2024

IOWA DOT

Traffic Control

APPENDIX A.

Revised 12/14/2023
Appendix A

GENERAL REQUIREMENTS FOR TEMPORARY TRAFFIC CONTROL

The purpose of temporary traffic control is to provide for the reasonably safe and efficient movement of road users through or around temporary traffic control zones while reasonably protecting workers. The information contained in this appendix is intended to serve as a reference for determining appropriate temporary traffic control for maintenance activities, all within and supplemental to the provisions of the current Iowa Manual on Uniform Traffic Control Devices (MUTCD) available at http://mutcd.fhwa.dot.gov.

Temporary traffic control is to be done as shown in the Standard Road Plans manual at https://www.iowadot.gov/erl/current/RS/Navigation/tc.htm However no one standard sequence of signs or other traffic control devices can be set up as an inflexible arrangement for all situations due to the variety of conditions encountered. If the supervisor has reason to believe that traffic or terrain features warrant additional traffic control measures, they may be taken provided they are not in conflict with Iowa Department of Transportation guidelines or the requirements of the MUTCD. Alternate traffic control procedures, adopted for cause, should be noted in the Supervisor's Daily Report.

Emergency situations such as responding to blowups or other incidents may dictate using devices or procedures available as a temporary measure.

1. Traffic control in accordance with standard road plans and detail sheets shall be employed whenever the work is on or within fifteen feet of the traveled way. No signs or barricades are required for equipment operating or work in progress more than 15 feet from the traveled way. However, temporary traffic control may be appropriate where distracting situations exist, such as vehicles parked on the shoulder, vehicles accessing the work site via the highway, or equipment crossing the roadway to perform the work operations.
2. The current Iowa DOT Flagger's Handbook at http://www.erl.dot.state.ia.us/ is to be used as a guide. The stop-slow paddle is the primary flagging device. The red flag is used as a secondary device, for emergency situations and at intersections when a flagger is needed to prevent vehicles from entering the road against the flow of traffic.
3. Except in emergency situations, when nighttime flagging is required, auxiliary lighting shall be provided to illuminate the flagging station according to the current Iowa DOT Flaggers Handbook. This lighting shall be set up in such a manner as to minimize glare to the motorists.
4. Prior to beginning work on any Iowa DOT roadways, the Traffic Management Center (TMC) as well as the Condition Acquisition and Reporting System (CARS/511) should be notified. In special instances, local emergency services may need to be notified if direct access to emergency services facilities (fire/police stations, hospitals, etc.) will be impacted.
5. Signs shall be removed, turned, or covered promptly when the need no longer exists.

6. Signs for traffic control zones in duration for 4 calendar days or more shall be mounted on fixed posts.
7. Permanent signing that conveys a message contrary to the message of the temporary signing and not applicable to the working conditions shall be covered or removed. Example of this when a traffic control speed limited sign is lower than the posted speed limit of the roadway.
8. On two-lane, two-way roads, arrow boards shall be used in caution mode (i.e. four corners/dancing diamonds) and shall not be used to direct traffic toward the opposing lane.
9. When shown on traffic control standards, Road Work Ahead signs shall be placed on roads that intersect the temporary traffic control zone unless the intersection is within the advance warning area.
10. Mowing operations within 15 feet of the traveled way will require no traffic control other than a slow-moving vehicle emblem and an amber revolving or strobe light, provided that driving on the shoulder is in the direction of the adjacent traffic lane and the mower is operated off the traveled way. The mower may be driven on the traveled way to cross bridges or to pass other obstructions such as culvert headwalls, if it does not interfere with traffic. Mowers being operated beyond the shoulder may travel in a direction opposing the adjacent lane of travel.
11. A minimum of three retroreflective channelizing devices should be placed temporarily at locations with damaged guardrail.
12. A standard fluorescent yellow green sign background shall be used with the warning signs for a moving operation when mobile signs are being used.
13. All temporary traffic control devices shall be maintained for cleanliness, visibility, operability, and correct positioning.

The traveled way as defined in the MUTCD and used in this appendix is the portion of the roadway for the movement of vehicles, exclusive of the shoulders, berms, sidewalks, and parking lanes.

As listed in Section 6C.03 of the MUTCD and used in this appendix, the four component parts of a temporary traffic control zone are the:

- Advanced warning area,
- Transition area,
- Activity area and
- Termination area.

The Activity area includes buffer spaces, traffic space and workspace. The work area symbol in the legend on standard road plans shall be construed to mean workspace.

As listed in Section 6G.02 of the MUTCD and used in this appendix, the five categories of work duration are:

A. **Long-term stationary**: Work that occupies a location more than 3 days.
B. **Intermediate-term stationary**: Work that occupies a location more than one daylight period up to 3 days, or nighttime work lasting more than 1 hour.
C. **Short-term stationary**: Daytime work that occupies a location for more than 1 hour, but less than 12 hours.
D. **Short duration**: Work that occupies a location up to 1 hour.
E. **Mobile**: Work that moves continuously or intermittently with stops no more than 30 minutes in duration.

Many maintenance and utility operations are classified as short-term stationary work, but many are also short duration or mobile. Mobile operations often involve frequent short stops and are similar to short-duration operations. Mobile operations also include work activities where workers and equipment move along the road without stopping, usually at slow speeds. Mobile signs or stationary signing that is periodically retrieved and repositioned in the advance warning area may be used for short duration or mobile work.

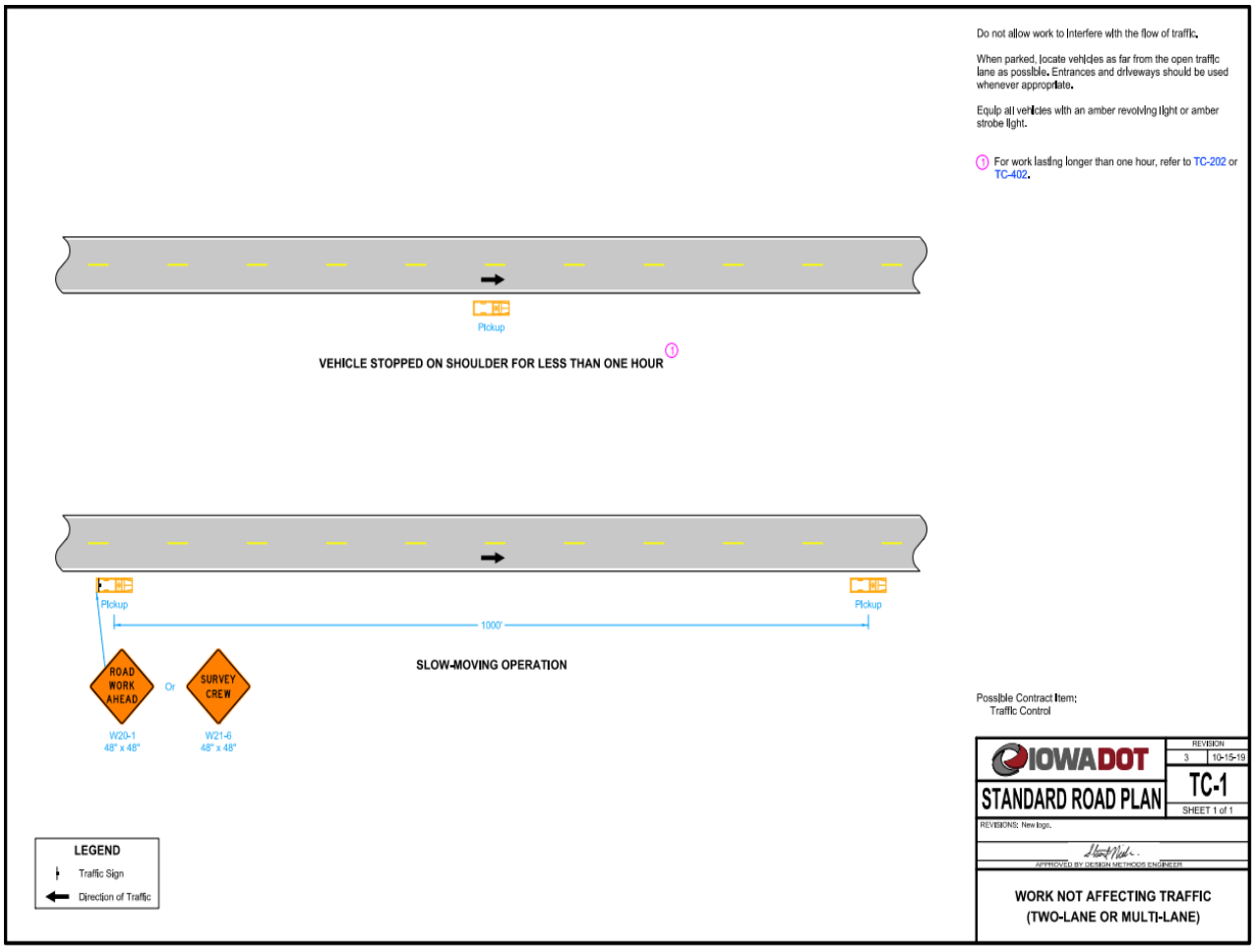
Notes for Standards:

Temporary traffic control standards are examples and are not all-inclusive of work for which a standard may be used. Just as there are a variety of methods that may be used to accomplish a function, there may be more than one standard road plan that is appropriate for traffic control for a function. The purpose of these notes is to provide information not readily available without referring to the Iowa DOT specifications, to reiterate certain statements in the MUTCD, or to clarify certain procedures for Iowa DOT maintenance usage.

1. Cones may be used as channelizing devices in tapers and along lane lines during daylight hours on 2 lane highways.
2. Barrels or Channelizers are required for interstate and divided highways as channelizing devices. Cones are not allowed for these roadways.
3. 42" Channelizers may be used in a taper in place of barrels. Channelizers must be set out at half the distance and twice as numerous as barrels.
4. In moving operations Single or Tandem axle trucks shall be used for carrying early warning signs. If roadway width restriction exist pickups may be substituted, such as on inside shoulders. Pickups may also be utilized in certain applications for mobile painting operations per TC-233 and TC-433.
5. Channelizing devices may be placed up to 2 feet beyond the centerline to form a lateral buffer space only at specific locations where actual work activity is taking place. They shall be returned to their normal location when the work activity has passed.
6. Use of 2- and 4-mile advanced warning signs for lane closures are no longer required.
7. When traffic is being controlled by flaggers, additional flaggers shall be stationed at intersections or crossings to prevent vehicles from entering the activity area against the flow of traffic.
8. An occasional item of work may be done in the open lane, in conjunction with other work, so long as it does not interfere with traffic.
9. Within the bounds of the work zone, no parking is allowed on the opposite shoulder, except emergency vehicles in case of emergency.
10. Speed Limit refers to the legally established speed limit before commencing road work.
11. When a highway-rail grade crossing exists within or upstream of the transition area and it is anticipated that queues resulting from the lane closure might extend through the highway-rail grade crossing, the temporary traffic control zone should be extended so that the transition area precedes the highway-rail grade crossing. Refer to MUTCD pages 6H-96 and 6H-97 at http://mutcd.fhwa.dot.gov/pdfs/2003r1/pdf-index.htm for an example application. Additionally, whenever traffic control or road work exists near a highway-rail grade crossing, always reach out to the railroad in advance to notify them of the work. This applies even if the work itself will not take place within railroad right-of-way or within the grade crossing area itself. A list of railroad contacts can be found here: https://iowadot.gov/iowarail/pdfs/public_works.pdf.

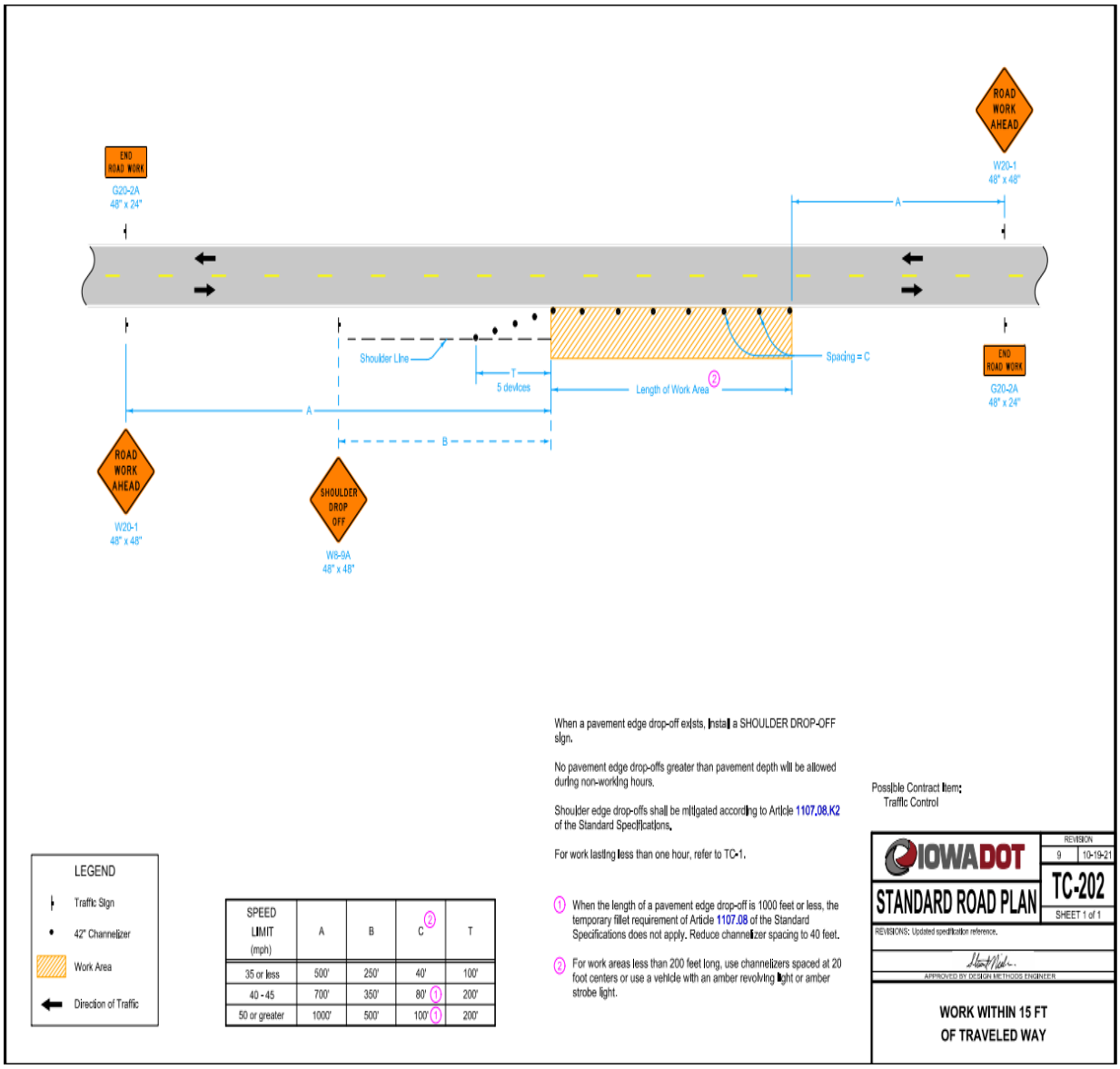
TC-1 Work Not Affecting Traffic

1. This plan is appropriate for short duration or mobile work where workers and equipment are operating on or within 15 feet of the traveled way of a two-lane or multi-lane road.
2. The traveled way shall be vacated to accommodate traffic.
3. Typical applications include spall patching, sign maintenance, lighting maintenance, debris removal, motorist assistance, field reviews, traffic studies and inspection of roadside features.
4. This plan limits stationary work in one location to 1 hr. max.



TC-202 Shoulder Closure

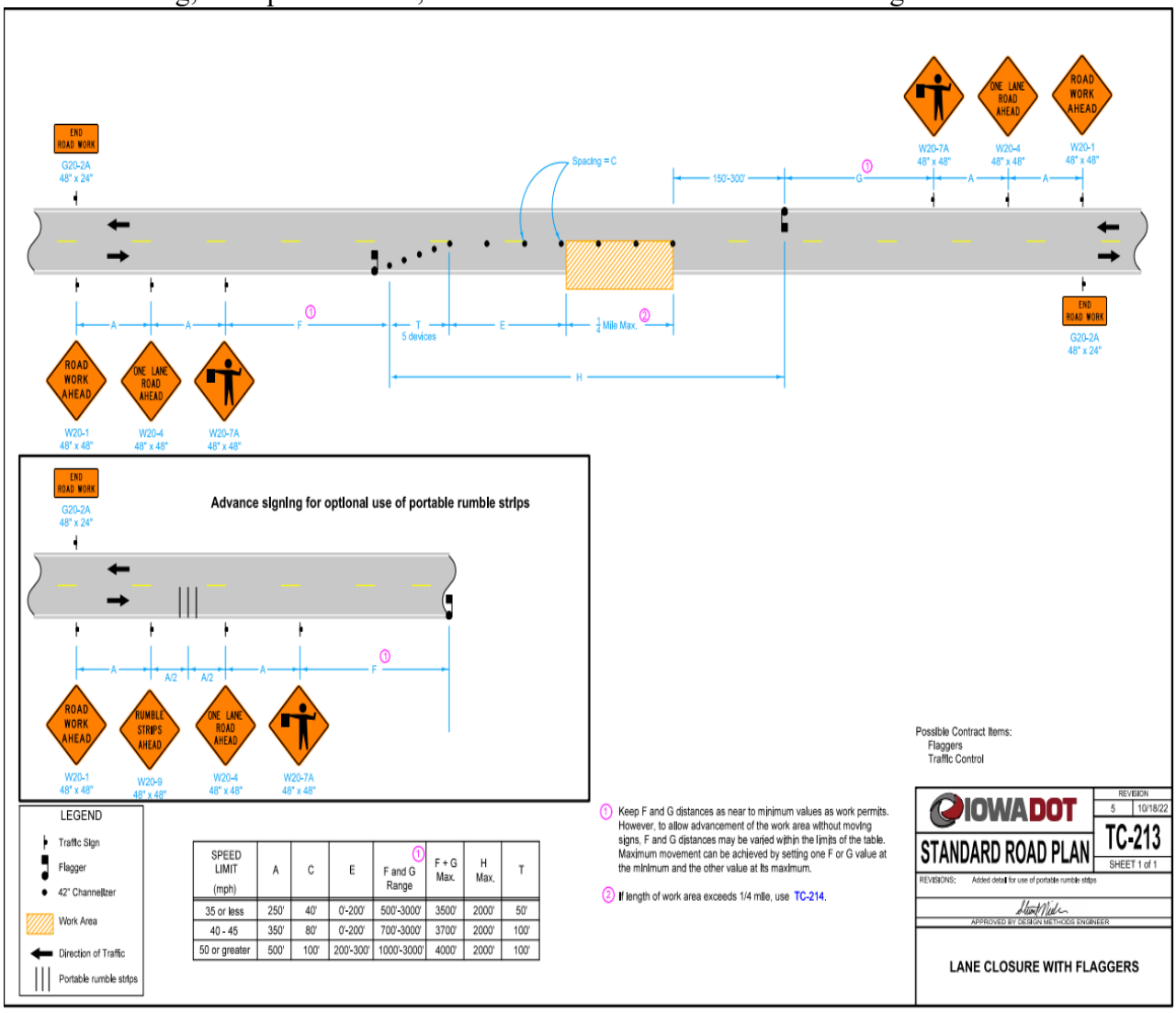
1. This plan is appropriate for long-term stationary, intermediate-term stationary or short-term stationary work as well as short duration and mobile work.
2. Typical applications include culvert work, shoulder work, guardrail work and side road work.
3. If pavement edge drop-off exists, install a Shoulder Drop-off sign. Shoulder drop-offs or excavations greater than the pavement depth shall not be left unattended.



SPEED LIMIT (mph)	A	B	C (2)	T
35 or less	500'	250'	40'	100'
40 - 45	700'	350'	80' (1)	200'
50 or greater	1000'	500'	100' (1)	200'

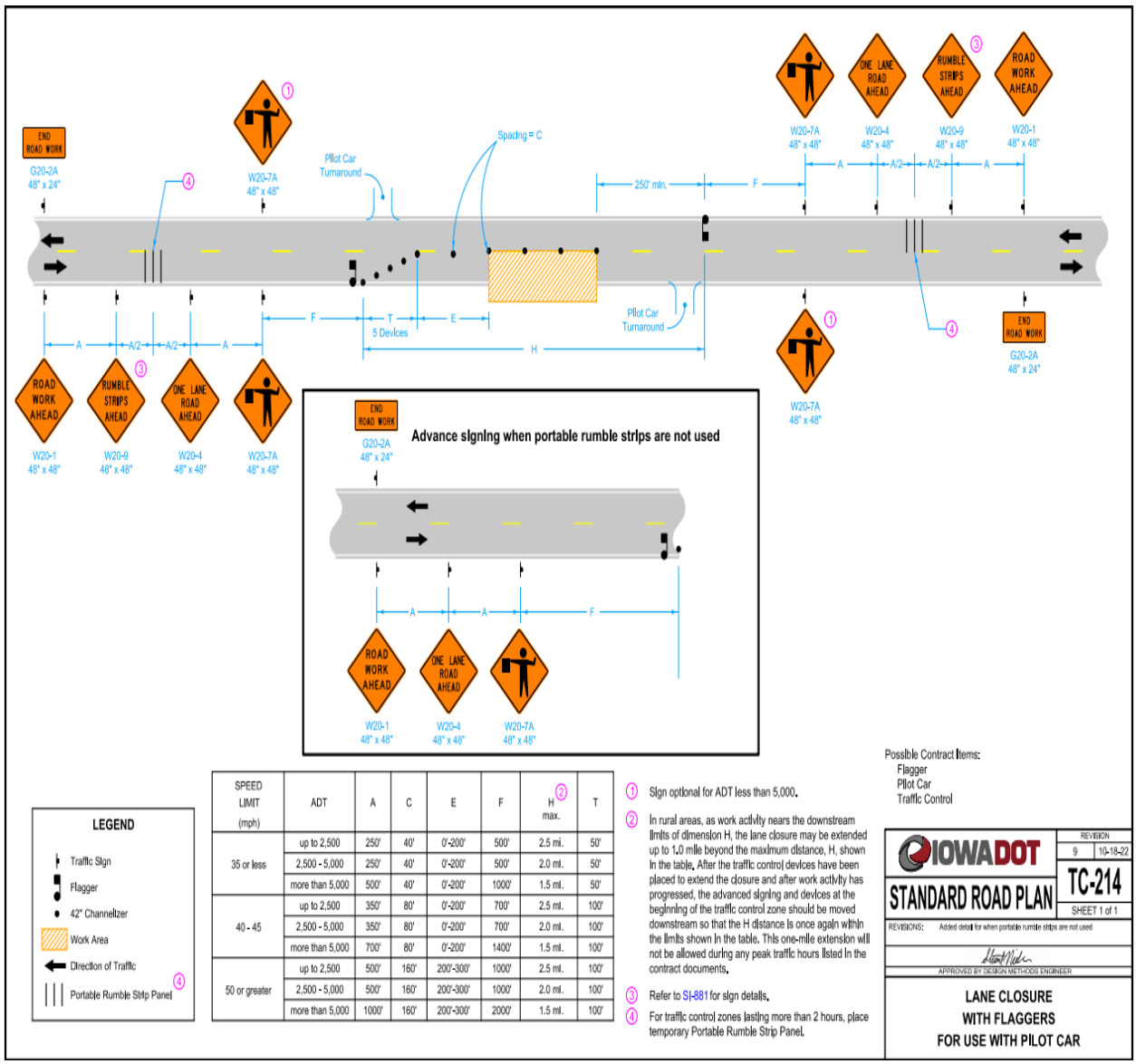
TC-213 Lane Closure with Flaggers

1. This plan is appropriate for short-term stationary, short duration, or mobile work.
2. The minimum “B” or “C” distance shall be increased as required to prevent traffic backing up into the advance warning area.
3. The length of the workspace may, for a short time, be changed to as much as one-half mile to improve the sight distance to the flagger.
4. Flaggers must have a positive means of communication, by hand signals if they are visible to each other or by portable two-way radio.
5. If available, rumble strips with correct signage shall be utilized with this TC. Spacing for rumble strip placement along roadways are explained in documentation from manufacturer.
6. Typical applications include spall patching, hand leveling, full depth patching, joint and crack filling, burn/plane or mill, machine surface restoration and leveling.



TC-214 Lane Closure with Flaggers and Pilot Car

1. This plan is appropriate for short-term stationary or short duration mobile work.
2. Pilot cars shall be pickup trucks or automobiles equipped with G20-4 signs reading PILOT CAR – FOLLOW ME. Two signs shall be mounted on the vehicle to be clearly visible from both directions. The bottoms of the signs shall be mounted at least 1 foot above the top of the cab. Pilot cars shall be operated such that they maintain a uniform speed through the workspace, no greater than 40 miles per hour.
3. This TC requires rumble strips for operations lasting longer than 2 hrs. Spacing for rumble strips along roadway are explained in documentation from manufacturer.
4. Typical applications include spall patching, full depth pavement replacement, joint and crack filling, burn/plane or mill and machine surface restoration and leveling.



SPEED LIMIT (mph)	ADT	A	C	E	F	H max. (2)	T
35 or less	up to 2,500	250'	40'	0'-200'	500'	2.5 mi.	50'
	2,500 - 5,000	250'	40'	0'-200'	500'	2.0 mi.	50'
	more than 5,000	500'	40'	0'-200'	1000'	1.5 mi.	50'
40 - 45	up to 2,500	350'	80'	0'-200'	700'	2.5 mi.	100'
	2,500 - 5,000	350'	80'	0'-200'	700'	2.0 mi.	100'
	more than 5,000	700'	80'	0'-200'	1400'	1.5 mi.	100'
50 or greater	up to 2,500	500'	160'	200'-300'	1000'	2.5 mi.	100'
	2,500 - 5,000	500'	160'	200'-300'	1000'	2.0 mi.	100'
	more than 5,000	1000'	160'	200'-300'	2000'	1.5 mi.	100'

(1) Sign optional for ADT less than 5,000.

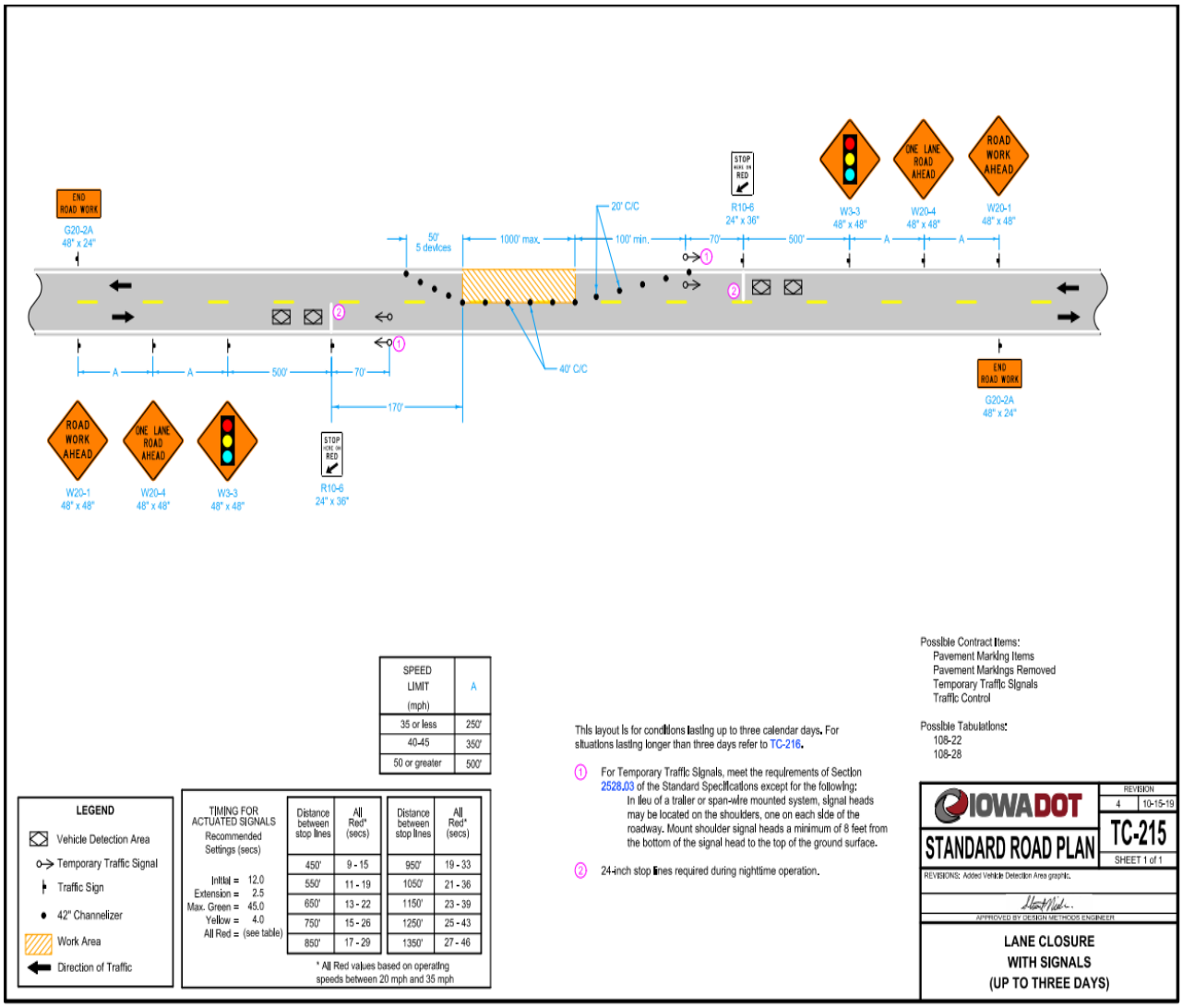
(2) In rural areas, as work activity nears the downstream limits of dimension H, the lane closure may be extended up to 1.0 mile beyond the maximum distance, H, shown in the table. After the traffic control devices have been placed to extend the closure and after work activity has progressed, the advanced signing and devices at the beginning of the traffic control zone should be moved downstream so that the H distance is once again within the limits shown in the table. This one-mile extension will not be allowed during any peak traffic hours listed in the contract documents.

(3) Refer to SI-881 for sign details.

(4) For traffic control zones lasting more than 2 hours, place temporary Portable Rumble Strip Panel.

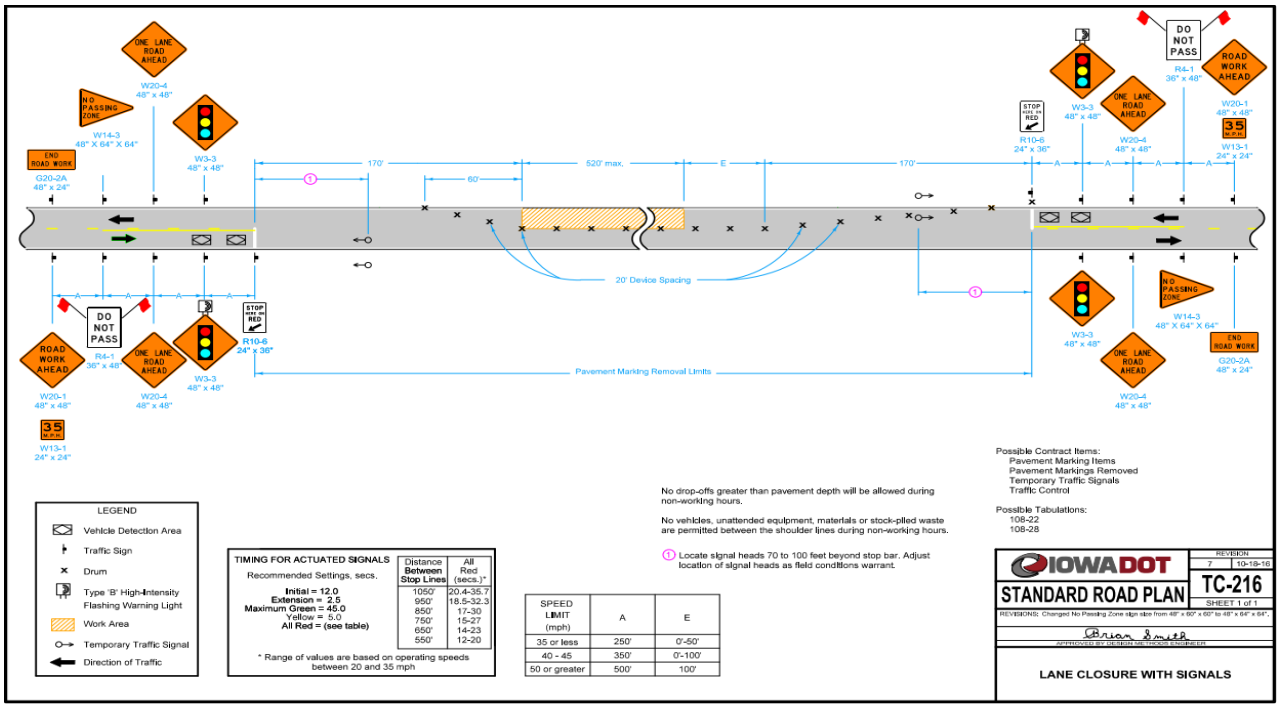
TC-215 Lane Closure with Signals

1. During peak hours in traffic flow, signals may need to be operated manually to minimize backup of traffic queue.
2. If available, rumble strips with correct signage shall be utilized with this TC. Spacing for rumble strips along roadway are explained in documentation from manufacturer.
3. Typical applications include spall patching, hand leveling, full depth patching, joint and crack filling, burn/plane or mill, machine surface restoration and leveling.



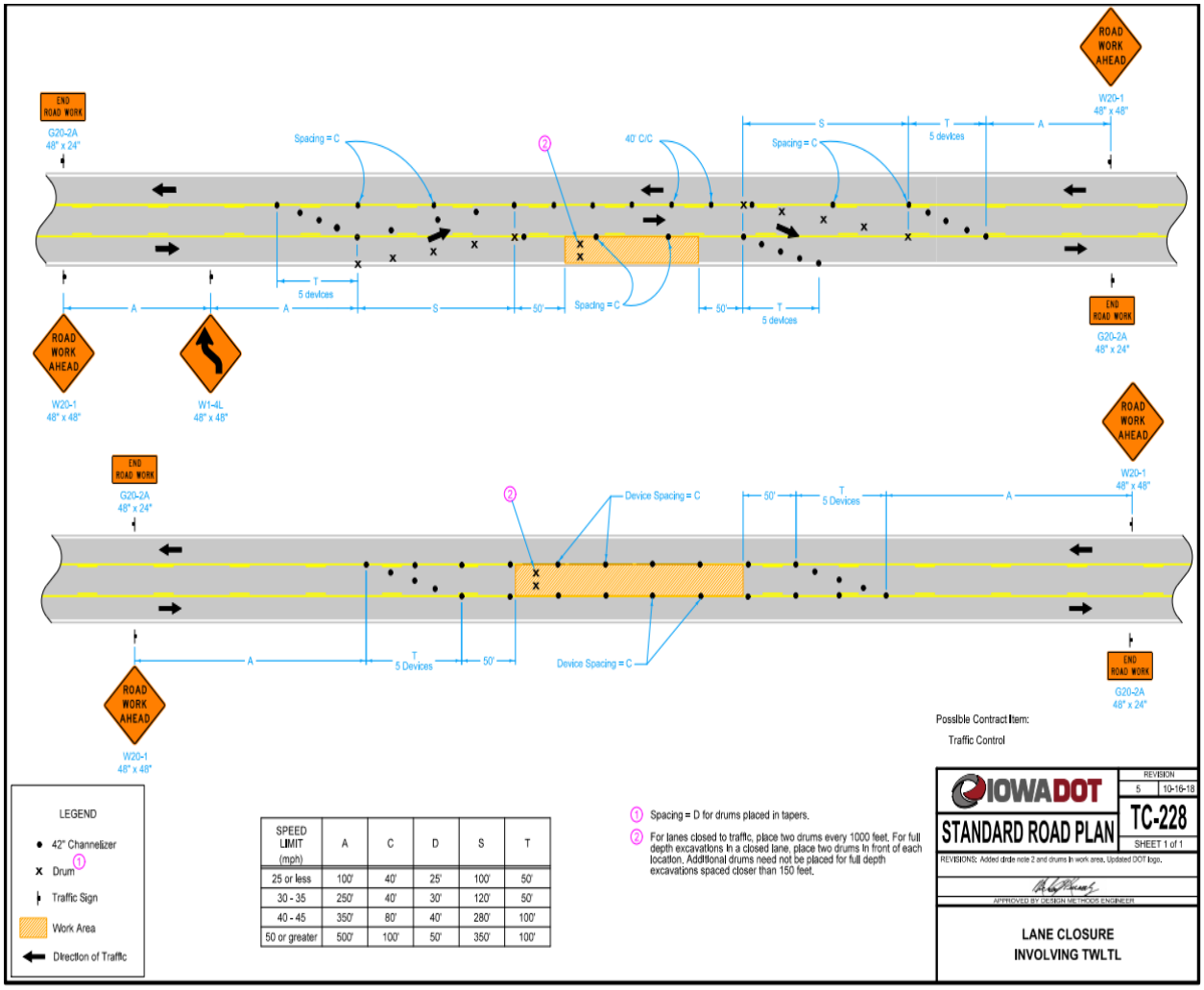
TC-216 Lane Closure with Signals

1. This plan is appropriate for Long-term stationary and Intermediate-term stationary work extending past 3 days.
2. Signs must be mounted on wood or Telespar following the same guidelines as permanent signage.
3. This plan is appropriate for traffic volumes of 5,000 or less ADT.
4. Typical applications include bridge repair and full-depth pavement replacement.
5. Pavement marking modifications and W14-3 No Passing Zone signs are not required for projects lasting 7 days or less.
6. If available, rumble strips with correct signage shall be utilized with this TC. Spacing for rumble strips along roadway are explained in documentation from manufacturer. 24" white stop bar must be either placed or painted on roadway in-line with stop here on red sign for closures lasting overnight.
7. Signal controllers shall comply with NEMA and ITE standards and be traffic actuated.
8. A detection area shall be located with the downstream edge positioned 6 feet in advance of the Stop Here on Red sign. A second detection area shall be positioned 100 to 150 feet in advance of the Stop Here on Red sign. The size of the detection area shall be approximately 6' x 10'. A single above-ground detector may be used to provide detection for both areas.
9. Signals shall rest in red.
10. All signal heads mounted over traffic lanes shall be centered over the appropriate lane. Clearance on overhead wiring shall be a minimum of 18 feet.



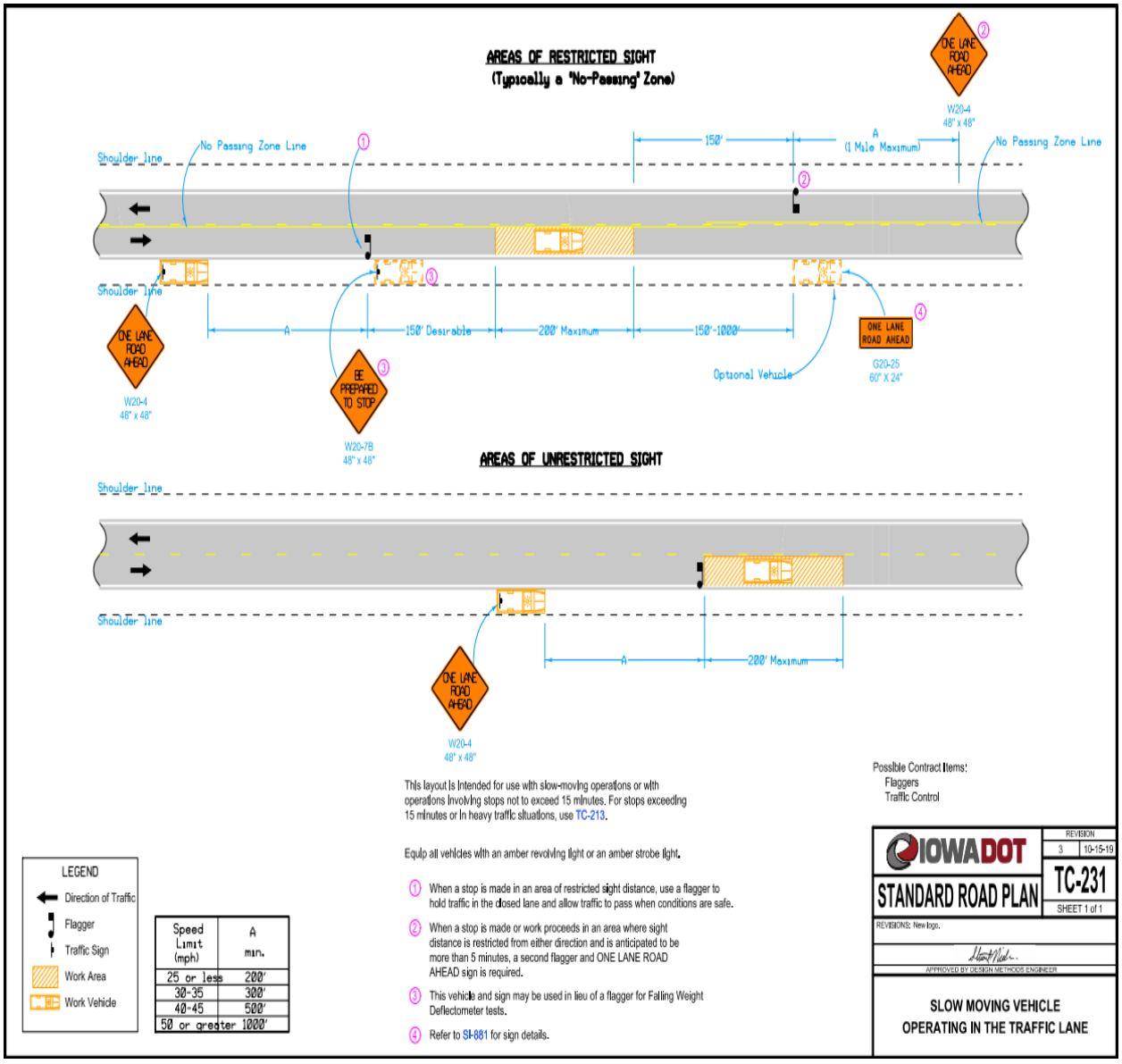
TC-228 Lane Closure Utilizing Continuous Two Way Left Turn Lane

1. This plan is appropriate for short-term stationary, short duration, or mobile work.
2. Typical applications include spall patching, joint and crack filling, burn/plane or mill, full depth patch, profilometer, core drilling, bridge sounding and road rater.
3. 42” Channelizers and barrels must be utilized as shown on TC-228.



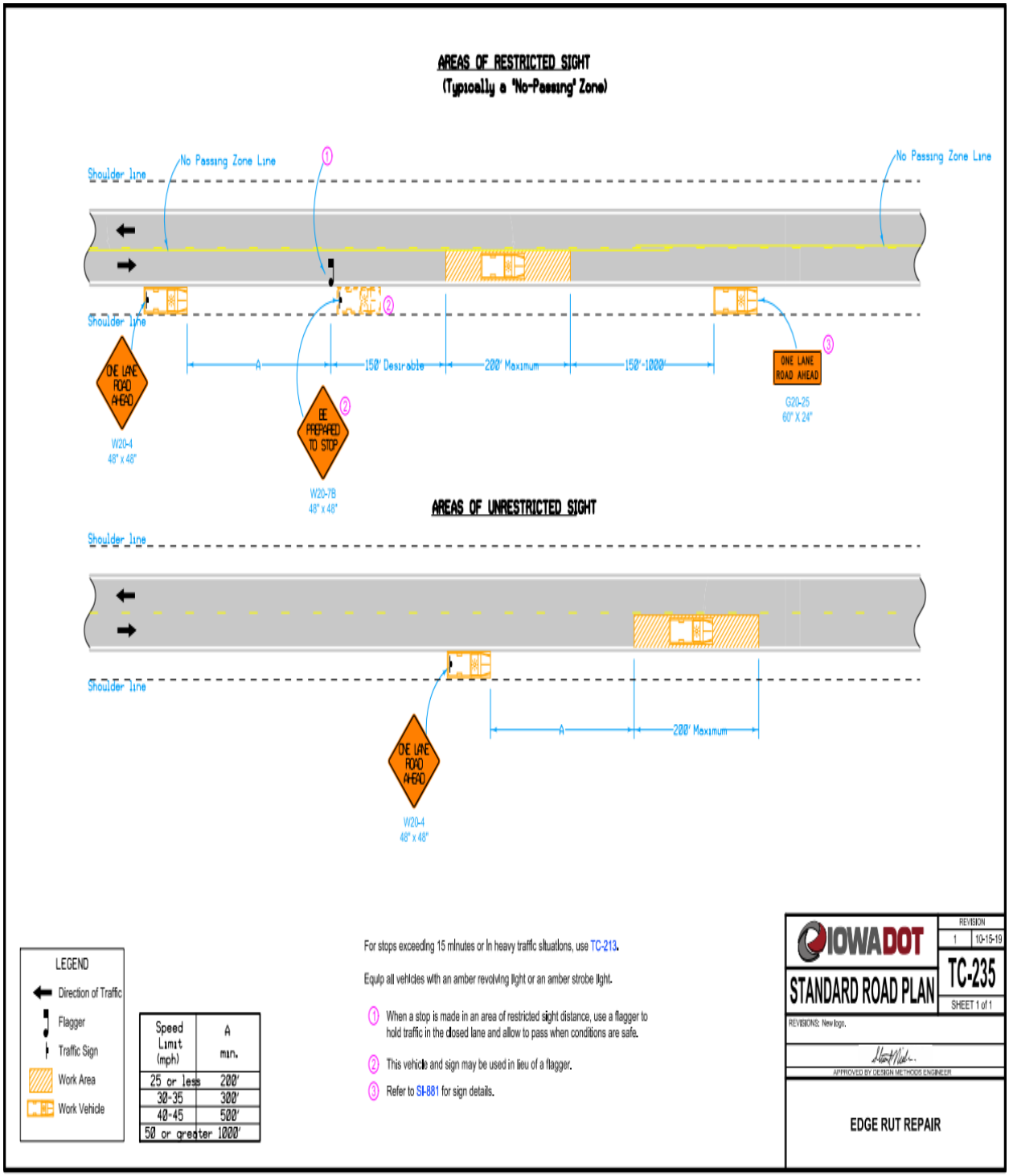
TC-231 Slow Moving Vehicle Operating in The Traffic Lane

1. This plan is appropriate for short duration and mobile work.
2. Traffic control vehicles are to be located on the shoulder to the extent possible.
3. Typical applications include spall patching, joint and crack filling, burn/plane or mill, shoulder work, profilometer, core drilling, bridge sounding and road rater.
4. An additional special sign for miscellaneous pavement marking operations may be used as shown in the Traffic and Safety Manual.
5. Work happening utilizing this TC plan should not exceed 15 minutes.



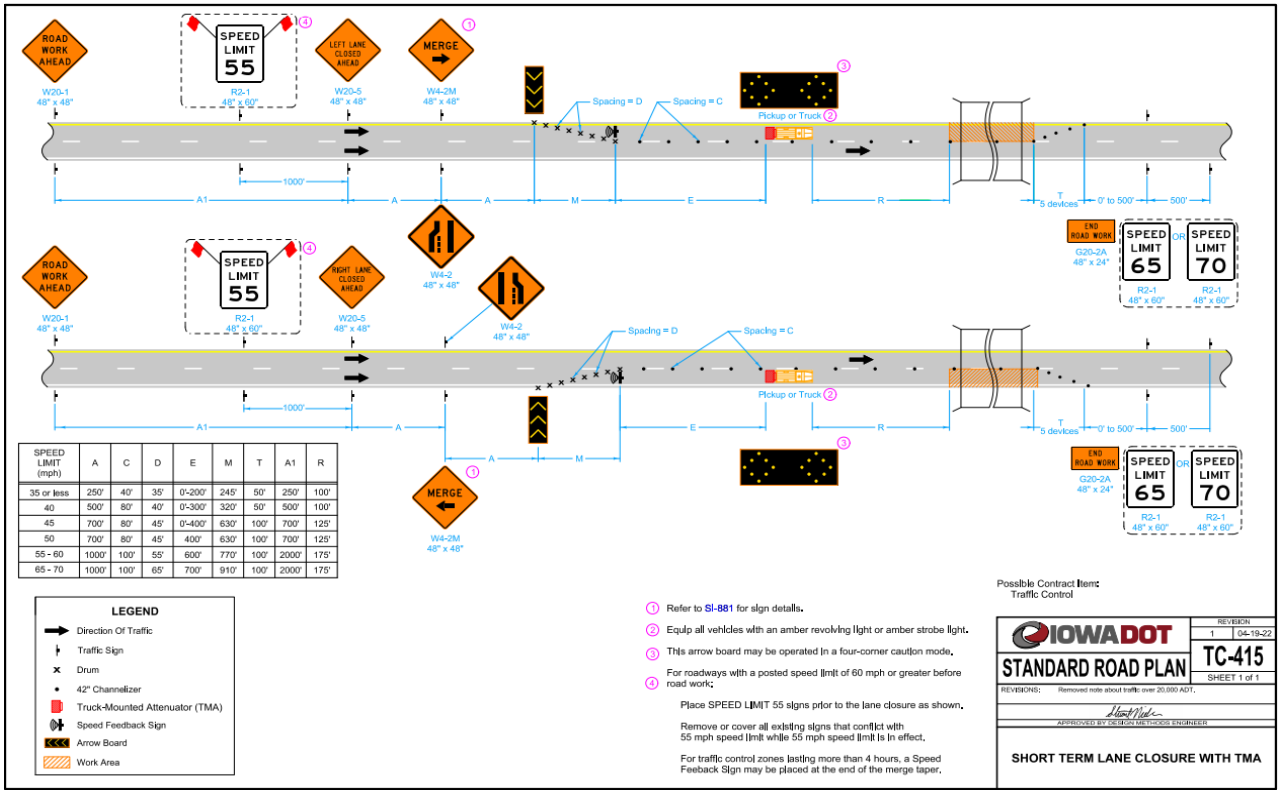
TC-235 Edge Rutting Operations

1. One lane road ahead sign should be utilized within accordance to TC plan.
2. Truck or roller mounted one lane road ahead signs may be utilized for this operation on follow vehicle.



TC-415 Short Term Lane Closure with TMA

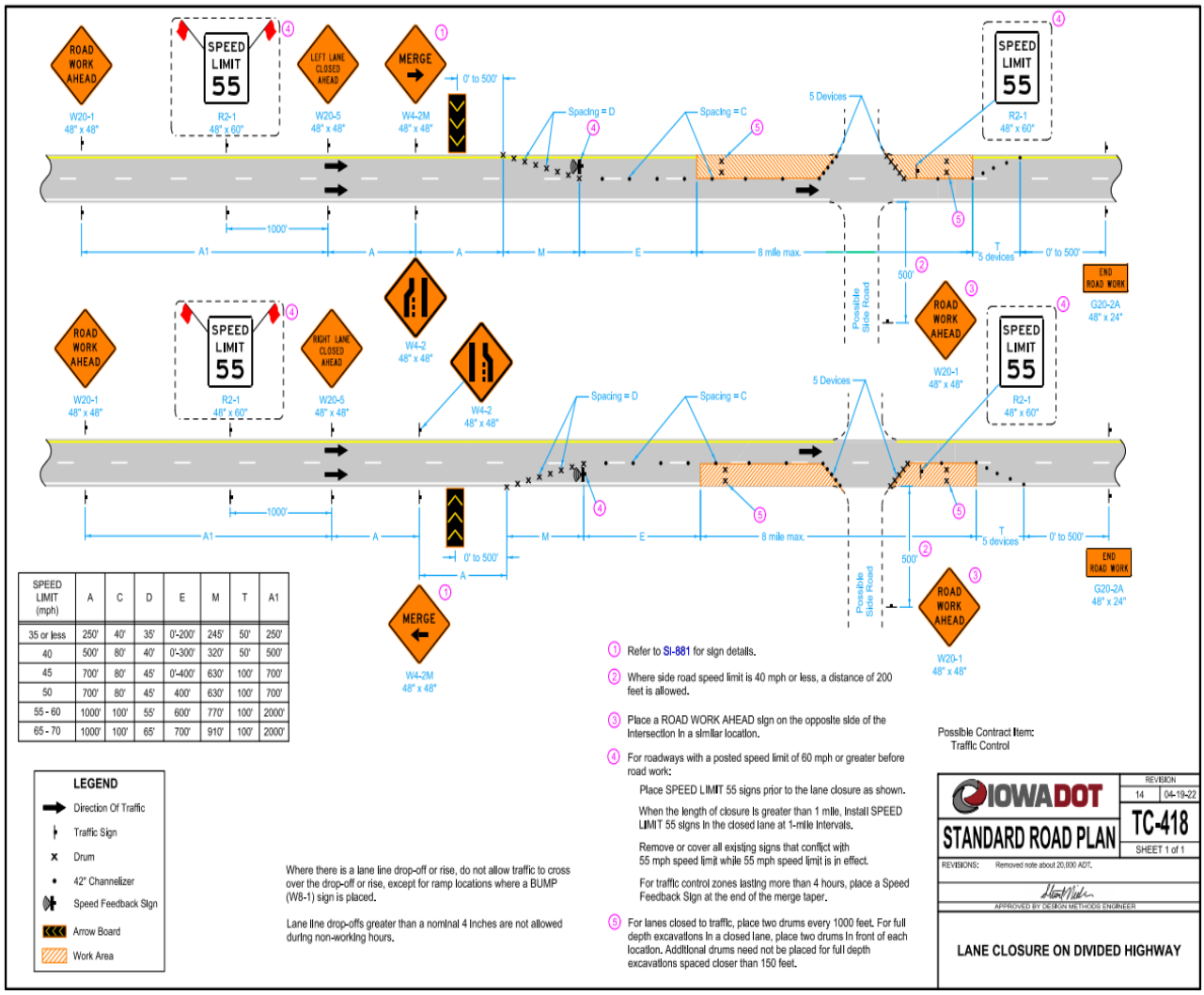
1. For lane closures lasting longer than four hours, a speed feedback trailer should be placed at the end of the merging taper, if available.
2. Work area must be monitored for the duration that hazard exist to motorist. Example curing concrete, bridge crew patching, full and partial depth patches.
3. Permanent speed limit signs that are in the work area must be covered if they display a speed limit faster than 55 mph.
4. For lanes closed to traffic, two drums should be placed every 1,000 feet in the closed lane.
5. Two drums should be placed in front of full depth excavations in a closed lane.
6. Only drums or channelizers should be used in this TC plan. Channelizers may be used in place of drums. Channelizers should be placed at half the spacing which in turn will require the use twice as many channelizers as drums in the taper.
7. When attenuator is sitting in the lane closed to traffic, arrow board should be in alternating diamond pattern.
8. When attenuator is sitting in the lane closed to traffic, an operator is not required to be sitting in the attenuator truck.
9. When attenuator is parked in the lane of traffic the parking brake should be applied and front wheels either turned toward the median in the left lane, or to the shoulder if parked in the right lane.



SPEED LIMIT (mph)	A	C	D	E	M	T	A1	R
35 or less	250'	40'	35'	0'-200'	245'	50'	250'	100'
40	500'	80'	40'	0'-300'	320'	50'	500'	100'
45	700'	80'	45'	0'-400'	630'	100'	700'	125'
50	700'	80'	45'	400'	630'	100'	700'	125'
55 - 60	1000'	100'	55'	600'	770'	100'	2000'	175'
65 - 70	1000'	100'	65'	700'	910'	100'	2000'	175'

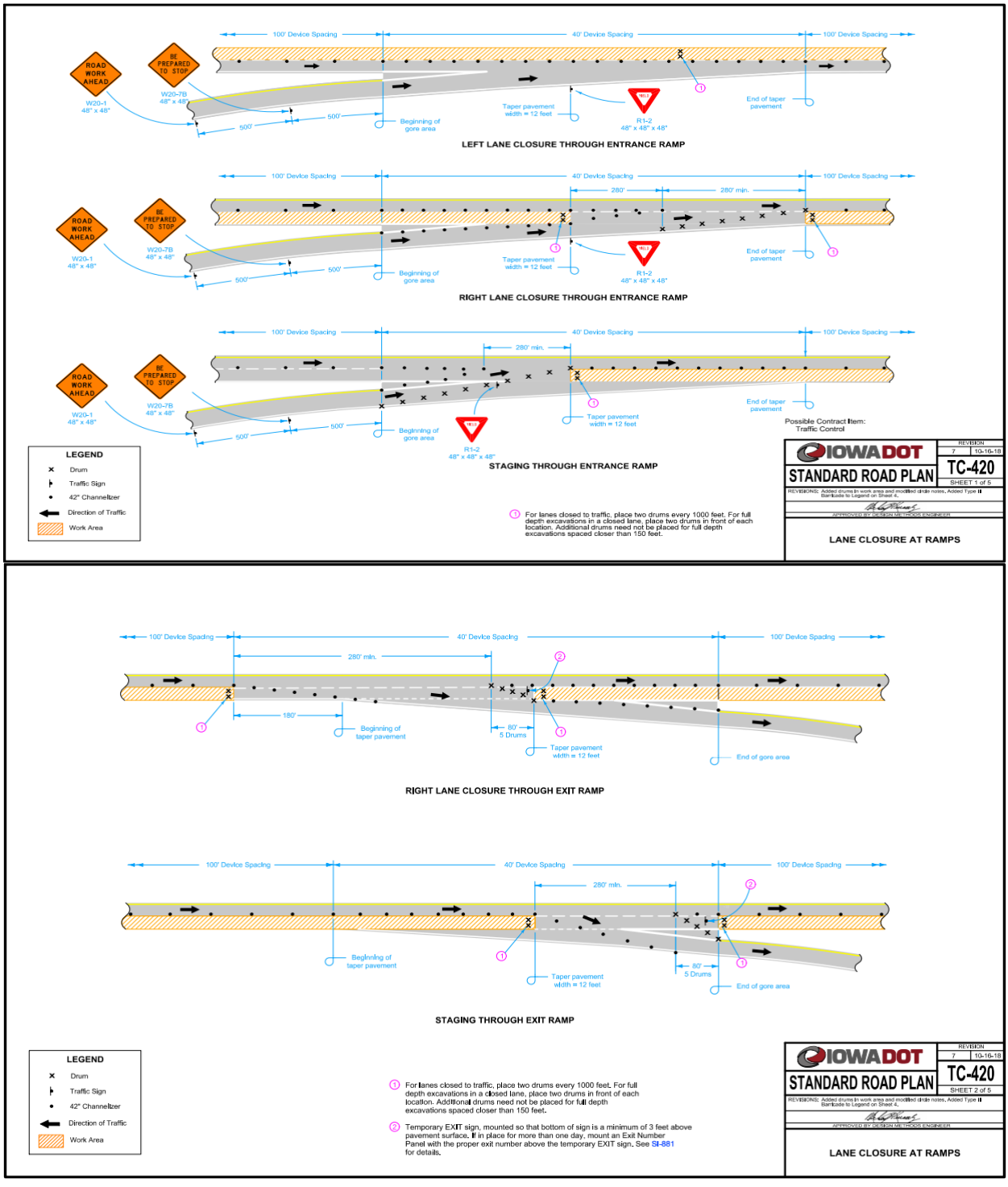
TC-418 Lane closure on divided highway

1. For lane closures lasting longer than four hours, a speed feedback trailer should be placed at the end of the merging taper, if available.
2. Permanent speed limit signs that are in the work area must be covered if they display a speed limit faster than 55 mph.
3. For lanes closed to traffic two drums should be placed every 1000 feet in the closed lane.
4. Work area must be monitored for the duration that hazard exist to motorist. Example curing concrete, bridge crew patching, full and partial depth patches.
5. Two drums should be placed in front of full depth excavations in a closed lane.
6. Only drums or 42" channelizers should be used in this TC plan. Channelizers may be used in place of drums. Channelizers should be placed at half the spacing which in turn will require the use twice as many channelizers as drums in the taper.



TC-420 Lane Closure at Ramps

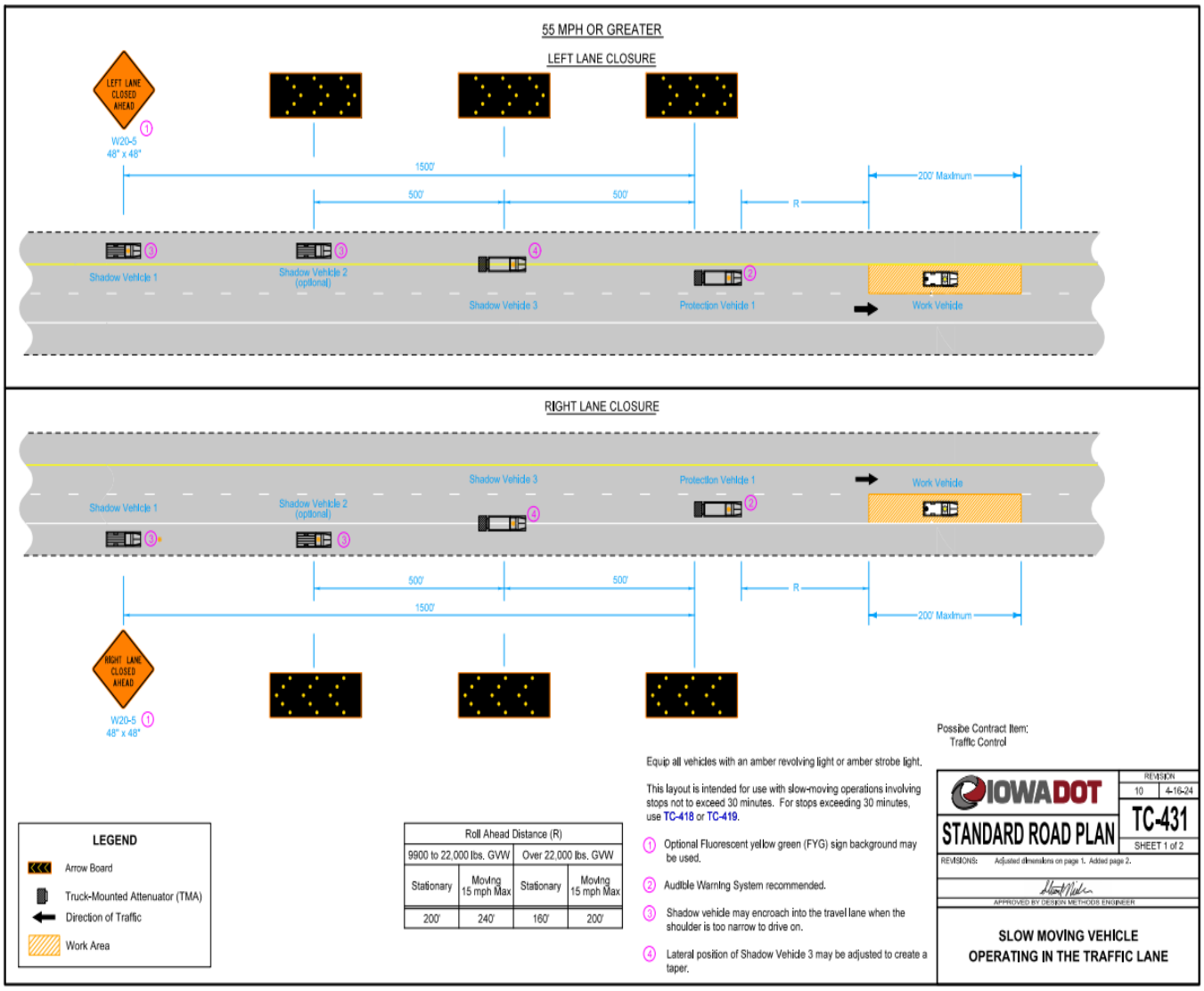
1. A temporary Exit sign is to be located in the temporary exit gore. The bottom of the sign shall be at least three feet above the pavement surface.



TC-431 Slow Moving Vehicle Operating in the Traffic Lane 55MPH or greater

1. This plan is appropriate for short duration and mobile work.
2. The traffic control vehicle shown on the shoulder may be partially on the traveled way if the Right or Left Lane Closed Ahead sign is on an added traffic control vehicle on the shoulder in advance of it.
3. A single or tandem axle truck must be used to carry early warning signs unless width restrictions of roadway exist. In these circumstances a pickup may be used to carry signs.
4. If the added vehicle is carrying a Road Work Ahead sign both it and the truck carrying the Right or left Lane Closed Ahead sign are to be on the shoulder to the extent possible.
5. If the traffic control vehicles on the shoulder cannot be operated entirely off the traveled way and the speed limit is 45 mph or less, they may be eliminated.
6. Typical applications include spall patching, joint and crack filling, burn/plane or mill, shoulder work, profilometer, core drilling, bridge sounding and road rater.
7. An occasional item of work may be done in the open lane so long as it does not interfere with traffic. If available, the use of a spotter for these instances is encouraged.
8. Attenuator must be pulled with a tandem axle truck. AT sticker should be on front corner of box. Trucks must be utilizing liquid-filled wedge tanks for ballasts while pulling attenuator and utilizing Audible Warning Device. When audible is not being utilized, sand may be used for ballast.
9. Audible Warning devices are required for trucks pulling attenuators that are fully in the lane of traffic and directly protecting the work crew.
10. Use of law enforcement could be considered based on roadway type, volume, speed, and type of work being completed. Law enforcement should not be operating in an open lane of traffic (shoulder only). Communication should be conducted prior to the work activity to ensure mutual understanding of the activity and their use and placement in the work zone.
11. When law enforcement is utilized, they should be positioned on the shoulder in front of the early warning vehicle and behind first attenuator as traffic approaches.
12. Law enforcement may need to relocate, patrol or change warning light configurations if effecting traffic flows in an undesired way. (Backups or Erratic Behaviors)
13. All orange signs in the moving operation are required to be equipped with Strong Yellow/Green backgrounds.
14. When a second trailing attenuator is required, it should straddle the outside edge line to create a rolling taper.
15. Attenuators not sitting fully in lane of traffic should still utilize audible attenuator if available.
16. An additional special sign for miscellaneous pavement marking operations may be used as shown in the Traffic and Safety Manual.

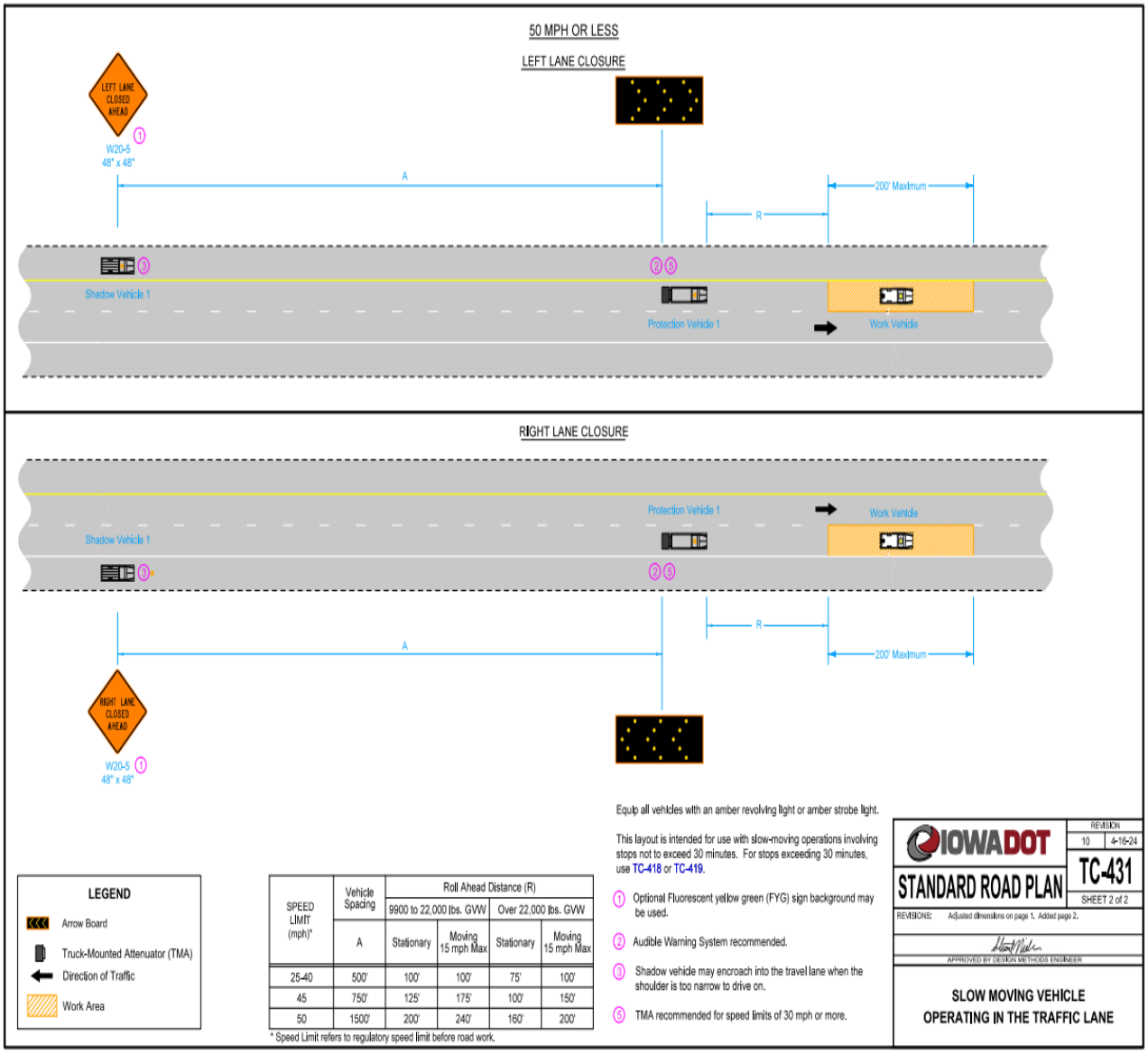
(*see TC visual on the next page*)


55 MPH OR GREATER
LEFT LANE CLOSURE
LEFT LANE CLOSED AHEAD
W20-5
48" x 48"
1500'
500'
500'
R
200' Maximum
Shadow Vehicle 1
Shadow Vehicle 2 (optional)
Shadow Vehicle 3
Protection Vehicle 1
Work Vehicle
RIGHT LANE CLOSURE
Shadow Vehicle 1
Shadow Vehicle 2 (optional)
Shadow Vehicle 3
Protection Vehicle 1
Work Vehicle
500'
500'
R
1500'
200' Maximum
RIGHT LANE CLOSED AHEAD
W20-5
48" x 48"
LEGEND
Arrow Board
Truck-Mounted Attenuator (TMA)
Direction of Traffic
Work Area
Roll Ahead Distance (R)
9900 to 22,000 lbs. GVW
Over 22,000 lbs. GVW
Stationary
Moving 15 mph Max
Stationary
Moving 15 mph Max
200'
240'
160'
200'
Equip all vehicles with an amber revolving light or amber strobe light.
This layout is intended for use with slow-moving operations involving stops not to exceed 30 minutes. For stops exceeding 30 minutes, use TC-418 or TC-419.
1 Optional Fluorescent yellow green (FYG) sign background may be used.
2 Audible Warning System recommended.
3 Shadow vehicle may encroach into the travel lane when the shoulder is too narrow to drive on.
4 Lateral position of Shadow Vehicle 3 may be adjusted to create a taper.
Possible Contract Item:
Traffic Control
IOWADOT
REVISION
10 4-16-24
STANDARD ROAD PLAN
TC-431
SHEET 1 of 2
REVISIONS: Adjusted dimensions on page 1. Added page 2.
APPROVED BY DESIGN METHODS ENGINEER
SLOW MOVING VEHICLE
OPERATING IN THE TRAFFIC LANE

TC-431 Slow Moving Vehicle Operating in the Traffic Lane 50 MPH or less

1. This plan is appropriate for short duration and mobile work.
2. The traffic control vehicle shown on the shoulder may be partially on the traveled way if the Right or Left Lane Closed Ahead sign is on an added traffic control vehicle on the shoulder in advance of it.
3. A single or tandem axle truck must be used to carry early warning signs unless width restrictions of roadway exist. In these circumstances a pickup may be used to carry signs.
4. If the added vehicle is carrying a Road Work Ahead sign both it and the truck carrying the Right or left Lane Closed Ahead sign are to be on the shoulder to the extent possible.
5. If the traffic control vehicles on the shoulder cannot be operated entirely off the traveled way and the speed limit is 45 mph or less, they may be eliminated.
6. Typical applications include spall patching, joint and crack filling, burn/plane or mill, shoulder work, profilometer, core drilling, bridge sounding and road rater.
7. An occasional item of work may be done in the open lane so long as it does not interfere with traffic. If available, the use of a spotter for these instances is encouraged.
8. Attenuator must be pulled with a tandem axle truck. AT sticker should be on front corner of box. Trucks must be utilizing liquid-filled wedge tanks for ballasts while pulling attenuator and utilizing Audible Warning Device. When audible is not being utilized, sand may be used for ballast.
9. Audible Warning devices are required for trucks pulling attenuators that are fully in the lane of traffic and directly protecting the work crew.
10. Use of law enforcement could be considered based on roadway type, volume, speed, and type of work being completed. Law enforcement should not be operating in an open lane of traffic (shoulder only). Communication should be conducted prior to the work activity to ensure mutual understanding of the activity and their use and placement in the work zone.
11. When law enforcement is utilized, they should be positioned on the shoulder in front of the early warning vehicle and behind first attenuator as traffic approaches.
12. Law enforcement may need to relocate, patrol or change warning light configurations if effecting traffic flows in an undesired way. (Backups or Erratic Behaviors)
13. All orange signs in the moving operation are required to be equipped with Strong Yellow/Green backgrounds.
14. When a second trailing attenuator is required, it should straddle the outside edge line to create a rolling taper.
15. Attenuators not sitting fully in lane of traffic should still utilize audible attenuator if available.
16. An additional special sign for miscellaneous pavement marking operations may be used as shown in the Traffic and Safety Manual.

(*see TC visual on the next page*)



LEGEND

- Arrow Board
- Truck-Mounted Attenuator (TMA)
- Direction of Traffic
- Work Area

SPEED LIMIT (mph)*	Vehicle Spacing	Roll Ahead Distance (R)			
		9900 to 22,000 lbs. GVW		Over 22,000 lbs. GVW	
	A	Stationary	Moving 15 mph Max	Stationary	Moving 15 mph Max
25-40	500'	100'	100'	75'	100'
45	750'	125'	175'	100'	150'
50	1500'	200'	240'	160'	200'

* Speed Limit refers to regulatory speed limit before road work.

Equip all vehicles with an amber revolving light or amber strobe light.

This layout is intended for use with slow-moving operations involving stops not to exceed 30 minutes. For stops exceeding 30 minutes, use TC-418 or TC-419.

1. Optional Fluorescent yellow green (FYG) sign background may be used.
2. Audible Warning System recommended.
3. Shadow vehicle may encroach into the travel lane when the shoulder is too narrow to drive on.
6. TMA recommended for speed limits of 30 mph or more.

IOWADOT

REVISION	
10	6-16-24

STANDARD ROAD PLAN

TC-431

SHEET 2 of 2

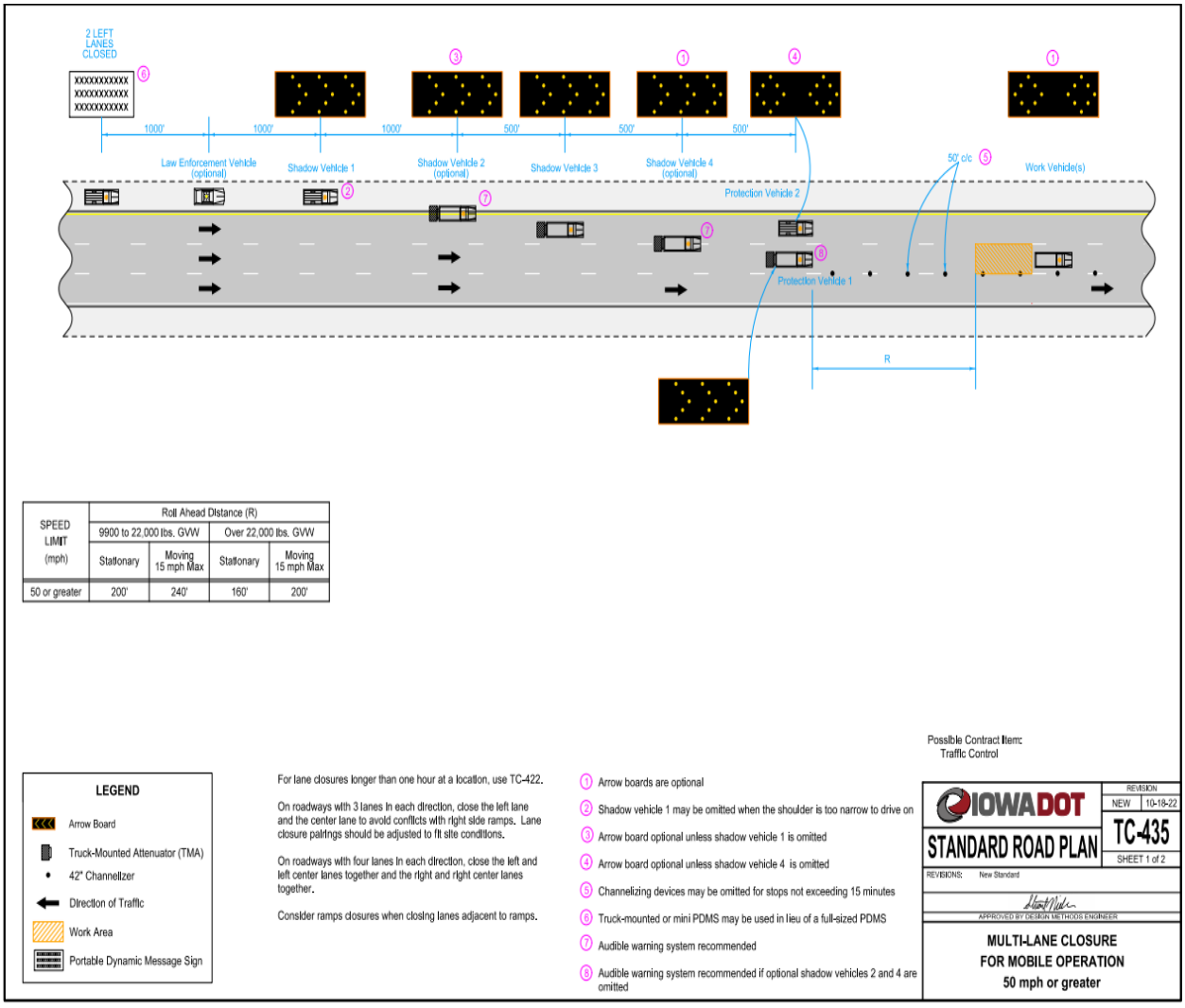
REVISIONS: Adjusted dimensions on page 1. Added page 2.

APPROVED BY DESIGN METHODS ENGINEER

SLOW MOVING VEHICLE OPERATING IN THE TRAFFIC LANE

TC-435 Multi Lane Mobile Operation 50 mph or greater

1. If available, audible warning device are required for attenuators sitting fully in lanes of traffic.
2. Attenuator must be pulled with a tandem axle truck. AT sticker should be on front corner of box. Trucks must be utilizing liquid-filled wedge tanks for ballasts while pulling attenuator and utilizing Audible Warning Device. When audible is not being utilized, sand may be used for ballast.
3. Channelizing devices may be omitted if stops do not exceed 15 minutes.
4. Truck mounted or Mini PDMS (PDMS 12-Inch) may be used in Lieu of full size PDMS boards.
5. When work is occurring in the center lane of a three-lane section, the left and center lane shall be closed together in order to avoid impacts to exit and entrance ramps. When work is occurring on roadways with four lanes in one direction, the left and left-center lane shall be closed together and the right and right-center lane shall be closed together. When right lanes are closed, consider utilizing law enforcement or additional DOT vehicles to temporarily close ramps within the work area to prevent traffic from entering the work area and posing a risk to workers.
6. Refer to Appendix A TC-431 for additional operational guidance, including use of law enforcement.



SPEED LIMIT (mph)	Roll Ahead Distance (R)			
	9900 to 22,000 lbs. GVW		Over 22,000 lbs. GVW	
	Stationary	Moving 15 mph Max	Stationary	Moving 15 mph Max
50 or greater	200'	240'	160'	200'

LEGEND

- Arrow Board
- Truck-Mounted Attenuator (TMA)
- 42" Channellizer
- Direction of Traffic
- Work Area
- Portable Dynamic Message Sign

For lane closures longer than one hour at a location, use TC-422.

On roadways with 3 lanes in each direction, close the left lane and the center lane to avoid conflicts with right side ramps. Lane closure pairings should be adjusted to fit site conditions.

On roadways with four lanes in each direction, close the left and left center lanes together and the right and right center lanes together.

Consider ramps closures when closing lanes adjacent to ramps.

1. Arrow boards are optional
2. Shadow vehicle 1 may be omitted when the shoulder is too narrow to drive on
3. Arrow board optional unless shadow vehicle 1 is omitted
4. Arrow board optional unless shadow vehicle 4 is omitted
5. Channelizing devices may be omitted for stops not exceeding 15 minutes
6. Truck-mounted or mini PDMS may be used in lieu of a full-sized PDMS
7. Audible warning system recommended
8. Audible warning system recommended if optional shadow vehicles 2 and 4 are omitted

Possible Contract Items:
Traffic Control

IOWADOT

REVISION	
NEW	10-18-22

STANDARD ROAD PLAN — TC-435 — SHEET 1 of 2

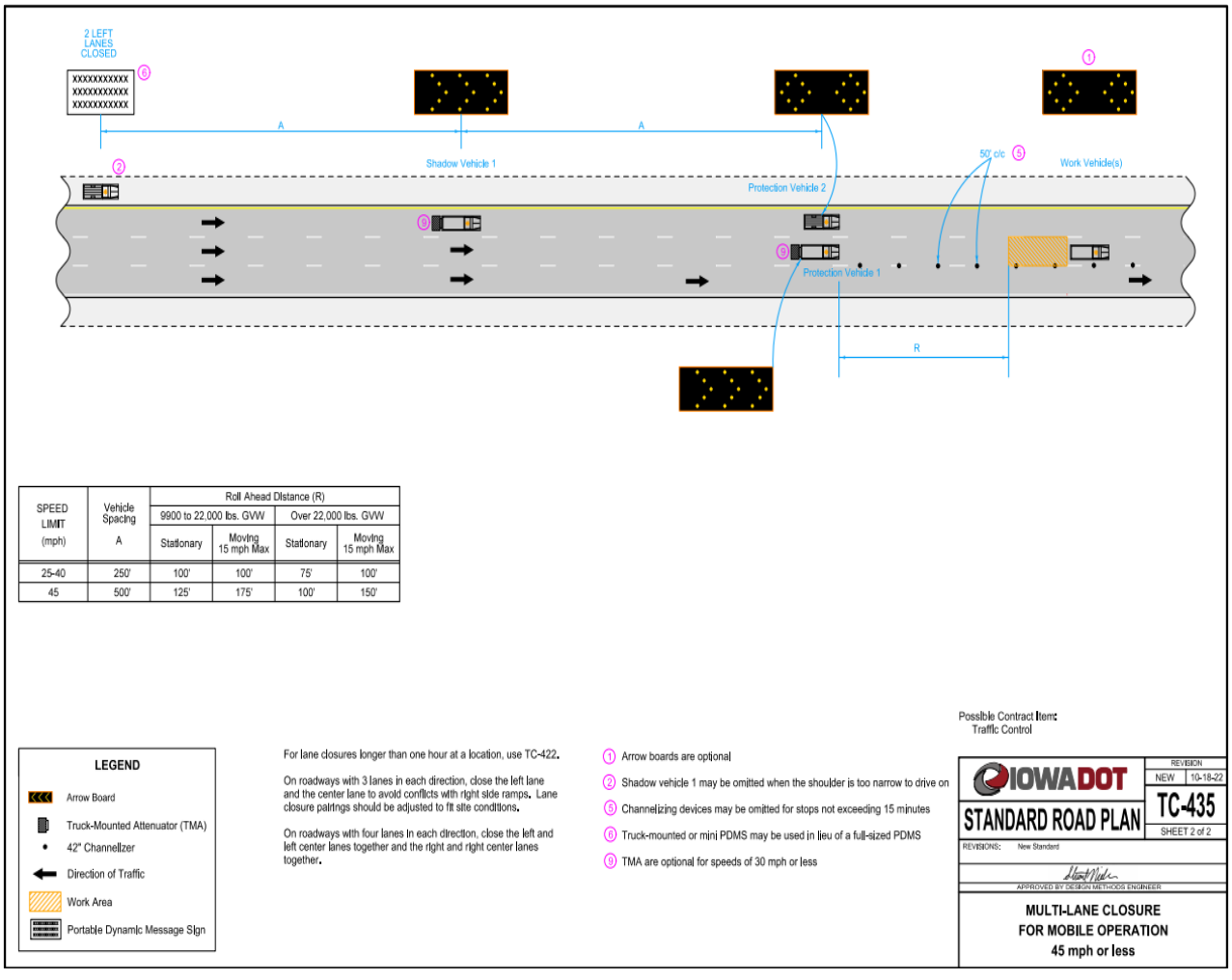
REVISIONS: New Standard

APPROVED BY DESIGN METHODS ENGINEER

MULTI-LANE CLOSURE FOR MOBILE OPERATION 50 mph or greater

TC-435 Multi Lane Mobile Operations 45 mph or less

1. Audible warning device are required for attenuators sitting fully in lanes of approaching traffic.
2. Channelizing devices may be omitted if stops do not exceed 15 minutes.
3. Truck mounted or Mini PDMS (PDMS 12-Inch) may be used in Lieu of full size PDMS boards.
4. Attenuator must be pulled with a tandem axle truck. AT sticker should be on front corner of box. Trucks must utilize filled wedge tanks for ballasts while pulling an attenuator and utilizing Audible Warning Device. When audible is not being utilized, sand may be used for ballast.
5. Refer to Appendix A TC-431 and TC-435 (50MPH and over) for additional operational guidance, including use of law enforcement.



SPEED LIMIT (mph)	Vehicle Spacing A	Roll Ahead Distance (R)			
		9900 to 22,000 lbs. GVW		Over 22,000 lbs. GVW	
		Stationary	Moving 15 mph Max	Stationary	Moving 15 mph Max
25-40	250'	100'	100'	75'	100'
45	500'	125'	175'	100'	150'

LEGEND

- Arrow Board
- Truck-Mounted Attenuator (TMA)
- 42" Channellzer
- Direction of Traffic
- Work Area
- Portable Dynamic Message Sign

For lane closures longer than one hour at a location, use TC-422.

On roadways with 3 lanes in each direction, close the left lane and the center lane to avoid conflicts with right side ramps. Lane closure patrings should be adjusted to fit site conditions.

On roadways with four lanes in each direction, close the left and left center lanes together and the right and right center lanes together.

1. Arrow boards are optional
2. Shadow vehicle 1 may be omitted when the shoulder is too narrow to drive on
5. Channelizing devices may be omitted for stops not exceeding 15 minutes
6. Truck-mounted or mini PDMS may be used in lieu of a full-sized PDMS
9. TMA are optional for speeds of 30 mph or less

Possible Contract Item:
Traffic Control

IOWADOT

REVISION: NEW 10-18-22

STANDARD ROAD PLAN

TC-435

SHEET 2 of 2

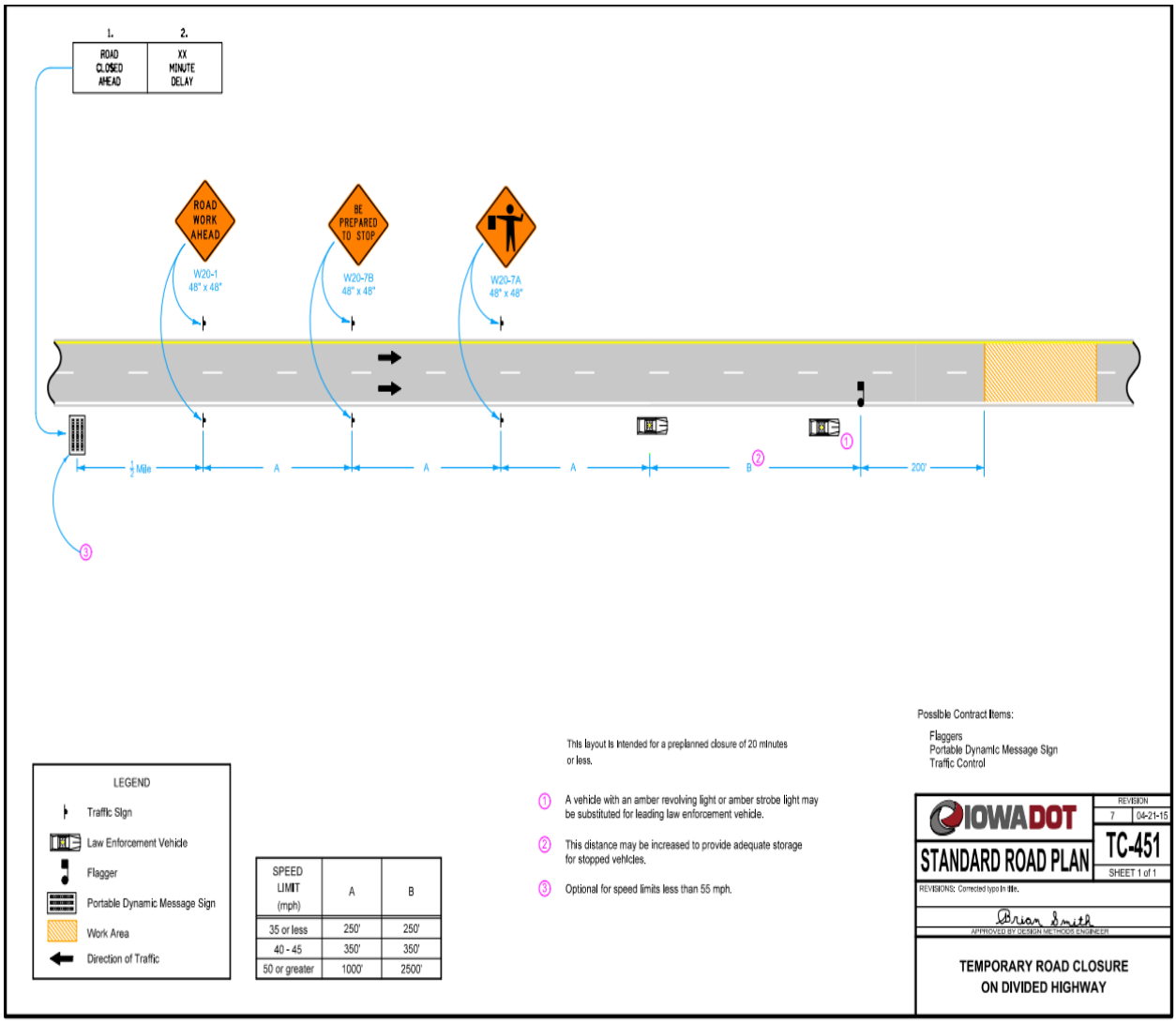
REVISIONS: New Standard

APPROVED BY DESIGN METHODS ENGINEER

MULTI-LANE CLOSURE FOR MOBILE OPERATION 45 mph or less

TC-451 Temporary Road Closure on a Divided Highway

1. This plan is intended for a preplanned closure of 20 minutes or less. It is for use when the road must be closed temporarily for overhead work such as setting beams, installing, or removing overhead utilities, or removing damaged sections of bridges.



Revised 01-18-23

IOWA DEPARTMENT OF TRANSPORTATION
OFFICE OF MAINTENANCE
TRAFFIC CONTROL PLAN SELECTION GUIDE

		LANE CLOSURE			
			MOVING OPERATION		
	WORK DOES NOT INTERFERE WITH TRAFFIC	STATIONARY OPERATION			SPECIAL
TWO LANE	TC-1 Vehicle on Shldr TC-202 Work within 15 ft of Traveled Way	- TC-213 Two Flaggers TC-214 Pilot Car TC-215 Signals (up to 3 days) TC-216 Signals (over 3 days) TC-217 Signals & TBR TC-218 Pilot Car & Signals TC-228 Lane Closure with TWLTL	TC-231 Mobile Operation TC-232 Shldr Rumble Strips TC-233 Pavement Marking TC-234 Strip Sealing Operations TC-235 Edge Rut Repair		TC- 81 Restricted Width Signing TC-203 Aerial seeding TC-251 Temporary Road Closure TC- 252 Road Closure TC-253 Paved On-site Detour TC-271 Signalized Equipment Crossing TC-272 Un-signalized Equip Crossing TC- 273 Construction Site Entrance TC-282 Uneven Lanes TC-283 Surveying Operation
MULTILANE DIVIDED	TC-1 Vehicle on Shldr TC-402 Work within 15 ft of Traveled Way	TC-415 Short Term Lane Closure w/TMA TC-418 Lane Closure TC-421 Lane Closure with TBR TC-422 Closure of Two Lanes	TC-431 Mobile Operation TC-432 Shldr Rumble Strips TC-433 Pavement Marking TC-435 Multi-Lane Closure for Mobile Operations		TC-61Two-way Two-lane Operation TC-62 Perm Two-lane to Four-lane TC-63 Lane Closure at Two-Lane/Four Lane Transition TC-64 Lane Closure at Two-Lane/Four Lane Transition with Flagger TC-81 Restricted Width Signing TC-403 Aerial seeding TC-451 Temporary Road Closure TC-454 Detour Using Ramps
MULTILANE UNDIVIDED	TC-1 Vehicle on Shldr TC-402 Work within 15 ft of Traveled Way	TC-419 Lane Closure TC-423 Closure of Two Lanes TC-429 Closure of TWLTL	TC-431 Mobile Operation TC-432 Shldr Rumble Strips TC-433 Pavement Marking TC-435 Multi-Lane Closure for Mobile Operations		TC-63 Lane Closure at Two-Lane/Four Lane Transition TC-64 Lane Closure at Two-Lane/Four Lane Transition with Flagger TC-81 Restricted Width Signing TC-451 Temporary Road Closure TC-482 Uneven Lanes
RAMP AREA	TC-1 Vehicle on Shldr TC-402 Work within 15 ft of Traveled Way	TC-416 Partial Lane Closure on Ramps TC-417 Ramp Closure TC-420 Lane Closure @ Ramps			