

City of Solana Beach

**OFFSTREET PARKING
DESIGN MANUAL**

7/1/93

OFF-STREET PARKING DESIGN MANUAL

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Introduction

The purpose of this design manual is to ensure that parking areas are functional in design and adequately landscaped and screened to minimize their visual, noise and headlight impact, particularly when adjoining residential areas.

This Offstreet Parking Design Manual implements Section 17.52.030 of the City of Solana Beach Zoning Ordinance:

Section 17.52.030 Design Standards

The design, dimensions, construction, landscaping, and surfacing of parking and bicycle spaces, driveways, loading spaces and other areas shall conform to the requirements of the City of Solana Beach Offstreet Parking Design Manual on file with the City Clerk, copies of which may be obtained in the Department of Community Development. Pursuant to a minor exception, as provided in Section 17.68.030, the Director may waive or modify one or more of these requirements when practical difficulties make their strict application infeasible, and upon a finding that the waiver or modification is consistent with the purpose and intent of the Offstreet Parking Design Manual and Chapter 17.52, Parking and Loading Regulations.

Specific parking requirements, and regulations pertaining to drive-thru facilities, shared parking, off-site parking and parking assessment districts are contained on Chapter 17.52 (Parking and Loading Regulations) of the City of Solana Beach Zoning Ordinance. Fencing requirements for parking areas are contained in Section 17.60.070.

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Section I. Parking Guidelines

- A. **COVERED PARKING.** Covered or enclosed parking spaces may be located anywhere on a building site where a structure may be located.
- B. **OPEN PARKING.** Required open parking spaces shall be located outside the ultimate right-of-way of any street and as follows:

ZONE USE REGULATION*	DETAIL See Page 4	YARDS			
		FRONT	SIDE (Interior)	SIDE (Exterior) Corner Lot	REAR
ER, LR, LMR, MR, MHR, HR	#1	•	◊	•	◊
A, OSR (if use is residential)	#1	•	◊	•	•
C	#2,3,4	Δ	Δ	Δ	Δ
SC (west side of Cedros)	#2,3,4	Δ	Δ	•	Δ
SC (east side of Cedros)	#2,3	•	Δ	•	Δ
SC (all other areas)	#2,3	•	Δ	•	Δ
OP (Hwy 101)	#4	Δ	Δ	•	Δ
LC, PI, LI, OP (all other areas)	#2,3	•	Δ	•	Δ

- = Parking not permitted in yard.
- ◊ = Parking permitted in yard when separated from adjacent property by a 6' high solid fence or wall.
- Δ = Parking permitted in building setback area provided parking area is setback minimum of 5' from street property line and separated from adjacent residential property by a 6' high solid fence or wall (see L.10, p.11)
- * Parking for some uses may be governed by conditional use permits.

- C. **BICYCLE SPACES.** Bicycle spaces shall be located:
 1. As close to building entrances as is practical while maintaining a minimum access aisle of 5 feet and without interfering with pedestrian traffic.
 2. At ground level.
- D. **EXCEPTIONS.** A conditional use permit, variance, or development review permit may specify the location of parking areas and bicycle spaces in locations other than as permitted by all of the above.
- E. **RELATIONSHIP OF PARKING AREA TO BUILDING SERVED.** All required parking and bicycle spaces shall be located on the same lot or building site with the use or structure they serve, unless there is a traversable pedestrian route, not more than 600 feet in length over and along public streets or walkways or permanently established easements between the parking or bicycle spaces and the uses or structures served.

F. LOCATION OF PARKING ON TYPICAL LOTS

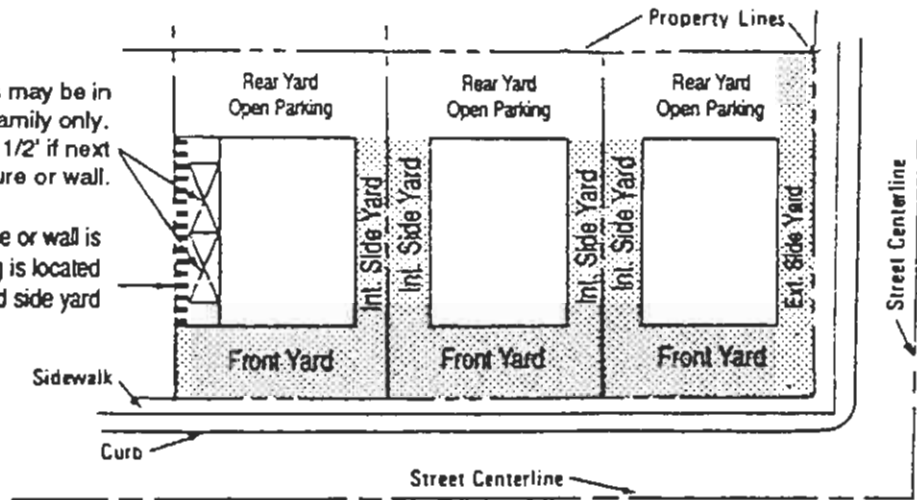
NOTE: No parking in shaded areas.

DETAIL 1

See "B" page 3

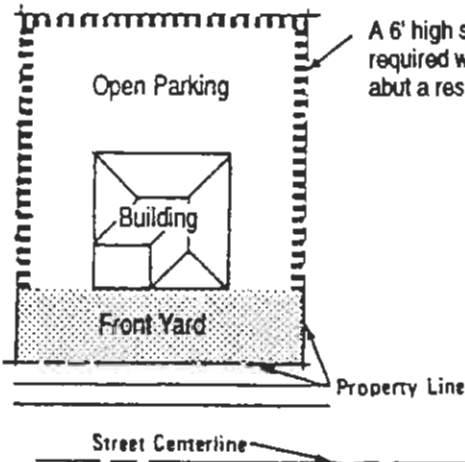
Two 8 1/2' x 19' parking spaces may be in tandem for detached single family only. Width shall be increased to 10 1/2' if next to structure or wall.

A 6' solid fence or wall is required if parking is located in the required side yard



DETAIL 2

See "B" page 3

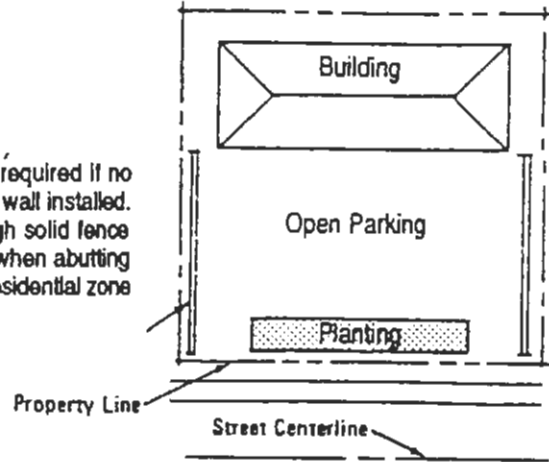


A 6' high solid fence or wall is required when parking areas abut a residential zone

DETAIL 3

See "B" page 3

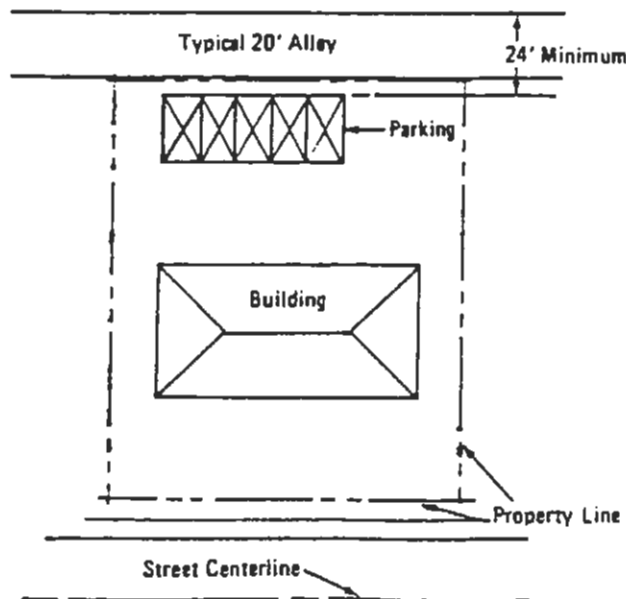
Curb required if no fence or wall installed. (A 6'-0" high solid fence or wall is required when abutting a residential zone)



G. PARKING FROM ALLEY

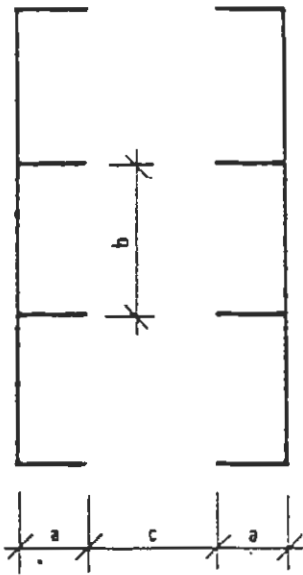
DETAIL 4

See "B" page 3

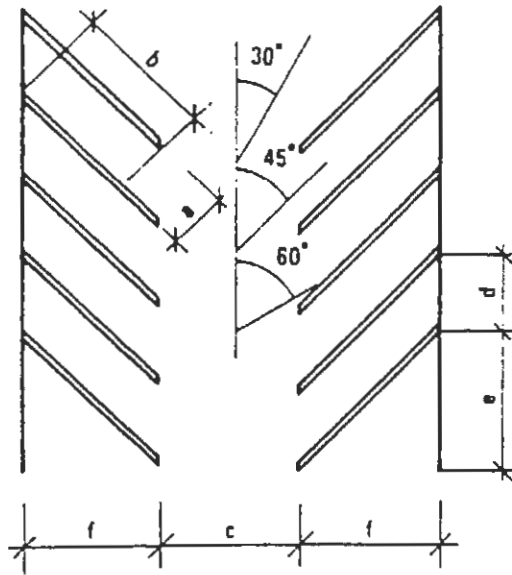


H. TYPICAL PARKING LOT DIMENSIONS

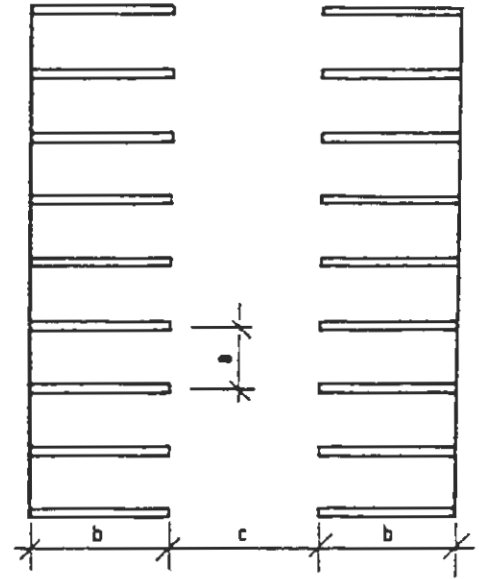
0° PARKING



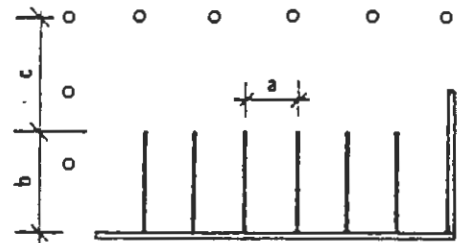
30°, 45°, 60° PARKING



90° PARKING



MOTORCYCLE & BICYCLE PARKING SPACES



MINIMUM DIMENSIONS FOR REQUIRED PARKING SPACES					
Dimension Indicator	0°	30°	45°	60°	90°
a	8'-6"	8'-6"	8'-6"	8'-6"	8'-6"
b	21'-0"	18'-0"	18'-0"	18'-0"	18'-0"
c	15'-0"	13'-0"	14'-0"	18'-0"	22'-0"
d		17'-0"	12'-0"	9'-10"	
e		28'-4"	18'-8"	11'-5"	
f		16'-4"	18'-8"	19'-10"	
DISABLED PARKING SPACES †					
a	14'-0"	14'-0"	14'-0"	14'-0"	14'-0"
b	23'-0"	19'-0"	19'-0"	19'-0"	19'-0"
c	15'-0"	13'-0"	14'-0"	18'-0"	24'-0"
d		28'-0"	19'-10"	16'-2"	
e		34'-5"	22'-0"	13'-0"	
f		19'-11"	22'-0"	23'-0"	

MOTORCYCLE AND BICYCLE PARKING SPACES			
Dimension Indicator	Motorcycle	Bicycle	
		Open	Closed
a	3'-6"	2'-0"	3'-3"
b	7'-0"	6'-0"	6'-0"
c	8'-0"	5'-0"	5'-0"

Spaces shall be protected by fence, wall, or curb at least 6" high or by a 4" ø steel pipe @ 5 ft. o.c., 3 ft. above ground.

NOTES:

* Minimum of 20 feet for two-way traffic.

† See pages 6 and 7 for required number of spaces and other disabled parking requirements.

1. DISABLED PARKING REGULATIONS

1. **SIZE OF SPACE.** Minimum width of a space shall be 9 feet adjacent to a 5 foot wide marked loading area. An adjacent space may share a loading area. (See diagram, page 7)
2. **NUMBER OF REQUIRED SPACES.**

TOTAL # SPACES	# DISABLED SPACES ¹	TOTAL # SPACES	# DISABLED SPACES ¹
0 - 40 ²	1	161 - 300	5
41 - 80	2	301 - 400	6
81 - 120	3	401 - 500	7
121 - 160	4	over 500	+1 for each 200 over 500

3. SPACES SHALL BE LOCATED:

- a. As near as practical to a primary accessible entrance to the associated facility over a 4 foot wide walk suitable for use by a physically disabled person.
- b. Where the slope of the finished grade does not exceed 1/4 inch per foot; and
- c. Where the disabled are not required to pass behind a parked vehicle other than their own.³

4. SIGNING.

Each disabled parking space shall be identified by the "International Symbol of Accessibility" (white symbol on a blue background) displayed on:

- a. A sign (min. 70 sq. in.) located at the interior end of the space mounted either a minimum of 80 inches above finish grade on a free standing post or on a wall a minimum of 36 inches above finish grade or sidewalk; and
- b. The surface of the parking space on a 3 foot painted square.

In addition, a sign of not less than 17 or 22 inches shall be located near the entrance to the parking area which displays the symbol and the following text:

"Unauthorized vehicles not displaying distinguishing placards or license plates issued for physically disabled persons may be towed away at owner's expense. Towed vehicles may be reclaimed at (name and address) or by telephoning (number)."

5. MISCELLANEOUS REQUIREMENTS.

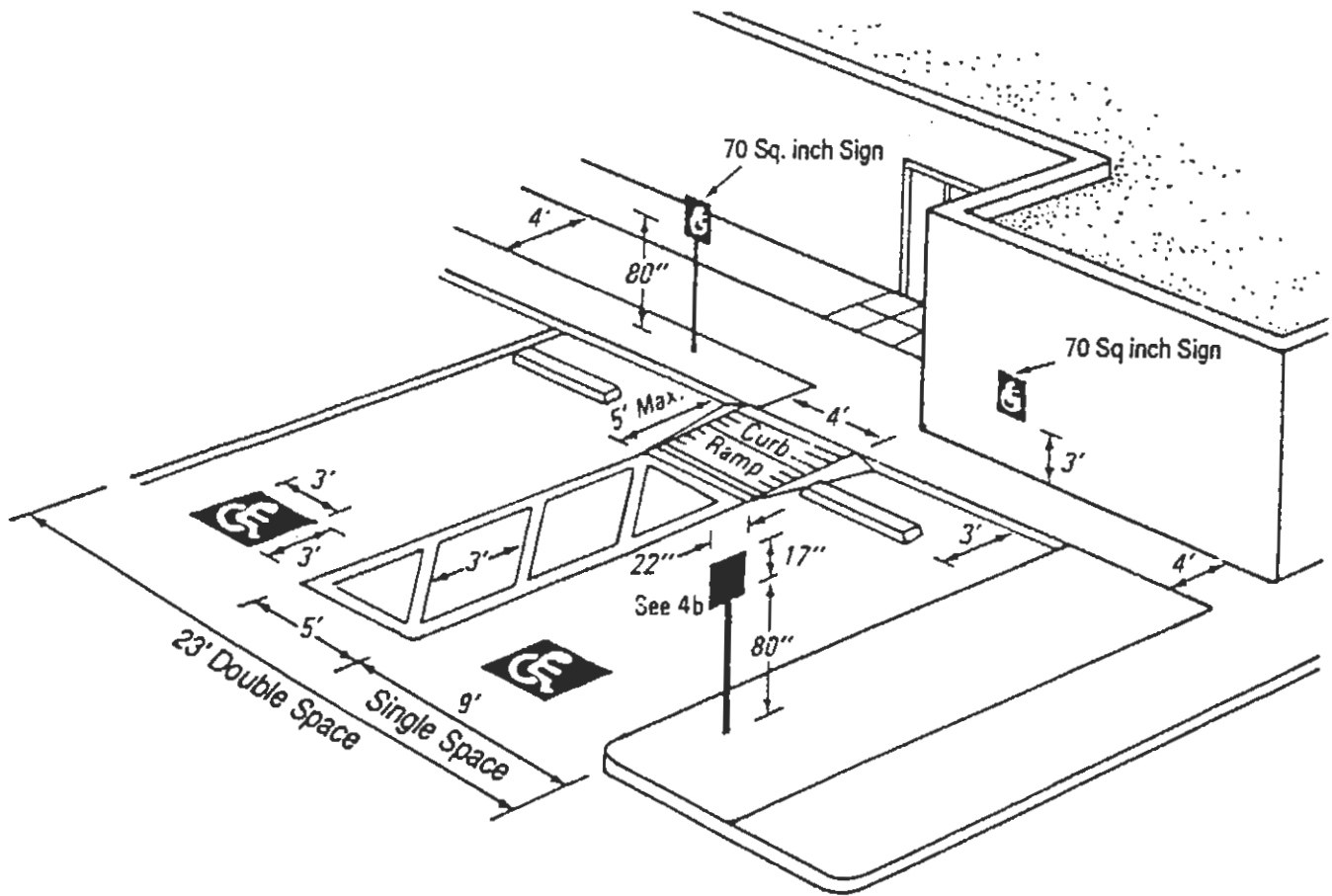
- a. Ramps to accessible walks and paths shall not encroach into parking areas except ramps at the interior end of a parking space may encroach into the loading area provided it does not impede the disabled persons when entering and leaving their vehicle.
- b. Curbs and or wheel stops shall be installed to prevent vehicles from projecting over the required 4 feet wide access walks.
- c. Garages or parking areas shall maintain a minimum vertical clearance of 8 feet 2 inches for access to all disabled parking spaces.³

¹ Not applicable to existing facilities unless change of occupancy.

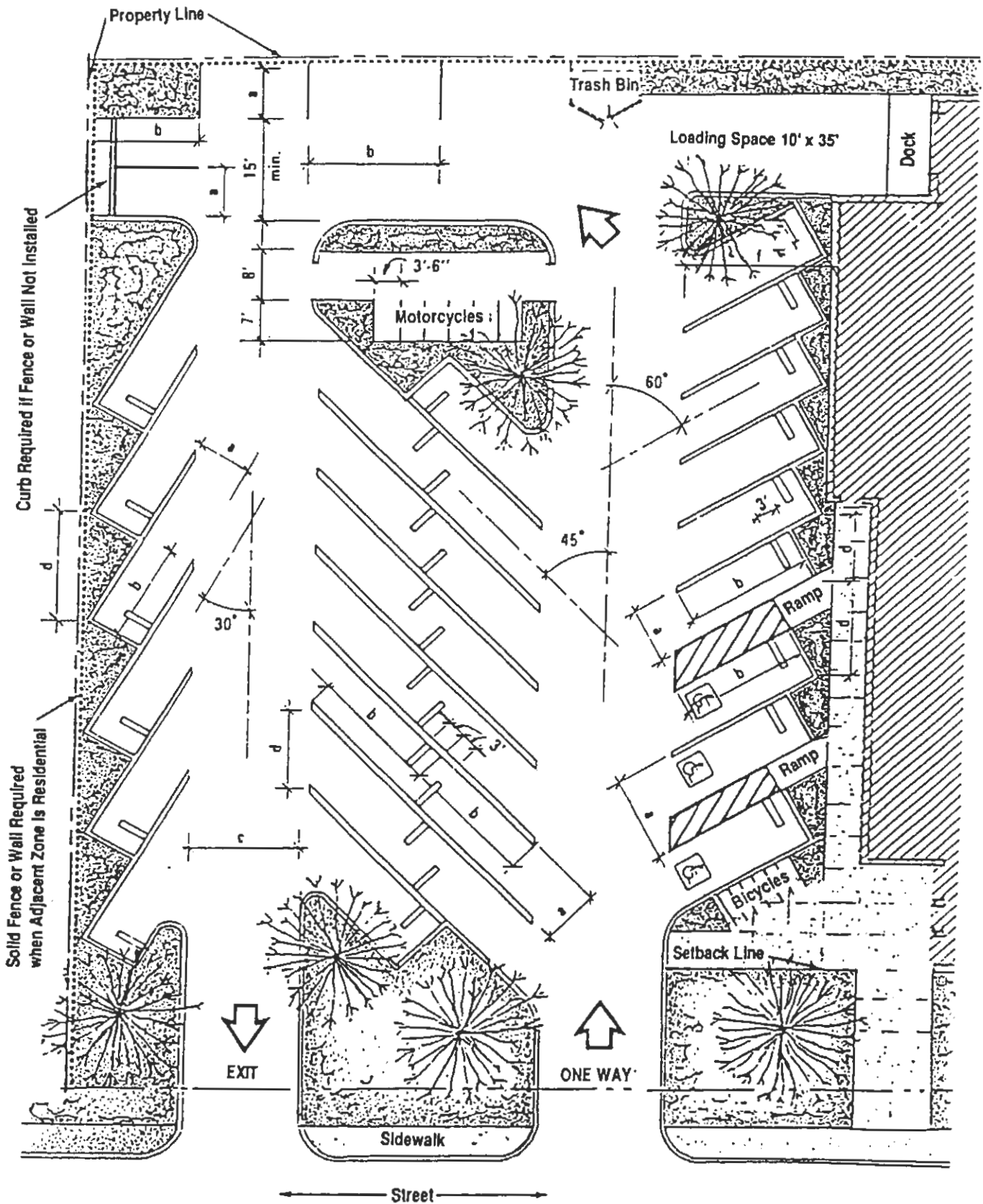
² Less than 5 spaces, one disabled size space required but not exclusively reserved or marked.

³ May be waived when compliance to regulate or "equivalent facilitation" creates an unreasonable hardship.

TYPICAL DISABLED PARKING LAYOUT



J. TYPICAL PARKING LOT LAYOUT



K. TYPICAL DRIVEWAY - PARKING PLOT PLAN & DETAILS

1. The width of a parking space shall be increased by 2'-0" when adjacent to fences, walls and planters with curbs above 6 inches in height.
2. A 5'-0" backing area is required when there are more than 4 spaces. (Based on 9'-0" wide space.)
3. A 6'-0" high solid fence or wall is required when parking area abuts a residential use or zone, except the height shall be limited to 42 inches when located in the front yard.
4. For minimum width driveways serving 5 or more spaces, the edge of driveway shall be at least 2'-0" from eave.
5. Bicycle storage facilities shall be protected by a barrier to minimize vehicles from striking parked bicycles.
6. A 6" curb shall be required between all landscaped areas and parking surfaces.

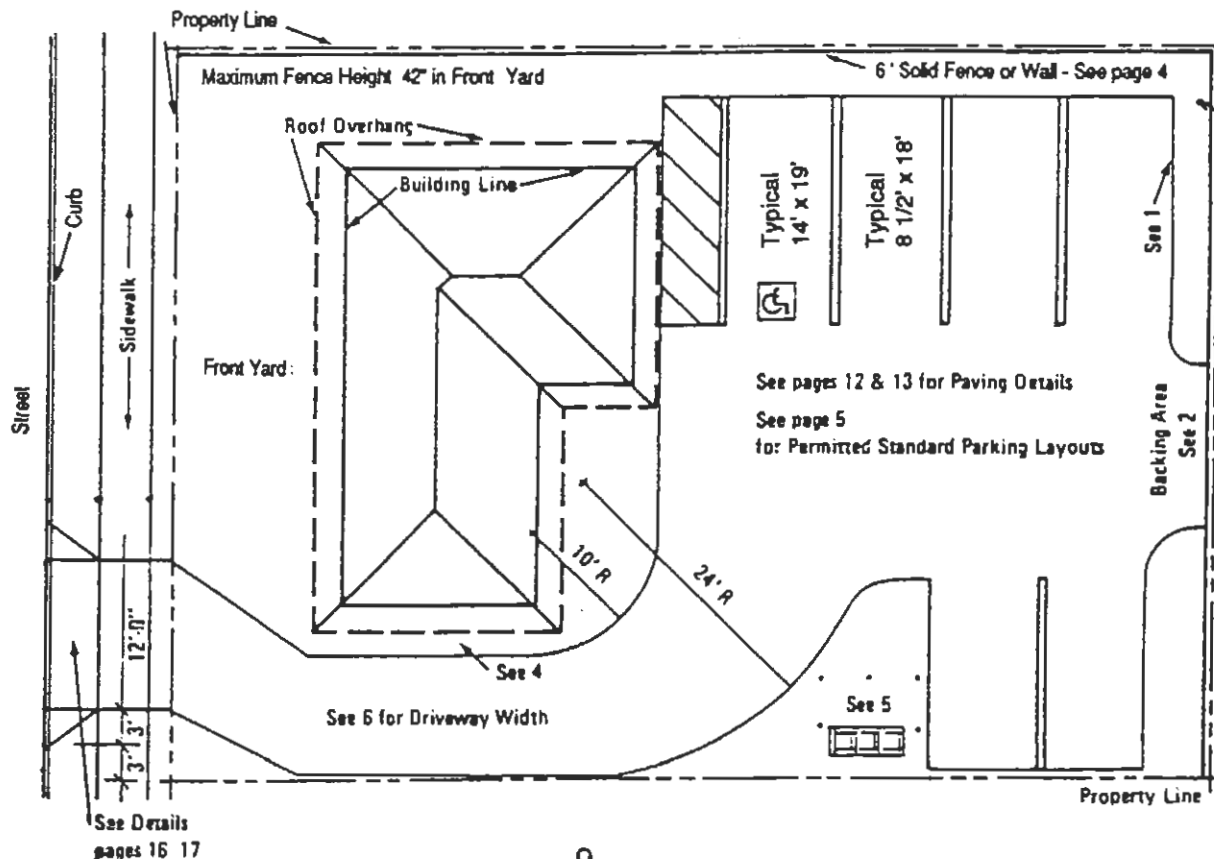
7.

MINIMUM WIDTH OF DRIVEWAY		
# of Spaces	Min. Width	Max. Length for Under 18' Wide*
1 - 4	10'	None
5 - 8	10'	80'
9 - 19	16''**	80'
20 - up	18'	None***

* Provide at least a 10' x 30' turn-out if longer drive way is required.

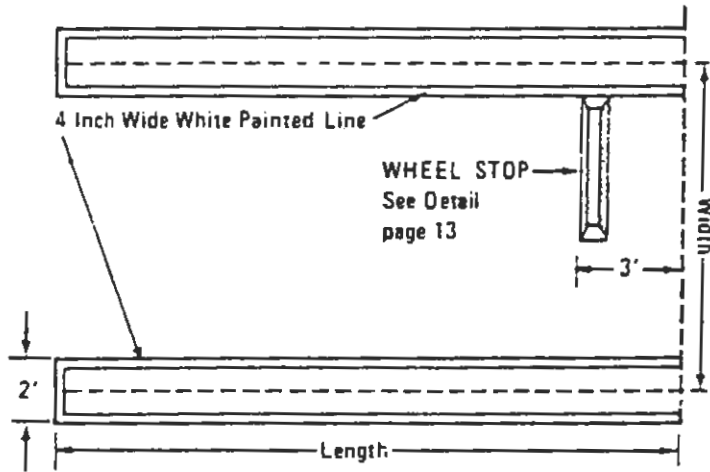
** Or provide separate 10' entrance and exit driveways (any length), provided no portion of a building may be more than 150' from a 16' wide access.

*** If driveway also serves another building, a 10'-0" unobstructed minimum width is required.



8. Typical Offstreet Parking Space

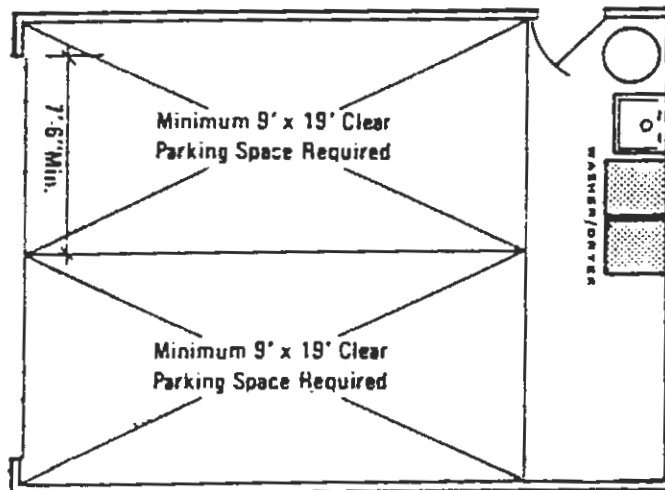
PLAN VIEW



SIDE VIEW



PRIVATE GARAGE



L. MISCELLANEOUS REQUIREMENTS FOR PARKING AREAS

1. **ACCESS.** Parking area layouts shall be arranged so that vehicles do not exit by backing into a public street (not applicable to single family dwellings or duplexes).
2. **GRADING AND DRAINAGE.** No parking area will be approved that has a minimum grade less than 0.5% or a maximum grade exceeding 5%. No driveway to a parking area or space shall be approved with a surface grade exceeding 25%.
3. **SURFACING.** All parking spaces and driveways shall be surfaced in accordance with the paving schedule on page 12 herein.
4. **DIRECTIONAL INDICATORS.** Each parking area with more than one row of parking spaces shall have directional signs or painted directional markers to guide traffic.
5. **LIGHTING STANDARDS AND FIXTURES.** Adequate lighting shall be provided in all parking areas used by the public for safe pedestrian and vehicular movement. A minimum lighting level of 0.2 foot-candles is required for all parking areas. All lights provided to illuminate any loading space or parking area shall be designed and adjusted so as to reflect light away from any public road or street, and away from any adjoining land on which a dwelling is located or which is zoned for other than business or industrial uses.
6. **WHEEL STOPS.** All parking spaces shall be improved with a wheel stop a minimum of 6 inches high where the space is abutting: adjacent property, a building, a landscape area, or a walkway. See pages 7, 8, 9, 10, 12, and 13 for details.
7. **STRIPING.** All parking spaces shall be delineated by double-line striping consisting of 4-inch wide painted white lines 2 feet apart. See page 10 for detail.
8. **IDENTIFICATION OF SPACES .** All Disabled and Loading spaces are required to be identified by symbols or lettering.
9. **MINIMUM SETBACK.** All parking areas shall be setback a minimum of 5 feet from any street property line. Setback areas shall be incorporated into perimeter landscaping.
10. **WALLS AND FENCES.** All parking areas abutting property in a residential zone shall be separated from such abutting property by a property maintained solid fence or wall 6'-0" in height; except such fence or wall shall be 42 inches in height where said fence or wall abuts a front yard on adjacent property or that portion of any side or rear yard on adjacent property wherein the height of a fence or wall is limited to 42 inches. (Section 17.60.070, Walls and Fences)
11. **LANDSCAPING.** Except in the A and OSR zones an area at least equal to 5 percent of the total parking area shall be landscaped. See pages 21 through 25.
12. **LOADING SPACE** shall mean an area, other than a street or alley on the same lot with a building or a group of buildings not less than 10 feet wide, 35 feet long, and 14 feet high which affords adequate ingress and egress for trucks from a public street or alley, and which is permanently reserved and maintained for the temporary parking of commercial vehicles while loading or unloading merchandise or materials. Loading and unloading shall not obstruct access to any parking space.
13. **PARKING SPACE** shall mean an unobstructed space or area other than a street or alley, not less than the minimum size specified for the type as noted on page 5 provided with adequate ingress and egress, and which is permanently reserved and maintained for the parking of motor vehicles.

14. MARGIN NOTES ON PARKING / LANDSCAPE PLANS.

Applicant shall note on the plans:

- a. The number of parking spaces required for each land use.
- b. The total number of parking spaces provided.
- c. The number of regular car spaces provided.
- d. The number of handicapped spaces provided.
- e. The number of loading spaces provided.
- f. The percent of area devoted to landscaping.

M. PAVING THICKNESS SCHEDULE AND DETAILS.

Except in the A and OSR zones, all parking spaces, loading spaces and driveways shall be hard surfaced with a minimum of 1.5" of hot or cold mixed bituminous surfacing or 3.5" of portland cement concrete; provided, however, that parking spaces and driveways accessory to one-family and two-family dwellings need not be surfaced with a more durable type of surfacing than that which exists on the street which provides access to the lot or building site upon which such dwelling is located. Required surfacing shall be placed on a suitable prepared base.

REQUIRED THICKNESS OF A/C AND SUBBASE*			
Existing Soil Conditions	Residential General Parking for Autos Serving Not More Than 4 Spaces	Multi-Family Commercial Store Frontage Parking	Commercial Heavy Duty Truck Loading and Parking
GOOD TO EXCELLENT BASE Decomposed granite, well graded sands and gravel which retain load supporting capacity when wet.	2" A/C on existing soil	3" A/C on existing soil	3" A/C on 5" aggregate base or 4" A/C on aggregate base or 5" A/C on existing soil
MEDIUM BASE Silty sands and sand gravels containing moderate amounts of clay and fine silt. Retains moderate amount of firmness under adverse moisture conditions.	2" A/C on 6" of decomposed granite base or 3" A/C on 3" aggregate base or 4" on existing soil	3" A/C on 5" aggregate base or 4" A/C on 3" aggregate base or 5" on existing soil	3" A/C on 7" aggregate base or 4" A/C on 5.5" aggregate base or 6" A/C on existing soil
POOR BASE Soils having appreciable amounts of clay and fine silt. Soils become quite soft and plastic when wet.	3" A/C on 5.5" aggregate base or 5" A/C on existing soil	3" A/C on 8" aggregate base or 4" A/C on 5.5 aggregate base or 6" A/C on existing soil	3" A/C on 12" aggregate base or 4" A/C on 10.5" aggregate base or 8" A/C on existing soil

*This paving thickness design for A/C paving shall be used unless a pavement design by a registered civil engineer is submitted and approved by the City Engineer.

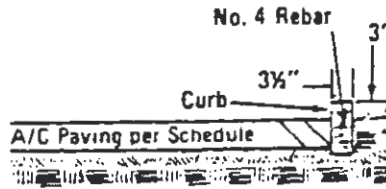
1. TREATMENT FOR EDGE OF A/C PAVING. Protection of all A/C paving edges is required by 2" x 2" redwood strips staked 4' O/C and at corners of appropriate concrete curb or A/C berm.

REDWOOD STRIP

2" x 2" (nominal) redwood border strip on all A/C pavement edges (not required for portland cement concrete)



CONCRETE CURB

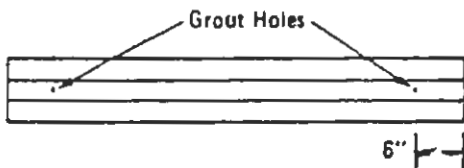


ASPHALT BERMS

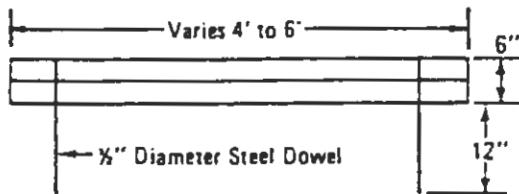


2. WHEEL STOP DETAILS.

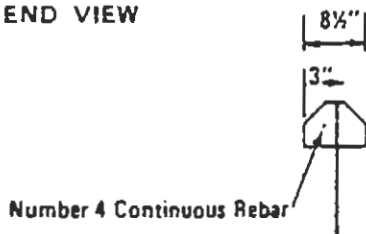
TOP VIEW



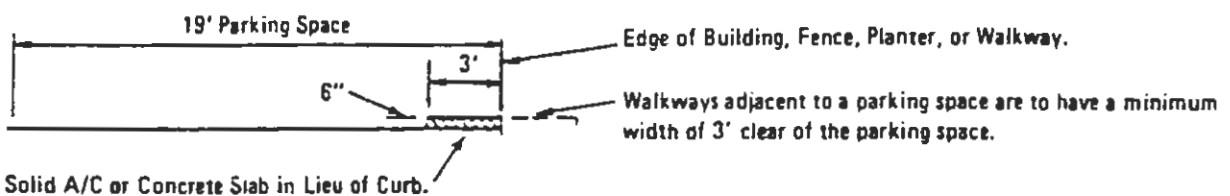
FRONT VIEW



END VIEW



OPTIONAL WHEEL STOP



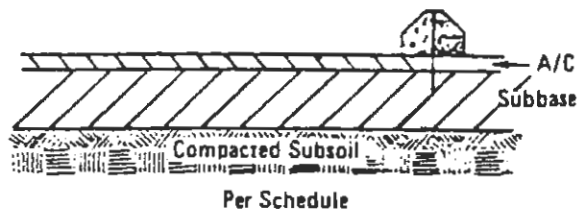
PAVING

All parking spaces or areas and loading spaces and drive-ways serving them shall be hard-surfaced with asphalt concrete (AC) per the A/C paving schedule or 3-1/2" of portland cement concrete.

Concrete



Asphaltic Concrete



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Section 2. Driveways

A. DESIGN STANDARDS FOR RESIDENTIAL DRIVEWAYS

1. GENERAL.

- a. All construction to connect driveways to City roads shall be first authorized by a valid encroachment permit, as prescribed in Chapter 11.20.200 of the Solana Beach Municipal Code or subdivision improvement agreement. Encroachment permits for driveways are obtained from the City Engineer.
- b. The construction, repair and maintenance of all driveways, curbs and gutters, and sidewalks shall be the responsibility of the property owner, developer, or tenant of the abutting property. The responsibility shall include the entire area of driveway from the edge of the existing pavement of traveled way to the property line and shall include all culverts or other structures necessary for property drainage control.
- c. When an opening for a driveway is constructed through an existing portland cement concrete curb, the existing curb, or curb and gutter, shall be saw-cut at the limits of work or removed to the nearest construction joints and the opening replaced with standard curb and driveway.
- d. When a driveway through a portland cement curb is abandoned or is replaced by another driveway serving the same property, the owner shall saw-cut and remove the old driveway and install a full height curb across the superfluous opening. The depression behind the curb shall be properly filled.
- e. All portland cement concrete for curbs, sidewalks and driveways shall be 5 and 1/2 sacks cement per cubic yard.
- f. No concrete shall be poured until forms have been inspected by the City Building Inspector, and written approval is given.

2. DRIVEWAY LOCATION AND WIDTH.

- a. See pages 18 and 19 for driveway and width requirements.
- b. No portion of any driveway shall be allowed within 3 feet of the property line extended normal to the edge of right-of-way except on joint-use driveways and on lots having 21-foot frontage or less. Joint-use driveways may be permitted in special instances where a recorded easement for both property owners is filed with the City Engineer. An approved joint-use driveway must conform to all driveway standards for a single driveway other than the property line location.

3. **DRIVEWAY GRADING.** Driveway grading shall conform to the roadway cross-slope within the traveled way and parking lanes of the ultimate section of the roadway. Outside this area, within the right-of-way, driveway grades shall conform to sidewalk grades, if sidewalks are provided. In no event, shall driveway grades exceed 10 percent within the right-of-way. See pages 16 and 17 for typical driveway profiles.

4. DRIVEWAY SURFACING.

- a. See page 17 for construction details.
- b. All portland cement concrete driveways shall be 3 and 1/2 inches thick. If the subgrade material has more than 3 percent expansion index, the subgrade material shall be replaced with 6 inches of decomposed granite base.
- c. Where portland cement concrete curbs are not installed, driveway approaches shall be constructed of asphaltic concrete, road oil mix, or decomposed granite and shall extend from the edge of the traveled way to the property line. Asphaltic concrete driveways constructed on subgrade material with more than 3 percent expansion index shall have an A/C thickness of at least 2 inches over 6 inches of decomposed granite base unless a pavement design by a registered civil engineer is submitted and approved by the City Engineer.
- d. Portland cement concrete curb openings will be permitted only in those located where complete standard portland cement concrete driveways are to be constructed concurrently.

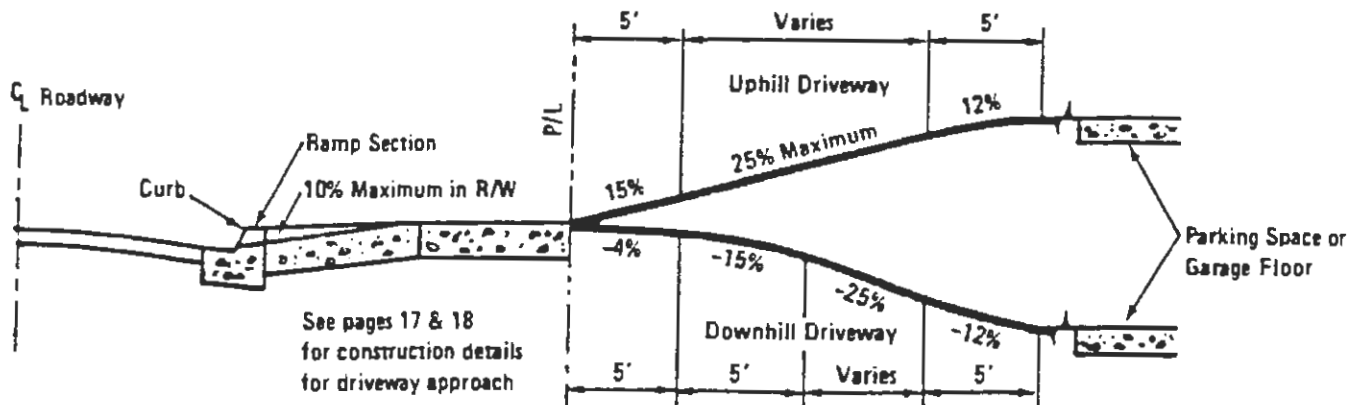
5. DRIVEWAY CULVERTS.

- a. Where driveways cross existing roadside ditches, a dip section providing an unobstructed waterway equivalent to the full area of the ditch may be used if grades are feasible. Where grades make use of a dip section infeasible, a culvert pipe of a diameter 6 inches less than the depth of the ditch, but not less than 18 inches shall be installed. When a culvert is to be used and the cross-sectional area of the ditch, excluding 6 inches of freeboard, exceeds 4 square feet, the design of the driveway culvert shall be reviewed for adequacy by the City Engineer.
- b. The construction of any headwalls, inlet structures, or any other structure shall be in accordance with current standards of the City Engineer.

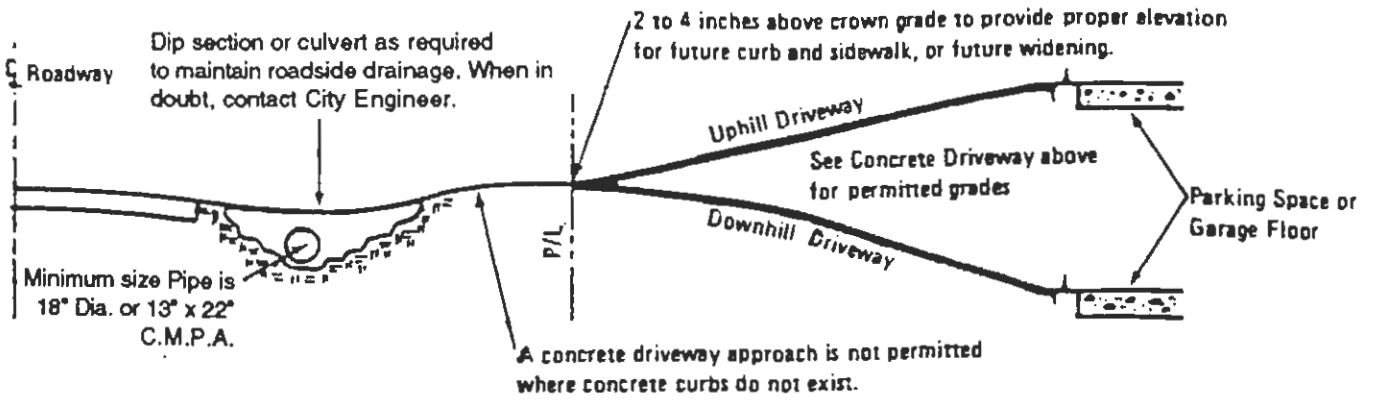
B. TYPICAL DRIVEWAY PROFILES

1. Driveways with grades greater than 15% shall be surfaced with asphalt concrete or portland cement concrete.
2. Portland cement concrete driveways with grades greater than 14% shall have a deep broom finish perpendicular to the direction of travel.
3. Maximum grade break is 14%
4. Driveways serving parking lots (5 or more spaces) shall not exceed 15% slope.

EXISTING CONCRETE CURB (Concrete Driveway)



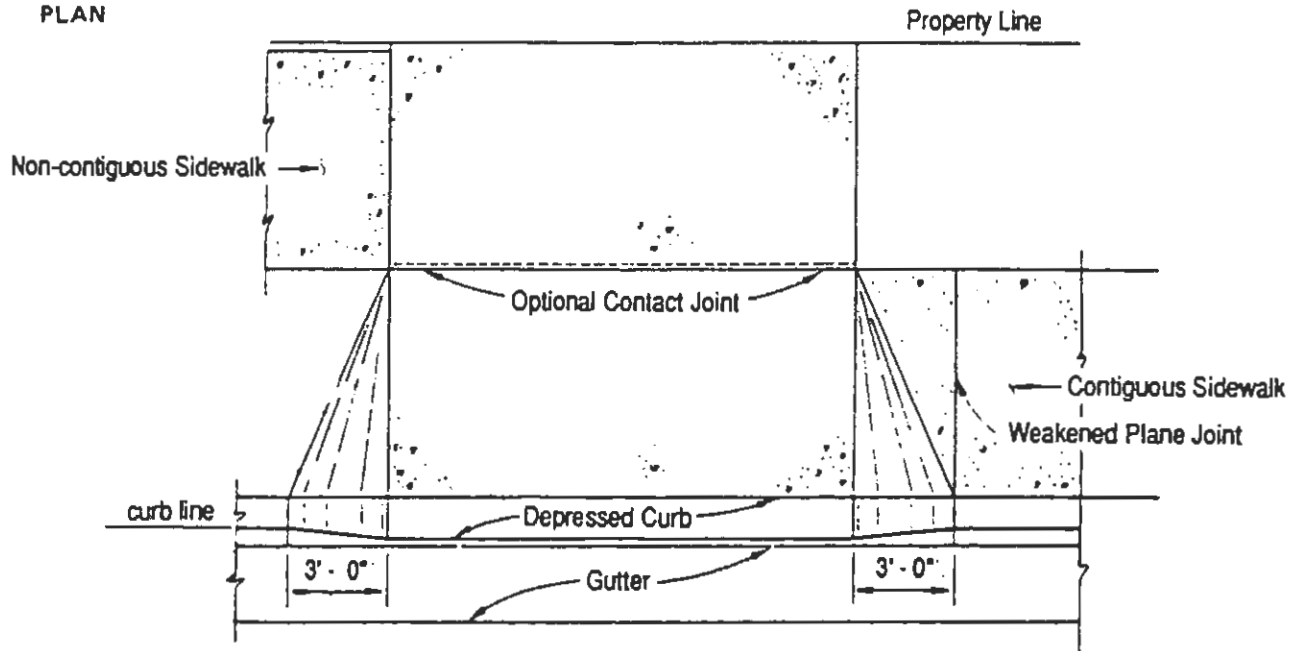
NO CURB (Asphaltic Concrete, D.G., or Dirt Driveway)



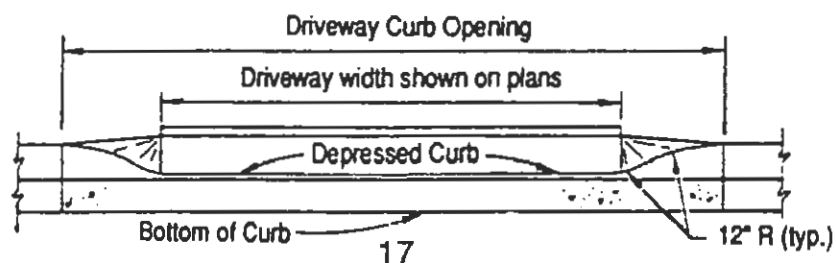
C. CONCRETE DRIVEWAYS - CONSTRUCTION DETAILS

1. All encroachment permits for driveways permits are issued by the City Engineer.
2. No concrete shall be placed until forms and subgrades are inspected by the Building Inspector.
3. Concrete shall be 517-C-2500.
4. See pages 18 and 19 for width and location requirements.

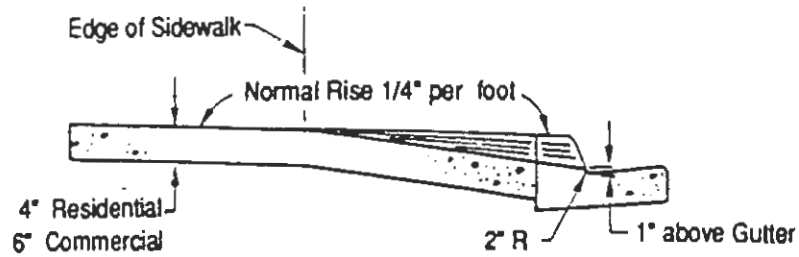
PLAN



ELEVATION



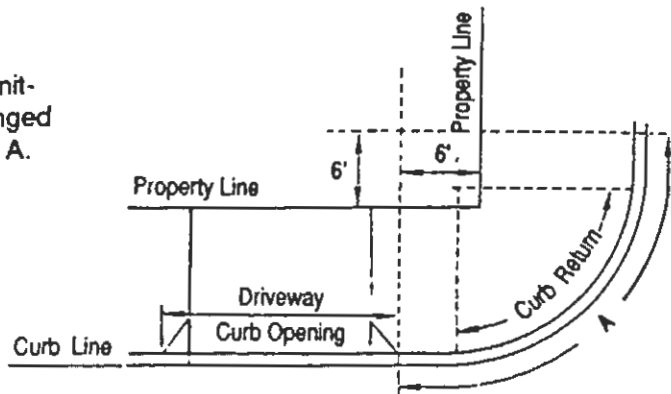
SECTION



D. DRIVEWAY LOCATION - CORNER LOT

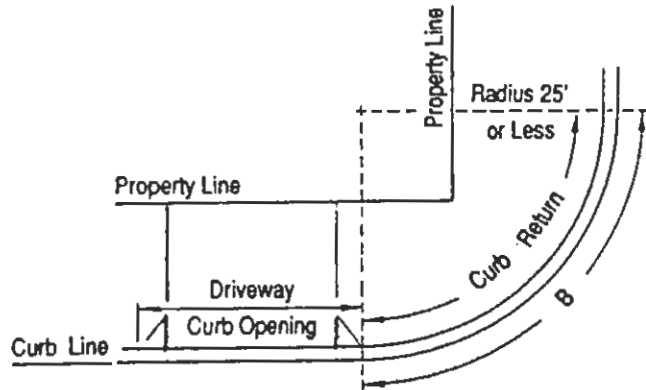
REQUIREMENT 1

No portion of any curb opening shall be permitted within 6' of the intersection of the prolonged property lines and the curb, as shown by arc A.



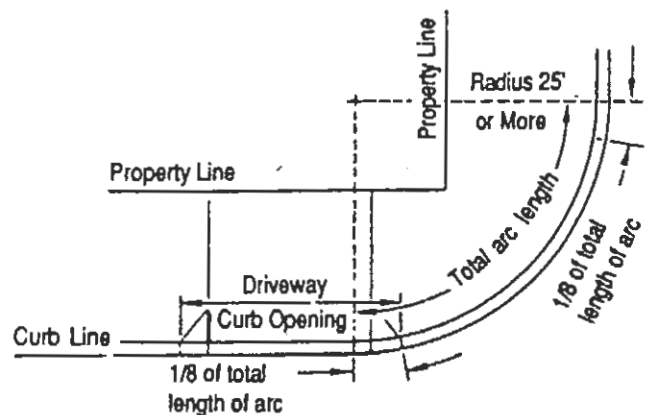
REQUIREMENT 2

No portion of any curb opening shall be permitted in the curb return where the radius of curb is 25' or less, as shown by arc B.



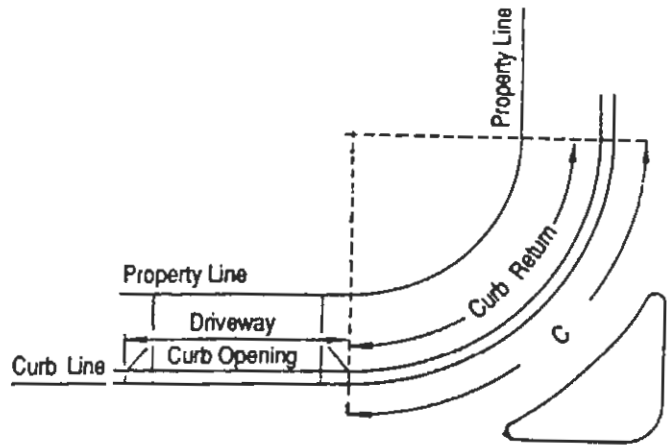
REQUIREMENT 3

On all curb returns where the radius is 25' or more, curb openings may encroach upon each end of the return distance equal to 12.5% or 1/8 of the total length of the arc on the curb return, thus leaving at least 75% of the length of arc on the return face free from driveway encroachment, provided Requirement 1 is met.



REQUIREMENT 4

No portion of any curb opening shall be permitted in the curb return where a separate turning movement is provided, as shown by arc C.



E. DRIVEWAY LOCATION AND WIDTH REQUIREMENTS.

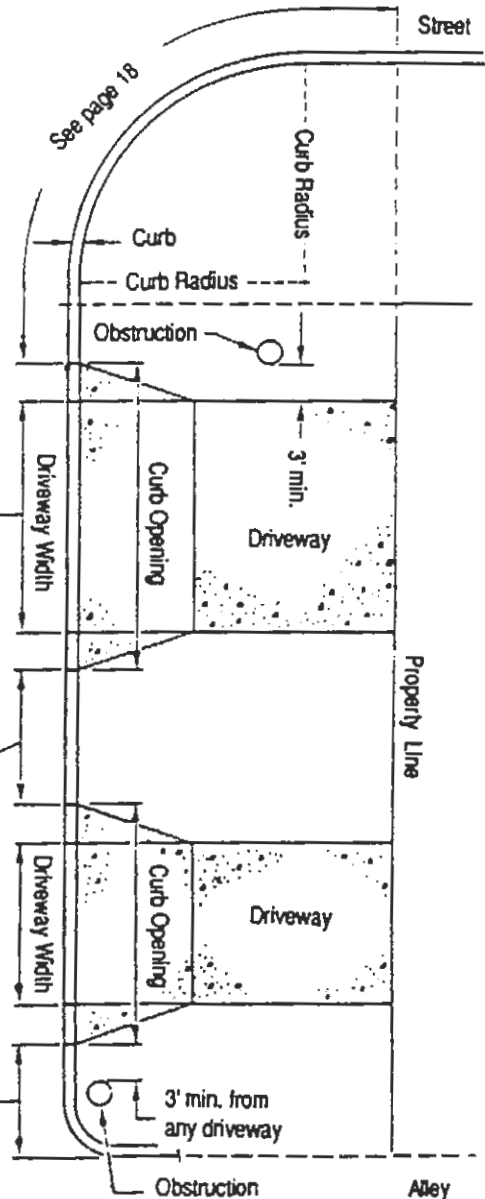
1. Curb openings, except for joint-use driveways and driveways on lots having 21-foot frontage or less, shall be located at least 3 feet from the side property line extended.
2. Not more than 40% of the property frontage on residential lots, nor 60% of the property frontage on commercial lots may be allocated for driveway curb openings, except that lots having frontage of 25 feet or less are entitled to one 12-foot driveway (18-foot curb opening).
3. All driveways and curb openings shall be a minimum of 3 feet from any obstruction, i.e., poles, hydrants, etc.
4. No portion of any driveway shall be allowed across a line extending normal to the roadway from the front corner of the property, except that joint-use driveways may be permitted in special instances where a recorded easement for both property owners is filed with the City Engineer.

Residential & Commercial Driveway Width - 12' min., 30' max.
(12' min. for each isle if driveway is divided by a center median)

Residential: 20' min. between curb openings serving same parcel.
Commercial: 4' min. to 10' max. between curb openings serving same parcel.

6' min. from Alley or Drainage Outlet

3' min. from any driveway



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Section 3. Landscaping

A. GENERAL REQUIREMENTS.

1. A minimum of 5% of all parking areas shall be landscaped in conformance with this Design Manual and Chapter 17.56 (Landscaping Regulations) of the City of Solana Beach Zoning Ordinance.
2. In parking areas with more than four (4) parking spaces, a minimum of 14 square feet of landscaping for each space shall be provided. This landscaping shall be used in parking lot planters and/or for perimeter screening. It shall be provided in addition to any other landscaping that is required in the right-of-way or setback areas Chapter 17.56 (Landscaping Regulations) or any other City Ordinances or discretionary application approvals.
3. Prior to the issuance of a final building occupancy certificate, all landscape planting and irrigation shall be installed and be in acceptable condition. The plants shall be healthy and free of weeds, disease, or pests. The irrigation system shall be properly constructed and in good working order.
4. Information regarding landscape requirements, plans, and design concepts is given on the following pages. The plans are typically prepared by nurserymen, landscape contractors, and landscape architects. If you have questions, please contact the Community Development Department.

B. MATERIALS FOR LANDSCAPING.

1. Plant materials shall be native or drought-tolerant species.
2. Where a landscaping plan is provided in conjunction with a variance, conditional use permit, or development review permit, the landscaping may include natural features such as rock and stone, nondrought-tolerant plant materials, and structural features such as fountains, reflecting pools, art work, screens, walls and fences.
3. Where feasible, waste water reclamation systems shall be incorporated into project designs. Reclaimed waste water shall be used for irrigation where available.

C. PLANTING REQUIREMENTS.

1. Landscape plans shall be identical to the approved plot plans. A north arrow and scale shall be shown.
2. Clearly label all plant materials, indicate the name, size and number of each plant used. Remarks may be included to provide useful information such as flower color, spacing of plants, and staking instructions.
3. Plans shall provide information on soil amendments to be used, including items such as fertilizer name, quantity, and method of application. Depending on the local soil conditions, an acceptable soil amendment program may be as follows:
 - a. 2 cubic yards compost of nitrified wood shavings per 1000 sq. ft.
 - b. 10 to 20 pounds commercial fertilizer, i.e., 16-6-8 per 1000 sq. ft.
 - c. 2 pounds agricultural gypsum per 1000 sq. ft. to aid loosening of soil.
 - d. 1 pound soil sulfur (lime) per 1000 sq. ft. to neutralize the soil.
 - e. Rototill the amendments 6 inches into the soil.

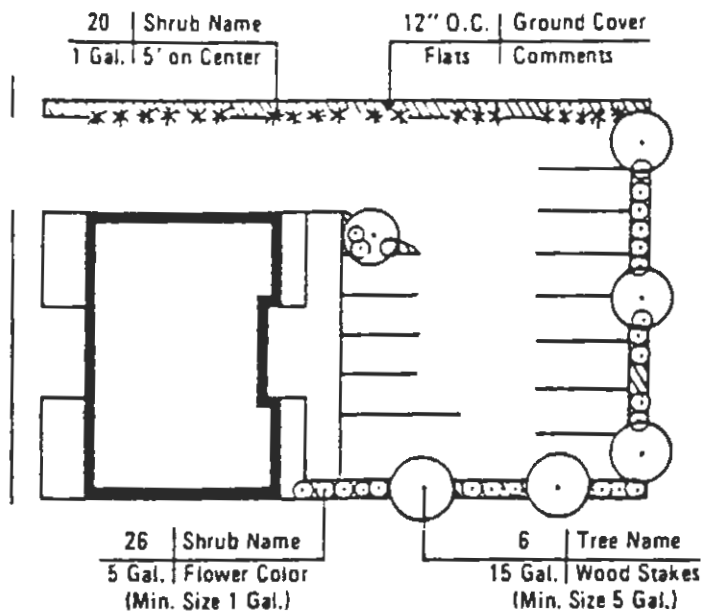
Native plants which do not require amendments shall be planted in existing topsoil which is free of construction debris.

4. Provide access to adjacent properties (stepstones, walks) or partitions and screening as necessary.

D. IRRIGATION REQUIREMENTS.

1. Plans shall show location of irrigation equipment, including the water meter (or any other point of connection), valves, backflow prevention devices, pipes, sprinklers and drip emitters. Pipe sizes shall be shown.
2. The legend shall provide complete description of irrigation equipment.
3. All backflow prevention devices shall be adequately reinforced. (See F2 on page 23)
4. Sprinkler heads and nonpressure PVC lines may be substituted with drip emitters and polyethylene tubing for DRIP IRRIGATION. A water filter and pressure regulator is also required. Drip emitters are suitable for watering individual trees and shrubs rather than lawns or beds of ivy and ice plants.
5. Sprinklers shall be field adjusted to eliminate overspray onto walkways, drives or roads.
6. Sprinklers on risers next to curbs or walks shall have staked, swivel-joint or flexible risers. Pop-up sprinklers are preferable.
7. Only pop-up sprinklers are acceptable in lawn areas.

E. TYPICAL PERIMETER PLANTING PLAN.



PLANTING NOTES:

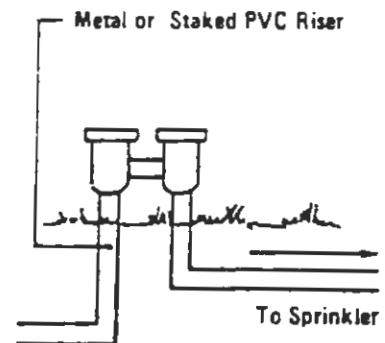
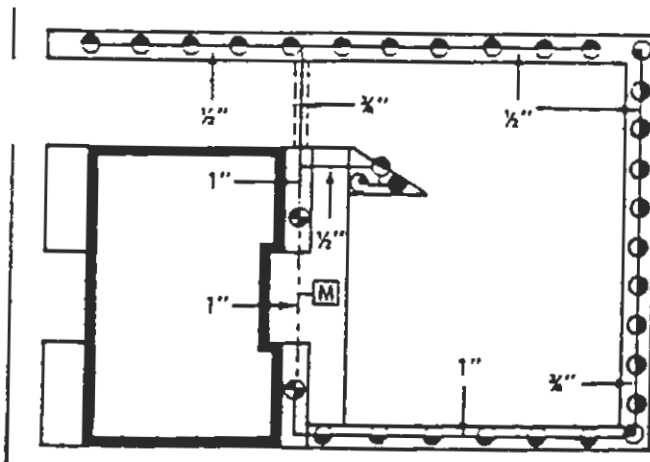
Till soil amendments and fertilizer 6 inches into soil. Recommend fertilizer tablets for trees and shrubs.

FINISH GRADING:

All landscaped areas shall be finish graded to remove rocks and clods and to ensure adequate surface drainage.

F. TYPICAL IRRIGATION PLAN FOR PERIMETER PLANTING.

1. Stake all shrubheads adjacent to curbs and paving.
2. Antisiphon valves shall be reinforced as per City standards with metal or staked PVC risers (use two #4 rebars, 12 G.A. galvanized wire, and weatherproof taping with PVC riser).
3. All sprinklers shall be field adjusted to eliminate overspray onto walkways, drives, or roads.



Antisiphon Valve: See 2.

LEGEND

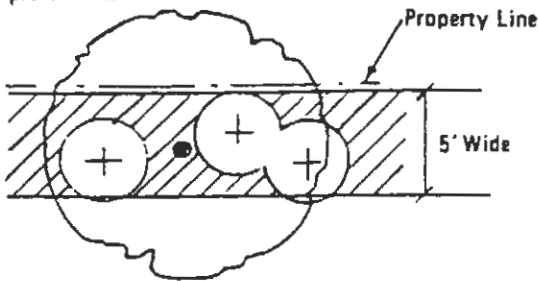
- ⊕ Brandname 3/4" Brass Antisiphon Valve. See Reinforcement (Item 2).
- Brandname Half-circle Shrubhead 1.0 Gallon per Minute. 10' Radius.
- ◐ Brandname Quarter-circle Shrubhead 0.5 Gallon per Minute. 10' Radius.
- Brandname Bubbler Head Adjustable to 2.0 Gallons per Minute.
- Pressure Line PVC Schedule 40. Bury Minimum 18" Depth.
- Nonpressure Line PVC Class 200. Bury Minimum 12" Depth.
- PVC Schedule 40 Sleeve on Nonpressure Line Under Paving. 18" Depth.
- M** 1" Water Meter. 60 P.S.I. Available Pressure.

I. LANDSCAPE DESIGN NOTES.

1. **LANDSCAPE DESIGN.** The purpose of parking lot landscape is to enhance the aesthetic appearance of the parking area. The landscaping shall reflect the existing street planting complement the site's architectural theme.
2. **PERIMETER PLANTERS.** Whenever possible, planters shall be placed along the edge of the parking lot and driveway. Perimeter planting brings relief from continuous areas of paving and also screens parked cars from view of the surrounding properties.

Trees: Minimum of one 5 gal. tree per 5 spaces
Shrubs: Minimum 1 gal. size
Ground Cover: Flats or 6 to 8 inch cuttings

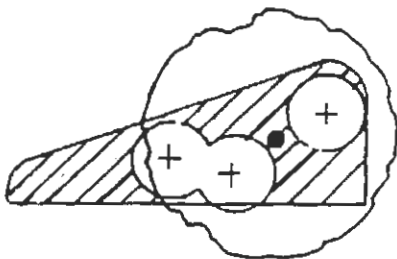
Planter strips with shrubs shall have an unpaved minimum width of 2 feet. Planter strips with trees shall have an unpaved minimum width of 5 feet, except as provided in 4. below.



High shrubs and/or trees may be used for perimeter screening except at driveway entrances or wherever plant material will obstruct the view of oncoming traffic.

3. **PARKING LOT PERIMETERS.** In larger parking lots, the planters shall be used to bring relief from excess stretches of paving and to aid the flow of both automotive and pedestrian traffic. A 6" high curb shall be required between all landscaped areas and parking surfaces, except for tree plantings as provided in 4. below.

High canopy trees, low shrubs and ground cover shall be used for optimum traffic visibility.



4. **TREES.** Between facing rows of parking spaces, trees may be planted in planters approved by the Planning Department in consultation with the City Engineer provided such planters are located within a 2 1/2' radius from the center line between the parking rows. Tree planters may be flush with grade, if enclosed within a protective grating, or may be defined by a raised edging or curb not to exceed 6" in height.

