SECTION 5 - DESIGN CRITERIA

5.1 General Public Street Arrangement and Layout

A. The public street system pattern proposed within any subdivision or development shall be based upon the following design concepts:
Roadway sections streets shall be designed by the development project engineer following the guidelines of the following publications and the standard given in these regulations. In case of conflicts within these requirement the most stringent requirement shall control.

1. RECOMMENDED GUIDELINES FOR SUBDIVISION STREETS, Institute of Transportation Engineers, Latest Edition.
2. GUIDELINES FOR URBAN MAJOR STREETS DESIGN, Institute of Transportation Engineers, Latest Edition.
3. A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AASHTO, Latest Edition.
4. TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD), Texas Department of Transportation, Latest Edition.
5. TRIP GENERATION MANUAL, Institute of Transportation Engineers, Latest Edition.
6. DESIGN STANDARDS AND DETAILS, Fort Bend County Engineering Department, Latest Edition.
7. GEOMETRIC DESIGN STANDARDS, Harris County and City of Houston as modified by Fort Bend County, Engineering Department, Latest Edition.
8. THOROUGHFARE DEVELOPMENT PLAN, Fort County, Texas, Latest Edition.

B. Adequate vehicular access to all properties within the subdivision plat boundaries shall be provided. All subdivisions should have more than one point of access. A boulevard entrance or emergency entrance is desirable. Adequate access for fireman, police and other emergency services shall be provided.

C. Adequate street connections to adjacent properties shall be provided to assure adequate traffic circulation within the general area.

D. A local street system serving residential properties should discourage through traffic, without the need of multiway stop signs, while maintaining sufficient access and traffic movement for convenient circulation within the residential area and access for fireman, police and other emergency services.

E. A sufficient number of continuous streets and major thoroughfares to accommodate the increased traffic demands generated by the subdivision shall be provided.

F. Where the proposed subdivision is located adjacent to a State maintained road, additional right-of-way may be required to accommodate the ultimate road development.

G. Block lengths shall be measured along the face of a block (being the adjacent street right-of-way line) from the centerline of street to the centerline of another street where such streets provide cross traffic circulation (not cul-de-sac streets).

1. Where loop street configuration is involved, the length of the interior block formed by the loop street is measured along the centerline of the

loop street between adjacent street centerlines.

2. Block lengths for streets terminated by a cul-de-sac is measured from the centerline radius point to the centerline of the intersecting street.

5.2 Major Thoroughfares

A. Location and Alignment

1. The location and alignment of designated major thoroughfares shall be in conformance with the latest edition of the Major Thoroughfare Plan of Fort Bend County.
2. Any proposals which constitute a change in the location or the alignment of any planned or designated major thoroughfare must be approved by Commissioners' Court.

B. Right-of-Way

1. The minimum width of the right-of-way to be dedicated for any designated major thoroughfare shall not be less than 100 feet, nor more than 120 feet.
2. Where the subdivision is located adjacent to an existing designated major thoroughfare having a right-of-way width of less than 100 feet, sufficient additional right-of-way must be dedicated, within the subdivision boundaries, to provide for the development of the major thoroughfare to a total right-of-way width of not less than 100 feet, nor more than 120 feet.
3. Where open ditch drainage is planned, the minimum right-of-way width required for a designated major thoroughfare shall be not less than of 100 feet or sufficient width to accommodate the approved roadway pavement and attendant drainage facilities, whichever is greater.
4. Right-of-way intersections with other public street right-of-ways should be at right angles. Deviations of up to ten (10) degrees may be approved by the County Engineer.
5. The right-of-way line at intersections shall have a minimum radius of 30 feet.
6. A right-of-way corner cutback of 25 feet may be substituted for the 30 foot radius.

C. Roadway Curves and Intersections

1. Major thoroughfare horizontal curves shall have a centerline radius of 2,000 feet or more.
2. Reverse horizontal curves shall be separated by tangent distance of not less than 100 feet.
3. Intersections with other public streets should be at right angles. Deviations of up to ten (10) degrees may be approved by the County Engineer.
4. Curb or pavement return radius of 30 feet shall be provided.
5. Layout of medians including openings shall comply with the guidelines of GEOMETRIC DESIGN GUIDELINES FOR SUBDIVISION STREET, Harris County, City of Houston, Latest Edition (as modified by Fort Bend County).

D. Minimum Concrete Pavement shall be eight (8) inches.

5.3 Major Collector Streets

MAJOR COLLECTOR STREET: A public street that consist of two or more lanes, divided or undivided roadway that is used as a collector for residential streets and originates and terminates outside of the subdivision boundaries.

A. Location and alignment
   1. The extension of existing roads and streets shall be aligned with the existing roads and streets without offsets.

B. Right-of-Way
   1. The minimum right-of-way to be dedicated for a major collector street not designated as a major thoroughfare shall not be less than 70 feet or of sufficient width to accommodate the design roadway and associated drainage facilities, if an open ditch section is proposed, whichever is greater.
   2. Where a subdivision is located adjacent to an existing public street, and the street is not designated as a major thoroughfare, and has a right-of-way width less than 70 feet, sufficient additional right-of-way must be dedicated, within the subdivision boundary, to provide for the development of the adjacent street to a total right-of-way width of not less than 70 feet.
   3. The right-of-way width shall not be less than the width existing outside of the plat boundary.
   4. Proposed horizontal curves for the right-of-way line of major collector streets shall have a minimum centerline radius of 850 feet.
   5. The right-of-way line at intersections shall have a minimum radius of 30 feet.
   6. A right-of-way corner cutback of 25 feet may be used as a substitute for the 30 foot radius.

C. Roadway Curves and Intersection
   1. The maximum horizontal curve radius shall not be less than 850 feet, measured at the centerline of the roadway.
   2. The curb or pavement return radius shall not be less than 30 feet.

D. Minimum Concrete Pavement shall be seven (7) inches.

5.4 Minor Collector Streets

MINOR COLLECTOR STREET: A public street that consist of two or more lanes, undivided or divided roadway that is used as a collector for residential streets and originates within and terminates outside of the subdivision boundaries.

A. Location and Alignment
   1. The alignment of minor collector streets proposed to be dedicated and established within a subdivision shall be aligned with existing roadway without offsets.
   2. The block length of minor collector streets shall not exceed 1400 feet.

B. Right-of-Way Width
   1. The width of the right-of-way to be dedicated for any minor collector

street not designated as a major thoroughfare shall not be less than 60 feet, or of sufficient width for the roadway section and the associated drainage, if an open ditch section is proposed whichever is greater.

2. Intersecting right-of-way lines shall have a minimum radius of 30 feet.
3. A right-of-way corner cutback of 25 feet may be substituted for the 30 foot radius.
4. The radii of the right-of-way line at the end of curb and gutter streets terminated with circular cul-de-sac turnarounds shall be a minimum of 50 feet.
5. The radii of the right-of-way line at the end of open drainage (ditch sections) local streets terminated with circular cul-de-sac shall be not less than 60 feet.

C. Curves and Intersections
1. Horizontal curves in minor collector streets shall have a minimum centerline radius of 850 feet.
2. Intersections of local streets shall be at right angles. Deviations of up to ten (10) degrees may be approved by the County Engineer.
3. Curb or pavement returns shall have a minimum radius of 30 feet 5.5 Residential Streets.

D. Minimum Concrete Pavement shall be seven (7) inches.

5.5 Residential Streets

RESIDENTIAL STREET: A public street that consists of a two lane undivided roadway primarily used by local single family residents and originates and terminates within the subdivision boundaries.

A. Location and Alignment
1. The alignment of minor collector streets proposed to be dedicated and established within a subdivision shall be aligned with existing roadway without offsets.
2. The block length of a residential street shall not exceed 1400 feet.

B. Right-of-Way Width
1. The width of the right-of-way to be dedicated for any residential street shall not be less than 60 feet, except as provided in paragraph *5.5.B.2*, or of sufficient width for the roadway section and the associated drainage, if an open ditch section is proposed.
2. A fifty (50) foot street right-of-way width may be allowed where the following requirements are met:
   a. The street shall be paved with a 28 foot wide back to curb and gutter section.
   b. The street shall serve detached single family homes only.
   c. The right-of-way shall be used for street paving, storm sewer and water lines only. Any additional utilities will require a separate utility easement or wider street right-of-way.
3. Intersecting right-of-way lines shall have a minimum radius of 25 feet.
4. A right-of-way corner cutback of 15 feet may be substituted for the 25 foot radius.

5. The radii of the right-of-way line at the end of curb and gutter streets terminated with circular cul-de-sac turnarounds shall be a minimum of 50 feet.
6. The radii of the right-of-way line at the end of open drainage (ditch sections) local streets terminated with circular cul-de-sac shall be 60 feet.

C. Curves and Intersections
1. Horizontal curves in residential streets may have any centerline radius, except that the centerline radii on reverse curves shall not be less than 300 feet.
2. Intersections of residential streets shall be at right angles. Deviation of up to ten (10) degrees may be approved by the County Engineer.
3. A curb or pavement return radius of at least 25 feet shall be provided.

D. Minimum Concrete Pavement shall be six (6) inches.

5.6 Other Streets Requirements

A. Dead-end Streets
1. Dead-end streets are not acceptable unless the street is terminated by a circular cul-de-sac turnaround.
2. A dead end street with a permanent circular cul-de-sac turnaround shall not exceed 800 feet.

B. Stub streets
1. Stub streets shall be terminated with a temporary cul-de-sac until the street is extended into the adjacent development or properties.
2. Stub streets shall not exceed 800 feet.

C. Loop Streets
1. A loop street shall have a block length of less than 1,000 feet.

D. A residential street shall not be longer than 1,400 feet.

5.7 Construction Standards and Details

A. Refer to Fort Bend County DESIGN STANDARDS AND DETAILS for design criteria, construction standards and details.

5.8 Sidewalks

A. Sidewalks shall be built or caused to be built through restrictive covenants between **Developer, Homebuilder, Homeowners Associations** within all road right-of-ways dedicated to the public.

B. Subdivisions with all lots being one (1) acre or larger in size shall be exempt from this requirement.

C. All sidewalks shall be constructed in accordance with the Fort Bend County DESIGN STANDARDS AND DETAILS.

5.9 Private Streets

A. A subdivision utilizing private streets, must meet the following requirements:
1. The roads must meet all county road standards.
2. The subdivision plat and restrictions must contain a statement that Fort

Bend County will not accept or maintain the roads unless they meet the county standards in effect on the date of acceptance;

3. The subdivision plat must contain a statement that the roads will be maintained in perpetuity by the owners in the subdivision, and must contain a mechanism for assessing the owners to produce adequate revenue for perpetual maintenance;
4. The plat must contain a requirement that every deed contain notice to the grantee that all streets are private, that the owners will be perpetually liable for maintenance, that the county may not accept it for maintenance, and that the quality of the roads may affect access by public services such as police, fire, and EMS;
5. All arterial and major collector streets required by *(Section 5, 5.3.)* must be dedicated to the public and constructed to county standards. Other streets will be dedicated to the Homeowners Association for the use of the property owners, their assigns and successors, and emergency response individuals.
6. A sign will be placed at the entrance of the subdivision clearly stating that the roads in this subdivision are private roads.
7. A Homeowners Association with assessment authority will be formed. Membership in the association will be mandatory for each lot owner. The association will be responsible for the maintenance of the roads in the subdivision.
8. Any owner that gates the entrances to the subdivision shall provide either a crash gate or a lock box and a letter of approval from all of the affected emergency response agencies stating their approval of full time access to the subdivision.

5.10 Street Names

A. All public streets shall be names in conformance with the following:

1. The street names shall be new names and shall not be duplicates of any existing street names located within Fort Bend County. This does not pertain to extensions of existing streets.
2. Existing street names shall be used where a new street is a continuous extension of any existing street.
3. Street name prefixes such as North, South, East and West may be used to clarify the general location of the street however such prefixes shall be consistent with the existing and established street naming and address numbering system of the general area in which the street is located.
4. Alphabetical and numerical street names shall not be used except where such street is a direct extension of an existing street with such a name.
5. Apostrophe or other character symbols shall not be used in street names.

5.11 Easements

A. Public Utility Easements

1. Public utility easements are those easements established within a subdivision which are designated to accommodate publicly owned or

controlled utility facilities. Public utility easements may be used for but not be limited to facilities necessary to provide water, electrical power, natural gas, telephone, cable television, telegraph, storm sewer and sanitary sewer services.

2. Public utility easements shall be provided along the rear of all lots designed for the development of residential dwelling units and in such other locations as determined to be necessary by the County Engineer and the individual utility companies involved. Public utility easements located along the outer boundaries of a plat shall contain the full width required for such easement except in those instances where the adjacent property is under the same ownership as the property being platted or where additional easement width is dedicated by separate instrument by the owner of said adjacent tract. In such case, one-half of the required easement width shall be dedicated within the plat boundary with the other half provided outside the plat boundary by separate instrument or through notation on the plat certifying the ownership and dedication of said easement.
3. Public utility easement widths, dead-ends
   a. All back lot public utility easements established within a subdivision plat shall not be less than 16 feet in width.
   b. All side lots and front lot utility easements, established within any subdivision plat shall not be less than 10 feet in width.
   c. Dead-end public utility easements will not be allowed within the subdivision.
4. Public utilities within the easement shall be located as outlined in the "Typical Utility Location In 10-Foot Wide and 16-Foot Wide Easement Back-to-Back Lots and Perimeter Lots" drawing prepared by the Utility Coordinating Committee for Metropolitan Area.

B. Drainage Easements
1. All drainage easements shall be located, sized and dedicated to accommodate the runoff from a 100 year storm for the fully developed watershed upstream of the property. All Drainage Easements shall be used for drainage purposes only.
2. Lots shall not encroach on any drainage easements that contain drainage facilities sized to accommodate the runoff from a 100-year event.
3. Access to all drainage easements shall be provided at all road crossings. Additional access easements may be required.
4. Parties responsible for maintaining the drainage easements shall be noted on the plat.

C. Special Use Easements
1. The establishment of special use utility easements may be provided on a subdivision plat when such easement is for the purpose of accommodating a utility facility owned, operated and maintained by a unit of government and is restricted to either water mains, sanitary sewers, storm sewers or other drainage facilities and where it has been determined by the County Engineer that these facilities cannot or should not be accommodated within a public utility easement or public street right-of-way. Easements proposed to be established for any private utility company or private

organization providing utility services and restricted for their exclusive use, shall not be shown on or established by a subdivision plat. Such private utility facilities may be accommodated and placed within the public utility easements, public streets and alleys established within the subdivision boundary. Private utility companies or the subdivider may grant and establish special use easements by separate instrument if such arrangements are deemed necessary to properly serve the properties within the subdivision boundaries.

5.12 General Building Setback Restrictions

A. These restrictions are designed and applied to assure that occupied buildings, particularly residential and commercial buildings, where a concentration of people are involved, are located a sufficient distance away from the adjacent street to avoid damage to the structure and occupants by errant vehicles; to lessen or minimize the effect of noise and pollutants generated by traffic on the occupants of adjacent buildings; to insure that the location of buildings do not create any traffic hazards by blocking or restricting lines of sight, particularly at intersections and along curves; to provide some additional open space in addition to the space within the street right-of-way for the free movement of police, firemen and others in emergency situations and when appropriate, sufficient yard space and open space separating building structures which may enhance the aesthetic value of the area or development.

B. Major Thoroughfares
   1. Properties adjacent to designated major thoroughfares shall have a front building setback from the adjacent major thoroughfare right-of-way of not less than 25 feet.
   2. When such lots side on a major thoroughfare, a side building setback of at least 20 feet shall be provided.
   3. In those instances where lots back on a major thoroughfare, a rear building setback of not less than 10 feet shall be provided.

C. Local Streets
   1. Properties adjacent to local streets which are divided into lots restricted for the construction of residential dwellings shall have a building setback from the adjacent street right-of-way of not less than 25 feet.
   2. Where such lots side on a local street, a side building setback of 10 feet shall be provided.
   3. Where such lots back on a local street, a rear building setback of 10 feet shall be provided.
   4. Where the average lot depth in the subdivision is 105 feet or less, the front building setback may be reduced to 20 feet.
   5. A minimum distance of 10 feet shall be provided between sides of residential structures. This may be accomplished with a 5 foot side setback on each side of the common lot line, or with a 10 foot side setback on one side of the common lot line. If the 10 foot on one side setback is used, a 5 foot maintenance and drainage easement shall be provided adjacent to and along the property line within the 10 foot setback and shall be located on the plat.

6. Properties adjacent to local streets which are to be developed for residential apartments with multiple dwelling units under a single ownership or management and where the principal entrances to such units front on the adjacent street, a front building setback restriction of 20 feet shall be provided. If, however, such units side or back on the adjacent street and have no entrances from such street, a side or rear building setback of 10 feet may be provided.
7. All other properties not divided into lots or designed for the development of residential dwelling units which are adjacent to local streets shall have a 10 foot building setback restriction provided along all adjacent streets.
8. When the lots face the circular portion of a cul-de-sac street, a front building setback of 20 feet shall be provided.

D. Off-sets and Transitions
1. When the required building setback restriction line changes from one tract to another, a transitional building setback line shall be provided having a minimum angle of 45 degrees. The transition shall take place on the lot or tract having the lesser building setback restriction requirement.

E. Pipeline and Railroad Right-of-ways
1. Where an underground pipeline carrying flammable products through or adjacent to the subdivision or where a railroad right-of-way runs through or adjacent to the subdivision, a 15 foot building setback restriction shall be provided adjacent to such pipeline easement or fee strip (or the center line of the pipeline facility if no easement is defined) or railroad right-of-way.

5.13 Reserve Tracts

A. All reserve tracts shall be labeled and designated on the plat. Any restrictive covenants applicable to the reserves shall be set forth by separate instrument and referenced on the plat.

B. When any public street is established by plat and where such public street forms either a stub street into adjacent acreage or where such public street lies along and parallel with the subdivision boundary and adjacent to acreage, a one foot wide reserve shall be established within the street right-of-way to form a figure strip, dedicated to the public, between the public street right-of-way and the adjacent unsubdivided acreage to prevent access to this public street from the adjacent unsubdivided acreage unless and until a plat of the adjacent property is duly recorded. The conditions associated with the establishment of a one-foot reserve on a plat are contained in the following notation which shall be placed upon the face of any plat where a one-foot reserve is to be established.
"One-foot Reserve Dedicated to the Public in Fee as a Buffer Separation Between the Side and End of Streets Where Such Streets Abut Adjacent Property. The Condition of Such Dedication Being That When the Adjacent Property Is Subdivided or Re-subdivided in a Recorded Plat, the One-foot Reserve Shall Thereupon Become Vested in the Public for Street Right-of-way Purposes and the Fee Title Thereto Shall Revert to and Revest in the Dedicator, His Heirs, Assigns or Successors."

5.14 Lots - General Provisions

A. General lot design, arrangement and layout

1. The general lot design within any subdivision shall be based upon the concept that such lots are created and established as undivided tracts of land and that purchasers of such lots will be assured that these tracts of land meet the following basic criteria:
   a. The lot shall be of sufficient size and shape to allow the construction of a residential dwelling unit which can meet the requirements of established building or construction codes, housing and public health codes, and ordinances and accepted family living standards.
   b. The lot shall be of sufficient size and shape to accommodate easements for all public and private utility services and facilities that adequately serve the residential dwelling unit constructed thereon.
   c. The lot shall be of sufficient size and shape and shall be so located that direct vehicular access is provided from a public street or through an approved permanent access easement.
   d. Lots or roadways shall not encroach on any drainage easements that containing drainage facilities sized to accommodate the runoff from a 100-year event.

B. Lot Shapes

1. Lots should be designed, so far as possible, with side lot lines being at right angles or radial to any adjacent street right-of-way line.
   a. Key or flag lots may be permitted under unusual circumstances, however, the narrowest part of such a lot, being the staff portion of the flat lot, shall not be less than 20 feet in width or have a length of more than 200 feet. Such lots shall also be restricted to prevent the construction of any building structure, wall or fence within the staff portion of such lot and that the staff portion of such lot will be restricted for access to such lot only.
   b. Double-front lots will not be approved except in those instances where lots are restricted for residential use and back upon an adjacent designated major thoroughfare or where special circumstances would warrant a variance to this regulation.

C. Street access limitations

1. Rear and side vehicular driveway access from lots, restricted for the construction of residential dwelling units, to adjacent streets designated as major thoroughfares, freeways, highways, or any other public street which carries a traffic volume where additional vehicular driveways would create a traffic hazard or impede the flow of traffic, will not be approved. Such access restriction must be noted directly upon the plat adjacent to the lots in question.

D. Lot and Block Identification

1. All blocks established in any subdivision shall be designated by number with said numbers being consecutive within the whole subdivision plat. Lots established within said blocks shall also be numbered with said

numbers being consecutive within the block.

E. Minimum Lot Sizes - Residential Use

1. Corner lots in blocks containing lots having an average width of less than 60 feet shall be 10 feet wider than the average interior lot within such block and where such corner lots are located at the intersection of local streets. Corner lots located at the intersection of a local street and a designated major thoroughfare or at the intersection of two major thoroughfares and are contained in blocks where the average lot width within said block is less than 60 feet, such corner lots shall be 20 feet wider than the average interior lot within such block.
2. Where lots are backing on a natural drainage way (bayou, creek, gully, etc.) or an open drainage facility, such lots shall have a depth sufficient to provide at least 70 feet from the drainage easement line to the front building setback line or front property line if no building setback restriction is required.
3. Where lots are backing on a designated major thoroughfare such lots shall have a depth at least 10 feet deeper than the average depth of lots within the interior of the subdivision having frontage on local streets.
4. The minimum lot area for lots serviced by sanitary sewer shall not be less than 5000 square feet. Refer to Section 6 for exceptions for Planned Developments.
5. The minimum lot area for lots not serviced by sanitary sewer shall be determined by the County Engineer after considering soil conditions, the water supply system and the type of septic system, and in no case shall be less than one acre in size, as outlined in the County Septic System Regulations. The one acre minimum size must be clear, free from any easements, roads, ponds or lakes.

5.15 Drainage Outfall

A. All developments shall provide an adequate drainage outfall for their storm waters. If a development cannot provide an adequate outfall, that development must detain their storm waters. The maximum allowable rate of discharge from a detention system shall be determined by the Fort Bend County Drainage District. If a drainage impact fee has been established for a watershed in accordance with *Chapter 395 of the Texas Local Government Code* on-site detention may not be required. Impact fees to be paid prior to approval of the plat.

5.16 Landscaping

A. Landscaping within the public right-of-way or adjoining easements shall not affect public utilities or traffic visibility, including traffic control devices or access of maintenance equipment to drainage facilities.

END OF SECTION FIVE