

VILLAGE OF BLOOMINGDALE
VILLAGE SERVICES DEPARTMENT
WORK ZONE SAFETY PROCEDURES

I. PURPOSE

This policy establishes procedures for the Village of Bloomingdale's Village Services Department to ensure that a safe and appropriate work zone is established in accordance with Illinois and federal laws. The primary function of temporary traffic control (TTC) is to provide for the safe and efficient movement of road users through or around temporary traffic control zones while reasonably protecting workers, and equipment.

II. REFERENCE

- A. Federal Regulation: The Manual on Uniform Traffic Control Devices (MUTCD) is incorporated by reference in 23 Code of Federal Regulations (CFR), Part 655, Subpart F and shall be recognized as the national standard for traffic control devices installed on any street, highway, or bicycle trail open to public travel in accordance with 23 U.S.C. 109(d) and 402(a). The policies and procedures of the Federal Highway Administration (FHAW) to obtain basic uniformity of traffic control devices shall be as described in 23 CFR 655, Subpart F.
- B. State Law: 625 ILCS 5/11-304 Local traffic-control devices: Local authorities in their respective maintenance jurisdiction shall place and maintain such traffic-control devices upon highways under their maintenance jurisdiction as required to indicate and carry out the provisions of this chapter, and local traffic ordinances, or to regulate, warn, or guide traffic. All such traffic control devices shall conform to the State Manual. Placement of traffic-control devices on township or road district roads also shall be subject to the written approval of the county engineer or superintendent of highways.
- C. Current Versions - 2009 ILMUTCD & 2009 MUTCD with Revisions 1 & 2 dated May 2012

III. RESPONSIBILITY

- A. It is the responsibility of the Director of Village Services to implement these work zone safety procedures and to require Village Services Department Supervisors/Employees to follow the procedures.
- B. It is the responsibility of the Public Works Operation & Logistics Coordinator in consultation with the Director and Assistant Director of Village Services to:
 - 1. Review the Work Zone Procedures annually and update as necessary to ensure the current MUTCD manual is being followed.
 - 2. Observe work zones to enforce work zone safety procedures.
 - 3. Work with division managers and supervisor to ensure employees have proper high visibility apparel.
 - 4. Work with Supervisors to ensure employees are properly trained.

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IV. TRAINING

A. Work Zone Training for Village Services Employees (Employees)

Proper setup of temporary traffic control zones improves the safety of those working near traffic.

1. Employees will be trained on installation and removal methods for temporary traffic control zones.
2. Employees will be trained on proper traffic control devices and signage that is to be used for temporary traffic control.
3. Employees will be trained on proper spacing of temporary traffic control devices and signage.

B. Flagger Training

1. Any employee that is required to perform flagger duties will be trained and certified as a flagger.
2. Flaggers will be recertified every 3 years.

V. HIGH VISIBILITY APPAREL

A. High-Visibility Apparel for Flaggers

1. Manual on Uniform Traffic Control requires flaggers to wear high-visibility apparel.
 - a. Employees exposed to public traffic with vehicle speeds between 25 and 50 mph are required to wear ANSI/ISEA 107-2004 compliant class 2 high visibility safety garments.
 - b. Employees exposed to public traffic with vehicle speeds above 50 mph are required to wear ANSI/ISEA 107-2004 compliant class 3 high visibility safety garments.

Class E high visibility pants combined with class 2 safety vest are considered acceptable to wear when class 3 garments are required.

- c. Employees performing flagging operations at night are required to wear ANSI/ISEA 107-2004 compliant class 3 high visibility safety garments.

Class E high visibility pants combined with class 2 safety vest are considered acceptable to wear when class 3 garments are required.

- d. High visibility garments background color must be fluorescent orange-red or fluorescent yellow-green. The retro reflective material shall be orange, yellow, white, silver, yellow-green, or fluorescent version of these colors.

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B. High-Visibility Apparel in Work Zones

1. Federal law requires all employees working within the right of way of a road or high way to wear high-visibility apparel
 - a. Employees exposed to public traffic with vehicle speeds between 25 and 50 mph are required to wear ANSI/ISEA 107-2004 compliant class 2 high visibility safety garments.
 - b. Employees exposed to public traffic with vehicle speeds above 50 mph are required to wear ANSI/ISEA 107-2004 compliant class 3 high visibility safety garments

Class E high visibility pants combined with class 2 safety vest are considered acceptable to wear when class 3 garments are required.
 - c. High visibility garments background color must be fluorescent orange-red or fluorescent yellow-green. The retro reflective material shall be orange, yellow, white, silver, yellow-green, or fluorescent version of these colors.

VI. FLAGGING OPERATION

A. Flagger Certification

Only employees that are trained and certified may serve as flaggers.

B. Flagger Position

1. Flagger stations need to be located so that approaching traffic has sufficient distance to stop at intended stopping point or sufficient time to reduce speed.
2. The flagger should stand either on the shoulder or in the barricaded lane.
3. The flagger should stand alone, away from other workers, work vehicles, and equipment.
4. Advance warning sign will be used to notify approaching traffic of flagger.
5. Flagger stations will be illuminated at night.
6. Flagger should identify an escape route to use to avoid being struck by a vehicle.

VII. USE OF ELECTRONIC COMMUNICATION

While working in a work zone the use of communication devices is restricted to Village business and only after an employee is out of harm's way. Use of personal communication devices is prohibited and is restricted to non-duty times, such as breaks, lunch and before/after work hours.

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VIII. TEMPORARY TRAFFIC CONTROL

A. Advance Preparation

1. Examine the work zone area to determine what sections of the road need to be closed and discuss any potential issues pertaining to work zone, employees, and traffic.

Each TTC zone is different. Many variables, such as location of work, road type, geometrics, vertical and horizontal alignment, intersections, interchanges, road user volumes, road vehicle mix (buses, trucks, cars) and road use speeds affect the needs of each zone. Rules for the correct layout of TTC zone elements can be found in part 6 of the 2009 edition of Manual on Uniform Traffic Control Devices (MUTCD) or by using the link <http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/part6.pdf> The Illinois Manual on Uniform Traffic Control Devices should also be referenced <http://www.dot.state.il.us/mutcd/utcdmanual.html>

2. Section 6H of the MUTCD contains “typical applications”. Section 6h can be used as a quick reference for many of the most common types of road closures.
3. Determine what traffic control devices are needed to close road and protect employees.
4. Check devices to make sure they are in good working order.

Truck should be loaded in reverse order of actual road set up.

B. Install a Stationary Lane Closure

1. Locate the beginning of work space and measure the buffer distance and mark the beginning of the buffer. (Optional).
 - a. Buffer distance:

Speed(mph)	20	25	30	35	40	45	50	55
Buffer(ft.)	115	155	200	250	305	360	425	495

- b. Buffers may be adjusted do to influencing factors. E.g. Crossroads, curves, driveways.

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2. From the beginning of the buffer space or work space measure the taper length. Mark the beginning of the taper.
 - a. Taper length (L) is determined by the speed limit (S) and the width of road closure (W).
 - b. Taper Length adjusted for type of taper.

Type of Taper	Taper Length
Merging Taper	At least L
Shifting Taper	At least 0.5 L
Shoulder Taper	At Least .33 L
One-Lane, Two-way Traffic Taper	50 feet minimum, 100 feet maximum $L = \frac{WS}{2}$
Downstream Taper	50 feet minimum, 100 feet maximum $L = WS$
45 mph or more	

- c. Tapers may be adjusted do to influencing factors. E.g. Crossroads, curves, driveways.
3. From the beginning of the taper, measure the advance warning sign spacing distance. Mark each sign location.

Advance warning sign spacing distance:

 - Urban (less than 45mph) – 100' between signs
 - Urban (greater than 45mph) – 350' between signs
 - Rural - 500' between signs

These distances are approximate, and may be adjusted for field conditions.
4. Install the advance warning signs on the right-hand side of the roadway. Then the left-hand side if applicable.
 - 1st Road/Utility Work Ahead sign or symbol
 - 2nd Lane Closed Ahead sign or symbol
 - 3rd Workers sign or symbol or flagger sign or symbol, if flagger will be present

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5. Install arrow panel on shoulder prior to taper or as close to beginning of the taper as possible.
6. Install traffic control devices in the transition area to create the taper with the flow of traffic.

The maximum distance in feet between devices in a taper should not exceed the speed limit in mph. (e.g. 30 mph = 30 feet)

7. Install traffic control devices along the buffer space (if applicable) and the work area with the flow of traffic.
8. Install traffic control devices in the termination area with the flow of traffic.
9. Inspect the work zone and observe motorists driving through the work zone.
 - a. If motorist are having difficulty in maneuvering through the work zone, notify the supervisor.
 - b. Major changes to traffic control plan must be approved by a supervisor.

10. Safety Tips

- a. Stay Alert.
- b. Do not turn your back on traffic.
- c. Have a bail-out plan.
- d. Use a spotter.

C. Short Duration/Mobile Operations (less than one (1) hour)

Appropriately colored or marked vehicles with flashing or rotating lights may be used in place of signs and channelizing devices for short duration operations.

Vehicles may be equipped with signs or arrow panels.

D. Completed or Suspended Work

Pursuant to requirements of the MUTCD, all TTC devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, TTC devices that are no longer appropriate shall be either covered or removed..

E. Removing a TTC Work Zone.

1. Remove devices from the termination area. Against the flow of traffic.
2. Remove devices from the work space and buffer space against flow of traffic.
3. Remove devices from the transition area against the flow of traffic.
4. Remove advance warning signs against the flow of traffic. Remove the first advance warning sign last.

IX. CHANNELING DEVICES

A. Drums

1. Light will be located on the traffic side of drum.

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2. Drum must contain alternating white and orange stripes.
- B. Type 1,2, or 3 Barricades
1. Stripes on barricade rails shall be alternating orange and white stripes sloping downward at an angle of 45 degrees in the direction vehicular traffic is to pass.
 2. Light will be located on the traffic side of barricade.
 3. Type 1 and 2 barricades are intended for use in situations where road user flow is maintained through work zone
 4. Type 3 barricades are used at a road closure.
- C. Cones
1. Should be predominantly orange.
 2. When used at night they will be retro reflectorized.
- D. Arrow Panel
1. Stationary lane closures: the arrow panel should be placed at the beginning of the taper, in the closed lane behind the channeling devices on the same side as the lane closure.
 2. Short duration/mobile closures: the arrow panel should be placed at the rear of the activity in the closed lane on a vehicle separate from the maintenance vehicle.