

Parking lot design





About Us

Team Name: Vicious Cycle

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Intro Engineering 101

Instructor: Mrs. Messia



Project

We are hired to design a parking lot by the owner of a paved, 100 x 200 ft, corner parking lot in a New England town.

We will be designing the layout, or how the lines will be painted.

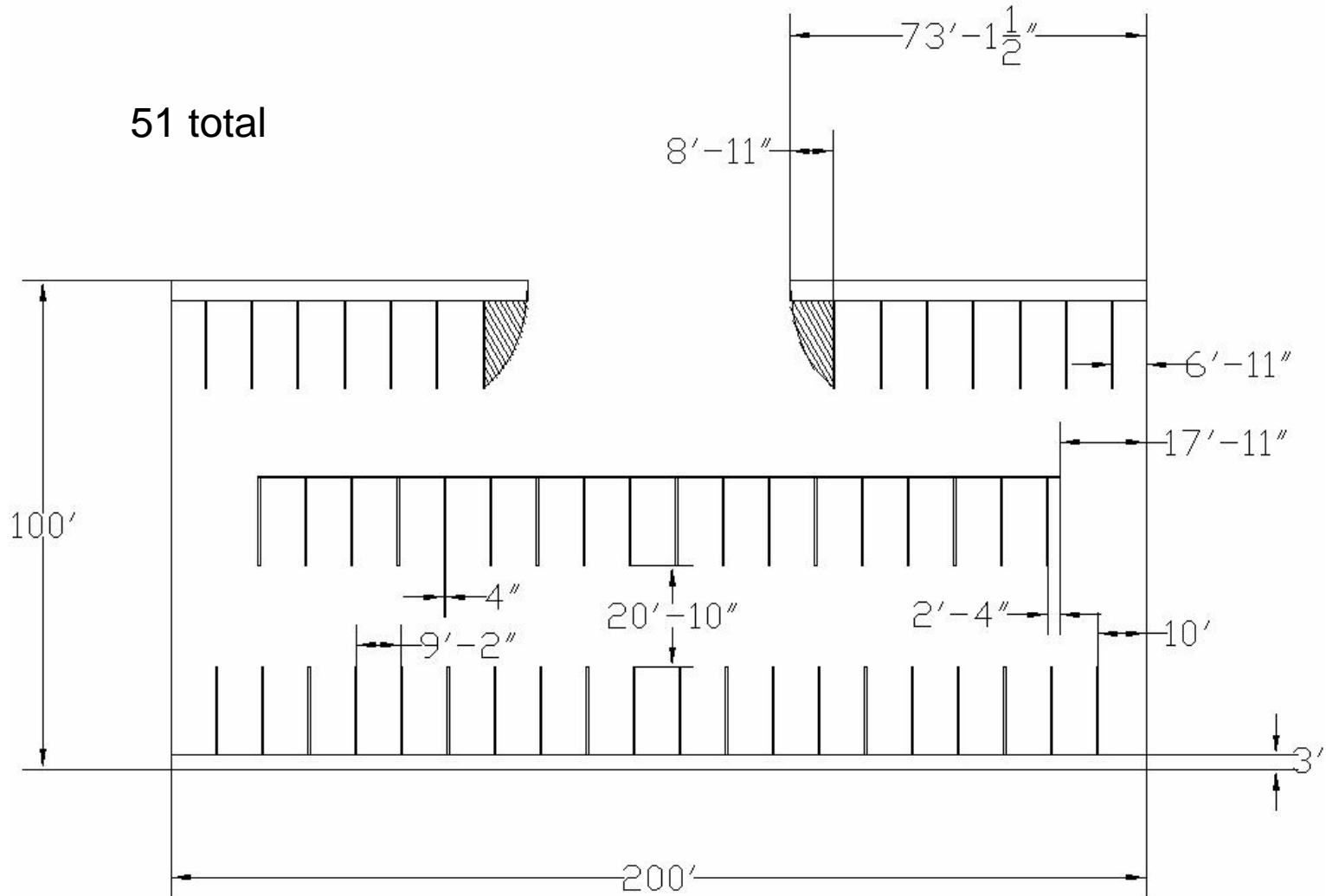


Project Requirements

- **100 X 200 ft, corner parking lot in a New England town**
- **Design for a plumbing supply business or a specialty shop for lampshades.**
- **Require three disable parking spaces and a panel truck loading area.**
- **The building will be across the street from the parking lot.**
- **The lot is a corner lot with a single entrance located in the middle of one of the long sides of the parking lot (the 200 ft side).**
- **Designated dumping area is neglected.**
- **The shop is located across from the entrance of the lot.**

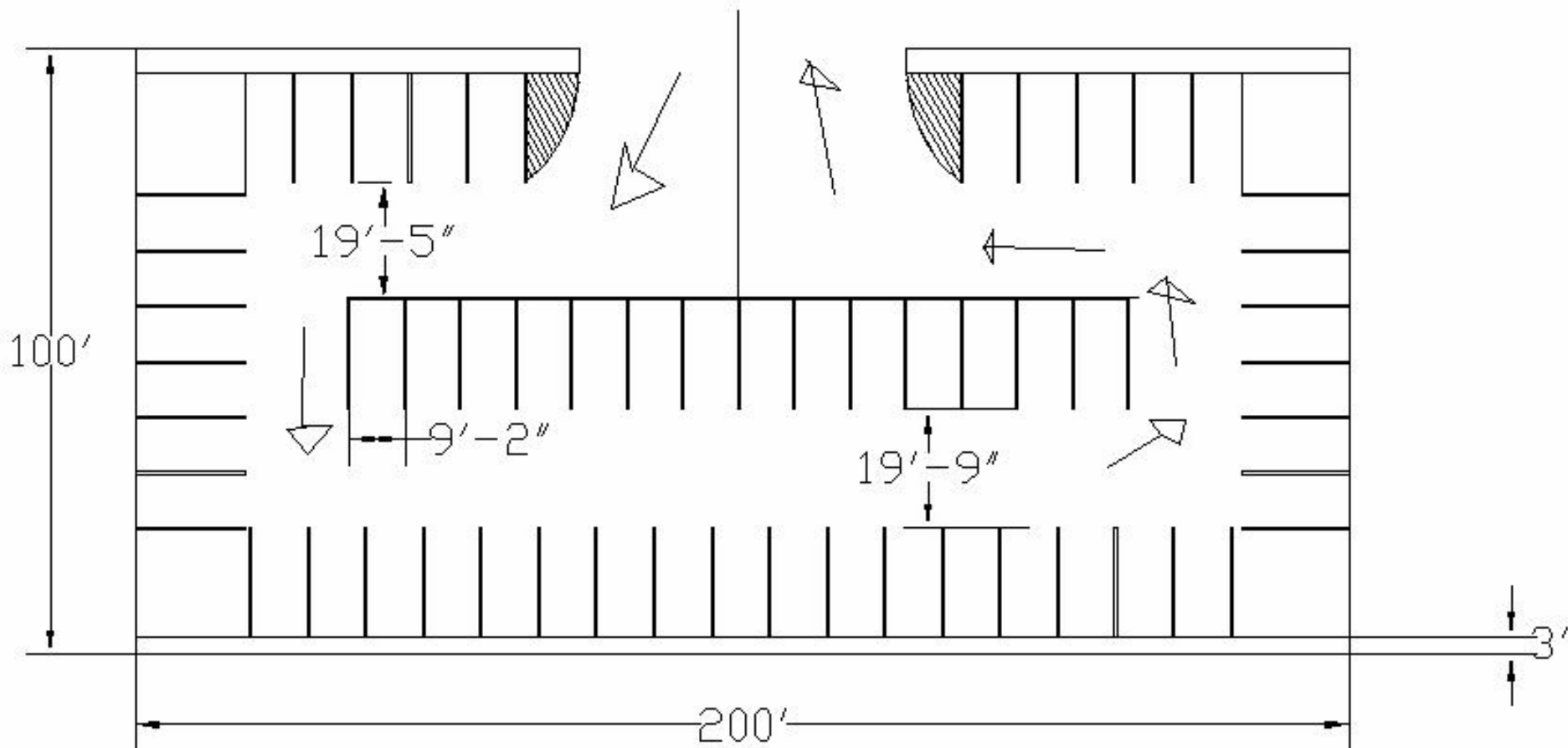


Design #1 (Traditional)

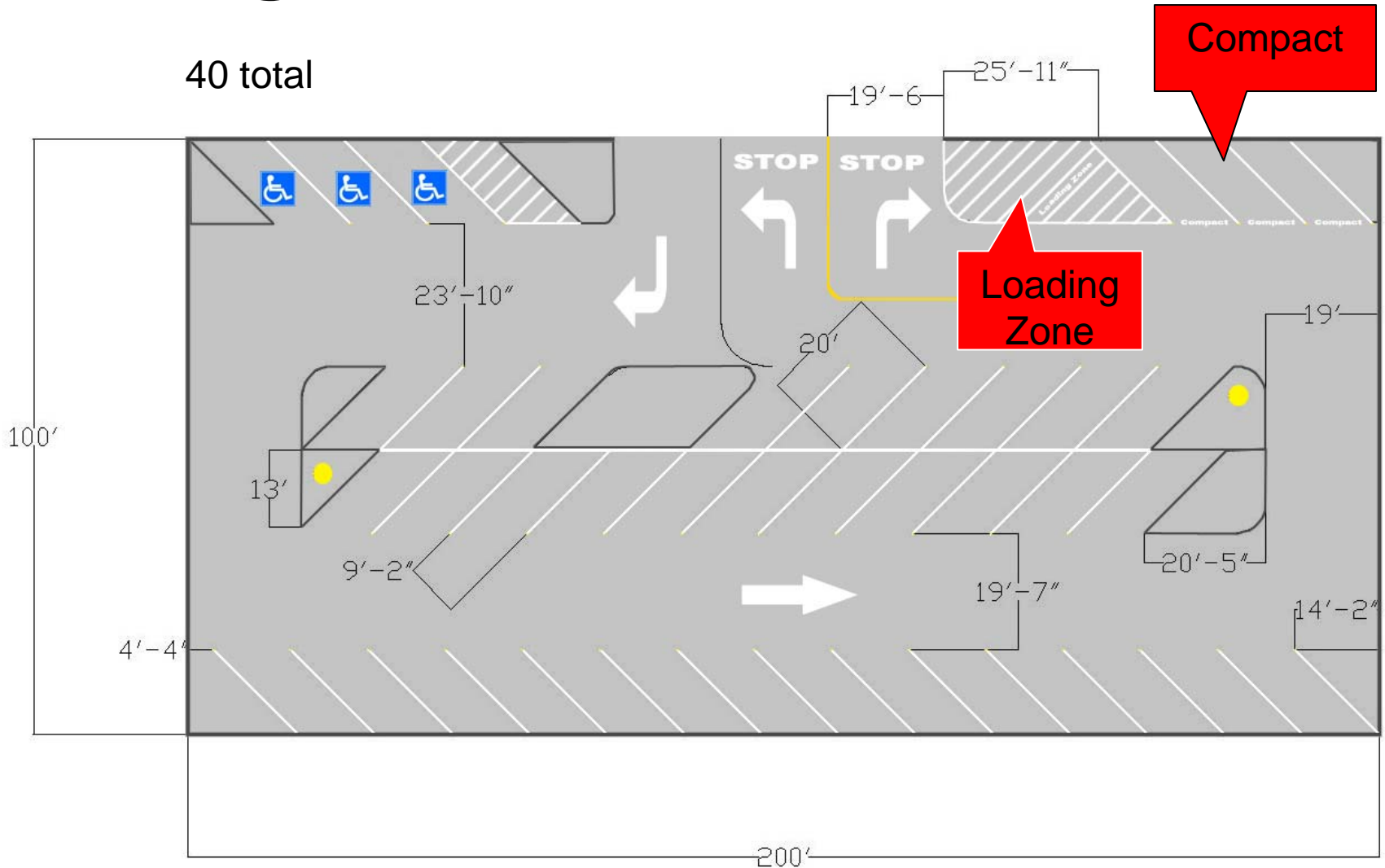


Design #2 (Most Capacity)

51 total



Design #3 (Most Efficient)

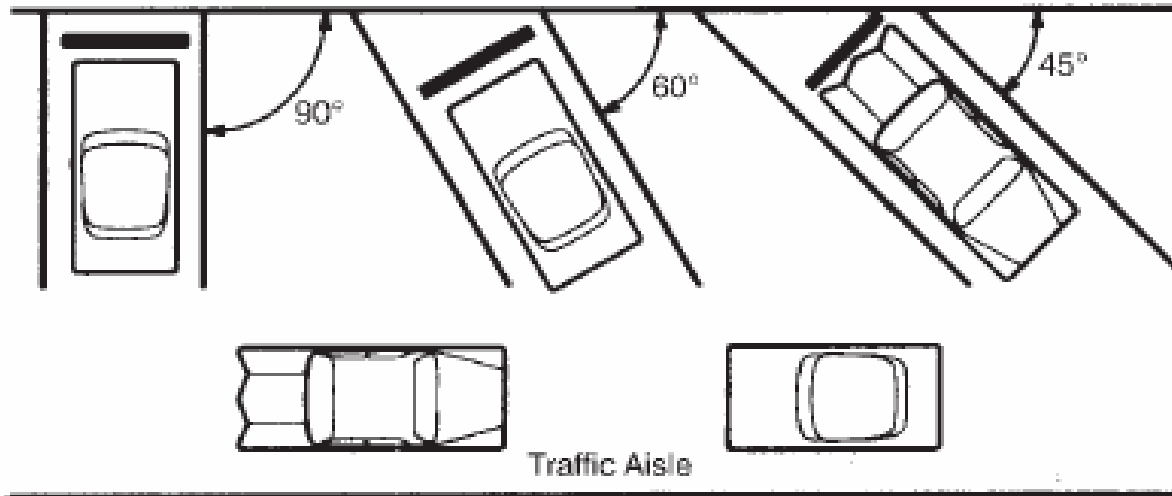




Fact to Consider

- Parking Angle
- Parking Lot Markings
- Construction Practices
- Asphalt Concrete Curb
- Lighting System
- Entrance and Exit Design
- Snow Control

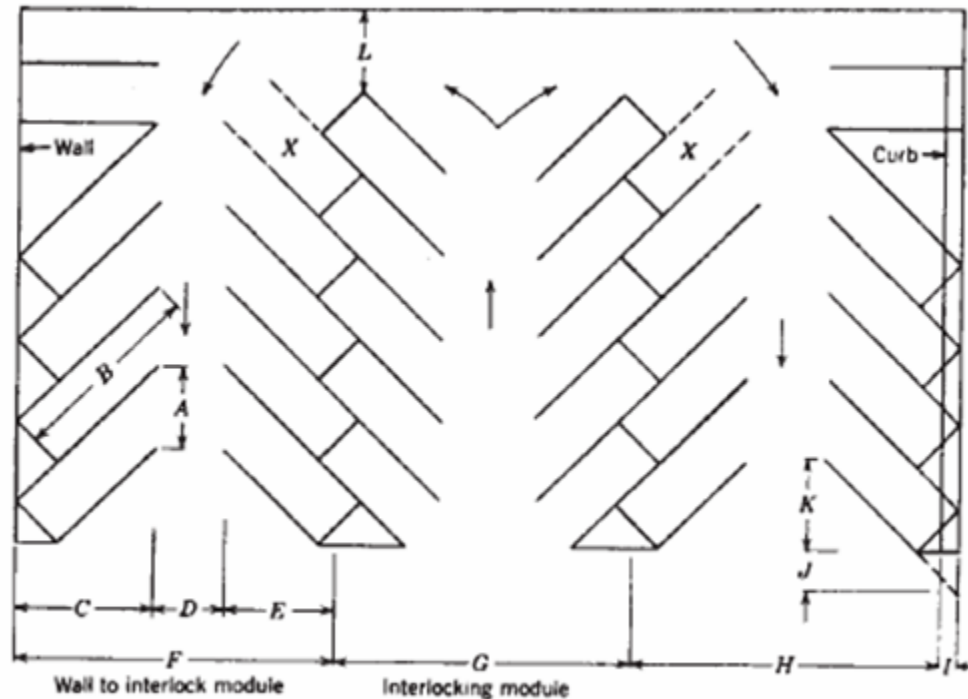
Parking Angle



45	<i>Most efficient</i>	<i>Least capacity</i>
60	-----	-----
90	Hardest to park	Most capacity

Given a small 100 x 200 ft parking lot to start with, maneuverability is essential for customer satisfactions.

Parking Lot Markings



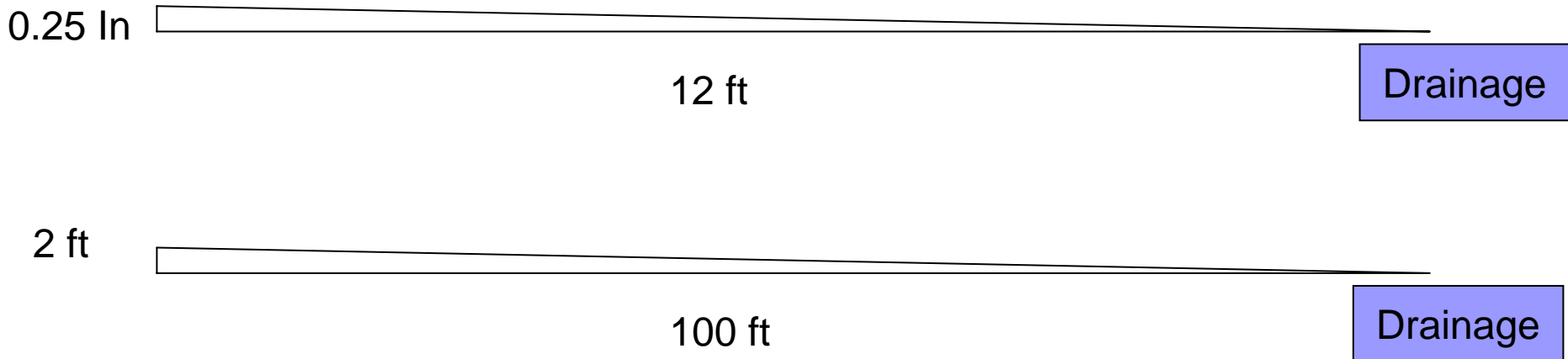
X = stall not accessible in certain layouts

Stall width parallel to aisle	A	12.7	Module, interlock to curb face	H	42.8
Stall length of line	B	25.0	Bumper overhang (typical)	I	2.0
Stall depth to wall	C	17.5	Offset	J	6.3
Aisle width between stall lines	D	12.0	Setback	K	11.0
Stall depth, interlock	E	15.3	Cross aisle, one-way	L	14.0
Module, wall to interlock	F	44.8	Cross aisle, two-way	M	24.0
Module, interlocking	G	42.6			

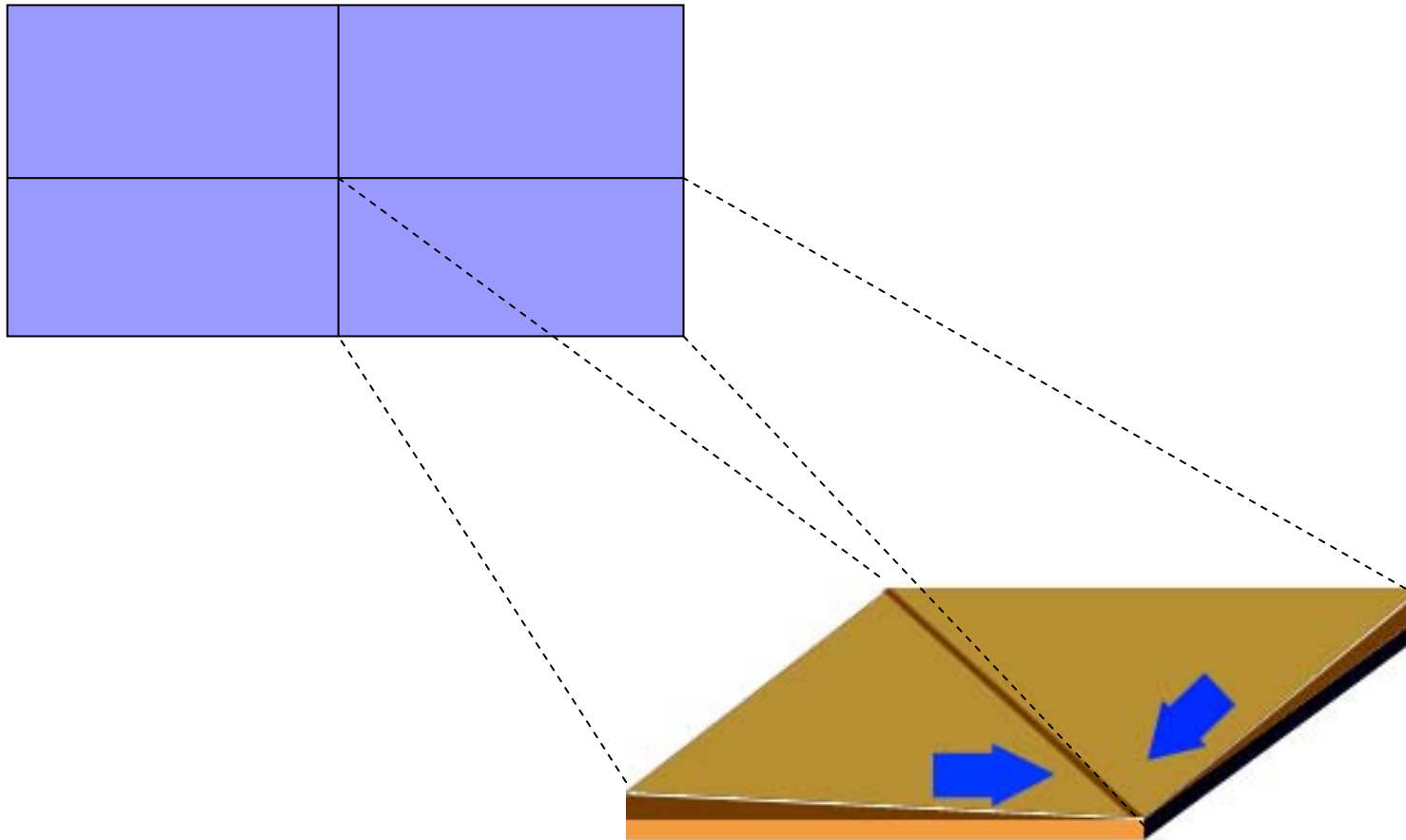


Construction Practices

Parking area surfaces should have a minimum slope of 2 percent per foot.



Sample of Corner Drainage

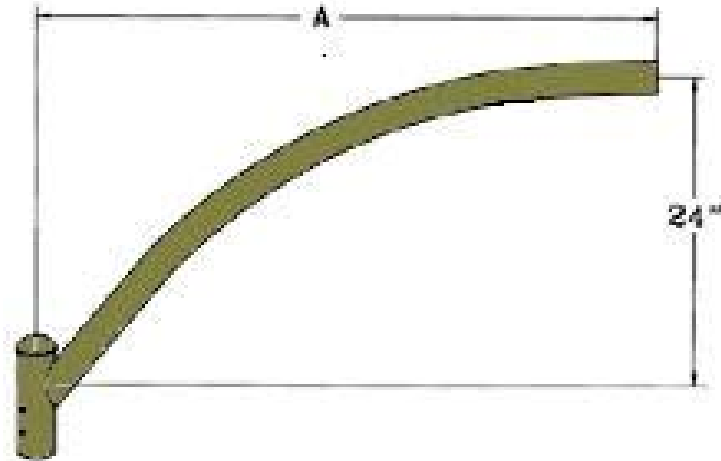
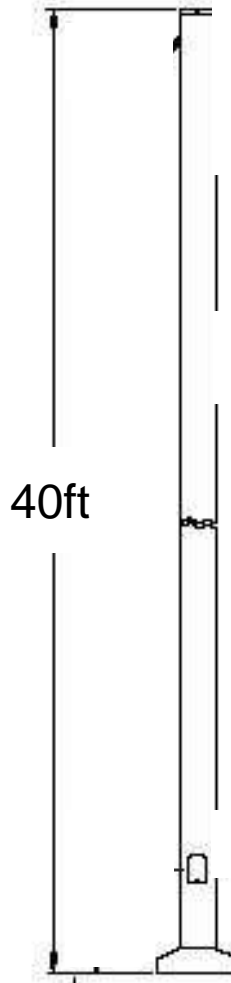


Asphalt Concrete Curb

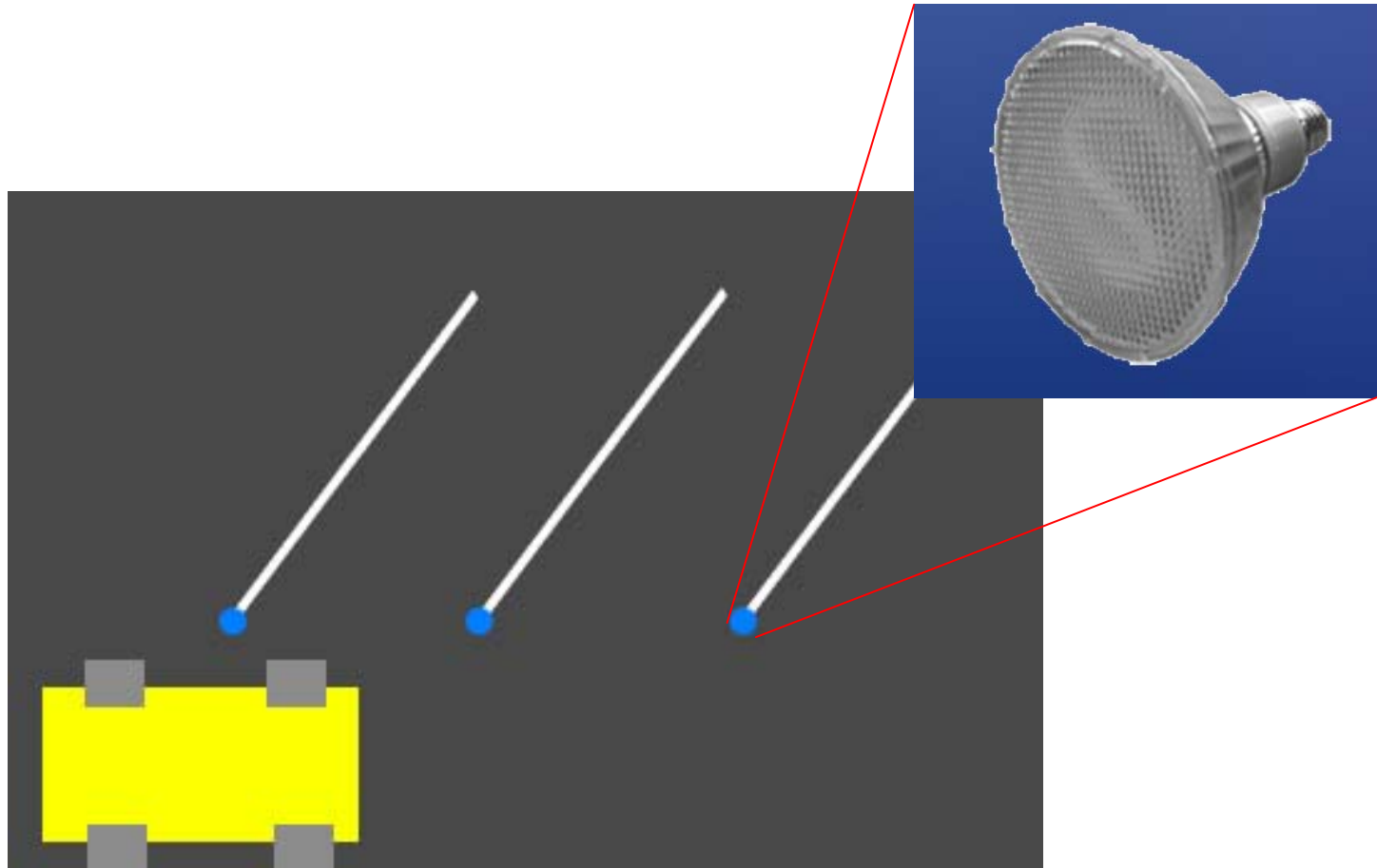
- (1) economical and easy to construct;**
- (2) can be built much faster than other types;**
- (3) are not affected by ice- and snow-melting chemicals; and**
- (4) can be laid on an existing pavement using a slip form paver.**



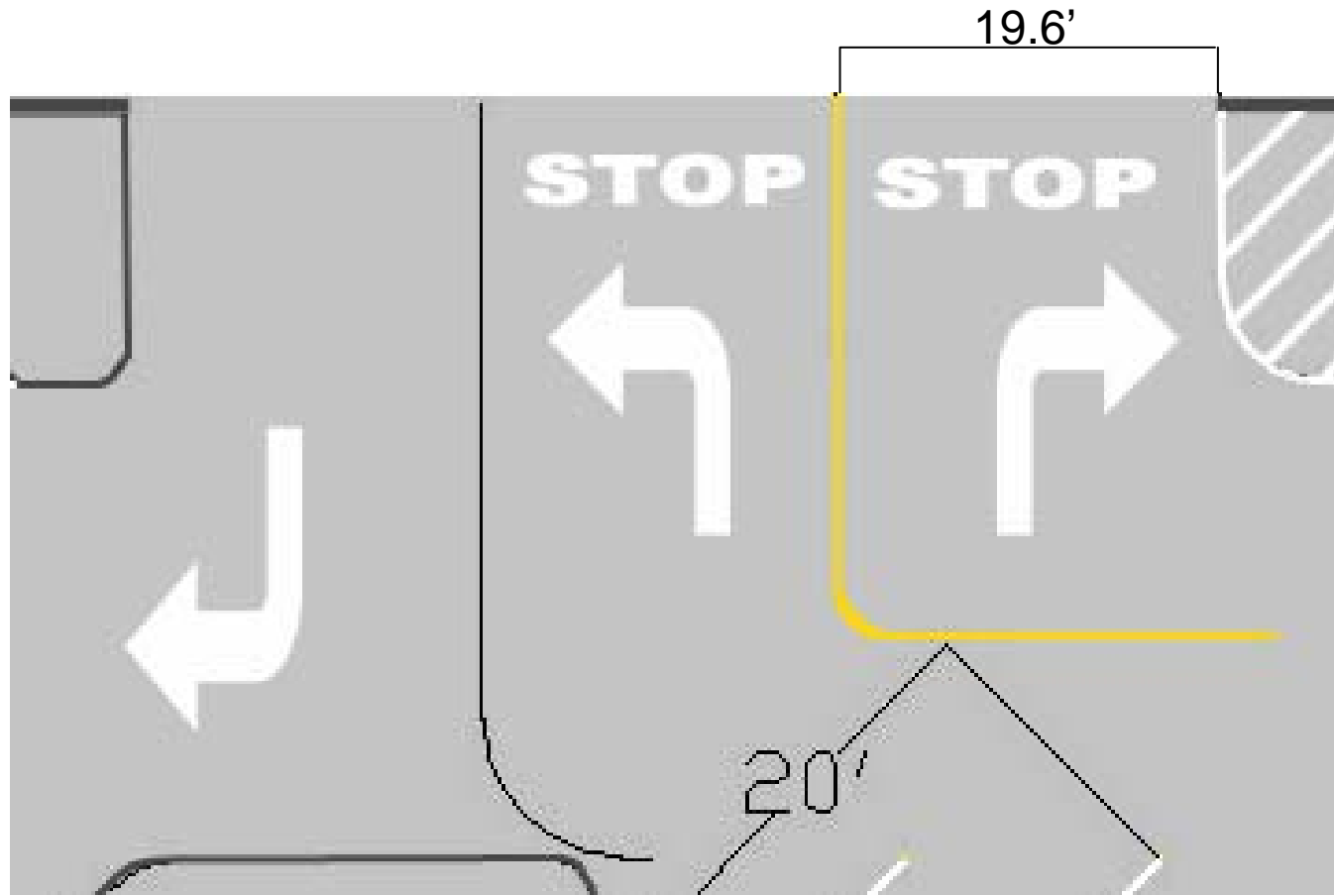
Lighting System



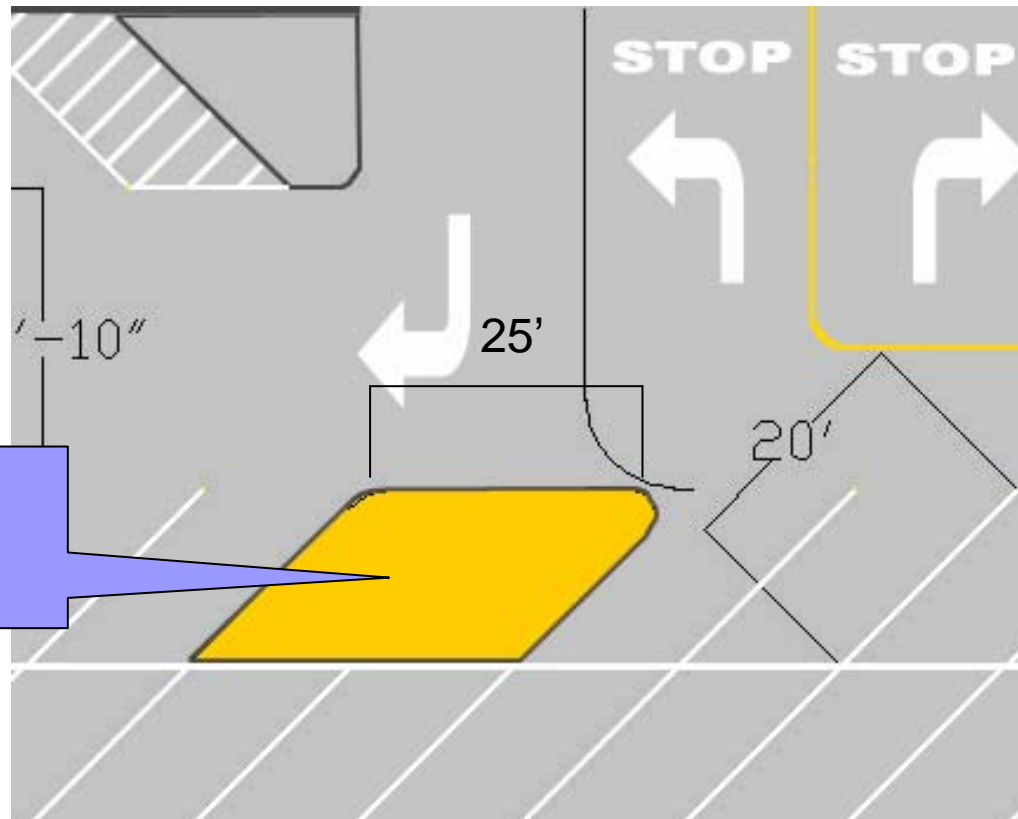
Lighting System



Entrance and Exit Design



Snow Control



Snow
Zone



Reference

- Department of Community Development Services, www.cityoffederalway.com, 33325 8th Ave S., PO Box 9718, Federal Way WA 98963
- ITE Technical Committee; Guidelines for Parking Facility Location and Design, Institute of Transportation Engineers, 1994
- U.S. Architectural and Transportation Barriers Compliance Board; Americans with Disabilities Act Accessibility Guidelines. Washington, DC: ATBCB, 1992

Thank you

