

### NOTES:

1. P.C. = POINT OF CURVATURE

2. P.T. = POINT OF TANGENCY

3. P.I. = POINT OF INTERSECTION

4. T<sub>T</sub> = TANGENT - INTERSECTION

5. T<sub>C</sub> = TANGENT - CURVATURE

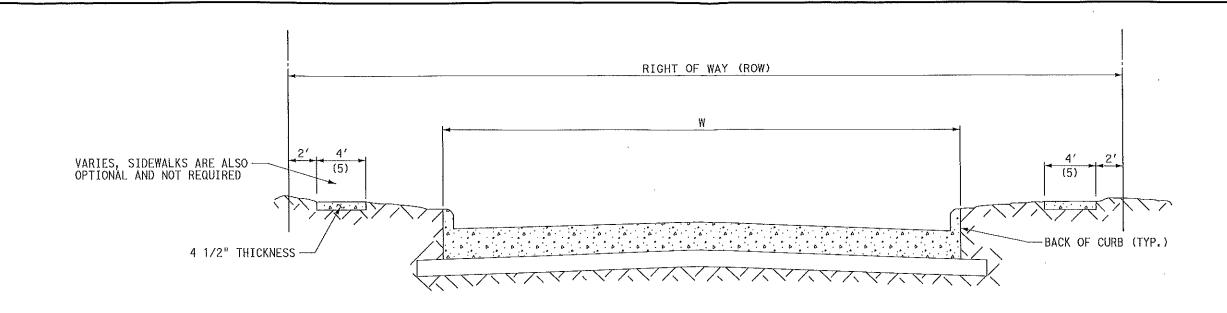
6. R = RADIUS

	STREET	ET DESIGNATION		
STREET DESIGN ELEMENT	MA JOR THOROUGHFARE	COLLECTOR	LOCAL	
DESIGN SPEED (MPH)	45	40	30	
MINIMUM RADIUS OF HORIZONTAL CURVE WITHOUT SUPERELEVATION (FT.)	2000	1150	500	
T <sub>C</sub> MINIMUM LENGTH OF TANGENT BETWEEN REVESE CURVES (FT.)	300	250	150	
$^{T}_{\mathbf{I}}$ MINIMUM TANGENT LENGTH APPROACHING INTERSECTION (MEASURE FROM INTERSECTING EDGE ROADWAY) (FT.)	300	250	150	
STOPPING SIGHT DISTANCE (FT.)	360	305	200	

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sit Byı	ROADWAY GEOMETRIC	STÂNDARD
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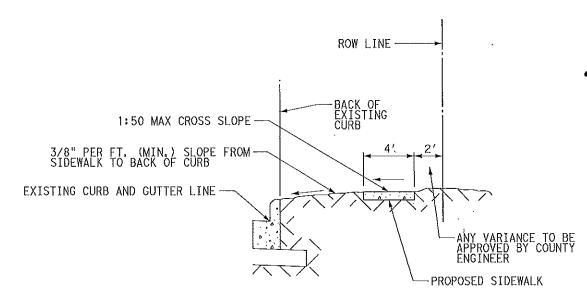


ROADWAY CLASSIFICATION	SINGLE PAVING SECTION (W)	DOUBLE PAVING SECTION (W)	SINGLE PAVING SECTION WITH ROADSIDE DITCHES (W)	DOUBLE PAVING SECTION WITH ROADSIDE DITCHES (W)
LOCAL	28 FT. (B-B)	2/25 FT. (B-B)	22 FT. (E-E) WITH 6 FT. SHOULDERS	2/24 FT. (E-E) WITH 6 FT. SHOULDERS
COLLECTOR	41 FT. (B-B)	2/25 FT. (B-B)	41 FT. (E-E) WITH 6 FT. SHOULDERS	2/24 FT. (E-E) WITH 6 FT. SHOULDERS

B-B: BACK TO BACK E-E: EDGE TO EDGE

#### NOTES:

- 1. ABUTTING LAND USE: AS DETERMINED BY PLAT
- 2. WIDTH (W) DOES NOT INCLUDE WIDTH FOR BICYCLE LANES. BICYCLE LANES REQUIRE APPROVAL OF COUNTY ENGINEER.
- 3. REQUESTS FOR ALTERNATIVE STREET CROSS SECTION SHALL BE SUBMITTED TO COUNTY ENGINEER FOR REVIEW.
- 4. 4 FT. MINIMUM WIDTH IS STANDARD FOR NON-TRANSIT CORRIDOR STREETS WITH 5 FT. X 5 FT. LANDING SPACE AT INTERVALS OF 200 FT. MINIMUM WIDTH FOR TRANSIT CORRIDOR STREETS IS 6 FT.
- 5. REFER TO THE LATEST VERSION OF "REGULATIONS OF HARRIS COUNTY, TEXAS, FOR THE APPROVAL AND ACCEPTANCE OF INFRASTRUCTURE" FOR SUBDIVISION REGULATIONS AND OTHER DESIGN DETAILS.

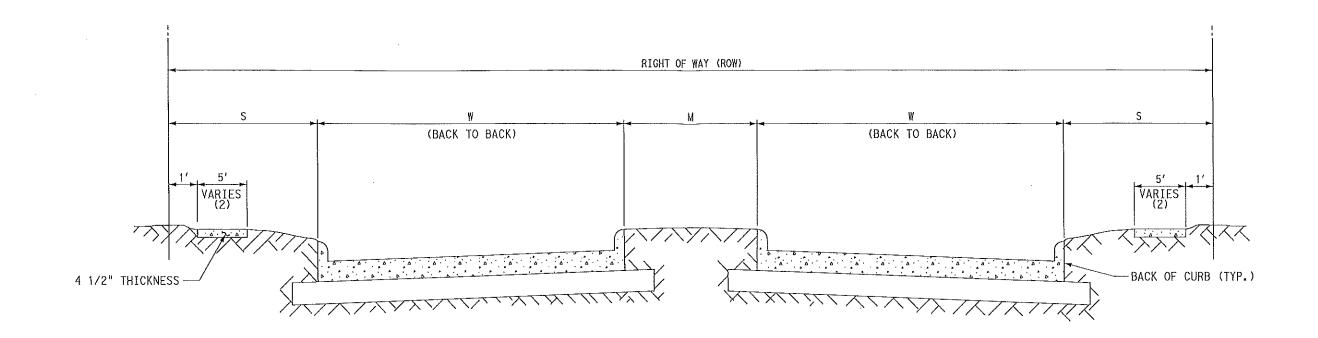


USE WHEN SIDEWALK TO BE BUILT OTHER THAN DRIVEWAY

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		4 LANES	4 LANES	4 LANES	6 LANES	:
ROADWAY CLASSIFICATION	ROW(1)	80 FT.	90 FT.	100 FT.	100 FT.	>100 FT.
	W	25 FT. (B-B)	25 FT. (B-B)	25 FT. (B-B)	34 FT. (B-B)	ER ER
COLLECTOR OR MAJOR THOROUGHFARE	М	13 FT.	21 FT.	31 FT.	12 FT.	SEE COUNTY ENGINEER
	S	8.5 FT.	9.5 FT.	9.5 FT.	9.5 FŢ.	SEE

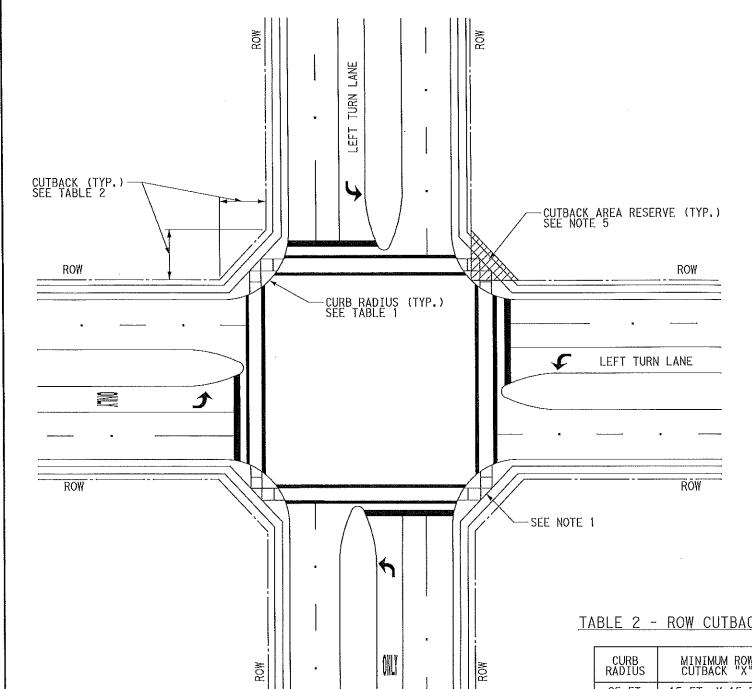
### NOTES:

- 1. ANY RIGHT OF WAY (ROW) DIMENSIONS DIFFERENT FROM THOSE SHOWN SHALL REQUIRE SPECIAL GEOMETRIC DESIGN AS DETERMINED BY COUNTY ENGINEER.
- 2. 4 FT. MINIMUM WIDTH IS STANDARD FOR NON-TRANSIT CORRIDOR STREETS WITH 5 FT. X 5 FT. LANDING SPACE AT INTERVALS OF 200 FT. MINIMUM WIDTH FOR TRANSIT CORRIDOR STREETS IS 6 FT.
- 3. ALL SIDEWALKS AND DRIVEWAYS SHALL CONFORM TO THE LATEST REVISION OF THE "REGULATIONS OF HARRIS COUNTY FOR THE CONSTRUCTION OF DRIVEWAYS AND CULVERTS ON COUNTY EASEMENTS AND RIGHT-OF-WAY" AND ON ACCORDANCE WITH THE REQUIREMENTS OF THE TEXAS DEPARTMENT OF LICENSING AND REGULATIONS (TDLR).

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#### NOTES:

- 1. ALL RAMPS AND SIDEWALKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH COUNTY STANDARD DETAILS, AMERICANS WITH DISABILITIES ACT (ADA) AND TEXAS DEPARTMENT OF LICENSING AND REGULATION (TDLR) REQUIREMENTS.
- 2. ALL PAVEMENT MARKINGS SHALL BE INSTALLED IN ACCORDANCE WITH COUNTY STANDARD DETAILS AND THE TEXAS MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (TMUTCD).
- 3. CURB RADII SHALL BE DESIGNED TO ACCOMMODATE THE TYPE OF VEHICLES ANTICIPATED TO USE THE FACILITY, (I.E. BUSES, TRUCKS, ETC.) IN ACCORDANCE WITH AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO) CRITERIA FOR TURNING VEHICLES.
- 4. WHERE ALTERNATIVE MINIMUM CURB RADIUS IS REQUIRED TO SERVE MOBILITY, PEDESTRIAN, OR OTHER SPECIAL NEEDS, SUBMIT DESIGN LAYOUT AND SUPPORTING CALCULATIONS TO COUNTY ENGINEER FOR REVIEW AND APPROVAL.
- 5. THE CORNER CUT AREA IS RESERVED FOR TRAFFIC SIGNAL EQUIPMENT AND SHALL BE KEPT FREE OF SIGNS, POLES, PRIVATE UTILITY, CONTROL CABINETS AND ALL SURFACE ENCROACHMENTS, WHICH COULD PREVENT THE FUTURE INSTALLATION OF SUCH EQUIPMENT WITHIN THE AREA.
- 6. WHERE A NEW ROADWAY OR DRIVEWAY IS CONNECTING TO AN EXISTING SIGNALIZED INTERSECTION. THE APPLICANT SHALL BE RESPONSIBLE FOR DESIGNING AND CONSTRUCTING THE NECESSARY MODIFICATIONS TO THE EXISTING SIGNAL SYSTEM AS REQUIRED BY COUNTY ENGINEER.

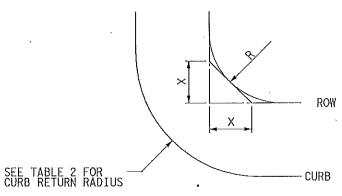
#### TABLE 1 - INTERSECTION CURB RADIUS REQUIREMENTS

INTERSECTION TYPE		MINIMUM CURB RADIUS BY INTERSECTION ANGLE			
STREET 1 STREET 2		90 DEG.	85-90 DEG.	80-85 DEG.	
LOCAL	LOCAL	25 FT.	30 FT.	30 FT.	
COLLECTOR	LOCAL	25 FT.	30 FT.	30 FT.	
COLLECTOR	COLLECTOR	30 FT.	30 FT.	35 FT.	
MAROD THODOLOGICADE	COLLECTOR	30 FT.	35 FT.	35 FT.	
MAJOR THOROUGHFARE	MAJOR THOROUGHFARE	35 FT.	35 FT.	40 FT.	

### TABLE 2 - ROW CUTBACK REQUIREMENTS

CURB RADIUS	MINIMUM ROW CUTBACK "X"	ROW RADIUS "R"(1)
25 FT.	15 FT. X 15 FT.	25 FT.
30 FT.	20 FT. X 20 FT.	30 FT.
35 FT.	25 FT. X 25 FT.	35 FT.
40 FT.	30 FT. X 30 FT.	40 FT.
45 FT.	35 FT. X 35 FT.	45 FT.

- 1. BASED ON RIGHT ANGLE INTERSECTION \*
- 2. FOR ACUTE ANGLE USE MIN. 25 FOOT RADIUS
- 3. FOR OBTUSE ANGLE, USE ROW RADIUS "R." \*

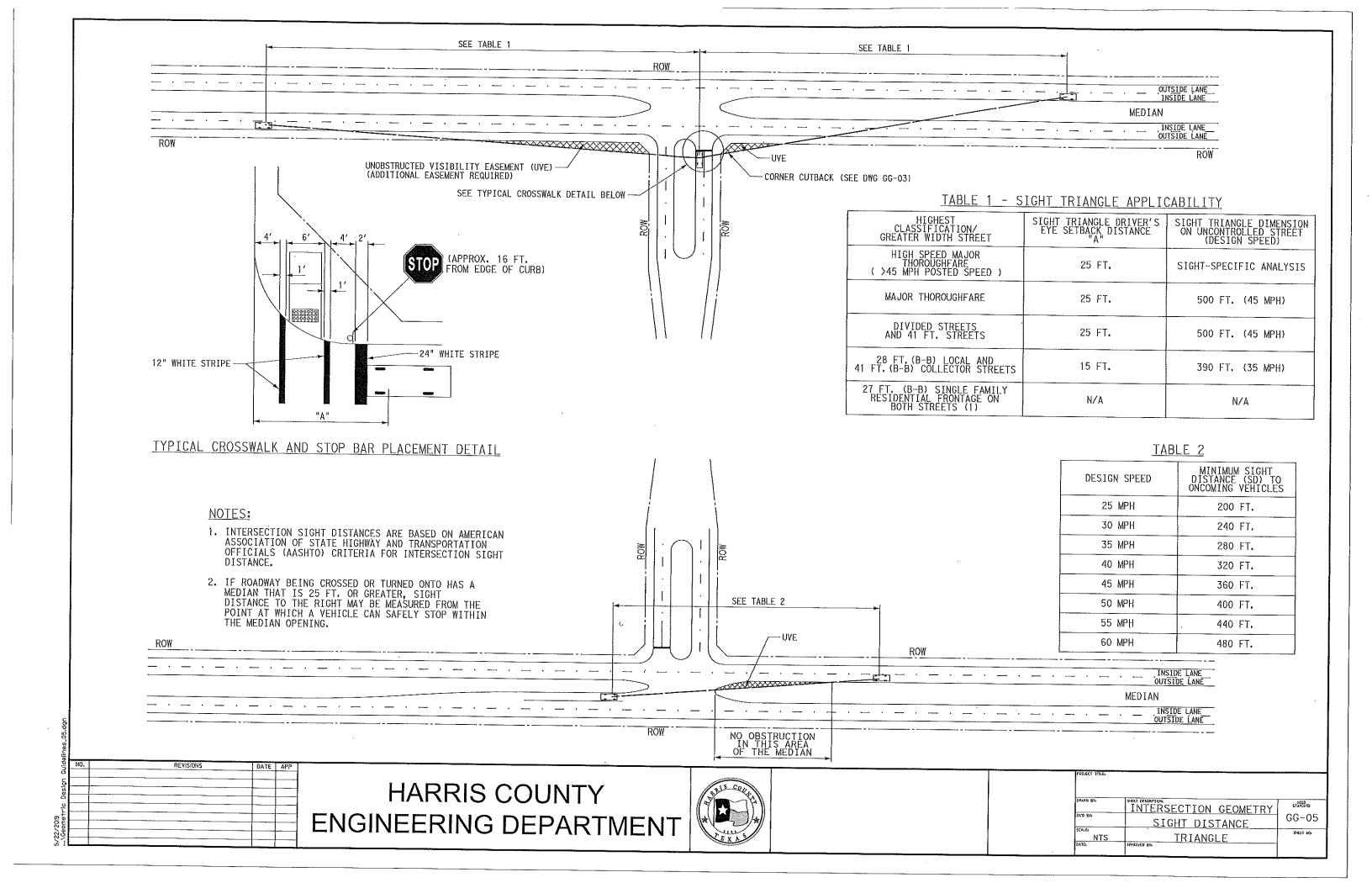


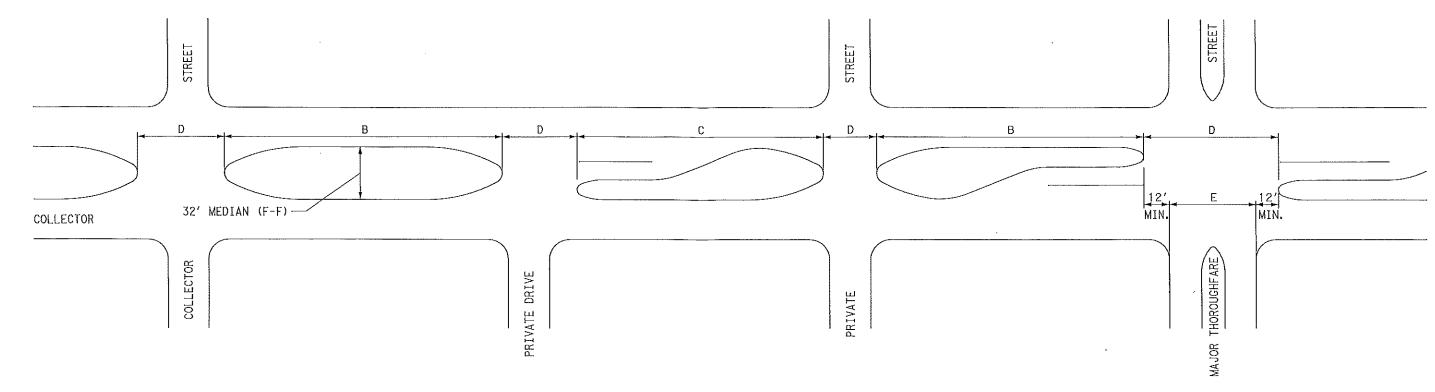
\* SKETCH SHOWS ACCEPTABLE PROPERTY CUTBACK DISTANCE "X" AS SUBSTITUTE FOR ROW RADIUS "R."

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### MINIMUM MEDIAN LENGTH - A & B

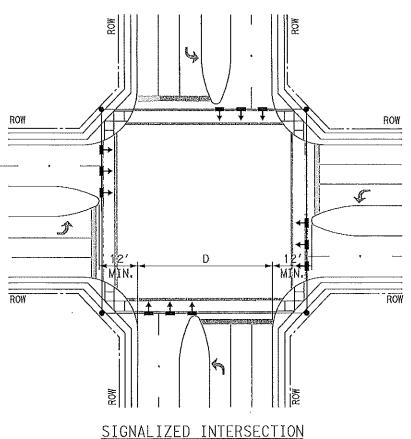
	IF INTERSECTING CROSS STREET IS:			
IF ROADWAY IS:	MAJOR THOROUGHFARE (A)	COLLECTOR STREET (B)	LOCAL STREET (C)	PRIVATE STREET OR DRIVEWAY (C)
MAJOR THOROUGHFARE	500 FT.	350 FT.	300 FT.	300 FT.
COLLECTOR STREET	350 FT.	350 FT.	300 FT.	300 FT.
LOCAL STREET	300 FT.	300 FT.	300 FT.	300 FT.

### TYPICAL MEDIAN OPENING - C

MEDIAN INTERRUPTION FOR	NO LTB (1)	1 LTB (1)	2 LTB (1)
PRIVATE DRIVE	45 FT.	52.5 FT.	60 FT.
UNDIVIDED STREET (40 FT. 44 FT.	45 FT. 50 FT.	52.5 FT. (2) 55 FT. (2)	60 FT. 60 FT.
DIVIDED STREET ALL	E+24 FT.	E+24 FT.	E+24 FT.



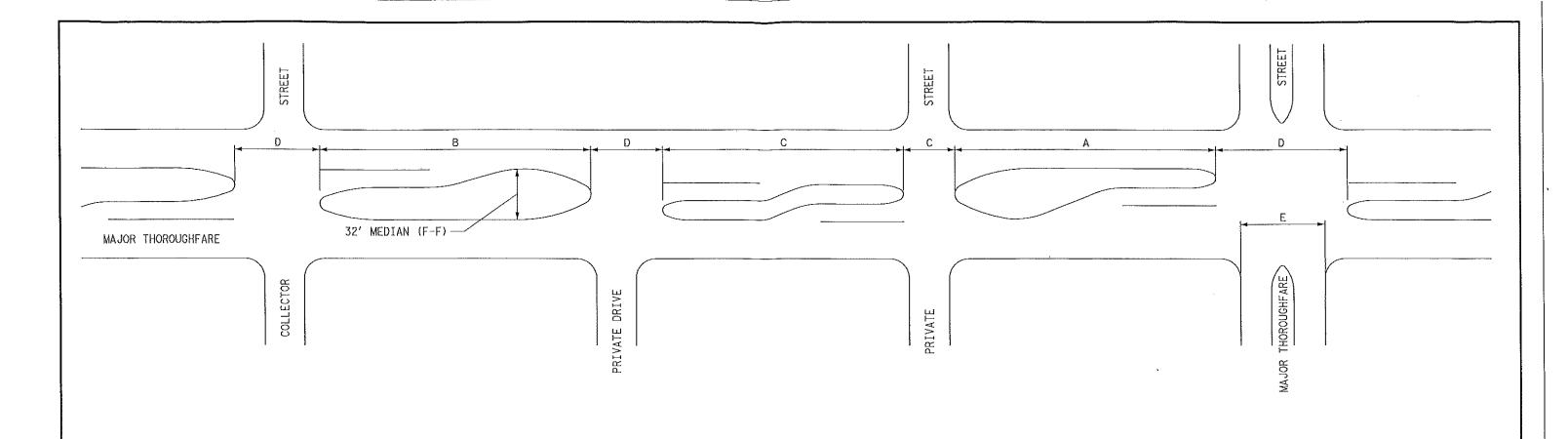
- 1. LTB LEFT TURN BAY.
- 2. DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN NOSE WITH LEFT TURN LANE IS 30 FT. FOR RIGHT ANGLE INTERSECTIONS. FOR INTERSECTIONS OTHER THAN 90 DEGREES, APPLY DESIGN VEHICLE TURNING TEMPLATE TO DETERMINE DIMENSION TO MEDIAN NOSE CUT-OFF.
- 3. DIMENSIONS A, B, C AND D ARE MEASURED FACE TO FACE (F-F).



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### MINIMUM MEDIAN LENGTH - A & B

TE DOLDWAY IC-	IF INTERSECTING CROSS STREET IS:			
IF ROADWAY IS:	MAJOR THOROUGHFARE (A)	COLLECTOR STREET (B)	LOCAL STREET (C)	PRIVATE STREET OR DRIVEWAY (C)
MAJOR THOROUGHFARE	500 FT.	350 FT.	350 FT.	300 FT.
COLLECTOR STREET	350 FT.	350 FT.	350 FT.	300 FT.
LOCAL STREET	300 FT.	300 FT.	350 FT.	300 FT.

### \* TYPICAL MEDIAN OPENING - D

MEDIAN INTERRUPTION FOR	NO LTB <sup>(1)</sup>	1 LTB (1)	2 LTB (1)
PRIVATE DRIVE	45 FT.	52.5 FT.	60 FT.
UNDIVIDED STREET  <40 FT.  44 FT.	45 FT. 50 FT.	52.5 FT. (2) 55 FT. (2)	60 FT. 60 FT.
DIVIDED STREET ALL	E+28 FT.	E+28 FT.	E+28 FT.

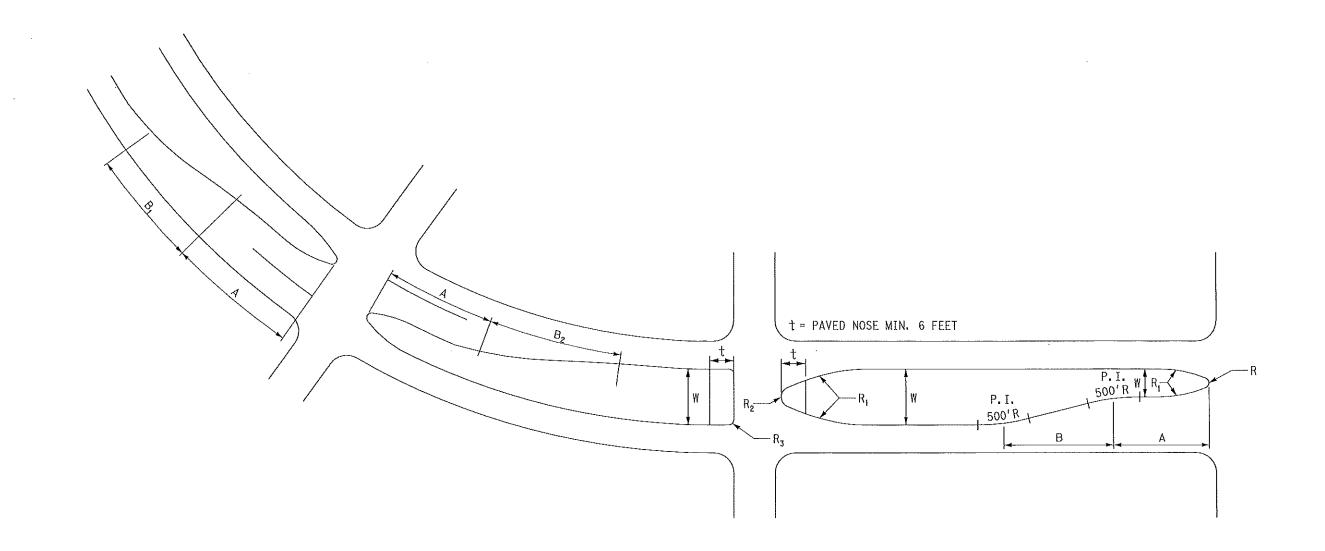
\* MEDIAN NOSE PLACEMENT CONTINGENT ON CROSSWALK AND STOP BAR PLACEMENT

- NOTES: 1. LTB LEFT TURN BAY.
- 2. DISTANCE FROM CENTERLINE OF OPENING TO MEDIAN NOSE WITH LEFT TURN LANE IS 30 FT. FOR RIGHT ANGLE INTERSECTIONS. FOR INTERSECTIONS OTHER THAN 90 DEGREES, APPLY DESIGN VEHICLE TURNING TEMPLATE TO DETERMINE DIMENSION TO MEDIAN NOSE CUT-OFF.
- 3. DIMENSIONS A, B, C, D AND E ARE MEASURED FACE TO FACE (F-F).

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### MEDIAN DIMENSIONS

₩ (F-F)	R <sub>1</sub> *	R <sub>2</sub> *	R <sub>3</sub> *
<u>&lt;</u> 10 FT.	NONE	<u>₩</u> 2	NONE
>10 FT. <u>&lt;</u> 44 FT.	90 FT.	₩ 5	NONE
>44 FT.	NONE	NONE	15 FT.

\*ADJUST TO NEAREST 0.5 FT.

### NOTES:

- 1. DIMENSIONS MAY BE ADJUSTED AS DETERMINED BY COUNTY ENGINEER.
- 2. P.I. = POINT OF INTERSECTION.
  - 3. F-F = FACE TO FACE.

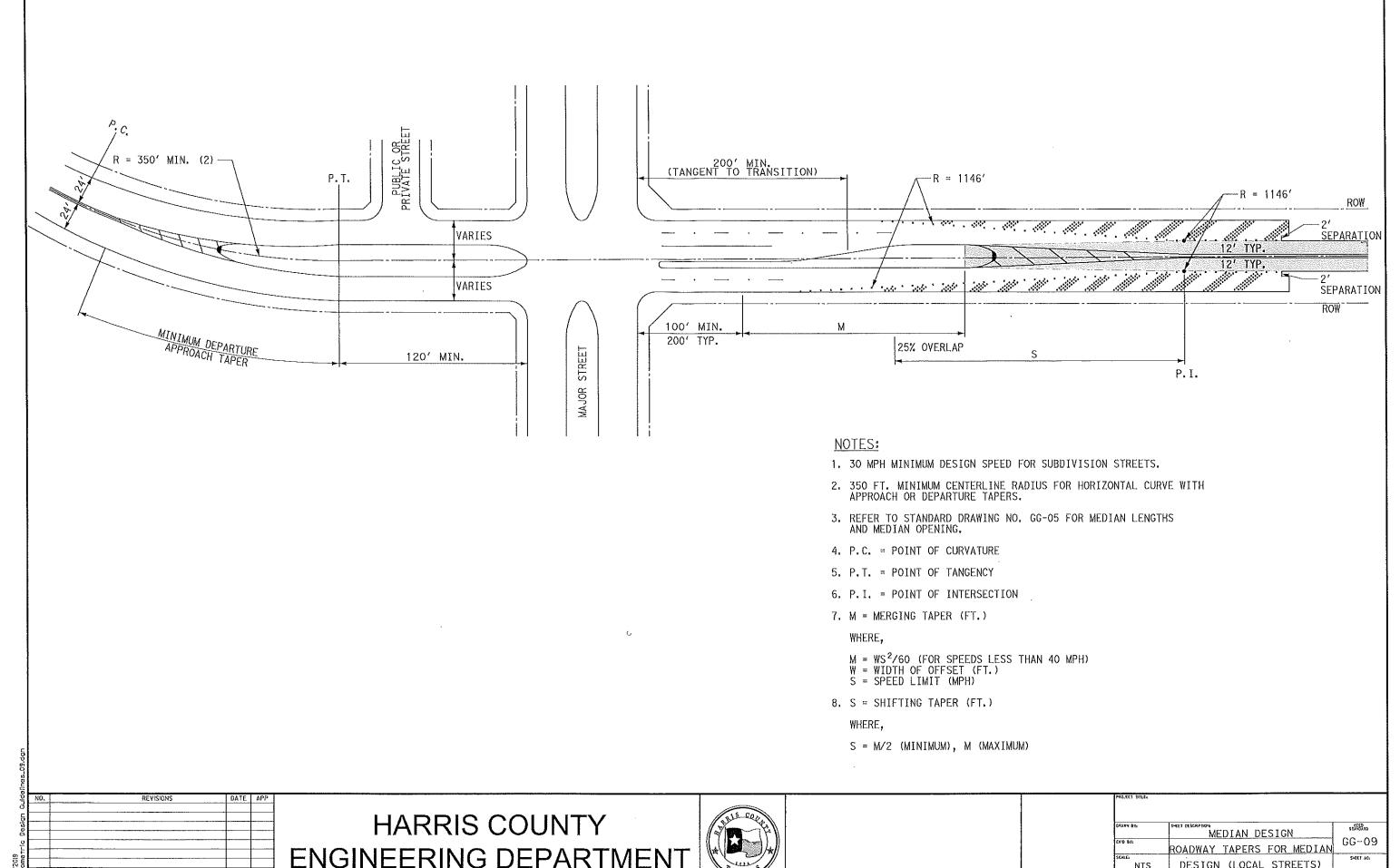
### LEFT TURN BAY DIMENSIONS

- A = 250 FT. MINIMUM AT INTERSECTION OF TWO MAJOR STREETS. 100 FT. MINIMUM AT ALL OTHER INTERSECTIONS.
- B = 100 FT. MINIMUM ON STRAIGHT ROADWAY.
- B, = TAPER LENGTH MAY BE SHORTER IF IT IS ON A HORIZONTAL CURVE TO THE LEFT.
- $\dot{B}_2$  = TAPER LENGTH MAY BE LONGER IF THE CURVE IS TO THE RIGHT.

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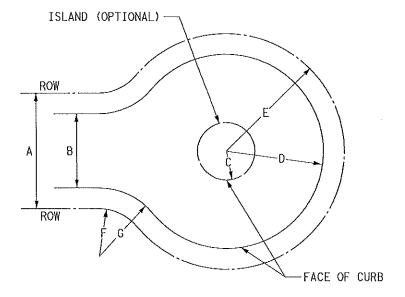
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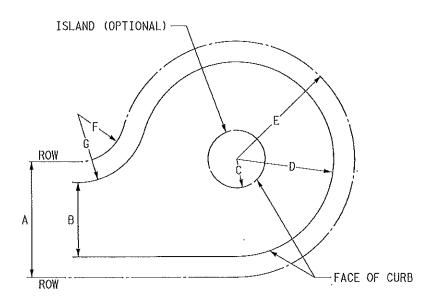
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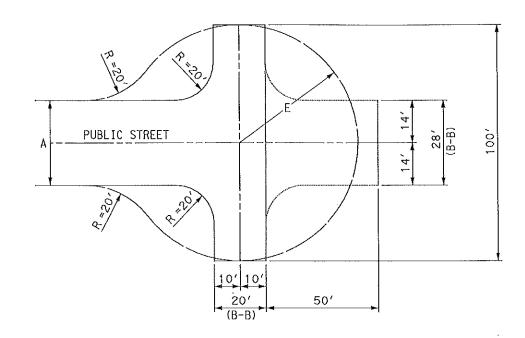
ſı	SHEET DESCRIPTION  MEDIAN DESIGN	STANDARO
	ROADWAY TAPERS FOR MEDIAN	GG-09
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SYMMETRICAL CUL-DE-SAC



OFFSET CUL-DE-SAC



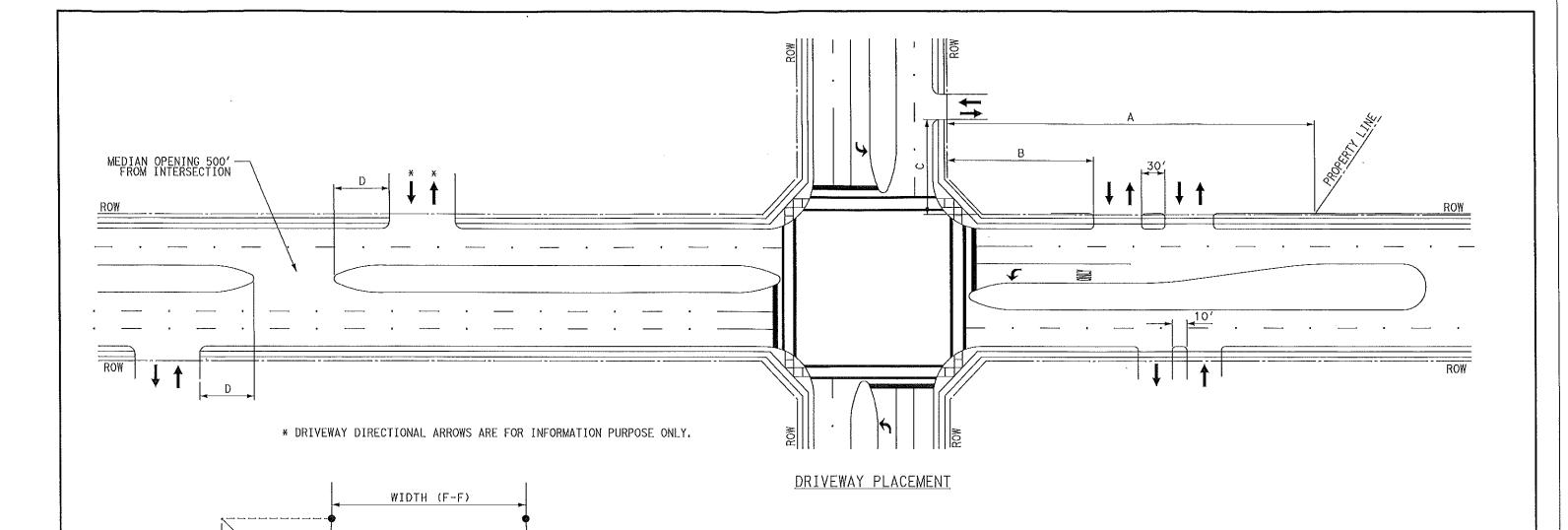
<u>HAMMERHEAD</u>

	CUL-DE-SAC		
	ABUTTING LAND USE		
	SINGLE FAMILY	ALL OTHER	
A (B-B)	ALL WIDTHS	60 FT.	
B (B-B)	ALL WIDTHS	40 FT.	
C (MIN.)	0 FT.	O FT.	
C (MAX.)	20 FT.	15 FT.	
D	42 FT.	50 FT.	
E	50 FT,	60 FT.	
F	25 FT.	25 FT.	
G	35 FT.	35 FT.	

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DPANK BY)	STREET TERMINATION	ORIONA'S
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### TABLE 1 - DRIVEWAY DESIGN CRITERIA\*

	SINGLE FAMILY RESIDENTIAL				ALL OTHERS			
	RADIUS (FT.)		WIDTH (F~F) (FT.)		RADIUS (FT.)		WIDTH (FT.)	
	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.	MAX.	MIN.
TWO-WAY	15	4	24	12	20	10	35	24
JOINT-ACCESS	15	4	24	12	20	10	35	24
ONE-WAY	15	4	20	12	20	10	20	15

\* ALTERNATIVE DRIVEWAY DESIGNS MAY BE APPROVED BASED ON SITE SPECIFIC CIRCUMSTANCES.

RADIUS

### TABLE 2 - NON-RESIDENTIAL DRIVEWAY PLACEMENT CRITERIA

А		В	С	D
FRONTAGE (2)	NUMBER OF DRIVEWAYS	MINIMUM DRIVEWAY OFFSET (PRIMARY STREET)	MINIMUM DRIVEWAY OFFSET (INTERSECTING STREET)	MINIMUM DRIVEWAY OFFSET (MID-BLOCK MEDIAN OPENING)
UP TO 170 FT.	1	100 FT.	60 FT.	75 FT.
170 FT. TO 250 FT.	2	100 FT.	60 FT.	75 FT.
250 FT. TO 450 FT.	3	100 FT.	60 FT.	75 FT.
> 450 FT.	1 ADDITIONAL / 250 FT. FRONTAGE	100 FT.	60 FT.	75 FT.

### NOTES:

- 1. DIMENSION A IS MEASURED ROW TO ROW.
- 2. DIMENSIONS B AND C ARE MEASURED ROW TO FACE OF CURB.
- 3. DIMENSION D IS MEASURED FACE TO FACE (F-F).

HARRIS COUNTY ENGINEERING DEPARTMENT

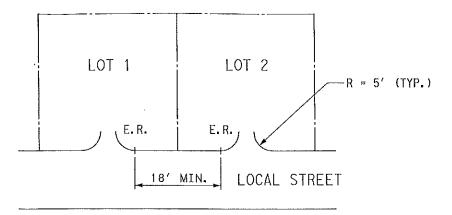


NON-RESIDENTIAL GG-11

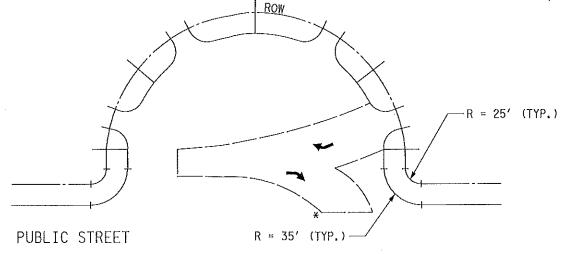
ORIVEWAY PLACEMENT

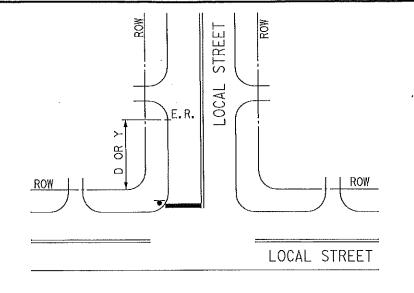
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### MINIMUM DRIVEWAY DISTANCE FOR RESIDENTIAL LOTS E.R. - END OF RADIUS





T-INTERSECTION SEE TABLE 1. SEE NOTES 1, 2, 3 AND 4.

### KNUCKLE, BULB, AND OFFSET BULB \*TURNING TEMPLATE MAY BE REQUIRED TO ENSURE A VEHICLE CAN BACK OUT OF THE DRIVEWAY WITHOUT IMPACTING THRU-TRAFFIC.

### TABLE 1

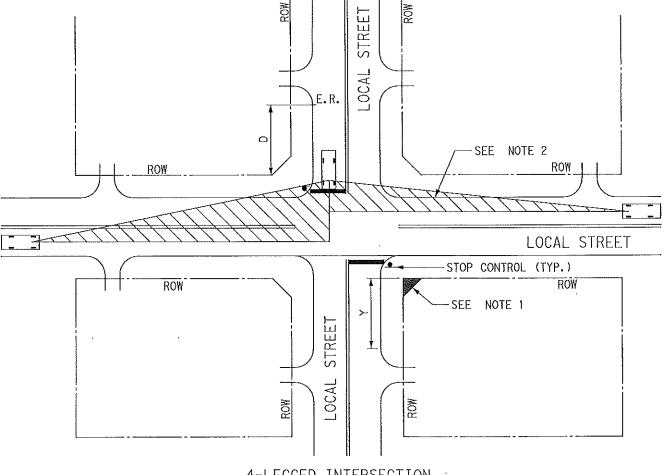
PAVEMENT WIDTH	ROW	50 FT.	60 FT.
20 ГТ	D	18.5 FT.	
28 FT.	Υ*	18.5 FT.	-
41 57	D	13.5 FT.	18.5 FT.
41 FT.	Υ×	13.5 FT.	18.5 FT.

\* SEE NOTE 3.

#### NOTES:

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- 1. REFER TO INTERSECTION GEOMETRY CURB RADIUS AND CORNER CUTBACK SHEET.
- 2. DRIVEWAYS SHALL NOT BE LOCATED WITHIN THE SIGHT TRIANGLE. REFER TO INTERSECTION GEOMETRY - SIGHT TRIANGLE SHEET.
- 3. DISTANCE BASED ON 25 FT. CURB RADIUS (15 FT. X 15 FT. CORNER CUTBACK) AND 30 FT. CURB RADIUS (20 FT. X 20 FT. CORNER CUTBACK). FOR ALL OTHER CURB RADIUS AND CORNER CUTBACKS, APPROVAL WILL BE REQUIRED BY COUNTY ENGINEER.
- 4. DRIVEWAYS SHALL NOT BE LOCATED WHERE IT MAY IMPACT FUTURE PLACEMENT OF ONE ADA-COMPATIABLE



4-LEGGED INTERSECTION

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FREE FLOW INTERSECTION

LOCAL STREET

HARRIS COUNTY **ENGINEERING DEPARTMENT** 



RESIDENTIAL DRIVEWAY GG-12 PLACEMENTS ON SHEET NO. LOCAL STREETS