Meade County
P 7668(05)
PCN 04AE

A Pre-Bid meeting will be held in Sturgis at the Sturgis Fire Hall (1901 Ballpark Road) from 10:00am to 12:00pm MT on Thursday, February 18, 2016. All interested parties are strongly encouraged to attend.

SECTION C: TRAFFIC CONTROL PLANS

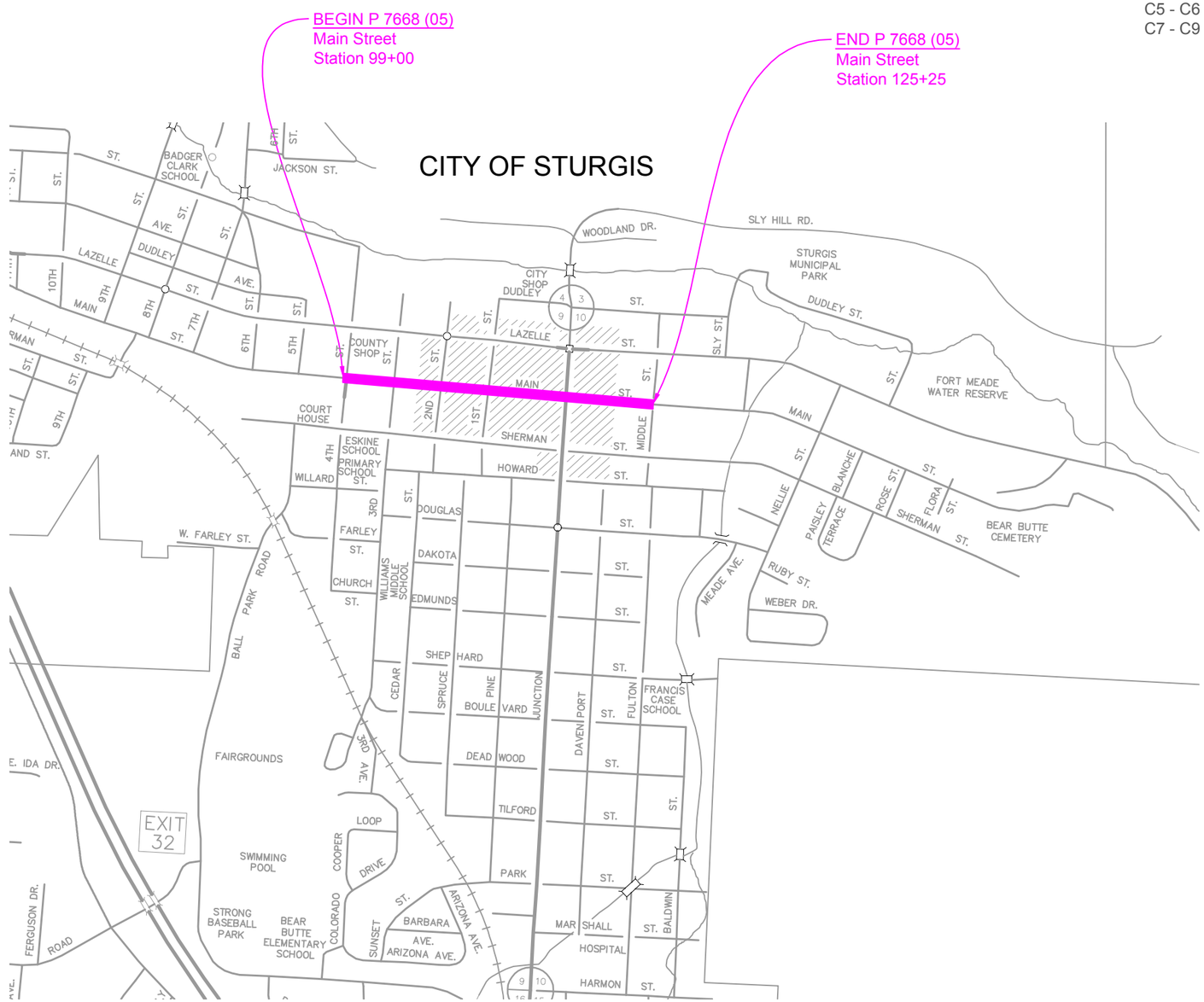
FOR BIDDING PURPOSES ONLY

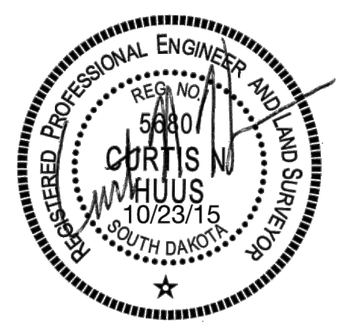
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
FOURFRONT DESIGN INC.	P 7668 (05)	C1	C9

Plotting Date: 10/15/2015

INDEX OF SHEETS

C1	General Layout w/index
C2 - C3	Estimate w/ General Notes & Tables
C4	Fixed Sign Layout
C5 - C6	Approches, Sideroads, Temporary Access
C7 - C9	Standard Plates





L:\14-2030 Sturgis Main St Recons\Drawings\Eng Sheet Files\Section C\14-2030 SECTION C TRAFFIC CONTROL.dwg 10/15/2015 3:11:11 PM

SECTION C-ESTIMATE OF QUANTITIES

Bid Item Number	Item	Quantity	Unit
634E0010	Flagging	80	Hour
634E0110	Traffic Control Signs	932	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0260	Type 3 Barricade, 6' Single Sided	6	Each
634E0265	Type 3 Barricade, 6' Double Sided	2	Each
634E0280	Type 3 Barricade, 8' Single Sided	36	Each
634E0285	Type 3 Barricade, 8' Double Sided	4	Each
634E2025	Longitudinal Pedestrian Channelizer	1000	Ft

TRAFFIC CONTROL - GENERAL NOTES

The intent of the plan sequence of operations is to have the least amount of impact on the traveling public and adjacent businesses. Requests to deviate from the sequence of operations shall 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 the Department's intent for traffic control and sequencing of the work. Contractor proposed deviation(s) to the sequence shall be submitted for review a minimum of two weeks prior to the Pre-construction meeting or potential implementation date.

The Contractor shall provide documentation that all breakaway sign supports comply with NCHRP 350 or MASH crash-worthy requirements. The Contractor shall provide installation details at the Pre-construction meeting for all breakaway sign support assemblies.

Parking of equipment during non-working hours shall be in locations that do not hinder the visibility of accesses to adjacent businesses. Storage of vehicles and equipment shall be as near to the right-of-way as possible. Contractor's employees should mobilize at a location off the right-of-way and arrive at the work sites in a minimum number of vehicles necessary to perform the work. Indiscriminate driving and parking of vehicles within the right-of-way will not be permitted. Any damage to the vegetation, surfacing, embankment, delineators and existing signs resulting from such indiscriminate use shall be repaired and/or restored by the Contractor, at no expense to the State or City, and to the satisfaction of the Engineer.

Permanent traffic control items shall be installed prior to opening the completed roadway to traffic.

SEQUENCE OF OPERATIONS

The following Segments can be constructed in any sequence or all at once as long as vehicle access across Main Street at 1st, 2nd, 3rd and 4th is be maintained at all times. One lane of traffic across Main Street will be allowed with the use of flagging during intersection construction. Junction Avenue shall remain open at all times during the project.

Segment 1

Work between Junction Avenue and Middle Street from Sta. 118+02.59 to Sta. 125+65.44
See traffic control plan sheets.

1. Install traffic control devices per plan sheets.
2. Install erosion control devices.
3. Remove curb and pavement at Middle Street and Main Street.
4. Remove existing curb ramps at Junction Avenue and Main Street and install ADA compliant ramps.
5. Mill remaining pavement between Junction Avenue and Middle Street in preparation for Asphalt overlay.
6. Install storm sewer and irrigation lines at the intersection of Middle Street and Main Street.
7. Grade and pave Asphalt Concrete pavement, curb and gutter and sidewalk.
8. Install landscaping, pavement markings and signage.

Segment 2A

Main Street from beginning of project, Sta.101+00.00 (Fourth Street) to Sta. 104+63.54 (Third Street).

1. Install traffic control devices per plan sheets.
2. Install erosion control devices.
3. Remove pavement and curb.
4. Remove sidewalk and establish pedestrian access to businesses.
5. Install water main and storm sewer, Contractor shall verify location of private services prior to this work. Interruption of service to any business shall be kept to a minimum and the Contractor shall coordinate with the city of Sturgis and landowner/owners prior to shutting off water supply.
6. Grade and install curb, sidewalk, approach pavement and Asphalt Concrete pavement.

Segment 2B

Main Street from Sta. 104+63.54 (Third Street) to Sta. 108+35.25 (Second Street).

1. Install traffic control devices per plan sheets.
2. Install erosion control devices.
3. Remove pavement and curb.
4. Remove sidewalk and establish pedestrian access to businesses.
5. Install water main and storm sewer, Contractor shall verify location of private services prior to this work. Interruption of service to any business shall be kept to a minimum and the Contractor shall coordinate with the city of Sturgis and landowner/owners prior to shutting off water supply.
6. Grade and install curb, sidewalk, approach pavement and Asphalt Concrete pavement.

Segment 2C

Main Street from Sta. 108+35.25 (Second Street) to Sta. 112+05.51(First Street).

1. Install traffic control devices per plan sheets.
2. Install erosion control devices.
3. Remove pavement and curb.
4. Remove sidewalk and establish pedestrian access to businesses.
5. Install water main and storm sewer, Contractor shall verify location of private services prior to this work. Interruption of service to any business shall be kept to a minimum and the Contractor shall coordinate with the city of Sturgis and landowner/owners prior to shutting off water supply.
6. Grade and install curb, sidewalk, approach pavement and Asphalt Concrete pavement.

Segment 2D

Main Street from Sta. 112+05.51 (First Street) to Sta. 118+02.59 (Junction Avenue).

1. Install traffic control devices per plan sheets.
2. Install erosion control devices.
3. Remove pavement and curb.
4. Remove sidewalk and establish pedestrian access to businesses.
5. Install water main and storm sewer, Contractor shall verify location of private services prior to this work. Interruption of service to any business shall be kept to a minimum and the Contractor shall coordinate with the city of Sturgis and landowner/owners prior to shutting off water supply.
6. Grade and install curb, sidewalk, approach pavement and Asphalt Concrete pavement.

TEMPORARY SURFACING

The Contractor shall have the option to install Class E, Type 1 Asphalt Concrete or Class M6 Concrete at a minimum thickness of 4" as temporary surfacing at the following locations:

Sta. 99+40 – 101+18 Intersection Main/Fourth
Sta. 104+45 – 104+82 Intersection Main/Third
Sta. 108+07 – 108+62 Intersection Main/Second
Sta. 111+83 – 112+28 Intersection Main/First

Temporary surfacing may also be used in areas, upon approval by the Engineer, where the Contractor will be completing tie-ins for water or sanitary sewer.

When Class M6 Concrete is used as temporary surfacing, the concrete shall achieve a minimum compressive strength of 3000 psi before opening the roadway to traffic. If M6 Concrete is used as temporary surfacing, it shall be measured and paid for at the contract unit price per square foot for "Temporary Surfacing."

Class E, Type 1 Asphalt Concrete shall be installed in two 2" lifts and the Mineral Aggregate and Asphalt Binder shall be as specified in Section F of these plans.

The material beneath the temporary surfacing shall consist of 10" of Base Course paid at the contract unit price per Ton.

For informational purposes only it is estimated that 9,134 S.F. of Temporary Surfacing will be needed. All labor, equipment, and materials necessary to install temporary surfacing including the maintenance and repair of the areas, and removal of the temporary surfacing prior to placement of the permanent surfacing shall be included in the contract unit price per square foot for "Temporary Surfacing" - See Section F.

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
REG. NO. 5680
CURTIS N. HUUS
10/23/15
SOUTH DAKOTA

L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:14 PM

LONGITUDINAL PEDESTRIAN CHANNELIZERS

Pedestrian channelizing devices shall have continuous bottom and top surfaces. The lower edge of the bottom portion shall be no higher than 2 inches above the walkway. The top edge of the bottom portion shall measure at least 8 inches above the walkway. The top of the top portion shall be no lower than 32 inches above the walkway. The top surface shall be smooth to optimize hand-trailing. Both upper and lower surfaces shall share a common vertical plane.

When pedestrian channelizing devices are combined in a series, the gap between devices should not exceed one inch. Joints between channelizing devices should be closed and flush to prevent canes or small wheels from being trapped, to reduce the risk of tripping and to facilitate safe hand trailing. When used as a sidewalk closure mechanism, channelizing devices must run the entire width of the sidewalk without gaps. Channelizing devices should provide a color contrasting pattern for pedestrians with low vision. Black should not be used to color any base on a device.

A continuous wall may be used as a pedestrian channelizing device. When used, a continuous wall should have a lower edge no more than 2 inches above the walkway, should extend a minimum of 32 inches above the walkway, should have a common vertical face and should have alternating, contrasting sheeting positioned 32 inches above the walkway.

All costs shall be incidental to the contract unit price per foot for LONGITUDINAL PEDESTRIAN CHANNELIZER.

When pedestrian channelizers are specified, the Contractor shall furnish and install only one of the products listed in the Pedestrian Channelizer table.

Pedestrian Channelizer

Product	Manufacturer
ADAcade Detectable Edge Barricade	Three D Traffic Works 430 N Varney St Burbank, CA 91502 818-954-8453 http://www.trafficwks.com/

PEDESTRIAN CROSSINGS

The Contractor shall maintain a hard surfaced pedestrian crossing across Main Street at all intersecting side streets at locations indicated in these plans and as directed by the Engineer. When the existing pedestrian pathway is no longer accessible, the Contractor will be required to provide an accessible pedestrian crossing. The crossing shall consist of applicable signing and curb ramps. Existing curbs shall be modified to provide access for pedestrians to the roadway. The curb ramps shall be constructed according to the curb ramp details shown in Section B of these plans. Pedestrian Crossing signs (W11-2 with appropriate supplemental plaques) shall be installed per MUTCD Figure 2C-12 and as directed by the Engineer. Sign color shall be fluorescent yellow-green. Signing will be paid for at the contract unit price per square foot for “Traffic Control Signs".

SAWING IN EXISTING PAVEMENT

During those portions of the project when traffic is carried on the existing pavement and adjacent surfacing is removed, the edge of the existing pavement shall be defined by a full depth saw cut. All costs associated with completion of full-depth saw cuts shall be included in the contract unit price for “Remove Concrete Pavement” or “Remove Asphalt Concrete Pavement” - See Section F.

MAINTENANCE OF BUSINESS ACCESS

The Contractor shall be responsible for maintaining pedestrian access to all businesses throughout the duration of the project. The Contractor shall coordinate with property owners to meet their requirements for access to their facilities. Alternate access locations may be used with written permission from the landowner and Engineer at least 7 days prior to the scheduled closure. Accesses shall be a minimum of 12 feet wide or one-half the existing approach width, whichever is greater. At locations where pedestrian crossings are adjacent to business accesses, the minimum width shall be increased to include a 4 foot wide pedestrian path and barricades to protect pedestrians from the traffic. Temporary access locations are noted below:

Sta. 106+95 - R First Interstate Bank Drive-Through Maintain 12 foot (min.) wide lane whenever work is not being done adjacent their property.

Sta. 117+23 - R Wells Fargo Drive-Through Maintain 12 foot (min.) wide lane whenever work is not being done adjacent their property.

Salvaged asphalt millings shall be used as temporary material for maintaining accesses. The temporary material shall consist of 4 inches minimum thickness with top surface constructed to tie into existing and new adjacent surfaces. The material shall be compacted to the satisfaction of the Engineer. Grades of accesses shall allow normal vehicular movement.

Cost of furnishing, hauling, placing, compacting, maintaining, removing and disposing of temporary material for accesses shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous.”

It may be necessary to temporarily omit curb and gutter and provide temporary gravel ramps to maintain streets and approaches. Temporary gravel ramps are not acceptable for pedestrian movements. All costs to perform ½ width construction on approaches and streets shall be included in the various associated contract bid items.

PROTECTION OF PEDESTRIANS

The Contractor shall maintain a 4 ft. hard surfaced pedestrian sidewalk on both sides of Main Street and intersecting streets at all times with access routes to all businesses on both sides of Main Street.

Temporary pedestrian facilities shall include accessibility features. The Contractor shall adhere to the requirements of the Americans with Disabilities Act (ADA) during construction. Tape, rope or plastic chain strung between devices are not detectable, do not comply with the design standards in the Americans with Disabilities Act Accessibility Guidelines for Building and Facilities (ADAAG), and should not be used as a control for pedestrian movements.

A smooth, continuous hard surface shall be provided throughout the entire length of the temporary pedestrian facility. There shall be no curbs or abrupt changes in grade or terrain that could cause tripping or be a barrier to wheelchair use.

The Contractor may have to construct the routes with Class E Type 1 Asphalt Concrete or M6 Concrete as discussed under the heading of Temporary Surfacing.

All other work necessary to provide and maintain the pedestrian access route, including snow removal, shall be incidental to the contract lump sum price for “Traffic Control, Miscellaneous.”

Permanent sidewalks shall be complete before the Contractor moves into the next Segment of construction.

Sidewalk construction shall be coordinated so that access to the adjacent businesses is impacted as little as possible. Contractor shall coordinate with the City of Sturgis and the land owner/owners to provide access to the building entrances.

ITEMIZED LIST FOR TRAFFIC CONTROL

		CONVENTIONAL ROAD			
SIGN CODE	DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
G20-2	END ROAD WORK	14	36" x 18"	5	70
M4-8	DETOUR	5	24" X 12"	2	10
M4-9	DETOUR with ARROW (L or R)	9	24" X 30"	5	45
M6-3	DIRECTION ARROW - Vertical Single Head	4	21" X 15"	2	8
M6-4	DIRECTION ARROW - Horizontal Double Head	1	21" X 15"	2	2
R9-9	SIDEWALK CLOSED	2	24" X 12"	2	4
R9-11a	SIDEWALK CLOSED with ARROW (L or R) CROSS HERE	4	24" X 12"	2	8
R11-2	ROAD CLOSED	12	48" x 30"	10	120
R11-4	ROAD CLOSED TO THRU TRAFFIC	4	60" x 30"	13	52
W1-3	REVERSE TURN (L or R)	4	48" X 48"	16	64
W8-1	BUMP	2	48" x 48"	16	32
W11-2	PEDESTRIAN (symbol)	13	36" x 36"	9	117
W13-1P	ADVISORY SPEED (plaque)	8	30" x 30"	6	48
W20-1	ROAD WORK AHEAD	14	48" x 48"	16	224
W20-3	ROAD CLOSED AHEAD	6	48" x 48"	16	96
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
				TOTAL SQFT	932

REGISTERED PROFESSIONAL ENGINEER AND LAND SURVEYOR
REG. NO. 5680
CURTIS N. HUUS
10/23/15
SOUTH DAKOTA

L:\114-2030 Sturgis Main St Reconst\Drawings\EngiSheet Files\Section C\114-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:16 PM

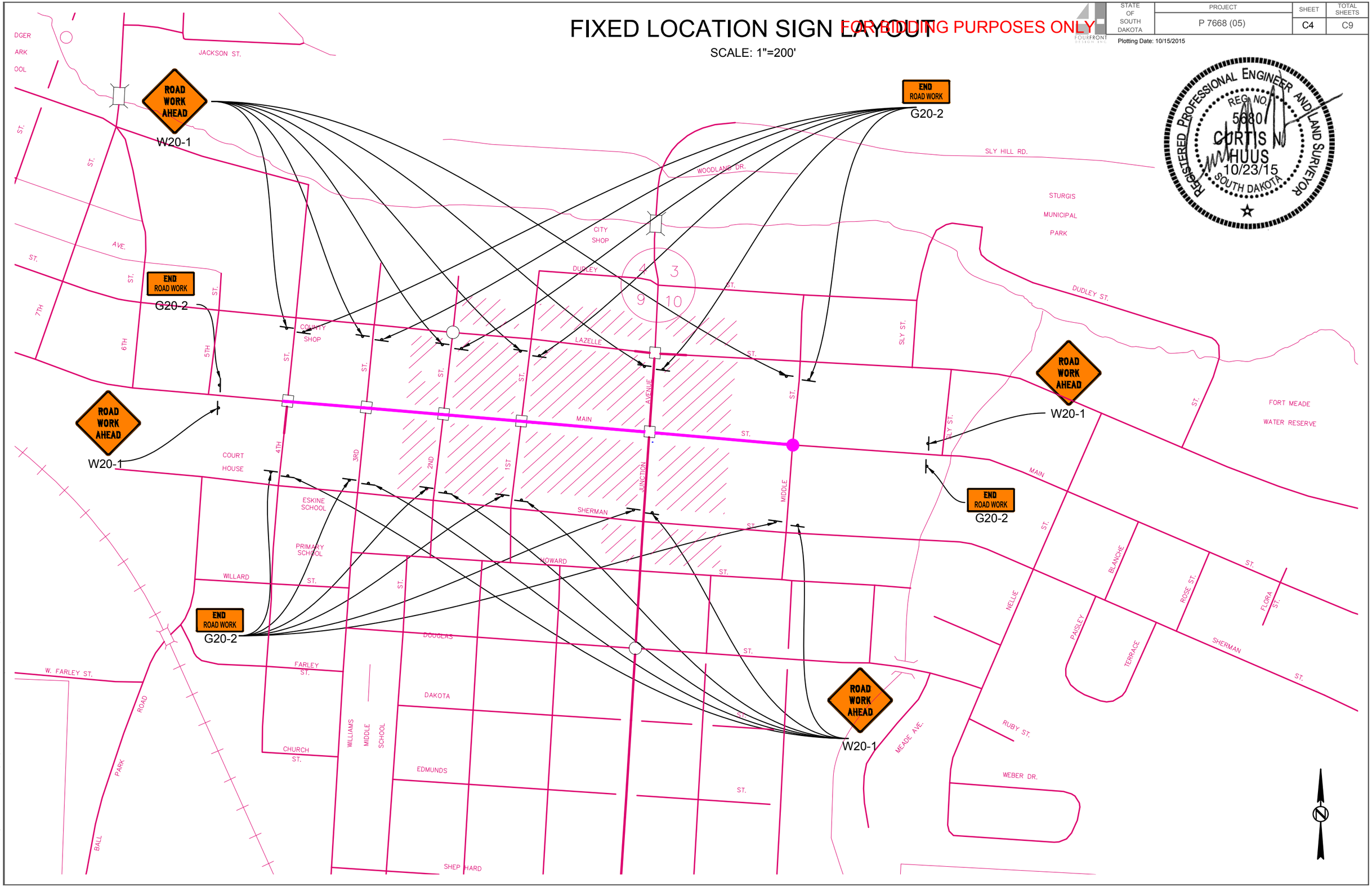
FIXED LOCATION SIGN LAYOUT

FOR BIDDING PURPOSES ONLY

SCALE: 1"=200'

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
FOURFRONT DESIGN INC.	P 7668 (05)	C4	C9

Plotting Date: 10/15/2015



L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:21 PM

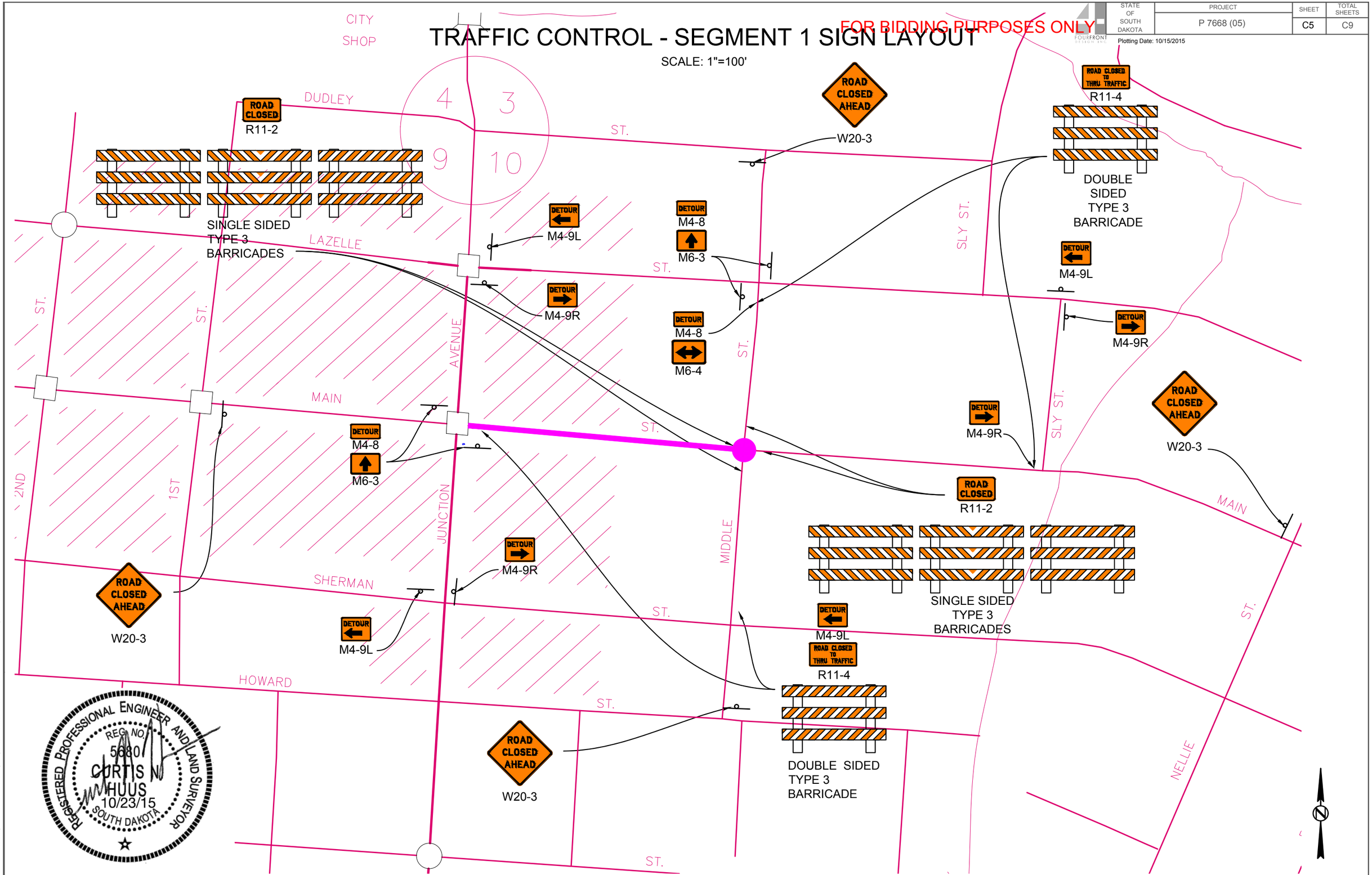
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
FOURFRONT DESIGN INC.	P 7668 (05)	C5	C9

Plotting Date: 10/15/2015

TRAFFIC CONTROL - SEGMENT 1 SIGN LAYOUT

FOR BIDDING PURPOSES ONLY

SCALE: 1"=100'



L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:26 PM

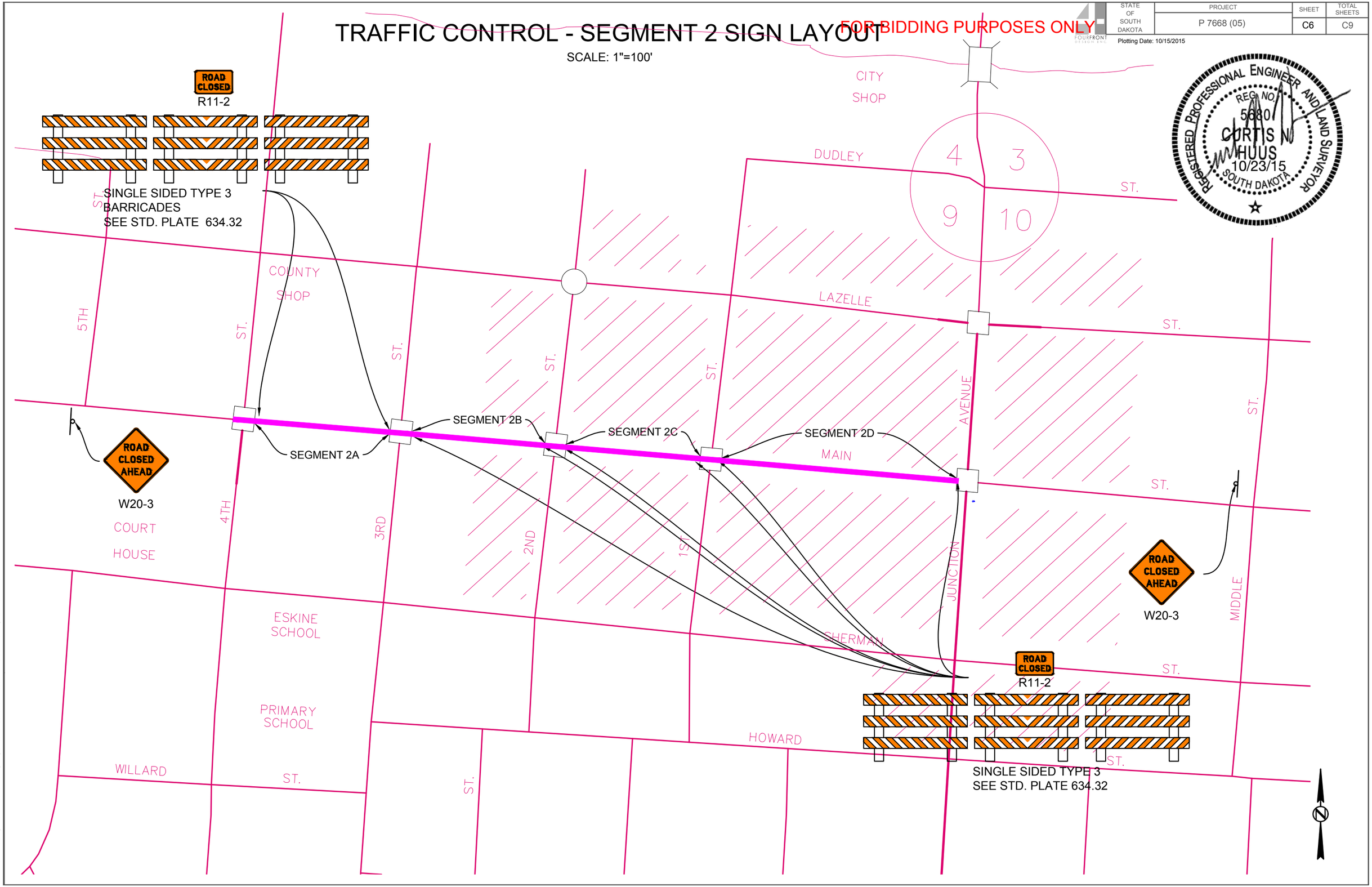
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
FOURFRONT DESIGN INC.	P 7668 (05)	C6	C9

Plotting Date: 10/15/2015

TRAFFIC CONTROL - SEGMENT 2 SIGN LAYOUT

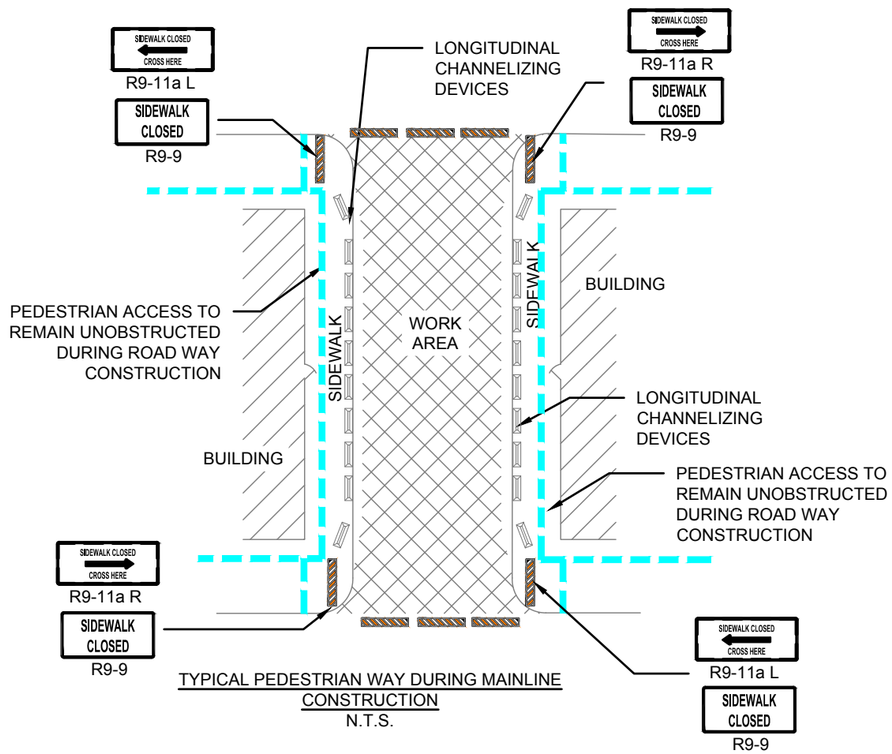
FOR BIDDING PURPOSES ONLY

SCALE: 1"=100'

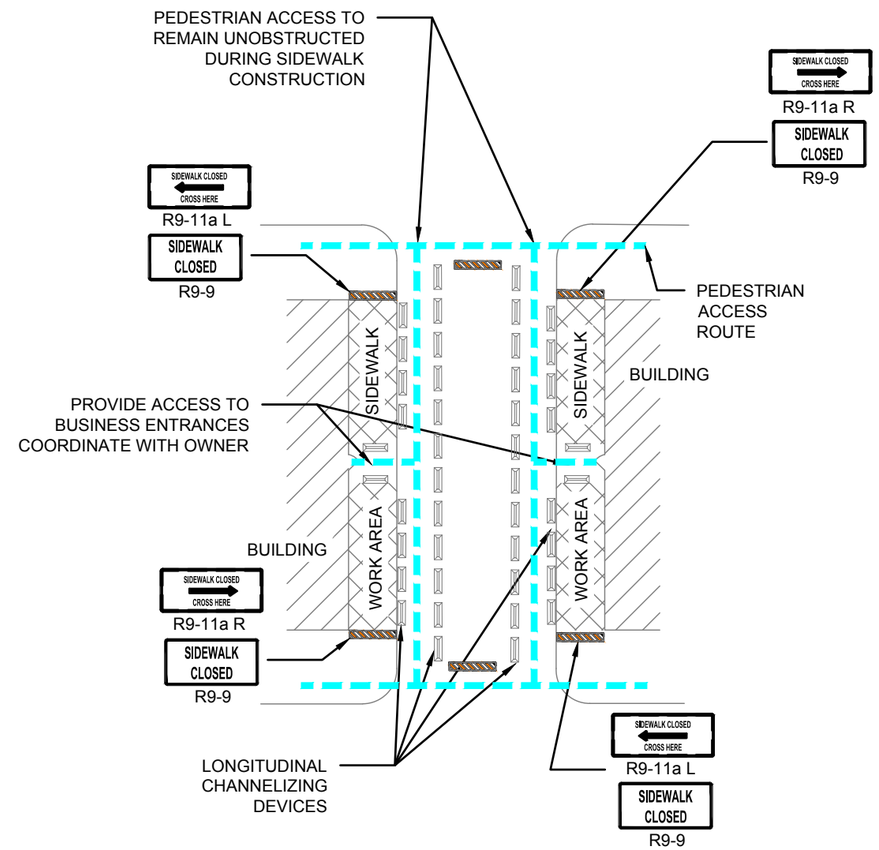


L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:31 PM

SPECIAL PEDESTRIAN ACCESS DETAIL



TYPICAL PEDESTRIAN WAY DURING MAINLINE CONSTRUCTION
N.T.S.



TYPICAL PEDESTRIAN WAY DURING SIDEWALK CONSTRUCTION
N.T.S.

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.

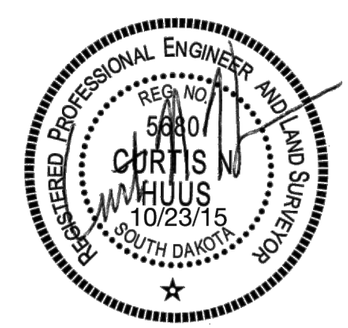
SIGNS MAY BE PLACED ALONG A TEMPORARY DIVERSION TO GUIDE OR DIRECT PEDESTRIANS. EXAMPLES INCLUDE KEEP RIGHT AND KEEP LEFT SIGNS.

ADDITIONAL ADVANCE WARNING MAY BE NECESSARY.

FOR NIGHTTIME CLOSURES, TYPE A FLASHING WARNING LIGHTS MAY BE USED ON BARRICADES SUPPORTING SIGN AND CLOSING SIDEWALKS. TYPE C STEADY-BURN LIGHTS MAY BE USED ON CHANNELIZING DEVICES SEPARATING THE TEMPORARY PEDESTRIAN DIVERSION FROM VEHICULAR TRAFFIC.

TEMPORARY STREET LIGHTING SHOULD BE CONSIDERED.

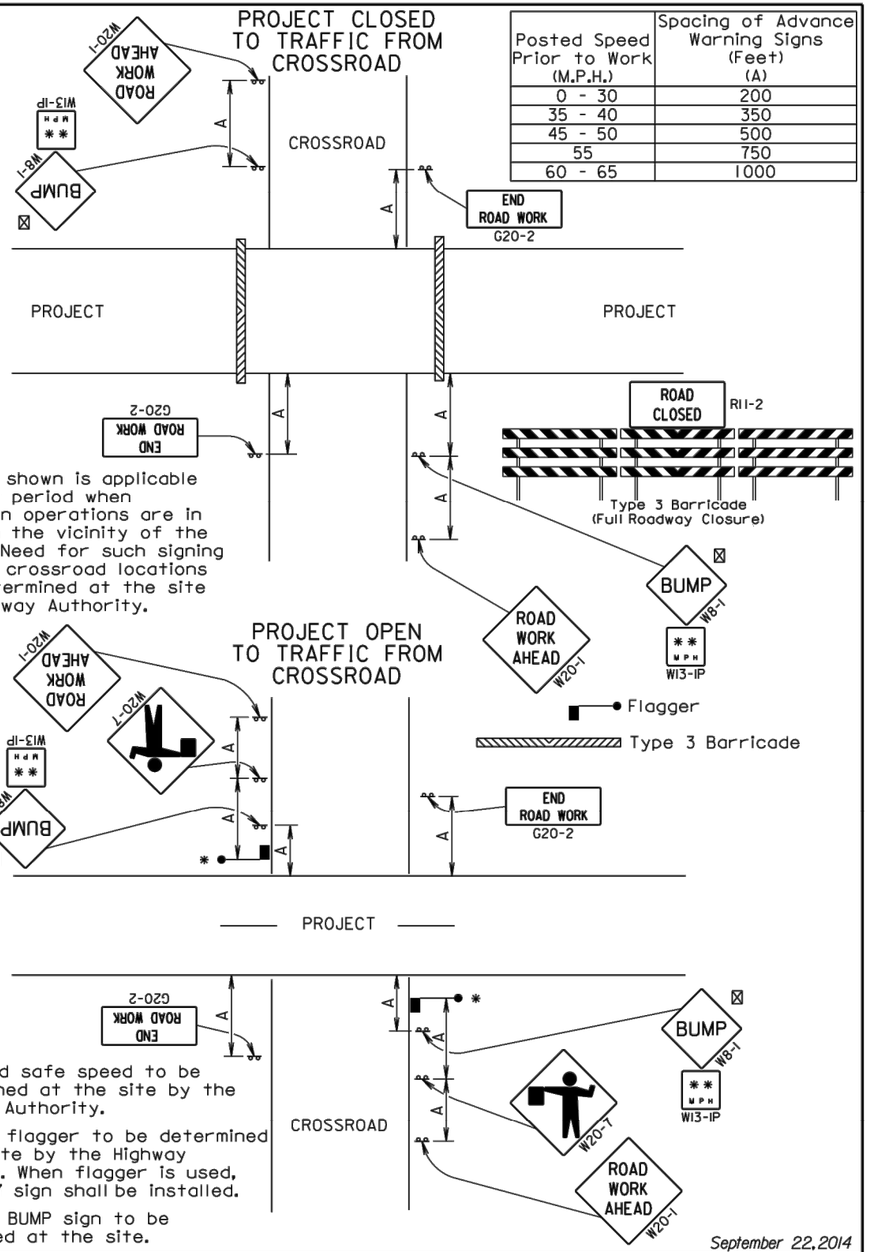
TYPE 3 BARRICADE



L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:36 PM

PROJECT CLOSED TO TRAFFIC FROM CROSSROAD

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



The signing shown is applicable during that period when construction operations are in progress in the vicinity of the crossroad. Need for such signing at specific crossroad locations shall be determined at the site by the Highway Authority.

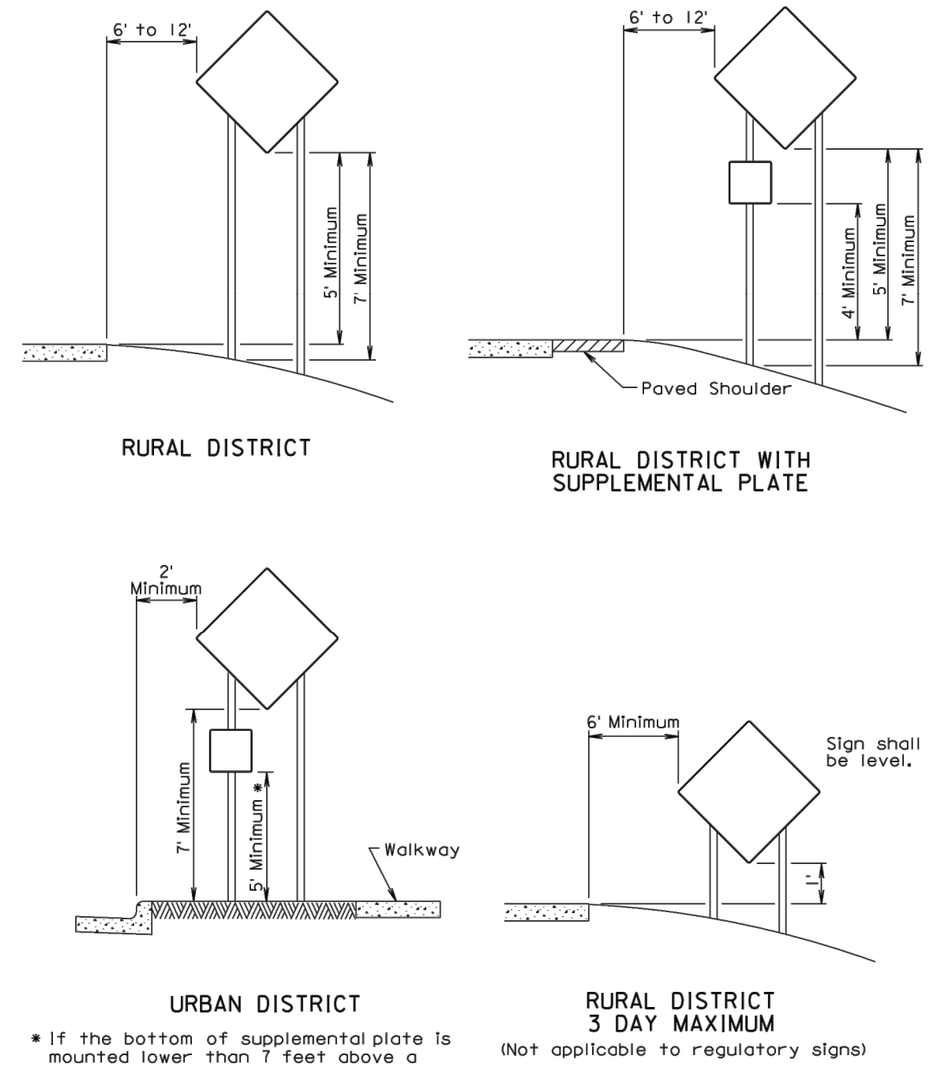
** Need and safe speed to be determined at the site by the Highway Authority.

* Need for flagger to be determined at the site by the Highway Authority. When flagger is used, the W20-7 sign shall be installed.

☒ Need for BUMP sign to be determined at the site.

September 22, 2014

Published Date: 3rd Qtr. 2015	SDDOT	GUIDES FOR TRAFFIC CONTROL DEVICES CROSSROAD SIGNING	PLATE NUMBER 634.32
			Sheet 1 of 1

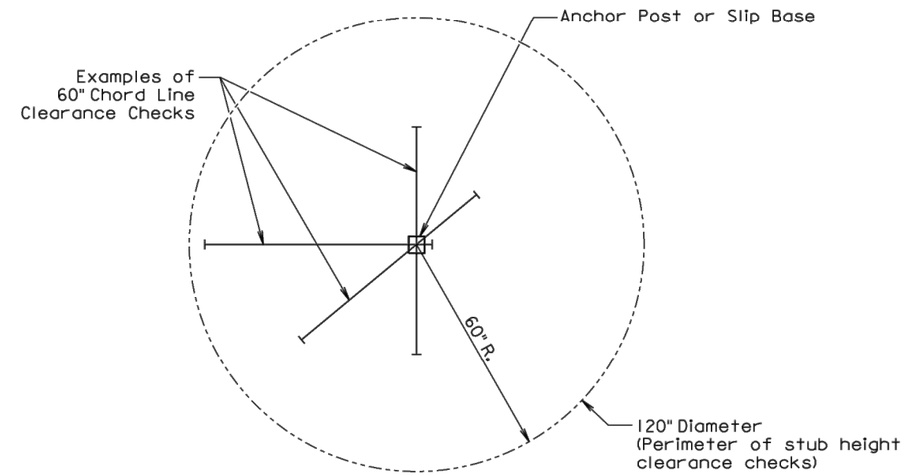


* If the bottom of supplemental plate is mounted lower than 7 feet above a pedestrian walkway, the supplemental plate should not project more than 4" into the pedestrian facility.

September 22, 2014

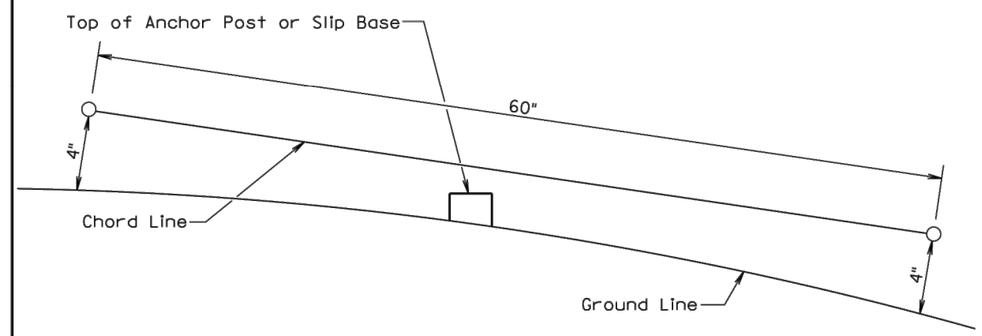
Published Date: 3rd Qtr. 2015	SDDOT	CRASHWORTHY SIGN SUPPORTS (Typical Construction Signing)	PLATE NUMBER 634.85
			Sheet 1 of 1

L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\142030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:41 PM



PLAN VIEW

(Examples of stub height clearance checks)



ELEVATION VIEW

GENERAL NOTES:

The top of anchor posts and slip bases SHALL 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 shall 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.

July 1, 2005

Published Date: 3rd Qtr. 2015	SDDOT	***BREAKAWAY SUPPORT STUB CLEARANCE***	***PLATE NUMBER*** *634.99*
			Sheet 1 of 1

L:\14-2030 Sturgis Main St Reconst\Drawings\Eng\Sheet Files\Section C\14-2030 TRAFFIC CONTROL.dwg 10/15/2015 3:14:46 PM