PERMITS

FOR THE

CONSTRUCTION OF DRIVEWAYS AND CULVERTS ON COUNTY EASEMENTS AND RIGHT OF WAYS IN FORT BEND COUNTY, TEXAS

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Road & Bridge
Residential Permits
281-342-4513

Engineering Permit Department
Commercial Permits
281-633-7502

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SECTION 1 - DEFINITIONS

As used in these requirements, the following words and phrases have the following meanings:

A. County or public easements or right of way: Any right, title or interest in land acquired, claimed or maintained by Fort Bend County for road and road drainage.

B. Person: Any individual, corporation, partnership, limited partnership, joint venture or other entity.

C. County Engineer: The County Engineer of Fort Bend County, Texas.

D. Road and Bridge: The Fort Bend County Road and Bridge Department.

E. Roadway: The portion of the improved surface of the County or public easement or right of way used for travel by vehicular traffic which is usually constructed of concrete, asphalt, gravel, or other material providing a hard surface.

F. Driveway: An improved surface used for vehicular access from the edge of a County roadway to the right of way or easement line.

G. Culvert: A hollow structure of concrete, or other substance, which provides waterway openings to conduct water for drainage purposes.

H. Start of Construction: The commencement of any grading, excavation, removal of concrete curb, setting of culvert pipe on County or public easements or right of way.

I. Bonds: The approved form of security furnished by the Permit Applicant and his sureties conditioned upon the faithful performance of the work in strict accordance with all applicable requirements, plans and specifications.

SECTION 2 - GENERAL PROVISIONS

A. Construction of driveways on roadways with open ditch sections, culverts, median openings or modifications to the median whenever applicable, or the replacement, repair, or extension of existing driveways, culverts or median openings on County or public easements or right of way without first securing a permit is prohibited.

B. Applications for permits for the construction of single family residential on roadways with open ditch sections, or agricultural driveways, culverts, median openings or modifications to the median whenever applicable, or the replacement, repair, or extension of existing driveways, culverts or median openings on County or public easements or right of way shall be made to the Fort Bend County Road and Bridge Department, Crabb Service Center, 201 Payne Lane, P. O. Box 148, Richmond, Texas 77406-0148, Phone 281-342-4513, Fax 281-238-3635.

C. Applications for permits for the construction of multifamily or commercial driveways, culverts, median openings or modifications to the median whenever applicable, or the replacement, repair, or extension of existing driveways, culverts or median openings on County or public easements or right of way shall be made to the County Engineer, P. O. Box 1449, 1124 Blume Road, Rosenberg, Texas 77471, Phone 281-633-7502 or 7503, Fax 281-342-7366.

D. All permits issued by County Engineer or Road and Bridge Department for the construction of driveways, culverts or median openings or modifications on a County or public easement or right of way shall require conformance with these Requirements including Fort Bend County Engineering Department Construction Standards and Details and any subsequent amendments or revisions thereto.

E. The County Engineer and Road and Bridge shall promulgate forms to be used in the administration of these Requirements.

F. Permits shall provide that construction pursuant to the permit will be commenced within six months and be completed within nine months from the date of the permit and that fees collected for said permits shall not be refundable or transferable.

G. Permits for the installation of driveways, culverts, or median openings or modifications must be obtained from the County Engineer or Road and Bridge prior to the start of construction.

H. All permits which require a bond must be approved by Fort Bend County Commissioner's Court.

SECTION 3 - PERMIT SUBMITTAL REQUIREMENTS

A. Single Family Residential and Agricultural Driveways (Open Ditch Sections)
FORT BEND COUNTY ROAD & BRIDGE PERMIT

1. When an application for a driveway with or without a culvert is filed, the applicant will provide the County Road and Bridge Department with the following information.
   a. Street Address (HL&P address if available).
   b. The location of the driveway, and culvert whenever applicable, within the County or public easement and right of way. The locations shall be referenced to a lot line or property corner.
   c. The location of physical objects such as drainage inlets or catch basin within the portion of the driveway which is the County or public easement or right of way that might conflict with the construction of the driveway. The applicant must provide the location of all man-made objects within the portion of the driveway which is within the County or public easement or right of way.
   d. Whether a special design is required whenever driveways may be proposed in a location hazardous to traffic safety.
   e. The length of the proposed culvert based on the following standards:
      (1) Minimum for walkway: 8 feet
      (2) Minimum for driveway: 20 feet
      (3) Maximum for driveway: 40 feet
   f. **Prior to permit application submittal, Permittee shall contact FBC Road & Bridge Department at 281-342-4513 to verify pipe size diameter.**
   g. Minimum pipe size shall be 18" unless special conditions exist that may warrant a smaller size.
   h. The maximum number of driveways allowed on a tract of land:

Parcel Frontage Length	Number of Driveways
Less than 105 ft.	1
105 ft. to 210 ft.	2
Greater than 210 ft.	3

   i. The maximum pipe size for a driveway crossed that will be set by FBC Road & Bridge Department shall not exceed a single row of 60" diameter pipe. Any driveway culvert requiring a larger pipe size shall obtain a permit under Section 2.C and Section 3.B of this document.

2. The permit applicant will be responsible for all cost of the pipe material, pipe fittings, safety ends, and other required accessories material including delivery and off loading at the driveway site.

3. Fort Bend County Road and Bridge Department will provide all labor, materials and equipment to install the pipe including excavation, grading, and backfill between the adjacent road surface and the property line or right of way line. Fort Bend County will provide four (4) inches of crushed concrete or similar base material. A finish surface will be provided as shown:

a.	Existing Gravel or Dirt surfaced roadway	No applied finish
b.	Existing Asphalt surfaced roadway	Asphalt surface finish
c.	Existing Concrete roadway	Asphalt surface finish

Other types of surfacing will be the sole cost and responsibility of the applicant.

d. Refer to maximum size to be set by FBC Road & Bridge, Section 3 A.1.i.

4. Existing concrete, or other decorative pavers, stone, etc., required to be removed, will not be replaced by Fort Bend County. The replacement of the above surfaces will be the sole cost and responsibility of the applicant.

5. Horseshoe or multiple driveways on a tract of land may be permissible, depending on existing conditions. A separate permit must be obtained for each installation.

B. Commercial Driveways
FORT BEND COUNTY ENGINEERING DEPARTMENT PERMIT

1. When an application for a driveway with or without a culvert is filed, the applicant will provide the following information.
   a. The location of the driveway, and culvert whenever applicable, within the County or public easement and right of way. The locations shall be referenced to a lot line or property corner.
   b. The location of physical objects such as drainage inlets or catch basin within the portion of the driveway which is the County or public easement or right of way that might conflict with the construction of the driveway. The applicant must provide the location of all man-made objects within the portion of the driveway which is within the County or public easement or right of way.
   c. Whether a special design is required whenever driveways may be proposed in a location hazardous to traffic safety.
   d. The length of the proposed culvert is based on the following standards:
      (1) Minimum for driveway: 20 feet
      (2) Maximum for driveway: 60 feet
      (3) Inlets shall be spaced 50 feet or in the mid-point of any culvert over 50 feet in length.
   e. Commercial driveways shall be spaced with a minimum of twenty feet (20') separation. On major thoroughfares, driveways shall be placed with a minimum of fifty feet (50') separation.
   f. Commercial driveways on major thoroughfares shall be placed no closer than one hundred and twenty-five (125') from the ultimate curb line of an intersecting major thoroughfare or collector street. Commercial driveways on collector or local streets are to be placed no closer than seventy-five feet (75') from the ultimate curb line of an intersecting major thoroughfare. Commercial driveways on major thoroughfares are to be placed no closer than seventy-five feet (75') from the ultimate curb line of an intersection of a collector or local street. Commercial driveways on secondary or local streets that are not adjoining a major thoroughfare shall be placed beyond the curb return for the intersecting street. Distances

shall be measured from the edge of the driveway.

g. Commercial tract with ninety-five (95') or less frontage on a public street shall have no more than one (1) driveway. Commercial tract with between three hundred twenty feet (320') and ninety-six (96') or less frontage on a public street shall have no more than two (2) driveways. Commercial tract with between six hundred feet (600') and three hundred twenty-one feet (321') frontage on a public street shall have no more than three (3) driveways.

h. Every permit application must be accompanied by a complete set of construction details and specification to fully convey the work to be performed in the County right of way and to assure conformance with these Requirements including Fort Bend County Engineering Department Construction Standards and Details and any subsequent amendments or revisions thereto.

i. All cost for materials, labor, and equipment shall be paid by the applicant.

j. All work shall be done by a responsible, qualified contractor.

k. Temporary drainage pipes (180 days or less) are exempt from this regulation provided a permit is obtained for working within the Fort Bend County right-of-way.

C. Median opening or Median modification, New Street Crossings or Connections to Existing Streets.

FORT BEND COUNTY ENGINEERING DEPARTMENT PERMIT

1. When an application for a median opening or median modification, or New Street Crossing or Connection to Existing Streets is filed, the applicant will provide the data needed to determine the following:

   a. Written justification for the opening or modification include its effect on existing traffic flow.

   b. Location of median opening or modification.

   c. Geometric layout of proposed median opening or modification including proposed signs or other traffic control devices. The geometric layout shall comply with the Fort Bend County Engineering Department Construction Standards and Details.

   d. Engineering design and construction drawings signed and sealed by a registered professional engineer.

   e. The location of physical objects such as drainage inlets or catch basin within the portion of the driveway which is the County or public easement or right of way that might conflict with the construction of the median opening or modification.

   f. Construction schedule, construction sequencing with length of time for lane blocking, traffic control and other safety provisions for traffic must be included with the application.

   g. Every permit application must be accompanied by a complete set of construction details and specification to fully convey the work to be performed in the County right of way and to assure conformance with these Requirements including Fort Bend County Engineering Department Construction Standards and Details and any subsequent amendments or revisions thereto.

h. All cost for materials, labor, and equipment shall be paid by the applicant.
i. All work shall be done by a responsible, qualified contractor.

2. The County Engineer shall review the application and supporting information and determine the following:
   a. Whether the proposed culvert conforms to all other requirements.

SECTION 4 - CONSTRUCTION & INSPECTIONS

A. Driveways connecting to concrete curb and gutter roadways shall be inspected after the placement of reinforcing steel and prior to the pouring of concrete, and again after the concrete pour for conformance with County standards.

B. Driveways connecting to asphalt roadways will be inspected after the placement of materials for conformance with plans.

C. The installation of culverts shall be governed by the following procedures:

1. Culverts shall not be set until flow line elevations are set and approved by Fort Bend County.
2. Culverts shall not be backfilled until an inspection is conducted by Fort Bend County to determine that the elevation and grade of the culverts have been correctly set.
3. Culverts shall also be inspected upon completion of the placement of cement stabilized backfill, if required, and prior to commencement of driveway construction.

D. All driveways requiring special geometric design shall be inspected for conformance with plans.

E. The County Engineer may make any additional inspections deemed necessary to administer these Regulations.

SECTION 5 - ENFORCEMENT

A. The County Engineer with Road and Bridge, shall be charged with the enforcement of these Requirements. If any person violates any provisions of these Requirements the County Engineer will attempt to obtain compliance with these Requirements. In the event the County Engineer is unable to obtain compliance within a reasonable time the County Engineer may so report to Commissioners' Court and the following remedies may be pursued:

1. If any person engages in the construction, or repair of a driveway or culvert crossing a County easement or right of way without a permit, the Commissioners' Court may direct the County Attorney to file suit to enjoin the violation of these Requirements.
   a. Any work in Fort Bend County road right-of-ways may be removed by Fort Bend County Road & Bridge after a 30 day written notice has been given to the property owner.

2. If any person engages in the construction or repair of a driveway or culvert in any manner except as specified in the permit issued therefore by the County Engineer, the Commissioners' Court may direct the County Attorney to file suit to enjoin the violation of these Requirements.

3. If any person engages in the construction of a driveway or culvert crossing a County easement or right of way without a permit, or if any person engages in the construction or repair of a driveway or culvert in any manner except as specified in the permit issued therefore by the County Engineer, the Commissioners' Court may order the landowner to remove or repair the culvert at the landowner's expense.
   [Texas Local Government Code 581.025, 1987 Tex. Ses. Law. Serv. 1557 (Vernon), provides that the Commissioners' Court may punish contempt by fine not to exceed twenty-five dollars ($25.00), or by imprisonment not to exceed twenty-four (24) hours and in case of fine, the party may be held in custody until the fine is paid.]

4. Any person securing a permit under these Requirements must file a certificate certifying to Commissioners' Court that the terms, provisions and conditions of the permit will be complied with. Violation of this certificate constitutes contempt of Commissioners' Court.

5. If the Commissioners' Court finds a person to be guilty of contempt, it may enter such orders consistent with general law as it deems appropriate to punish the person guilty of contempt, and may enter such other and further orders enforceable by civil and criminal contempt, and consistent with its authority under general law, as Commissioners' Court deems necessary to enforce and protect its jurisdiction over the matter and to uphold the integrity of these Requirements.

6. Procedure for contempt proceedings before Commissioners' Court will be consistent with procedures in actions before other courts in this state for enforcement of court orders, and for the protection of the jurisdiction of courts by process of contempt. Provided, however, that the person shall be given ten (10) days notice of said contempt proceeding by certified or registered mail, return receipt requested.

SECTION 6 - EXCEPTIONS

A. Appeals for exceptions to these Requirements will be considered on the following basis and only after good and sufficient cause has been demonstrated by the applicant for an exception:

1. Upon denial of permit, the applicant may appeal the County Engineer's decision by stating and submitting his reasons in writing to the County Engineer within ten (10) days of the denial of said permit.

2. The County Engineer shall review the appeal and within fifteen (15) days of receipt of the said appeal, shall reduce his findings to writing and submit his findings and recommendation to Commissioners' Court. The applicant shall be provided with a copy of the County Engineer's recommendations and may appear before Commissioners' Court to support his appeal.

SECTION 7 - RECORDS

A. All applications and file copies of permits issued pursuant to these Requirements shall be maintained by the County Engineer or Road & Bridge as part of the permanent records of his office.

SECTION 8 - EFFECTIVE DATE

A. The requirements shall become effective **January 1, 2001.**

SECTION 9 - SEVERABILITY

A. The provisions of these Requirements are severable. If any word, phrase, clause, sentence, section, provision, or part of these Requirements should be held invalid or unconstitutional, it shall not affect the validity of the remaining provisions, and it is hereby declared to be the intent of the Commissioners' Court that these Requirements would have been adopted as to the remaining portions, regardless of the invalidity of any part.

SECTION 10 - PERMIT FEE AND BONDS

NOTE: **ALL PERMIT FEES ARE NON-REFUNDABLE and NON-TRANSFERABLE.**

The fees for permits and inspections shall be as follows:

A. PERMITS:

1. Single Family Residential and Agricultural Driveways (Open Ditch Sections)- New and modify/add-ons.
   a. Permit Fee: Payable at the time permit application is submitted.

Fee Schedule

Pipe Size	Single Row	Two Row
18"	$150.00	$300.00
24"	$150.00	$300.00
30"	$200.00	$400.00
36"	$200.00	$400.00
42"	$250.00	$500.00
48"	$250.00	$500.00
54"	$350.00	$700.00
60"	$350.00	Refer to Section 3 (A.1.i)

   b. Bond - Not required
2. Commercial Driveways
   a. Permit Fee - $150.00 per driveway. Payable at the time permit application is submitted.
   b. Bond - $5000 or 25 percent of estimated construction cost, whichever is the larger amount.
3. Median opening or Median modification, New Street Crossings or Connections to Existing Streets.
   a. Permit Fee - $150.00 per driveway. Payable at the time permit application is submitted.
   b. Bond - $5000 or 25 percent of estimated construction cost, whichever is the larger amount.

B. INSPECTIONS:

1. Inspections Fee - No fee (considered part of permit fee.)

SECTION 11 - SPECIFICATIONS

A. REINFORCE CONCRETE PIPE
(MINIMUM SIZE EIGHTEEN INCH (18") INSIDE DIAMETER)

1. Materials, manufacture and design of reinforced concrete pipe shall conform to ASTM C76, Class III, for circular pipe, ASTM C506 for arch pipe or ASTM C507 for elliptical pipe.
   a. Pipe shall be subject to rejection for failure to conform to any of the specification requirements. Individual sections of pipe may be rejected because of any of the following:
      (1) Fractures or cracks.
      (2) Defects that indicate imperfect proportioning, mixing, and molding.
      (3) Surface defects indicating honeycombed or open texture.
      (4) Damaged ends, when such damage would prevent making a satisfactory joint.

2. Used pipe may be used providing it is in good condition and does not contain any of the defects listed above and is inspected and approved for use by the County Engineer or Road and Bridge Department.

3. Multiple installation of CMP shall be laid with the centerlines of individual barrel parallel with the following clear distances between outer surfaces of adjacent pipes:

Diameter	18"	24"	30"	36"	42"	48"	54"	60"
Clear distance between pipe	9"	11"	13"	15"	17"	19"	23"	24"

4. The minimum cover measured from the top of the pipe to finish driveway surface shall be 12".

B. CORRUGATED POLYETHYLENE PIPE
(MINIMUM SIZE EIGHTEEN INCH (18") INSIDE DIAMETER)

1. Materials, manufacture, and design of high density polyethylene pipe shall conform to:
   a. ASTM F405, Standards Specifications for Corrugated Polyethylene Pipe and Fittings.
   b. ASTM F667, Standards Specifications for Large Diameter Corrugated Polyethylene Pipe and Fittings.
   c. AASHTO M252, Standards Specifications for Polyethylene Corrugated Drainage Pipe.
   d. AASHTO M294, Standards Specifications for Corrugated Polyethylene Pipe, 12" to 18" diameter.
   e. ASTM D2321, Standard Practice for Underground Installation of Thermoplastic Pipe for Sewers and Other Gravity Flow Applications.

2. Bituminous coated CMP
   The inside of the pipe shall receive a smooth lining consisting of additional bituminous material applied to the full inner circumference to form a smooth inside lining, with thickness of one-eighth of an inch above the crest of the corrugations.

3. Multiple installation of CMP shall be laid with the centerlines of individual barrel parallel with the following clear distances between outer surfaces of adjacent pipes:

Diameter	18"	24"	30"	36"	42"	48"	54"	60"
Clear distance between pipe	14"	17"	20"	23"	26"	29"	34"	38"

4. The minimum required cover measure between the top surface of the pipe and the inished driveway grade shall be 15".

C. CORRUGATED STEEL PIPE (CMP)
(MINIMUM SIZE EIGHTEEN INCH (18") INSIDE DIAMETER)

1. Corrugated steel pipe with 2-2/3" x 1/2" corrugations meeting the requirements of AASHTO designation M-218 of the latest issue and be a minimum of 16 gauge. Heavier gauge may be required depending on backfill, depth, loading etc.

2. Corrugated aluminized steel with 2- 2/3"x1/2" corrugations meeting the requirements of AASHTO designation M-274 of the latest issue and be a minimum of 16 gauge. Heavier gauge may be required depending on backfill depth, loading, etc.
3. Galvanized or aluminized steel pipe shall conform to the requirements of ASHTO M-36.

4. All pipe shall be annular corrugated or have annular corrugations on end of pipe to permit banding at joints.

5. Annularly corrugated pipe seams shall be riveted. **Spiral pipe shall not be permitted**.

6. Bituminous coated CMP
   The inside of the pipe shall receive a smooth lining consisting of additional bituminous material applied to the full inner circumference to form a smooth inside lining, with thickness of one-eighth of an inch above the crest of the corrugations.

7. Multiple installation of CMP shall be laid with the centerlines of individual barrel parallel with the following clear distances between outer surfaces of adjacent pipes.

Diameter	18"	24"	30"	36"	42"	48"	54"	60"
Clear distance between pipe	14"	17"	20"	23"	26"	29"	34"	38"

8. The minimum required cover measure between the top surface of the pipe and the finished driveway grade shall be 15".

D. CEMENT STABILIZED SAND

1. Cement stabilized backfill shall contain aggregate, water and a minimum of seven (7) percent Portland cement based on the dry mass of the aggregate, (1.5 sack of Portland cement per ton of mixture placed) in accordance with Test Method Tex-120-E. Cement stabilized backfill shall be placed in a manner that will completely fill all voids in the trench. Should compaction be required to fill all voids, hand operated tampers may be used.

E. INSTALLATION

1. All driveway construction including culvert and drainage structures shall comply with the above materials specification and Fort Bend County Standard Details.

2. Fort Bend County will provide only crushed concrete or (approved equal) surface. All other surfaces, concrete asphalt, etc., must be provided and installed by the applicant.

3. Decorative features such as brick pavers, stones headwalls or colored concrete will not be maintained by the County. If repairs work at a driveway or culvert is required the County shall not be responsible to replace or repair such items.

F. CONCRETE DRIVEWAYS OVER CULVERTS

1. Concrete driveways are not allowed to extend into the County Right of Way except as noted below:
   a. In subdivision that were platted and approved by Commissioners Court prior to approval of these regulations.

2. Control joints shall be placed at twelve (12) inches on each side of the culvert to permit future rework of culvert and or ditch grades. (18" + ½ diameter of pipe on each side of centerline).

G. EXPANSION JOINT FILLER

1. Use preformed expansion joint filler conforming to the requirements of AASHTO M-33 or M-213.

2. Install expansion joint filler at locations and spacing shown on the detail sheets and/or as specified herein.

3. Install pre-molded expansion joint filler three-fourth (3/4) inch thick around all appurtenances such as inlets, manholes, utility poles, etc. that fall within the limits of concrete pavement.

4. Install pre-molded expansion joint filler three-fourth (3/4) inch between concrete pavement or sidewalks and any other fixed structure such as intersecting walks, curbs and pavement.

5. Install pre-molded expansion joint filler to the full depth of concrete.

SECTION 12 - PAVEMENT GEOMETRIC DESIGN GUIDELINES

The guidelines presented in this document include the most often requested information regarding geometric design of subdivision streets. Designated major thoroughfares(*), express streets(*) within subdivisions, and existing access streets, shall be considered for special design features and may require higher design criteria than shown herein. Also, design features not shown in these guidelines should be considered special design features.

It is advisable to consult with the appropriate agencies and review the following publications to determine adequate thoroughfare requirements and special design features.

- Recommended Guidelines for Subdivision Streets, Institute of Transportation Engineers, 1984.
- Guidelines for Urban Major Streets Design, Institute of Transportation Engineers, 1984.
- A policy on Geometric Design of Highways and Streets, AASHTO, 1984.
- Texas Manual on Uniform Traffic Control Devices, (TMUTCD)State Department of Highways and Public Transportation, 1980.

SOURCE:

CITY OF HOUSTON AND HARRIS COUNTY,
"GEOMETRIC DESIGN GUIDELINES FOR SUBDIVISION STREETS"

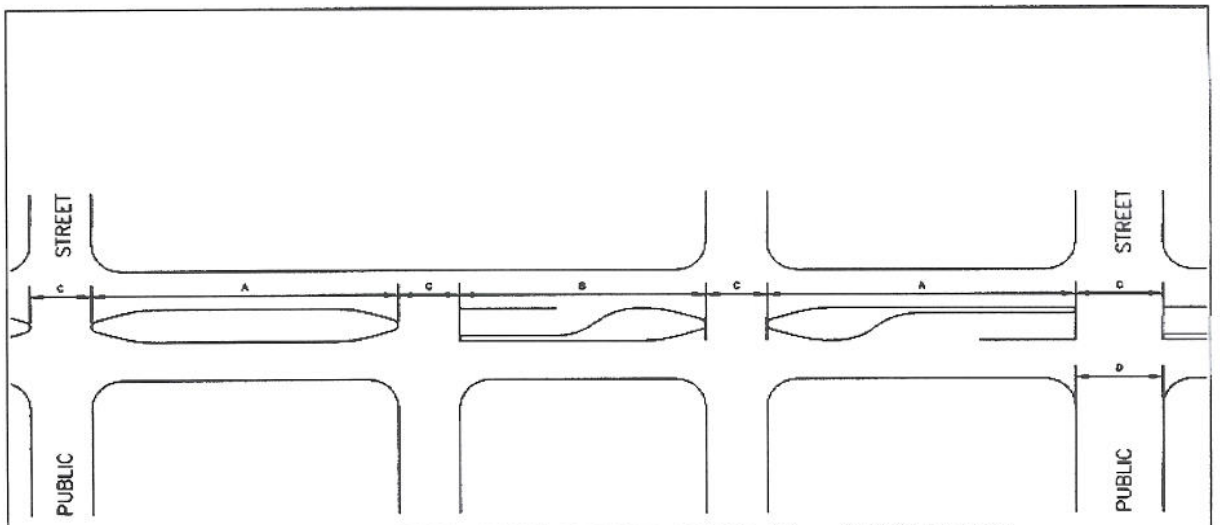
AND

FORT BEND COUNTY,
"THOROUGHFARE DEVELOPMENT PLAN UPDATE 1984"

(*)Designated Roadway appearing on the Major Thoroughfare and Freeway Plan, Houston City Planning Commission, and Houston Express Street Plan, Department of Traffic and Transportation.

SECTION 12 - PAVEMENT GEOMETRIC DESIGN DETAILS

Drawing: FBC-074
Typical Length of Median and Median Opening



TYPICAL LENGTH OF MEDIAN OPENING "C" = 50'-0" OR D + 10'-0" WHICHEVER IS GREATER

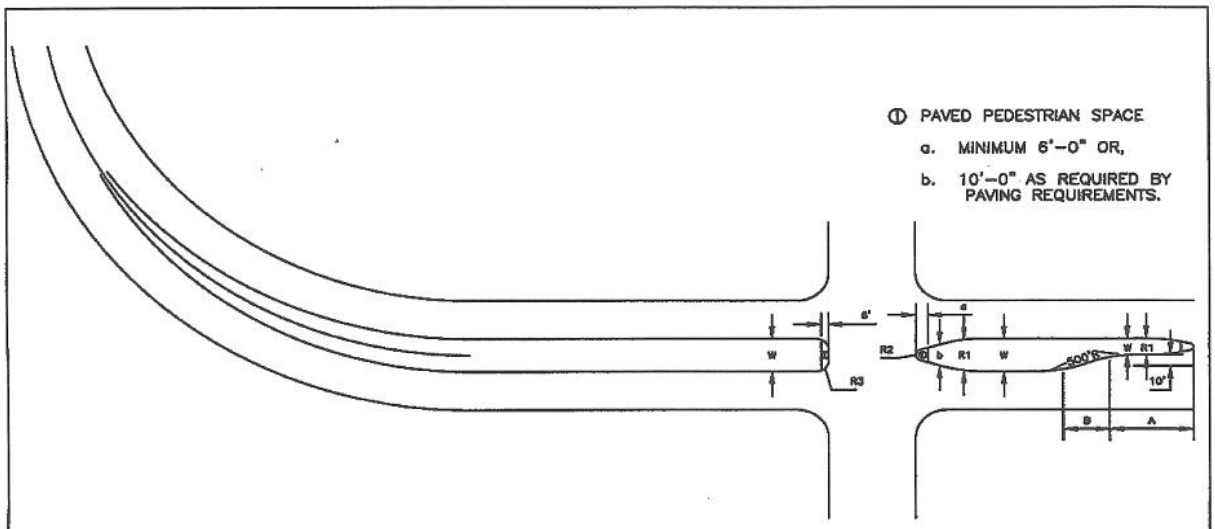
MINIMUM ACCEPTABLE MEDIAN LENGTH FOR TYPE OF STREET

IF PLANNED DIVIDED STREET IS:	PURPOSE OF MEDIAN INTERRUPTION			
	MAJOR STREET/ THOROUGHFARE (A)	COLLECTOR STREET (A)	LOCAL STREET (A)	PRIVATE STREET OR DRIVEWAY (B)
MAJOR STREET / THOROUGHFARE	350'-0"	300'-0"	300'-0"	300'-0"
COLLECTOR STREET	300'-0"	250'-0"	250'-0"	250'-0"
LOCAL STREET	250'-0"	250'-0"	250'-0"	200'-0"

TYPICAL LENGTH OF MEDIAN AND MEDIAN OPENING	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-15-00 REVISED:	DRAWING NO.: FBC-074
FORT BEND COUNTY ENGINEERING DEPARTMENT		

SECTION 12 - PAVEMENT GEOMETRIC DESIGN DETAILS

Drawing: FBC-075
Median Nose and Left Turn Bay Design



LEFT TURN BAY DIMENSIONS

W	R_1	R_2	R_3
≤8'	NONE	$\frac{W}{2}$	NA
>8'≤38'	90'	$\frac{W}{5}$	NA
>38'	NONE	NONE	15'

NA = NOT APPLICABLE

A = 150'-0" MINIMUM AT INTERSECTION OF TWO MAJOR STREETS.
= 100'-0" MINIMUM AT ALL OTHER INTERSECTIONS.

B = 100'-0" MINIMUM ON STRAIGHT ROADWAY.

B_s = TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT.

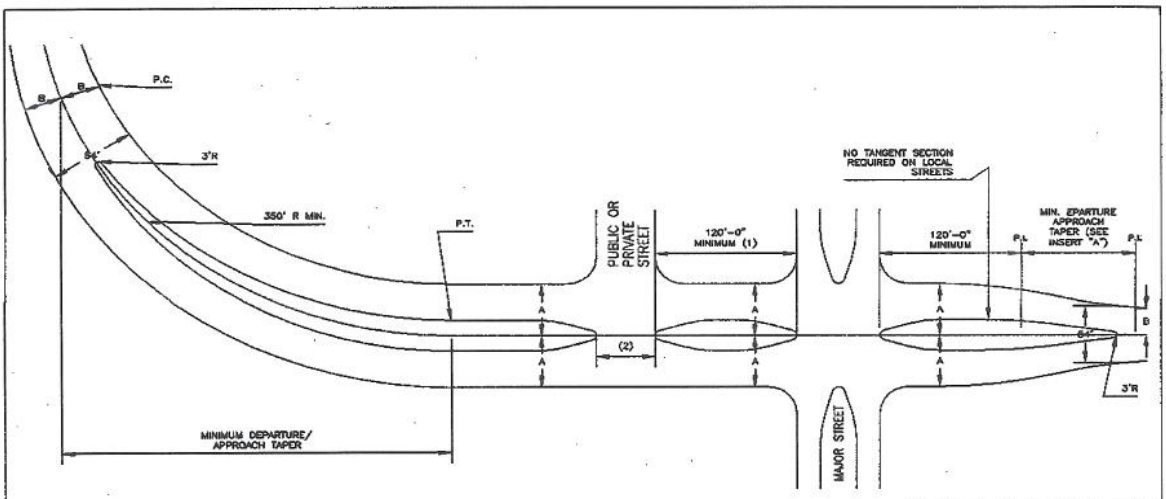
B_L = TAPER LENGTH MAY BE LONGER IF CURVE IS TO THE RIGHT.

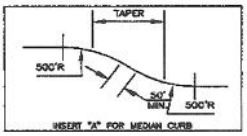
MEDIAN NOSE AND LEFT TURN BAY DESIGN	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-15-00 REVISED:	DRAWING NO.: FBC-075

FORT BEND COUNTY ENGINEERING DEPARTMENT

SECTION 12 - PAVEMENT GEOMETRIC DESIGN DETAILS

Drawing: FBC-076
Roadway Tapers for Subdivision Streets





(1). MINIMUM 250'-0" FOR RESTRICTED AND UNRESTRICTED RESERVES AND LOCATIONS WHERE A LEFT TURN LANE MAY BE REQUIRED.

(2). MEDIAN OPENING MAY NOT BE ALLOWED IF MEDIAN IS LESS THAN 250'-0" IN LENGTH.

NOTE:

a. APPROACH AND DEPARTURE TAPER REQUIREMENT:

$L = \frac{WS}{60}$ WHERE L = LENGTH IN FEET
S = SPEED IN M.P.H.
W = LATERAL OFFSET IN FEET

FOR S < 40
S = 30 M.P.H. MINIMUM DESIGN SPEED FOR SUBDIVISION STREETS
W = A-B

b. 350'-0" MINIMUM CENTERLINE RADIUS FOR HORIZONTAL CURVE WITH APPROACH OR DEPARTURE TAPERS

c. APPROACH AND DEPARTURE TAPER REQUIREMENT:

$\frac{S}{L} \geq \frac{45}{SW}$

ROADWAY CROSS SECTION (FEET)		TAPER $L = \frac{WS}{60}$ (FEET)
A+A	B+B	
80	60	150
80	40	300
80	27	400
70	40	225
70	27	325
60	40	150
60	27	250
40	27	100

ROADWAY TAPERS FOR SUBDIVISION STREETS	APPROVED BY: LOUIS HOOD	DRAWN BY: L. BRDECKA
	DATE DRAWN: 2-15-00	DRAWING NO.:
	REVISED:	FBC-076

FORT BEND COUNTY ENGINEERING DEPARTMENT