

FOR BIDDING PURPOSES ONLY

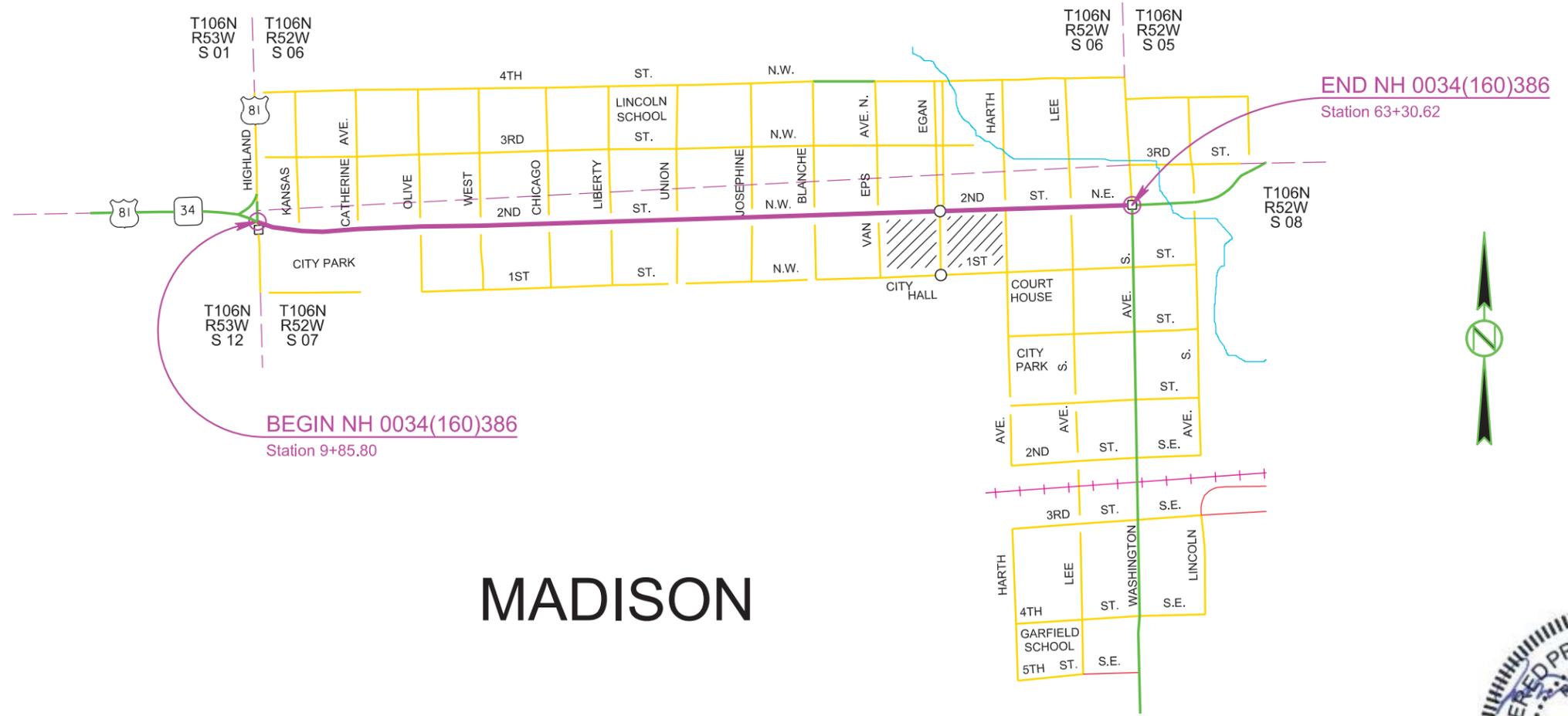
STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M1	TOTAL SHEETS M13
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Plotting Date: 11/30/2015

Section M: Pavement Marking Plans

INDEX OF SHEETS

M1	General Layout W/Index
M2	Estimate with Quantities and Plan Notes
M3-M12	Pavement Marking Layouts
M13	Standard Plates



MADISON



Plot Scale - 1:200

Plotted From - kmay

File - ...ACAD\LAKE02R0\Design\Title.dgn

SECTION M ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0020	Cold Applied Plastic Pavement Marking, 8"	930	Ft
633E0030	Cold Applied Plastic Pavement Marking, 24"	2,065	Ft
633E0040	Cold Applied Plastic Pavement Marking, Arrow	56	Each
633E1445	Pavement Marking Paint, Arrow	2	Each
633E3000	Durable Pavement Marking, 4" White	3,505	Ft
633E3005	Durable Pavement Marking, 4" Yellow	11,065	Ft
633E5005	Grooving for Cold Applied Plastic Pavement Marking, 8"	930	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	2,065	Ft
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	56	Each
633E5100	Grooving for Durable Pavement Marking, 4"	14,570	Ft
634E0560	Remove Pavement Marking, 4" or Equivalent	1,860	Ft
634E0565	Remove Pavement Marking, Arrow	17	Each

GROOVE PAVEMENT FOR PAVEMENT MARKING

The Contractor should not use water for the grooving for pavement markings. If water is used, then there shall be adequate time for the concrete pavement to completely dry prior to the installation of pavement markings.

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. The Contractor shall use a vacuum attachment to collect dust and residue created by the grooving of pavement. 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.

EXISTING PAVEMENT MARKINGS ON PAVEMENT LEFT IN-PLACE

For pavement markings that replace existing pavement markings on pavement left in-place extending from the 2nd Street intersections with Highland Avenue, Van Eps Avenue, Egan Avenue, and Washington Avenue as noted in the plans, the following notes apply:

Match existing lane channelization pavement markings unless indicated on the plan sheets. New pavement markings on in-place pavement shall tie into new pavement markings on new pavement.

Stationing of pavement markings on pavement left in-place is approximate and used as basis for estimate of quantities.

Unless specifically noted, estimate of quantities accounts for the removal of existing pavement markings on pavement to remain in-place, grooving for new pavement marking layout, and placement of new pavement markings.

REMOVE PAVEMENT MARKING

The Contractor shall remove all existing pavement markings for crosswalks, stop bars, lane lines, and arrows before placing new pavement markings on existing pavement. The locations and respective quantities for the removal and replacement of pavement markings on existing pavement to remain in-place at cross-street intersections have been identified in the plan sheets and accounted for in the estimate of quantities. The removal and replacement of the existing pavement markings shall be at the discretion of the Project Engineer.

All work involved in removing the existing crosswalk, stop bar, and lane line pavement markings for the placement of new pavement markings shall be incidental to the contract unit price per foot for "Remove Pavement Marking, 4" or Equivalent".

All work involved in removing the existing arrow pavement markings for the placement of new pavement markings shall be incidental to the contract unit price each for "Remove Pavement Marking, Arrow".

Removal quantities broken out per intersection, as follows:

Remove Pavement Marking, 4" or Equivalent:
 990 Ft at Highland Avenue Intersection
 120 Ft at Van Eps Avenue Intersection
 230 Ft at Egan Avenue Intersection
 520 Ft at Washington Avenue Intersection

Remove Pavement Marking, Arrow
 6 each at Highland Avenue Intersection
 8 each at Egan Avenue Intersection
 3 each at Washington Avenue Intersection

8" (WIDE) DOTTED WHITE LINES ON EXISTING PAVEMENT LEFT IN-PLACE

Two locations have been identified where existing pavement markings on pavement left in-place need to be removed and replaced with 8" Wide Solid White Lines to distinguish a lane drop in advance of the downstream intersection where the lane drop occurs.

Highland Avenue – Northbound Approach

The inside lane in the northbound direction drops as a left-turn only lane at the intersection with SD 34/2nd Street. The existing 4" broken white line shall be removed and replaced with a 8" Wide Dotted White Line extending from the southern end of the 8" (Wide) Solid White Line (STA 10+77-151' R) to the first pavement marking north of the 1st Street NW intersection (approx. STA 11+29-366' R). This represents approximately 250 feet distance on Highland Avenue alignment.

Washington Avenue – Northbound Approach

The outside lane in the northbound direction drops as a right-turn only lane at the intersection with SD 34/2nd Street. The existing 4" broken white line on existing pavement left in-place shall be removed and replaced with a 8" Wide Dotted White Line extending from the southern end of the 8" (Wide) Solid White Line (STA 61+83-140' R) to the first pavement marking north of the 1st Street NE intersection. This represents approximately 200 feet distance on Highland Avenue alignment.

FOR BIDDING PURPOSES ONLY

TWO-WAY LEFT-TURN ARROWS

Two-way left-turn arrow with opposing arrow have been shown in the plans downstream of the beginning of two-way left-turn lanes and supplemented at mid-block locations. These locations have been shown on the plans for approximate location and an estimation of quantities.

PERMANENT PAVEMENT MARKING

The Contractor shall apply permanent pavement marking upon project completion. The exact location of the pavement markings shall be measured on the pavement to plan specifications, spot marked with spray paint and the location of the pavement marking approved by the Engineer prior to pavement grooving and pavement marking application.

DRIVEWAY PAVEMENT MARKING ARROWS AT APPROX. STA 49+00 LT

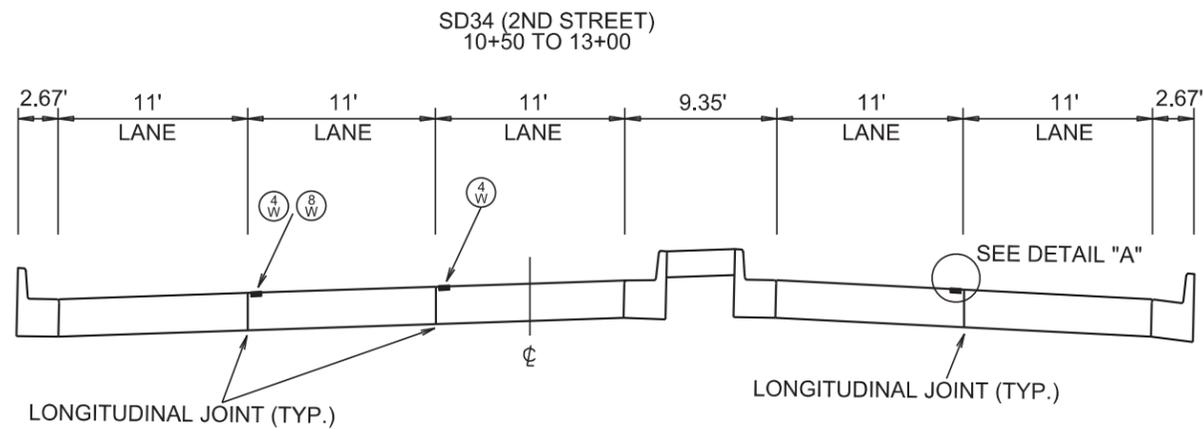
The Contractor shall coordinate the time of installation and final location of the two driveway exit pavement marking arrows at approximate STA 49+00 LT as shown in the plans, with the property owner prior to application. Driveway pavement is scheduled for removal and replacement as part of this project. Stationing and offset shown in the plans is approximate and based on current location. Cost for painting the arrows will be included in the contract unit price per Each for "Pavement Marking Paint, Arrow".



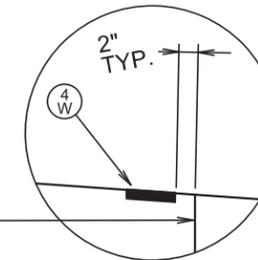
PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M3	TOTAL SHEETS M13
Plotting Date: 11/30/2015			

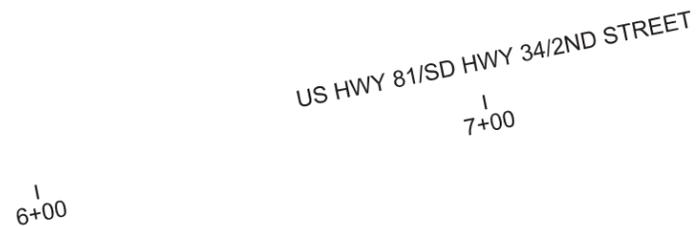


DETAIL "A"
LANE LINE IN SAME DIRECTION OF TRAVEL



LONGITUDINAL JOINT (TYP.)

SOLID OR BROKEN LANE LINE (TYPICAL)
- AS INDICATED ON PLAN SHEETS
- 2" LEFT OF LONGITUDINAL JOINT IN DIRECTION OF TRAFFIC FLOW



LEGEND

- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW

ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
	COLD APPLIED PLASTIC PAVEMENT MARKING, 8" WHITE	870	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, 8" YELLOW	60	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" WHITE	2,010	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, 24" YELLOW	55	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW LEFT - 46, RIGHT - 10, THRU - 0	56	EACH
	PAVEMENT MARKING PAINT, ARROW LEFT - 0, RIGHT - 0, THRU - 2	2	EACH
	DURABLE PAVEMENT MARKING, 4" WHITE	3,505	FT
	DURABLE PAVEMENT MARKING, 4" YELLOW	11,065	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 8"	930	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, 24"	2,065	FT
	GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW LEFT - 46, RIGHT - 10, THRU - 0	56	EACH
	GROOVING FOR DURABLE PAVEMENT MARKING, 4"	14,570	FT
	REMOVE PAVEMENT MARKING, 4" OR EQUIVALENT	1,860	FT
	REMOVE PAVEMENT MARKING, ARROW	17	FT

REMOVE AND REPLACE EXISTING PAVEMENT MARKINGS ON NORTH AND SOUTH INTERSECTION LEGS OF HIGHLAND AVENUE AND WEST INTERSECTION LEG OF 2ND STREET; TIE INTO EXISTING PAVEMENT MARKINGS

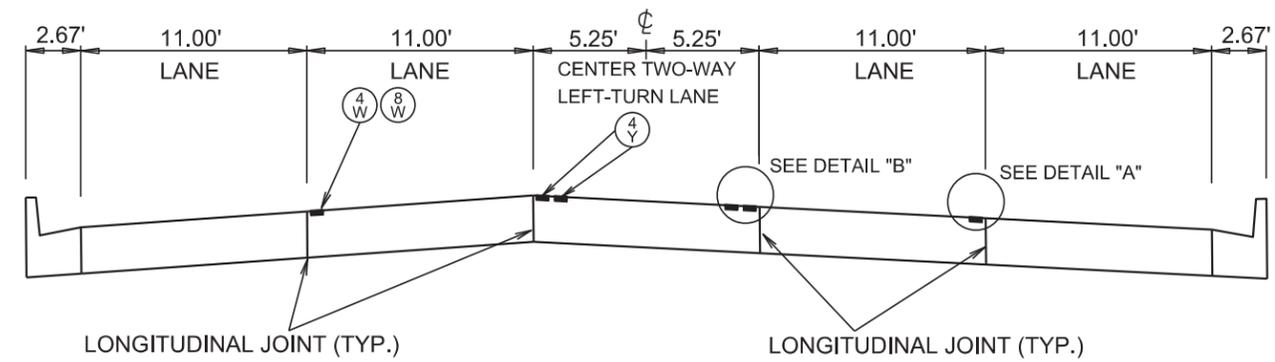
SEE NOTES REGARDING 8" (WIDE) DOTTED WHITE LANE LINES ON EXISTING PAVEMENT BETWEEN SD 34/2ND STREET AND 1ST STREET NW.

PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

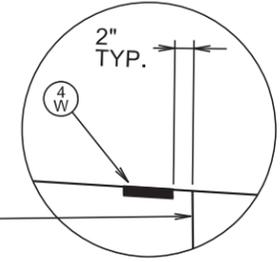
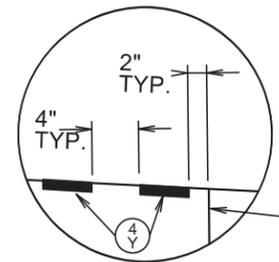
STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M4	TOTAL SHEETS M13
Plotting Date: 11/30/2015			

SD34 (2ND STREET)
15+00 TO 43+00

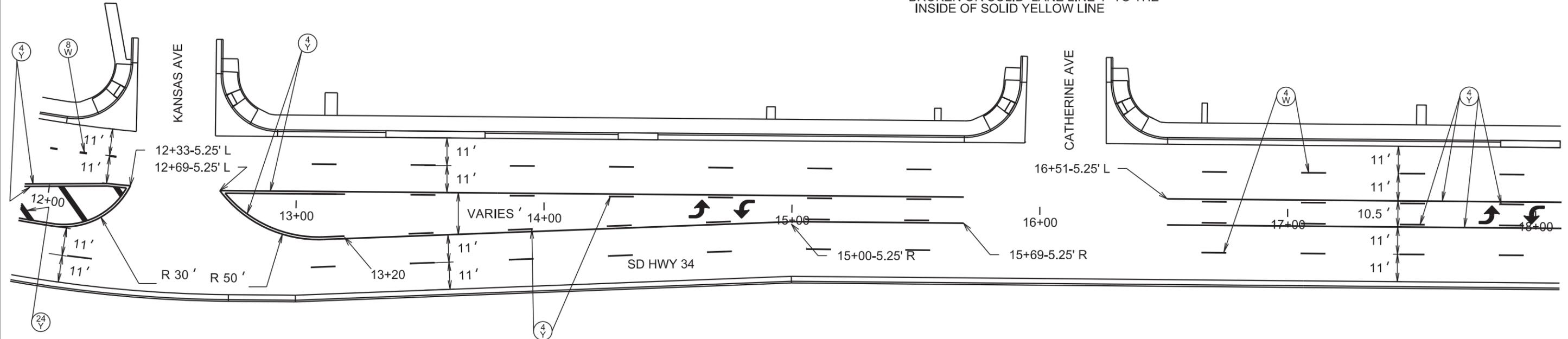


DETAIL "B"
CENTER TWO-WAY LEFT-TURN LANE

DETAIL "A"
LANE LINE IN SAME DIRECTION OF TRAVEL



- SOLID OR BROKEN LANE LINES (TYPICAL)
 - AS INDICATED ON PLAN SHEETS
 - SOLID LANE LINE 2" LEFT OF LONGITUDINAL JOINT IN DIRECTION OF TRAFFIC FLOW
 - BROKEN OR SOLID LANE LINE 4" TO THE INSIDE OF SOLID YELLOW LINE
- SOLID OR BROKEN LANE LINE (TYPICAL)
 - AS INDICATED ON PLAN SHEETS
 - 2" LEFT OF LONGITUDINAL JOINT IN DIRECTION OF TRAFFIC FLOW



LEGEND

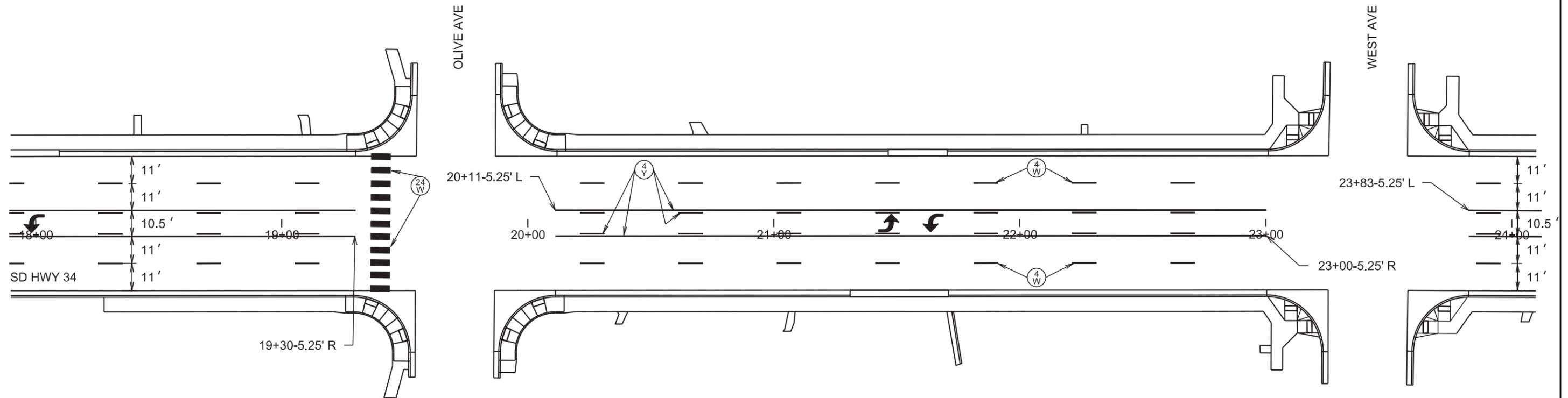
- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW



PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M5	TOTAL SHEETS M13
Plotting Date: 11/30/2015			



LEGEND

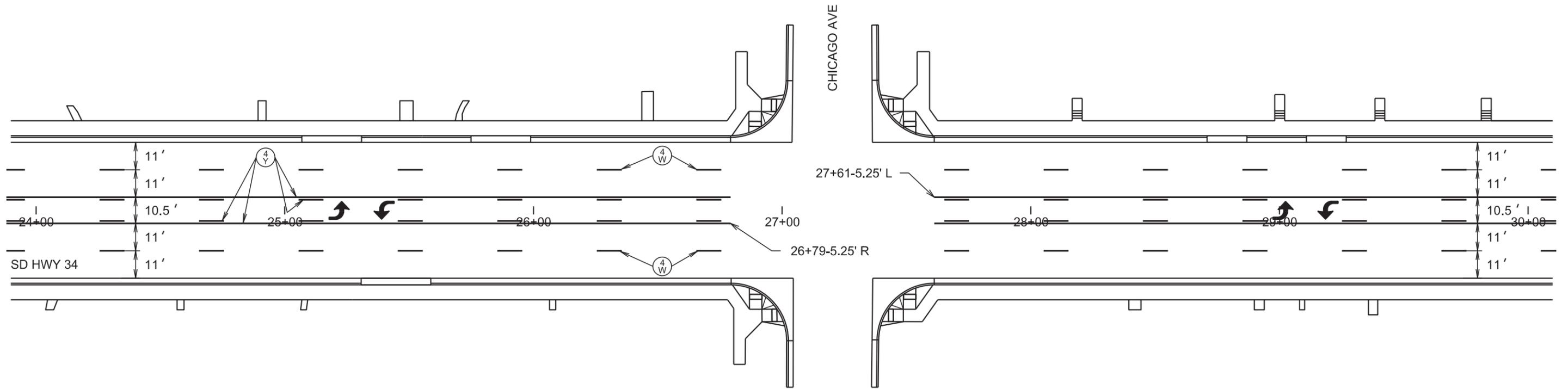
- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW



PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0034(160)386	M6	M13
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LEGEND

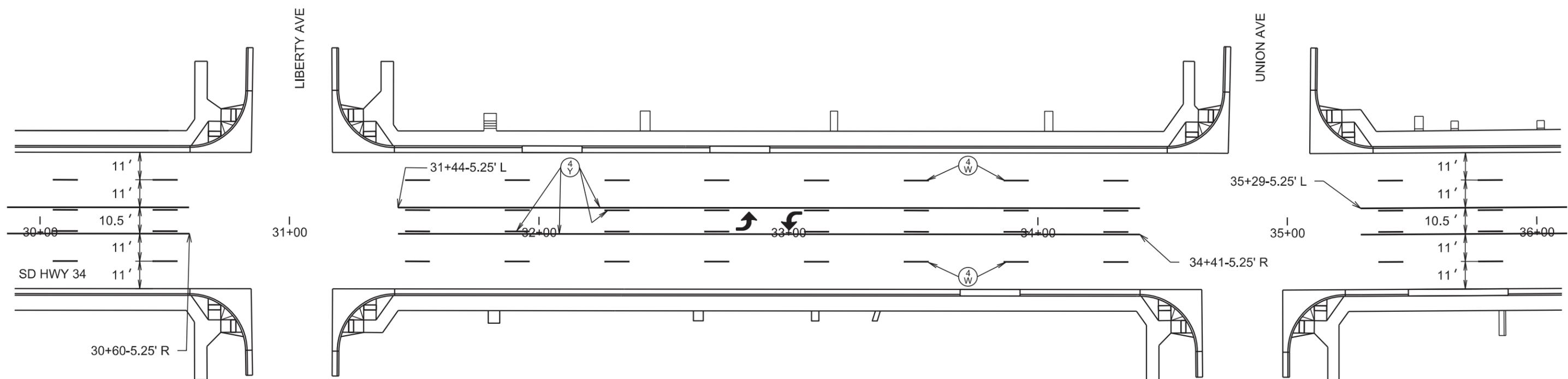
- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW



PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M7	TOTAL SHEETS M13
Plotting Date: 11/30/2015			



LEGEND

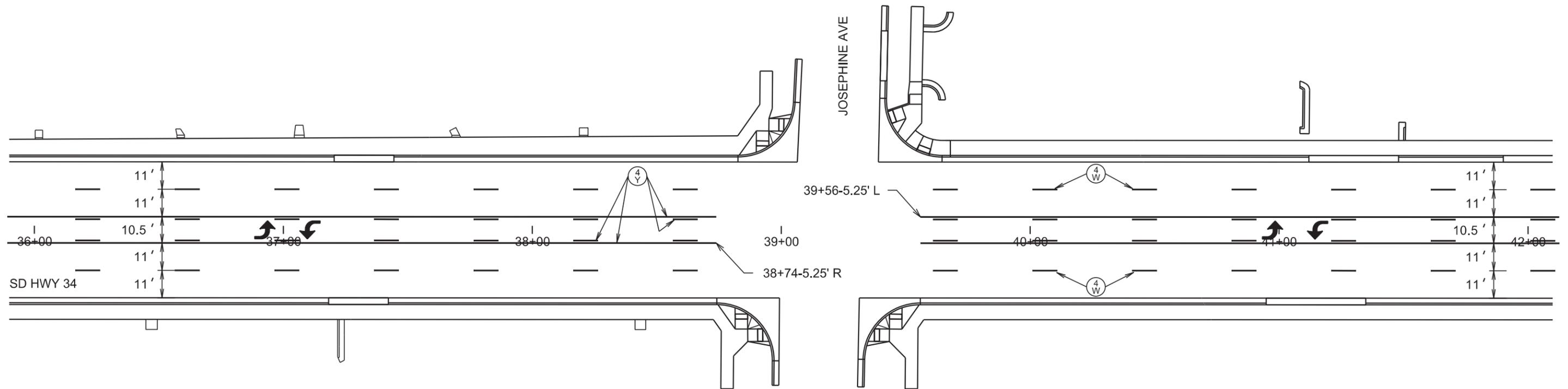
- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW



PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0034(160)386	M8	M13
Plotting Date:		11/30/2015	



LEGEND

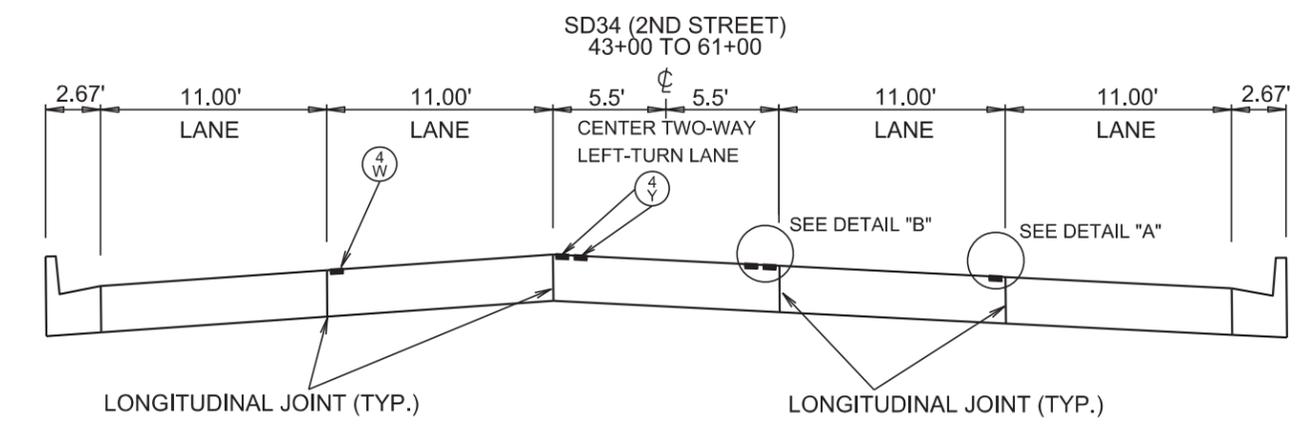
-  4" WHITE
-  4" YELLOW
-  8" WHITE
-  8" YELLOW
-  24" WHITE
-  24" YELLOW
-  ARROW



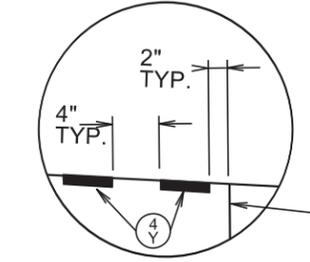
PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M9	TOTAL SHEETS M13
Plotting Date: 11/30/2015			

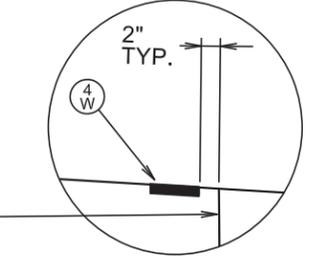


DETAIL "B"
CENTER TWO-WAY LEFT-TURN LANE

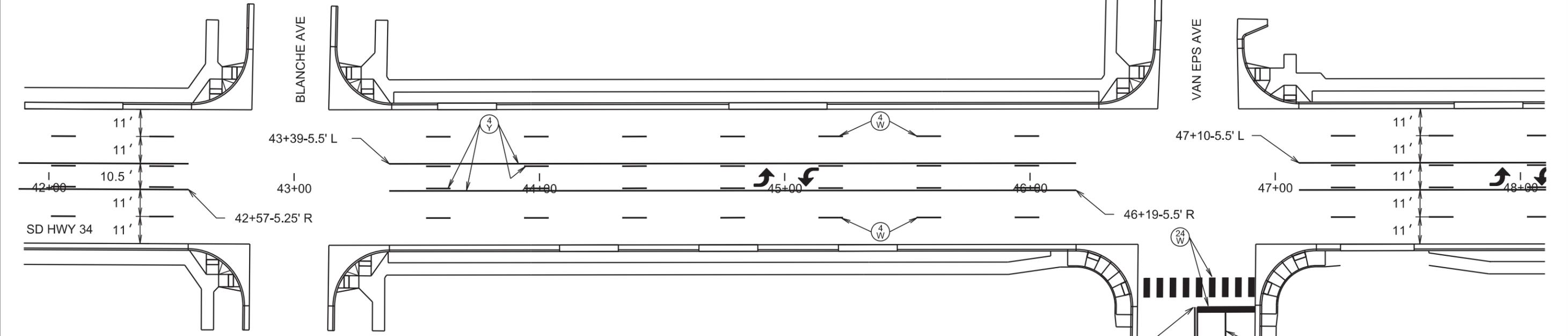
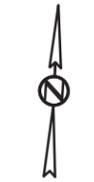


SOLID OR BROKEN LANE LINES (TYPICAL)
- AS INDICATED ON PLAN SHEETS
- SOLID LANE LINE 2" LEFT OF LONGITUDINAL JOINT IN DIRECTION OF TRAFFIC FLOW
- BROKEN OR SOLID LANE LINE 4" TO THE INSIDE OF SOLID YELLOW LINE

DETAIL "A"
LANE LINE IN SAME DIRECTION OF TRAVEL



SOLID OR BROKEN LANE LINE (TYPICAL)
- AS INDICATED ON PLAN SHEETS
- 2" LEFT OF LONGITUDINAL JOINT IN DIRECTION OF TRAFFIC FLOW



LEGEND

- (4 W) 4" WHITE
- (4 Y) 4" YELLOW
- (8 W) 8" WHITE
- (8 Y) 8" YELLOW
- (24 W) 24" WHITE
- (24 Y) 24" YELLOW
- ↩ ARROW

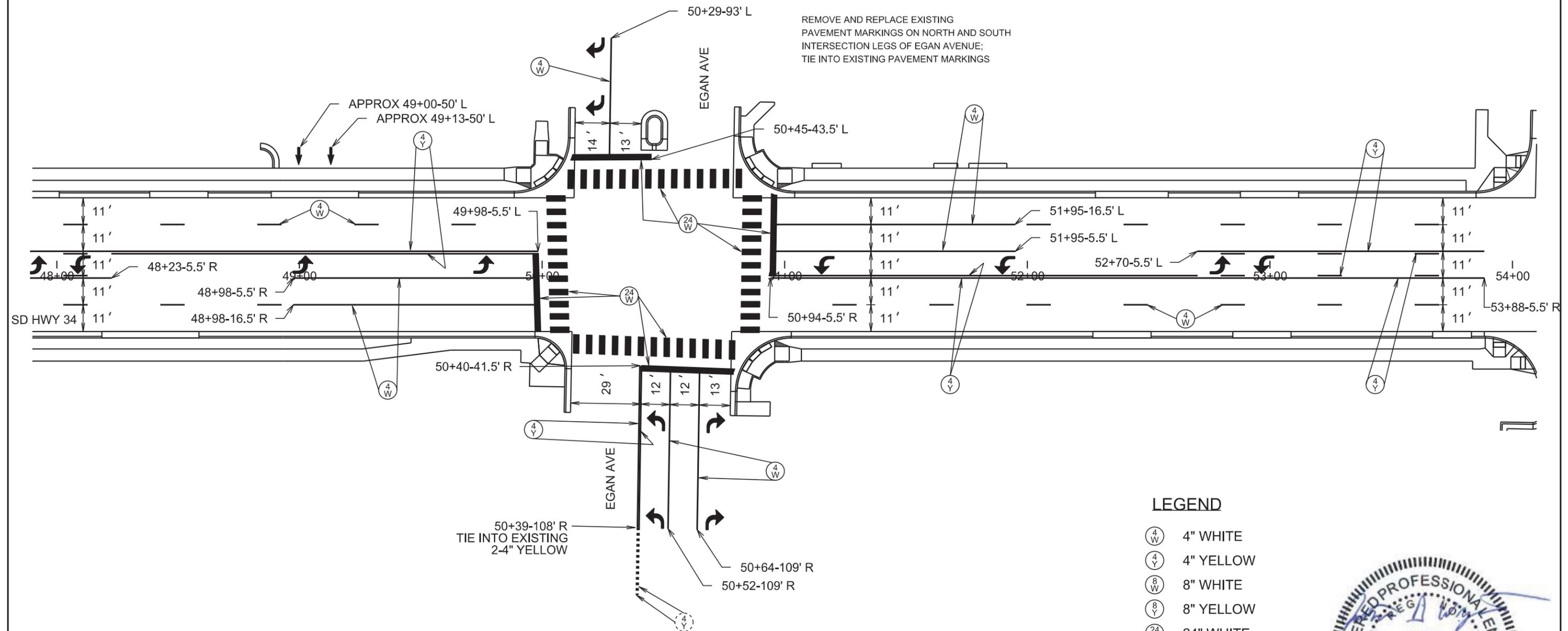
REMOVE AND REPLACE EXISTING PAVEMENT MARKINGS ON SOUTH INTERSECTION LEG OF VAN EPS AVENUE



PAVEMENT MARKING LAYOUT

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STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M10	TOTAL SHEETS M13
Plotting Date: 11/30/2015			



REMOVE AND REPLACE EXISTING PAVEMENT MARKINGS ON NORTH AND SOUTH INTERSECTION LEGS OF EGAN AVENUE; TIE INTO EXISTING PAVEMENT MARKINGS

LEGEND

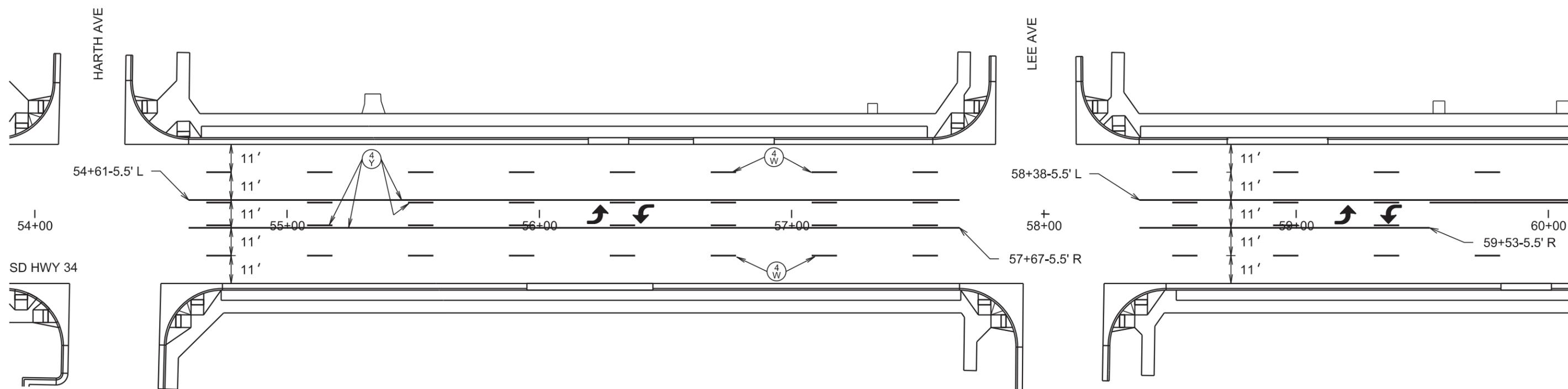
- (4W) 4" WHITE
- (4Y) 4" YELLOW
- (8W) 8" WHITE
- (8Y) 8" YELLOW
- (24W) 24" WHITE
- (24Y) 24" YELLOW
- ↩ ARROW



PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M11	TOTAL SHEETS M13
Plotting Date: 11/30/2015			



LEGEND

- 4" WHITE
- 4" YELLOW
- 8" WHITE
- 8" YELLOW
- 24" WHITE
- 24" YELLOW
- ARROW

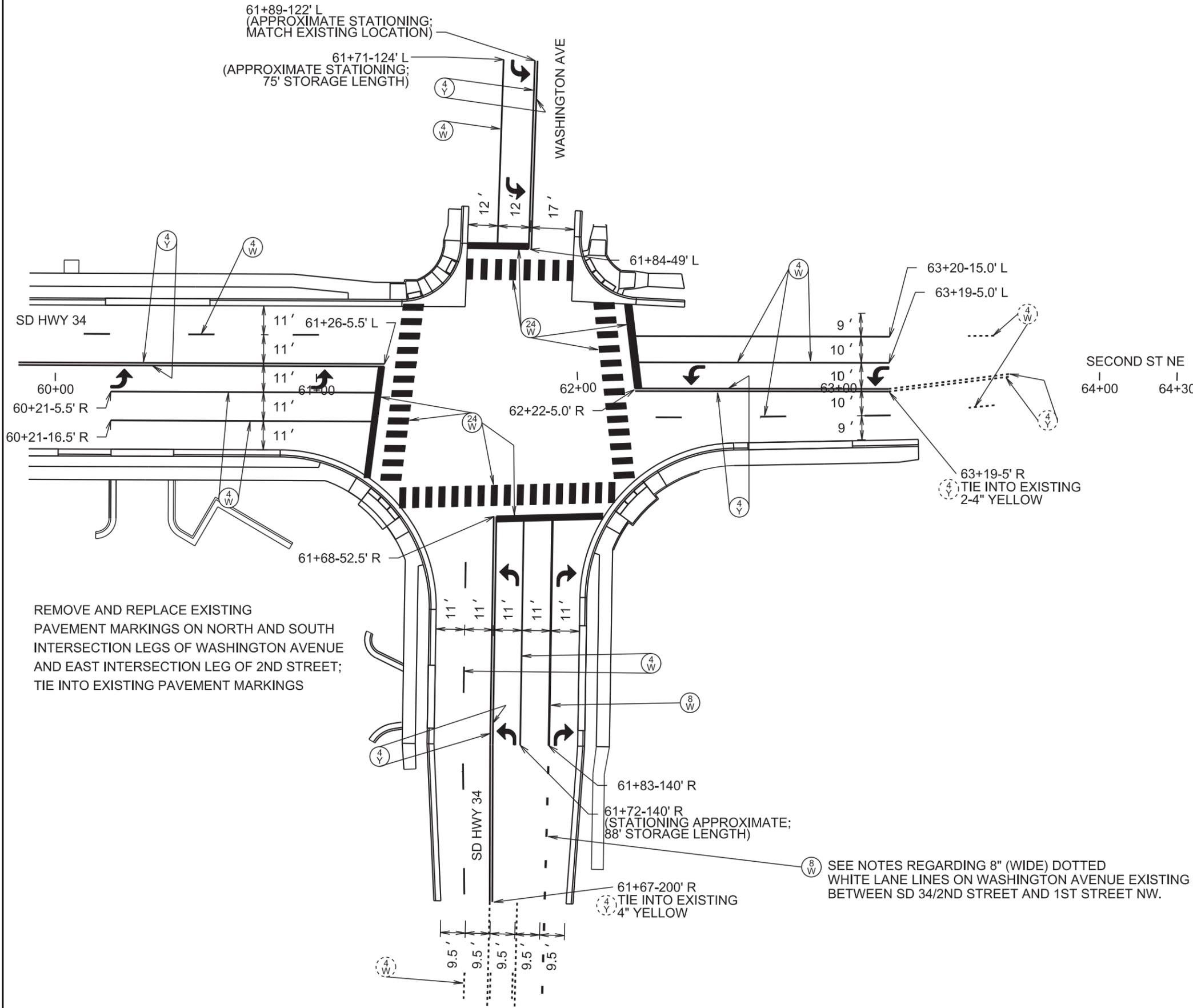


PAVEMENT MARKING LAYOUT

FOR BIDDING PURPOSES ONLY

STATE OF SOUTH DAKOTA	PROJECT NH 0034(160)386	SHEET M12	TOTAL SHEETS M13
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Plotting Date: 11/30/2015



- LEGEND**
- (4 W) 4" WHITE
 - (4 Y) 4" YELLOW
 - (8 W) 8" WHITE
 - (8 Y) 8" YELLOW
 - (24 W) 24" WHITE
 - (24 Y) 24" YELLOW
 - ↩ ARROW

REMOVE AND REPLACE EXISTING PAVEMENT MARKINGS ON NORTH AND SOUTH INTERSECTION LEGS OF WASHINGTON AVENUE AND EAST INTERSECTION LEG OF 2ND STREET; TIE INTO EXISTING PAVEMENT MARKINGS

(8 W) SEE NOTES REGARDING 8" (WIDE) DOTTED WHITE LANE LINES ON WASHINGTON AVENUE EXISTING PAVEMENT BETWEEN SD 34/2ND STREET AND 1ST STREET NW.



