

Appendix A

Vehicular Access Gates

A-1 Standards

Restrictions

Gates are not allowed across an opened public right-of-way. Gates are not allowed across private roads that provide access to certain public facility types pursuant to Section 17B.20.030. Gates and gate appurtenances such as keypad islands, turnaround areas, etc., shall not be located in public right-of-way.

Agricultural Gate Exemption

Gates that provide access solely to low intensity agricultural activities such as crop, or livestock areas shall be exempt from the gate standards set forth herein provided, however, that such gates shall be setback from the road right-of-way and/or easement in accordance with the residential gate standard requirements. Gates providing access to intense agricultural activities that allow for public access such as agricultural supply sales and agricultural services, and similar commercial activities, shall not be exempt and shall be subject to the gate standards set forth herein.

Design Vehicles

The two design vehicles used in the design of a gate are a passenger vehicle (AASHTO “P”) and a Pierce County fire apparatus having a 55-foot radius front overhang path and 25-foot radius rear wheel path. The dimension points of the fire apparatus are consistent with AASHTO design vehicles. Turnaround areas must be able to accommodate the turning movements of an AASHTO “P” vehicle. The design of a gated entry shall assure that the Pierce County fire apparatus can quickly and physically access and exit the entry.

Turnaround Area

Gates installed across a shared-access facility, private road, tract or easement that provides vehicular access, or serving any non-residential site, shall have a turnaround located in front of the gate when required by the gate design parameters table in this section. The turnaround shall not encroach into the intersecting right-of-way or private access easement. The turnaround shall be designed to accommodate the turn movements of an AASHTO “P” vehicle. Surfacing material shall be the same as the traveled way surfacing material.

Prescriptive Turnaround Area: Prescriptive turnaround area designs have been provided in Figures 1, 2, and 3 of this appendix in order to simplify the approval process. The circular turnaround (Figure 10) is the preferred method of providing a turnaround area. The circular turnaround maintains an unobstructed through-lane configuration for the ingress and egress lanes and allows the passenger vehicle to turn around without having to back up.

Non-Prescriptive Turnaround Area: Non-prescriptive turnaround areas are allowed, however, they must be designed by a Professional Engineer licensed in the State of Washington.

Gate Setbacks

Gates shall be set back as required by the gate design parameters table in this section.

Rapid Entry Capabilities

Rapid entry equipment must be provided for all gates and must be compatible with Pierce County Fire Districts. Electrically operated gates shall default to the unlocked position during a loss of power. The requirement is also applicable when a backup battery system is proposed.

Electrical substations and switchyards are not required to provide rapid entry devices (reference WAC 296-45-475).

Rapid Entry Key Devices

Rapid entry key devices (Knox key switch, box or padlock, or approved equivalent) are required to be installed on all gates. An electrically operated gate shall be equipped with a Knox key switch. The switch shall open the gate(s) on activation of the switch and they shall remain open until reset. Manually operated gates shall be provided with an access key located in a Knox key box or a Knox padlock. Knox devices shall be located on the keypad island per Figure 4 or on the right-hand side gatepost, (see Figure 5), if a keypad island is not proposed.

Emergency Vehicle Strobe Detector

An emergency vehicle strobe detector receiver is required for gates that serve 10 or more dwelling units. Electrically operated gates on non-residential structures shall be equipped with an emergency vehicle strobe detector. Gates shall open on activation of the emergency vehicle strobe detector receiver and remain open for 30 minutes and then automatically close. The receiver shall be mounted 8 feet above the roadway and located on the gate support post located on the right side of the gate as you are entering the gated area.

Exit and Safety Loop System

An exit loop and associated detector is required when an emergency vehicle strobe detector system is required. The exit loop detector shall automatically open the exit gate as an exiting vehicle approaches. Safety loops and associated detectors are required when electrically activated gates are proposed. Safety loops shall prevent a gate from closing on a vehicle. Photo reactive and “wand” style sensors are not considered an acceptable alternative. They may be installed as a supplement to a loop system.

Key Pads and Key Pad Islands

Key pads shall be located such that a driver does not have to cross an opposing lane of traffic to operate the key pad. Key pads shall not be located on medians that divide lanes of traffic traveling in opposite directions. Key pad pedestals may be placed on key pad islands that are located in the roadway provided they are not be located in the traveled way portion of the roadway. (See Figures 4 and 7). The key pad and key pad island shall not interfere with vehicles entering or exiting the site. Mailbox kiosks shall not be located on the key pad island.

Clear Width

Minimum clear widths must be provided in accordance with the gate design parameters table and Figure 6.

Gate Post Locations

Gateposts must be located behind the back of the curb section or edge of pavement.

Sidewalks and Walkways

The sidewalk or paved walkway must be maintained around any gate appurtenance and must comply with accessibility requirements.

Vertical Clearance

An unobstructed vertical clearance of not less than 13 feet 6 inches shall be maintained.

Gate Height

Gates or support posts that are higher than six feet are required to have project specific structural plans, details and calculations stamped by a Professional Engineer licensed in the State of Washington. The details and calculations need to address the size and specifications of gate panels, columns, support arms, welds, footings, concrete, anchor bolts and any other structural elements specific to the project. The height is measured per Figure 6.

Traveled Way

Gates must open to provide unobstructed access to all portions of the traveled way.

Snow Clearance

Swing type gates shall have a minimum of 6 inches of clearance between the bottom of gate and the traveled surface, through its entire operating arc.

A-2 Permits Required

Gate Permit

Pursuant to Section 17B.10.102, a gate permit issued by the County is required prior to beginning construction.

Electrical Permit

Electrically operated gates require a permit for the installation of line and low voltage devices. Contact the appropriate permitting agency (state or utility company) for required permits. Pierce County does not issue electrical permits.

A-3 Construction Drawings, Calculations, and Submittal Requirements

Drawings, calculations, and submittal requirements for gate permits shall be prepared and submitted in accordance with the gate handouts available on the Pierce County website or at the Pierce County Development Center

A-4 Maintenance

All required rapid entry devices including the Knox key device, emergency vehicle strobe detector receiver, and exit and safety loop systems shall be maintained in an operable condition.

Gate Design Parameters Table						
	Setback from Right-of-Way Line/Easement		Turnaround		Clear Width (see fig. 6)	
Proposed Project	Arterial Road	All Other Roads	Arterial Road	All Other Roads	No Center Post	With Center Post
Residential/Utility (4)	10'	0'	Not Required	Not Required	15' (2)	12'
Commercial/Industrial (Gate Normally Open)	10' from gutter line or at right-of-way line (whichever is greater)	0'	Not Required	Not Required	24' (2)	12'
Commercial/Industrial (Gate Normally Closed)	60' or less based on expected customer vehicle size and queue	Length of expected customer vehicle size	Only if passenger vehicles will regularly access	Not Required	24' (2)	12' (5)
Single Family Residential Subdivision (<50 lots)	60'	60'	Not Required (1)	Not Required (1)	(3)	(3)(5)
Single Family Residential Subdivision (≥50 lots) / Multifamily	60'	60'	Required	Required	(3)	(3)(5)

Notes:

- (1) Bulb out area for keypad is required that will not obstruct the traveled way.
- (2) Clear width shall be established such that emergency vehicles can access parcel with minimum 15-foot width, 20-foot inside radius and 45-foot outside radius.
- (3) Subdivision minimum clear width requirements shall be designed to match the minimum traveled way requirements associated with the road classification. When a center post is proposed, the minimum clear width per side is the traveled way divided by 2.
- (4) Utility facility includes utility or jurisdictional facilities that generates less than one ADT.
- (5) Gates configured with a center post shall be setback a minimum of 60 feet from the road right-of-way/easement, 100 feet from centerline of road right-of-way or 100 feet from face of median or lane divider, whichever is greater.

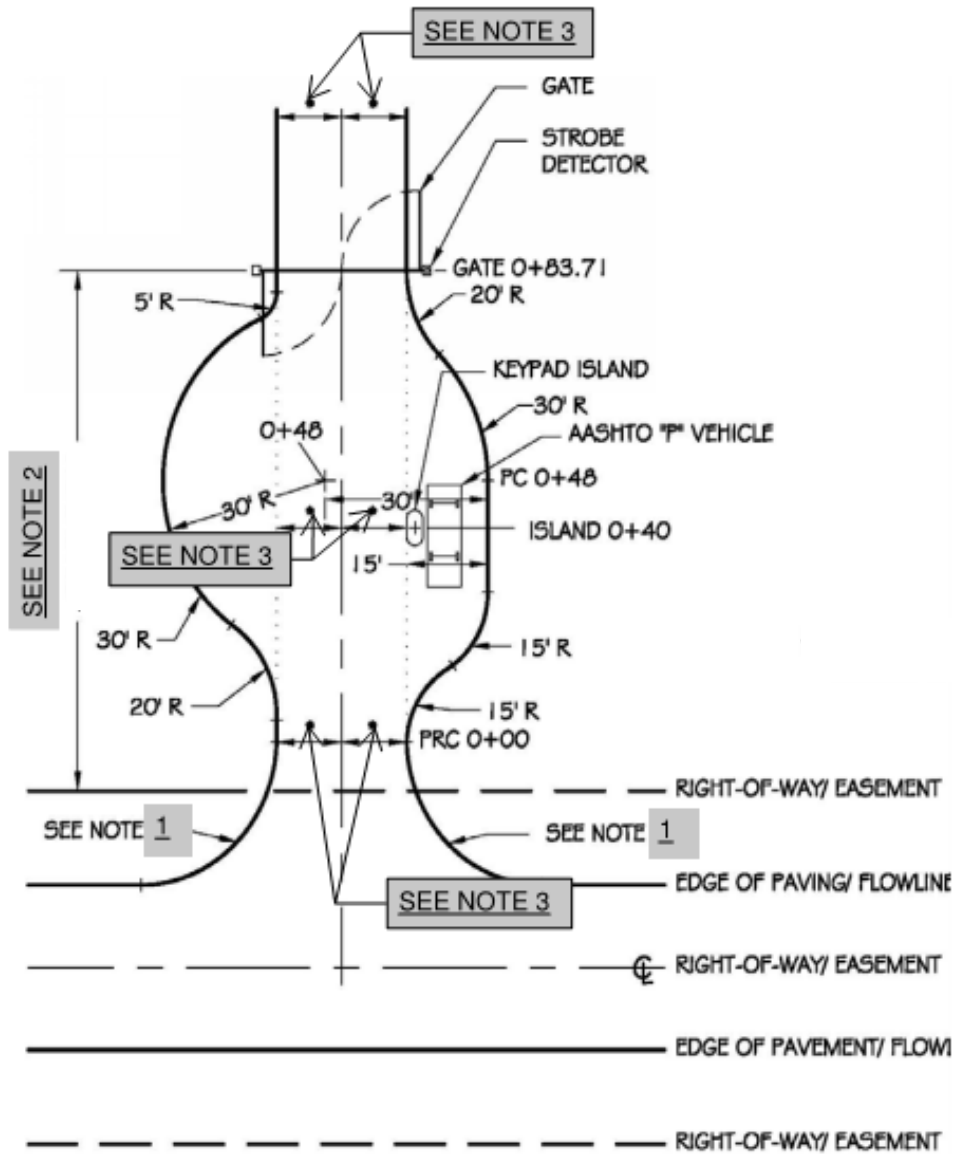


Figure 1
CIRCULAR TURNAROUND

- NOTES:**
- (1) SEE INTERSECTION CORNER RADII REQUIREMENTS IN CHAPTER 5-3.3 OF THIS MANUAL.
 - (2) SEE GATE DESIGN PARAMETERS TABLE FOR GATE SETBACK REQUIREMENTS.
 - (3) SEE GATE DESIGN PARAMETERS TABLE FOR CLEAR WIDTH REQUIREMENTS

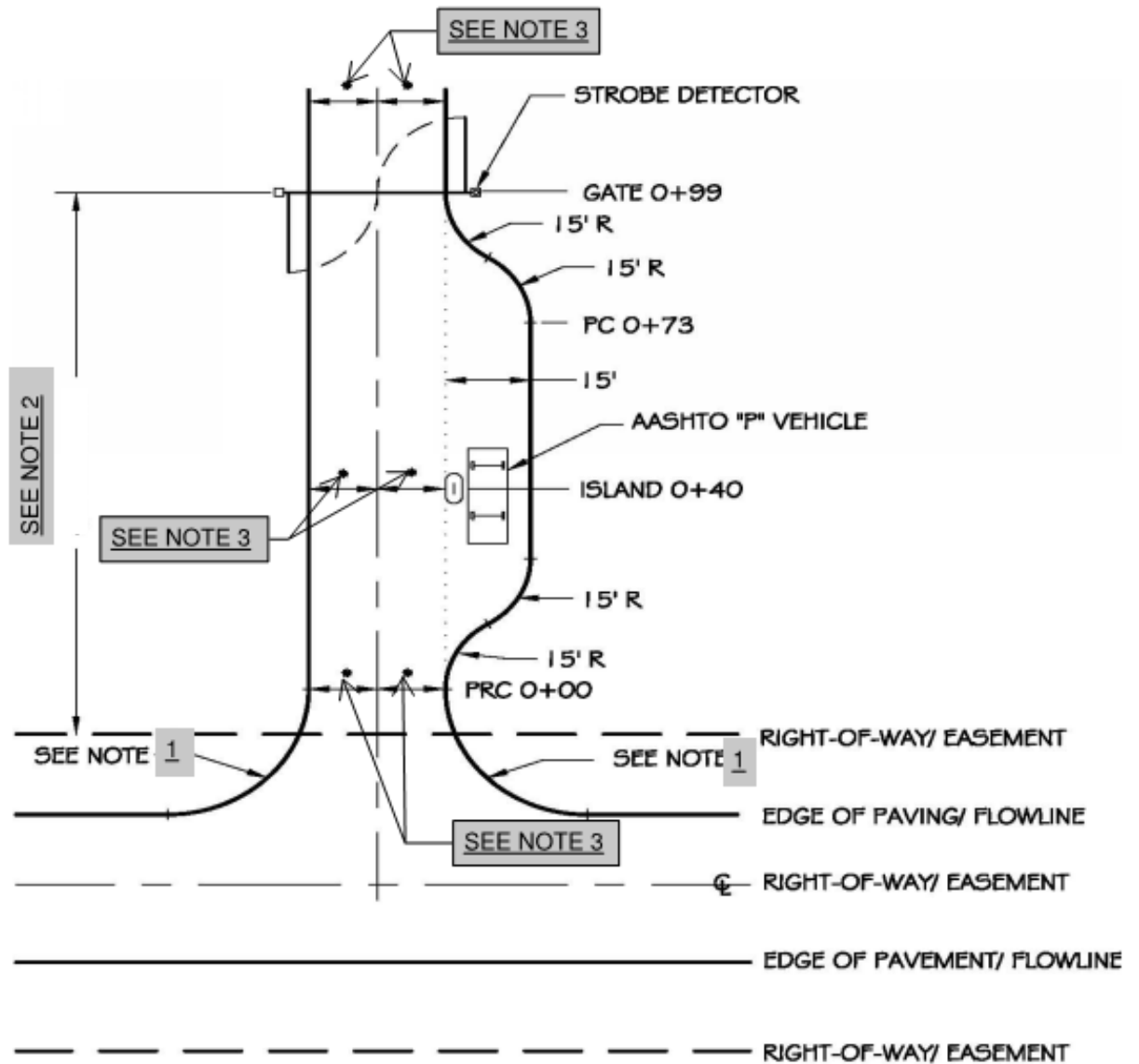
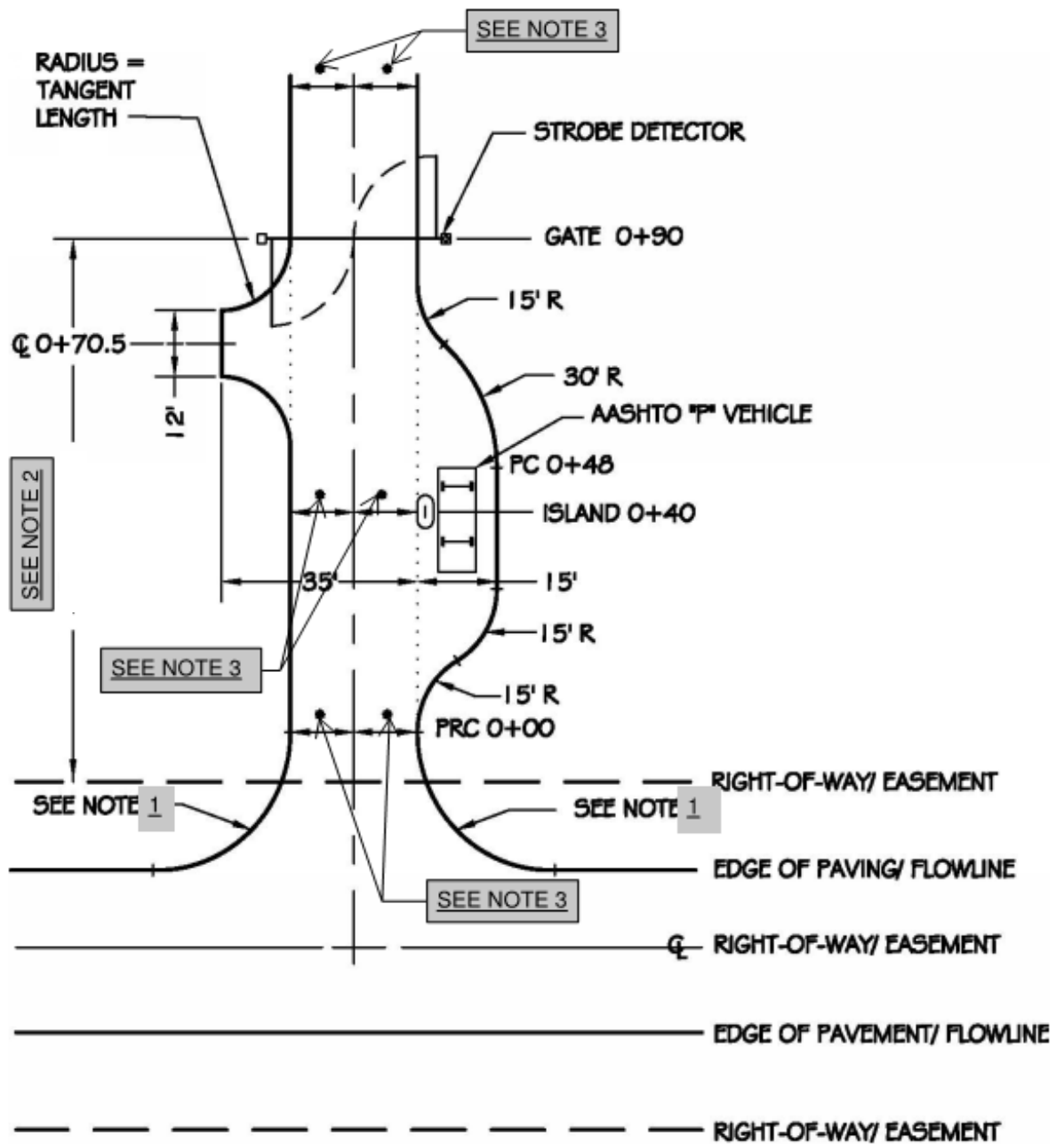


Figure 2
BRANCH TURNAROUND

NOTES:

- (1) SEE INTERSECTION CORNER RADII REQUIREMENTS IN CHAPTER 5-3.3 OF THIS MANUAL.
- (2) SEE GATE DESIGN PARAMETERS TABLE FOR GATE SETBACK REQUIREMENTS.
- (3) SEE GATE DESIGN PARAMETERS TABLE FOR CLEAR WIDTH REQUIREMENTS



NOTES:

- (1) SEE INTERSECTION CORNER RADII REQUIREMENTS IN CHAPTER 5-3.3 OF THIS MANUAL.
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- (3) SEE GATE DESIGN PARAMETERS TABLE FOR CLEAR WIDTH REQUIREMENTS

Figure 3
L-TYPE TURNAROUND

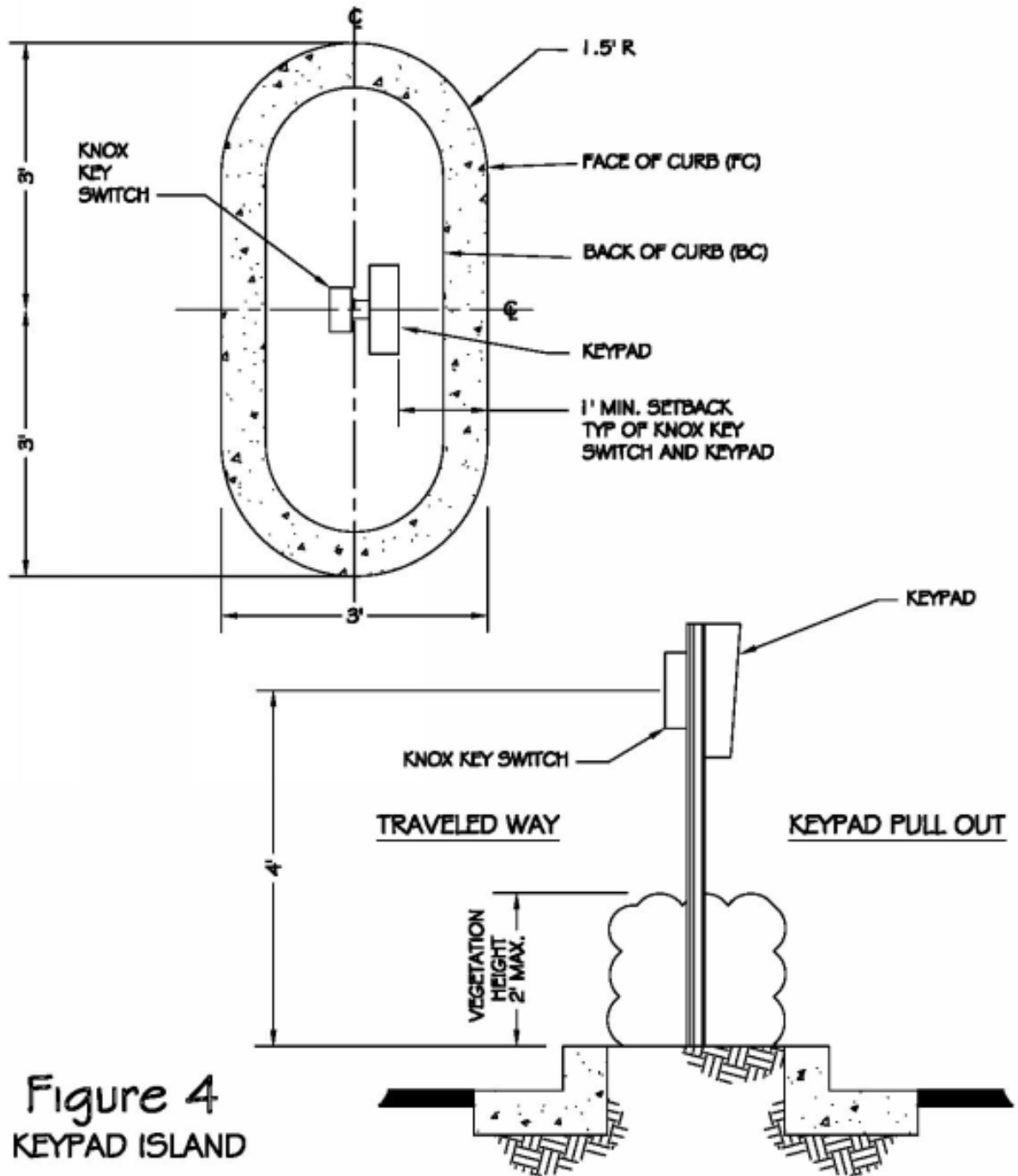


Figure 4
KEYPAD ISLAND

NOTE: KEYPAD HEIGHTS AND LOCATIONS SHALL BE DESIGNED TO COMPLY WITH ANY APPLICABLE ACCESSIBILITY REQUIREMENTS.

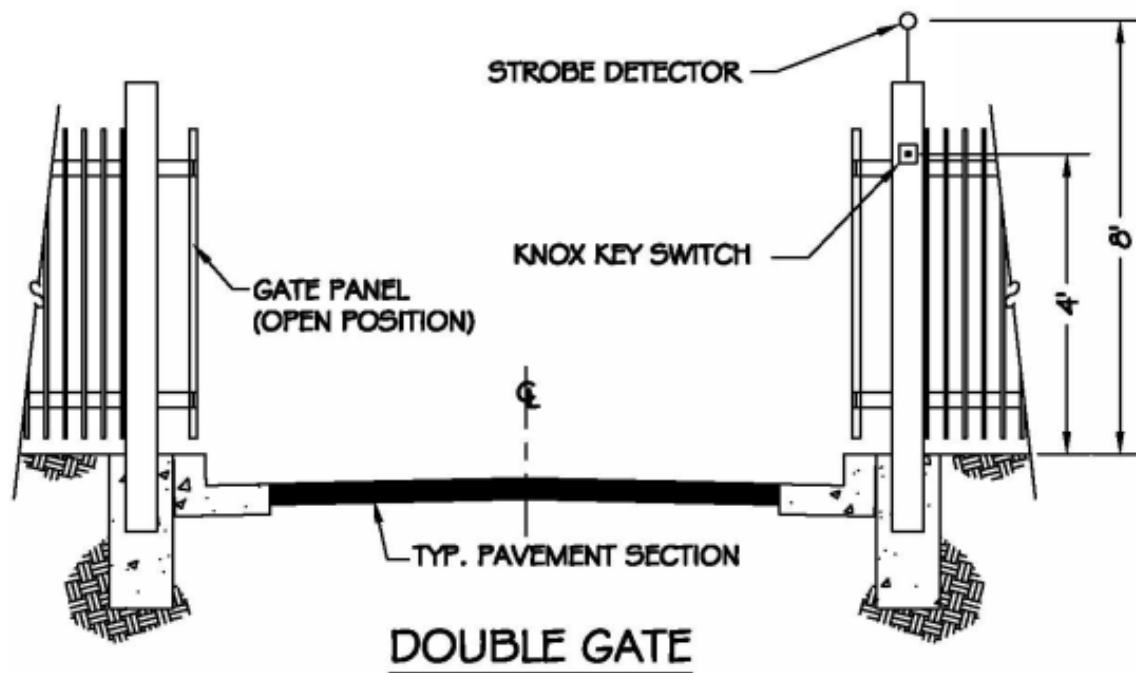
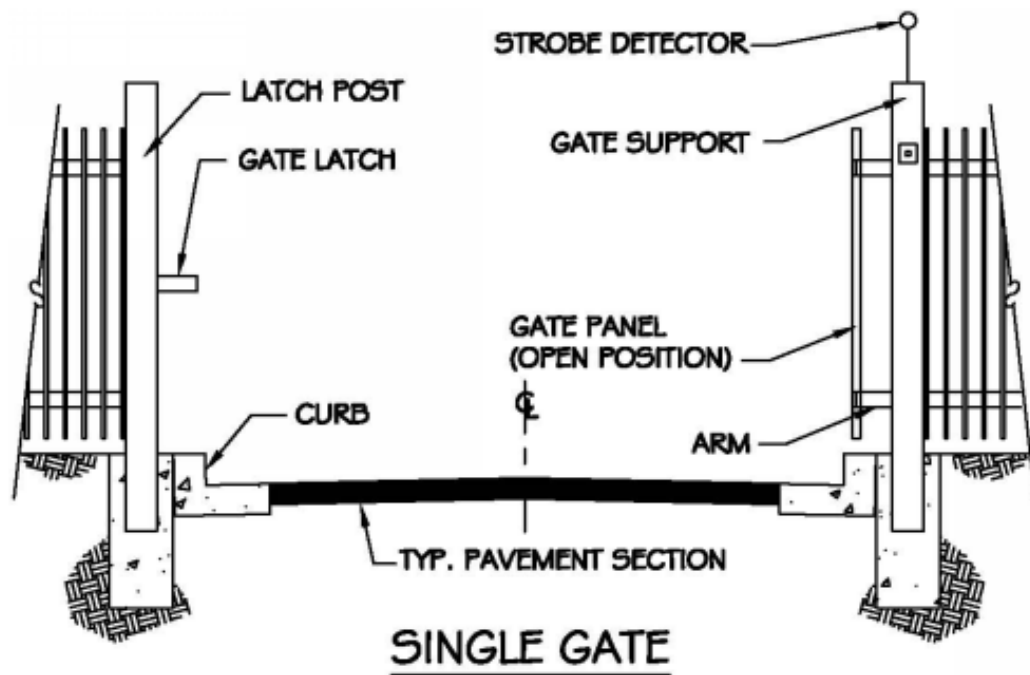
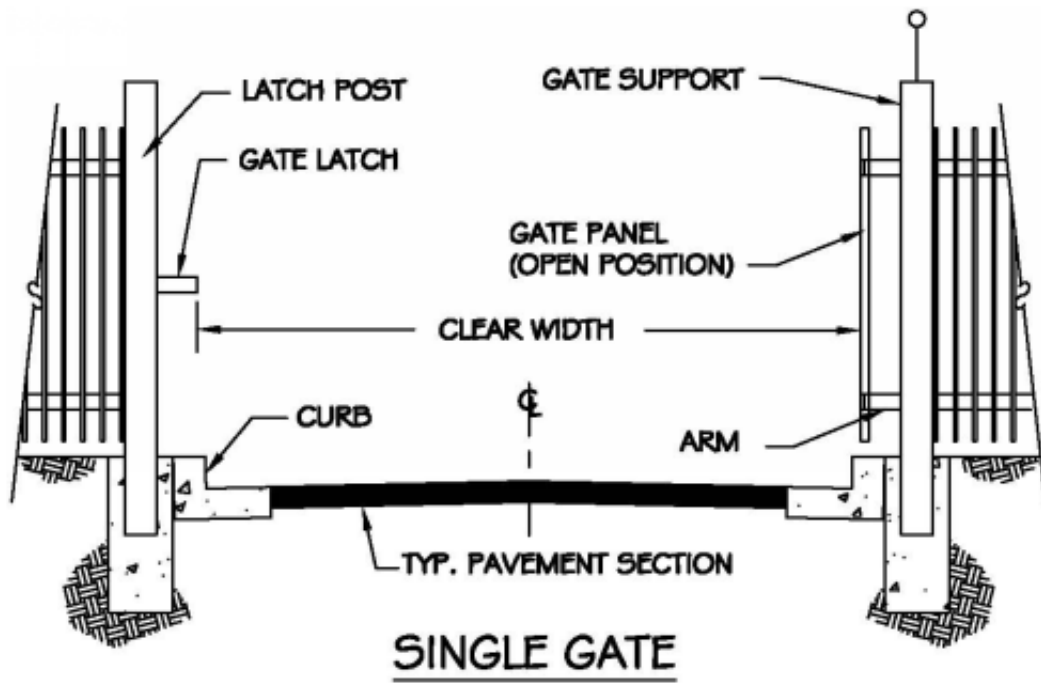
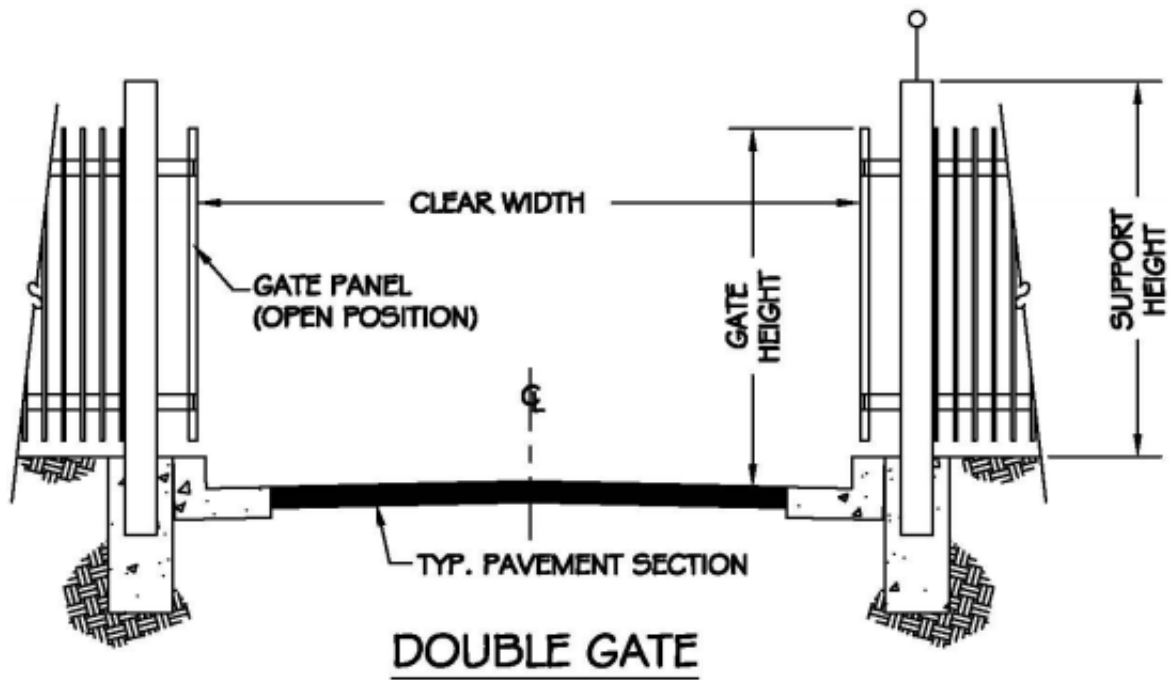


Figure 5
STROBE DETECTOR & KNOX DEVICE



SINGLE GATE



DOUBLE GATE

Figure 6
CLEAR WIDTH & HEIGHT

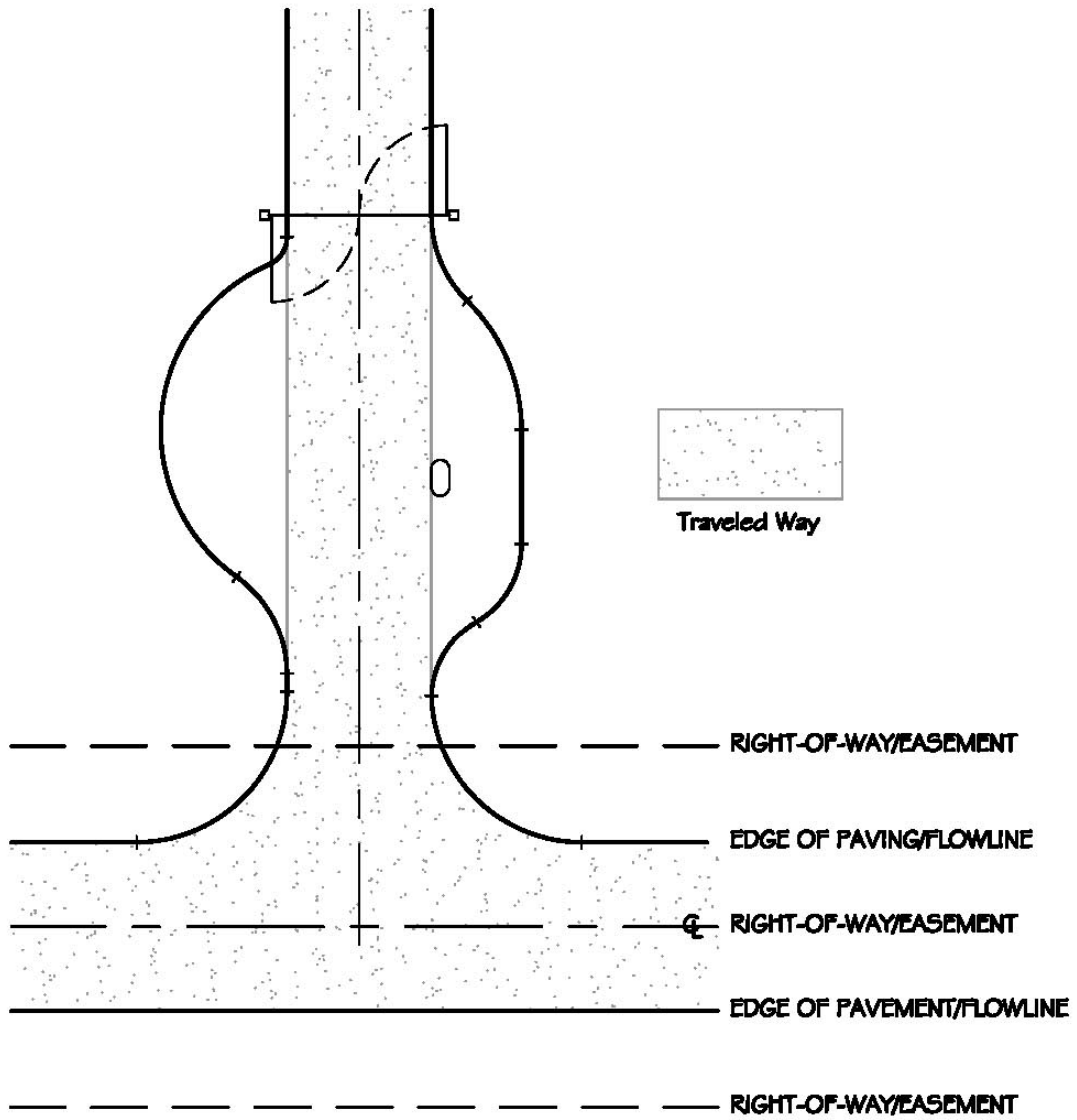


Figure 7
TRAVELED WAY