

**LINCOLN TRAFFIC
CONTROL GUIDELINES
(LTCG)**

FOR:

**CONSTRUCTION,
MAINTENANCE OR
UTILITY ACTIVITIES
VEHICLES AND
PEDESTRIANS**

2010 EDITION

CITY OF LINCOLN, NEBRASKA
DEPARTMENT OF PUBLIC WORKS AND UTILITIES

TABLE OF CONTENTS

1

TABLE OF CONTENTS	1
INTRODUCTION	2
AUTHORIZATION	3
PROCEDURES	4
CONTACTS	5
CONTRACTORS' RESPONSIBILITIES	6–7
FLAGGER CONTROL	8
TRAFFIC CONTROL DEVICES	9
ARROW PANELS/DYNAMIC MESSAGE SIGN/BOARDS	10
PEDESTRIAN AND ADA PROCEDURES	11
WORK IN THE PEDESTRIAN AREAS	12–15
SIGN SPACING AND TAPER LENGTH FORMULAS	16
TAPER LENGTH (CALCULATED FOR 12' LANE WIDTH)	17
DIAGRAMS	18–26

2

INTRODUCTION

This pocket guide is not a standard. It is a quick reference to basic work zone traffic control.

Part VI of the Manual on Uniform Traffic Control Devices (MUTCD) is the national standard for work zone traffic control. The current revision of the MUTCD shall be followed.

It is the policy of the City of Lincoln to promote the safest and most efficient travel of persons on the public right-of-way and to preserve the maximum vehicle capacity of the roadway to accommodate such travel movements.

The provisions of this manual as approved by Department of Public Works of Lincoln shall apply to all municipal forces, contractors, utility companies, and any other person, firm, corporation, or agency performing work within the right-of-way of any public street, public way, or alley in the City of Lincoln.

Should the Department of Public Works & Utilities find you are not in compliance with this manual or the (MUTCD), you may be required to cease operations, clear the right-of-way, open the roadway and/or the pedestrian way to the unrestricted flow of vehicle or pedestrian traffic.

AUTHORIZATION

- No detour or diversion of vehicle or pedestrian traffic, construction, reconstruction or pavement cut shall be made in any right-of-way, street, alley or sidewalk in the City of Lincoln by any public agency or by any private agency without the knowledge and authorization of the Department of Public Works and Utilities Traffic Operations Section.

- Traffic control devices for the purpose of regulating, warning or guiding traffic shall be placed only with the authority of the Department of the Public Works and Utilities Traffic Operations Section.

- The Department of Public Works and Utilities Traffic Operations Section shall have the authority to control the progress of work on the project with respect to providing safe conditions, including the authority to modify conditions or halt work until applicable or remedial safety measures are taken.

4

PROCEDURES

- A street cut/use permit is required to occupy or expose any and all excavations in any portion of the public right-of-way.

This permit is obtained from the Department of Building and Safety.

If the proposed work is by contract with the Department of Public Works and Utilities, the contract is the permit.

- A representative of the agency doing the work shall request authorization from the Department of Public Works and Utilities Traffic Operations Section to work in the public right-of-way.

The request for authorization shall include a Traffic Control Plan (TCP) for handling pedestrian and vehicle traffic and a proposed date and time for the commencement and completion of the work.

- Authorization for lane closures on major streets requires 48 hours minimum notice to the Department of Public Works and Utilities Traffic Operations Section.

Requests for total street closures shall be made to the Department of Public Works and Utilities Traffic Operations Section well in advance of the proposed re-routing of vehicle and pedestrian traffic.

Advance notice assists in scheduling the proposed work to avoid conflicts with existing closures, detours, work in progress, bus routes, school zones, special events and emergency services.

CONTACTS

PRIOR TO CONSTRUCTION:

CALL : 1-800-331-5666 OR 811 FOR LOCATION OF UNDERGROUND TELEPHONE, ELECTIRC, GAS MAINS, CABLEVISION AND CITY OF LINCOLN UTILITIES.

BUILDING & SAFETY DEPARTMENT

ADMINISTRATION

(402) 441-7521

(for excavation & street use permits, bond & insurance requirements, and other questions pertaining to private work in the public right-of-way)

PUBLIC WORKS & UTILITIES DEPARTMENT

TRAFFIC OPERATIONS SECTION

(402) 441-7711

(prior to authorization to close roadways, sidewalks, traffic lanes and work in the public right-of-way)

6 CONTRACTOR'S RESPONSIBILITIES

- TRAIN ALL PERSONNEL
Training and monitoring of those personnel engaged in traffic control functions shall be the responsibility of the contractor.
- HAVE A TRAFFIC CONTROL PLAN (TCP)
A (TCP) describes traffic controls to be used for facilitating vehicle and pedestrian traffic through a temporary traffic control zone. Any changes in the TCP shall be approved by the Department of Public Works and Utilities Traffic Operations Section.
- MINIMIZE TRAFFIC DISRUPTIONS
Roadway occupancy and work completion time should be minimized. Avoid conflicts with special events. Roadway occupancy on major streets shall be scheduled during NON-PEAK TRAFFIC HOURS unless prior approval is obtained from the City Engineer.

Traffic Hour Restrictions in Lincoln

7:00AM–8:00AM Monday–Friday

3:30PM–6:00PM Monday–Friday

- IDENTIFY EQUIPMENT
All equipment working in or placed in the public right-of-way shall bear a conspicuous sign identifying the user of the equipment.
- POSITION EQUIPMENT SAFELY
The placement of construction equipment shall not create a visual obstruction or other unnecessary obstruction to vehicle or pedestrian traffic.
- PREVENT SPILLS
Spillage from trucks or equipment on the driving surfaces or pedestrian walkways within the public right-of-way shall be cleaned up immediately.

CONTRACTOR'S RESPONSIBILITIES

7

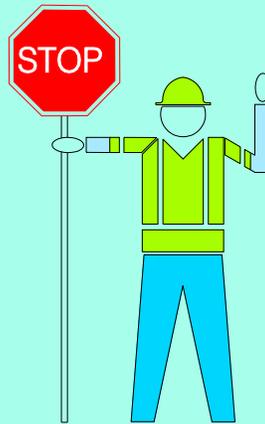
- MAINTAIN A SAFE PROFESSIONAL WORK ZONE
All work in the public right-of-way shall be conducted in a professional manner, mindful that safety is of primary importance. Work completion is secondary.
- MAINTAIN DETOURS
Maintenance of those detours and diversions necessitated by the contractor's work shall remain the responsibility of the contractor until such time as the detoured and diverted traffic can safely return to the normal course of travel as determined by the Department of Public Works and Utilities Traffic Operations Section.
- INSPECT AND MAINTAIN WORK ZONE SITES
 - Work zone sites shall be maintained in conformance with the MUTCD & TCP.
 - Physical maintenance of traffic control devices shall be to high standards.
 - Work zone devices shall be checked twice during the daylight hours and once during the nighttime hours.
 - Particular attention should be given to assuring that channelizing devices are maintained and kept clean, visible, and properly positioned at all times.
 - Devices that are damaged and devices that have lost significant amounts of their retroreflectivity and effectiveness shall be replaced.
- REMOVE DEVICES PROMPTLY
All traffic control devices shall be removed when no longer needed. When work is suspended for short periods, advance warning signs that are no longer appropriate shall be removed, covered, or turned away from traffic, and other traffic control devices shall be removed from the work area so they are not visible to drivers.
- TRAFFIC CONTROL SIGNING
Shall not obstruct any sidewalks not otherwise impacted by the work.

8

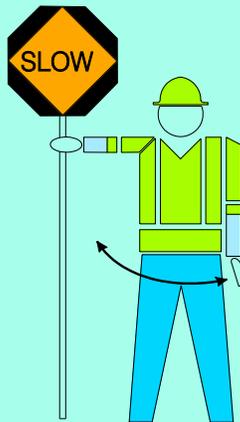
FLAGGER CONTROL

Where traffic in both directions must use a single lane, provision should be made for alternate one-way movement through the constricted area.

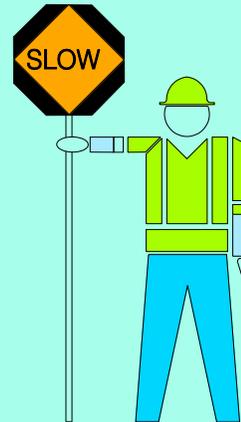
Where a one-lane two-way temporary traffic control zone is short enough to allow visibility from one end to the other, traffic may be controlled by either a single flagger or by a flagger at each end of the section.



To Stop Traffic



Traffic Proceed

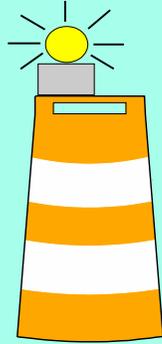


To Slow Traffic

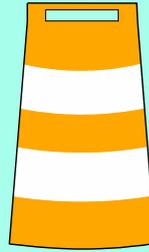
Flagging should be employed only when all other methods of traffic control are inadequate to warn and divert traffic!

TRAFFIC CONTROL DEVICES

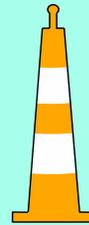
DEFORMABLE DEVICES ARE REQUIRED



● DRUM
with LIGHT (when required)

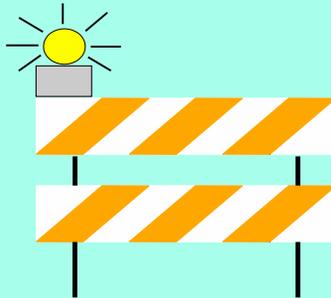


● DRUM

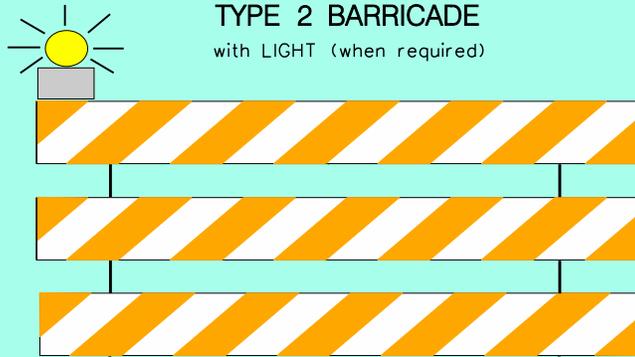


▲ CONE(42")

Devices used during hours of darkness shall utilize retroreflective materials and lighting devices.



TYPE 2 BARRICADE
with LIGHT (when required)



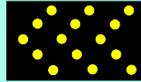
TYPE 3 BARRICADE
with LIGHT (when required)



Safety Fence with top and bottom rails (per ADA) to be used when in sidewalk area or when excavation and devices are within two(2') feet of sidewalk.

10

ARROW PANELS



- An arrow panel in the arrow or chevron mode shall be used to advise oncoming traffic of lane closures ahead on multi-lane roadways in areas with heavy traffic, high speeds or reduced sight distance.
- Arrow panels shall be required for every lane closure of a multi-lane roadway.
- When arrow panels are used to close multiple lanes a separate arrow panel shall be used for each closed lane.

DYNAMIC MESSAGE SIGNS/BOARDS



- Message boards may be required to advise of upcoming road closures, road work, crashes, incidents, detour routes or driver advisories.

PEDESTRIANS AND ADA PROCEDURES 11

- Pedestrian pathway(s) shall be ADA compliant. Barricades and channelizing devices shall comply with the MUTCD. Pedestrians shall be guided in a clear and positive manner throughout the temporary traffic control zone.
- Pedestrian and ADA access shall be maintained throughout the period of construction/maintenance. Maintenance of pedestrian detours and diversions necessitated by the contractor's work shall remain the responsibility of the contractor until such a time as the detoured and diverted pedestrians can safely return to their normal course of travel as determined by the Department of Public Works & Utilities Traffic Operations Section.

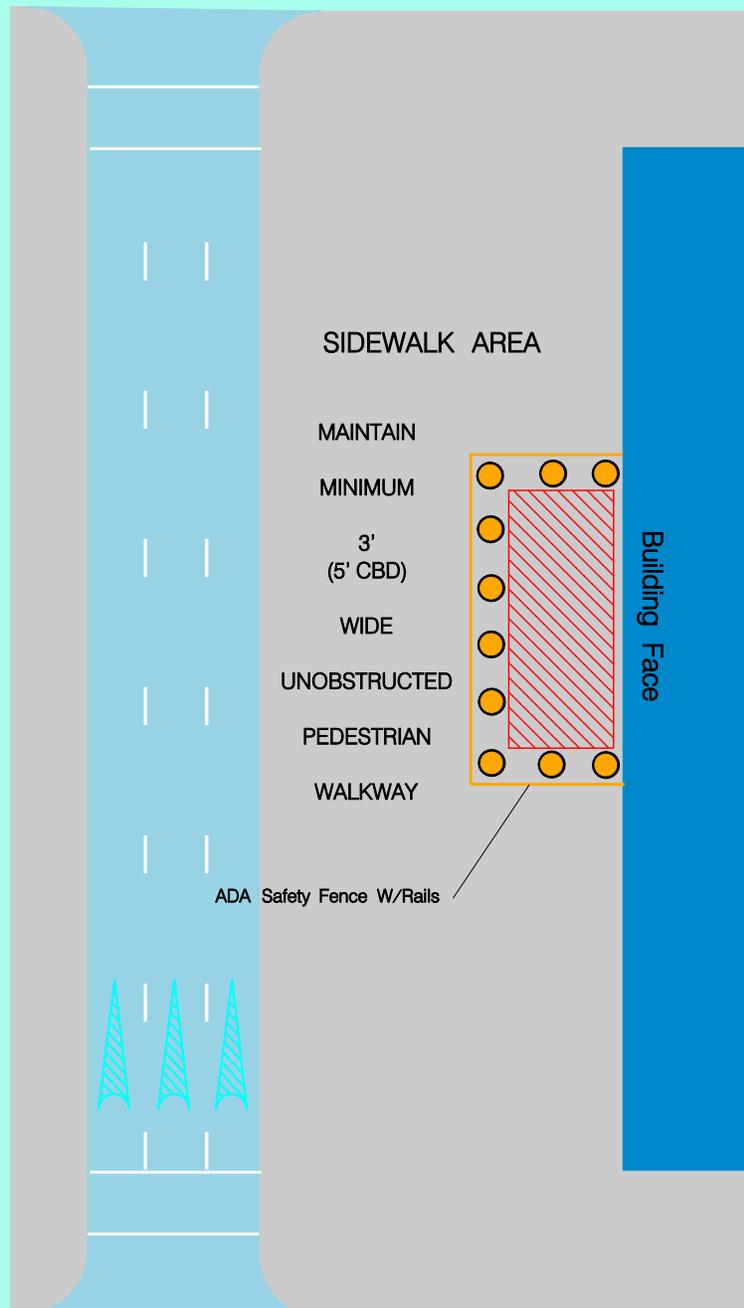


- Alternate pedestrian circulation routes shall be signed to clearly and safely direct pedestrians along a temporary or alternate path and shall have a minimum width of 3 feet (5 feet in central business district) and parallel the disrupted pedestrian access route when practicable.
- Channeling and barricading shall be used to separate the pedestrians from the traffic when sharing the roadway.
- Surfaces, for the pedestrians to use, shall be firm(non-granular), stable, and slip resistant.

12

WORK IN THE PEDESTRIAN AREAS

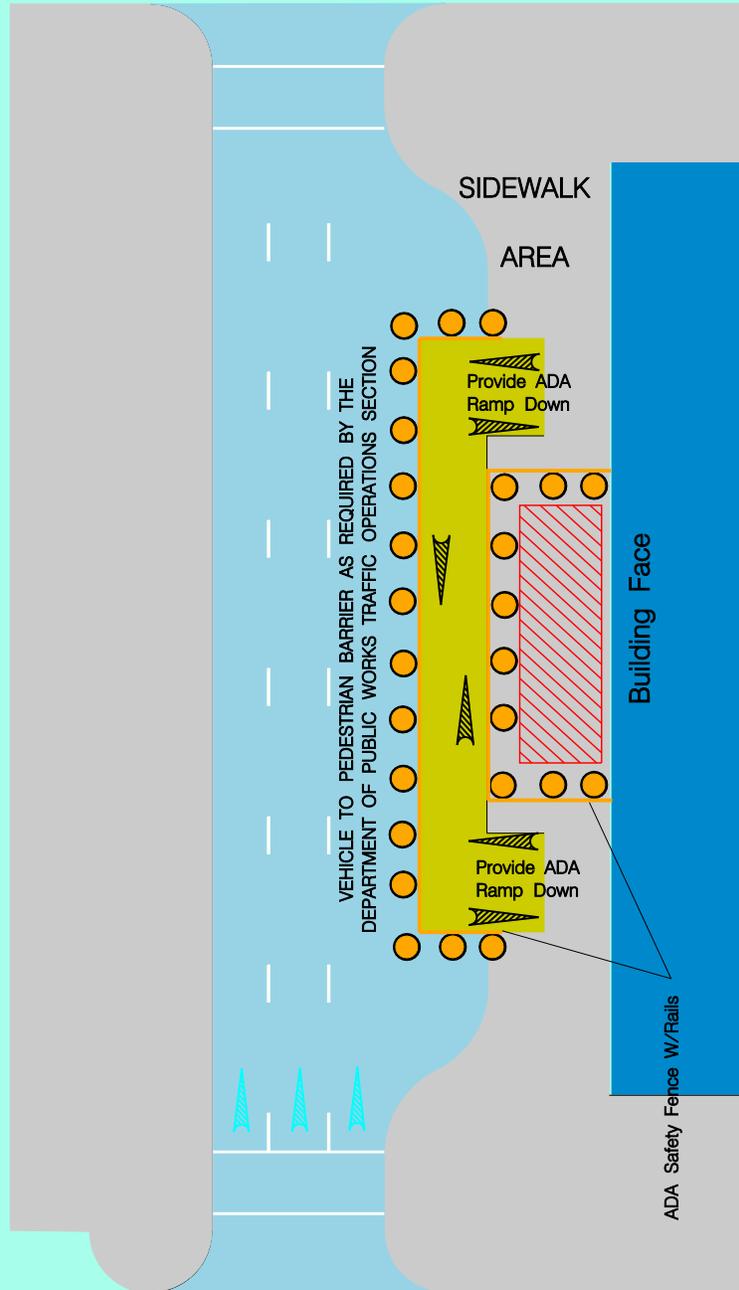
Maintain a clear and unobstructed pedestrian walkway around the work zone, or post warning signs for closures at adjoining intersections.



WORK IN THE PEDESTRIAN AREAS

PEDESTRIAN DETOUR IN CENTRAL BUSINESS DISTRICT (CBD)

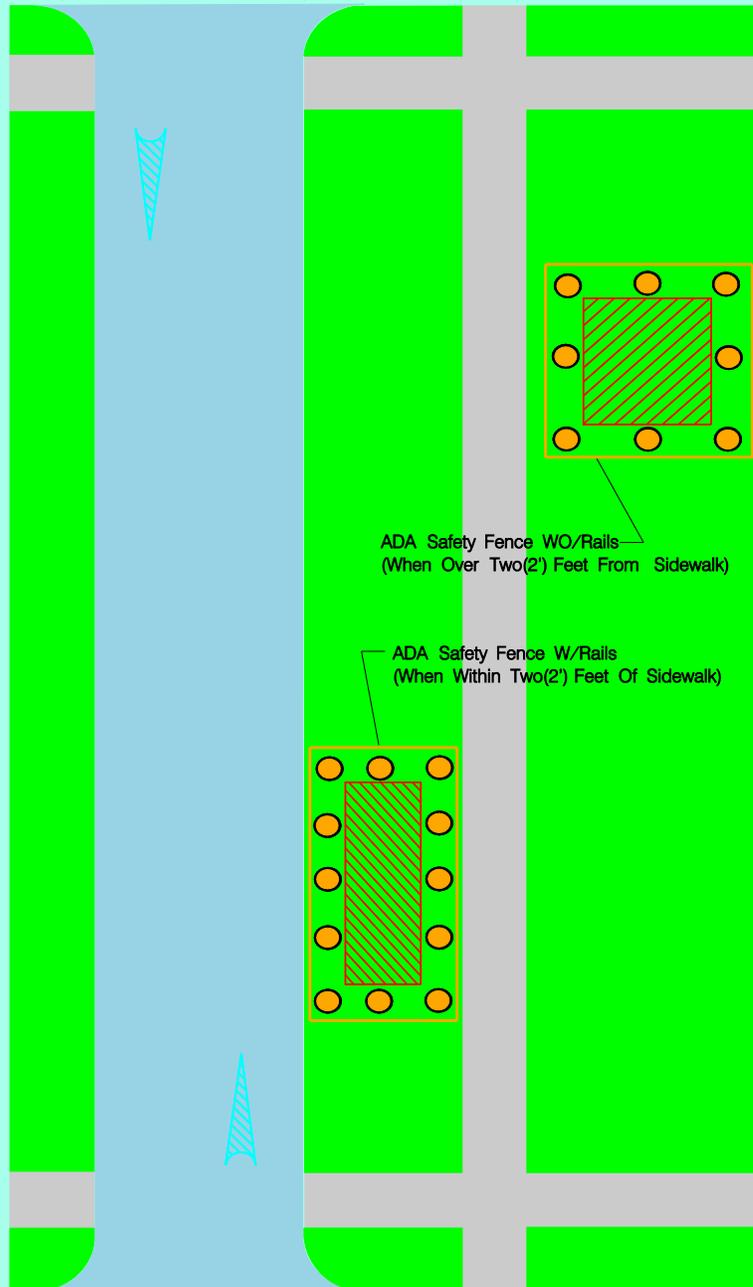
Maintain a minimum of 5' unobstructed pedestrian walkway around the work zone using constructed walkway or protected area as designated by the Department of Public Works Traffic Operations Section.



14

WORK IN THE PEDESTRIAN AREAS

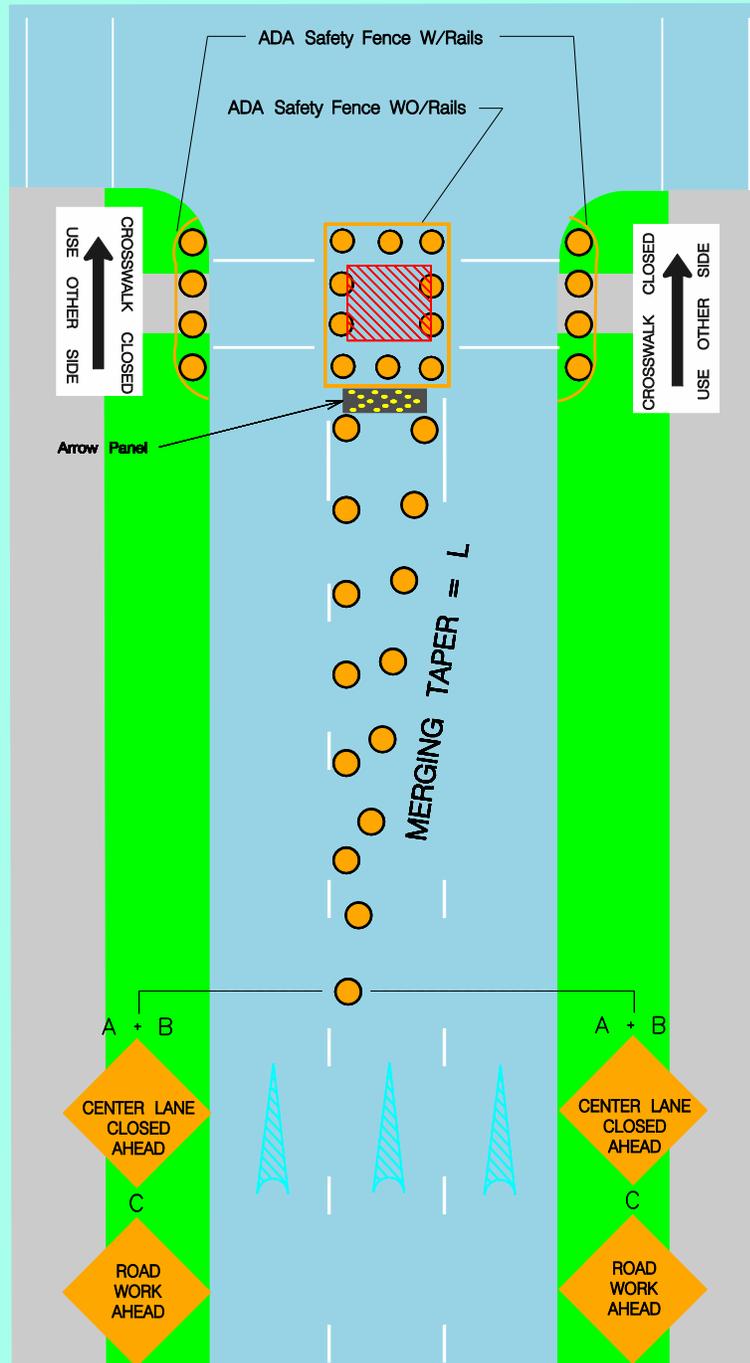
Protection of Excavations & Hazards
not in roadways or sidewalks



WORK IN THE PEDESTRIAN AREAS

-CROSSWALK CLOSED-

-CENTER LANE CLOSED-



16

TRAFFIC CONTROL SIGN SPACINGS FOR WORK ZONES

ROADWAY TYPE	MINIMUM SIGN SPACING		
	A	B	C
URBAN-40MPH OR LESS	100'	100'	100'
URBAN-45MPH OR MORE	350'	350'	350'
EXPRESSWAY	1000'	1500'	2640'

L = TAPER LENGTH IN (FEET)
W = WIDTH OF OFFSET (TRAFFIC LANE)
S = POSTED SPEED LIMIT OF ROADWAY

TRAFFIC TRANSITION TAPERS FORMULAS FOR DETERMINING TAPER LENGTHS

SPEED LIMIT (S)	TAPER LENGTH (L) FEET
40 MPH OR LESS	$L = \frac{WS^2}{60}$
45 MPH OR MORE	$L = WS$

TAPER LENGTHS CALCULATED FOR A 12' LANE WIDTH AT THE POSTED SPEED 17

POSTED SPEED MPH	TAPER LENGTH L	MINIMUM # OF DEVICES
25	125'	6
30	180'	6
35	245'	7
40	320'	9
45	540'	13
50	600'	13
55	660'	13
60	720'	13
65	780'	13

Tapers shall consist of no less than 6 identical devices.

Taper areas shall be kept clear of vehicles, equipment, and materials.

MERGING TAPER = L

TANGENT LENGTH = 2 L

SHIFTING TAPER = 1/2 L

SHOULDER TAPER = 1/3 L

ONE-LANE, TWO-WAY TRAFFIC TAPER

100' MAXIMUM LENGTH

DEVICE SPACING = POSTED SPEED

TERMINATION TAPER

100' MAXIMUM PER LANE

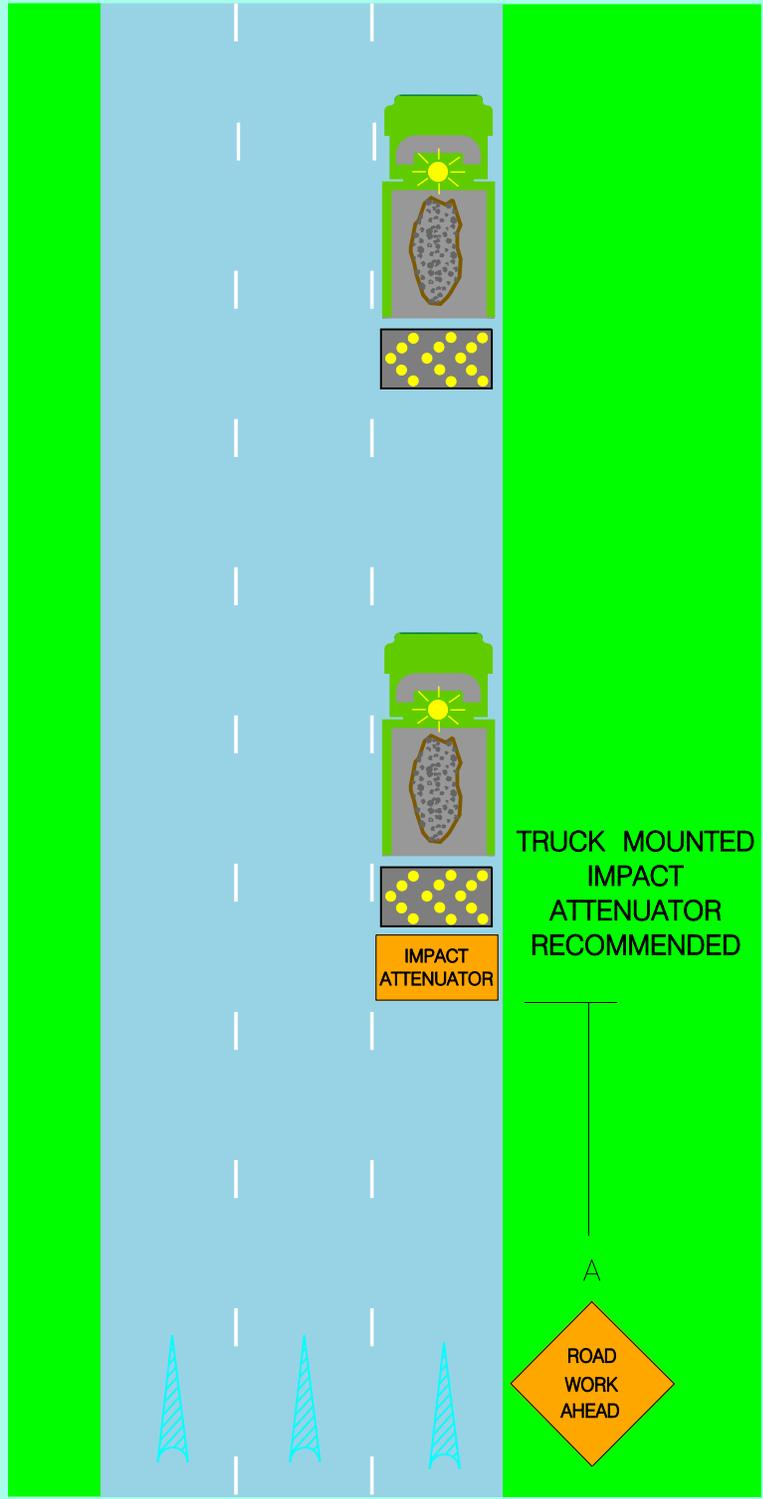
DEVICE SPACING = 20'

SPACING FOR CHANNELIZING DEVICES, CONES, BARRELS, ETC. IN A TAPER SHALL BE NO GREATER THAN THE POSTED SPEED LIMIT

ON TANGENTS, DEVICE SPACING MAY BE TWO TIMES THE POSTED SPEED LIMIT

18

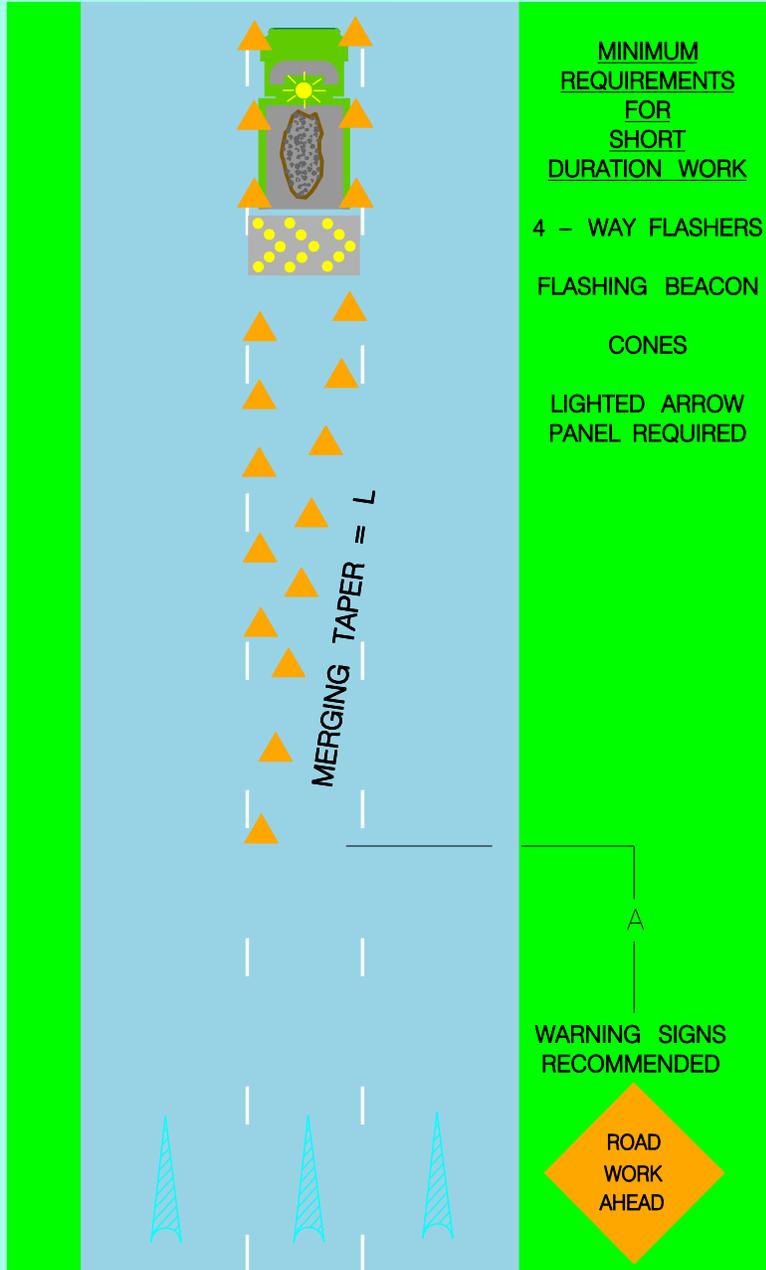
MOBILE OPERATION ON ROADWAY



SHORT DURATION WORK

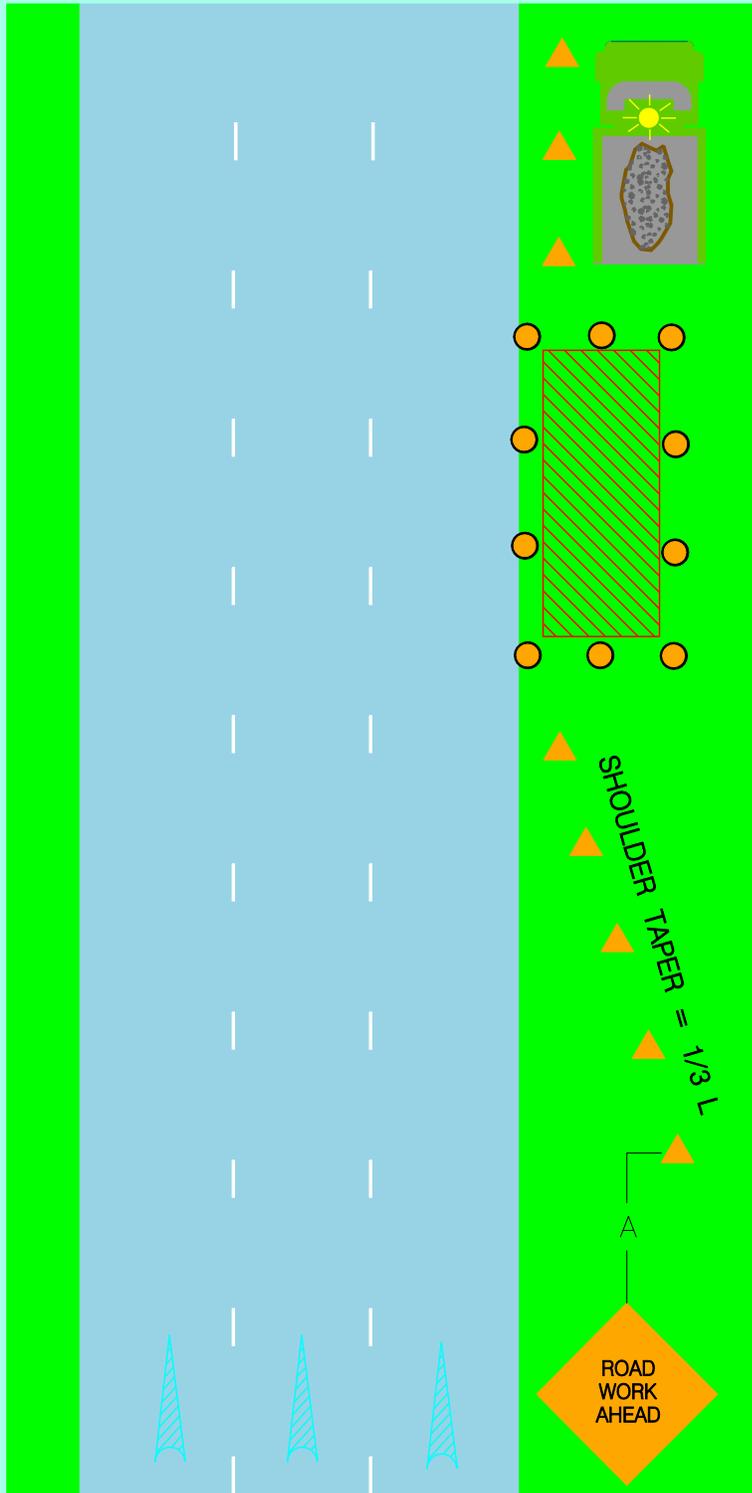
– LESS THAN 60 MINUTES –

Municipal and utility maintenance activities of short duration may be conducted using simplified traffic controls during daylight hours.

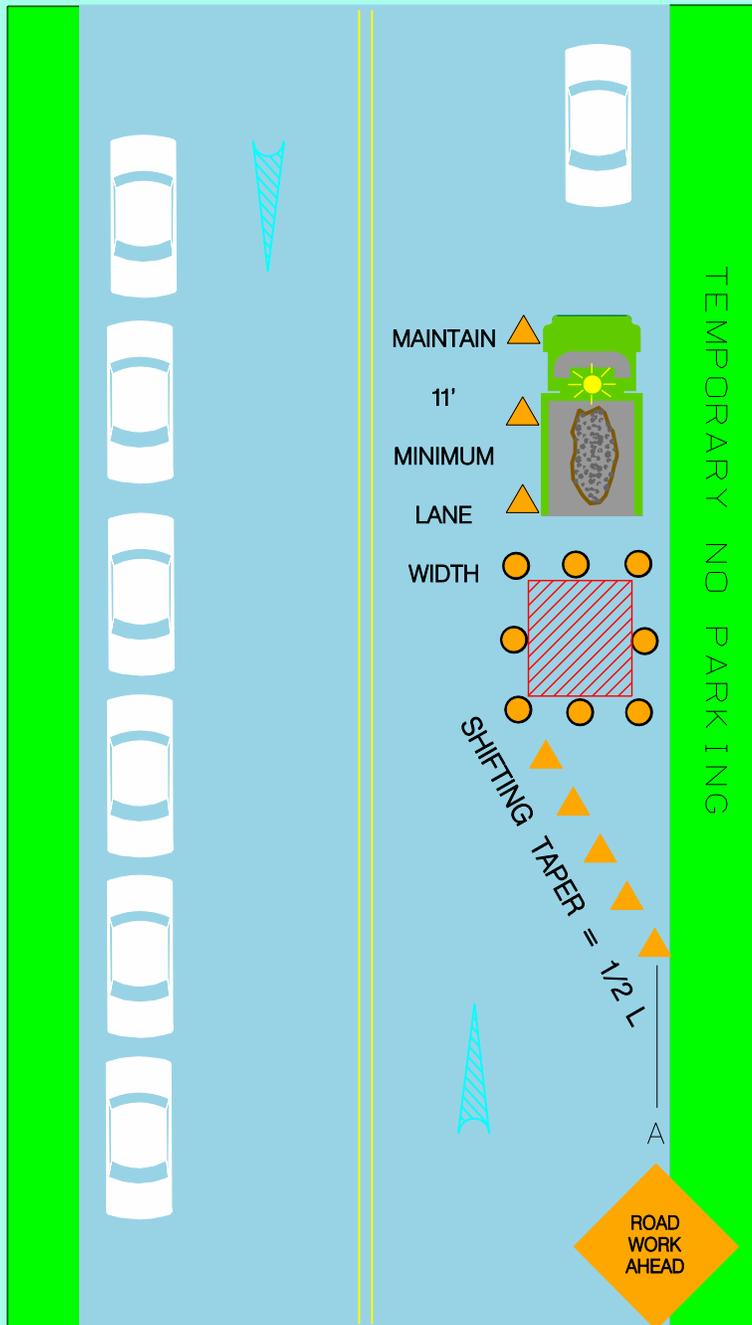


20

WORK ON IMPROVED SHOULDER



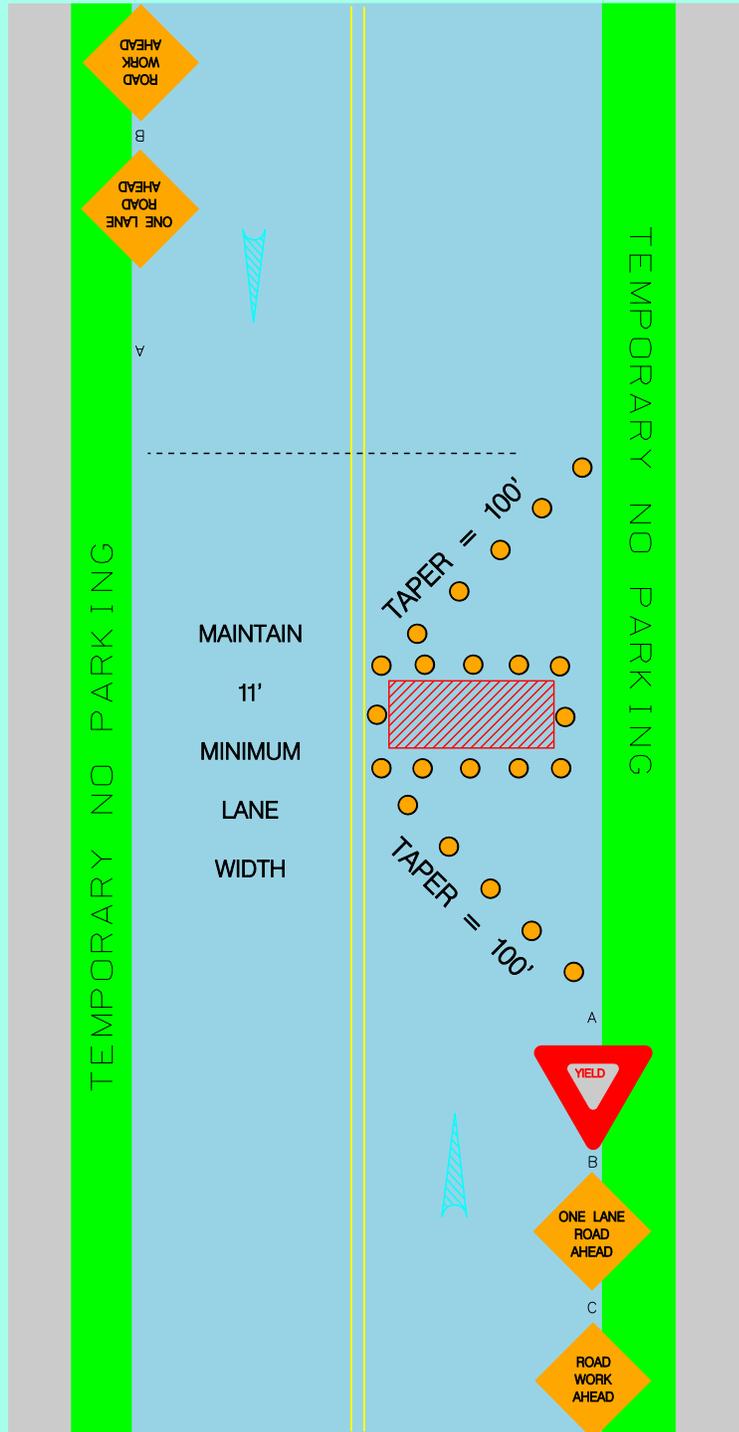
CONSTRUCTION IN PARKING LANE



22

LANE CLOSED

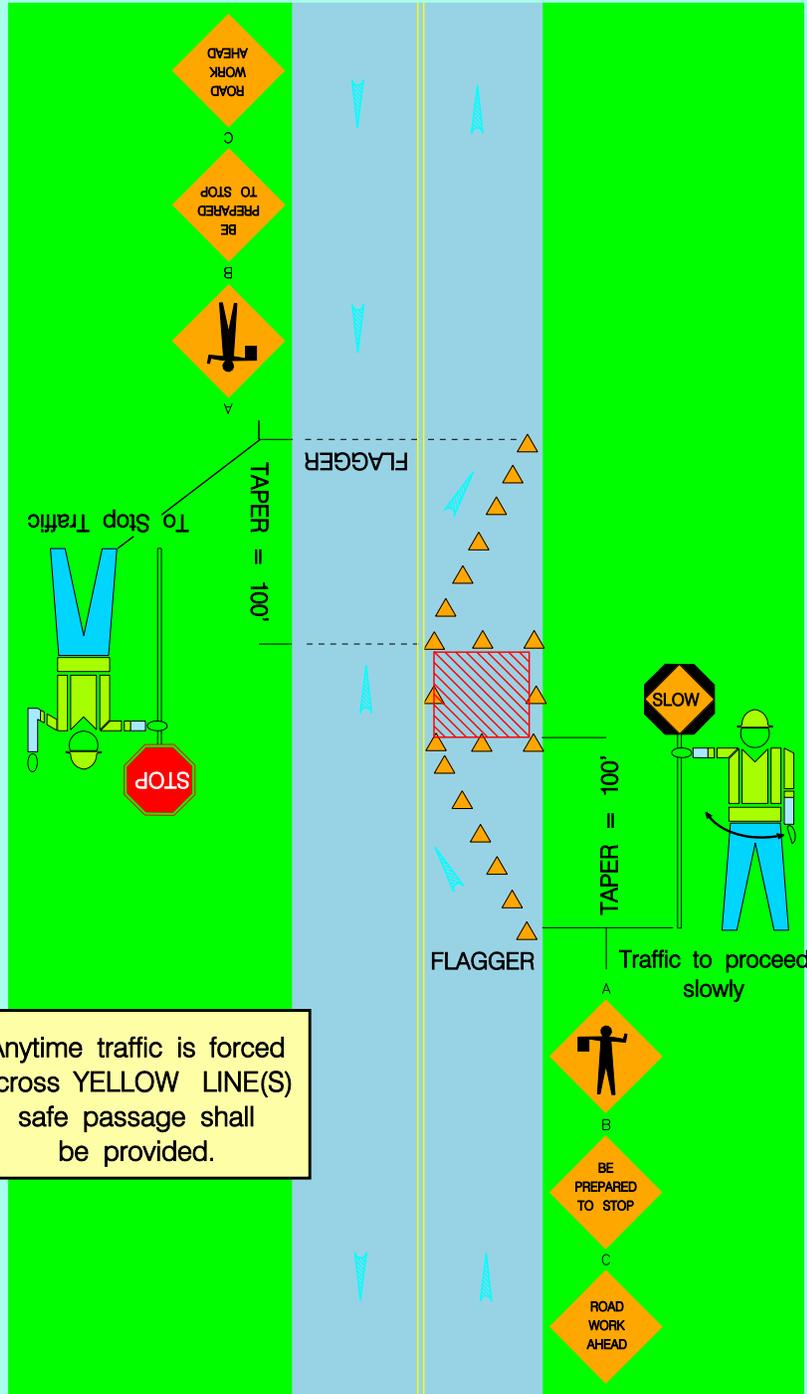
TWO LANE, TWO WAY
RESIDENTIAL STREET



LANE CLOSED

23

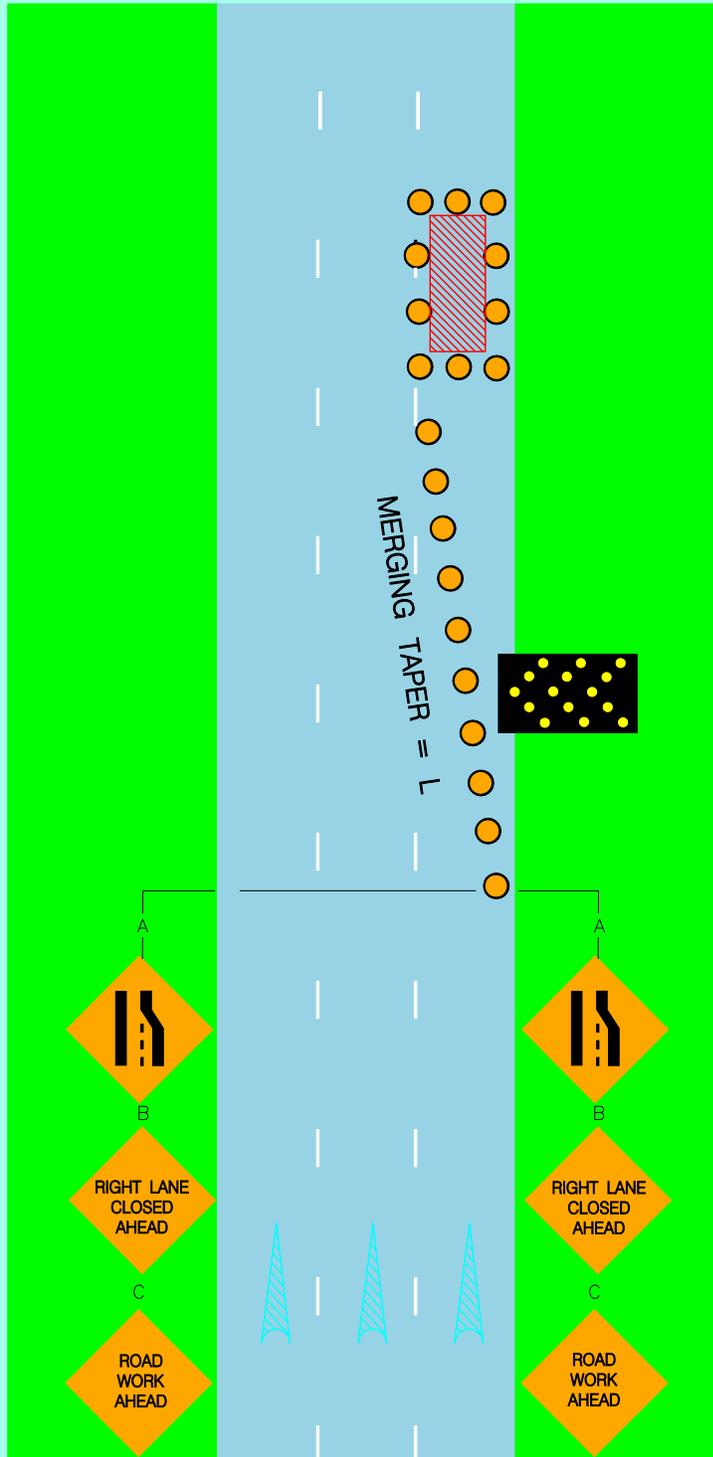
ON A TWO-LANE, TWO-WAY MAJOR STREET
DAYLIGHT HOURS ONLY!



Anytime traffic is forced across YELLOW LINE(S) safe passage shall be provided.

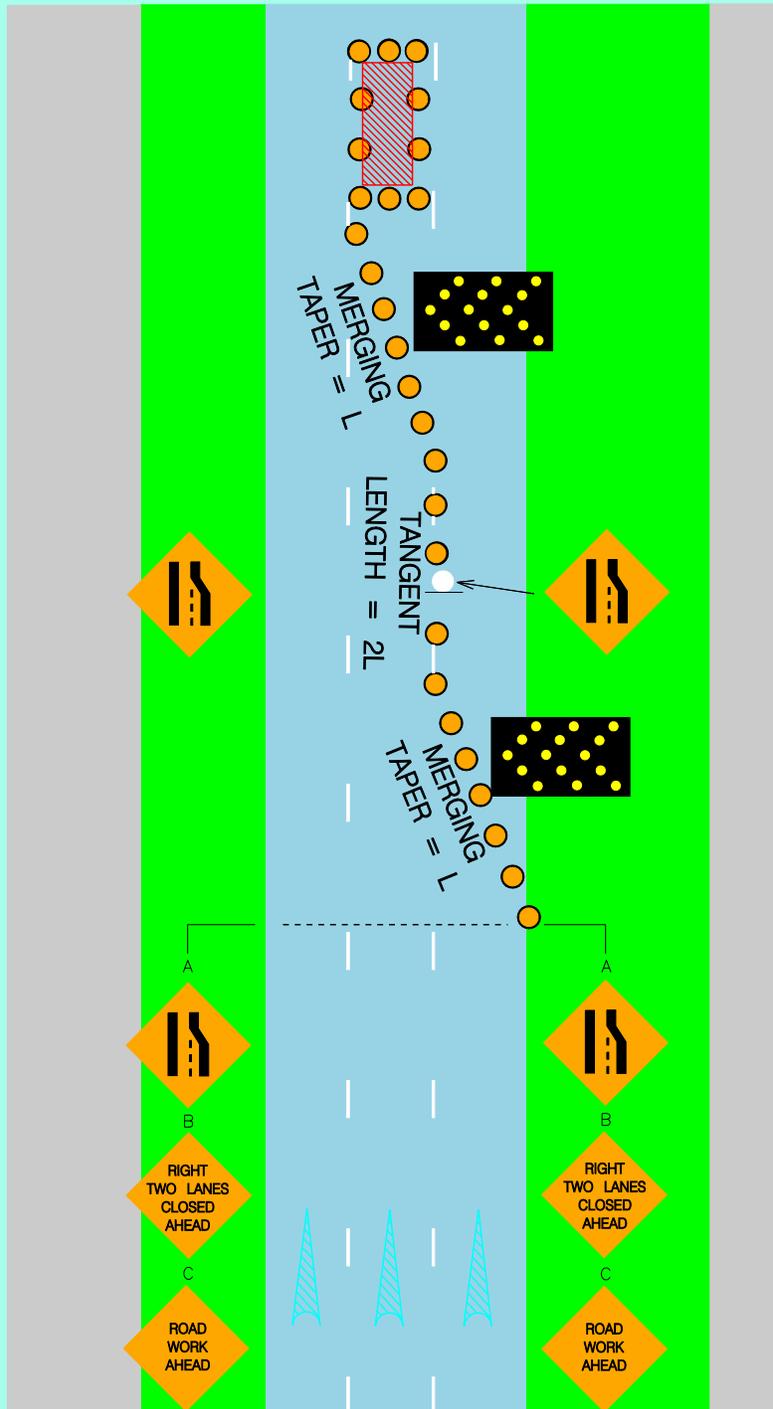
24

CURB LANE CLOSED



MULTIPLE LANE CLOSURES

Multiple lane closures shall be one lane at a time separated by a tangent distance (2L).



26

TWO-LANE, TWO-WAY ROADWAY

COMMON LEFT TURN LANE
- Curb Lane Closed -

