



CITY OF WACO, TEXAS

*PARKING AND ACCESS
DESIGN STANDARDS FOR
SITE DEVELOPMENT*

*FROM THE WACO
DEVELOPMENT GUIDE*

REVISED JANUARY 2010

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- ◆ Approval of Technical Designs
- ◆ Traffic Impact Analysis
- ◆ Traffic operations
- ◆ Sight obstruction standards
- ◆ Street lighting, street sign & street markings policy
- ◆ Additional right-of-way
- ◆ Parking & Access Design Standards
- ◆ Design of new streets and additional lanes
- ◆ Off-Site Circulation
- ◆ On-Site Lighting
- ◆ Traffic Signal maintenance access agreement
- ◆ Review of zoning, special permit, and comprehensive plan changes, annexations, abandonments, subdivision plats

Parking, Loading & Site Access

The design of all parking, loading and site access facilities (including streets, sidewalks, and driveways) shall comply with the “Parking and Access Design Standards” section of this document, and with the following additional standards.

- ⦿ Every parking lot and driveway shall be graded for proper drainage and provided with an all-weather surface (concrete, HOT mix asphaltic concrete, surface treatment) as approved by the City Engineer, maintained at all times in such a manner as to prevent the release of dust, and shall be kept free of dust, trash and debris.
- ⦿ Driveways, except where designed for one-way traffic flow within a parking lot, shall not be less than 24 feet in width or more than 40 feet in width. The driveway system shall allow for unobstructed emergency access at least 16 feet in width as close as possible to each structure, and shall be clearly marked to prohibit parking or other obstruction of such emergency access (See Part V, “Off-Street Parking and Loading”, Waco Zoning Ordinance).
- ⦿ A required off-street loading space shall be at least 12 feet in width and at least 45 feet in length exclusive driveways, aisles, ramps, maneuvering space, columns, work areas, and shall have a vertical clearance of not less than 15 feet. Where a use is not required to have a loading space, provisions shall be made for incidental deliveries and refuse pickup, which shall not interfere with on-site or off-site traffic movements.
- ⦿ Each required off-street loading space shall be designed with appropriate means of vehicular access and circulation to a street from a driveway in a manner, which will least interfere with traffic movements, and no area allocated to any off-street loading areas shall be used to satisfy the space requirements for any off-street parking facilities.
 - ⦿ All open off-street loading spaces, access drives, aisles, and maneuvering space shall be improved with a compacted base and a permanent-wearing surface as approved by the City Engineer.

Parking & Access Design Standards

Site plan evaluation for new developments is intended to promote a standard of development in the City of Waco which will contribute to the long-term maintenance of the street system, and protection of public and private investment.

The information which follows will describe the City of Waco's standards for streets, parking and access, safety, and on-site development. These standards will be uniformly applied to property developments undergoing the Plan Review Process.

Sight Obstruction Standards for Public Right-Of-Ways

It is not permitted for any person within the City of Waco, without obtaining a permit to erect, construct, reconstruct, alter or repair, or to permit the erection, construction, alteration or repair of any fence, wall, hedge, or structure of any kind, on or across public right-of-ways, or within the sight triangle.

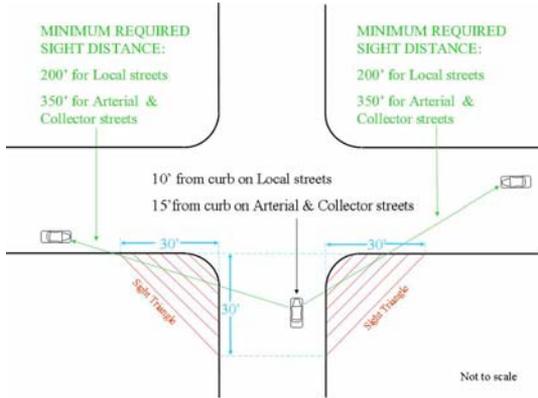
No person shall place, maintain, permit or cause to be placed or maintained, any tree, shrub, or plant of any kind, or vehicle of any kind on or across public right-of-way in such a way as:

- ⦿ to obstruct passage on and use of that area by the public,
- ⦿ to create a hazard to persons using the right-of-way, or
- ⦿ to restrict the drainage flow. (These restrictions shall apply to used right-of-way between the property line and the curbline.)

Driveways should observe the same sight obstruction standards as described for street and alley corners. All parts of any vehicle parked adjacent to a public street or public right-of-way should be parked entirely on private property, and should not extend into the public right-of-way. This vehicle should also be parked in observance of the sight obstruction standards.

All signs shall comply with the applicable section in the City of Waco Zoning Ordinance and should also be placed in observance of sight obstruction standards.

Schematic of REQUIRED MINIMUM SIGHT DISTANCE AT DRIVEWAYS AND INTERSECTIONS



Residential Driveway Standards

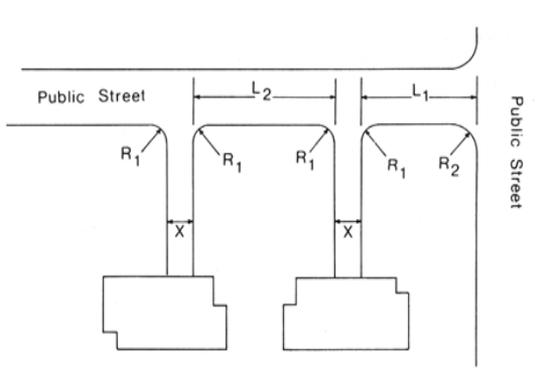
Residential driveway standards apply to single-family and two-family residential land uses. Under normal circumstances, one (1) driveway is permitted for each residential lot, and these standards are intended for local streets only. Exceptions may be permitted for each residential lot, corner lots, and circle driveways.

The edge of a driveway shall be located no closer than four (4) feet to the property line, without an encroachment agreement with the adjacent homeowner.

Driveway construction details may be obtained from the City Engineer for all types of driveways. Refer to the Residential Driveway Standards Chart below.

Residential Driveway Standards

Drive-way Type	Drive-way Width	Curb Radius	Drive-way to Corner Length	Length Between Drive-ways	Street Corner Radius
	X	R1	L1	L2	R2
Single Drive-way	10' Min	4' Min 15' Max	30' Min	8' Min	15' Min 25' Max
Double Drive-way	20' Min 30' Max	4' Min 15' Max	30' Min	8' Min	15' Min 25' Max



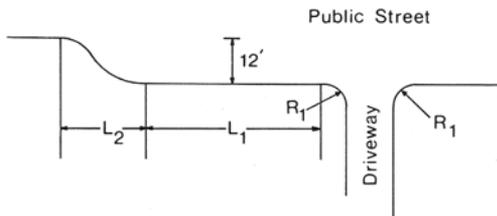
Commercial Driveway Standards

Commercial driveway standards apply to all land uses including office and multi-family residential. The location and design of all driveway openings shall meet the standards contained in this section and shall be submitted for approval by the Traffic Engineer.

Multiple driveway openings for a single development shall not exceed fifty percent of the property frontage as measured at the street curblines. This distance shall include the curb radius on the driveway.

Deceleration lanes may be required by the Traffic Engineer for driveways on arterial streets. Requirements for these lanes may be anticipated where the additional lane is needed to avoid disrupting traffic flow on the street. Refer to the chart below.

DECELERATION LANE STANDARDS			
Public Street Speed Limit (mph)	Minimum Lane Length L_1	Minimum Transition Length L_2	Curb Radius R_1
30	60'	60'	15' Min
35	60'	60'	15' Min
40	100'	70'	15' Min
45	130'	100'	15' Min
50	150'	100'	15' Min



Waco's quality of urban development is aggressively promoted in newly developing areas by encouraging joint access, prohibiting back-out residential driveways, and limiting the number of driveways in a given development frontage.

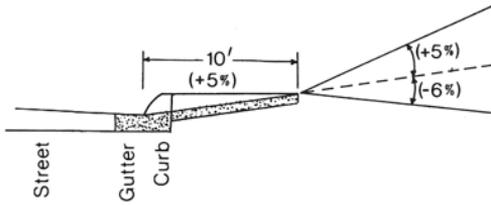
Street Type	Arterial	Collector	Local*	CBD*
Driveway Width X	30' Min 42' Max*	24' Minimum 42' Maximum*		
Curb Radius R ₁	10' Minimum			
Driveway to Corner Length L ₁	120' Min	60' Min	30' Minimum	
Length Between Driveways L ₂	40' Min	40' Min	30' Minimum	
Street Corner Radius R ₂	25' Min	15' Minimum		

*Divided driveway with raised medians will be reviewed for exception.

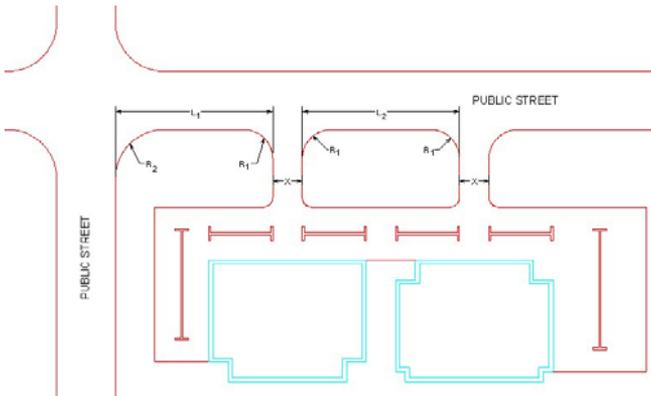
Driveway access to selected major streets, which are currently developed, may be restricted or prohibited where new driveways would create or worsen traffic problems.

Where severe physical restrictions exist and where such restrictions would effectively prohibit access to a property under development, the Traffic Engineer may waive one or more of the requirements contained herein. However, no driveway will be permitted when undue safety hazards to the motoring public could result.

The rise in a drive approach from the gutter line to the back of the apron shall be six inches, making the driveway slope in the first ten feet from the gutterline 5 percent. The slope may rise an additional 5 percent or fall a maximum of 6 percent in the second ten feet. These standards shall apply unless unusual conditions exist and permission is obtained from Engineering Services of the City of Waco for a variance.



Where planned adjacent to another property, the driveway opening shall be set off the property line by a distance equal to the required curb radius. Adherence to this requirement should not significantly change the angle of intersection between the driveway and street from ninety (90) degrees. Refer to the chart below.



Driveways may be required to be shared among adjacent property owners with appropriate recorded ingress/egress and cross parking agreements. Driveways serving major trip generations will be required to have raised barrier curb to prevent internal circulation from crossing the driveway close to the street intersection.

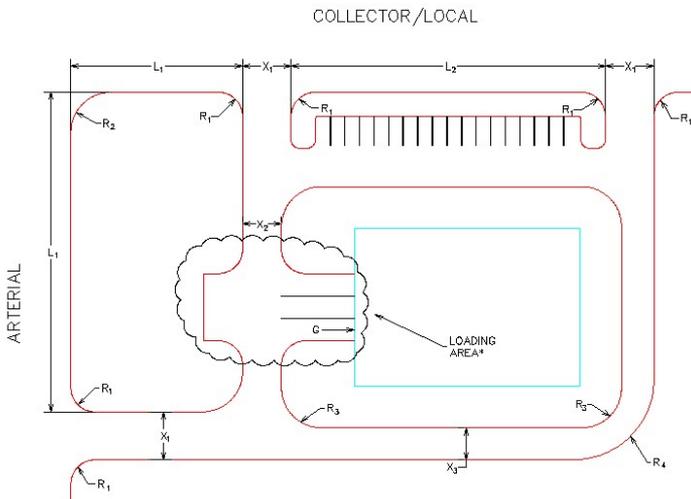
Industrial Driveway and Internal Circulation Standards

Industrial driveway standards apply to land uses within designated industrial districts. These standards may also be applied to other land uses with industrial or commercial zoning where frequent use by large wheel base or semi-trucks is anticipated. The design of internal circulation elements must consider the operational characteristics of large wheel base trucks and semi-trailers as well as parking and loading requirements. Refer to the chart below.

- ◆ Commercial driveway width and curb radius standards shall apply to driveways anticipated to accommodate passenger vehicles and smaller trucks only.
- ◆ Industrial driveways shall be located and designed in such a way that all maneuvering space to loading areas or docks is provided on-site, so as to discourage backing from the street. The location and design of all industrial driveway openings shall meet the standards contained in this section and shall be approved by the Traffic Engineer.
- ◆ Service roads within the property should be twenty-four (24) feet in width for two-way operation.
- ◆ Care should be taken to prohibit parking where it may conflict with truck circulation or maneuvering into the truck dock areas.

INDUSTRIAL DRIVEWAY AND INTERNAL CIRCULATION STANDARDS			
Street Type	Arterial	Collector	Local
Driveway Width X_1	30' Min 50' Max	30' Minimum 50' Maximum	
Curb Radius R_1	15' Min 25' Max	10' Minimum 15' Maximum	
Driveway to Corner Length L_1	120' Min	60' Minimum	
Length Between Driveways L_2	40' Min	40' Min	30' Min
Street Corner Radius R_2	25' Min*	25' Minimum*	
Two-Way Aisle Width X_2	24' Minimum		
One-Way Aisle Width X_3	20' Minimum		
90° Inside Curb Radius for Service Road R_3	25' Minimum*		
90° Outside Curb Radius for Service Road R_4	50' Minimum*		
Dock Approach Grade G	10% Maximum		

*Larger minimum or compound radius may be required in some cases depending on design vehicle.



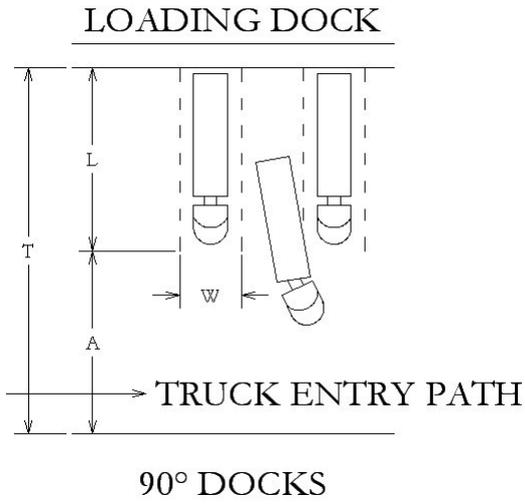
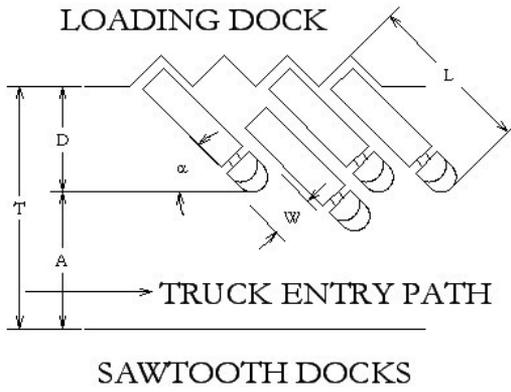
Industrial Loading Facilities

The City of Waco Zoning Ordinance requires developers to provide off-street loading facilities. Each off-street loading space shall consist of a rectangular area in accordance with the Loading Berth and Apron Length Requirements. Minimum vertical clearance required is fifteen feet.

- ◆ For single bay loading docks, the loading space may be considered as part of the maneuvering (apron) space, but for multiple bay loading docks, the loading space may not be considered as part of the apron space.
- ◆ Each loading space shall have adequate drives, aisles, and turning and maneuvering areas for access and usability, and shall at all times have access to a public street or alley.
- ◆ Maneuvering space for loading must be located completely outside the right-of-way of all public streets.
- ◆ Loading berths are to be accommodated entirely on the premises, including the location of trash receptacles. The minimum number of loading spaces shall comply with the following schedule.

Industrial Loading Space Requirements

Use	Gross Floor Area	Required Loading Spaces
Commercial	0 - 39,000	0
	40,000 - 100,000	1
	each additional 100,000	Add 1
Industrial	0 - 9,999	0
	10,000 - 25,000	1
	25,001 - 39,999	2
	40,000 - 100,000	3
	each additional 100,000	Add 1



LOADING BERTH AND APRON LENGTH REQUIREMENTS

Design Vehicle	Length in feet (L)	Dock Angle (a)	Clearance in feet (D)	Berth width in feet (W)	Apron Space in feet (A)	Total Offset in feet (T)
SU	30	90°	30	12	58	88
				14	56	86
		60°	26	12	30	56
				14	28	54
		45°	21	12	21	42
				14	18	39
WB-40	50	90°	50	12	56	106
				14	52	102
		60°	44	12	40	84
				14	35	79
		45°	36	12	32	68
				14	29	65
WB-50	55	90°	55	12	69	124
				14	63	118
		60°	48	12	46	94
				14	40	88
		45°	39	12	34	73
				14	31	79
WB-62	69	90°	69	12	79	148
				14	69	138
		60°	60	12	58	118
				14	53	113
		45°	49	12	47	96
				14	45	94

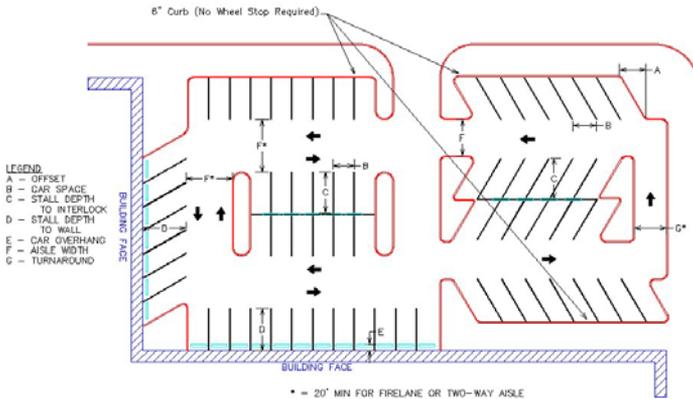
Off-Street Parking Standards

The developer shall refer to the City of Waco Zoning Ordinance for the required front and side yard distances, and number of parking spaces in each zoning district. Contact state officials for the number and location of desired handicapped spaces in each type of development. Refer to the Parking Design and Layout Standards shown on this page.

- ◆ The design and layout of all parking lots and parking facilities shall meet the standards contained in this section and are subject to the approval of the Traffic Engineer. Aisle widths specified are minimum requirements and should be increased as needed to be compatible with driveway opening requirements.
- ◆ Required off-street parking shall contain sufficient aisles, driveways and turnarounds to ensure adequate internal vehicular circulation. Parking layout for all site developments shall not utilize public streets for such circulation. The use of City streets for angle or head-in parking is strictly prohibited. These streets are commonly used for fire lanes and turning radius needs.
- ◆ Refuse containers shall be located on the premises via internal circulation in or from the parking lot.

PARKING DESIGN STANDARDS

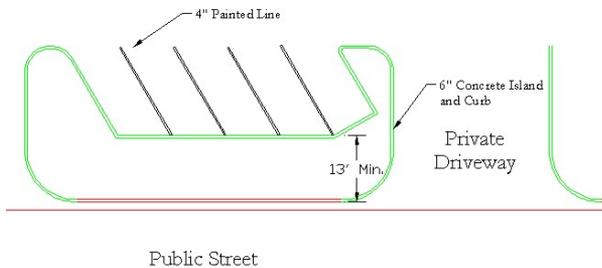
Layout Parameter		9' Stall Width (Recommended Minimum)			8.5' Stall Width (Alternate)		
		45°	60°	90°	45°	60°	90°
		A	Offset	18'	11'	4'	18'
B	Car Space	12.7'	10.4'	9'	12'	9.8'	8.5'
C	Stall Depth to Interlock	15.3'	17.5'	18.5'	15.3'	17.5'	18.5'
D	Stall Depth to Wall	17.5'	19'	18.5'	17.5'	19'	18.5'
E	Car Overhang	2'	2.3'	2.7'	2'	2.3'	2.7'
F	Aisle Width	12'	16'	23'	13'	18'	25'
G	Turnaround	17'	14'	14'	17'	14'	14'



Marking Standards

Typical island and curb markings may be painted instead of being six (6) inch raised concrete. A concrete curb or wheel stop shall be placed behind all property lines in such a manner that no part of any parked vehicle extends into or over the right-of-way and all parked vehicles are in observance of the sight obstruction ordinance. In no case shall this curb or wheel stop be located less than thirteen feet behind the back of the street curb. Refer to the layout below.

Typical Marking Layout



Alley Access

The use of alleys by the public for access to off-street parking is permissible under certain conditions. Alley intersections shall meet the minimum City sight distance requirements as defined by the following statements:

- ⦿ The alley has no severe horizontal or vertical alignment problems or major obstructions.
- ⦿ Adequate provision is made in the alley by the developer to relocate existing and proposed utilities and utility poles as needed, and to satisfy City refuse pick-up requirements.
- ⦿ The alley is paved with concrete by the developer according to City specifications as determined by the City Engineer. Such paving shall be required of the developer for the full width of the development plus any additional paving needed to provide a continuous paved accessway to a nearby City street.
- ⦿ If the alley is proposed for use as a direct access to head-in parking, three additional conditions must be satisfied: a) the total number of parking spaces provided must equal or exceed the number required by the City of Waco Zoning Ordinance, b) the minimum aisle width for the alley head-in parking is twenty-five feet, and c) no variances to required yard setbacks and required off-street parking may be requested.

Street Lighting

The City of Waco requires adequate street lighting along residential streets (local & collector) and commercial developments. High-pressure sodium vapor lighting is preferred except where decorative lighting is used. Metal halide lighting is preferred in the CBD and decorative situations. Alley installations may be allowed at intersections only.

- ◆ All street lighting plans will be submitted directly to the Traffic Engineer for approval. These shall include lighting type, intensity, and location. The City of Waco will assume all maintenance and power costs.
- ◆ All installation costs for underground service shall be paid by the developer or petitioner. The developer or petitioner shall agree to pay the one-time electric provider charges or the difference in cost between a wood pole and the selected decorative pole for the light.
- ◆ The cost of the fixture is included in the monthly flat rate paid by the City of Waco. Steel or decorative poles are required. These must be of a standard type currently in use by the utility company provider serving this location, and are subject to the approval of the Traffic Engineer.
- ◆ Wood poles for above ground service may be used by the developer. These poles are provided by the electric service provider and are requested through the Traffic Engineer.

Site Lighting

Where hazards exist which can be minimized or eliminated by lighting, or where these hazards extend into hours of darkness, the lighting of parking areas, walks and drives may be required in such a manner and during such hours as may be deemed necessary in the interest of public safety and security. Such lighting may be attached to a building or freestanding fixture.

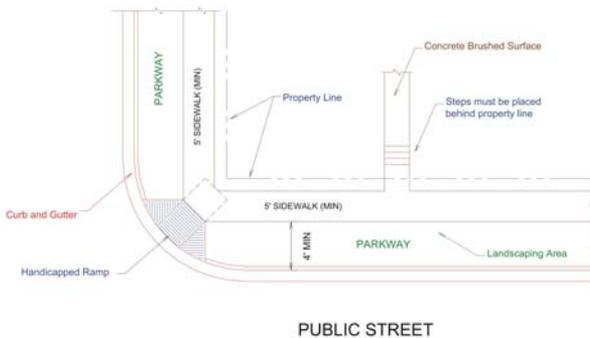
- ◆ Freestanding fixtures should be kept to the minimum height needed to provide adequate lighting. The height and design of the fixture should be such as to minimize their effect on adjoining properties. Lighting plans will be scrutinized for adequate vertical light cutoff.
- ◆ Freestanding and attached fixtures and exposed accessories should be harmonious with building design. No fixed spacing of on-site lighting shall be required provided that illumination is even through parking areas and along walks and drives.
- ◆ For Brazos River Corridor specific site lighting minimums, please refer to Section 28-809.1 of the zoning ordinance.

Sidewalk Standards

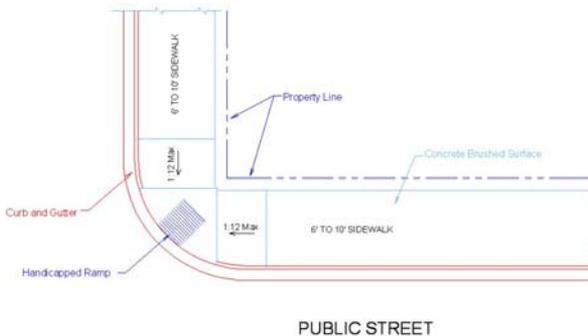
It is the policy of the City of Waco to require the construction of concrete sidewalks on all developments, which front on arterial and collector streets, streets with significant pedestrian activity, the Central Business District, or where the development is adjacent to property with sidewalks. Refer to Typical Sidewalk Layouts and Views.

- ◆ The placement of asphalt pavement and gravel in City right-of-way is strictly prohibited.

Typical Sidewalk Layout-Residential

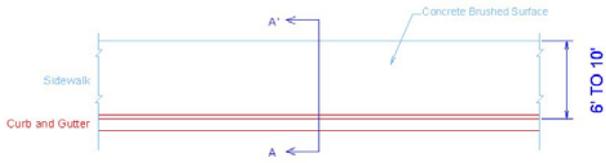


Typical Sidewalk Layout-Central Business District

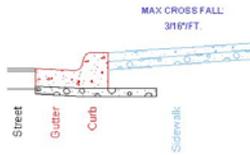


Typical Sidewalk Cross-Section

PLAN VIEW



SECTION A-A'



Traffic Impact Analysis Guidelines

The purpose of the Traffic Impact Analysis Guidelines is to provide developers and transportation consultants with information regarding the contents of traffic impact analysis studies submitted in conjunction with development plans. It is anticipated that by following the guidelines in this document, substantial efficiencies in staff and developer time can be achieved as well as greater consistency in staff requirements and recommendations. This document may be obtained from Engineering Services 254-750-5440, Traffic Services 254-750-6634, or Planning Services 254-750-5650 at no cost.

Refuse and Trash Removal

For all uses, except where individual trash collection is to be provided for each townhouse, two-family or single-family dwelling unit, refuse or trash collection areas shall be provided at the rear of each structure, or positioned in or near the common parking lot or a driveway. Each such area shall be completely screened from view on three sides, with solid fencing of either wood or masonry construction, to a height of seven feet and shall include a concrete pad. Each such refuse area shall be provided with closed and covered trash containers. Contact Refuse Services at 254-751-8510, Engineering Services at 254-750-5440 or Traffic Services at 254-750-6634 for assistance.

Landscaping Requirements

Boundary Landscaping

In all office, commercial, and industrial zoning districts, boundary landscaping shall be provided along the abutting public rights-of-way (except an alley). Trees shall be placed so as not to obstruct sight distances, or vehicular or pedestrian circulation. Increased landscaped area may be substituted for trees by increasing the landscaped area proportionate to the decrease in number of required trees.

Boundary landscaping shall be appropriate to the character of the site and the landscaped areas shall be a size to allow for proper maintenance. Parkway may be counted in meeting the minimum landscape requirements except where documented plans propose an action that will involve the eventual utilization of the parkway for such purposes as widening of a street, placement of a sidewalk or installation of storm drainage. Landscaping within the parkway shall be executed in such a manner as to provide for pedestrian passage.

Interior Parking Lot Landscaping

The substitution of landscaping for up to 20 percent of required parking may be approved by staff during the plan review process if it can be demonstrated by the applicant that parking will be adequate to serve the demand for a site either on site or through an approved shared parking arrangement. Factors to be considered include, but are not limited to, the anticipated availability and use of mass transit; complementary hours of operation; the degree to which the site and structure is customized for the proposed use; the general availability of parking in the surrounding area; and/or the necessity to conserve significant vegetation.