SECTION C: TRAFFIC CONTROL PLANS



STATE OF			SHEET	TOTAL SHEETS
DAKOTA	& NH 0085(00)54, NH 02 & NH 0085(114)	A 0085(00)54, NH 0212(00)13 & NH 0085(114)54		C11
Plotting Date:	02/17/2021 F	Revised 2/17/	2021 NJF	

INDEX OF SHEETS

C1 C2-C5 C6-C9 General Layout with Index Estimate with General Notes & Tables Standard Plates



END NH 0212(00)13

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SECTION C ESTIMATE OF QUANTITIES

05V0 - SD34 & US85 Intersection

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	334.2	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	4	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	3,600	Ft
634E0420	Type C Advance Warning Arrow Board	2	Each
634E0900	Portable Temporary Traffic Control Signal	4	Unit
634E1215	Contractor Furnished Portable Changeable Message Sign	4	Each

04P9 – US85

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	547.1	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	9	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	3,440	Ft
634E0420	Type C Advance Warning Arrow Board	2	Each
634E2000	Longitudinal Pedestrian Barricade	200	Ft
634E2015	Temporary Pedestrian Access Route	Lump Sum	LS
634E2020	Temporary Curb Ramp	4	Each
634E2025	Longitudinal Pedestrian Barrier	200	Ft
900E1080	Orange Plastic Safety Fence	100	Ft

04PA – US212

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
634E0010	Flagging	200.0	Hour
634E0110	Traffic Control Signs	511.5	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0275	Type 3 Barricade	7	Each
634E0310	Temporary Flexible Vertical Markers (Tabs)	1,940	Ft
634E0420	Type C Advance Warning Arrow Board	3	Each
634E2000	Longitudinal Pedestrian Barricade	200	Ft
634E2015	Temporary Pedestrian Access Route	Lump Sum	LS
634E2020	Temporary Curb Ramp	4	Each
634E2025	Longitudinal Pedestrian Barrier	200	Ft
900E1080	Orange Plastic Safety Fence	100	Ft

MAINTENANCE OF TRAFFIC

The Contractor will submit a sequence of operations for approval two weeks prior to the preconstruction meeting. 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 following requirements/restrictions will apply:

- Unless otherwise noted, the Contractor will provide access to the adjacent businesses, approaches, and intersecting streets at all times.
- Two-way traffic with minimum lane widths of 11' will be maintained on intersecting streets at all times.
- At the end of each working day, the adjacent roadway pavements and areas will be cleaned and left in a condition approved by the Engineer.
- If no work is performed for a period of 3 consecutive days or more, all drop offs will be eliminated and all lanes will be open to traffic at no expense to the Department. All non-applicable traffic control will be removed.
- Deploy message board to alert travelers of stopped traffic as determined by the Engineer.

GENERAL TRAFFIC CONTROL

Existing guide, route, informational logo, regulatory, and warning signs will be temporarily reset and maintained during construction. Removing, relocating, covering, salvaging, and resetting of existing traffic control devices, including delineation, will be the responsibility of the Contractor. Cost for this work will be incidental to the contract unit prices for the various items unless otherwise specified in the plans. Any delineators and signs damaged or lost will be replaced by the Contractor at no cost to the State.

All temporary traffic control sign locations will be set in the field by the Contractor and verified by the Engineer prior to installation.

Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

All construction operations will be conducted in the general direction of traffic movement.

Temporary Flexible Vertical Markers (Tabs) will be used for lane closure tapers or lane shift tapers and will be installed at 5' spacing as detailed on the Standard Plates. All costs associated to furnish, install, maintain (including replacement as required by the Engineer at no added cost to the Department), and remove all markers will be incidental to the contract bid item for Temporary Flexible Vertical Markers (Tabs).

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.

Unless otherwise stated in these plans, work will not be allowed during hours of darkness.

Traffic Control Signs, as shown in the Estimate of Quantities, are estimates. Contractor's operation may require adjustments in quantities, either more or less. Payment will be for those signs actually ordered by the Engineer and used. 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.

All fixed location signs, sign posts, and breakaway bases will be removed within 7 calendar days following pavement marking.

The Contractor will adequately sign and barricade the sidewalk for pedestrian traffic. The Contractor must not leave un-barricaded holes open either overnight or over the weekend.

US85 & SD34 INTERSECTION – PCN 05V0

The intersection will operate with temporary traffic signals to control the movements and traffic from all four legs of the intersection. Once all work at the intersection is complete and the new traffic lights are operational, the temporary signals will be removed, and the intersection restored as detailed in the plans.

The existing luminaires, not directly impacted by the proposed work, will be used for intersection lighting. The Contractor will be responsible power is maintained for operational lighting. The cost of energizing and maintaining the roadway lighting will be incidental to the Traffic Control, Miscellaneous bid item.

Traffic Control for the and 634.60.

<u>US85 – PCN 04P9</u>

Standard Plates 634.53 and 634.60 will be used for traffic control along US85. Sufficient traffic control devices have been included in these plans to sign five intersections simultaneously on US85. If the Contractor elects to work on additional locations, the cost for additional traffic control devices will be incidental to the contract unit price per square foot for "Traffic Control Signs".

The Contractor will coordinate with SDDOT to modify signal timing at Summit Street during construction.

The Contractor is re traffic at all times.

STATE OF		SHEET	TOTAL SHEETS
DAKOTA	& P 0034(191)9	C2	C11

Revised 1/7/2021 NJF

Traffic Control for the intersection will be according to Standard Plates 634.53

The Contractor is responsible to maintain and accommodate local pedestrian

US212 - PCN 04PA

Standard Plates 634.47 and 634.53 will be used for traffic control along US212. Sufficient traffic control devices have been included in these plans to sign six intersections simultaneously.

The Contractor is responsible to maintain and accommodate local pedestrian traffic at all times.

The approach to the west of Conoco gas station (Sta. 706+25 R) will be constructed half width at a time. The Contractor will install orange plastic safety fence, as directed by the Engineer, to prevent accidental or unauthorized entry into the project area.

US85 & US212 INTERSECTION - PCN 04PA

The intersection will continue to operate with STOP signs to control the movements and traffic from all four legs of the intersection.

The right turn lanes will remain open and utilize flaggers during the working day. Work at the intersection will occur in the southwest and southeast quadrants.

The Contractor is responsible to maintain and accommodate local pedestrian traffic at the intersection at all times.

ORANGE PLASTIC SAFETY FENCE

To prohibit the general public and traffic from accessing construction areas, a quantity of Orange Plastic Safety Fence has been included in the Estimate of Quantities for PCNs 04P9 (US85) and 04PA (US212). The Contractor will install orange plastic safety fence, as directed by the Engineer, to prevent accidental or unauthorized entry into project areas.

The Contractor will maintain and make repairs to the fence until it is removed or as directed by the Engineer.

Orange Plastic Safety Fence will not be used as a substitute for Pedestrian Barricades.

All costs associated with furnishing, installing, maintaining, repairing, removing, and replacing the safety fence will be paid for at the contract unit price per foot for "Orange Plastic Safety Fence".

<u>CONTACTOR FURNISHED PORTABLE CHANGEABLE MESSAGE SIGNS</u> <u>– PCN 05V0</u>

Prior to work affecting the traveling public, the Contractor will install and program portable changeable message signs (PCMS) as directed by the Engineer. Throughout the duration of the project, PCMS will be utilized as directed by the Engineer.

PORTABLE TEMPORARY TRAFFIC CONTROL SIGNAL - PCN 05V0

The Contractor will install portable temporary traffic control signals at the following intersection:

US Highway 85 and SD Highway 34

Five section vehicle signal heads will be used for all protected/permitted left turn phases.

The temporary traffic signal should dwell in green for the northbound and southbound through traffic. Vehicle detection is needed on the eastbound and westbound approaches and all four dedicated left turn lanes.

All vehicle signal heads will have backplates with retroreflective border. The vehicle signal head backplates will have a factory applied 3-inch wide yellow retroreflective border. Sheeting for the border will be Type IX or Type XI in conformance with ASTM D4956.

Signal backplates will be polycarbonate, aluminum, or aluminum-composite. Minimum material thicknesses are:

> Polycarbonate, 0.10-inch Aluminum, 0.06-inch Aluminum-Composite, 0.08-inch

All traffic signal equipment and materials will meet the requirements of Sections 635 and 985 of the Specifications except the controller requirements.

Signal backplates will extend not less than 5 inches from the edge of the signal head at the top, bottom, and sides.

All costs involved with constructing the portable temporary traffic control signal as specified above and on the plans, will be included in the contract unit price per unit for "Portable Temporary Traffic Control Signal".

PRESS RELEASE ANNOUNCEMENTS

The SDDOT will prepare a press release to be released 5 days prior to any phase change or any other major change that affects traffic flow. The SDDOT will be responsible to keep law enforcement, emergency services, and the traveling public notified of changes in project access. The Contractor will provide the Engineer with pertinent information 7 days prior to any phase change or any other major change that affects traffic flow.

STATE OF		SHEET	TOTAL SHEETS
DAKOTA	& P 0034(191)9	C3	C11

Revised 1/7/2021 NJF

TRAFFIC CONTROL SIGNS

Sufficient traffic control devices have been included in these plans as stated in the notes. If the Contractor elects to work on additional locations simultaneously, the cost for additional traffic control devices will be incidental to the contract unit price per square foot for "Traffic Control Signs".

05V0 – SD34 & US85

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
W1-4	REVERSE CURVE (L or R)	2	48" x 48"	16.0	32.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W9-3	CENTER LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W13-1P	ADVISORY SPEED (plaque)	2	30" x 30"	6.3	12.6
W20-1	ROAD WORK AHEAD	4	48" x 48"	16.0	64.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	4	36" x 18"	4.5	18.0
SPECIAL	TRAFFIC CONTROL CHANGE AHEAD	4	48" x 48"	15.9	63.6
		CON TRAFFIC	VENTIONAL CONTROL S	ROAD IGNS SQFT	334.2



TRAFFIC". C 2K; "CONTROL". C 2K; "CHANGE". C 2K; "AHEAD". C 2K; Table of letter and object lefts T 15.4 18.0 20.5 23.6 26.3 28.9 30.3 C 0 N T R 0.3 23.0 25.6 28.5 31.6 C 0 N T R 0.3 23.0 25.6 28.5 31.6 C 0 H A 21.3 24.4 27.4 30.4 A H E A D 15.9 20.0 23.1 25.5 28.6 04P9 – US85

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	5	30"	5.2	26.0
R9-9	SIDEWALK CLOSED	13	24" x 12"	2.0	26.0
R9-11	SIDEWALK CLOSED AHEAD (ARROW L or R) CROSS HERE	13	24" x 18"	3.0	39.0
W1-4	REVERSE CURVE (L or R)	7	48" x 48"	16.0	112.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	2	48" x 48"	16.0	32.0
W9-3	CENTER LANE CLOSED AHEAD	1	48" x 48"	16.0	16.0
W11-2	PEDESTRIAN (symbol)	4	36" x 36"	9.0	36.0
W16-7P	DOWNWARD DIAGONAL ARROW (plaque)	2	24" x 12"	2.0	4.0
W16-9P	AHEAD (plaque)	2	30" x 18"	3.8	7.6
W20-1	ROAD WORK AHEAD	7	48" x 48"	16.0	112.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	2	48" x 48"	16.0	32.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	9	36" x 18"	4.5	40.5
		CON TRAFFIC	VENTIONAL CONTROL S	ROAD IGNS SQFT	547.1

04PA – US212

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		CONVENTIONAL ROAD			
SIGN CODE	SIGN DESCRIPTION	NUM BER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP	7	30"	5.2	36.4
R9-9	SIDEWALK CLOSED	6	24" x 12"	2.0	12.0
R9-11	SIDEWALK CLOSED AHEAD (ARROW L or R) CROSS HERE	6	24" x 18"	3.0	18.0
W1-4	REVERSE CURVE (L or R)	7	48" x 48"	16.0	112.0
W3-4	BE PREPARED TO STOP	2	48" x 48"	16.0	32.0
W4-2	LEFT or RIGHT LANE ENDS (symbol)	3	48" x 48"	16.0	48.0
W11-2	PEDESTRIAN (symbol)	4	36" x 36"	9.0	36.0
W16-7P	DOWNWARD DIAGONAL ARROW (plaque)	2	24" x 12"	2.0	4.0
W16-9P	AHEAD (plaque)	2	30" x 18"	3.8	7.6
W20-1	ROAD WORK AHEAD	7	48" x 48"	16.0	112.0
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	3	48" x 48"	16.0	48.0
W20-7	FLAGGER (symbol)	2	48" x 48"	16.0	32.0
G20-2	END ROAD WORK	3	36" x 18"	4.5	13.5
CONVENTIONAL ROAD TRAFFIC CONTROL SIGNS SQFT		511.5			

STATE OF		SHEET	TOTAL SHEETS
DAKOTA	& P 0034(191)9	C4	C11

Revised 1/4/2021 NJF

TEMPORARY PEDESTRIAN ACCESS ROUTE

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 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 not be used to provide positive protection for pedestrians.

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.

LONGITUDINAL PEDESTRIAN BARRIER

When exposed to vehicular traffic, longitudinal pedestrian barrier will be crashworthy, and the bottom and top surfaces of the traffic side of devices will have retroreflective sheeting or delineation for improved nighttime visibility.

When longitudinal pedestrian barriers are combined in a series, the maximum gap between devices that do not interlock will be one inch. Joints between devices that do interlock should be closed and flush to prevent canes or small wheels from being trapped and to facilitate safe hand trailing. Channelizing devices 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 Chapter 6F of the MUTCD.

Longitudinal pedestrian barriers will have continuous bottom and top surfaces. The top surface will be smooth to allow safe hand trailing.

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 used to provide positive protection from traffic to pedestrians should be crashworthy.





non-slip surface.

- changes direction (turns).
- slope.
- preferred.

- width.

1. Curb ramps will be 48-inch minimum width with a firm, stable, and

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

4. Curb ramps and landings should have a 50:1 (2%) maximum cross

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

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

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.





Plotted From - trrc11626

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otted From - trrc11626

STATE OF	PROJECT	SHEET	TOTAL	
SOUTH	NH 0085(00)54, NH 0212(00)13	13 SHEETS		
DAKOTA	& P 0034(191)9	C9	C11	
Plotting Date:	01/04/2021			

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.391 201 Scale Plot



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