

# SECTION C: TRAFFIC CONTROL PLANS

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P-CR 0028(47)367	C1	C17

## INDEX OF SHEETS

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BEGIN P-CR 0028(47)367

Station 106+84.40

END P-CR 0028(47)367

Station 133+50.00

T 113 N

CITY LIMITS  
106+84.41

**TORONTO**

R 49 W      R 48 W

Prairie Ave

Main St

Missouri St

Dakota St

Rushmore Ave

Pheasant St

Frontier St

24      19

25      30

120+04.32

To White

W

+

T 113 N



<u>SECTION C ESTIMATE OF QUANTITIES</u>				Revised 9-29-25 BRO	STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
BID ITEM NUMBER	ITEM	QUANTITY	UNIT			P-CR 0028(47)367	C2	C17
634E0010	Flagging	400.0	Hour					
634E0020	Pilot Car	150.0	Hour					
634E0110	Traffic Control Signs	568.0	SqFt					
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS					
634E0275	Type 3 Barricade	2	Each					
634E0330	Temporary Raised Pavement Markers	6,092	Ft					
634E0380	Tubular Marker	122	Each					
634E0640	Temporary Pavement Marking	11,184	Ft					
634E1002	Detour and Restriction Signing	478.2	SqFt					
634E2000	Longitudinal Pedestrian Barricade	48	Ft					
634E2015	Temporary Pedestrian Access Route	Lump Sum	LS					
634E2020	Temporary Curb Ramp	2	Each					
900E1080	Orange Plastic Safety Fence	200	Ft					
<b><u>SEQUENCE OF OPERATIONS</u></b>								
Work will consist of pavement removal, grading, storm sewer, Curb and Gutter, asphalt concrete resurfacing, roadway lighting, pavement markings, permanent signing, and erosion control.								
SD Highway 28 traffic will be maintained through the construction zone during the entire project including associated utility work. Two-way traffic will be maintained whenever possible during daylight hours. Two-way traffic will be required prior to nightfall each day. Contractor should note that the utility work includes deep watermain work which may require additional adjustments to safely maintain traffic flow or the use of flaggers during the day and reestablish two-way traffic by nightfall every day.								
Work will progress in phases.								
Traffic Control devices will be appropriately installed prior to any construction activity in any of the Phases.								
Details in the plans are based on the below requirements for construction of the project. Details depict an anticipated order of construction. Contractor requests to deviate from the sequence of operations will be submitted in writing to the Engineer for review. Approval of an alternate sequence of operations will only be allowed when the proposed changes meet with the Department's intent for traffic control and sequencing of the work. An alternate sequence will be submitted for review a minimum of one week prior to potential implementation.								
The work will proceed in the following order:								
Phase 1: Phase 1 will consist of all work from Sta. 106+84.40 to Sta. 134+79.87 Left of Centerline (WB). Work in this phase will include ensuring the new storm sewer drainage on the project is maintained at all times.								
Prior to beginning Phase 1 work, the Contractor will place Asphalt Concrete Composite to patch the existing pavement Sta. 106+84.40 to 134+79.87 Right of Centerline (EB) in order to carry thru traffic during Phase 1 work.								
Prior to Phase 1 work, the Contractor will need to widen the roadway as needed with base course from Sta. 104+34.40 to 117+00 and from Sta. 127+56 to 137+29.87 Right of Centerline (EB).								
<b><u>GENERAL TRAFFIC CONTROL</u></b>								
The Contractor will keep all businesses and residents informed of the progression and prosecution of work in areas that have a direct effect on their access.								
Access will be maintained at all times to the single lane Drive Thru at First Bank and Trust Sta. 118+00 Lt. Contractor can plan to utilize the adjacent vacant lot Sta. 117+80 Lt to maintain the Drive Thru 24 hours a day during the work.								
During Phase 1 construction, the roadway will be open to traffic, and through traffic will be maintained as two-way traffic or as noted on details throughout the plans. The Contractor will complete all work in the WB Lanes while maintaining two-way traffic in the existing or temporary EB Lanes. The Contractor will need to plan to complete Phase 1 work including grading, graveling, and storm sewer placement sufficiently across project centerline as needed in order to maximize thru traffic operations. Maintenance of final gravel surface placed for Phase 1 will be required including dust control as needed throughout the project.								
Phase 2: Phase 2 will consist of all remaining work from Sta. 106+84.40 to Sta. 134+79.87 Right of Centerline (EB). Work in this phase will include ensuring the new storm sewer drainage on the project is maintained at all times.								
During Phase 2 construction, the roadway will be open to traffic, and through traffic will be maintained as two-way traffic or as noted on details throughout the plans. The Contractor will complete all remaining work EB while maintaining traffic WB.								
Phase 2 work will require the use of flaggers throughout the day between Sta. 110+00 to 115+00 due to the narrowed width available to carry traffic. The Contractor will need to plan to complete all remaining phase work from Sta. 110+00 to 115+00 under traffic with the use of flaggers during the day and reestablish two-way traffic by nightfall every day.								
Access will be maintained at all times to intersections, homes and businesses located along the project. Closure of intersections and entrances on a limited basis may be needed and could be requested from the Engineer. The Contractor will maintain communication with each landowner and handle all arrangements to accommodate reasonable access.								
Contractor will plan all sidewalk work such that normal access to the front doors of all businesses will be maintained as much as possible. Sidewalk work at the front door of First Bank and Trust Sta. 118+40 Lt will be completed such that they would only be without access one business day.								
Restoration work behind sidewalk will include shaping and placement of permanent seed and/or sod (if seasonal limits allow). Restoration work is required to be completed prior to moving on to any subsequent phase of the project.								
The project will be open full width throughout its length for all traffic and turning movements prior to winter. Should there be any un-surfaced areas either on the project proper, street approaches or accesses which are started and not completed by that time, the Contractor will be responsible at his or her expense for providing at least 6 inches of Base Course and 4 inches of asphalt concrete for winter use and for its removal in the spring when the project work is completed.								
<b><u>GENERAL TRAFFIC CONTROL</u></b>								
The Contractor will keep all businesses and residents informed of the progression and prosecution of work in areas that have a direct effect on their access.								
The Contractor will conduct weekly meetings at a designated place on or adjacent to the project. Meetings will be open to the public. Public announcements will be made so all affected parties are aware of this meeting. The Contractor will be responsible for the public announcements however, the Engineer will approve the public announcements prior to submitting to the media. The meetings must be conducted by the Contractor's Superintendent or management person.								
The purpose of these meetings will be to:								
<ul style="list-style-type: none"> <li>• Present the work schedule for at least the following week</li> <li>• Coordinate work activities with subcontractors, city and utility companies</li> <li>• Coordinate traffic control</li> <li>• Coordinate public and private access</li> <li>• Inform businesses, residents, and public of project status</li> </ul>								
All costs related to weekly meetings and public announcements will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".								
The Contractor will provide the City Police Department, City Fire Department, Ambulance Service, County Sheriff's Office, Highway Patrol and State Radio a detailed map showing roadway segment construction work limits and the most appropriate routing for emergency vehicles. Updated maps will be provided to the departments 24 hours prior to any changes in work limits. Changes in work limits will not be allowed until the 24 hour advance notice requirement has been satisfied.								
Orange plastic safety fence will be provided to enclose any areas that are unsafe for pedestrian traffic including the last 50' of pipe excavation that is allowed to be open overnight, during undercutting operations, and when sidewalk has been removed. The safety fence is to provide a barrier to the public from entering sections of the work zone. The safety fence is not to be used as a pedestrian channelizing device adjacent to existing or temporary pedestrian paths. All related costs to furnish, place and maintain the plastic safety fence will be incidental to the contract per foot price for "Orange Plastic Safety Fence".								
All traffic control devices used on this project will be new or in like-new condition, as approved by the Engineer.								
Drums and/or Type 2 Barricades will be maintained to a minimum height of 3' above the surface that is being used to maintain traffic.								
Locations of signs on traffic control layouts are diagrammatic. Non-fixed location signs may be mounted on portable supports.								
KEEP RIGHT symbol signs will be placed at intersections as appropriate, and as directed by the Engineer. KEEP RIGHT signs have been included in the Itemized List of Traffic Control Signs.								
BUMP signs will be placed wherever traffic being maintained through the project may encounter a bump along the traveled path.								
TRUCK CROSSING signs will be placed in advance of intersections whenever the Contractor is hauling material for the project.								

<b>GENERAL TRAFFIC CONTROL (Continued)</b>	<b>TEMPORARY PAVEMENT MARKING</b>	Temporary flexible vertical markers (tabs) may be used as detailed in the specifications.	STATE OF SOUTH DAKOTA	PROJECT P-CR 0028(47)367	SHEET NO. C3	TOTAL SHEETS C17
FRESH OIL signs will be placed in advance of the project limits during application of prime, blotter or asphalt paving on the project.						
Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.		Temporary pavement marking paint will not be allowed on the final lift of asphalt surfacing. Temporary pavement marking paint will not be allowed on the chip seal, fog seal, or flush seal. Temporary flexible vertical markers (tabs) must be used on the final lift of asphalt surfacing. The Contractor may use tabs with covers, uncovering them for the chip seal, fog seal, or flush seal. As an alternative, the Contractor may install new tabs for the fog seal or flush seal.				
All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.		Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.				
Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.		Full reflectivity of all temporary flexible vertical markers (tabs) is required at all times. The Contractor will be required to replace any missing or non-reflective tabs after each installation as detailed below at no additional cost to the State.				
If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.		Quantities of Temporary Pavement Markings consist of:				
Unless otherwise stated in these plans, work will not be allowed during hours of darkness.		One pass on the first lift of asphalt concrete One pass on top of the final lift of asphalt concrete One pass prior to the flush seal, length as determined by the Engineer One pass after the flush seal				
Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.		If the Engineer determines that an additional pass prior to the flush seal is not required, this application of the temporary pavement marking will be eliminated. If the flush seal is eliminated for the project, the application of the temporary pavement marking on top of the flush seal as well as the additional pass prior to the flush seal will be eliminated.				
All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.		No adjustment in the contract unit price for "Temporary Pavement Marking" will be made because of a variation in quantities.				
All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.		Prior to nightfall, tabs will be required to mark centerline on segments of roadway where existing centerline markings have been removed and new markings have not been installed.				
If inappropriate or conflicting pavement markings exist, the markings will be removed and replaced with applicable temporary pavement markings when the work duration is more than 3 days. When the work duration is less than 3 days, the channelizing devices in the area where the pavement markings conflict will be placed at one-half of the normal channelizing device spacing. Pavement marking removals will be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or equivalent". Temporary pavement marking will be paid for at the contract unit price per mile/foot for "Temporary Pavement Marking". The additional channelizing devices will be incidental to the contract lump sum price for "Traffic Control, Miscellaneous".		<b>TEMPORARY RAISED PAVEMENT MARKERS</b>				
<b>OVERWIDTH RESTRICTION SIGNING</b>		Temporary raised pavement markers will be used for marking edge lines, lane lines, and centerlines. Temporary raised pavement markers will be used on all new permanent surfacing sections of roadway and on existing surfacing where temporary marking locations are different than existing marking locations, unless noted or as directed by the Engineer.				
The Contractor will furnish and install the overwidth restriction signs as shown in these plans. Prior to installing the signs, the Contractor will mark the sign locations and review them with the Engineer. Overwidth restriction signs will be installed on fixed location, ground mounted, breakaway supports. It will be the responsibility of the Contractor to maintain and reinstall these signs during the project as required by the construction progress. Upon completion of the project, the Contractor will remove the overwidth restriction signs.		Temporary raised pavement markers will be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface or with an adhesive approved by the Engineer.				
All costs for furnishing the signs, posts, and mounting hardware, and for installing, maintaining, covering, and removing the overwidth restriction signs will be incidental to the contract unit price per square foot for "Detour and Restriction Signing".		All costs to furnish, install, replace if necessary, and remove the markers will be incidental to the contract unit price per foot for "Temporary Raised Pavement Markers".				
<b>TUBULAR MARKERS</b>						
The color of the tubular markers on centerline will be predominately orange.						
All tubular markers will be a minimum of 28 inches in height. The base of the tubular marker should be attached to the roadway surface with a flexible non-permanent bituminous adhesive capable of being removed from the roadway surface after use. The pin used to connect the marker to the base will be of a type that will not puncture a vehicle tire if it should become dislodged from the base.						
All costs for furnishing, installing, maintaining, and removing the tubular markers will be incidental to the contract unit price per each for "Tubular Marker".						
<b>ASPHALT CONCRETE COMPOSITE</b>						
Included in the Section F – Surfacing Plans Estimate of Quantities are 30 tons of Asphalt Concrete Composite for maintaining traffic to businesses.						
Included in the Section F – Surfacing Plans Estimate of Quantities are 30 tons of Asphalt Concrete Composite for maintaining existing Asphalt Concrete.						
<b>BASE COURSE</b>						
Included in the Section F – Surfacing Plans Estimate of Quantities are 750 tons of Base Course for building widening areas or maintaining traffic to businesses, residences and at other locations designated by the Engineer.						
<b>TEMPORARY PEDESTRIAN ACCESS ROUTE</b>						
Pedestrian traffic will be maintained on the opposite side of SD Highway 28 during each Phase of the project. A Temporary Pedestrian Access Route will be required at the intersection of SD Highway 28 and Dakota St to allow for crossing the Phase under construction. The Temporary Pedestrian Access Route will be in place as long as practical during daytime construction activities and will be restored for use prior to nightfall.						
A Temporary Pedestrian Access Route (TPAR) will be provided when crosswalks, sidewalks, or other pedestrian facilities are blocked, closed, or relocated. A TPAR may consist of a combination of existing and/or temporary pedestrian facilities. The TPAR will be kept free of any obstructions and hazards, such as holes, debris, mud, snow, construction equipment, traffic control signing, stored materials, etc.						
The Contractor will notify the Engineer at least 72 hours prior to start of any construction operation that will necessitate a change in pedestrian access. Pedestrian traffic signal displays controlling a crosswalk that is closed will be covered or removed.						
Temporary pedestrian sidewalk will be a smooth, continuous, non-slip, hard surface. There should be no curbs or abrupt changes in grade or terrain that could cause tripping or be a barrier to wheelchair use.						
Temporary pedestrian sidewalk will have a minimum width of 48 inches, with 60 inches recommended. The Contractor will try to provide boulevard sidewalk,						

## TEMPORARY PEDESTRIAN ACCESS ROUTE (Continued)

whenever possible, for temporary pedestrian sidewalk that is 48 inches wide. Temporary pedestrian sidewalk less than 60 inches wide will provide for a 60-inch x 60-inch passing space at intervals not to exceed 200 feet. Temporary pedestrian sidewalk will have a maximum cross slope of 2%. The maximum grade will be 5% where the temporary pedestrian sidewalk does not follow the grade of the road.

All costs associated with installing and maintaining a temporary pedestrian access route, including temporary pedestrian sidewalk, will be incidental to the contract lump sum price for "Temporary Pedestrian Access Route".

## TEMPORARY CURB RAMP

Temporary curb ramps should be firm, stable, and have a non-slip surface. They will not warp or buckle, and should be made of materials strong enough to support a weight of 800 pounds. Temporary curb ramps will be yellow or color contrasting and contain marked edges, so they are noticeable by pedestrians who have visual impairments. Lateral joints or gaps between surfaces will be a maximum of 0.5 inches in width. Temporary curb ramps will include detectable warning panels.

Temporary curb ramps will be the same width as the temporary pedestrian access route, with a recommended width of 60 inches and a minimum width of 48 inches. Temporary curb ramps will have a maximum slope of 8.3% and have free draining surfaces with a maximum cross slope of 2%. Handrails on temporary curb ramps are not required unless the curb ramp has a rise exceeding 6 inches and a length exceeding 72 inches.

All costs will be incidental to the contract unit price per each for "Temporary Curb Ramp".

## LONGITUDINAL PEDESTRIAN BARRICADE

Longitudinal pedestrian barricades should be used as shown on Standard Plate 634.34.

To prevent any tripping hazard to pedestrians, ballast will be located behind or internal to the device.

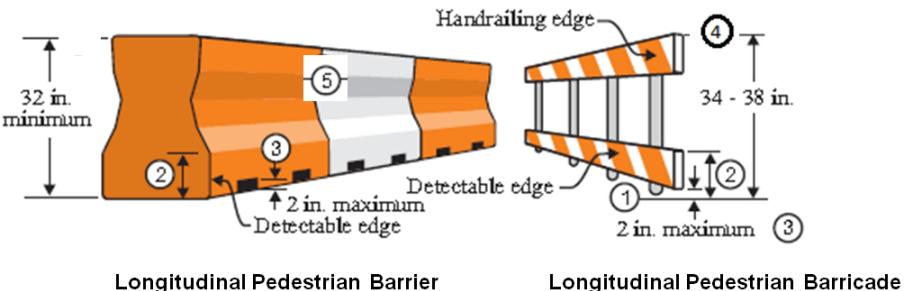
When longitudinal pedestrian barricades are combined in a series, the maximum gap between devices that do not interlock will be one inch. Joints between devices that do interlock will be closed and flush to prevent canes or small wheels from being trapped and to facilitate safe hand trailing. When used as a sidewalk closure mechanism, longitudinal pedestrian barricade must run the entire width of the sidewalk. Longitudinal pedestrian barricade should provide a color contrasting pattern. Black should not be used to color any base on a device. The devices should comply with the general color and stripe pattern requirements of Section 6F.68 of the MUTCD.

Longitudinal pedestrian barricade will have continuous bottom and top surfaces. The top surface will be smooth to allow safe hand trailing. Both upper and lower surfaces will share a common vertical plane.

All costs will be incidental to the contract unit price per foot for "Longitudinal Pedestrian Barricade".

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## PEDESTRIAN CHANNELIZING DEVICE DETAILS

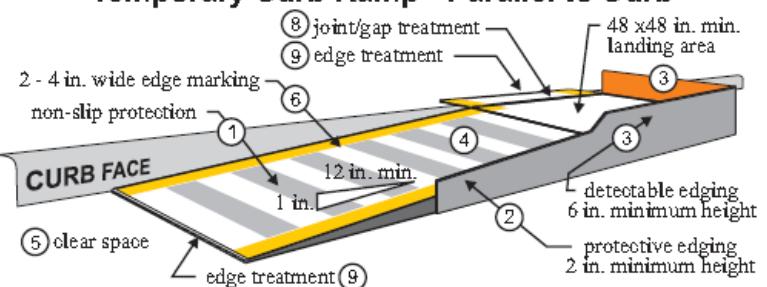


Longitudinal Pedestrian Barrier      Longitudinal Pedestrian Barricade

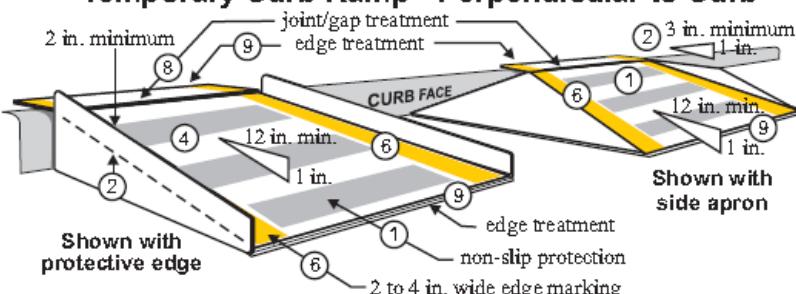
1. Barricade rail supports may not extend into the pedestrian walkway more than 4 inches from the face of the barricade.
2. The top edge of the bottom portion will be a minimum of 8 inches above the walkway.
3. Devices will not block water drainage from the walkway. A gap height or opening from the walkway surface up to a maximum of 2 inches in height is allowed for drainage purposes.
4. The top edge of the longitudinal pedestrian barricade is to be used as a guiderail to provide visual and tactile guidance to pedestrians along a designated route. The top surface should have a minimum width of 0.5 inches to allow the hand to feel the surface. The surface should be smooth and free of any sharp or abrasive elements to allow safe hand trailing.
5. Longitudinal pedestrian barrier are not anticipated on this project.

## TEMPORARY CURB RAMP DETAILS

### **Temporary Curb Ramp - Parallel to Curb**



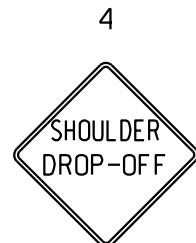
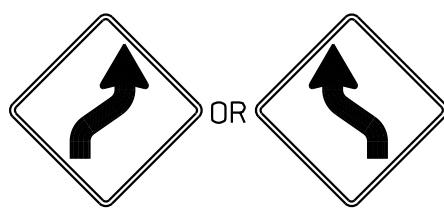
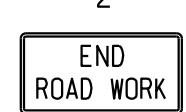
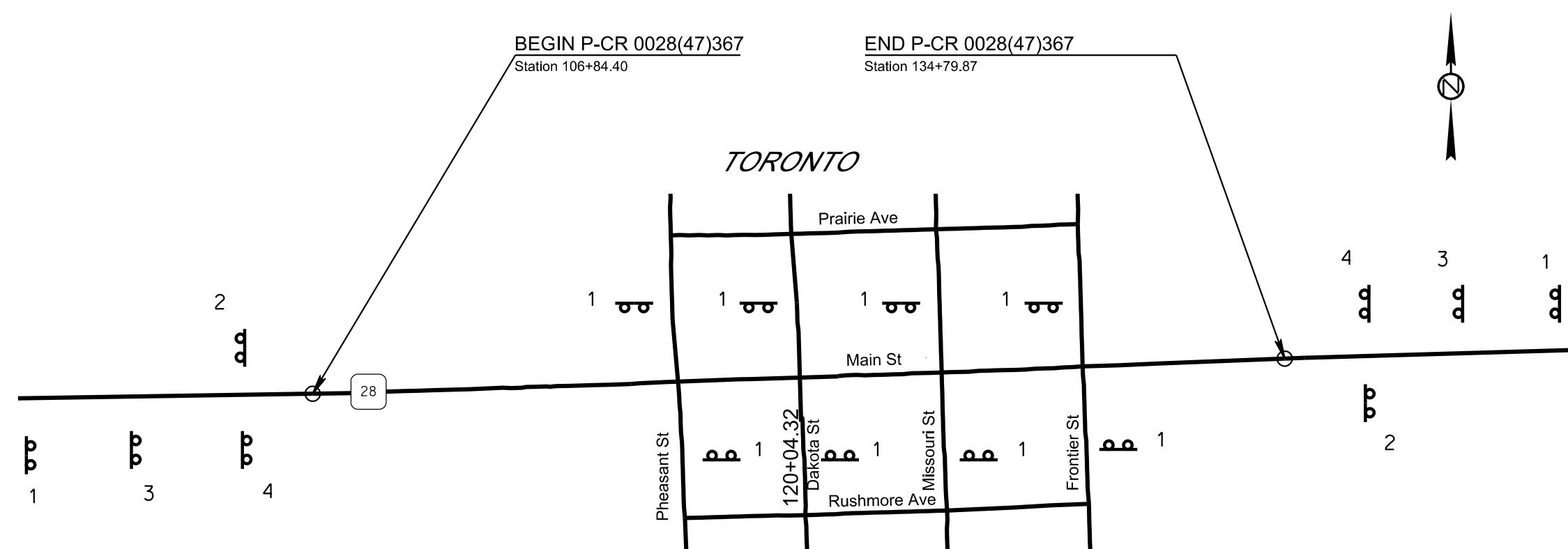
### **Temporary Curb Ramp - Perpendicular to Curb**



1. Curb ramps will be 48-inch minimum width with a firm, stable, and non-slip surface.
2. Protective edging with a 2-inch minimum height will be installed when the curb ramp or landing platform has a vertical drop of 6 inches or greater or has a side apron slope steeper than 33:1 (33%). Protective edging should be considered when curb ramps or landing platforms have a vertical drop of 3 inches or more.
3. Detectable edging with 6 inches minimum height and contrasting color will be installed on all curb ramp landings where the walkway changes direction (turns).
4. Curb ramps and landings should have a 50:1 (2%) maximum cross slope.
5. A minimum clear space of 48 inch x 48 inch minimum will be provided above and below the curb ramp, with a 60 inch x 60 inch clear space preferred.
6. The curb ramp walkway edge will be marked with a contrasting color 2 to 4 inch wide marking. The marking is optional where color contrasting edging is used.
7. Water flow in the gutter system will have minimal restriction.
8. Lateral joints or gaps between surfaces will be less than 0.5 inches in width.
9. Changes between surface heights should not exceed 0.5 inches. Lateral edges between 0.25 inches and 0.5 inches in height, should be vertical up to 0.25 inches in height and beveled at 2:1 between 0.25 inches and 0.5 inches in height.

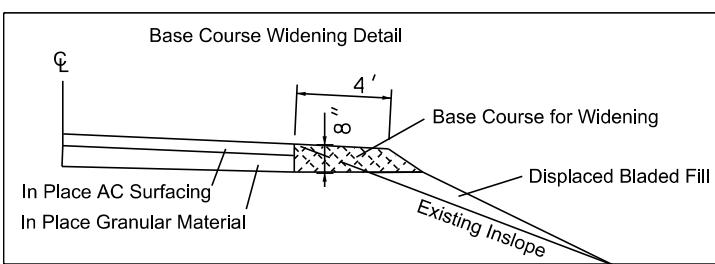
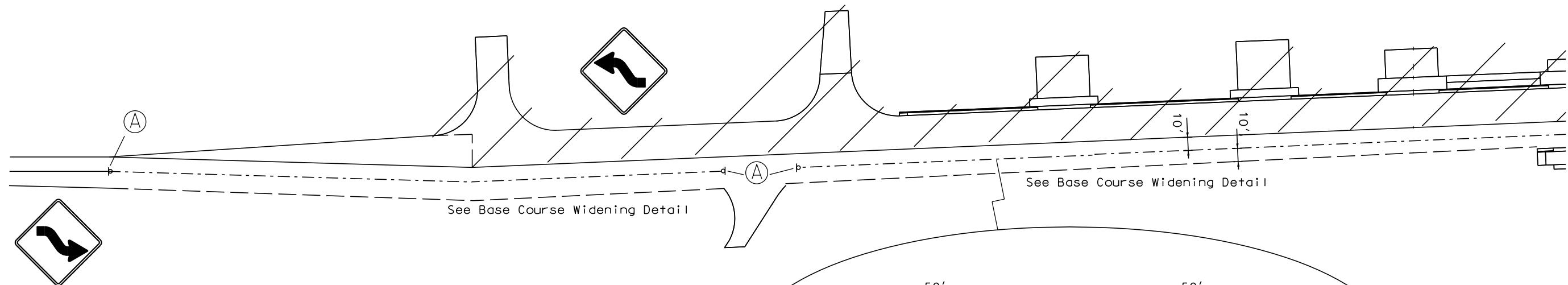
# FIXED LOCATION SIGNS

## FIXED LOCATION, GROUND MOUNTED, BREAKAWAY SUPPORTS



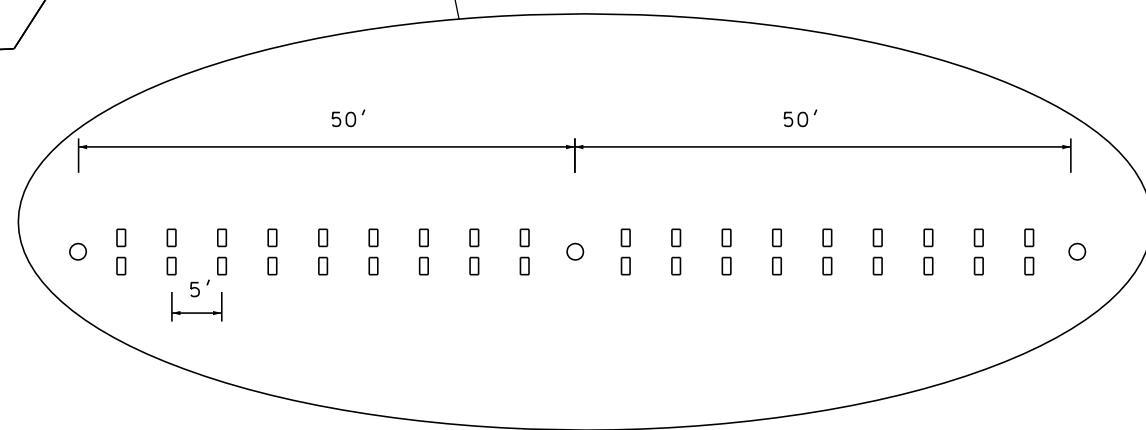
# Traffic Control Details

SD 28 (Phase 1 – WB)



Work Area

— Centerline Pavement Marking as per  
Typical Traffic Control Signing Detail



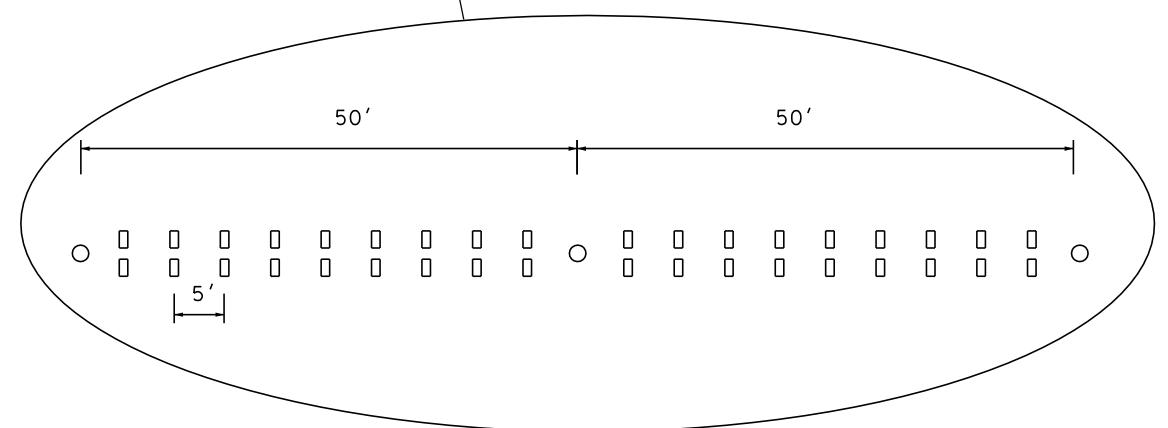
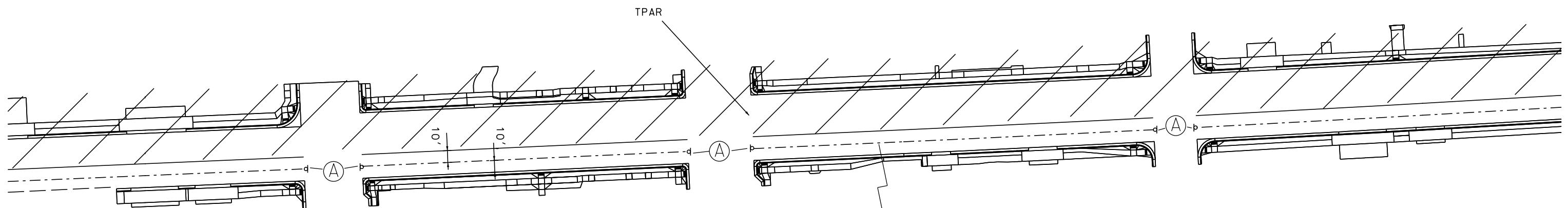
Typical Traffic Control Detail

○ Tubular Marker placed at 50' spacing

□ Double Raised Pavement Markers placed at 5' spacing

# Traffic Control Details

SD 28 (Phase 1 – WB)



Centerline Pavement Marking as per  
Typical Traffic Control Signing Detail



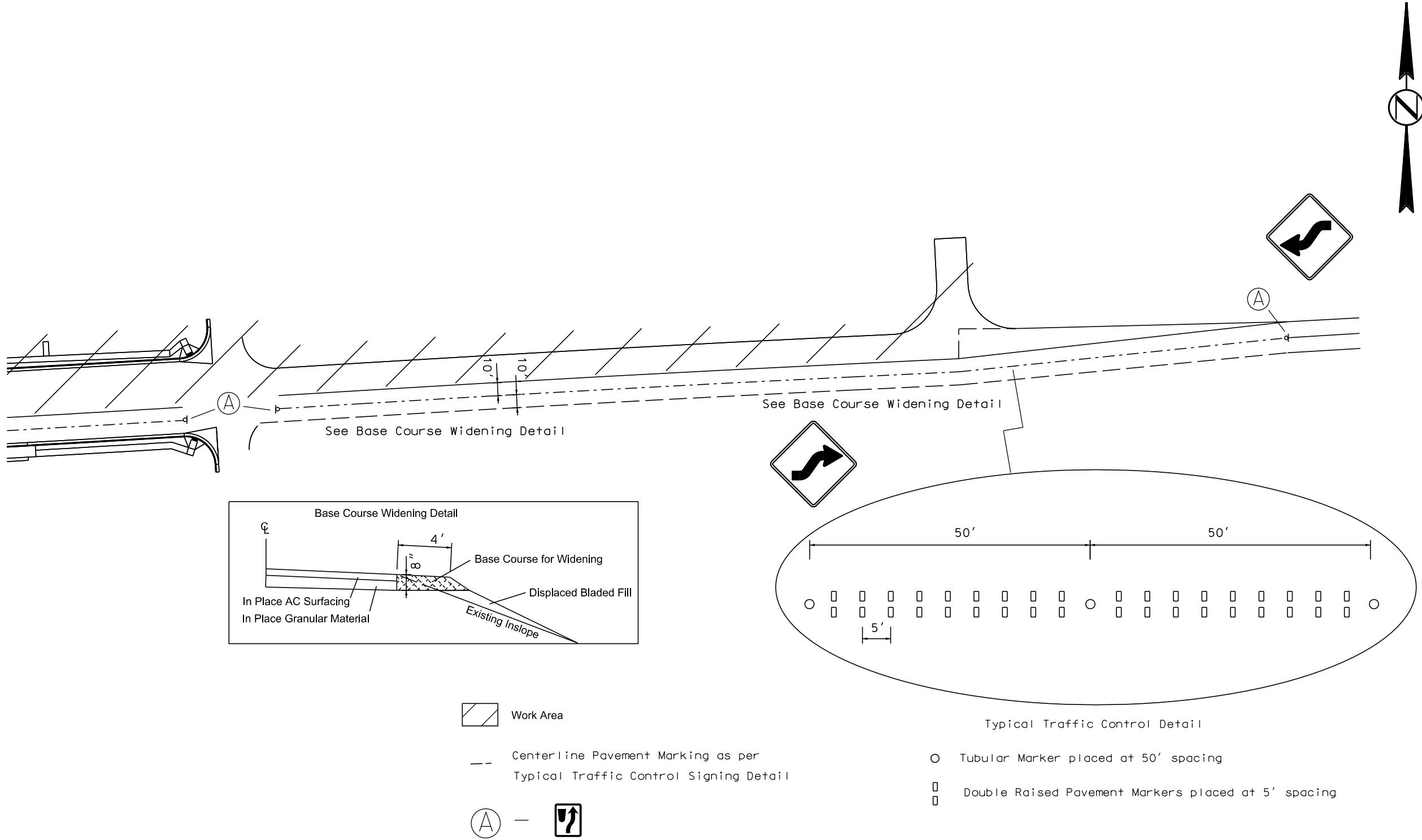
Typical Traffic Control Detail

○ Tubular Marker placed at 50' spacing

□ Double Raised Pavement Markers placed at 5' spacing

# Traffic Control Details

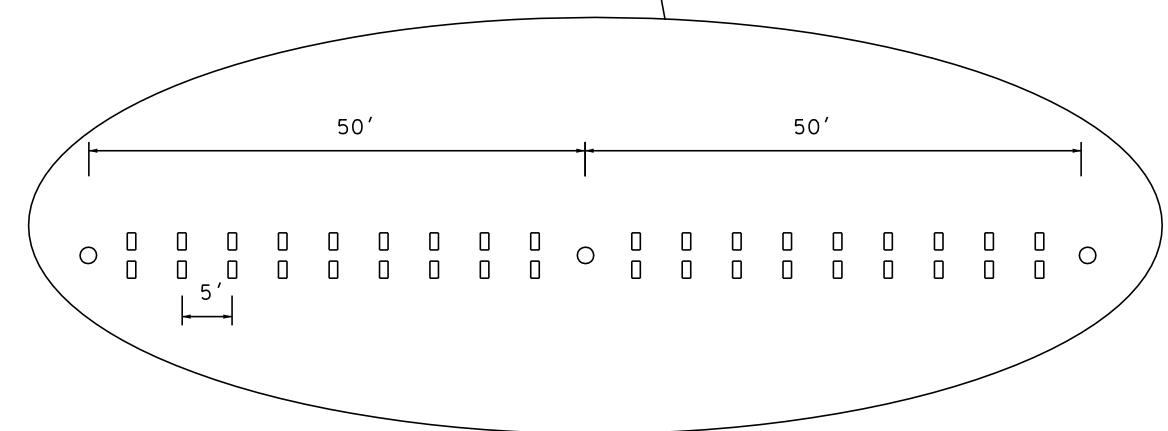
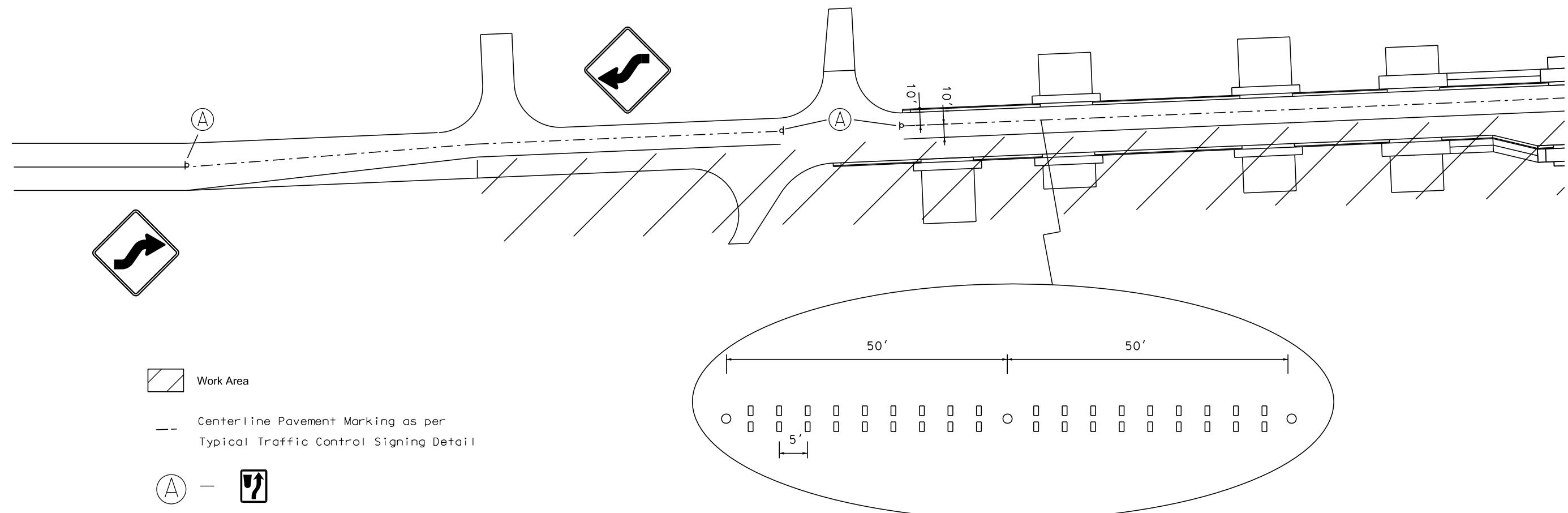
SD 28 (Phase 1 – WB)



# Traffic Control Details

SD 28 (Phase 2 – EB)

Sta. 110+00 to 115+00 will require flagging  
at least until two-way traffic can be maintained.



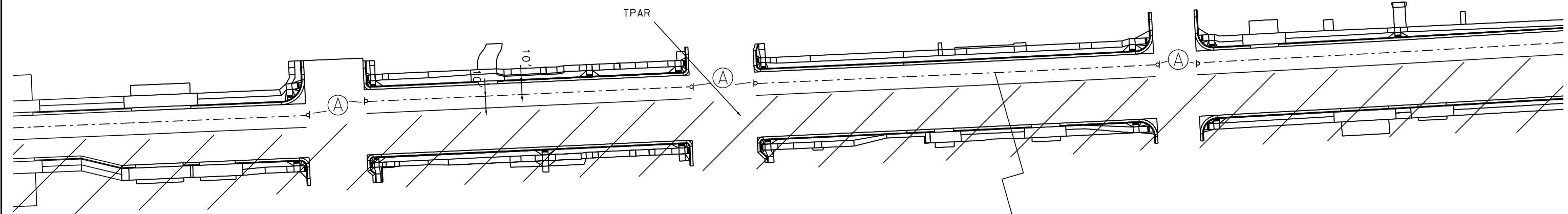
Typical Traffic Control Detail

O Tubular Marker placed at 50' spacing

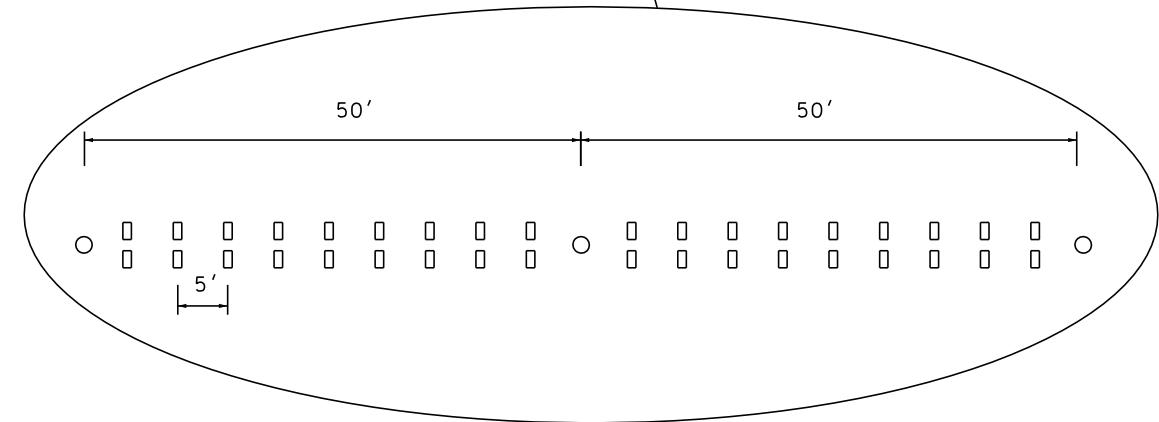
□ Double Raised Pavement Markers placed at 5' spacing

# Traffic Control Details

SD 28 (Phase 2 - EB)



— Centerline Pavement Marking as per  
Typical Traffic Control Signing Detail



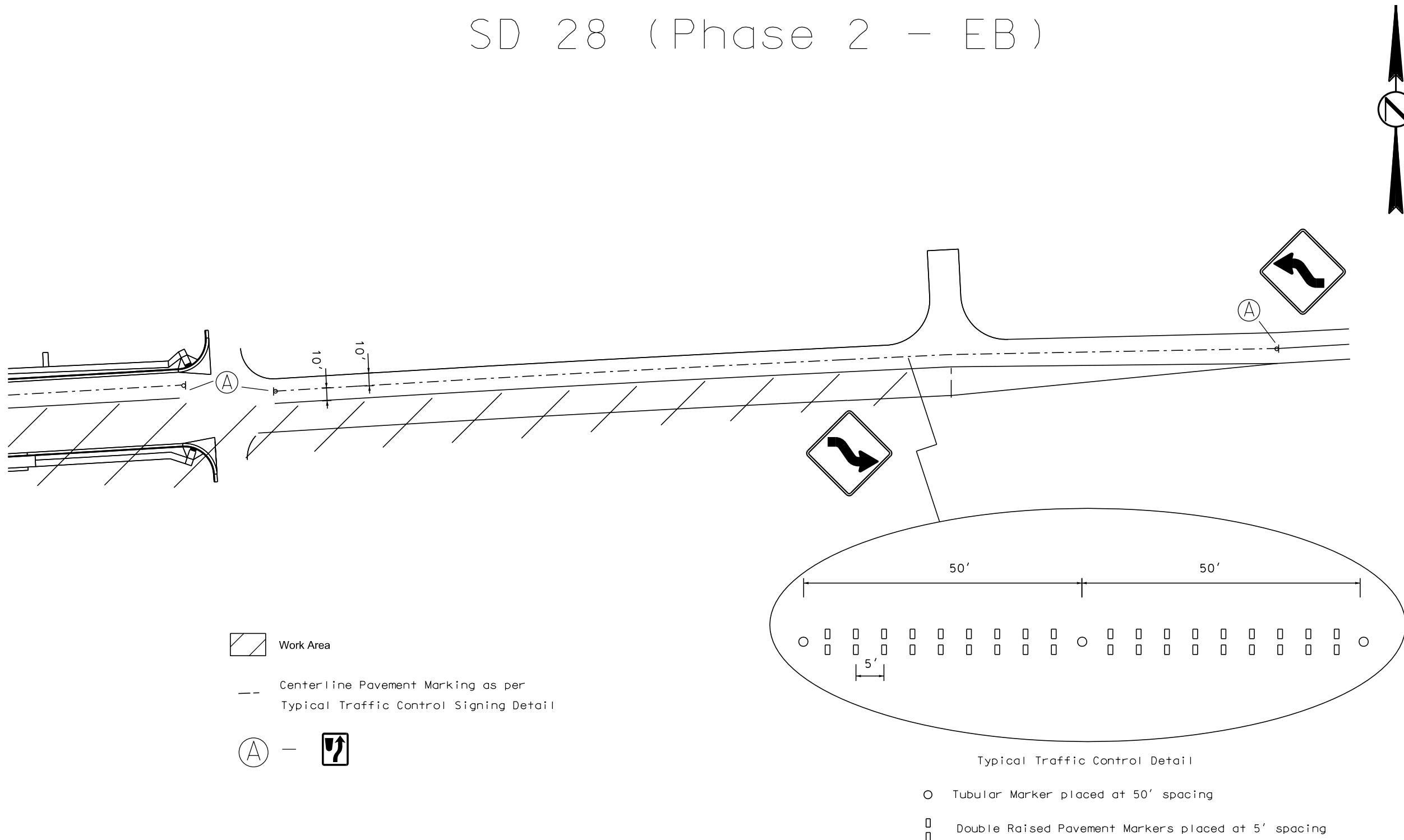
Typical Traffic Control Detail

○ Tubular Marker placed at 50' spacing

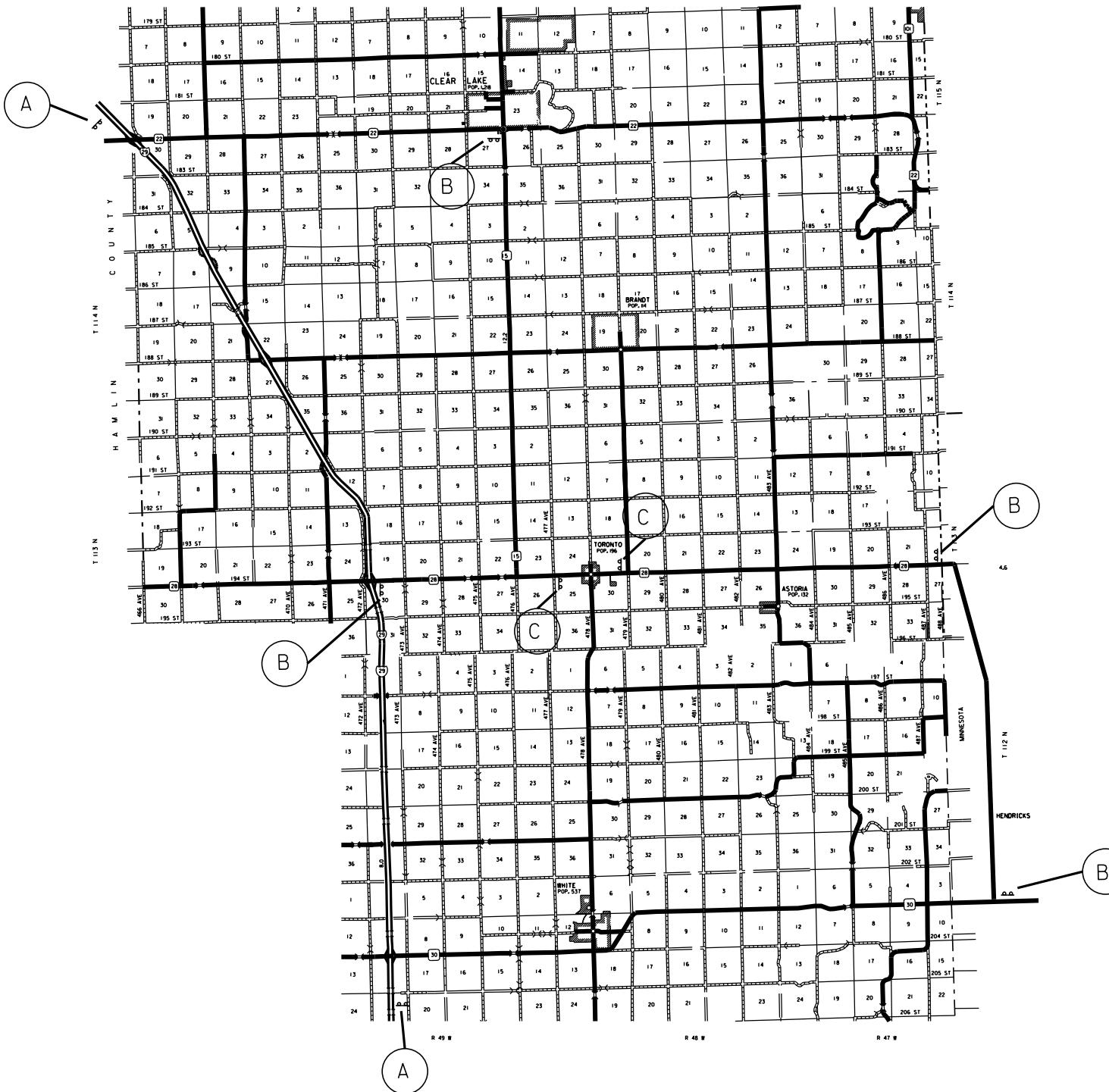
□ Double Raised Pavement Markers placed at 5' spacing

# Traffic Control Details

SD 28 (Phase 2 - EB)



# Overwidth Sign Locations



# OVERWIDTH SIGN DETAIL



3.0" Radius, 1.0" Border, 0.5" Indent, Black on Orange  
"WIDTH RESTRICTION", D 2K;

3.0" Radius, 1.0" Border, 0.5" Indent, Black on White;  
"10 FT MAX", D 2K; "THRU TORONTO", D 2K; "USE ALT ROUTE", D 2K

10 FT MAX., D 2K

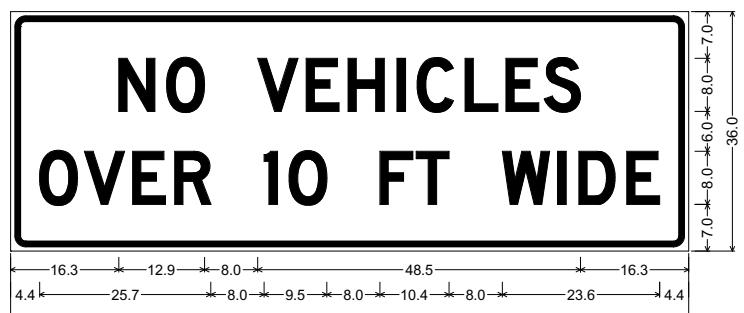


3.0" Radius, 1.0" Border, 0.5" Indent, Black on Orange;  
"WIDTH RESTRICTION" - P. 2K;

"WIDTH RESTRICTION", D 2K;

3.0" Radius, 1.0" Border, 0.5" Indent, Black on White;

"10 FT MAX", D 2K; "THR



2.3" Radius, 0.9" Border, 0.6" Indent, Black on White  
"NO VEHICLES" - D-2K; "OVER 10 FT. WIDE" - D-

Table of widths andances

Table of widths and s

N	O	V	E	H	I	C	L	E	S
16.3	5.4	1.8	5.7	8.0	6.0	1.2	5.0	1.4	5.4
16.3	5.4	1.8	5.7	8.0	6.0	1.2	5.0	1.4	5.4

STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	P-CR 0028(47)367	C14	C17

## ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R4-7	KEEP RIGHT (symbol)	2	24" x 30"	5	10
R4-7c	(Narrow) KEEP RIGHT (symbol)	20	18" x 30"	4	80
R8-3	NO PARKING (symbol)	8	24" x 24"	4	32
R9-9	SIDEWALK CLOSED	2	24" x 12"	2	4
R9-11a	SIDEWALK CLOSED with ARROW (L or R) CROSS HERE	2	24" x 12"	2	4
W1-4	REVERSE CURVE (L or R)	4	48" x 48"	16	64
W8-1	BUMP	2	48" x 48"	16	32
W8-6	TRUCK CROSSING	2	48" x 48"	16	32
W8-9a	SHOULDER DROP-OFF	2	48" x 48"	16	32
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6	12
W20-1	ROAD WORK AHEAD	10	48" x 48"	16	160
W20-4	ONE LANE ROAD AHEAD	2	48" x 48"	16	32
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-2	FRESH OIL	2	48" x 48"	16	32
G20-2	END ROAD WORK	2	36" x 18"	5	10
		CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT			
		568			

## DETOUR AND RESTRICTION SIGNING TABLE

Sign Code	Sign Description	Color		Quantity	Width	Height	Sq Ft per sign	Total Sq. Ft.
		Background	Legend/Border		Inches	Inches		
A	Width Restriction SD 28 10 Ft Max Thru Toronto Use Alt Route	Orange / White	Black	2	144	90	90.0	180.0
B	Width Restriction SD 28 10 Ft Max Thru Toronto Use Alt Route	Orange / White	Black	4	114	78	61.8	247.2
C	No Vehicles Over 10' Wide	White	Black	2	102	36	25.5	51.0
TOTAL							478.2	

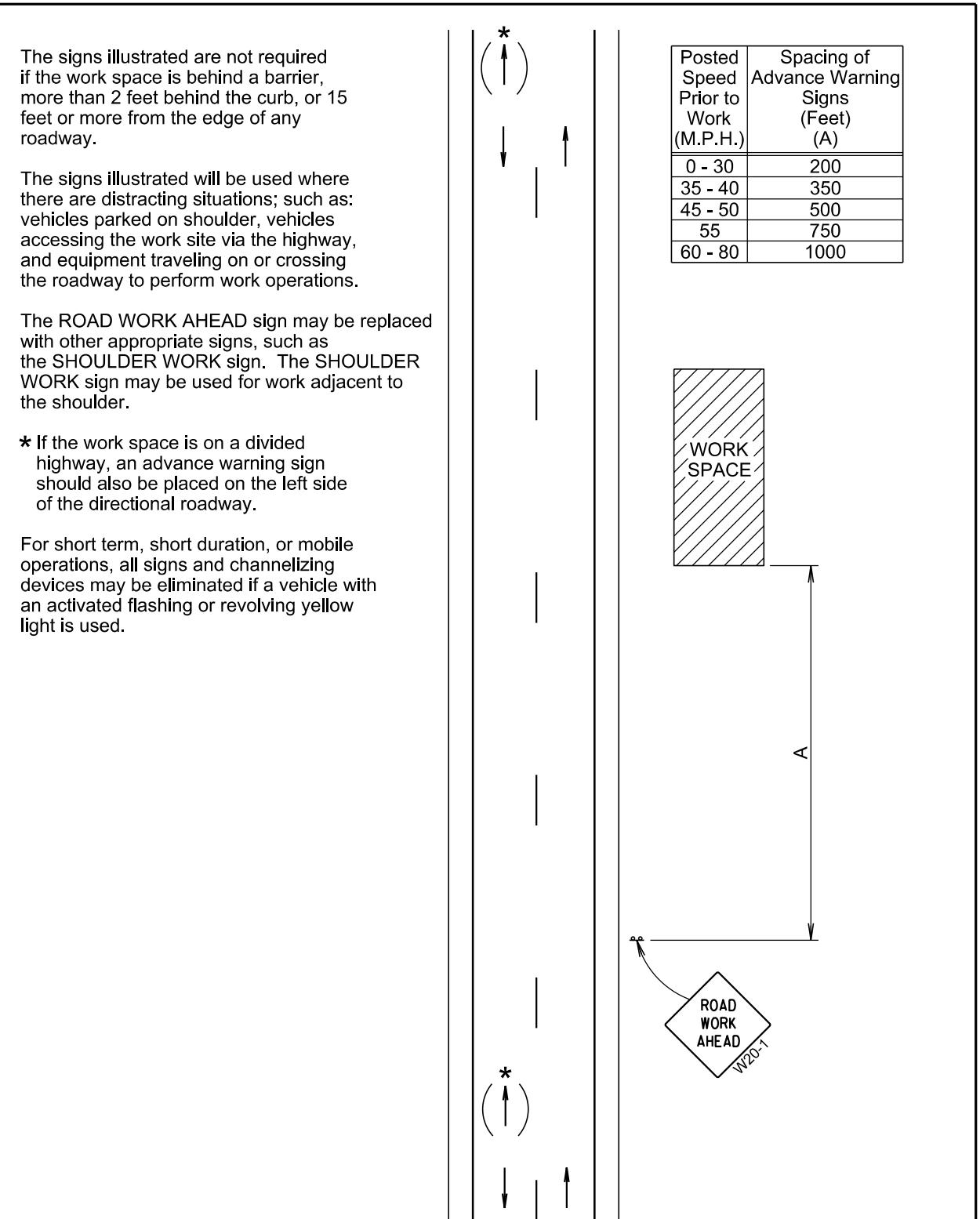


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WORK BEYOND THE SHOULDER

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	25
35 - 40	350	25
45	500	25
50	500	50
55	750	50
60 - 65	1000	50

- Flagger
- Channelizing Device

For low-volume traffic situations with short work zones on straight roadways where the flagger is visible to road users approaching from both directions, a single flagger may be used.

The ROAD WORK AHEAD and the END ROAD WORK signs may be omitted for short duration operations (1 hour or less).

For tack and/or flush seal operations, when flaggers are not being used, the FRESH OIL sign (W21-2) will be displayed in advance of the liquid asphalt areas.

Flashing warning lights and/or flags may be used to call attention to the advance warning signs.

The channelizing devices will be drums or 42" cones.

Channelizing devices are not required along the centerline adjacent to work area when pilot cars are utilized for escorting traffic through the work area.



Channelizing devices and flaggers will be used at intersecting roads to control intersecting road traffic as required.

The buffer space should be extended so that the two-way traffic taper is placed before a horizontal or vertical curve to provide adequate sight distance for the flagger and queue of stopped vehicles.

The length of A may be adjusted to fit field conditions.

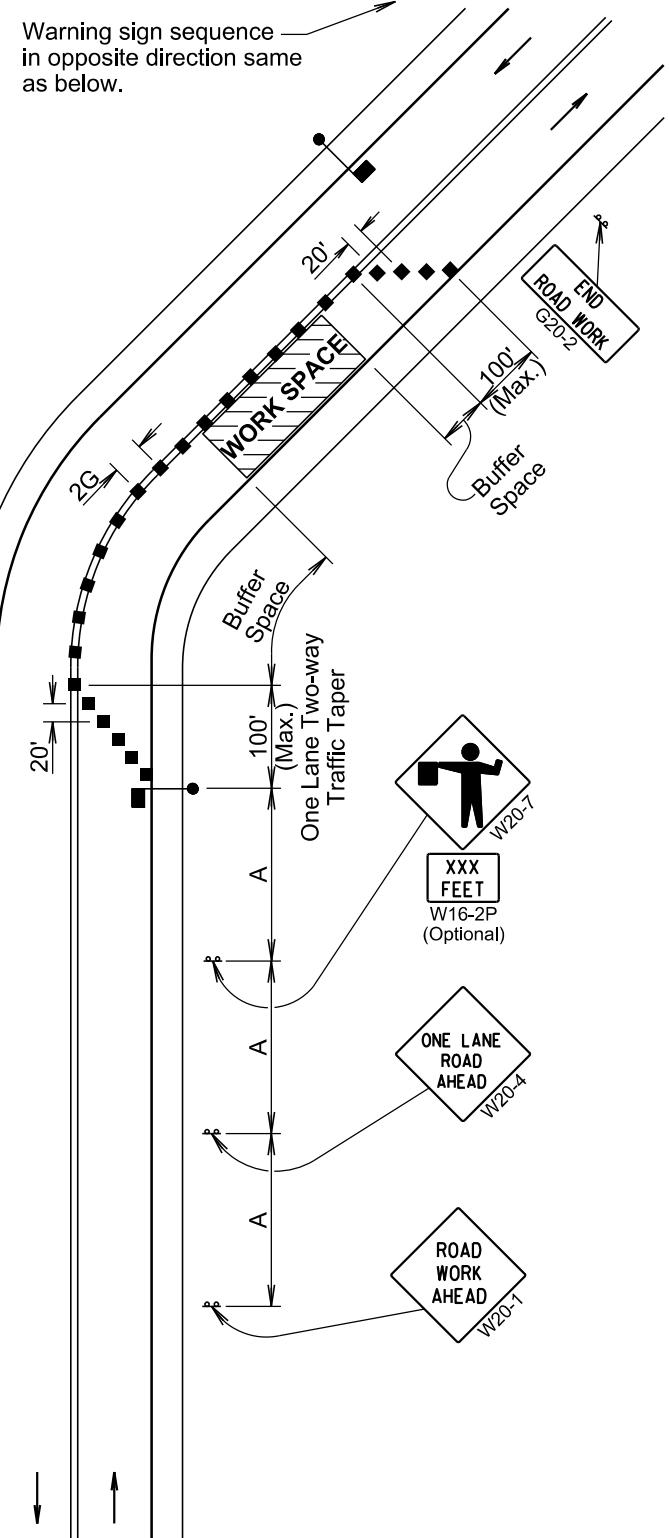


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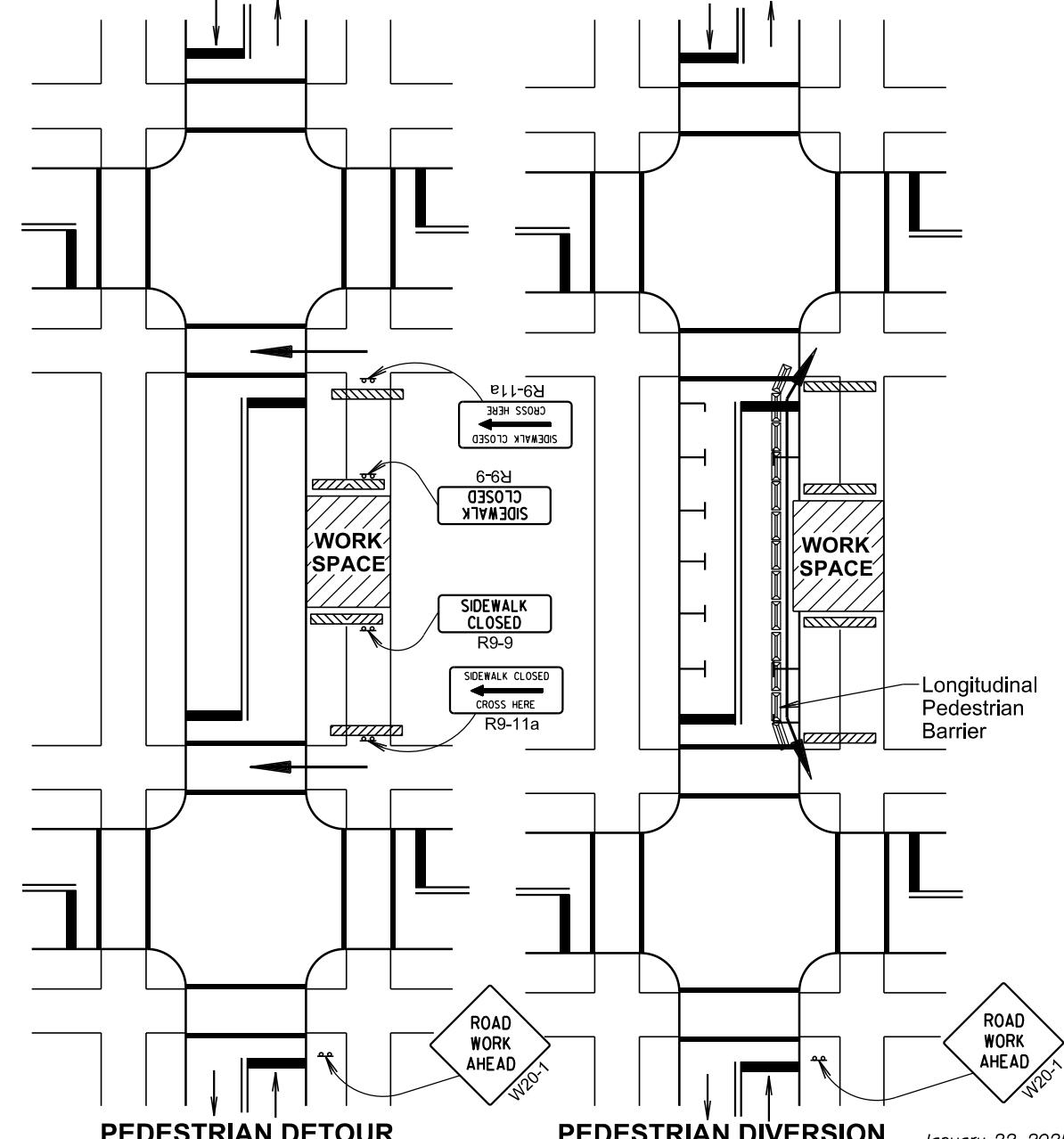


LANE CLOSURE WITH FLAGGER PROVIDED

Only the traffic control devices controlling pedestrian flows are shown. Other devices may be needed to control traffic on the streets. Use lane closure signing or ROAD NARROWS signs, as needed.

Signs may be placed along a temporary diversion to guide or direct pedestrians. Examples include KEEP RIGHT and KEEP LEFT signs.

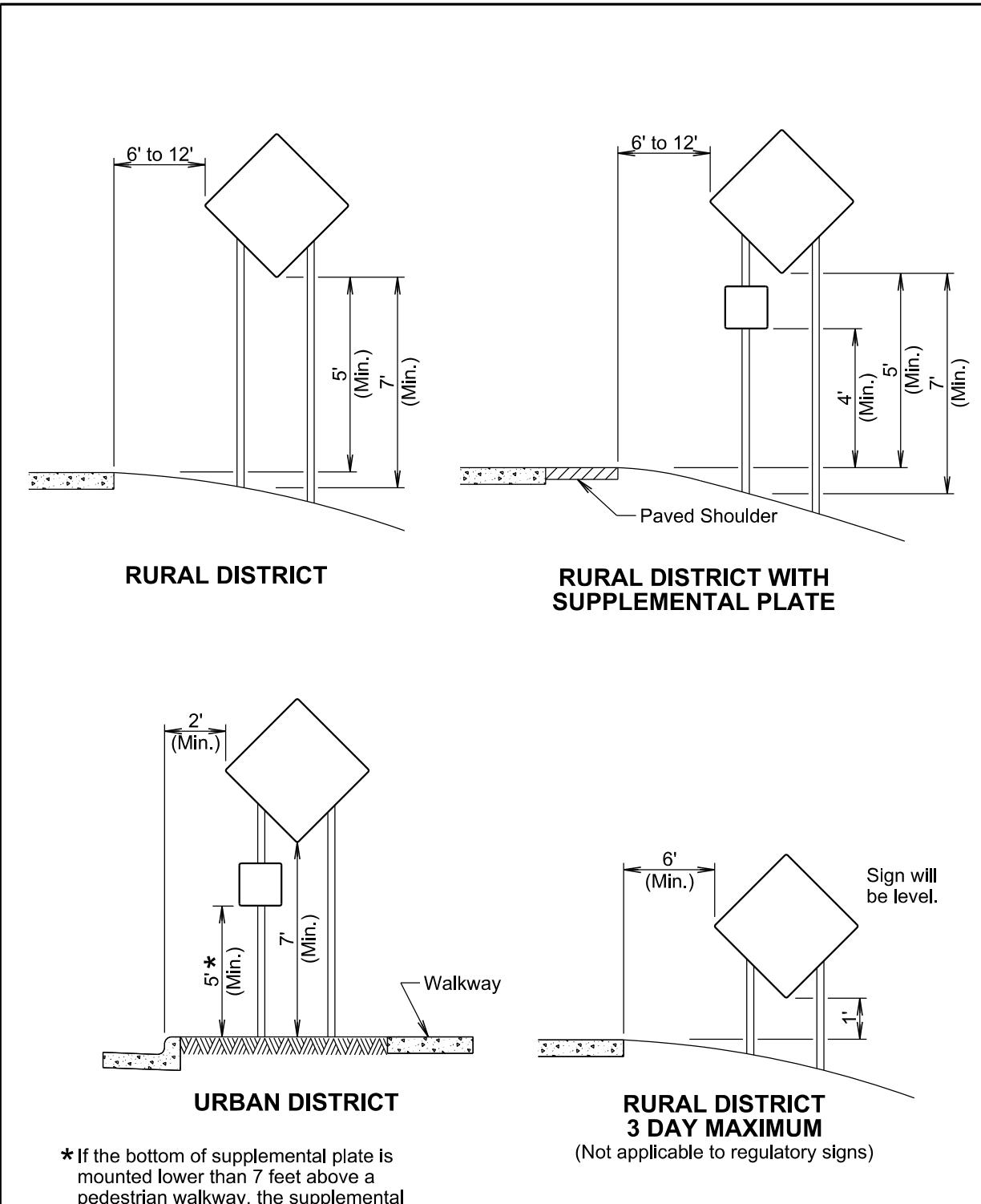
Additional advance warning may be necessary.



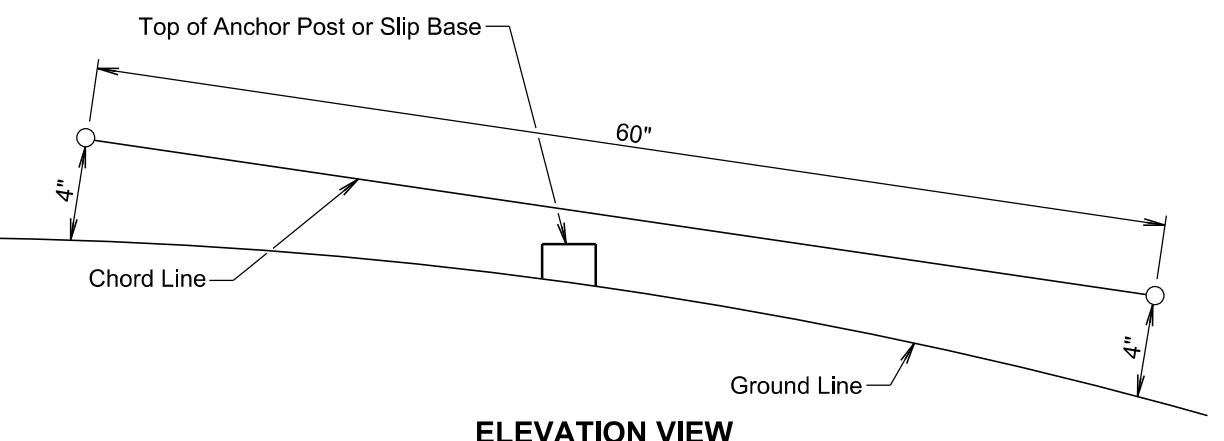
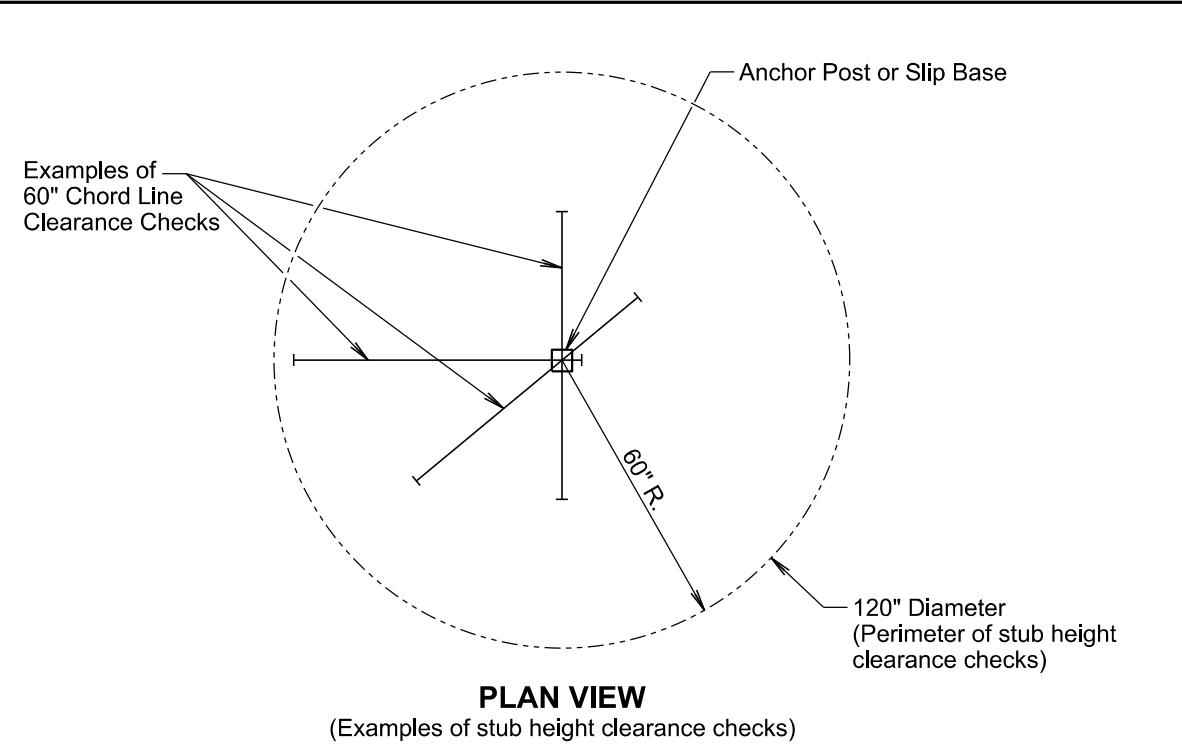
For nighttime closures, Type A flashing warning lights may be used on barricades supporting signs and closing sidewalks. Type C steady-burn lights may be used on channelizing devices separating the temporary pedestrian diversion from vehicular traffic.

Street lighting should be considered.

Longitudinal Pedestrian Barricade  
and



\*If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.



**GENERAL NOTES:**

The top of anchor posts and slip bases WILL NOT extend above a 60" chord line within a 120" diameter circle around the post with ends 4" above the ground.

At locations where there is curb and gutter adjacent to the breakaway sign support, the stub height will be a maximum of 4" above the ground line at the localized area adjacent to the breakaway support stub.

The 4" stub height clearance is not necessary for U-channel lap splices where the support is designed to yield (bend) at the base.

January 22, 2021

**BREAKAWAY SUPPORT STUB CLEARANCE**

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