

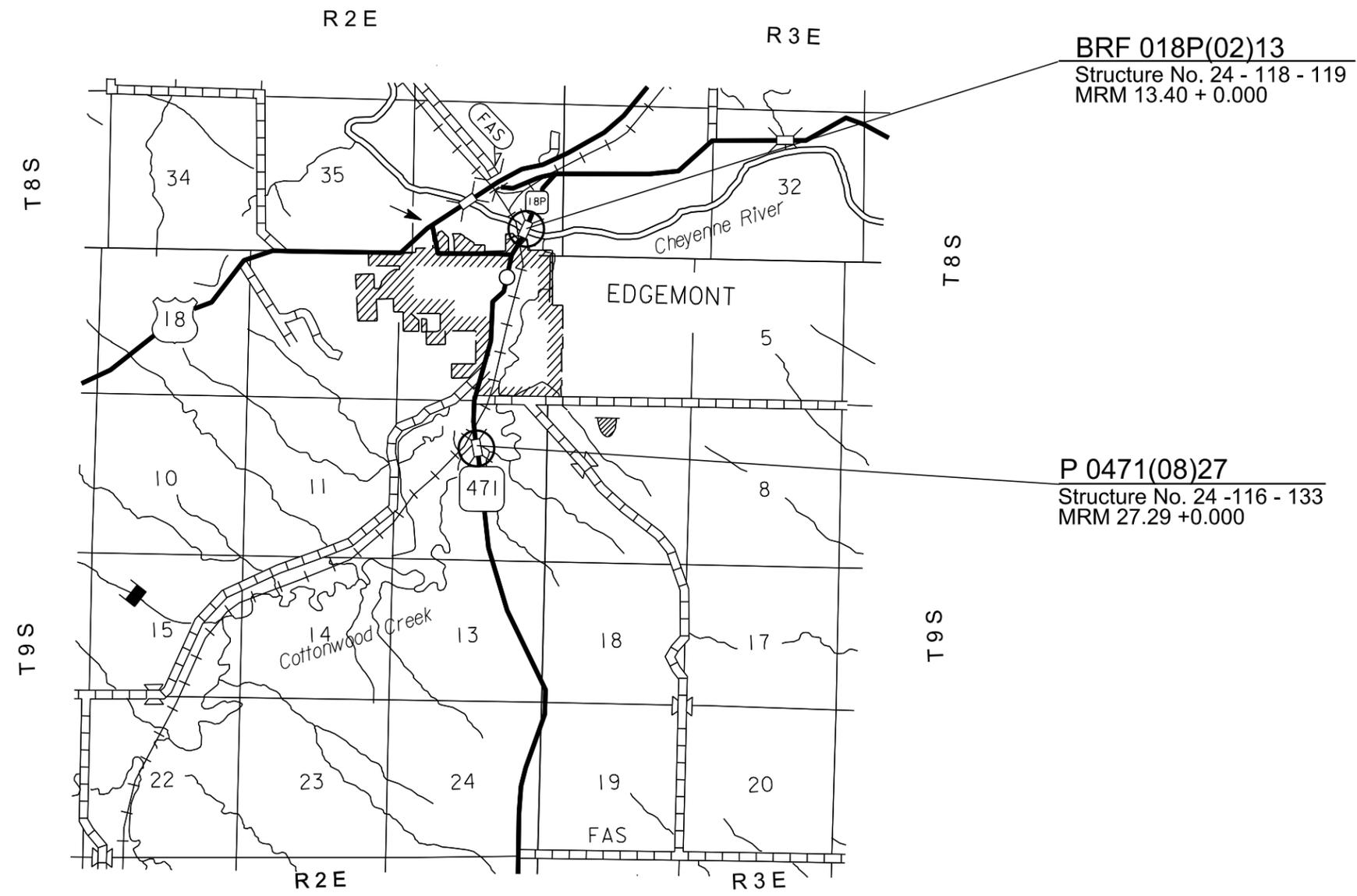
# Section M: Pavement Marking Plans

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	BRF 018P(02)13 & P 0471(08)27	M1	M5

Plotting Date: 06/16/2014

## INDEX OF SHEETS

- M1 General Layout W/Index
- M2 Estimate With General Notes & Tables
- M3-M4 Pavement Marking Layouts
- M5 Standard Plates



Plot Scale - 1:200

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STATE OF SOUTH DAKOTA	PROJECT	SHEET NO.	TOTAL SHEETS
	BRF 018P(02)13 P 0471(08)27	M2	M5

**SECTION M ESTIMATE OF QUANTITIES – PCN 02S8**

Bid Item Number	Item	Quantity	Unit
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	1	Each
633E1400	Pavement Marking Paint, 4" White	685	Ft
633E1405	Pavement Marking Paint, 4" Yellow	686	Ft
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	1	Each

**SECTION M ESTIMATE OF QUANTITIES – PCN 039Z**

Bid Item Number	Item	Quantity	Unit
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	1	Each
633E1400	Pavement Marking Paint, 4" White	2,200	Ft
633E1405	Pavement Marking Paint, 4" Yellow	1,375	Ft
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	1	Each

**SPECIFICATIONS**

Standard Specifications for Roads & Bridges, 2004 Edition and Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal. See Special Provisions for working with Railroads.

U.S. Department of Transportation Federal Highway Administration Manual on Uniform Traffic Control Devices, 2009 Edition and current Revisions.

**GROOVE PAVEMENT FOR PAVEMENT MARKING**

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue shall not be permitted to flow across lanes being used by public traffic or into gutter or drainage facilities. Residue, whether in solid or slurry form, shall be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state.

**PERMANENT PAVEMENT MARKINGS**

Paint shall be used for marking of edgelines, centerline and skips. Cost for permanent pavement markings shall be paid for at the contract unit price per foot for Pavement Marking Paint, 4" Yellow and Pavement Marking Paint, 4" White.

Cold Applied Plastic Pavement Marking shall be used for Railroad Crossing markings and stop bars. Permanent pavement markings shall be installed on completed sections of roadway prior to the opening to traffic.

The pavement marking paint and glass beads shall be furnished and applied by the Contractor and shall meet the requirements for materials and application as per the Specifications.

All areas to be painted shall be thoroughly broomed prior to the placement of any permanent paint to the satisfaction of the Engineer.

Traffic Control shall be incidental to the cost of application. The striper and advance or trailing warning vehicle shall be equipped with flashing amber lights or advance warning arrow panel.

Approximate paint application rates for one line shall be as follows:

- Solid Centerline striping (yellow) – 16.9 gallons per mile \*
- Dashed Centerline striping (yellow) – 4.6 gallons per mile
- Solid Edgeline striping (white) – 16.9 gallons per mile \*
- Glass Beads – 8 lbs. per gallon of paint

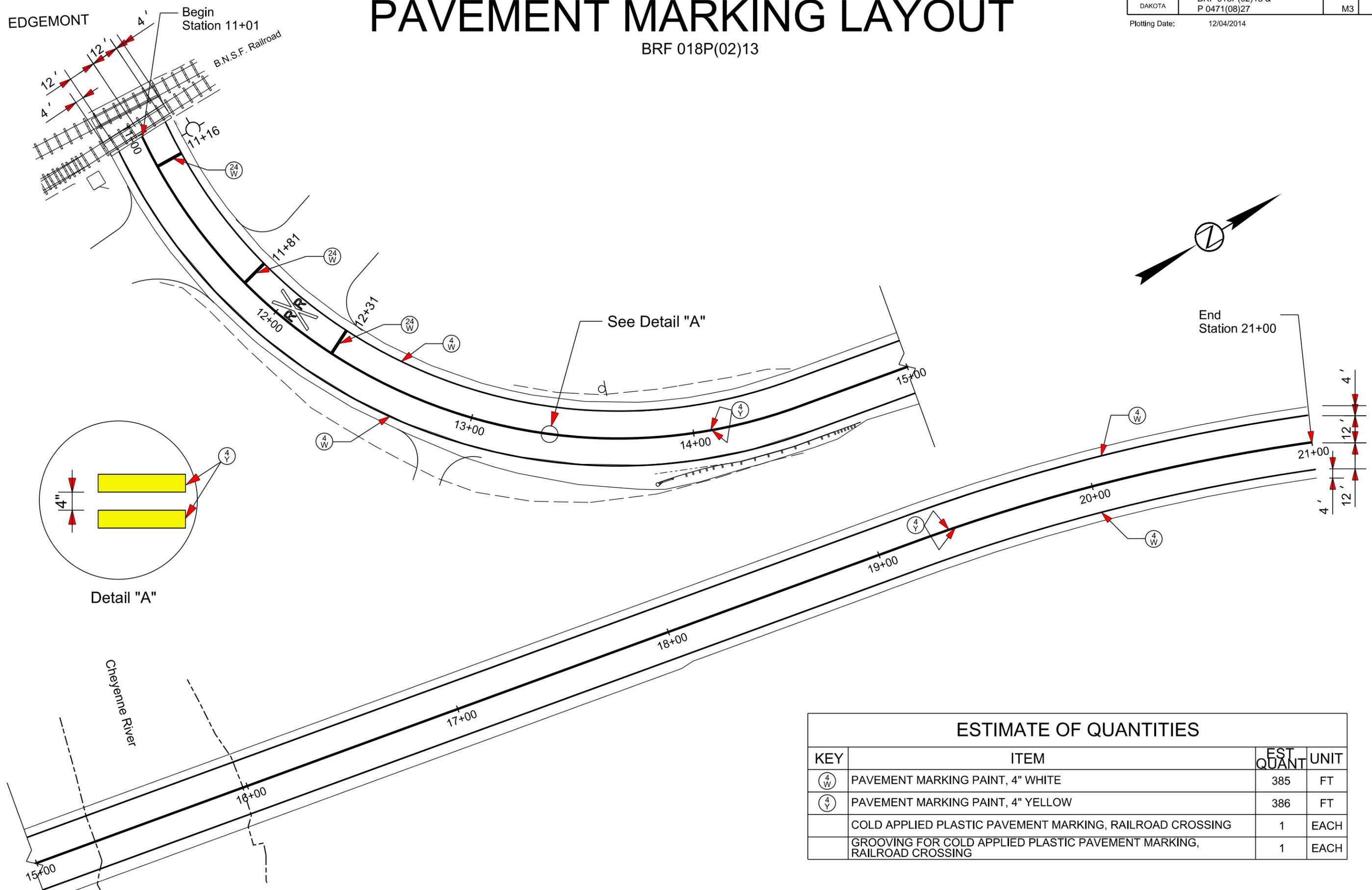
\* - rate for single line

All costs for Permanent Pavement Markings shall be incidental to the contract unit price per foot for "Pavement Marking Paint, 4" White, Pavement Marking, Paint, 4" Yellow" and the contract unit price per each for "Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing and Cold Applied Plastic Pavement Marking, Railroad Crossing".

# PAVEMENT MARKING LAYOUT

BRF 018P(02)13

STATE OF SOUTH DAKOTA	PROJECT BRF 018P(02)13 & P 0471(08)27	SHEET M3	TOTAL SHEETS M5
Plotting Date: 12/04/2014			



Detail "A"

ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
(4W)	PAVEMENT MARKING PAINT, 4" WHITE	385	FT
(4Y)	PAVEMENT MARKING PAINT, 4" YELLOW	386	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, RAILROAD CROSSING	1	EACH
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, RAILROAD CROSSING	1	EACH

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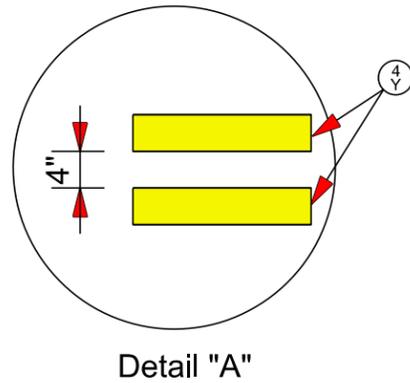
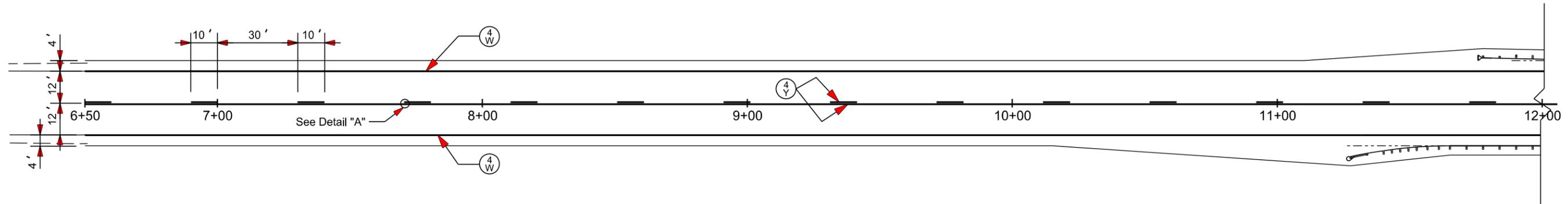
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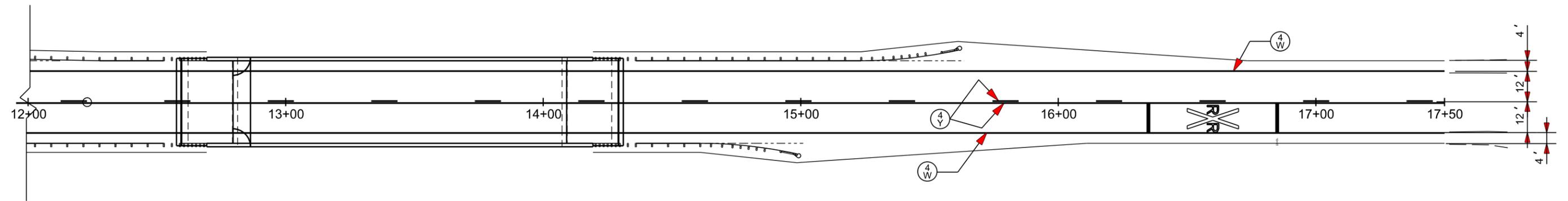
# PAVEMENT MARKING LAYOUT

## P 0471(08)27

STATE OF SOUTH DAKOTA	PROJECT BRF 018P(02)13 & P 0471(08)27	SHEET M4	TOTAL SHEETS M5
Plotting Date: 06/16/2014			



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
(4W)	PAVEMENT MARKING PAINT, 4" WHITE	FT	FT
(4Y)	PAVEMENT MARKING PAINT, 4" YELLOW	FT	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, RAILROAD CROSSING	EACH	EACH
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, RAILROAD CROSSING	EACH	EACH



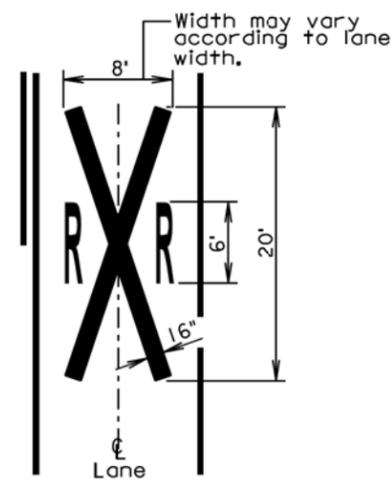
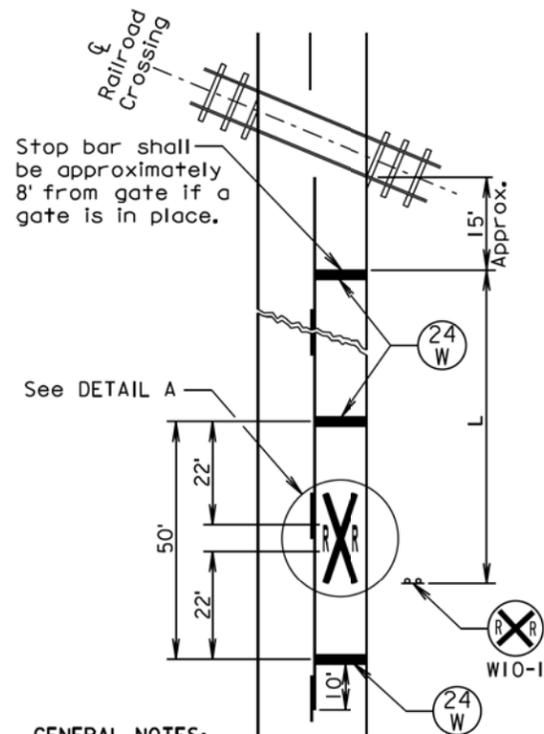
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KEY	ITEM
	24" White
	White

Posted Speed Limit (M.P.H.)	L (Ft.)
≤ 30	100
35	100
40	125
45	175
50	250
55	325
60	400
65	475
70	550



DETAIL A

**GENERAL NOTES:**

The railroad crossing pavement markings shall be placed symmetrically about the centerline of the railroad crossing.

When pavement markings are used, a portion of the RXR symbol shall be placed directly opposite of the advance warning sign W10-1.

On multi-lane roads the transverse bands shall extend across all approach lanes and individual RXR symbols shall be placed in each approach lane.

The railroad crossing pavement markings shall consist of all the transverse bands, stop bars, and RXR symbols.

When pavement marking paint is used for marking the railroad crossing, all costs for furnishing and painting the markings, materials, labor, and necessary equipment shall be incidental to the contract unit price per gallon for "Pavement Marking Paint, White".

When pavement marking tape is used for marking the railroad crossing, all costs for furnishing and placing the markings, materials, labor, and necessary equipment shall be incidental to the contract unit price per each for "Cold Applied Plastic Pavement Marking, Railroad Crossing".

June 26, 2013

<b>S D D O T</b>	<b>PAVEMENT MARKINGS AT RAILROAD CROSSING</b>	PLATE NUMBER <b>633.10</b>
	Published Date: 4th Qtr. 2014	Sheet 1 of 1