

CATTCH

California Temporary Traffic Control Handbook

Standards for safe movement of traffic
in accordance with section 21400 of the California vehicle code
and the California Manual of Uniform Traffic Control Devices (MUTCD)



May 2018 7th Edition

Previously known as
The California Joint Utility Traffic Control Manual

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The California Temporary Traffic Control Handbook (CATTCH) is a joint effort among members of the California Inter-Utility Coordinating Committee. This handbook was previously known as the California Joint Utility Traffic Control Manual (CJUTCM). The member logos below are proudly displayed as a sign of their support in developing safe working conditions for their employees as well as for the traveling public. We are a dedicated group who wants safety first. As you read through this handbook, please keep in mind that safety is everyone's business and it is up to each one of us to do our part in ensuring a safe work zone.



Introduction to the Seventh Edition

This Handbook is coordinated and prepared by the California Temporary Traffic Control Handbook Committee. This edition is an update to the CJUTCM 2014 sixth edition. It provides the basic standards for the safe movement of traffic upon highways or streets in accordance with Section 21400 of the California Vehicle Code and the California Manual on Uniform Traffic Control Devices 2014 Edition, Rev 3. Traffic control includes safe protection for the public, motorists, bicyclists, pedestrians and workers. It is the responsibility of the contractor or organization performing work on, or adjacent to, a roadway to install and maintain such devices which are necessary to provide safe passage for the traveling public through the work area and for the safety of the workers.

This text is not intended to establish or create a legal standard. The criteria for the position, location, manner of installation, and the use of such signs, lights and devices are furnished solely for the purpose of information and guidance. This handbook will be updated as required to conform to Federal and State guidelines. When working on State Highways in California refer to the California Manual on Uniform Traffic Control Devices 2014 Rev 3 Edition and use the existing encroachment permit processes and Encroachment Permits Manual

California MUTCD and Encroachment Permit Process may be found online at the following web addresses:

www.dot.ca.gov/camutcd

http://www.dot.ca.gov/hq/traffops/developserv/permits/encroachment_permits_manual/

The California Temporary Traffic Control Handbook is intended to be a free resource provided by the California Inter-Utility Coordinating Committee and is not to be sold or reproduced for profit.

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Public Utilities Code

AT&T and Frontier as telephone utilities have been granted by the State the right to use public streets. This grant, known as the state franchise is found in Section 7901 of the California Public Utilities Code. Section 7901 provides that:

“Telegraph or telephone corporations may construct lines of telegraph or telephone lines along and upon any public road or highway, along or across any of the waters or lands within this State, and may erect poles, posts piers, or abutments for supporting the insulators, wires, and other necessary fixtures of their lines, in such manner and at such points as not to incommode the public use of the road or highway or interrupt the navigation of the waters.”

Many cities and counties have granted Southern California Edison, as an electric utility, Southern California Gas Company (SoCal Gas), as a gas utility, and Pacific Gas and Electric Company as an electric and gas utility the right to use public streets. These grants, known as the city or county franchises, are granted in accordance with: (1), the Broughton Act, set forth in Section 6001, et seq. of the Public Utilities Code, or (2) the Franchise Act of 1937, set forth in Section 6201, et seq. of the Public Utilities Code.

Illustrative of the franchise rights granted by counties and cities to public utilities, Section 6265 of the Public Utilities Code provides that:

“Every gas franchise granted pursuant to this chapter confers upon the grantee the right to use, or to lay and use, gas pipes and appurtenances for the purpose of transmitting and distributing oil or products thereof; every industrial gas franchise so granted confers upon the grantee the right to use, or lay and use industrial gas pipelines and appurtenances for the purpose of transmitting and distributing industrial gas;... and every electric franchise so granted confers upon the grantee thereof the right to use, or to construct and use, poles, wires or conduits and appurtenances for the purpose of transmitting and distributing electricity for all purposes, under, along, across, or upon the public streets, ways, alleys, and places as they now or hereafter exist within the municipality.”

California Temporary Traffic Control Handbook

Fundamental Principles:

The needs and control of all road users (motorists, bicyclists and pedestrians on streets, highways, and bikeways including persons with disabilities in accordance with the Americans with Disabilities Act of 1990 (ADA) Title II, Paragraph 35.130) through a temporary traffic control (TTC) zone shall be an essential part of highway construction, utility work, maintenance operations and the management of traffic incidents.

Those using the roadway (motorists, bicyclists and pedestrians), worker safety at the job site and accessibility in TTC zones should be an integral part of every project initiated in the planning phase and continuing through design and construction. In a like fashion, maintenance and utility work should be planned and conducted with the safety and accessibility of all motorists, bicyclists, pedestrians (including those with disabilities) as well as the safety of those workers performing the work.

NOTE:

If the TTC zone includes a grade crossing, early coordination with the railroad company or light rail transit agency should take place.

The following are the seven fundamental principles of TTC as identified in the CA MUTCD:

1. General plans or guidelines should be developed to provide safety for motorists, bicyclists, pedestrians, workers, enforcement/emergency officials and equipment, with the following factors must be considered:
 - a. The basic safety principles governing the design of permanent roadways and roadsides should also govern the design of TTC zones. The goal should be to route road users through such zones using roadway geometrics, roadway features and TTC devices as nearly as possible comparable to those for normal highway/traffic situations.
 - b. A TTC plan, in detail appropriate to the complexity of the work project or incident, should be prepared and understood by all responsible parties before the site is occupied.

Any changes in the TTC plan shall be approved by the Engineer of the public agency or authority having jurisdiction over the highway.

2. Road user movement should be inhibited as little as practical, based on the following considerations:
 - a. TTC at work and incident sites should be designed on the assumption that drivers will only reduce their speeds if they clearly perceive a need to do so.
 - b. Frequent and abrupt changes in geometrics such as lane narrowing, dropped lanes or main roadway transitions that require rapid maneuvers, should be avoided.
 - c. Work should be scheduled in a manner that minimizes the need for lane closures or alternate routes, while still getting the work completed quickly and the lanes or roadway open to traffic as soon as possible.

- d. Attempts should be made to reduce the volume of traffic using the roadway or freeway to match the restricted capacity conditions. Road users should be encouraged to use alternative routes. For high-volume roadways and freeways, the closure of selected entrance ramps or other access points and the use of signed diversion routes should be evaluated.
- e. Bicyclists and pedestrians, including those with disabilities, should be provided with access and reasonably safe passage through the TTC zone.

NOTE: The context of through does not mean a bicyclist or pedestrian may enter a TTC zone but that passage is provided in the bike lane or crosswalk for a bicyclist and on the sidewalk or crosswalk for a pedestrian to navigate past or around (i.e. through) the TTC zone.

- f. If work operations permit, lane closures on high-volume streets and highways should be scheduled during off-peak hours. Night work should be considered if the work can be accomplished with a series of short-term operations.
 - g. Early coordination with officials having jurisdiction over the affected cross streets and providing emergency services should occur if significant impacts to roadway operations are anticipated.
3. Motorists, bicyclists and pedestrians should be guided in a clear and positive manner while approaching and traversing TTC zones and incident sites. The following principles should be applied:
- a. Adequate warning, delineation and channelization (tapers) should be provided to assist in guiding road users in advance of and through (i.e. past or around) the TTC zone or incident site by using proper pavement marking, signing, or other devices that are effective under varying conditions. Providing information that is in usable formats by pedestrians with visual disabilities should also be considered.
 - b. TTC devices inconsistent with intended travel paths through TTC zones (i.e. past or around) should be removed or covered. However, in intermediate-term stationary, short term, and mobile operations, where visible permanent devices are inconsistent with intended travel paths, devices that highlight or emphasize the appropriate path should be used (attached directional arrow indicators on a vehicle). Providing traffic control devices that are accessible to and usable by pedestrians with visual disabilities should also be considered.
 - c. Flagging procedures, when used, should provide positive guidance to road users traversing the TTC zone.
- NOTE: Flaggers must have received the State of California Title 8, Construction Safety Orders, Section 1599 (f) "Training of Construction Site Flaggers" prior to performing flagger duties (See Flagger Reference Information section p.25).**

4. To provide acceptable levels of operations, routine day and night inspections of TTC elements should be performed as follows:

- a. Individuals who are knowledgeable (for example, trained and/or certified) in the principles of proper TTC should be assigned responsibility for safety in TTC zones. The most important duty of these individuals should be to check that all TTC devices of the project are consistent with the TTC plan and are effective for motorists, bicyclists, pedestrians, and workers.
 - b. As the work progresses, temporary traffic controls and/or working conditions should be modified, if appropriate, in order to provide mobility and positive guidance to the road user and to provide worker safety. The individual responsible for TTC should have the authority to halt work until applicable or remedial safety measures are taken.
 - c. TTC zones should be carefully monitored under varying conditions of road user volumes, light, and weather to check that applicable TTC devices are effective, clearly visible, clean, and in compliance with the TTC plan.
 - d. When warranted, an engineering study should be made (in cooperation with law enforcement officials) of reported crashes occurring within the TTC zone. Crash records in TTC zones should be monitored to identify the need for changes in the TTC zone.
5. Attention should be given to the maintenance of roadside safety during the life of the TTC zone by applying the following principles:
- a. To accommodate run-off-the-road incidents, disabled vehicles, or emergency situations, unencumbered roadside recovery areas or clear zones should be provided where practical.
 - b. Channelization of road users should be accomplished by the use of pavement markings, signing, and crashworthy, detectable channelizing devices.
 - c. Work equipment, workers' private vehicles, materials, and debris should be stored in such a manner to reduce the probability of being impacted by run-off-the-road vehicles.
6. Each person whose actions affect the TTC zone safety, from upper-management through the field worker, should receive training appropriate to the job decisions each individual is required to make. Only those individuals who are trained in proper TTC practices and have a basic understanding of the principles (established by applicable standards and guidelines) should supervise the selection, placement and maintenance of TTC devices for TTC zones and for incident management.
7. Good public relations should be maintained by applying the following principles:
- a. The needs of the road user should be assessed such that appropriate advance road notice is given and clearly defined alternative paths are provided.

- b. The cooperation of the various news media should be sought in publicizing the existence and reasons for TTC zones because news releases can assist by keeping the road user well informed.
- c. The needs of abutting property owners, residents, and businesses should be assessed and appropriate accommodations made.
- d. The needs of emergency service providers (law enforcement, fire, and medical) should be assessed and appropriate coordination and accommodations made.
- e. The needs of railroads and transit should be assessed and appropriate coordination and accommodations made.
- f. The needs of operators of commercial vehicles such as busses and large trucks should be assessed and appropriate coordination and accommodations made.

NOTE: Before any new detour or temporary route is opened to traffic, all necessary signs shall be in place. All TTC devices shall be removed as soon as practical when they are no longer needed. When work is suspended for short periods of time, TTC devices that are no longer appropriate shall be removed or covered.

Additional Considerations:

- 1. Inspection:
 - a. Inspect the TTC zone to make sure warning flags are not wrapped around supports.
 - b. Inspect warning signs for proper visibility, barricade lights or flashers for visibility and function.
 - c. A good test of a TTC zone is to drive through the zone yourself, in addition to observing traffic, to determine if there is an orderly transition. For nighttime work, lighting the work zone and approaches will allow the motorist better comprehension of imposed requirements. Since traffic patterns change, observation should be conducted periodically and adjustments made accordingly to assure traffic flow.
- 2. Pedestrians: The following three items should be considered when planning for pedestrians in TTC zones:
 - a. Pedestrians should not be directed into conflicts with work site vehicles, equipment or operations.
 - b. Pedestrians should not be directed into conflicts with vehicles moving through or around the worksite.
 - c. Pedestrians should be provided with a reasonably safe, convenient and accessible path that replicates as nearly as possible the most desirable

characteristics of the existing sidewalks (s) or footpath (s). Where pedestrians who have visual disabilities encounter work sites that require them to cross the roadway to find an accessible route, instructions should be provided using an audible information device.

Temporary Traffic Control (TTC) General/Reference Information

Short Duration Work Operations

The CA MUTCD addresses work duration under section 6G.02 **Work Duration** and states:

Work duration is a major factor in determining the number and types of devices used in TTC zones. The duration of a TTC zone is defined relative to the length of time a work operation occupies a spot location.

Standard:

The five categories of work duration and their time at a location shall be:

- A. Long-term stationary is work that occupies a location more than 3 days.
- B. Intermediate-term stationary is 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 is daytime work that occupies a location for more than 1 hour within a single daylight period.
- D. Short duration is work that occupies a location up to 1 hour.
- E. Mobile is work that moves intermittently or continuously.

Standard:

Since intermediate-term operations extend into nighttime, retroreflective and/or illuminated devices shall be used in intermediate-term stationary TTC zones.

Support:

Most maintenance and utility operations are short-term stationary work.

As compared to stationary operations, mobile and short-duration operations are activities that might involve different treatments. Devices having greater mobility might be necessary such as signs mounted on trucks. Devices that are larger, more imposing, or more visible can be used effectively and economically. The mobility of the TTC zone is important.

Maintaining reasonably safe work and road user conditions is a paramount goal in carrying out mobile operations.

Guidance:

Safety in short-duration or mobile operations should not be compromised by using fewer devices simply because the operation will frequently change its location.

Option:

Appropriately colored or marked vehicles with high-intensity rotating, flashing, oscillating, or strobe lights may be used in place of signs and channelizing devices for short-duration or mobile operations. These vehicles may be augmented with signs or arrow boards.

Support:

During short-duration work, it often takes longer to set up and remove the TTC zone than to perform the work. Workers face hazards in setting up and taking down the TTC zone. Also, since the work time is short, delays affecting road users are significantly increased when additional devices are installed and removed.

Option:

Considering these factors, simplified control procedures may be warranted for short-duration work. A reduction in the number of devices may be offset by the use of other more dominant devices such as high-intensity rotating, flashing, oscillating, or strobe lights on work vehicles.

End of Work Period

Before leaving a work area, it is necessary that approved warning devices be placed to protect motorists, bicyclists or pedestrians.

1. Ensure the area is properly barricaded and that flashing lights, where required, are functioning satisfactorily.
2. Make sure that equipment is secured and that the work area is left orderly. Cover or barricade exposed openings (trenches, excavations, bell holes, etc.) to assure protection of the public.

Night Operations

Night Operations should be set up pursuant to the National Cooperative Highway Research Program (NCHRP) report 476, guidelines for design and operation of nighttime traffic control for highway maintenance and construction.

In order to provide enhanced warning and safety during twilight and night operations, the following steps are recommended:

1. When the work area is to be illuminated by use of flood lights, the light placement shall be such that the light beams are not hazardous to traffic.
2. All warning signs and channelizers shall have reflective properties.
3. Flashing or rotating amber lights on vehicles may be used when the vehicles are blocking established traffic lanes or for additional work area protection.

Care should be taken to ensure that the lighting used for nighttime work does not cause blinding. Refer to CVC 21466.5 for light impairing driver's vision.

NOTE: Flares, red lights and reflectors are strictly for emergency situations and must not be used as substitutes for standard work area warning devices. Flares shall not be used in high hazard fire areas.

Self-Regulating Conditions

The CA MUTCD recognizes certain field conditions may be self-regulating, where TTC is not necessary. For one lane, two way traffic control it states the following as an option:

If the work space on a low-volume street or road is short and road users from both directions are able to see the traffic approaching from the opposite direction through and beyond the worksite, the movement of traffic through a one-lane, two-way constriction may be self-regulating.

With respect to lane closures on minor streets it also states the following option:

Where the work space is short, where road users can see the roadway beyond, and where volume is low, vehicular traffic may be self-regulating.

TTC Sign Recommendations

All temporary traffic control signs shall be sized to be in accordance with CA MUTCD Table 6F-1 and 6F-1 (CA), *Sizes of Temporary Control Signs*. TTC sign placement shall be per Section 6F.03 of the CA MUTCD.

Approved warning signs shall be installed and properly maintained, as needed and in accordance with the California MUTCD, due to moving or stationary vehicles, open excavations, construction or maintenance operations or similar work. Warning signs shall be placed so as to provide adequate notice to motorists, bicyclists or pedestrians that they are approaching an excavation, obstruction or hazard. Sign supports should be located to accommodate pedestrian and bicyclist designated areas and maintain a minimum lateral width of 4ft for pedestrian pathways. Warning signs shall be removed as soon as the excavation, obstruction or hazard is removed or cleared.

Signs mounted on portable sign supports or barricades shall have the bottom of the sign at least 1 foot above the traveled way. Signs mounted on portable sign supports that do not meet the following minimum standard mounting heights should not be used for a duration of more than 3 days. Signs mounted on portable sign supports that may be used longer than 3 days and do not meet the standard on minimum mounting heights outlined below are signs in the R9-8 through R9-11a series, R11 series, W1-6 through W1-8 series, M4-10 and E5-1.

Standard:

The minimum height, measured vertically from the bottom of the sign to the elevation of the near edge of the pavement, of signs installed at the side of the road in rural areas shall be 5 feet.

The minimum height, measured vertically from the bottom of the sign to the top of the curb, or in the absence of curb, measured vertically from the bottom of the sign to the elevation of the near edge of the traveled way, of signs installed at the side of the road in business, commercial, or residential areas where parking or pedestrian movements are likely to occur, or where the view of the sign might be obstructed, shall be 7 feet

The minimum height, measured vertically from the bottom of the sign to the sidewalk, of signs installed above sidewalks shall be 7 feet.

California MUTCD Section 6F.103 (CA):

OPEN TRENCH Sign (C27(CA))

The OPEN TRENCH sign shall be used in advance of open trenches in/or adjacent to roadway. The edge of the traveled way shall be defined by edge line delineation consisting of appropriate markers or striping. Edge line delineation shall be white when located on the right of traffic and yellow when located on the left of traffic.

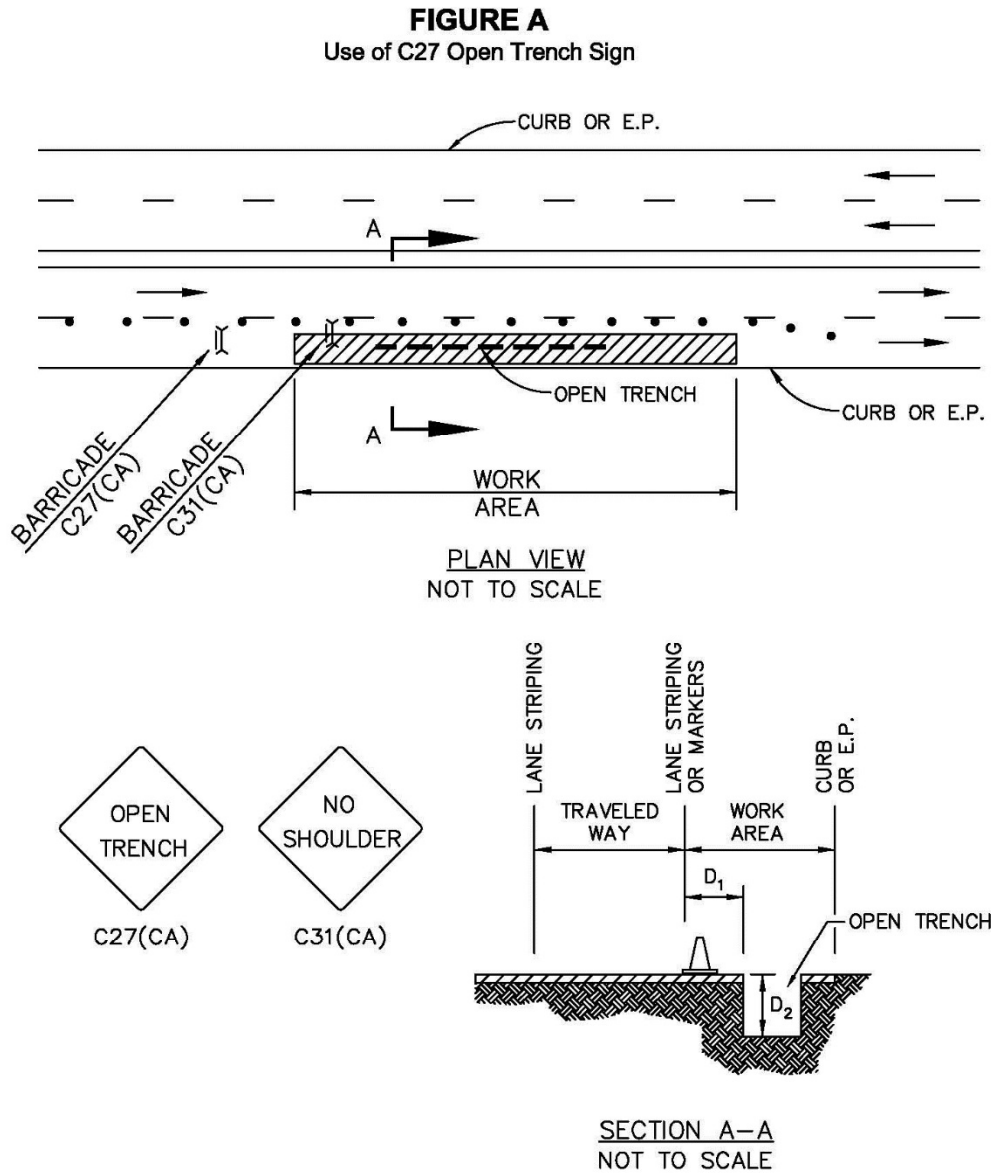
Standard:

Trenches in excess of 0.25 ft (3-inches), but less than 2.5ft in depth that are less than 8 ft from the edge of traveled way shall be identified by C27(CA) and NO SHOULDER (C31A(CA)) signs set in the trench at intervals not to exceed 2,000 ft.

Use of C27(CA) and C31(CA) signs shall be incorporated into all temporary traffic control drawings contained in this manual where trenches are within 8-ft of the traveled way. See Figure A for reference.

FIGURE A – Use of C27(CA) Open Trench Sign

C27(CA) and NO SHOULDER (C31A(CA)) signs on Type II or Type III barricades alternately set in the trench at intervals not to exceed every 2,000 feet.



- NOTE:
1. C27 AND C31 SIGNS SHALL BE USED WHEN TRENCH D_1 IS 8-FT OR LESS AND D_2 IS GREATER THAN 0.25-FT (3-INCHES) BUT LESS THAN 2.5-FT.
 2. D_1 SHALL NOT BE LESS THAN 5-FT.

Table A - Recommended Advance Warning Sign Spacing

Posted Speed	Distance Between Signs **		
	A	B	C
Urban 25 mph or less***	100	100	100
Urban more than 25 mph to 40 mph***	250	250	250
Urban more than 40 mph***	350	350	350
Rural	500	500	500
Expressway/Freeway	1,000	1,500	2,640

** Distances are shown in feet. **The column headings A, B, and C are the dimensions shown on drawings No. 1-48.** The A dimension is the distance from the transition or point of restriction to the first sign. The B dimension is the distance between the first and second signs. The C dimension is the distance between the second and third signs. (The “first sign” is the sign in a three-sign series that is closest to the TTC zone. The third sign is one in a three sign series encountered by a driver/motorist approaching a TTC zone).

*** **Posted speed limit, off-peak 85th percentile speed prior to work starting, or the anticipated operating speed in mph.**

Table B - Taper Length Criteria for Temporary Traffic Control Zones

Type of Taper	Taper Length (L)
Merging Taper	at least L
Shifting Taper	at least 0.5L
Shoulder Taper	at least 0.33L
One-Lane, Two-Way Traffic Taper	50 feet minimum, 100 feet maximum
Downstream taper	50 feet min., 100 feet max. per lane

Table C - Formulas for Determining Taper Lengths

Speed Limit	Taper Length (L) Feet
40 mph or less	$L = WS^2/60$
45 mph or more	$L = WS$

Where: L = taper length in feet
 W = width of offset feet
 S = posted speed limit, or off peak 85th- percentile speed prior to work starting. Or the anticipated operating speed in mph

Table D – Longitudinal Buffer Space or Flagger Station Spacing on Downgrades

Speed (mph)	% Downgrade (Buffer Space)			
	Level Road 0% (ft)	-3% (ft)	-6% (ft)	-9% (ft)
20	115	116	120	126
25	155	158	165	173
30	200	205	215	227
35	250	257	271	287
40	305	315	333	354
45	360	378	400	427
50	425	446	474	507
55	495	520	553	593
60	570	598	638	686
65	645	682	728	785
70	730	771	825	891

Table E – Taper Length Criteria for Temporary Traffic Control Zones (for 12 feet Offset Width)

Speed* S (mph)	Minimum Taper Length ** For Width of Offset 12 ft (W)			
	Merging L (ft)	Shifting L/2 (ft)	Shoulder L/3 (ft)	Down Stream (ft) ***
20	80	40	27	50
25	125	63	42	50
30	180	90	60	50
35	245	123	82	50
40	320	160	107	50
45	540	270	180	50
50	600	300	200	50
55	660	330	220	50
60	720	360	240	50
65	780	390	260	50
70	840	420	280	50

* **Posted Speed, off peak 85th percentile speed prior to work starting, or the anticipated operating speed.**

** **For other offsets use the following merging taper length formula for L:
For speeds of (40 mph) or less ($L=WS^2/60$)
For speeds of (45 mph) or more ($L=WS$)**

*** **Maximum downstream taper length is 100 feet.**

Channelizing Devices

Channelizing devices (cones, tubular markers, channelizers (CA), portable delineators, barricades, longitudinal channelizing devices, drums or vertical panels) are elements in a total system of temporary traffic control for use during construction and maintenance operations. These elements shall be preceded by a subsystem of warning devices, adequate in size, number and placement for the type of roadway on which the work will take place. See CA MUTCD Figure 6F-7 and 6F-102(CA) for channelizing devices requirements (see page 23 and 24). All channelizing devices shall be crashworthy.

Channelizing devices can be used as follows:

1. To channel and/or divert traffic in advance of a temporary traffic control zone (work zone).
2. To define traffic lanes through the work zone.
3. To define a change in the position of the lanes around a work zone.
4. On detours to define curves and the edges of the roadway.
5. To separate opposing lanes of traffic.

Table F – Maximum Spacing of Channelizing Devices

Speed (mph)	Maximum Channelizer Spacing		
	Taper* (ft)	Tangent (ft)	Conflict** (ft)
20	20	40	10
25	25	50	12
30	30	60	15
35	35	70	17
40	40	80	20
45	45	90	22
50	50	100	25
55	55	110	27
60	60	120	30
65	65	130	32
70	70	140	35

* Maximum channelizer device spacing for all speeds on one-lane/two-way tapers is (20 ft). Maximum channelizer device spacing for all speeds on downstream tapers is (20 ft). All other tapers are as shown.

** Use on intermediate and short term projects for taper and tangent sections where there are no pavement markings or where there is a conflict between existing pavement markings and channelizers.

Note: A minimum 10-ft drivable lane width should be provided where possible.

Crashworthy Temporary Traffic Barriers

“Crashworthy” is a characteristic of a roadside appurtenance that has been successfully crash tested in accordance with a national standard such as the NCHRP Report 350, “Recommended Procedures for the Safety Performance Evaluation of Highway Features.”

Temporary traffic barriers, including their end treatments, shall be crashworthy. In order to mitigate the effect of striking the upstream end of a temporary traffic barrier, the end shall be installed in accordance with AASHTO’s “Roadside Design Guide” (see CA MUTCD Section 1A.11) by flaring until the end is outside the acceptable clear zone or by providing crashworthy end treatments.

Barricades

The function of barricades is to separate the motorist from objects or unusual situations created by construction or maintenance operations in or near the traveled way. Barricades should not be used to guide motorist through the transition or work zones.

The barricade would not be used where a collision with the barricade would be more severe than a collision with the object being separated. At such locations, channelizers or similar less rigid devices should be used.

Barricade design:

Barricades for vehicular traffic shall be of three types conforming to the CA MUTCD: Stripes on barricade rails shall be alternating orange and white retroreflective stripes sloping downward at an angle of 45 degrees in the direction road users are to pass. The stripes shall be 6 inches wide. When rail lengths are less than 36 inches, 4-inch wide stripes may be used.

The minimum length for Type 1 and Type 2 Barricades shall be 24 inches, and the minimum length for Type 3 Barricades shall be 48 inches. Each barricade rail shall be 8 to 12 inches wide. Barricades used on high-speed roadways shall have a minimum of 270 square inches of retroreflective area facing road users.

Note: The bottom of any barricade mounted signs shall be placed a minimum of 1-ft above the traveled way.

Arrow Boards

Excerpts from California MUTCD Section 6F.61 Arrow Boards:

Standard:

An arrow board shall be a sign with a matrix of elements capable of either flashing or sequential display. This sign shall provide additional warning and directional information to assist in merging and controlling road users through or around a Temporary Traffic Control (TTC) zone.

Guidance:

An arrow board in the arrow or chevron mode should be used to advise approaching traffic of a lane closure along major multi-lane roadways in situations involving heavy traffic volumes, high speeds and/or limited sight distances or at other locations and under the conditions where road users are less likely to expect such lane closures. If used, an arrow board should be used in combination with appropriate signs, channelizing devices, or other TTC devices. An arrow board should be placed on the shoulder of the roadway or, if practical, further from the traveled lane. It should be delineated with retro reflective TTC devices. When the arrow board is not being used, it should be removed, if not removed, it should be shielded, or if the previous two options are not feasible, it should be delineated with retro reflective devices.

Standard:

Arrow boards shall meet the minimum size, legibility, distance, number of elements, and other specifications shown in Figure 6F-6 (see page 22). The arrow board shall be located behind channelizing devices used to transition traffic from the closed lane.








Standard:

When arrow boards are used to close multiple lanes, a separate arrow board shall be used for each closed lane.

Guidance:

When arrow boards are used to close multiple lanes, if the first arrow board is placed on the shoulder, the second arrow board should be placed in the first closed lane at the beginning of the second merging taper. When the first arrow board is placed in the first closed lane, the second arrow board should be placed in the second closed lane at the downstream end of the second merging taper.

CA MUTCD Figure 6F-6. Advance Warning Arrow Board Display Specifications

Operating Mode	Display (Type C arrow board illustrated)			
1. At least one of the three following modes shall be provided:	(right arrow shown; left is similar)			
Flashing Arrow	 Merge Right			
Sequential Arrow	 Merge Right			
Sequential Chevron	 Merge Right			
2. The following mode shall be provided:	 Merge Right or Left			
3. At least one of the following modes shall be provided: Flashing Caution or Alternating Diamond Caution	 or  or  Flashing Caution Flashing Caution Alternating Diamond Caution			

Arrow Board Type	Minimum Size	Minimum Legibility Distance	Minimum Number of Elements	Appropriate Use***
A	48 x 24 inches	1/2 mile	12	Low-speed urban streets
B	60 x 30 inches	3/4 mile	13	Intermediate-speed facilities and maintenance or mobile operations on high-speed roadways
II**	72 x 36 inches*	3/4 mile	13	Use in place of Type B or C
C or I	96 x 48 inches	1 mile	15	High-speed, high volume roadways
D	None*	1/2 mile	12	On authorized vehicles

*Length of arrow equals 48 inches, width of arrowhead equals 24 inches

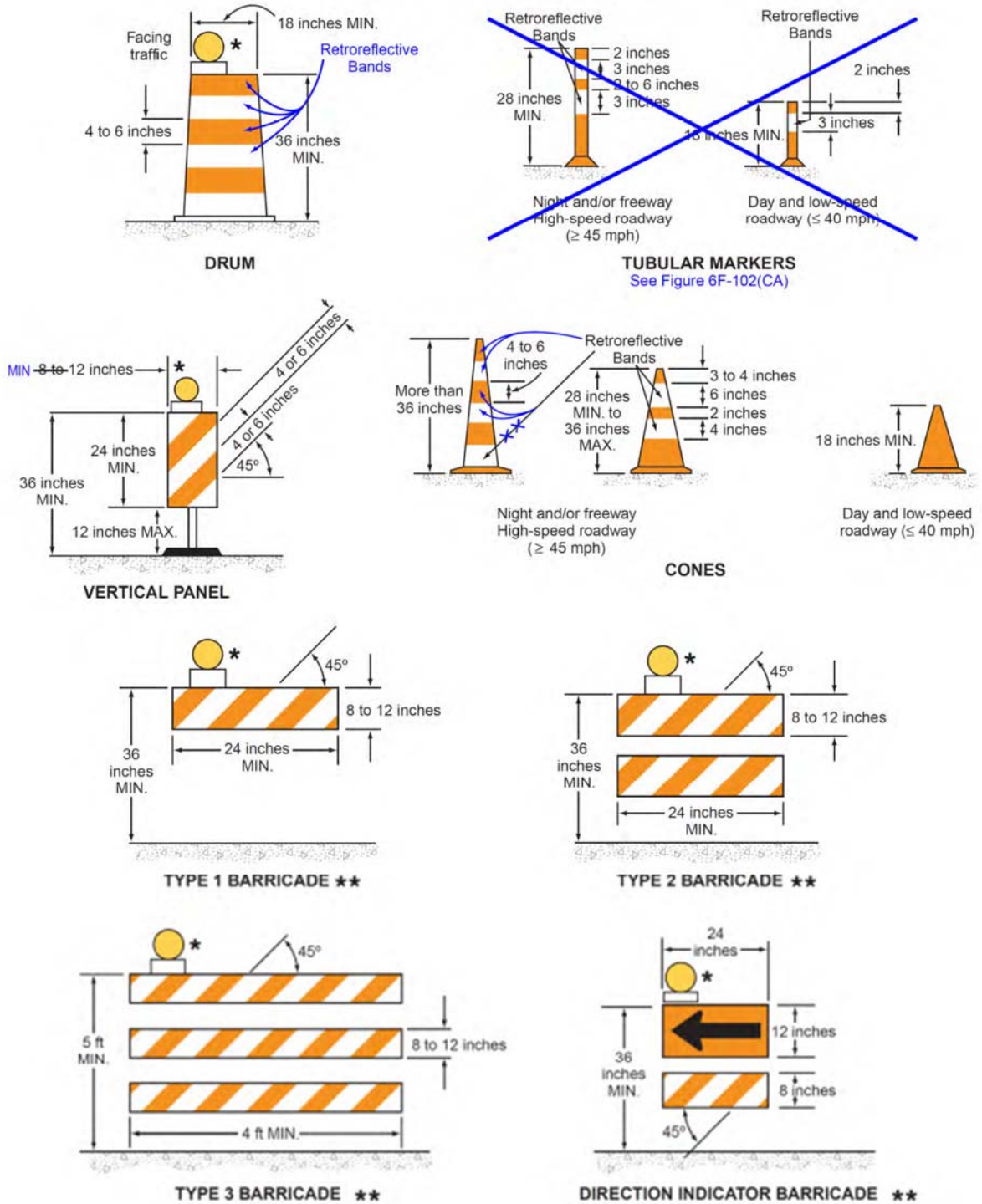
Standard:

** For State highways, the panel Type B shall be replaced by Type II.

*** See Section 6F.61 for more details.

CA MUTCD Figure 6F-7. Channelizing Devices

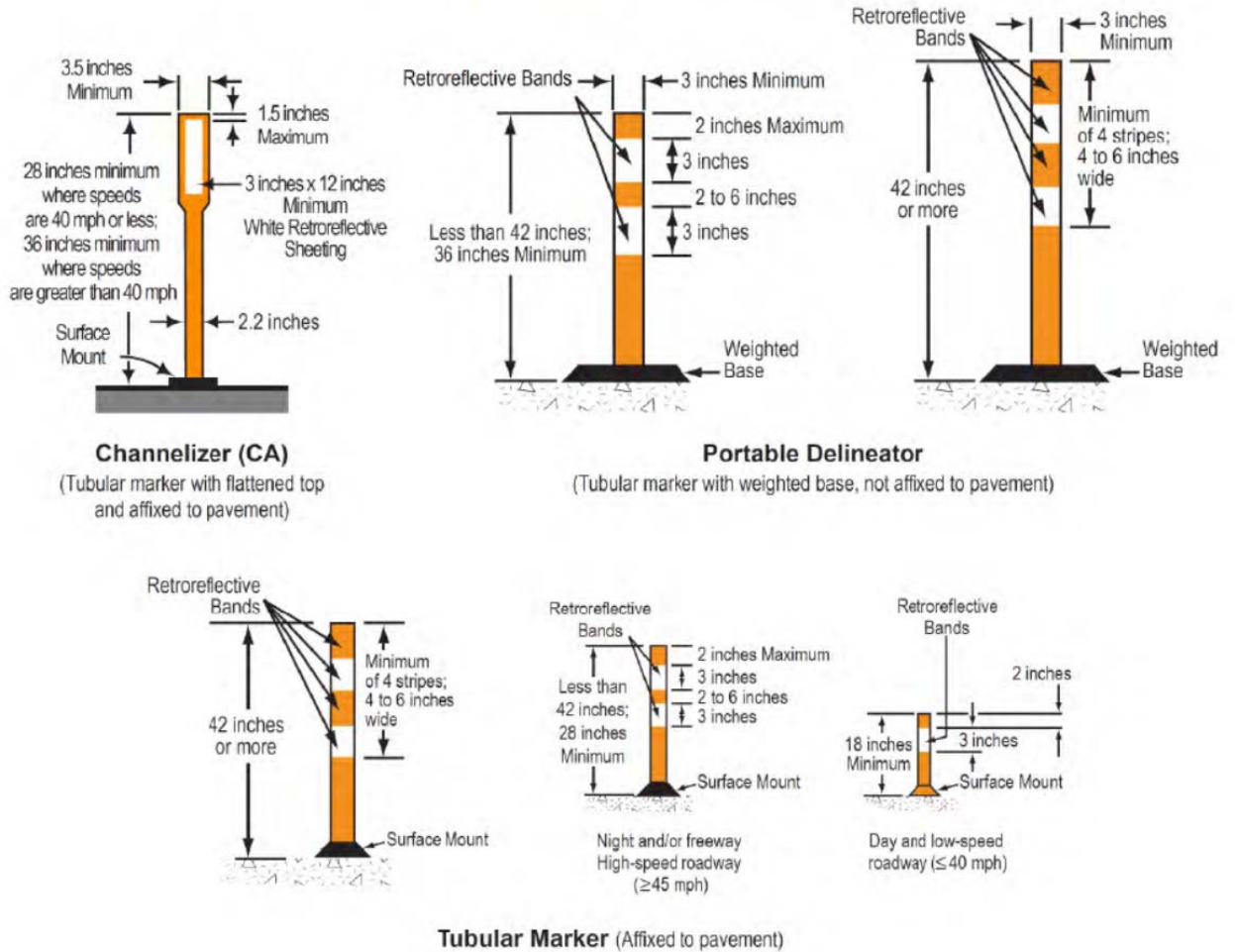
Figure 6F-7. Channelizing Devices



* Warning lights (optional)
** Rail stripe widths shall be 6 inches, except that 4-inch wide stripes may be used if rail lengths are less than 36 inches. The sides of barricades facing traffic shall have retroreflective rail faces.

CA MUTCD Figure 6F-102 (CA) Tubular Markers

Figure 6F-102 (CA). Tubular Markers



Flagger Reference Information

Cal OSHA Title 8 Chapter 4, Subchapter 4, Section 1599 – Flaggers Effective July 1, 2014

- (a) A flagger or flaggers shall be utilized at locations on a construction site where barricades and warning signs cannot control the moving traffic. Unless this section provides differently, the number of flaggers required and matters regarding the deployment of the flagger or flaggers shall be according to the California Manual on Uniform Traffic Control Devices for Streets and Highways, January 13, 2012, published by the State Department of Transportation (the Manual), which is herein incorporated by reference.
- (b) When a flagger or flaggers are required, they shall be placed in relation to the equipment or operation so as to give effective warning.
- (c) Placement of warning signs shall be according to the Manual.
- (d) Flaggers shall wear warning garments such as vests, jackets, or shirts manufactured in accordance with the requirements of the American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) 107-2004, or equivalent revision, High Visibility Safety Apparel and Headwear.
- (e) During the hours of darkness, flaggers' stations shall be illuminated such that the flagger will be clearly visible to approaching traffic and flaggers shall be outfitted with reflectorized garments manufactured in accordance with the requirements of the American National Standards Institute (ANSI)/International Safety Equipment Association (ISEA) 107-2004, or equivalent revision, High Visibility Safety Apparel and Headwear. The retroreflective material shall be visible at a minimum distance of 1,000 feet. White outer garments with retroreflective material that meets the above requirements may be worn during hours of darkness but not during snow or fog conditions, in lieu of colored vests, jackets and/or shirts.
- (f) The employer shall select the proper type (class) of high visibility safety apparel for a given occupational activity by consulting the Manual, apparel manufacturer, ANSI/ISEA 107-2004, or equivalent revision, Appendix B or the American Traffic Safety Services Association (ATSSA).
- (g) Flaggers shall be trained in the proper fundamentals of flagging moving traffic before being assigned as flaggers. Signaling directions used by flaggers shall conform to the Manual. The training and instructions shall be based on the Manual and work site conditions and also include the following:
- (1) flagger equipment which must be used,
 - (2) layout of the work zone and flagging station,
 - (3) methods to signal traffic to stop, proceed or slow down,
 - (4) methods of one-way traffic control,
 - (5) trainee demonstration of proper flagging methodology and operations,
 - (6) emergency vehicles traveling through the work zone,
 - (7) handling emergency situations,
 - (8) methods of dealing with hostile drivers,
 - (9) flagging procedures when a single flagger is used (when applicable),

Documentation of the training shall be maintained as required by Section 3203, Injury Illness and Prevention Program of the General Industry Safety Orders.

(h) Flaggers shall be trained by persons with the qualifications and experience necessary to effectively instruct the employee in the proper fundamentals of flagging moving traffic.

Note: Authority cited: 142.3, Labor Code. Reference: Section 142.3, Labor Code.

California MUTCD Section 6E.02 High-Visibility Safety Apparel Standard:

Standard:

For daytime and nighttime activity, flaggers shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of the ANSI/ISEA 107–2004 publication entitled “American National Standard for High-Visibility Apparel and Headwear”, or equivalent revisions, (see Section 1A.11) and labeled as meeting the ANSI 107-2004 or equivalent revisions, standard performance for Class 2 or 3 risk exposure. The apparel background (outer) material color shall be fluorescent orange-red, fluorescent yellow-green, or a combination of the two as defined in the ANSI standard. The retroreflective material shall be orange, yellow, white, silver, yellow-green, or a fluorescent version of these colors, and shall be visible at a minimum distance of 1,000 feet. The retroreflective safety apparel shall be designed to clearly identify the wearer as a person.

California MUTCD Section 6E.03 Hand Signaling Devices

Standard:

The STOP/SLOW (R1-1/W20-8) paddle shall be the primary and preferred hand-signaling device because the STOP/SLOW paddle gives road users more positive guidance than red flags. Use of flags should shall be limited to emergency situations.

The STOP/SLOW paddle shall have an octagonal shape on a rigid handle. STOP/SLOW paddles shall be at least 18 inches wide with letters at least 6 inches high. The STOP (R1-1) face shall have white letters and a white border on a red or fluorescent red background. The SLOW (W20-8) face shall have black letters and a black border on an orange or fluorescent orange background. When used at night, the STOP/SLOW paddle shall be retroreflectorized.

Guidance:

The STOP/SLOW paddle should be fabricated from light semi-rigid material. The bottom of the STOP/SLOW sign portion of the paddle should be a minimum of 6 feet above the pavement when mounted on a rigid staff.

Support:

The optimum method of displaying a STOP or SLOW message is to place the STOP/SLOW paddle on a rigid staff that is tall enough that when the end of the staff is resting on the ground, the message is high enough to be seen by approaching or stopped traffic.

California MUTCD Section 6E.07 Flagger Procedures:

Support:

The use of paddles and flags by flaggers is illustrated in Figure 6E-3 (see page 29).

Standard:

Flaggers shall use a STOP/SLOW paddle, a flag (for emergency situations only), or an Automated Flagger Assistance Device (AFAD) to control road users approaching a TTC zone. The use of hand movements alone without a paddle, flag, or AFAD to control road users shall be prohibited except for law enforcement personnel or emergency responders at incident scenes as described in Section 6I.01 of the CA MUTCD.

The following methods of signaling with paddles shall be used:

- A. To stop road users, the flagger shall face road users and aim the STOP paddle face toward road users in a stationary position with the arm extended horizontally away from the body. The free arm shall be held with the palm of the hand above shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body. The flagger shall motion with the free hand for road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users with the SLOW paddle face aimed toward road users in a stationary position with the arm extended horizontally away from the body.

Option:

To further alert or slow traffic, the flagger holding the SLOW paddle face toward road users may motion up and down with the free hand, palm down.

Standard:

The following methods of signaling with a flag (for emergency situations only) shall be used:

- A. To stop road users, the flagger shall face road users and extend the flag staff horizontally across the road users' lane in a stationary position so that the full area of the flag is visibly hanging below the staff. The free arm shall be held with the palm of the hand above the shoulder level toward approaching traffic.
- B. To direct stopped road users to proceed, the flagger shall stand parallel to the road user movement and with flag and arm lowered from the view of the road users, and shall motion with the free hand for road users to proceed. Flags shall not be used to signal road users to proceed.
- C. To alert or slow traffic, the flagger shall face road users and slowly wave the flag in a sweeping motion of the extended arm from shoulder level to straight down without raising the arm above a horizontal position. The flagger shall keep the free hand down.

Section 6E.08 Flagger Stations

Standard:

Flagger stations shall be located such that approaching road users will have sufficient distance to stop at an intended stopping point.

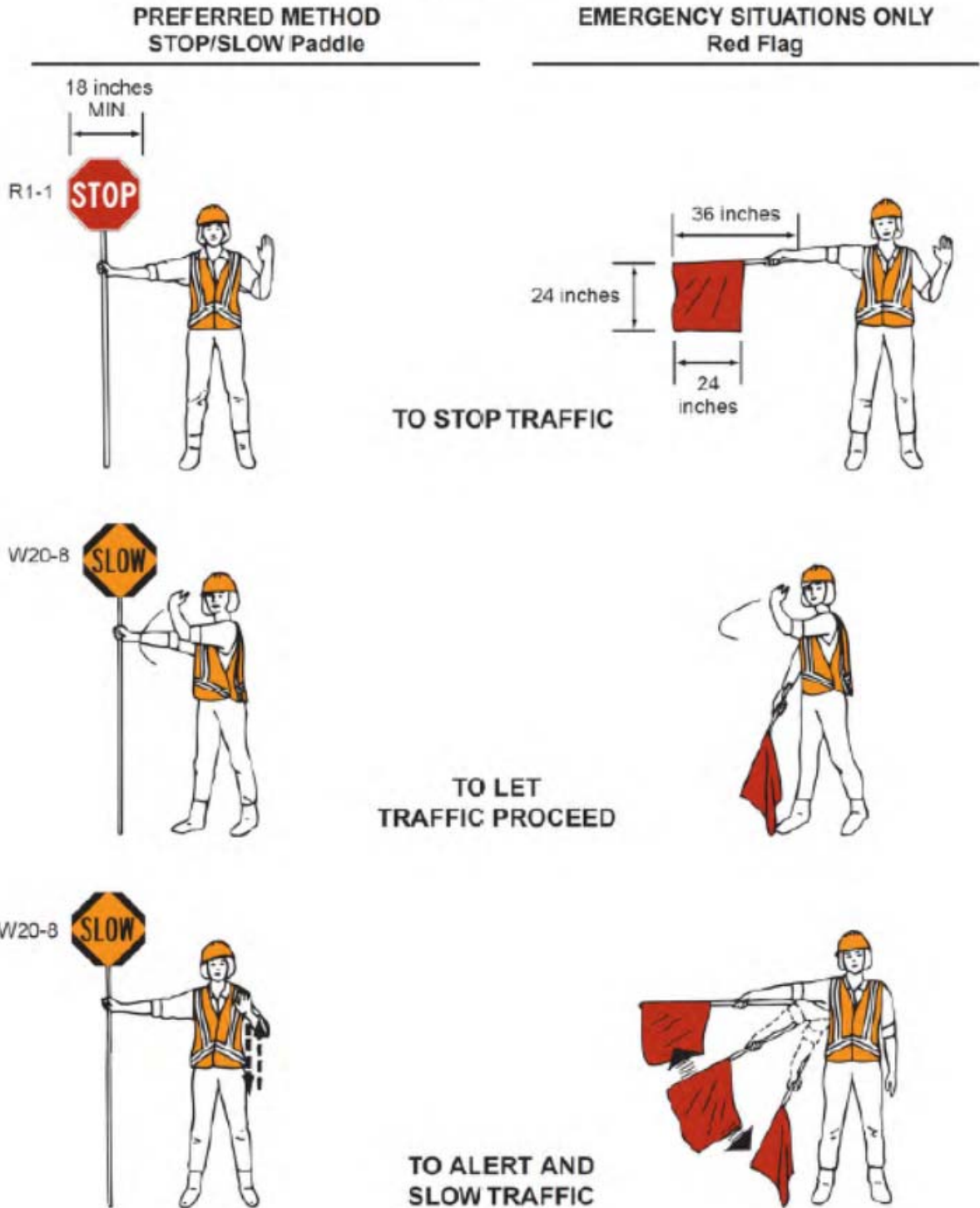
Guidance:

Flagger stations should be located such that an errant vehicle has additional space to stop without entering the work space. The flagger should identify an escape route that can be used to avoid being struck by an errant vehicle.

Standard:

Except in emergency situations, flagger stations shall be preceded by an advance warning sign or signs. Except in emergency situations, flagger stations shall be illuminated at night.

CA MUTCD Figure 6E-3. Use of Hand Signaling Devices by Flaggers

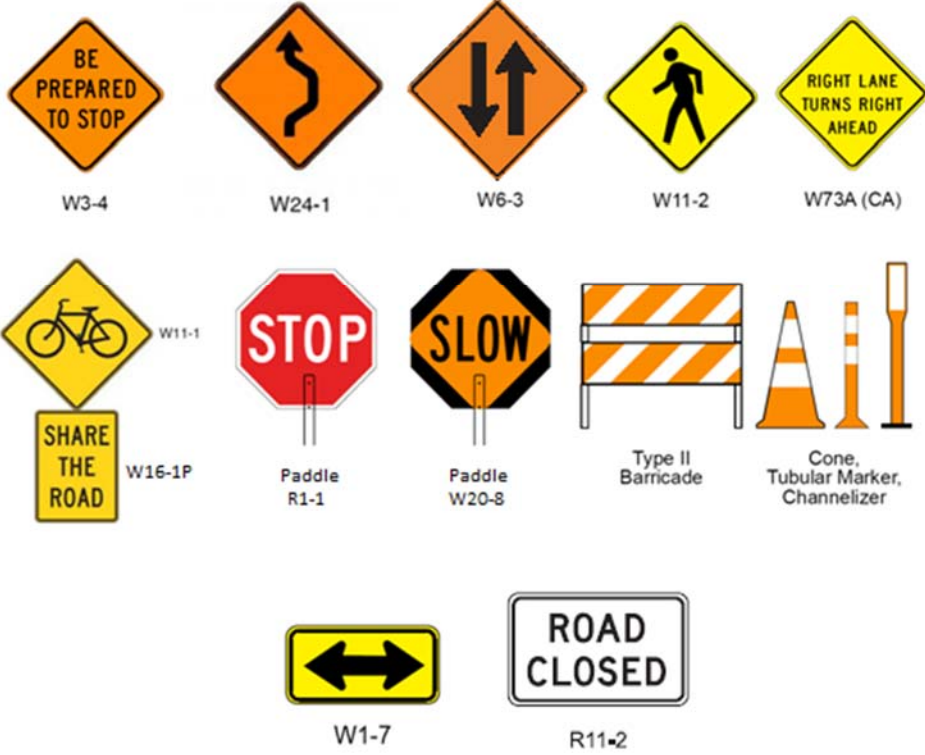


Note: Use of a rigid staff mounted STOP/SLOW paddle is desirable over short handle mounted paddles to avoid improper vertical placement that may result from flagger fatigue.

REFERENCE SIGN CHART



REFERENCE SIGN CHART



California Temporary Traffic Control Handbook (CATTCH) - QUICK REFERENCE TABLE

Minimum Taper length / Minimum # of Channelizer Devices (Cones, Tubular Markers, etc.)

Maximum Channelizer Spacing (FT.)	MPH	WIDTH OF LANE OFFSET IN FEET (Shift From Normal Lane Width Due To Work Zone)													
		5	6	7	8	9	10	11	12	13	14	15	16	17	18
20	20	33	40	47	53	60	67	73	80	87	93	100	107	113	120
		3	3	4	4	4	5	5	5	6	6	6	7	7	7
25	25	52	63	73	83	94	104	115	125	135	146	156	167	177	188
		4	4	4	5	5	6	6	7	7	8	8	8	9	9
30	30	75	90	105	120	135	150	165	180	195	210	225	240	255	270
		4	4	5	5	6	6	7	7	8	8	9	9	10	10
35	35	102	123	143	163	184	204	225	245	265	286	306	327	347	368
		4	5	6	6	7	7	8	8	9	10	10	11	11	12
40	40	133	160	187	213	240	267	293	320	347	373	400	427	453	480
		5	5	6	7	7	8	9	9	10	11	11	12	13	13
45	45	225	270	315	360	405	450	495	540	585	630	675	720	765	810
		6	7	8	9	10	11	12	13	14	15	16	17	18	19
50	50	250	300	350	400	450	500	550	600	650	700	750	800	850	900
		6	7	8	9	10	11	12	13	14	15	16	17	18	19
55	55	275	330	385	440	495	550	605	660	715	770	825	880	935	990
		6	7	8	9	10	11	12	13	14	15	16	17	18	19
60	60	300	360	420	480	540	600	660	720	780	840	900	960	1020	1080
		6	7	8	9	10	11	12	13	14	15	16	17	18	19
65	65	325	390	455	520	585	650	715	780	845	910	975	1040	1105	1170
		6	7	8	9	10	11	12	13	14	15	16	17	18	19

Minimum # of Channelizing Devices Shown in White
Minimum Taper Length "L" Shown in Grey

Temporary Traffic Control Elements (4 Zones):

1. **Advance Warning Area** - Traffic is informed of what to expect.
2. **Transition Area** - Where traffic is diverted out of it's normal path (See above chart)
3. **Activity Area** is where work takes place - Work Space/Traffic Space/Buffer Space
4. **Termination Area** - Where traffic is returned to normal driving path.

Table C: FOR LENGTHS NOT SHOWN ABOVE

$$L = (W \times S^2) / 60 \text{ for 40 mph or less}$$

$$L = W \times S \text{ for 45 mph or more}$$

L = Minimum Length of Taper (feet)
W = Width of Offset (feet)
S = Speed Limit (mph)

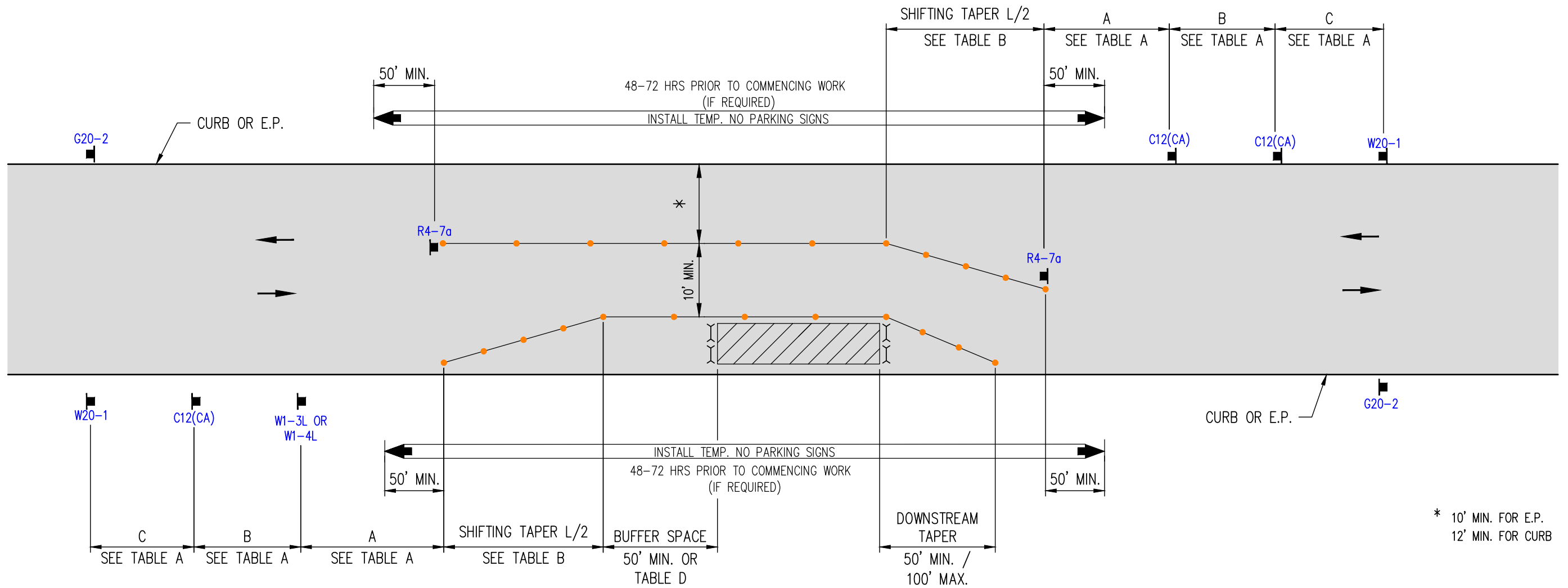
Road Type	Distance Between Signs (ft)		
	A	B	C
Urban - 25 mph or less	100	100	100
Urban - 30 mph to 40 mph	250	250	250
Urban - more than 40 mph	350	350	350
Rural	500	500	500
Expressway/Freeway	1000	1500	2640

TTC Sign Recommendations:

45 mph or greater = 48" Sign
40 mph or less = 36" Sign

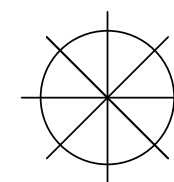
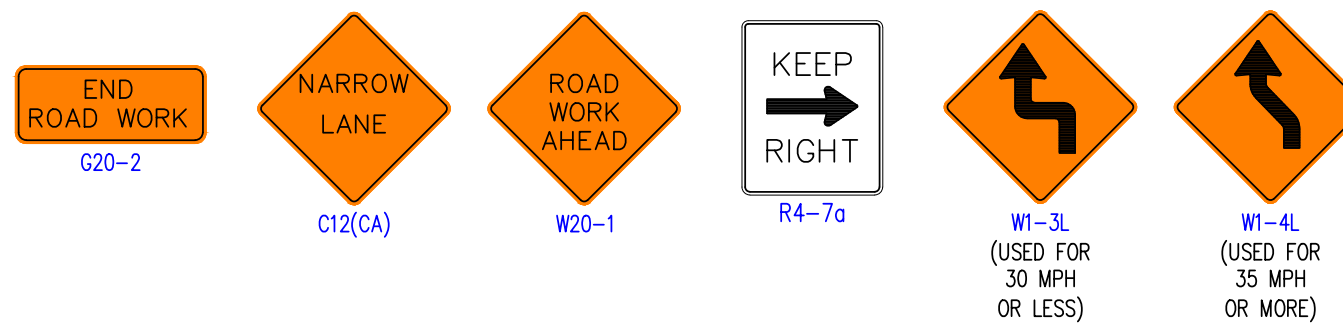
Table B: Taper Length Criteria for Temporary Traffic Control Zones

Type of Tapers:	Taper Lengths:
1. Merging Taper	L Minimum
2. Shifting Taper	1/2 L Minimum
3. Shoulder Taper	1/3 L Minimum
4. One-Lane, Two-Way Traffic Taper	50-ft Min/100-ft Max
5. Downstream Taper	50-ft Min/100-ft Max per lane



LEGEND

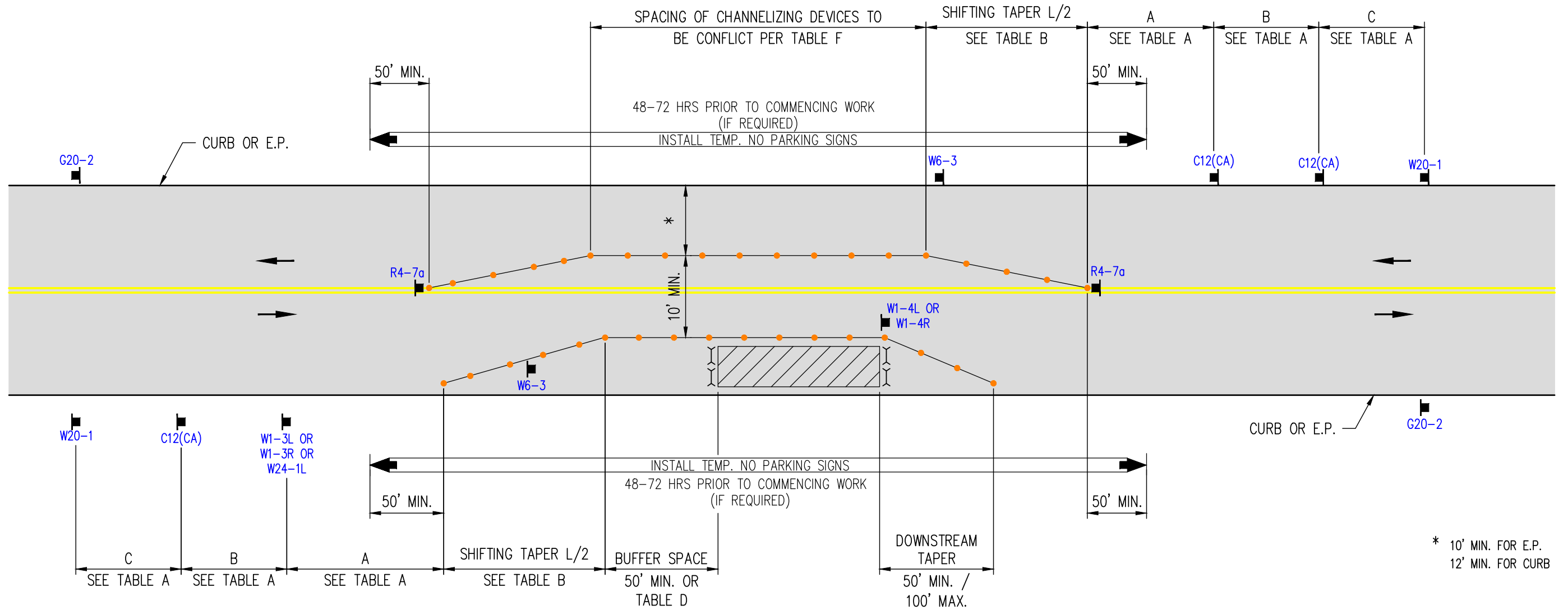
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN SIDE OF ROAD WORK TWO LANE TRAFFIC CONTROL WITHOUT CENTERLINE		
DATE		SCALE
		NONE
		DRAWING NO. 1



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

(USED FOR 30 MPH OR LESS OR WHERE THE TANGENT DISTANCE BETWEEN TWO REVERSE CURVES IS LESS THAN 600')	(USED FOR 30 MPH OR LESS)	(USED FOR 30 MPH OR LESS)	(USED FOR 35 MPH OR MORE)	(USED FOR 35 MPH OR MORE)

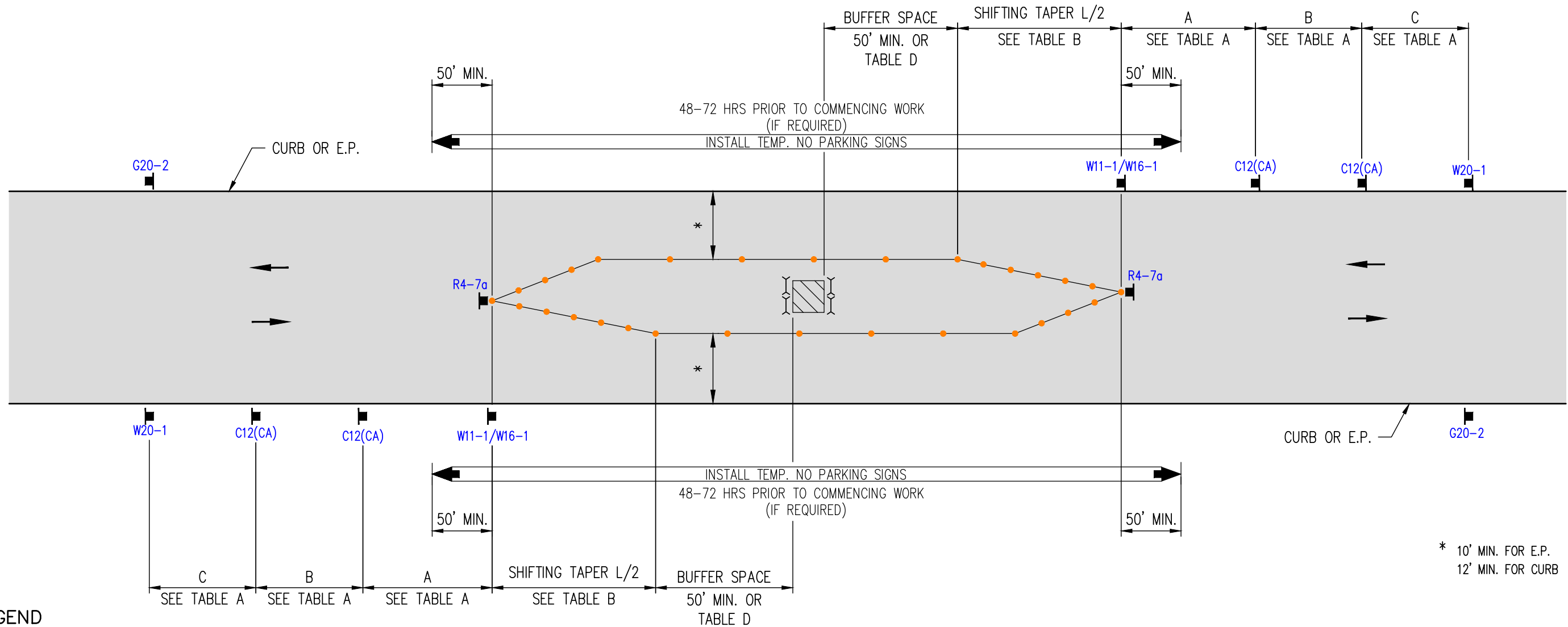
INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN		
SIDE OF ROAD WORK AREA TWO LANE TRAFFIC CONTROL WITH CENTERLINE		
DATE	SCALE	NONE
		DRAWING NO. 2

REV. 3/26/2018 CJUTCM-DWG02.DWG

REV. 3/26/2018 C:\JTCM-DWG03.DWG



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

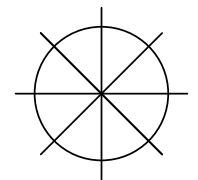
END ROAD WORK
G20-2

NARROW LANE
C12(CA)

ROAD WORK AHEAD
W20-1

KEEP RIGHT
R4-7a

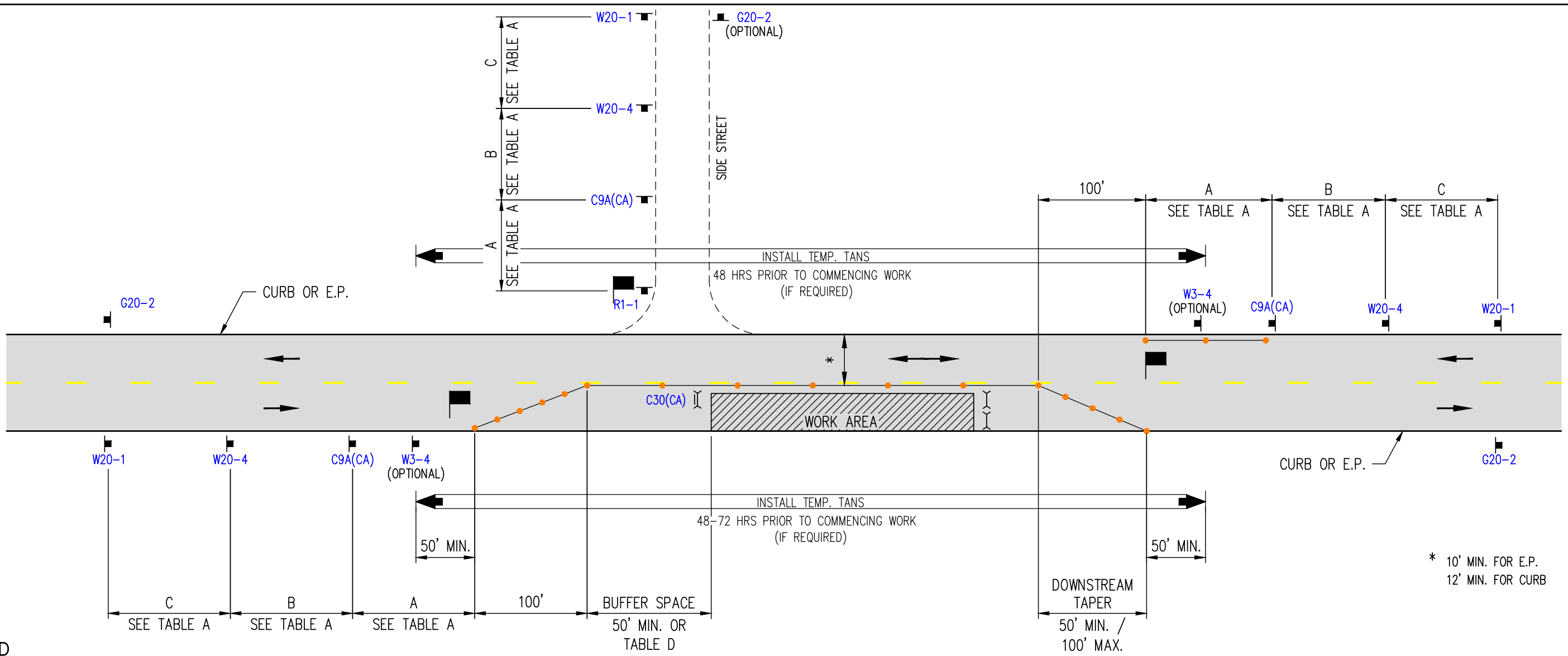
SHARE THE ROAD
W11-1/W16-1
(USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)



INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN WORK IN CENTER OF ROAD TWO LANE TRAFFIC CONTROL WITHOUT CENTERLINE		
DATE		SCALE
		NONE
		DRAWING NO. 3

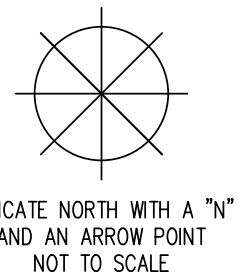
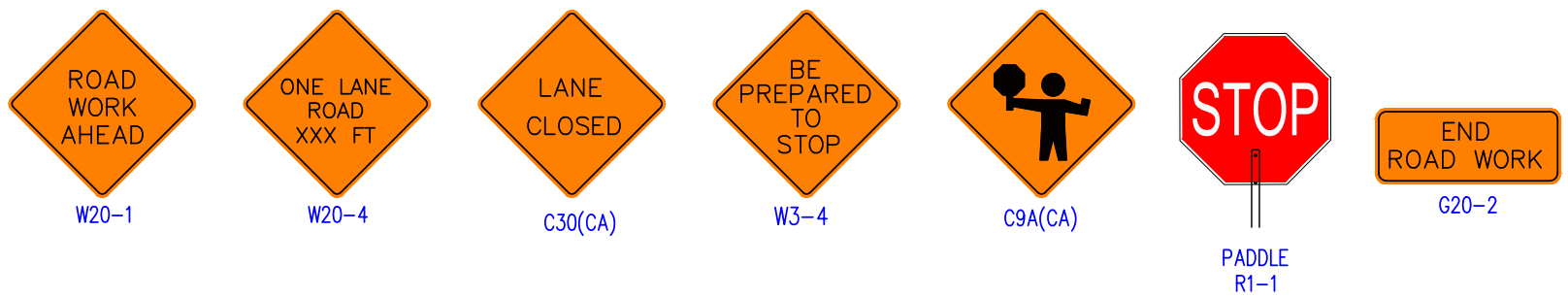
REV. 3/26/2018 CUJTCM-DWG04.DWG



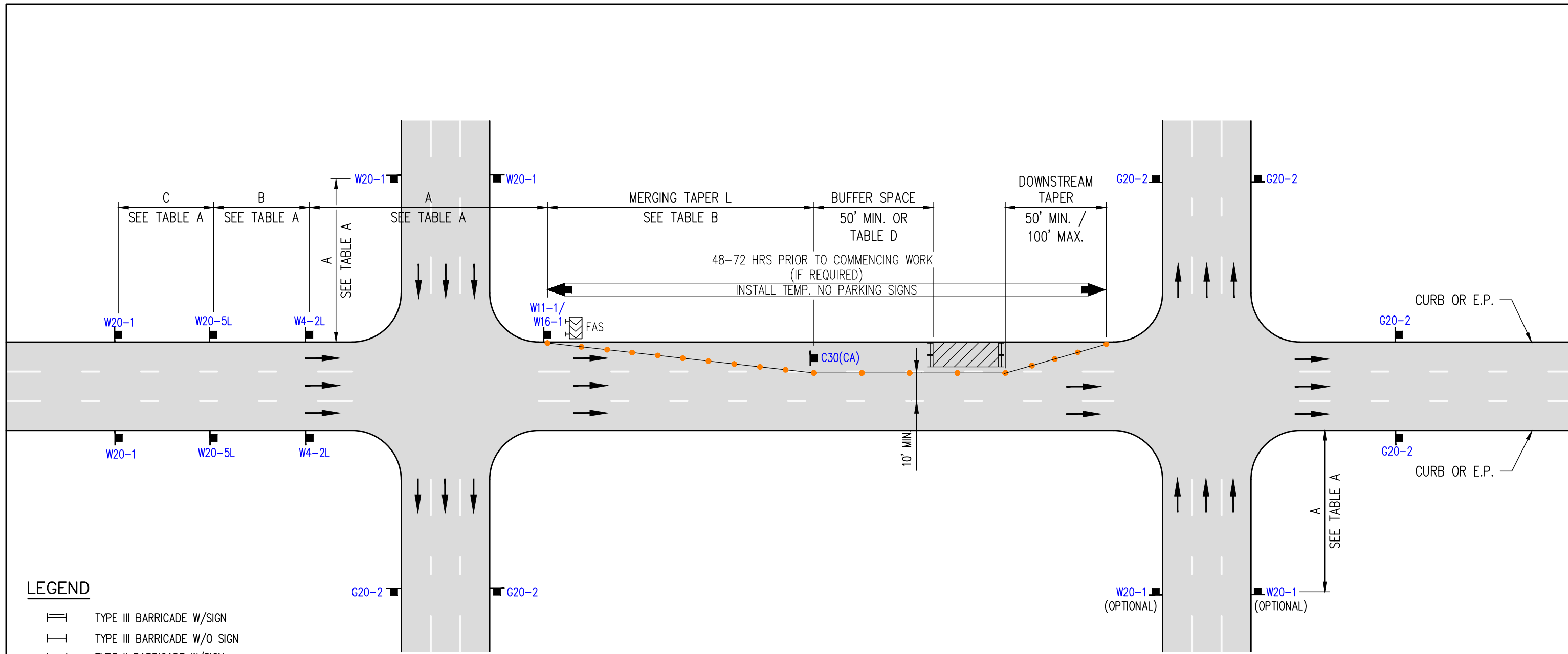
* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN MIDBLOCK HALF STREET CLOSURE FLAGGER CONTROL		
DATE		SCALE
		NONE
		DRAWING NO. 4



LEGEND

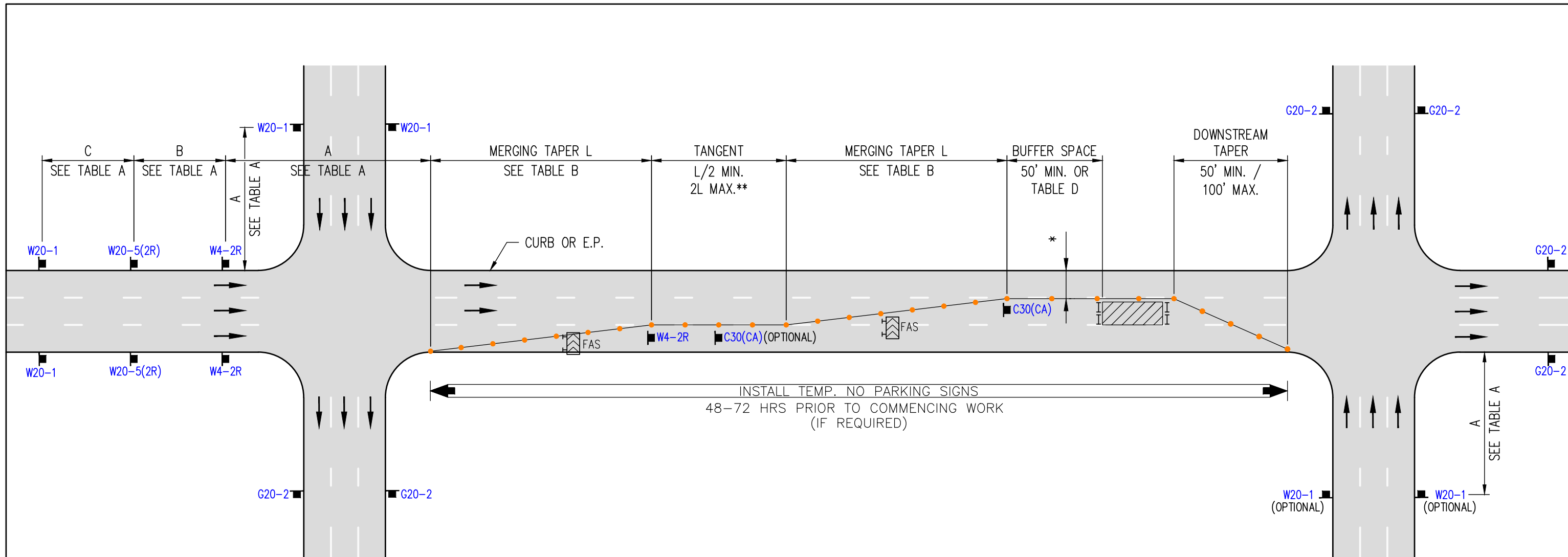
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- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

DATES OF TEMPORARY NO PARKING ZONE

DATE	SCALE
	NONE
	DRAWING NO. 5

WORKSITE TRAFFIC CONTROL PLAN
SIDE OF ROAD WORK AREA
LEFT LANE CLOSURE FOR ONE WAY STREET

INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

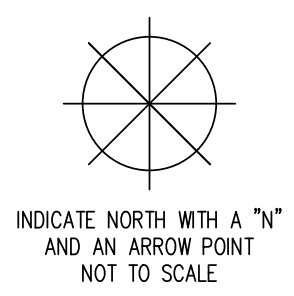


LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

* 10' MIN. FOR E.P.
12' MIN. FOR CURB

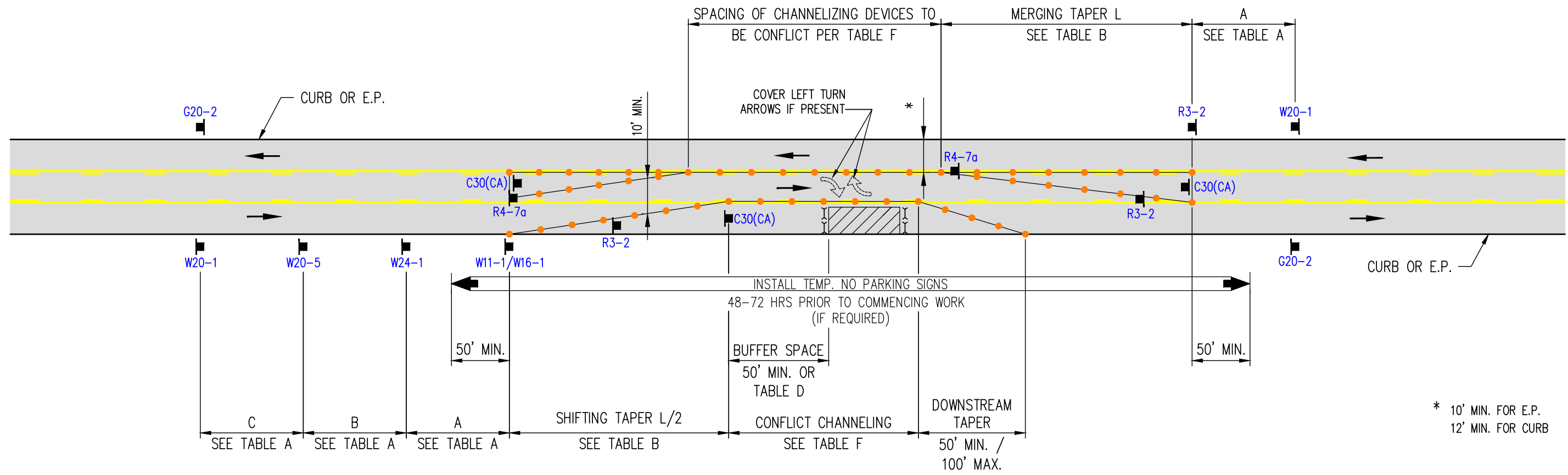
** IF APPROACHING LENGTH DOES NOT PERMIT THIS, A CONTINUOUS TAPER MAY BE USED



DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN
SIDE OF ROAD WORK AREA MULTILANE CLOSURE FOR ONE WAY STREET RIGHT TRAFFIC LANES CLOSED-ONE LANE

DATE	SCALE	NONE
DRAWING NO.		6

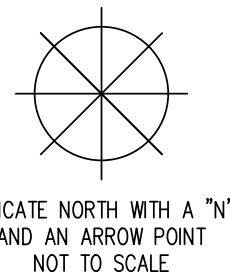


* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

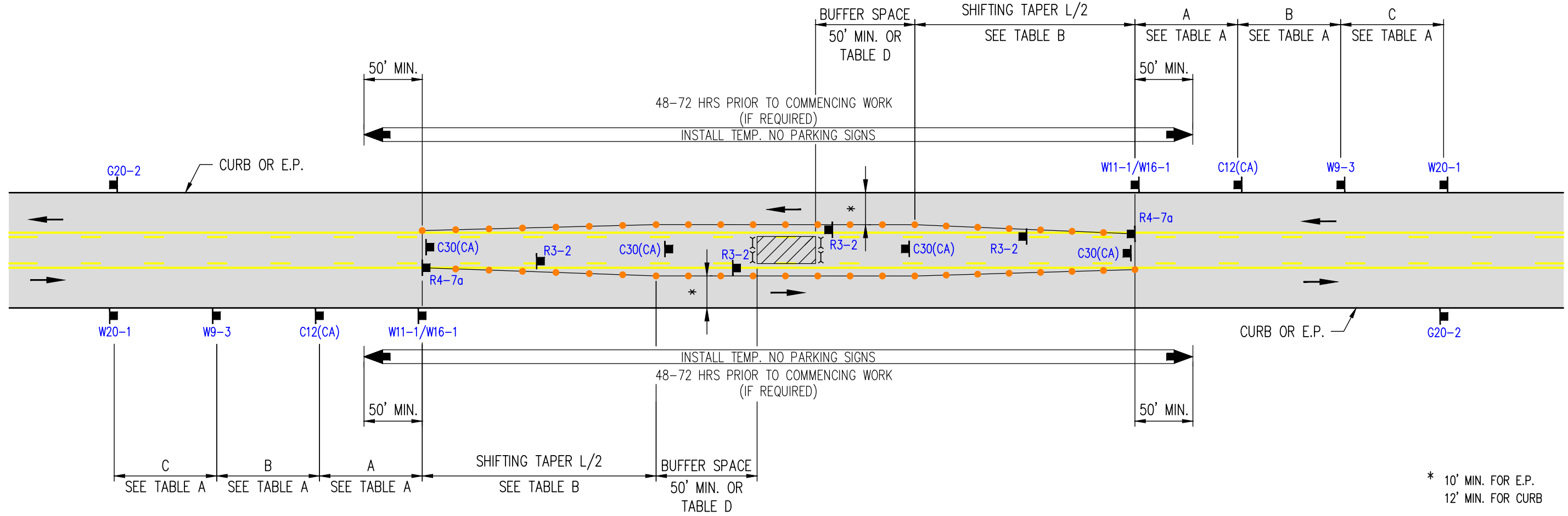
RIGHT LANE CLOSED AHEAD (W20-5 INTERCHANGEABLE WITH C20(CA))
END ROAD WORK (G20-2)
LANE CLOSED (C30(CA))
ROAD WORK AHEAD (W20-1)
KEEP RIGHT (R4-7a)
SHARE THE ROAD (W11-1/W16-1)
LANE CLOSED (W24-1L) (USED FOR 30 MPH OR LESS OR WHERE THE TANGENT DISTANCE BETWEEN TWO REVERSE CURVES IS LESS THAN 600')
LANE CLOSED (W1-3L) (USED FOR 30 MPH OR LESS)
LANE CLOSED (W1-3R) (USED FOR 30 MPH OR LESS)
LANE CLOSED (W1-4L) (USED FOR 35 MPH OR MORE)
LANE CLOSED (W1-4R) (USED FOR 35 MPH OR MORE)



DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN		
SIDE OF ROAD WORK AREA SINGLE LANE CLOSURE - RIGHT LANE USING 2-WAY LEFT TURN LANE		
DATE	SCALE	NONE
		DRAWING NO. 7

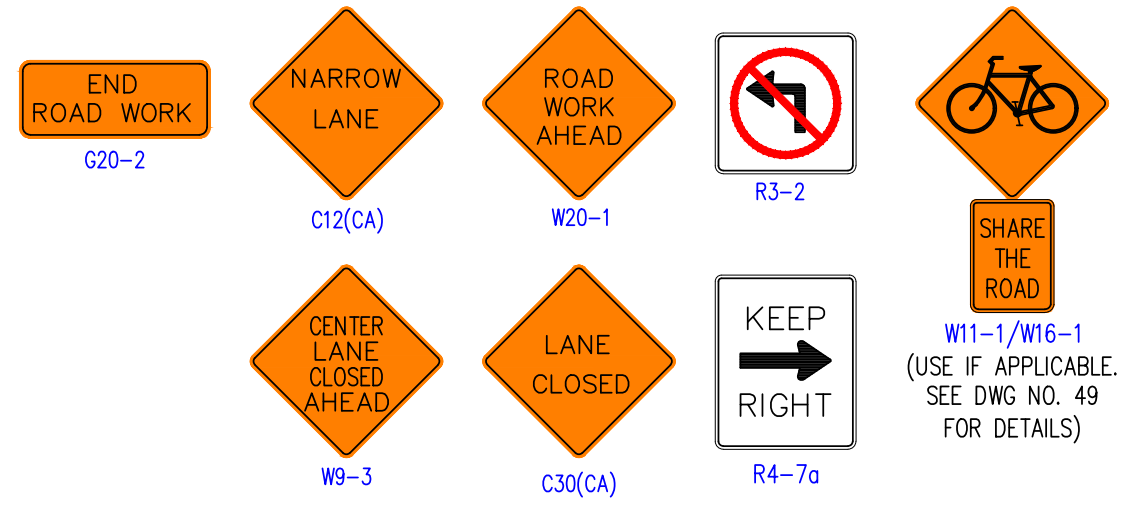
REV. 3/26/2018 CJUTCM-DWG07.DWG



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

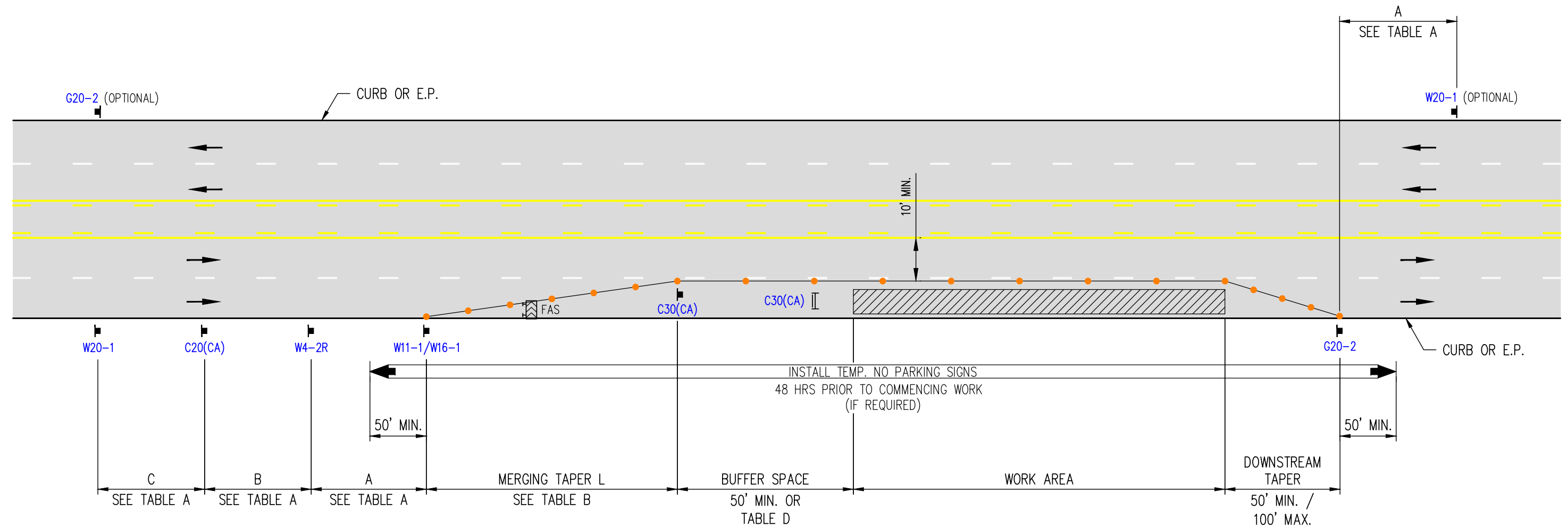


DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN		SCALE
2-WAY LEFT TURN LANE CLOSURE - MIDBLOCK		NONE
DATE		DRAWING NO. 8

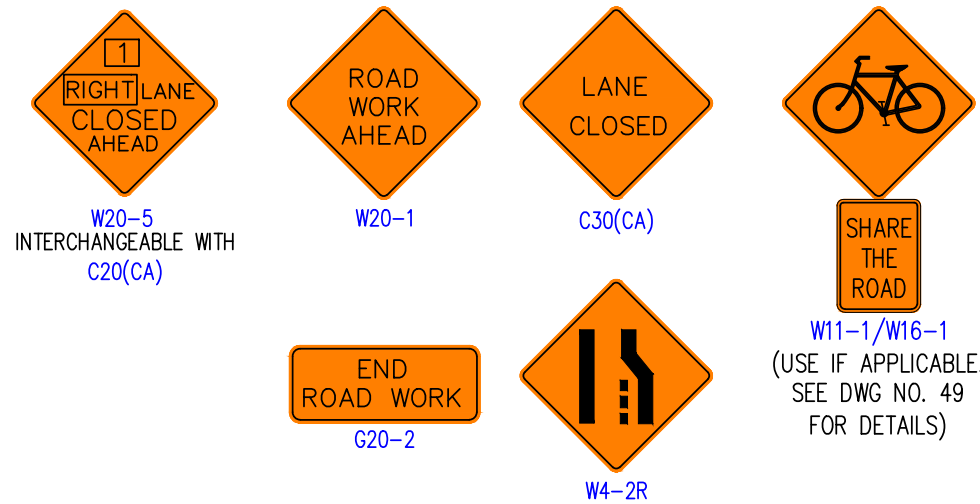
INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

REV. 3/26/2018 CJUTCM-DWG08.DWG



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



DATES OF TEMPORARY NO PARKING ZONE _____

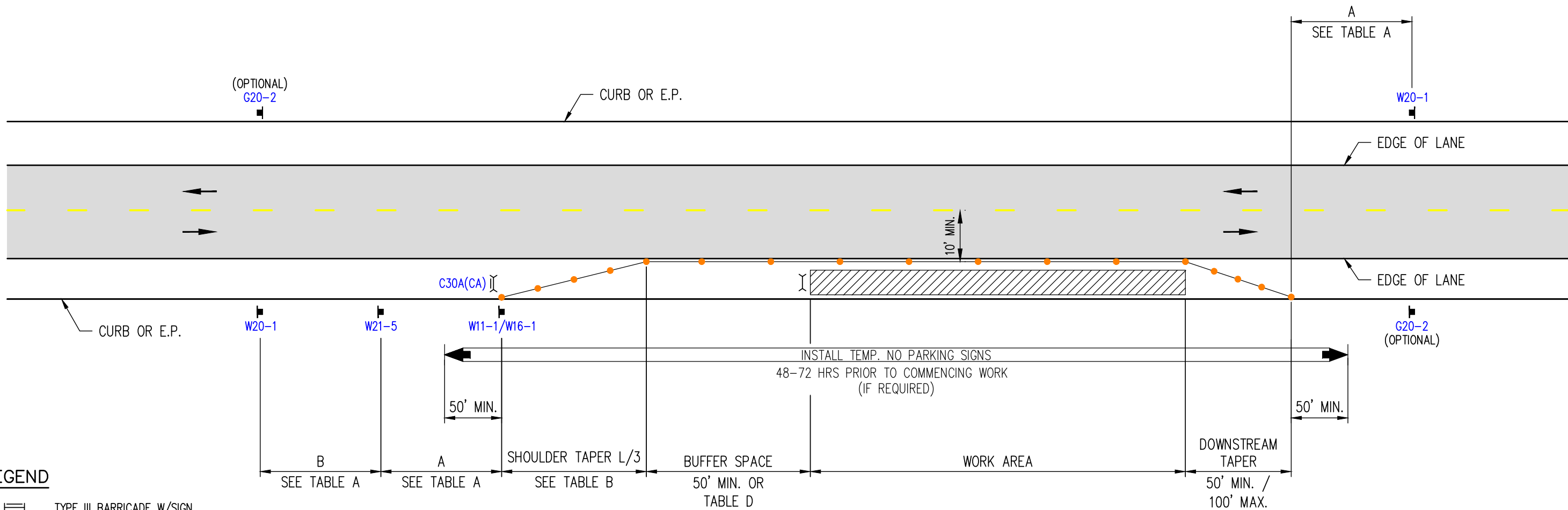
WORKSITE TRAFFIC CONTROL PLAN
SINGLE LANE CLOSURE
(RIGHT LANE)

DATE		SCALE
		NONE
		DRAWING NO. 9

INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

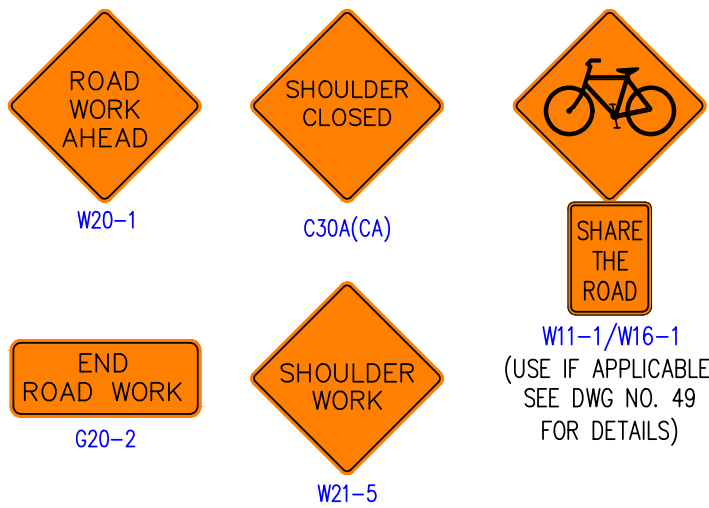
REV. 3/26/2018 CUJTCM-DWG09.DWG

REV. 3/26/2018 CJJTCM-DWG10.DWG



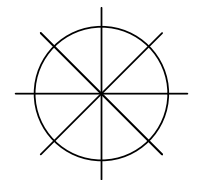
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



W11-1/W16-1
(USE IF APPLICABLE.
SEE DWG NO. 49
FOR DETAILS)

NOTE: WORK GREATER THAN 15' FROM TRAVELED WAY DOES NOT REQUIRE TTC.

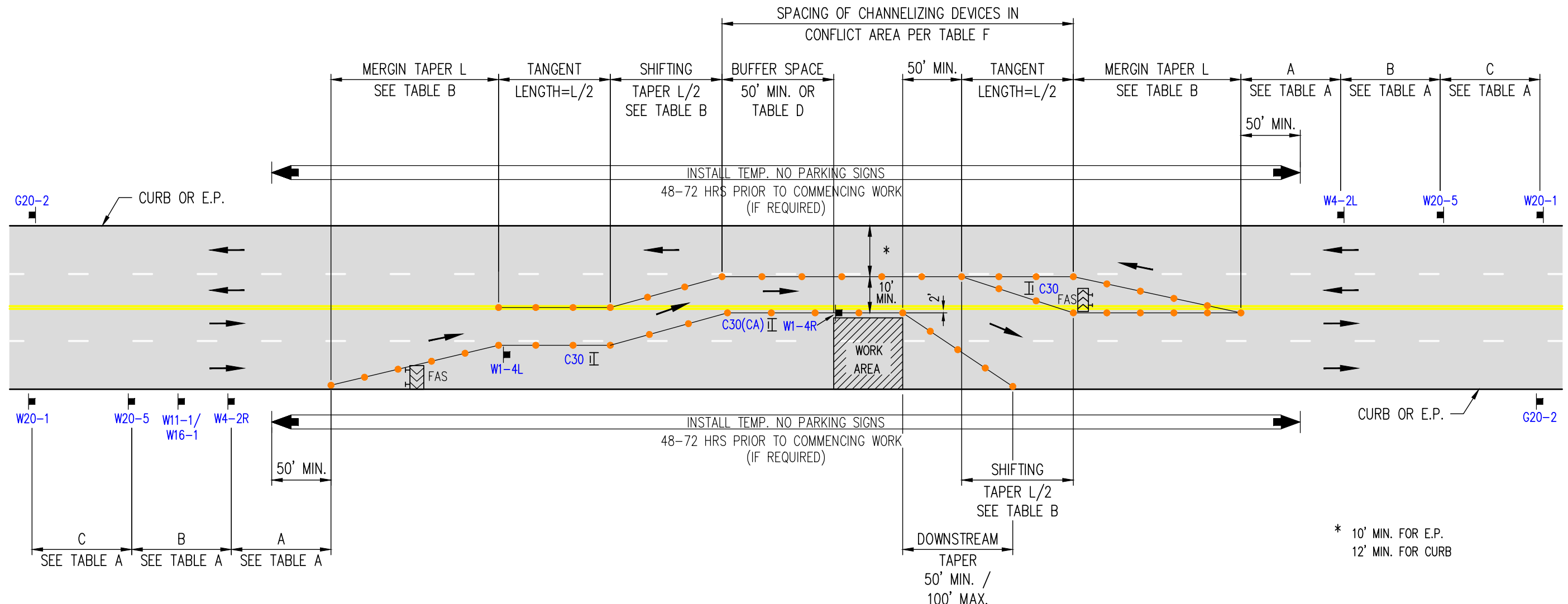


INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

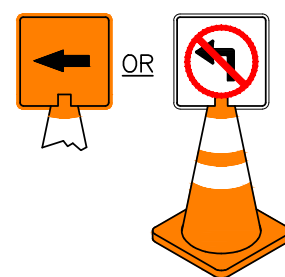
WORKSITE TRAFFIC CONTROL PLAN
SHOULDER CLOSURE

DATE	SCALE
	NONE
	DRAWING NO. 10



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



CLIP ON TYPE CONE MOUNTED SIGNS SUPPLEMENTAL ONLY 35 MPH OR LESS



G20-2



W20-5 INTERCHANGEABLE WITH C20(CA)



W4-2L



W20-4



W4-2R



W20-1



W1-4L



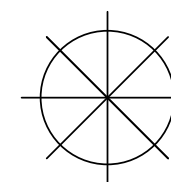
C30(CA)



W1-4R



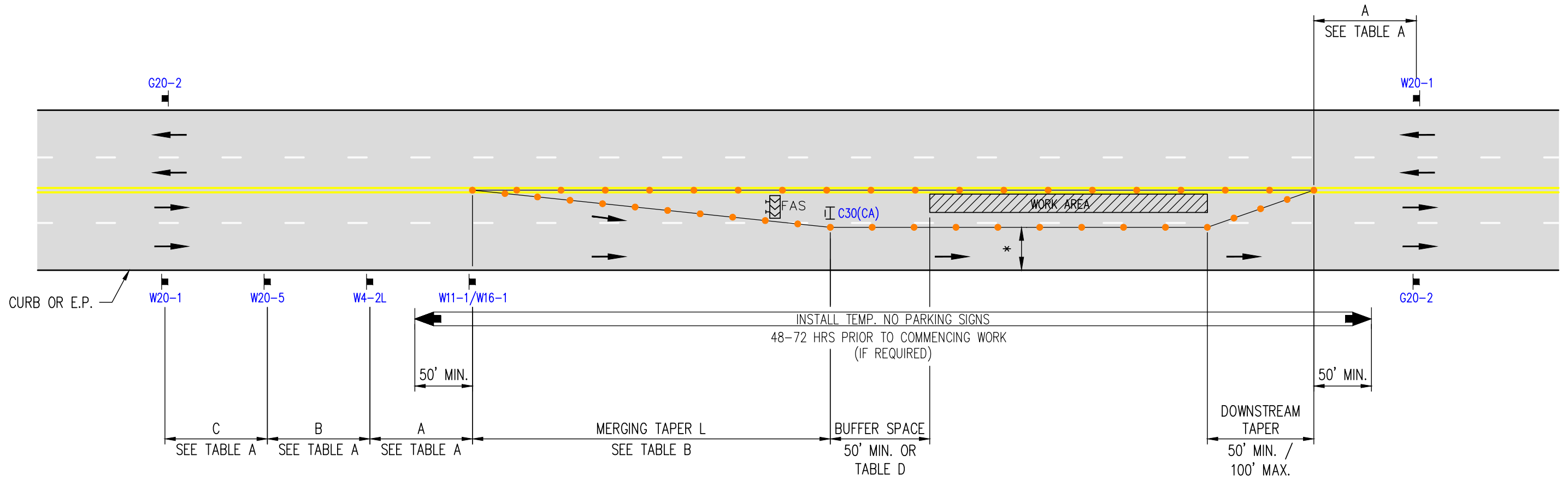
W11-1/W16-1 (USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)



INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN MIDBLOCK CLOSURE FOR ONE DIRECTION OF TRAFFIC		
DATE		SCALE
		NONE
		DRAWING NO. 11



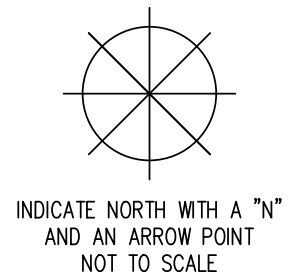
* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

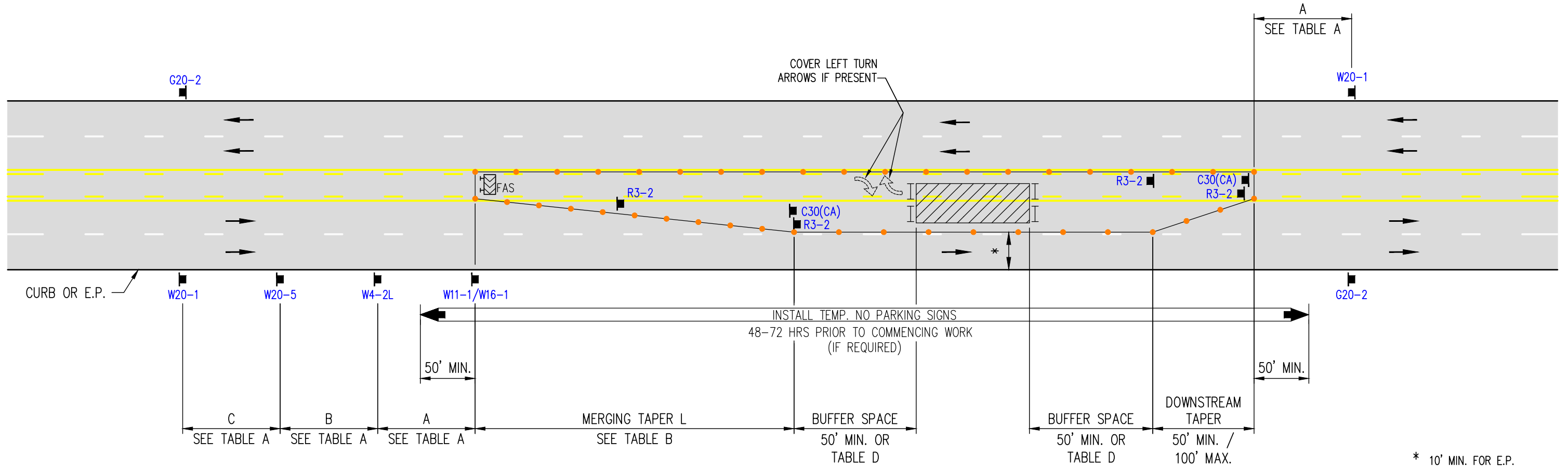
This block shows detailed views of specific signs:

- Left Lane Closed Ahead:** A diamond-shaped sign with a '1' in a box and the text 'LEFT LANE CLOSED AHEAD'. It is labeled 'W20-5' and 'INTERCHANGEABLE WITH C20(CA)'.
- Road Work Ahead:** A diamond-shaped sign with the text 'ROAD WORK AHEAD'. It is labeled 'W20-1'.
- Lane Closed:** A diamond-shaped sign with the text 'LANE CLOSED'. It is labeled 'C30(CA)'.
- Share the Road:** A rectangular sign with a bicycle symbol and the text 'SHARE THE ROAD'. It is labeled 'W11-1/W16-1' and '(USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)'.
- End Road Work:** A rectangular sign with the text 'END ROAD WORK'. It is labeled 'G20-2'.
- Clip on Type Cone Mounted Sign:** A sign on a traffic cone. It is labeled 'CLIP ON TYPE CONE MOUNTED SIGNS SUPPLEMENTAL ONLY 35 MPH OR LESS'.
- Other Signs:** A 'No Left Turn' sign and a 'No Right Turn' sign are also shown.



DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN MIDBLOCK NO. 1 LANE CLOSURE		
DATE		SCALE
		NONE
		DRAWING NO. 12

REV. 3/26/2018 CUJTCM-DWG13.DWG



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

W20-5 INTERCHANGEABLE WITH C20(CA)

W20-1

C30(CA)

W11-1/W16-1 (USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)

G20-2

R3-2

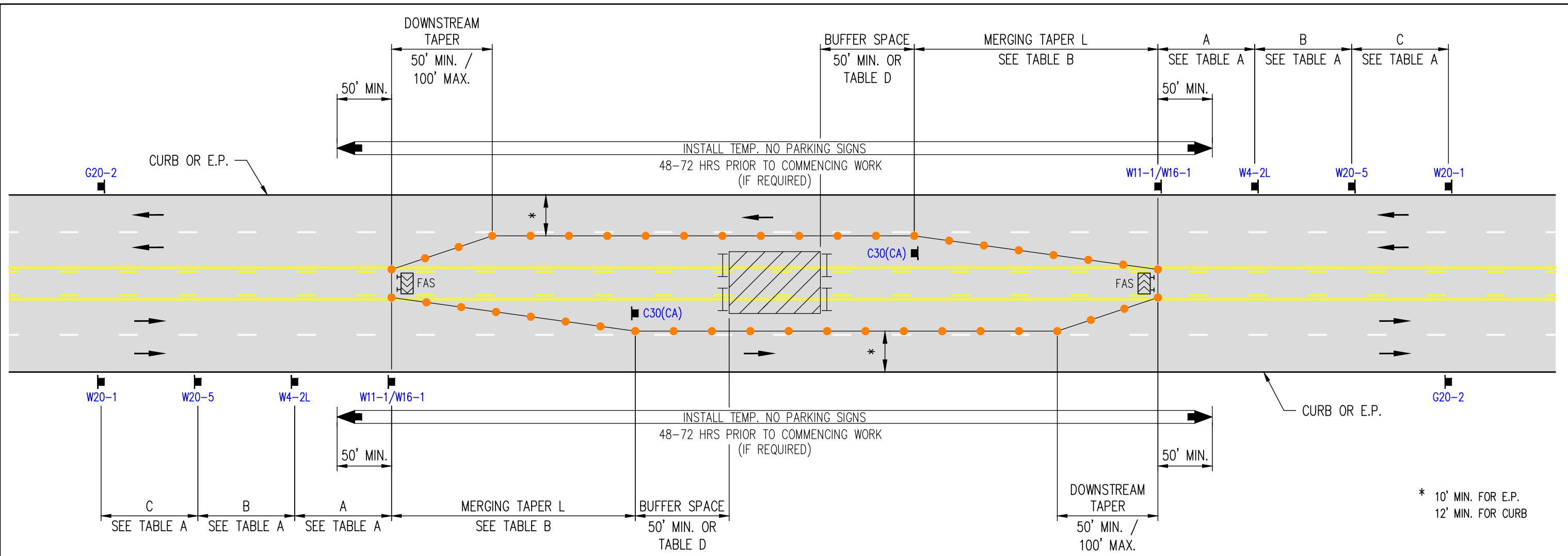
W4-2L

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN
MIDBLOCK NO. 1 LANE AND LEFT TURN LANE CLOSURE

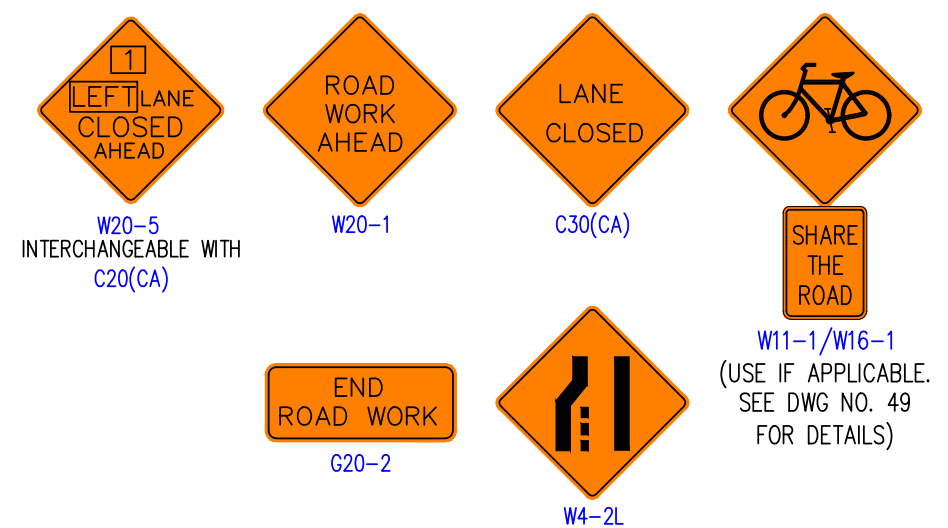
DATE	SCALE
	NONE
	DRAWING NO. 13

INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

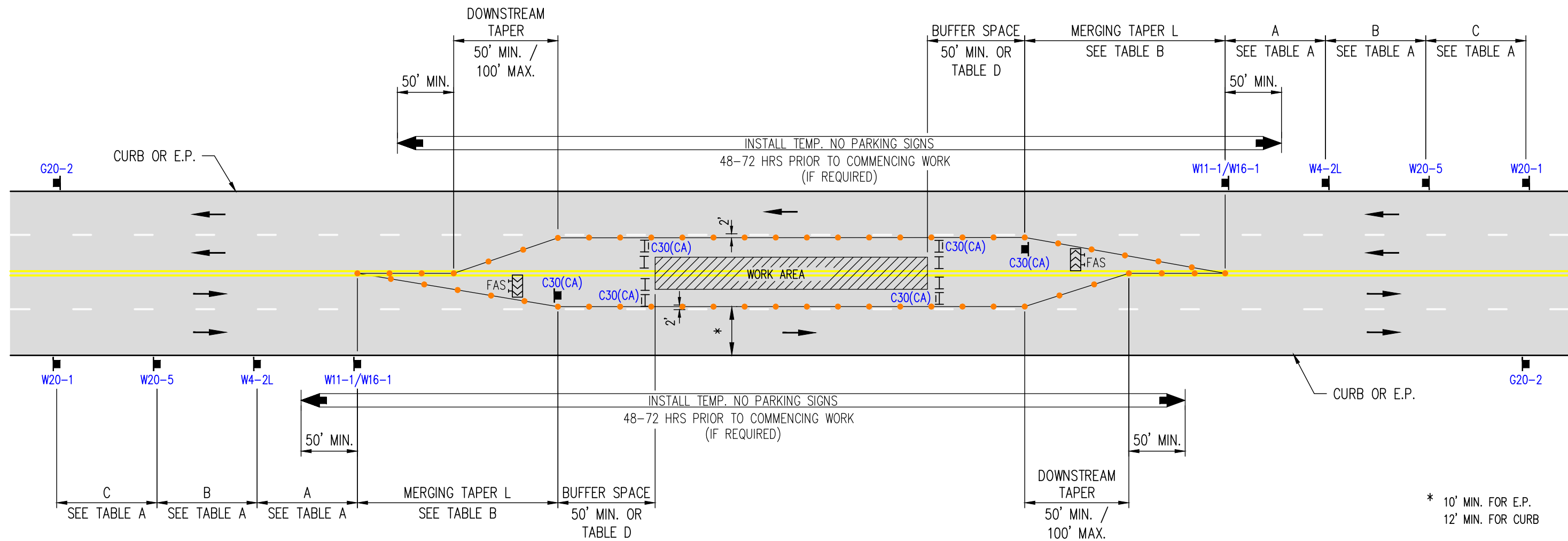


DATES OF TEMPORARY NO PARKING ZONE

<p>WORKSITE TRAFFIC CONTROL PLAN MIDBLOCK NO.1 LANES AND LEFT TURN LANE CLOSURE</p>		SCALE
		NONE
DATE		DRAWING NO.
		14

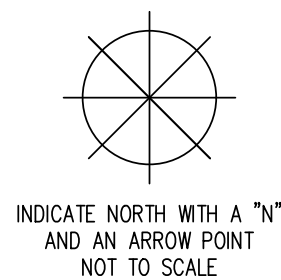
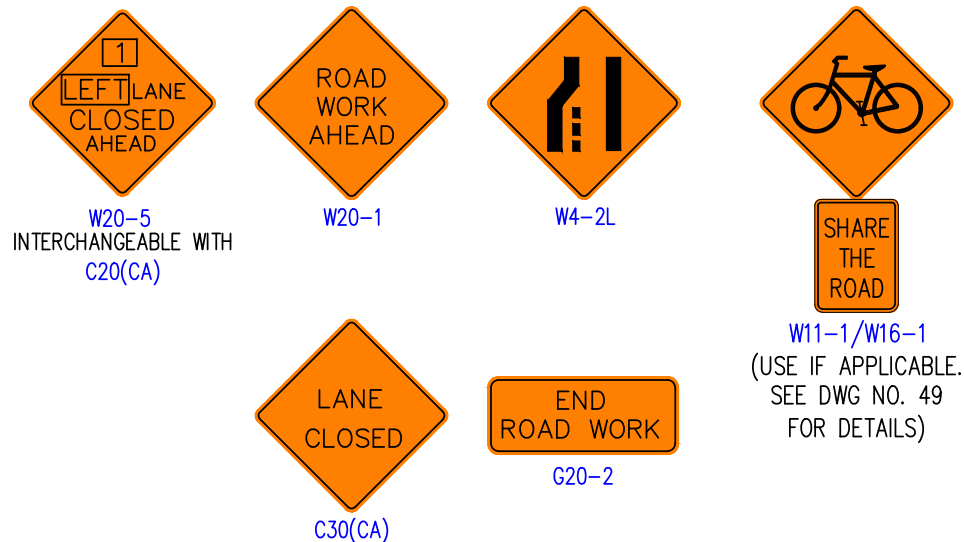
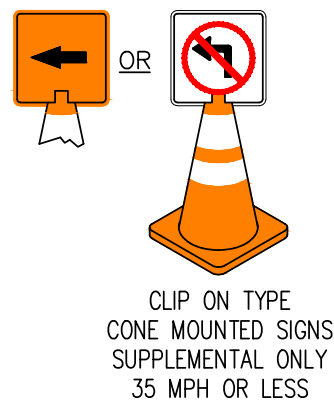
INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

REV. 3/26/2018 CUJTCM-DWG14.DWG



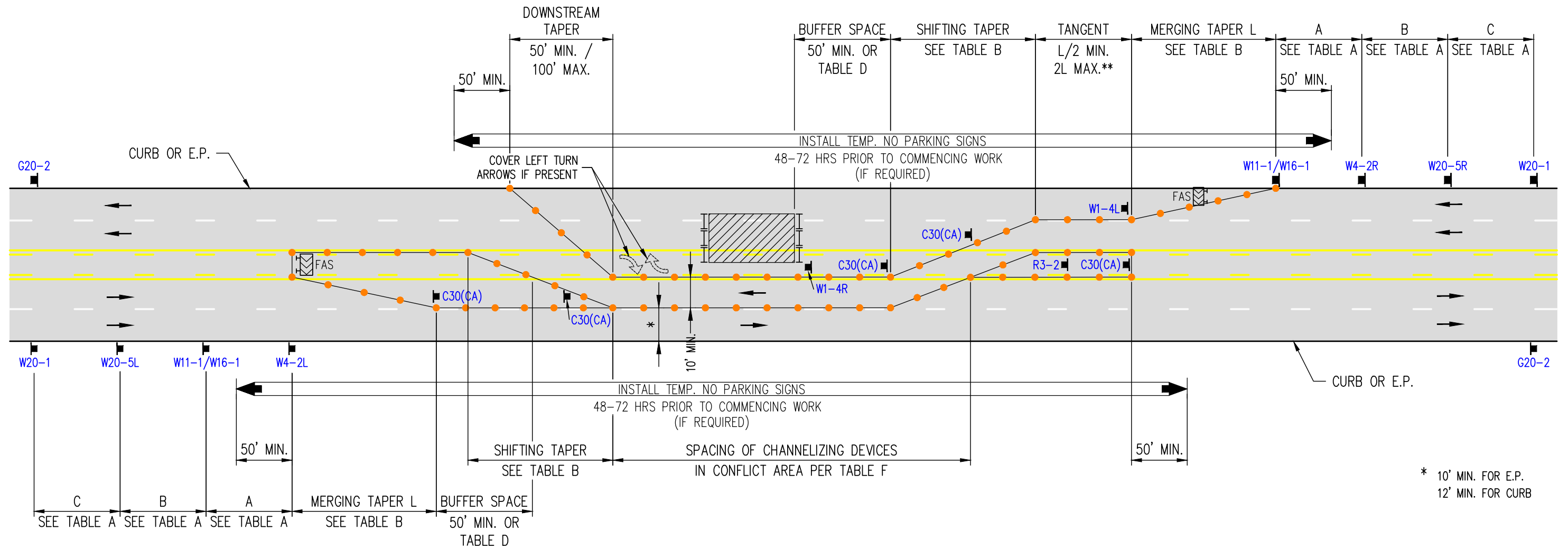
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



DATES OF TEMPORARY NO PARKING ZONE

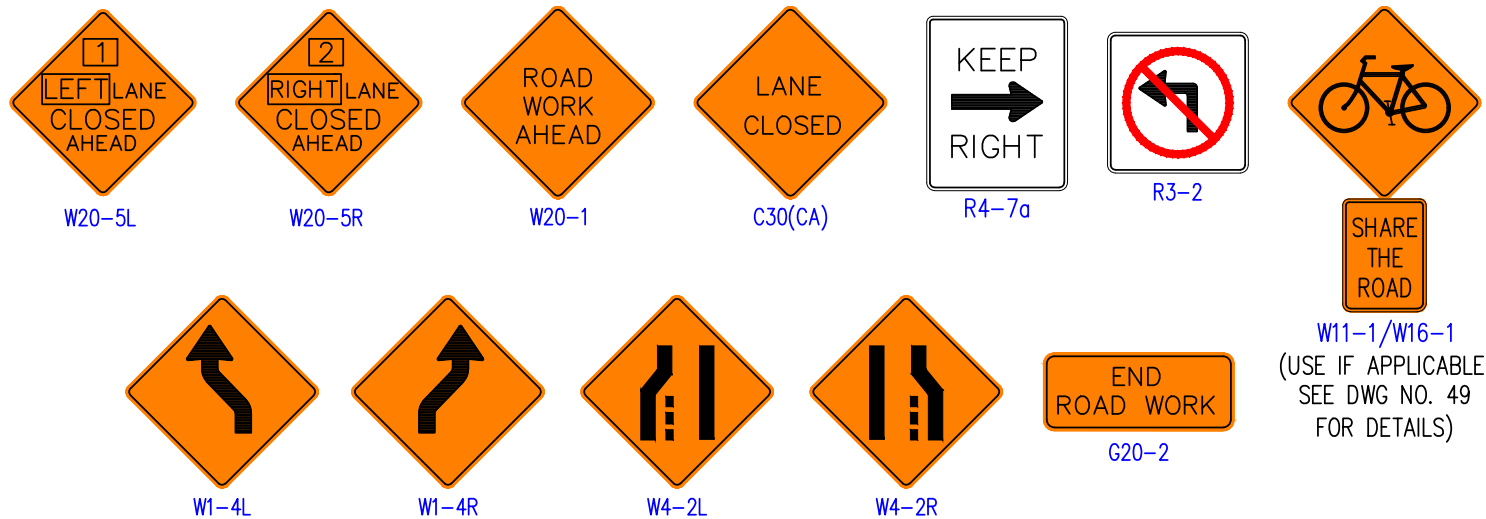
WORKSITE TRAFFIC CONTROL PLAN		
MIDBLOCK NO. 1 LANE CLOSURES FOR BOTH DIRECTIONS OF TRAFFIC		
DATE		SCALE
		NONE
		DRAWING NO. 15



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

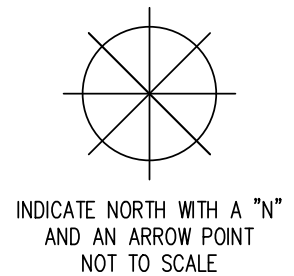


W11-1/W16-1
(USE IF APPLICABLE.
SEE DWG NO. 49
FOR DETAILS)

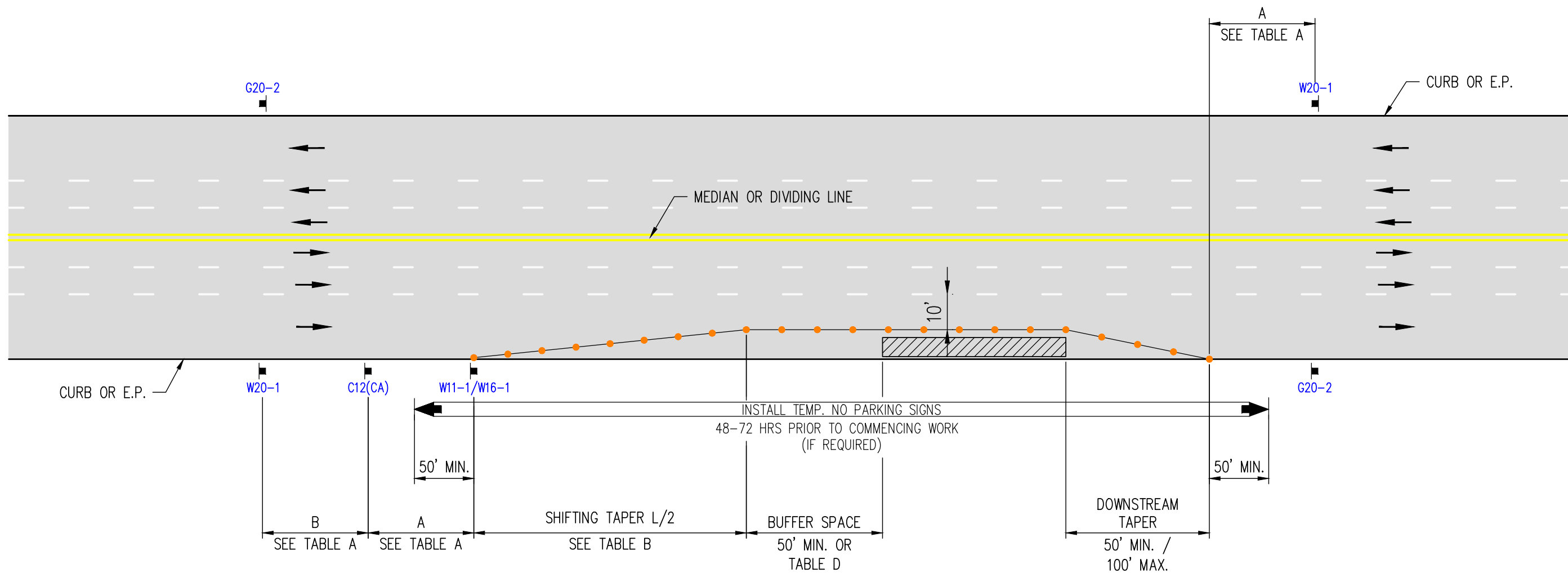
END
ROAD WORK
G20-2

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN		
MULTI-LANE CLOSURE		
RIGHT LANES AND LEFT TURN LANES		
DATE		SCALE
		NONE
		DRAWING NO. 17

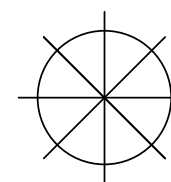
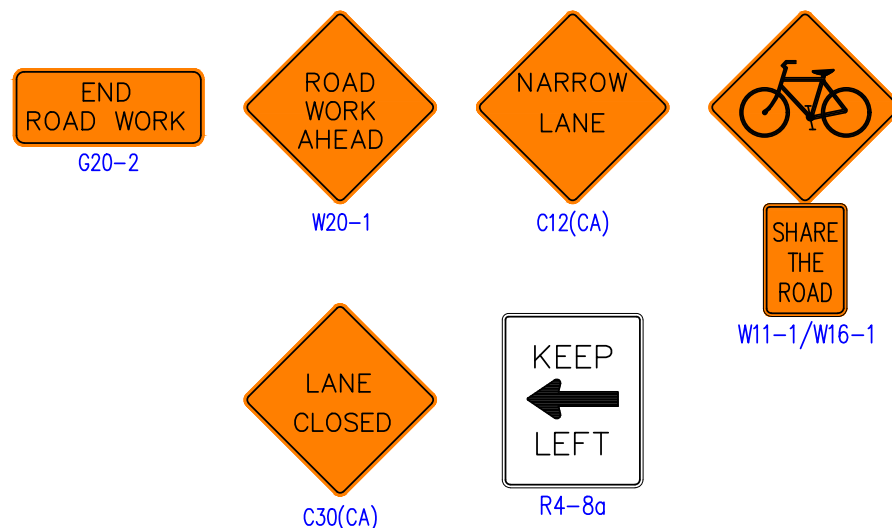


REV. 3/26/2018 CJUTCM-DWG17.DWG



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

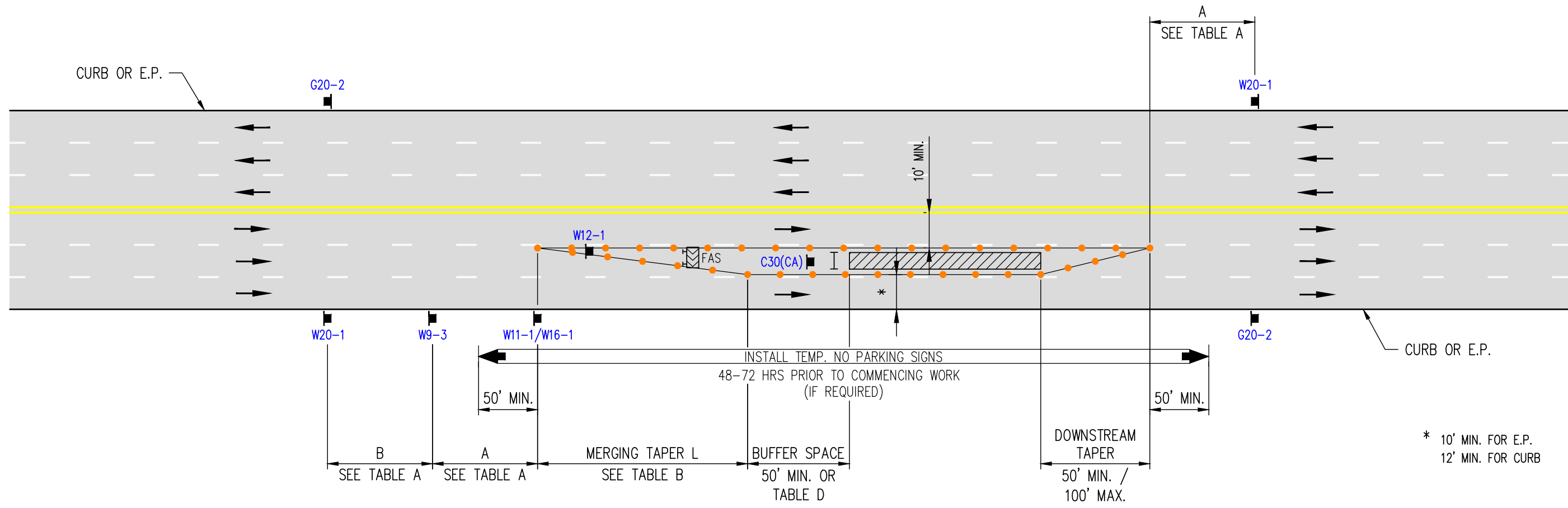


INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

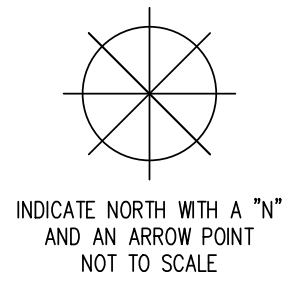
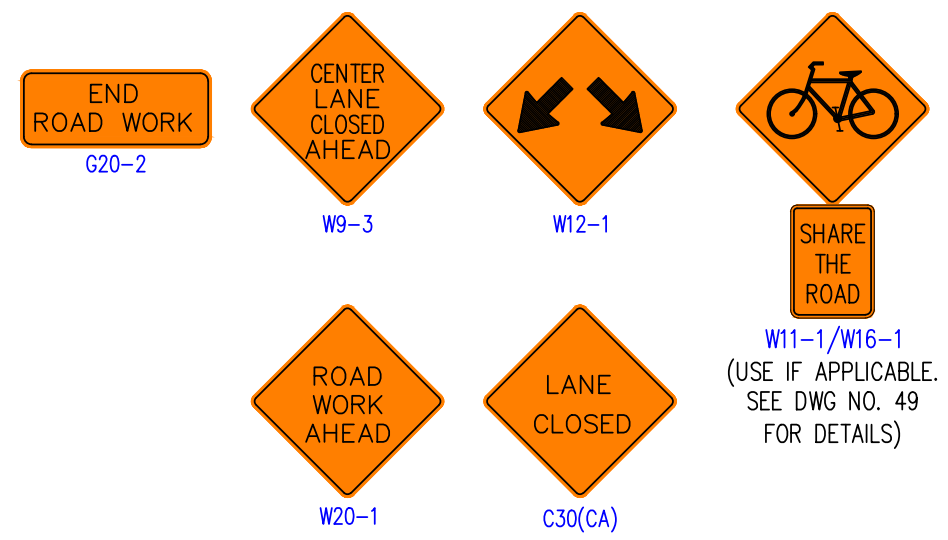
WORKSITE TRAFFIC CONTROL PLAN
EDGE OF GUTTER CLOSURE

DATE	SCALE
	NONE
	DRAWING NO. 18



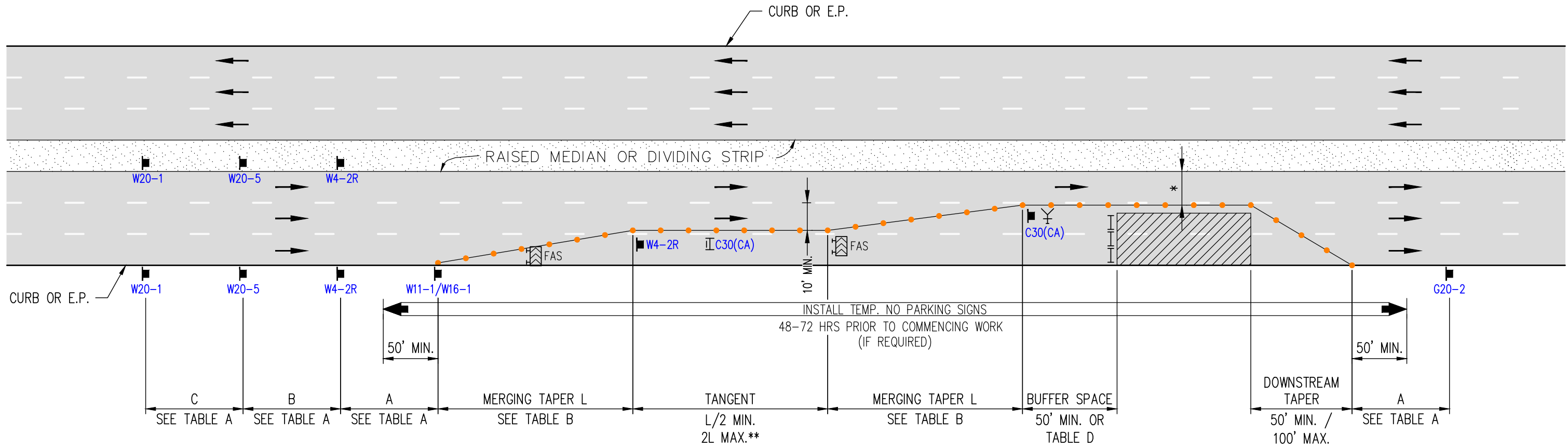
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN MIDDLE LANE CLOSURE		
DATE		SCALE
		NONE
		DRAWING NO. 19

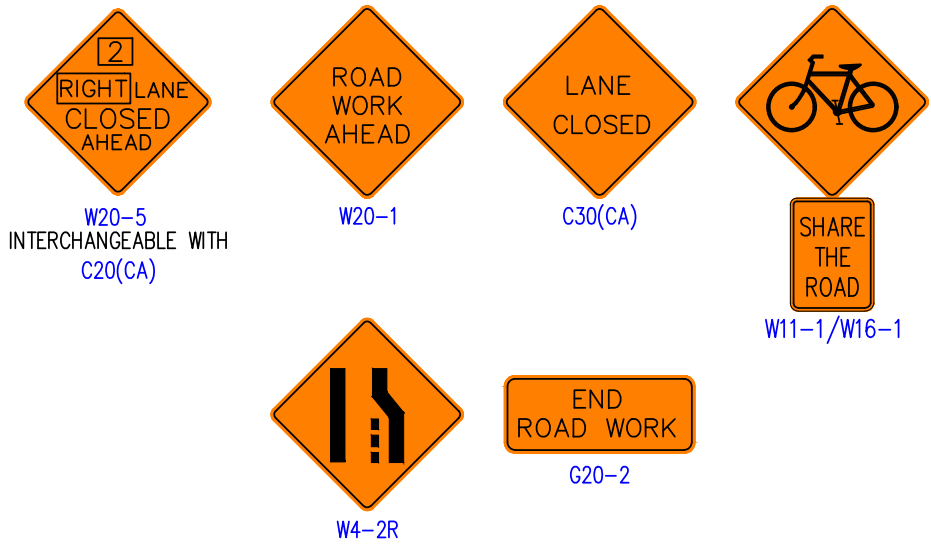
REV. 3/26/2018 CJUTCM-DWG19.DWG



* 10' MIN. FOR DIVIDING STRIP
12' MIN. FOR RAISED MEDIAN

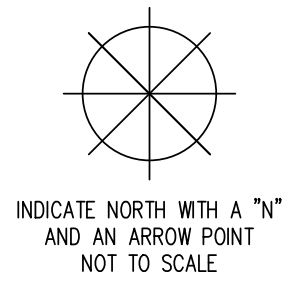
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

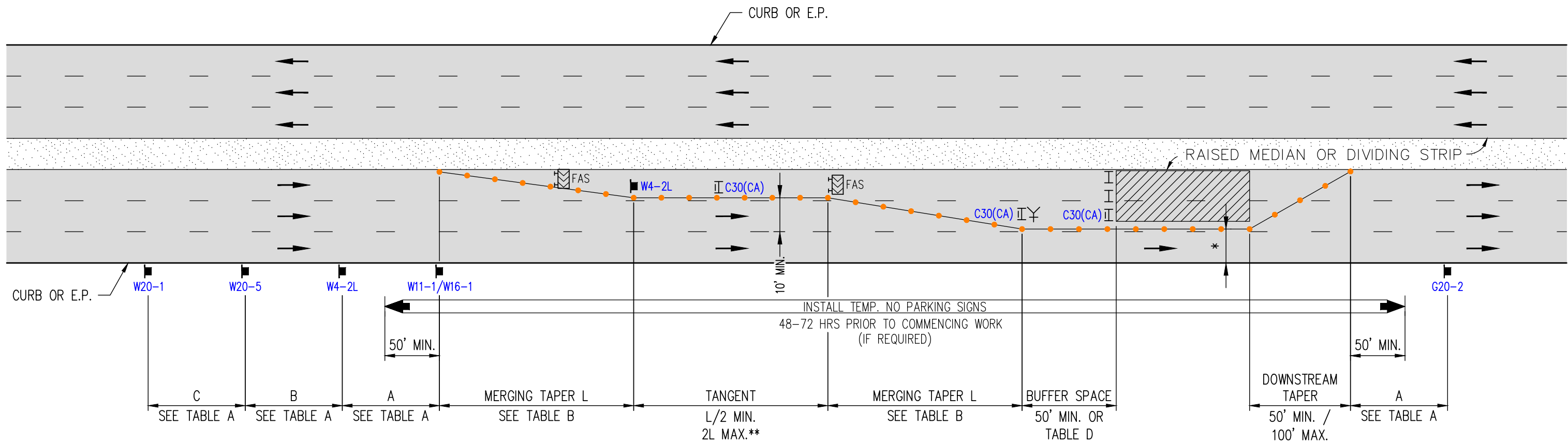


DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN MULTI LANE CLOSURE (RIGHT LANES)		
DATE		SCALE
		NONE
		DRAWING NO.
		20



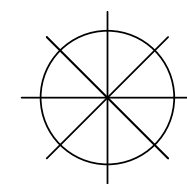
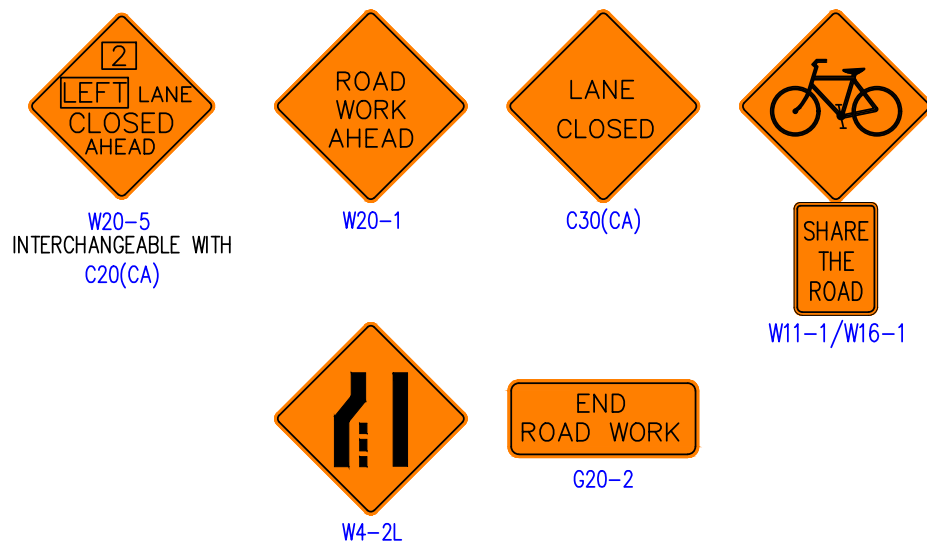
REV. 3/26/2018 CJUTCM-DWG20.DWG



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

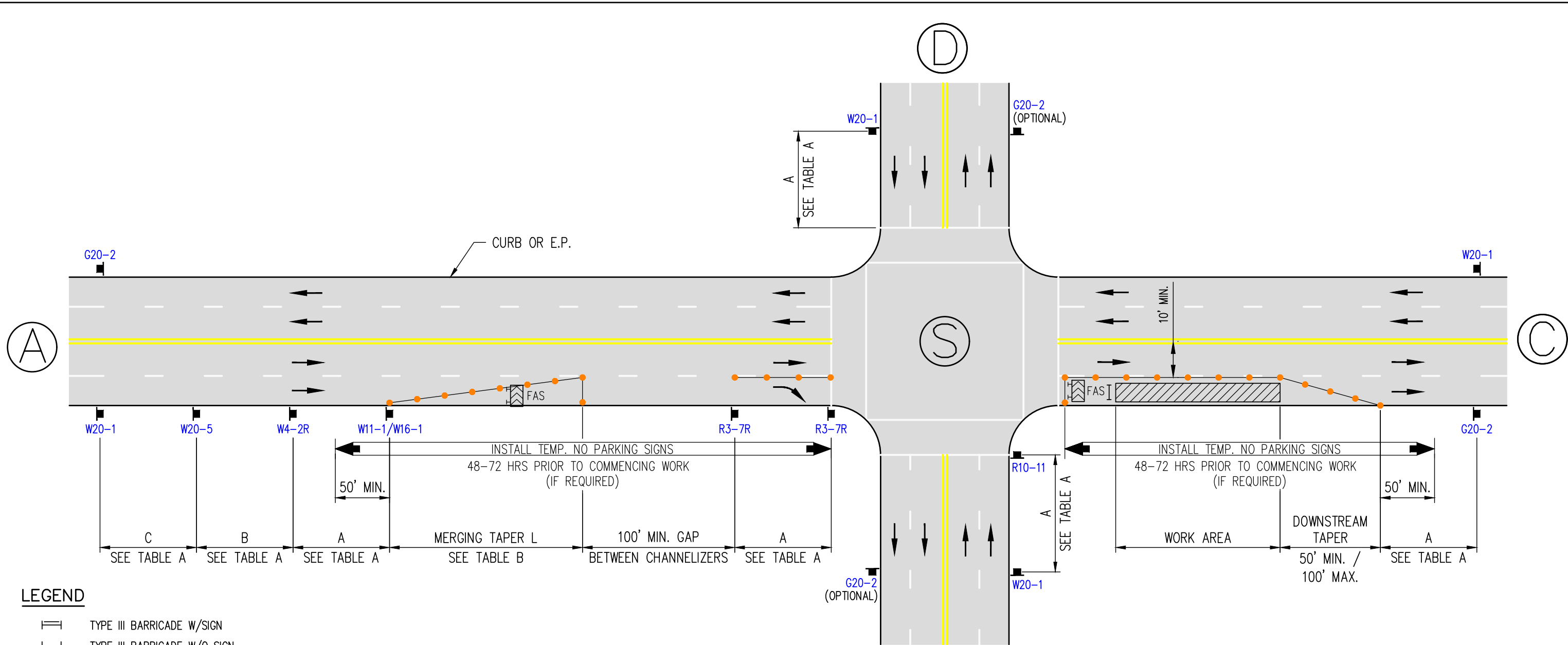
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN		
MULTI-LANE CLOSURE (LEFT LANES)		
DATE		SCALE
		NONE
		DRAWING NO. 21



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

W20-5
INTERCHANGEABLE WITH
C20(CA)

W20-1

C30(CA)

W4-2R

W11-1/W16-1

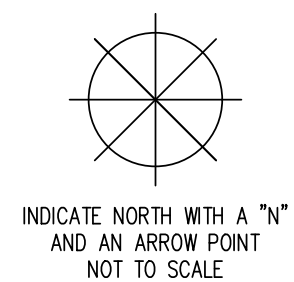
R10-11

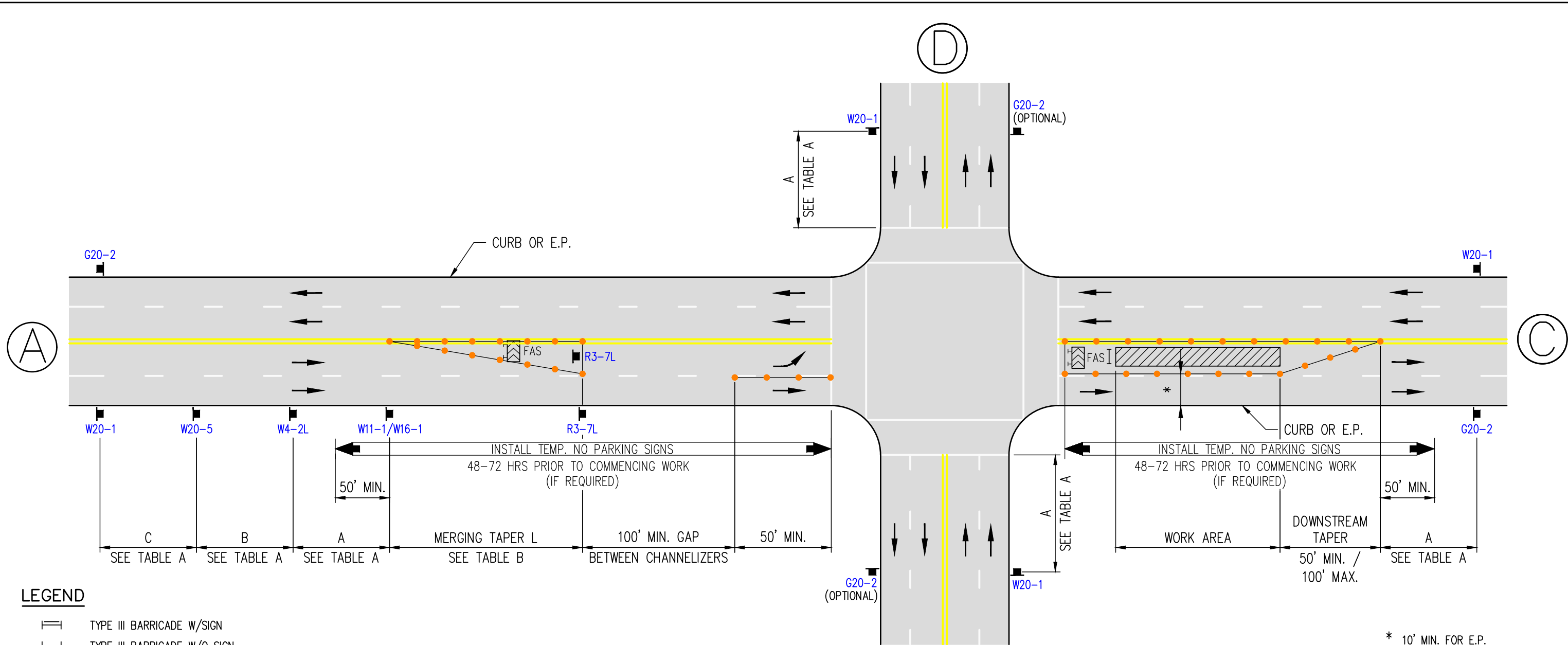
G20-2

R3-7R

DATES OF TEMPORARY NO PARKING ZONE

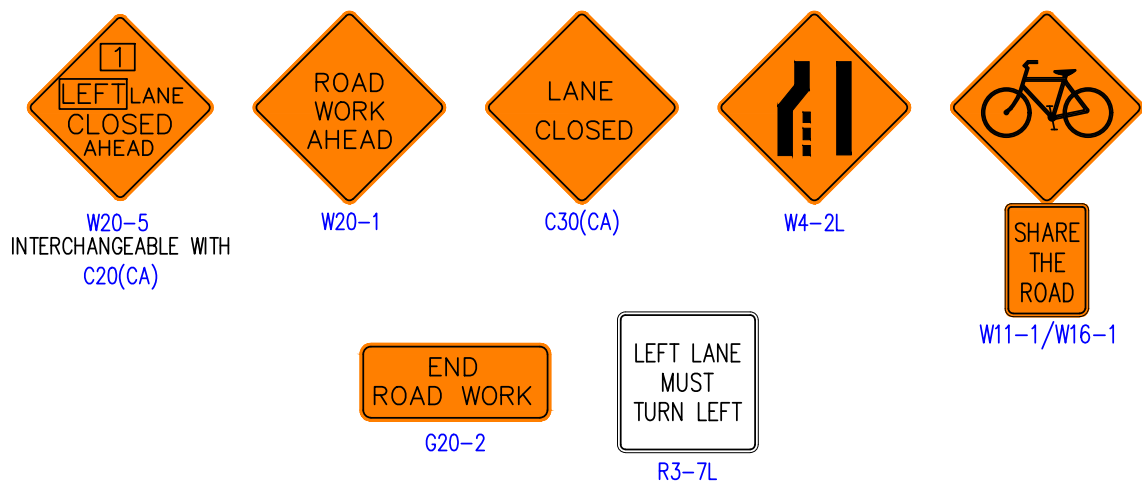
WORKSITE TRAFFIC CONTROL PLAN		
WORK BEYOND INTERSECTION (RIGHT LANE)		
DATE		SCALE
		NONE
		DRAWING NO. 22





LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



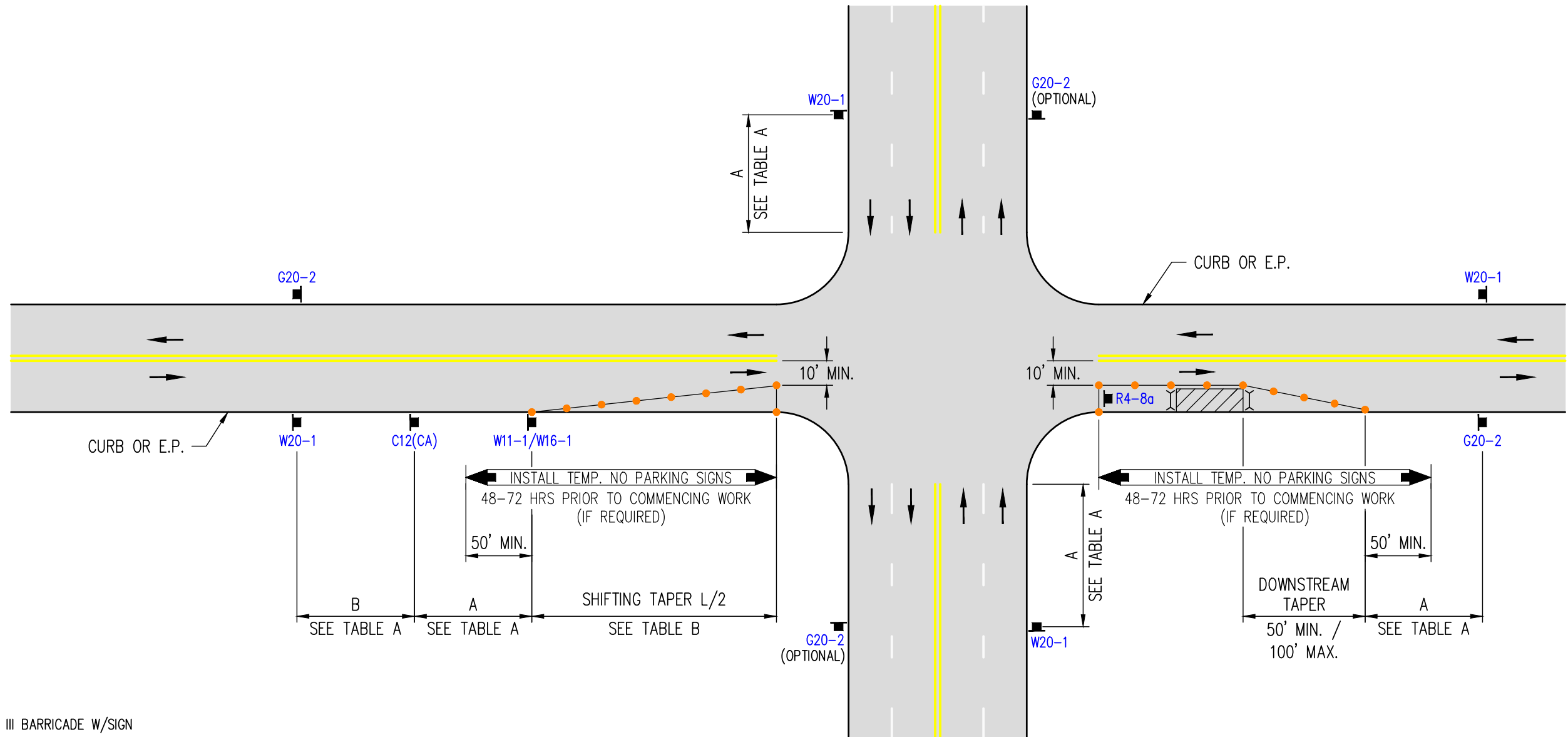
* 10' MIN. FOR E.P.
12' MIN. FOR CURB

DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN
WORK BEYOND INTERSECTION
(LEFT LANE)

DATE	SCALE	NONE
DRAWING NO.		23

INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

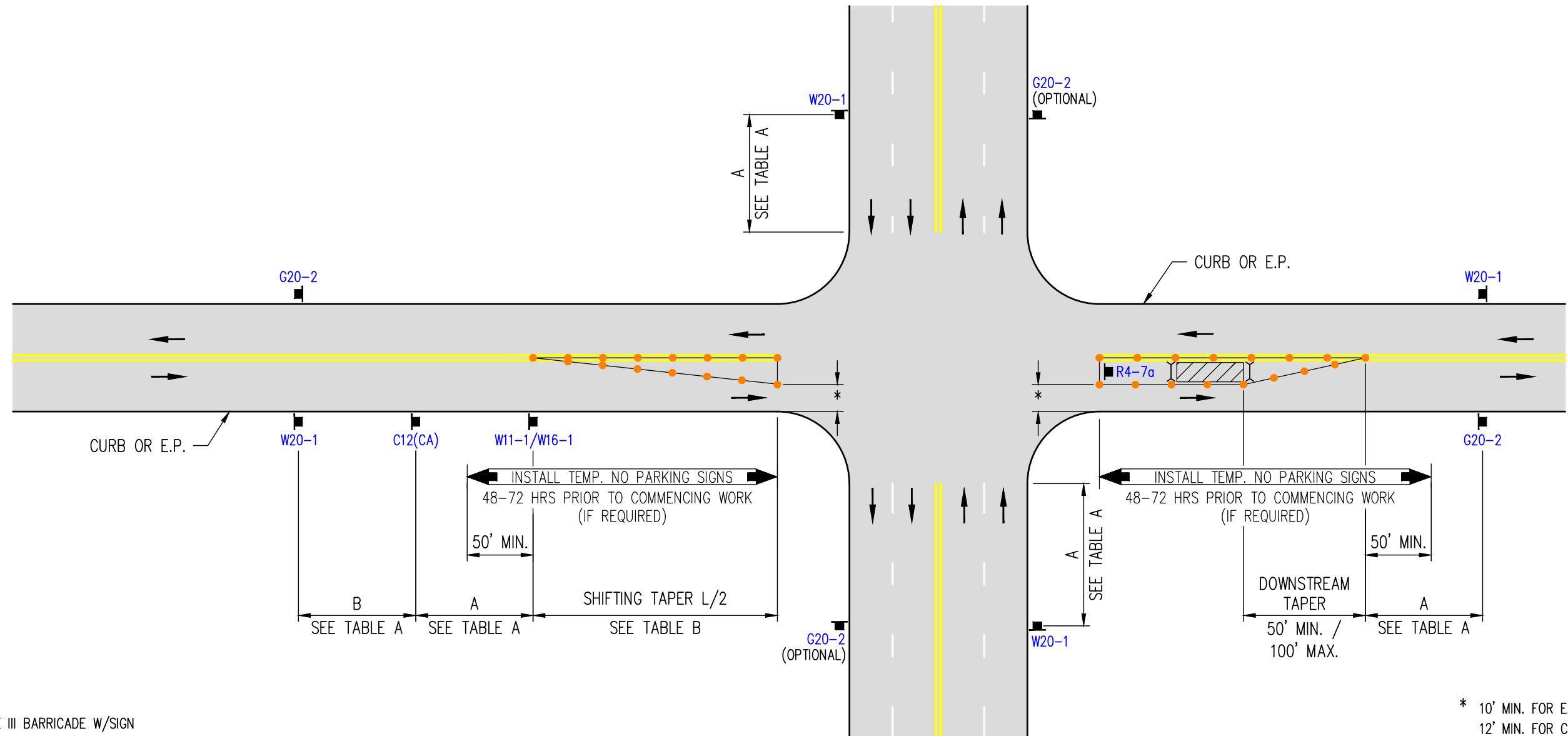
END ROAD WORK
G20-2
 NARROW LANE
C12(CA)
 SHARE THE ROAD
W11-1/W16-1
 KEEP LEFT
R4-8a
 ROAD WORK AHEAD
W20-1

DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN
WORK BEYOND INTERSECTION
RIGHT SIDE SINGLE THRU LANE

DATE		SCALE
		NONE
		DRAWING NO. 24

INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE



* 10' MIN. FOR E.P.
12' MIN. FOR CURB

LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION

G20-2

C12(CA)

W11-1/W16-1















R4-7a

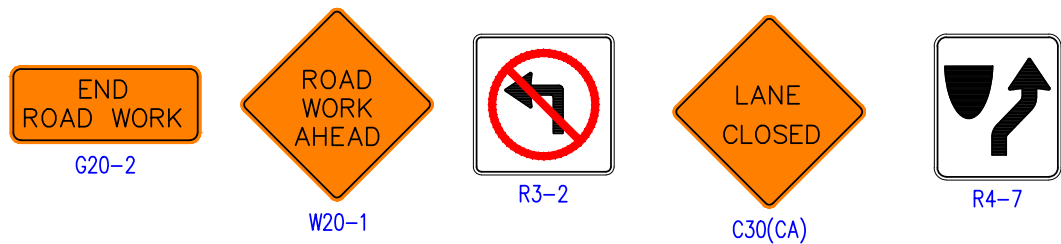
W20-1

INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

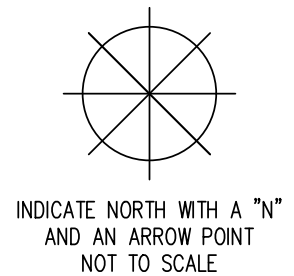
DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN		
WORK BEYOND INTERSECTION		
LEFT SIDE SINGLE THRU LANE		
DATE		SCALE
		NONE
		DRAWING NO. 25

LEGEND

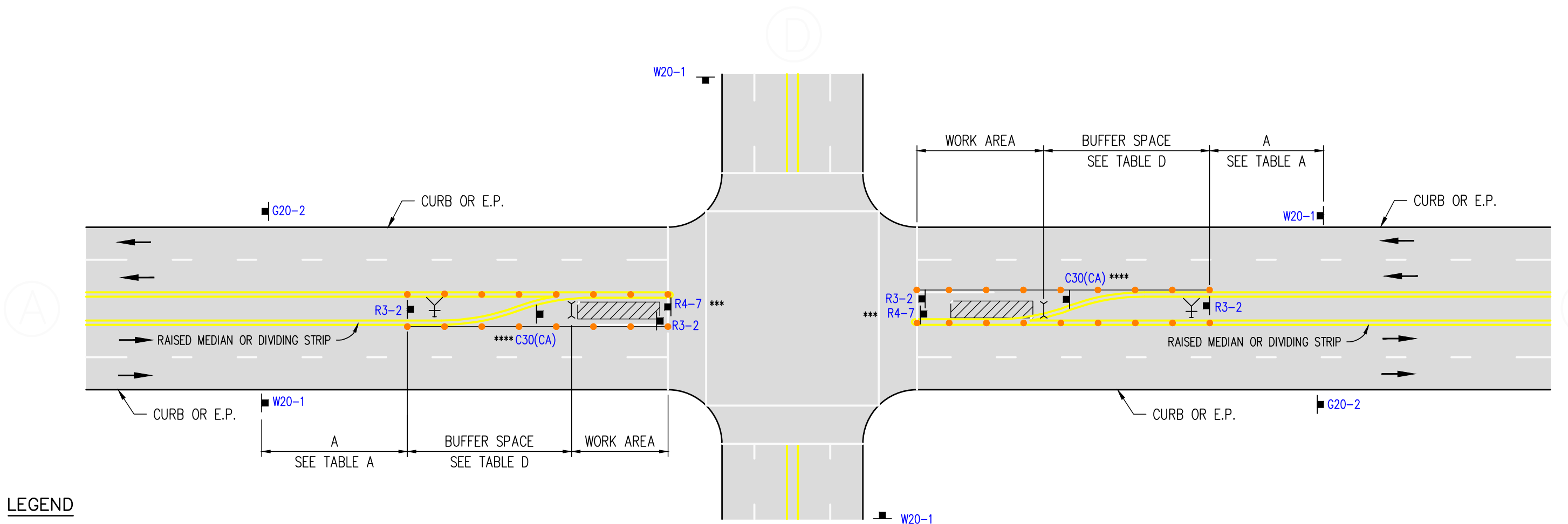
-  TYPE III BARRICADE W/SIGN
-  TYPE III BARRICADE W/O SIGN
-  TYPE II BARRICADE W/SIGN
-  TYPE II BARRICADE W/O SIGN
-  CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
-  TRAFFIC CONE WITH CLIP ON SIGN
-  SIGN
-  SIGNALIZED INTERSECTION
-  [FAS] ARROW PANEL (FLASHING ARROW)
-  HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
-  FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
-  WORK ZONE (ACTIVITY AREA) LIMITS
-  DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
-  ROADWAY DESIGNATION

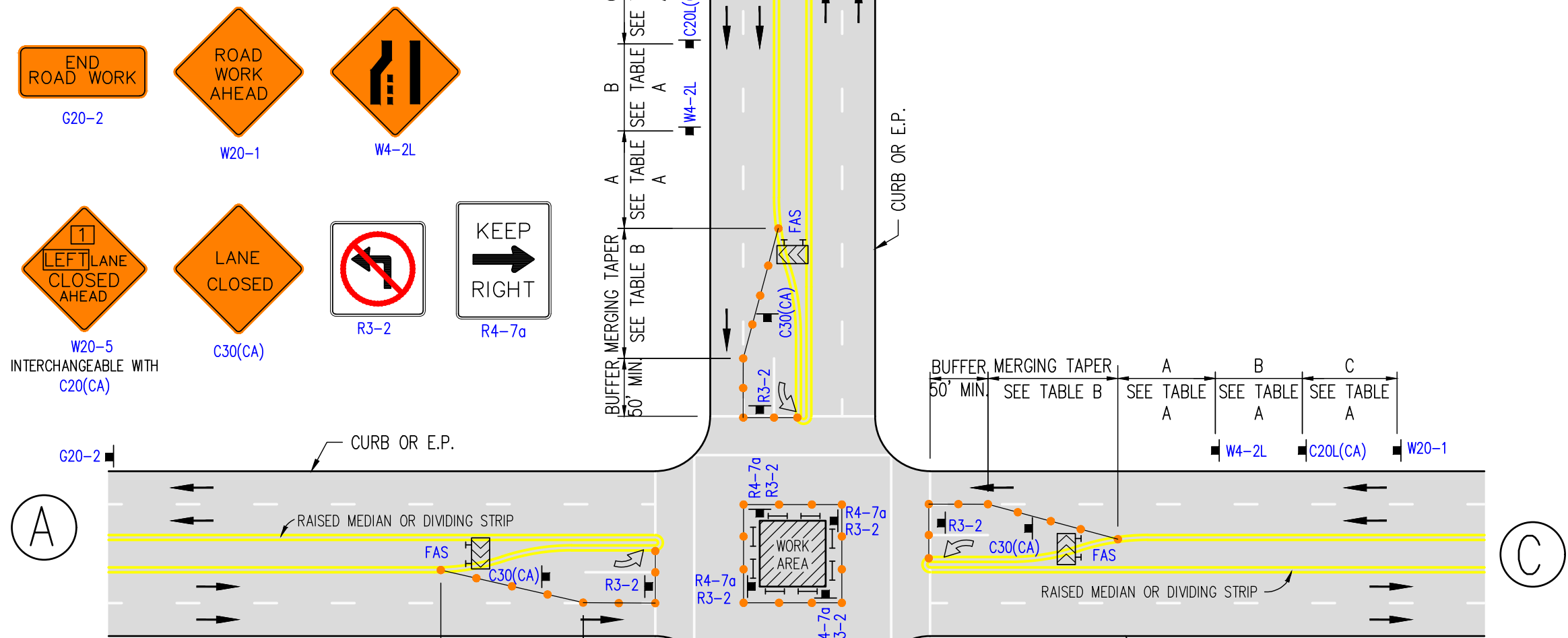


*** ELIMINATE R4-7 IF EXISTS AT RAISED MEDIAIN NOSE.
 **** POST C30(CA) ABOVE R3-2 IF DIVIDING STRIP



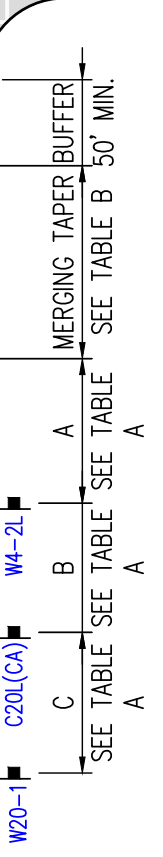
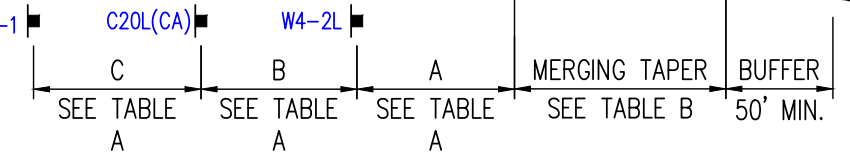
DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN LEFT TURN LANE CLOSURE		
DATE		SCALE
		NONE
		DRAWING NO. 26





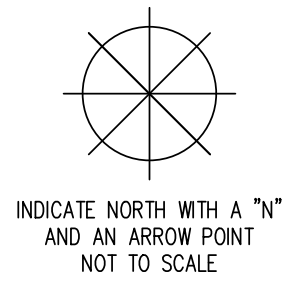
LEGEND

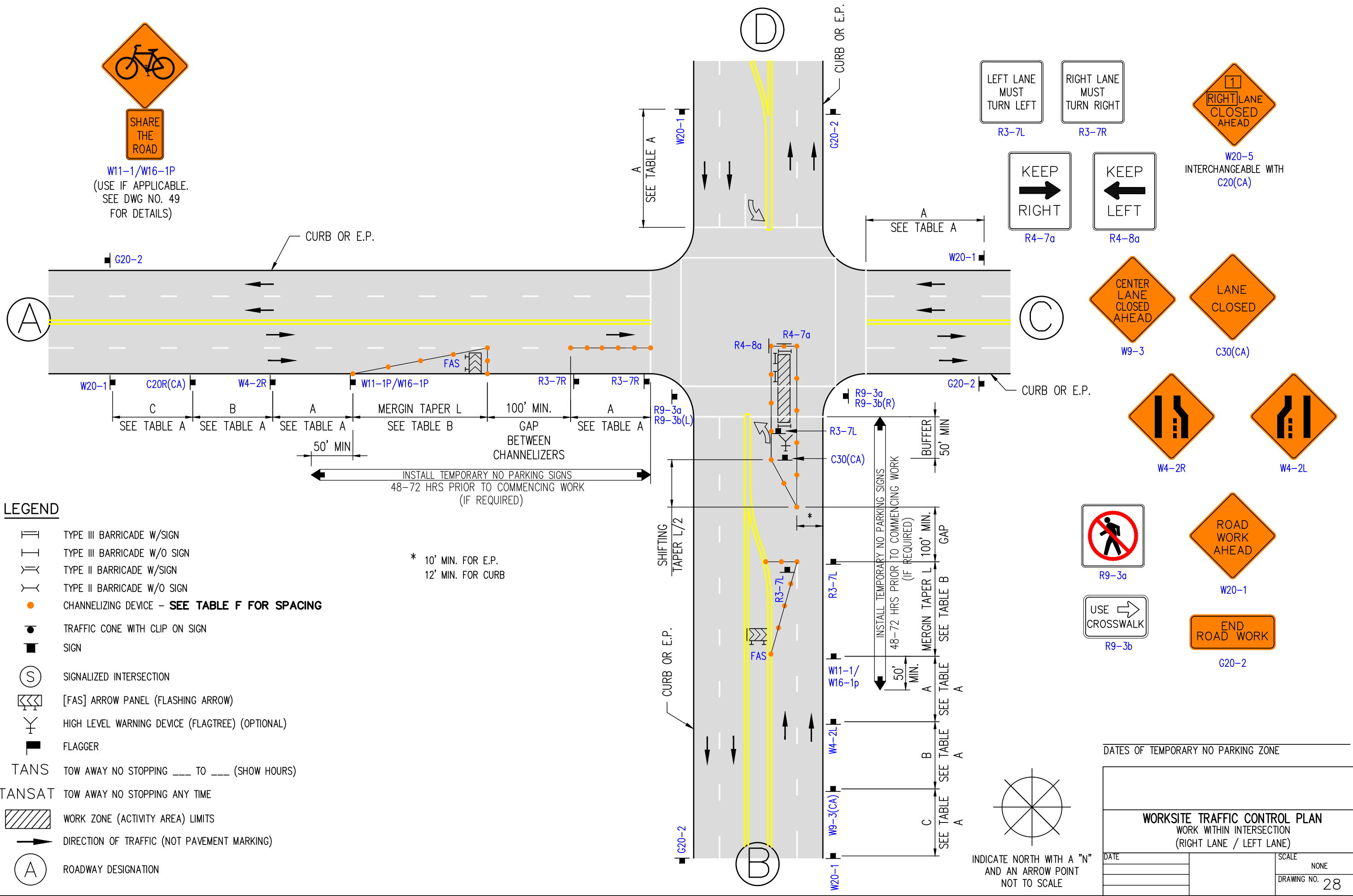
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION







DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN		
WORK WITHIN INTERSECTION (LEFT LANE / LEFT TURN LANE)		
DATE		SCALE
		NONE
		DRAWING NO. 27











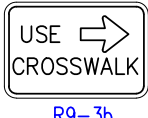


SHARE THE ROAD
 W11-1/W16-1P
 (USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)

 LEFT LANE MUST TURN LEFT R3-7L
 RIGHT LANE MUST TURN RIGHT R3-7R
 KEEP RIGHT R4-7a
 KEEP LEFT R4-8a









 RIGHT LANE CLOSED AHEAD
 W20-5
 INTERCHANGEABLE WITH C20(CA)

 CENTER LANE CLOSED AHEAD W9-3
 LANE CLOSED C30(CA)

 W4-2R
 W4-2L

 R9-3a
 ROAD WORK AHEAD W20-1
 USE CROSSWALK R9-3b
 END ROAD WORK G20-2

LEGEND

-  TYPE III BARRICADE W/SIGN
-  TYPE III BARRICADE W/O SIGN
-  TYPE II BARRICADE W/SIGN
-  TYPE II BARRICADE W/O SIGN
-  CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
-  TRAFFIC CONE WITH CLIP ON SIGN
-  SIGN
-  SIGNALIZED INTERSECTION
-  [FAS] ARROW PANEL (FLASHING ARROW)
-  HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
-  FLAGGER
-  TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
-  TANSAT TOW AWAY NO STOPPING ANY TIME
-  WORK ZONE (ACTIVITY AREA) LIMITS
-  DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
-  ROADWAY DESIGNATION

* 10' MIN. FOR E.P.
 12' MIN. FOR CURB

INSTALL TEMPORARY NO PARKING SIGNS
 48-72 HRS PRIOR TO COMMENCING WORK
 (IF REQUIRED)

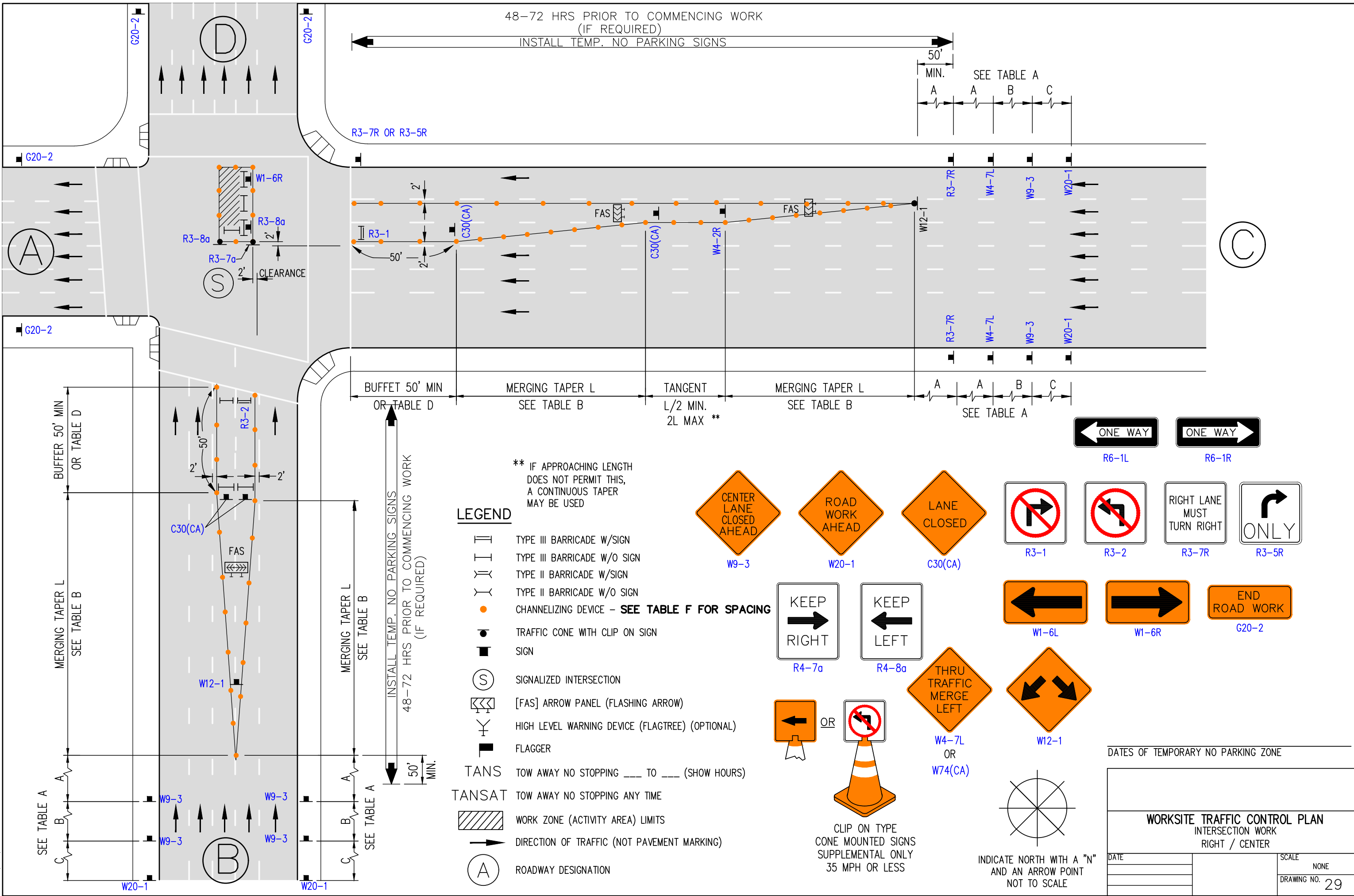
INSTALL TEMPORARY NO PARKING SIGNS
 48-72 HRS PRIOR TO COMMENCING WORK
 (IF REQUIRED)

DATES OF TEMPORARY NO PARKING ZONE

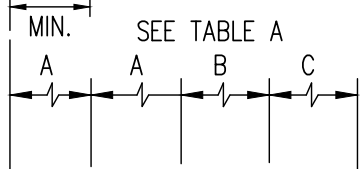
WORKSITE TRAFFIC CONTROL PLAN
 WORK WITHIN INTERSECTION
 (RIGHT LANE / LEFT LANE)

DATE	SCALE
	NONE
	DRAWING NO. 28

INDICATE NORTH WITH A "N"
 AND AN ARROW POINT
 NOT TO SCALE



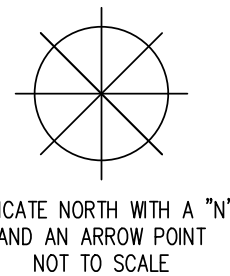
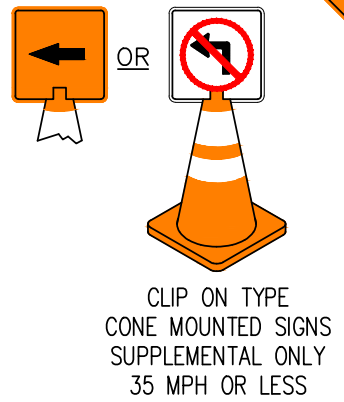
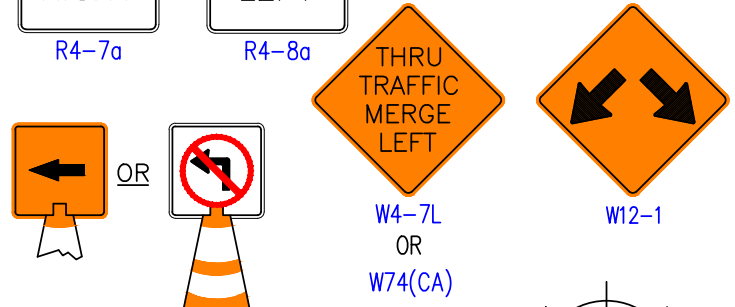
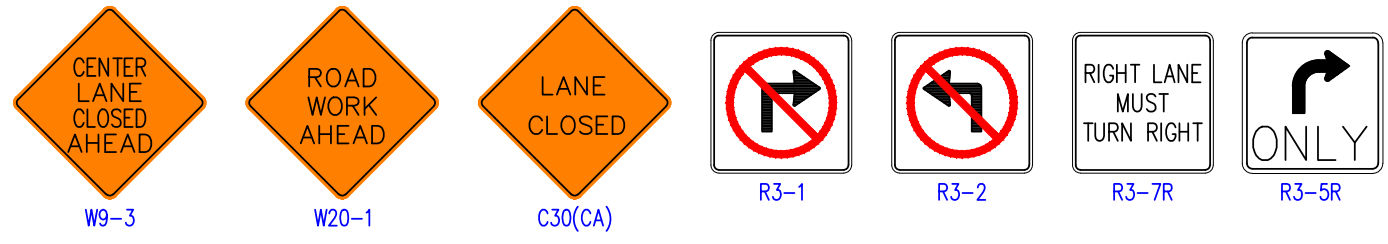
48-72 HRS PRIOR TO COMMENCING WORK
(IF REQUIRED)
INSTALL TEMP. NO PARKING SIGNS



** IF APPROACHING LENGTH DOES NOT PERMIT THIS, A CONTINUOUS TAPER MAY BE USED

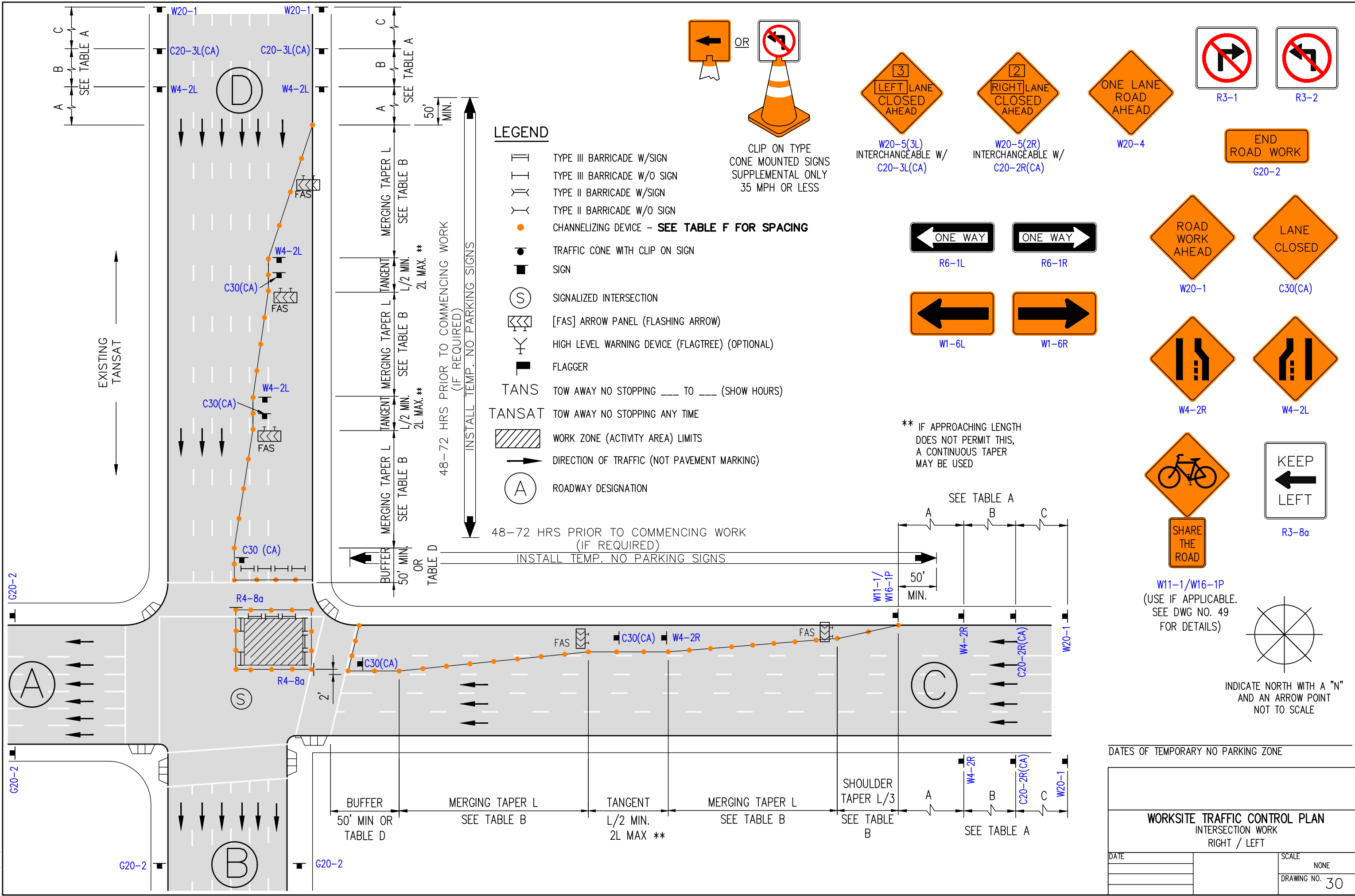
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



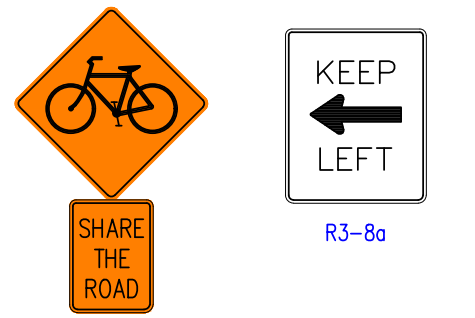
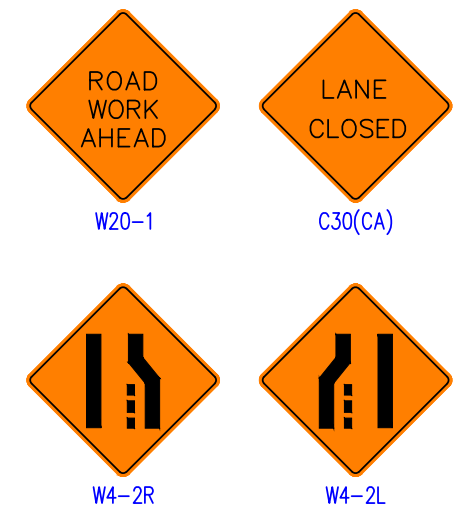
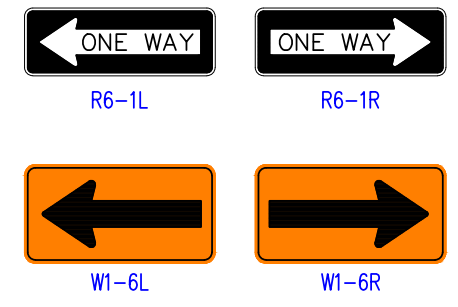
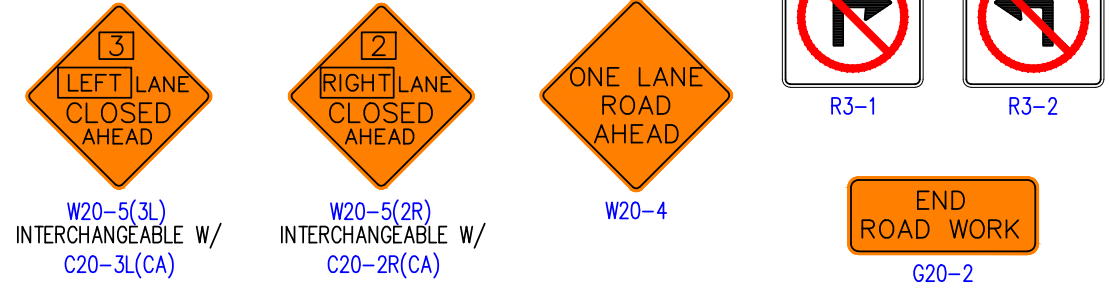
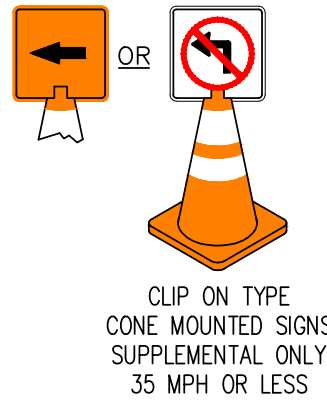
DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN INTERSECTION WORK RIGHT / CENTER		
DATE		SCALE
		NONE
		DRAWING NO. 29

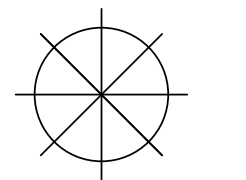


LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



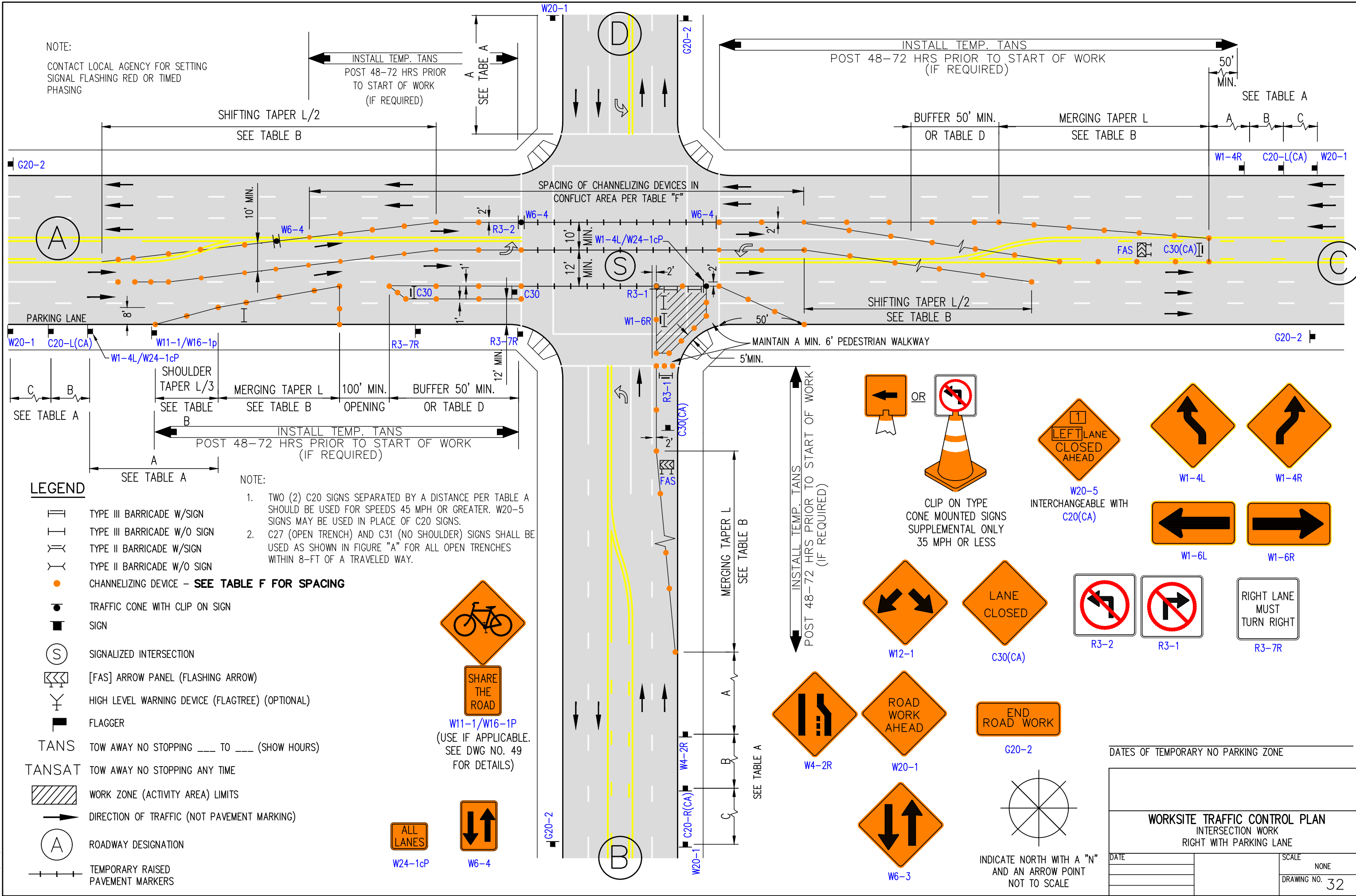
** IF APPROACHING LENGTH DOES NOT PERMIT THIS, A CONTINUOUS TAPER MAY BE USED



DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN INTERSECTION WORK RIGHT / LEFT		
DATE		SCALE
		NONE
		DRAWING NO. 30

NOTE:
CONTACT LOCAL AGENCY FOR SETTING
SIGNAL FLASHING RED OR TIMED
PHASING



LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS** TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)
- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION
- TEMPORARY RAISED PAVEMENT MARKERS

NOTE:

1. TWO (2) C20 SIGNS SEPARATED BY A DISTANCE PER TABLE A SHOULD BE USED FOR SPEEDS 45 MPH OR GREATER. W20-5 SIGNS MAY BE USED IN PLACE OF C20 SIGNS.
2. C27 (OPEN TRENCH) AND C31 (NO SHOULDER) SIGNS SHALL BE USED AS SHOWN IN FIGURE "A" FOR ALL OPEN TRENCHES WITHIN 8-FT OF A TRAVELED WAY.



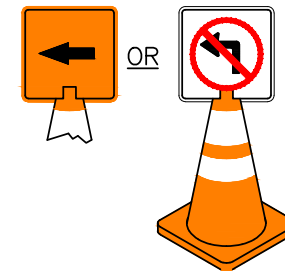
W11-1/W16-1P
(USE IF APPLICABLE.
SEE DWG NO. 49
FOR DETAILS)



W24-1cP



W6-4



CLIP ON TYPE
CONE MOUNTED SIGNS
SUPPLEMENTAL ONLY
35 MPH OR LESS



W20-5
INTERCHANGEABLE WITH
C20(CA)



W1-4L



W1-4R



W1-6L



W1-6R



W12-1



C30(CA)



R3-2



R3-1



R3-7R



W4-2R



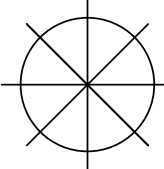
W20-1



G20-2



W6-3



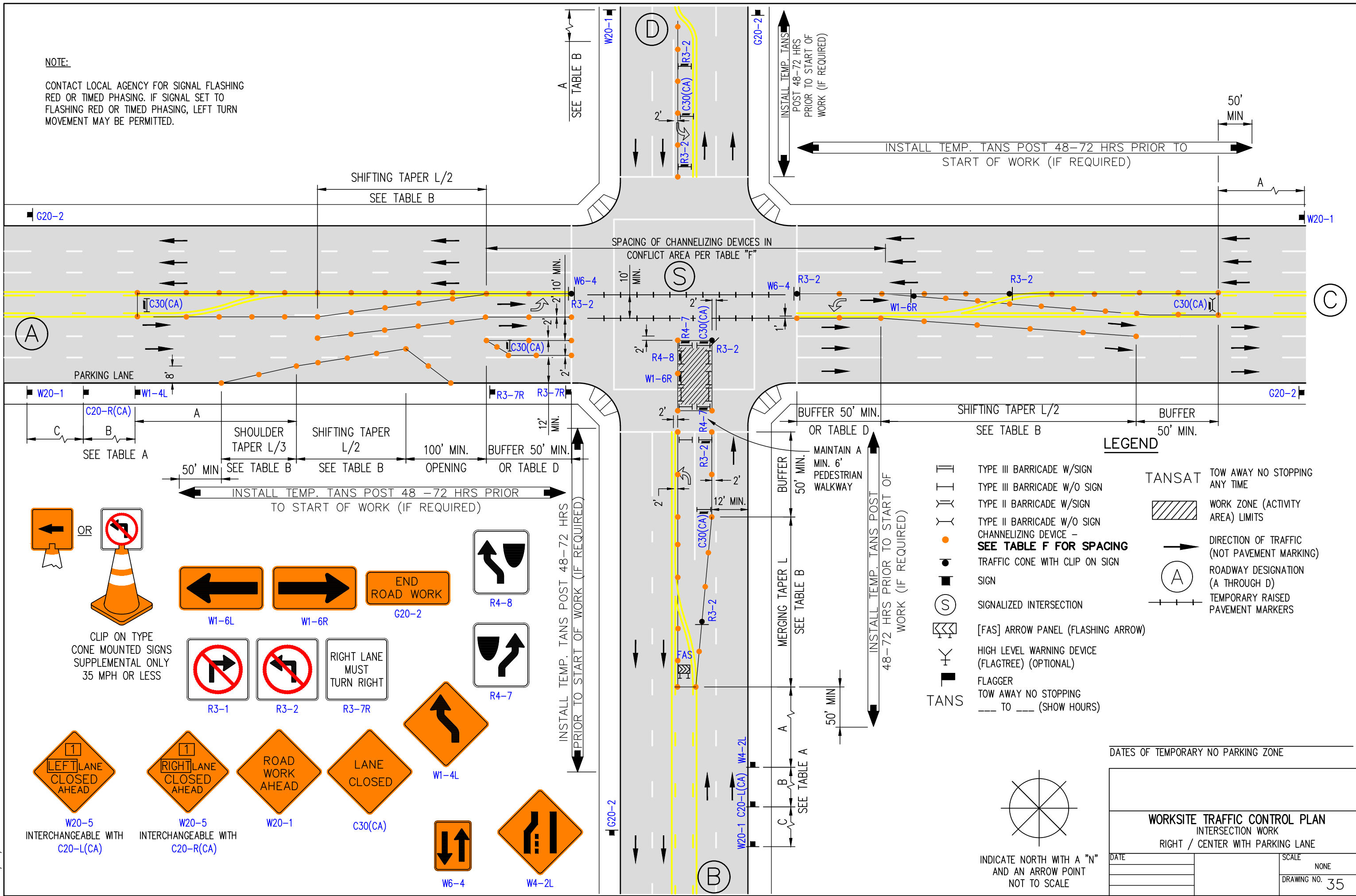
INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN INTERSECTION WORK RIGHT WITH PARKING LANE		
DATE	SCALE	NONE
	DRAWING NO.	32

NOTE:

CONTACT LOCAL AGENCY FOR SIGNAL FLASHING RED OR TIMED PHASING. IF SIGNAL SET TO FLASHING RED OR TIMED PHASING, LEFT TURN MOVEMENT MAY BE PERMITTED.



LEGEND

	TYPE III BARRICADE W/SIGN		TANSAT TOW AWAY NO STOPPING ANY TIME
	TYPE III BARRICADE W/O SIGN		WORK ZONE (ACTIVITY AREA) LIMITS
	TYPE II BARRICADE W/SIGN		DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
	TYPE II BARRICADE W/O SIGN		ROADWAY DESIGNATION (A THROUGH D)
	CHANNELIZING DEVICE - SEE TABLE F FOR SPACING		TEMPORARY RAISED PAVEMENT MARKERS
	TRAFFIC CONE WITH CLIP ON SIGN		
	SIGN		
	SIGNALIZED INTERSECTION		
	[FAS] ARROW PANEL (FLASHING ARROW)		
	HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)		
	FLAGGER		
	TANS TOW AWAY NO STOPPING TO (SHOW HOURS)		

CLIP ON TYPE CONE MOUNTED SIGNS SUPPLEMENTAL ONLY 35 MPH OR LESS

OR

W20-5 INTERCHANGEABLE WITH C20-L(CA)

W20-5 INTERCHANGEABLE WITH C20-R(CA)

W20-1

C30(CA)

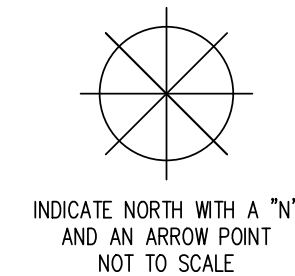
W6-4

W4-2L

DATES OF TEMPORARY NO PARKING ZONE

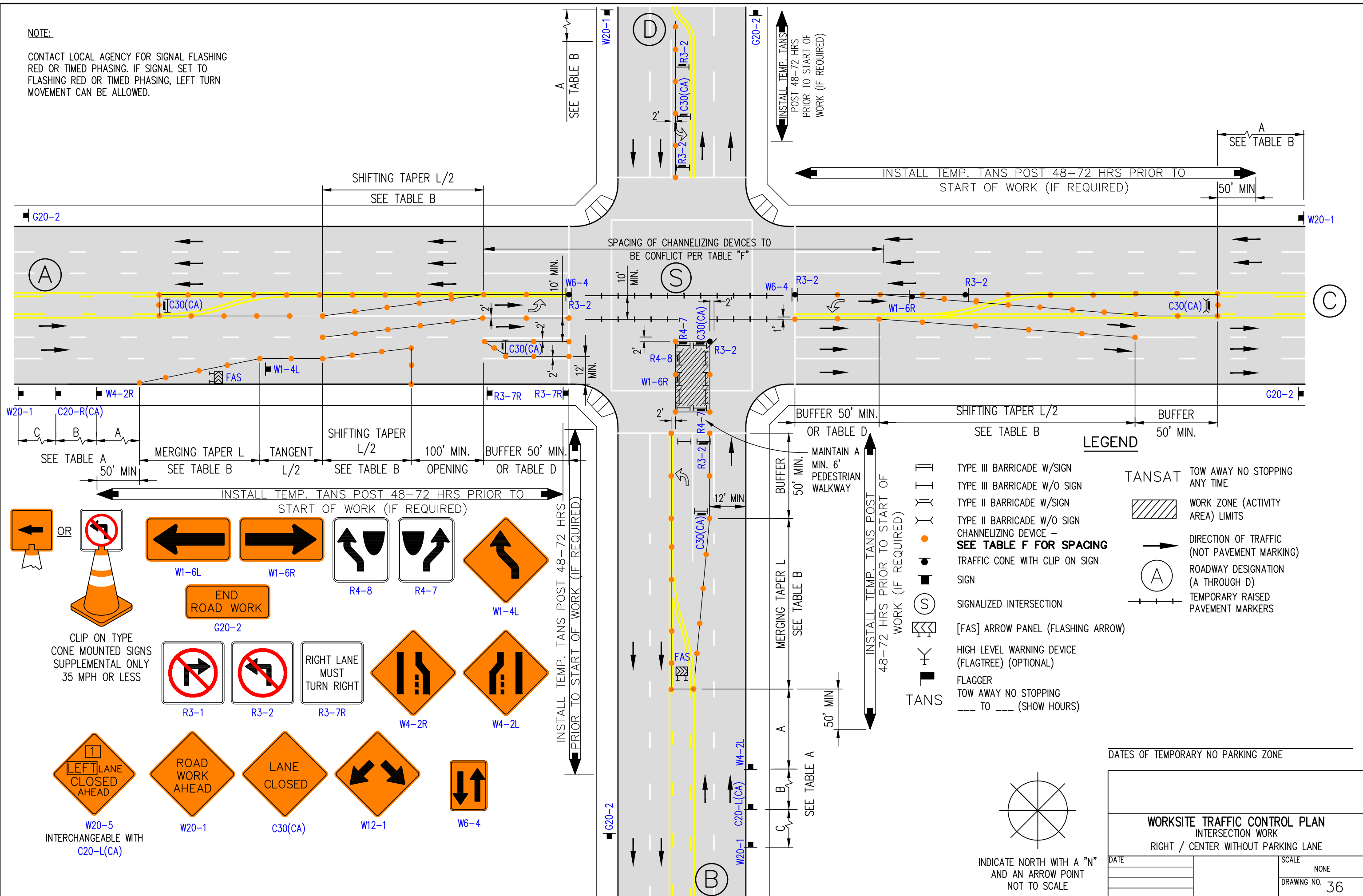
WORKSITE TRAFFIC CONTROL PLAN	
INTERSECTION WORK	
RIGHT / CENTER WITH PARKING LANE	
DATE	SCALE
	NONE
	DRAWING NO. 35

REV. 3/20/2018 CJUTCM-DWG35.DWG



NOTE:

CONTACT LOCAL AGENCY FOR SIGNAL FLASHING RED OR TIMED PHASING. IF SIGNAL SET TO FLASHING RED OR TIMED PHASING, LEFT TURN MOVEMENT CAN BE ALLOWED.



LEGEND

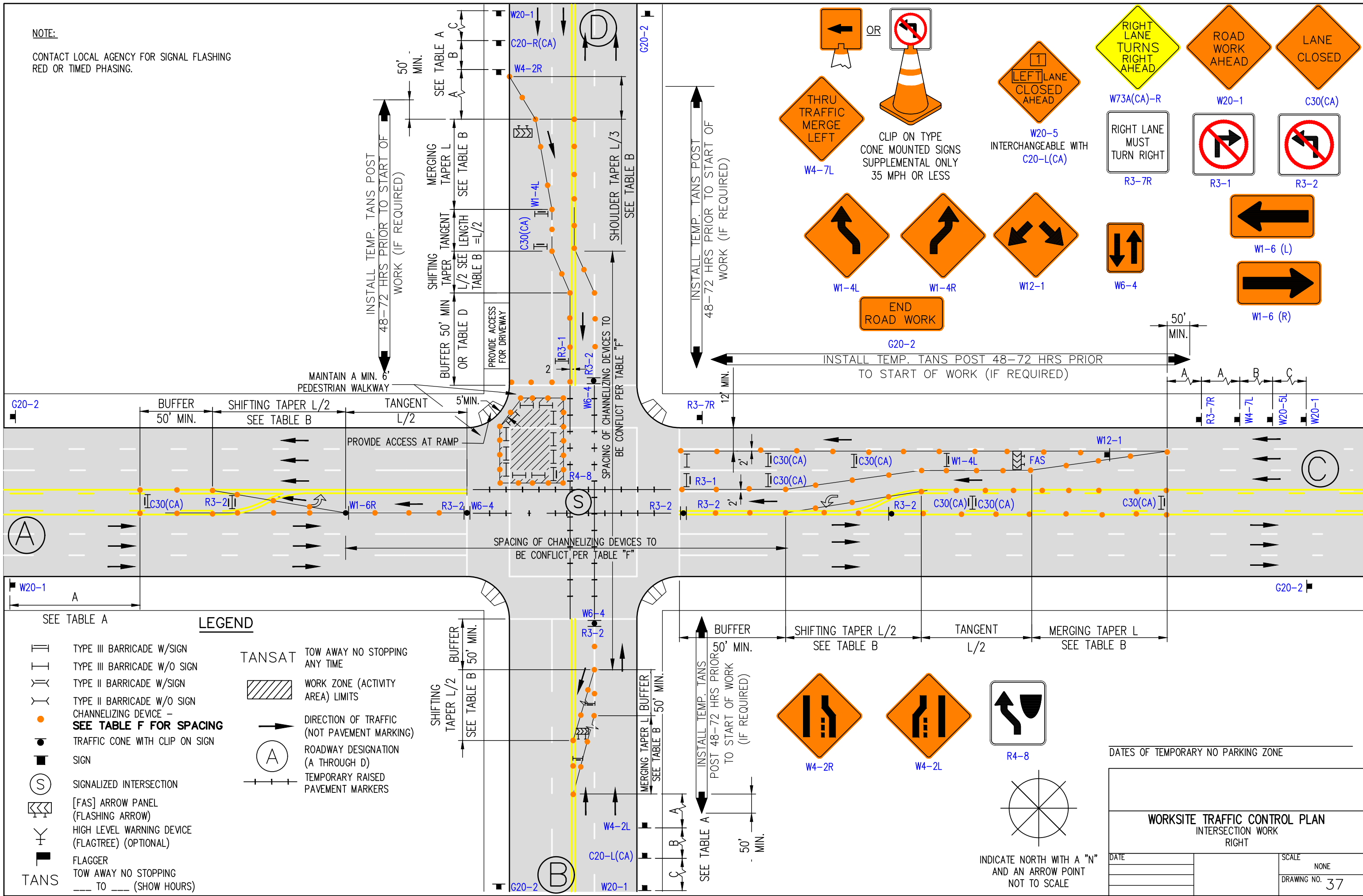
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING --- TO --- (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION (A THROUGH D)
- TEMPORARY RAISED PAVEMENT MARKERS

DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN	
INTERSECTION WORK	
RIGHT / CENTER WITHOUT PARKING LANE	
DATE _____	SCALE NONE
DRAWING NO. _____	36

REV. 3/20/2018 CJUTCM-DWG36.DWG

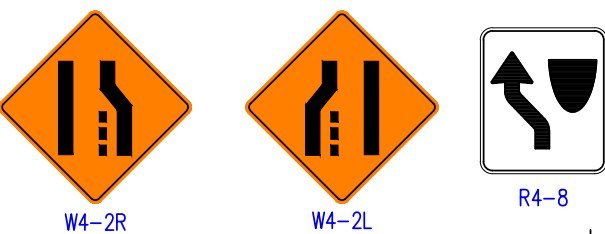
NOTE:
CONTACT LOCAL AGENCY FOR SIGNAL FLASHING
RED OR TIMED PHASING.



SEE TABLE A

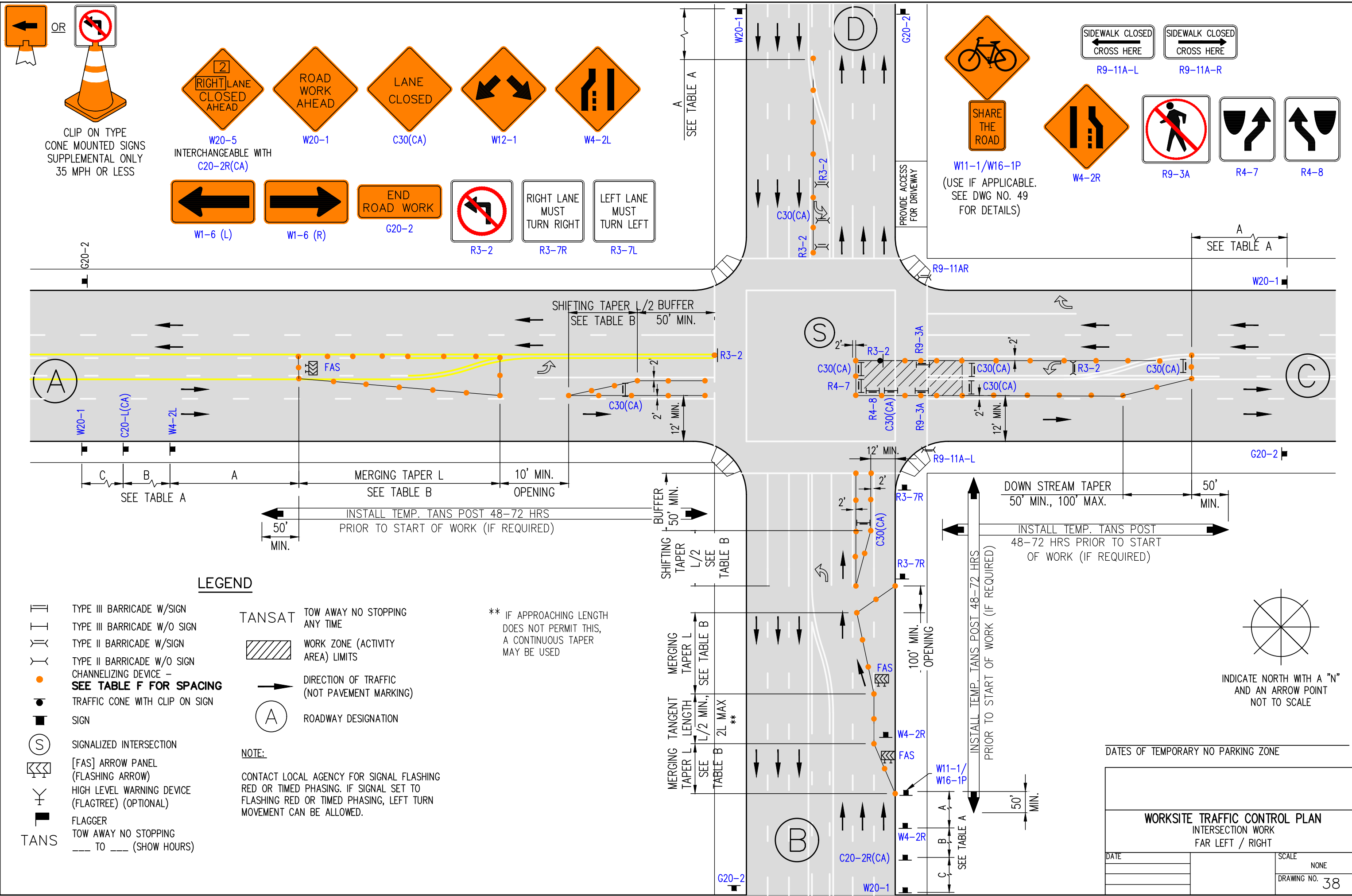
LEGEND

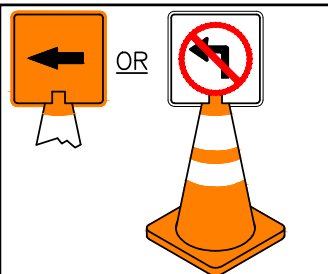
- | | | | |
|--|---|--|---|
| | TYPE III BARRICADE W/SIGN | | TANSAT TOW AWAY NO STOPPING ANY TIME |
| | TYPE III BARRICADE W/O SIGN | | WORK ZONE (ACTIVITY AREA) LIMITS |
| | TYPE II BARRICADE W/SIGN | | DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING) |
| | TYPE II BARRICADE W/O SIGN | | ROADWAY DESIGNATION (A THROUGH D) |
| | CHANNELIZING DEVICE - SEE TABLE F FOR SPACING | | TEMPORARY RAISED PAVEMENT MARKERS |
| | TRAFFIC CONE WITH CLIP ON SIGN | | |
| | SIGN | | |
| | SIGNALIZED INTERSECTION | | |
| | [FAS] ARROW PANEL (FLASHING ARROW) | | |
| | HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL) | | |
| | FLAGGER | | |
| | TANS TOW AWAY NO STOPPING TO --- (SHOW HOURS) | | |















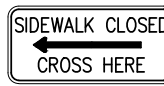
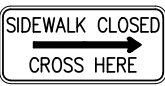


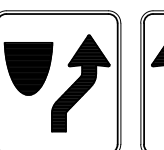

INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN INTERSECTION WORK RIGHT		
DATE	SCALE	NONE
	DRAWING NO.	37



















OR

 CLIP ON TYPE CONE MOUNTED SIGNS SUPPLEMENTAL ONLY 35 MPH OR LESS

-  W20-5 INTERCHANGEABLE WITH C20-2R(CA)
-  W20-1
-  C30(CA)
-  W12-1
-  W4-2L
-  W1-6 (L)
-  W1-6 (R)
-  G20-2
-  R3-2
-  R3-7R
-  R3-7L

-  W11-1/W16-1P (USE IF APPLICABLE. SEE DWG NO. 49 FOR DETAILS)
-  R9-11A-L
-  R9-11A-R
-  W4-2R
-  R9-3A
-  R4-7
-  R4-8

LEGEND

-  TYPE III BARRICADE W/SIGN
-  TYPE III BARRICADE W/O SIGN
-  TYPE II BARRICADE W/SIGN
-  TYPE II BARRICADE W/O SIGN
-  CHANNELIZING DEVICE - SEE TABLE F FOR SPACING
-  TRAFFIC CONE WITH CLIP ON SIGN
-  SIGN
-  SIGNALIZED INTERSECTION
-  [FAS] ARROW PANEL (FLASHING ARROW)
-  HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
-  FLAGGER
-  TANS TOW AWAY NO STOPPING --- TO --- (SHOW HOURS)
-  TANSAT TOW AWAY NO STOPPING ANY TIME
-  WORK ZONE (ACTIVITY AREA) LIMITS
-  DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
-  ROADWAY DESIGNATION

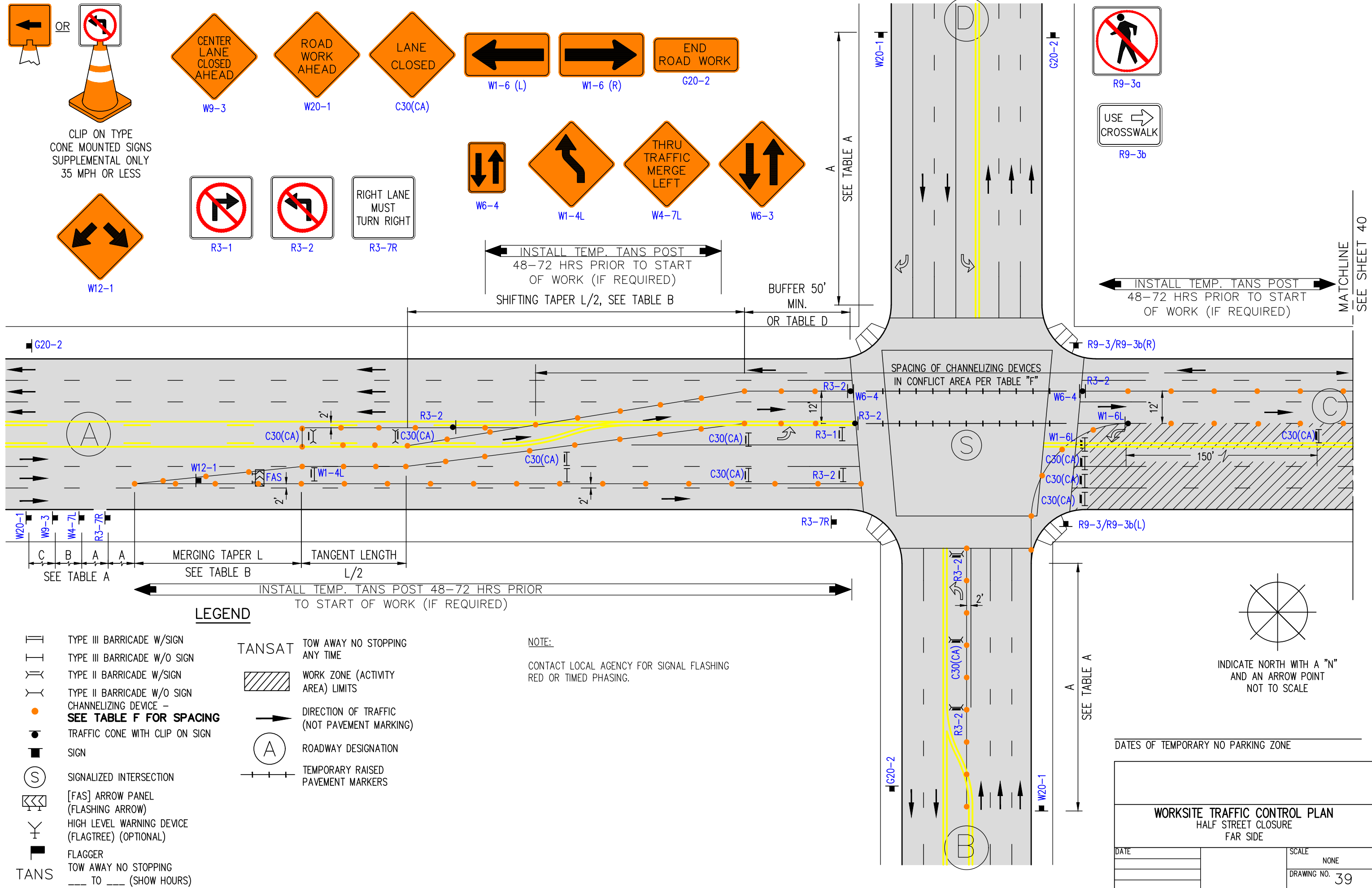
NOTE:
 CONTACT LOCAL AGENCY FOR SIGNAL FLASHING RED OR TIMED PHASING. IF SIGNAL SET TO FLASHING RED OR TIMED PHASING, LEFT TURN MOVEMENT CAN BE ALLOWED.

** IF APPROACHING LENGTH DOES NOT PERMIT THIS, A CONTINUOUS TAPER MAY BE USED

DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN
 INTERSECTION WORK
 FAR LEFT / RIGHT

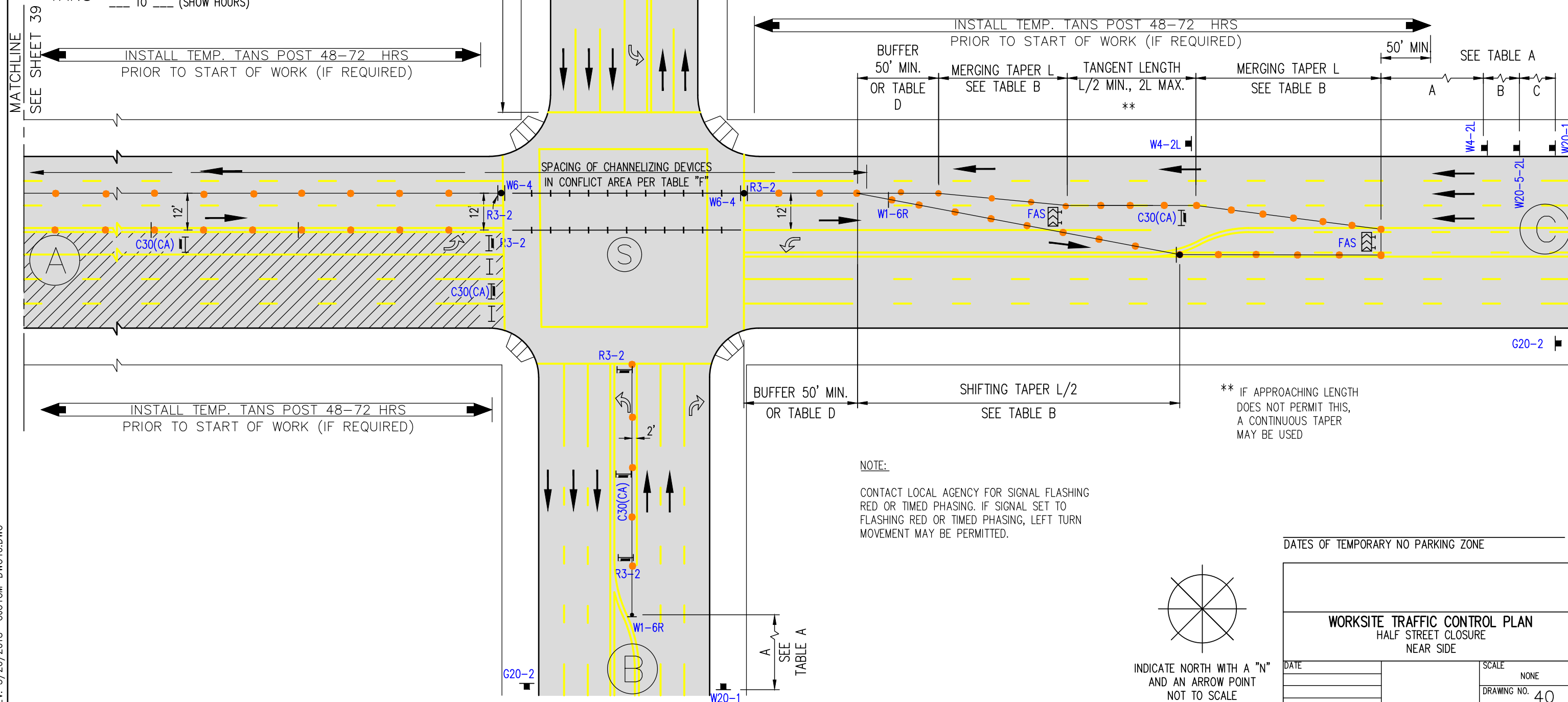
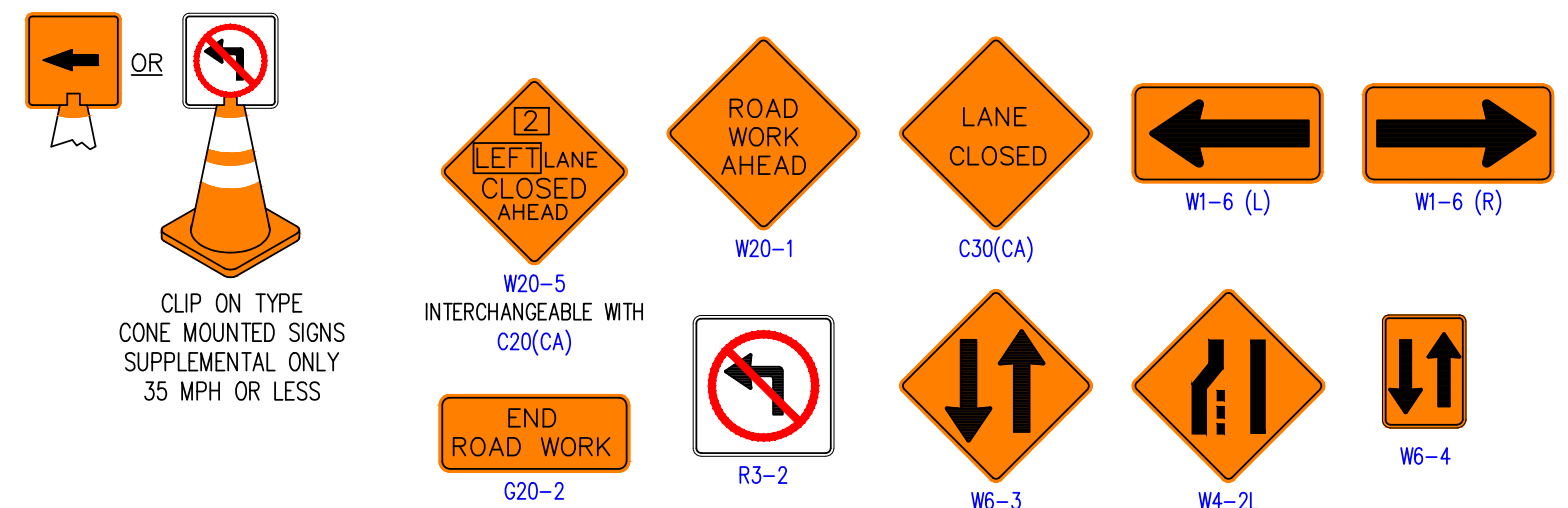
DATE	SCALE
	NONE
	DRAWING NO. 38



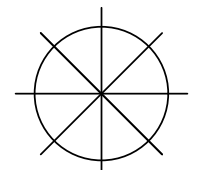
DATES OF TEMPORARY NO PARKING ZONE	
WORKSITE TRAFFIC CONTROL PLAN HALF STREET CLOSURE FAR SIDE	
DATE	SCALE
	NONE
	DRAWING NO. 39

LEGEND

- TYPE III BARRICADE W/SIGN
 - TYPE III BARRICADE W/O SIGN
 - TYPE II BARRICADE W/SIGN
 - TYPE II BARRICADE W/O SIGN
 - CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
 - TRAFFIC CONE WITH CLIP ON SIGN
 - SIGN
 - SIGNALIZED INTERSECTION
 - [FAS] ARROW PANEL (FLASHING ARROW)
 - HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
 - FLAGGER
 - TOW AWAY NO STOPPING TO ____ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
 - WORK ZONE (ACTIVITY AREA) LIMITS
 - DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
 - ROADWAY DESIGNATION
 - TEMPORARY RAISED PAVEMENT MARKERS



** IF APPROACHING LENGTH DOES NOT PERMIT THIS, A CONTINUOUS TAPER MAY BE USED



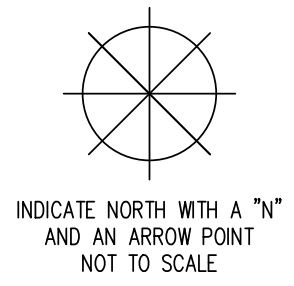
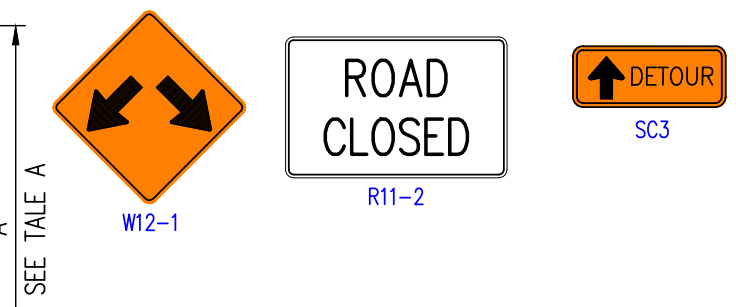
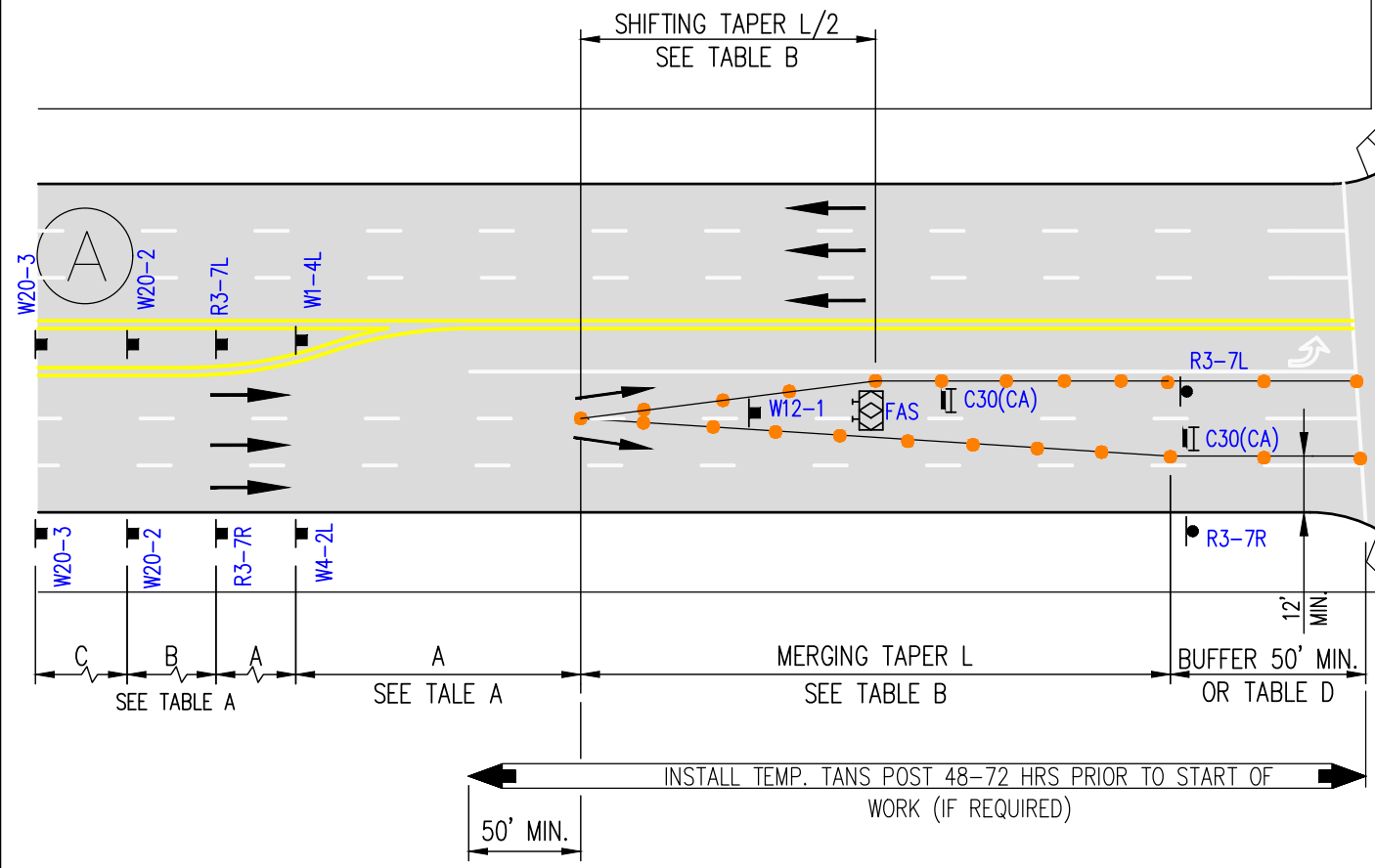
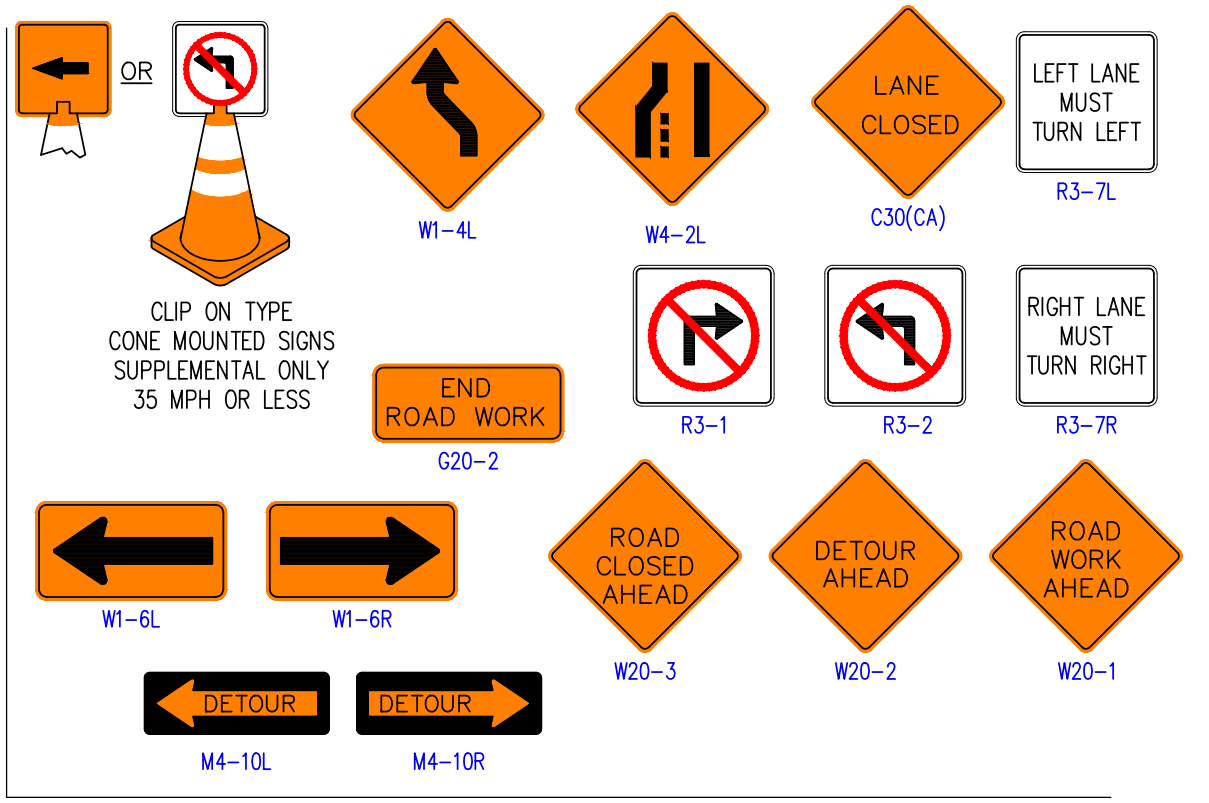
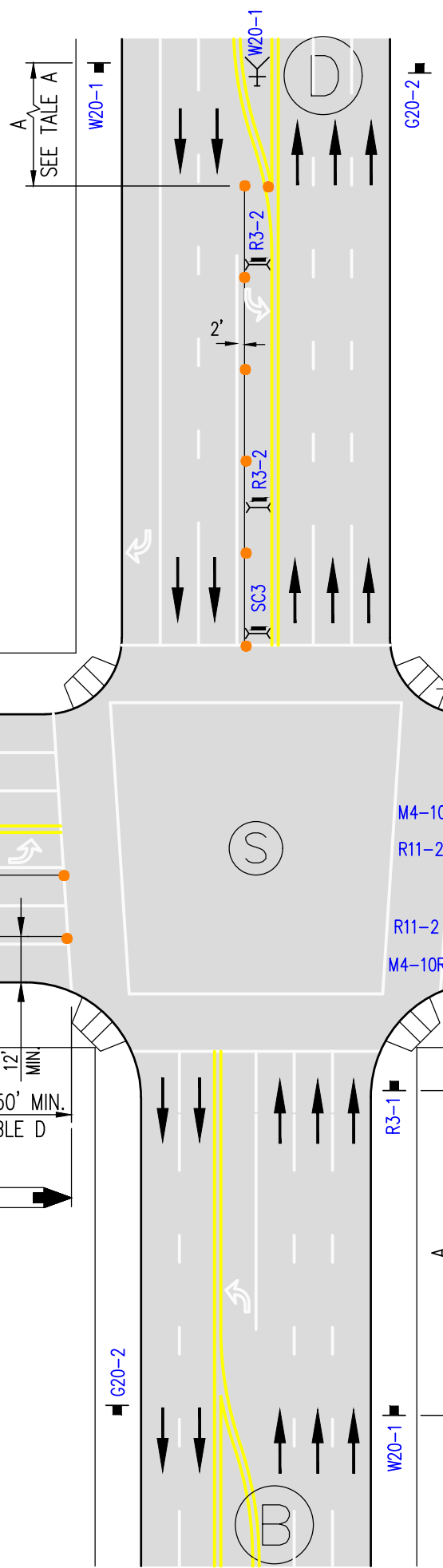
INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN	
HALF STREET CLOSURE	
NEAR SIDE	
DATE	SCALE
	NONE
	DRAWING NO. 40

LEGEND

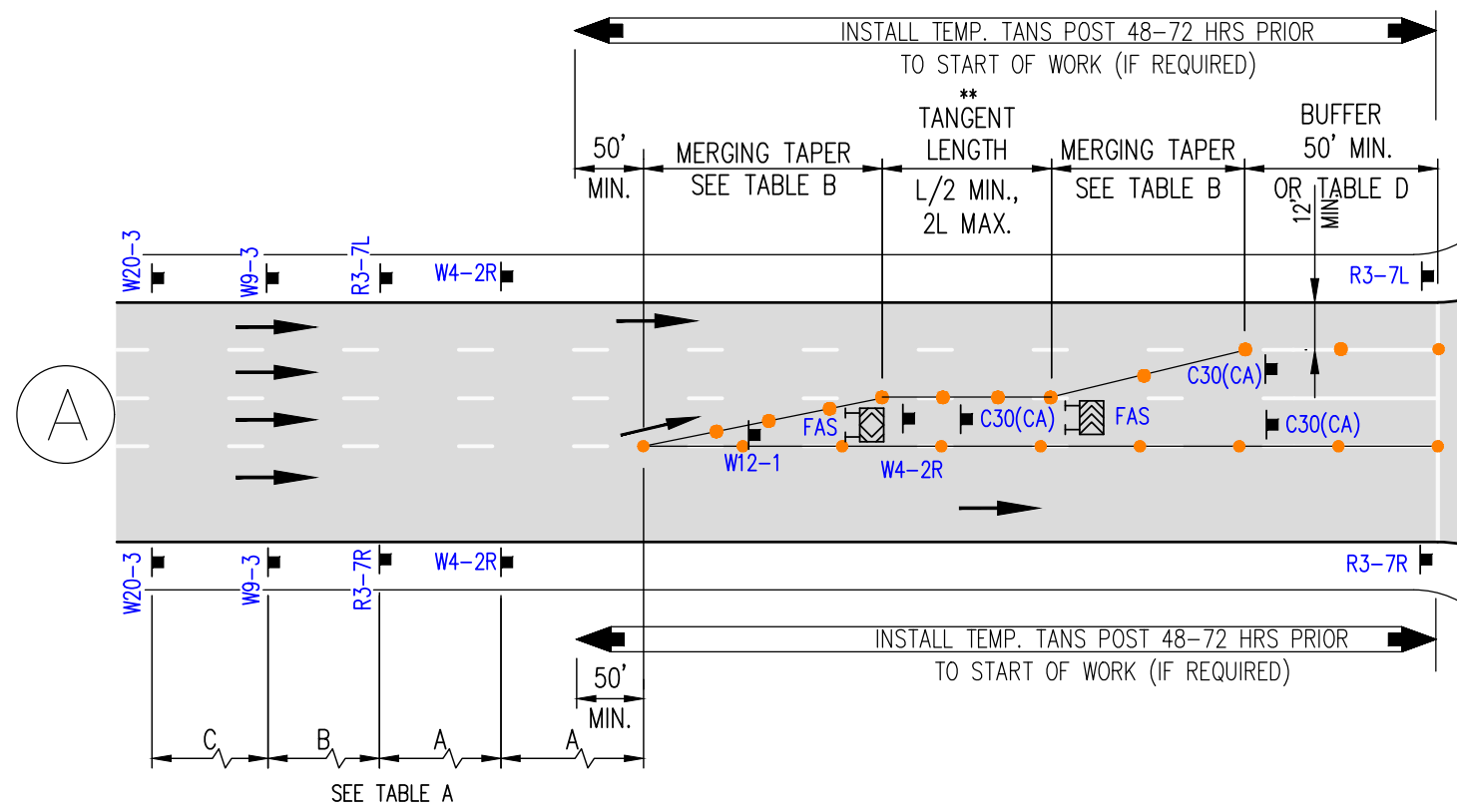
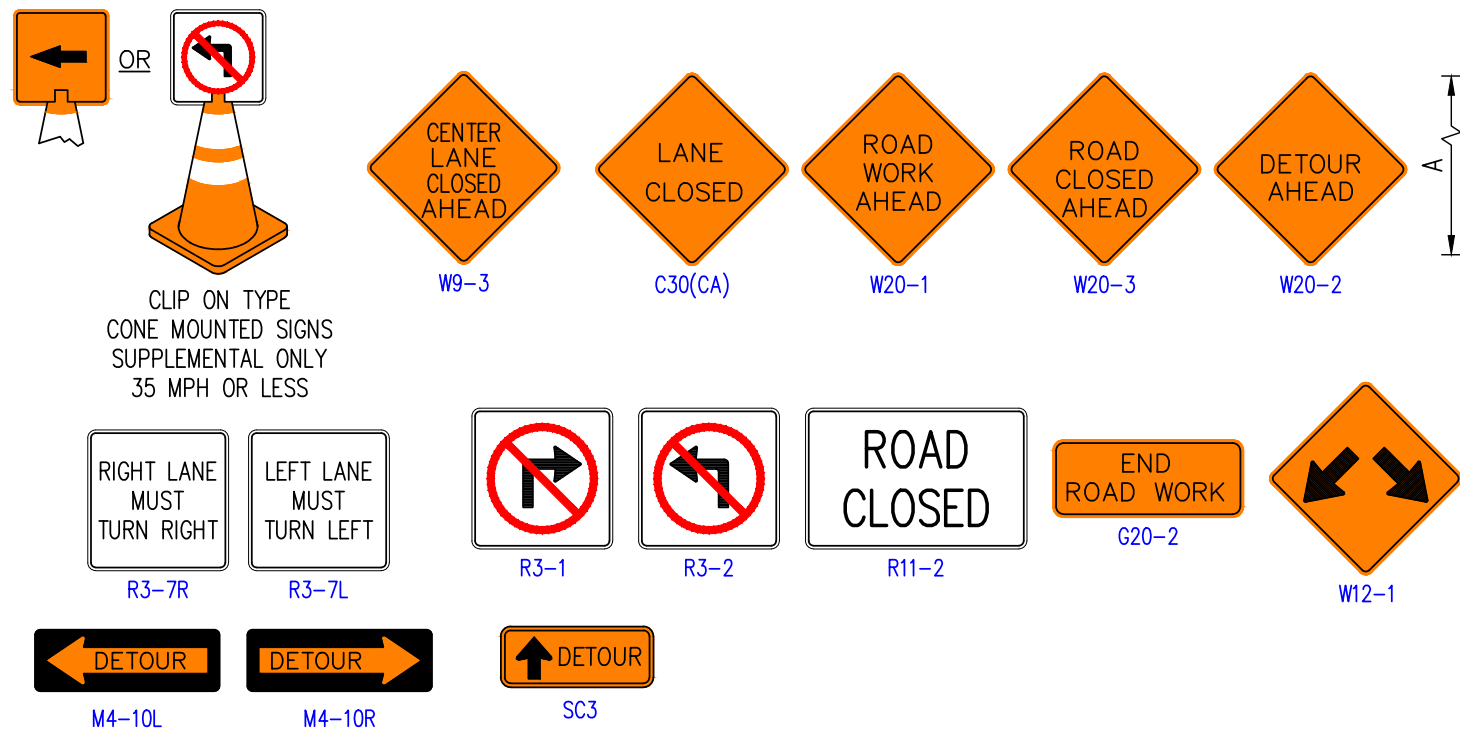
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANSAT TOW AWAY NO STOPPING
- TANS TO TO (SHOW HOURS)
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION



DATES OF TEMPORARY NO PARKING ZONE _____

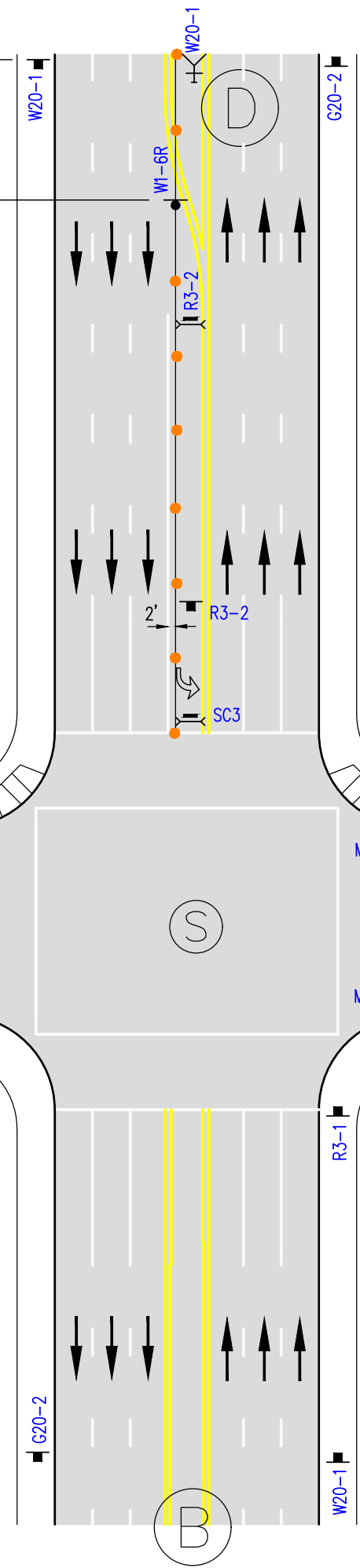
WORKSITE TRAFFIC CONTROL PLAN FULL STREET CLOSURE TWO WAY STREET		
DATE		SCALE
		NONE
		DRAWING NO. 41

REV. 3/20/2018 CJUTCM-DWG41.DWG

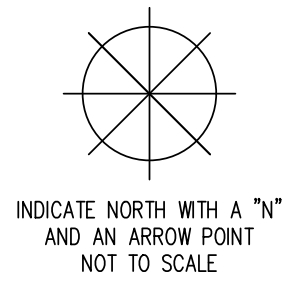
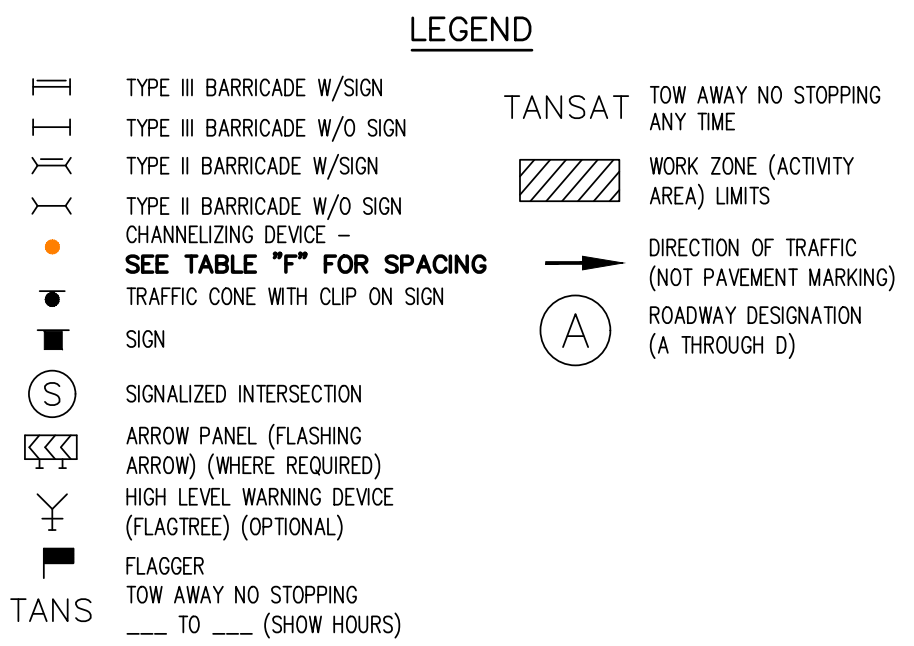


(A)

(C)



(B)



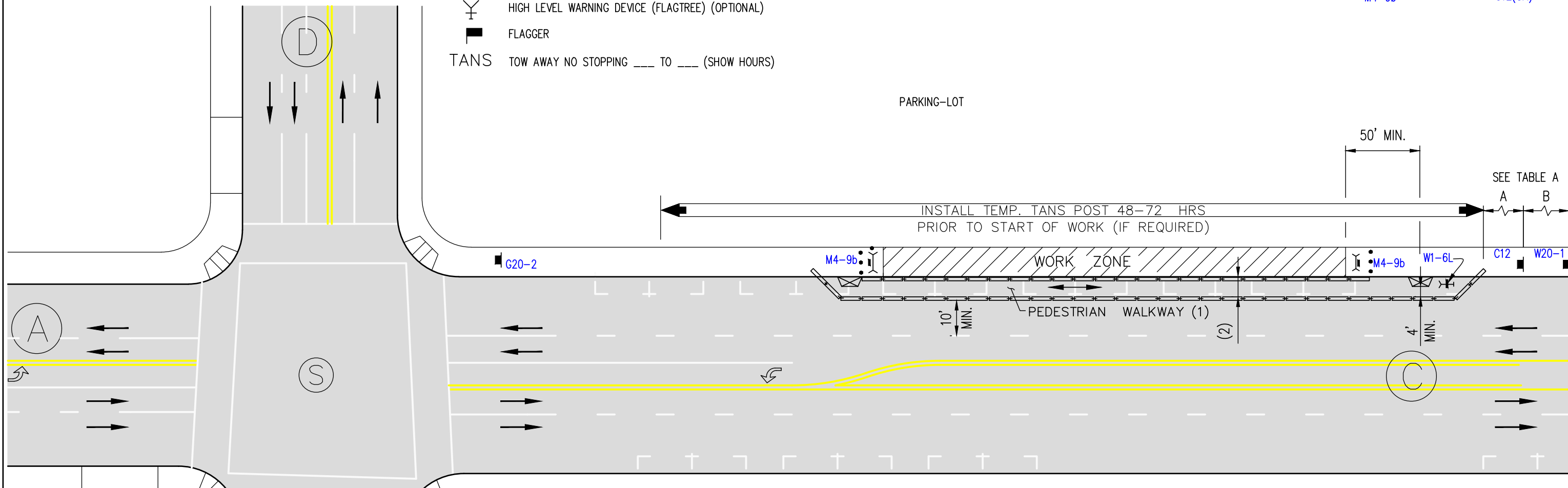
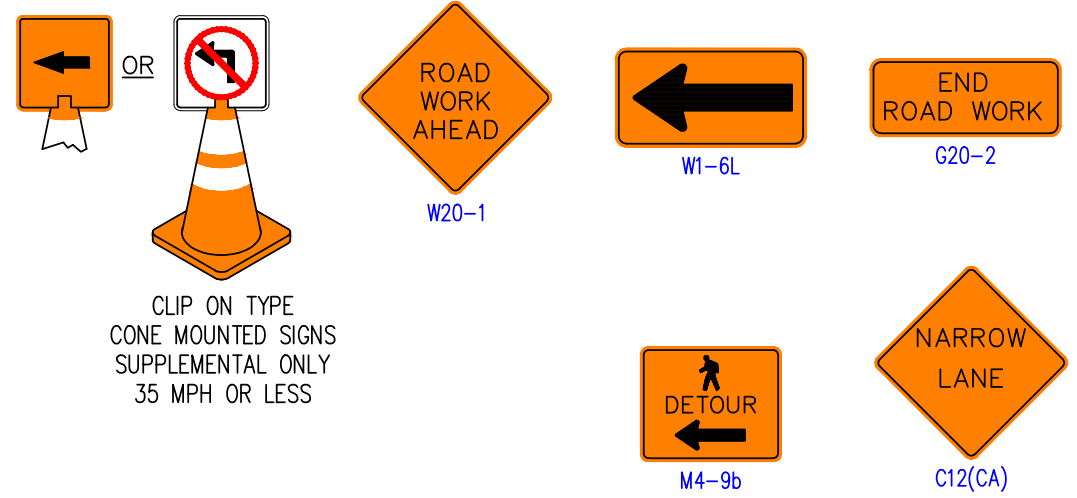
DATES OF TEMPORARY NO PARKING ZONE _____

WORKSITE TRAFFIC CONTROL PLAN
FULL STREET CLOSURE
ONE WAY STREET

DATE	SCALE
	NONE
	DRAWING NO. 42

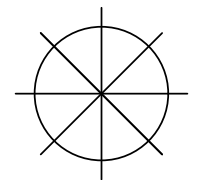
LEGEND

- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE -
SEE TABLE F FOR SPACING
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS)
- TANSAT TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION
- TEMPORARY ADA RAMP
- INTERLOCKING LONGITUDINAL CANALIZING DEVICE



NOTE:

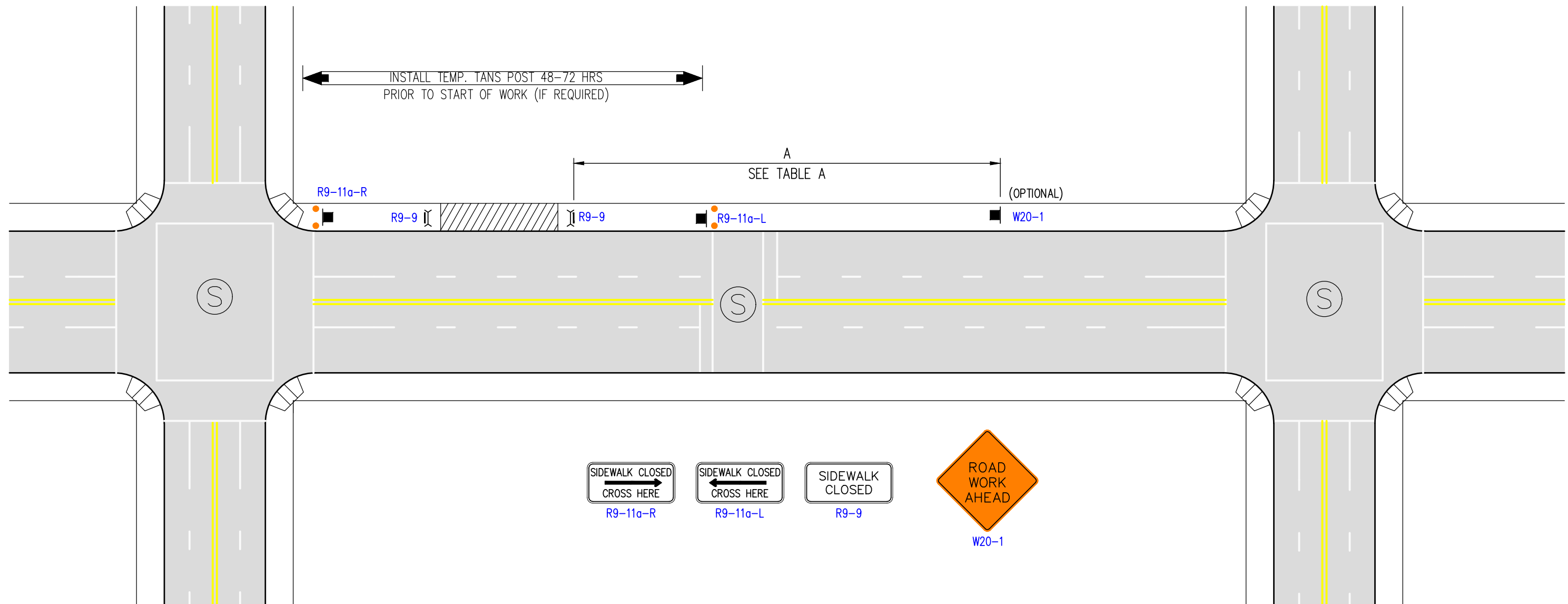
- (1) TEMPORARY PEDESTRIAN WALKWAY WITHIN PAVED ROADWAY SHALL COMPLY WITH ADA STANDARDS.
- (2) TO MEET ADA STANDARDS, 10' MIN. REQUIRED (6' RAMP FOR 6" C.F. AT 1:12 SLOPE + 4' LANDING).



INDICATE NORTH WITH A "N" AND AN ARROW POINT NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE	
WORKSITE TRAFFIC CONTROL PLAN SIDEWALK CLOSURE MID-BLOCK	
DATE	SCALE
	NONE
	DRAWING NO. 43

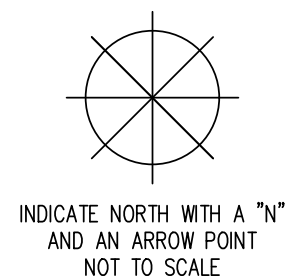
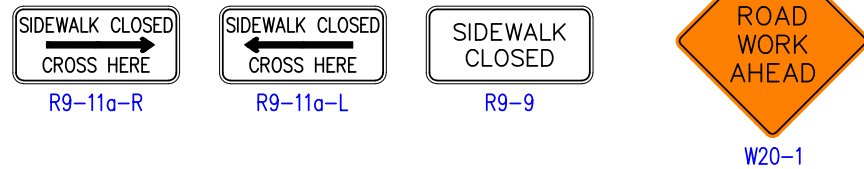
REV. 3/20/2018 CUJTCM-DWG44.DWG



LEGEND

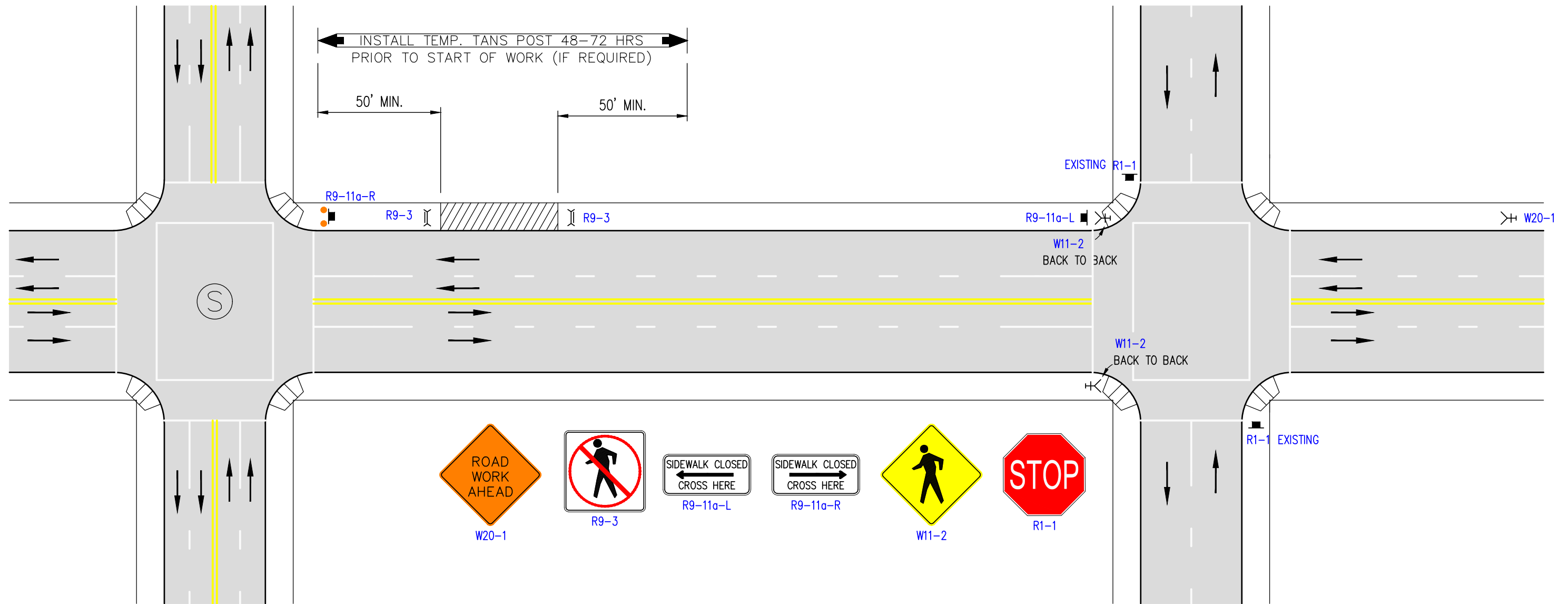
- TYPE III BARRICADE W/SIGN
- TYPE III BARRICADE W/O SIGN
- TYPE II BARRICADE W/SIGN
- TYPE II BARRICADE W/O SIGN
- CHANNELIZING DEVICE - **SEE TABLE F FOR SPACING**
- TRAFFIC CONE WITH CLIP ON SIGN
- SIGN
- SIGNALIZED INTERSECTION
- [FAS] ARROW PANEL (FLASHING ARROW)
- HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL)
- FLAGGER
- TANS TOW AWAY NO STOPPING ____ TO ____ (SHOW HOURS)

- TANSAT** TOW AWAY NO STOPPING ANY TIME
- WORK ZONE (ACTIVITY AREA) LIMITS
- DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING)
- ROADWAY DESIGNATION (A THROUGH D)
- TEMPORARY ADA RAMP
- INTERLOCKING LONGITUDINAL CANALIZING DEVICE



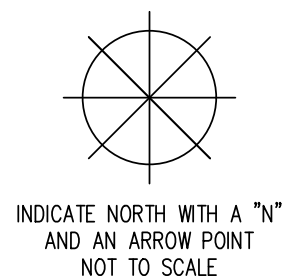
DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN SIDEWALK CLOSURE WITH MID-BLOCK SIGNALIZED CROSSING		
DATE		SCALE
		NONE
		DRAWING NO. 4.4

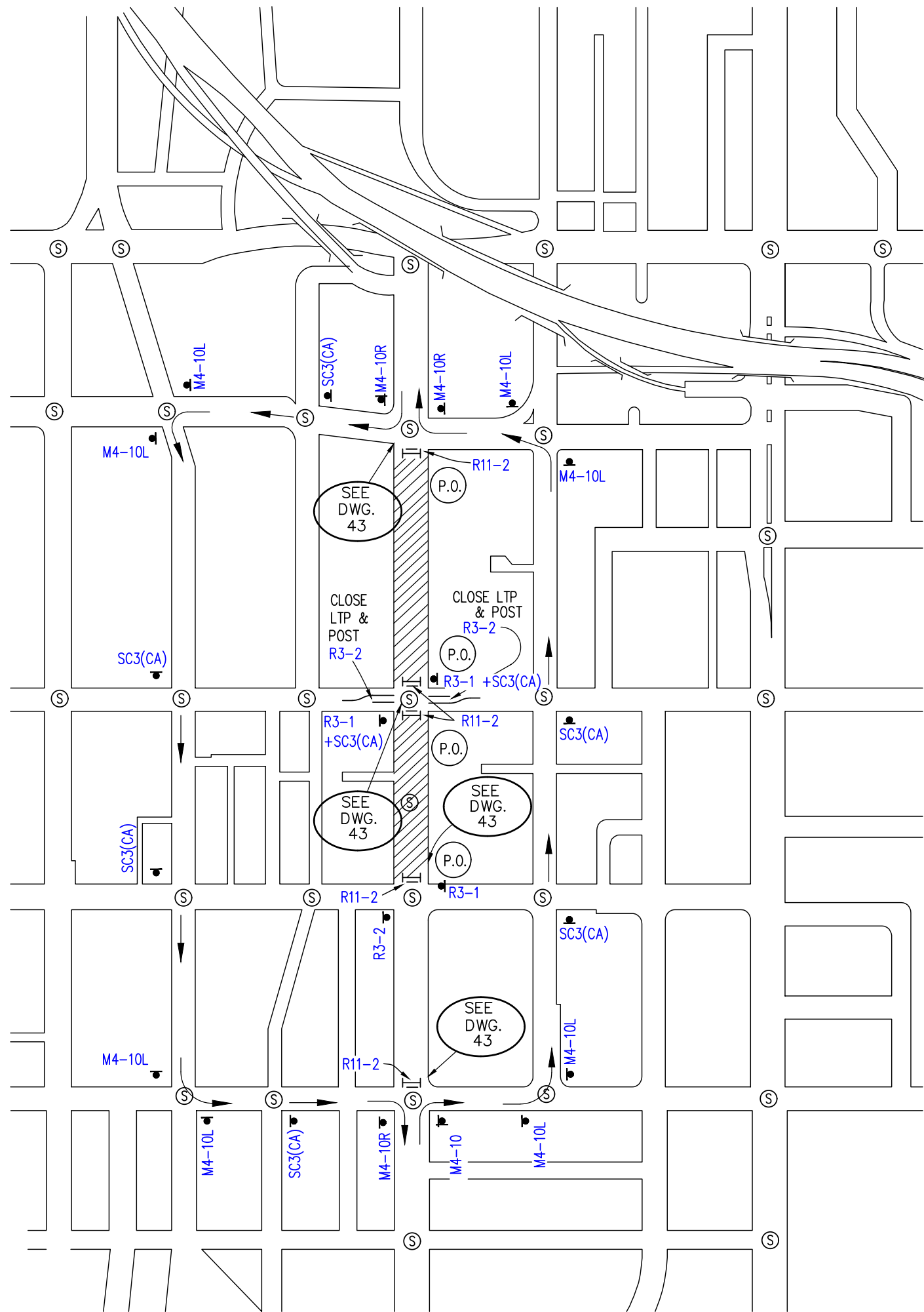


LEGEND

- | | | | |
|--|---|--|---|
| | TYPE III BARRICADE W/SIGN | | TANSAT TOW AWAY NO STOPPING ANY TIME |
| | TYPE III BARRICADE W/O SIGN | | WORK ZONE (ACTIVITY AREA) LIMITS |
| | TYPE II BARRICADE W/SIGN | | DIRECTION OF TRAFFIC (NOT PAVEMENT MARKING) |
| | TYPE II BARRICADE W/O SIGN | | ROADWAY DESIGNATION |
| | CHANNELIZING DEVICE - SEE TABLE F FOR SPACING | | |
| | TRAFFIC CONE WITH CLIP ON SIGN | | |
| | SIGN | | |
| | SIGNALIZED INTERSECTION | | |
| | [FAS] ARROW PANEL (FLASHING ARROW) | | |
| | HIGH LEVEL WARNING DEVICE (FLAGTREE) (OPTIONAL) | | |
| | FLAGGER | | |
| | TANS TOW AWAY NO STOPPING ___ TO ___ (SHOW HOURS) | | |



DATES OF TEMPORARY NO PARKING ZONE		
WORKSITE TRAFFIC CONTROL PLAN SIDEWALK CLOSURE		
DATE		SCALE
		NONE
		DRAWING NO. 45



R11-2



SC3



M4-10R



R3-1

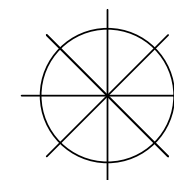


R3-2

LEGEND

- P.O. - POLICE OFFICER
- M4-10 - DETOUR (L-LEFT, R-RIGHT, U-UP)
- ↪ - DIRECTION OF DETOUR
- Ⓢ - TRAFFIC SIGNAL
- ≡ - TYPE III BARRICADE W/SIGN
- LTP - LEFT TURN POCKET

NOTE: SEE PREVIOUS SHEET FOR TRAFFIC ADVANCE WARNING SIGNAGE

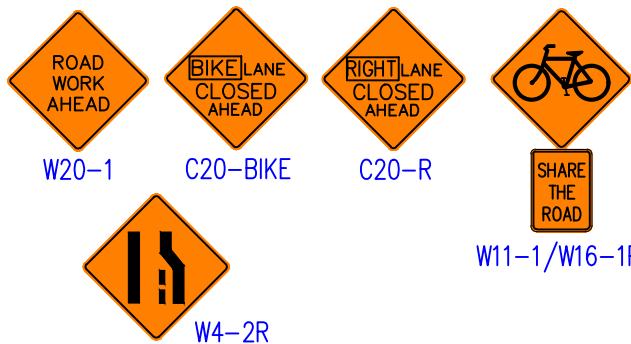


INDICATE NORTH WITH A "N"
AND AN ARROW POINT
NOT TO SCALE

DATES OF TEMPORARY NO PARKING ZONE

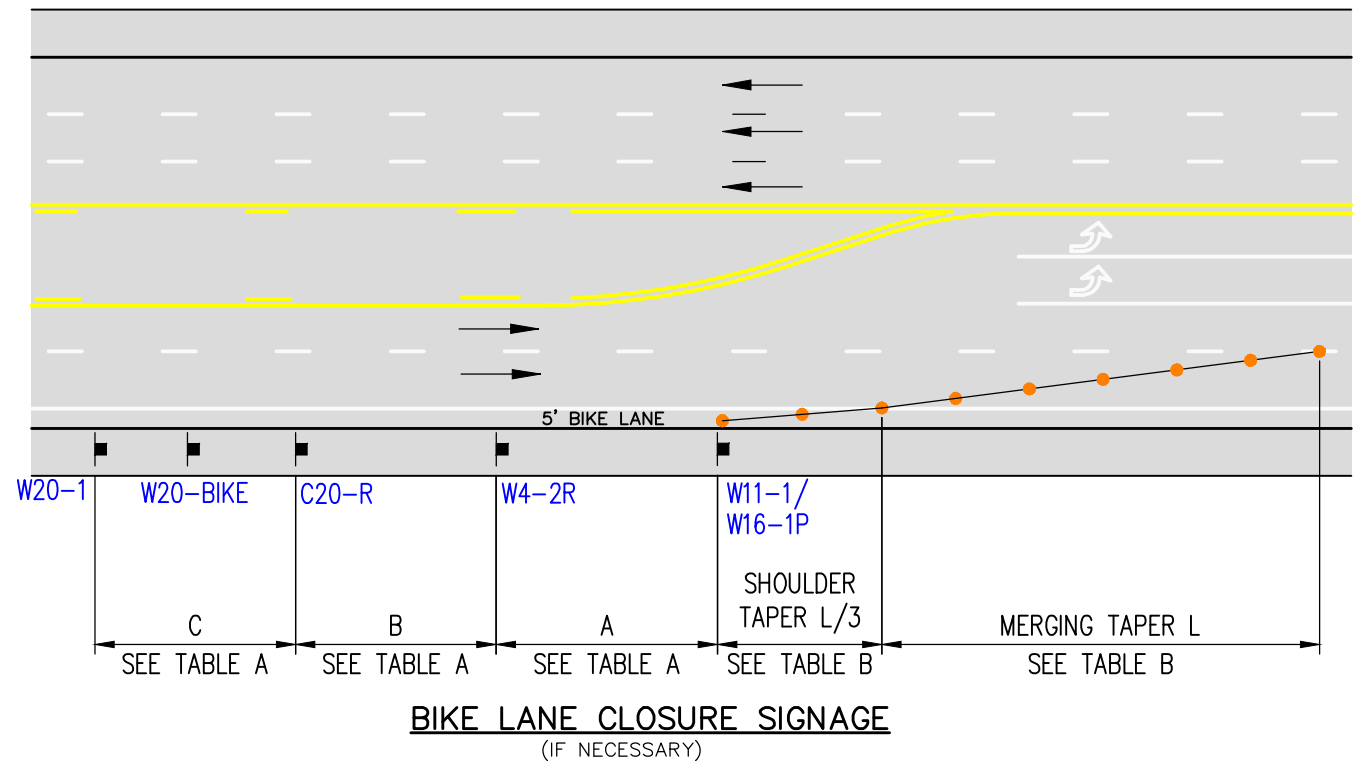
WORKSITE TRAFFIC CONTROL PLAN
SAMPLE TRAFFIC CIRCULATION PLAN

DATE	SCALE
	NONE
	DRAWING NO. 46

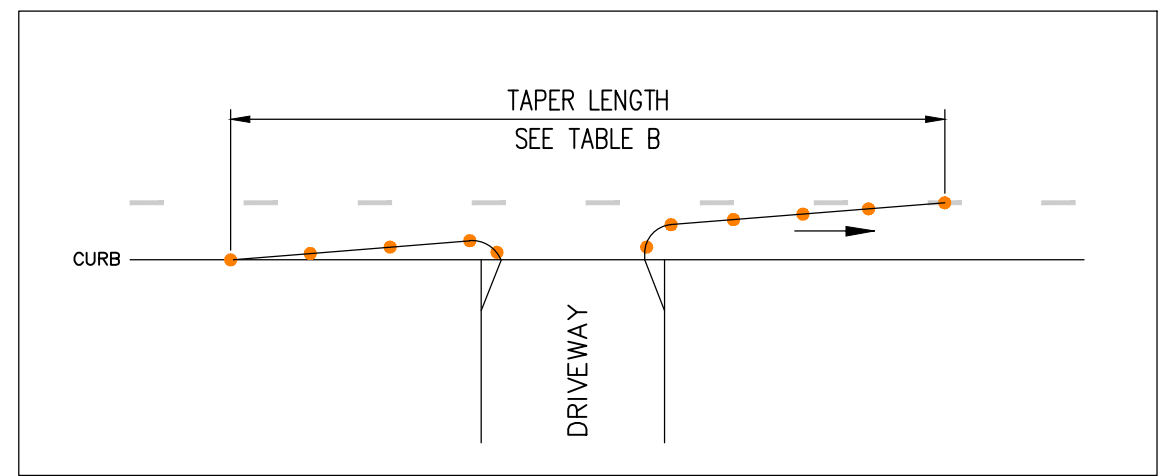


CONSTRUCTION NOTES:

1. PLACE BIKE LANE CLOSED AHEAD SIGN (C20-BIKE) HALF THE DISTANCE BETWEEN THE FIRST AND SECOND SIGNS.
2. BICYCLISTS SHALL NOT BE LED INTO DIRECT CONFLICTS WITH MAINLINE TRAFFIC, WORK SITE VEHICLES, OR EQUIPMENT MOVING THROUGH OR AROUND THE TTC ZONE.



CONSTRUCTION NOTE:
ALL DRIVEWAYS TO REMAIN OPEN (WHENEVER POSSIBLE) THROUGHOUT TRAFFIC CONTROL ZONE



REV. 3/20/2018 CJUTCM-DWG49.DWG

SEE TABLE A-F FOR SIGN AND CHANNELIZER DEVICE SPACING AND TAPER LENGTH

SPEED	APPROACH STREET	TAPER LENGTH	SIGN SPACING	CHANNELIZER SPACING

SEE TABLE A-F FOR SIGN AND CHANNELIZER DEVICE SPACING AND TAPER LENGTH

SPEED	APPROACH STREET	TAPER LENGTH	SIGN SPACING	CHANNELIZER SPACING

ABBREVIATIONS:

MIN = Minimum
 LT = Left
 RT = Right
 LTP = Lane Traffic Panel
 TANSAT = Tow Away, No Stopping Anytime
 TANS = Tow Away, No Stopping

RECOMMENDED DELINEATOR/CONE & SIGN PLACEMENT

POSTED SPEED LIMIT	MINIMUM TAPER LENGTH FOR 12-FT LANE			MAXIMUM CHANNELIZER SPACING		MINIMUM SIGN SPACING (ADVANCE OF TAPER & BETWEEN SIGNS)
	MERGING	SHIFTING	SHOULDER	TAPER	TANGENT	
20 MPH	80 FT.	40 FT.	27 FT.	20 FT.	40 FT.	100 FT.
25 MPH	125 FT.	63 FT.	42 FT.	25 FT.	50 FT.	100 FT.
30 MPH	180 FT.	90 FT.	60 FT.	30 FT.	60 FT.	250 FT.
35 MPH	245 FT.	123 FT.	82 FT.	35 FT.	70 FT.	250 FT.
40 MPH	320 FT.	160 FT.	107 FT.	40 FT.	80 FT.	250 FT.
* 45 MPH	540 FT.	270 FT.	180 FT.	45 FT.	90 FT.	350 FT.
* 50 MPH	600 FT.	300 FT.	200 FT.	50 FT.	100 FT.	350 FT.
* 55+MPH	660 FT.	330 FT.	220 FT.	50 FT.	100 FT.	PER TABLE 'A'

NOTES

1. A Flashing Arrow sign shall be used for each lane closed, at merging taper.
- *2. One lane closure sign (C20) shall be used on the approach to a lane closure. Two signs (separated by a distance derived from table A) should be used with speeds of 45 mph or greater. W20-5 signs may be used in place of C20 signs.

NOTE: This chart based on 12-foot wide lanes. For lane widths greater than 12 feet, use the following formulae:

Taper formula:
 $L = S \times W$ for speeds of 45 mph or more.
 $L = \frac{WS^2}{60}$ for speeds of 40 mph or less.

Where:
 L = Minimum length of taper.
 S = Numerical value of posted speed limit prior to work or 85 percentile speed.
 W = Width of offset.
 i.e.: 50 mph and 19' lane;
 $L = 50 \times 19 = 950$ feet

DATES OF TEMPORARY NO PARKING ZONE

WORKSITE TRAFFIC CONTROL PLAN
STANDARD DETAILS, ABBREVIATIONS AND REFERENCE CHARTS

DATE	SCALE
	NONE
	DRAWING NO. 49