient quantity and pressures are available to meet the projected requirements of the development. In general, the connections to the existing water system shall be made in such a manner to keep "shut-downs" to minimum. Preference should be given to a tapping valve connection.
- (3) In a proposed development where City water is not adjacent to the property but is accessible, the Developer shall provide, at their expense, a minimum of eight-inch (8") water main, or if required an off-site water main of sufficient size to serve the development or as shown on the City's *Water Master Plan*, whichever is larger.
 - i. The City can participate (if funds are available) or collect pro-rata for the oversize of the required line. The City participation must be approved by the City Council. The proposed development may require a loop into the existing water system in order to provide adequate water pressure. The loop will be at the Developer's expense. All water mains shall be extended to the property lines for future connections.
- (4) In general, the City will not approve a development which cannot be served by extensions to the City water system. Some areas in the City are served by public water supply corporations. The Developer shall contact these public water supply corporations for notification of future development. The Developer shall still be responsible to construct water facilities that meet City requirements and as shown on the City's *Water Master Plan*. The City will inspect the water facilities. All water facilities must pass North Texas Municipal Water District testing prior to acceptance of said facility.
- (5) Under unusual circumstances, the City may consider approval of a private water system, which will supply an adequate quantity of potable water to every lot in a residential development. Such systems must meet the approval of the City, the Texas Commission on Environmental Quality (TCEQ), the State Board of Insurance, and other appropriate regulatory agencies. In addition, a Development Agreement between the City and the Developer must be executed whereby the City may acquire the system at such time as it can be connected into the City's owned and operated distribution network. In all cases, the engineering drawings shall show the source of water for the development.

(c) **Sizing of Water Mains.**

- (1) Water mains shall be sized to have maximum velocities of seven-feet (7') per second for maximum daily demands and maximum velocities of ten-feet (10') per second for combined maximum daily demand and fire flow demands.
- (2) The water demand for residential land uses and nonresidential land uses are shown in **Table 5.2 Water Demand Rates** and shall apply for any development where the lot layout has not been

finalized. Land uses not listed shall be classified by the land use they most nearly resemble in **Table 5.2** or calculated by the engineer in accordance with the anticipated use. The engineer shall submit the maximum daily demand and the maximum hourly demand to the City Engineer and/or Director of Public Works for review and approval.

- i. The City reserves the right to assign a higher water usage rate, population per unit, and/or units per acre to be used for developments anticipated to generate higher than typical usage rates.

TABLE 5.2: WATER DEMAND RATES

Land Use	Units Per Acre	Population per Unit	Max Day per Capita (gpcd)	Max Hour per Capita (gpcd)	Max Day per Acre (gpad)	Max Hour per Acre (gpad)
Residential						
Single Family - Low Density	3.5	2.87	350	700		
Single Family - Medium Density	5.0	2.87	350	700		
Single Family - High Density	10.0	2.87	350	700		
Townhome	12.0	2.50	350	700		
Multi Family	24.0	2.00	350	700		
Mobile Home Park	10.0	2.87	200	360		
Non-Residential						
Mixed Use / Live Work / Downtown			350	700		
Commercial Retail / Business Center					1,500	3,000
Public / Quasi-Public					1,500	2,000
Commercial Industrial					2,000	3,000
Special Commercial Corridor / Technology Employment Center					3,000	3,900
Light Manufacturing ¹					2,000	3,000
Heavy Manufacturing *					2,500	3,000
Schools (Elementary)			39 per student	52 per student		
Schools (Middle / High Schools / Colleges)					1,500	2,000
Hospitals			720 gpd per bed	864 gpd per bed		
Nursing Homes / Assisted Living			240 gpd per bed	288 gpd per bed		
Restaurants					1,500	3,000
Parks and Open Space					1,500	1,500
Golf Course ²					1,000	1,000

Notes:

- ¹ Engineer shall provide the maximum daily demand and maximum hourly demand flows and/or the number and size of water meters proposed for the particular land use for review by the City.
- ² Engineer shall provide the number and size of water and irrigation meters proposed for the golf course for review by the City.

- (3) The engineer shall sufficiently size all water mains to provide adequate capacity for ultimate development as called out in the City's *Water Master Plan*, as amended. For all developments, re-developments, and any type of facility tying into the City's water distribution system, the following guidelines shall be used:
- i. The engineer shall obtain the available record drawings. When record drawings are not available, field investigations and verifications shall be required prior to construction.
 - ii. The standard water main sizes that shall be used are noted in **Table 5.3. Standard Water Main Sizes**.
 - iii. The minimum water main size to serve residential areas shall be eight-inches (8") in diameter.
 - iv. The minimum water main size serving commercial, business, industrial, etc. shall be twelve-inches (12") in diameter.
 - v. Fire Flow Demands for all uses shall be calculated with a minimum residual pressure of twenty pounds per square inch (20 psi) under combined fire and domestic (Maximum Daily Demand) water flow conditions and/or the latest requirement by the TCEQ. The Developer shall provide facilities sufficient for fire flows in accordance with the minimum criteria set for by the City's Fire Department.
 - vi. Mains are to be sized to ensure less than one-foot (1') of head loss per one thousand-feet (1000') of water main using a Hazen Williams coefficient of C = 110 for the Maximum Hourly Demand flow rates within the subdivision internal distribution system.
 - vii. Mains shall be sized to provide service to adjacent properties.

Table 5.3: Standard Water Main Sizes

8 inch	10 inch	12 inch	14 inch	18 inch
20 inch	24 inch	30 inch	36 inch	42 inch
48 inch	54 inch	60 inch	66 inch	72 inch

(d) Water Mains Location/Alignment.

- (1) Water pipelines shall be located in the parkways between the back of the curb and the street right-of-way. The location shall be six-feet (6') from the back of curb on the north side of east-west streets and on the west side of north-south streets. When horizontal curvature is used the minimum radius of curvature shall be equal to that recommended by the pipe manufacturer. No water main ten inches (10") or greater shall be located nearer than ten feet (10') from any tree, unless otherwise approved by the City Engineer and/or Director of Public Works.
- (2) Water mains should not be designed to pass through single-family lots or between single family lots unless fully within a Home Owner Association (HOA) owned and maintained lot.
- (3) A blue EMS Locator Pad will be located as shown in the Standard Details. Water mains shall have blue EMS locator pads at every two hundred-fifty-feet (250'), change in direction, valve, curb stop, and service connection to the main water main.

(e) Depth of Cover.

- (1) The minimum depth of cover for water mains are indicated in **Table 5.4. Depth of Cover to Top of Pipe.**

Table 5.4: Depth of Cover to Top of Pipe

Pipe Size	Minimum Depth of Cover
6 inch through 10 inch	4.0 feet
12 inch through 18 inch	5.0 feet
20 inch and larger	6.0 feet

- (2) The engineer shall consider the ultimate roadway elevations in determining the depth of cover. Additional depth of cover shall be required for future development and as directed by the City Engineer and/or the Public Works Director. Depths of cover greater than eight feet (8') shall be approved by the City Engineer and/or the Director of Public Works.

(f) **Pipe Material and Embedment.**

- (1) Water mains shall be PVC pipe conforming to the NCTCOG Standard Specifications for Construction. In general, the water pipelines shall be AWWA C900-16 PVC Pipe (blue in color) for all sizes, DR 14 (PC 305) for pipeline sizes twelve-inch (12") and smaller, and DR 18 (PC 235) for fourteen-inch (14") and larger water pipelines.
- (2) All pipes shall be installed in embedment material as shown on the NCTCOG Standard Drawings and in conformance with the Standards of Design and Construction.

(g) **Valves.**

- (1) Valves shall be installed to isolate pipe at a minimum of every other fire hydrant and on both sides of all public roadways. All gate valves shall comply with the approved list or an approved equal with resilient seat only and shall conform to and shall be installed according to the NCTCOG Standard Specifications for Construction
- i. Valves shall be placed in straight run sections at spacing no greater than five hundred-feet (500').
 - ii. All valve boxes shall be encased in a concrete pad that shall be twelve-inches by twelve-inches by six-inches (12"x 12" x 6") and reinforced with No. 3 steel bars. Valves larger than eight-inches (8") may require larger concrete pads.
 - iii. Valve extensions shall be 316 stainless steel.
 - iv. Unless otherwise requested by the Developer and approved by the City Engineer and/or the Director of Public Works, valves shall be located in the northwest quadrant of the street intersection.
 - v. Valves shall be placed at or near the ends of mains in such a manner that a shutdown can be made for a future main extension without causing loss of service on the existing main. A minimum of twenty-feet (20') of main shall be installed past the valve and mechanical pipe thrust restraints shall be used to anchor it.
 - vi. Valves should not be placed in vehicle parking spaces.

- vii. Where fire lines are connected to the water main, valves shall be installed on one side of the connection to provide the ability to isolate the main line and continue to provide water to the fire line. The fire line shall be provided with a valve at the connection with the main line.
 - viii. Valve boxes shall be provided for buried valves. They shall be three (3)-piece screw-type cast iron boxes of the extension type. The three (3) pieces shall consist of the top section, bottom section, and cover.
 - ix. Two-inch (2") square nuts that would be over four-feet (4') deep shall have stainless steel valve stem extensions. In these cases, the two-inch (2") square valve operating nut shall be no greater than two-feet (2') from the finish grade. Valve box extensions may be cast iron or C-900 PVC.
 - x. Additional valves may be required by the City Engineer and/or the Director of Public Works. Additional valves may be required for fire support or isolation purposes.
- (2) **Gate Valves:** Valves twelve-inches (12") and under shall be Resilient Wedge Gate Valves (RWGV). Valves are required to have 316 Stainless Steel hardware. Gate valves shall be located outside the paved streets and shall be six-feet (6') from back of curb of the intersecting street. In general, gate valves shall be located at street intersections (except for fire hydrant leads).
- (3) **Butterfly Valves:** Valves greater than twelve-inches (12") shall be flanged butterfly type spaced at a maximum of one thousand-foot (1,000') intervals. All valves shall have horizontal mounted actuators with a manhole for access to the actuators.
- (4) **Air Release, Air/Vacuum, and Combination Air Valves:**
- i. Air release valves, air/vacuum, and combination air valves shall be required on sixteen-inch (16") and larger water mains and as necessary for proper system operation. There are three primary functions of the valves that the engineer shall consider as follows:
 - 1. To vent large volumes of air during filling of the line;
 - 2. To allow air into the pipe during emptying for maintenance and/or repairs; and
 - 3. To vent small volumes of air that come out of solution during service.
 - ii. Typically these are installed at high points where the pipeline has a vertical change in gradient. Additional installation locations may be required by the City Engineer and/or the Director of Public Works
 - iii. A fire hydrant shall be required at high points on twelve-inch (12") water mains for air relief and flushing maintenance operations. When a fire hydrant cannot be used, an air release valve may be approved by the City Engineer and/or Director of Public Works.
- (h) **Fittings.** Mega-lugs or the approved equal shall be installed. No compaction fittings shall be allowed. Fittings shall be ductile iron in accordance with AWWA C110 or AWWA C153. All buried metal shall be wrapped in polyethylene tube wrap.
- (i) **Connection to Existing Water Mains.**
- (1) Tapping Sleeves and Valves
 - i. Size-on-size tapping sleeves are not allowed. The largest allowable tapping sleeve shall be the main line size less one standard pipe size (Example: sixteen-inch by twelve-inch (16"x

12”), eight-inch by six-inch (8”x 6”), etc.). If a size-on-size connection is required, then a cut-in connection shall be used.

- ii. Connections to an existing line shall be made with full body stainless steel tapping sleeve and valve. A resilient wedge gate valve shall be flanged to the tapping sleeve.
- iii. Age, material, or condition of existing main may prohibit the use of a tapping sleeve for connections. Older mains can have major failures when tapping is attempted.

(2) **Cut-In Connection.** When connecting to an existing main, it may be required to provide a cut-in connection with a tee and valve being installed into the existing main in lieu of a tapping sleeve and valve where there is not an existing main line valve between proposed water connection locations as directed by the City Engineer and/or the Director of Public Works. A test shut down of the existing water main(s) shall be conducted by the Public Works Department. The requirement for a test shut-down may be waived with approval by the City Engineer and/or the Director of Public Works. Only the City’s Public Works Department may perform a water shut down.

(j) **Dead-End Mains.**

- (1) Dead-end mains shall be avoided and may only be considered when a looped or interconnected water main system is not available. The design of all water distribution systems should include the opportunity for future looping or interconnect of any approved or proposed dead-end line.
- (2) All dead-end lines shall only be installed upon approval from the City Engineer and/or the Director of Public Works and at a maximum length of one-hundred-fifty-feet (150’) regardless of main diameter or valve placement.
- (3) Dead-end non-residential water mains shall only have one (1) fire hydrant or service without looping the water main.
- (4) Where dead-end mains are approved, a flush point at the end of the dead end main shall be provided.

(k) **Fire Hydrants.** In general, fire hydrants shall be located at each street intersection and at intervals on the interior of each block.

- (1) Residential and Duplex Residential and duplex areas shall have a fire hydrant at each street intersection and at a maximum of four-hundred-foot (400’) intervals on the interior of each block. The City Fire Department may alter spacing requirements along roadways depending on subdivision layout.
- (2) Multi-Family: Multi-Family areas shall have a fire hydrant at each street intersection and at four-hundred-foot (400’) intervals on the interior of each block and along fire lanes. The City Fire Department may alter spacing requirements along fire lanes depending on fire suppression systems being installed.
- (3) Commercial, Retail and Industrial: Commercial, retail, and industrial areas shall have a fire hydrant at each street intersection and at a maximum of four-hundred-foot (400’) intervals on the interior of each block and along fire lanes. The City Fire Department may alter spacing requirements along fire lanes depending on the fire suppression systems being installed.
- (4) Rural Undeveloped Roadway: Water lines along roadways in rural areas that have not been developed, or development is sparse shall have fire hydrants installed a maximum of every one-

thousand-feet (1000'). Additional hydrants may be required by the City Engineer and/or the Director of Public Works

- i. Fire hydrants shall be installed a minimum of three-feet (3') and no greater than six-feet (6') behind curb of a fire lane, driveway, access, and/or street as measured from the centerline of the fire hydrant to back of curb, edge of pavement, or fire lane. All fire hydrants shall have a minimum of five-feet (5') of clearance around, including but not limited to trees, shrubs, bollards, walls, signs, structures, and parking stall curbs.
- ii. The spacing of fire hydrants shall be measured along the street frontage or fire lanes. The Fire Department and Public Works Department shall review all fire hydrant spacing. When a special condition exists due to land use, the Fire Department or City Engineer may require additional hydrants for fire protection. All existing fire flows and pressure tests shall be obtained from a private company (THE CITY DOES NOT PERFORM THIS TEST.).
- iii. Fire hydrants shall comply with the approved list or an approved equal conforming to the requirements set forth in the NCTCOG Standards Specifications for Construction. All fire hydrants shall be installed with a six-inch (6") gate valve on the hydrant lead. The installation shall be as set forth in these Standards of Design and Construction. Fire hydrants shall be painted to meet the City's requirements for color code as set forth in the NCTCOG Standard Specifications. In general, the fire hydrant will be reflective silver with differing cap color, which corresponds to the size of hydrant feeder line, as detailed in Approved Water Materials List in the Appendix B.
- iv. Fire hydrants shall be installed at the end of each dead-end line. Minimum lead size for a fire hydrant shall be eight-inches (8") if main is fifty-feet (50') or longer. Fire hydrant leads may not be longer than one-hundred-fifty-feet (150'). Fire hydrants are not to be powder coated. Fire hydrant nozzles are to be a minimum of nineteen-inches (19") to a maximum of twenty-eight-inches (28") above final grade.
- v. Nozzle diameter shall be two (2) hose nozzles measuring two and one-half-inches (2 ½") nominal inner diameter and one (1) pumper nozzle measuring four-and-one-half-inches (4 ½") nominal inner diameter. All nozzles are to have National Standard Hose Threads. The operating nut and nozzle nuts shall be one-and-one-half-inch (1 ½") pentagon-point to flat size/shape.
 1. Standard fire hydrant barrel shoe depth wherever practical shall be five-feet (5'). The fire hydrant lead line shall be adjusted to meet the standard fire hydrant depth.
 2. The connection to the main line shall include a flanged tee connected to a flange by mechanical joint gate valve. The mechanical joint shall be restrained so that the fire hydrant is anchored to the valve.
 3. Specifications - Fire hydrants shall be three-way breakaway type no less than five and one-quarter-inch (5-1/4") size. Mechanical joint connection is required.

(l) **Water Service Connections.** Service connections shall be in accordance with the designs shown on the Standard Details. The materials shall comply with approved list or approved equal and shall be installed in accordance with this *Standards of Design and Construction*.

- (1) All service pipelines shall be constructed of SDR-9 (Polytube) having a minimum size of one-inch (1"). All connections shall be compression type or approved equal.

- (2) Detector pads embedded in sand shall be installed above all service connections.
- (3) All meter boxes for residential properties shall be set between the sidewalk and the back of curb. If sidewalk is located on the back of curb, the water meter shall be set between sidewalk and edge of ROW.
 - i. Meter box tops shall be set one-half-inch to one-and one-half-inch (1/2" to 1 1/2") above the curb, and a meter stop shall be set six-inches (6") below the meter box top.
 - ii. An angle meter stop shall be set six-inches (6") below the meter box.
 - iii. Meter boxes shall have a one-inch (1") wide slot from five inches (5") below the top of the box to the bottom of the box on the side facing the lot for service connection.
- (4) Any meter box installed in paving shall be traffic rated.
- (5) Water meter shall not be located within a driveway or drive approach unless it is a traffic rated box and lid.
- (6) A domestic and/or irrigation service connection shall not be allowed on fire hydrant leads.
- (7) Installation of multiple meters per water service will not be allowed. Only one (1) meter service shall be allowed. Bull Heading of services and meters shall not be allowed except for special conditions and approved by the City Engineer and/or the Director of Public Works.
- (8) Service saddle shall be double bronze flattened straps (**no banded straps shall be allowed**) with brass body. Service saddle shall be per the approved material list. Minimum size tap shall be one-inch (1") diameter.
- (9) Water meter sizes shall not be bigger than the service line size from the water main to the meter.
- (10) All meters two-inch (2") and under shall be purchased from the City and will be at developer's/contractor's expense. All meters greater than two inches (2") must be approved by the City and shall be furnished and paid for by the Developer/contractor.
- (11) Concrete meter vaults are required for meter sizes three-inches (3") and larger, meters and vaults shall be provided by the contractor. Meter vaults shall be sealed on the outside of the vault to prevent water from draining in to the vault. Meter vault and meter requirements are shown in the Standard Details.
- (12) Bending of water service from main to meter should be avoided.
- (13) Residential Water Meters:
 - i. In single family residential developments, the nearest edge of the water meter box shall be a minimum of six-inches (6") behind the back of curb, and the water service shall be no more than twelve-inches (12") deep, covered with a meter box in place at grade.
 1. If no curb is present, the water meter shall be located at the right-of-way line, no more than twelve-inches (12") deep, covered with a meter box in place at grade.
 2. Along roadways without a curb, the water service line shall be constructed at a minimum of twenty-four-inches (24") below the ditch flowline. Meter boxes shall not be placed in the invert of a ditch.
 - ii. For multi-family, condominium, and townhouse developments installation of multiple meter boxes: may only be installed at approved locations. Each service box shall service

one (1) lot/building. Installation on multiple meters per water service will not be allowed. Only one (1) meter per service will be allowed. All meters are to have a testable double check backflow device install below grade at the meter.

(14) Non-Residential Water Meters:

- i. Installation of non-residential three-inches (3”) and larger meters will include two (2) mainline valves, one (1) bypass valve with chain and lock, and bypass line, all located inside the vault. Clearances between fasteners on valves, strainers, and meters to interior surfaces shall provide adequate room for maintenance. All meters are to have a testable double check backflow device install below grade at the meter.
- ii. Non-residential and multi-family water meters shall be located within the right-of-way or within a water easement and clear of high traffic areas. Location within the ROW shall match that of **Section 5.2.12.C**. All meters are to have a testable double check backflow device install below grade at the meter.
- iii. Water meter vaults shall be sized according to the size of the water meter and to allow for a minimum of a twelve-inch (12”) clear working area for maintenance and operation. Minimum water meter vault sizes are shown in the *Standard Details*.
- iv. Non-residential domestic irrigation meters shall have a testable double check backflow preventer at the meter.

(m) Abandonment of Water Mains.

- (1) The engineer is to note the limits and appropriate conditions for abandoning existing water mains that are being replaced. For lines being abandoned, the engineer should note and locate points of cut and plug at the junction with the line that remains in service.
- (2) The engineer shall make allowances to permit the existing and proposed mains to remain in service simultaneously thereby providing a means for transferring customer’s services from the old main to the new main with minimum interruption.
 - i. If the construction of a proposed water main necessitates the abandoning of the existing main prior to the new main’s placement into service, then provisions for a temporary water main with services must be addressed with the design.
- (3) Abandoned water lines to remain in place shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product.
 - i. Valves, to be abandoned, in place shall have any extensions and the valve box removed and shall be capped in concrete.
- (4) Existing fire hydrants and valves located on mains being abandoned are to be removed and delivered to the Public Works Department.

SEC. 02.031.0520 WASTEWATER SYSTEM

(a) **General.**

- (1) All facilities shall be sufficient size to provide adequate capacity for the ultimate development. The wastewater lines shall be sized to meet the peak day dry weather flow plus an appropriate allowance for infiltration of storm water per TCEQ. The minimum wastewater main size (other than service lines) for all developments shall be eight-inches (8") in diameter.
 - i. The design criteria and calculation shall be submitted to the City with the Construction Plans.
 - ii. Wastewater systems shall be designed so that all wastewater mains will be gravity flow. The use of a wastewater lift station can only be allowed with written approval by the City Engineer.
 - iii. The City reserves the right to require a wastewater main of a larger size than that required by the development in order to provide capacities for areas outside of the development.
- (2) Connections to substandard mains and manholes shall not be allowed. Substandard mains shall be determined by the City Engineer and/or the Director of Public Works based on criteria including, but not limited to: size, material, condition, flow rate, capacity, etc. Offsite improvements may be necessary to provide adequate wastewater service to the site.
- (3) All wastewater mains shall be installed at a depth sufficient to permit all water mains to be above the wastewater when the water main has a minimum cover of four-feet (4').
 - i. In such cases where water mains either cross or otherwise come within ten-feet (10') of a wastewater main, the wastewater main may be PVC pressure pipe with a minimum working pressure class of one-hundred-fifty-pounds-per-square-inch (150 psi) or encased in concrete.

(b) **Ownership and Maintenance.**

- (1) Ownership - Ownership of wastewater systems shall conform to the following:
 - i. Wastewater mains within right-of-way or easements shall be owned by the City. This shall include the manholes and cleanouts on those lines.
 - ii. Wastewater service laterals shall be owned by the property being serviced, from the wastewater main connection to the structure being serviced. This includes any and all manholes and cleanouts on the service lateral.
- (2) Maintenance - Maintenance of wastewater system shall conform to the following:
 - i. Wastewater mains within right-of-way or easements shall be maintained by the City. This shall include the manholes and cleanouts on those lines.
 - ii. Wastewater service lateral shall be maintained by the property owner being served from the structure to the right-of-way line and the City shall maintain from the right-of-way line cleanout to the wastewater main.

(c) **Connections to Existing Wastewater Collection System.**

- (1) Preliminary discussion concerning entrance points in the wastewater system should be conducted with the City Engineer and/or the Director of Public Works prior to finalizing the preliminary designs of the wastewater collection system to serve the development.
- (2) In a proposed development where City wastewater facilities are not adjacent to the property but are accessible, the developer shall provide, at his expense, an off-site wastewater interceptor of sufficient size to serve his development and the contributing service area (using fully developed flows), or as shown on the City's *Wastewater Master Plan*, whichever is larger.
 - i. Through a Pro Rata or a Development Agreement a Developer can request City participation for wastewater over-sizing above ten-inches (10"), where the City collects a pro-rated amount as other developments connect to the system. This money would be distributed back to the Developer that constructed the over-sized system. The City participation must be approved by the City Council.
- (3) Connections to Existing Wastewater Mains – When connecting a six inch (6") or larger new line to an existing wastewater main the engineer shall provide a new manhole at the point of connection. Prior to breaking into the existing line the new manhole and upstream pipe segment shall pass inspection by the City Engineer and/or the Director of Public Works. Connections in residential locations shall be completed after the preliminary walk through has been performed by the City Engineer and/or the Public Works Director and approval is granted.
- (4) In general, the City will not approve a development which cannot be served by extensions to the City's wastewater collection system unless the development has received an approved exception granted by City Council.

(d) **Design Flow.**

- (1) All wastewater collection systems shall be designed in accordance with the current City's *Wastewater Master Plan*.
- (2) Where possible, all collection systems will be laid out so that all lines will be gravity flow, unless approved by the City Engineer and/or the Director of Public Works.
- (3) All wastewater collection systems must be designed to convey the peak wet weather flow from the entire service area including off-site areas through the system. The basin delineation shall be provided by using the latest Light Detection and Ranging (LIDAR) and surveyed contours. Contours shall be provided on two-foot (2') or less intervals.
- (4) Flow calculations must include the specifics of the average daily flows, peak factor (ratio of peak to average flows) and the allowance for inflow and infiltration.

(e) **Sizing Wastewater Collection Mains.**

- (1) General.
 - i. The engineer shall reference the *Wastewater Master Plan* to determine the size of wastewater mains required in order to serve the development. For all developments or re-developments that propose a change in existing land use (change in density) that does not conform to the City's current *Wastewater Master Plan* a Wastewater System Capacity Study shall be performed. This shall be done as per **Section 02.03.0512** – System Capacity Studies.

- ii. The standard wastewater pipe sizes that shall be used are noted in the **Table 5.5. Standard Wastewater Collection System Pipe Sizes.**

Table 5.5: Standard Wastewater Collection System Pipe Sizes

8 inch	10 inch	12 inch	15 inch	18 inch
21 inch	24 inch	27 inch	30 inch	33 inch
36 inch	39 inch	42 inch	48 inch	54 inch
60 inch	-----	-----	-----	-----

(2) Average Daily Flow.

- i. **Table 5.6 Wastewater Per Capita and Usage Rates** shall be used to calculate the average daily wastewater flow. The collection system shall be designed based on the peak flow calculations, plus an allowance for Inflow and Infiltration per TCEQ.
- ii. For replacement of existing sewer for additional capacity, wastewater flow data will be provided by the City Engineer and/or the Director of Public Works.
- iii. Wastewater mains with direct connections to service lines shall be designed to be no more than seventy-percent (70%) full and interceptors shall be designed for one-hundred-percent (100%) full.
- iv. **Table 5.6 Wastewater Per Capita and Usage Rates** summarizes the residential and non-residential land use wastewater usage rates. Land uses not listed shall be classified by the land use they most nearly resemble in **Table 5.6 Wastewater Per Capita and Usage Rates** or calculated by the engineer in accordance with the anticipated use. The engineer shall submit the average daily flow and peak flow calculations including off-site flows within the drainage basin to the City Engineer and/or the Director of Public Works for review and approval.
 - 1. The City reserves the right to assign a higher wastewater usage rate and/or population per unit to be used for developments anticipated to generate higher than typical usage rates.

(3) Peak Flow Factor are as follows:

- i. For average daily flow less than 0.05 MGD – Peak Flow Factor = 5.
 - ii. For average daily flow between 0.05 MGD and 1.0 MGD – Peak Flow Factor = 4.
 - iii. For average daily flow between 1.0 MGD and 2.0 MGD – Peak Flow Factor = 3.5.
 - iv. For average daily flow greater than 2.0 MGD – Peak Flow Factor = 3.
- (4) Inflow and Infiltration - After determining the peak flow amount, the engineer shall add an average daily inflow and infiltration rate in accordance with TCEQ guidelines. The inflow and infiltration amount calculated shall be added to the peak flow calculated, with the resultant being the peak wet weather flow, the basis for design.

Table 5.6: Wastewater Per Capita and Usage Rates

Land Use	Units per Acre	Population per Unit	Average Daily Flow (gallons per person or unit /day)	Average Daily Flow per Acre (GPAD)
Residential				
Single Family - Low Density	3.5	2.87	90	
Single Family - Medium Density	5.0	2.87	90	
Single Family - High Density	10.0	2.87	90	
Townhome	12.0	2.5	90	
Multi Family	24.0	2.00	80	
Mobile Home Park	10	2.87	150	
Non-Residential				
Mixed Use / Live Work / Downtown				800
Commercial Retail / Business Center				800
Public / Quasi-Public				1,000
Commercial Industrial				1,500
Special Commercial Corridor / Technology Employment Center				1,200
Light Manufacturing ¹				1,500
Heavy Manufacturing ¹				3,000
Schools (Elementary)			30 per student	
Schools (Middle / High Schools / Colleges)			30 per student	
Hospitals			400 per bed	
Nursing Homes / Assisted Living			300 per bed	
Restaurants			50 per seat	
Hotels			200 per room	
Parks and Open Space				0
Golf Course				100

NOTES:

¹ USAGE RATES SUBJECT TO CHANGE. ENGINEER FOR THE PROPOSED DEVELOPMENT SHALL PROVIDE ESTIMATES OF THE AVERAGE DAY AND PEAK HOUR WASTEWATER FLOWS BASED ON THE EXPECTED RATES OF USE FOR THE PROPOSED DEVELOPMENT. CITY WILL REVIEW AND PROVIDE DETERMINATION OF ANY REQUIRED CHANGES.

(f) **Wastewater Mains.**

- (1) Wastewater pipelines shall be located in the parkways between the back of the curb and the street right-of-way. The location shall be six-feet (6') from the back of the curb on the south side of east-west streets and on the east side of north-south streets.
- (2) A green EMS Locator Pad is to be installed at every manhole, cleanout, and service connection to the wastewater main.
- (3) If a wastewater line is to be constructed greater than ten-feet (10') in depth and services are required, then a parallel line is to be constructed at a depth shallower than ten-feet (10'). The

deeper line shall be in the center of the pavement and the shallower line with services shall be six-feet (6') from the back of curb toward the right of way and not on the same side as the water line. Depending on depth and exact location of the main, additional easement width may be required. An alternative to a parallel line is a special service connection, with approval by City Engineer and/or Director of Public Works only.

- (4) No wastewater main less than ten (10) inches shall be located nearer than five (5) feet from any tree. No wastewater main ten (10) inches or greater shall be located nearer than ten (10) feet from any tree.
- (5) Wastewater mains should not be designed to pass through single-family lots or between single-family lots.

(g) **Wastewater Pipe Material.** – Allowable pipe materials for gravity wastewater mains shall be per **Table 5.7. Pipe Materials for Wastewater Gravity Mains.**

Table 5.7 Pipe Materials for Wastewater Gravity Mains

Pipe Size	Pipe Material
4 inch through 15 inch	Green PVC – SDR 35 (ASTM D3034) [less 10 ft cover] Green PVC – SDR 26 (ASTM D3034) [10 ft or more cover]
18 inch and Larger	Green PVC – PS 46 (ASTM F679) [less 10 ft cover] Green PVC – PS 115 (ASTM F679) [10 ft or more cover]

- (1) Pipe shall have a minimum earth cover of four feet (4'). All pipes shall be installed in embedment material as shown in the Section 7 or 8 Standard Details and in conformance for the Standard Specification for Construction.
 - i. Any main with less than the minimum cover shall be encased in concrete and is subject to approval by the City Engineer and/or the Director of Public Works. Depth of cover greater than twenty feet (20') must be approved by the City Engineer and/or the Director of Public Works.
 - ii. All pipelines shall be tested for infiltration. In accordance with TCEQ.

(h) **Minimum Grades.** - Wastewater lines should operate with velocities of flow sufficient to prevent excessive deposits of solid materials, otherwise objectionable clogging may result. The controlling velocity with regard to sediment deposition is near the bottom of the conduit and considerably less than the mean velocity flowing full of two and a half feet per second (2.5 fps). **Table 5.8. Minimum Grades for Wastewater Pipelines** indicates the minimum grades for wastewater pipe with a Manning's "n" = 0.013 and flowing at two and four tenths feet per second (2.4 fps).

TABLE 5.1: MINIMUM GRADES FOR WASTEWATER PIPELINES

Pipe Size (Inches)	Slope (n = 0.013) (Foot/Foot)	Pipe Size (Inches)	Slope (n = 0.013) (Foot/Foot)
6	0.0050	39	0.0006
8	0.0033	42	0.0006
10	0.0025	45	0.0005
12	0.0023	48	0.0005
15	0.0023	54	0.0004
18	0.0018	60	0.0004
21	0.0015	66	0.0004
24	0.0013	72	0.0003
27	0.0011	78	0.0003
30	0.0009	84	0.0003
33	0.0008	96	0.0002
36	0.0007		

(i) **Curved Sewers.**

- (1) No vertical curves will be allowed. Horizontal curvature may be allowed by joint deflection or pipe flexure but not both. The Engineer must specify on the plans the method of deflection allowed and the allowable radius or joint deflection for each pipe size. Refer to TCEQ for additional requirements.
- (2) When pipe flexure is used, the minimum radius of curvature shall be equal to that recommended by the pipe manufacturer or three hundred (300)*OD, where OD is the average outside diameter of the pipe in inches, whichever is greater. The Engineer shall note on the plans that when using pipe flexure, all joints are to remain fully seated.
- (3) If a joint deflection will be used to provide horizontal curvature, the allowable deflection shall be five degrees (5°) or eighty percent (80%) of the manufacturer's recommended maximum joint deflection, or eighty percent (80%) of the National Reference Standard maximum recommended joint reflection, whichever is less. When joint reflection is used, the Engineer must specify the size of mandrel used for reflection testing. The mandrel shall be sized to verify that the maximum joint deflection has not been exceeded.
- (4) Horizontal curves shall match change in street direction as near as possible.

(j) **Wastewater Service Laterals.**

- (1) Wastewater service pipelines shall be laid to each lot. The service pipelines shall be plastic pipe having a minimum diameter of four inches (4") and shall extend to the property line. Wastewater service pipelines shall be located on the lower side of each lot and as approved on the final Construction Plans by the City. In general, a service pipeline shall serve only one (1) lot.
- (2) Special wastewater service sizing may be required in some instances. Where water and wastewater pipelines pass within ten feet (10') of each other horizontally, the method of construction shall be specified in order to meet TCEQ criteria.
- (3) No wastewater main less than ten (10") shall be located nearer than five feet (5') from any tree. No wastewater main 10-inches or greater shall be located nearer than ten (10) feet from any tree.

- (4) Service lines cannot connect to wastewater mains that are over ten feet (10') deep unless a special service connection is approved by the City Engineer and/or the Director of Public Works.
- (5) Service laterals shall have a minimum horizontal separation of ten feet (10') downstream from any water service.
- (6) Bends in services under roadway pavement should be avoided.
- (7) Retail and Commercial. Service lateral size shall be six (6) inch minimum at a two percent (2%) minimum grade.

(k) **Manholes.**

- (1) In general, manholes shall be located at all intersections of wastewater pipelines, changes in grade, changes in alignment, non-single family residential service connections, and at distances not to exceed five hundred-feet (500'). A manhole maybe required for a residential sewer service six inches (6") or larger.
- (2) Manholes should not be installed in parking stalls, inverts within pavement, gutter lines, or sidewalk ramp flares.
- (3) All manholes will be hydrostatically or vacuum tested. For manholes that have an epoxy coating after constructed, a test will be required prior to acceptance. Manhole sizing shall be per **Table 5.9. Minimum Manhole Sizes** with a thirty-inch (30") lid. If a manhole exceeds ten feet (10') in depth, increase the diameter by one -foot (1') from the sizes given in **Table 5.9. Minimum Manhole Sizes**.

Table 5.9: Minimum Manhole Sizes

<u>Wastewater Main Size</u>	<u>Minimum Manhole Diameter</u>
6", 8" and 10"	4.0 foot ¹
12", 15", 18", 21", 24" and 27"	5.0 foot ¹
30" and 36"	6.0 foot ¹

Notes:

¹ INTERNAL DROP MANHOLES SHALL BE SIX FEET (6') MINIMUM.

- (4) Manholes shall be a minimum of four thousand two-hundredpounds per square inch (4,200 psi) pre-cast concrete (minimum six and a half (6.5) sack mix) or cast-in-place (minimum seven (7.0) sack mix) and shall conform to Standard Details and the Standard Specifications for Construction. Existing brick manholes shall be replaced. All private manholes shall have covers with the label "Private" forged into the cover. What about lining manholes?

(l) **Internal Drop Manholes.**

- (1) Internal drop manholes shall be required when the inflow elevation is more than eighteen-inches (18") above the outflow elevation. New internal drop manholes shall be constructed with inside drops with a six-foot(6') minimum diameter.
- (2) Depending on the depth of the drop manhole and inside clearances between drop bowl apparatus and the manhole, the City Engineer and/or the Director of Public Works may increase the minimum diameter above six-feet (6').

- (3) Drop manholes shall increase in diameter as necessary to accommodate the pipe for an internal drop connection as necessary to provide forty-eight-inches (48") of clear space for construction and maintenance operations.
- (4) Within the manhole the inverts shall be sloped to maintain a smooth transition through the manhole connecting all inlets and outlets.
- (5) Outside drop connections will not be allowed.
- (6) Only one (1) internal drop is allowed per manhole.

(m) **Manhole Corrosion Protection.**

- (1) All manholes shall have Raven Liner 405 epoxy coating, ConShield, or approved equal. ConShield must have terracotta color dye mixed in the precast and cast-in-place concrete.
- (2) Where connections to existing manholes are made the contractor shall rehab manhole as necessary and install a 250-mil thick coating of Raven Liner 405 or approved equal. Manhole shall be replaced at the Developer's/contractor's expense if it cannot be rehabilitated.

(n) **Watertight Sealed Manholes.**

- (1) All manholes shall be sealed if located in an area of storm water flow (paving, creek, drain way, etc.). When manholes are placed within the limits of the fully developed one hundred-year (100-yr) floodplain, watertight sealed manholes (Type S) shall be used to prevent the entrance of stormwater and properly vent manhole.
 - i. Manholes installed in the floodplain shall be a minimum of sixty-inch (60") diameter with a concentric flat top that has a rim elevation two-feet (2') above the limits of the fully developed one hundred-year (100-yr) floodplain. When allowed by the City Engineer and/or the Director of Public Works, manholes may be below the one hundred-year (100-yr) floodplain but must be bolted and gasketed.
 - ii. Every third (3rd) manhole shall be vented two-feet (2') above the fully developed one hundred-year (100-yr) floodplain elevation or four-feet (4') above the adjacent ground line, whichever is higher.
 - iii. Manhole rim shall be a minimum of two-feet (2') above ground line but not to exceed four-feet (4') above ground line.
 - iv. The engineer shall obtain and provide the elevation of the fully developed one hundred-year (100-yr) floodplain. When manholes are installed within a floodplain or open space, a location indicator pole shall be installed on the manhole to help prevent damage and for City to easily locate.

- (o) **Inflow Prevention.** - In order to reduce the size of wastewater system main trunk lines and reduce the cost of wastewater treatment, efforts to reduce inflow and infiltration into the wastewater collection system shall be taken. All manholes (public or private) shall be fitted with inflow prevention. The inflow prevention shall conform to the measures called out in **Standard Detail R-5031 (Section 9.5 Division 5000 Wastewater Collection)**.

- (p) **Cleanouts.** - Cleanouts shall be constructed on the end of all lines. The maximum distance between a manhole and an upstream cleanout is two-hundred-fifty feet (250'). Cleanouts may be located at the end of the line only. Double clean outs shall be installed for non-residential services at the right-of-way line,

property line, or easement line where a public line changes to a private service. Cleanouts shall conform to the **Standard Details and the Standard Specifications for Construction**.

(q) **Testing.**

- (1) All wastewater lines shall be tested for infiltration in accordance with the procedures set forth in the Standard Specifications for Construction. In general, all wastewater pipes shall be installed so that the completed wastewater will have a maximum exfiltration of one-hundredfifty (150) gallons per inch of internal diameter, per mile of pipe, per twenty-four (24) hours, where the maximum hydrostatic head at the centerline of the pipe does not exceed twenty-five-feet (25').
- (2) All wastewater pipes shall be inspected by photographic means (video/camera) after franchise utility installation but prior to final acceptance. The contractor shall furnish a DVD or flash drive to the Public Works Department Construction Inspector for review. Any sags, open joints, cracked pipes, etc. shall be repaired or removed by the contractor at the contractor's expense. A television survey will be performed as part of the final testing in the twentieth (20th) month of the maintenance period. The City's representative shall be present at all testing. All expenses for this work shall be the developer's responsibility.

(r) **Abandoning Existing Wastewater Mains and Manholes.**

- (1) When an existing wastewater line is to be abandoned all services and laterals on the main to be abandoned shall connect back into the system. All existing wastewater mains that are to be abandoned shall be digitally recorded to determine the location of the services and laterals. A digital copy shall be given to the City Public Works Department Construction Inspector for review before the line is fully abandoned.
- (2) All abandoned wastewater and force main lines shall be cut and plugged and all void spaces within the abandoned line shall be filled with grout, flowable fill or an expandable permanent foam product.
- (3) Wastewater manholes shall be abandoned per Standard Drawing No. 5170.

(s) **Aerial Creek Crossings.**

- (1) Aerial crossings for wastewater lines may be used only when all other alternatives have been evaluated and determine not to be feasible. Aerial crossings of wastewater lines require approval of the City Engineer and/or the Director of Public Works.
- (2) Aerial crossing shall meet the following requirements:
 - i. The design of all piers, bents, restraints, abutments, steel casing, etc. for the aerial crossing shall be performed and signed and sealed by a Professional Structural Engineer licensed in the State of Texas.
 - ii. The engineer of record shall use steel encasement pipe around all aerial carrier pipes. The carrier pipe shall be restrained or welded all around joints or be a monolithic pipe between a span section.
 - iii. The pier spacing for the aerial crossing supports must maintain adequate grade, and span the one hundred-year (100-yr) floodway.
 - iv. A span section must withstand the hydraulic forces applied by the occurrence of a one hundred-year (100-yr) flood including buoyancy. Both the aerial crossing encasement pipe

and the supporting structure shall be capable of withstanding impacts from debris and water.

- v. A scour analysis report prepared by a geotechnical professional engineer shall be submitted to the City Engineer and/or the Director of Public Works for review.
- vi. A Hydrologic and Hydraulics Study of the aerial crossing shall be performed. The aerial crossing shall not increase the one hundred-year (100-yr) floodplain water surface elevations or velocities.
- vii. Geotechnical borings at the creek crossing and report shall be prepared by a Professional Geotechnical Engineer licensed in the State of Texas.
- viii. Wastewater lines shall have manholes on each side of the crossing.
- ix. The upstream bent/abutment section of the aerial crossing shall be designed with a minimum two-inch (2") underdrain at the flowline of the embedment to collect infiltration that is traveling within the upstream embedment of the aerial crossing. This shall day light at the aerial crossing current day slope to prevent erosion of the aerial crossing at the upstream end.
- x. The aerial crossing shall be designed to extend to the erosion hazard setback line with piers and bents.

(t) **Inverted Siphon.** Inverted siphons at creek crossings for wastewater lines are not allowed.

SEC. 02.031.0521 WASTEWATER LIFT STATIONS AND FORCE MAINS.

(a) **General.**

- (1) All lift station design plans and specifications shall be submitted to the City Engineer and TCEQ for review and approval prior to construction. Lift stations and force mains shall be designed and built for the upstream drainage area using a fully developed condition. This will include off-site areas if applicable. Developers are responsible for the construction of regional lift stations and force mains, per the *Wastewater Master Plan*.
- (2) Developments which increase the flow to existing lift stations will be subject to a pro-rata charge if sufficient capacity is available in the existing lift station or will be required to increase the capacity of the existing facility. Developers can request a pro-rata agreement be executed with the City, where the City collects a pro-rated amount as other developments connect to the system. This money would be distributed back to the developer that constructed the oversized system. The pro-rata agreement requires approval by City Council.
- (3) The City will utilize an engineering consulting firm to assist City staff in the review of a report and plans for wastewater lift stations and force mains. The cost of this consultant review shall be borne by the developer. submitting the report and plans for wastewater lift stations and force mains. ~~The City shall first obtain a cost estimate from the engineering consultant for the review at time of the initial engineering submittal. Before the review begins, the developer, engineer, or property owner submitting the report and plans for wastewater lift stations and force mains shall deposit with the City funds equal to the cost estimate. The City shall disburse the funds to the consulting engineer as the review progresses. Should the consultant fees exceed the initial estimate, the developer, engineer, or property owner submitting the report and plans for wastewater lift stations and force mains shall be informed of the shortage and a new estimate made by the consultant engineer to complete the review. Additional funds will then be deposited with the City by the developer,~~

~~engineer or property owner submitting the report and plans for wastewater lift stations and force mains to cover the estimated shortfall before the review resumes. Any unused funds to be reimbursed to the developer, engineer or property owner submitting the report and plans for wastewater lift stations and force mains. If review process is performed by City staff, the City will submit a cost estimate for the review at time of the initial engineering submittal.~~

- i. Before the study/report begins, the Developer submitting a change in land use shall enter into a Professional Services Agreement with the City to retain consultants to provide a wide variety of professional services including, but not limited to engineering services and legal services as needed to (i) assess the City's current ordinances, and potentially draft new ordinances, (ii) assess infrastructure needs and demands, traffic needs and demands, City services needs and demands, and water and wastewater infrastructure needs and demands, and (iii) assess legal issues that will be associated with or necessitated by the possible development of the Property.
- ii. The City shall provide periodic invoices that describe the work performed by date and time entries as the study progresses.
- iii. Should the Professional Service Agreement costs exceed the initial estimate, the Developer ~~submitting for the change in land~~ use shall be informed of the shortage for the consulting engineer and legal services needed to complete the study. Additional funds as set forth in the Professional Services Agreement will then be deposited with the City by the Developer to cover the remaining reviews.
- iv. Any unused funds to be reimbursed to the Developer submitting for a change in land use.
 1. If review process is performed by City staff, the City will submit a cost estimate for the study at time of the initial submittal.

(b) **Lift Station and Force Main Design Report and Plans.** A lift station and force main design report shall be prepared and signed and sealed by a registered professional engineer licensed in the State of Texas.

(1) Lift Station and Force Main Design Report. The digital report shall include the following information at a minimum:

- i. A brief summary of project that includes:
 1. General description of proposed development
 2. General explanation on circumstances that warrant a lift station including other options considered.
 3. Description of any potential phasing of lift station until sewer basin is built-out if City Engineer approves lift station size less than fully developed conditions.
- ii. Influent hydraulic calculations showing:
 1. Area in acres of the sewer basin and the development.
 2. The area of each proposed use for the development and the ultimate projected use for the basin per City Future Land Use Plan.
 3. The average design flow and the maximum peak flow for the basin and the development.
 4. Elevation of the proposed lift station site.

5. The elevation of the proposed discharge point of the force main.
 - iii. Wet well volume calculations.
 - iv. Force main size with proposed velocities in pipe.
 - v. Power outage records on electric provider letterhead for power outages in area for the past twenty-four (24) months.
 - vi. Opinion of probable costs for lift station, force-main, and annual operating and maintenance costs.
 - vii. Ground water levels in proposed site area.
 - viii. Proposed system's effect on existing system's capacity.
 - ix. Odor control methods shall be submitted to the City Engineer and/or Director of Public Works for review and approval. The potential odor determination must include the estimated flows immediately following construction and throughout a system's fifty-year (50-yr) expected life cycle.
- (2) Lift Station and Force Main Design Plans. The plan or plans submitted shall contain the following minimum information.
 - i. Scale.
 - ii. North Arrow.
 - iii. Vicinity map.
 - iv. Delineation of the boundary of the proposed development and off-site areas of the sewer basin (service area) in which the development lies. Basin delineation shall be provided using NCTCOG, LIDAR or surveyed contours. Contours shall be provided on two (2') foot or less intervals. USGS topo is not permissible.
 - v. Area in acres of the development and of the sewer basin contributing to the lift station.
 - vi. Proposed use or uses for the development and service area.
 - vii. The proposed lift station location.
 - viii. Delineation of the one-hundred-year (100-yr) fully developed flood plain, FEMA one-hundred-year (100-yr) flood plain and erosion hazard setbacks.
 - ix. The location and size of the existing collection system at the tie-in point.
 - x. Property lines, easement lines, and right-of-way lines.
- (3) Lift Station Site Requirements. The lift station site shall conform to the requirements in these subsections and **Figure 5.1**, *Typical Lift Station Site Layout*.
 - i. Lift Station Site Access.
 1. Access drive will be provided by a reinforced concrete pavement from a public street and/or dedicated access easement. Concrete shall be a minimum eight-inches (8") thick, 3,600 PSI (six and half (6.5) sack/CY) with #4 bars at eighteen-inch (18") OCEW reinforced concrete pavement with a minimum of twenty-feet (20') in

width and forty-feet (40') in length (within fenced area of lift station) to allow maintenance vehicles to park fully outside of the right-of-way.

2. When an access drive for the lift station connects to a City Thoroughfare or Texas Department of Transportation (TXDOT) designated highway a "T" shaped turnaround shall be provided with applicable turning radii. The alignment of the drive shall allow maintenance vehicles the ability to back up straight to the wet well.
3. Access shall be functional during a one-hundred-year (100-yr) flood. All area within the lift station fencing and access drive shall be a minimum of one-foot (1') above the water level caused by a one-hundred-year (100-yr) fully developed floodplain.

(4) Lift Station Security.

- i. At a minimum, security of the lift station site shall be provided by an intruder-resistant fence (IRF) to restrict access by an unauthorized person(s). The IRF shall be placed around the perimeter of the site encompassing all interior structures and appurtenances shall maintain a minimum five-foot (5') clearance from all lift station components and seven and a half -foot (7.5') minimum off of lift station piping.
- ii. The IRF shall comply with all TCEQ regulations and shall comply with the requirements for ground mounted utility structures as specified in Section 38.3.E., Fence Regulation of the Zoning Ordinance. The IRF shall be a minimum of eight-feet (8') aluminum picket fence with a twenty-foot-wide (20') minimum double swing gate for access. All components shall be manufactured from aluminum extrusions having a minimum ultimate strength of thirty-five thousand pounds per square inch (35,000 PSI), using 6005 T5 alloy. The fence, post and gates shall be powder coated black with a minimum cure film thickness of two (2) mils.
- iii. Technical Data.
 1. Pickets. The hollow pickets shall pass through the rails and are to be attached using stainless-steel screws allowing the pickets to be always parallel to the terrain. Screws shall be on one (1) side of rail only. Pickets shall be one (1) inch square x 0.062-inch thick.
 2. Horizontal Rails. Rails shall be C-Channels with ribbed reinforced side walls. Square holes shall be punched in the top of the rails to allow the pickets to pass through.
 - a. Four (4) rails are required.
 - b. *Heavy Industrial Rails* shall be 1 $\frac{5}{8}$ -inch by 1 $\frac{5}{8}$ -inch with a side thickness of 0.100-inch, top wall thickness 0.070-inch and bottom wall thickness of 0.062-inch, which snaps into the top allowing all screws to be enclosed inside the rail.
 3. Posts. . Posts shall be hollow square extrusion with holes pre-punched to allow the rails from the fence sections to slide into them. All posts shall include aluminum post caps. Posts can be placed no more than six-feet (6') apart.
 - a. Line Posts and End Posts are three (3) inch square by 0.125-inch thick.
 - b. Gate Posts are four (4) inch square x 0.125-inch-thick weighing nine (9) pounds per foot.

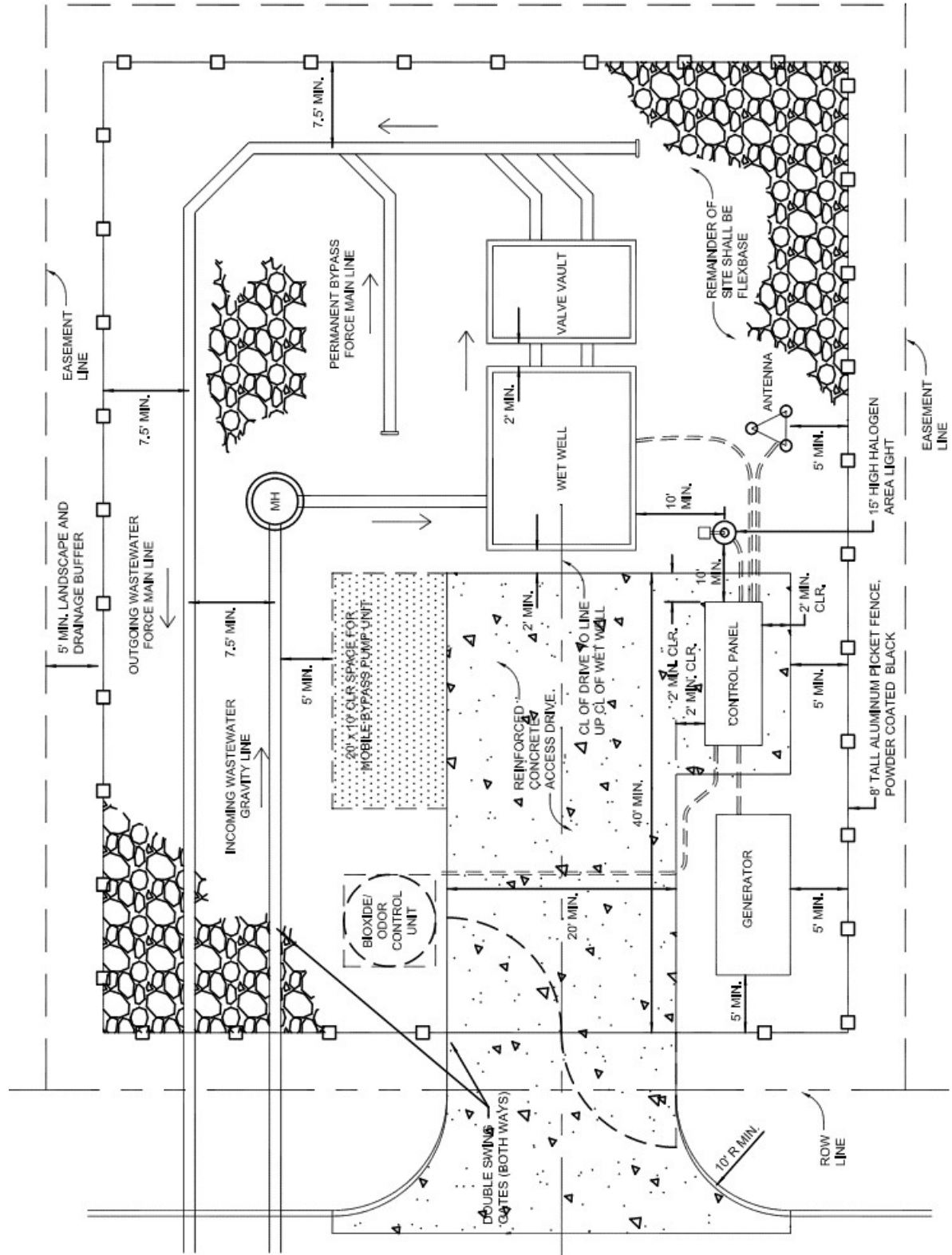


Figure 5.1: Depiction of Lift Station Site Layout

4. Gates. Gates shall be fabricated with two (2) inch or 2½-inch square ends, 1⅝-inch by 1⅝-inch rails and one (1) inch square pickets. The gate shall be a double swing gate. Gate shall match appearance of fence panel. The gate shall have a double rail that allows for hidden fasteners and no exposed cavities under the rail. Gate shall be designed and manufactured by the fence manufacturer.
 - a. Each gate shall have a hasp for chain locking welded to the frame as detailed in the construction plans.
 - b. Gates shall be designed and manufactured by the fence manufacturer.
 - c. Gates shall be designed and manufactured by the fence manufacturer.
 - d. Swing gates shall include cane-bolts for each gate panel. The cane-boll shall have a stop to hold it in the up position for operating the gate.
 - e. Hinges shall have minimum ⅜-inch stainless-steel pins.
5. There should be a minimum of a five (5) foot landscape and drainage buffer from the easement line to the lift station fencing. The five (5) foot buffer shall have Chinese Variegated Privet (or similar vegetation as approved by the Director of Public Works and/or Director of Development Services) place within the buffer to screen the lift station site. In residential zoning districts the five-foot (5') buffer shall include dense evergreen shrubs to screen the lift station site

(5) Lift Station Site Interior.

- i. Interior of the site that is not part of the access drive shall be a minimum six (6) inches thick flex base. Site shall be graded to drain away from the station to prevent storm water inflow or infiltration into the wet well, valve vault and manholes. The wet well and valve vault top elevation shall be a minimum of twelve-inches (12") higher that interior concrete and flex base.
- ii. Control panel shall have a two-foot (2') minimum clear reinforced concrete working area away from face, sides and back of cabinet. Electrical and instrumentation panels shall be located where they do not obstruct vehicle access to the wet well or the dry well. They shall be placed at an elevation so that they are easily accessible.
- iii. A fifteen-foot (15') high halogen or light-emitting diode (LED) area light with photometric cell on an aluminum pole shall be placed within ten-feet (10') of wet well and control panel without obstructing daily operations.

- (c) **Wet Well Design.** Wet well shall be cast in place or pre-cast watertight and gas tight walls with watertight joint meeting ASTM C478-90. Steel, high-density polyethylene (HDPE) and reinforced concrete pipe (RCP) are not acceptable materials.

(1) Orientation.

- i. Orientation shall consider the routing of incoming sewer and force main for ease of maintenance and to minimize effluent turbulence.
- ii. Orientation shall allow a five (5) ton vehicle to pull in forwards or backwards directly to the wet well or the dry well.

- iii. All influent gravity mains discharging into the wet well shall be located so that the invert/flowline is **above the "on" setting liquid level of the pumps.**

(2) Level Sensors.

- i. Level control system shall use a pressure transducer with built-in surge protection for pump operation with Off and High-Level Floats as back-up in case transducer fails.
- ii. Sensors shall be provided for "All Pumps Off," "Lead Pump On," "Lag Pump On," and "High Level Alarm" levels as well as additional "Lag-Lag Pump On" for lift stations with more than two pumps.
- iii. Level Sensors shall be placed in the wet well.

(3) Wet Well and Valve Vault Separation.

- i. Wet wells and valve vaults shall be separated by a minimum of two-feet (2').

(4) Wet Well Liner and Coatings.

- i. Wet wells shall have a minimum of ten-percent (10%) sloped bottoms to the pump intakes and shall have a smooth finish to avoid excess sludge deposits.
- ii. Wet wells shall be **ConShield, Raven Lining or approved equal** to protect against hydrogen sulfide gases.
- iii. Wet wells and valve vaults shall have inflow protection as called out in **Standard detail R-5031.**

(5) Wet Well Hatches.

- i. The wet well shall have a lockable odor suppressing aluminum door with an aluminum frame and safety grate. The minimum opening size shall be four-feet(4') by six-feet (6') with two (2) doors large enough to adequately maintain the wet well.
- ii. All hatches shall have accommodations for locking above grade with three-eighths -inch ($\frac{3}{8}$ ") shaft padlocks provided by the City.
- iii. All hatches shall include fall protection as required for safety and approved by the City.

(6) Wet Well Ventilation.

- i. The design of a wet well must reduce odor potential in a populated area or as directed by the City Engineer and/or the Director of Public Works
- ii. Passive ventilation structures shall be provided and must include screening to prevent the entry of birds and insects to the wet well. An air vent pipe shall have a minimum diameter of four (4) inches with outlet located one-foot(1') above wet well top.
- iii. Continuous mechanical ventilation structures shall be provided with ventilation equipment providing a minimum capacity of twelve (12) air exchanges per hour and be constructed of corrosion resistant material.

- (7) Wet Well Cable Strain Relief. A stainless-steel cable holder shall be provided for all cables in the wet well for cable strain relief purposes.

(d) **Wet Well Volume.**

- (1) Wet well volume for a submersible pump station is the volume contained above the top of the motor, or as specified by the pump manufacturer.
- (2) High level alarm elevation shall be a minimum of sixty-inches (60") below the top of the wet well or forty-eight-inches (48") below the flowline elevation of the lowest service tap, whichever elevation is lower.
 - i. Alarm shall be sent when both pumps are running on a duplex station or when the level is six-inches (6") to twelve-inches (12") over all pumps running. The City Engineer and/or Director of Engineering shall approve all situations and levels that need to trigger an alarm.
 - ii. Wet well volume shall be calculated by **Equation 5.1**. Wet Well Volume:

$$V = \frac{TQ}{4(7.48)}$$

Equation 5.1. Wet Well Volume where:

V = ACTIVE VOLUME, (CUBIC FEET)

Q = PUMP CAPACITY, (GALLONS PER MINUTE)

T = CYCLE TIME, (MINUTES)

7.48 = CONVERSION FACTOR, (GALLONS PER CUBIC FOOT)

- iii. Pump cycle time, based on Peak Flow, must equal or exceed the criteria shown in **Table 5.10: Minimum Pump Cycle Time**

Table 5.10: Minimum Pump Cycle Time

Pump Horsepower	Minimum Cycle Times
< 50	6 minutes
50-100	10 minutes
> 100	15 minutes

- (3) The operation cycle "T" shall not be less than ten (10) minutes for average flow and not more than 60-minutes for minimum flow conditions. The operation cycle time must exceed the manufacturer's requirements.

(e) **Valve Vault.**

- (1) Valve vaults shall have sloped bottoms towards a floor drain to remove liquid build up. The floor drain line from the valve vault connecting to the wet well must prevent gas and liquids from entering valve vault.
- (2) The valve vault shall have a lockable aluminum door with an aluminum frame. The minimum opening size shall be two-feet (2') by three-feet (3') or large enough to adequately maintain the valve vault.

SEC. 02.031.0522 PUMPS, LIFT STATION PIPING, AND VALVES.

(a) **Pumps.**

- (1) Stations shall contain a minimum of two (2) pumps and shall be capable of handling peak flows with one (1) pump out of service.

- (2) All pumps shall be explosion proof, non-clog, submersible type capable of passing a two-and-a-half-inch (2½") diameter sphere or greater. Vortex impellers shall be used to prevent clogging.
- (3) Pumps shall be sized to operate at optimum efficiency. Minimum acceptable efficiency at the operating point will be percent sixty-percent (60%). The minimum required horsepower for the motor must be capable of handling the entire range as shown in the pump curve. Where necessary, a higher horsepower pump will be required to prevent any damage to the motor as a result of loss of hydraulic head situation.
- (4) All submersible pumps shall be equipped with an automatic flush valve attached to the pump volute using the hydraulic energy created by the pump operation to temporarily suspend settled materials.
- (5) The pump rail system shall be MTM Sch 40 stainless-steel with supports on eight (8) feet maximum spacing.

(b) Pump Capacity.

- (1) The firm pumping capacity shall be greater than the peak flow for the entire fully developed drainage basin. If the fully developed drainage basin is significantly larger than the proposed development and it is not feasible to design for this flow, the firm capacity may be designed to handle a portion of the basin with the ability to expand for the ultimate basin capacity with approval from the City Engineer and/or Director of Public Works.
- (2) The pump curves shall be selected so that during normal operating conditions the pumps will run near the best efficiency point. The curves shall not approach shut off head when the pumps are running together.
- (3) System head curves, pump curves, and head calculations shall be submitted. Calculations and pump curves at both minimum (*all pumps off*) and maximum (*last normal operating pump on*) static heads, and for a C value of both one-hundred (100) and one-hundred-forty (140) must be provided for each pump and for the combination of pumps with modified pump curves. Head calculations shall be the sum of static head, friction head in force main and lift station piping, and a fittings head.
- (4) Flow calculations, system curves, and head calculations shall be shown in the construction drawings as well as in a final design report. Final design report shall include all of the preliminary design submittal requirements with the exception of the replacement of final design information.

(c) Lift Station Piping.

- (1) Piping inside the lift station shall be ductile iron Class 200 PSI, AWWA C151-75, C171-76, or latest edition thereof. Pipe joints within the wet well or valve vault shall be flanged. All fittings shall be ductile iron Class 250 meeting AWWA C110-77 or latest revision for sizes 12-inches and smaller or Class 150 on sizes 14-inches and larger. All pipe and fittings shall have a prime coat on the outside surface and shall have an interior lining of forty-manual-in-line-stabilization (40-mils) nominal dry film thickness of Protecto 401 Ceramic Epoxy Lining or approved equal, applied in accordance to the manufacturer's recommendations.
- (2) All nut and bolt assemblies inside the wet well shall be ASTM 316 stainless-steel.
- (3) Lift station piping shall be designed with an additional emergency by-pass pump connection, allowing the station to be operated with the primary pump(s) out of service for an extended period of time. The by-pass pump connection shall be fitted with a CamLock fitting and cap. Bypass piping

shall be supported by a strut type pipe support set in a reinforced concrete pad. By-pass piping and valves shall maintain a minimum of a twenty-four-inch (24") clearance from the ground.

(d) **Valves.** (Isolation valves, check valves, and air release/vacuum valves shall be located in the valve vault)

(1) Isolation Valves.

- i. Each pump shall have one isolation valve downstream of the pump and check valve, including a discharge pressure gauge between the pump and isolation valve. Isolation valves shall be resilient seated gate valves meeting the City Standard Specifications. The discharge pressure gauge shall be a minimum of four-inch (4") diameter within the appropriate pressure ranges for the design.
- ii. All external nuts and bolts shall be ASTM 316 stainless-steel.

(2) Check Valves.

- i. Check valves shall be a controlled closing swing check valve with a lever and spring.
- ii. Check valves shall be located upstream of the isolation valve.
- iii. All external nuts and bolts shall be ASTM 316 stainless-steel.

(3) Air Release/Vacuum Valves.

- i. Air release valves of a type suitable for wastewater service shall be installed along the force main where the force main would be prone to trapped air.
- ii. The type of valve shall be air release or a combination of air release and vacuum breaker. Valves shall be fitted with blow off valves, quick disconnect coupling and hose to permit back flushing after installation without dismantling the valve.
- iii. All external nuts and bolts shall be ASTM 316 stainless-steel.
- iv. The engineer shall determine the valve type and location. The calculations for valve type and valve sizing shall be provided to the City Engineer and/or the Director of Public Works.
- v. Isolation valves for three-inch (3") and smaller air release valves shall be all bronze or brass. Isolation valves four-inch (4") and larger shall meet standard specifications for resilient wedge gate valve.
- vi. Locations of the air release/vacuum valves shall be shown on the plan and profile sheets for the force main

SEC. 02.03.0523.....FORCE MAIN.

(a) **General.**

- (1) Force main capacity shall be sized to meet the pump capacity. The force main shall be sized to handle the ultimate basin capacity. The force main may be designed to handle a portion of the basin with the ability to expand for the ultimate basin capacity if approved by the City Engineer. The minimum force main size shall be four-inch (4") diameter except for grinder pump lift stations.
- (2) The minimum recommended velocity is three-feet (3') per second, and the velocity shall not be less than two-and-a-half feet (2.50') per second when only the smallest pump is in operation.
- (3) Force main sewer pipe shall be designed to meet the working pressure requirements of the particular application. Design calculations and pipe selection shall be submitted to the City Engineer and/or the Director of Public Works in report format.

- (4) A force main must be designed to abate any anticipated odor.
 - (5) Force main pipe materials shall AWWA C900-16 PVC Pipe (*green in color*) for all sizes, DR 14 (PC 305) for pipeline sizes twelve-inch (12") and smaller, and DR 18 (PC 235) for fourteen-inch (14") and larger wastewater pipelines. The design engineer shall select the DR specification based on design for pressure and including surge, and submit calculations with design report.
 - (6) For trench depths greater than twelve-feet (12') or other dead and/or live loading considerations, the engineer shall provide a pipe with the appropriate DR rating which shall exceed the minimum requirements.
 - (7) All fittings shall be wrapped in ductile iron in accordance with AWWA C110 or AWWA C153. Fittings shall have a prime coat on the outside surface and shall have an interior lining of forty-manual-in-line stabilization (40-mils) nominal dry film thickness of Protecto 401 Ceramic Epoxy Lining or approved equal, applied in accordance to the manufacturer's recommendations.
 - (8) Isolation valves shall be a maximum spacing of one-thousand-feet (1,000 ') and at critical locations along the force main.
 - (9) All valves and fittings shall be restrained with Mega-lug or approved equal. Joint material for PVC shall conform to ASTM F471.
 - (10) Plans shall include plan and profile for the force main.
 - (11) Force main shall have a minimum of four-feet (4') of cover and be laid to standard specifications for potable waterline.
 - (12) Force main separation and design criteria from water mains and all other utility lines shall meet the minimum requirements from TCEQ.
 - (13) All force mains shall have green EMS locator pads at every two-hundred-fifty-feet (250'), change in direction, valve, manhole, etc.
- (b) **Embedment.** All force main pipes shall be installed in embedment material as shown on the *Standard Details* in **Section ????** and in conformance for the *Standard Specification for Construction*.

SEC. 02.03.0524 Control Panel.

- (a) **General.**
 - (1) The control system shall be designed to operate the required number of pumps specified on the drawing at the power characteristics shown on the plans.
 - (2) The control function shall provide for the operation of the pumps in Hand (manual) and Auto (controlled by Programmable Logic Controller (PLC)). See *24VAC Regulator System* for further information. The control shall function as described below. The equipment listed below is a guide and does not relieve the supplier from providing a system that will function as required.
- (b) **Control Panel Enclosure.** The enclosure shall be a National Electrical Manufacturers Association (NEMA) 4x rated stainless-steel. The enclosure shall be a wall mount type with a minimum depth of eight-inch (8") sized to adequately house all the components. The door gasket shall be rubber composition with a retainer to assure a positive weatherproof seal. The door shall operate with a single action handle that accepts a three-eighths-inch ($\frac{3}{8}$ ") shaft padlock and opens a minimum of one-hundred-eighty (180) degrees.
- (c) **Inner Dead Door.**

- (1) A polished aluminum dead front shall be mounted on a continuous aircraft type hinge, contain cutouts for mounted equipment, and provide protection of personnel from live internal wiring. Cutouts for breaker handles shall be provided to allow operation of breakers without entering the compartment. **No door mounted operating mechanisms allowed for breaker operation.**
 - (2) All control switches, indicator pilot lights, one (1) general purpose ground fault interrupter (GFI) duplex receptacle and other operational devices shall be mounted on the external surface of the dead front. The dead front shall open a minimum of one-hundred-fifty-degree (150) degrees to allow access to equipment for maintenance. A three-quarter-inch ($\frac{3}{4}$ ") break shall be formed around the perimeter of the dead front to provide rigidity.
- (d) **Back Plate.** The back plate shall be manufactured of twelve (12) gauge sheet steel and be finished with a primer coat and two (2) coats of baked on white enamel. All devices shall be permanently identified.
- (e) **Power Distribution.**
- (1) The panel power distribution shall include all necessary components and be wired with stranded copper conductors rated at a minimum of ninety-degree (90°) Celsius.
 - (2) System shall be equipped with an **Emergency Generator** with an automatic transfer switch capable of programmable test dates and times. Inputs shall be provided to PLC to indicate Generator Running, Generator Alarm, and Generator Low Fuel Level **OR** a Stand Alone Manual Double Throw Safety Switch to allow hard wiring to a portable generator. Emergency Generator shall meet the requirements of the most recently adopted noise ordinance and be a minimum Level I noise control compliant.
 - (3) **No door mounted operating mechanisms allowed for breaker operation in control panel.** All conductor terminations shall be as recommended by the device manufacturer.
- (f) **Circuit Breakers.**
- (1) All circuit breakers shall be heavy-duty thermal magnetic or motor circuit protectors similar and equal to Square D type FAL. Each motor breaker shall be adequately sized to meet the pump motor operating characteristics and shall have a minimum of ten-thousand (10,000) amps interrupting capacity for two-hundred-thirty voltage in alternating current (230 VAC) and fourteen-thousand (14,000) amps at four-hundred eighty voltage in alternating current (480 VAC). The control circuit and the duplex receptacles shall be individually controlled by heavy-duty breakers.
 - (2) Circuit breakers shall be indicating type, providing "ON-OFF-TRIP" positions of the operating handle. When the breaker is tripped automatically, the handle shall assume a middle position indicating "TRIP".
 - (3) Thermal magnetic breakers shall be quick-make and quick-break on both manual and automatic operation and have inverse time characteristics secured through the use of bimetallic tripping elements supplemented by a magnetic trip.
 - (4) Breakers shall be designed so that an overload on one pole automatically trips and opens all legs. Field installed handled ties shall not be acceptable.
- (g) **Motor Starters.**
- (1) Motor starters shall be open frame, across the line, NEMA rated with individual overload protection in each leg. Motor starter contact and coil shall be replaceable from the front of the starter without being removed from its mounted position.

- (2) Overload heaters shall be solid state motor logic type with the following features:
 - i. Three (3) to one (1) adjustment for trip current,
 - ii. Phase loss and unbalance protection,
 - iii. LED power indication,
 - iv. Ambient insensitive and self-powered, and
 - v. Shall have availability of electrical remote reset.
- (3) Overloads shall be sized for the full load amperage draw of the pumps. Definite purpose contactors, fractional size starters and horsepower rated contactors or relays shall not be acceptable.
- (h) **Transformers.** Control transformers shall provide the one-hundred (120) VAC and/or twenty-four (24) VAC for control circuits. Transformers shall be fused on the primary and secondary circuits. The secondary shall be grounded.
- (i) **Lighting Transient Protection.** A lightning-transient protector with tell-tale warning lights on each phase to indicate loss of protection on the individual phases shall be provided. The device shall be solid state with a response time of less than five (5) nanoseconds withstanding surge capacity of six-thousand- five-hundred amperes (6,500 amps). Unit shall be instant recovery, long life and have no holdover currents.
- (j) **Phase Monitor.** A line voltage rated, adjustable phase monitor shall be installed to sense low voltage, loss of power, reversed phasing and loss of a phase. Control circuit shall de-energize upon sensing any of the faults and shall automatically restore service upon return to normal power.
- (k) **Alarm System.**
 - (1) The alarm light shall be a weatherproof, shatterproof, red-light fixture with five-hundred (500) lumens minimum to indicate alarm conditions. The alarm light shall be turned on by the alarm level.
 - (2) The alarm light shall be mounted on the exterior of the cabinet. The alarm horn shall provide an audio signal of not less than ninety-decibels (90 DB) at ten-feet (10'). An **alarm silence switch** shall be **mounted on the exterior of the cabinet** and deactivate the alarm horn; however, the alarm light shall flash until the alarm condition ceases to exist. An Input shall be provided to PLC to indicate High Wet Well Condition.
- (l) **Twenty-four VAC Regulator System.**
 - (1) Supervisory Control and Data Analysis (SCADA). Equipment for SCADA shall consist of a PLC, Radio, Antenna, etc. to operate the system. Control cabinet components shall be installed when the panel is built. Engineer shall contact the Public Works Department at 972-771-7730 for current requirements for SCADA system and contact for City's current SCADA supplier. The control system shall provide for both automatic and manual control and alternation of the pumps to maintain a pumped down condition of the wet well.
 - (2) Wet well levels shall be sensed by a pressure transducer. Float regulators shall be installed as back-up for HIGH and LOW levels only. The transducer shall sense the "OFF", "LEAD", "LAG", and "HIGH" levels as given on the plans. As the level in the wet well raises the lead pump, as determined by the alternator, shall start and pump the station to the "OFF" position. In the event the incoming flow exceeds the capacity of the lead pump, the lag pump shall start and both pumps shall run to the off

level. If the wet well level continues to rise, high well alarm functions shall be activated. The alternator shall switch when the off level is reached.

(3) All inputs and outputs shall be wired to a terminal strip at bottom of cabinet.

(m) **Ancillary Equipment.**

- (1) Hand-Off-Auto (HOA) Switches. A three (3) position HOA switch shall be provided on the inner dead front for each pump. **Inputs shall be provided to PLC to indicate position of HOA.**
- (2) Run Indicators. A run pilot indicator shall be provided on the inner dead front. All indicator lights shall be push-to-test. Inputs shall be provided to PLC to indicate pump running.
- (3) Elapsed Time. Elapse time meter shall be mounted on the dead front door.
- (4) Cabinet Temperature Control. The cabinet shall be equipped with a panel heater controlled by a thermostat and a vent fan controlled by a thermostat.
- (5) Receptacles. One (1) duplex receptacle located on inner dead front door for general purpose use. This receptacle shall be of the ground fault type, one-hundred-twenty volts (120 V) and protected by a twenty (20)-amp breaker. A second single receptacle shall be located on the back panel to provide power for uninterruptible power supply (UPS) back up system. This receptacle shall be one-hundred-twenty volts (120 V) and protected by a separate twenty (20) amp breaker.
- (6) UPS Back Up System. Will provide one-hundred-twenty-volts (120 V) power to SCADA communication equipment and all low voltage power transformers. This must be installed in the control panel. UPS shall be Advanced Process Control (APC) six-hundred-fifty volt-ampere (650VA) one-hundred-twenty-volts (120 V) or equivalent. **The System must be able to transmit all alarms and wet well levels when on backup power.**
- (7) Motor Protection. A control and status module shall sense either motor over temperature or seal leakage, and shall turn off the pump, lock out the pump, and send an alarm. Inputs shall be provided to PLC to indicate Pump Fail, Seal Fail and Temp Fail individually for each pump.

(n) **Miscellaneous.**

- (1) Panel Racks. Posts supporting racks shall be **three-inch (3") minimum rigid conduit capped and bolted directly to channel framework supporting the panels.** Panels shall have a "rain shield" structure using one-quarter-inch ($\frac{1}{4}$ ") minimum aluminum plating providing a solid back plate behind panels continuous to overhead plate to protect panel from rain. Provide lighting mounted on structure with switch mounted on exterior of panel to light up panel area. Contact City of Kaufman at **972-771-7730 or 972-962-8007** for location of existing type structure. Each pump must have its own conduit for power cord and a separate conduit for all float wires.
- (2) Drawings. Control panel schematic drawings shall be submitted for approval with the Construction Plan submittal. Final control panel wire schematic drawings including a list of all legends (two [2] sets total) shall be provided. One (1) set shall be encapsulated in Mylar and attached to the inside of the front door of the control cabinet. A second set shall be delivered to the City of Kaufman Public Works Department.
- (3) Panel Markings. All component parts in the control panel shall be permanently marked and identified as they are indicated on the drawing. Marking shall be on the back plate adjacent to the component. All control conductors shall be identified with wire markers as close as practical to each end of conductors.

- (4) Panel Wiring. All wiring in panel shall maintain a minimum of one-and-a-half-inch (1½") spacing between components and wire ways.
- (5) Testing. All panels shall be tested to the power requirements as shown on the plans to assure proper operation of all the components. Each control function shall be activated to check for proper operation and indication.
- (6) Guarantee. All equipment shall be guaranteed for a period of three (3) years from date of acceptance. The guarantee is effective against all defects in workmanship and/or defective components. The warranty is limited to replacement or repair of the defective equipment.

ARTICLE 02.031.060

SEC.02.031.061 GRADING.

- (a) All backfill or grading material shall be placed in layers not to exceed eight-inches (8") loose thickness. The moisture content shall be uniform and near the optimum moisture content for the material. In cases where the materials being placed do not have the proper moisture, the material shall be dried out or additional moisture shall be added by satisfactory methods such that the additional water is distributed uniformly throughout the material being placed. The layers of the backfill shall be reduced in thickness when satisfactory compaction cannot be obtained with the equipment being used. In all cases, a density of not less than ninety-five-percent (95%) of the standard proctor density must be obtained.
- (b) The contractor shall arrange for the necessary laboratory testing, at their expense, to determine the density of the material. All density reports shall be provided to the City of Kaufman. All franchise utility companies (phone, gas, electrical, cable, internet, and any utility that isn't supplied by the City) working within the rights-of-way of streets or alleys shall also comply with the above noted specifications with laboratory testing results provided to the City of Kaufman. Easement locations under pavement shall also have a minimum density control backfill to ninety-five-percent (95%) of the standard proctor density. All densities are to be within the acceptable moisture range of negative-two-percent to positive-four-percent (-2 % to +4%) of optimum moisture unless otherwise approved by the City Engineer and/or the Director of Public Works.
- (c) A sheep's-foot roller shall be utilized for compaction of all fill material. Mechanical tamping is allowed for trench backfill. The sheep's-foot roller is to be on-site and active whenever fill material is being placed.
- (d) It shall be the responsibility of the Developer to adjust all City and franchise utilities to the final grades of the development. Depending on changes in grade over existing utilities, utility relocation may be required.
- (e) All slopes should be a maximum of ratio of four to one (4:1) and a minimum of one-percent (1%) percent. In locations where a ratio of four to one (4:1) slope is not possible, retaining walls, gabion baskets, concrete slope protection, or other approved retaining methods may be required. Retaining methods must be approved by the City Engineer and/or the Director of Public Works.
- (f) At the beginning of the project the Developer will provide offset stakes at intervals of fifty-feet (50'). The stakes will be offset from the back of the outside curb, a convenient distance to permit all operations to be completed without disturbing these stakes. Information that shall be included on the stakes includes the station number, offset distance from back of curb, and elevations of hub. It will be the contractor's responsibility to maintain these stakes, and use the information for all other horizontal and vertical control required. The contractor will set all forms using the data shown on the approved plans.

SEC.02.031.062 GRADING, FILL EXCAVATION, AND EARTHWORK PERMIT.

- (a) A grading, fill, excavation, and earthwork permit shall be obtained from the Development Services Department prior to stockpiling or filling property within the City limits.
 - (1) No filling in drainage swales, creeks, wetlands, flood plains, etc. is allowed without a flood study approval.
 - (2) Erosion protection shall be installed around stockpiled or stored material until grass is established. If fill is placed for use other than stockpiling or storage, a grading plan shall be prepared by a

Professional Engineer and submitted with the grading, fill, excavation, and earthwork permit. Temporary stockpiles have a maximum time limit of six (6) months.

- (3) Densities shall be taken, and proper compaction techniques used when placing the fill. In all cases, a Professional Engineer shall certify that the proposed fill location is not within a stream, creek (flowing or not), or floodplain. If the City Engineer and/or Director of Public Works determines the fill is to be placed near a creek or stream or possible drainage way, the one-hundred-year (100-yr) floodplain shall be staked by a registered surveyor.
- (b) An early fill, excavation and earthwork permit shall not be issued to any development or re-development projects that are actively being reviewed by the Public Works Department. Grading for the parcels/development will only be released with final Construction Plan release by the Public Works Department.
- (c) Residential (including infill) lots shall submit a grading plan with the building permit. This is to ensure drainage and structure elevations will meet City requirements.
- (d) The City of Kaufman requires that the design engineer provide a letter of concurrence. The letter is to verify that the drainage patterns, grade to drains locations, detention systems including outfall structures, detention pond volume, pad elevations, and drainage structures located within the project scope were installed to the general elevations as shown on the approved plans. The letter shall also verify that the project was constructed to meet the approved design requirements or is within acceptable design tolerances (maximum two-tenths-of-a-foot (0.2') for residential pad elevations). The design engineer or their designated representative shall direct all survey work necessary to verify elevations and design compliance. The letter of concurrence is to have the seal and signature of the design engineer.

SEC. 02.031.063 PRIVATE UTILITY CONSTRUCTION.

- (a) Trench Backfill in City Right-of-Way.
 - (1) No concrete streets shall be open cut by utility companies without City approval. Utilities crossing concrete streets shall be tunneled or bored (dry only). If open cut is approved by City, full panel replacement will be required to nearest joints. Additional pavement removal and replacement may be required for connection.
 - (2) Asphalt streets may be open cut. Backfill above utilities shall be concrete stabilized sand or cement. The asphalt pavement shall be repaired per City detail.
 - (3) All trench backfill is to be compacted to ninety-five-percent (95%) Standard Proctor Density within City rights-of-way. The compaction may be obtained by mechanical tamping, rolling, etc. No water jetting is allowed.
 - i. In the parkway, the backfill material may be from the excavated trench, except no rocks larger than two-inches (2") shall be used. Material from rock or shale excavation cannot be used.
 - ii. The contractor for the utility company or the utility company shall furnish density reports from a material testing company verifying the densities. Densities shall be taken at each twelve-inches (12") lift at a maximum spacing of one-hundred-fifty-feet (150').
 - iii. The moisture content shall be uniform and near the optimum moisture content for the material. In cases, where the materials being placed do not have the proper moisture, the material shall be dried out or additional moisture shall be added by satisfactory methods

such that the additional water is distributed uniformly throughout the material being placed.

- (b) Parkway Cleanup. The contractor for the utility company or utility company shall remove any rocks or excess trench material from the parkway and replace any disturbed areas with grass sod.

SEC. 02.031.064 ADDITIONAL PERMITS OR APPROVALS.

- (a) Developer or developer's representative is responsible for obtaining any other approvals or permits needed for their development, for example: TCEQ, TXDOT, Kaufman County, FEMA, USACOE etc. prior to start of construction. Copies of the permits/approvals shall be furnished to the City.

SEC. 02.031.065 RETAINING WALLS.

- (a) Retaining walls or concrete slope protection shall be installed where lot slope is greater than a ratio of four to one (4:1).
- (b) No railroad tie, wood, or steel retaining walls shall be constructed in public or private property.
- (c) No retaining walls, including the footings, shall be placed in the right-of-way, easements, detention ponds or overlapping property lines. Retaining walls shall be entirely on the lot with the higher elevation.
- (d) All retaining walls (18-inches and taller) shall be stone, masonry or reinforced concrete with a stone face or form liner. No smooth concrete retaining walls to be installed.
- (e) Retaining walls three-feet (3') and taller shall be designed (signed and sealed) and inspected by a professional licensed engineer in the State of Texas. Property lines and rights-of-way shall be noted on the wall plans.

(1) The City requires a verification letter (signed/sealed) from the design engineer stating that the retaining walls installed with the site/subdivision were inspected by the engineer or their designated representative and that the walls were installed to the engineered design and general construction standards. The verification letter shall be delivered to the Public Works Department prior to the project acceptance by the City.

- (f) Retaining walls over thirty-inches (30") in height that have sidewalk, trail, or other walking surface on the top side of the wall will require railing.
- (g) Traffic rated guard rail or barrier will be required when roadway, parking lot, drive isle or alley is within ten-feet (10') of a retaining wall that is over thirty-inches (30") in height. Details of the railing or barrier shall be provided in the Construction Plans.
- (h) The design of retaining walls (not screening walls) in close proximity to trash enclosures shall take into account the weight of a fully loaded dumpster, fully loaded trash truck, and the force exerted when the dumpster is placed back on the ground in the enclosure.
- (i) Gabion retaining walls may be used only with the City Engineer's and/or the Director of Public Works' approval for walls less than three-feet (3') along drainage ways.
- (j) All retaining walls shall be placed according to offset hubs set by certified professional surveyors noting grade cuts, wall elevations, and stop points for each wall end. Wall locations and elevations shall match those shown on the approved site grading plans.
- (k) All retaining wall plans shall indicate property lines, swales, and rights-of-way. If the retaining wall is designed to be the high point of the lot/area, the wall shall have a stone cap that is installed a minimum of six (6) inch above the final adjacent grade.

SEC. 02.031.065 MAINTENANCE BONDS.

- (a) The City requires one-hundred-percent (100%) two (2) year maintenance bond for paving, paving improvements, water systems, wastewater systems, storm sewer systems including detention systems, and associated fixtures and structures which are located within the rights-of-way or defined easements. The two (2) year maintenance bond is to state “from date of City acceptance” as the starting time.
- (b) A review of the site shall be conducted at twenty (20) months into the two (2) year maintenance period. The design engineer or their designated representative shall be present to walk the site with the City of Kaufman Public Works Inspection personnel..

SEC. 02.031.066 CONSTRUCTION.

- (a) Preliminary Site Preparation: The noted site preparation items below are to be in place, inspected and approved by the City, prior to the start of any clearing, grubbing or grading operations.
 - (1) All tree preservation in the limits and in the ETJ shall be in accordance with the Kaufman Subdivision Regulations Section 02.03.065 Tree Preservation in the ETJ and Section 02.03.072 Tree Preservation.
 - (2) No Clear-Cutting of land is allowed without a permit issued from the Department of Development Services.
 - (3) Protected trees which are designated to remain on site are to be identified, tagged, and banded with bright orange or red bands.
 - (4) Protected trees which are designated to be removed from the site are to be identified, tagged and banded with blue bands or blue paint markings.
 - (5) Tree identification tags are to consist of metal tags which have the tree identification number stenciled or stamped or engraved on the tag. The numbers used to identify the protected trees shall correspond to the tree identification number noted on the approved Tree Preservation Plans.
 - (6) Types of Protected Tree Barrier Fencing.
 - i. Chain link barrier fencing shall be placed around the drip lines of the individual protected trees or groups of protected trees, which are designated to remain at the site.
 - ii. Plastic mesh barrier fencing shall be placed around the drip lines of individual protected trees or groups of protected trees.
 - (7) Silt fence along with construction entrance and any other designated erosion BMP’s must be installed and inspected by the Kaufman Public Works Department. No silt fencing may be installed at the site until the trees have been identified, banded, tagged, fenced, and inspected by the City. Silt fence should not be installed within a floodplain.
 - (8) Portable toilet facilities will be required on all construction sites or as otherwise deemed necessary by the City of Kaufman. It is essential that adequate on-site restroom facilities be available for all construction workers. It will be the responsibility of the contractor to install and maintain the facilities through the completion of the project. These facilities must be on site and verified prior to moving personnel on site and before construction can begin.
 - (9) Portable trash receptacle is to remain on the job site through the course of construction. The site is to remain free of construction litter and debris. Construction workers shall place all lunch trash in

the “trash containers” immediately after lunch. Trash receptacle must be on site and verified prior to moving personnel on site and before construction can begin.

(10) If a detention pond system is required per the plans, the detention pond must be installed with outfall structure and soil stabilization before pavement/cement, slab, or any non-impervious area may be placed.

(11) Construction Site Working Hours and Noise Control Signage. Construction and construction related activities including the erection, excavation, demolition, alteration, or repair work on any development ~~building~~ at any time other than between the hours of 6:00 a.m. and 8:30 p.m., Monday through Friday, from June 1 to September 30; between 7:00 a.m. and 8:30 p.m., Monday through Friday, from October 1 to May 31; between 8:00 a.m. and 8:30 p.m. on Saturday; and between 1:00 p.m. and 8:30 p.m. on Sunday; provided, however, the city manager may issue special permits for such work at other hours in case of urgent necessity and in the interest of public safety and convenience ~~are limited to the hours of 7:00 AM to 7:00 PM Monday through Friday and 8:00 AM to 7:00 PM on Saturday. No Sunday construction allowed.~~ The City of Kaufman requires that a three-foot (3') wide x two-foot (2') tall sign as shown in **Figure 6.1. Construction Site/Noise Ordinance Sign Example** be posted at each Commercial/Residential development construction site. The sign must be installed at the site and verified prior to moving personnel on site and before construction can begin. The construction related activities are to include but not be limited to the following:

- i. Maintenance, servicing and fueling of construction equipment.
- ii. The delivery of construction-related materials and/or construction equipment.

(12) At locations where compliance to Ordinance 02-99 is not being observed, the City of Kaufman may issue written orders to stop work or further regulate the site construction work hours. The City may also issue citations if it is determined that a violation of the construction ordinance exists.

Figure 6.1. Construction Site/Noise Ordinance Sign Example

(Sign Size: three-feet (3') wide x two-feet (2') tall)

<p>Ordinance # 02-99 Construction Site Working Hours and Noise Control</p> <p>City Ordinance – No. 02-99 limits construction and construction related activities to the hours of 6:00 a.m. – 8:30 p.m. Monday through Friday from June 1 to September 30, between 7:00 a.m. and 8:30 p.m. Monday through Friday, form October 1 to May 31, between 8:00 a.m. and 8:30 p.m. on Saturday, and between 1:00 p.m. and 8:30 p.m. on Sunday.</p> <p>ORDENANZA #02-99 HORAS DE TRABAJO EN EL SITIO DE CONSTRUCCION Y EL CONTROL DE RUIDO</p> <p>La Ordenanza de la Ciudad No. 02-99 limita la construcción y las actividades relacionadas con la construcción a las horas de 7:00 AM – 7:00 PM de Lunes a Viernes, y de 8:00 AM – 7:00 PM los Sábados. <u>(NO SE PERMITIRÁ CONSTRUCCIÓN LOS DOMINGO)</u>.</p>

(b) Inspection Scheduling.

- (1) It is the responsibility of the contractor to schedule inspections prior to construction. Inspections may be scheduled and coordinated in the field or by cell phone directly with the Public Works Construction Inspector. Inspection of construction and verification of compliance to plans and specifications shall be conducted by the City of Kaufman Construction Inspector. The general contractor shall notify all of his construction contractors of this requirement. Items to be inspected must be sufficiently ready for inspection at the time of your requested inspection appointment as inspector's time is limited. Failure to be ready for inspections may result in inspection rescheduled to the following day. No development will be accepted by the City of Kaufman until all construction has been approved by the City of Kaufman inspectors.
 - (2) Saturday Inspections. The contractor will be charged a minimum of two (2) hours inspection charge for all Saturday inspections. All Saturday inspections must be scheduled in writing to the Public Works Department by noon on the Thursday before the inspection date. A signed Saturday Engineering Inspection Request form must be emailed to the Public Works Director and Construction Inspector. Approval/disapproval will be emailed back to the requesting contractor with the Saturday inspector's information. All cancellations must be given verbally and in writing to the Saturday inspector no later than 8:00 AM on day of inspection. Two (2) hours of overtime inspection will be charged to the contractor if no cancellation is given prior to the inspector arriving at the project site. Contractor must sign form to finalize the inspection. No acceptance and/or certification of occupancy will be given until all overtime engineering inspection fees are paid in full. If any City holiday occurs on a Friday, there will be no inspections or inspectable construction on the Saturday after this holiday . If any City holiday occurs on a Monday, there will be no inspections or inspectable construction on the Saturday prior to this holiday.
 - (3) Before/After Weekday Hours Inspections. Contractor will be charged on 15-minute intervals for any before/after hour's inspections. Contractor must sign form to finalize the inspection. No acceptance and/or certification of occupancy will be given until all overtime engineering inspection fees are paid in full.
- (c) Vertical Above Slab Construction Permit. No vertical (above slab) construction will be allowed until such time as the following minimum site requirements have been addressed at the site, verified by a City Representative, and a vertical above slab construction permit has been issued. Minimum requirements for vertical construction are subject to but not necessarily limited to the below noted items.
- (1) Fire lane pavement is installed, tested, and approved for use.
 - (2) Fire lane pavement is painted and marked to Fire Department specifications.
 - (3) Water lines for the site are installed, tested, and approved for use.
 - (4) All fire hydrants are installed and approved for use.
 - (5) Fire hydrant nozzles and bonnets are painted as per line size color code.
 - (6) Reflective fire hydrant locator buttons are in place at hydrant pavement locations.
 - (7) Fire hydrants are flow tested to verify flow at designated hydrant locations.
 - (8) Fire hydrant nozzle diameters, proper height above final grade, and clearance are verified and approved.
 - (9) Silt fence is placed above the fire lane if it is deemed necessary at positive flow areas.
 - (10) Exterior building materials are approved by the Planning and Zoning Department.

- (d) Disposal of Excess Materials. The contractor shall properly dispose of all excess material by removing from the job site all the brush, trash, debris, etc. upon completion of construction. All material shall be properly disposed outside of the City limits. No dumping of dirt/fill material inside the City of Kaufman without a permit
- (e) Construction Site Safety.
 - (1) Construction site safety measures are to be in place at all construction projects located within the City of Kaufman. All necessary measures required to ensure that safe work zones exist for the protection of construction workers and general public living in or near such construction zones. Construction zones shall comply with work zone traffic control specifications and requirements.
 - (2) Occupational Health and Safety Administration requirements and regulations must be in compliance.
 - (3) Temporary construction fencing is to be placed around open trenches, pits, or other locations deemed necessary by the City of Kaufman. Any miscellaneous items that may pose direct or potential hazard to workers or the general public that is known by the contractor or brought to the attention of the contractor shall be addressed immediately.
 - (4) It is the responsibility of the contractor(s) to establish and maintain construction site safety measures; however, the City of Kaufman will temporarily suspend work at a construction site if it is deemed necessary due to unsafe or hazardous conditions until such conditions have been corrected.
 - (5) In each circumstance where it is deemed that proper safety measures are not being followed, a warning will be issued by the Construction Inspector. Construction may be temporarily suspended if deemed necessary until items responsible for issuance of the safety warning have been properly addressed. Issuance of three (3) or more safety warnings will require that the designated construction be suspended until such time that a safety meeting is scheduled with contractor personnel along with City of Kaufman representatives to discuss the appropriate measures to correct the identified problems and determine any further possible actions which may be necessary.



ARTICLE 02.031.0