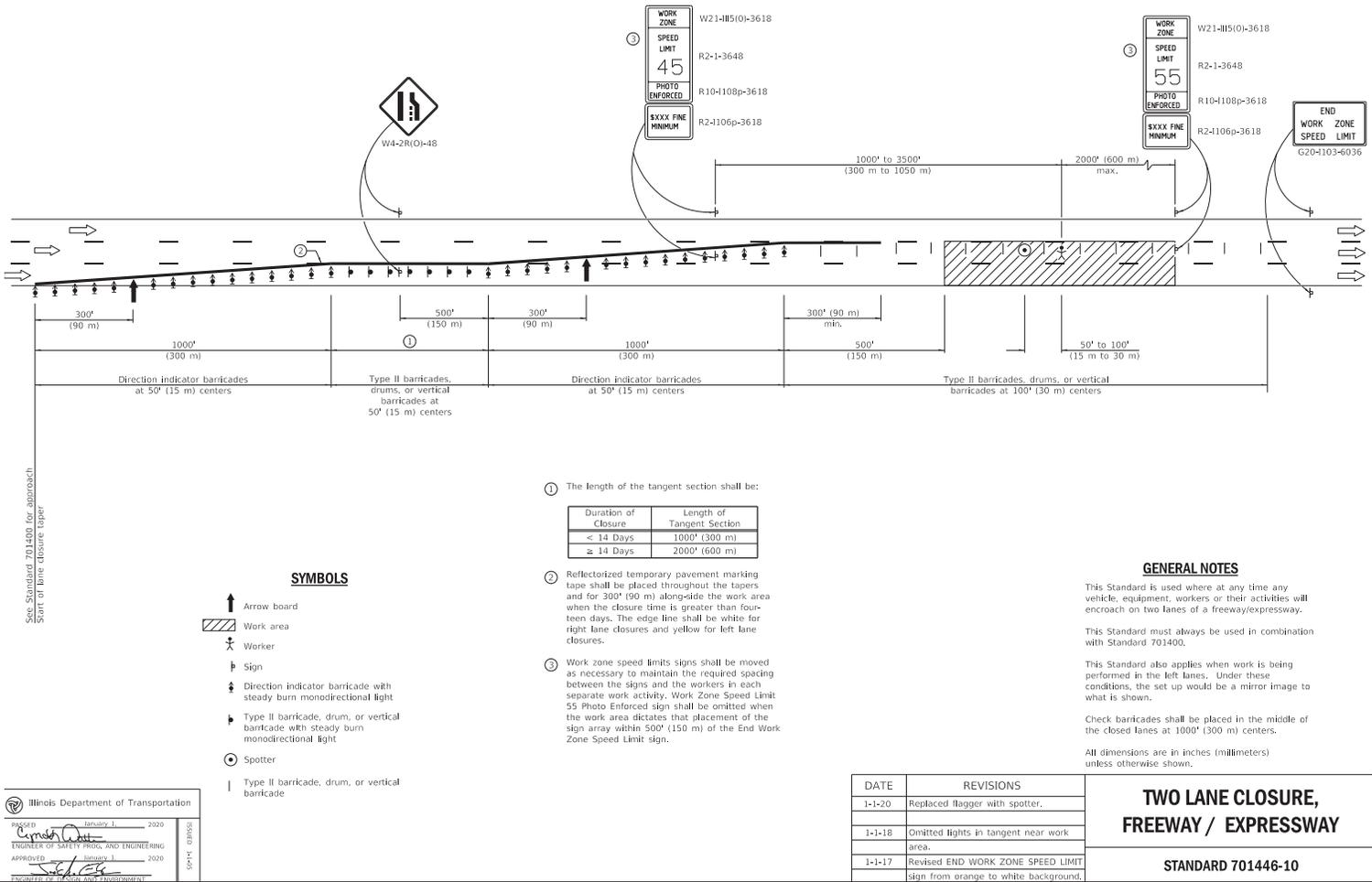




# 2020 Illinois Highway Standards for Traffic Control

## January 1, 2020



### Please Note:

This booklet is based on the Illinois Department of Transportation's Highway Standards and Standard Specifications for Road and Bridge Construction, adopted April 1, 2016. Refer to your contract documents for the appropriate provisions that are in effect for each Specific Contract. If you have any questions or concerns, please contact the Bureau of Safety Programs and Engineering at (217) 782-3568.

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**Additional copies of this book may be obtained from:**

**State Safety Engineer  
Illinois Department of Transportation  
Bureau of Safety Programs and Engineering  
2300 South Dirksen Parkway  
Springfield, Illinois 62764  
(217) 782-3568**

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January 2020**

**ROAD  
CONSTRUCTION  
AHEAD**

**SEE ORANGE *SLOW DOWN* SAVE LIVES**

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# Traffic Control Deficiency Deduction

## Article 105.03

(b) Traffic Control Deficiency Deduction. When the Engineer is notified, or determines a traffic control deficiency exists, he/she will notify and direct the Contractor to correct the deficiency within a specified time. The specified time, which begins upon notification to the Contractor, will be from 1/2 hour to 12 hours based upon the urgency of the situation and the nature of the deficiency. The Engineer shall be the sole judge.

A deficiency may be any lack of repair, maintenance, or non-compliance with the traffic control plan. A deficiency may also be applied to situations where corrective action is not an option such as the use of non-certified flaggers for short term operations; working with lane closures beyond the time allowed in the contract; or failure to perform required contract obligations such as traffic control surveillance.

If the Contractor fails to correct a deficiency within the specified time, a daily monetary deduction will be imposed for each calendar day or fraction thereof the deficiency exists. The calendar day(s) will begin with notification to the Contractor and end with the Engineer's acceptance of the correction. The daily monetary deduction will be \$2,500.00. For those deficiencies where corrective action was not an option, this monetary deduction will be immediate.

# Public Convenience and Safety

## Article 107.09

No broken pavement, open holes, trenches, barricades, cones, or drums will remain on or adjacent to the traveled way and all lanes shall be opened to traffic during any legal holiday period, except where major bridge construction and/or other roadway reconstruction (excluding patching and resurfacing) requiring overnight lane closures would make it impractical. The legal holidays will include:

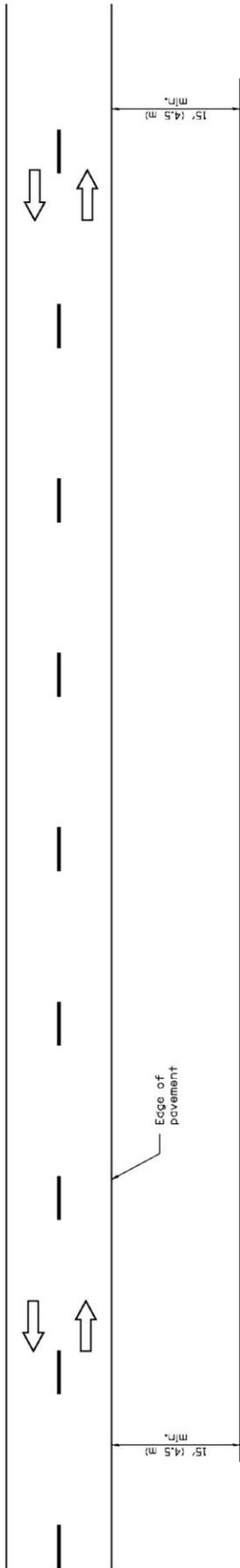
- New Year's Day
- Easter
- Memorial Day
- Independence Day
- Labor Day
- Thanksgiving Day
- Christmas Day

The length of the holiday period shall vary as follows, depending on the day of the week the legal holiday falls on or is observed:

Day Holiday is Observed	Length of Holiday Period
Sunday	3 p.m. Friday – 11:59 p.m. Sunday
Monday	3 p.m. Friday – 11:59 p.m. Monday
Tuesday	3 p.m. Friday – 11:59 p.m. Tuesday
Wednesday	3 p.m. Tuesday – 11:59 p.m. Wednesday
Thursday	3 p.m. Wednesday – 11:59 p.m. Sunday
Friday	3 p.m. Thursday – 11:59 p.m. Sunday
Saturday	3 p.m. Thursday – 11:59 p.m. Sunday

(From Supplement Specifications.)

On weekends, excluding holidays, roadways with Average Daily Traffic of 25,000 or greater, all lanes shall be open to traffic from 3:00 PM Friday to midnight Sunday except where structure construction or major rehabilitation makes it impractical.



**TYPICAL APPLICATIONS**

- Landscaping work
- Utility work
- Fencing contracts and maintenance
- Cleaning culverts

**GENERAL NOTES**

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701006.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-05	Revised title and notes.

**OFF-RD OPERATIONS,  
2L, 2W, MORE THAN  
15' (4.5 m) AWAY**

**STANDARD 701001-02**

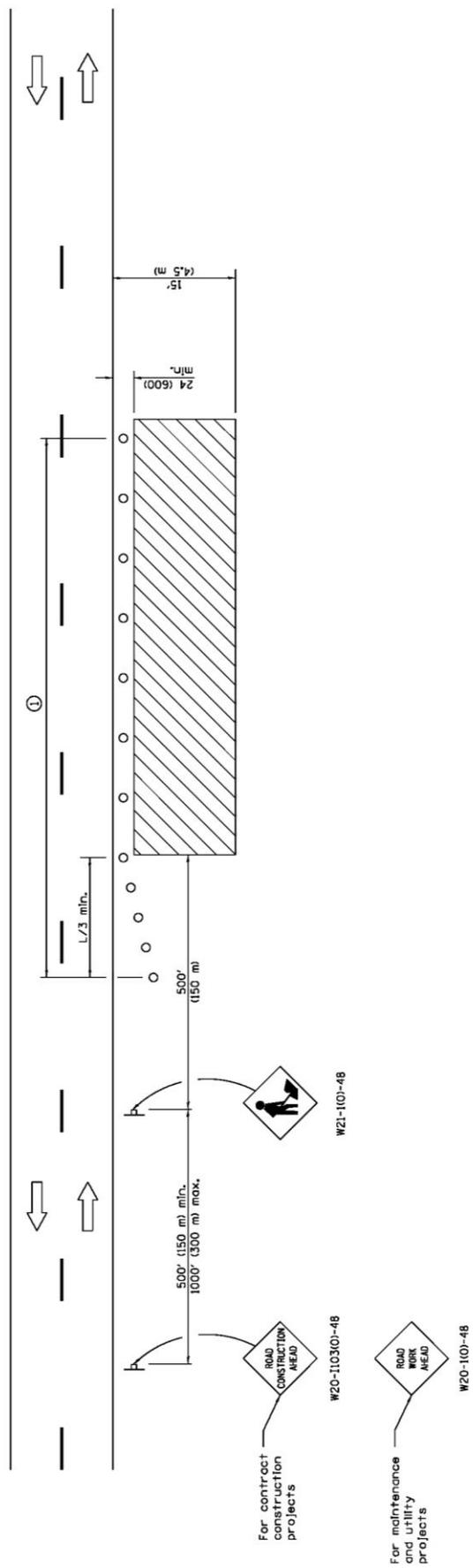
Illinois Department of Transportation APPROVED <u>JANUARY 1, 2009</u> ENGINEER OF OPERATIONS	ISSUED 1-1-97
	APPROVED <u>JANUARY 1, 2009</u> ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701001**

### **General Information:**

1. No special signing is required.
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. When the work operation requires that two or more work vehicles cross the 15 ft. clear zone in any one hour, traffic control should be in conformance with STANDARD 701006. [Standard – General Notes]

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For contract construction projects  
W20-110310)-48

For maintenance and utility projects  
W20-110)-48

- TYPICAL APPLICATIONS**
- Utility operations
  - Culvert extensions
  - Side slope changes
  - Guardrail installation and maintenance
  - Delimited installation
  - Landscaping operations
  - Shoulder repair
  - Sign installation and maintenance

**SYMBOLS**

- Work area
- Sign
- Cone, drum or barricade

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24' (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT	FORMULAS
40 mph (70 km/h) or less:	English L = $\frac{WS^2}{60}$
	Metric L = $\frac{WS^2}{150}$
45 mph (80 km/h) or greater:	L = (W)(S) L = 0.65(W)(S)

W = Width of offset in feet (meters).  
S = Normal posted speed mph (km/h).

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers, for L/3 distance, and at 30' (15 m) centers through the remainder of the work area.

All dimensions are in inches (millimeters) unless otherwise shown.

**OFF-RD OPERATIONS, 2L, 2W, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

STANDARD 701006-05

DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text: 'WORKERS' sign.

Illinois Department of Transportation

APPROVED: [Signature] JAMES L. JAMES, L. 2014  
ENGINEER OF SAFETY ENGINEERING

ISSUED 1-1-97

APPROVED: [Signature] JAMES L. JAMES, L. 2014  
ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701006**

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” (W20-7) sign shall be substituted for the “WORKER” sign. [SS pg. 595 / 701.18(a)]

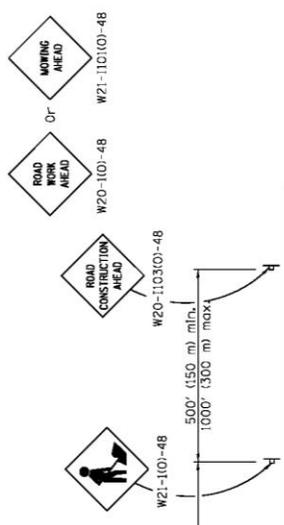
### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer’s tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 585 / 701.08]
4. Equipment Parking and Storage: [BDE special provision “Equipment Parking and Storage”]
5. Any unattended obstacle or excavation (not patching) in the work area which constitutes a hazard in the opinion of the Engineer, shall be delineated by devices at 50 ft. (15 m) centers. If the hazard exceed 250 ft. (75 m) in length, the spacing of devices may be increased to 100 ft. (30 m) [SS pg. 586 / 701.11]
6. Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching.) Lights required: Flashing bi-directional lights. [BDE special provision “Lights on Barricades”]
7. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]

### **General Information:**

If the work operation does not exceed 60 minutes, traffic may be in conformance with STANDARD 701301.

**FOR INFORMATIONAL USE ONLY**



For contract construction projects

For maintenance and utility projects

**TYPICAL APPLICATIONS**  
Shoulder work  
Utility operations

**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require an intermittent or continuous moving operation on the shoulder, where the average speed is 1 mph (2 km/h) or less.  
When the work operation does not exceed 60 minutes, traffic control may be according to Standard 701301.

① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but should not exceed 1/2 the length required for one normal working day's operation, or 4 miles (6.4 km), whichever is less.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**



● Flagger with traffic control sign when required

Illinois Department of Transportation	
APPROVED	ISSUED 1-1-97
APPROVED	2014
ENGINEER OF SAFETY ENGINEERING	
APPROVED	2014
ENGINEER OF DESIGN AND ENVIRONMENT	

OFF-RD MOVING OPERATIONS, 2L, 2W, DAY ONLY	
STANDARD 70101-04	
DATE	REVISIONS
1-1-14	Revised worker's sign number to agree with current MUTCD.
1-1-13	Omitted text "WORKERS" sign.

## **Standard 701011**

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” (W20-7) sign shall be substituted for the “WORKER” sign. [SS pg. 595 / 701.18(a)]

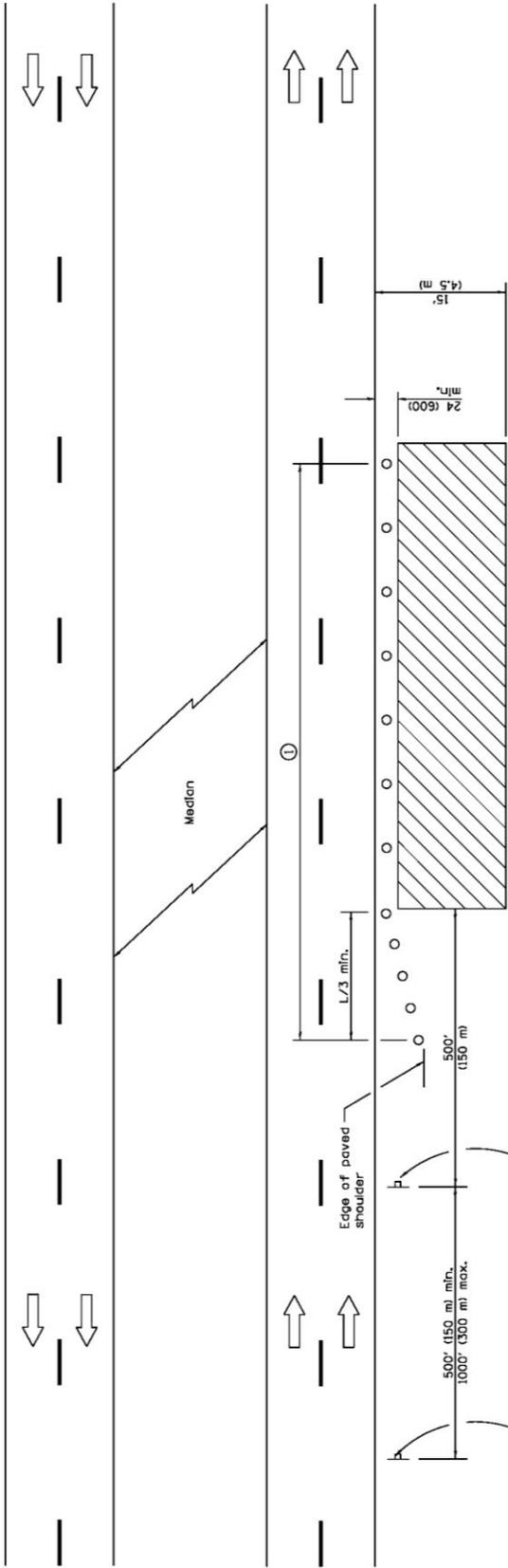
### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer’s tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. Equipment Parking and Storage: [BDE special provision “Equipment Parking and Storage”]
4. Any unattended obstacle or excavation (not patching) in the work area which constitutes a hazard in the opinion of the Engineer, shall be delineated by devices at 50 ft. (15 m) centers. If the hazard exceed 250 ft. (75 m) in length, the spacing of devices may be increased to 100 ft. (30 m) [SS pg. 586 / 701.11]
5. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
6. Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching.) Lights required: Flashing bi-directional lights. [BDE special provision “Lights on Barricades”]
7. Devices delineating obstacles, excavations, or hazards exceeding 100 ft. (30 m) in length at night. (Does not apply to widening.) Lights required: Steady burn bi-directional lights. [BDE special provision “Lights on Barricades”]

### **General Information:**

All signs are to be removed at the completion of the day’s operations.

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For contract construction projects

W21-1101-48

For maintenance and utility projects

W20-1101-48

**GENERAL NOTES**

This Standard is used where any vehicles, equipment, workers or their activities will encroach in the area 15' (4.5 m) to 24 (600) from the edge of pavement.

Calculate L as follows:

SPEED LIMIT

English	Metric
40 mph (70 km/h) or less	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater	$L = \frac{0.65WS^2}{150}$

W = Width of offset in feet (meters),

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

① When the work operation exceeds one hour, cones, drums or barricades shall be placed at 25' (8 m) centers for L/3 distance, and at 50' (15 m) centers through the remainder of the work area.

**TYPICAL APPLICATIONS**

- Utility operations
- Culvert extensions
- Side slope changes
- Guardrail installation and maintenance
- Delineator installation
- Landscaping operations
- Shoulder repair
- Sign installation and maintenance

**SYMBOLS**

- Work area
- Sign
- Cone, drum or barricade

**OFF-ROAD OPERATIONS, MULTILANE, 15' (4.5 m) TO 24" (600 mm) FROM PAVEMENT EDGE**

STANDARD 701101-05

DATE	REVISIONS
4-1-16	Corrected typo in title.
1-1-14	Revised workers sign number to agree with current MUTCD.

Illinois Department of Transportation

APPROVED: [Signature] 2016  
 ENGINEER OF SAFETY ENGINEERING

ISSUED: 1-1-97

APPROVED: [Signature] 2016  
 ENGINEER OF DESIGN AND ENVIRONMENT

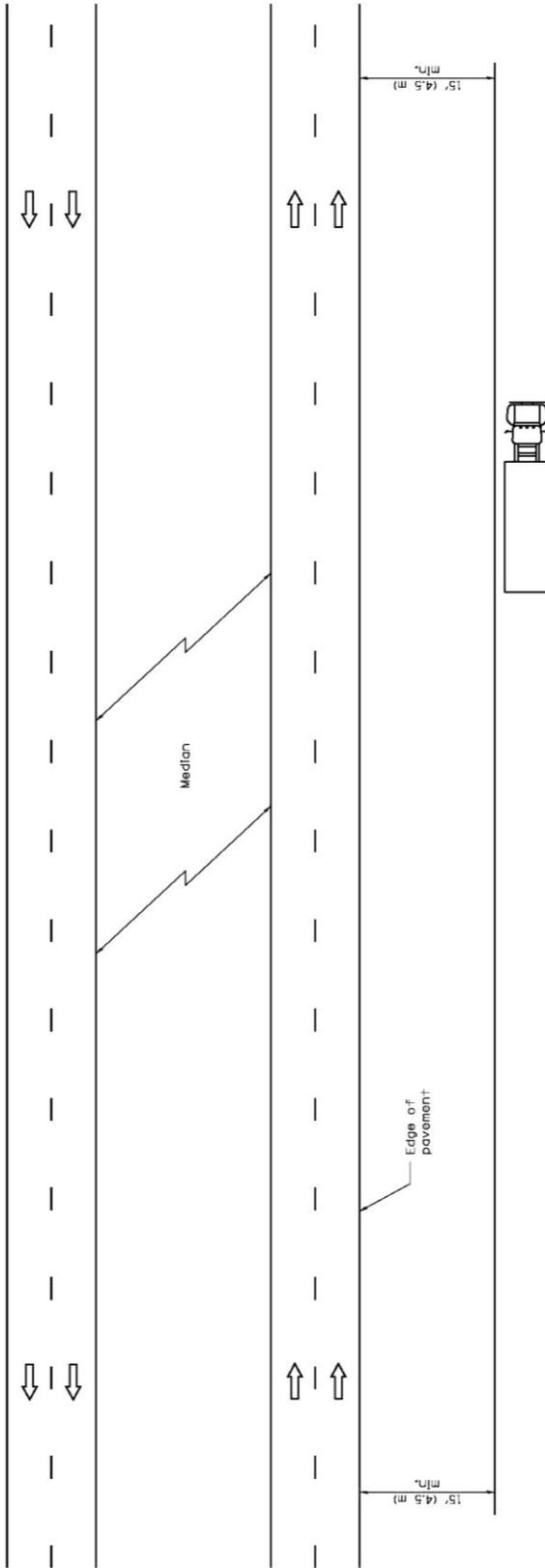
## **Standard 701101**

When the work operation requires four or more work vehicles enter through traffic lanes in a one hour period, a flagger shall be provided and a “FLAGGER” (W20-7) sign shall be substituted for the “WORKER” sign [SS pg. 595 / 701.18(a)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or tuned from the view of the motorists. [SS pg. 584 / 701.04]
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer’s tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. Any unattended obstacle or excavation (not patching) in the work area which constitutes a hazard in the opinion of the Engineer, shall be delineated by devices at 50 ft. (15 m) centers. If the hazard exceeds 250 ft. (75 m) in length, the spacing of devices may be increased to 100 ft. (30 m). [SS pg. 586 / 701.11]
4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
5. Devices delineating isolated obstacles, excavations, or hazards at night. (Does not apply to patching.) Lights required: Flashing bi-directional lights. [BDE special provision “Lights on Barricades”]
6. Devices delineating obstacles, excavations, or hazards exceeding 100 ft. (30 m) in length at night. (Does not apply to widening.) Lights required: Steady burn bi-directional lights. [BDE special provision “Lights on Barricades”]

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**GENERAL NOTES**

This Standard is used where at all times all vehicles, equipment, workers or their activities are more than 15' (4.5 m) from the edge of pavement.

When the work operation requires that two or more work vehicles cross the 15' (4.5 m) clear zone in any one hour, traffic control shall be according to Standard 701101.

This Standard also applies to work performed in the median more than 15' (4.5 m) from either pavement.

All dimensions are in inches (millimeters) unless otherwise shown.

**TYPICAL APPLICATIONS**

- ↳ Escaping work
- ↳ Utility work
- ↳ Fencing contracts

DATE	REVISIONS
1-1-05	Switched units to English (metric).
1-1-05	Revised title.

**OFF-ROAD OPERATIONS, MULTILANE,  
MORE THAN 15' (4.5 m) AWAY**

**STANDARD 701106-02**

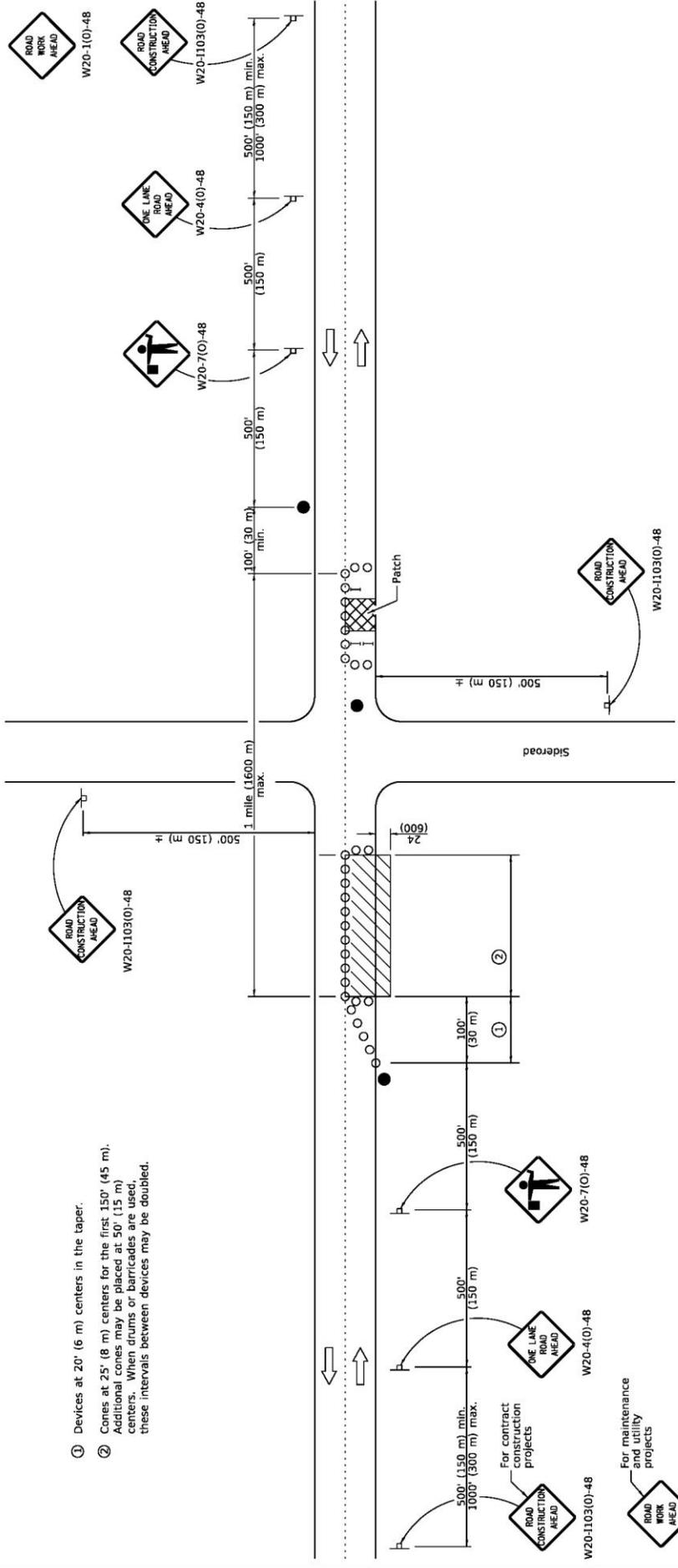
Illinois Department of Transportation APPROVED _____ ENGINEER OF OPERATIONS	ISSUED 1-1-97
	APPROVED _____ ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701106**

### **General Information:**

1. No special signing required.
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
4. When the work operation requires that two or more work vehicles cross the 15 ft. clear zone in any one hour, traffic control shall be in conformance with STANDARD 701101. [Standard – General Notes]
3. This standard also applies to work performed in the median more than 15 ft. (4.5 m) from either pavement. [Standard – General Notes]

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- ① Devices at 20' (6 m) centers in the taper.
- ② Cones at 25' (8 m) centers for the first 150' (45 m). Additional cones may be placed at 50' (15 m) centers. When drums or barricades are used, these intervals between devices may be doubled.

For contract construction projects

For maintenance and utility projects

**SYMBOLS**

- ▨ Work area
- h Sign
- I Barricade or drum
- Cone, drum or barricade
- Flagger with traffic control sign

**TYPICAL APPLICATIONS**

- Isolated patching
- Utility operations
- Storm sewer
- Culverts
- Cable placement

**GENERAL NOTES**

This Standard is used where at any time, any vehicles, equipment, workers or their activities will encroach in the area between the center line and a line 24' (600) outside the edge of pavement for daylight operation.

When the distance between successive work areas exceeds 2000' (600 m), additional warning signs, flaggers, and taper shall be placed as shown.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised device spacing in taper.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W,  
DAY ONLY,  
FOR SPEEDS ≥ 45 MPH**

**STANDARD 701201-05**

Illinois Department of Transportation

APPROVED: [Signature] JANUARY 1, 2019  
 ENGINEER OF SAFETY PROGRAMS AND ENGINEERING

ISSUED 1-1-97

APPROVED: [Signature] JANUARY 1, 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701201**

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 585 / 701.08]
4. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. ... Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement. [SS pg. 587 / 701.13]
5. Two Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
6. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
7. Pavement patching: [SS pg. 593 - 594 / 701.17(e)]
8. No broken pavement, open holes, or partially filled patches shall remain overnight and all devices shall be removed before dark. If patches are not opened when required, additional traffic control shall be provided at no additional cost to the Department. [SS pg. 594 / 701.17(e) (2)b]

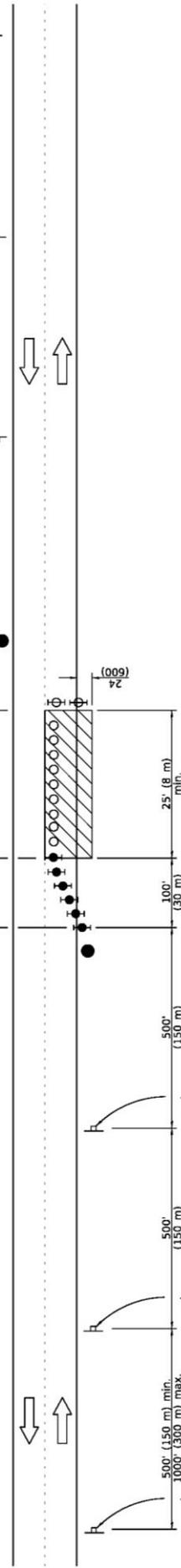
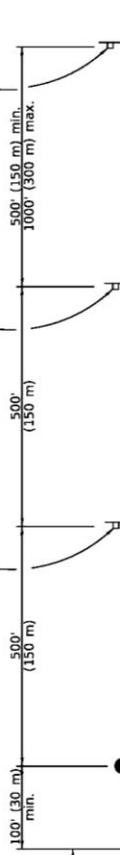
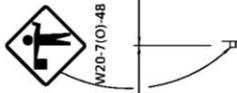
### **General Information:**

1. At the completion of the day's operations, all materials, equipment, signs, cones, barricades, and drums are to be removed and the work area opened to traffic.
2. If the work operation does not exceed 60 minutes, traffic may be in conformance with STANDARD 701301.

**FOR INFORMATIONAL USE ONLY**

① Barricades or drums at 20' (6 m) centers in the taper.

② Cones at 25' (8 m) centers for the first 150' (45 m). Additional cones may be placed at 50' (15 m) centers. When barricades or drums are used, these intervals between devices may be doubled.



For contract construction projects

For maintenance and utility projects

**SYMBOLS**

- Work area
- Sign
- Flagger with traffic control sign
- Cone, drum or barricade
- Barricade or drum with flashing light
- Barricade or drum with steady burning light

**TYPICAL APPLICATIONS**

- Isolated patch
- Installation of drainage structure
- Utility operations

**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24' (600) from the edge of pavement for nighttime operation.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised device spacing in taper and added cones as an option.
1-1-18	Omitted steady burning lights in tangent.

**LANE CLOSURE, 2L, 2W, NIGHT ONLY, FOR SPEEDS ≥ 45 MPH**

**STANDARD 701206-05**

Illinois Department of Transportation  
 APPROVED: [Signature] 2019  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 APPROVED: [Signature] 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701206**

### **Various Specifications:**

1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 585 / 701.08]
2. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
3. For nighttime flagging, flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 10 fc (108 lux) measured 1 ft. (300 mm) out from the flagger's chest. The bottom of any luminaire shall be a minimum of 10 ft. (3 m) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties. [SS pg. 587 / 701.13]

Nighttime flaggers shall be equipped with a fluorescent orange or fluorescent orange and fluorescent yellow/green apparel meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 3 garments. [SS pg. 587 / 701.13]

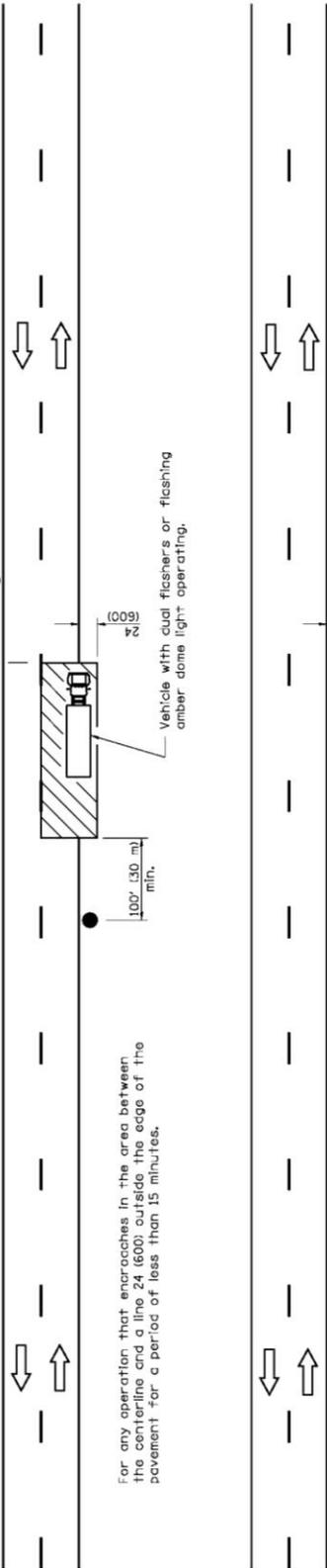
4. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
5. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]

First two warning signs on each approach to the work involving a nighttime lane closure.  
Lights required: Flashing mono-directional lights.  
[BDE special provision "Lights on Barricades"]

### **General Information:**

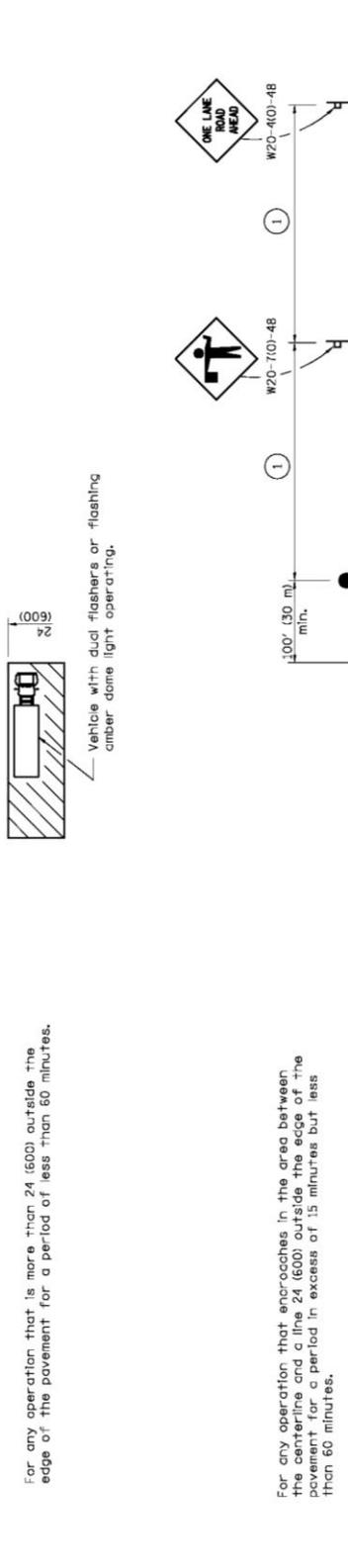
1. This standard may be used for bridge repair projects in lieu of STANDARD 701316 where the minimum passing sight distance (Section 3B-5 MUTCD) through the barricaded area is available from a point approximately 350 ft. (105 m) in advance of the first barricade in either direction, the maximum length of closure, including taper, is approximately 300 ft. (90 m) and the estimated ADT does not exceed 1,000.
2. When Standard 701206 is specified for bridge repair projects, the bridge rail and guardrail adjacent to the open traffic lane shall be delineated with guardrail/parapet markers at 25 ft. (7.6 m) centers.
3. Refer to Section 702 for Nighttime Work Zone Lighting. [SS pg. 603-605 / 702] and also pages 105-106 of this booklet.

**FOR INFORMATIONAL USE ONLY**



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period of less than 15 minutes.

For any operation that is more than 24 (600) outside the edge of the pavement for a period of less than 60 minutes.



For any operation that encroaches in the area between the centerline and a line 24 (600) outside the edge of the pavement for a period in excess of 15 minutes but less than 60 minutes.

Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

① = Refer to SIGN SPACING Table for distances.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Flagger with traffic control sign

**TYPICAL APPLICATIONS**

- Marking patches
- Field survey
- String line
- Utility operations
- Cleaning up debris on pavement

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English (metric).

**LANE CLOSURE, 2L, 2W, SHORT TIME OPERATIONS**

STANDARD 701301-04

APPROVED: *J. J. [Signature]* 2011  
 ENGINEER OF SAFETY ENGINEERING  
 APPROVED: *[Signature]* 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701301**

### **Various Specifications:**

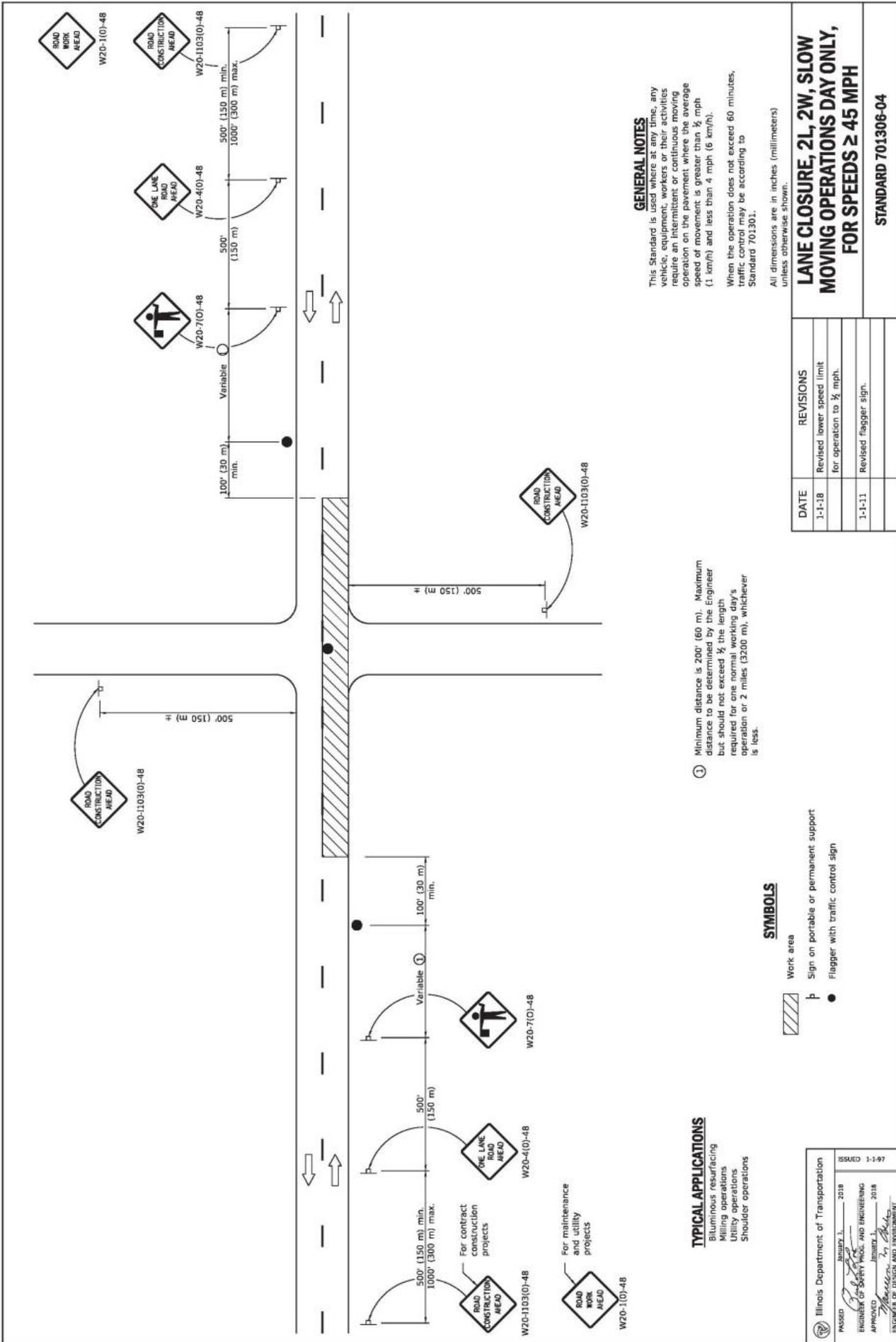
1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. All personnel on foot, excluding flaggers, within the highway right-of-way shall wear a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Other types of garments may be substituted for the vest as long as the garments have a manufacturer's tag identifying them as meeting the ANSI Class 2 requirement. [SS pg. 586 / 701.12]
3. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 585 / 701.08]
4. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
5. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
6. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]

### **General Information:**

During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer."

**FOR INFORMATIONAL USE ONLY**



**LANE CLOSURE, 2L, 2W, SLOW MOVING OPERATIONS DAY ONLY, FOR SPEEDS ≥ 45 MPH**

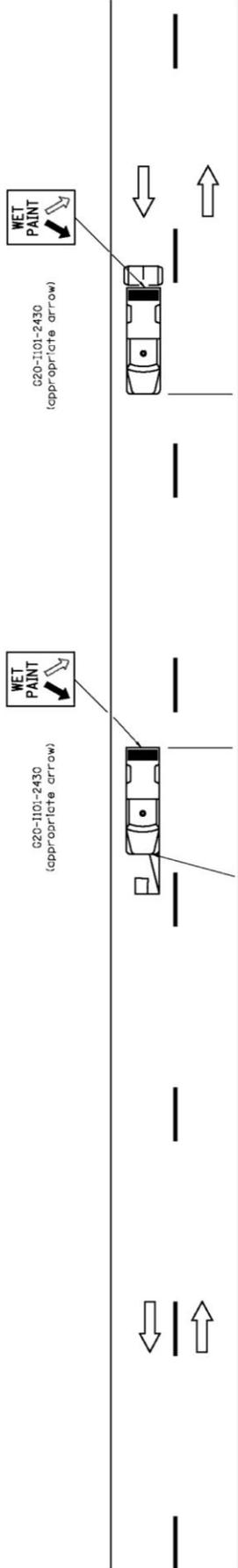
STANDARD 701306-04

## **Standard 701306:**

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavement. [SS pg. 585 / 701.08]
3. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
4. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communications at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
5. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
6. Where construction operations on two-lane roads open to traffic result in the removal or covering of any pavement striping indicating passing restrictions, "NO PASSING ZONES NOT STRIPED NEXT \_ MILES" (G20-I100) signs shall be used. The contractor shall place the signs at the beginning of the unstriped area, just beyond each major intersection within the unstriped area and at other locations as directed by the engineer, to ensure a minimum spacing of 5 miles (8 km). The signs shall be placed just prior to removal or covering of the striping and shall remain in place until full no passing zone striping has been restored. [SS pg. 592 / 701.17(c)]
7. Prime or Tack Coat. "FRESH OIL" (W21-2) signs shall be erected when prime or tack and fine aggregate are applied to pavement that is open to traffic. The signs shall remain until tracking of the prime or tack ceases as directed by the Engineer. The signs shall be erected a minimum of 500 ft. (150 m) preceding the start of the prime or tack. [SS pg. 592 / 701.17(c)(1)]
8. Cold Milling. "ROUGH GROOVED SURFACE" (W8-I107) signs shall be erected when the road has been cold milled and opened to traffic. The signs shall be placed just prior to the cold milling operation and shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 ft. (150 m) preceding the start of the milled pavement, just before each major intersection within the milled area, and at other locations as directed by the Engineer. The signs shall have an amber flashing light attached. [SS pg. 592 / 701.17(c)(2), and BDE Special Provision "Lights on Barricades"]

**FOR INFORMATIONAL USE ONLY**



- Distance varies depending on terrain and susceptibility of pavement marking or crack sealant to wheel tracking.

**TYPICAL APPLICATIONS**  
 Landscaping work  
 Utility work  
 Pavement marking  
 Weeds spraying  
 Roadometer measurements  
 Debris cleanup  
 Crack pouring

**SYMBOLS**

- Arrow board (hazard mode only)
- Truck with headlights, emergency flashers and fishing amber light (visible from all directions)
- 18x18 (450x450) min. orange flag (use when guide wheel is used)
- Truck mounted attenuator

**GENERAL NOTES**

This Standard is used where any vehicle, equipment, workers or their activities will require a continuous moving operation where the average speed is greater than 3 mph (5 km/h).  
 For shoulder operations not encroaching on the pavement, use DETAIL A, Standard 701426. All dimensions are in Inches (millimeters) unless otherwise shown.

Illinois Department of Transportation	
APPROVED	JANUARY 1, 2009
ENGINEER OF OPERATIONS	<i>[Signature]</i>
APPROVED	JANUARY 1, 2009
ENGINEER OF DESIGN AND ENVIRONMENT	<i>[Signature]</i>
ISSUED	1-1-97

DATE	REVISIONS
1-1-09	Switched units to English metric. Omitted Pass With Care sign.
1-1-02	Elim. speed restrictions in Standard title.

**LANE CLOSURE 2L, 2W  
 MOVING OPERATIONS—  
 DAY ONLY**  
**STANDARD 701311-03**

## **Standard 701311**

### **Various Specifications:**

Truck Mounted/Trailer Mounted Attenuators (TMA). TMA host vehicles shall have the parking brake engaged when stationary. [SS pg. 590 / 701.15(h)]

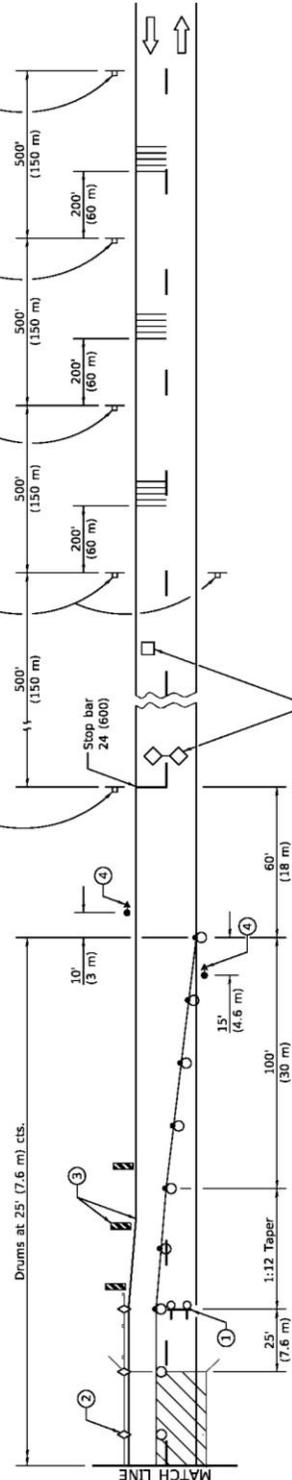
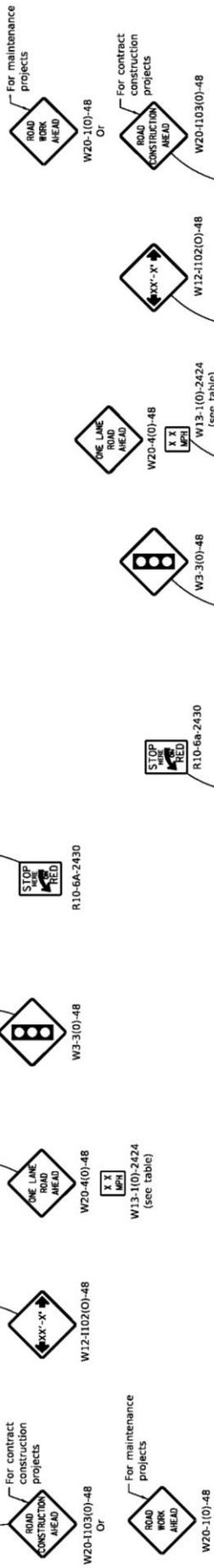
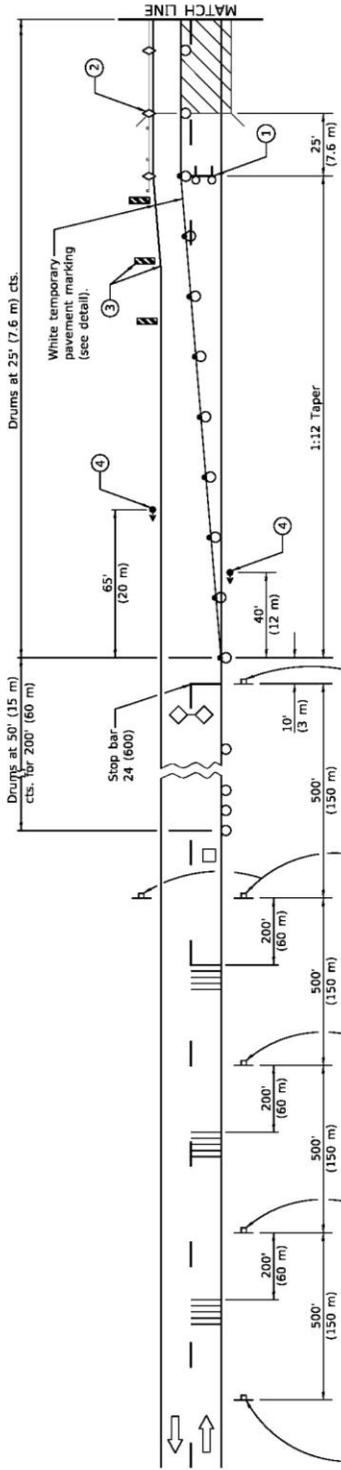
Truck Mounted/Trailer Mounted Attenuators (TMA). The attenuator shall be either a NCHRP 350 or MASH approved unit for Test Level 3. Test Level 2 may be used as directed by the Engineer for normal posted speed less than or equal to 45 mph. [SS pg. 1130 / 1106.02(g)]

### **General Information:**

During pavement marking operations, "WET PAINT" signs with the appropriate arrow(s) shall be mounted on the back of the striper and the following vehicle where necessary to reduce tracking.

**FOR INFORMATIONAL USE ONLY**

- ① Type III barricade to be placed when no work is being performed.
- ② Guardrail/barrier wall reflectors at 25' (7.6 m) cts. See Standards 704001 & 782006.
- ③ Vertical panels at 25' (7.6 m) cts. throughout lane shift. These devices may be omitted when the guardrail, wire markers, extenders or a beak, this point on the taper.
- ④ The edge of the post-mounted signal head shall be between 24 (610) and 6' (1.8 m) from edge of shoulder.



Type III barricade with flashing lights

See detail for placement of detector loops.

**SYMBOLS**

- Work area
- Sign
- Traffic signal
- Detector loops
- Type III barricade with flashing lights
- Drum with steady burn bi-directional light
- Temporary rumble strip (when specified)
- Crystal, bidirectional guardrail/barrier wall reflector
- Double vertical panel (see detail)
- Drum

See Sheet 2 for GENERAL NOTES.

DATE	REVISIONS
1-1-20	Revised from F-shape to constant slope parapet.
1-1-18	Omitted lights in tapers. Changed lights in tapers to steady burn bi-dir.
1-1-17	Revised note ③.

**LANE CLOSURE, 2L, 2W, BRIDGE REPAIR, FOR SPEEDS ≥ 45 MPH**  
(Sheet 1 of 2)

STANDARD 701316-13

Illinois Department of Transportation

ISSUED 1-1-97

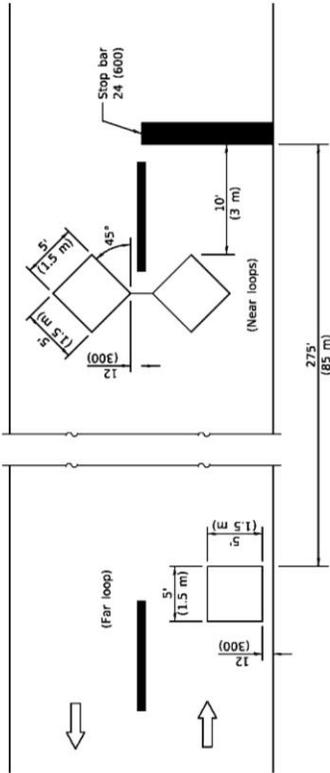
DESIGNED BY: [Signature] JANUARY 1, 2020

CHECKED BY: [Signature] JANUARY 1, 2020

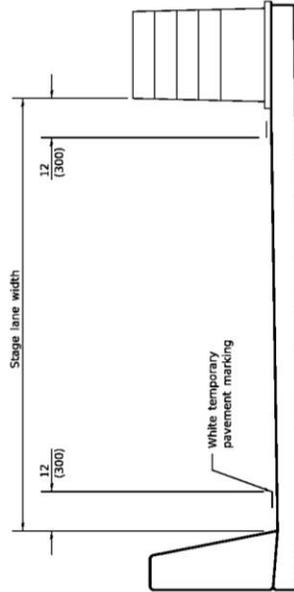
ENGINEER OF SAFETY PROC. AND ENGINEERING

APPROVED BY: [Signature] JANUARY 1, 2020

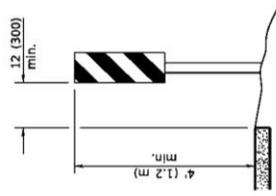
ENGINEER OF DESIGN AND ENVIRONMENT



**DETECTOR LOOPS**



**TEMPORARY PAVEMENT MARKING**



**VERTICAL PANELS**

(Post mounted, one each side)

**GENERAL NOTES**

This Standard is used where, at any time any vehicle, equipment, workers or their activities will encroach on one lane of a bridge and traffic signals are required.

When traffic signals are not in operation, flaggers shall be used and traffic control devices shall conform to Standard 701201 or 701206.

Existing or temporary pavement markings shall be on both sides of open lane from stop bar to stop bar.

All dimensions are in inches (millimeters) unless otherwise shown.

TRAFFIC SIGNAL SEQUENCE					
PHASE	A	B			
INTERVAL	1	2	3	4	5
NORTHBOUND OR EASTBOUND	G	Y	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y

ADVISORY SPEED LIMIT	
NORMAL POSTED SPEED	ADVISORY SPEED
55 - 45 mph	40 mph
40 mph	35 mph
35 - 30 mph	30 mph

**LANE CLOSURE, 2L, 2W,  
BRIDGE REPAIR,  
FOR SPEEDS ≥ 45 MPH**  
(Sheet 2 of 2)

**STANDARD 701316-13**

Illinois Department of Transportation  
 PASSED JANUARY 1, 2020  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 APPROVED JANUARY 1, 2020  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701316**

The exact location of the signals, detector loops, stop bars, and signs shall be as directed by the Engineer. The locations shall also be adjusted as required for stage construction.  
[SS pg. 595 - 598 / 701.18(b)]

The Engineer shall be notified at least 72 hours in advance of placing the signals in operation and at least one week prior to a traffic lane width reduction.

Any damage to the temporary traffic signals from any cause shall be repaired at no additional cost to the Department. If at any time the Contractor fails to perform any work deemed necessary by the Engineer to keep the temporary traffic signals in proper operating condition, the Department reserves the right to have other electrical Contractors perform the needed work, and the cost will be deducted from compensation due or which may become due the Contractor under the contract.

During daytime operations when workers are present, the Engineer may allow Type I or Type II barricades to be placed parallel to the centerline. Cones may be substituted for barricades at half the barricade spacing during the daytime operations.

Lane Closure on Two-Way, Two-Lane Rural Road. The Contractor shall furnish, install, maintain, and remove temporary traffic signals including a traffic actuated controller, a cabinet, detector amplifiers, and other associated equipment as listed below and on Standard 701316 for each location specified. The Contractor shall have available one spare controller and cabinet. The Contractor shall retain ownership of all traffic control equipment, miscellaneous accessories, and the installation methods shall be according to the following.

- a. **TRAFFIC SIGNAL HEADS:** Two signal heads shall be provided for each mainline approach and for each sideroad within the designated work area. When using incandescent signal heads, all lamps shall be new. When the signals are not operating, the signal head shall be hooded according to Article 880.03 and the "SIGNAL AHEAD" sign covered or removed. The left signal head shall be mounted at a height of 10 ft. (3.0 m) above the road surface measured to the bottom of the signal head. The right signal head shall be mounted at a height of 14 ft. (4.3 m) above the road surface. Back plates will be required on all signals.

The right signal head shall be aimed so the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 ft. (150 m) in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 ft. (30 m) in advance of the stop line.

- b. **LENSES:** All lenses shall be 12 in. (300 mm) nominal diameter.
- c. **WIRE AND CABLE:** The contractor shall supply all overhead and underground wiring for both signal circuits and loop detector lead-ins. The electric cable shall be aerially suspended, at a minimum height of 10 ft. (3.0 m) and as close to the right-of-way line as possible. When the electric cable crosses a roadway or entrance, it shall be aerially suspended, at a minimum height of 18 ft. (5.5 m), according to the local utility requirements, or placed in a trench with a minimum of 2 ft. (600 mm) of cover, or protected in a manner approved by the Engineer.

## **Standard 701316 – Continued**

- d. MOUNTING: The controller shall be mounted on a post, pole, or temporary concrete foundation. The signal heads shall be mounted on 25 ft. (7.5 m) standard tubular steel posts or on a minimum Class 4 wood pole, when overhead wiring is used between signals. Alternative methods of mounting the cabinet or signal heads shall be approved by the Engineer. The supports shall be kept in a vertical position for the duration of the project.
- e. SERVICE INSTALLATION: The Contractor shall be responsible for the installation and cost of 110 V electrical service. When the service cable from the controller to the power source is suspended overhead, the line height shall not be less than 10 ft. (3.0 m) above the ground and located as close to the right-of-way lines as practicable. When the cable crosses a roadway or entrance, the cable shall be raised to a minimum height of 18 ft. (5.5 m) or pass under the pavement through a culvert opening. Portable power generating equipment may be used for a short period of time until local power is available, provided at least one person is present at all times at the site to ensure proper operation.
- f. TRAFFIC SIGNAL CONTROLLER:
  - 1. The controller shall be standard eight phase NEMA controller housed in a weather proof cabinet. The traffic signals shall dwell in All-Red. The long All-Red intervals shall be adjustable up to 99 seconds in one second increments. Long All-Red intervals shall be obtained by using a trail green feature or an equivalent, or by using dummy phases. The long All-Red interval shall be preempted if the previous movement is detected before the conflicting movement is detected and shall cause the previous movement to return to the green display with a minimum four second delay. When a conflict or failure is detected, the signal shall display a flashing All-Red. When an additional phase is used for a side road movement, only one long red interval shall be used between active phases on each side of the work area.

All devices used, in lieu of controller software to produce this sequence, shall be mounted within the cabinet but not within the controller. The Contractor shall provide an operational demonstration of the controller assembly for the Engineer subsequent to installation and prior to being placed into operation. The Contractor shall program the controller, trouble shoot, and correct any problems that arise, and verify the equipment is functions according to the contract. If any controller malfunction occurs during the time of operation or in the event of a power failure, the Contractor shall, without delay, provide flaggers for traffic control and immediately install a replacement controller to operate the signals.

- 2. When specified, the Department will furnish the traffic actuated controller. The controller, complete with loop detector-amplifiers and pole mount cabinet, shall be picked up and returned upon completion of the project to the location designated on the plans. The Contractor shall provide notice to the Department at least two weeks in advance of requiring the traffic actuated controller. The Contractor shall be responsible for maintenance of the controller and all related equipment within the controller cabinet. The controller shall be inspected by the Contractor and Engineer subsequent to installation and prior to being placed into operation. Any malfunction of the Department owned equipment revealed during the inspection by the Contractor shall be repaired and will be paid for

## **Standard 701316 - Continued**

according to Article 109.04. The Contractor shall be responsible for any damage to the Department-owned equipment as a result of negligence or poor workmanship during installation at his/her expense. The Contractor shall provide all maintenance required, at his/her expense, to keep the Department-owned equipment functioning properly after being placed in operation.

- g. DETECTOR LOOPS: Three detector loops shall be installed on each approach as shown on the plan. The near detector loop shall be placed 12 in. (300 mm) from the centerline and the far loop shall be placed 12 in. (300 mm) from the edge line. Each loop shall be connected to a separate detector amplifier channel. Call delay feature shall be used for the loops nearest the stop lines and defeated during the green of that phase. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The loop detector lead-in cable shall be protected from construction and maintenance activities. In the event of detector loop failure, the Contractor shall have 48 hours to repair or replace the loops. Upon completion of the project, the detector loop shall be terminated in such a manner as to provide for future use.

[SS pg. 595 - 598 / 701.18(b)]

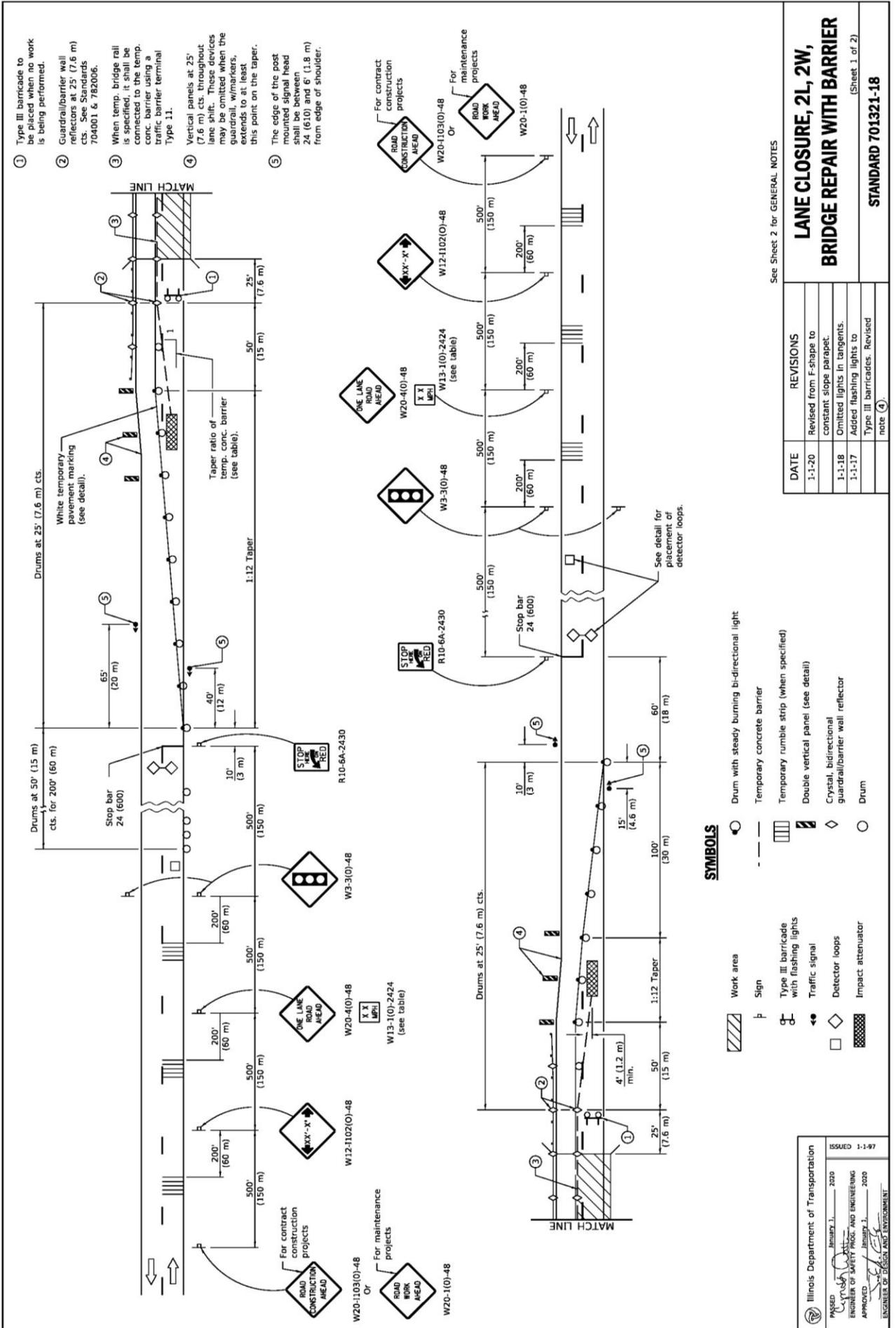
### **Various Specifications:**

1. When work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, temporary sign supports may be used where posts are impractical. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the engineer. [SS pg. 587 - 588 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision "Lights on Barricades"]
3. Devices in nighttime lane closure tapers on Standards 701316 and 701321. Lights Required: Steady burn bi-directional lights. [BDE Special Provision "Lights on Barricades"]
4. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision "Lights on Barricades"]

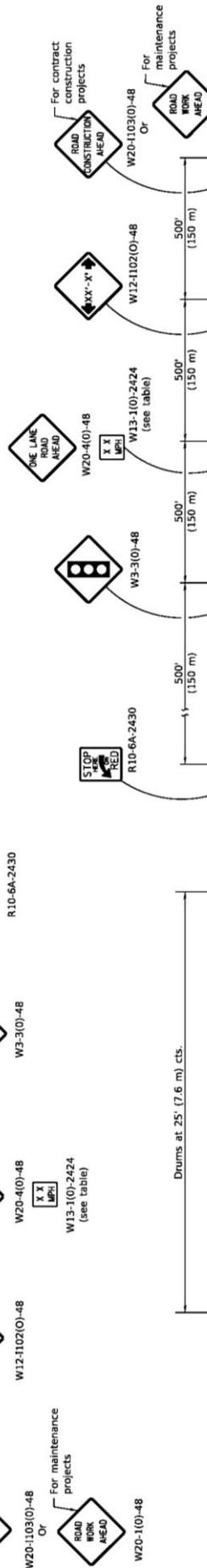
### **General Information:**

Temporary rumble strips conforming to Standard 701901 are recommended where poor alignment or restricted sight distance indicated potential operational problems.

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- ① Type III barricade to be placed when no work is being performed.
- ② Guardrail/barrier wall reflectors at 25' (7.6 m) cts. See Standards 704001 & 782006.
- ③ When temp. bridge rail is specified, it shall be connected to the temp. conc. barrier using a traffic barrier terminal Type 11.
- ④ Vertical panels at 25' (7.6 m) cts. Throughout line of these devices be connected when the guardrail, wimperls, extends to at least this point on the taper.
- ⑤ The edge of the post mounted signal head shall be between 24' (6.10) and 6' (1.8 m) from edge of shoulder.



- SYMBOLS**
- Work area
  - Sign
  - Type III barricade with flashing lights
  - Double vertical panel (see detail)
  - Crystal, bidirectional guardrail/barrier wall reflector
  - Detector loops
  - Impact attenuator
  - Drum with steady burning bi-directional light
  - Temporary concrete barrier
  - Temporary rumble strip (when specified)

See Sheet 2 for GENERAL NOTES

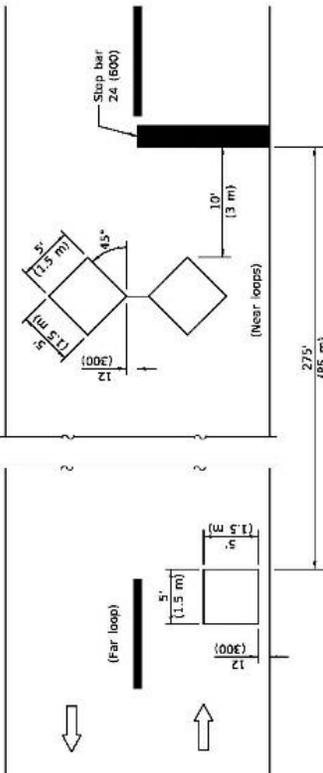
DATE	REVISIONS
1-1-20	Revised from F-shape to constant slope parapet.
1-1-18	Omitted lights in tangents.
1-1-17	Added flashing lights to Type III barricades. Revised note ④.

## LANE CLOSURE, 2L, 2W, BRIDGE REPAIR WITH BARRIER

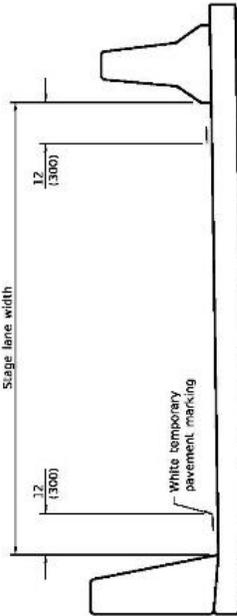
(Sheet 1 of 2)

STANDARD 701321-18

ISSUED 1-1-97  
 PASSED JANUARY 1, 2020  
 APPROVED JANUARY 1, 2020  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 ENGINEER OF DESIGN AND ENVIRONMENT



**DETECTOR LOOPS**

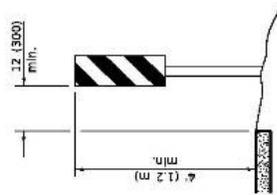


**TEMPORARY PAVEMENT MARKING**

TRAFFIC SIGNAL SEQUENCE					
PHASE	A	B			
INTERVAL	3	2	3	4	5
NORTHBOUND OR EASTBOUND	G	Y	R	R	R
SOUTHBOUND OR WESTBOUND	R	R	R	G	Y

TEMPORARY CONCRETE BARRIER		
NORMAL POSTED SPEED	TAPER RATIO	
40 mph AND ABOVE	12:1	
BELOW 40 mph	8:1	

ADVISORY SPEED LIMIT	
NORMAL POSTED SPEED	ADVISORY SPEED
55 - 45 mph	40 mph
40 mph	35 mph
35 - 30 mph	30 mph



**VERTICAL PANELS**

(Post mounted, one each side)

**GENERAL NOTES**

This Standard is used where, at any time, any vehicle, equipment, workers, or their activities will encroach on one lane or a bridge. Traffic signals and a positive barrier are required.

Traffic signals shall be operational only when all traffic controls are in place. When traffic signals are not in operation, flaggers shall be used and traffic control shall conform to Standard 701201 or 701206.

Temporary concrete barrier shall be according to Standard 704901.

Existing or temporary pavement markings shall be on both sides of open lane from stop bar to stop bar.

All dimensions are in inches (millimeters) unless otherwise shown.

**LANE CLOSURE, 2L, 2W,  
BRIDGE REPAIR WITH BARRIER**

(Sheet 2 of 2)

**STANDARD 701321-18**

Illinois Department of Transportation

ISSUED 1-1-97

APPROVED: [Signature] 2020  
 ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED: [Signature] 2020  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701321**

Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft. (4.88 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction. [SS pg. 584 – 701.06]

The exact location of the signals, detector loops, stop bars, and signs shall be as directed by the Engineer. The locations shall also be adjusted as required for stage construction. [SS pg. 595-598 / 701.18(b)]

The Engineer shall be notified at least 72 hours in advance of placing the signals in operation and at least one week prior to a traffic lane width reduction.

Any damage to the temporary traffic signals from any cause shall be repaired at no additional cost to the Department. If at any time the Contractor fails to perform any work deemed necessary by the Engineer to keep the temporary traffic signals in proper operating condition, the Department reserves the right to have other electrical Contractors perform the needed work, and the cost will be deducted from compensation due or which may become due the Contractor under the contract.

Lane Closure on Two-Way, Two-Lane Rural Road. The Contractor shall furnish, install, maintain, and remove temporary traffic signals including a traffic actuated controller, a cabinet detector amplifiers, and other associated equipment as listed below and on Standard 701321 for each location specified. The Contractor shall have available one spare controller and cabinet. The Contractor shall retain ownership of all traffic control equipment, miscellaneous accessories, and the installation methods shall be according to the following.

- a. **TRAFFIC SIGNAL HEADS:** Two signal heads shall be provided for each mainline approach and for each sideroad within the designated work area. When using incandescent signal heads, all lamps shall be new. When the signals are not operating, the signal head shall be hooded according to Article 880.03 and the "SIGNAL AHEAD" sign covered or removed. The left signal head shall be mounted at a height of 10 ft. (3.0 m) above the road surface measured to the bottom of the signal head. The right signal head shall be mounted at a height of 14 ft. (4.3 m) above the road surface. Back plates will be required on all signals.

The right signal head shall be aimed so the centers of the light beams of the indications are directed toward a point in the center of the approach lane 500 ft. (150 m) in advance of the signal. The left indication shall be aimed at a point in the center of the approach lane 100 ft. (30 m) in advance of the stop line.

- b. **LENSES:** All lenses shall be 12 in. (300 mm) nominal diameter.
- c. **WIRE AND CABLE:** The Contractor shall supply all overhead and underground wiring for both signal circuits and loop detector lead-ins. The electric cable shall be aurally suspended, at a minimum height of 10 ft. (3.0 m) and as close to the right-of-way line as possible. When the electric cable crosses a roadway or entrance, it shall be aurally suspended, at a minimum height of 18 ft. (5.5 m), according to the local utility requirements, or placed in a trench with a minimum of 2 ft. (600 mm) of cover, or protected in a manner approved by the Engineer.

## **Standard 701321 - Continued**

- d. MOUNTING: The controller shall be mounted on a post, pole, or temporary concrete foundation. The signal heads shall be mounted on 25 ft. (7.5 m) standard tubular steel posts or on a minimum Class 4 wood pole, when overhead wiring is used between signals. Alternative methods of mounting the cabinet or signal heads shall be approved by the Engineer. The support shall be kept in a vertical position for the duration of the project.
- e. SERVICE INSTALLATION: The Contractor shall be responsible for the installation and cost of 110 V electrical service. When the service cable from the controller to the power source is suspended overhead, the line height shall not be less than 10 ft. (3.0 m) above the ground and located as close to the right-of-way lines as practicable. When the cable crosses a roadway or entrance, the cable shall be raised to a minimum height of 18 ft. (5.5 m) or pass under the pavement through a culvert opening. Portable power generating equipment may be used for a short period of time until local power is available, provided at least one person is present at all times at the site to ensure proper operation.
- f. TRAFFIC SIGNAL CONTROLLER:
  - 1. The controller shall be a standard eight phase NEMA controller housed in a weather proof cabinet. The traffic signals shall dwell in All-Red. The long All-Red intervals shall be adjustable up to 99 seconds in one second increments. Long All-Red intervals shall be obtained by using a trail green feature or an equivalent, or by using dummy phases. The long All-Red interval shall be preempted if the previous movement is detected before the conflicting movement is detected and shall cause the previous movement to return to the green display with a minimum four second delay. When a conflict or failure is detected, the signal shall display a flashing All-Red. When an additional phase is used for a side road movement, only one long red interval shall be used between active phases on each side of the work area.

All devices used, in lieu of controller software to produce this sequence, shall be mounted within the cabinet but not within the controller. The Contractor shall provide an operational demonstration of the controller assembly for the Engineer subsequent to installation and prior to being placed into operation. The Contractor shall program the controller, trouble shoot, and correct any problems that arise, and verify the equipment is functioning according to the contract. If any controller malfunction occurs during the time of operation or in the event of a power failure, the Contractor shall, without delay, provide flaggers for traffic control and immediately install and place controller to operate the signals.

- 2. When specified, the Department will furnish the traffic actuated controller. The controller, complete with loop detector-amplifiers and pole mount cabinet, shall be picked up and returned upon completion of the project to the location designated on the plans. The Contractor shall provide notice to the Department at least two weeks in advance of requiring the traffic actuated controller. The Contractor shall be responsible for maintenance of the controller and all related equipment within the controller and all related equipment within the controller cabinet. The controller shall be inspected by the Contractor and Engineer subsequent to installation and prior to being placed into operation. Any malfunction of the Department owned equipment revealed during the inspection

## **Standard 701321 - Continued**

by the Contractor shall be repaired and will be paid for according to Article 109.04. The Contractor shall be responsible for any damage to the Department-owned equipment as a result of negligence or poor workmanship during installation at his/her expense, to keep the Department –owned equipment functioning properly after being placed in operation.

- g. DETECTOR LOOPS: Three detector loops shall be installed on each approach as shown on the plans. The near detector loops shall be placed 12 in. (300 mm) from the centerline and the far loop shall be placed 12 in. (300 mm) from the edge line. Each loop shall be connected to a separate detector amplifier channel. Call delay feature shall be used for the loops nearest the stop lines and defeated during the green of that phase. An alternate method of detection may be used if it has been demonstrated and approved by the Department.

The loop detector lead-in cable shall be protected from construction and maintenance activities. In the event of detector loop failure, the Contractor shall have 48 hours to repair or replace the loops. Upon completion of the project, the detector loop shall be terminated in such a manner as to provide for future use.

[SS pg. 595 – 598 / 701.18(b)]

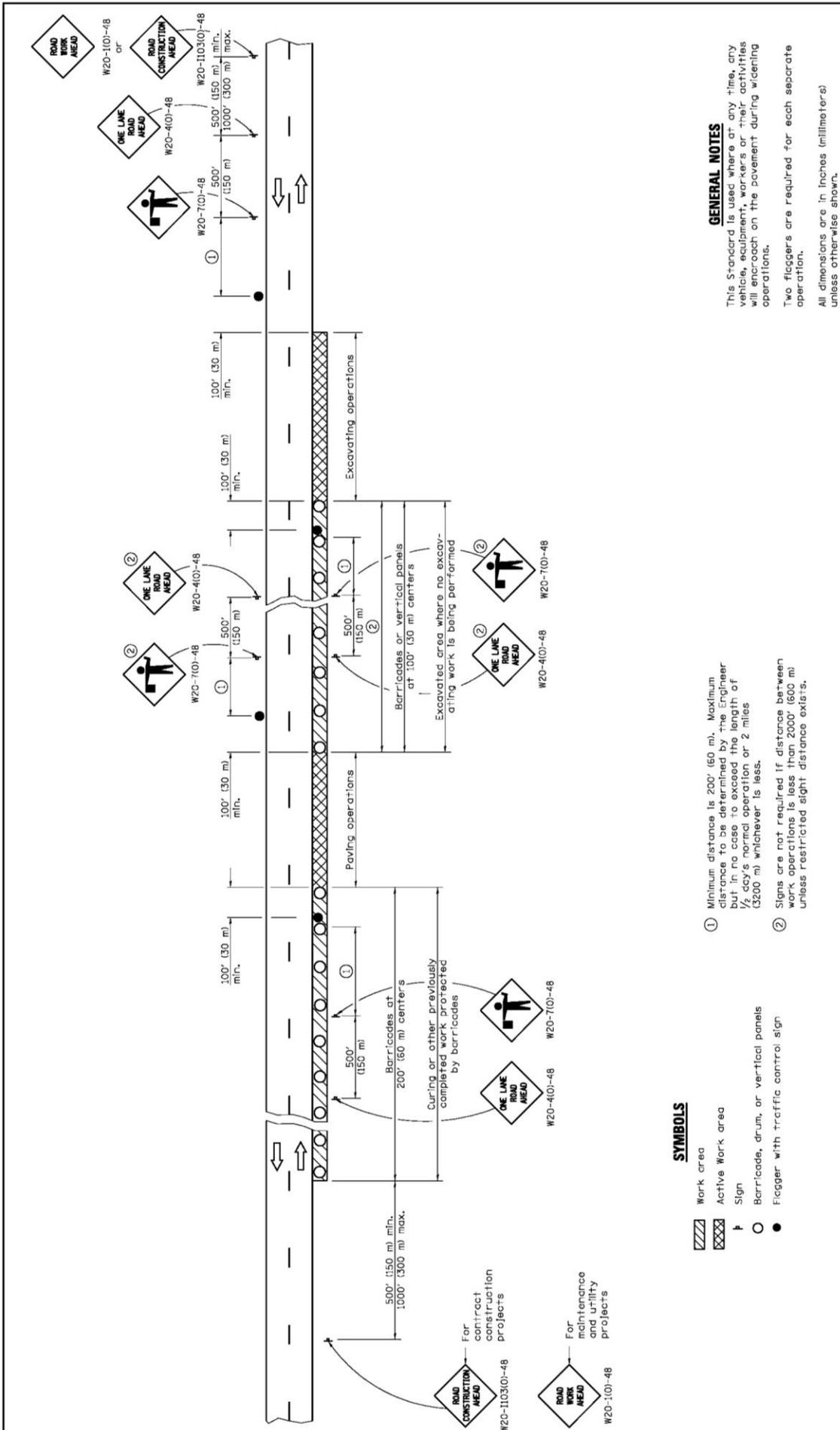
### **Various Specifications:**

1. All existing pavement markings which conflict with revised traffic pattern shall be removed according to Section 783. [SS pg. 58 / 701.04]
2. When work operations exceed four days, all signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, temporary sign supports may be used where posts are impractical. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the engineer. [SS pg. 587-588 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Light Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers on Standards 701316 and 701321. Lights Required: Steady burn bi-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

Temporary rumble strips conforming to Standard 701901 are recommended where poor alignment or restricted sight distance indicates potential operational problems.

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the pavement during widening operations.

Two flaggers are required for each separate operation.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-11	Revised flagger sign.
1-1-09	Switched units to English metric.
	Corrected sign No.'s.

**LANE CLOSURE, 2L, 2W, PAVEMENT WIDENING, FOR SPEEDS ≥ 45 MPH**

**STANDARD 701326-04**

- SYMBOLS**
- ▨ Work area
  - ▩ Active Work area
  - ⊠ Sign
  - Barricade, drum, or vertical panels
  - Flagger with traffic control sign

- ① Minimum distance is 200' (60 m). Maximum distance to be determined by the Engineer but in no case to exceed the length of 2-lanes normal operation or 2 miles (3200 m) whichever is less.
- ② Signs are not required if distance between work operations is less than 2000' (600 m) unless restricted sight distance exists.

Illinois Department of Transportation

APPROVED: *[Signature]* JUNE 2011  
 ENGINEER OF SAFETY ENGINEERING

APPROVED: *[Signature]* JUNE 2011  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

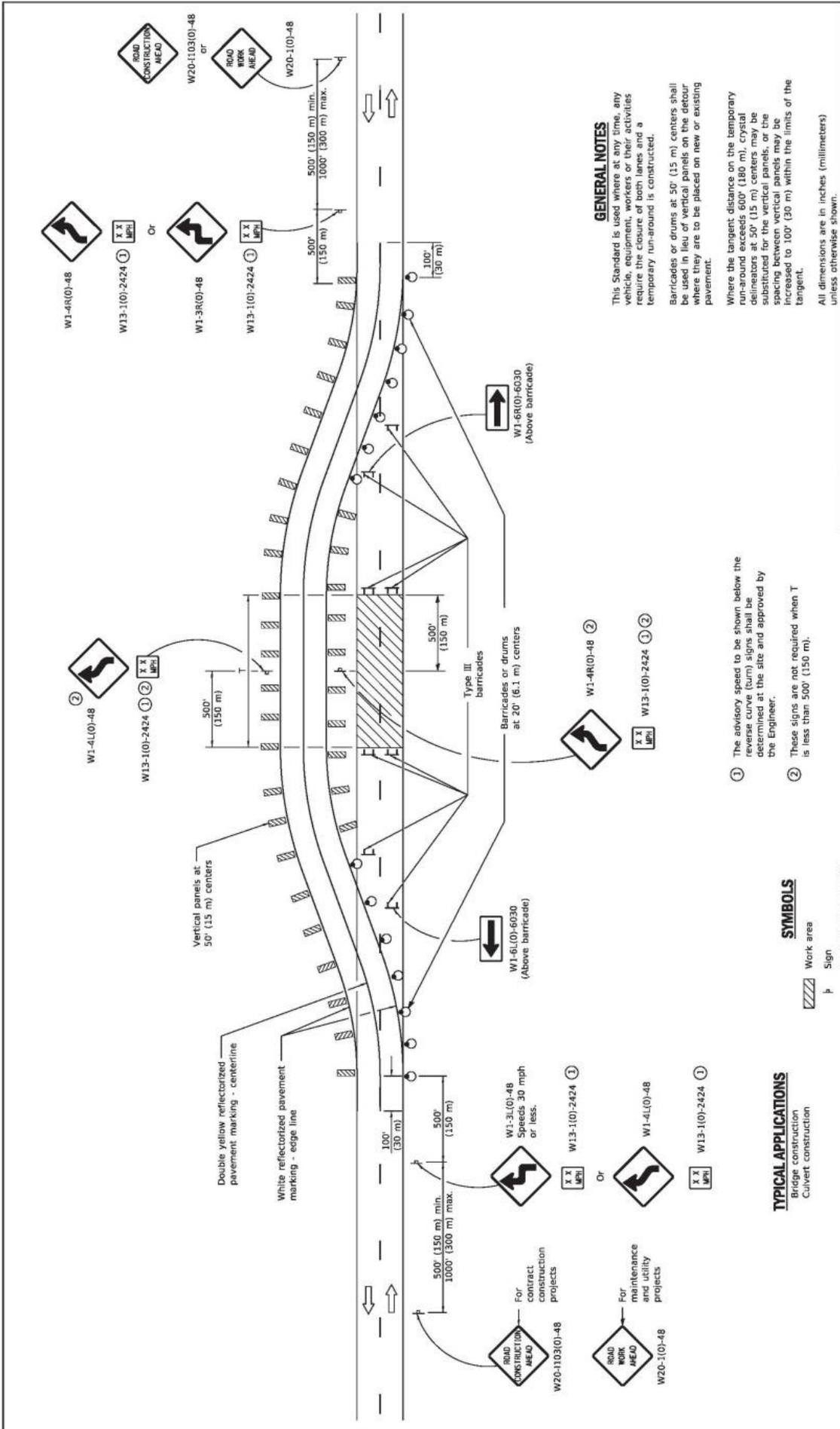
## **Standard 701326**

No paving or excavating operations shall be performed at night unless authorized by the Engineer. [SS pg. 598 / 701.18(c)]

### **Various Specifications:**

1. The Contractor shall keep all equipment, material, and vehicles off the pavement and shoulders on the side of the pavement which is open to traffic. ... At any location on existing pavements less than three lanes in width, the sequence of construction shall limit operations to one side of the pavements. [SS pg. 585 / 701.08]
2. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
3. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require the closure of both lanes and a temporary run-around is constructed.

Barricades or drums at 50' (15 m) centers shall be used in lieu of vertical panels on the shoulder where they are to be placed on new or existing pavement.

Where the tangent distance on the temporary run-around exceeds 600' (180 m), crystal delineators at 50' (15 m) centers may be substituted for the vertical panels, or the spacing between vertical panels may be increased to 100' (30 m) within the limits of the tangent.

All dimensions are in inches (millimeters) unless otherwise shown.

**LANE CLOSURE, 2L, 2W, WITH RUN-AROUND, FOR SPEEDS ≥ 45 MPH**

**STANDARD 701331-05**

DATE	REVISIONS
1-1-18	Changed lights on drums to bi-directional.
1-1-11	Changed vertical panel to double vertical panel.

- TYPICAL APPLICATIONS**
- Bridge construction
  - Culvert construction
- SYMBOLS**
- Work area
  - Sign
  - Barricade or drum with steady burn bi-directional light
  - Double vertical panel
  - Type III barricade
- GENERAL NOTES**
- The advisory speed to be shown below the reverse curve (turn) signs shall be determined at the site and approved by the Engineer.
  - These signs are not required when T is less than 500' (150 m).

**TYPICAL APPLICATIONS**

- Bridge construction
- Culvert construction

**SYMBOLS**

- Work area
- Sign
- Barricade or drum with steady burn bi-directional light
- Double vertical panel
- Type III barricade

ILLINOIS DEPARTMENT OF TRANSPORTATION

ISSUED 1-1-97

APPROVED: [Signature] JUNE 1, 2018

ENGINEER OF SAFETY PROG. AND ENGINEERING

APPROVED: [Signature] JUNE 1, 2018

ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701331**

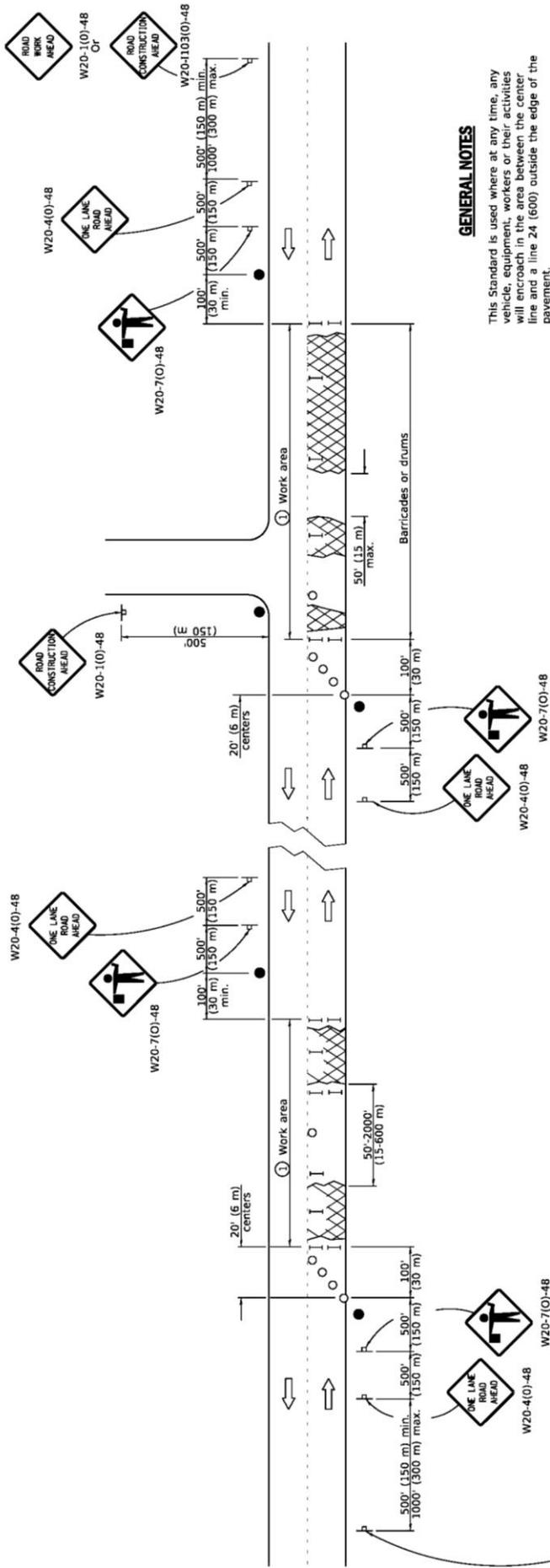
### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure.  
Lights Required: Flashing mono-directional lights.  
[BDE Special Provision "Lights on Barricades"]

### **General Information:**

1. No passing zones shall be striped where sight distance restrictions warrant.
2. Edge and centerline pavement markings are required for this Standard.

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach in the area between the center line and a line 24 (600) outside the edge of the pavement.

Two flaggers shall be required for each separate lane closure. The flagger shall be a minimum of 200' (60 m) and a maximum of 1/2 day's operation beyond the flagger sign. When the distance between successive patches exceeds 2000' (600 m), additional flaggers, warning signs, and tapers shall be placed as shown.

Barricades/drums shall be placed at intervals not greater than 100' (30 m) or cones shall be placed at intervals not greater than 50' (15 m) centers throughout the work zone. When the spacing between open holes is greater than 50' (15 m), two barricades/drums shall be placed in front of each open hole and one on the backside close to the centerline. When the open hole is greater than 10' (3 m) parallel to the centerline, one barricade/drum shall be placed in each hole. For large holes, barricades/drums shall be placed at 50' (16 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**

- ▨ Patches
- ⊥ Sign
- Flagger with traffic control sign
- I Barricade or drum
- Cone, barricade or drum

① 1/2 mile (800 m) maximum

**TYPICAL APPLICATIONS**

Patching

DATE	REVISIONS
1-1-19	Revised device spacing in taper.
1-1-11	Revised flagger sign.

**LANE CLOSURE, 2L, 2W,  
WORK AREAS IN SERIES,  
FOR SPEEDS ≥ 45 MPH**

**STANDARD 701336-07**

Illinois Department of Transportation

APPROVED: *[Signature]* JUNE 1, 2019  
ENGINEER OF SAFETY PROC. AND ENGINEERING

ISSUED: 1-1-97

APPROVED: *[Signature]* JUNE 1, 2019  
ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701336**

Two flaggers shall be required for each separate construction operations. The flagger shall be a minimum of 200 ft. (60 m) and a maximum distance of ½ day's operation beyond the flagger sign. When the distance between successive patches exceeds 2000 ft. (600 m), additional flaggers warning signs, and tapers shall be placed as shown.

Barricades/drums shall be placed at intervals not greater than 100 ft. (30 m) or cones shall be placed at intervals not greater than 50 ft. (15 m) centers throughout the work zone.

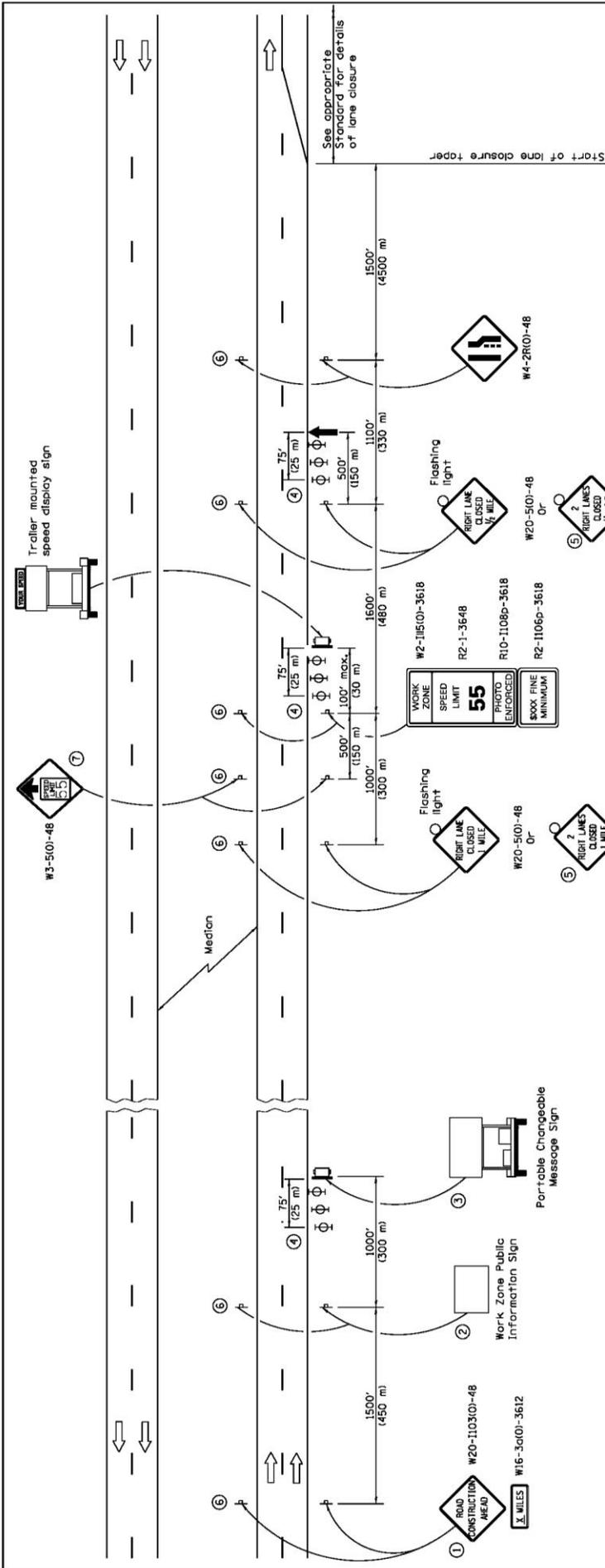
When the spacing between open holes is greater than 50 ft. (15 m), two barricades/drums shall be placed in front of each open hole and one on the backside close to the centerline.

When the open hole is greater than 10 ft. (3 m) parallel to the centerline, one barricade/drum shall be placed in each hole. For larger holes, barricades/drums shall be placed at 50 ft. (16 m) centers. [Standard – General Notes]

### **Various Specifications:**

1. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
2. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. . . . Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
4. Pavement Patching: [SS pg. 593 - 594 / 701.17(e)]
5. No broken pavement, open holes, or partially filled patches shall remain overnight and all devices shall be removed before dark. If patches are not opened when required, additional traffic control shall be provided at no additional cost to the Department. [SS pg. 594 / 701.17(e)(2)b]

**FOR INFORMATIONAL USE ONLY**



- SYMBOLS**
- ↑ Arrow board
  - ☐ Trailer mounted sign
  - ⊥ Sign
  - ⊕ Type II barricade, drum, or vertical barricade with monodirectional flashing light
- GENERAL NOTES**
- 1 The Road Construction Ahead sign shall be located 3 to 5 miles in advance of the project limits.
  - 2 The message and size of the Work Zone Public Information Sign shall be as specified by the Department.
  - 3 The message board shall be used to display status of lanes within the project. The primary messages shall be:
    - "Right Lane Closed" / " x Miles Ahead"
    - "Left Lane Closed" / " x Miles Ahead"
    - "All Lanes Open"
  - 4 Three, Type II barricades, drums, or vertical barricades at 25' (8 m) centers.
  - 5 This sign shall be used when 2 lanes are closed.
  - 6 This sign shall be omitted when median width is less than 10' (3 m).
  - 7 This sign shall only be used if the existing speed limit is greater than 65 mph.

This standard is used where at any time a lane is closed on a freeway/expressway. When the left lane is closed, LEFT LANE CLOSED signs shall be substituted for the RIGHT LANE CLOSED signs. The first two signs and the message board are stationary.

The last four signs and arrow board shall be moved as necessary to maintain the required distance from the start of the lane closure taper(s).

All dimensions are in inches (millimeters) unless otherwise shown.

APPROACH TO LANE CLOSURE, FREEWAY/EXPRESSWAY	
DATE	REVISIONS
1-1-17	Added trailer mounted speed display sign. Changed device spacing and note (6).
1-1-15	Revised '2 RIGHT LANES CLOSED X MILE' sign number.

ILLINOIS Department of Transportation  
 ISSUED 4-1-04  
 APPROVED JUNE 1, 2017  
 ENGINEER OF SAFETY, PROC. AND ENGINEERING  
 APPROVED JUNE 1, 2017  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701400**

### **Various Specifications:**

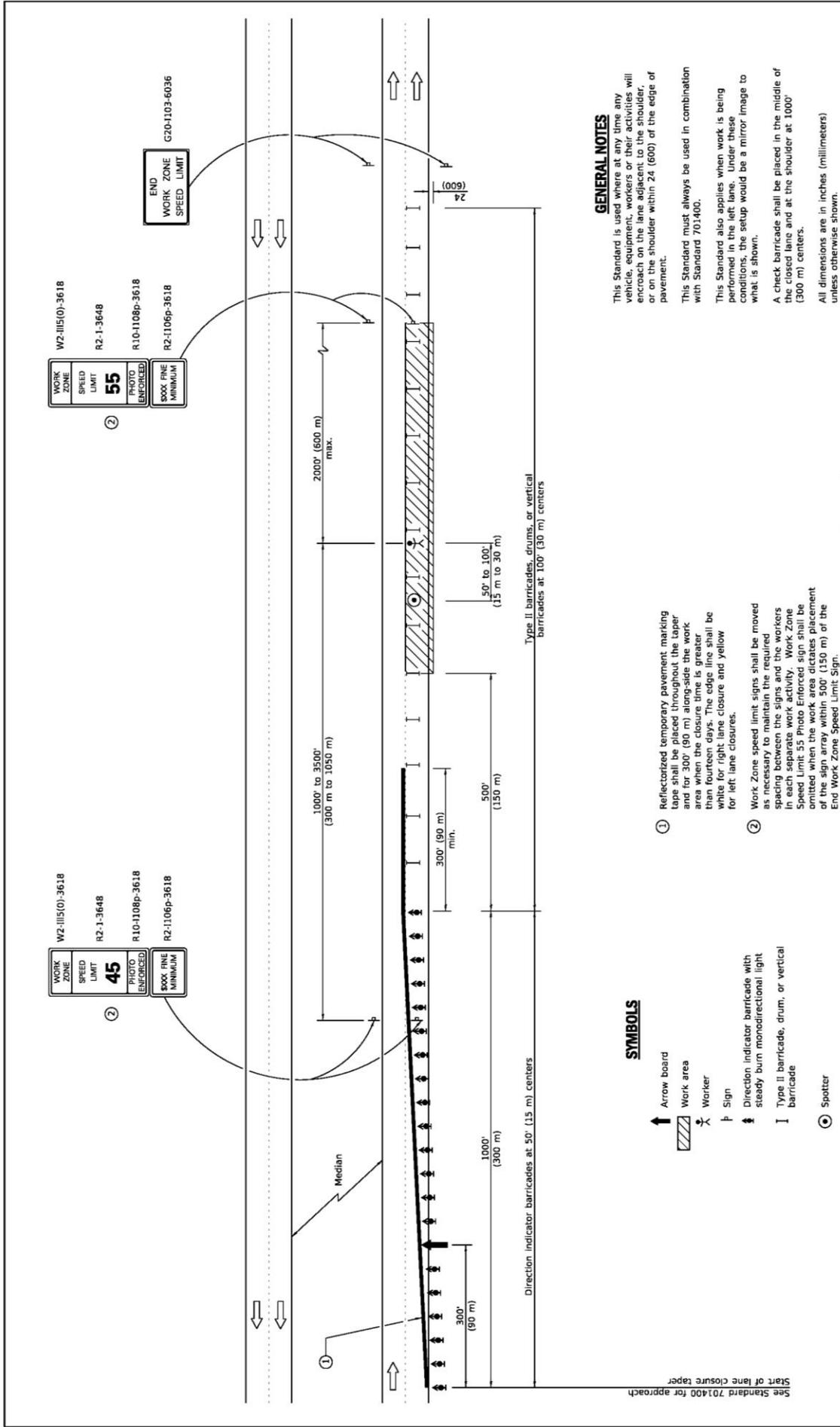
First two warning signs on each approach to the work involving a nighttime lane closure.

Lights Required: Flashing mono-directional lights. [BDE Special Provision "Lights on Barricades"]

### **General Information:**

1. This Standard is to be used with Standards 701401, 701402, 701406, 701416, and 701446.
2. The message panel shall be a minimum of 7 ft (2.1 m) above the edge of pavement in urban areas and a minimum of 5 ft (1.5 m) above the edge of pavement in rural areas, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time. [BDE Special Provision "Portable Changeable Message Signs"]
3. When portable changeable message signs are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard. [SS pg. 603 / 701.20(h)]
4. When speed display trailers are shown on the Standard, this work will not be paid for separately, but shall be considered as included in the cost of the Standard. [BDE special provision "Speed Display Trailer"].

**FOR INFORMATIONAL USE ONLY**



DATE	REVISIONS
1-1-19	Replaced flagger with spotter.
1-1-18	Omitted lights in tangent.

**LANE CLOSURE,  
FREEWAY / EXPRESSWAY**

**STANDARD 701401-12**

**GENERAL NOTES**

This Standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24' (600') of the edge of pavement.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the setup would be a mirror image to what is shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 1000' (300 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

**SYMBOLS**

- ↑ Arrow board
  - ▨ Work area
  - ⚓ Worker
  - ⚡ Sign
  - ↕ Direction indicator barricade with steady burn monodirectional light
  - ⊥ Type II barricade, drum, or vertical barricade
  - ⊙ Spotter
- ① Reflectorized temporary pavement marking tape shall be placed throughout the taper area and for 300' (90 m) along-side the work area when the closure time is greater than four days. The edge line shall be white for right lane closure and yellow for left lane closures.
  - ② Work Zone speed limit signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity. Work Zone Speed Limit 55 Photo Enforced sign shall be omitted when the work area dictates placement of the sign array within 500' (150 m) of the End Work Zone Speed Limit Sign.

Illinois Department of Transportation

ISSUED 1-1-97

APPROVED: JIMMY J. [Signature] 2019  
ENGINEER OF SAFETY PROC. AND ENGINEERING

APPROVED: JIMMY J. [Signature] 2019  
ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701401**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

1. Multilane Pavement Resurfacing: For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, Standards 701401, 701406, 701421, 701422, or 701446 shall be used from the beginning of business on Monday to 4:30 p.m. on Friday. Only Standards 701406 and 701421 shall be used from 4:30 p.m. Friday to start of business on Monday. [SS pg. 598 / 701.18(d)(1)]
2. Shoulder Upgrading and Replacement: The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone:

- a. When required by the Contractor's operations; and,
- b. When no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300).

During shoulder work on ramps, refer to standard 701456.

Standard 701401 and 701422 will only be measured for payment where the average depth of shoulder reconstruction required by the plans, exclusive of any trench for pipe underdrain installation, is in excess of 3 in. (75 mm). Where such shoulder reconstruction is 3 in. (75 mm) or less, no open trench greater than 3 in. (75 mm) deep will be permitted overnight. If, because of unforeseen circumstances, an open trench greater than 3 in. (75 mm) deep should occur overnight, the Contractor shall, at no additional cost to the Department, close the adjacent traffic lane according to Standards 701400 and 701401 or according to Standard 701422.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (38 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one-work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums, or vertical panels. [SS pg. 598-599 / 701.18(d)(2)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]

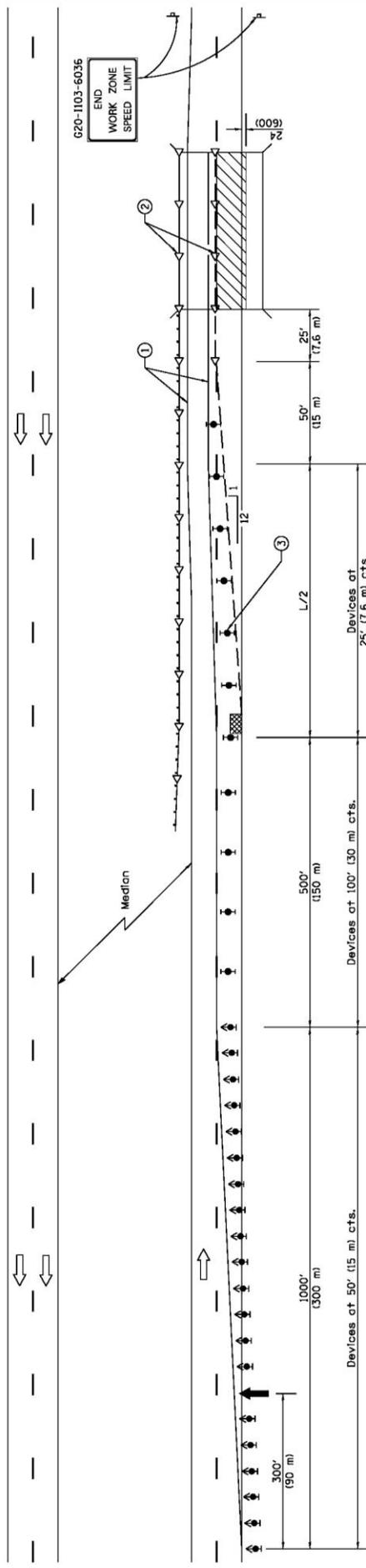
## **Standard 701401 - Continued**

2. Use of Flaggers and Spotters. [BDE Special Provision “Traffic Spotters”]
3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
4. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.  
  
All permanent “SPEED LIMIT” signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closures(s) by promptly establishing a posted work zone speed zone when the lane closures(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.  
  
The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closures(s).  
  
The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]
5. Devices in nighttime lane closures tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
6. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]
7. Devices delineating patches at night on roadways with an ADT of 25,000 or more. Lights Required: None. [BDE Special Provision “Lights on Barricades”]
8. “ROUGH GROOVED SURFACE” signs. [SS pg. 592 / 701.17(c)(2)]
9. Pavement Patching: [SS pg. 593-594 / 701.17(e)]
10. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [Standard 701901]

### **General Information:**

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the pavement or on the shoulder within 24 (600) of the edge of pavement for daylight operation exceeding one day and where temporary concrete barrier is utilized.

This Standard must always be used in combination with Standard 701400.

When work is being performed in the left lane, the set up would be a mirror image to what is shown.

Temporary concrete barrier shall be according to Standard 704001.

Calculate L as follows:

**FORMULAS**

**NORMAL POSTED SPEED**

English (Mph) L=(W)(S)  
Metric (km/h) L=(0.65)(W)(S)

W = Width of offset in feet (meters)  
S = Normal posted speed in mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

- SYMBOLS**
- ↑ Arrow board
  - ▨ Work area
  - ⊥ Sign
  - ⬆ Direction indicator barricade with steady burn monodirectional light
  - ⬇ Type II barricade, drum, or vertical barricade with steady burn monodirectional light
  - Temporary concrete barrier
  - ◁ Monodirectional guardrail/barrier wall reflector
  - ⊠ Impact attenuator
- ① Temporary pavement marking tape shall be placed throughout the taper and along-side the work area. The right edge line shall be white and the left edge line shall be yellow.
  - ② Guardrail/barrier wall reflectors at 25' (7.6 m). Markers on right shall be shall be crystal and markers on left shall be amber. See Standards 704001 and 782006.
  - ③ Vertical barricades shall not be used in lane shift taper.

DATE	REVISIONS
1-1-17	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.
4-1-16	Added reference to Standards 704001 and 782006 in note ②.

**LANE CLOSURE, FREEWAY/EXPRESSWAY, WITH BARRIER**

**STANDARD 701402-12**

Illinois Department of Transportation

APPROVED: *[Signature]* JUNE 1, 2017  
ENGINEER OF SAFETY, PROJ. AND ENGINEERING

APPROVED: *[Signature]* January 1, 2017  
ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-00

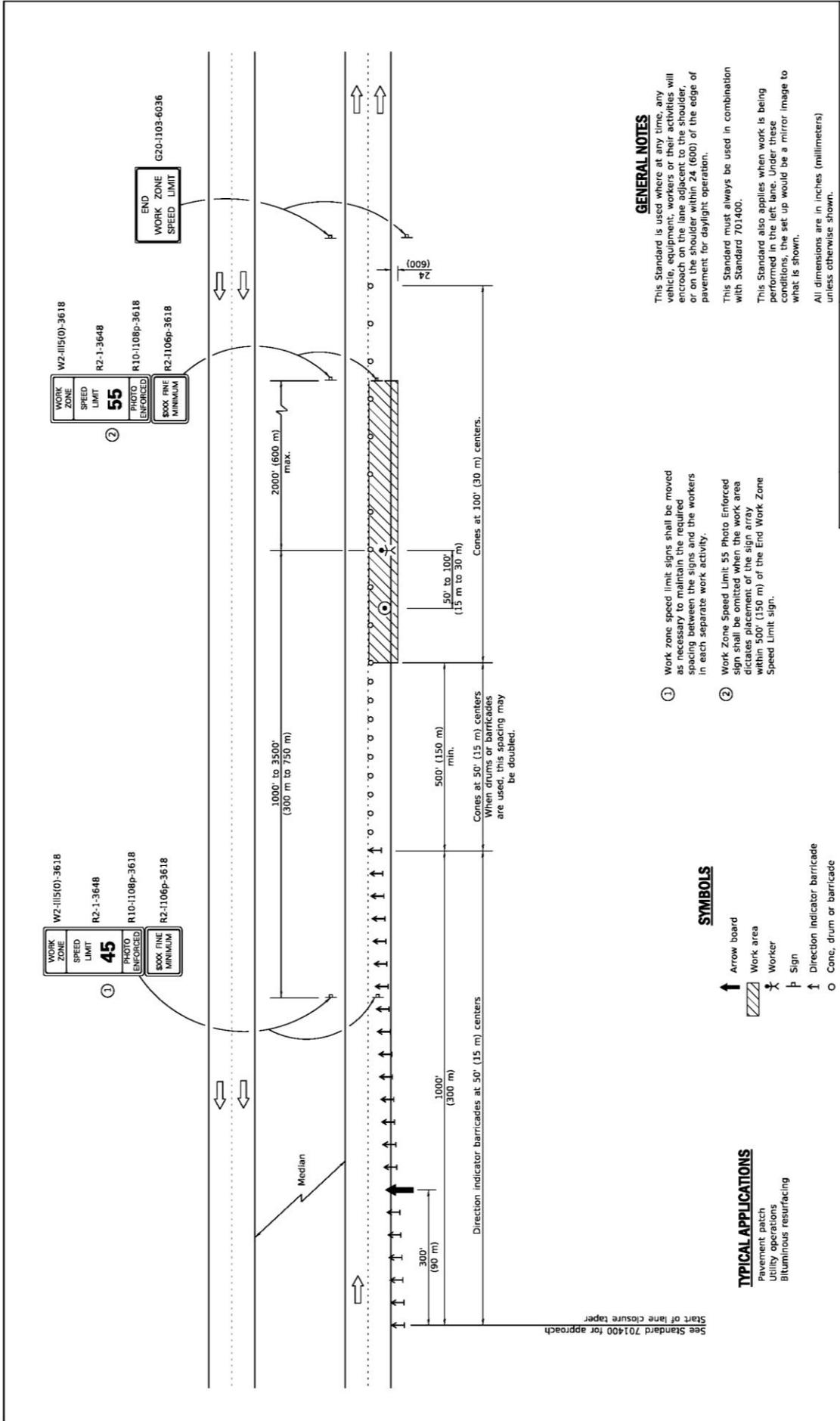
## **Standard 701402**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

### **Various Specifications:**

1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 584 / 701.04]
2. Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft. (4.88 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction. [SS pg. 584 / 701.06]
3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
4. Devices in nighttime lane closures tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities will encroach on the shoulder, the shoulder, or the edge of the pavement 24' (600) of the edge of pavement for daylight operation.

This Standard must always be used in combination with Standard 701400.

This Standard also applies when work is being performed in the left lane. Under these conditions, the set up would be a mirror image to what is shown.

All dimensions are in inches (millimeters) unless otherwise shown.

① Work zone speed limit signs shall be moved as necessary to maintain the required spacing between the signs and the workers in each separate work activity.

② Work Zone Speed Limit 55 Photo Enforced sign shall be omitted when the work area dictates placement of the sign array within 500' (150 m) of the End Work Zone Speed Limit sign.

**SYMBOLS**

- ↑ Arrow board
- ▨ Work area
- ⚓ Worker
- ↑ Sign
- ↑ Direction indicator barricade
- Cone, drum or barricade
- ⊙ Spotter

**TYPICAL APPLICATIONS**

- Pavement patch
- Utility operations
- Bituminous resurfacing

DATE	REVISIONS
1-1-19	Replaced flagger with spotter.
1-1-17	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

**LANE CLOSURE,  
FREEWAY/EXPRESWAY,  
DAY OPERATIONS ONLY**

**STANDARD 701406-12**

Illinois Department of Transportation

APPROVED: [Signature] JANUARY 1, 2019  
 ENGINEER OF SAFETY PROC. AND ENGINEERING

APPROVED: [Signature] JANUARY 1, 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701406**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

1. Multilane Pavement Resurfacing. For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, this standard may be used at all times. [SS pg. 598 / 701.18(d)(1)]
2. Shoulder Upgrading and Replacement. The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone.

- a. When required by the contractor's operations; and,
- b. When no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, refer to Standard 701456.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (38 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area, does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums, or vertical panels. [SS pg. 598-599 / 701.18(d)(2)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions, shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. Use of Flaggers and Spotters. [BDE Special Provision "Traffic Spotters"]
3. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]

## **Standard 701406 - Continued**

4. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent "SPEED LIMIT" signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

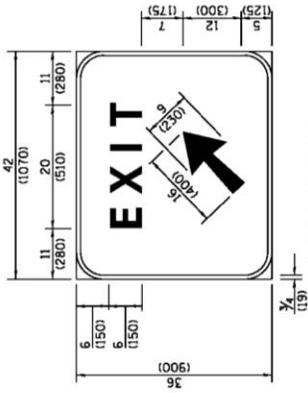
5. Cold Milling. "ROUGH GROOVED SURFACE" (W8-I107) signs shall be erected when the road has been cold milled and opened to traffic. The signs shall be placed just prior to the cold milling operation and shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 ft. (150 m) preceding the start of the milled pavement, just before each major intersection within the milled area, and at other locations as directed by the Engineer. The signs shall have an amber flashing lights attached. [BDE Special Provision "Lights on Barricades"]
6. Daylight operations. Lights Required: None [BDE Special Provision "Lights on Barricades"]
7. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [Standard 701901]

### **General Information:**

1. Equipment, materials, signs, cones, barricades, and drums are to be removed at the completion of the day's operations and the work area opened to traffic.
2. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

**FOR INFORMATIONAL USE ONLY**

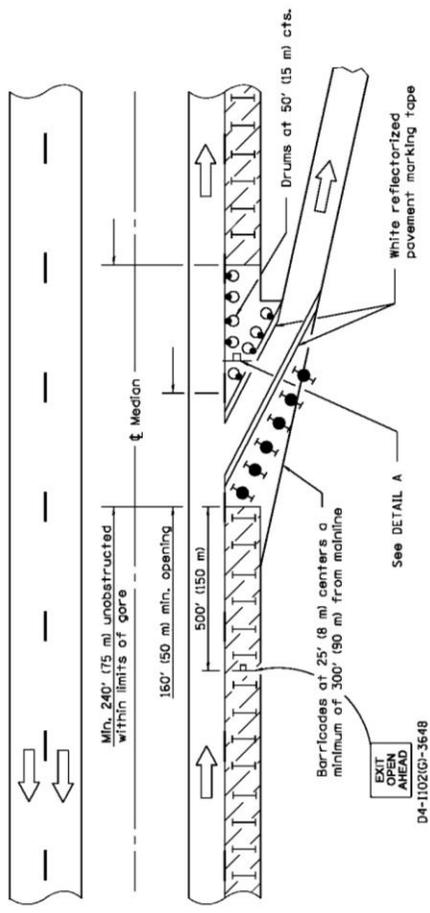




Background - Green  
 Border and legend - White  
 "O" size letters  
 EXIT SIGN - SPECIAL

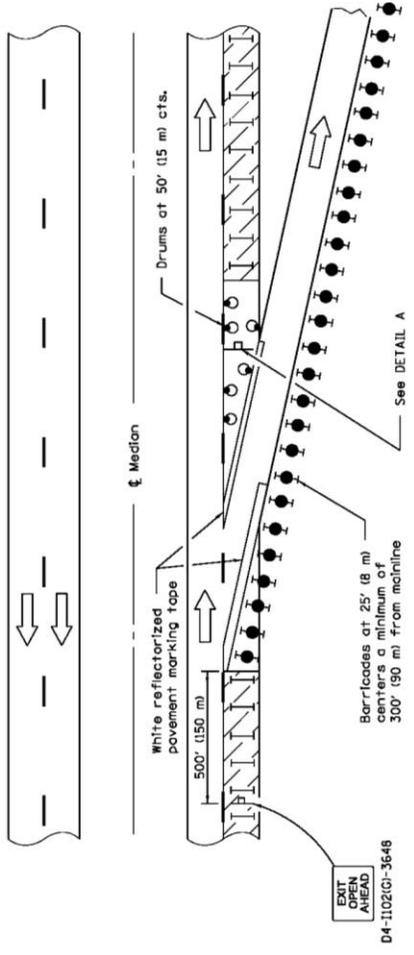
**DETAIL A**

(To be utilized where distance between the two rows of channelizing devices is 6' (1.8 m) in width.)



**APPLICATION NO. 3**

Application No. 3 depicts a modified exit ramp. The channelizing devices shall provide a clearly defined path for the exiting motorists. The minimum dimensions shown shall be increased as soon as the progress of the work will permit. The open portion of the ramp may be shifted, with the approval of the Engineer, to perform work in stages on the area adjacent to the ramp exit. Application No. 4 shall be put into effect as soon as possible.



**APPLICATION NO. 4**

Application No. 4 depicts an extension of the normal exit ramp. This method shall be used whenever existing geometrics can be retained. Consideration should be given to the exiting motorist's line of sight through, between or over the delineation devices.

**LANE CLOSURE, MULTILANE,  
 AT ENTRANCE OR EXIT RAMP,  
 FOR SPEEDS ≥ 45 MPH**  
 (Sheet 2 of 2)

STANDARD 701411-09

Illinois Department of Transportation	APPROVED	JANUARY 1, 2015
	ENGINEER OF SAFETY ENGINEERING	JANUARY 1, 2015
	APPROVED	JANUARY 1, 2015
	ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2015
ISSUED		1-1-97

## **Standard 701411**

This Standard shall supplement mainline traffic controls for lane closures.

The channelizing devices shall clearly define a path for motorists entering or exiting the highway.

Raised reflectorized pavement markers at 25 ft. (8 m) centers may be used in lieu of tape where the pavement marking is to be placed adjacent to the barricades or drums.  
[SS pg. 599 / 701.18(g)]

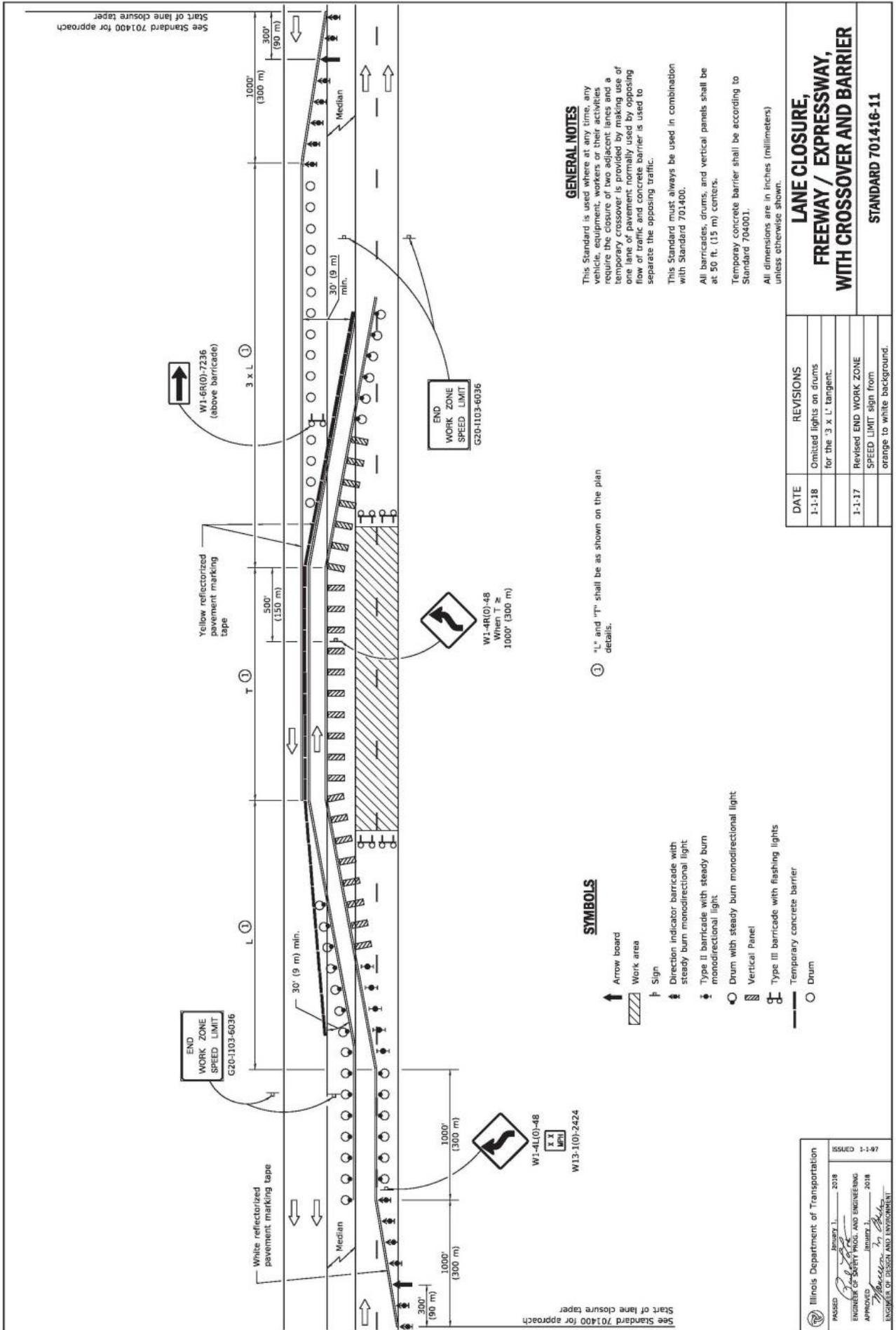
When work does not exceed 5 days, pavement marking tape may be omitted.  
[Standard – General Notes]

Use of APPLICATION NO. 1 and APPLICATION NO. 3 shall be limited to five days per location.  
[Standard – General Notes]

### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. Daylight operations. Lights Required: None [BDE Special Provision “Lights on Barricades”]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights.  
[BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]
6. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]

**FOR INFORMATIONAL USE ONLY**



See Standard 701400 for approach  
Start of lane closure taper

See Standard 701400 for approach  
Start of lane closure taper

**GENERAL NOTES**

This Standard is used where at any time, any vehicle, equipment, workers or their activities require the closure of two adjacent lanes and a temporary crossover is provided by making use of one lane of pavement normally used by opposing flow of traffic and concrete barrier is used to separate the opposing traffic.

This Standard must always be used in combination with Standard 701400.

All barricades, drums, and vertical panels shall be at 50 ft. (15 m) centers.

Temporary concrete barrier shall be according to Standard 704001.

All dimensions are in inches (millimeters) unless otherwise shown.

① "L" and "T" shall be as shown on the plan details.

**SYMBOLS**

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ⊥ Direction indicator barricade with steady burn monodirectional light
- ⊥ Type II barricade with steady burn monodirectional light
- Drum with steady burn monodirectional light
- ⊥ Vertical Panel
- ⊥ Type III barricade with flashing lights
- Temporary concrete barrier
- Drum

**LANE CLOSURE,  
FREEWAY / EXPRESSWAY,  
WITH CROSSOVER AND BARRIER**

**STANDARD 701416-11**

DATE	REVISIONS
1-1-18	Omitted lights on drums for the 3' x 1' tangent.
1-1-17	Revised END WORK ZONE SPEED LIMIT sign from orange to white background.

Illinois Department of Transportation  
 PASSED January 1, 2018  
 ENGINEER OF SAFETY PROG. AND ENGINEERING  
 APPROVED January 1, 2018  
 IN CHARGE OF DESIGN AND ENVIRONMENT

## **Standard 701416**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

A reflective solid edge line and yellow centerline for each direction of traffic shall be used when the closure time exceeds four days or when the normal posted speed outside the area of operations exceeds 50 mph. Reflectorized pavement marking tape shall be used for marking the edge lines and centerline on existing pavement. Either tape or reflectorized pavement marking paint may be used for markings on the paved crossovers. Raised reflective pavement markers at 25 ft. (8 m) centers shall be installed for additional delineation.

Vertical panels may be attached to concrete barriers where available space prohibits the use of drums. [SS pg. 599 / 701.18(e)]

### **Various Specifications:**

1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 584 / 701.04]
2. Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft. (4.88 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction. [SS pg. 584 / 701.06]
3. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

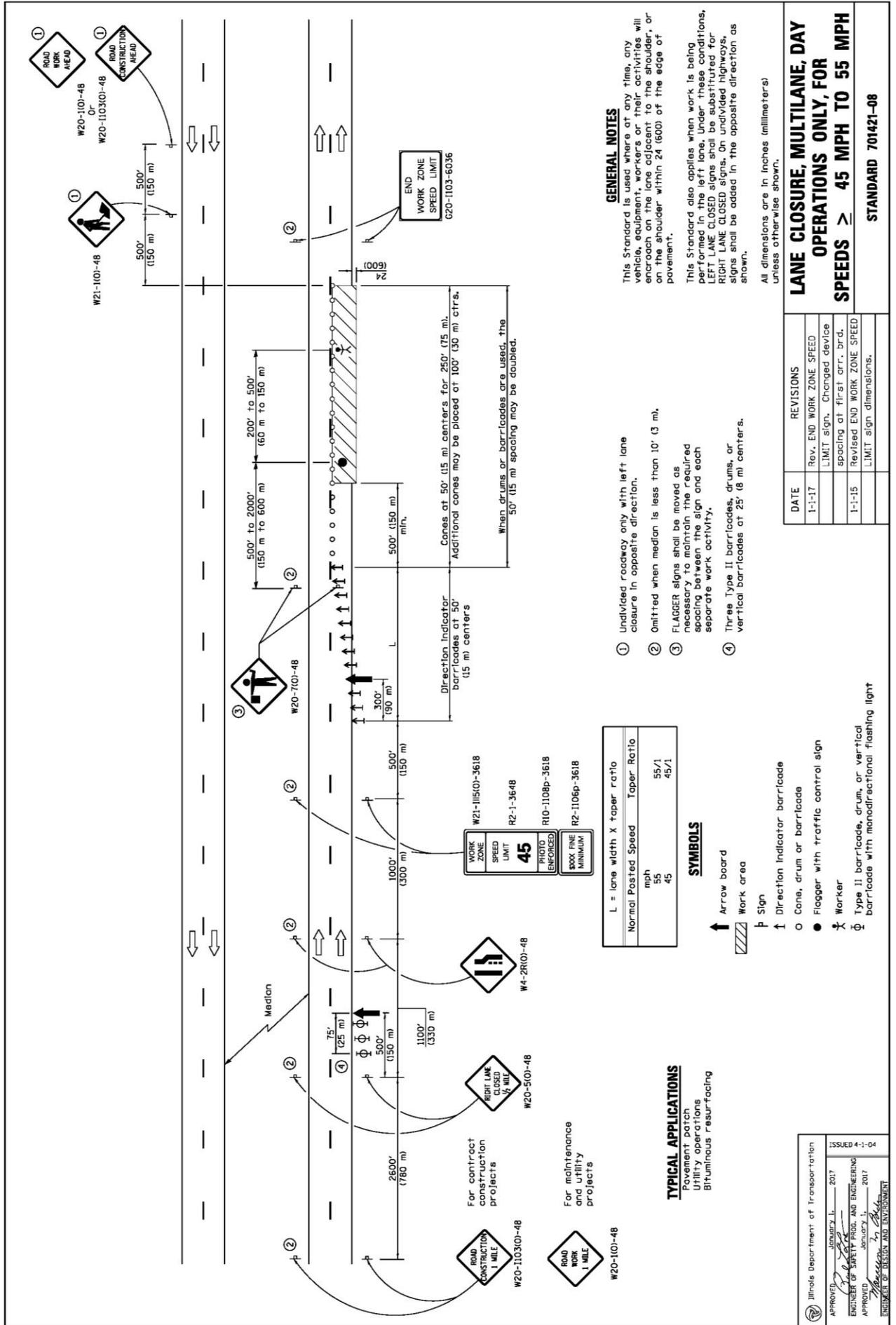
All permanent "SPEED LIMIT" signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision "Lights on Barricades"]
5. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights [BDE Special Provision "Lights on Barricades"]

**FOR INFORMATIONAL USE ONLY**



## **Standard 701421**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

1. Multilane Pavement Resurfacing. For the construction of binder course, surface course and shoulder resurfacing on multilane pavement, this standard may be used at all times. [SS pg. 598 / 701.18(d)(1)]
2. Shoulder Upgrading and Replacement: The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone.

- a. When required by the contractor's operations; and,
- b. When no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, refer to Standard 701456.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, should drop-offs greater than 1 ½ in. (38 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily production of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums or vertical panels. [SS pg. 598-599 / 701.18(d)(2)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 587 / 701.13(b)]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operations. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]

## **Standard 701421 - Continued**

5. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent "SPEED LIMIT" signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

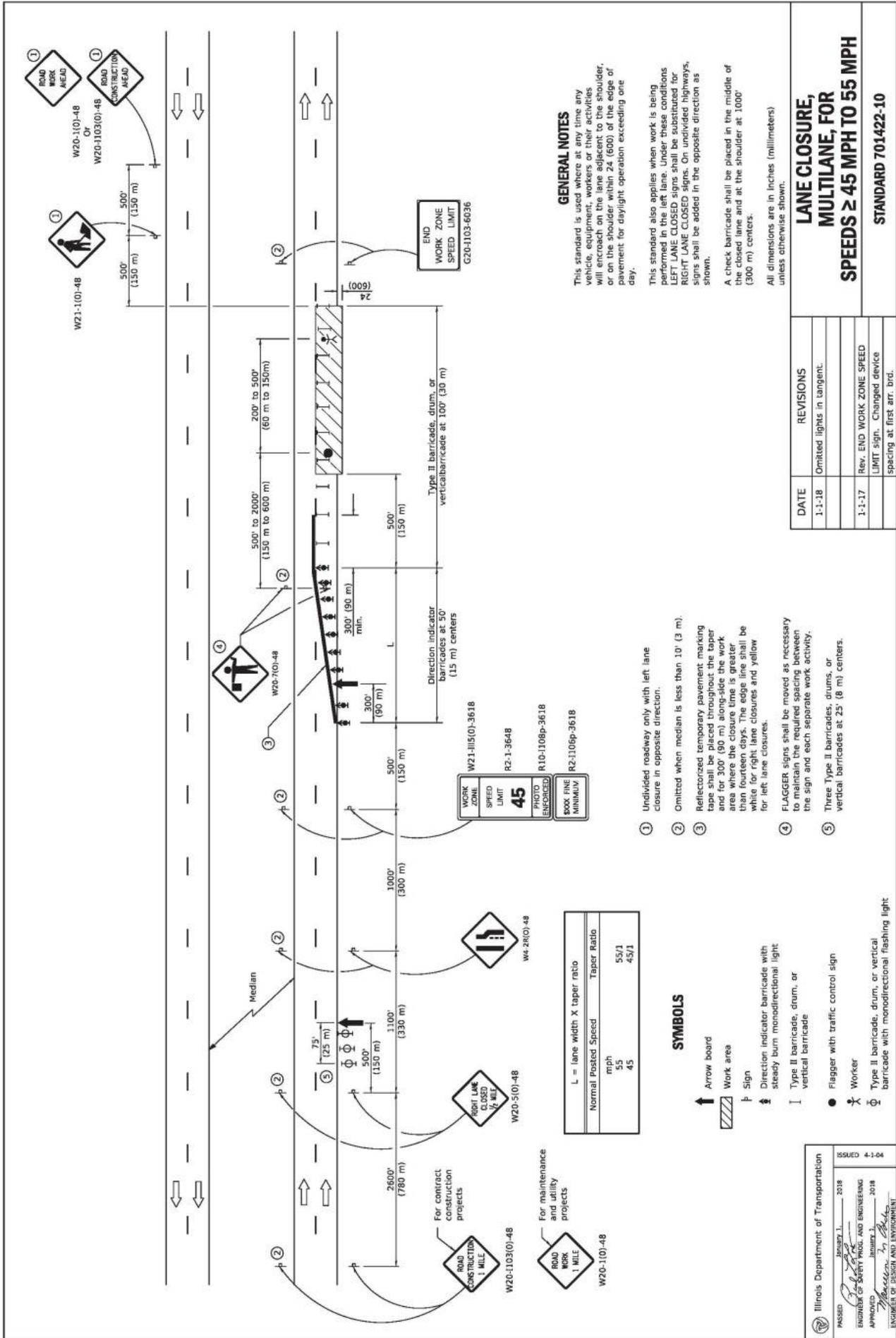
The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

6. Daylight operations. Lights Required: None.  
[BDE Special Provision "Lights on Barricades"]
7. Cold Milling. "ROUGH GROOVED SURFACE" (W8-I107) signs shall be erected when the road has been cold milled and opened to traffic. The signs shall be placed just prior to the cold milling operation and shall remain in place until the milled surface condition no longer exists. These signs shall be erected a minimum of 500 ft. (150 m) preceding the start of the milled pavement, just before each major intersection within the milled area, and at other locations as directed by the Engineer. ~~The signs shall have an amber flashing light attached.~~ [BDE Special Provision "Lights on Barricades"]
8. Pavement Patching. [SS pg. 593-594 / 701.17(e)]
9. Where posted speeds are greater than 40 mph cones shall be a minimum of 28 in. (700 mm) in height. [Standard 701901]

### **General Information:**

1. Equipment, materials, signs, cones, barricades, and drums are to be removed at the completion of the day's operations and the work area opened to traffic.
2. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**

This standard is used where at any time any vehicle, equipment, workers or their activities will encroach on the lane adjacent to the shoulder, or on the shoulder within 24 (600) of the edge of pavement for daylight operation exceeding one day.

This standard also applies when work is being performed in the left lane. Under these conditions LEFT LANE CLOSED signs shall be substituted for RIGHT LANE CLOSED signs. On undivided highways, signs shall be added in the opposite direction as shown.

A check barricade shall be placed in the middle of the closed lane and at the shoulder at 1000' (300 m) centers.

All dimensions are in inches (millimeters) unless otherwise shown.

**LANE CLOSURE, MULTILANE, FOR SPEEDS ≥ 45 MPH TO 55 MPH**

**STANDARD 701422-10**

- ① Undivided roadway only with left lane closure in opposite direction.
- ② Omitted when median is less than 10' (3 m).
- ③ ReflectORIZED temporary pavement marking tape shall be placed throughout the taper and for 300' (90 m) along-side the work area where the closure time is greater than fourteen days. The edge line shall be white for right-lane closures and yellow for left-lane closures.
- ④ FLAGGER signs shall be moved as necessary to maintain the required spacing between the sign and each separate work activity.
- ⑤ Three Type II barricades, drums, or vertical barricades at 25' (8 m) centers.

**SYMBOLS**

- ↑ Arrow board
- ▨ Work area
- ⊥ Sign
- ↔ Direction indicator barricade with steady burn monodirectional light
- ⊥ Type II barricade, drum, or vertical barricade
- Flagger with traffic control sign
- ⋄ Worker
- ⊕ Type II barricade, drum, or vertical barricade with monodirectional flashing light

L = lane width X taper ratio	
Normal Posted Speed	Taper Ratio
55/1	55/1
45	45/1

DATE	REVISIONS
1-1-18	Omitted lights in tangent.
1-1-17	Rev. END WORK ZONE SPEED LIMIT sign. Changed device spacing at first arr. brd.

Illinois Department of Transportation

ISSUED 4-1-04

PASSED January 1, 2018

ENGINEER OF SAFETY PEGGY AND ENGINEERING

APPROVED [Signature] 2018

ENGINEER OF DESIGN AND ENVIRONMENT [Signature]

## **Standard 701422**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

1. Multilane Pavement Resurfacing: For the construction of binder course, surface course and shoulder resurfacing on multilane pavements, Standard 701422 shall be used for the beginning of business on Monday to 4:30 p.m. on Friday. Only Standards 701406 and 701421 shall be used from 4:30 p.m. Friday to start of business on Monday.  
[SS pg. 598 / 701.18(d)(1)]
2. Shoulder Upgrading and Replacement: The following shall apply to shoulder pipe underdrain installation and/or shoulder reconstruction on existing multilane divided highways.

The Contractor shall close the adjacent lane of pavement according to the Standard within the limits of the construction zone.

- a. When required by the contractor's operations; and,
- b. When no workers are present and the difference in elevation between the pavement and the shoulder and/or widening is greater than 12 in. (300 mm).

During shoulder work on ramps, refer to standard 701456.

Standards 701401 and 701422 will only be measured for payment where the average depth of shoulder reconstruction required by the plans, exclusive of any trench for pipe underdrain installation, is in excess of 3 in. (75 mm). Where such shoulder reconstruction is 3 in. (75 mm) or less, no open trench greater than 3 in. (75 mm) deep will be permitted overnight. If, because of unforeseen circumstances, an open trench greater than 3 in. (75 mm) deep should occur overnight, the Contractor shall, at no additional cost to the Department, close the adjacent traffic lane according to Standard 701422.

Excavations greater than 3 in. (75 mm) in depth between the pavement and shoulder, including any trenches within the shoulder area, shall be restricted to one shoulder in each direction of travel. In addition, shoulder drop-offs greater than 1 ½ in. (38 mm) caused by the Contractor's operations will not be permitted over the winter shutdown.

The Contractor shall schedule the work so the lane closure at any one work area does not exceed five working days. The closure time may be exceeded for conditions beyond the Contractor's control, except if continual and persistent closures in excess of the five working days are made, the Engineer will initiate measures to delay or limit the daily productions of the Contractor's operations.

All debris shall be removed from the shoulder and right-of-way prior to the removal of barricades, drums or vertical panels. [SS pg. 598-599 / 701.18(d)(2)]

## **Standard 701422 - Continued**

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. The longitudinal placement of the flagger may be increased up to 100 ft. (30 m) from that shown on the plans to improve the visibility of the flagger. [SS pg. 587 / 701.13]
3. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. [SS pg. 587 / 701.13(b)]
4. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
5. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent "SPEED LIMIT" signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closures(s) by promptly establishing a reduced posted speed zone when the lane closures(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closures(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

6. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision "Lights on Barricades"]
7. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision "Lights on Barricades"]
8. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision "Lights on Barricades"]

### **General Information:**

1. This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans will be required.

**FOR INFORMATIONAL USE ONLY**



## **Standard 701423**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

### **Various Specifications:**

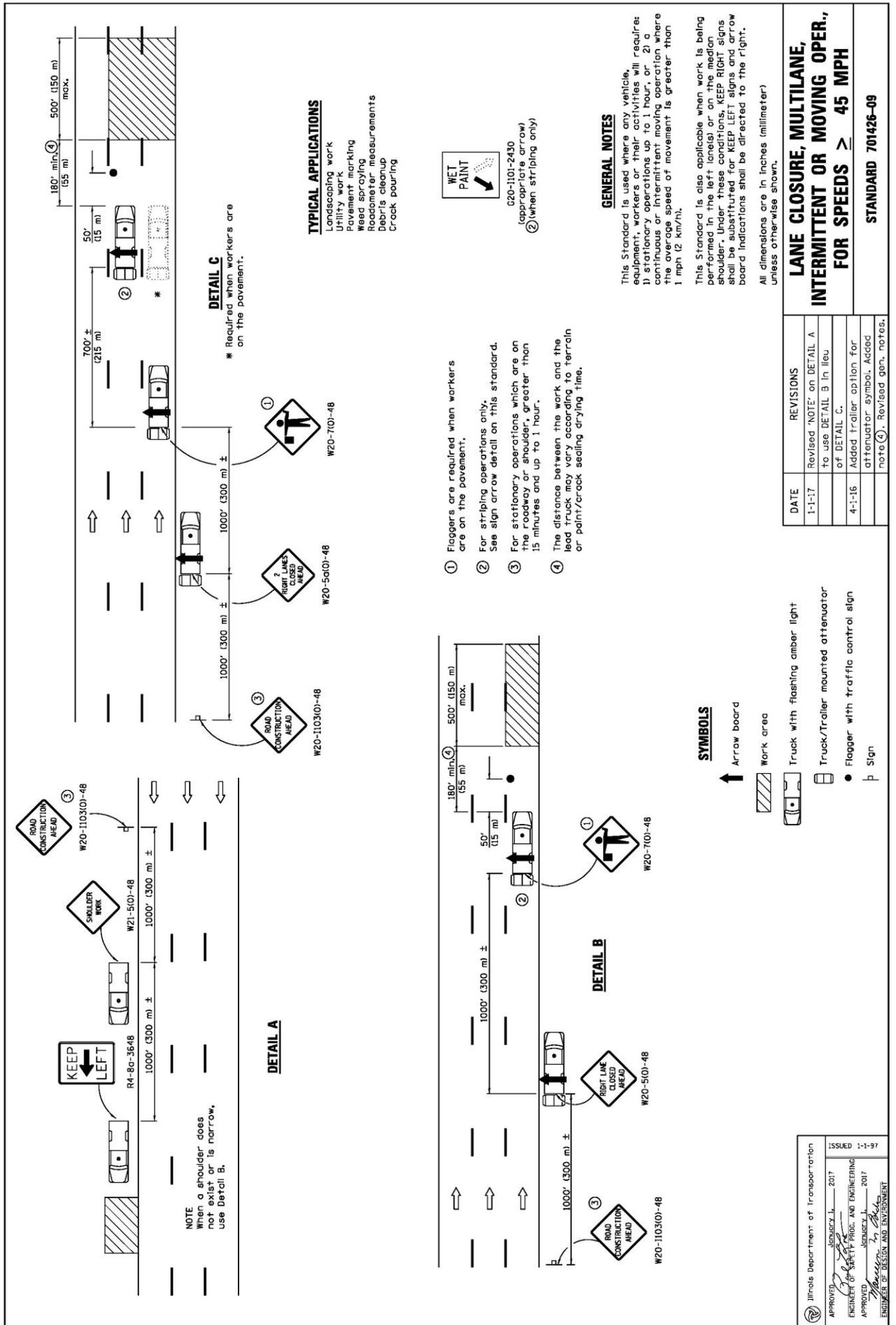
1. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783. [SS pg. 584 / 701.04]
2. Where the clear width through a work zone with temporary concrete barrier will be 16.0 ft. (4.88 m) or less, the Contractor shall notify the Engineer at least 21 days in advance of implementing the traffic control for that restriction. [SS pg. 584 / 701.06]
3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
7. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
8. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
9. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
10. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent “SPEED LIMIT” signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closure(s) by promptly establishing a reduced posted speed zone when the lane closure(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

**FOR INFORMATIONAL USE ONLY**



## **Standard 701426**

The truck mounted/trailer mounted attenuator shown on the shoulder is required.

### **Various Specifications:**

1. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
2. Truck Mounted/Trailer Mounted Attenuators (TMA). TMA host vehicles shall have the parking brake engaged when stationary [SS pg. 590 / 701.15(h)]

**FOR INFORMATIONAL USE ONLY**



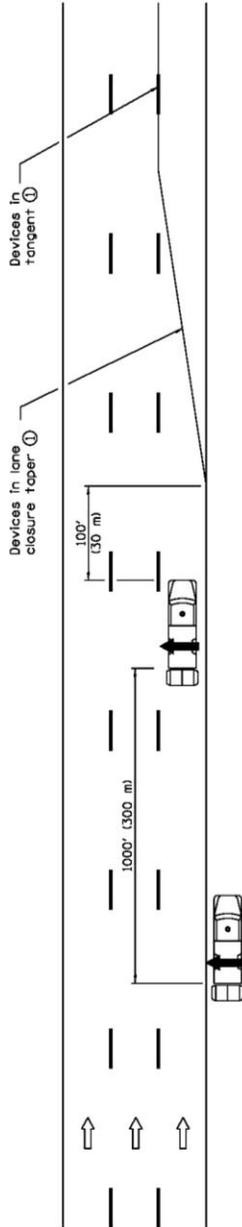
## **Standard 701427**

The truck mounted /trailer mounted attenuator shown on the shoulder is required.

### **Various Specifications:**

1. Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 588 / 701.14]
2. Truck Mounted/Trailer Mounted Attenuators (TMA). TMA host vehicles shall have the parking brake engaged when stationary [SS pg. 590 / 701.15(h)]
3. Truck Mounted/Trailer Mounted Attenuators (TMA). The attenuator shall be either a NCHRP 350 or MASH approved unit for Test Level 3. Test Level 2 may be used as directed by the Engineer for normal posted speed less than or equal to 45 mph. [SS pg. 1130 / 1106.02(g)]

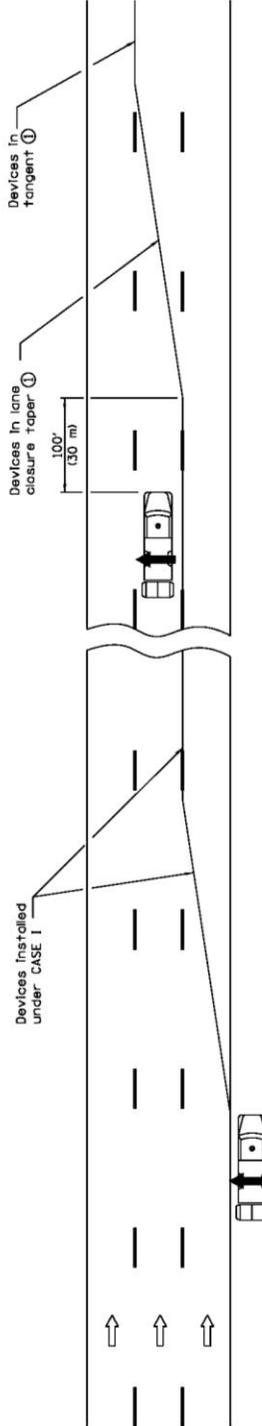
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① See plans or appropriate Standard for delineating devices, spacing and length of taper/tangent.

**CASE I**

CASE I depicts the setup of delineating devices for a single outside lane closure.



**CASE II**

CASE II depicts the setup of delineating devices for a two lane closure. The single lane closure device setup as depicted in CASE I shall be performed prior to the setup for the second lane closure.

**SYMBOLS**

- ↑ Arrow board
- Truck with flashing amber light
- Truck/Trailer mounted attenuator

**GENERAL NOTES**

This Standard is used for setup and removal of lane closures on freeways/expressways having ADT greater than 25,000.

Trucks with arrow boards and truck-mounted-attenuators shall be in place as shown for the duration of the lane closure taper (a) and be spaced 100' (30 m) of channelizing devices in the tangent(s).

This Standard is also applicable when work is being performed in the left lane(s) or on the median shoulder. Under these conditions arrow board indications shall be directed to the right.

All dimensions are in inches (millimeter) unless otherwise shown.

TRAFFIC CONTROL SETUP AND REMOVAL FREEWAY/EXPRESSWAY	
DATE	REVISIONS
4-1-16	Access trailer option for attenuator symbol.
1-1-14	New Standard.

Illinois Department of Transportation APPROVER: ENGINEER OF SAFETY ENGINEERING APPROVED: ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-97
	2016

STANDARD 701428-01

## **Standard 701428**

This standard is to be used when the ADT is greater than 25,000. [Standard – General Notes]

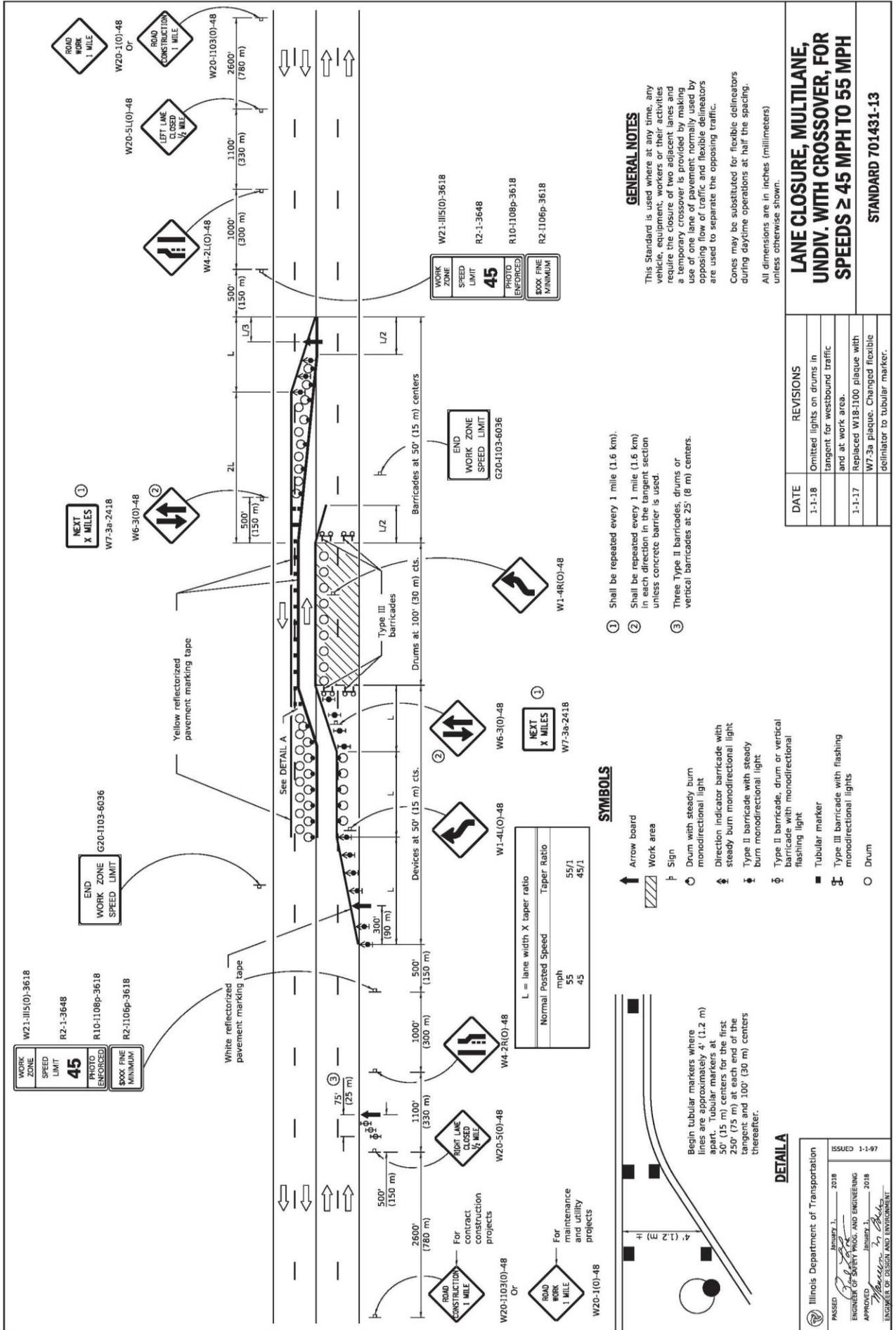
The truck mounted/trailer mounted attenuator shown on the shoulder is required.

When the shoulder width will not allow placement of the shoulder truck and provide 9 ft. (3.0 m) of unobstructed lane width in the lane being closed, the shoulder truck shall not be used. [SS pg. 600 / 701018(j)]

### **Various Specifications:**

1. Truck Mounted/Trailer Mounted Attenuators (TMA). TMA host vehicles shall have the parking brake engaged when stationary [SS pg. 590 / 701.15(h)]

**FOR INFORMATIONAL USE ONLY**



## **Standard 701431**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

Reflective solid edge lines and a double yellow centerline shall be used when the closure time exceeds four days or when the normal posted speed outside the area of operations exceeds 50 mph. Reflectorized pavement marking tape shall be used for marking the centerline and edge lines on the existing pavement. Raised reflective pavement markers at 25 ft. (8 m) centers shall be installed under good weather conditions to supplement the pavement marking tape. [SS pg. 599 / 701.18(f)]

Devices no greater than 24 in. (600 mm) wide, maybe used in place of tubular markers when the two-way operation is to be in place four days or less. [BDE Special Provision Tubular Markers]

### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be place 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

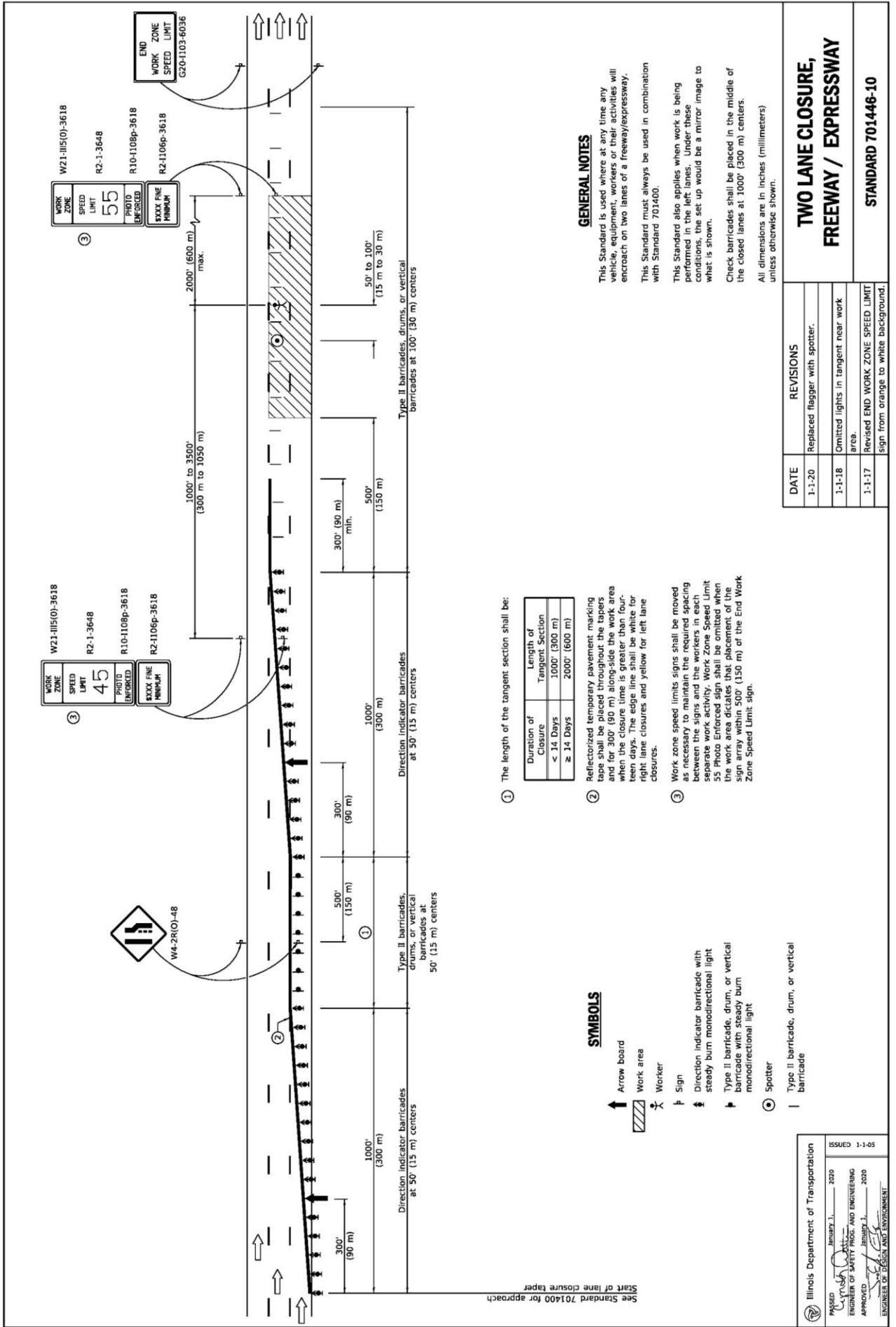
All permanent “SPEED LIMIT” signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closures(s) by promptly establishing a reduced posted speed zone when the lane closures(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closures(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when the worker(s) are located behind a concrete barrier wall. [SS pg. 588-589 / 701.14(b)]

3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]

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## **Standard 701446**

The END WORK ZONE SPEED LIMIT sign shall be black on white. [Standard – Sign Code]

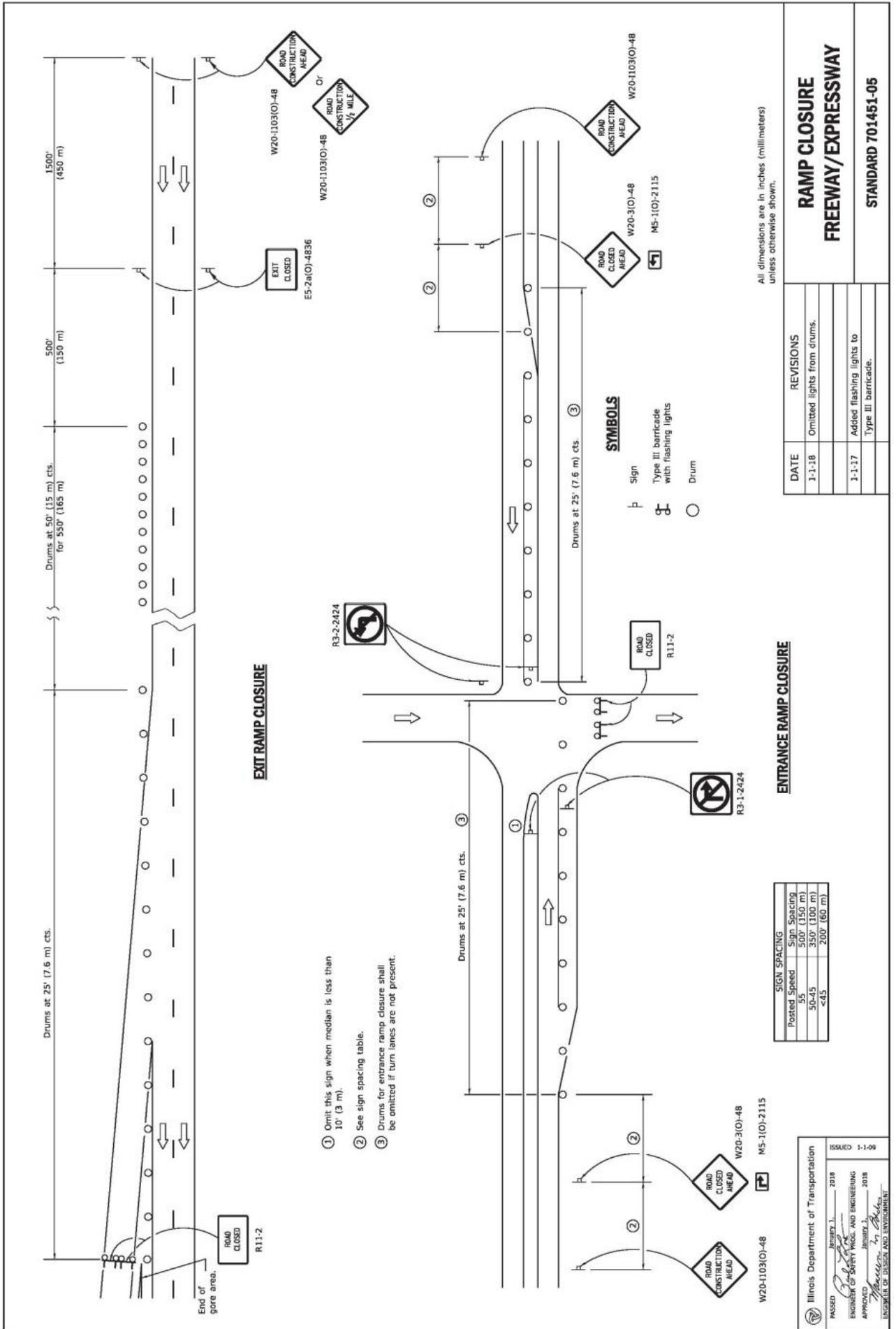
### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
3. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Channelizing devices for nighttime along lane shifts on multilane roads. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

This Standard is to be used when two lanes are to be closed on a freeway/expressway. Specifications applicable to Standards 701401 shall be applicable to this Standard.

**FOR INFORMATIONAL USE ONLY**



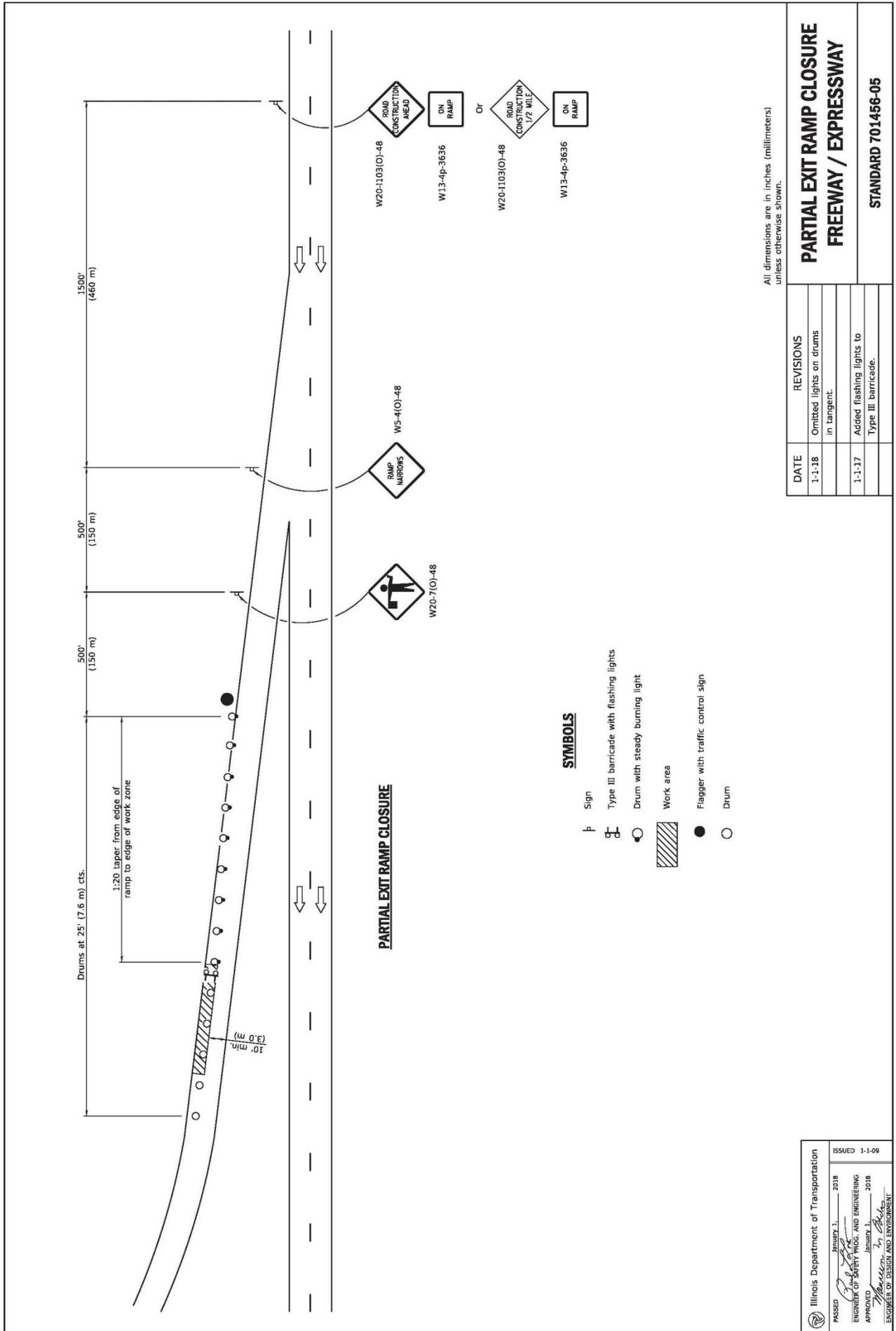
## **Standard 701451**

Only one interchange at a time may have ramps closed and only one exit ramp and one entrance ramp may be closed at a time. [SS pg. 600 / 701.18(i)]

### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision "Lights on Barricades"]

**FOR INFORMATIONAL USE ONLY**



**PARTIAL EXIT RAMP CLOSURE**

**SYMBOLS**

- ⊥ Sign
- ⊥ Type III barricade with flashing lights
- Drum with steady burning light
- ▨ Work area
- Flagger with traffic control sign
- Drum

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-18	Omitted lights on drums in tangent.
1-1-17	Added flashing lights to Type III barricade.

**PARTIAL EXIT RAMP CLOSURE  
FREEWAY / EXPRESSWAY**

STANDARD 701456-05

Illinois Department of Transportation

ISSUED 1-1-09

APPROVED January 1, 2018  
 ENGINEER OF SAFETY PROGS. AND ENGINEERING  
 APPROVED January 1, 2018  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701456**

On ramps, drop-offs at the edge of pavement greater than 1 1/2 in. (38 mm) caused by the Contractor's operations will be allowed only on one side of the ramp at a time. [SS pg. 585 / 701.07]

### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. No broken pavement, open holes, or partially filled patches shall remain overnight and all devices shall be removed before dark. [SS pg. 594 / 701.17 (e)(2)b]
3. Cleaning Up. Prior to opening the pavement to traffic, the entire right-of-way adjacent to the patching operations shall be cleared of all materials caused by the Contractor's operations, and the backfill along the shoulder edge of the pavement shall be compacted. [SS pg. 594 / 701.17(e)(3)a]

**FOR INFORMATIONAL USE ONLY**



## **Standard 701501**

On two-lane/two-way roadways, construction operations shall be confined to one traffic lane leaving the opposite lane open to traffic. [SS pg. 600 / 701.18 (h)(2)]

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades. [SS pg. 599 / 701.18 (h)(1)]

### **Various Specifications:**

1. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies.

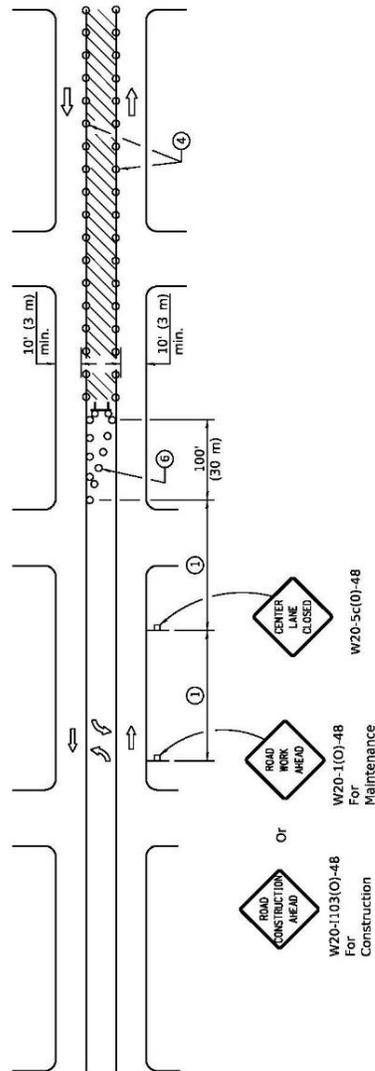
The engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. [SS pg. 587 / 701.13(a)]

2. Flaggers will not be required when no work is being performed, unless there is a lane closure on a two-lane, two-way pavement. [SS pg. 587 / 701.13]
3. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operations. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

1. In lieu of utilizing flaggers during nonworking hours with one lane closed, one direction of traffic may be detoured over an approved route.

**FOR INFORMATIONAL USE ONLY**



Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**CASE I**

(Signs required for both directions)

- 1 Refer to SIGN SPACING TABLE for distances.
- 2 Required for speeds > 40 mph (70 km/h).
- 3 Required if work exceeds 500' (164 m) or 1 block.
- 4 Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- 5 For approved sideroad closures.
- 6 Cones, drums or barricades at 20' (6 m) centers in taper.
- 7 Use flagger sign only when flagger is present.

**SYMBOLS**

- Work area
- Barricade or drum with flashing light
- Flagger with traffic control sign
- Cone, drum or barricade
- Sign on portable or permanent support
- Type III barricade with flashing lights

**GENERAL NOTES**

This Standard is used to close one lane of an urban two lane, two way roadway with a bidirectional turn lane.  
 Case I applies when no workers are present. When workers are present, two lanes shall be closed and traffic control shall be according to Standard 701501.

Calculate L as follows:

SPEED LIMIT

English (Metric)

$$L = \frac{WS^2}{60}$$

$$L = \frac{WS^2}{150}$$

$$L = (W)(S) \quad L = 0.65(W)(S)$$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

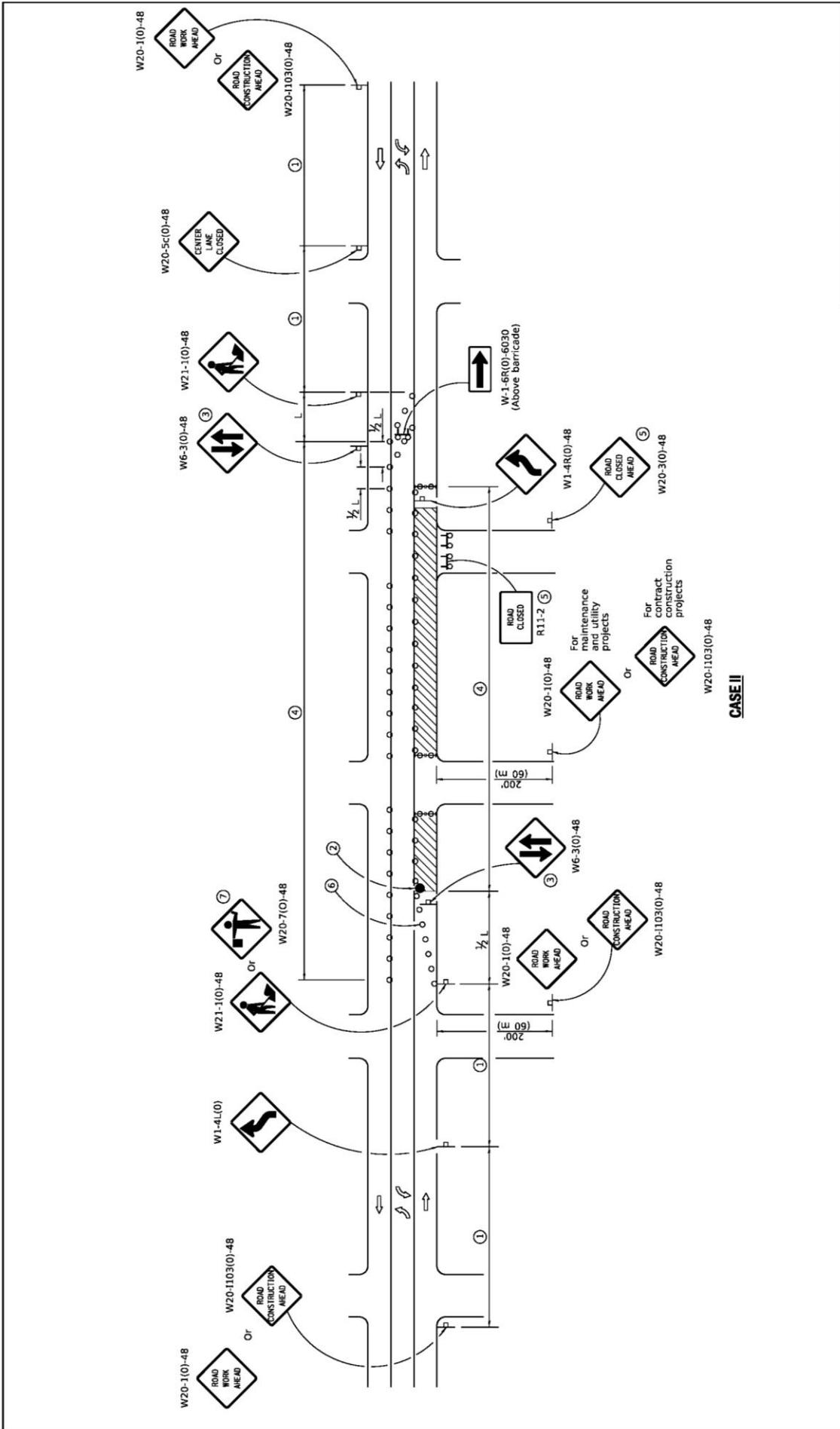
DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Corrected sign number for TWO WAY TRAFFIC sign for CASE II.

**URBAN LANE CLOSURE,  
2L, 2W, WITH BIDIRECTIONAL  
LEFT TURN LANE**

(Sheet 1 of 2)

**STANDARD 701502-09**

Illinois Department of Transportation  
 APPROVED: *[Signature]* JANUARY 1, 2019  
 ENGINEER OF SAFETY PROC. AND ENGINEERING  
 APPROVED: *[Signature]* JANUARY 1, 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT  
 ISSUED 1-1-01



**CASE II**

**URBAN LANE CLOSURE,  
2L, 2W, WITH BIDIRECTIONAL  
LEFT TURN LANE**

(Sheet 2 of 2)

**STANDARD 701502-09**

Illinois Department of Transportation APPROVED: <i>[Signature]</i> ENGINEER OF SAFETY PROG. AND ENGINEERING APPROVED: <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2019 ISSUED 1-1-01
	APPROVED: <i>[Signature]</i> ENGINEER OF SAFETY PROG. AND ENGINEERING
	APPROVED: <i>[Signature]</i> ENGINEER OF SAFETY PROG. AND ENGINEERING
	APPROVED: <i>[Signature]</i> ENGINEER OF SAFETY PROG. AND ENGINEERING

## **Standard 701502**

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

### **Various Specifications:**

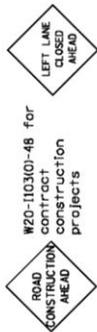
1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies. [SS pg. 587 / 701.13(a)]
3. Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement. [SS pg. 587 / 701.13]
4. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
5. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
6. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
7. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]
8. Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

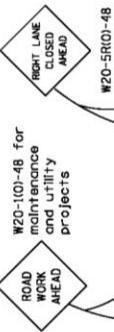
When necessary, additional flaggers should be positioned so as to regulate side street traffic.

Case I only applies when no workers are present. When workers are present, Standard 701501 shall be used. [Standard – General Notes]

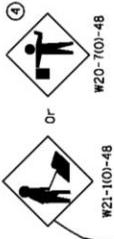
**FOR INFORMATIONAL USE ONLY**



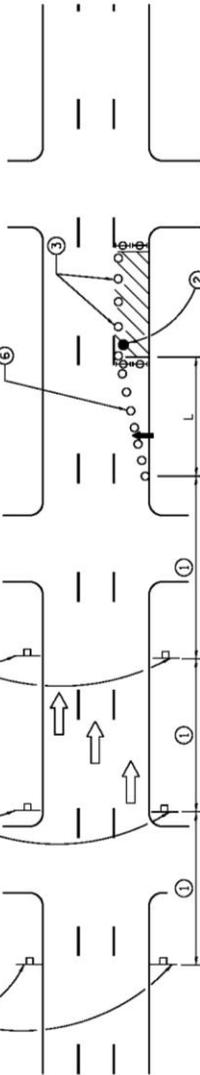
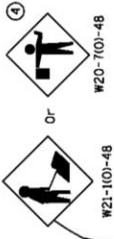
Or



Or



Or



Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

### SYMBOLS

- ↑ Arrow board
- Cone, drum or barricade
- ⊥ Sign on portable or permanent support
- ▨ Work area
- ⊕ Barricade or drum with flashing light
- ⊕ Type III barricade with flashing lights
- Flogger with traffic control sign.

① Refer to SIGN SPACING TABLE for distances.

② Required for speeds > 40 MPH

③ Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.

④ Use flogger sign only when flogger is present.

⑤ For approved alderoad closures.

⑥ Cones, drums or barricades at 20' (6 m) in taper.

### GENERAL NOTES

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in urban areas.

Calculate L as follows:

SPEED LIMIT	FORMULAS
40 mph (70 km/h) or less:	English $L = \frac{WS^2}{50}$ (Metric) $L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater:	$L = 0.65(WKS)$

W = Width of offset in feet (meters).

S = Normal posted speed mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

## URBAN LANE CLOSURE, MULTILANE, 1W OR 2W WITH NONTRAVERSABLE MEDIAN

(Sheet 1 of 2)

STANDARD 701601-09

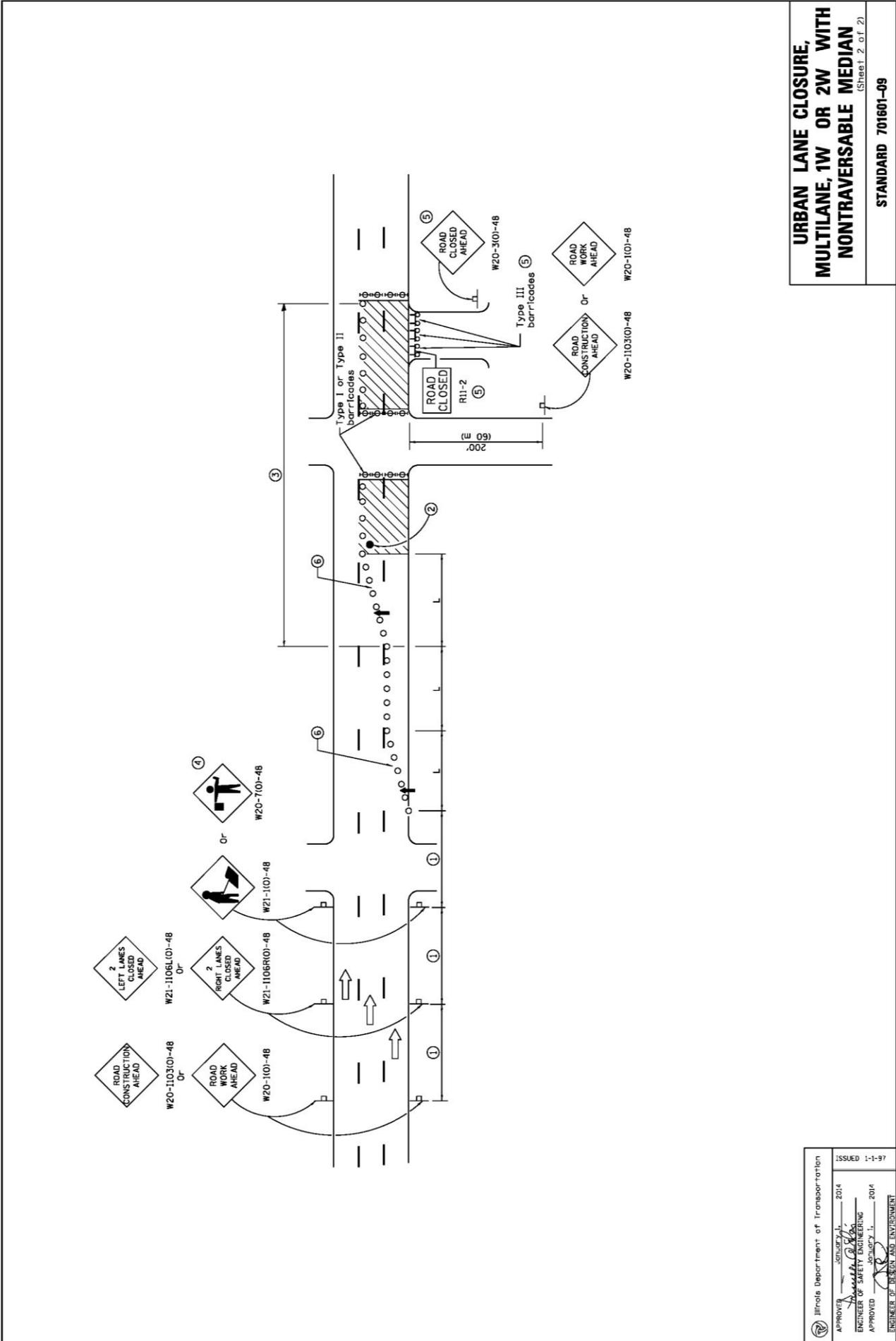
DATE	REVISIONS
1-1-14	Revised workers sign number to agree with current MUTCD.
1-1-13	Omitted text 'WORKERS' sign.

Illinois Department of Transportation

APPROVED: *[Signature]* January 1, 2014  
 ENGINEER OF SAFETY ENGINEERING

APPROVED: *[Signature]* January 1, 2014  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**URBAN LANE CLOSURE,  
MULTILANE, 1W OR 2W WITH  
NONTRAVERSABLE MEDIAN**  
(Sheet 2 of 2)

STANDARD 701601-09

Illinois Department of Transportation APPROVED: <i>[Signature]</i> 2014 ENGINEER OF SAFETY ENGINEERING APPROVED: <i>[Signature]</i> 2014 ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-97

## **Standard 701601**

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

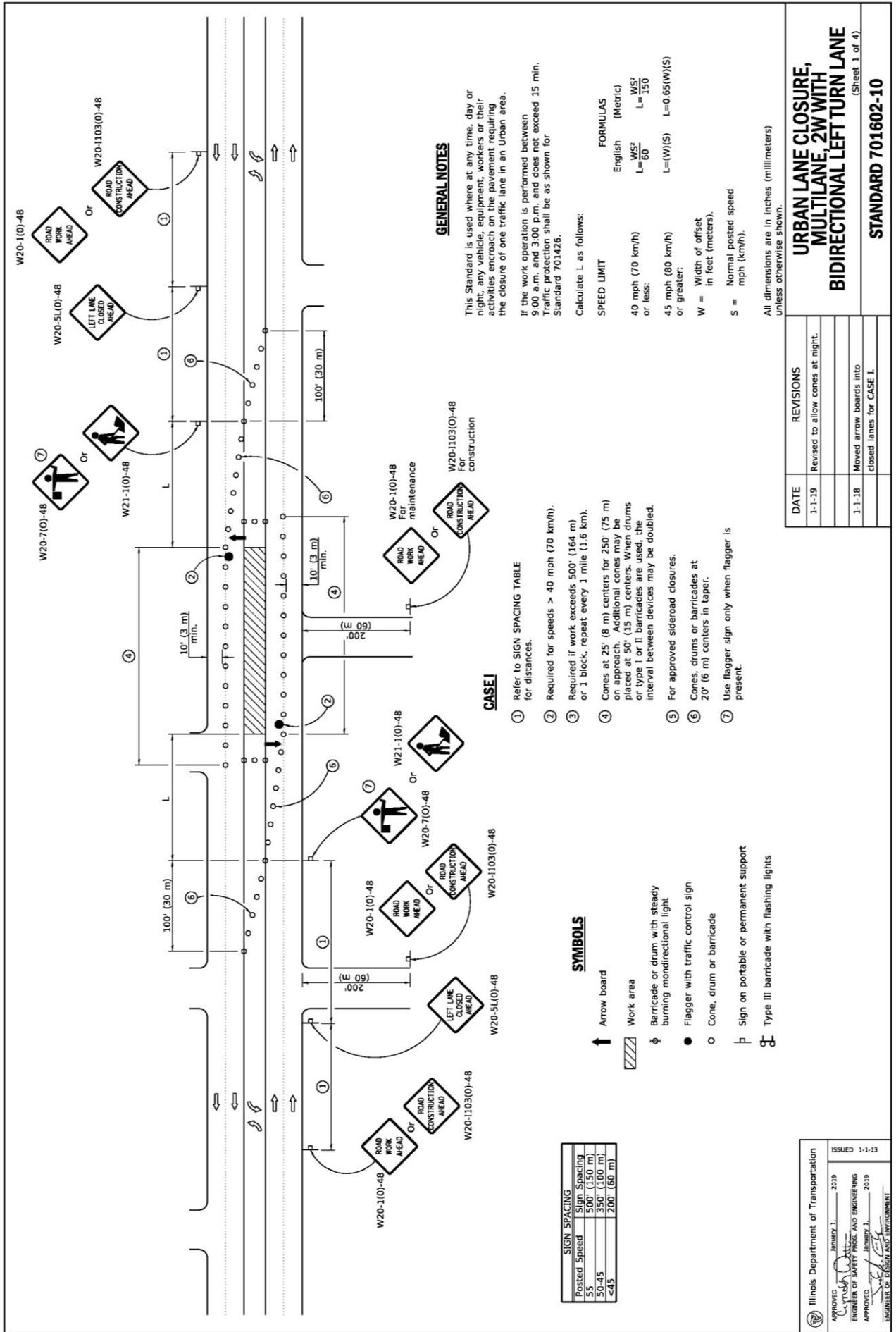
### **Various Specifications:**

1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
2. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
3. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.

**FOR INFORMATIONAL USE ONLY**



SIGN SPACING	
Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**SYMBOLS**

- ↑ Arrow board
- ▨ Work area
- ⊕ Barricade or drum with steady burning mondirectional light
- Flagger with traffic control sign
- Cone, drum or barricade
- ⊥ Sign on portable or permanent support
- ⊞ Type III barricade with flashing lights

**CASE I**

- 1 Refer to SIGN SPACING TABLE for distances.
- 2 Required for speeds > 40 mph (70 km/h).
- 3 Required if work exceeds 500' (164 m) or 1 block, repeat every 1 mile (1.6 km).
- 4 Cones at 25' (8 m) centers for 250' (75 m) on approach. Additional cones may be placed at 50' (15 m) centers. When drums or type I or II barricades are used, the interval between devices may be doubled.
- 5 For approved sideroad closures.
- 6 Cones, drums or barricades at 20' (6 m) centers in taper.
- 7 Use flagger sign only when flagger is present.

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an Urban area.

If the work operation is performed between 9:00 a.m. and 3:00 p.m. and does not exceed 15 min. Traffic project shall be as shown for Standard 701426.

Calculate L as follows:

SPEED LIMIT

FORMULAS

English (Metric)

$L = \frac{WS^2}{60}$        $L = \frac{WS^2}{150}$

45 mph (80 km/h)       $L = (W)(S)$        $L = 0.65(W)(S)$

or greater:

W = Width of offset  
in feet (meters).

S = Normal posted speed  
mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
1-1-19	Revised to allow cones at night.
1-1-18	Moved arrow boards into closed lanes for CASE I.

**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**  
(Sheet 1 of 4)

**STANDARD 701602-10**

Illinois Department of Transportation

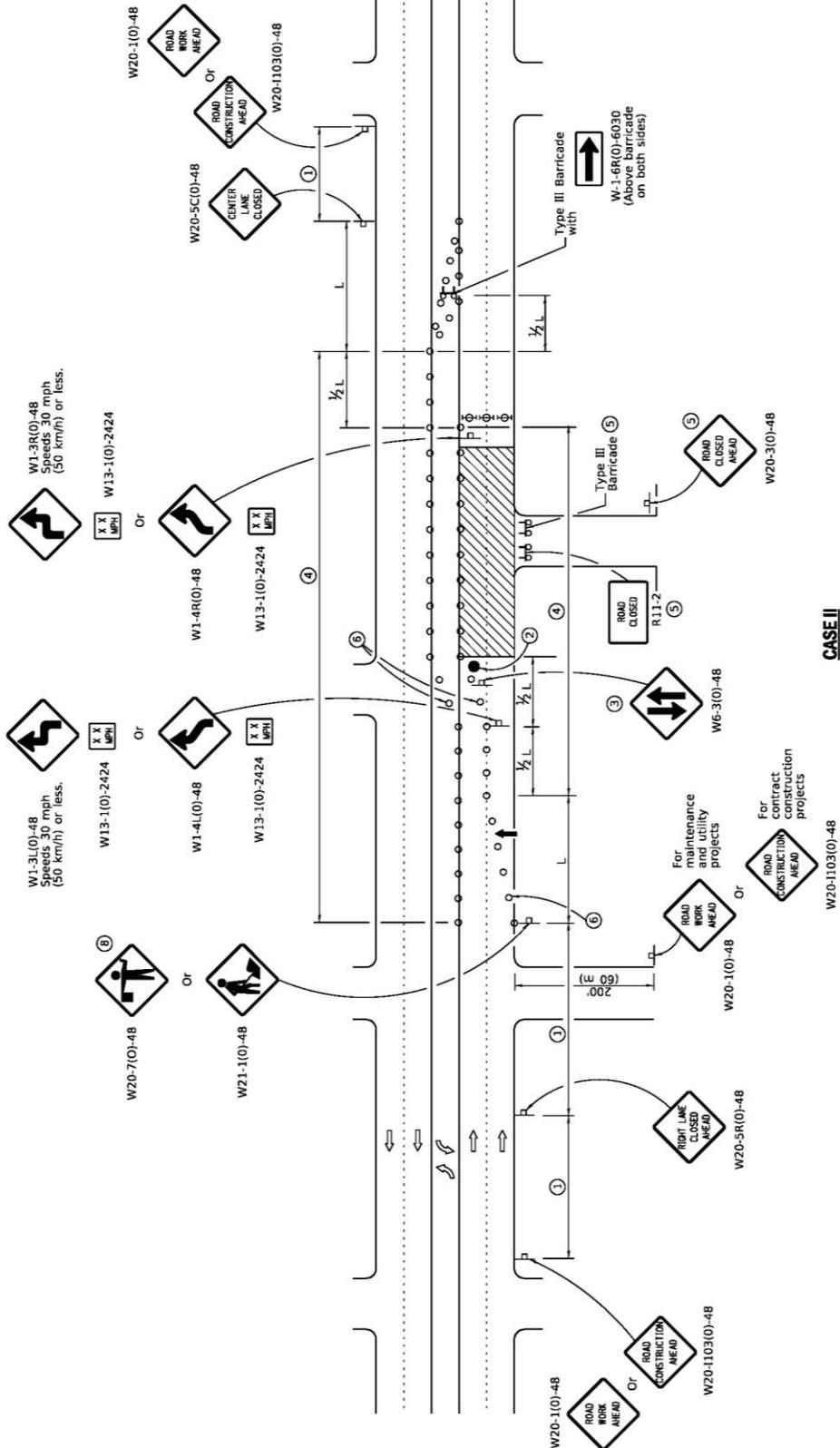
ISSUED 1-1-13

APPROVED JANUARY 1, 2019

ENGINEER OF SAFETY PROC. AND ENGINEERING

APPROVED JANUARY 1, 2019

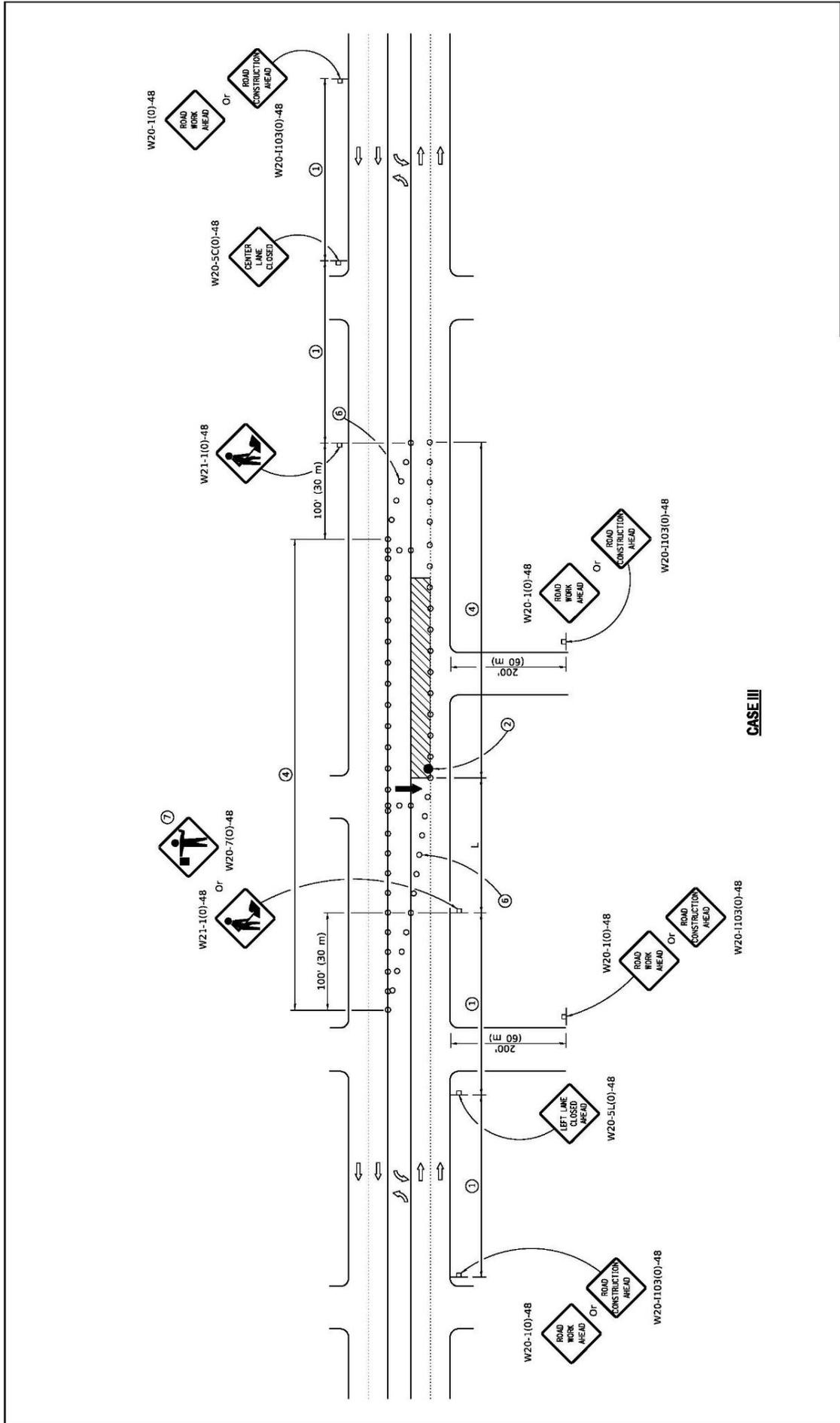
ENGINEER OF DESIGN AND ENVIRONMENT



**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**  
(Sheet 2 of 4)

**STANDARD 701602-10**

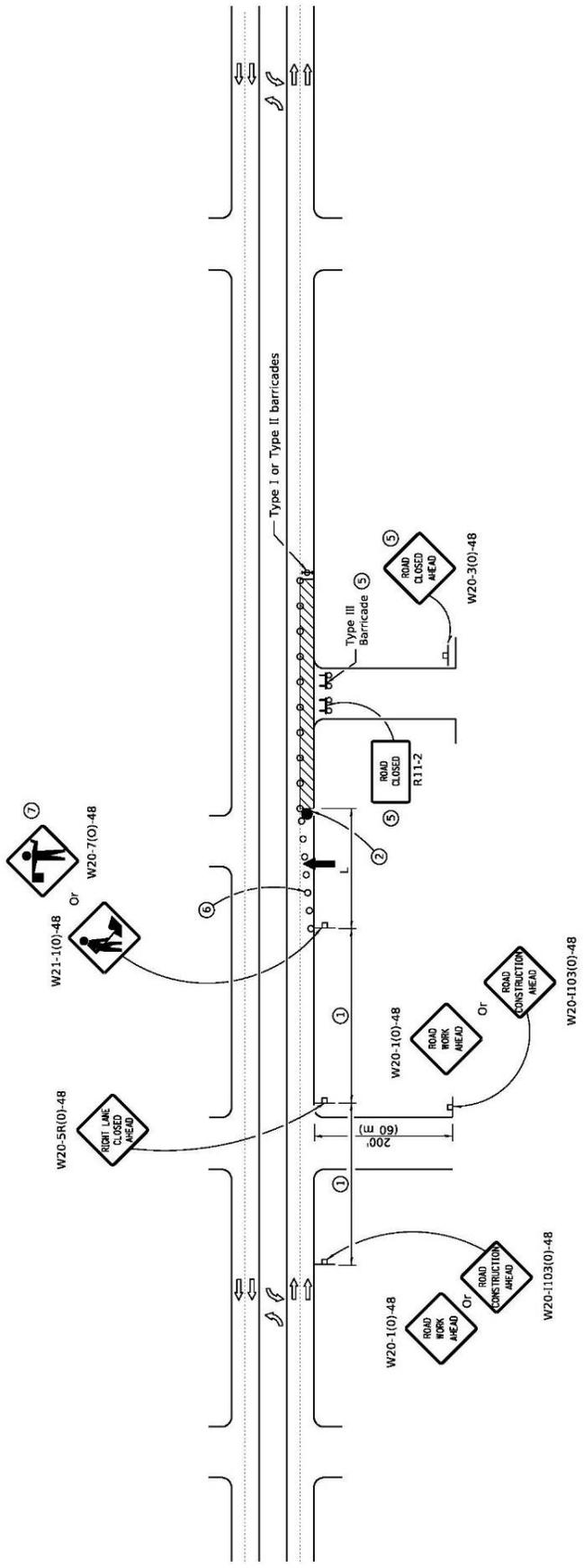
Illinois Department of Transportation APPROVED: <i>[Signature]</i> ENGINEER OF SAFETY PROG. AND ENGINEERING	JANUARY 1, 2019
	ISSUED 1-1-13
APPROVED: <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2019



**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**  
(Sheet 3 of 4)

**STANDARD 701602-10**

Illinois Department of Transportation APPROVED JIMMY J. [Signature] ENGINEER OF SAFETY PROG. AND ENGINEERING APPROVED JIMMY J. [Signature] ENGINEER OF DESIGN AND ENVIRONMENT	ISSUED 1-1-13
	2019 2019



**CASE IV**

**URBAN LANE CLOSURE,  
MULTILANE, 2W WITH  
BIDIRECTIONAL LEFT TURN LANE**  
(Sheet 4 of 4)  
**STANDARD 701602-10**

Illinois Department of Transportation APPROVED: _____ ENGINEER OF SAFETY PROC. AND ENGINEERING APPROVED: _____ ENGINEER OF DESIGN AND ENVIRONMENT	JANUARY 1, 2019 ISSUED 1-1-13
	APPROVED: _____ ENGINEER OF SAFETY PROC. AND ENGINEERING APPROVED: _____ ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701602**

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

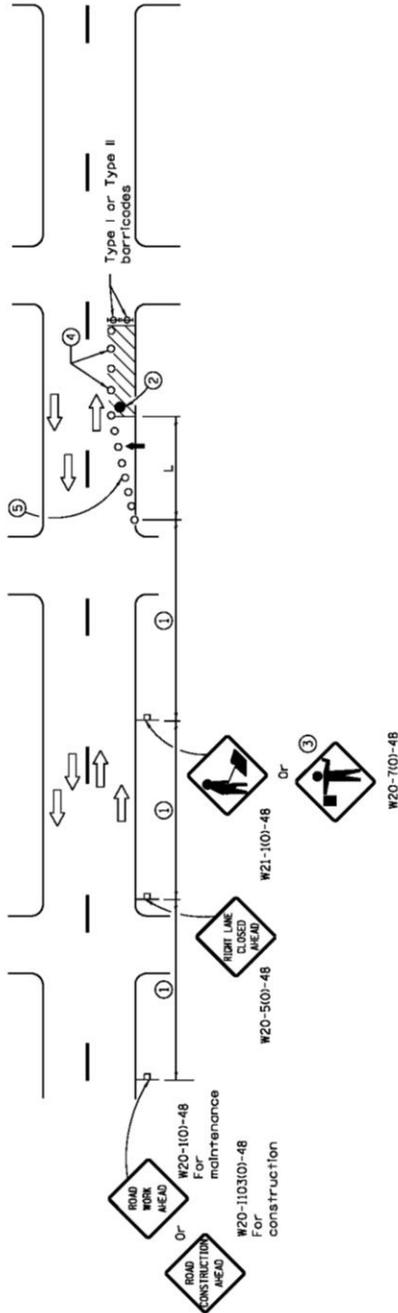
### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. [SS pg. 584 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic. Lights Required: None [BDE Special Provision “Lights on Barricades”]

### **General Information:**

When necessary, additional flaggers should be positioned so as to regulate side street traffic.

**FOR INFORMATIONAL USE ONLY**



**GENERAL NOTES**  
 This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement requiring the closure of one traffic lane in an urban area.

Calculate L as follows:

SPEED LIMIT	English	FORMULAS (Metric)
40 mph (70 km/h) or less	$L = \frac{WS^2}{60}$	$L = \frac{WS^2}{150}$
45 mph (80 km/h) or greater	$L = \frac{WS^2}{60}$	$L = 0.65(W/S)$

W = Width of offset in feet (meters),  
 S = Normal posted speed in mph (km/h).

All dimensions are in inches (millimeters) unless otherwise shown.

- 1 Refer to SIGN SPACING TABLE for distances.
- 2 Required for speeds > 40 mph.
- 3 Use flagger sign only when flagger is present.
- 4 Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- 5 Cones, drums or barricades at 20' (6 m) centers in taper.

**SYMBOLS**

- ↑ Arrow board
- Cone, drum or barricade
- ⊥ Sign on portable or permanent support
- ▨ Work area
- ⊕ Barricade or drum with flashing light
- Flagger with traffic control sign.

Posted Speed	Sign Spacing
55	500' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

DATE	REVISIONS
1-1-15	Renamed standard. Moved case on Sheet 2 to new Highway Standard.
1-1-14	Revised worker's sign number to agree with current MUTCD.

**URBAN SINGLE LANE CLOSURE, MULTILANE, 2W WITH MOUNTABLE MEDIUM**

**STANDARD 701606-10**

Illinois Department of Transportation

APPROVER: [Signature] 2015  
 ENGINEER OF SAFETY ENGINEERING

ISSUED 1-1-97

APPROVED: [Signature] 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701606**

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

This standard does not apply when work is being performed in the middle lane(s) the highway. Special plans approved by the Engineer will be required.

**FOR INFORMATIONAL USE ONLY**



## **Standard 701611**

Reflective pavement markings shall be used when the closure time exceeds four days. The double yellow centerline shall be used in the two-way traffic area in addition to barricades or drums. Single yellow left edge line shall be used to outline the barricade island. White right edge line shall be used along the barricades delineating the work area. [SS pg. 600 / 701.18(h)(3)]

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

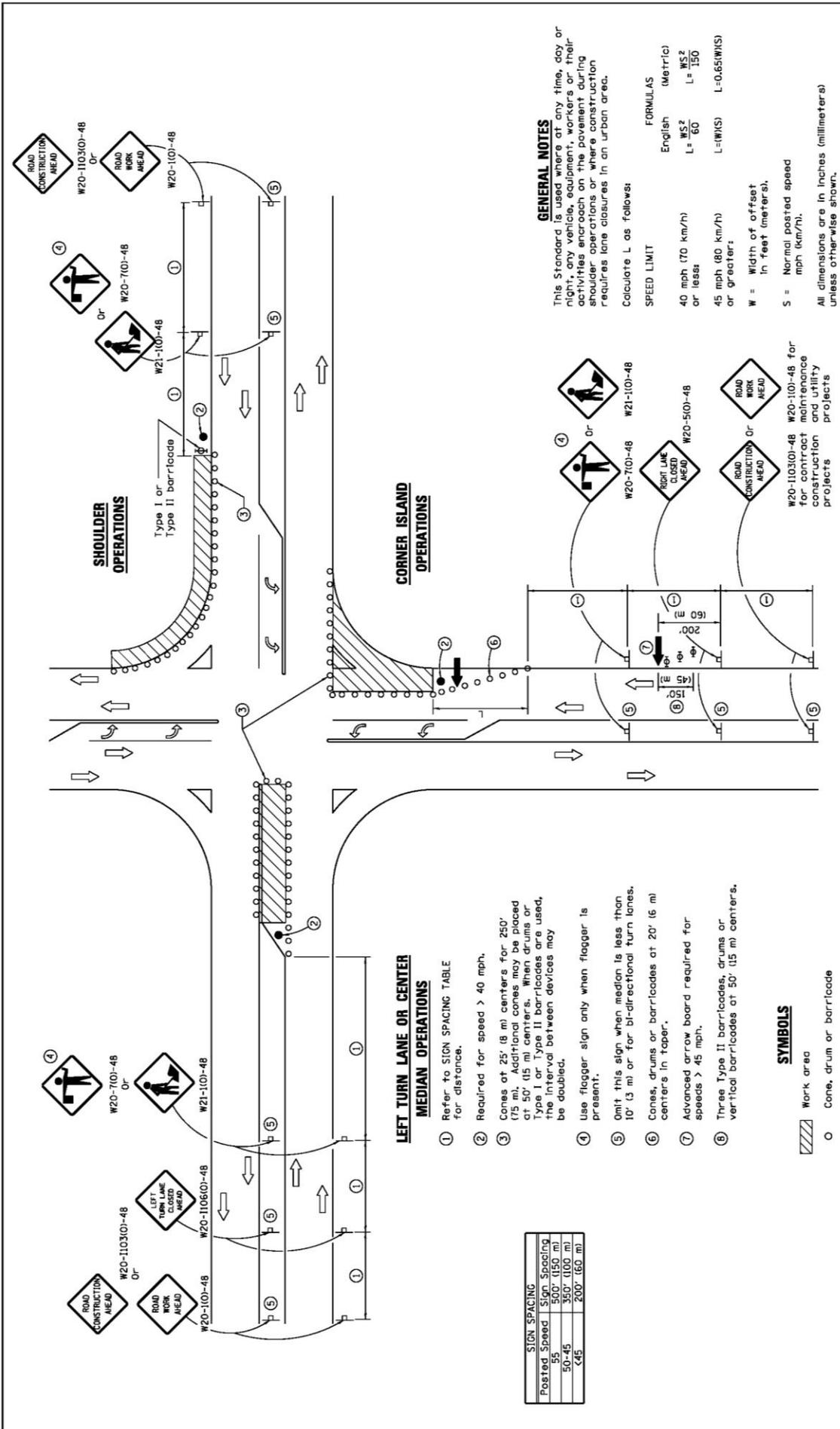
### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]
6. Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

### **General Information:**

This standard does not apply when work is being performed in the middle lane(s) of a six or more lane highway. Special plans approved by the Engineer will be required.

**FOR INFORMATIONAL USE ONLY**



Posted Speed	Sign Spacing
95	900' (150 m)
50-45	350' (100 m)
<45	200' (60 m)

**LEFT TURN LANE OR CENTER MEDIAN OPERATIONS**

- 1 Refer to SIGN SPACING TABLE for distance.
- 2 Required for speed > 40 mph.
- 3 Cones at 25' (8 m) centers for 250' (75 m). Additional cones may be placed at 50' (15 m) centers. When drums or Type I or Type II barricades are used, the interval between devices may be doubled.
- 4 Use flagger sign only when flagger is present.
- 5 Omit this sign when median is less than 10' (3 m) or for bi-directional turn lanes.
- 6 Cones, drums or barricades at 20' (6 m) centers in taper.
- 7 Advanced arrow board required for speeds > 45 mph.
- 8 Three Type II barricades, drums or vertical barricades at 50' (15 m) centers.

**SYMBOLS**

- Work area
- Cone, drum or barricade
- Sign on portable or permanent support
- Arrow board
- Barricade or drum with flashing light
- Flagger with traffic control sign

**GENERAL NOTES**

This Standard is used where at any time, day or night, any vehicle, equipment, workers or their activities encroach on the pavement during shoulder operations or where construction requires lane closures in an urban area.

Calculate L as follows:

**SPEED LIMIT**

English (Metric)

40 mph (70 km/h)  $L = \frac{WS^2}{60}$   $L = \frac{WS^2}{150}$

45 mph (80 km/h)  $L = (W)(S)$   $L = 0.65(W)(S)$

or greater:

W = Width of offset in feet (meters).

S = Normal posted speed in mph (km/h).

**FORMULAS**

DATE	REVISIONS
4-1-16	Corrected sign number for LEFT TURN LANE CLOSED AHEAD.
1-1-14	Added devices at arrow board upstream from taper.
	Rev. workers sign number.

**URBAN LANE CLOSURE, MULTILANE INTERSECTION**

**STANDARD 701701-10**

Illinois Department of Transportation

APPROVED: APR 11, 2016

ENGINEER OF SAFETY ENGINEERING

APPROVED: APR 11, 2016

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701701**

“NO PARKING” (R8-3) signs shall be installed throughout the work area.

When the work area is in the parking lane “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be installed 200 ft. (60 m) in advance of the work area and the area shall be delineated with cones and barricades.

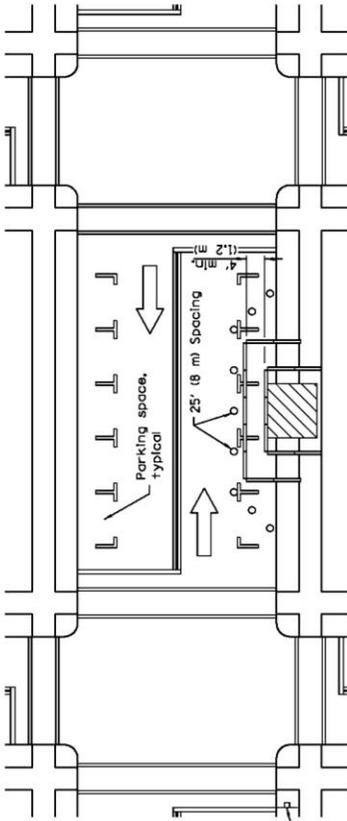
Reflectorized temporary pavement marking tape shall be placed throughout the taper and alongside the adjacent work area where the closure time exceeds 14 days. The edge line shall be yellow for left lane closures. [SS pg. 599-600 / 701.18(h)(1)]

### **Various Specifications:**

1. The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of the motorists. [SS pg. 584 / 701.04]
2. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. ... Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer. [SS pg. 587-588 / 701.14]
3. First two warning signs on each approach to the work involving a nighttime lane closure. Lights Required: Flashing mono-directional lights. [BDE Special Provision “Lights on Barricades”]
4. Devices in nighttime lane closure tapers. Lights Required: Steady burn mono-directional lights. [BDE Special Provision “Lights on Barricades”]
5. Channelizing devices for nighttime lane closures on multi-lane roads. Lights Required: None. [BDE Special Provision “Lights on Barricades”]

**FOR INFORMATIONAL USE ONLY**

① Omit whenever duplicated by road work traffic control.

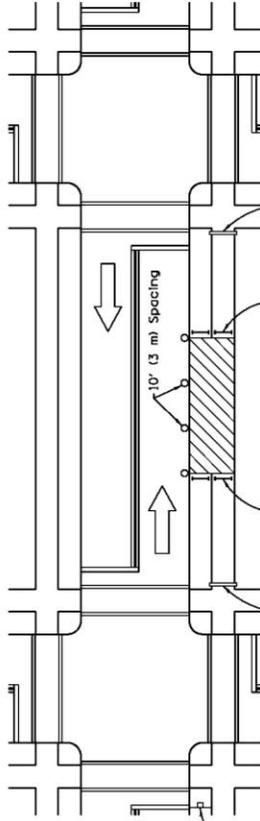


① W20-1103(O)-48 for contract construction projects

or

① W20-1(0)-48 for maintenance and utility projects

**SIDEWALK DIVERSION**



① W20-1103(O)-48 for contract construction projects

or

① W20-1(0)-48 for maintenance and utility projects

**SIDEWALK CLOSURE**

**SYMBOLS**

- Work area
- Sign on portable or permanent support
- Barricade or drum
- Cone, drum or barricade
- Type III barricade
- Detectable pedestrian channelizing barricade

**GENERAL NOTES**

This Standard is used where, at any time, pedestrian traffic must be rerouted due to work being performed.

This Standard must be used in conjunction with other Traffic Control & Protection Standards when roadway traffic is effected.

Temporary facilities shall be detectable and accessible.

The temporary pedestrian facilities shall be provided on the same side of the closed facilities whenever possible.

The SIDEWALK CLOSED / USE OTHER SIDE sign shall be placed at the nearest crosswalk or intersection to each end of the closure. Where the closure occurs at a corner, the signs shall be erected on the corners across the street from the closure. The SIDEWALK CLOSED signs shall be used at the ends of the actual closures.

Type III barricades and R11-2-4830 signs shall be positioned as shown in ROAD CLOSED TO ALL TRAFFIC detail on Standard 701501.

All dimensions are in inches (millimeters) unless otherwise shown.

DATE	REVISIONS
4-1-16	Omitted orange safety fence from standard as this is covered in the std. spec.
1-1-12	Added SIDEWALK DIVERSION. Modified appearance of plan views. Renamed Std.

**SIDEWALK, CORNER OR CROSSWALK CLOSURE**

(Sheet 1 of 2)

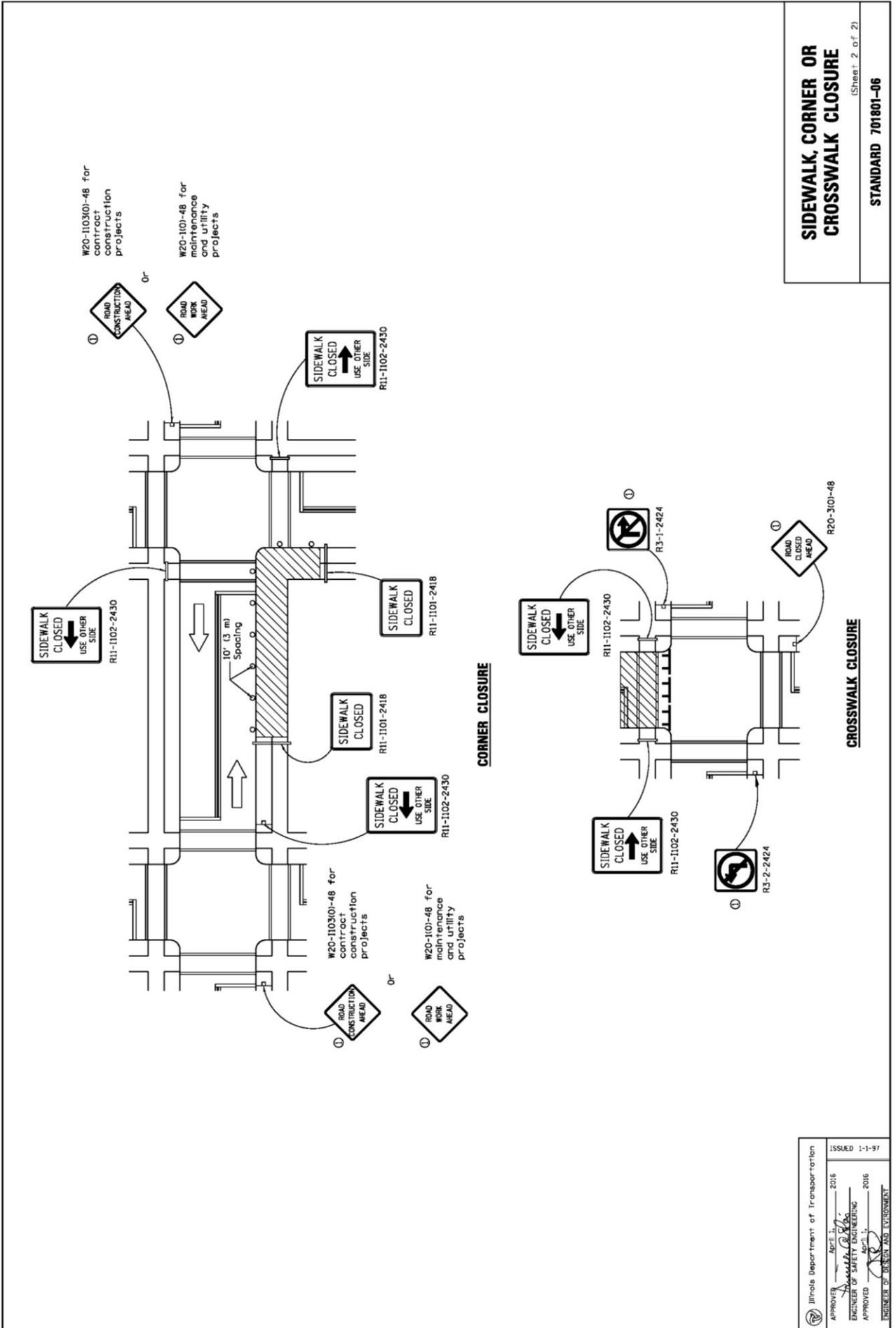
**STANDARD 701801-06**

Illinois Department of Transportation

APPROVED: [Signature] APR 1, 2016  
 ENGINEER OF SAFETY ENGINEERING

APPROVED: [Signature] APR 1, 2016  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**SIDEWALK, CORNER OR CROSSWALK CLOSURE**  
(Sheet 2 of 2)

**STANDARD 701801-06**

Illinois Department of Transportation

APPROVER: \_\_\_\_\_ DATE: \_\_\_\_\_ 2018

ENGINEER OF SAFETY ENGINEERING

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_ 2016

ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

## **Standard 701801**

“NO PARKING” (R8-3) signs shall be installed throughout the work area. [SS pg. 599 / 701.18(h)(1)]

Where a temporary walkway encroaches on an existing parking lane, the lane shall be closed with cones, barricades, or drums.

Where a temporary walkway encroaches on a travel lane, the lane shall be closed according to Standards 701501, 701601, or 701606.

All walkways shall be clearly identified, protected from motor vehicle traffic and free of any obstructions and hazards, such as holes, debris, construction equipment, and stored materials.

All hazards near or adjacent to walkways shall be clearly delineated.

When barricades are impractical to use or do not provide enough protection, orange safety fence shall be used to close off an area, with the approval of the Engineer. [SS pg. 600 / 701.18(h)(4)]

**Detectable Pedestrian Channelizing Barricade.** Detectable pedestrian channelizing barricades are cane detectable and visible to persons having low vision. These barricades are used to channelize pedestrian traffic. [SS pg. 590 / 701.15(l)]

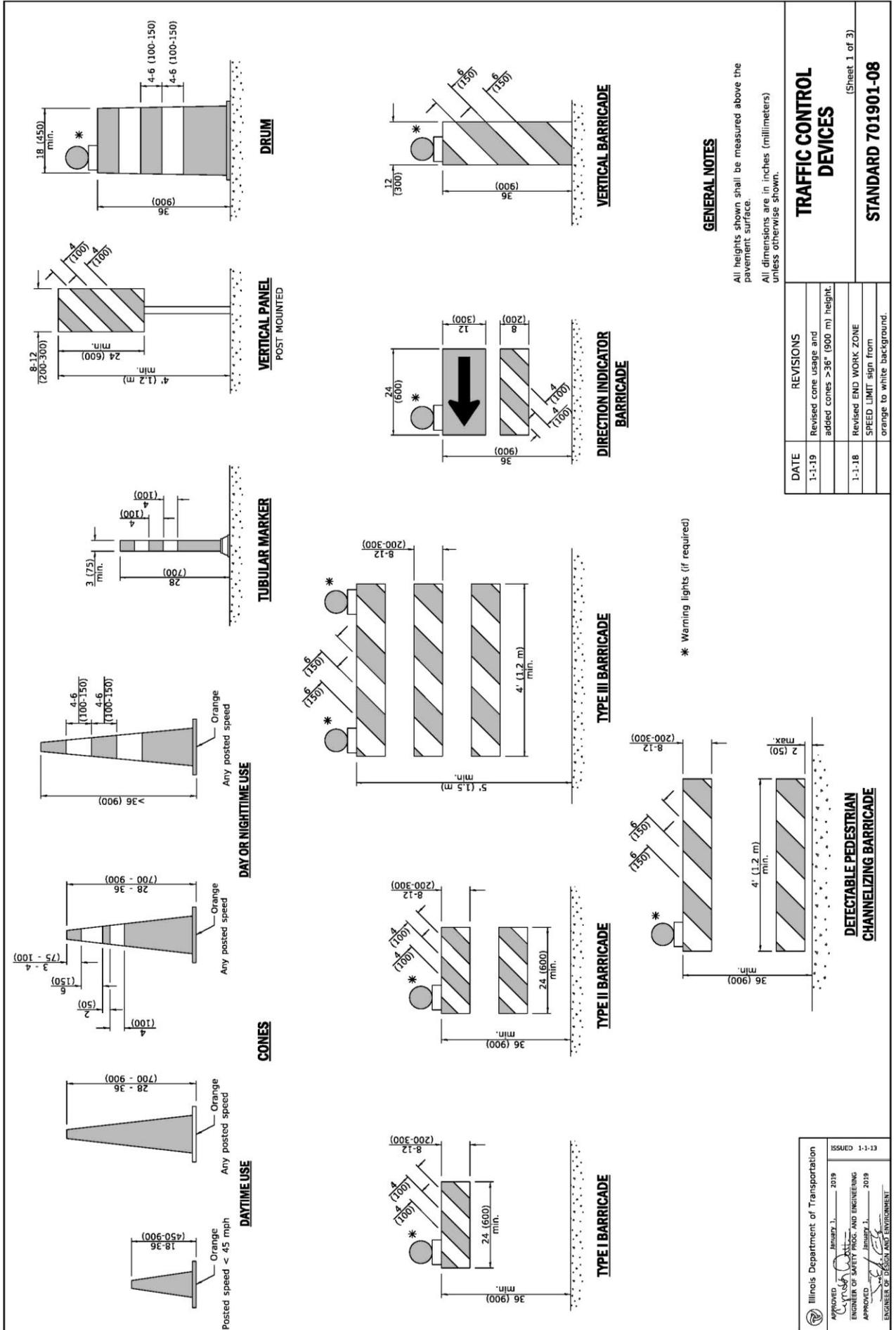
### **Various Specifications:**

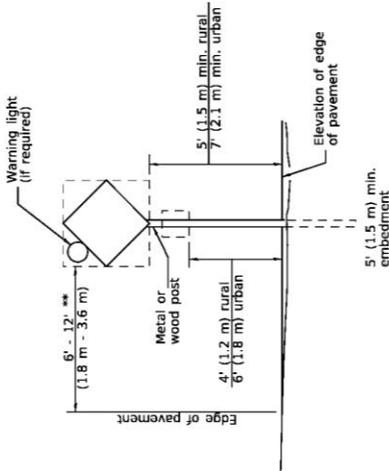
1. When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. [SS pg. 587 / 701.14]
2. Channelizing devices for nighttime lane closures on two-lane roads.  
Lights Required: None. [BDE Special Provision “Lights on Barricades”]
3. The top and bottom panels shall have alternating white and orange stripes sloping 45 degrees on both sides.

The top and bottom rails shall be continuous to allow for detection for hand trailing and cane trailing, respectively

The faces of the barricade rails shall be vertical. [SS pg. 1133 / 1106.02(m)]

**FOR INFORMATIONAL USE ONLY**



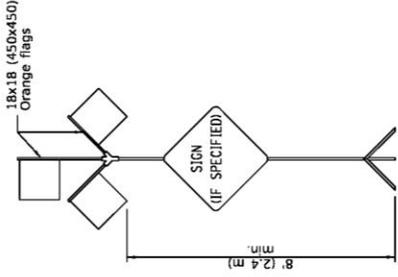
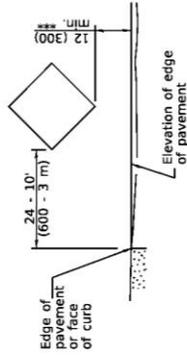


**POST MOUNTED SIGNS**

\*\* When curb or paved shoulder are present this dimension shall be 24 (600) to the face of curb or 6' (1.8 m) to the outside edge of the paved shoulder.

**SIGNS ON TEMPORARY SUPPORTS**

\*\*\* When work operations exceed 500 ft (150 m) in length, signs shall be located behind other devices, the height shall be sufficient to be seen completely above the devices.



**HIGH LEVEL WARNING DEVICE**

ROAD CONSTRUCTION NEXT X MILES G20-1104(0)-6036

END CONSTRUCTION G20-1105(0)-6024

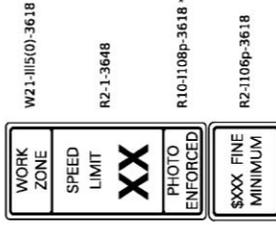
This signing is required for all projects 2 miles (3200 m) or more in length.

ROAD CONSTRUCTION NEXT X MILES sign shall be placed 500 (150 m) in advance or project limits.

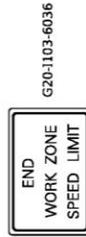
END CONSTRUCTION sign shall be erected at the end of the job unless another job is within 2 miles (3200 m).

Dual sign displays shall be utilized on multi-lane highways.

**WORK LIMIT SIGNING**



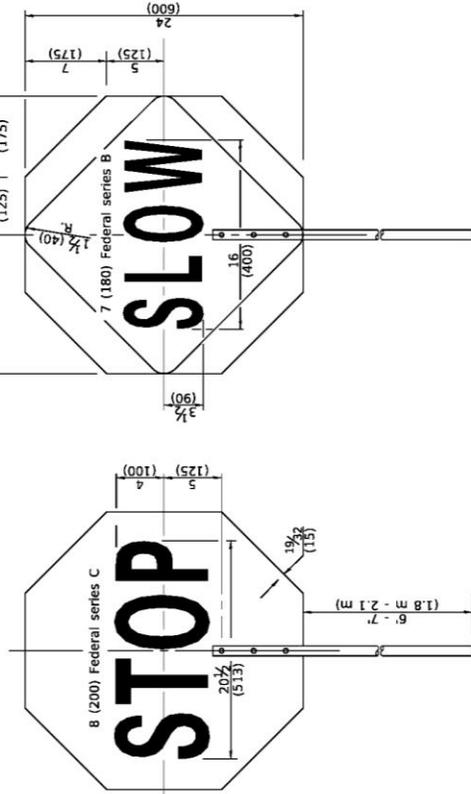
Sign assembly as shown on Standards or as allowed by District Operations.



This sign shall be used when the above sign assembly is used.

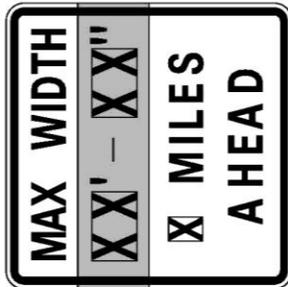
**HIGHWAY CONSTRUCTION SPEED ZONE SIGNS**

\*\*\*\* R10-1108p shall only be used along roadways under the jurisdiction of the State.



FRONT SIDE

REVERSE SIDE



W12-1103-4848

**WIDTH RESTRICTION SIGN**

XX-XX" width and X miles are variable.

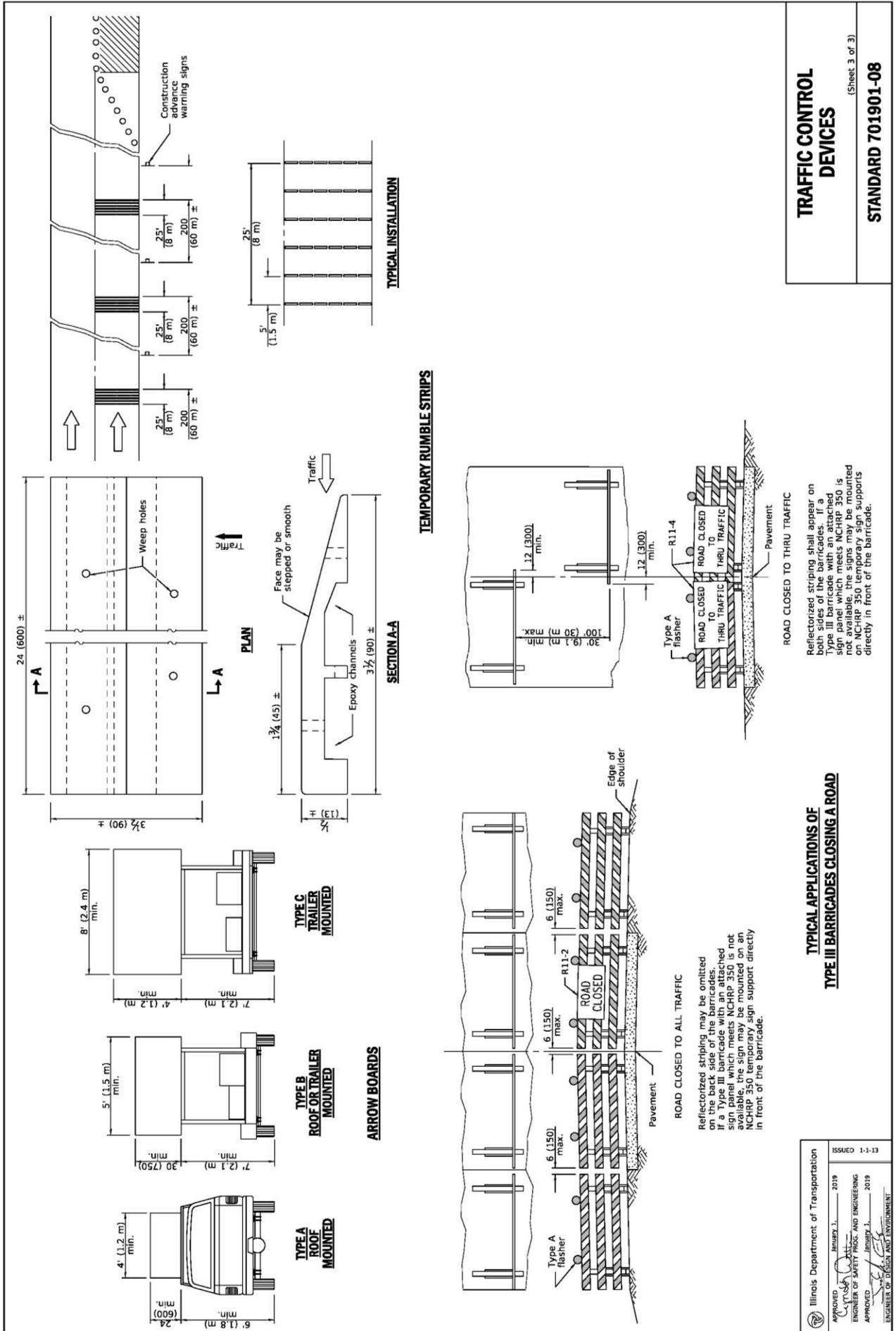
Illinois Department of Transportation  
 APPROVED January 1, 2019  
 ENGINEER OF SAFETY PRICE AND ENGINEERING  
 APPROVED January 1, 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT

**FLAGGER TRAFFIC CONTROL SIGN**

**TRAFFIC CONTROL DEVICES**

(Sheet 2 of 3)

**STANDARD 701901-08**



**TRAFFIC CONTROL DEVICES**  
 STANDARD 701901-08  
 (Sheet 3 of 3)

**TYPICAL APPLICATIONS OF TYPE III BARRICADES CLOSING A ROAD**

**ROAD CLOSED TO ALL TRAFFIC**

ReflectORIZED striping may be omitted on the back side of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the sign may be mounted on an attached sign support directly in front of the barricade.

**ROAD CLOSED TO THRU TRAFFIC**

ReflectORIZED striping shall appear on both sides of the barricades. If a Type III barricade with an attached sign panel which meets NCHRP 350 is not available, the signs may be mounted on NCHRP 350 temporary sign supports directly in front of the barricade.

Illinois Department of Transportation

ISSUED 1-1-13

APPROVED: JIMMEY J. [Signature] 2019  
 ENGINEER OF SAFETY PROC. AND ENGINEERING

APPROVED: JIMMEY J. [Signature] 2019  
 ENGINEER OF DESIGN AND ENVIRONMENT

## **Standard 701901**

**701.15 Traffic Control Devices.** For devices that must meet FHWA crashworthiness standards, the Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and a FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letter(s) shall state the device has been accepted by FHWA for its respective category and test level, and shall include a detailed drawing of the device. The set-up and use of certified/accepted devices shall be the same as that described in the letter.

All devices shall be kept clean. Any device which has become ineffective due to damage or defacement shall be replaced.

Devices having angled striping shall be oriented with the striped sloping down toward the side on which traffic will pass. Lights on devices shall be mounted on the side of the device on which traffic shall pass and shall not obscure any reflectorized portion of the device.

Where more than one type of device is permissible, only one type of device shall be used within that individual run of devices or lane closure taper.

Additional requirements for the use of specific devices are as follows.

a. Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts.  
(BDE special provision "Traffic Control Devices – Cones"]

b. Type I, II, and III Barricades. Type I and Type II barricades are used to channelize traffic; to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards; and as check barricades.

Type I barricades are for use on roads with normal posted speeds of 40 mph or less. However, they may be used on higher speed roads provided the reflective area of the upper rail is at least 2 sq. ft. (0.18 sq m).

Type III barricades are used to close lanes and to close roads.

c. Vertical Barricades. Vertical barricades are used to channelize traffic, as well as to delineate unattended obstacles, patches excavations, drop-offs, and other hazards. Vertical barricades shall not be used not be used in lane closure tapers or as check barricades.

d. Vertical Panels. Vertical panels are used to channelize traffic and to delineate unattended excavations and drop-offs.

e. Direction Indicator Barricades. Direction indicator barricades are used in lane closure tapers.

## **Standard 701901 - Continued**

- f. Drums. Drums are used to channelize traffic and to delineate unattended obstacles, patches, excavations, drop-offs, and other hazards.
- g. Tubular Markers. Tubular markers are used to channelize traffic. They shall only be used when specified. [Supplemental Specifications Sections 704 and 1106]
- h. Truck Mounted/Trailer Mounted Attenuators (TMA). TMA host vehicles shall have the parking brake engaged when stationary.
- i. Arrow Boards. Arrow boards are used to warn motorists of an upcoming lane closure. Arrow boards shall not be used to direct passing moves into lanes used by opposing traffic or to shift traffic without having a lane change.

On roads with normal posted speeds of 45 mph and above, Type C units shall be used for all operations 24 hours or more in duration, and Type B units may be used for operations less than 24 hours in duration. On roads with normal posted speed less than 45 mph, Type A, B, or C units may be used for all operations.

- j. Portable Changeable Message Signs. The Contractor shall supply the modem, the cellular phone, and the necessary software to run the sign from a remote computer at a location designated by the Engineer. The Contractor shall promptly program and/or reprogram the computer to provide the messages as directed by the Engineer.

The Contractor shall provide all preventive maintenance efforts deemed necessary to achieve uninterrupted service. If service is interrupted for any cause and not restored within 24 hours, the Engineer will cause such work to be performed as may be necessary to provide this service and the cost of such work will be deducted from compensation due or which may become due to the Contractor under the contract.

- k. Temporary Ruble Strips. Temporary rumble strips be placed snugly against one another and attached to the pavement with an adhesive meeting the recommendations of the rumble strip manufacturer.
- l. Detectable Pedestrian Channelizing Barricade. Detectable pedestrian channelizing barricades are cane detectable and visible to persons having low vision. These barricades are used to channelize pedestrian traffic. [SS pg. 589-590 / 701.15]

## **Standard 701901 - Continued**

**701.14 Signs.** When work operations exceed four days, signs shall be post mounted unless the signs are located on the pavement or define a moving or intermittent operation. When approved by the Engineer, temporary sign supports may be used where posts are impractical. When post mounting is not required, either temporary sign supports or sign trailers may be used.

Post mounted signs shall be a “breakaway” design. The signs shall be within five degrees of vertical. Two posts shall be used for signs greater than 16 sq. ft. (1.5 sq m) in area or where the height between the sign and the ground exceeds 7 ft. (2.1 m).

Signs on temporary supports shall meet the requirements of NCHRP Report 350 or MASH. Documentation of meeting the requirements shall be the FHWA letter stating acceptance of the sign support system for the required test level. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support as per the manufacturer’s specifications.

Sign trailers, when erected, shall have their tires resting on the ground or elevated a maximum of 6 in. (150 mm) above the ground. Weights used to stabilize the trailer shall be sandbags mounted a maximum of 12 in. (300 mm) above the ground. To prevent wind induced rolling of the trailer, the wheels shall be chocked with sandbags or the trailer tongue may be pinned. The pinning method shall be designated to give way in the event of a vehicular impact and shall meet the approval of the Engineer.

The sign trailer shall only be attached to its tow vehicle when the sign is actually being moved. The tow vehicle, when not attached to the trailer, shall be parked according to Article 701.11.

Longitudinal dimensions shown on the plans for the placement of signs may be increased up to 100 ft. (30 m) to avoid obstacles, hazards, or to improve sight distance, when approved by the Engineer.

- a) “ROAD CONSTRUCTION AHEAD” Signs. “ROAD CONSTRUCTION AHEAD” (W20-I103) signs shall be erected on all side roads located within the limits of the mainline “ROAD CONSTRUCTION AHEAD” signs.
- b) Work Zone Speed Limit Signs. Work zone speed limit signs assemblies shall be provided and located as shown on the plans. Two additional assemblies shall be placed 500 ft. (150 m) beyond the last entrance ramp for each interchange or sideroad.

All permanent “SPEED LIMIT” signs located within 500 ft. (150 m) in advance of the first work zone speed limit sign to the end of the work zone shall be removed or covered. This work shall be coordinated with the lane closures(s) by promptly establishing a reduced posted speed zone when the lane closures(s) are put into effect and promptly reinstating the posted speed zone when the lane closure(s) are removed.

The work zone speed limit signs and end work zone speed limit signs shown in advance of and at the end of the lane closure(s) shall be used for the entire duration of the closure(s).

The work zone speed limit signs shown within the lane closure(s) shall only be used when workers are present in the closed lane adjacent to traffic. The sign assemblies shown within the lane closure(s) will not be required when worker(s) are located behind a concrete barrier wall.

## **Standard 701901 – Continued**

**701.16 Lights.** Lights shall be used on devices as required in the traffic control plan and the following table.

Circumstance	Lights Required
Daylight operations	None
First two warning signs on each approach to the work involving a nighttime lane closure and “ROUGH GROOVED SURFACE” (W8-1107) signs	Flashing mono-directional lights
Devices delineating isolated obstacles, excavations, or hazards at night (Does not apply to patching)	Flashing bi-directional lights
Devices delineating obstacles, excavations, or hazards exceeding 100 ft (30 m) in length at night (Does not apply to widening)	Steady burn bi-directional lights
Channelizing devices for nighttime lane closures on two-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads	None
Channelizing devices for nighttime lane closures on multi-lane roads separating opposing directions of traffic	None
Channelizing devices for nighttime along lane shifts on multilane roads	Steady burn mono-directional lights
Channelizing devices for night time along lane shifts on two lane roads	Steady burn bi-directional lights
Devices in nighttime lane closure tapers on Standards 701316 and 701321	Steady burn bi-directional lights
Devices in nighttime lane closure tapers	Steady burn mono-directional lights
Devices delineating a widening trench	None
Devices delineating patches at night on roadways with an ADT less than 25,000	None
Devices delineating patches at night on roadways with an ADT of 25,000 or more	None

(From the BDE special provision)

Batteries for the lights shall be replaced on a group basis at such times as may be specified by the Engineer. [SS pg. 591 / 701.16]

**1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet FHWA crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing, and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, flexible delineators, and plastic drums with no attachments. Category 1 devices shall be crash tested and accepted or may be self-certified by the manufacturer.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include drums and vertical panels with lights, barricades, and portable sign supports. Category 2 devices shall be crash tested and accepted for Test Level 3.

## **Standard 701901 - Continued**

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2.

Category 3 devices shall be crash tested and accepted for either Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. Currently, there is no implementation date set for this category and it is exempt from the NCHRP 350 or MASH compliance requirement.

The Contractor shall provide a manufacturer's self-certification letter for each Category 1 device and an FHWA acceptance letter for each Category 2 and Category 3 device used on the contract. The letters shall state the device meets FHWA crashworthiness standards for its respective category and test level, and shall include a detailed drawing of the device. The set-up and use of certified/accepted devices shall be the same as that described in the letter.

**1106.01 Signs.** Sign faces shall be according to the MUTCD and Section 1091, except as modified herein.

At the time of manufacturing, the retroreflective prismatic sheeting shall meet or exceed the minimum coefficient of retroreflection specified in Article 1091.03 for the sheeting type required by the Department's Fabrications of Highway Signs Policy. Orange signs shall be fluorescent orange in color.

Sign sheeting shall be mounted on materials such as aluminum, rigid plastic, or exterior grade plywood. Signs utilizing a base of fabric, fiberboard, or other highly flexible or frangible material will not be permitted, except signs having a reflective sheeting face bonded to a durable plastic or fabric base will be permitted, (a) in work zones with posted speeds above 45 mph (70 km/hr) when workers are present to maintain the devices and (b) in all work zones having posted speeds of 45 mph (70 km/hr) or less.

Specific requirements for various signs shall be as follows.

- (a) Work Zone Speed Limit Signs. Work zone speed limit sign assemblies shall be as shown on the plans. The individual signs that make up an assembly may be combined on a single panel.
- (b) Flagger Traffic Control Paddle. The "STOP" face shall consist of white letters and border on a red background. The "SLOW" face shall consist of black letters and border on a fluorescent orange background. Areas outside sign borders shall be light blue or black.

The staff may consist of two sections joined by a coupling.

### **Various Specifications:**

1. Lights shall be maintained so as to be visible on a clear night from a distance of 3000 ft. (900 m). [SS pg. 1129 / 1106.02]

**FOR INFORMATIONAL USE ONLY**

## Section 702. NIGHTTIME WORK ZONE LIGHTING

**702.01 Description.** This work shall consist of furnishing, installing, maintaining, moving, and removing lighting for nighttime work zones. Nighttime shall be defined as occurring shortly before sunset until after sunrise.

**702.02 Materials.** The lighting shall consist of mobile and/or stationary lighting systems as required herein for the specific type of construction. Mobile lighting systems shall consist of luminaires attached to construction equipment or moveable carts. Stationary lighting systems shall consist of roadway luminaires mounted on temporary poles or trailer mounted light towers at fixed locations. Some lighting systems, such as balloon lights, may be adapted to both mobile and stationary applications.

**702.03 Equipment.** The Contractor shall furnish an illuminance meter for use by the Engineer. The meter shall have a digital display calibrated to NIST standards, shall be cosine and color corrected, and shall have an accuracy of  $\pm$  five percent. The sensor shall have a level indicator to ensure measurements are taken in a horizontal plane.

### CONSTRUCTION REQUIREMENTS

**702.04 General.** At the preconstruction conference, the Contractor shall submit the type(s) of lighting system to be used and the locations of all devices.

Before nighttime construction may begin, the lighting system shall be demonstrated as being operational.

**702.05 Nighttime Flagging.** The requirements for nighttime flagging shall be according to Article 701.13 of the Standard Specifications and the glare control requirements contained herein.

**702.06 Lighting System Design.** The lighting system shall be designed to meet the following.

- (a) **Lighting Levels.** The lighting system shall provide a minimum of 5 foot candles (54 lux) throughout the work area. For mobile operations, the work area shall be defined as 25 ft. (9 m) in front of and behind moving equipment. For stationary operations, the work area shall be defined as the entire area where work is being performed.

Lighting levels will be measured with an illuminance meter. Readings will be taken in a horizontal plane 3 ft. (1 m) above the pavement or ground surface.

- (b) **Glare Control.** The lighting system shall be designed and operated so as to avoid glare that interferes with traffic, workers, or inspection personnel. Lighting systems with flood, spot, or stadium type luminaires shall be aimed downward at the work and rotated outward no greater than 30 degrees from nadir (straight down). Balloon lights shall be positioned at least 12 ft. (3.6 m) above the roadway.

As a large component of glare, the headlights of construction vehicles and equipment shall not be operated within the work zone except as allowed for specific construction operations. Headlights shall never be used when facing oncoming traffic.

## **Section 702 - Continued**

- (c) Light Trespass. The lighting system shall be designed to effectively light the work area without spilling over to adjoining property. When, in the opinion of the Engineer, the lighting is disturbing adjoining property, the Contractor shall modify the lighting arrangement or add hardware to shield the light trespass.

**702.07 Construction Operations.** The lighting design required above shall be provided at any location where construction equipment is operating or workers are present on foot. When multiple operations are being carried on simultaneously, lighting shall be provided at each separate work area.

The lighting requirements for specific construction operations shall be as follows.

- (a) Installation or Removal of Work Zone Traffic Control. The required lighting level shall be provided at each truck and piece of equipment used during the installation or removal of work zone traffic control. Headlights may be operated in the work zone.
- (b) Milling and Paving. The required lighting level shall be provided by mounting a minimum of one balloon light to each piece of mobile construction equipment used in the work zone. This would include milling machines, mechanical sweepers, material transfer devices, spreading and finishing machines, and rollers; but not include trucks used to transport materials and personnel or other vehicles that are continuously moving in and out of the work zone. The headlights of construction equipment shall not be operated within the work zone.
- (c) Patching. The required lighting level shall be provided at each patching location where work is being performed.
- (d) Pavement Marking and Raised Reflective Pavement Marker Removal/Installation. The striping truck and the attenuator/arrow board trucks may be operated by headlights alone; however, additional lighting may be necessary for the operator of the striping truck to perform the work.

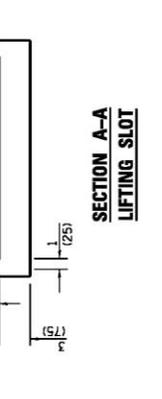
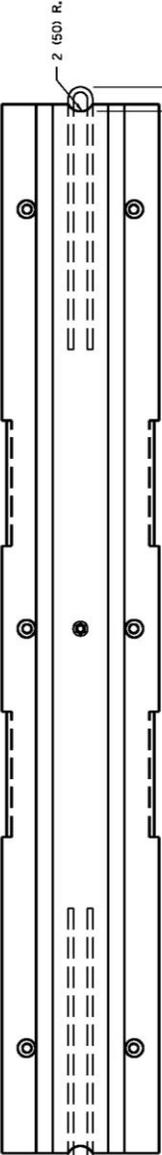
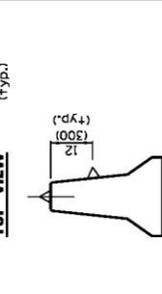
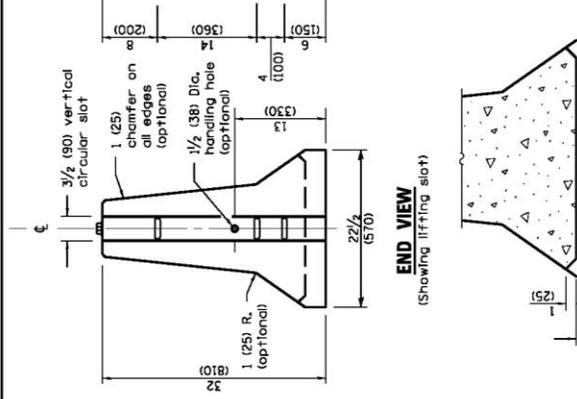
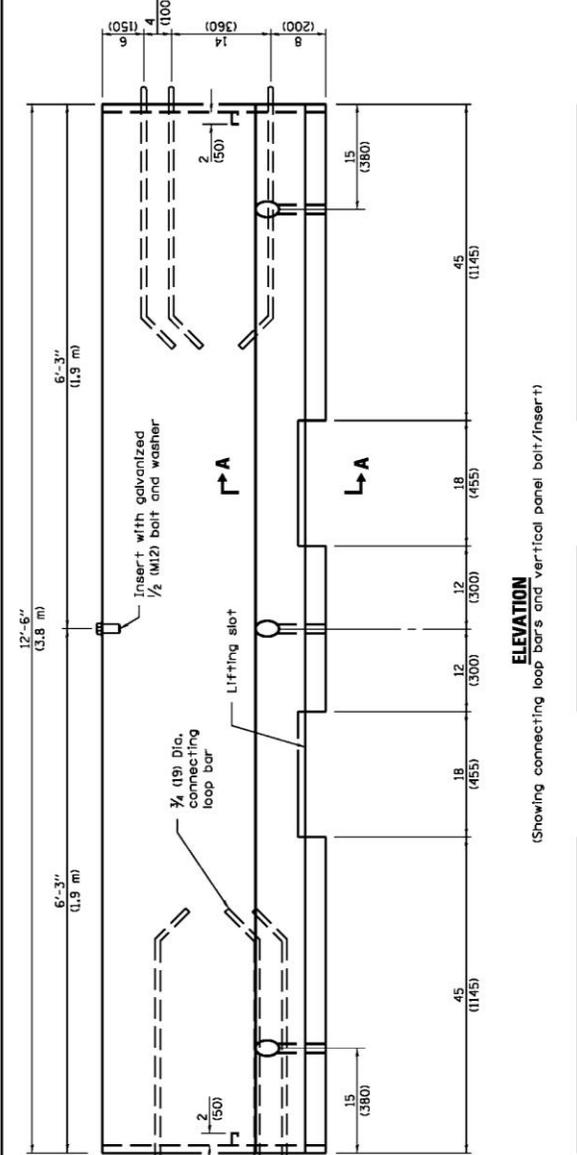
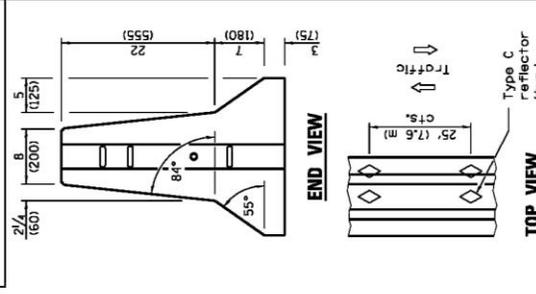
For raised reflective pavement marker removal and installation and other pavement marking operations where workers are on foot, the required lighting level shall be provided at each truck and piece of equipment.

- (e) Layout, Testing, and Inspection. The required lighting level shall be provided for each active area of construction layout, material testing, and inspection. The work area shall be defined as 15 ft. (7.6 m) in front and back of the individual(s) performing the tasks.

**702.08 Basis of Payment.** This work will be paid for at the contract lump sum price for NIGHTTIME WORK ZONE LIGHTING.

**FOR INFORMATIONAL USE ONLY**

**F SHAPE DESIGN**



**GENERAL NOTES**

Each F shape barrier shall be clearly marked with "ILLINOIS F SHAPE", the Producer's mark and the date of manufacture. The markings shall be indented on the barrier or painted thereon with waterproof paint/ink.

The insert for the 1/2 (M12) bolt shall be capable of 3,000 lb (13 kN) pull-out strength.

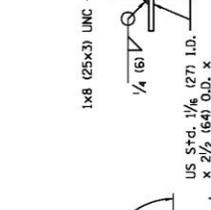
When barrier separates opposing flows of traffic markers shall be on both sides of barrier.

See Standard 782006 for dimensions of Type C reflector.

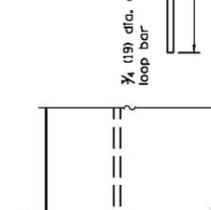
**CONNECTING AND ANCHOR PINS**

(End may be beveled 1/4 (6) max.)

**CONNECTING DETAIL**



**CONNECTING LOOP BAR**



**CONNECTING AND ANCHOR PINS**

(End may be beveled 1/4 (6) max.)

**REVISIONS**

DATE	REVISIONS
4-1-16	Rev. opt. chamfer on all edges to 1 (25). Reference to Std. 635011 now 782006.
1-1-12	Omited 'ALTERNATE' from connecting and anchoring pins detail.

**TEMPORARY CONCRETE BARRIER**

All dimensions are in inches (millimeters) unless otherwise shown.

**CONNECTING AND ANCHOR PINS**

(End may be beveled 1/4 (6) max.)

**CONNECTING DETAIL**

**CONNECTING LOOP BAR**

**CONNECTING AND ANCHOR PINS**

(End may be beveled 1/4 (6) max.)

**CONNECTING DETAIL**

**CONNECTING LOOP BAR**

**CONNECTING AND ANCHOR PINS**

(End may be beveled 1/4 (6) max.)

**TEMPORARY CONCRETE BARRIER**

STANDARD 704001-08

ISSUED 10-1-02

Illinois Department of Transportation

APR 1, 2016

Michael Bond

ENGINEER OF PROJECT AND PROCEDURES

APR 1, 2016

ISSUED 10-1-02

ENGINEER OF DESIGN AND ENVIRONMENT

Illinois Department of Transportation

APR 1, 2016

Michael Bond

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APR 1, 2016

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APR 1, 2016

ISSUED 10-1-02

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APR 1, 2016

ISSUED 10-1-02

ENGINEER OF DESIGN AND ENVIRONMENT

Illinois Department of Transportation

APR 1, 2016

Michael Bond

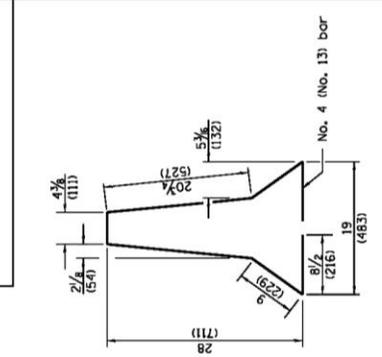
ENGINEER OF PROJECT AND PROCEDURES

APR 1, 2016

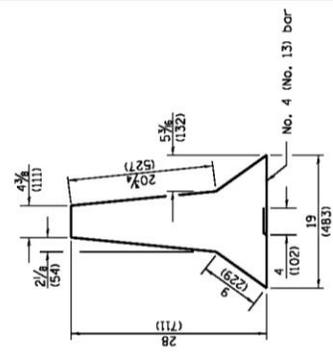
ISSUED 10-1-02

ENGINEER OF DESIGN AND ENVIRONMENT

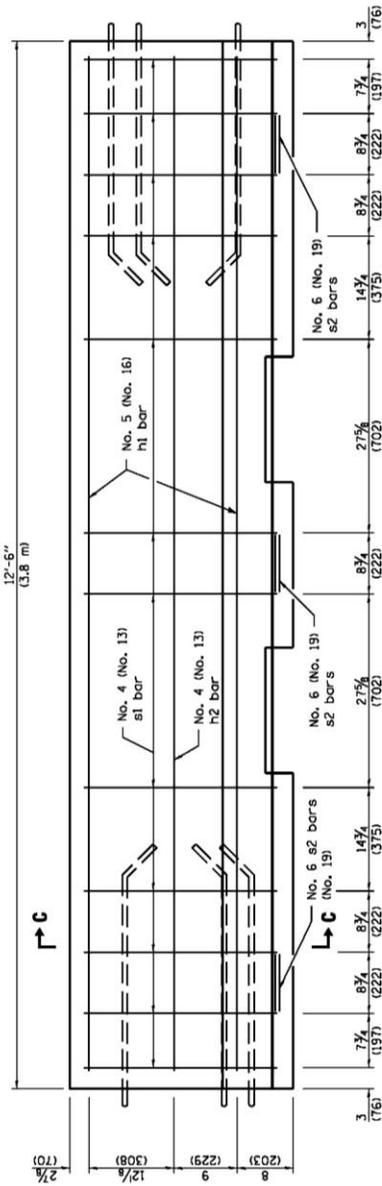
**F SHAPE DESIGN**



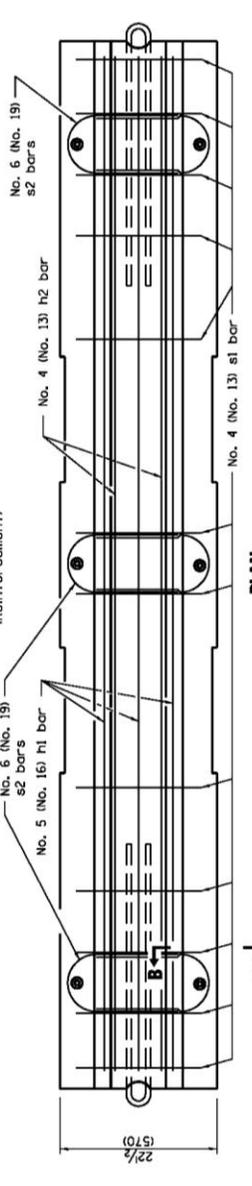
**s1 BAR**



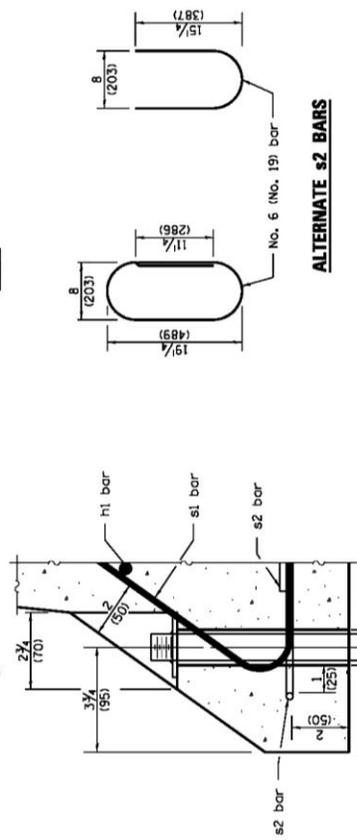
**ALTERNATE s1 BAR**



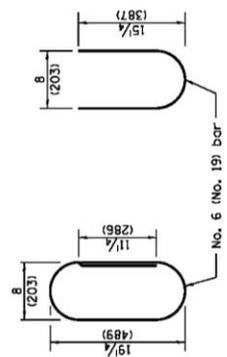
**ELEVATION (Reinforcement)**



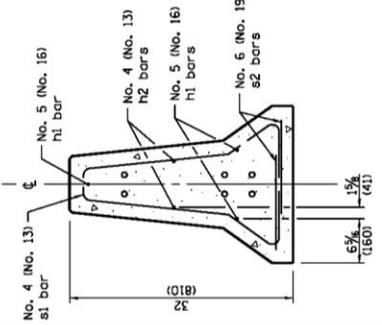
**PLAN**



**SECTION B-B ANCHORING DETAIL**



**ALTERNATE s2 BARS**



**SECTION C-C**

**TEMPORARY CONCRETE BARRIER**  
(Sheet 2 of 2)

**STANDARD 704001-08**

Illinois Department of Transportation  
 PASSED April 11, 2016  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED [Signature] 2016  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 10-1-02

## **Standard 704001**

**704.01 Description.** This work shall consist of furnishing, placing, maintaining, relocating, and removing precast concrete barrier at temporary locations.

**704.03 General.** Precast concrete barrier shall be the F shape as detailed on the plans.

**704.04 Installation.** The barriers shall be seated on bare, clean pavement or paved shoulder and pinned together in a smooth, continuous line at the exact locations provided by the Engineer. The barrier unit at each end of the installation shall be secured to the pavement or paved shoulder using six anchoring pins and protected with an impact attenuator as shown on the plans.

Barriers or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The barriers shall be removed when no longer required by the contract. After removal, all anchoring holes in the pavement or paved shoulder shall be filled with a rapid hardening mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.

**704.05 Method of Measurement.** This work will be measured for payment in feet (meters) in place along the centerline of the barrier. When the barrier is relocated within the limits of the jobsite, the relocated barrier will be measured for payment in feet (meters) in place along the centerline of the barrier.

**704.06 Basis of Payment.** When the Contractor furnishes the barrier, this work will be paid for at the contract unit price per foot (meter) for TEMPORARY CONCRETE BARRIER or RELOCATE TEMPORARY CONCRETE BARRIER.

When the Department furnishes the barrier, this work will be paid for at the contract unit price per foot (meter) for TEMPORARY CONCRETE BARRIER, STATE OWNED, or RELOCATED TEMPORARY CONCRETE BARRIER, STATE OWNED.

Impact attenuators will be paid for separately.

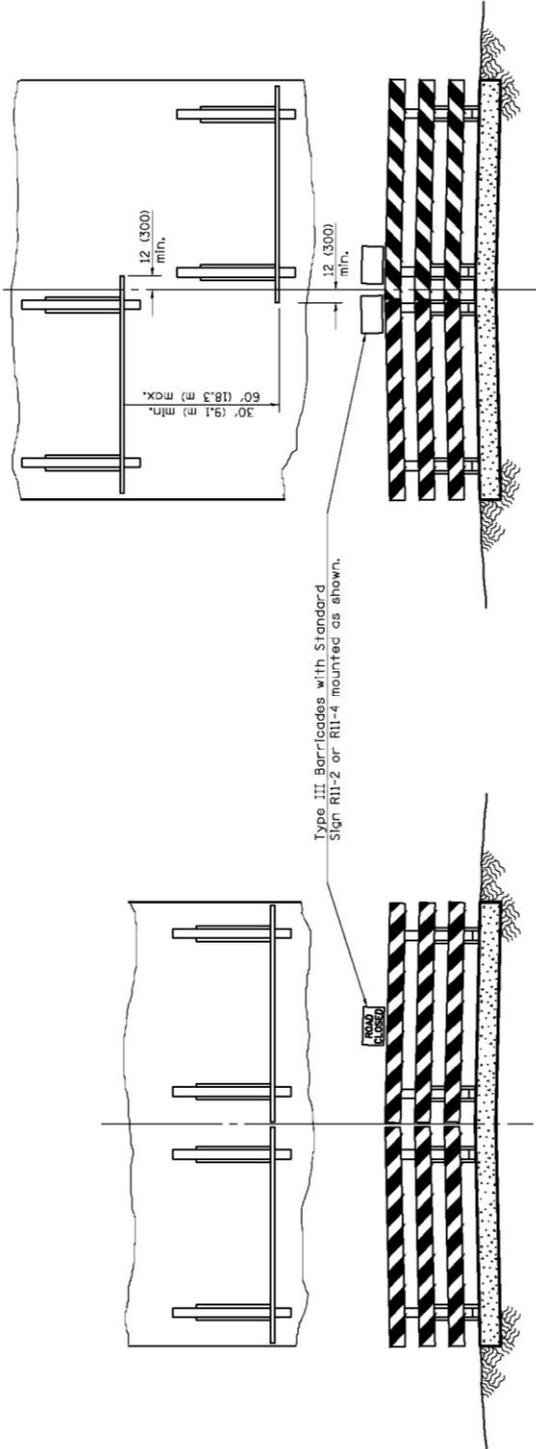
### **Supplemental Specifications:**

Except on bridge decks,...the barrier unit at each end of an installation shall be anchored to the pavement or paved shoulder using six anchor pins and protected with an impact attenuator as shown on the plans. When pinning of additional barrier units within the installation is specified, three anchor pins shall be installed in the traffic side holes of the required barriers.

Where both pinned and unpinned barrier units are used in a continuous installation, a transition shall be provided between them. The transition from pinned to unpinned barrier shall consist of two anchor pins installed in the end holes on the traffic side of the first barrier beyond the pinned section and one anchor pin installed in the middle hole on the traffic side of the second barrier beyond the pinned section. The third barrier beyond the pinned section shall then be unpinned.

Anchor pins, except for the six anchor pins for the barrier unit at each end of an installation, will be measured for payment as each, per anchor pin installed. [Supplemental Specifications / Section 704]

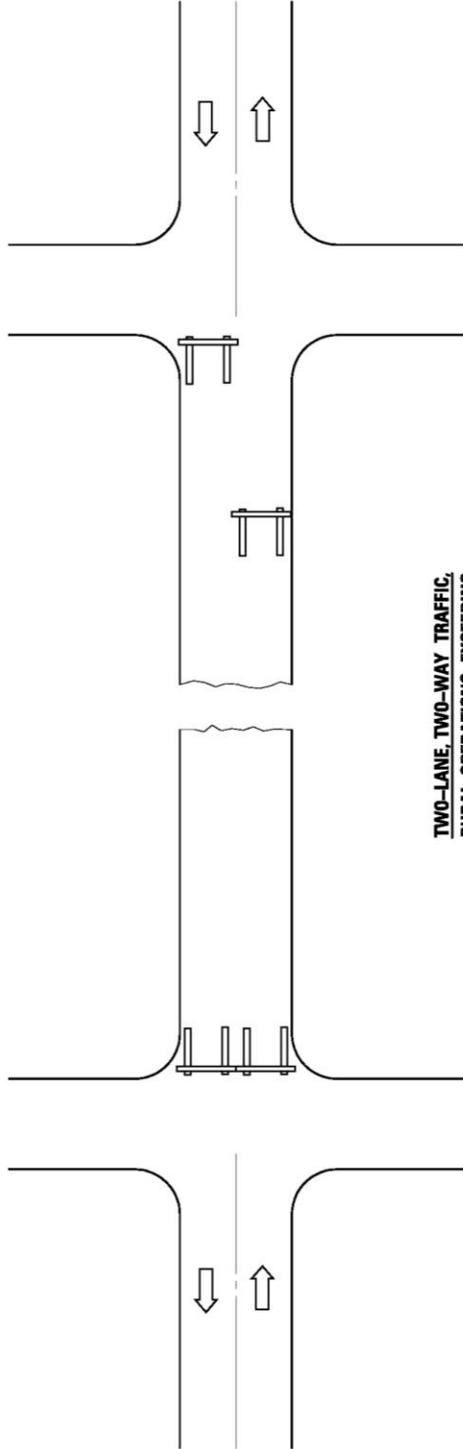
**FOR INFORMATIONAL USE ONLY**



Type III Barricades with Standard Sign R11-2 or R11-4 mounted as shown.

Resident traffic and day labor force's equipment to use road shoulder for passing barricade.

Use when shoulders are too narrow for passage of traffic.



**TWO-LANE, TWO-WAY TRAFFIC,  
RURAL OPERATIONS EXCEEDING  
ONE DAYLIGHT PERIOD**

**GENERAL NOTES**

Type III barricades to be width of pavement only. ReflectORIZED striping shall appear on both sides of barricades. Barricades shall be positioned so that stripes are viewed toward the side on which traffic is to pass.

Although not shown, advance warning signs with minimum dimensions of 36x36 (900x900) and black legends on orange reflectORIZED backgrounds shall be utilized where needed.

This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation

APPROVED: *Joseph J. ...* 2008  
 ENGINEER OF LOCAL ROADS AND STREETS

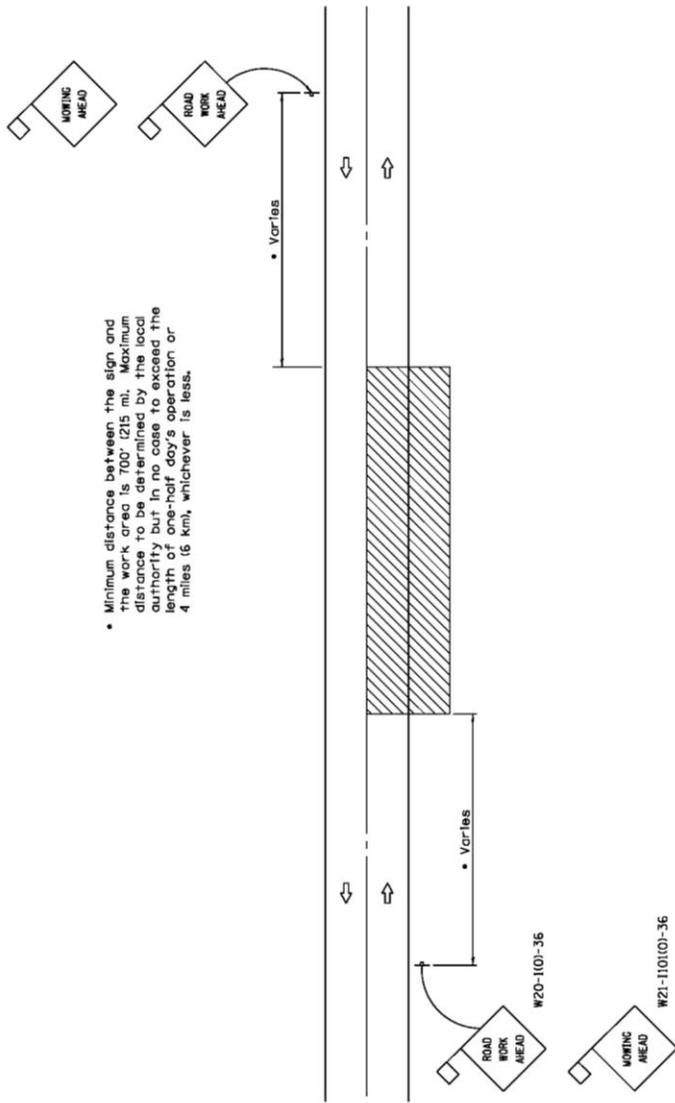
APPROVED: *...* 2008  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-98	Rev. "R11-1" to "R11-4", Rev. 4th General Note.

**TRAFFIC CONTROL DEVICES -  
DAY LABOR CONSTRUCTION**

STANDARD B.L.R. 17-4



- Minimum distance between the sign and the work area is 400' (125 m). Maximum distance to be determined by the local authority but in no case to exceed the length of one-half day's operation or 4 miles (6 km), whichever is less.

**GENERAL NOTES**

Maintenance operations shall be confined to one traffic lane, leaving the opposite lane open to traffic. At least 500' (150 m) of both traffic lanes shall be available for traffic movement between work areas at intervals not greater than 1000' (300 m).

When operations are on the pavement and stationary or moving at a speed less than 4 mph (6 kph), a ONE LANE AHEAD, or other appropriate sign, shall be installed in each direction between the ROAD WORK AHEAD sign and the work area. The distance between this sign and the work area shall be a minimum of 400' (120 m) but in no case to exceed the length of one-half day's operation or 4 miles (6 km), whichever is less. The distance between the two signs shall be approximately 400' (120 m).

All signs are to be removed at completion of the day's operation.

Any unattended obstacle, excavation, or pavement drop off greater than 3' (75) in the work area shall be protected by Type I or Type II barricades with flashing lights.

Longitudinal dimensions may be adjusted slightly to fit field conditions.

All vehicles, equipment, men, and their activities are restricted at all times to one side of the pavement.

Flashing lights or rotating beacons are required for all maintenance vehicles while in operation.

Applicable operations illustrated in Standard 701301 may be used when operations do not exceed 15 minutes on the pavement or 60 minutes on the shoulder respectively.

All warning signs shall have minimum dimensions of 36x36 (900x900) and have black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

This case is for use on rural local roads where the local authority considers this protection to be appropriate for the specific job conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

**TWO-LANE, TWO-WAY TRAFFIC  
RURAL OPERATIONS  
DAY OPERATIONS ONLY**

**TYPICAL APPLICATIONS**

- MOWING
- SPREADING AGGREGATE
- WEED SPRAYING
- SURFACE MAINTENANCE
- BITUMINOUS RESURFACING
- CRACK POURING
- SHOULDER REPAIR
- CLEANING DITCHES

**SYMBOLS**

Work area



Sign with 18x18 (450x450) min. orange flag attached.

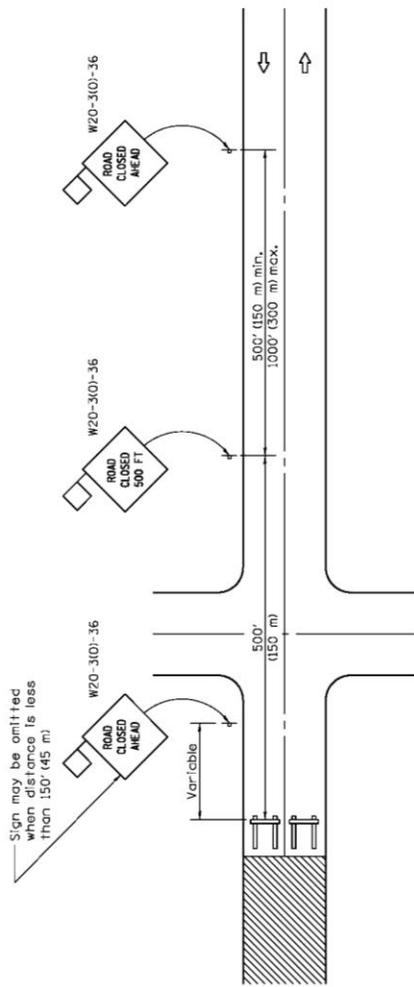
DATE	REVISIONS
1-1-15	Corrected RMA sign number.
1-1-09	Switched units to English (metric). Moved one General Note.

**TRAFFIC CONTROL DEVICES—  
DAY LABOR MAINTENANCE**

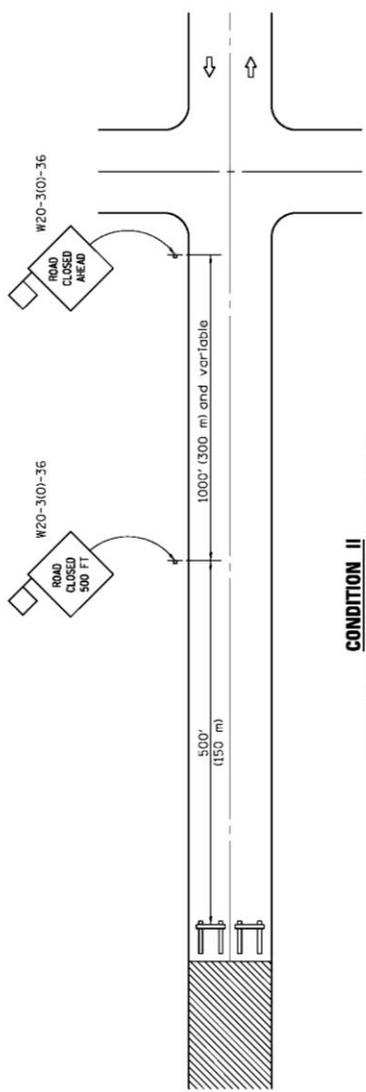
STANDARD B.L.R. 18-6

APPROVED: [Signature] January 1, 2015  
 ENGINEER OF LOCAL ROADS AND STREETS  
 APPROVED: [Signature] January 1, 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



**CONDITION I**  
When distance from closure to crossroad is less than 1500' (450 m)



**CONDITION II**  
When distance from closure to crossroad is greater than 1500' (450 m)

**SYMBOLS**

- Work area
- Type III Barricade
- Sign with 18x18 (450x450) min. orange flag attached

**GENERAL NOTES**  
Type III Barricades and R11-2-4830 signs shall be positioned as shown in "Road Closed To All Traffic" detail on Highway Standard (0190).

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area during hours of darkness. One light shall be installed above the barricades and the other above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

When the distance between the barricade and the intersection is between 1500' (450 m) and 2000' (600 m), the advance sign shall be placed at the intersection. When the distance between the barricade and the intersection is over 2000' (600 m), an additional sign shall be placed at the intersection. The additional sign shall give the distance to the barricade in miles or fractions of a mile.

All dimensions are in inches (millimeters) unless otherwise shown.

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS	
DATE	REVISIONS
1-1-12	Omitted two notes from GENERAL NOTES.
1-1-09	Switched units to English (metric).

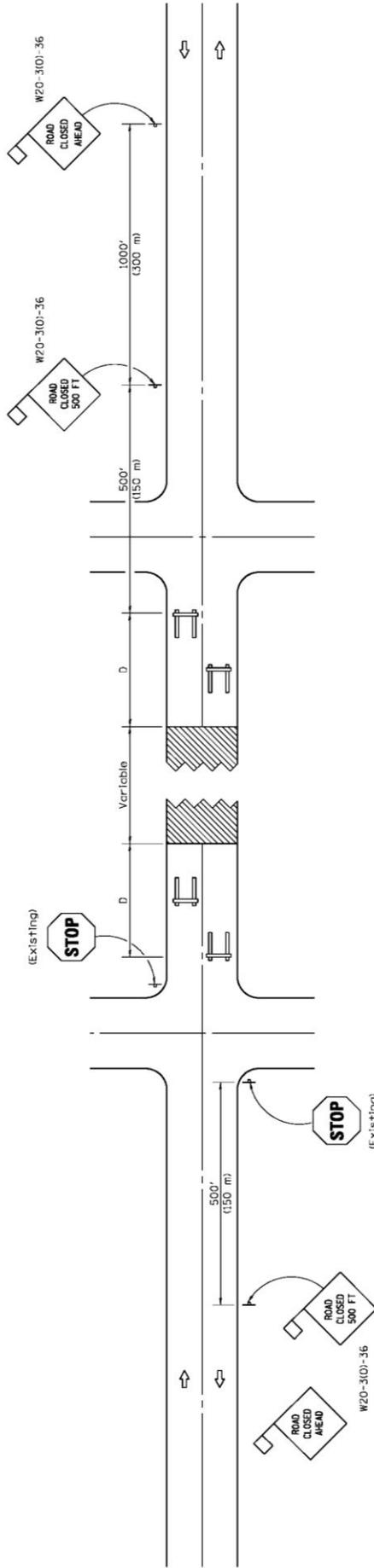
ISSUED 1-1-97

Illinois Department of Transportation  
 APPROVED JENNIFER L. \_\_\_\_\_ 2012  
 ENGINEER OF LOCAL ROADS AND STREETS  
 APPROVED \_\_\_\_\_ 2012  
 ENGINEER OF DESIGN AND ENVIRONMENT

STANDARD B.L.R. 21-9

**CONDITION II**  
**APPROACH TRAFFIC**  
**DOES NOT STOP**

**CONDITION I**  
**APPROACH TRAFFIC STOPPED**



**SYMBOLS**

- Work area
- Type III Barricade
- Sign with 18x18 (450x450) min. orange flag attached

**GENERAL NOTES**

Type III Barricades and R11-4-6030 signs shall be positioned as shown in the "Road Closed To All Traffic" section of the Manual on Uniform Traffic Control Devices (MUTCD) 2003 Edition, Part 6E. If the distance "D" exceeds 2000' (600 m), an additional set of barricades and R11-4-6030 shall be placed at each end of the work area.

Two Type A Low Intensity Flashing Lights shall be used on each approach in advance of the work area. One light shall be installed above each barricade. If only one barricade is required, the other light shall be installed above the first advance warning sign.

All warning signs shall have minimum dimensions of 36 x 36 (900 x 900) and have a black legend on an orange reflectorized background.

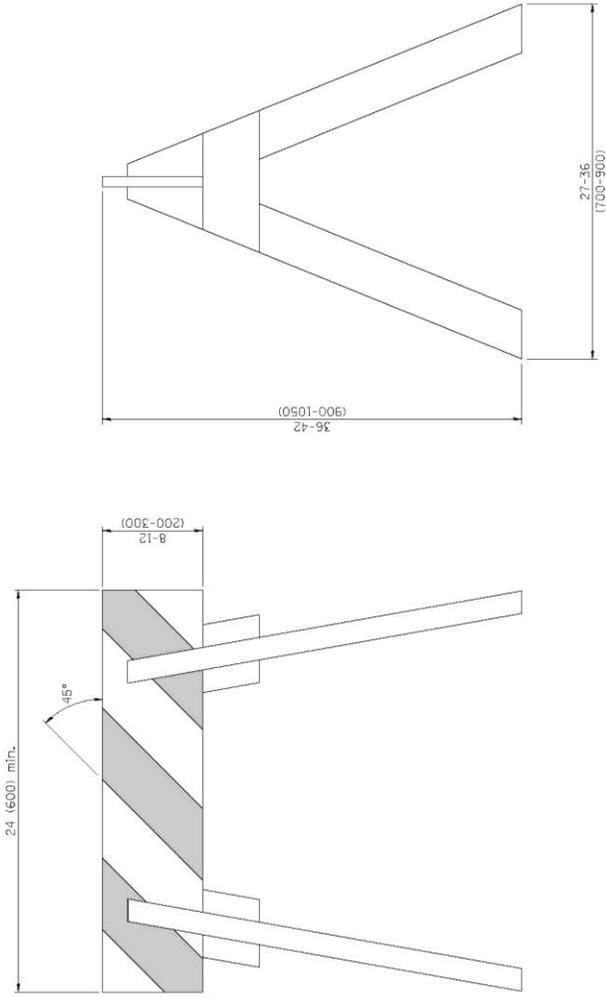
When fluorescent signs are used, orange flags are not required.

Longitudinal dimensions may be adjusted to fit field conditions.

All dimensions are in inches (millimeters) unless otherwise shown.

Illinois Department of Transportation	
APPROVED	ISSUED 1-1-97
JENNIFER J. [Signature]	2012
ENGINEER OF LOCAL ROADS AND STREETS	
APPROVED	2012
JENNIFER J. [Signature]	
ENGINEER OF DESIGN AND ENVIRONMENT	

TYPICAL APPLICATION OF TRAFFIC CONTROL DEVICES FOR CONSTRUCTION ON RURAL LOCAL HIGHWAYS (TWO-LANE TWO WAY RURAL TRAFFIC) (ROAD CLOSED TO THRU TRAFFIC)	
DATE	REVISIONS
1-1-12	Omitted two notes from GENERAL NOTES.
1-1-09	Revised General Notes and switched units to English (metric).
STANDARD B.L.R. 22-7	



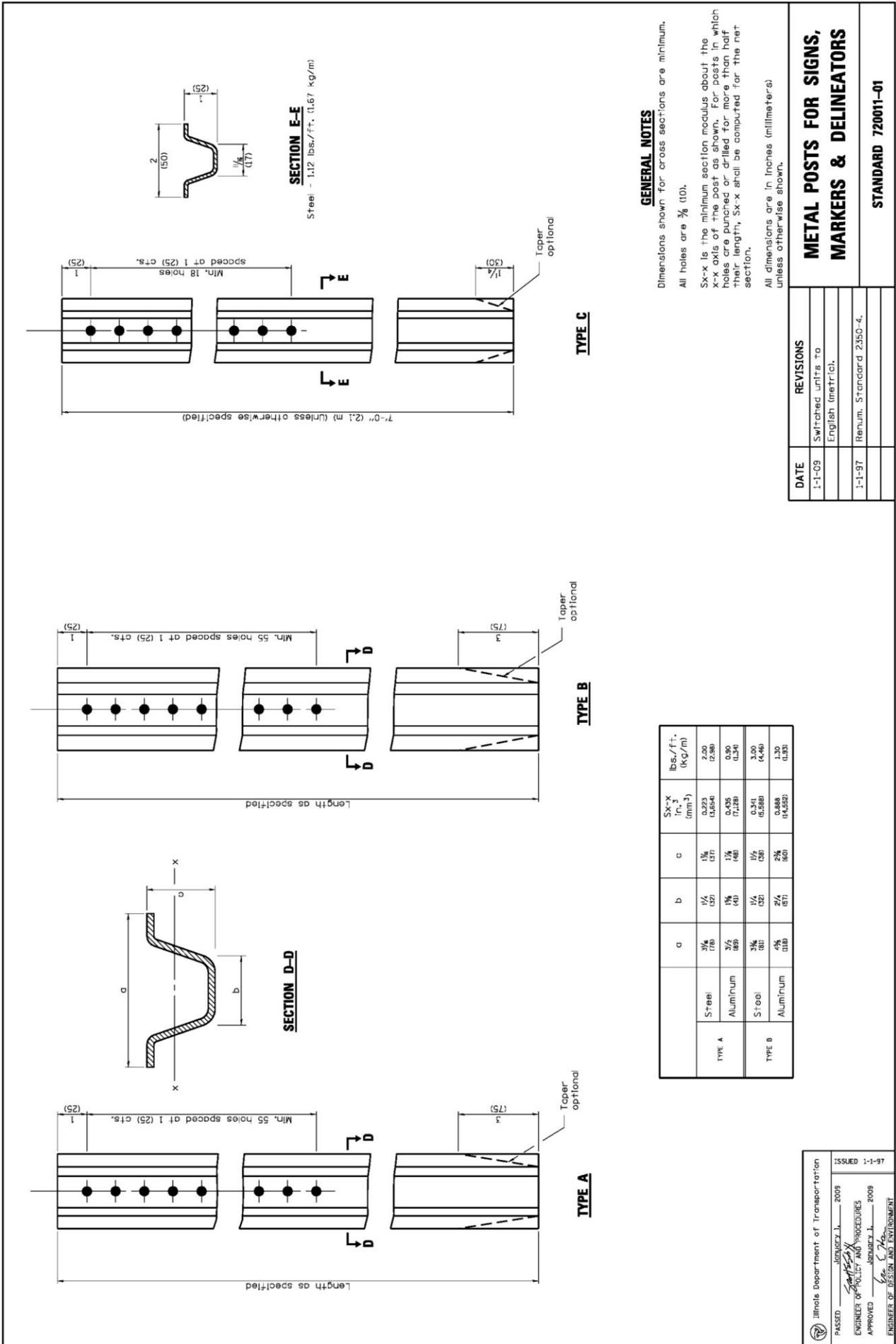
All dimensions are in inches (millimeters) unless otherwise shown.

### TYPE 1A BARRICADE FOR NON-NHS ROUTES

STANDARD B.L.R. 25-1

DATE	REVISIONS
1-1-09	Switched Units to English (metric).
1-1-03	New standard from 702001-02

Illinois Department of Transportation APPROVED <i>[Signature]</i> ENGINEER OF LOCAL ROADS AND STREETS APPROVED <i>[Signature]</i> ENGINEER OF DESIGN AND ENVIRONMENT	JUNE 27, 2009 2009 2009
	ISSUED 1-1-03



**SECTION E-E**

Steel - 112 lbs./ft., 11.67 kg/m

**GENERAL NOTES**

Dimensions shown for cross sections are minimum.  
 All holes are  $\frac{3}{8}$  (10).  
 Sx-x is the minimum section modulus about the x-x axis of the post as shown. For posts in which holes are punched or drilled for more than half their length, Sx-x shall be computed for the net section.  
 All dimensions are in inches (millimeters) unless otherwise shown.

	Sx-x	lbs./ft.	c	b	d	
	In. <sup>3</sup>	(kg/m)				
	(mm <sup>3</sup> )					
TYPE A	Steel	0.223 (78)	1 1/8 (32)	1/4 (13)	3/8 (10)	2.00 (2.00)
	Aluminum	0.205 (80)	1 1/8 (32)	1/4 (13)	3/8 (10)	0.90 (0.90)
TYPE B	Steel	0.211 (80)	1 1/8 (32)	1/4 (13)	3/8 (10)	3.24 (3.24)
	Aluminum	0.188 (70)	2 1/4 (61)	1/2 (13)	1/2 (13)	1.30 (1.30)

**METAL POSTS FOR SIGNS, MARKERS & DELINEATORS**

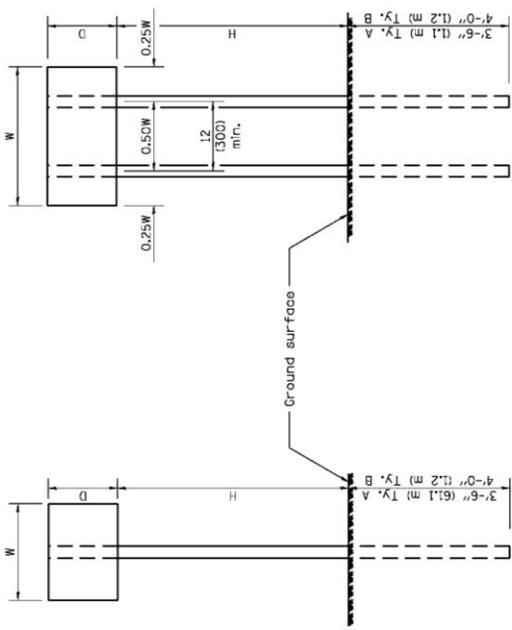
STANDARD 720011-01

DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-97	Renum. Standard 2350-4.

Illinois Department of Transportation

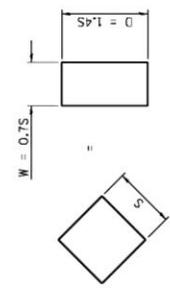
PASSED: JEROME L. 2009  
 ENGINEER OF POLICY AND PROCEDURES  
 APPROVED: [Signature] 2009  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



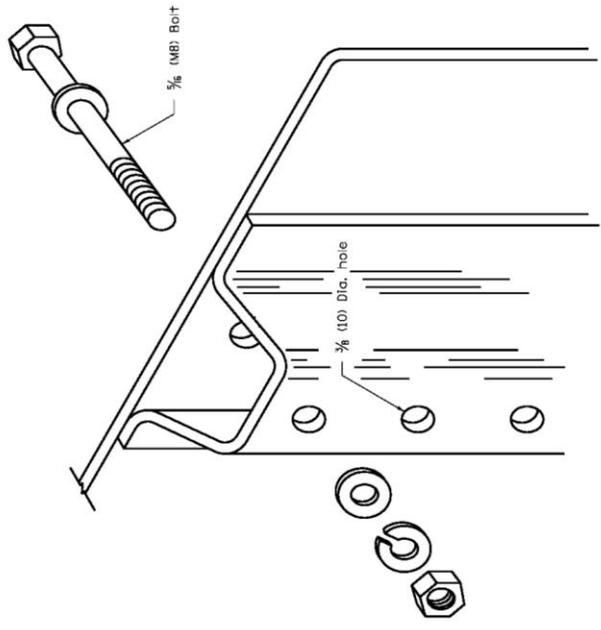
**ONE POST INSTALLATION**

**TWO POST INSTALLATION**



For diamond shaped sign with side S as shown, use required post size for a sign with  $w = 0.75$  and  $D = 1.45$ .

SIGN DEPTH (D)	SIGN HEIGHT (H)	NO. AND TYPE OF POST FOR SIGN WIDTH (W)					
		12 (300)	18 (450)	24 (600)	30 (750)	36 (900)	
18 (450)	5'-0" (1.5 m)	A	A	A	A	A	A
	5'-6" (1.7 m)	A	A	A	A	A	A
	6'-0" (1.8 m)	A	A	A	A	A	B
	6'-6" (2.0 m)	A	A	A	A	A	B
	7'-0" (2.1 m)	A	A	A	A	A	B
	7'-6" (2.3 m)	A	A	A	A	A	B
24 (600)	8'-0" (2.4 m)	A	A	A	A	A	2A
	8'-6" (2.6 m)	A	A	A	A	A	2A
	9'-0" (2.7 m)	A	A	A	A	A	2A
	5'-0" (1.5 m)	A	A	A	A	A	B
	5'-6" (1.7 m)	A	A	A	A	A	B
	6'-0" (1.8 m)	A	A	A	A	A	B
30 (750)	6'-6" (2.0 m)	A	A	A	A	A	2A
	7'-0" (2.1 m)	A	A	A	A	A	2A
	7'-6" (2.3 m)	A	A	A	A	A	2A
	8'-0" (2.4 m)	A	A	A	A	A	2A
	8'-6" (2.6 m)	A	A	A	A	A	2A
	9'-0" (2.7 m)	A	A	A	A	A	2A
36 (900)	5'-0" (1.5 m)	A	A	A	A	A	2A
	5'-6" (1.7 m)	A	A	A	A	A	2A
	6'-0" (1.8 m)	A	A	A	A	A	2A
	6'-6" (2.0 m)	A	A	A	A	A	2A
	7'-0" (2.1 m)	A	A	A	A	A	2A
	7'-6" (2.3 m)	A	A	A	A	A	2A
4'-0" (1.2 m)	8'-0" (2.4 m)	A	B	B	B	B	2A 2B
	8'-6" (2.6 m)	A	B	B	B	B	2A 2B
	9'-0" (2.7 m)	A	B	B	B	B	2A 2B
	5'-0" (1.5 m)	A	A	B	B	B	2A 2A
	5'-6" (1.7 m)	A	A	B	B	B	2A 2A
	6'-0" (1.8 m)	A	A	B	B	B	2A 2A
4'-0" (1.2 m)	6'-6" (2.0 m)	A	B	B	B	B	2A 2B
	7'-0" (2.1 m)	A	B	B	B	B	2A 2B
	7'-6" (2.3 m)	A	B	B	B	B	2A 2B
	8'-0" (2.4 m)	A	B	B	B	B	2A 2B
	8'-6" (2.6 m)	A	B	B	B	B	2A 2B
	9'-0" (2.7 m)	A	B	B	B	B	2A 2B



**DETAIL OF MOUNTING SIGN TO POST**  
NOTE: Minimum of 2 bolts per post required.

**GENERAL NOTES**

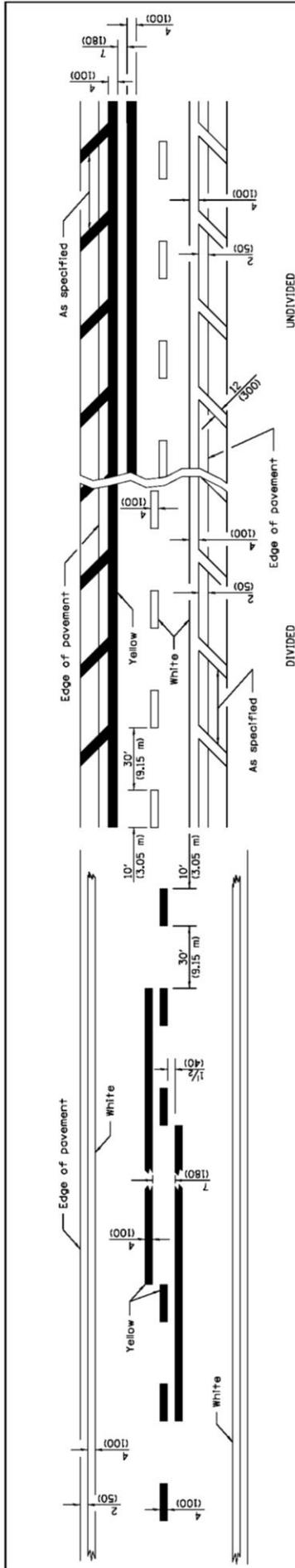
DESIGN: Current AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals.  
LOADING: for 60 mph (95 km/h) wind velocity with 30% gust factor, normal to sign.  
SOIL PRESSURE: Minimum allowable soil pressure 1.25 tsf (120 kPa).  
See Standard T20011 for details of Types A and B posts.  
All dimensions are in inches (millimeters) unless otherwise shown.

APPLICATIONS OF TYPES A & B METAL POSTS (FOR SIGNS & MARKERS)	
DATE	REVISIONS
1-1-09	Switched units to English (metric).
1-1-97	Renum. Standard 2363-2.

STANDARD 729001-01

Illinois Department of Transportation  
PASSED JENNIFER J. 2008  
ENGINEER OF POLICY AND PROCEDURES  
APPROVED JENNIFER J. 2008  
ENGINEER OF DESIGN AND ENVIRONMENT

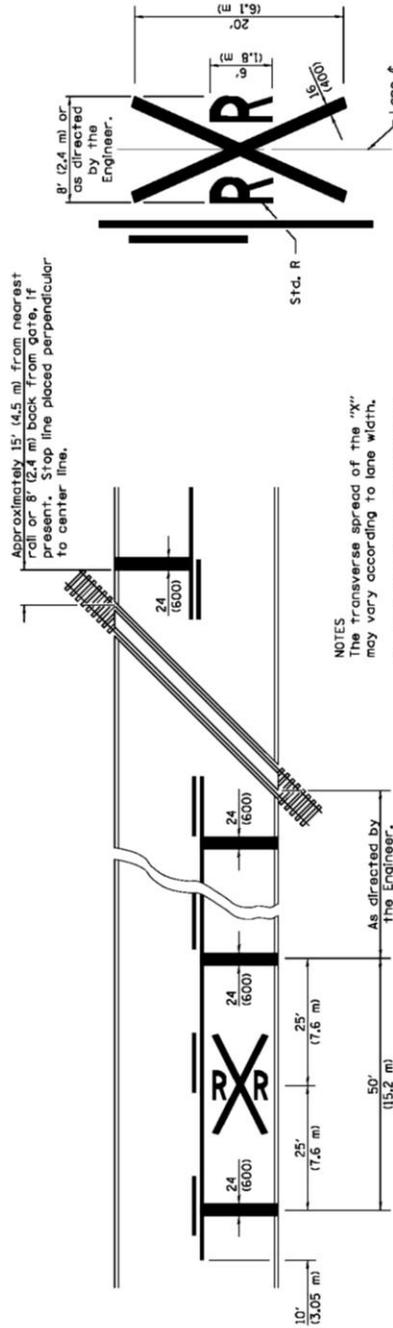
ISSUED 1-1-97



**2 LANE**

**MULTI LANE**

**LANE AND EDGE LINES**



**NOTES**  
 The transverse spread of the "RR" may vary according to lane width.  
 On multi-lane roads, the stop lines shall extend across all approach lanes and separate RRX symbols shall be placed adjacent to each other in each lane.

When the pavement marking symbol is used, a portion of the symbol should be located directly adjacent to the Advance Warning Sign (W10-1) as placed by Table 2C-4, Condition B of the MUTCD.

All dimensions are in inches (millimeters) unless otherwise shown.

**PAVEMENT MARKINGS AT RAILROAD-HIGHWAY GRADE CROSSING**

DATE	REVISIONS
1-1-15	Acced symbols, Revised bike symbol, Revised note for stop line at RR crossing.
1-1-14	Acced bike symbol, Renamed 'LANE DROP ARROW' detail to 'LANE-REDUCTION ARROW'.

**TYPICAL PAVEMENT MARKINGS**

(Sheet 1 of 3)

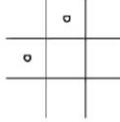
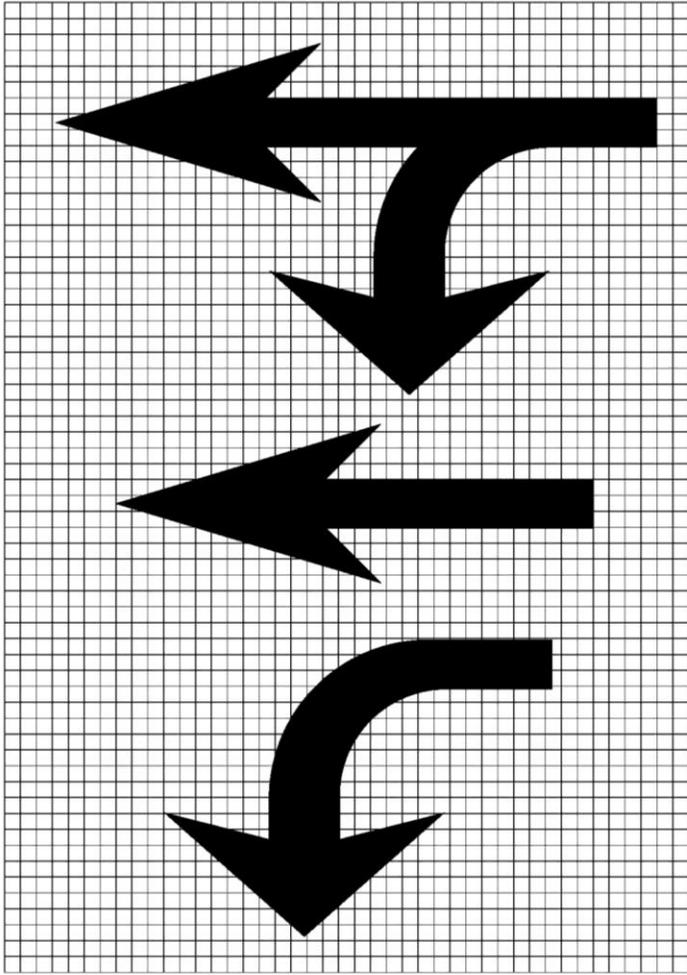
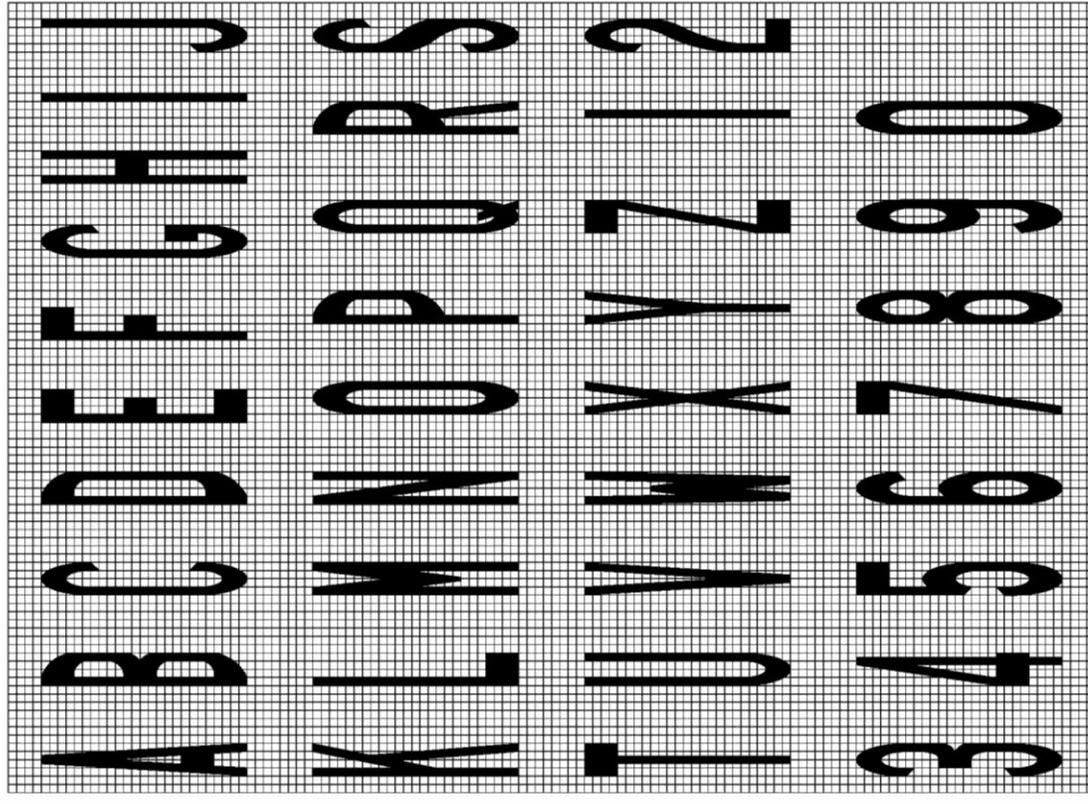
**STANDARD 780001-05**

Illinois Department of Transportation

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 ENGINEER OF OPERATIONS

APPROVED: [Signature] 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97



Legend Height	Arrow Size	o
6' (1.8 m)	Small	2.9 (74)
8' (2.4 m)	Large	3.8 (96)

The space between adjacent letters or numerals should be approximately 3 (75) for 6' (1.8 m) legend and 4 (100) for 8' (2.4 m) legend.

**LETTER AND ARROW GRID SCALE**

Illinois Department of Transportation

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 ENGINEER OF OPERATIONS

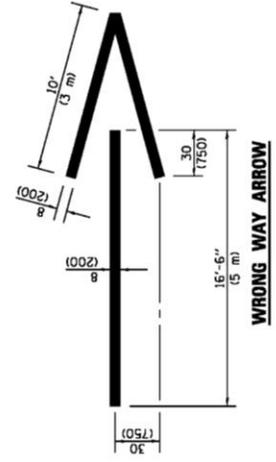
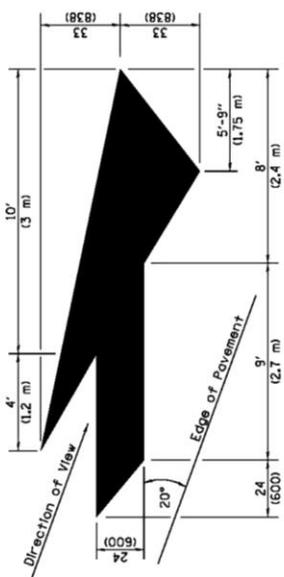
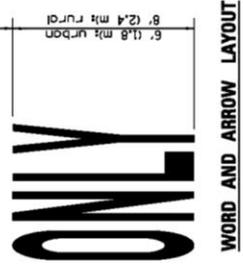
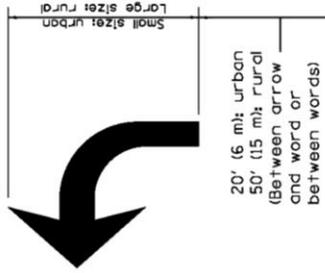
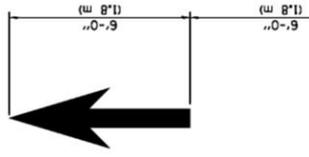
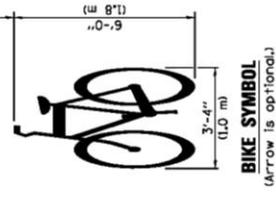
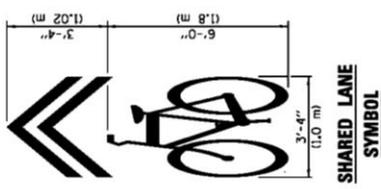
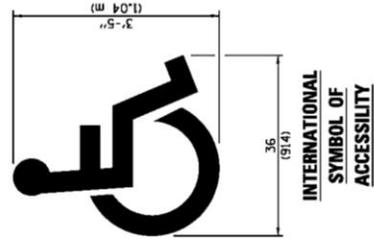
APPROVED: \_\_\_\_\_ 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

ISSUED 1-1-97

**TYPICAL PAVEMENT MARKINGS**

(Sheet 2 of 3)

**STANDARD 780001-05**



Illinois Department of Transportation  
 APPROVED: [Signature] JACQUELYN L. [Signature] 2015  
 ENGINEER OF OPERATIONS  
 APPROVED: [Signature] JACQUELYN L. [Signature] 2015  
 ENGINEER OF DESIGN AND ENVIRONMENT

**TYPICAL PAVEMENT MARKINGS**  
 STANDARD 780001-05  
 (Sheet 3 of 3)

## SECTION 703. WORK ZONE PAVEMENT MARKING

**703.01 Description.** This work shall consist of furnishing, installing, maintaining, and removing short term and temporary pavement markings.

**703.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Pavement Marking Tape .....	1095.06
(b) Paint Pavement Markings .....	1095.02

### CONSTRUCTION REQUIREMENTS

**703.03 General.** Short term pavement markings shall consist of abbreviated patterns for edge, lane, and centerline markings. Within a specified time limit, short term pavement markings shall either be resurfaced or replaced and replaced with the full pavement marking patterns indicated on the plans with either a temporary material paid for as temporary pavement marking or with permanent material. Within the conditions as specified, the Contractor may be required to place all or a part of the quantities shown on the plans for short term pavement markings and temporary pavement markings.

The surface to which the pavement marking is to be applied shall be clean and dry. Pavement marking tape shall be applied to the prepared surface according to the manufacturer's recommendations or by a method approved by the Engineer. Painted lines shall be installed according to Section 780, except hand-operated stripers may be used for all applications of short term and temporary pavement marking.

**703.04 Short Term Pavement Markings.** Before the lane is opened to traffic, appropriate short term pavement markings shall be installed between all lanes open to traffic. Centerline or lane line markings shall consist of an abbreviated pattern of single stripes 4 ft. (1.2 m) in length and a minimum of 4 in. (100 mm) wide at a maximum spacing of 40 ft. (12 m) between stripes. Centerlines on two-lane highways shall be yellow and lane lines separating two or more lanes of traffic moving in the same direction shall be white. Edge line markings shall consist of 4 ft. (1.2 m) stripes on 100 ft. (30 m) centers installed at approximately a 45 degree diagonal pointing in the direction of traffic. Edge line markings will only be required on multilane divided highways and other highways with a paved shoulder greater than 4 ft. (1.2 m) wide. Markings on the final wearing surface shall be transversely offset from the permanent pavement marking location as directed by the Engineer. Markings shall be removed within five days after the permanent pavement markings are installed.

The short term pavement markings shall be removed and replaced with the required full standard pavement markings consisting of either temporary or permanent pavement marking as soon as possible. Except as indicated below, temporary pavement marking or the permanent pavement markings shall be installed for no passing zones within three calendar days and for all other markings within 14 calendar days, respectively, after the completion of any intermediate or final surface treatment. This time restriction shall begin at the completion of each intermediate or final lift on resurfacing projects.

## **Section 703 - Continued**

If the existing markings are obliterated by milling or any other surface treatment, the time restriction shall begin when the entire surface has been treated. These restrictions may be delayed by the Engineer whenever the Contractor cannot apply pavement markings due to unanticipated inclement weather (other than winter shutdown on the project), strike activities, or other circumstances beyond the Contractor's control as determined by the Engineer. In these cases, the required full standard temporary or permanent markings shall be installed as soon as construction activities are resumed. Prior to winter shutdown, standard edge lines, lane lines, centerlines, no passing zones, and any other necessary markings as determined by the Engineer shall be installed on any intermediate or final surface remaining open to traffic during the winter shutdown period.

**703.05 Temporary Pavement Marking.** When any intermediate course cannot be overlaid or if the final surface cannot be permanently marked within the time restrictions listed above, the full standard markings shall be installed with temporary pavement marking. The temporary markings shall be of the same color and dimensions as shown on the plans for the permanent markings, or as directed by the Engineer.

Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.

Except during winter shutdown periods, temporary pavement marking showing deterioration for any reason within seven days after placement, shall be replaced by the Contractor. Temporary pavement markings which are in conflict with subsequently established pavement markings, or which interfere with the permanent pavement markings, shall be removed. Marking tape or paint placed on the final wearing course shall be transversely offset from the permanent pavement marking planned location as directed by the Engineer. All remaining temporary pavement marking tape or paint shall be removed within five working days after placement of the permanent pavement marking. When edge lines or channelizing lines are required, they shall be continuous. When continuous sections of tape are used, they shall be cut completely through at intervals of approximately 25 ft. (8 m).

Instead of pavement markings, no passing zones on two-lane and three-lane roads may be identified by either the pennant "NO PASSING ZONE" (W14-3) warning sign or both the "DO NOT PASS" (R4-1) and "PASS WITH CARE" (R4-2) regulatory signs in conjunction with short term markings for periods of time up to three calendar days after an intermediate or final lift is completed on resurfacing projects.

These signs may also be used in lieu of pavement markings on low volume roads until it is practical and possible to install the permanent pavement markings.

If, in the traffic control plan, the road is specified as low volume, it is exempt from the requirements regarding no passing zone pavement markings.

## **Section 703 - Continued**

**703.06 Method of Measurement.** Short term pavement markings and temporary pavement markings of the various line widths will be measured for payment in feet (meters) in place and accepted. Double yellow lines will be measured as two separate lines.

The replacement of temporary pavement markings of the various line widths during winter shutdown periods will be measured for payment in feet (meters) as specified above, except only those pavement markings directed by the Engineer to be replaced will be measured for payment.

Letters and symbols used in conjunction with temporary pavement marking conforming to the sizes and dimensions specified will be measured for payment in square feet (square meters) according to the areas listed in Table 1, Section 780.

Short term and temporary pavement marking removal will be measured for payment in square feet (square meters).

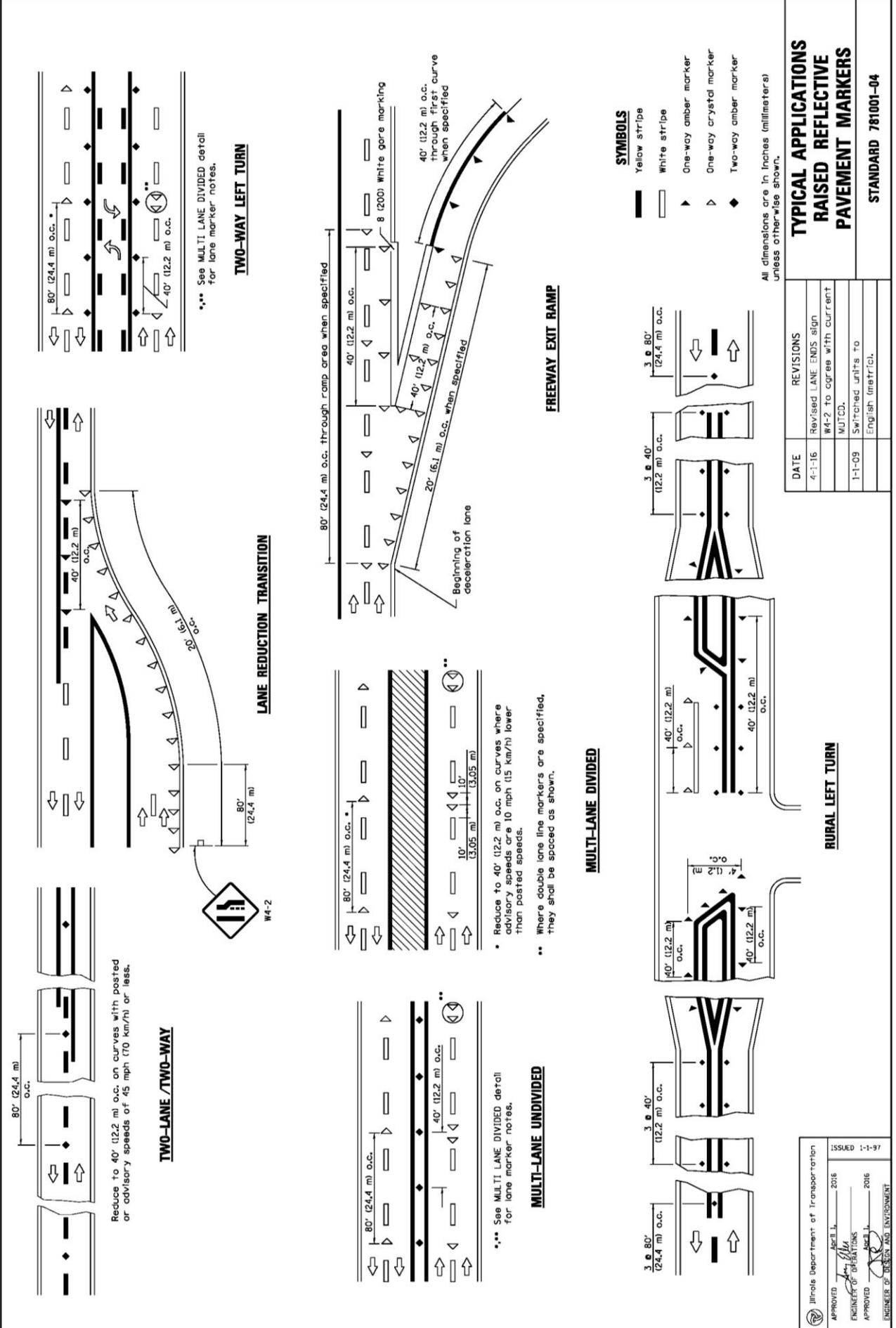
**703.07 Basis of Payment.** This work will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING or for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL. Removal of temporary pavement marking will be paid for according to Article 783.06

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking will be included in the cost of the Standard.

When Pavement Marking Tape, Type III is specified in the contract other than on a Standard, the work will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS.

**FOR INFORMATIONAL USE ONLY**



# **Errata, Supplemental Specifications and Recurring Special Provisions**

**Check Sheets**

**Adopted January 1, 2020**

State of Illinois  
Department of Transportation

ERRATA  
STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION

Adopted: April 1, 2016  
Revised: January 1, 2020

- Page 13 Article 104.07(d)(1)b. In the fifth line of the first paragraph change “portion to” to “portion up to”.
- Page 28 Article 107.09. In the first sentence of the tenth paragraph change “State of Illinois Manual on Uniform Traffic Control Devices for Streets and Highways” to “MUTCD”.
- Page 84 Article 204.02. In the seventh line of the first paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 90 Article 205.06. In the first sentence of the third paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 91 Article 205.06. In the first sentence of the fourth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the second sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.
- Page 91 Article 205.06. In the second line of the fifth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 91 Article 205.06. In the sixth line of the eighth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 148 Article 302.09. In the second sentence of the fifth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 99” to “Illinois Modified AASHTO T 99”.
- Page 152 Article 310.09. In the second sentence of the second paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 99” to “Illinois Modified AASHTO T 99”.
- Page 155 Article 311.05(a). In the first sentence of the fifth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the second sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.
- Page 155 Article 311.05(a). In the second line of the sixth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 163 Article 351.05(a). In the second sentence of the fifth paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”, and in the third sentence change “AASHTO T 224” to “Illinois Modified AASHTO T 99 (Annex A1)”.

- Page 163 Article 351.05(a). In the second line of the sixth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”.
- Page 169 Article 352.11. In the second sentence of the fourth paragraph change “AASHTO T 191” to “Illinois Modified AASHTO T 191”, and in the third sentence change “AASHTO T 134 (Method B)” to “Illinois Modified AASHTO T 134 (Method B)”.
- Page 169 Article 352.12. In the first sentence of the first paragraph change “AASHTO T 22” to “Illinois Modified AASHTO T 22”, and in the second sentence change “AASHTO T 134 (Method B)” to “Illinois Modified AASHTO T 134 (Method B)”.
- Page 196 Article 406.07(a). After the footnotes in Table 1 - Minimum Roller Requirements for HMA add the following:

“EQUIPMENT DEFINITION

- V<sub>s</sub> - Vibratory roller, static mode, minimum 125 lb/in. (2.2 kg/mm) of roller width. Maximum speed = 3 mph (5 km/h) or 264 ft/min (80 m/min). If the vibratory roller does not eliminate roller marks, its use shall be discontinued and a tandem roller, adequately ballasted to remove roller marks, shall be used.
- V<sub>D</sub> - Vibratory roller, dynamic mode, operated at a speed to produce not less than 10 impacts/ft (30 impacts/m).
- P - Pneumatic-tired roller, max. speed 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min). The pneumatic-tired roller shall have a minimum tire pressure of 80 psi (550 kPa) and shall be equipped with heat retention shields. The self-propelled pneumatic-tired roller shall develop a compression of not less than 300 lb (53 N) nor more than 500 lb (88 N) per in. (mm) of width of the tire tread in contact with the HMA surface.
- T<sub>B</sub> - Tandem roller for breakdown rolling, 8 to 12 tons (7 to 11 metric tons), 250 to 400 lb/in. (44 to 70 N/mm) of roller width, max. speed = 3 1/2 mph (5.5 km/h) or 308 ft/min (92 m/min).
- T<sub>F</sub> - Tandem roller for final rolling, 200 to 400 lb/in. (35 to 70 N/mm) of roller width with minimum roller width of 50 in. (1.25 m). Ballast shall be increased if roller marks are not eliminated. Ballast shall be decreased if the mat shoves or distorts.
- 3W- Three wheel roller, max. speed = 3 mph (5 km/h) or 264 ft/min (80 m/min), 300 to 400 lb/in. (53 to 70 N/mm) of roller width. The three-wheel roller shall weigh 10 to 12 tons (9 to 11 metric tons).”

- Page 313 Article 504.06(e). In the fourth line of the fifth paragraph change “cotton mats” to “curing material”.
- Page 324 Article 505.04(f)(3)b.1. Change “ASTM A 325 (A 325M)” to “ASTM F 3125 Grade A 325 (F 3125M Grade A 325M)”.
- Page 325 Article 505.04(f)(3)b.7. In the second sentence change “ASTM A 325 (A 325M)” to “ASTM F 3125 Grade A 325 (F 3125M Grade A 325M)”.

Page 331 Article 505.04(p). In the first and second lines of the first table change:

"Nominal Diameter	Range of Clearance	Tolerance from Nominal Sizes	
		Hole	Pin
in.	in. x 10 <sup>-6</sup>	μ in.	μ in."

to

"Nominal Diameter	Range of Clearance	Tolerance from Nominal Sizes	
		Hole	Pin
in.	in. x 10 <sup>-3</sup>	in. x 10 <sup>-3</sup>	in. x 10 <sup>-3"</sup>

Page 333 Article 505.04(q)(1)c. In the first sentence change "1.3.6" to "1.3.7".

Page 335 Article 505.04(q)(5). In the sixth paragraph change "±3/4 in. (±20 mm)" to "+3/4 in. (+20 mm) to 0 in. (0 mm)".

Page 338 Article 505.04(t). In the fourth line of the first paragraph change "pins ends" to "pin ends".

Page 338 Article 505.04(t). In the fifth line of the first paragraph change "6 threads to the 1 in. (4.2 mm)" to "6 threads per inch (4.2 mm per thread)".

Page 411 Article 522.09(a)(1). In the third line of the first paragraph change "design life for epoxy and aluminizing" to "design life for aluminizing".

Page 418 Article 522.11(b)(1). In the fourth line of the fourth paragraph change "CA 7, 8, 11, 13, 14, 15, and 16" to "CA 13, 14, 15, and 16".

Page 421 Article 522.15(b). Revise the last sentence of the third paragraph to read "The area measured shall be the minimum vertical exposed surface area envelope of the excavation supported by the temporary soil retention system."

Page 444 Article 542.03. In the Notes in Table IIIB add "CPP Corrugated Polypropylene (CPP) pipe with smooth interior".

Page 445 Article 542.03. In the fourth column in Table IIIB (metric) change the heading for Type 5 pipe from "CPE" to "CPP".

Page 445 Article 542.03. In the Notes in Table IIIB (metric) change "PE Polyethylene (PE) pipe with a smooth interior" to "CPP Corrugated Polypropylene (CPP) pipe with smooth interior".

Page 449 Article 542.04(f)(2). In the third line of the second paragraph change "AASHTO T 99 (Method C)" to "Illinois Modified AASHTO T 99 (Method C)".

Page 450 Article 542.04(h). In the third sentence of the second paragraph change "in the table below" to "per the Contractor's design".

Page 451 Article 542.04(i). In the fourth line of the fourth paragraph change "form" to "from".

- Page 544 Article 639.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, Traffic Signals,” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,”.
- Page 546 Article 640.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 548 Article 641.03. In the first sentence of the first paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaire and Traffic Signals,” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals,”.
- Page 604 Article 702.06(a). In the third line of the first paragraph change “(9 m)” to “(7.6 m)”.
- Page 605 Article 702.07(e). In the last sentence change “(7.6 m)” to “(4.5 m)”.
- Page 621 Article 727.03. In the first sentence of the third paragraph change “AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 629 Article 734.03(a). In the fourth line of the second paragraph change “AASHTO T 99 (Method C)” to “Illinois Modified AASHTO T 99 (Method C)”.
- Page 646 Article 781.04. In the second sentence of the fifth paragraph change “final pavement” to “final payment”.
- Page 649 Article 801.02. In the first sentence of the first paragraph change “AASHTO’s Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 742 Article 1003.04(c). Under Gradation in the table change “(see Article 1003.02(c))” to “(see Article 1003.01(c))”.
- Page 755 Article 1004.03(b). Revise the third sentence of the first paragraph to read “For Class A (seal or cover coat), and other binder courses, the coarse aggregate shall be Class C quality or better.”.
- Page 755 Article 1004.03(c). In the table for Class A-1, 2, & 3, change the Gradation No. “CA 16” to “CA 16 or CA 20”.
- Page 758 Article 1004.06(c). In the second line of the first paragraph change “epoxy coated steel, geosynthetic, or geotextile” to “geosynthetic or geotextile”.
- Page 764 Article 1006.08. In the first sentence change “ASTM A 325 (A 325M)” to “ASTM F 3125 Grade A 325 (F 3125M Grade A 325M)”.

- Page 765 Article 1006.08(c). Change “ASTM A 325 (A 325M)” to “ASTM F 3125 Grade A 325 (F 3125M Grade A 325M)”.
- Page 777 Article 1006.29(d). Revise the third sentence of the third paragraph to read “Stainless steel washers shall be plain flat, conforming to ANSI/ASME B18.22.1, Type A or B as appropriate, or MS 15795, and made of 18-8 stainless steel.”
- Page 790 Article 1008.05(c)(3). Change “ASTM A 325 (A 325M) or A 490 (A 490M)” to “ASTM F 3125 Grade A 325 or A 490 (F 3125M Grade A 325M or A 490M)”.
- Page 809 Article 1020.04(e). In the third line of the first paragraph change “ITP SCC-3” to “ITP SCC-4”.
- Page 810 Article 1020.05(b). In the second line of the first paragraph change “according the qualified products list” to “according to the qualified products list.”.
- Page 810 Article 1020.05(b). Delete the first sentence of the second paragraph.
- Page 836 Article 1020.15(b)(1)c. Replace the fourth sentence of the first paragraph with the following: “The Contractor shall provide freeze/thaw test results according to AASHTO T 161, and the relative dynamic modulus of elasticity of the mix design shall be a minimum of 80 percent. Testing shall be performed by an independent laboratory accredited by the AASHTO Materials Reference Laboratory (AMRL) for Portland Cement Concrete.”
- Page 852 Article 1030.04(d)(2). In the first sentence change “550 kPa (80 psi)” to “80 psi (550 kPa)”.
- Page 852 Article 1030.05(a)(6). Change “Hot-Mix Asphalt QC/QA Start-Up Procedures” to “Hot-Mix Asphalt Test Strip Procedures”.
- Page 900 Article 1052.02(d). Change “ASTM A 325 (A 325M)” to “ASTM F 3125 Grade A 325 (F 3125M Grade A 325M)”.
- Page 945 Article 1069.05. In the first sentence of the tenth paragraph change ““Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 961 Article 1070.04(b)(1). In the third sentence of the first paragraph change ““Standard Specifications of Structural Supports for Highway Signs, Luminaires and Traffic Signals” published by AASHTO” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 989 Article 1077.01. In the second sentence of the first paragraph change “Standard Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals, as published by AASHTO” to “AASHTO LRFD Specifications for Structural Supports for Highway Signs, Luminaires, and Traffic Signals”.
- Page 1121 Article 1103.13(a). In the first line of the first paragraph change “Bridge Deck Approach Slabs.” to “Bridge Decks and Approach Slabs.”.

State of Illinois  
Department of Transportation

SUPPLEMENTAL SPECIFICATION  
FOR  
SECTION 107. LEGAL REGULATIONS AND RESPONSIBILITY TO PUBLIC

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted April 1, 2016 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

107.09 Public Convenience and Safety. Revise the table in the Article to read:

Day Holiday is Observed	Length of Holiday Period
Sunday	3 p.m. Friday – 11:59 p.m. Sunday
Monday	3 p.m. Friday – 11:59 p.m. Monday
Tuesday	3 p.m. Friday – 11:59 p.m. Tuesday
Wednesday	3 p.m. Tuesday – 11:59 p.m. Wednesday
Thursday	3 p.m. Wednesday – 11:59 p.m. Sunday
Friday	3 p.m. Thursday – 11:59 p.m. Sunday
Saturday	3 p.m. Thursday – 11:59 p.m. Sunday

State of Illinois  
Department of Transportation

SUPPLEMENTAL SPECIFICATION  
FOR  
SECTION 701. WORK ZONE TRAFFIC CONTROL AND PROTECTION

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted April 1, 2016 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

701.03 Equipment. Revise Article 701.03(j) to read:

“(j) Tubular Markers .....1106.02(f)”

701.15 Traffic Control Devices. Revise Article 701.15(g) to read:

“(g) Tubular Markers. Tubular markers are used to channelize traffic. They shall only be used when specified.”

701.18 Highway Standards Application. Revise the second paragraph of Article 701.18(f) to read:

“Devices no greater than 24 in. (600 mm) wide, may be used in place of tubular markers when the two-way operation is to be in place four days or less.”

701.20 Basis of Payment. Revise the second paragraph of Article 701.20(h) to read:

“ For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar day for each sign as CHANGEABLE MESSAGE SIGN.”

Revise the second paragraph of Article 701.20(h) to read:

“For all other portable changeable message signs, this work will be paid for at the contract unit price per calendar day for each sign as CHANGEABLE MESSAGE SIGN.”

State of Illinois  
Department of Transportation  
  
SUPPLEMENTAL SPECIFICATION  
FOR  
SECTION 704. TEMPORARY CONCRETE BARRIER

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted April 1, 2016 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

704.02 Materials. Revise this Article to read:

“**704.02 Materials.** Materials shall be according to the following.

Item	Article/Section
(a) Precast Temporary Concrete Barrier .....	1042
(b) Reinforcement Bars .....	1006.10(a)
(c) Connecting Pins and Anchor Pins (Note 1)	
(d) Connecting Loop Bars (Note 2)	
(e) Packaged Rapid Hardening Mortar or Concrete .....	1018

Note 1. Connecting pins and anchor pins shall be according to the requirements of ASTM F 1554 Grade 36 (Grade 250).

Note 2. Connecting loop bars shall be smooth bars according to the requirements of ASTM A 36 (A 36M).”

704.04 Installation. Revise this Article to read:

“**704.04 Installation.** The barriers shall be seated on bare, clean pavement or paved shoulder and connected together in a smooth, continuous line at the locations provided by the Engineer.

Except on bridge decks, or where alternate anchoring details are shown on the plans, the barrier unit at each end of an installation shall be anchored to the pavement or paved shoulder using six anchor pins and protected with an impact attenuator as shown on the plans. When pinning of

additional barrier units within the installation is specified, three anchor pins shall be installed in the traffic side holes of the required barriers.

Where both pinned and unpinned barrier units are used in a continuous installation, a transition shall be provided between them. The transition from pinned to unpinned barrier shall consist of two anchor pins installed in the end holes on the traffic side of the first barrier beyond the pinned section and one anchor pin installed in the middle hole on the traffic side of the second barrier beyond the pinned section. The third barrier beyond the pinned section shall then be unpinned.

Barriers located on bridge decks shall be restrained as shown on the plans. Anchor pins shall not be installed through bridge decks, unless otherwise noted.

Barriers or attachments damaged during transportation or handling, or by traffic during the life of the installation, shall be repaired or replaced. The Engineer will be the sole judge in determining which units or attachments require repair or replacement.

The barriers shall be removed when no longer required by the contract. After removal, all anchor holes in the pavement or paved shoulder shall be filled with a rapid hardening mortar or concrete. Only enough water to permit placement and consolidation by rodding shall be used and the material shall be struck-off flush.”

704.05 Method of Measurement. Add the following paragraph after the first paragraph of this Article:

“Anchor pins, except for the six anchor pins for the barrier unit at each end of an installation, will be measured for payment as each, per anchor pin installed.”

704.06 Materials. Add the following paragraph after the second paragraph of this Article:

“Anchor pins, except for the six anchor pins for the barrier unit at each end of an installation, will be paid for at the contract unit price per each for PINNING TEMPORARY CONCRETE BARRIER.

State of Illinois  
Department of Transportation

SUPPLEMENTAL SPECIFICATION  
FOR  
SECTION 1106. WORK ZONE TRAFFIC CONTROL DEVICES

This Supplemental Specification amends the provisions of the Standard Specifications for Road and Bridge Construction, adopted April 1, 2016 and shall be construed to be a part thereof, superseding any conflicting provisions thereof applicable to the work under the contract.

1106.02 Devices. Revise the second sentence of the second paragraph of this Article to read:

“These include cones, tubular markers, and plastic drums with no attachments.”

Revise the third sentence of the seventh paragraph of this Article to read:

“Sheeting used on cones, drums, and tubular markers shall be reboundable as tested according to ASTM D 4956.”

Revise Article 1106.02(f) to read:

“(f) Tubular Markers. Tubular Markers shall be designed to bend under repeated impacts and return to an upright position without damage to the impacting vehicle or the markers. The markers shall be readily removable from the bases to permit field replacement.

The markers shall be orange in color having two white and two fluorescent orange bands.”

Revise the second sentence of the first paragraph of Article 1106.02(i) to read:

“The message panel shall be a minimum of 7 ft (2.1 m) above the edge of pavement in urban areas and a minimum of 5 ft (1.5 m) above the edge of pavement in rural areas, present a level appearance, and be capable of displaying up to eight characters in each of three lines at a time.”

State of Illinois  
Department of Transportation

SPECIAL PROVISION  
FOR  
PAVEMENT AND SHOULDER RESURFACING

Effective: February 1, 2000  
Revised: January 1, 2009

Revise Article 406.10 of the Standard Specifications to read:

**406.10 Resurfacing Sequence.** The resurfacing operations shall satisfy the following requirements:

- (a) Before paving in a lane, the adjacent lane and its paved shoulder shall be at the same elevation.
- (b) Each lift of resurfacing shall be completed, including paved shoulders, before the next lift is begun.
- (c) Elevation differences between lanes shall be eliminated within twelve calendar days.”

Revise the first sentence of the eleventh paragraph of Article 406.13 of the Standard Specifications to read:

“When a HMA binder and surface course mixture is used on shoulders and is placed simultaneously with the traffic lane as specified in Section 482, the quantity of HMA placed on the traffic lane that will be paid for will be limited to a calculated tonnage based upon actual mat width

and length, plan thickness or a revised thickness authorized by the Engineer, and design mix weight per inch (millimeter) of thickness.”

Delete the twelfth paragraph of Article 406.13 of the Standard Specifications.

Revise the sixth paragraph of Article 482.05 of the Standard Specifications to read:

“On pavement and shoulder resurfacing projects, the resurfacing sequence shall be according to Article 406.10. When the HMA binder and surface course option is used, the shoulders may be placed, at the Contractor’s option, simultaneously with the adjacent traffic lane for both courses, provided the specified density, thickness and cross slope of both the pavement and shoulder can be satisfactorily obtained.

State of Illinois  
Department of Transportation

SPECIAL PROVISION  
FOR  
TEMPORARY PORTABLE BRIDGE TRAFFIC SIGNALS

Effective: August 1, 2003

Revised: January 1, 2007

Description. At the Contractor’s option, temporary portable bridge traffic signals may be used in place of temporary bridge traffic signals. Work shall be according to Article 701.18(b) of the Standard Specifications, except as follows:

Materials. Materials shall be according to the following.

Item	Article/Section
(a) Traffic Signal Head .....	1078
(b) Electric Cable.....	1076.04
(c) Controller .....	1073
(d) Controller Cabinet.....	1074.03
(e) Detector Loop .....	1079

CONSTRUCTION REQUIREMENTS

General. The temporary portable bridge traffic signals shall be trailer-mounted units. The trailer-mounted units shall be set up securely and level. Each unit shall be self-contained and consist of two signal heads. The left signal head shall be mounted on a mast arm capable of extending over the travel lane. Each unit shall contain a solar cell system to facilitate battery charging. There shall be a minimum of 12 days backup reserve battery supply and the units shall be capable of operating with a 120 V power supply from a generator or electrical service.

All signal heads located over the travel lane shall be mounted at a minimum height of 17 ft. (5 m) from the bottom of the signal back plate to the top of the road surface. All far right signal heads

located outside the travel lane shall be mounted at a minimum height of 8 ft. (2.4 m) from the bottom of the signal back plate to the top of the adjacent travel lane surface.

The long all red intervals for the traffic signal controller shall be adjustable up to 250 seconds in one-second increments.

As an alternative to detector loops, temporary portable bridge traffic signals may be equipped with microwave sensors or other approved methods of vehicle detection and traffic actuation. All portable traffic signal units shall be interconnected using hardwire communication cable or radio communication equipment. If radio communication is used, a site analysis shall be completed to ensure that there is no interference present that would affect the traffic signal operation. The radio equipment shall meet all applicable FCC requirements.

The temporary portable bridge traffic signal system shall meet the physical display and operational requirements of conventional traffic signals as specified in Part IV of the Manual on Uniform Traffic Control Devices (MUTCD). The signal system shall be designed to continuously operate over an ambient temperature range between -30 °F (-34 °C) and 120 °F (48 °C).

When not being utilized to inform and direct traffic, portable signals shall be treated as non-operating equipment according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will be paid for according to Article 701.20(c) of the Standard Specifications.

State of Illinois  
Department of Transportation  
  
SPECIAL PROVISION  
FOR  
WORK ZONE PUBLIC INFORMATION SIGNS

Effective: September 1, 2002

Revised: January 1, 2007

Description. This work shall consist of furnishing, erecting, maintaining, and removing work zone public information signs.

Camera-ready artwork for the signs will be provided to sign manufacturing companies upon request by contacting the Central Bureau of Operations at 217-782-2076. The sign number is W21-1116-6048.

Freeways/Expressways. These signs are required on freeways and expressways. The signs shall be erected as shown on Highway Standard 701400 and according to Article 701.14 of the Standard Specifications.

All Other Routes. These signs shall be used on other routes when specified on the plans. They shall be erected in pairs midway between the first and second warning signs.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the Standard.

State of Illinois  
Department of Transportation

SPECIAL PROVISION  
FOR  
NIGHT TIME INSPECTION OF ROADWAY LIGHTING

Effective: May 1, 1996

The Contractor shall provide traffic control and protection for the night time inspection of the roadway lighting as shown in the contract. Any fixtures found not to be aimed to provide optimum lighting on the roadway during the night time inspection shall be re-aimed to optimum during the inspection. Any work necessary for re-aiming will not be paid for separately but, shall be included in the cost of the highway lighting bid items.

State of Illinois  
Department of Transportation

SPECIAL PROVISION  
FOR  
TEMPORARY RAISED PAVEMENT MARKERS

Effective: January 1, 2009  
Revised: January 1, 2014

Description. This work shall consist of furnishing and installing temporary raised pavement markers on preventive maintenance projects requiring cape seals or bituminous surface treatments.

Materials. The marker body shall be approximately 0.06 in. (1.5 mm) thick polyurethane formed in an "L" shape. The base of the marker shall be approximately 4 in. (100 mm) wide by 1.125 in. (28 mm) long with a solid 0.125 in. (3.2 mm) thick butyl rubber adhesive pad protected with a release paper. The vertical portion of the marker shall be approximately 4 in. (100 mm) wide by 2 in. (50 mm) high.

A cube-corner micro-prism reflective tape material shall be placed horizontally along both sides at the top of the vertical section of the marker. The reflective material shall be recessed in an "I-Beam" design to protect the reflective material from aggregate. A clear flexible polyvinyl chloride plastic cover is to be attached to the vertical section of the marker with a heavy duty staple to cover the reflective material during surfacing operations. The flexible raised pavement marker shall be readily visible at night when viewed with high beam automobile headlamps from a distance of at least 300 ft. (90 m).

Construction Requirements

Application. The temporary markers shall be installed at the centerline or lane line(s) prior to application of any surface treatment which would cover the existing pavement markings. Temporary markers shall also be applied at edge lines when specified on the plans.

For temporary replacement of skip dash markings, an abbreviated pattern of two markers spaced 4 ft. (1.2 m) apart with a maximum spacing of 40 ft. (12 m) between sets of markers shall be used. For

temporary replacement of solid lines, one marker shall be placed every 5 ft. (1.5 m). The marker color and location shall match the existing line color and location.

Basis of Payment. This work will be paid for at the contract unit price per each for TEMPORARY RAISED PAVEMENT MARKER.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
WORK ZONE TRAFFIC CONTROL SURVEILLANCE

Effective: January 1, 1999  
Revised: January 1, 2018

Revise Article 701.10 of the Standard Specifications to read:

“The Contractor shall conduct inspections of the worksite at a frequency that will allow for the timely replacement of any traffic control device that has become displaced, worn, or damaged. A sufficient quantity of replacement devices, based on vulnerability to damage, shall be readily available to meet this requirement.”

Delete Article 701.20(g) of the Standard Specifications.

State of Illinois  
Department of Transportation  
Bureau of Local Roads and Streets

SPECIAL PROVISION  
FOR  
FLAGGERS IN WORK ZONES

Effective: January 1, 1999  
Revised: January 1, 2007

Revise the last paragraph of Article 701.13 of the Standard Specifications to read:

“Flaggers are required only when workers are present.”

# **Bureau of Design & Environment Special Provisions**

**January 1, 2020**

## **AUTOMATED FLAGGER ASSISTANCE DEVICES (BDE)**

Effective: January 1, 2008

Description. This work shall consist of furnishing and operating automated flagger assistance devices (AFADs) as part of the work zone traffic control and protection for two lane highways where two-way traffic is maintained over one lane of pavement. Use of these devices shall be at the option of the Contractor.

Equipment. AFADs shall be according to the FHWA memorandum, "MUTCD - Revised Interim Approval for the use of Automated Flagger Assistance Devices in Temporary Traffic Control Zones (IA-4R)", dated January 28, 2005. The devices shall be mounted on a trailer or a moveable cart and shall meet the requirements of NCHRP 350, Category 4.

The AFAD shall be the Stop/Slow type. This device uses remotely controlled "STOP" and "SLOW" signs to alternately control right-of-way.

Signs for the AFAD shall be according to Article 701.03 of the Standard Specifications and the MUTCD. The signs shall be 24 x 24 in. (600 x 600 mm) having an octagon shaped "STOP" sign on one side and a diamond shaped "SLOW" sign on the opposite side. The letters on the signs shall be 8 in. (200 mm) high. If the "STOP" sign has louvers, the full sign face shall be visible at a distance of 50 ft. (15 m) and greater.

The signs shall be supplemented with one of the following types of lights.

(a) Flashing Lights. When flashing lights are used, white or red flashing lights shall be mounted within the "STOP" sign face and white or yellow flashing lights within the "SLOW" sign face.

(b) Stop and Warning Beacons. When beacons are used, a stop beacon shall be mounted 24 in. (600 mm) or less above the "STOP" sign face and a warning beacon mounted 24 in. (600 mm) or less above, below, or to the side of the "SLOW" sign face. As an option, a Type B warning light may be used in lieu of the warning beacon.

A "WAIT ON STOP" sign shall be placed on the right hand side of the roadway at a point where drivers are expected to stop. The sign shall be 24 x 30 in. (600 x 750 mm) with a black legend and border on a white background. The letters shall be at least 6 in. (150 mm) high.

This device may include a gate arm or mast arm that descends to a horizontal position when the "STOP" sign is displayed and rises to a vertical position when the "SLOW" sign is displayed. When included, the end of the arm shall reach at least to the center of the lane being controlled. The arm shall have alternating red and white retroreflective stripes, on both sides, sloping downward at 45 degrees toward the side on which traffic will pass. The stripes shall be 6 in. (150 mm) in width and at least 2 in. (50 mm) in height.

Flagging Requirements. Flaggers and flagging requirements shall be according to Article 701.13 of the Standard Specifications and the following.

AFADs shall be placed at each end of the traffic control, where a flagger is shown on the plans. The flaggers shall be able to view the face of the AFAD and approaching traffic during operation.

To stop traffic, the "STOP" sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall descend to a horizontal position. To permit traffic to move, the

“SLOW” sign shall be displayed, the corresponding lights/beacon shall flash, and when included, the gate arm shall rise to a vertical position.

If used at night, the AFAD location shall be illuminated according to Section 701 of the Standard Specifications.

When not in use, AFADs will be considered nonoperating equipment and shall be stored according to Article 701.11 of the Standard Specifications.

Basis of Payment. This work will not be paid for separately but shall be considered as included in the cost of the various traffic control items included in the contract.

80192

## **EQUIPMENT PARKING AND STORAGE (BDE)**

Effective: November 1, 2017

Replace the first paragraph of Article 701.11 of the Standard Specifications with the following.

**“701.11 Equipment Parking and Storage.** During working hours, all vehicles and/or nonoperating equipment which are parked, two hours or less, shall be parked at least 8 ft (2.5 m) from the open traffic lane. For other periods of time during working and for all nonworking hours, all vehicles, materials, and equipment shall be parked or stored as follows.

- (a) When the project has adequate right-of-way, vehicles, materials, and equipment shall be located a minimum of 30 ft (9 m) from the pavement.
- (b) When adequate right-of-way does not exist, vehicles, materials, and equipment shall be located a minimum of 15 ft (4.5 m) from the edge of any pavement open to traffic.
- (c) Behind temporary concrete barrier, vehicles, materials, and equipment shall be located a minimum of 24 in. (600 mm) behind free standing barrier or a minimum of 6 in. (150 mm) behind barrier that is either pinned or restrained according to Article 704.04. The 24 in. or 6 in. measurement shall be from the base of the non-traffic side of the barrier.
- (d) Behind other man-made or natural barriers meeting the approval of the Engineer.”

80388

## PAVEMENT MARKING BLACKOUT TAPE (BDE)

Effective: November 1, 2014

Revised: April 1, 2016

Revise the fourth paragraph of Article 701.04 of the Standard Specifications to read:

“The traffic control shall remain in place only as long as needed and shall be removed when directed by the Engineer. Signs that do not apply to current conditions shall be removed, covered, or turned from the view of motorists. All existing pavement markings which conflict with the revised traffic pattern shall be removed according to Section 783 or when specified, temporarily covered with pavement marking blackout tape. The width of blackout tape shall be at least 1 in. (25 mm) wider than the width of the pavement marking being covered. The removing or covering of existing markings shall be scheduled immediately to facilitate the revised traffic pattern. If darkness or inclement weather prohibits the removal or covering operations, such operations shall be resumed the next morning or when weather permits.”

Revise Article 701.19(f) of the Standard Specifications to read:

“(f) Removal of existing pavement markings and raised reflective pavement markers will be measured for payment according to Article 783.05. Temporary covering of existing pavement markings with blackout tape will be measured for payment in feet (meters) in place. Removal of blackout tape will be measured for payment in square feet (square meters).”

Revise Article 701.20(j) of the Standard Specifications to read:

“(j) Removal of existing pavement markings and raised reflective pavement markers will be paid for according to Article 783.06. Temporary covering of existing pavement markings with blackout tape will be paid for at the contract unit price per foot for PAVEMENT MARKING BLACKOUT TAPE, of the line width specified.” Removal of blackout tape will be paid for as short term pavement marking removal according to Article 703.07.”

Revise the first two paragraphs of Article 1095.06 of the Standard Specifications to read:

“**1095.06 Pavement Marking Tape.** White or yellow marking tape shall consist of glass spheres of high optical quality embedded into a binder on a suitable backing that is precoated with a pressure sensitive adhesive. The spheres shall be of uniform gradation and distributed evenly over the surface of the tape. Blackout marking tape shall be a Type III tape consisting of a matte black, non-reflective, patterned surface that is precoated with a pressure sensitive adhesive. The surface of the blackout pavement marking tape shall provide a minimum skid resistance value of 45 BPN when tested according to ASTM E 303-74.

The material shall be white, yellow, or matte black as specified. White and yellow colors shall conform closely to Federal color tolerances for pavement marking paint.”

Revise the second table of Article 1095.06 to read:

“Test	Type I		Type III		
	White	Yellow	White	Yellow	Blackout
Initial Thickness, mils (mm)	20 (0.51)	20 (0.51)	20 (0.51)	20 (0.51)	65 (1.65) <sup>1/</sup> 10 (0.25) <sup>2/</sup>

Durability (cycles)	5,000	5,000	1,500	1,500	1,500
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Notes:

- 1/ Measured at the thickest point of the patterned surface.
- 2/ Measured at the thinnest point of the patterned surface.”

80349

## PAVEMENT MARKING REMOVAL (BDE)

Effective: July 1, 2016

Revise Article 783.02 of the Standard Specifications to read:

“**783.02 Equipment.** Equipment shall be according to the following.

Item	Article/Section
(a) Grinders (Note 1)	
(b) Water Blaster with Vacuum Recovery .....	1101.12

Note 1. Grinding equipment shall be approved by the Engineer.”

Revise the first paragraph of Article 783.03 of the Standard Specifications to read:

“**783.03 Removal of Conflicting Markings.** Existing pavement markings that conflict with revised traffic patterns shall be removed. If darkness or inclement weather prohibits the removal operations, such operations shall be resumed the next morning or when weather permits. In the event of removal equipment failure, such equipment shall be repaired, replaced, or leased so removal operations can be resumed within 24 hours.”

Revise the first and second sentences of the first paragraph of Article 783.03(a) of the Standard Specifications to read:

“The existing pavement markings shall be removed by the method specified and in a manner that does not materially damage the surface or texture of the pavement or surfacing. Small particles of tightly adhering existing markings may remain in place, if in the opinion of the Engineer, complete removal of the small particles will result in pavement surface damage.”

Revise the first paragraph of Article 783.04 of the Standard Specifications to read:

“**783.04 Cleaning.** The roadway surface shall be cleaned of debris or any other deleterious material by the use of compressed air or water blast.”

Revise the first paragraph of Article 783.06 of the Standard Specifications to read:

“**783.06 Basis of Payment.** This work will be paid for at the contract unit price per each for RAISED REFLECTIVE PAVEMENT MARKER REMOVAL, or at the contract unit price per square foot (square meter) for PAVEMENT MARKING REMOVAL – GRINDING and/or PAVEMENT MARKING REMOVAL – WATER BLASTING.”

Delete Article 1101.13 from the Standard Specifications.

80371

## **SPEED DISPLAY TRAILER (BDE)**

Effective: April 2, 2014

Revised: January 1, 2017

Revise the third paragraph of Article 701.11 of the Standard Specifications to read:

“When not being utilized to inform and direct traffic, sign trailers, speed display trailers, arrow boards, and portable changeable message boards shall be treated as nonoperating equipment.”

Add the following to Article 701.15 of the Standard Specifications:

“(m) Speed Display Trailer. A speed display trailer is used to enhance safety of the traveling public and workers in work zones by alerting drivers of their speed, thus deterring them from driving above the posted work zone speed limit.”

Add the following to Article 701.20 of the Standard Specifications:

“(k) When speed display trailers are shown on the Standard, this work will not be paid for separately but shall be considered as included in the cost of the Standard.

For all other speed display trailers, this work will be paid for at the contract unit price per calendar month or fraction thereof for each trailer as SPEED DISPLAY TRAILER.”

Add the following to Article 1106.02 of the Standard Specifications:

“(o) Speed Display Trailer. The speed display trailer shall consist of a LED speed indicator display with self-contained, one-direction radar mounted on an orange see-through trailer. The height of the display and radar shall be such that it will function and be visible when located behind concrete barrier.

The speed measurement shall be by radar and provide a minimum detection distance of 1000 ft (300 m). The radar shall have an accuracy of  $\pm 1$  mile per hour.

The speed indicator display shall face approaching traffic and shall have a sign legend of “YOUR SPEED” immediately above or below the speed display. The sign letters shall be between 5 and 8 in. (125 and 200 mm) in height. The digital speed display shall show two digits (00 to 99) in mph. The color of the changeable message legend shall be a yellow legend on a black background. The minimum height of the numerals shall be 18 in. (450 mm), and the nominal legibility distance shall be at least 750 ft (250 m).

The speed indicator display shall be equipped with a violation alert that flashes the displayed detected speed when the work zone posted speed limit is exceeded. The speed indicator shall have a maximum speed cutoff. On roadway facilities with a normal posted speed limit greater than or equal to 45 mph, the detected speeds of vehicles traveling more than 25 mph over the work zone speed limit shall not be displayed. On facilities with normal posted speed limit of less than 45 mph, the detected speeds of vehicles traveling more than 15 mph over the work zone speeds limit shall not be displayed. On any roadway facility if detected speeds

are less than 25 mph, they shall not be displayed. The display shall include automatic dimming for nighttime operation.

The speed indicator measurement and display functions shall be equipped with the power supply capable of providing 24 hours of uninterrupted service.”

## TEMPORARY PAVEMENT MARKING (BDE)

Effective: April 1, 2012

Revised: April 1, 2017

Revise Article 703.02 of the Standard Specifications to read:

“**703.02 Materials.** Materials shall be according to the following.

- (a) Pavement Marking Tape, Type I and Type III ..... 1095.06
- (b) Paint Pavement Markings ..... 1095.02
- (c) Pavement Marking Tape, Type IV ..... 1095.11”

Revise the second paragraph of Article 703.05 of the Standard Specifications to read:

“Type I marking tape or paint shall be used at the option of the Contractor, except paint shall not be applied to the final wearing surface unless authorized by the Engineer for late season applications where tape adhesion would be a problem. Type III or Type IV marking tape shall be used on the final wearing surface when the temporary pavement marking will conflict with the permanent pavement marking such as on tapers, crossovers and lane shifts.”

Revise Article 703.07 of the Standard Specifications to read:

“**703.07 Basis of Payment.** This work will be paid for as follows.

- (a) Short Term Pavement Marking. Short term pavement marking will be paid for at the contract unit price per foot (meter) for SHORT TERM PAVEMENT MARKING. Removal of short term pavement markings will be paid for at the contract unit price per square foot (square meter) for SHORT TERM PAVEMENT MARKING REMOVAL.
- (b) Temporary Pavement Marking. Where the Contractor has the option of material type, temporary pavement marking will be paid for at the contract unit price per foot (meter) for TEMPORARY PAVEMENT MARKING of the line width specified, and at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING LETTERS AND SYMBOLS.

Where the Department specifies the use of pavement marking tape, the Type III or Type IV temporary pavement marking will be paid for at the contract unit price per foot (meter) for PAVEMENT MARKING TAPE, TYPE III or PAVEMENT MARKING TAPE, TYPE IV of the line width specified and at the contract unit price per square feet (square meter) for PAVEMENT MARKING TAPE, TYPE III - LETTERS AND SYMBOLS or PAVEMENT MARKING TAPE, TYPE IV – LETTERS AND SYMBOLS.

Removal of temporary pavement markings will be paid for at the contract unit price per square foot (square meter) for TEMPORARY PAVEMENT MARKING REMOVAL.

When temporary pavement marking is shown on the Standard, the cost of the temporary pavement marking and its removal will be included in the cost of the Standard.”

Add the following to Section 1095 of the Standard Specifications:

**“1095.11 Pavement Marking Tape, Type IV.** The temporary, preformed, patterned markings shall consist of a white or yellow tape with wet retroreflective media incorporated to provide immediate and continuing retroreflection during both wet and dry conditions. The tape shall be manufactured without the use of heavy metals including lead chromate pigments or other similar, lead-containing chemicals.

The white and yellow Type IV marking tape shall meet the Type III requirements of Article 1095.06 and the following.

- (a) Composition. The retroreflective pliant polymer pavement markings shall consist of a mixture of high-quality polymeric materials, pigments and glass beads distributed throughout its base cross-sectional area, with a layer of wet retroreflective media bonded to a durable polyurethane topcoat surface. The patterned surface shall have approximately 40% ± 10% of the surface area raised and presenting a near vertical face to traffic from any direction. The channels between the raised areas shall be substantially free of exposed beads or particles.
- (b) Retroreflectance. The white and yellow markings shall meet the following for initial dry and wet retroreflectance.
  - (1) Dry Retroreflectance. Dry retroreflectance shall be measured under dry conditions according to ASTM D 4061 and meet the values described in Article 1095.06 for Type III tape.
  - (2) Wet Retroreflectance. Wet retroreflectance shall be measured under wet conditions according to ASTM E 2177 and meet the values shown in the following table.

**Wet Retroreflectance, Initial R<sub>L</sub>**

Color	R <sub>L</sub> 1.05/88.76
White	300
Yellow	200

- (c) Color. The material shall meet the following requirements for daylight reflectance and color, when tested, using a color spectrophotometer with 45 degrees circumferential/zero degree geometry, illuminant D65, and a two degree observer angle. The color instrument shall measure the visible spectrum from 380 to 720 nm with a wavelength measurement interval and spectral bandpass of 10 nm.

Color	Daylight Reflectance %Y
White	65 minimum
*Yellow	36-59

\*Shall match Federal 595 Color No. 33538 and the chromaticity limits as follows.

x	0.490	0.475	0.485	0.530
y	0.470	0.438	0.425	0.456

- (d) Skid Resistance. The surface of the markings shall provide an average minimum skid resistance of 50 BPN when tested according to ASTM E 303.
- (e) Sampling, Testing, Acceptance, and Certification. Prior to approval and use of the wet reflective, temporary, removable pavement marking tape, the manufacturer shall submit a notarized certification from an independent laboratory, together with the results of all tests, stating that the material meets the requirements as set forth herein. The certification test report shall state the lot tested, manufacturer's name, and date of manufacture.

After approval by the Department, samples and certification by the manufacturer shall be submitted for each batch used. The manufacturer shall submit a certification stating that the material meets the requirements as set forth herein and is essentially identical to the material sent for qualification. The certification shall state the lot tested, manufacturer's name, and date of manufacture.

All costs of testing (other than tests conducted by the Department) shall be borne by the manufacturer."

80298

## **TRAFFIC CONTROL DEVICES - CONES (BDE)**

Effective: January 1, 2019

Revise Article 701.15(a) of the Standard Specifications to read:

- "(a) Cones. Cones are used to channelize traffic. Cones used to channelize traffic at night shall be reflectorized; however, cones shall not be used in nighttime lane closure tapers or nighttime lane shifts."

Revise Article 1106.02(b) of the Standard Specifications to read:

- "(b) Cones. Cones shall be predominantly orange. Cones used at night that are 28 to 36 in. (700 to 900 mm) in height shall have two white circumferential stripes. If non-reflective spaces are left between the stripes, the spaces shall be no more than 2 in. (50mm) in width. Cones used at night that are taller than 36 in. (900 mm) shall have a minimum of two white and two fluorescent orange alternating, circumferential stripes with the top stripe being fluorescent orange. If non-reflective spaces are left between the stripes, the spaces shall be no more than 3 in. (75 mm) in width.

The minimum weights for the various cone heights shall be 4 lb for 18 in. (2 kg for 450 mm), 7 lb for 28 in. (3 kg for 700 mm), and 10 lb for 36 in. (5 kg for 900 mm) with a minimum of 60 percent of the total weight in the base. Cones taller than 36 in. shall be weighted per the manufacturer's specifications such that they are not moved by wind or passing traffic."

80409

## TRAFFIC SPOTTERS (BDE)

Effective: January 1, 2019

Revise Article 701.13 of the Standard Specifications to read:

**“701.13 Flaggers and Spotters.** Flaggers shall be certified by an agency approved by the Department. While on the job site, each flagger shall have in his/her possession a current driver’s license and a current flagger certification I.D. card. For non-drivers, the Illinois Identification Card issued by the Secretary of State will meet the requirement for a current driver’s license. This certification requirement may be waived by the Engineer for emergency situations that arise due to actions beyond the Contractor’s control where flagging is needed to maintain safe traffic control on a temporary basis. Spotters are defined as certified flaggers that provide support to workers by monitoring traffic.

Flaggers and spotters shall be stationed to the satisfaction of the Engineer and be equipped with a fluorescent orange, fluorescent yellow/green, or a combination of fluorescent orange and fluorescent yellow/green vest meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 2 garments. Flaggers shall be equipped with a stop/slow traffic control sign. Spotters shall be equipped with a loud warning device. The warning sound shall be identifiable by workers so they can take evasive action when necessary. Other types of garments may be substituted for the vest as long as the garments have a manufacturer’s tag identifying them as meeting the ANSI Class 2 requirement. The longitudinal placement of the flagger may be increased up to 100 ft (30 m) from that shown on the plans to improve the visibility of the flagger. Flaggers shall not encroach on the open lane of traffic unless traffic has been stopped. Spotters shall not encroach on the open lane of traffic, nor interact with or control the flow of traffic.

For nighttime flagging, flaggers shall be illuminated by an overhead light source providing a minimum vertical illuminance of 10 fc (108 lux) measured 1 ft (300 mm) out from the flagger’s chest. The bottom of any luminaire shall be a minimum of 10 ft (3 m) above the pavement. Luminaire(s) shall be shielded to minimize glare to approaching traffic and trespass light to adjoining properties. Nighttime flaggers shall be equipped with fluorescent orange or fluorescent orange and fluorescent yellow/green apparel meeting the requirements of ANSI/ISEA 107-2004 or ANSI/ISEA 107-2010 for Conspicuity Class 3 garments.

Flaggers and spotters shall be provided per the traffic control plan and as follows.

- (a) Two-Lane Highways. Two flaggers will be required for each separate operation where two-way traffic is maintained over one lane of pavement. Work operations controlled by flaggers shall be no more than 1 mile (1600 m) in length. Flaggers shall be in sight of each other or in direct communication at all times. Direct communication shall be obtained by using portable two-way radios or walkie-talkies.

The Engineer will determine when a side road or entrance shall be closed to traffic. A flagger will be required at each side road or entrance remaining open to traffic within the operation where two-way traffic is maintained on one lane of pavement. The flagger shall be positioned as shown on the plans or as directed by the Engineer.

- (b) Multi-Lane Highways. At all times where traffic is restricted to less than the normal number of lanes on a multilane pavement with a posted speed limit greater than 40 mph and the workers are present, but not separated from the traffic by physical barriers, a flagger or spotter shall be furnished as shown on the plans. Flaggers shall warn and direct traffic. Spotters shall

monitor traffic conditions and warn workers of errant approaching vehicles or other hazardous conditions as they occur. One flagger will be required for each separate activity of an operation that requires frequent encroachment in a lane open to traffic. One spotter will be required for each separate activity with workers near the edge of the open lane or with their backs facing traffic.

Flaggers will not be required when no work is being performed, unless there is a lane closure on two-lane, two-way pavement.”

80410

## **WORK ZONE TRAFFIC CONTROL DEVICES (BDE)**

Effective: March 2, 2020

Add the following to Article 701.03 of the Standard Specifications:

“(q) Temporary Sign Supports ..... 1106.02”

Revise the third paragraph of Article 701.14 of the Standard Specifications to read:

“For temporary sign supports, the Contractor shall provide a FHWA eligibility letter for each device used on the contract. The letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device. The signs shall be supported within 20 degrees of vertical. Weights used to stabilize signs shall be attached to the sign support per the manufacturer’s specifications.”

Revise the first paragraph of Article 701.15 of the Standard Specifications to read:

**“701.15 Traffic Control Devices.** For devices that must meet crashworthiness standards, the Contractor shall provide a manufacturer’s self-certification or a FHWA eligibility letter for each Category 1 device and a FHWA eligibility letter for each Category 2 and Category 3 device used on the contract. The self-certification or letter shall provide information for the set-up and use of the device as well as a detailed drawing of the device.”

Revise the first six paragraphs of Article 1106.02 of the Standard Specifications to read:

**“1106.02 Devices.** Work zone traffic control devices and combinations of devices shall meet crashworthiness standards for their respective categories. The categories are as follows.

Category 1 includes small, lightweight, channelizing and delineating devices that have been in common use for many years and are known to be crashworthy by crash testing of similar devices or years of demonstrable safe performance. These include cones, tubular markers, plastic drums, and delineators, with no attachments (e.g. lights). Category 1 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 1 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 2 includes devices that are not expected to produce significant vehicular velocity change but may otherwise be hazardous. These include vertical panels with lights, barricades,

temporary sign supports, and Category 1 devices with attachments (e.g. drums with lights). Category 2 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 2 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2024.

Category 3 includes devices that are expected to cause significant velocity changes or other potentially harmful reactions to impacting vehicles. These include crash cushions (impact attenuators), truck mounted attenuators, and other devices not meeting the definitions of Category 1 or 2. Category 3 devices manufactured after December 31, 2019 shall be MASH-16 compliant. Category 3 devices manufactured on or before December 31, 2019, and compliant with NCHRP 350 or MASH 2009, may be used on contracts let before December 31, 2029. Category 3 devices shall be crash tested for Test Level 3 or the test level specified.

Category 4 includes portable or trailer-mounted devices such as arrow boards, changeable message signs, temporary traffic signals, and area lighting supports. It is preferable for Category 4 devices manufactured after December 31, 2019 to be MASH-16 compliant; however, there are currently no crash tested devices in this category, so it remains exempt from the NCHRP 350 or MASH compliance requirement.

For each type of device, when no more than one MASH-16 compliant is available, an NCHRP 350 or MASH-2009 compliant device may be used, even if manufactured after December 31, 2019.”

Revise Articles 1106.02(g), 1106.02(k), and 1106.02(l) to read:

“(g) Truck Mounted/Trailer Mounted Attenuators. The attenuator shall be approved for use at Test Level 3. Test Level 2 may be used for normal posted speeds less than or equal to 45 mph.

(k) Temporary Water Filled Barrier. The water filled barrier shall be a lightweight plastic shell designed to accept water ballast and be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings.

(l) Movable Traffic Barrier. The movable traffic barrier shall be on the Department’s qualified product list.

Shop drawings shall be furnished by the manufacturer and shall indicate the deflection of the barrier as determined by acceptance testing; the configuration of the barrier in that test; and the vehicle weight, velocity, and angle of impact of the deflection test. The Engineer shall be provided one copy of the shop drawings. The barrier shall be capable of being moved on and off the roadway on a daily basis.”

80427

