

SECTION 16  
STREET DESIGN CRITERIA

16-1 GENERAL

Except as otherwise noted herein, Director as used in this section shall mean the Director of the Transportation and Public Works Department or his/her designee.

The following policy shall govern the installation of all street, alley and parkway improvements within the corporate limits of the City of Fort Worth, Texas, and its extraterritorial jurisdictional area:

16-2 ENGINEERING AND SUPERVISION:

- (a) All street, alley and parkway improvements shall be in accordance with the City of Fort Worth Subdivision Ordinance, City Plan Commission Rules and Regulations and with "Design Standards and Policy Guidelines" of the Transportation and Public Works Department. Sections VII and VIII of the City Plan Commission Rules and Regulations are specifically applicable to engineering criteria and construction plans.
- (b) The developer shall employ an engineer proficient in civil engineering and registered in the State of Texas for preparation of the plans and specifications subject to approval of the Director. In the event the estimated construction cost is less than \$10,000, the developer may request that the City prepare the plans and specifications for improvements. If the City agrees to prepare the plans, and specifications, the developer shall pay the City ten percent (10%) of the actual construction cost as compensation for such design work.
- (c) The determination as to compliance of the plans and specifications with applicable policies, regulations and criteria shall be the sole responsibility of the Director. Approval of the plans and specifications by the Director signifies the City's acceptance of the general design concept and that the minimum criteria appears to be satisfied. Such approval shall not be deemed to be an assumption of responsibility or liability by the City for any negligent act, or omission in the performance of developer's engineer or in his preparation of such plans and specifications.
- (d) The Director will review plans submitted by the developer's engineer and approve those plans if they are in compliance with adopted city and departmental policies and procedures and recommended engineering/industry practices. If requested, the developer shall furnish the results of soils tests performed by an approved independent soils laboratory and a pavement analysis design performed by the developer's engineer under specific loading conditions.

- (e) Soil samples to determine the Plasticity Index (PI) of the soil at the ultimate level of the pavement base course, shall be taken at least once per block or every 400', whichever is less, with a minimum of two (2) samples per project. Should the PI vary considerably from one sample to another additional samples will be taken as determined by the Director.

Soil stabilization under concrete pavements will not be required if the PI of the soil is less than 10.

If the PI of the soil is less than 20 and the pavement is asphaltic concrete or the PI is between 10 and 20 and the pavement is Portland cement concrete the base shall be stabilized to a depth of at least 6 inches with the application of 4% by weight of Portland cement or 6% by weight of lime.

If the PI exceeds 20, soil stabilization to a depth of at least 6"; will be required utilizing either 6% by weight of Portland cement or 6% by weight of lime.

Local residential streets (usually 28' to 35' wide) shall be designed to be equivalent to a Structural Number of at least 3.12. Due to the lack of better information, the Structural Number Layer Coefficients that are to be assumed for asphalt pavement design until January of 1987 are as follows:

HMAC Surface Course 0.44  
HMAC Base Course 0.34  
Stabilized Base 0.11

Local residential cul-de-sacs constructed of asphalt shall be designed according to the 3.12 structural number requirement stated above, plus one additional inch of pavement thickness.

Portland cement concrete streets built of 5" of reinforced concrete on a compacted base, stabilized as required above, shall be considered to meet the Structural Number criteria for both local residential streets and local residential cul-de-sacs.

Commercial/Industrial local streets and residential collector streets shall be constructed with a minimum of 6" Portland cement reinforced concrete on a compacted base, stabilized as required above.

All other roadways will be constructed with a minimum of 4" of Portland cement concrete on a compacted base, stabilized as required above.

When an asphalt street is built, concrete valley gutters shall be constructed at all points where storm water is expected to cross the roadway.

Under the above policies the Director shall retain the authority to:

- (1) Require the design engineer to design a greater pavement thickness based on American Concrete Institute or Asphalt Institute design criteria, whichever is appropriate, if the Director determines that the anticipated loading characteristics warrant a greater pavement strength.
- (2) Waive written paving requirements and authorize other paving materials when it is in the City's best interest. This would allow the Director to approve plans that include paving materials and techniques that are not specifically mentioned in the policy, but would stand the test of good engineering practice. Examples might include such things as using brick accents on streets to improve aesthetics or using HMAC on streets where long term settlement is anticipated and good engineering design would indicate the construction of a flexible base street.
- (3) Determine the base-stabilizing agent to be used.
- (4) Experiment with various paving sections.
- (5) Determine the width of base to be stabilized.
- (6) Reject a thin paving section on a thick base, i.e., 2" of asphalt on 21 " of lime stabilized base, 5" of asphalt on 11" of lime stabilized base or 4" of concrete on 10.5" of stabilized base. Unless the developer's engineer can otherwise satisfy the Director, a 6" thick HMAC pavement on an 8" compacted and stabilized base will be the minimum section allowed for a local residential street. As stated above, cul-de-sacs will require an additional one-inch of HMAC.

The Structural Number Layer Coefficients used to meet the Structural Number requirement. (Minimum 3.12) shall be periodically reviewed by the Director and, annually during the month of January, the Director shall recommend changes, if necessary.

Any changes of the Structural Number Layer Coefficients must be approved by the City Council.

- (e) In the event the plans and specifications are prepared by the developer's engineer, then these plans and specifications shall be submitted to the Director for the review and approval of the appropriate officials of the City of Fort Worth. This review and approval process shall proceed as follows:

- (I) It is recommended that during the review of the preliminary plat that a drainage plan be submitted to the Transportation and Public Works Department for review and comment. This will permit the City staff to better review the preliminary plat and encourage early resolution of difficulties, thereby minimizing time and work by the Developer's engineer. If these items are submitted at least ten (10) City working days prior to the Development Review Committee meeting, the City staff should be able to reply in writing by the time that the Plan Commission considers the plat.
- (2) If the drainage plan is not submitted in advance as recommended in paragraph (1) above, it must be submitted along with or before the design plan submittal. The drainage plan shall include all drainage areas that affect the area to be preliminary or final platted both in the natural state and in the ultimate development.
- (3) A minimum of three (3) sets of design plans and specifications shall be submitted to the Transportation and Public Works Department for review. Additional sets may be required for other departments and/or agencies.
- (f) All coordination required with public and/or private utility agencies to eliminate conflicts with proposed storm drainage facilities shall be the responsibility of the developer and/or his engineer. Likewise, coordination with agencies requiring special conditions (i.e., railroads and the Texas department of Transportation) shall be the responsibility of the developer and/or his engineer.

#### 16-3 CONSTRUCTION REQUIREMENTS

- (a) "Standard Specifications for Street and Storm Drain Construction" of the Transportation and Public Works Department will govern on all projects. A copy of the standard specifications may be purchased at the Transportation and Public Works Department. Upon approval of the Director, the "NCTCOG Uniform Specifications" may be used in lieu of or in conjunction with the "Standard Specifications for Street and Storm Drain Construction."
- (b) The streets, including parkways, shall be constructed to the line and grade established in the approved plans.
- (c) All necessary storm drainage facilities shall be installed in accordance with the "Policy for Storm Drainage Facilities".
- (d) All utilities and services to be located in the streets shall be installed at least two feet back of the curb line prior to the construction of the curb and gutter and paving of the streets. All trenches shall be backfilled in accordance with standard City specifications.

- (e) Concrete curb and gutter shall be constructed on both sides of the street, unless the community facilities agreement specifies otherwise, including intersections (on the line and grade established in the approved plans). Concrete driveways shall be constructed to the back of the walk line for each lot fronting on the street in accordance with standard specifications of the Transportation and Public Works Department.
- (f) Concrete driveways and sidewalks may be constructed at the time of the street improvements or at the time of site development and building construction.
- (g) Pavement, including concrete valleys and subdrains determined to be required by the City inspector during construction shall be constructed on all streets in accordance with the approved plans and/or specifications.
- (h) Border streets shall be improved at the time of development unless conditions preclude improvements at that time as determined by the Director.