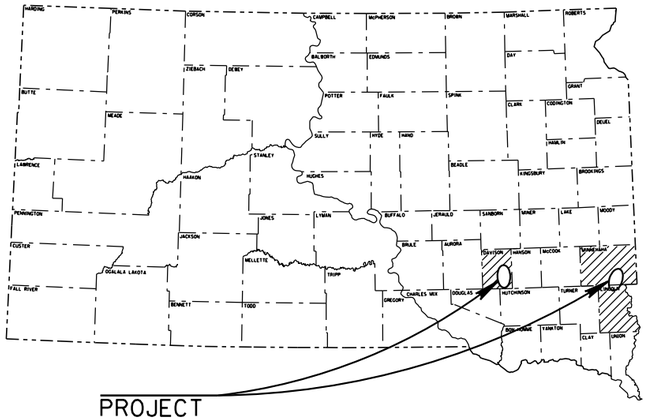
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	1	113

Plotting Date: 03/23/2016

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION
PLANS FOR PROPOSED

PROJECT PH 0020(128)

I–29, I–90 & I–229
DAVISON, MINNEHAHA and LINCOLN COUNTIES



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Sheet Nos.	6 thru 30	SD 37 Pavement Marking Layouts
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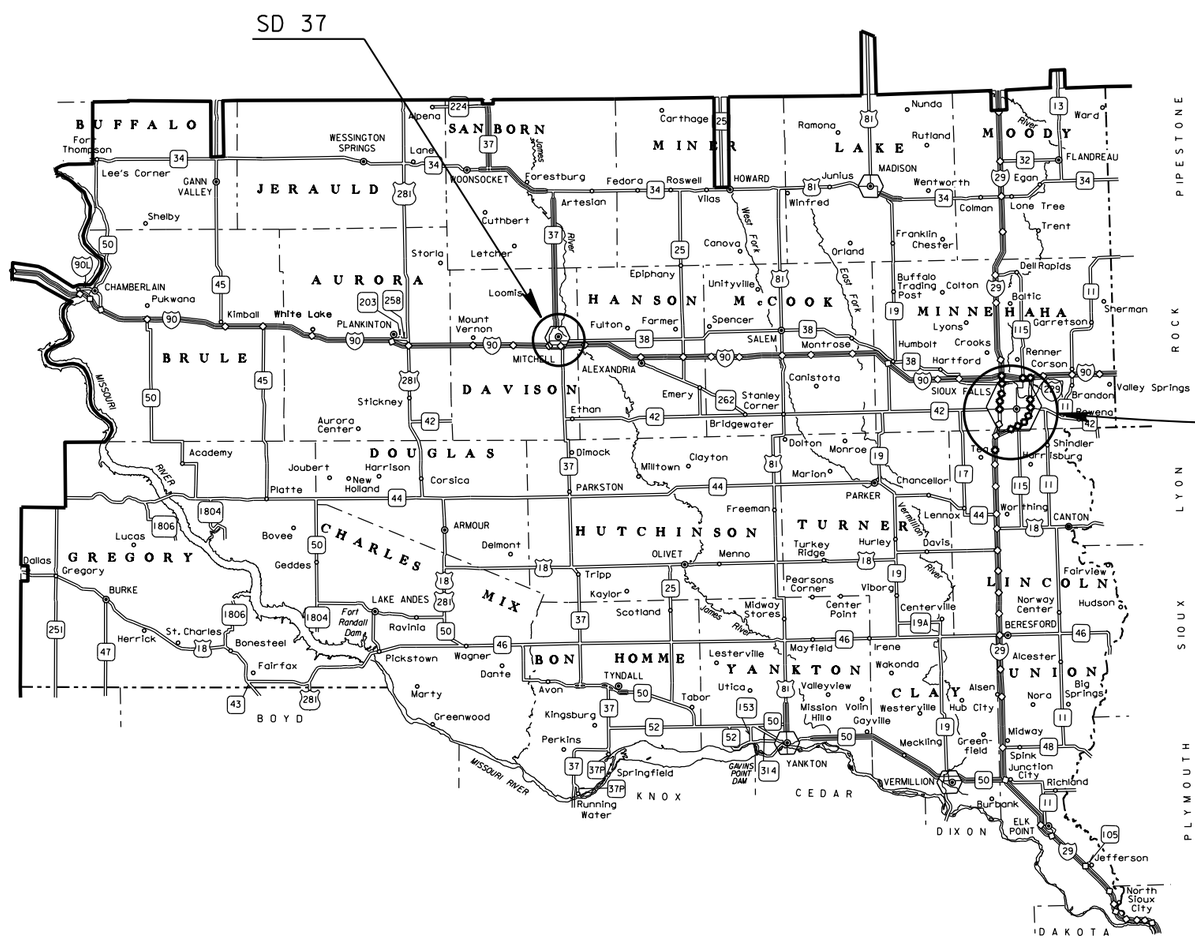
Sheet Nos.	75 thru 82	I229 Pavement Marking Layouts
Sheet Nos.	83 thru 108	I90 Pavement Marking Layouts
Sheet No.	109	Mobile Operations Layout
Sheet No.	110 thru 113	Traffic Control Standard Plates

DURABLE PAVEMENT MARKING
PCN 03B4

ADT's

I29 (MRM 73.0 - 84.50)	-	38,647
I229 (MRM 0.00 - 10.00)	-	32,612
I90 (MRM 395.00 - 401.00)	-	16,200
SD 37 (MRM 73.08 -.246 - 76.25)	-	7,291

STORM WATER PERMIT
(None Required)



I-29, I-90 & I-229
Interstate Exit and Entrance Ramps
I-29 EXITS 73, 77, 78, 79, 80, 81, 82, 83 & 84
I-90 EXITS 395, 396, 399 & 400
I-229 EXITS 1C, 2, 3, 4, 5, 6, 7, 9, & 10

5

PLOT SCALE - 1:200.2
PLOTTED FROM - TRM111119
PLOT NAME - 1
FILE - ...\REGIONWIDE2016\TITLEM.DGN

ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
009E0010	Mobilization	Lump Sum	LS
633E0040	Cold Applied Plastic Pavement Marking, Arrow	210	Each
633E0045	Cold Applied Plastic Pavement Marking, Combination Arrow	28	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
633E0062	Cold Applied Plastic Pavement Marking, Symbol	68	Each
633E3000	Durable Pavement Marking, 4" White	181,526	Ft
633E3005	Durable Pavement Marking, 4" Yellow	129,595	Ft
633E3010	Durable Pavement Marking, 8" White	4,741	Ft
633E3020	Durable Pavement Marking, 12" White	16,270	Ft
633E3030	Durable Pavement Marking, 24" White	6,472	Ft
633E3035	Durable Pavement Marking, 24" Yellow	741	Ft
633E3040	Durable Pavement Marking, Area	473	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	210	Each
633E5030	Grooving for Cold Applied Plastic Pavement Marking, Combination Arrow	28	Each
633E5037	Grooving for Cold Applied Plastic Pavement Marking, Symbol	68	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each
633E5050	Surface Preparation for Pavement Marking	412,691	Ft
633E5051	Surface Preparation for Pavement Marking	473	SqFt
633E9200	Mobile Retroreflectometer Measurements	83.700	Mile
634E0010	Flagging	84.0	Hour
634E0110	Traffic Control Signs	788.0	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	LS
634E0280	Type 3 Barricade, 8' Single Sided	2	Each
634E0420	Type C Advance Warning Arrow Board	4	Each
998E0100	Railroad Protective Insurance	Lump Sum	LS

SPECIFICATIONS

South Dakota Department of Transportation Standard Specifications for Roads and Bridges, 2015 Edition, Required Provisions, Supplemental Specifications and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

An Environmental Commitment is a measure that SDDOT commits to implement in order to avoid, minimize, and/or mitigate a real or potential environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency mentioned below with permitting authority can influence a project if perceived environmental impacts have not been adequately addressed. Unless otherwise designated, the Contractor's primary contact regarding matters associated with these commitments will be the Project Engineer. These environmental commitments are not subject to change without prior written approval from the SDDOT Environmental Office. The environmental commitments associated with this project are as follows:

COMMITMENT E: STORM WATER

Construction activities constitute less than 1 acre of disturbance.

Action Taken/Required:

At a minimum and regardless of project size, appropriate erosion and sediment control measures must be installed to control the discharge of pollutants from the construction site.

COMMITMENT H: WASTE DISPOSAL SITE

The Contractor shall furnish a site(s) for the disposal of construction and/or demolition debris generated by this project.

Action Taken/Required:

Construction and/or demolition debris may not be disposed of within the State ROW.

The waste disposal site(s) shall be managed and reclaimed in accordance with the following from the General Permit for Highway, Road, and Railway Construction/Demolition Debris Disposal Under the South Dakota Waste Management Program issued by the Department of Environment and Natural Resources.

The waste disposal site(s) shall not be located in a wetland, within 200 feet of surface water, or in an area that adversely affects wildlife, recreation, aesthetic value of an area, or any threatened or endangered species, as approved by the Project Engineer.

If the waste disposal site(s) is located such that it is within view of any ROW, the following additional requirements shall apply:

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials shall be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris shall consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the State ROW shall be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor shall control the access to waste disposal sites not within the State ROW through the use of fences, gates, and placement of a sign or signs at the entrance to the site stating "No Dumping Allowed".

2. Concrete and asphalt concrete debris may be stockpiled within view of the ROW for a period of time not to exceed the duration of the project. Prior to project completion, the waste shall be removed from view of the ROW or buried and the waste disposal site reclaimed as noted above.

COMMITMENT H: WASTE DISPOSAL SITE

The above requirements will not apply to waste disposal sites that are covered by an individual solid waste permit as specified in SDCL 34A-6-58, SDCL 34A-6-1.13, and ARSD 74:27:10:06.

Failure to comply with the requirements stated above may result in civil penalties in accordance with South Dakota Solid Waste Law, SDCL 34A-6-1.31.

All costs associated with furnishing waste disposal site(s), disposing of waste, maintaining control of access (fence, gates, and signs), and reclamation of the waste disposal site(s) shall be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

The SDDOT has obtained concurrence with the State Historical Preservation Office (SHPO or THPO) for all work included within the project limits and all department designated sources and designated option material sources, stockpile sites, storage areas, and waste sites provided within the plans.

Action Taken/Required:

All earth disturbing activities not designated within the plans require review of cultural resources impacts. This work includes, but is not limited to: staging areas, borrow sites, waste disposal sites, and all material processing sites.

The Contractor shall arrange and pay for a cultural resource survey and/or records search. The Contractor has the option to contact the state Archaeological Research Center (ARC) at 605-394-1936 or another qualified archaeologist, to obtain either a records search or a cultural resources survey. A record search might be sufficient for review; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor shall provide ARC with the following: a topographical map or aerial view on which the site is clearly outlined, site dimensions, project number, and PCN. If applicable, provide evidence that the site has been previously disturbed by farming, mining, or construction activities with a landowner statement that artifacts have not been found on the site.

The Contractor shall submit the records search or cultural resources survey report and if the location of the site is within the current geographical or historic boundaries of any South Dakota reservation to SDDOT Environmental Engineer, 700 East Broadway Avenue, Pierre, SD 57501-2586 (605-773-3180). SDDOT will submit the information to the appropriate SHPO/THPO. Allow **30 Days** from the date this information is submitted to the Environmental Engineer for SHPO/THPO review.

If evidence for cultural resources is uncovered during project construction activities, then such activities shall cease and the Project Engineer shall be immediately notified. The Project Engineer will contact the SDDOT Environmental Engineer in order to determine an appropriate course of action.

SHPO/THPO review does not relieve the Contractor of the responsibility for obtaining any additional permits and clearances for staging areas, borrow sites, waste disposal sites, or material processing sites that affect wetlands, threatened and endangered species, or waterways. The Contractor shall provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

REVISED 3/30/16 GB

WORK DESCRIPTION

The project is broken down into 3 sections:

Section 1 – I-90 Minnehaha County (Exits 395, 396, 399 & 400). Work shall include grooving, surface prep and applying durable pavement marking on ramp edgelines, crosswalks, stop lines, turn arrows & gore markings on both mainline and ramps.

Section 2 – I-29 Minnehaha County (Exits 73, 77, 78, 79, 80, 81, 82, 83 & 84). Work shall include surface prep and applying durable pavement marking on ramp edgelines, crosswalks. Stop lines & turn arrows.

Section 3 – I-229 Minnehaha and Lincoln Counties (Exits 1C, 2, 3, 4, 5, 6, 7, 9 & 10). Work shall include surface prep and applying durable pavement marking on ramp edgelines, crosswalks, stop lines & turn arrows.

WORK DESCRIPTION (CONTINUED)

Section 4 – SD 37 (mrm 73.08 -.246 – mrm 76.25). Work shall include surface prep and applying durable pavement marking on edgelines, center lines, crosswalks, stop lines, turn arrows & railroad markings.

SURFACE PREPARATION

The durable markings to be provided and installed shall have any existing groove prepared.

The preparation shall result with the existing pavement marking being removed from the existing groove to reveal 90% of the pavement surface below the old marking.

The depth of preparation shall be adequate to inlay the durable marking below the pavement surface equivalent to the sum of the pavement marking thickness (including reflective media) +15 mils ± 5 mils clear coat.

All costs associated with preparation of the existing groove shall be incidental to the contract unit price per foot for Surface Preparation for Pavement Marking. Surface preparation shall be measured as 4" equivalent.

No grooving or surface preparation will be allowed on bridge decks. All pavement markings on bridge decks shall be surface applied.

GENERAL MAINTENANCE OF TRAFFIC

Lane closures per standard plates 634.69 and 634.70 shall be used for work on the mainline and ramps between the hours of 6:00 AM and 6:00 PM. Mobile work operations will not be allowed on the mainline lanes. Mobile work operations on the ramps will be allowed only between 6:00 PM and 6:00 AM. During mobile work operations, newly placed markings on the ramps shall be marked with reflectorized cones spaced at 50 feet until the markings have dried/cured to a no track condition..

No work will be allowed during peak hours of the day. The peak hours of the day are specified to be 7:00 am – 9:00 am and 3:45 pm – 6:00 pm.

The work on SD 37 shall be done by mobile work operations for the long lines and lane closures for the hand work. Both operations shall be done during daylight hours.

Sufficient quantities for Traffic Control signs have been included to sign for two lane closures for Exit Ramps, two lane closures for Entrance Ramps and two lane closures for multi-lane highway. If the Contractor elects to use additional traffic control, the cost for additional traffic control devices or equipment shall be incidental to the contract unit price per per square foot for Traffic Control Signs.

GENERAL MAINTENANCE OF TRAFFIC (CONTINUED)

Cost of equipment and traffic control devices on equipment for a mobile work operation, including arrow panels and signs, shall be incidental to the various work items.

COORDINATION OF PROJECTS

Project IM 2292(97)7 PCN 04VX, Approach Slab Repair, Joint Modification, & Bridge Deck Polymer Chip Seal for I229\Rice Street will be completed by another Contractor in 2016. Contact Travis Dressen (605-367-5680) The Sioux Falls Area Engineer for completion date.

Project IM 0293(96)73 PCN 01QS, Grading, Structures, PCC Surfacing, Lighting & Utilities on I29 will be completed by another Contractor in 2016. Contact Travis Dressen (605-367-5680) The Sioux Falls Area Engineer for completion date.

The durable pavement markings shall be installed on the roadway after completion of the work on these projects..

REFLECTORIZED SHEETING REQUIREMENTS FOR TEMPORARY TRAFFIC CONTROL DEVICES

Delete the first paragraph of Section 984.1 and replace with the following:

Temporary traffic control devices, including signs, drums, cones, tubular markers, barricades, vertical panels, and direction indicator barricades shall be reflectorized with sheeting applied to a satisfactory backing. For all temporary traffic control warning signs, the reflective sheeting shall meet or exceed the standards of Type VII, Type VIII, Type IX, or Type XI as defined by AASHTO M 268 (ASTM D4956). For all other temporary traffic control signs, the reflective sheeting shall meet or exceed the standards of Type IV, Type V, Type VII, Type VIII, Type IX, or Type XI as defined by AASHTO M 268 (ASTM D4956). For barricades, vertical panels, and direction indicator barricades; the reflective sheeting shall meet or exceed the standards of Type III as defined by AASHTO M 268 (ASTM D4956). Round surfaced temporary traffic control devices including, but not limited to; drums, cones, and tubular markers shall be reflectorized with reflectorized sheeting meeting or exceeding the standards of Type IV as defined by AASHTO M 268 (ASTM D4956). All orange colored material shall be fluorescent.

COLD APPLIED PLASTIC PAVEMENT MARKING

All materials shall be applied as per manufacturer's recommendations.

Cold Applied Plastic Pavement Markings shall be 3M Series 380 AW or approved equal.

GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING

The Contractor shall establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving shall be vacuumed. Solid residue shall be removed from the pavement surfaces before being blown by traffic action or wind. Residue from wet grooving 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. All costs for removal of grinding and/or grooving residue shall be included in the contract unit price per foot for Grooving for Cold Applied Plastic Pavement Marking.

The bottom of the groove shall be uniform and free of loose material. The groove shall be flat and of uniform depth for the entire width of the groove.

MOBILE RETROREFLECTIVITY MEASUREMENTS

All retroreflectivity measurements will be taken by an Independent Consultant hired by the Contractor. A retroreflectivity report of the measurements from the Independent Consultant shall be provided to the Engineer.

The Independent Consultant shall take measurements using a vehicle-mounted mobile retroreflectometer. The mobile retroreflectometer shall utilize 30 meter CEN geometry in accordance with ASTM E 1710 (Standard Test Method for Measurement of Retroreflective Pavement Markings Materials with CEN-Prescribed Geometry Reflectometers).

The retroreflectometer shall be calibrated no less than twice a day in accordance with the operating manual and calibration guide for the particular machine and vehicle.

Measurement shall consist of the average retroreflective readings and standard deviations for pavement marking placed under this Contract. Retroreflectivity measurements shall be taken on each edgeline, mainline and ramp gore marking, and skip centerline marking. Measure each line type separately. Measurement units shall be mcd/m^2/lux. Retroreflectivity shall be measured by taking a minimum 40 retroreflectivity readings within 528' (1/10 mile) on solid lines and a minimum 20 retroreflectivity readings within 528' (1/10 mile) on skip lines. Gore markings shall have a minimum of two retroreflectivity readings taken on each marking.

The average retroreflectivity readings for each individual 4" wide line shall be obtained at 528' (1/10 mile) intervals.

Payment will be made for the actual length of retroreflectivity measured. This is based on one laser instrument on one van that reads one line with each pass. Four passes are required for each mile of three-lane interstate in one direction; LEL – Left Edgeline, REL – Right Edgeline and all gore markings along right edgeline, LCL- Left Centerline and RCL Right Centerline. Three passes are required for each mile of two-lane interstate in one direction; LEL – Left Edgeline, REL – Right Edgeline and all gore markings along right edgeline, CL- Centerline. One additional pass per the length of the gore marking on the left side of the ramp will be required.

Measurements shall be obtained no sooner than 3 days and no later than 30 days after the completion of all the line applications required for an individual

Measurements shall be obtained no sooner than 3 days and no later than 30 days after the completion of all the line applications required for an individual highway route. Excess beads or reflective elements must not be visible when the retroreflectivity testing is conducted.

Measurements shall be collected when pavement and markings are dry, clean and no visible moisture is on the road surface. These criteria define initial pavement marking retroreflectivity values. Markings shall be measured in the direction of intended vehicular travel. The Independent Consultant should expect to retest failed segments after the markings have been replaced at no additional cost to the State.

The averaged 528' (1/10 mile) retroreflectivity reading shall meet the requirements for retroreflectivity as specified in the Special Provision for Durable Markings. Any retroreflectivity readings not meeting the Special Provision shall be considered failed. Failed markings will be removed and remarked by the Contractor in 528' lengths.

The Contractor shall mark the begin and end of the length of line to be removed and remarked that is represented by the failed 528' (1/10 mile) averaged reading.

MOBILE RETROREFLECTIVITY MEASUREMENTS (CONTINUED)

The measurement report will be in the form of an electronic database file, or delimited text file, and contain all raw data collected. The electronic file must also contain a summary of findings. The retroreflectivity report, including the summary and a copy of the electronic file with all data, shall be provided to the Engineer. The measurement report will include:

- State Project number
- Trunk Highway number
- Date the measurements were taken
- Geographical location the measurements were taken including a distance from the nearest permanent site identification, such as a mile reference marker. The beginning and ending reference points of data collection rounded to the nearest thousandths of a mile and the beginning and ending coordinates determined by a Global Positioning System receiver with 3 meter accuracy, including the direction of travel in terms of increasing or decreasing reference points
- Identification of the pavement marking material including line type, color, age, and transverse location on the road. Identification of the marking to be included in the format; (LEL – Left Edgeline, REL – Right Edgeline, CL – Centerline, LL – Lane Line Skip, 1LL – left most LL in multilane, 2LL – second to left most LL in multilane, etc)
- Identification of the retroreflectometer
- A summary of the average retroreflective readings for each continuous length of 0.1 mile measured
- A separate summary of the gore marking retroreflectivity reading

Should another mobile unit be available, the maximum acceptable deviation for measurements made by the two different instruments of the same manufacturer and for the same roadway length shall be ± 10%.

Repeatability for the given mobile unit shall be ± 6%.

The locations of the measurements shall be randomly selected.

No final payment for pavement markings shall be made until the retroreflectivity measurements are taken and the retroreflectivity report is provided to the Engineer.

Cost for all mobile retroreflectivity measurements, reports, marking of failed lengths, equipment, materials and labor shall be included in the contract unit price per Mile for Mobile Retroreflectivity Measurements.

QUALITY ASSURANCE

A concrete pavement test deck site will be agreed upon. A 500' white and a 500' yellow stripe shall be marked by the Contractor on the test deck site. The Department and the Independent Consultant will conduct joint evaluations of both yellow and white longitudinal markings within the test site using the Department's handheld retroreflectometer and the Independent Consultant's mobile retroreflectometer. Five readings will be taken on the white marking and five readings will be taken on the yellow marking. The evaluation will be deemed successful if the mean average obtained by the Independent Consultant's mobilehigh traffic volumn retroreflectometer differs by less than 10% to the mean average obtained by the Department's handheld retroreflectometer for each color.

Cost for Quality Assurance shall be included in the contract unit price per Mile for Mobile Retroreflectivity Measurements.

ITEMIZED LIST FOR TRAFFIC CONTROL SIGNS

		EXPRESSWAY / INTERSTATE			
SIGN CODE	SIGN DESCRIPTION	NUMBER	SIGN SIZE	SQFT PER SIGN	SQFT
R1-1	STOP		36" x 36"	9	
R1-2	YIELD		60" x 60"	25	
R2-1	SPEED LIMIT __	10	36" x 48"	12	120
R2-6aP	FINES DOUBLE (plaque)	2	36" x 24"	6	12
R4-7	KEEP RIGHT (symbol)		36" x 48"	12	
R5-1	DO NOT ENTER		36" x 36"	9	
R5-1a	WRONG WAY		42" x 30"	9	
R11-2	ROAD CLOSED		48" x 30"	10	
W1-1	LEFT or RIGHT TURN ARROW		48" x 48"	16	
W1-2	LEFT or RIGHT CURVE ARROW		48" x 48"	16	
W1-3	REVERSE TURN (L or R)		48" x 48"	16	
W1-4	REVERSE CURVE (L or R)		48" x 48"	16	
W3-1	STOP AHEAD (symbol)		48" x 48"	16	
W3-2	YIELD AHEAD (symbol)		48" x 48"	16	
W3-3	SIGNAL AHEAD (symbol)		48" x 48"	16	
W3-4	BE PREPARED TO STOP		48" x 48"	16	
W3-5	SPEED REDUCTION AHEAD (__ MPH)	6	48" x 48"	16	96
W4-1	MERGE (symbol)		48" x 48"	16	
W4-2	LEFT or RIGHT LANE ENDS (symbol)	8	48" x 48"	16	128
W4-3	ADDED LANE (symbol)	2	48" x 48"	16	32
W5-4	RAMP NARROWS	2	48" x 48"	16	32
W7-3aP	NEXT __ MILES (plaque)		36" x 30"	8	
W8-1	BUMP		48" x 48"	16	
W8-6	TRUCK CROSSING		48" x 48"	16	
W8-7	LOOSE GRAVEL		48" x 48"	16	
W8-11	UNEVEN LANES		48" x 48"	16	
W8-17	SHOULDER DROP-OFF (symbol)		48" x 48"	16	
W13-1P	ADVISORY SPEED (plaque)		30" x 30"	6	
W20-1	ROAD WORK AHEAD	12	48" x 48"	16	192
W20-2	DETOUR AHEAD		48" x 48"	16	
W20-3	ROAD CLOSED AHEAD		48" x 48"	16	
W20-4	ONE LANE ROAD AHEAD		48" x 48"	16	
W20-5	LEFT or RIGHT LANE CLOSED AHEAD	6	48" x 48"	16	96
W20-7	FLAGGER (symbol)	2	48" x 48"	16	32
W21-1	WORKERS (symbol)		48" x 48"	16	
W21-2	FRESH OIL		48" x 48"	16	
W21-3	ROAD MACHINERY AHEAD		48" x 48"	16	
W21-5	SHOULDER WORK		48" x 48"	16	
W21-5a	LEFT or RIGHT SHOULDER CLOSED		48" x 48"	16	
W21-5b	LEFT or RIGHT SHOULDER CLOSED AHEAD		48" x 48"	16	
G20-1	ROAD WORK NEXT __ MILES		48" x 24"	8	
G20-2	END ROAD WORK	6	48" x 24"	8	48
G20-5aP	WORK ZONE (plaque)		36" x 24"	6	
-	TYPE 3 OBJECT MARKER		12" x 36"	3	
		EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT			788

ARROW BOARDS

ITEM DESCRIPTION	QUANTITY
Type C Advance Warning Arrow Board	4 Each

TYPE 3 BARRICADES

ITEM DESCRIPTION	QUANTITY
Type 3 Barricade, 8' Single Sided	2 Each

REVISED 3/31/16 GB

QUANTITIES PER ROAD SECTION

BID ITEM	ITEM	SD 37 DAVISON COUNTY QUANTITIES	I-29 EXIT 73 LINCOLN COUNTY QUANTITIES	I-29 EXIT 77 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 78 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 79 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 80 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 81 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 82 MINNEHAHA COUNTY QUANTITIES	I-29 EXIT 83 MINNEHAHA COUNTY QUANTITIES	I-29 & I-90 EXIT 84 & 396 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 1C MINNEHAHA COUNTY QUANTITIES	UNIT
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
633E0040	Cold Applied Plastic Pavement Marking, Arrow	69	----------	10	9	18	14	17	----------	9	----------	13	Each
633E0045	Cold Applied Plastic Pavement Marking, Combination Arrow	----------	----------	4	6	----------	----------	1	----------	3	----------	2	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	4	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	Each
633E0062	Cold Applied Plastic Pavement Marking, Symbol	----------	19	----------	----------	----------	14	12	24	----------	----------	----------	Each
633E3000	Durable Pavement Marking, 4" White	21,332	8,536	5,108	5,870	8,886	9,602	18,146	6,039	8,978	13,430	13,825	Ft
633E3005	Durable Pavement Marking, 4" Yellow	35,517	2,696	2,882	3,504	----------	780	13,111	4,624	5,775	9,836	8,400	Ft
633E3010	Durable Pavement Marking, 8" White	687	1,026	1,233	----------	----------	----------	166	704	----------	925	----------	Ft
633E3020	Durable Pavement Marking, 12" White	1,406	3,607	----------		----------	----------	330	----------	----------	4,812	----------	Ft
633E3030	Durable Pavement Marking, 24" White	1492	472	469	208	360	690	160	98	42	376	80	Ft
633E3035	Durable Pavement Marking, 24" Yellow	741	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	Ft
633E3040	Durable Pavement Marking, Area	380	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	69	----------	10	9	14	18	17	----------	9	----------	13	Each
633E5030	Grooving for Cold Applied Plastic Pavement Marking, Combination Arrow	----------	----------	4	6	----------	----------	1	----------	3	----------	2	Each
633E5037	Grooving for Cold Applied Plastic Pavement Marking, Symbol	----------	19	----------	----------	----------	14	12	24	----------	----------	----------	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	4	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	Each
633E5050	Surface Preparation for Pavement Marking, Ft	75,839	26,937	13,270	10,622	11,046	14,522	33,539	12,659	15,005	41,808	22,705	Ft
633E5051	Surface Preparation for Pavement Marking, SqFt	380	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	SqFt
633E9200	Mobile Retroreflectometer Measurements	15.1	4.9	1.6	1.9	4.2	4.1	7.9	3.2	3.4	5.9	5.6	Mile
634E0010	Flagging	4	4	4	4	4	4	4	4	4	4	4	Hour
634E0110	Traffic Control Signs	112	←				338					→	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
634E0280	Type 3 Barricade, 8' Single Sided	2	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	Each
634E0420	Type C Advance Warning Arrow Board	2	←				1					→	Each
998E0100	Railroad Protective Insurance	1	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	LS

BID ITEM	ITEM	I229 EXIT 2 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 3 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 4 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 5 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 6 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 7 MINNEHAHA COUNTY QUANTITIES	I229 EXIT 9 MINNEHAHA COUNTY QUANTITIES	I-90 EXIT 395 MINNEHAHA COUNTY QUANTITIES	I-90 EXIT 399 MINNEHAHA COUNTY QUANTITIES	I229 & I-90 EXIT 10 & 400 MINNEHAHA COUNTY QUANTITIES	TOTAL QUANTITIES	UNIT
009E0010	Mobilization	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
633E0040	Cold Applied Plastic Pavement Marking, Arrow	3	2	2	4	4	8	3	4	21	----------	210	Each
633E0045	Cold Applied Plastic Pavement Marking, Combination Arrow	2	2	2	----------	----------	2	3	----------	----------	----------	28	Each
633E0055	Cold Applied Plastic Pavement Marking, Railroad Crossing	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	4	Each
633E0062	Cold Applied Plastic Pavement Marking, Symbol	----------	----------	----------	----------		----------	----------	----------	----------	----------	68	Each
633E3000	Durable Pavement Marking, 4" White	3,950	3,885	5,617	6,151	5,973	4,466	5,359	10,410	9,240	6,723	181,526	Ft
633E3005	Durable Pavement Marking, 4" Yellow	2,740	3,035	3,633	4,068	3,535	4,198	7,623	4,837	2,901	5,900	129,595	Ft
633E3010	Durable Pavement Marking, 8" White	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	4,741	Ft
633E3020	Durable Pavement Marking, 12" White	----------	----------	----------	----------	----------	----------	----------	1,585	3,191	1,339	16,270	Ft
633E3030	Durable Pavement Marking, 24" White	75	168	218	63	570	67	100	266	498	----------	6,472	Ft
633E3035	Durable Pavement Marking, 24" Yellow	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	741	Ft
633E3040	Durable Pavement Marking, Area	----------	----------	----------	----------	----------	----------	----------	93	----------	----------	473	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	3	2	2	4	4	8	3	4	21	----------	210	Each
633E5030	Grooving for Cold Applied Plastic Pavement Marking, Combination	2	2	2	----------	----------	2	3	----------	----------	----------	28	Each
633E5037	Grooving for Cold Applied Plastic Pavement Marking, Symbol	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	68	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	4	Each
633E5050	Surface Preparation for Pavement Marking	7,140	7,928	10,558	10,597	12,928	9,066	13,582	21,598	24,702	16,640	412,691	Ft
633E5051	Surface Preparation for Pavement Marking, SqFt	----------	----------	----------	----------	----------	----------	----------	93	----------	----------	473	SqFt
633E9200	Mobile Retroreflectometer Measurements	2.1	1.8	2.2	2.2	2.7	2.2	3.2	3.5	3.7	3.2	83.7	Mile
634E0010	Flagging	4	4	4	4	4	4	4	4	4	4	84	Hour
634E0110	Traffic Control Signs	←					338				→	788	SqFt
634E0120	Traffic Control, Miscellaneous	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	Lump Sum	LS
634E0280	Type 3 Barricade, 8' Single Sided	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	2	Each
634E0420	Type C Advance Warning Arrow Board	←					1				→	2	Each
998E0100	Railroad Protective Insurance	----------	----------	----------	----------	----------	----------	----------	----------	----------	----------	1	LS

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	6	113

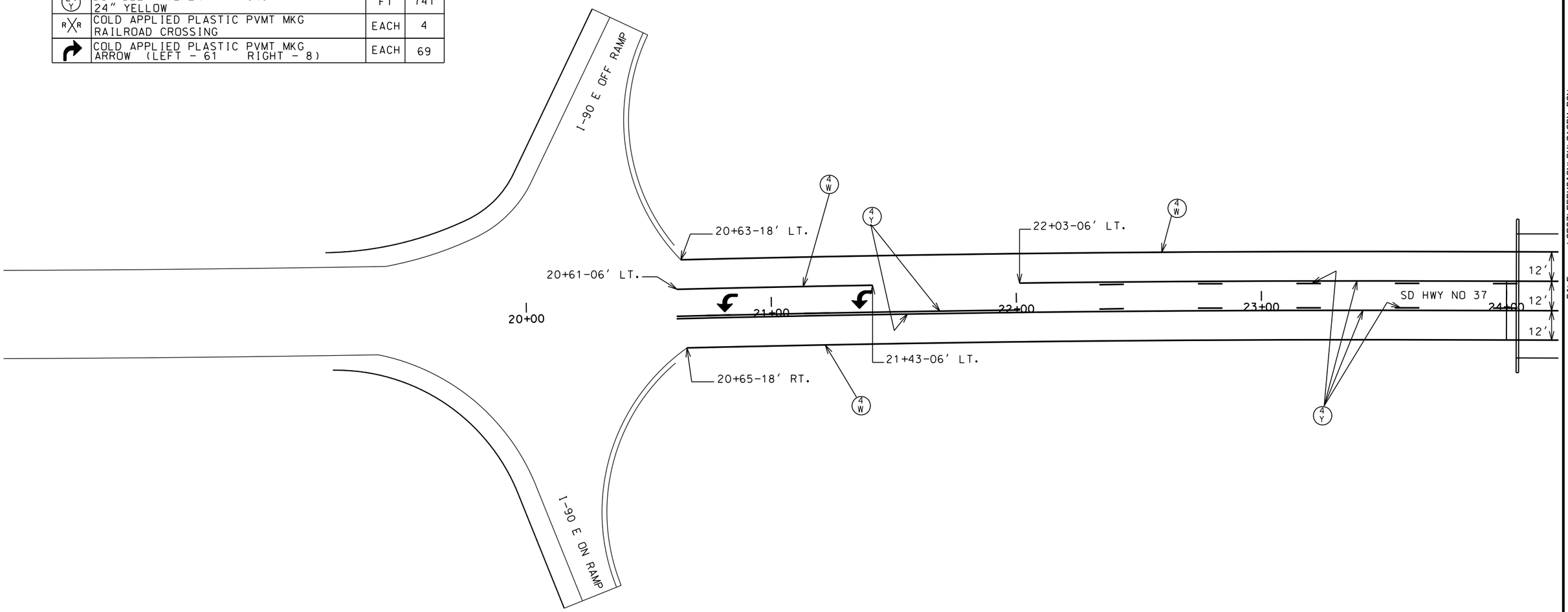
Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37

SCALE
1" = 40'

ESTIMATE OF QUANTITIES			
KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	21332
8 W	DURABLE PAVEMENT MARKING 8" WHITE	FT	687
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	1406
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	35913
SW A	DURABLE PAVEMENT MARKING, AREA WHITE	SqFt	350
SY A	DURABLE PAVEMENT MARKING, AREA YELLOW	SqFt	30
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	1492
24 Y	DURABLE PAVEMENT MARKING 24" YELLOW	FT	741
R R	COLD APPLIED PLASTIC PVMT MKG RAILROAD CROSSING	EACH	4
	COLD APPLIED PLASTIC PVMT MKG ARROW (LEFT - 61 RIGHT - 8)	EACH	69



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 1

FILE - ...\SD37\PERMSIGN\PM\018PM.DGN

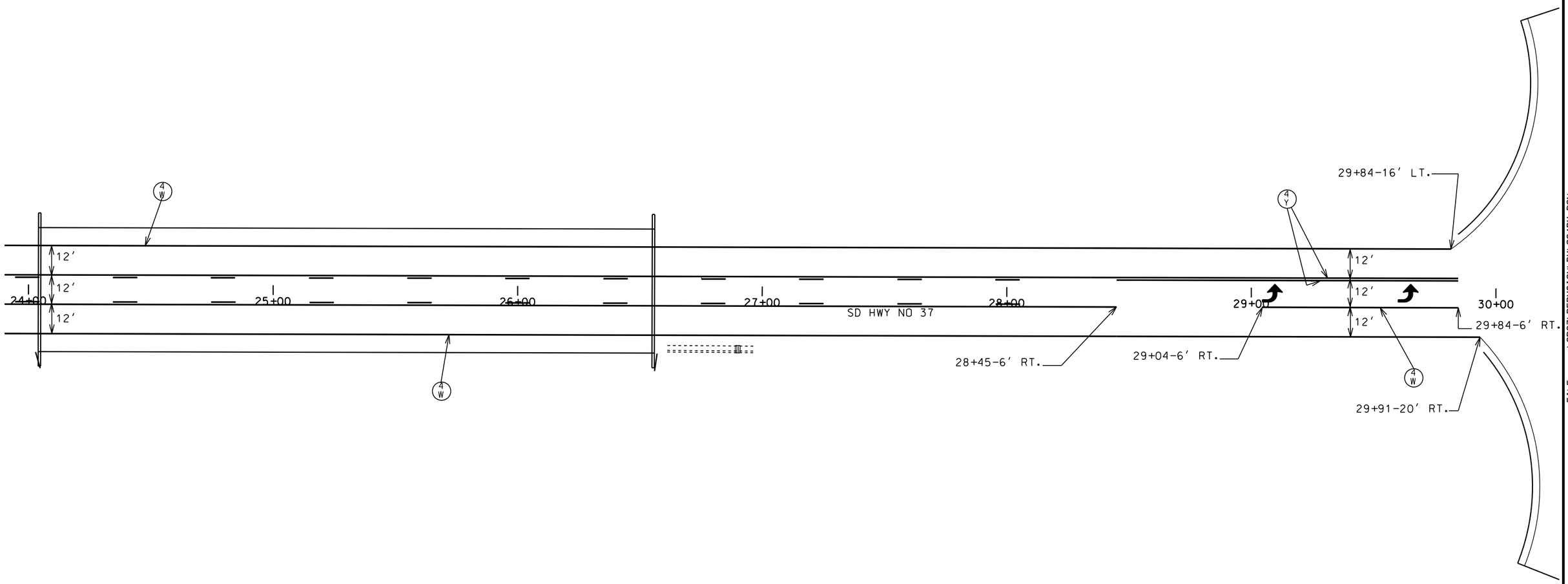
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	7	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 2

FILE - ...\SD37\PERMSIGN\PM\024PM.DGN

PLOTTED FROM - TRMI11119

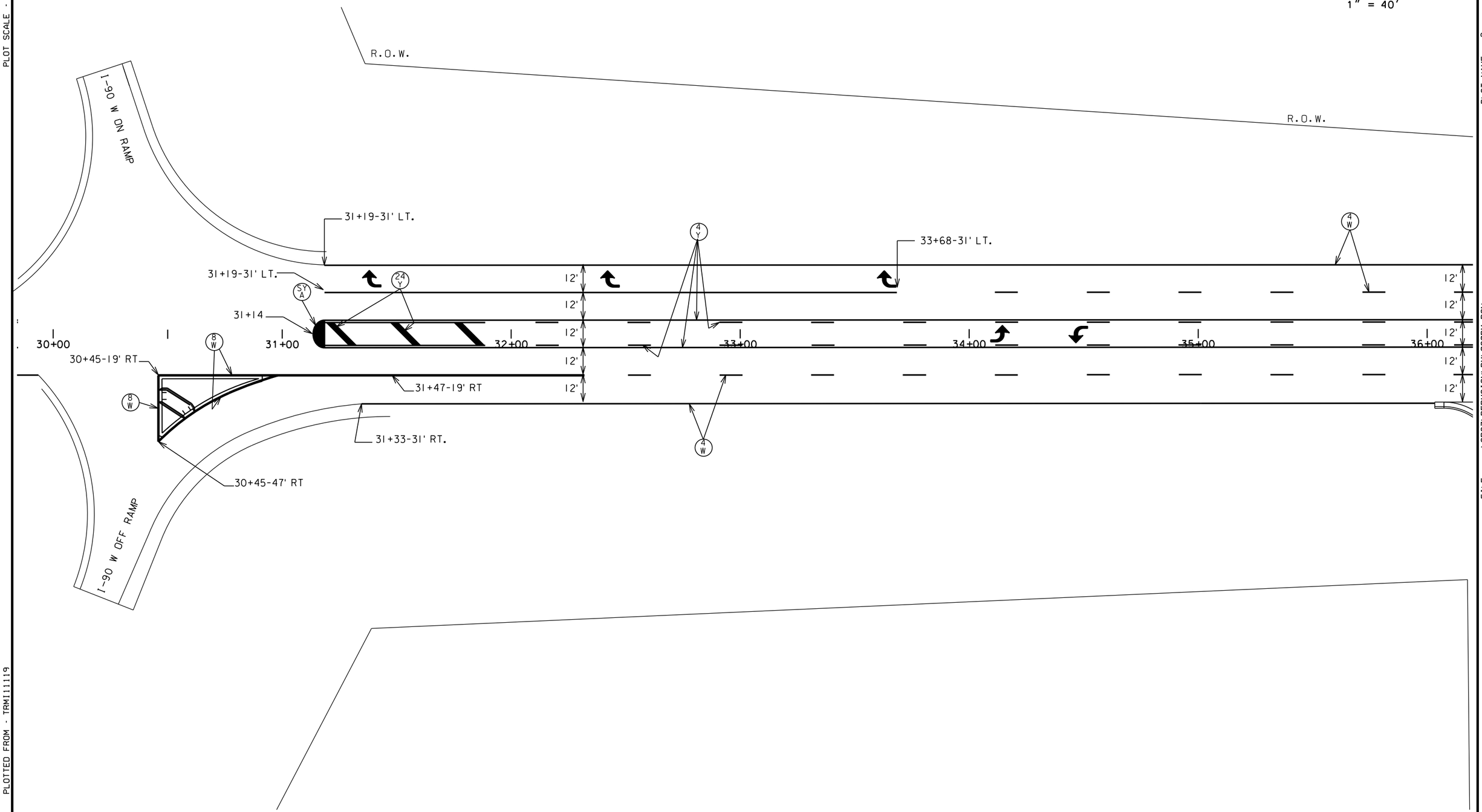
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	8	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 3

FILE - ...\SD37\PERMSIGN\PM\030PM.DGN

PLOTTED FROM - TRMI11119

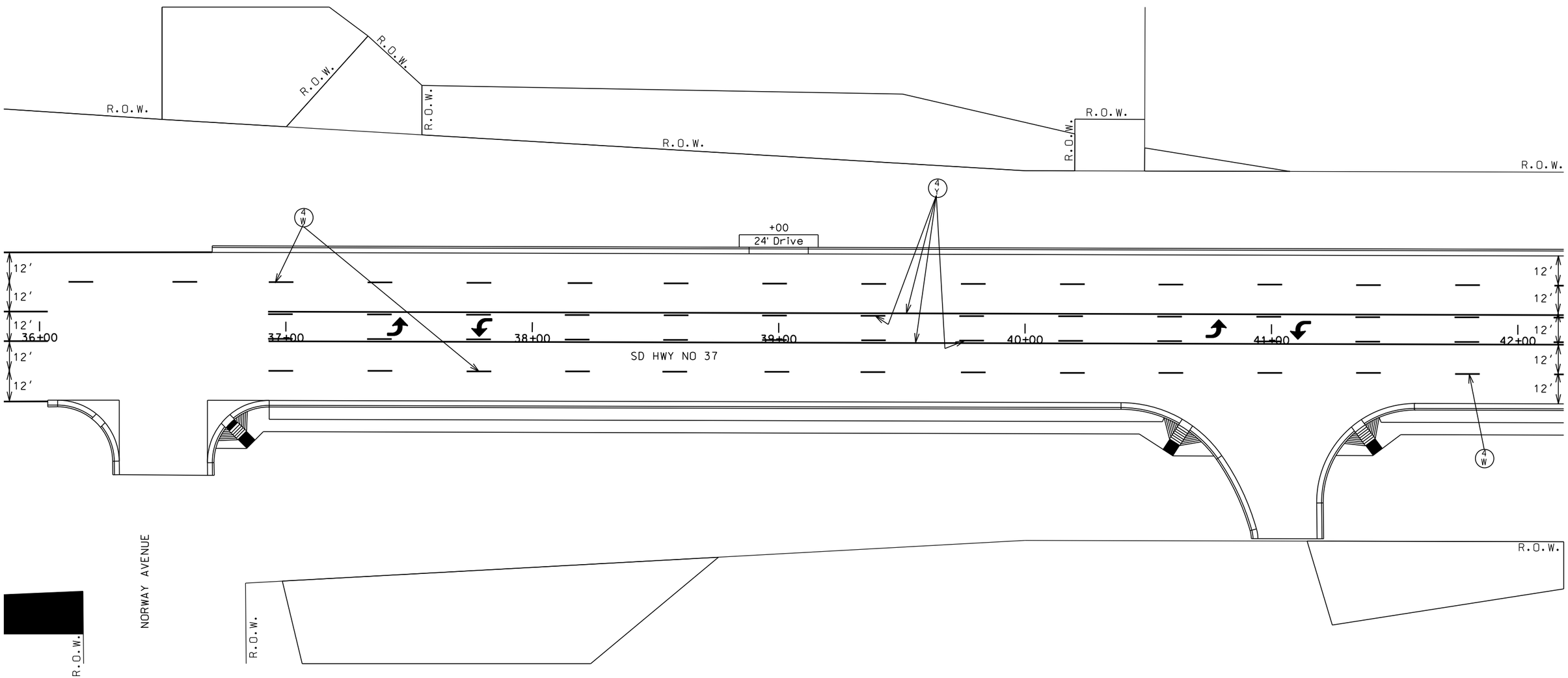
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	9	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 4

FILE - ...\SD37\PERMSIGN\PM\036PM.DGN

PLOTTED FROM - TRMI11119

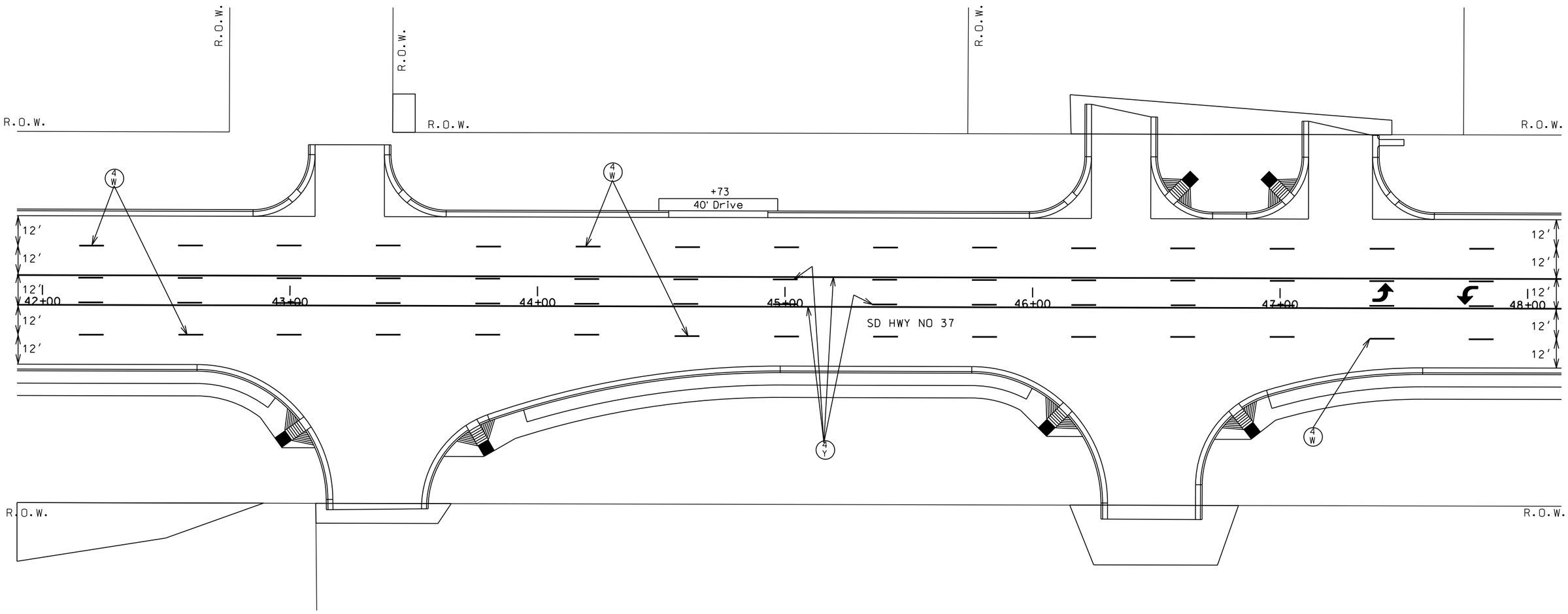
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	10	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 5

FILE - ...\SD37\PERMSIGN\PM\042PM.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	11	113

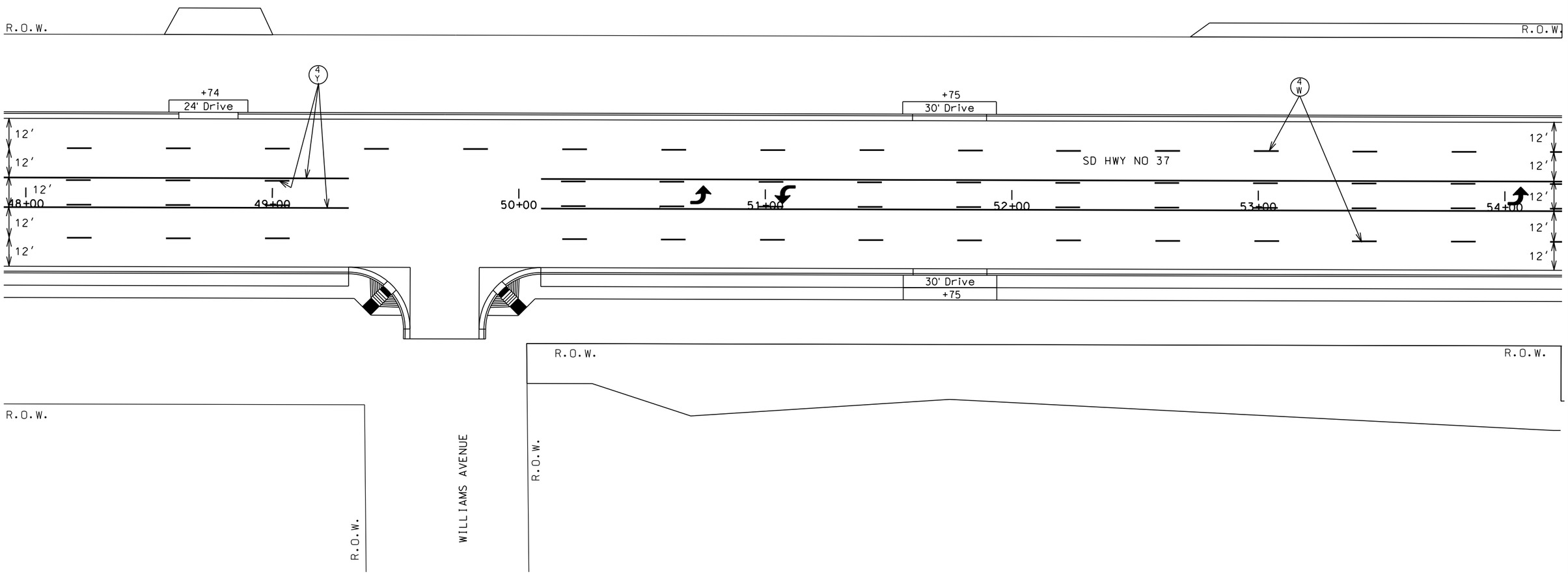
Plotting Date: 03/30/2016

REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 6

FILE - ...\SD37\PERMSIGN\PM\048PM.DGN

PLOTTED FROM - TRM111119

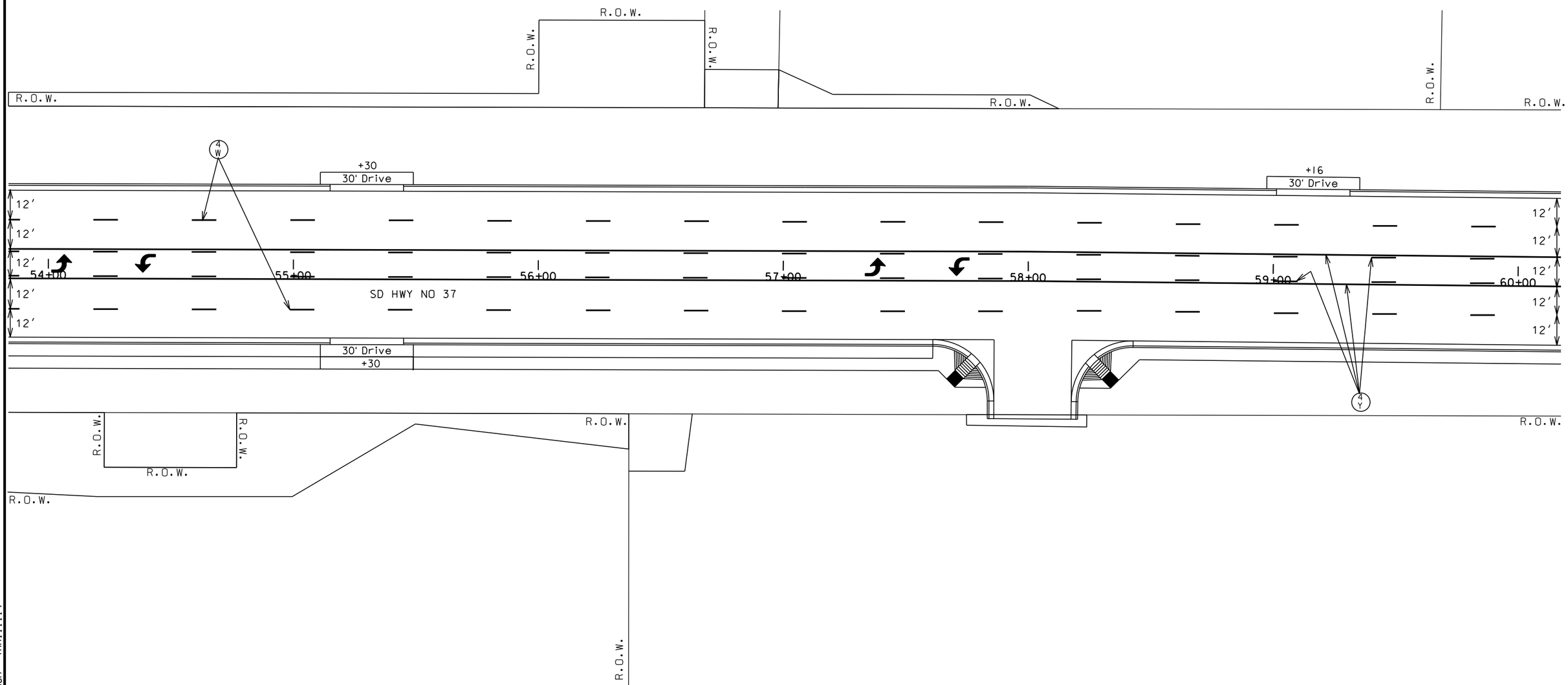
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	12	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 7

FILE - ...\SD37\PERMSIGN\PM\054PM.DGN

PLOTTED FROM - TRM111119

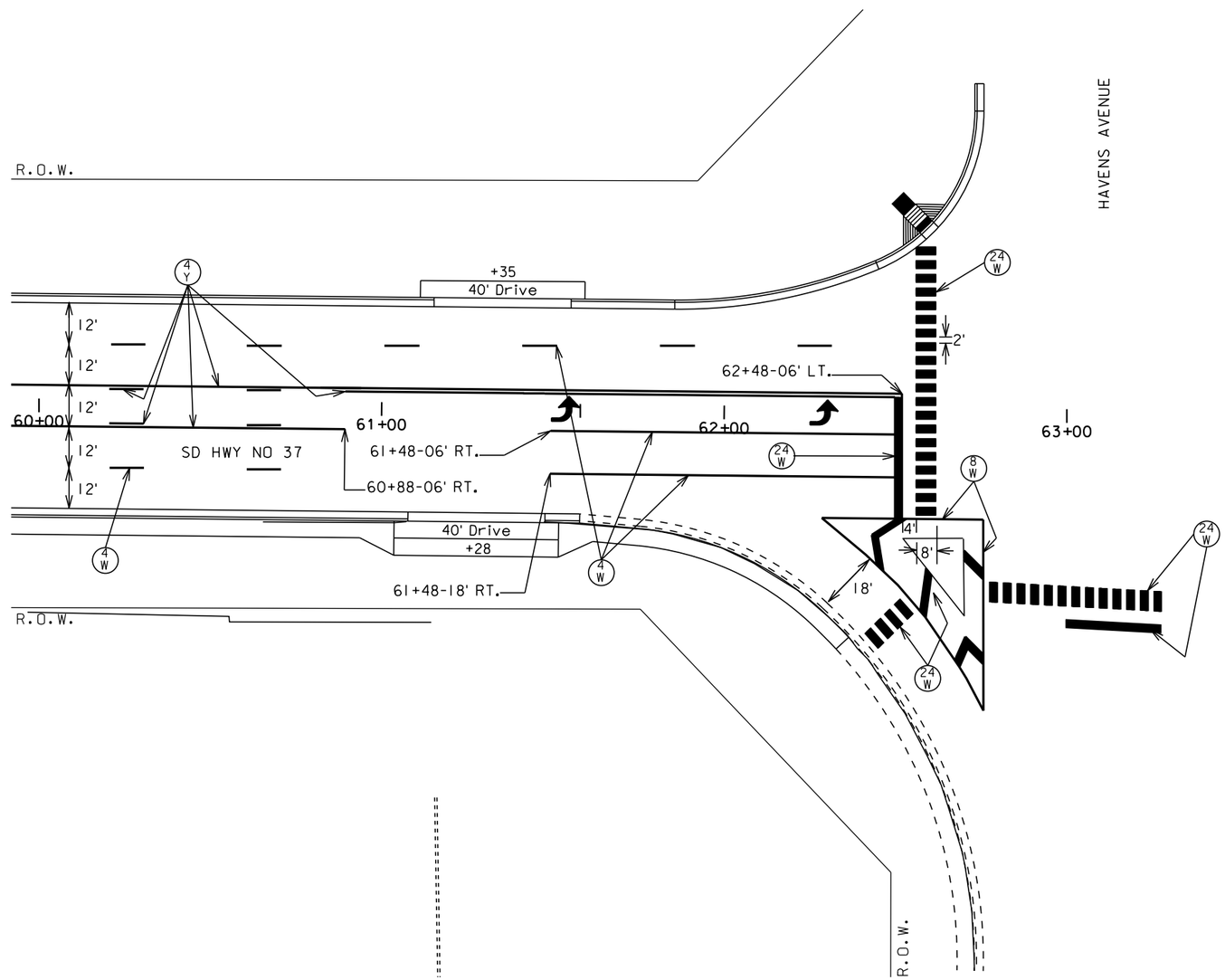
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	13	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOTTED FROM - TRM111119

PLOT NAME - 8

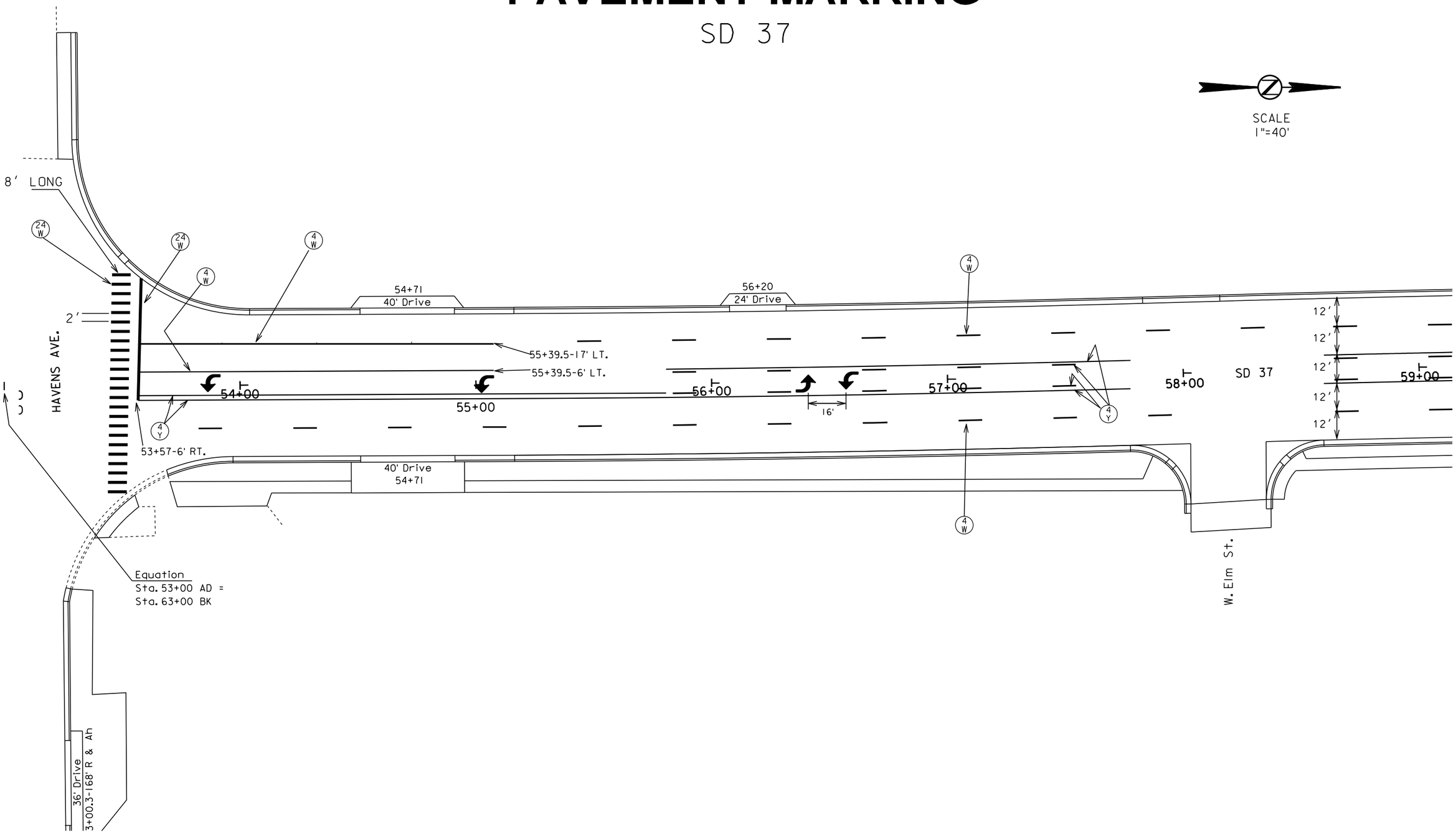
FILE - ...\SD37\PERMSIGN\PM\060PM.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	14	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOTTED FROM - TRM111119

PLOT NAME - 9

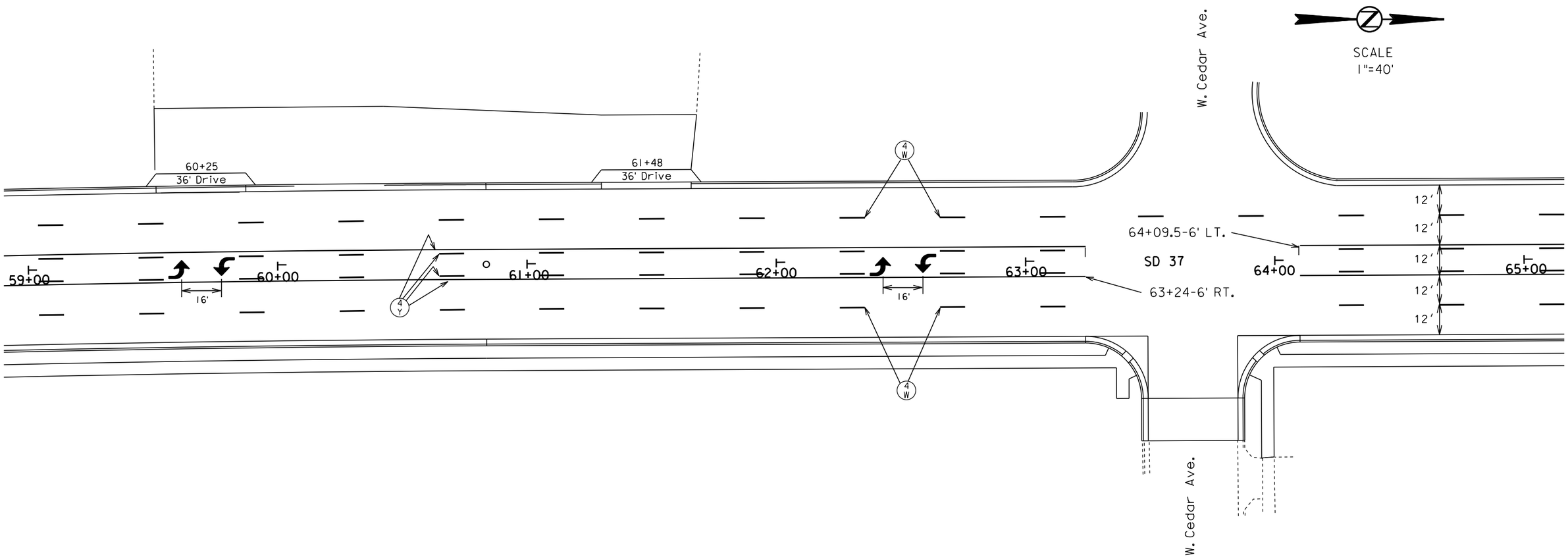
FILE - ...\SD37\BYPASS3709\3709P20R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	15	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 10

FILE - ...\SD37\BYPASS3709\3709P21R.DGN

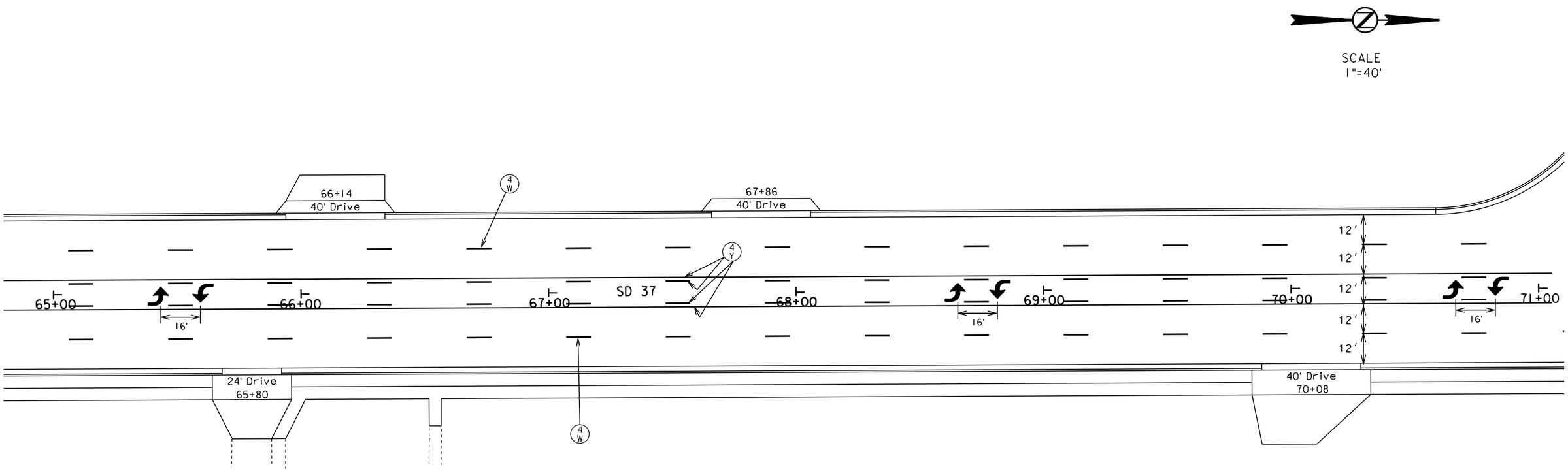
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	16	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 11

FILE - ...\SD37\BYPASS3709\3709P22R.DGN

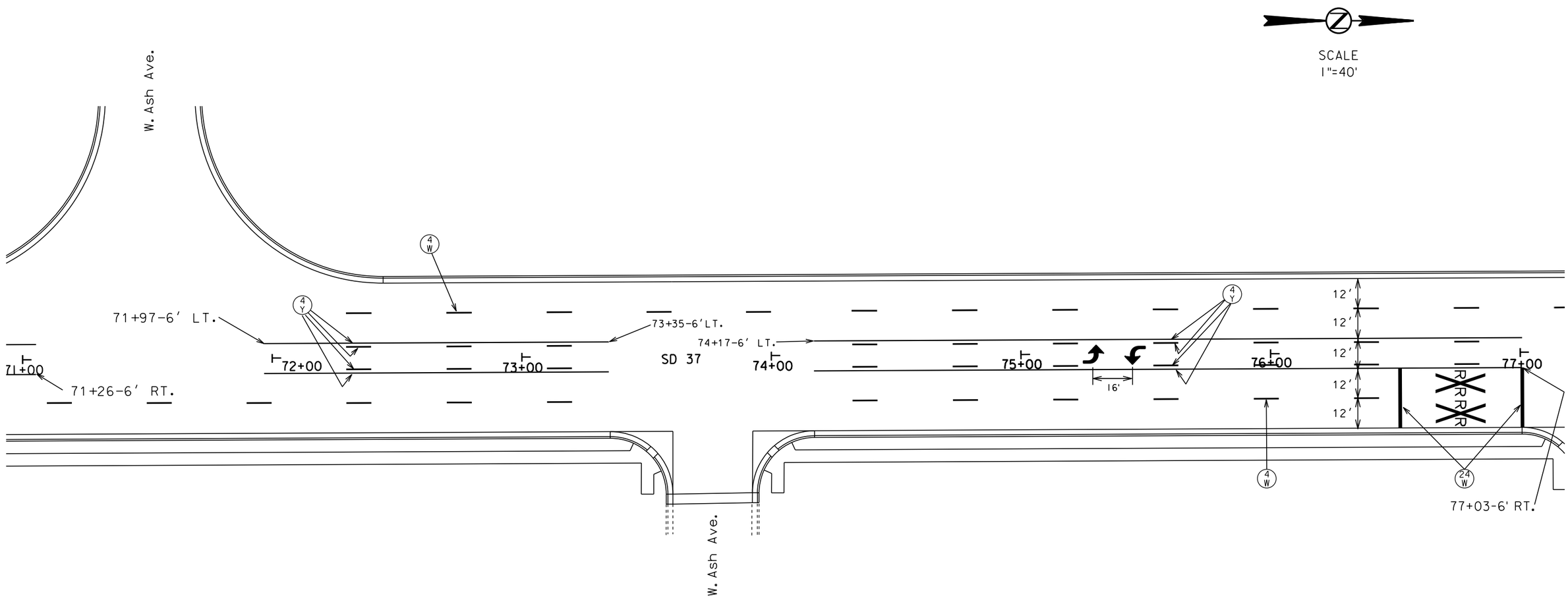
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	17	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 12

FILE - ...\SD37\BYPASS3709\3709P23R.DGN

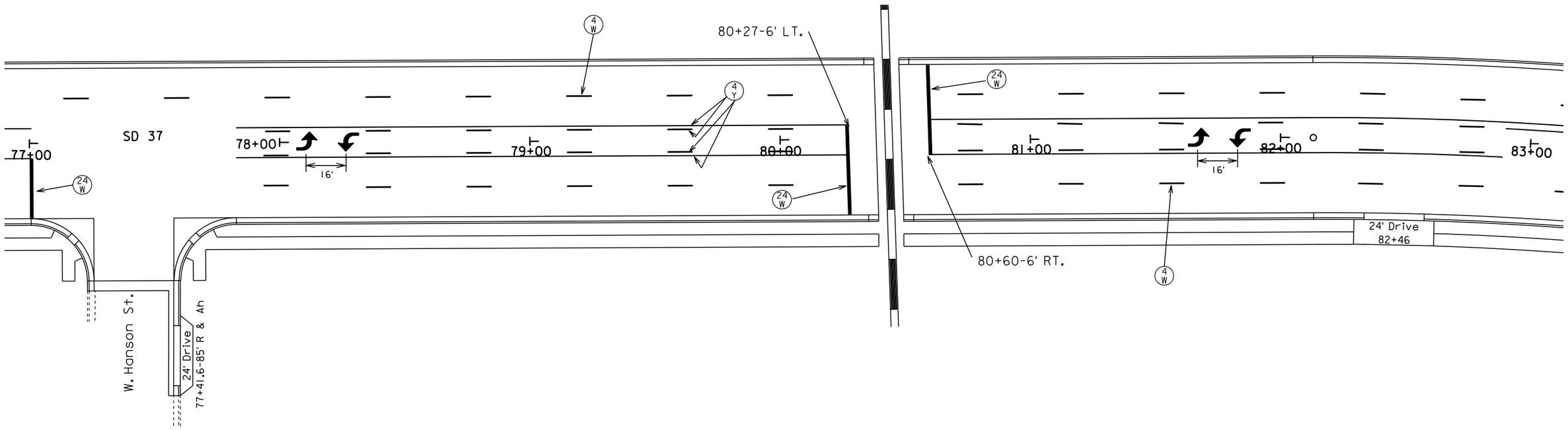
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	18	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOTTED FROM - TRMI11119

PLOT NAME - 13

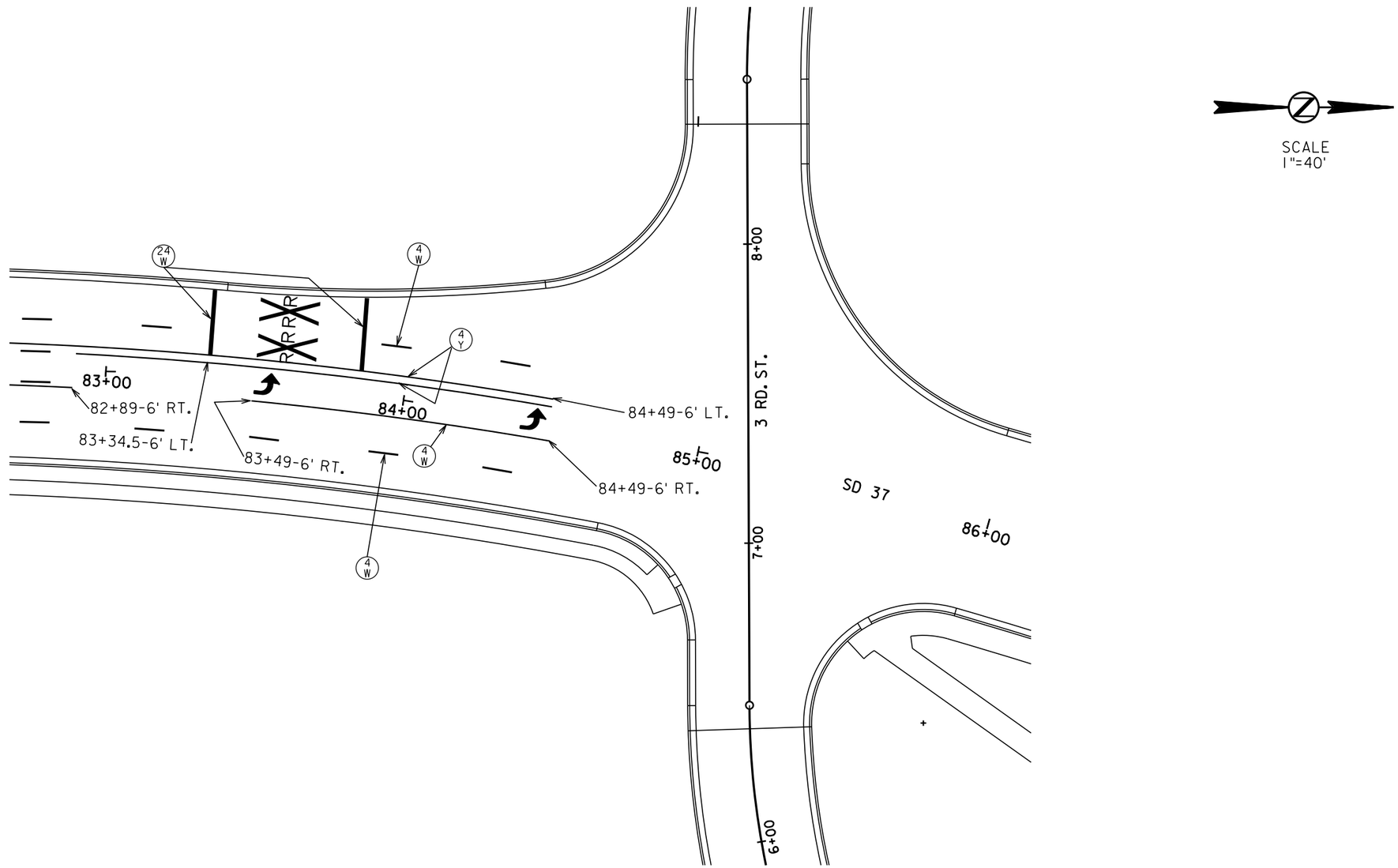
FILE - ...\SD37\BYPASS3709\3709P24R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	19	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 14

FILE - ...\SD37\BYPASS3709\3709P25R.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	20	113

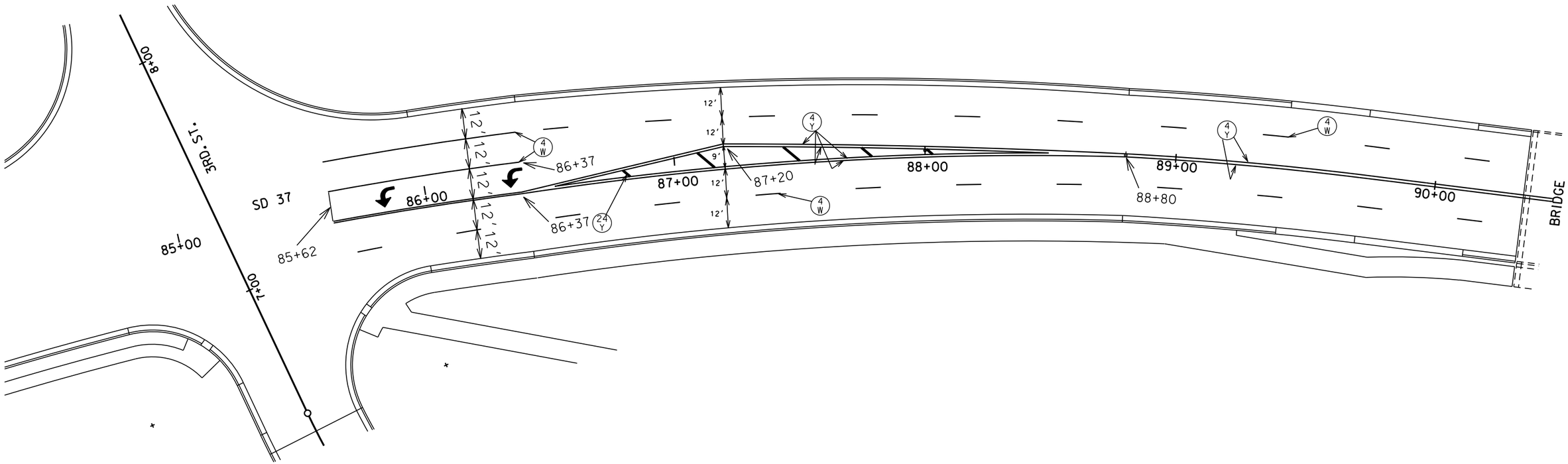
Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE:

1" = 40'



PLOT SCALE - 1:200

PLOTTED FROM - TRM111119

PLOT NAME - 15

FILE - ...\SD37\BYPASS3753\3753P20R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	21	113

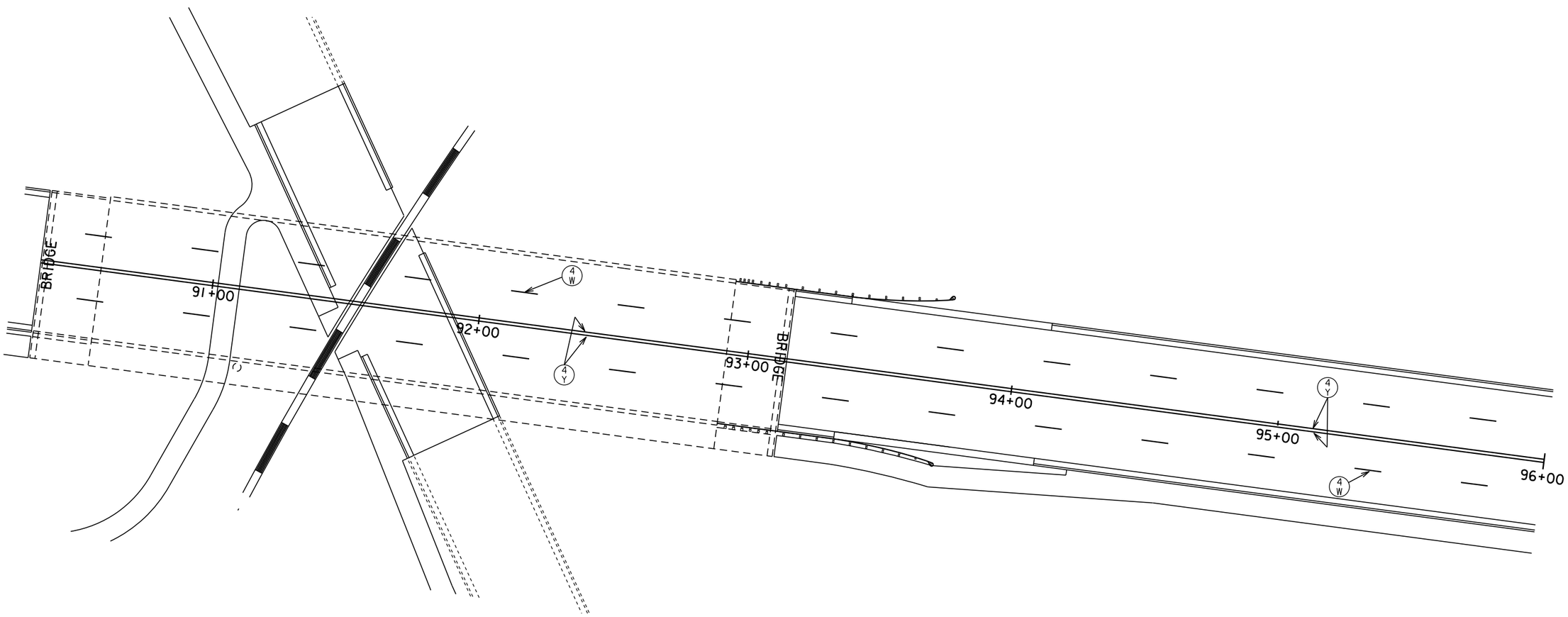
Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE:

1" = 40'



PLOT SCALE - 1:200

PLOT NAME - 16

FILE - ...\SD37\BYPASS3753\BRIDGE.DGN

PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	22	113

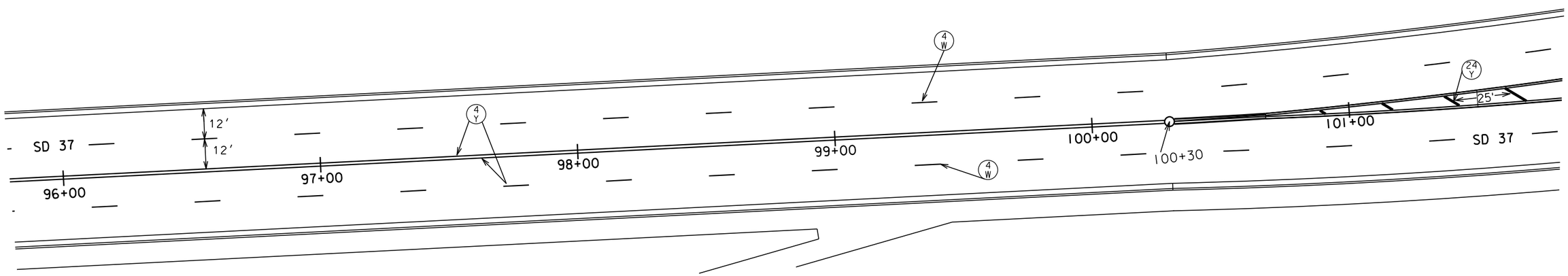
Plotting Date: 03/30/2016

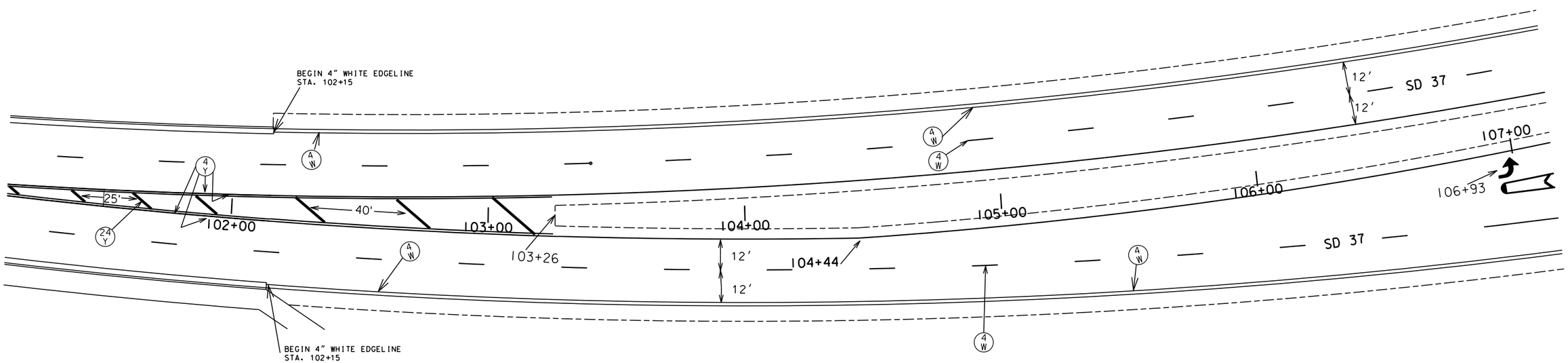
PAVEMENT MARKING

SD 37

SCALE:

1" = 40'





PLOT SCALE - 1:200

PLOT NAME - 17

FILE - ...\SD37\BYPASS3753\3753P21R.DGN

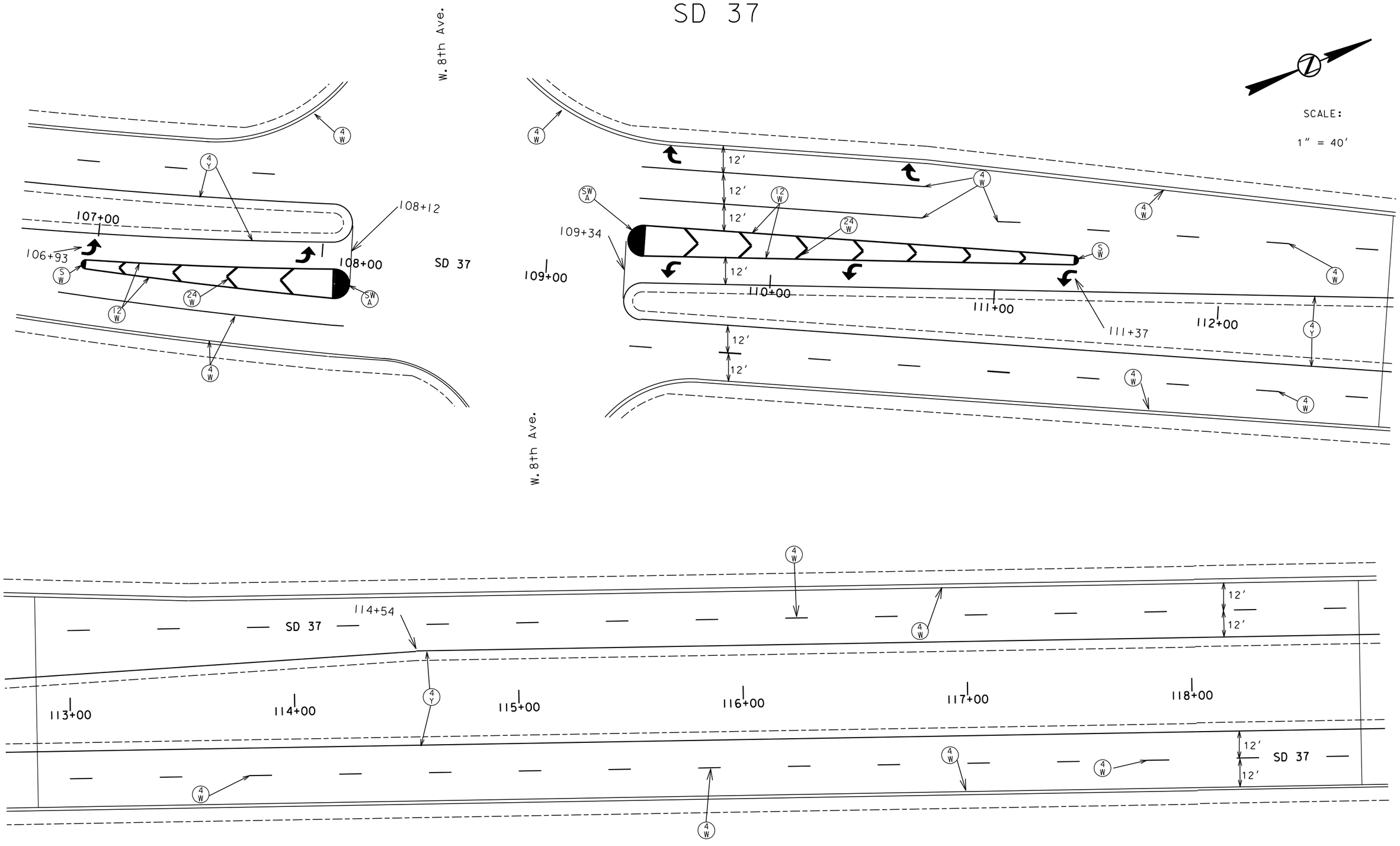
PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	23	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 18

FILE - ...\SD37\BYPASS3753\3753P22R.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	24	113

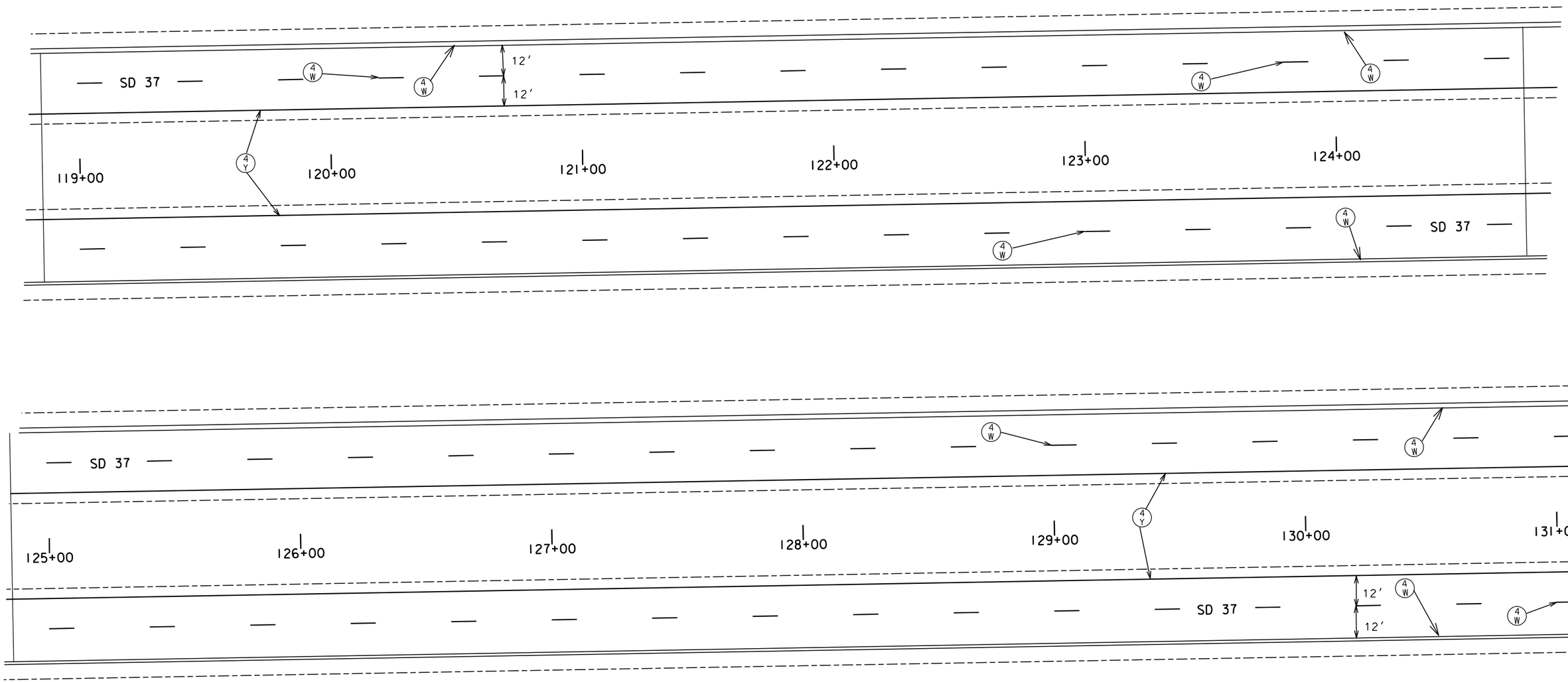
Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE:

1" = 40'



PLOT SCALE - 1:200

PLOTTED FROM - TRMI11119

PLOT NAME - 19

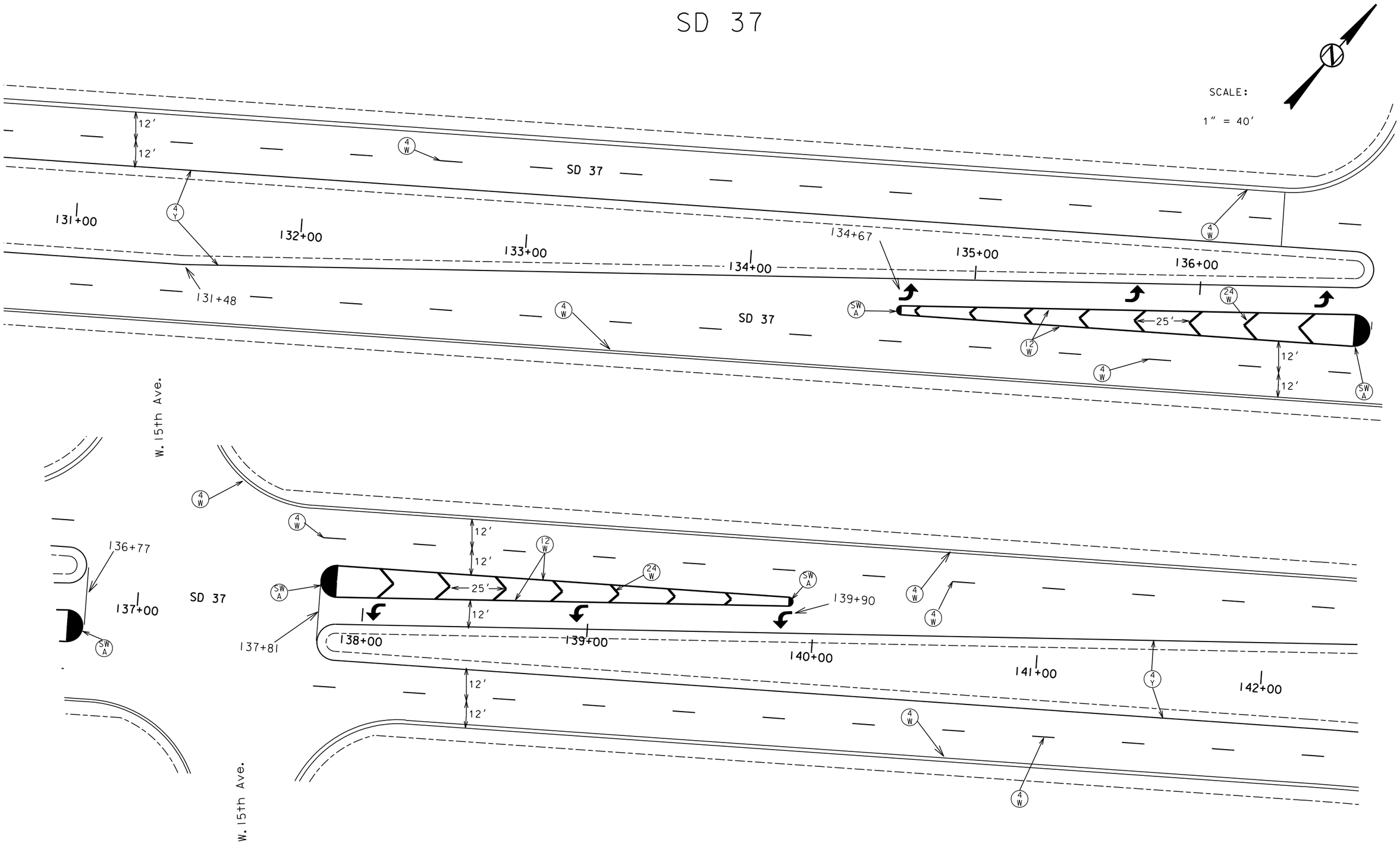
FILE - ...\SD37\BYPASS3753\3753P23R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	25	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 20

FILE - ...\SD37\BYPASS3753\3753P24R.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	26	113

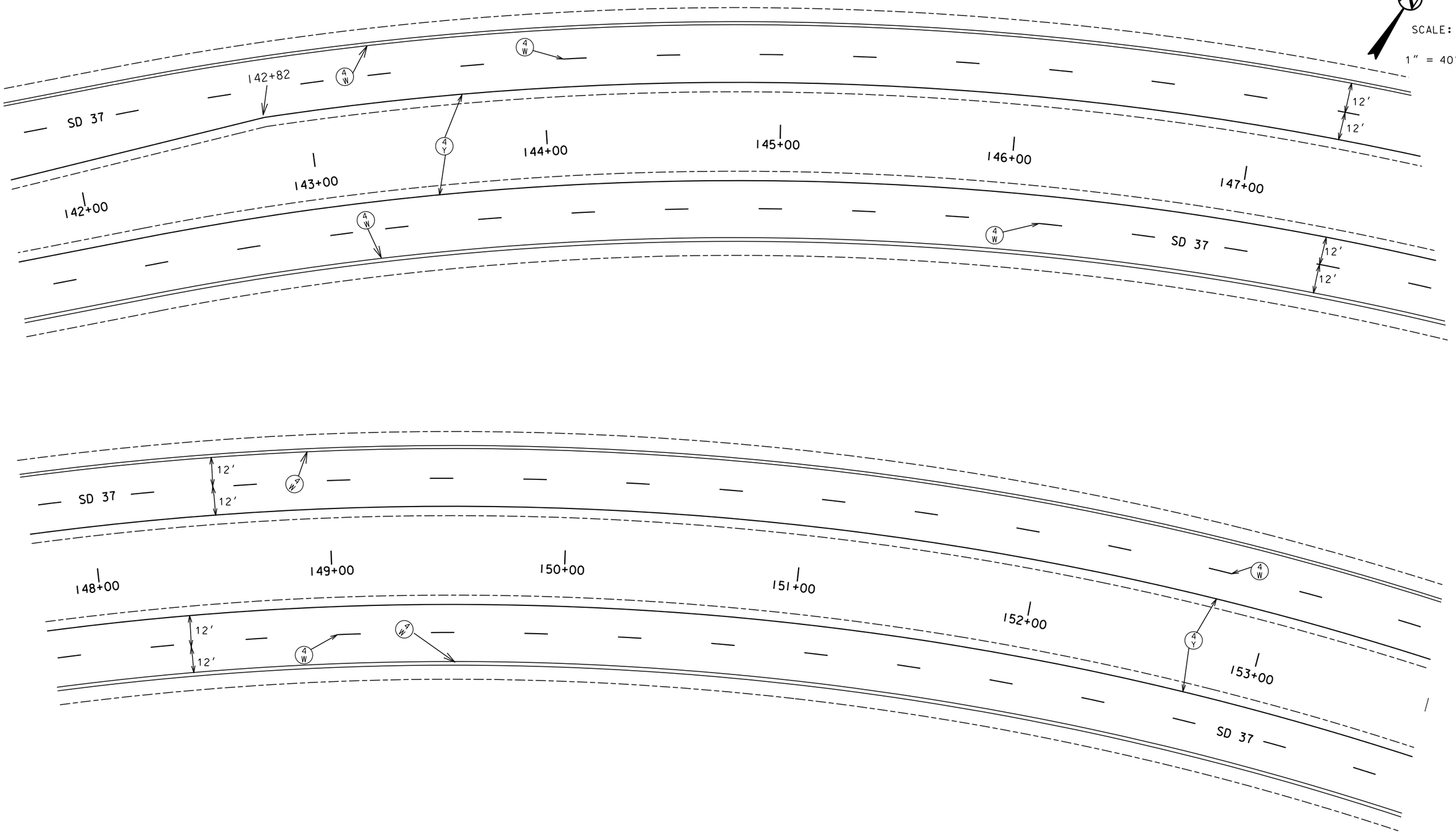
Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE:

1" = 40'



PLOT SCALE - 1:200

PLOTTED FROM - TRMI11119

PLOT NAME - 21

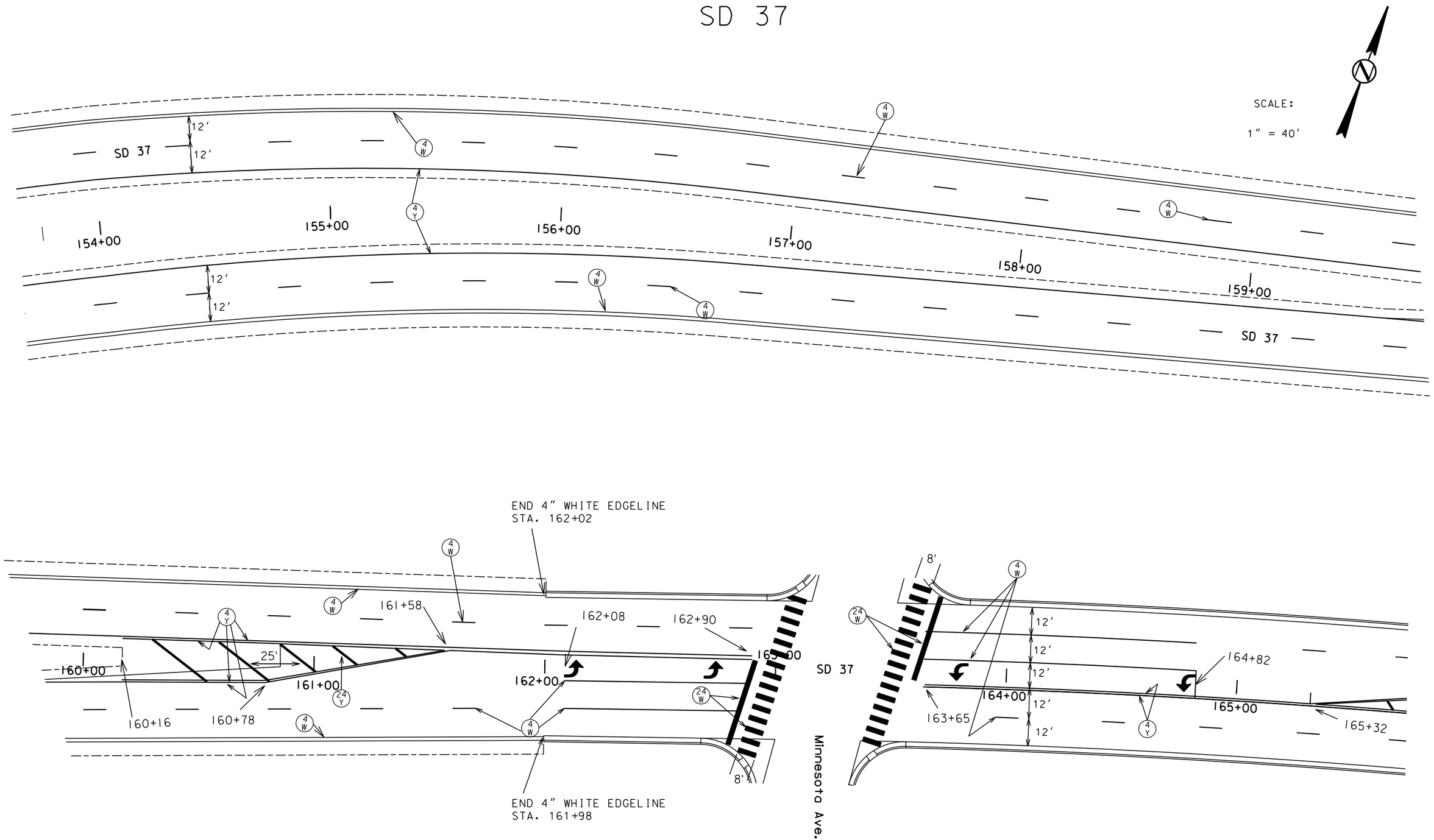
FILE - ...\SD37\BYPASS3753\3753P25R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	27	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOTTED FROM - TRMI11119

PLOT NAME - 22

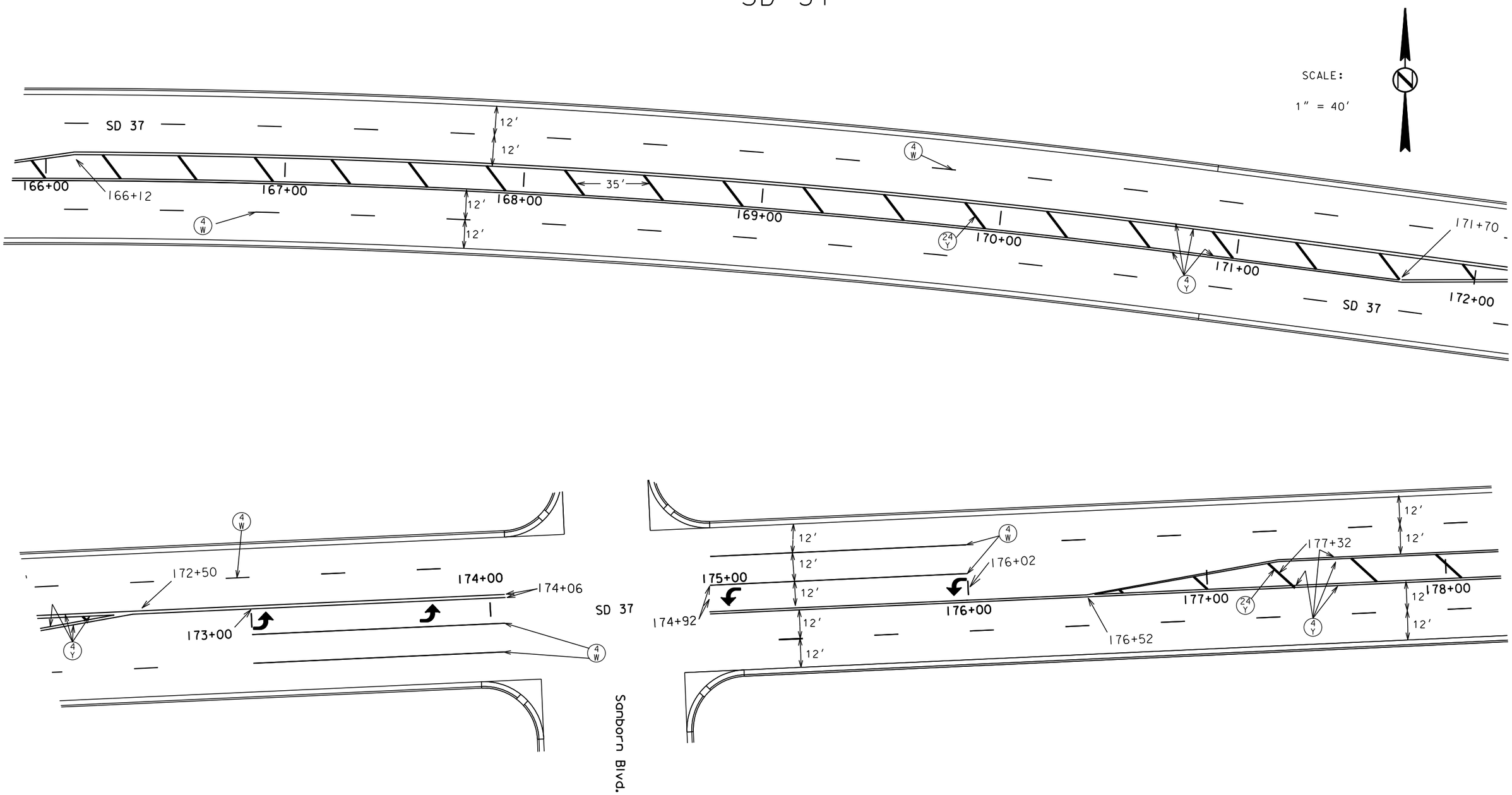
FILE - ...\SD37\BYPASS3753\3753P26R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	28	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



PLOT SCALE - 1:200

PLOT NAME - 23

FILE - ...\SD37\BYPASS3753\3753P27R.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	29	113

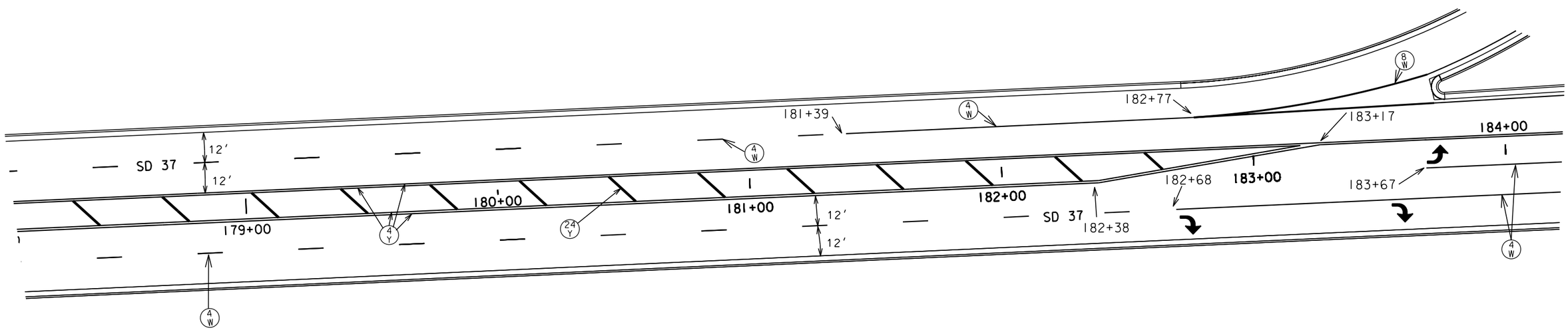
Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37

SCALE:

1" = 40'



PLOT SCALE - 1:200

PLOTTED FROM - TRMI111119

PLOT NAME - 24

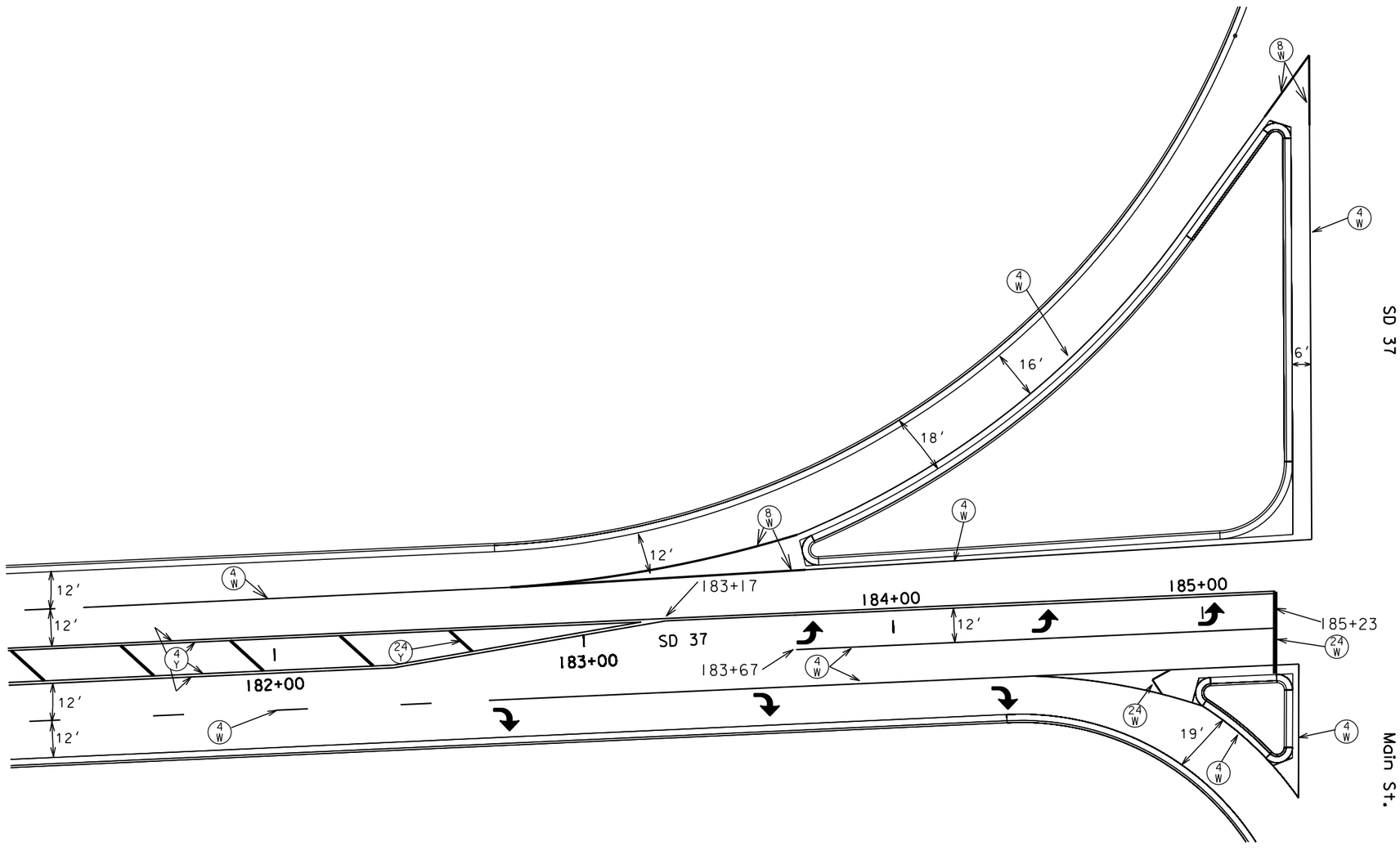
FILE - ...\SD37\BYPASS3753\3753P28R.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	30	113

Plotting Date: 03/30/2016

PAVEMENT MARKING

SD 37



SCALE:

1″ = 40′

PLOT SCALE - 1:200

PLOT NAME - 25

FILE - ...\SD37\BYPASS3753\3753P29R.DGN

PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	31	113

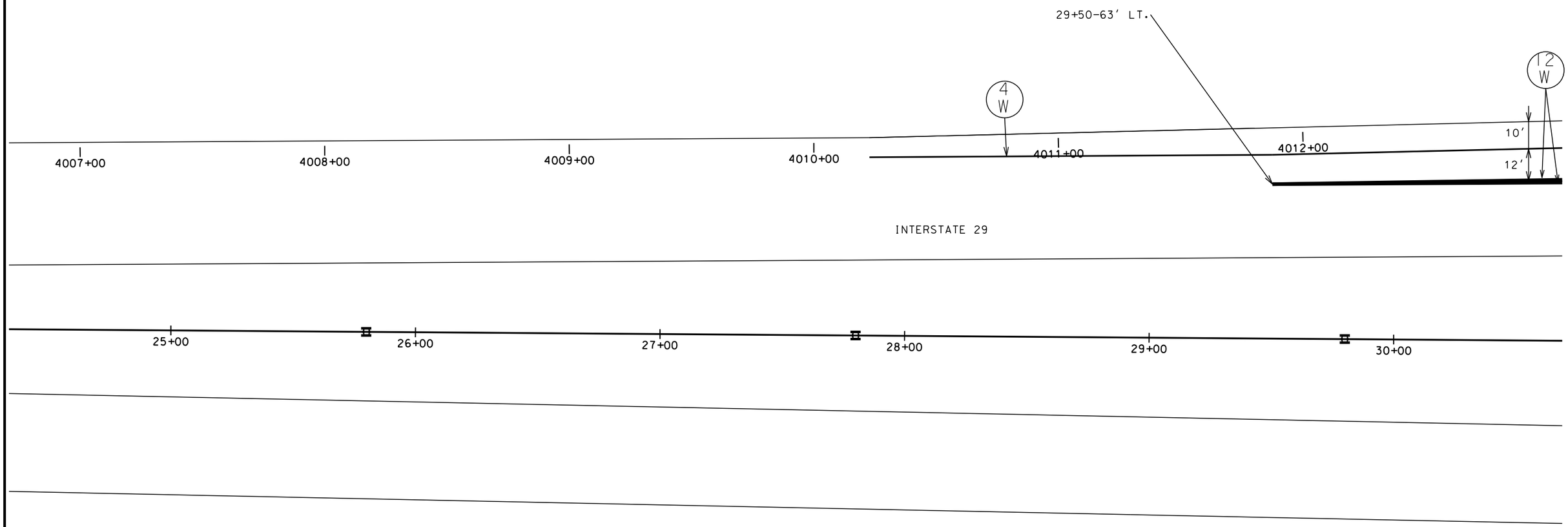
Plotting Date: 03/30/2016

REVISED 3/30/16 GB

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE

SCALE
1" = 40'



ESTIMATE OF QUANTITIES

KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	8536
8 W	DURABLE PAVEMENT MARKING 8" WHITE	FT	1026
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	3607
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	2696
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	472
▲	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL	EACH	19

PLOT SCALE - 1:40

PLOT NAME - 26

FILE - ...\LINC1948\025PM.DGN

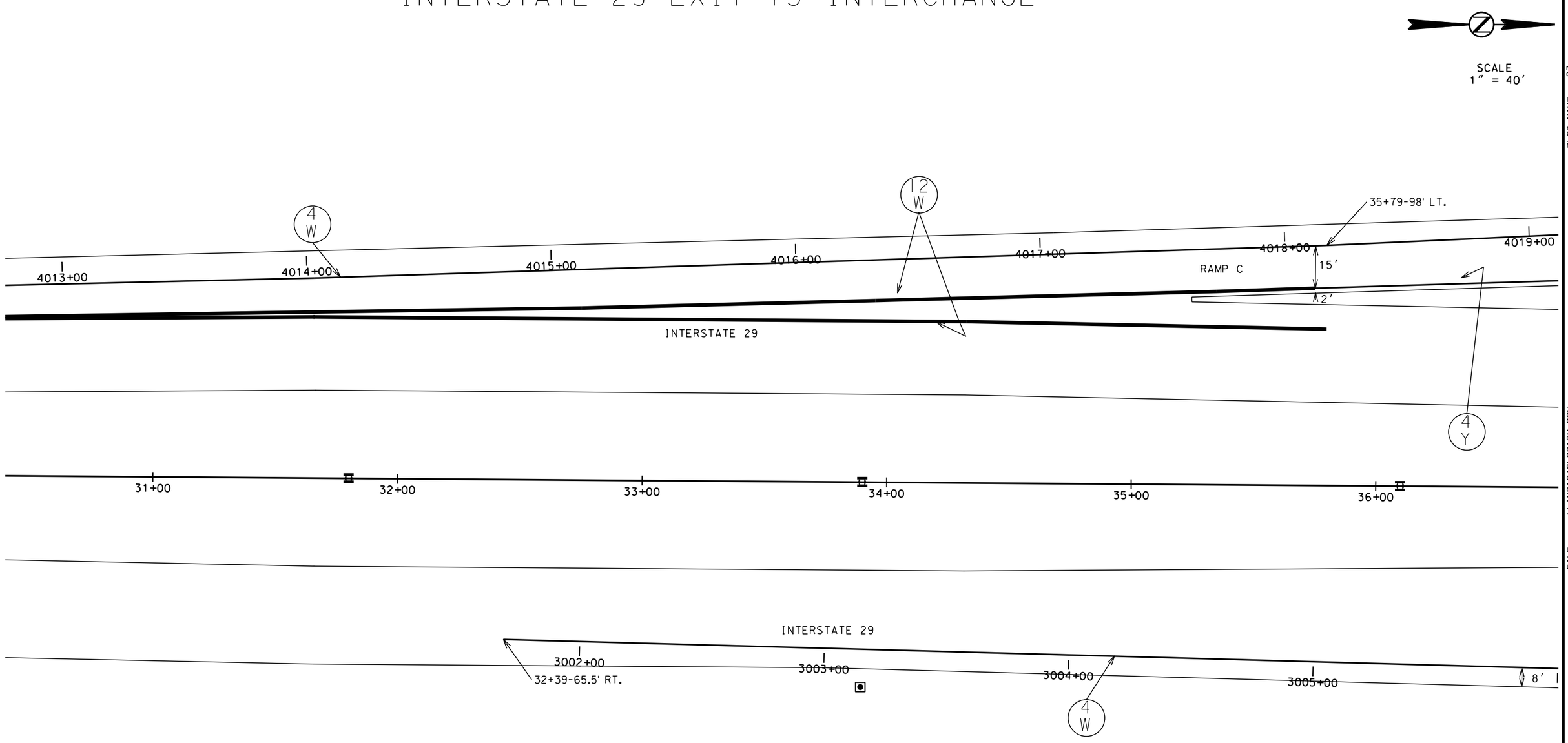
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	32	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE



PLOT SCALE - 1:40

PLOT NAME - 27

FILE - ...\LINC1948\031PM.DGN

PLOTTED FROM - TRMI11119

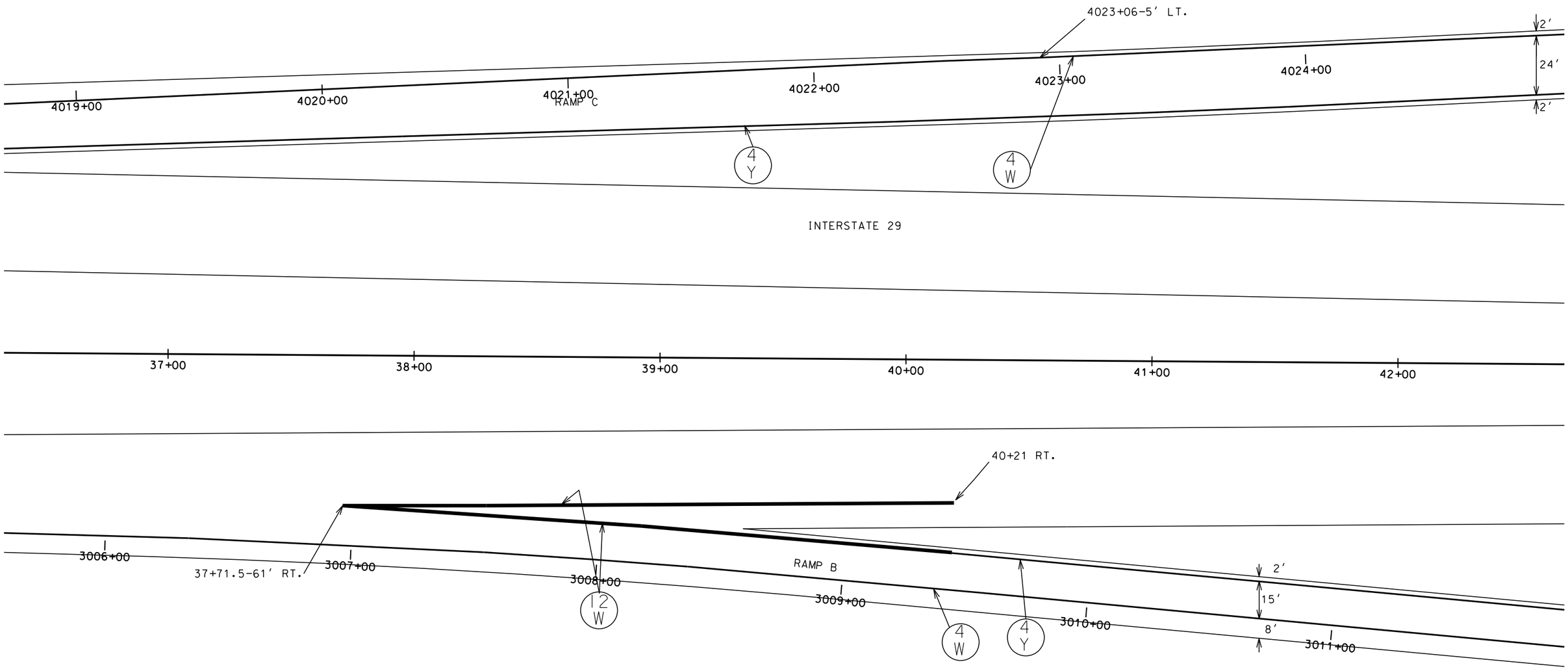
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	33	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 28

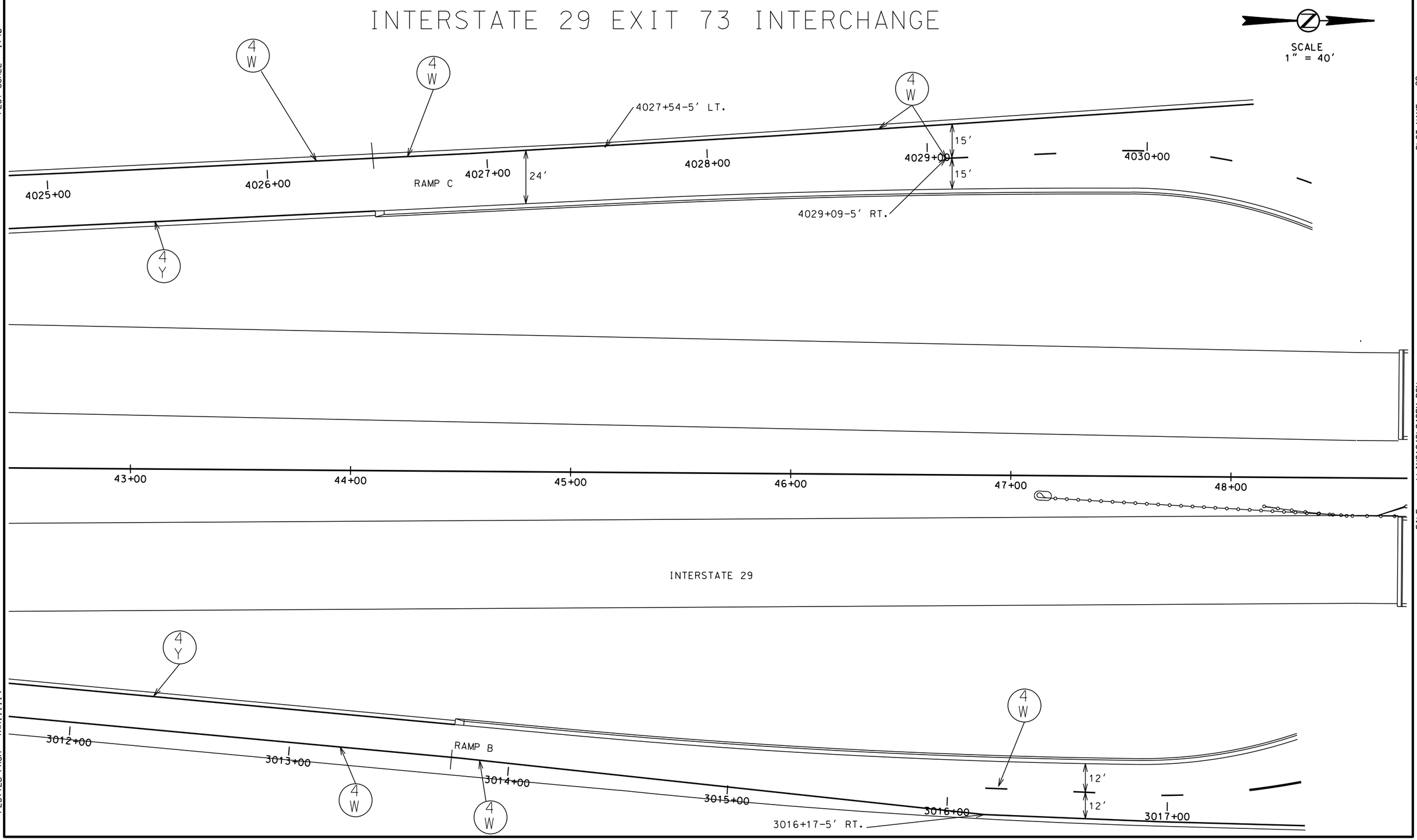
FILE - ...\LINC1948\037PM.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	34	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE



PLOT SCALE - 1:40

PLOT NAME - 29

FILE - ...\LINC1948\043PM.DGN

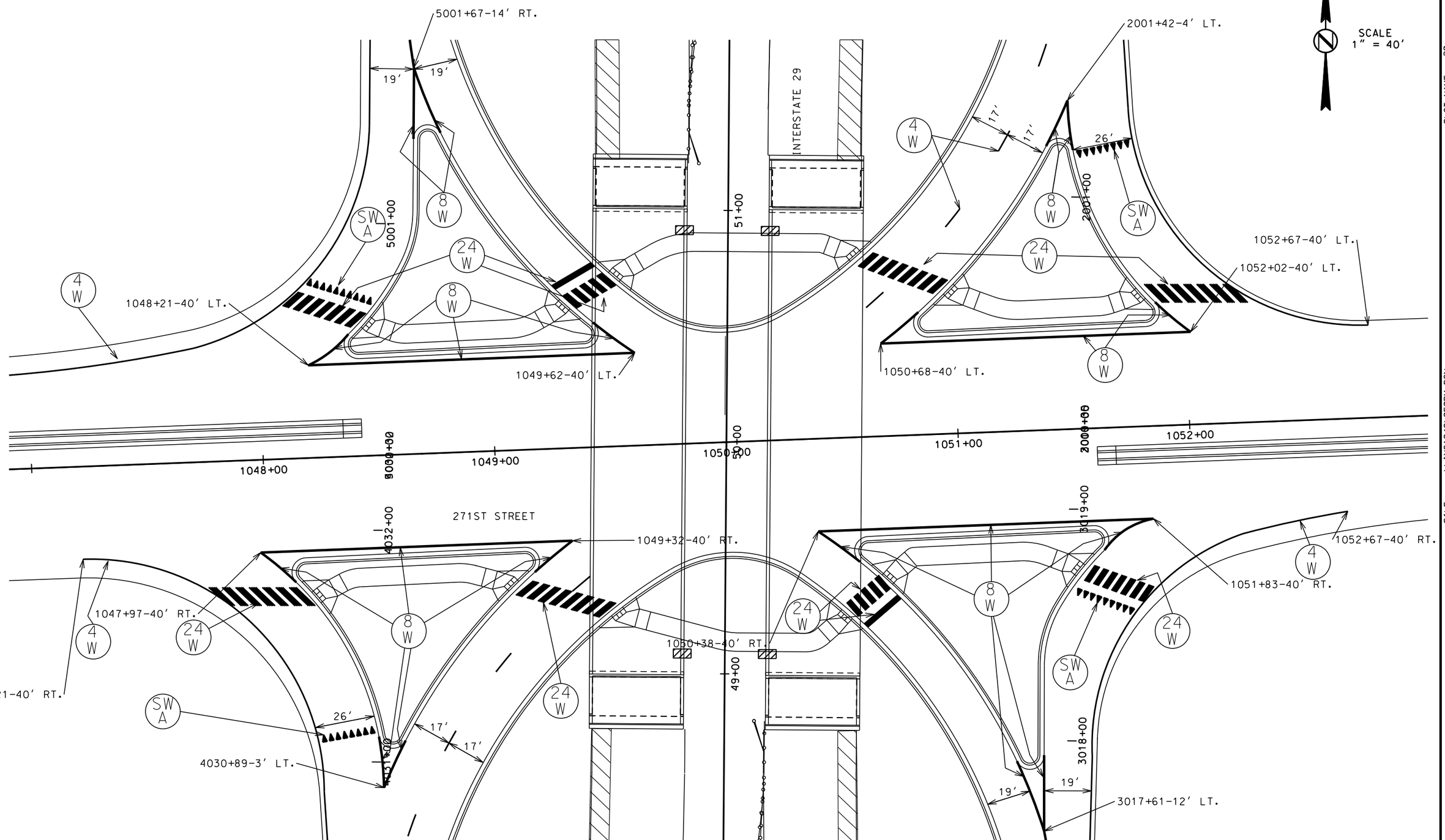
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	35	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE



PLOT SCALE - 1:40

PLOT NAME - 30

FILE - ...\LINC1948\050PM.DGN

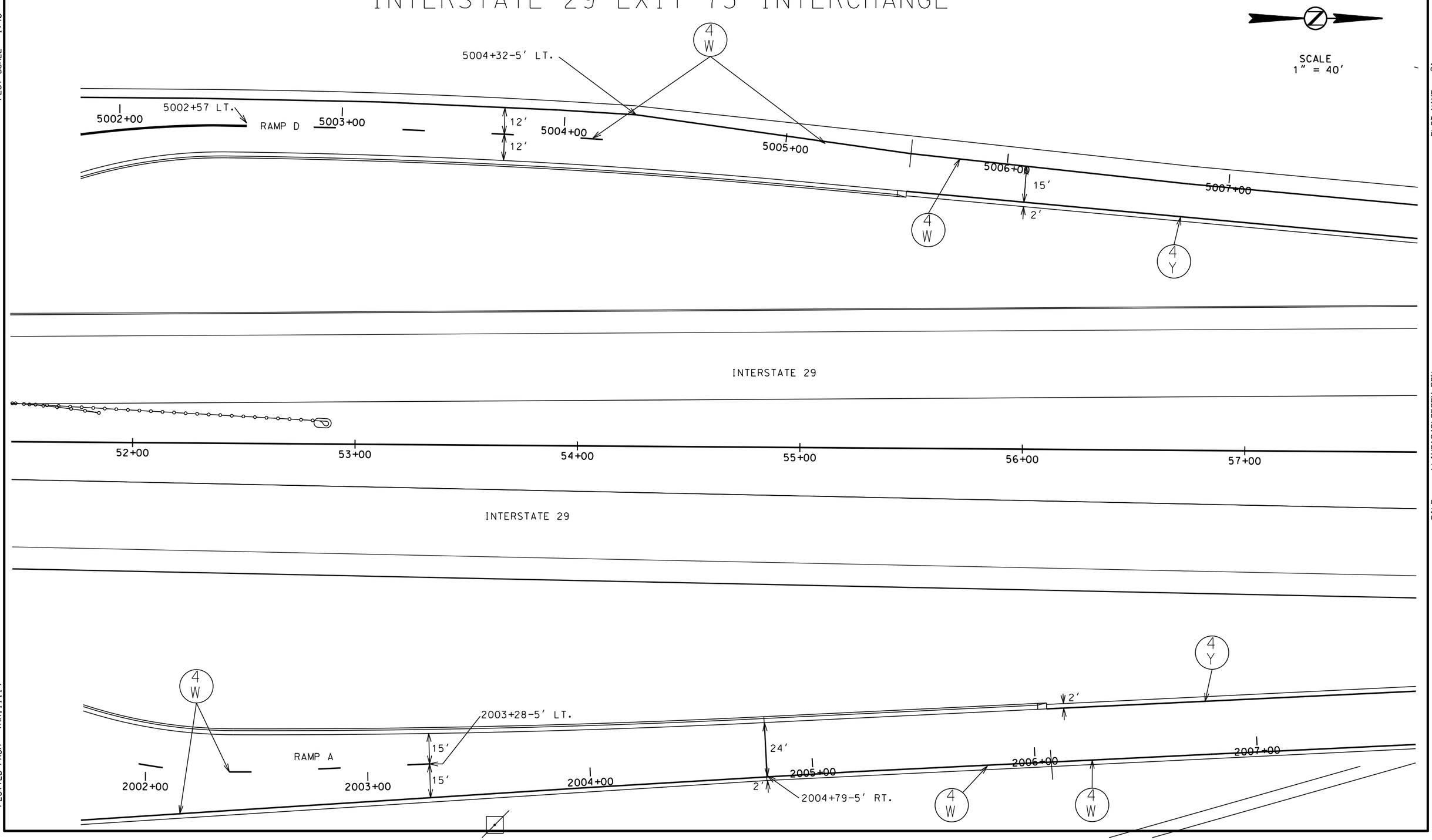
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	36	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE



PLOT SCALE - 1:40

PLOT NAME - 31

FILE - ...\LINC1948\052PM.DGN

PLOTTED FROM - TRM111119

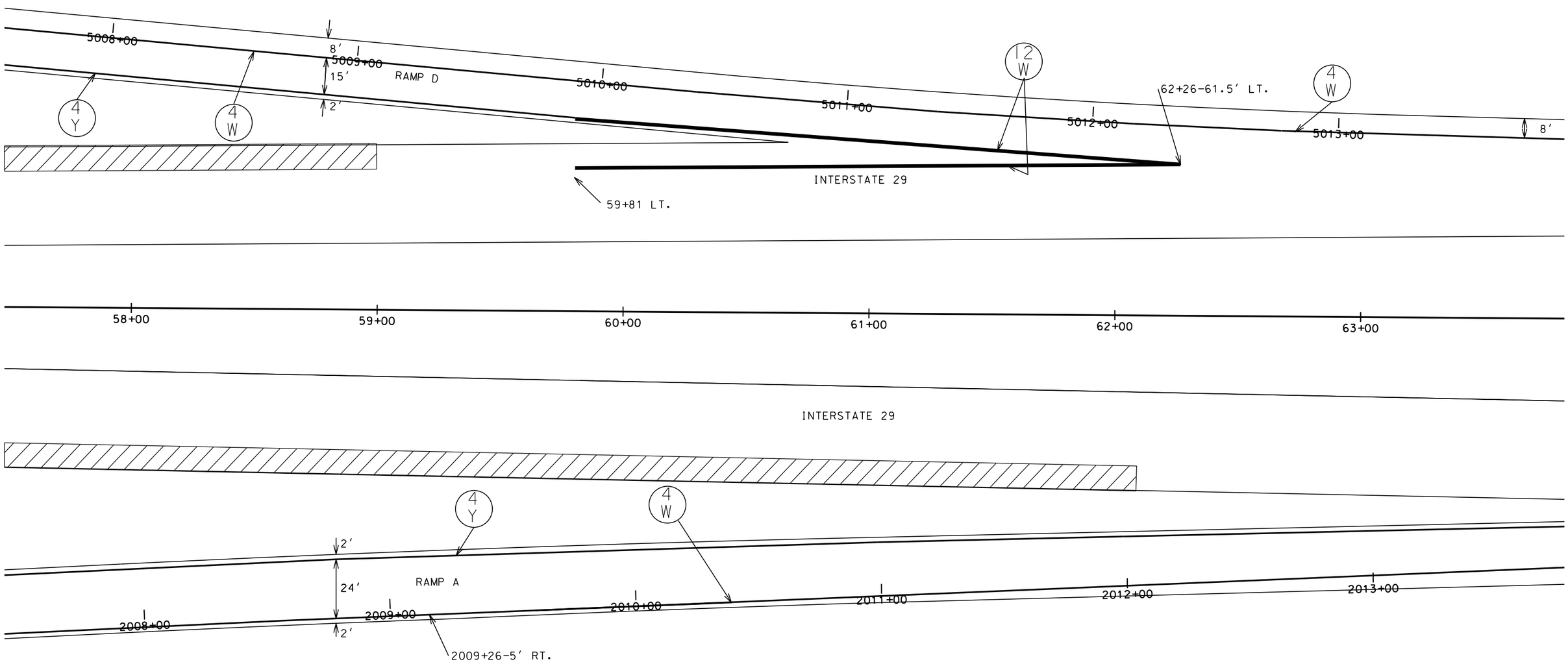
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	37	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 32

FILE - ...\LINC1948\058PM.DGN

PLOTTED FROM - TRMI11119

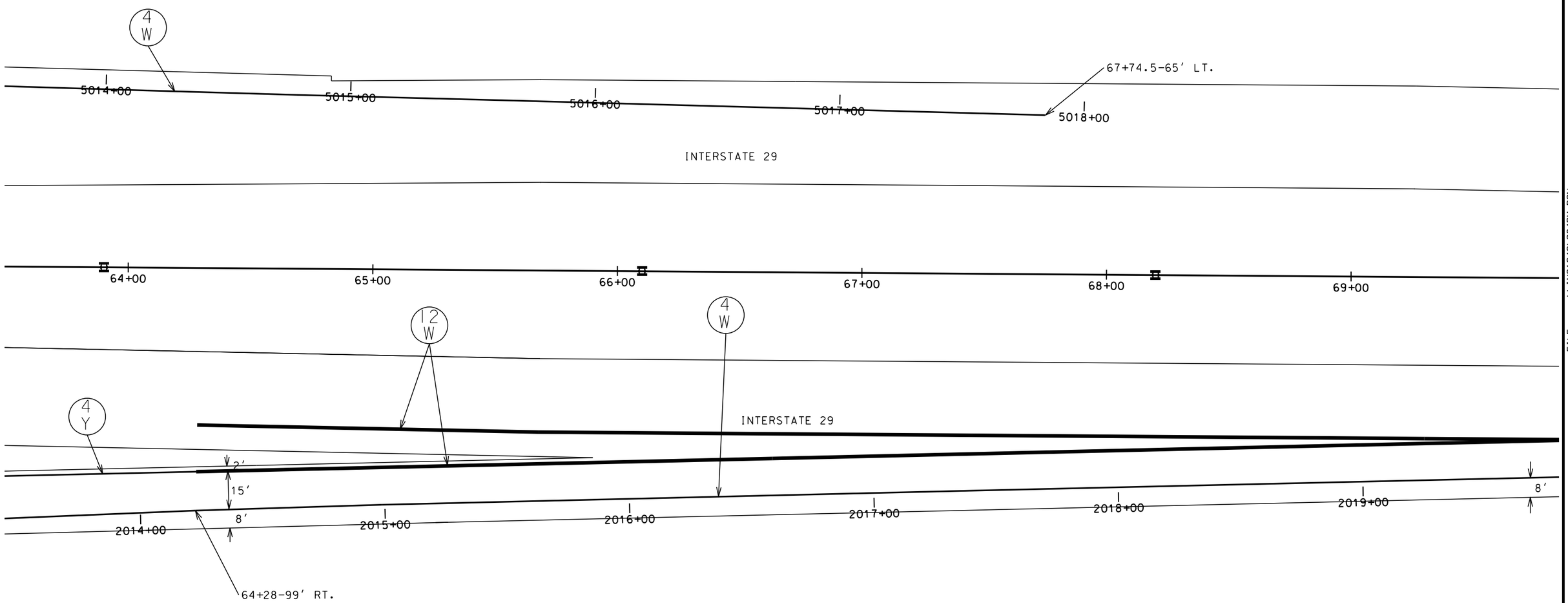
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	38	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 33

FILE - ...\LINC1948\064PM.DGN

PLOTTED FROM - TRMI11119

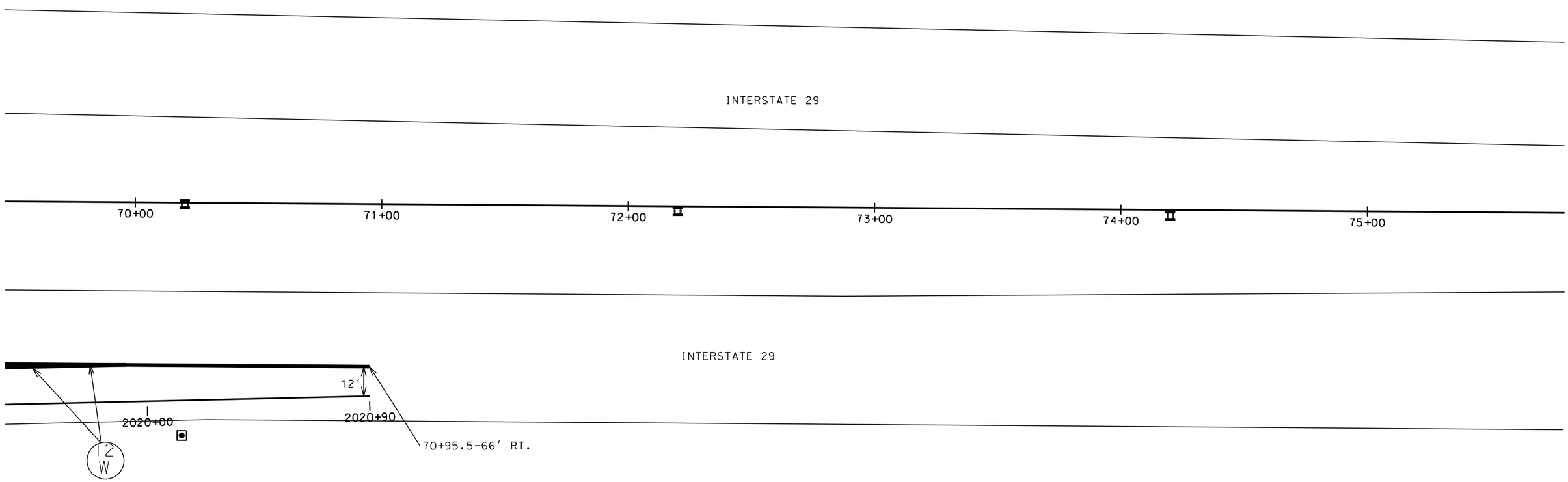
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	39	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 29 EXIT 73 INTERCHANGE

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 34

FILE - ...\LINC1948\070PM.DGN

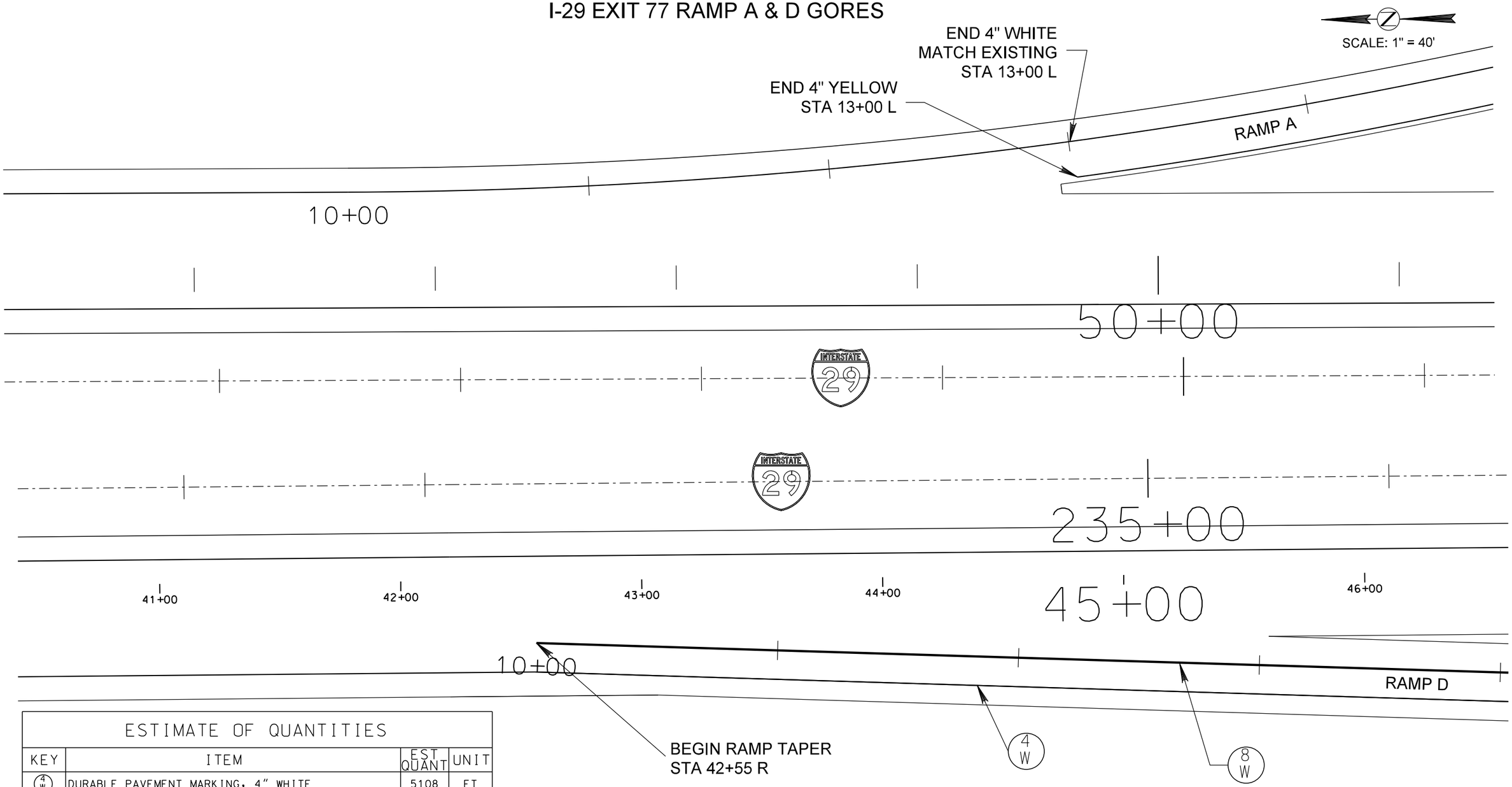
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	40	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMP A & D GORES



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
4 W	DURABLE PAVEMENT MARKING, 4" WHITE	5108	FT
4 Y	DURABLE PAVEMENT MARKING, 4" YELLOW	2882	FT
8 W	DURABLE PAVEMENT MARKING, 8" WHITE	1233	FT
24 W	DURABLE PAVEMENT MARKING, 24" WHITE	469	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW LEFT - 3 / RIGHT - 7	10	EACH
	COLD APPLIED PLASTIC PAVEMENT MARKING, COMBINATION ARROW	4	EACH

PLOT SCALE - 1:40

PLOT NAME - 35

FILE - ...\REGIONWIDE2016\41ST\41ST.DGN

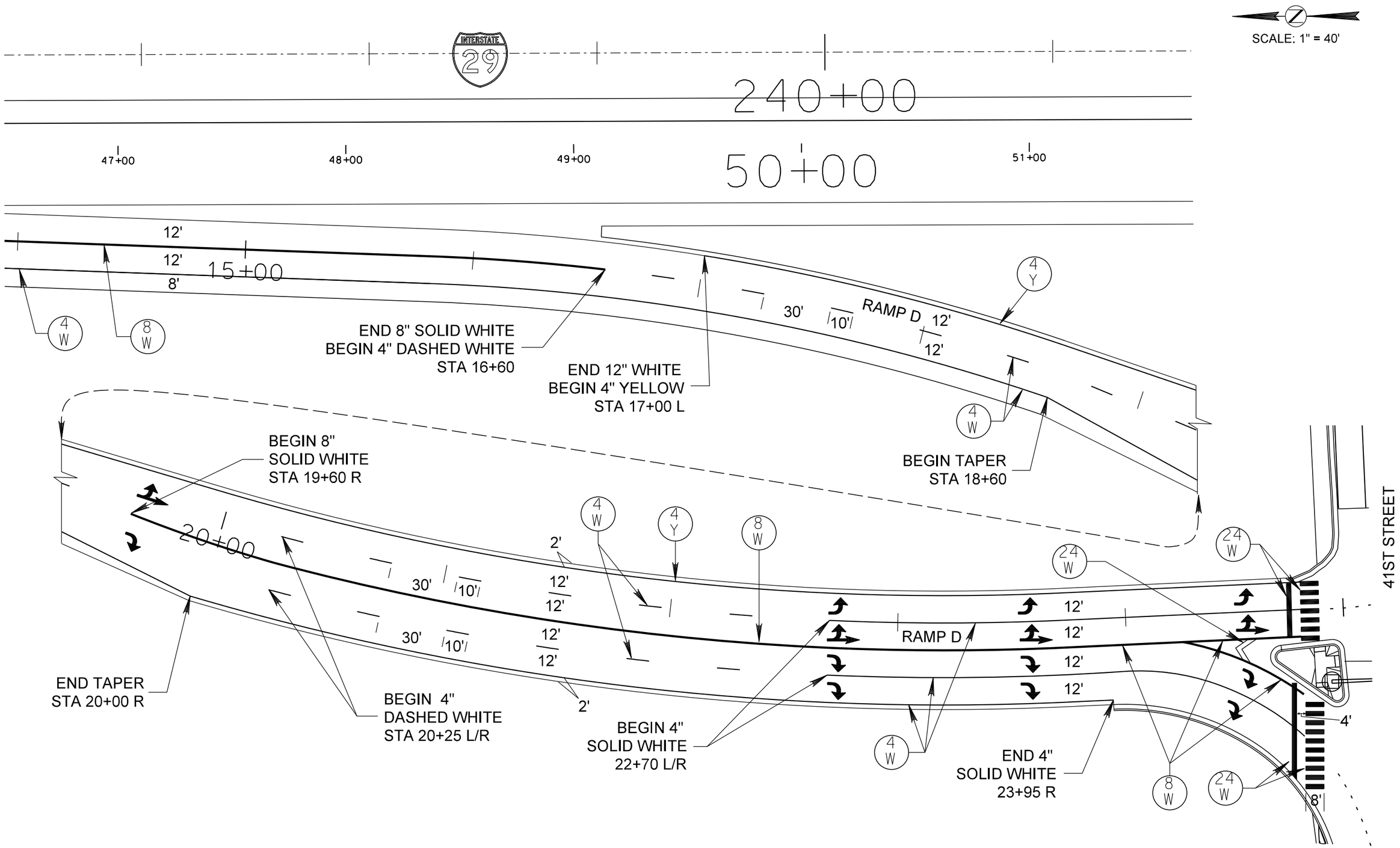
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	41	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMP D



PLOT SCALE - 1:40

PLOT NAME - 36

FILE - ...\REGIONWIDE2016\41ST\41ST.DGN

PLOTTED FROM - TRM111119

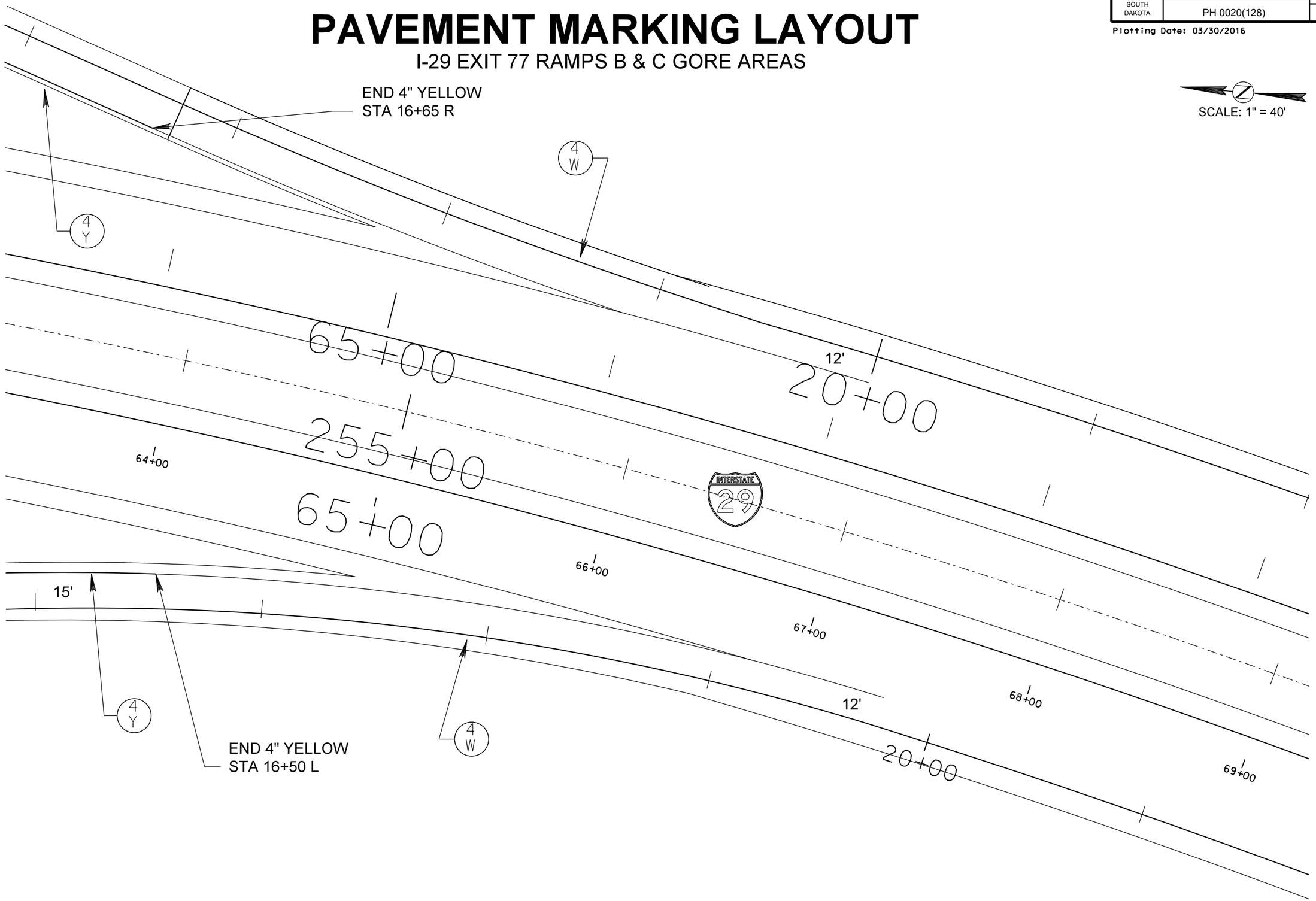
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	42	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMPS B & C GORE AREAS

SCALE: 1" = 40'



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 37

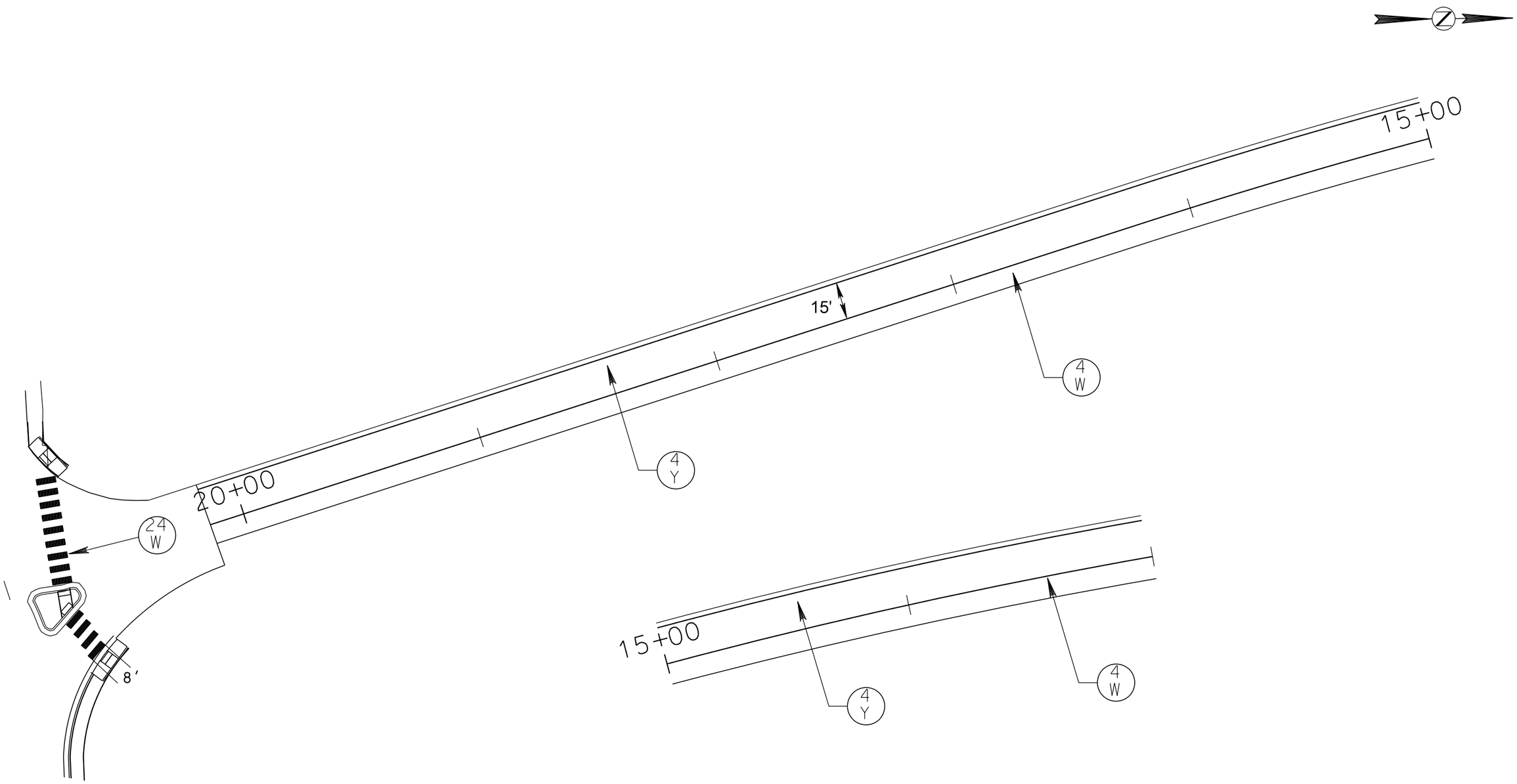
FILE - ...\REGIONWIDE2016\41ST\41ST.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	43	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMP A



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 38

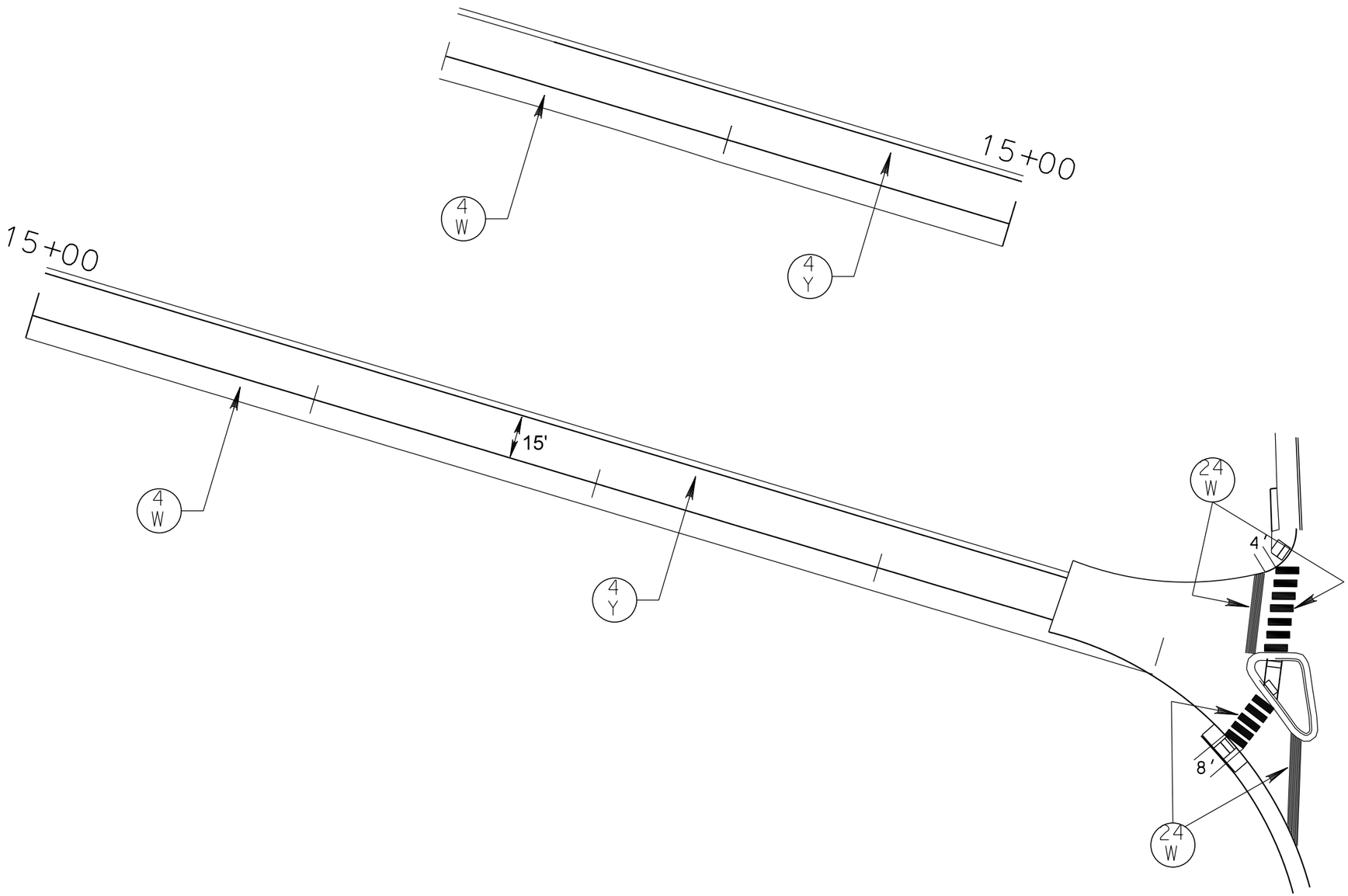
FILE - ...\REGIONWIDE2016\41ST\41ST.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	44	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMP B



PLOT SCALE - 1:40

PLOT NAME - 39

FILE - ...\REGIONWIDE2016\41ST\41ST.DGN

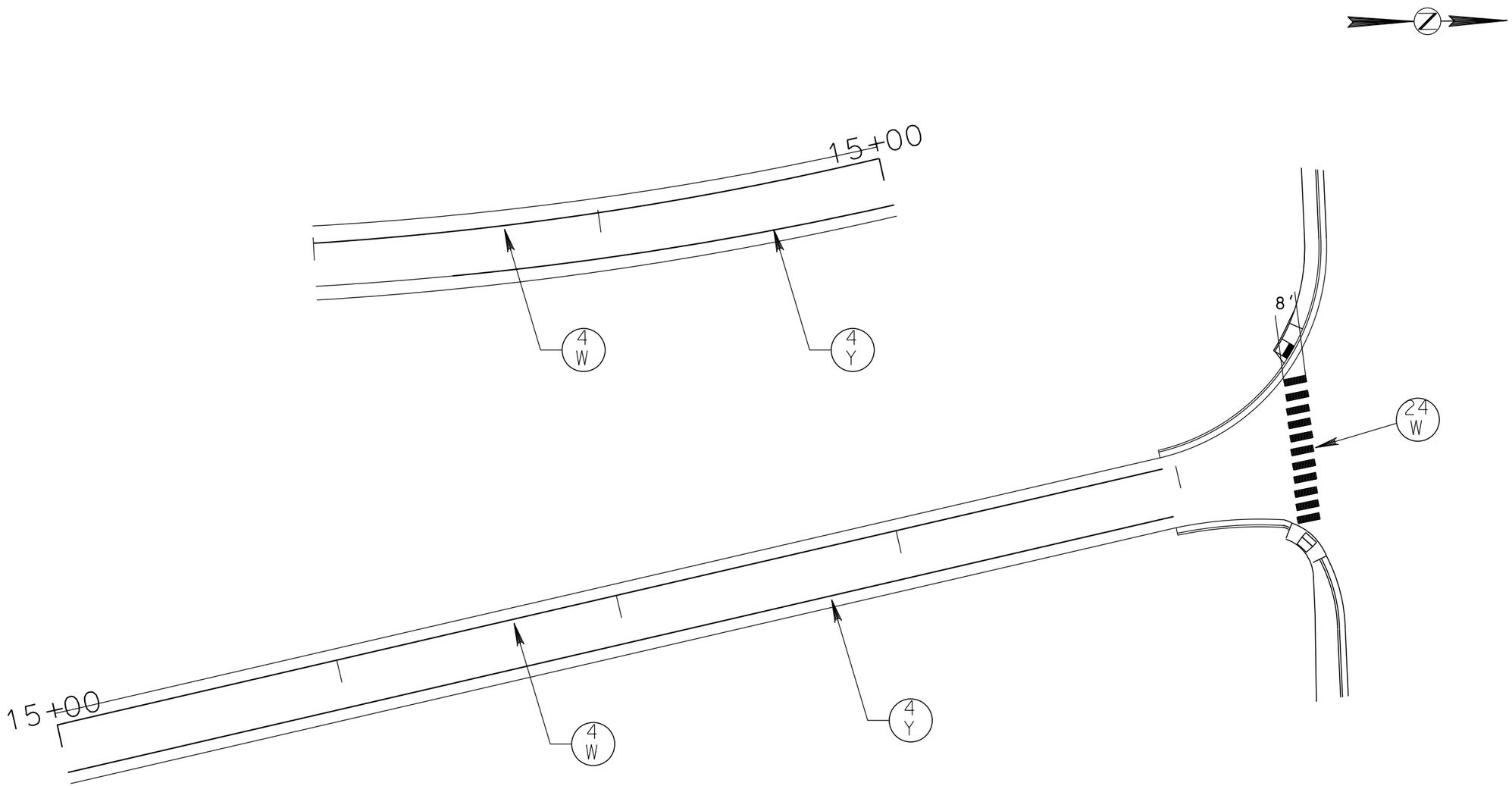
PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	45	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 77 RAMP C



PLOT SCALE - 1:40

PLOT NAME - 40

FILE -...\REGIONWIDE2016\41ST\41ST.DGN

PLOTTED FROM - TRMI11119

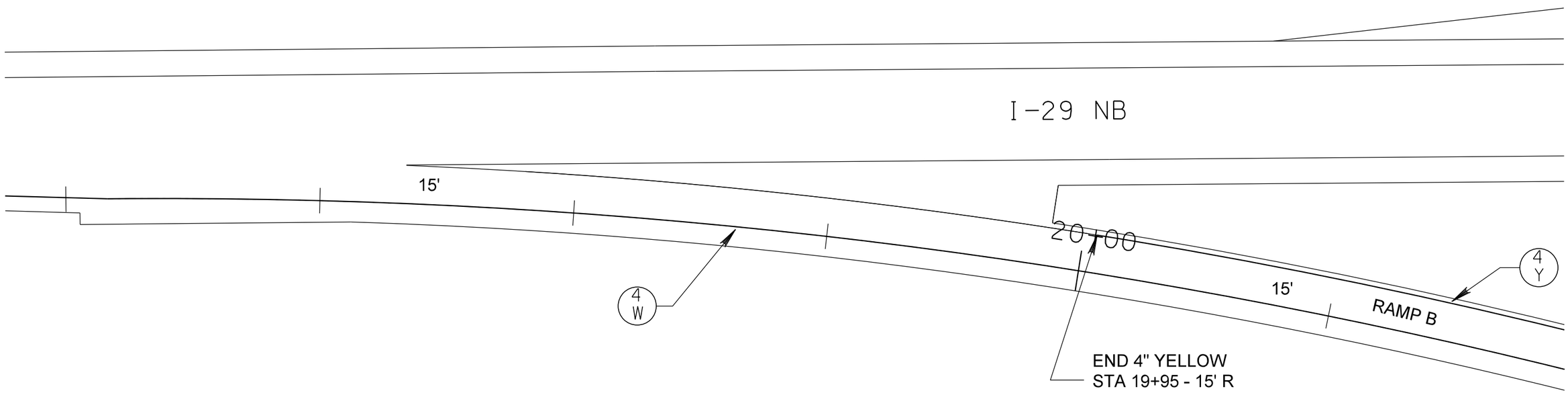
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	46	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING LAYOUT

I-29 EXIT 78 RAMP B

SCALE: 1" = 40'



ESTIMATE OF QUANTITIES			
KEY	ITEM	EST QUANT	UNIT
4 W	DURABLE PAVEMENT MARKING, 4" WHITE	5870	FT
4 Y	DURABLE PAVEMENT MARKING, 4" YELLOW	3504	FT
24 W	DURABLE PAVEMENT MARKING, 24" WHITE	208	FT
	COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW LEFT - 3 / RIGHT - 6	9	EACH
	COLD APPLIED PLASTIC PAVEMENT MARKING COMBINATION ARROW	3	EACH
	COLD APPLIED PLASTIC PAVEMENT MARKING COMBINATION ARROW	3	EACH

PLOT SCALE - 1:40

PLOT NAME - 41

FILE - ...\26TH\02K9MARKING.DGN

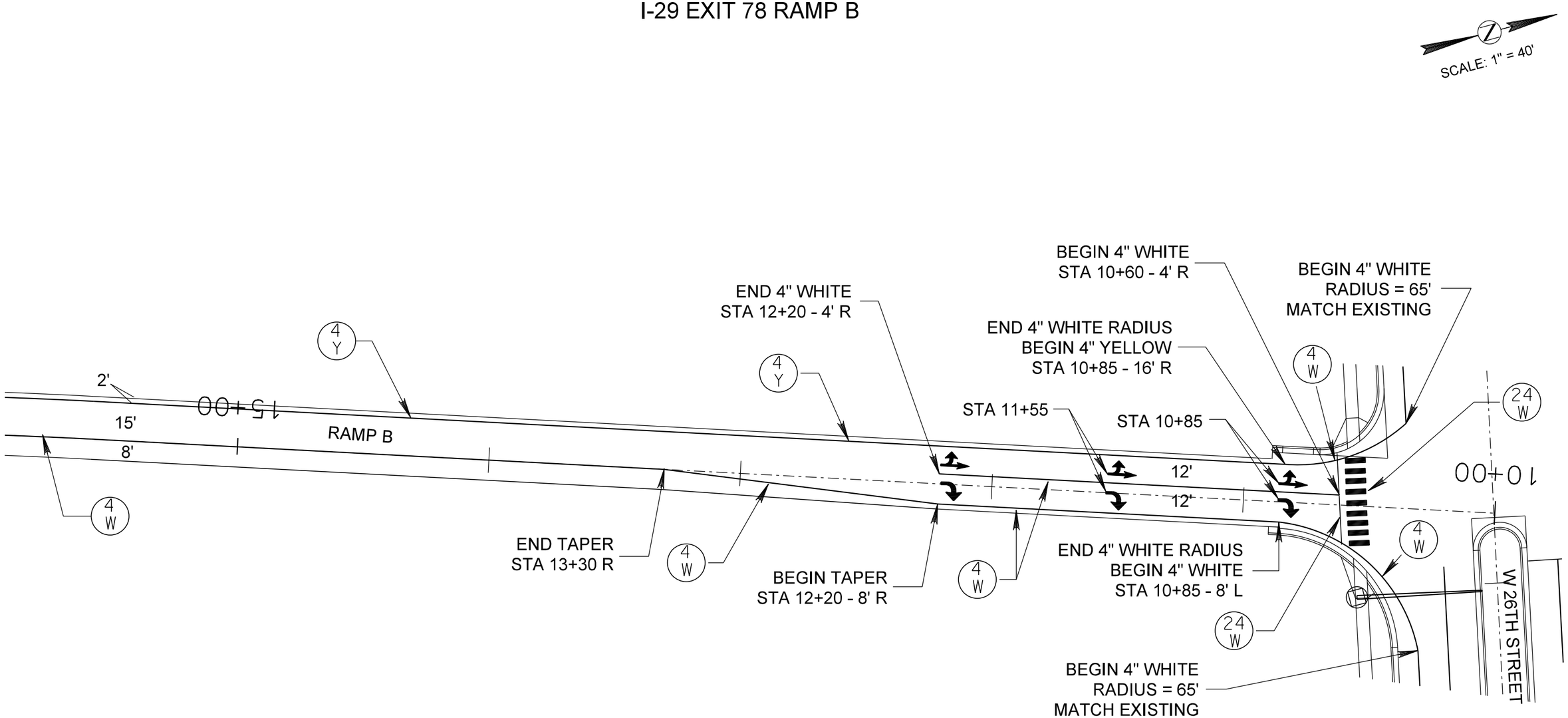
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	47	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING LAYOUT

I-29 EXIT 78 RAMP B



PLOT SCALE - 1:40

PLOTTED FROM - TRM111119

PLOT NAME - 42

FILE - ...\26TH\02K9MARKING.DGN

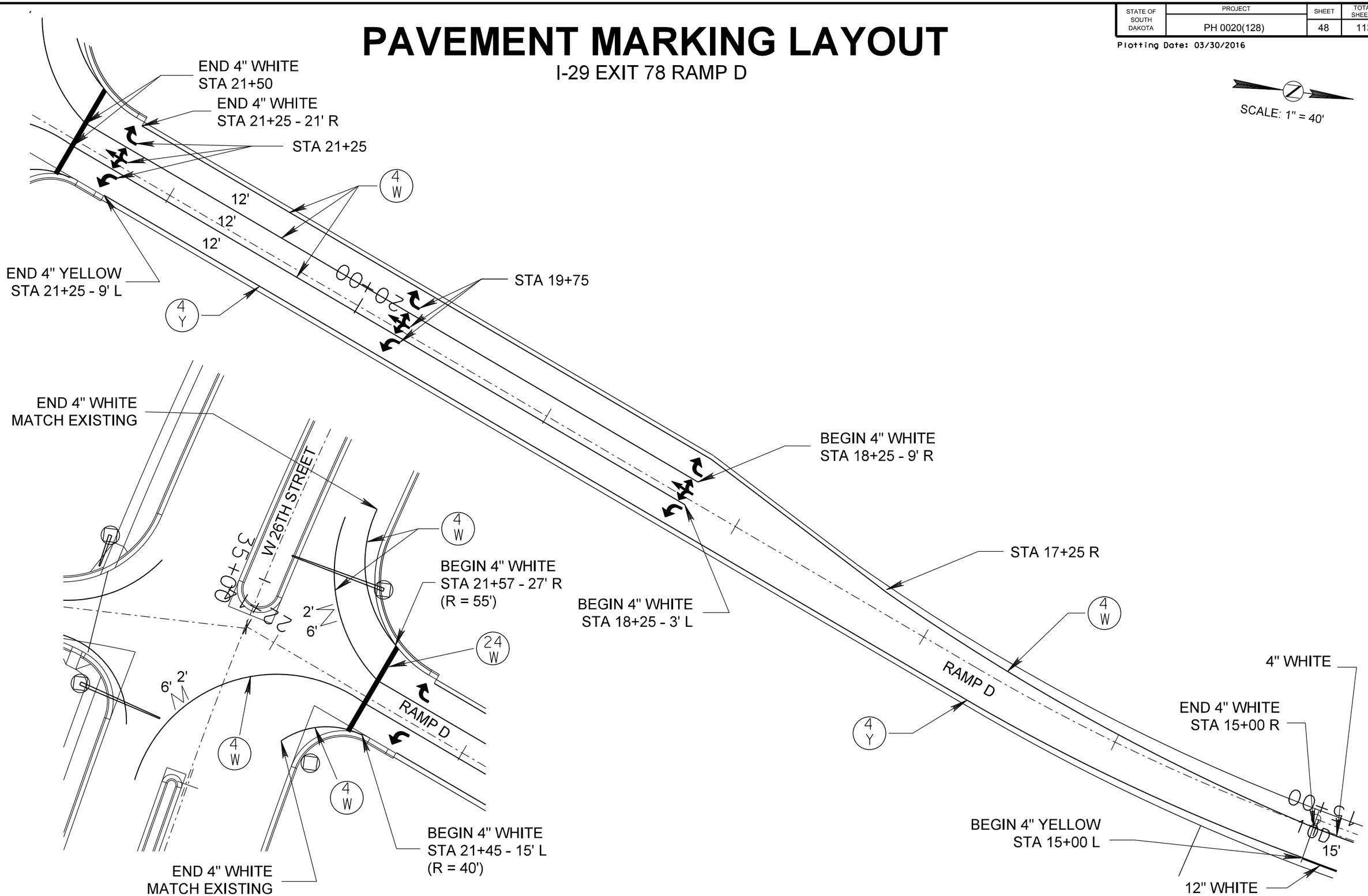
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	48	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 78 RAMP D

SCALE: 1" = 40'



PLOT SCALE - 1:40

PLOTTED FROM - TRM111119

PLOT NAME - 43

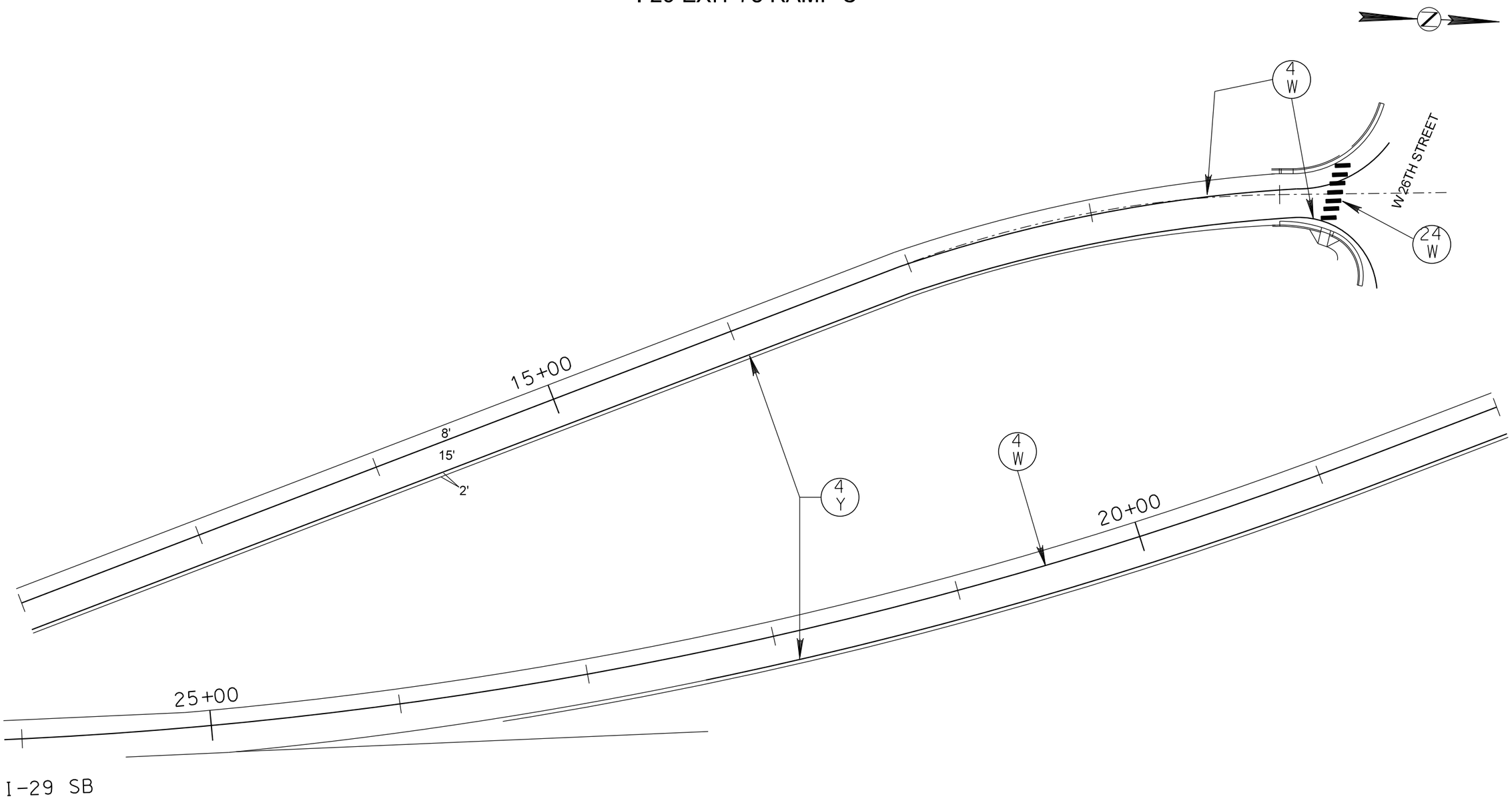
FILE - ...\26TH\02K9MARKING.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	49	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-29 EXIT 78 RAMP C



PLOT SCALE - 1:53.24

PLOTTED FROM - TRMI11119

PLOT NAME - 44

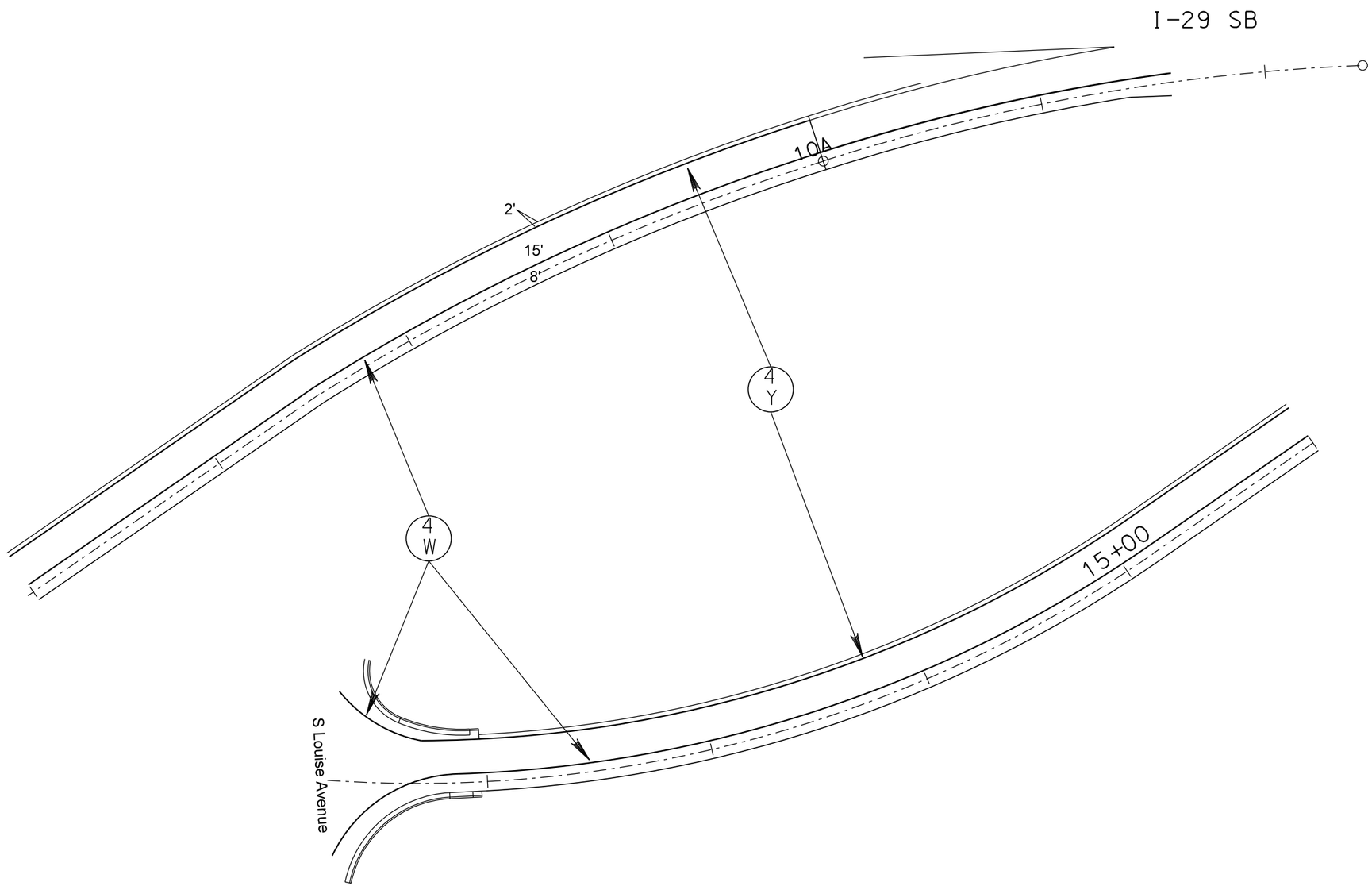
FILE - ...\26TH\02K9MARKING.DGN

PAVEMENT MARKING LAYOUT

I-29 EXIT 78 RAMP A

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	50	113

Plotting Date: 03/30/2016



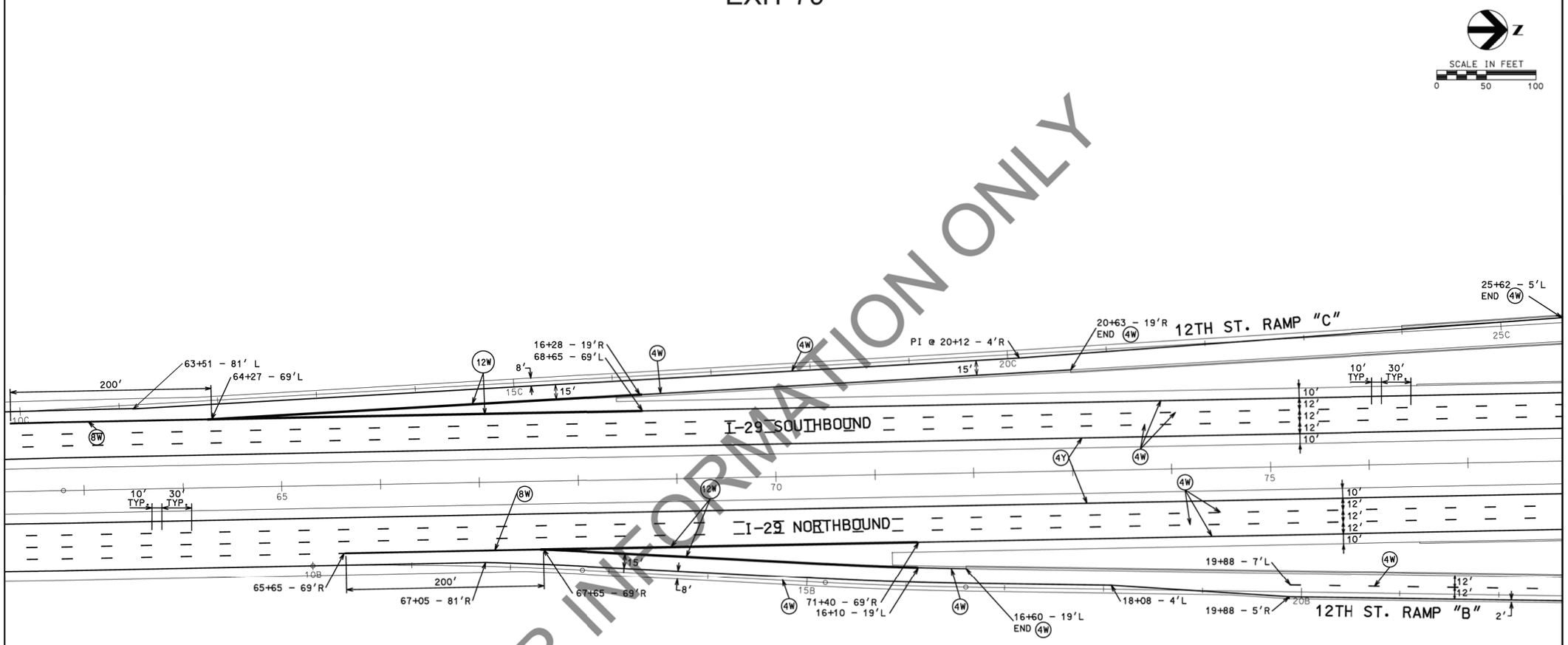
PLOT SCALE - 1:53.24

PLOTTED FROM - TRM111119

PLOT NAME - 45

FILE - ...\26TH\02K9MARKING.DGN

PAVEMENT MARKINGS
INTERSTATE 29
EXIT 79

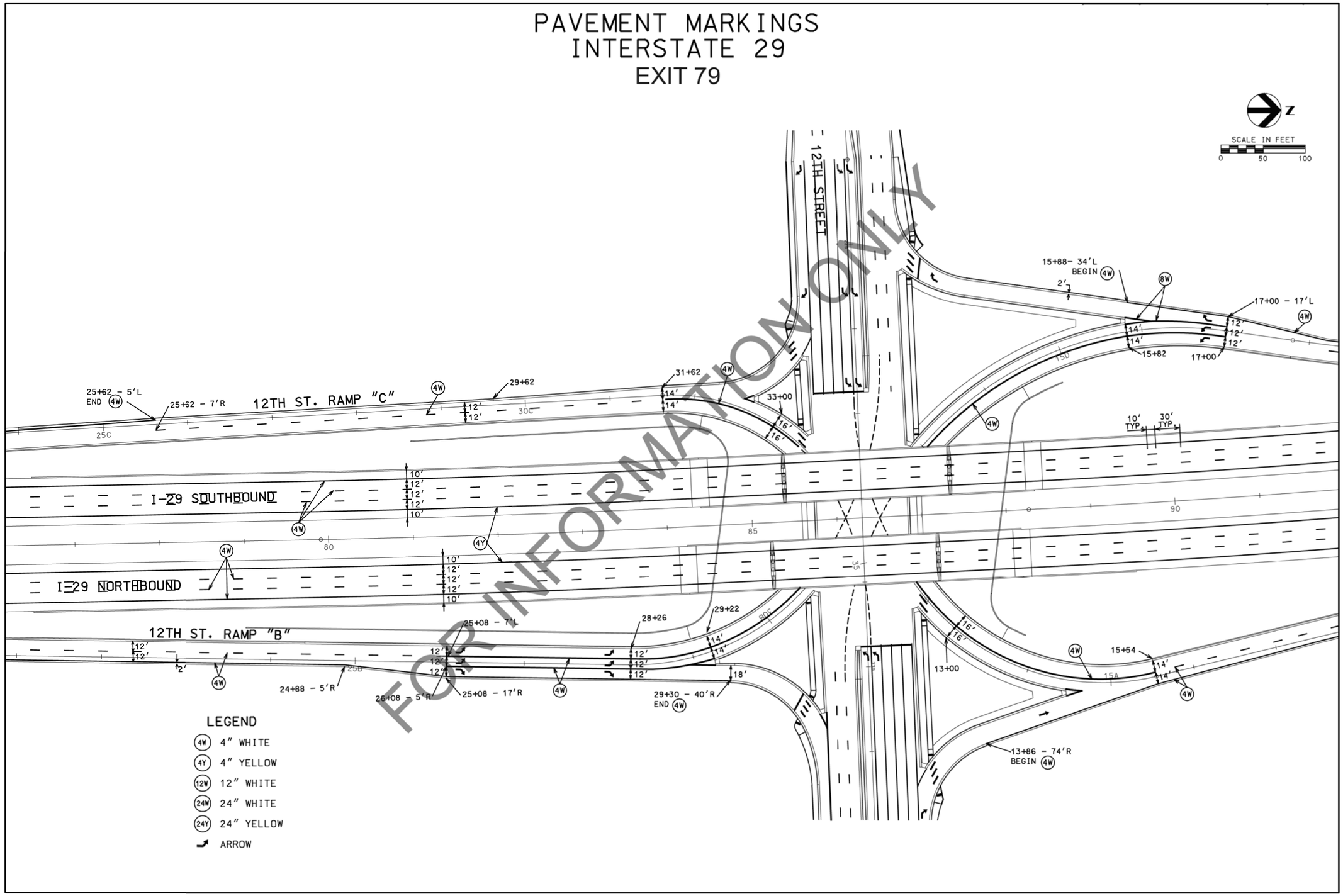


LEGEND

- 4W 4" WHITE
- 4Y 4" YELLOW
- 12W 12" WHITE
- 24W 24" WHITE
- 24Y 24" YELLOW

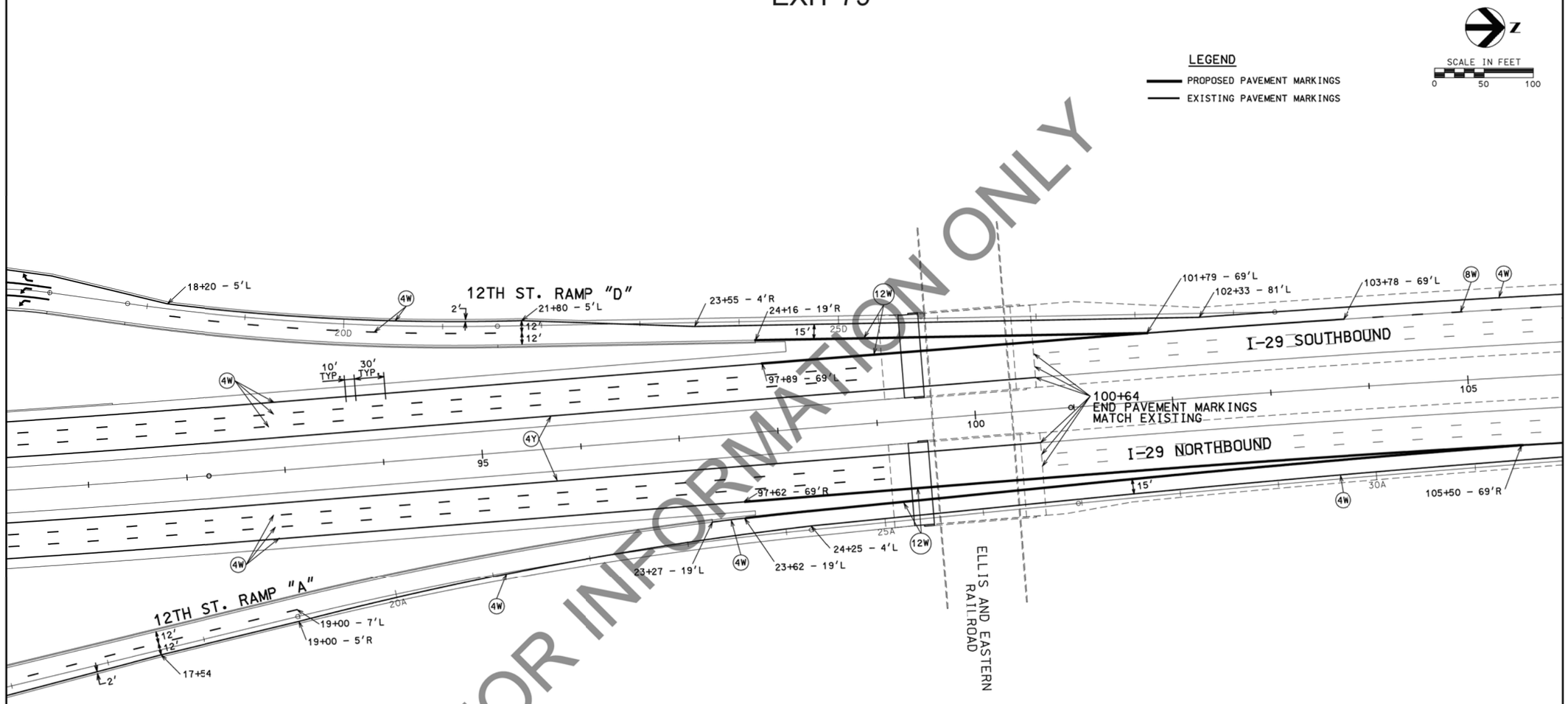
FOR INFORMATION ONLY

PAVEMENT MARKINGS
INTERSTATE 29
EXIT 79



FOR INFORMATION ONLY

PAVEMENT MARKINGS
INTERSTATE 29
EXIT 79



LEGEND

- 4W 4" WHITE
- 4Y 4" YELLOW
- 12W 12" WHITE
- 24W 24" WHITE
- 24Y 24" YELLOW
- ARROW

FOR INFORMATION ONLY

PAVEMENT MARKINGS
INTERSTATE 29
EXIT 79

LEGEND

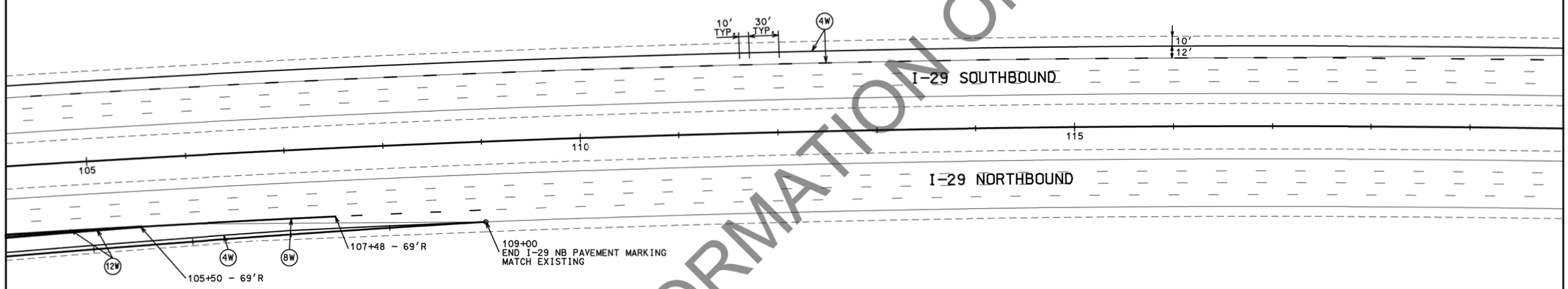
PROPOSED PAVEMENT MARKINGS

EXISTING PAVEMENT MARKINGS

N

SCALE IN FEET

0 50 100



LEGEND

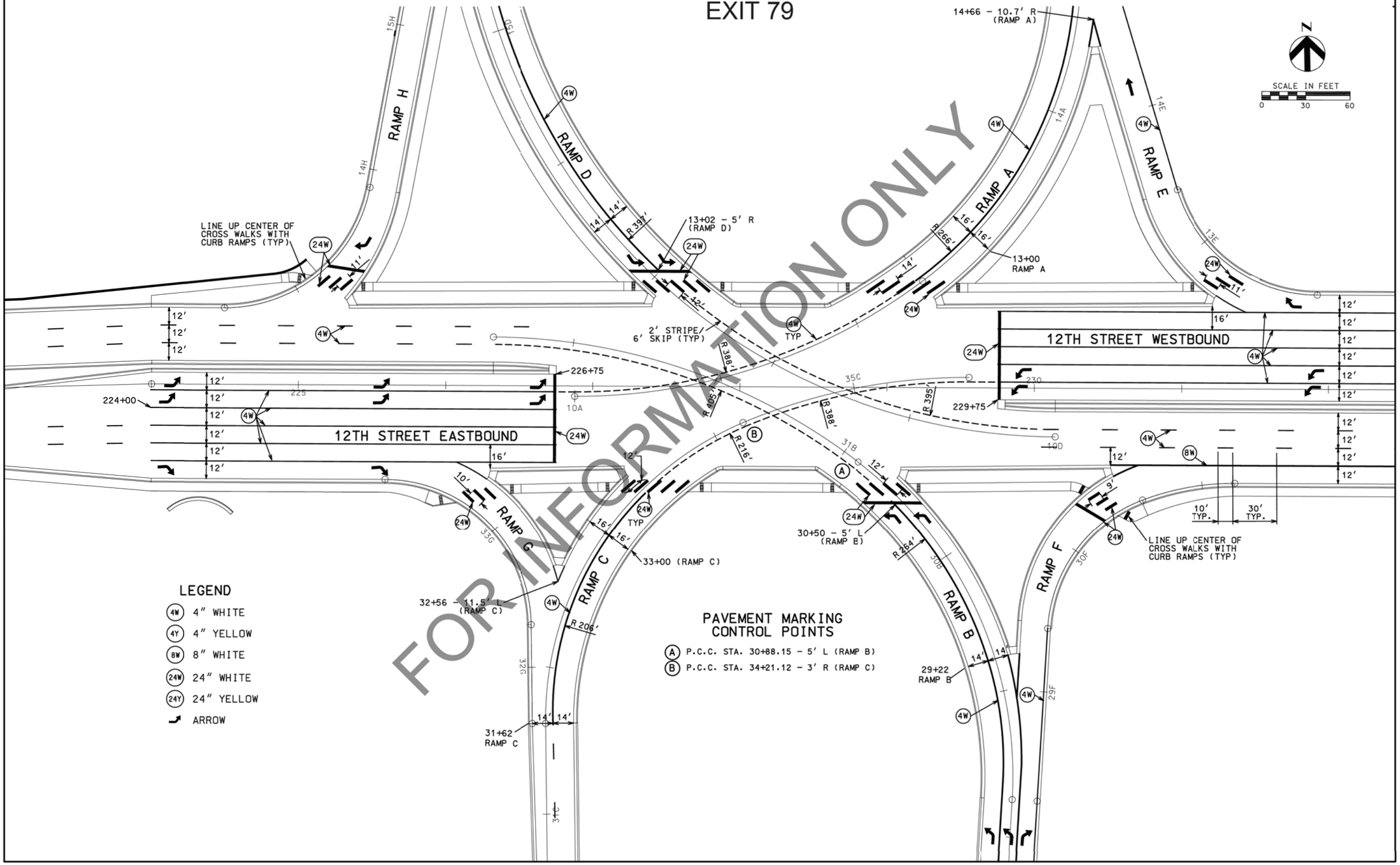
- 4W — 4″ WHITE
- 4Y — 4″ YELLOW
- 12W — 12″ WHITE
- 24W — 24″ WHITE
- 24Y — 24″ YELLOW

FOR INFORMATION ONLY

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	55	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT
12TH STREET
EXIT 79



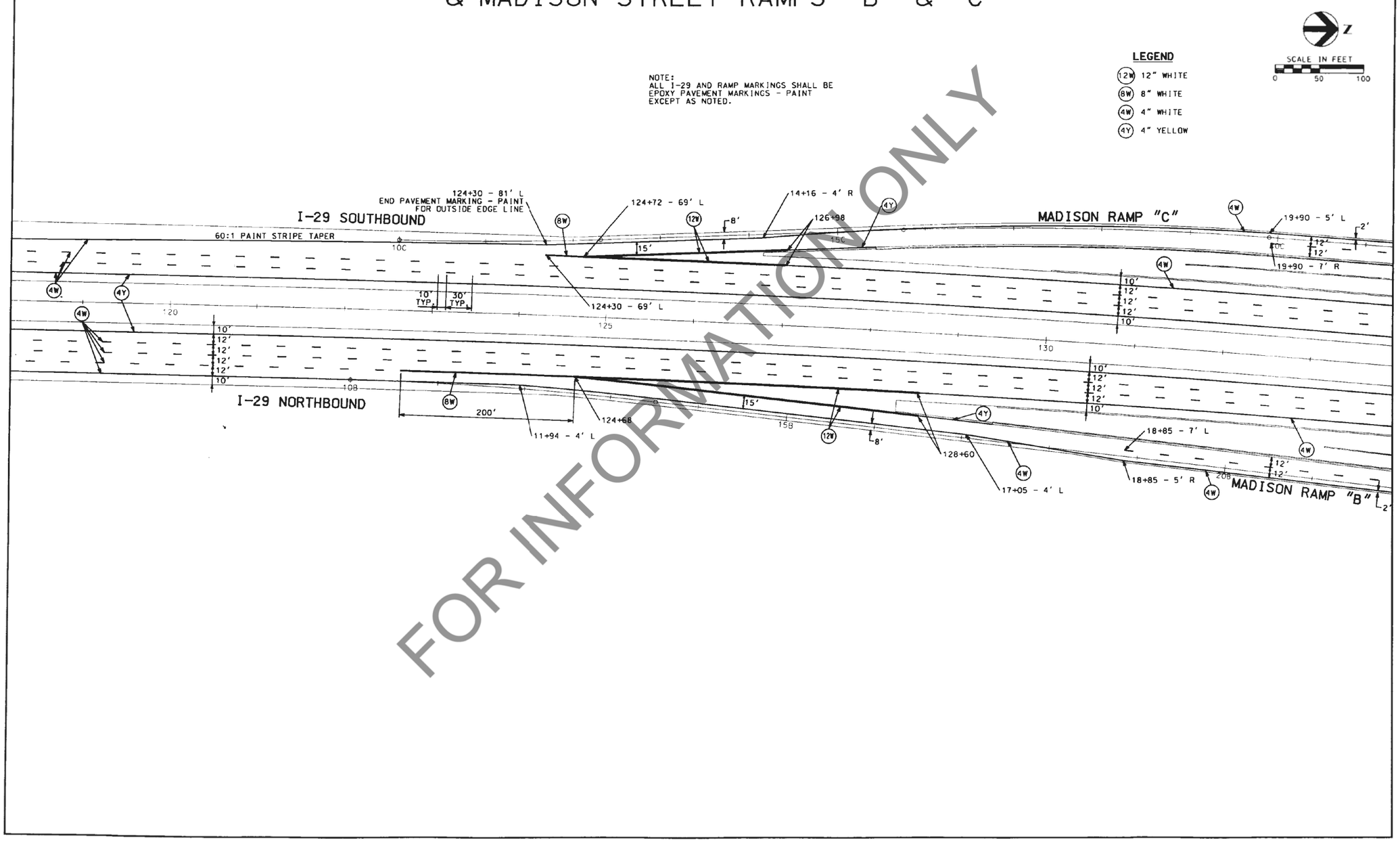
PLOT SCALE - 1:200

PLOTTED FROM - TRM111119

PLOT NAME - 52

FILE - ...\REGIONWIDE2016\12TH\12TH.DGN

PAVEMENT MARKINGS
INTERSTATE 29
& MADISON STREET RAMPS "B" & "C"



FOR INFORMATION ONLY

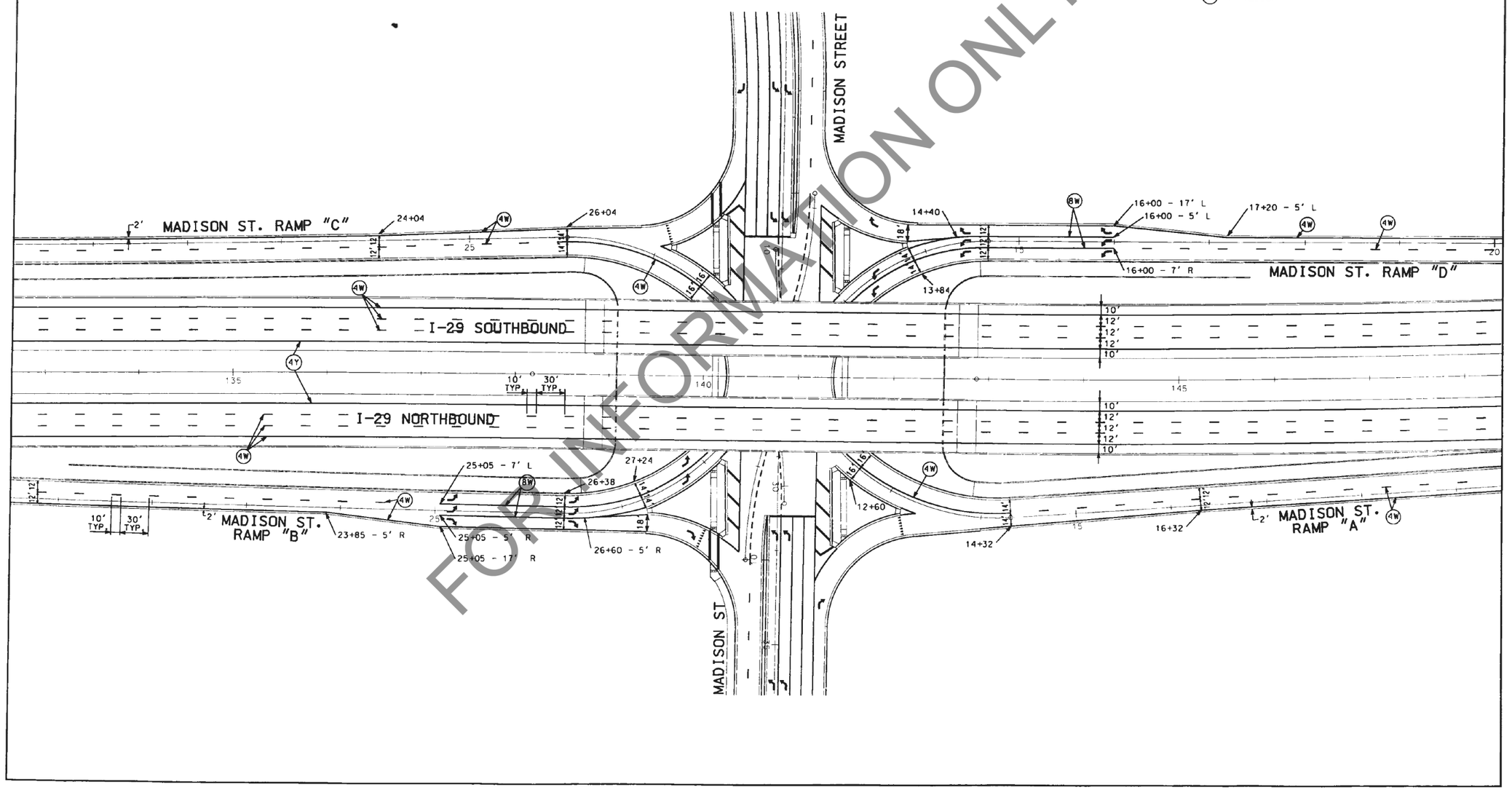
PAVEMENT MARKINGS
INTERSTATE 29
& MADISON STREET RAMPS

NOTE:
ALL I-29 AND RAMP MARKINGS SHALL BE EPOXY PAVEMENT MARKINGS - PAINT EXCEPT AS NOTED.

LEGEND

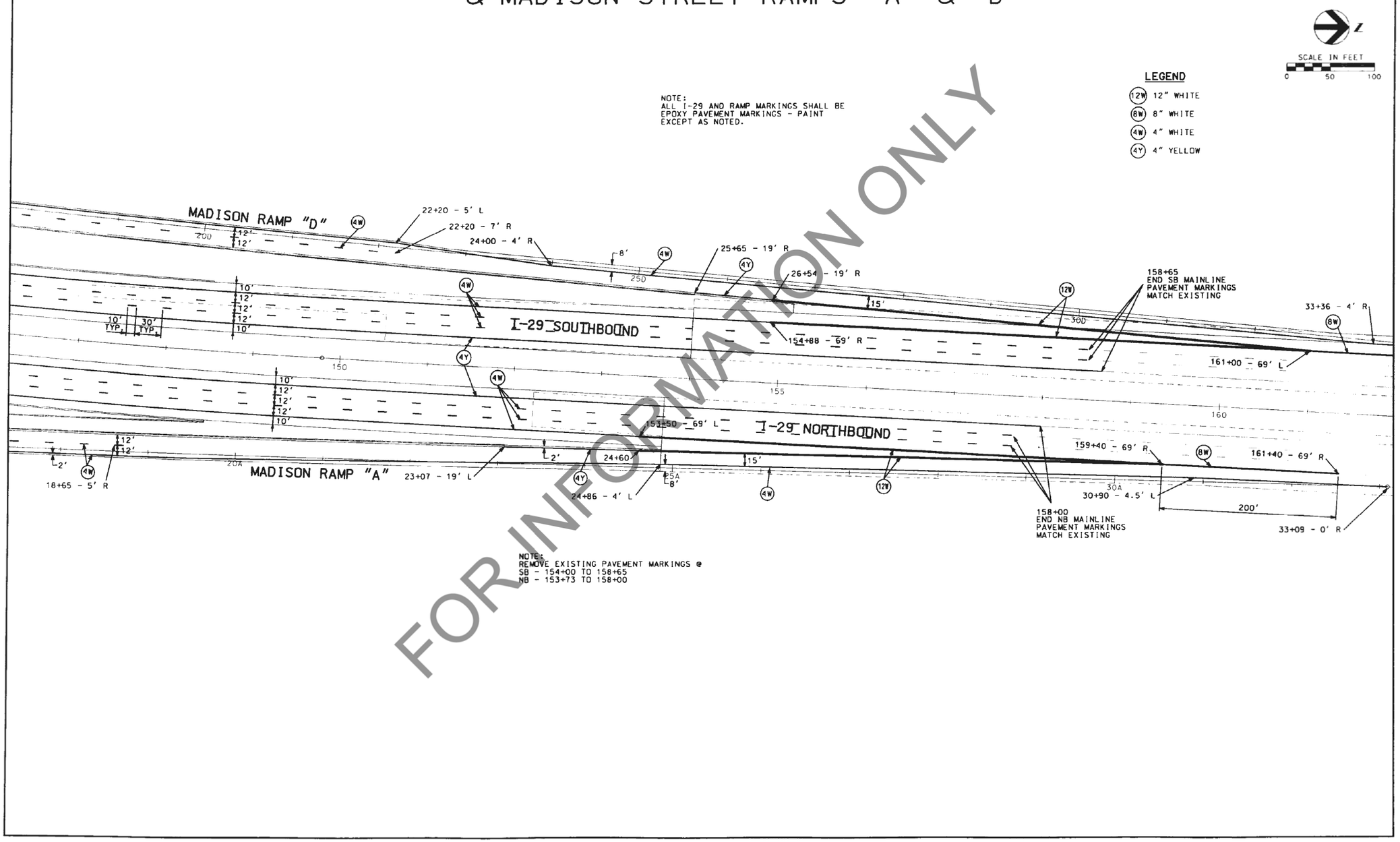
- (12W) 12" WHITE
- (8W) 8" WHITE
- (4W) 4" WHITE
- (4Y) 4" YELLOW

SCALE IN FEET
0 50 100



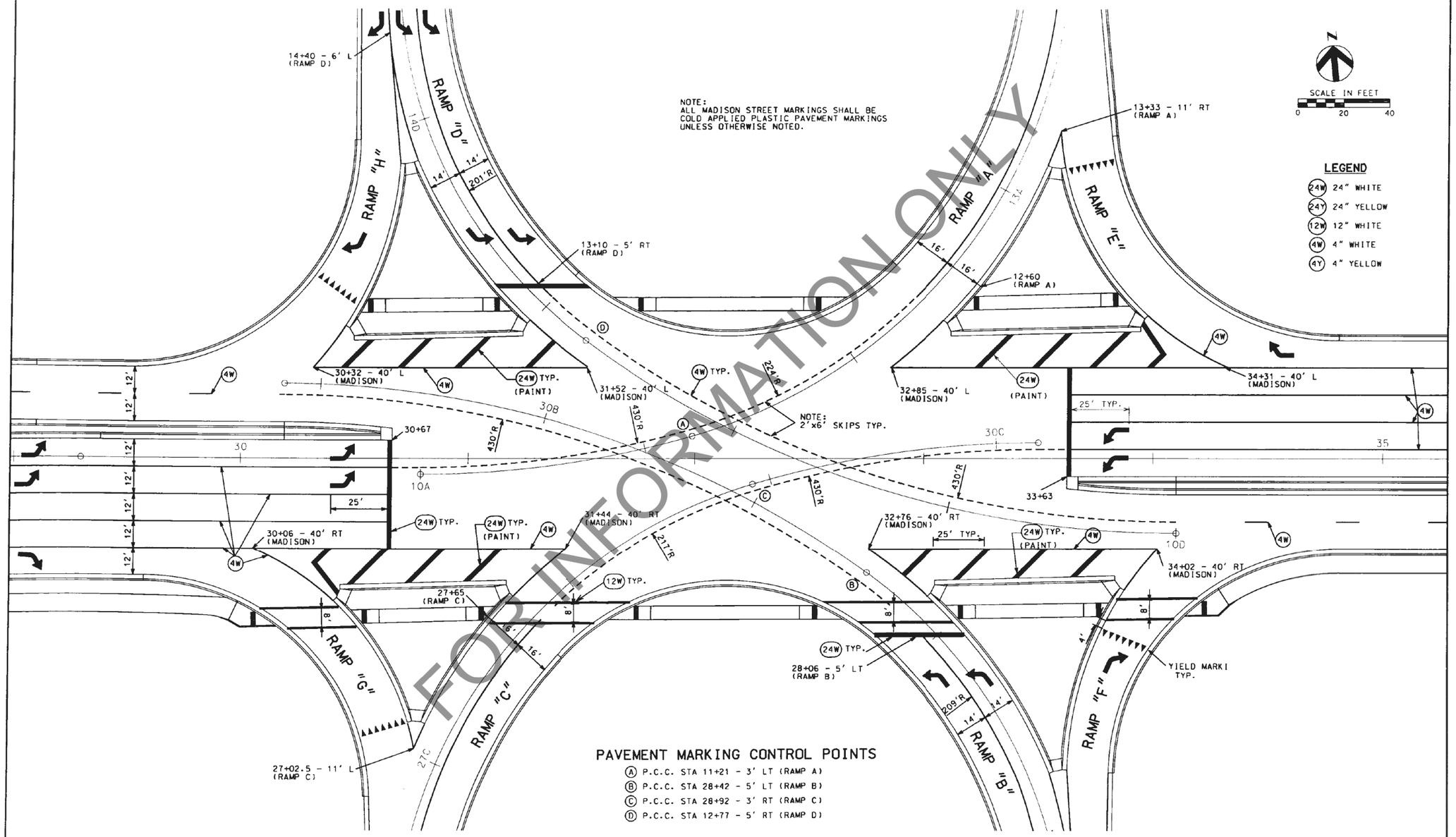
FOR INFORMATION ONLY

PAVEMENT MARKINGS
INTERSTATE 29
& MADISON STREET RAMPS "A" & "D"



FOR INFORMATION ONLY

PAVEMENT MARKINGS
MADISON STREET @ I-29



FOR INFORMATION ONLY

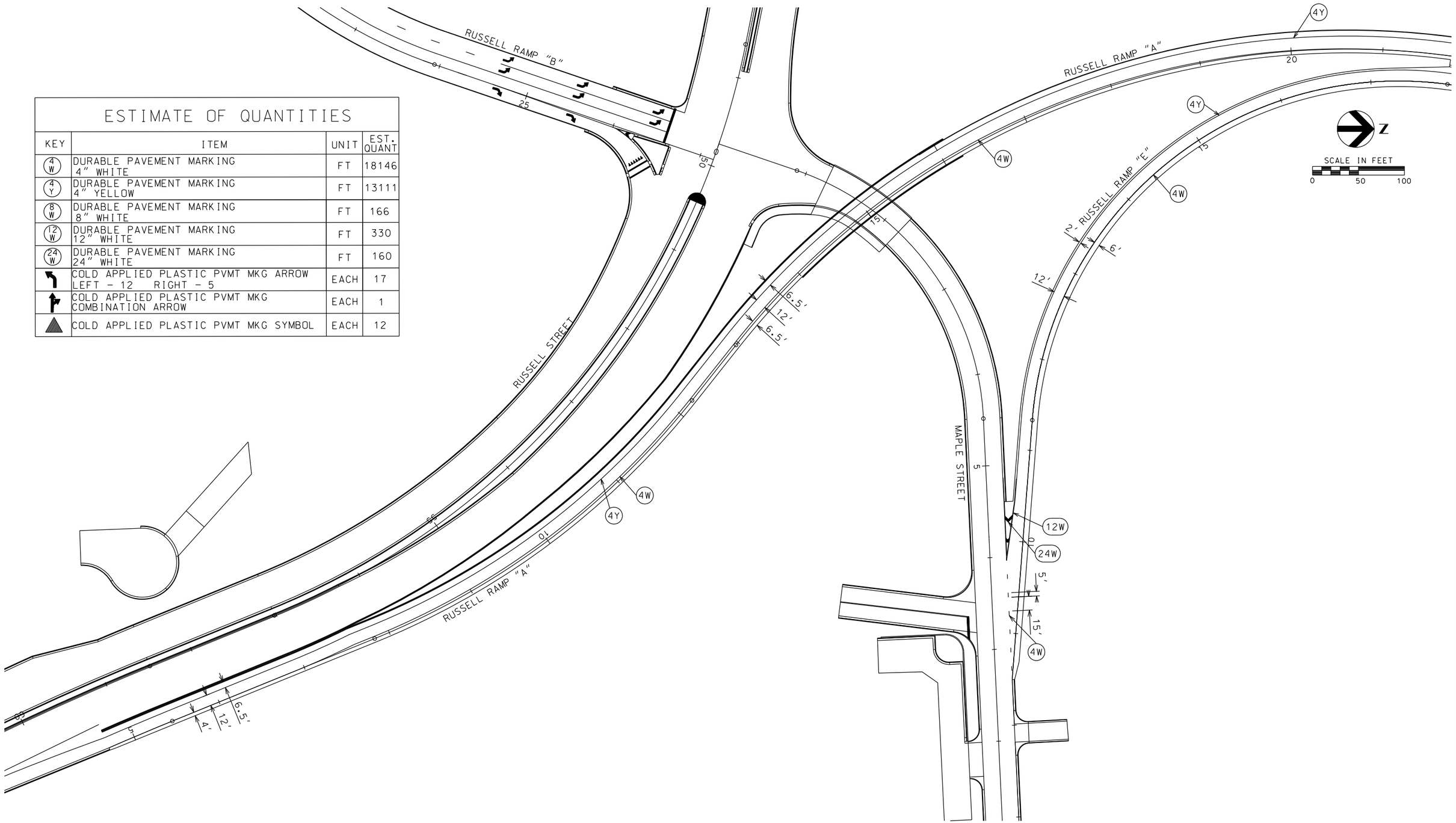
PAVEMENT MARKINGS
RUSSELL STREET RAMPS "A" AND "E"

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	60	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

ESTIMATE OF QUANTITIES

KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	18146
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	13111
8 W	DURABLE PAVEMENT MARKING 8" WHITE	FT	166
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	330
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	160
	COLD APPLIED PLASTIC PVMT MKG ARROW LEFT - 12 RIGHT - 5	EACH	17
	COLD APPLIED PLASTIC PVMT MKG COMBINATION ARROW	EACH	1
	COLD APPLIED PLASTIC PVMT MKG SYMBOL	EACH	12



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

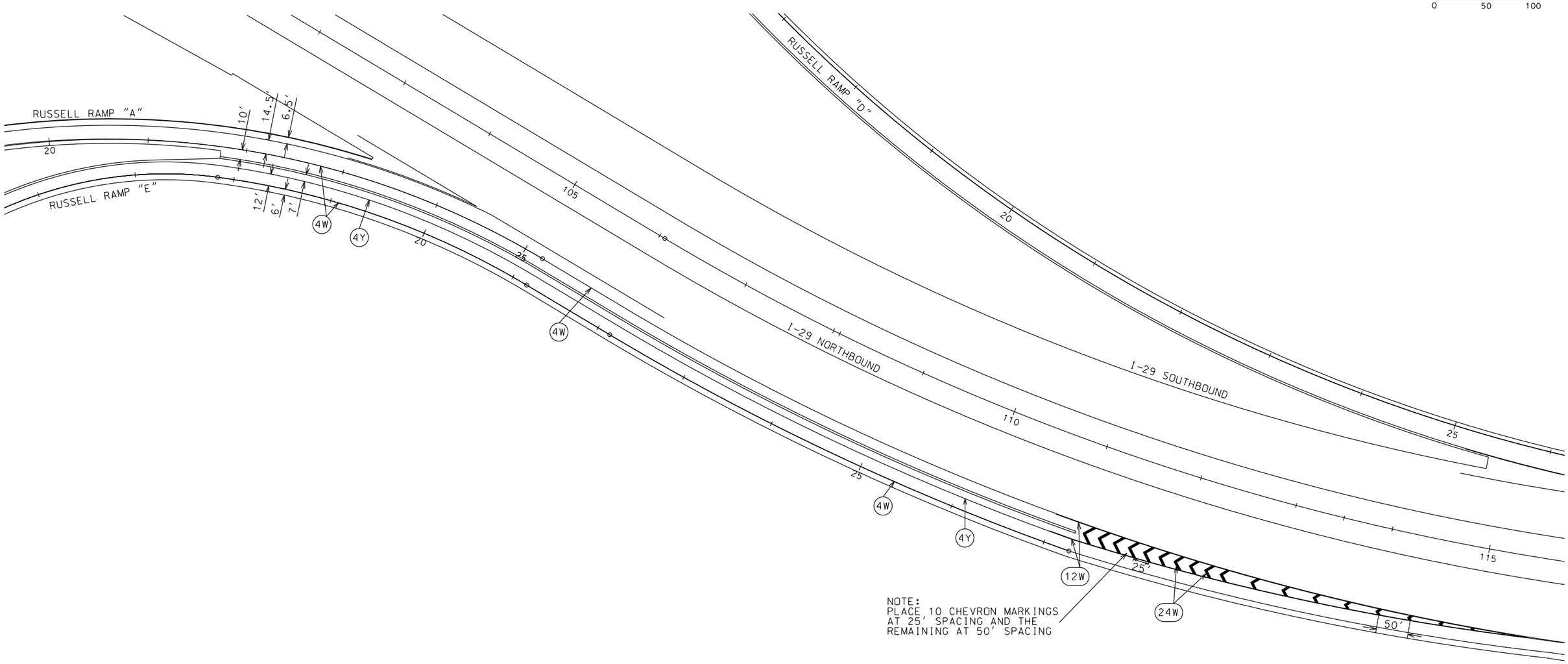
PLOT NAME - 57

FILE - ...\RUSSELL\PMRUSS(AE)000.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	61	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMPS "A" AND "E"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRMI11119

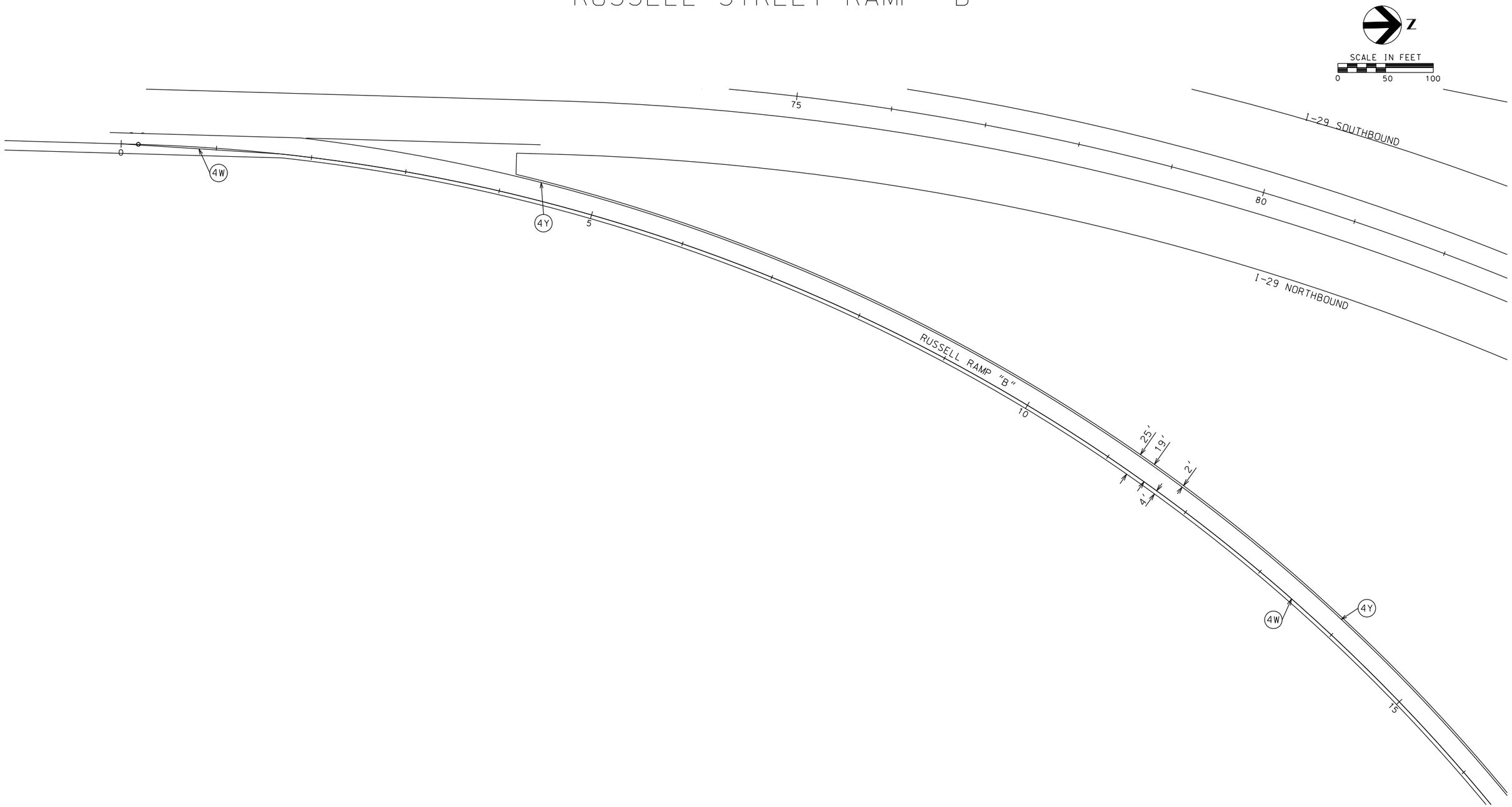
PLOT NAME - 58

FILE - ...\RUSSELL\PMRUSS(AE)020.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	62	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMP "B"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

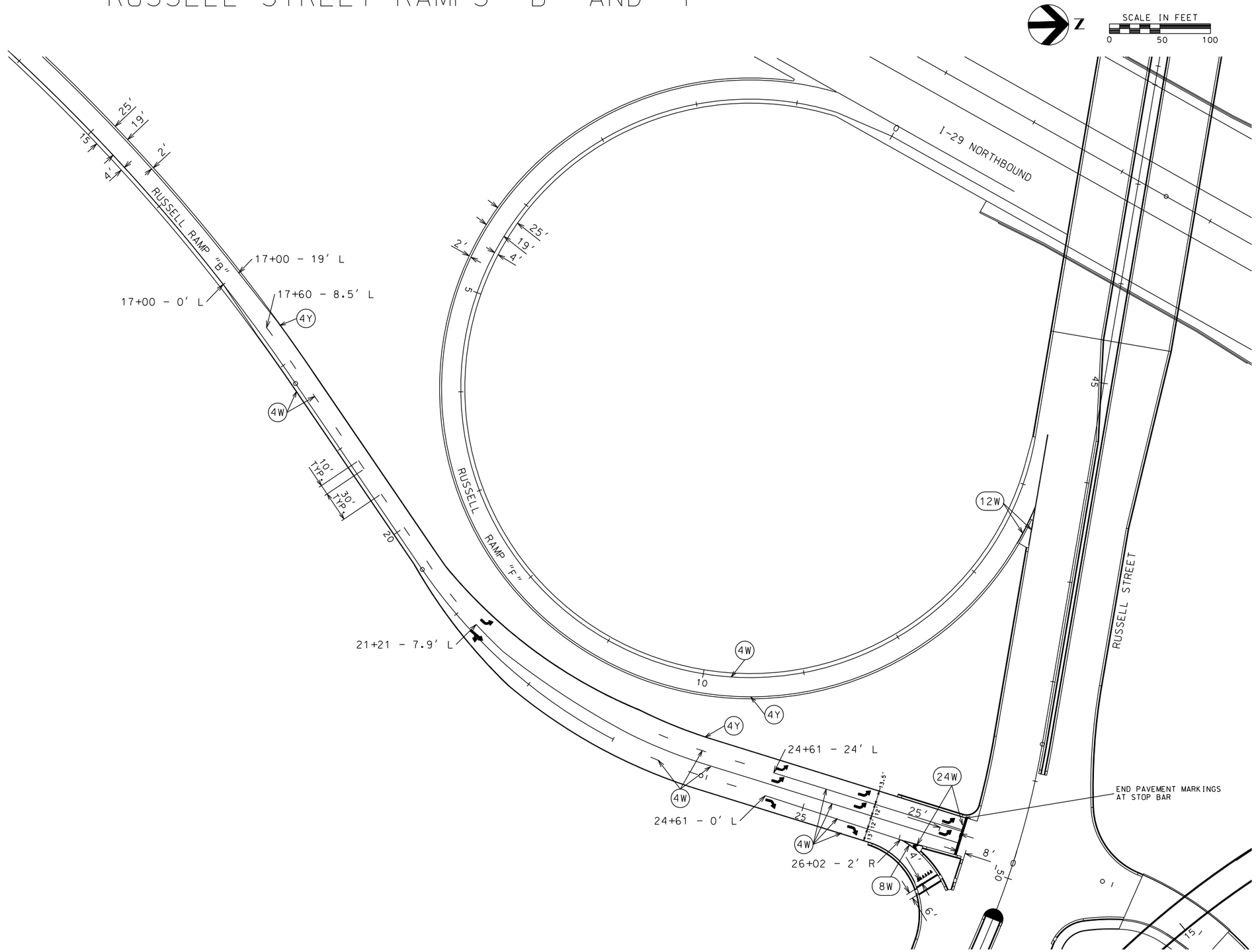
PLOT NAME - 59

FILE - ...\RUSSELL\PMRUSS(BF)000.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	63	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMPS "B" AND "F"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRMI11119

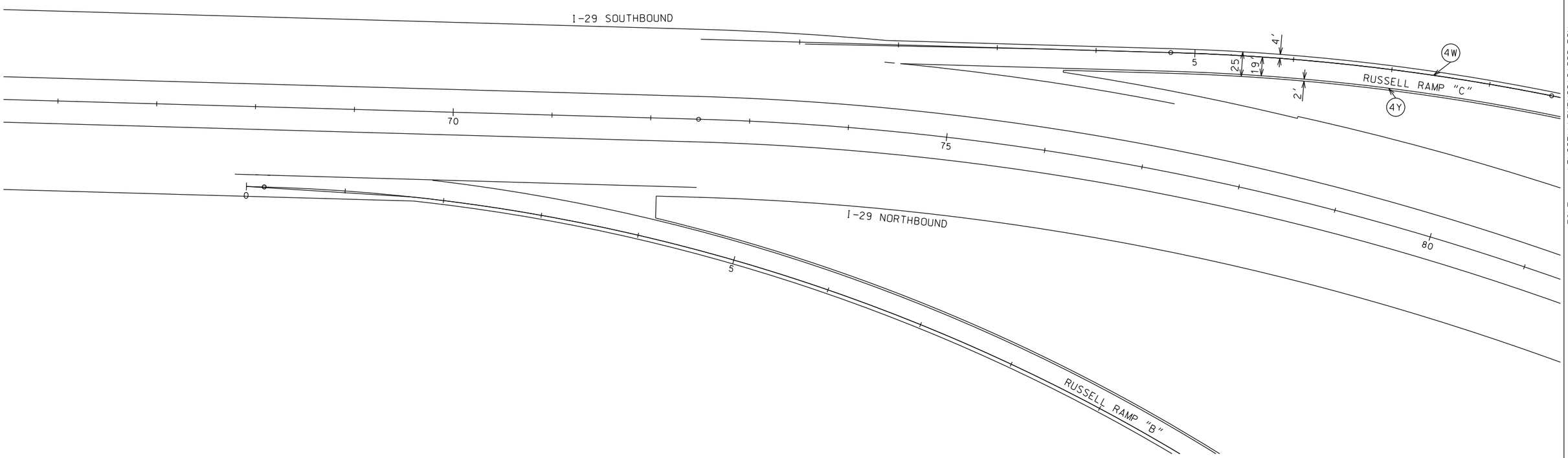
PLOT NAME - 60

FILE - ...\RUSSELL\PMRUSS(BF)015.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	64	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMP "C"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

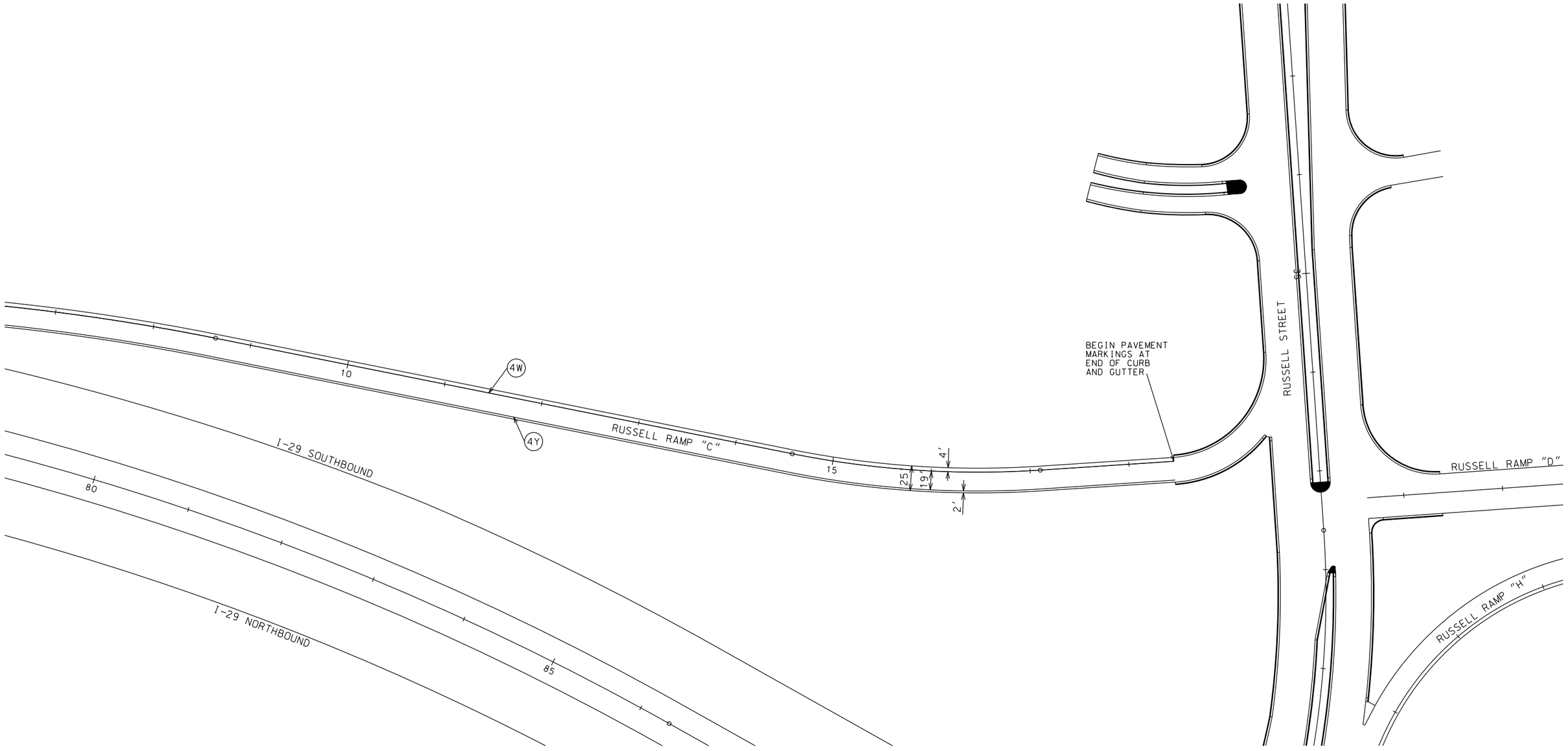
PLOT NAME - 61

FILE - ...\RUSSELL\PMRUSS(C)000.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	65	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMP "C"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

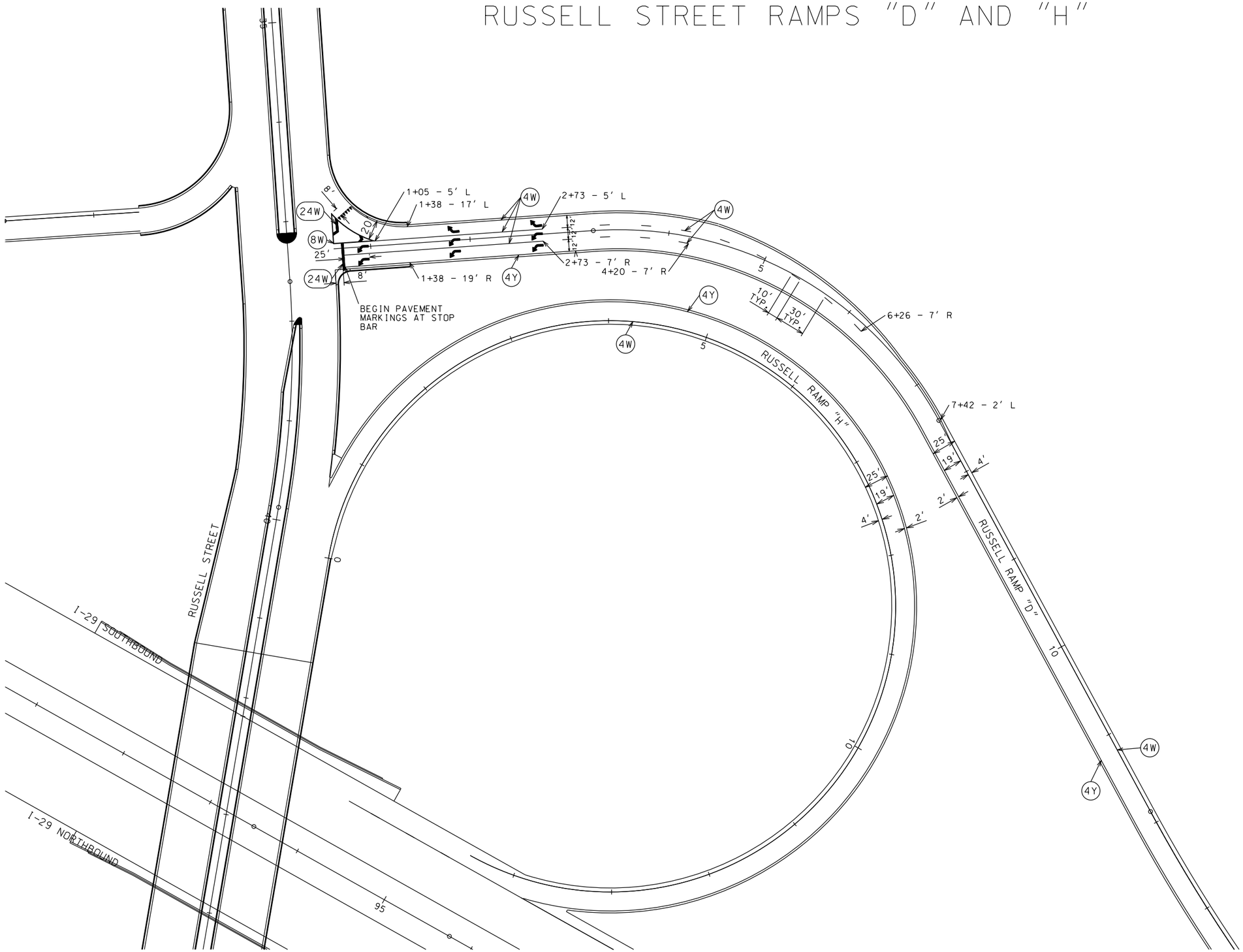
PLOT NAME - 62

FILE - ...\RUSSELL\PMRUSS(C)007.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	66	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMPS "D" AND "H"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

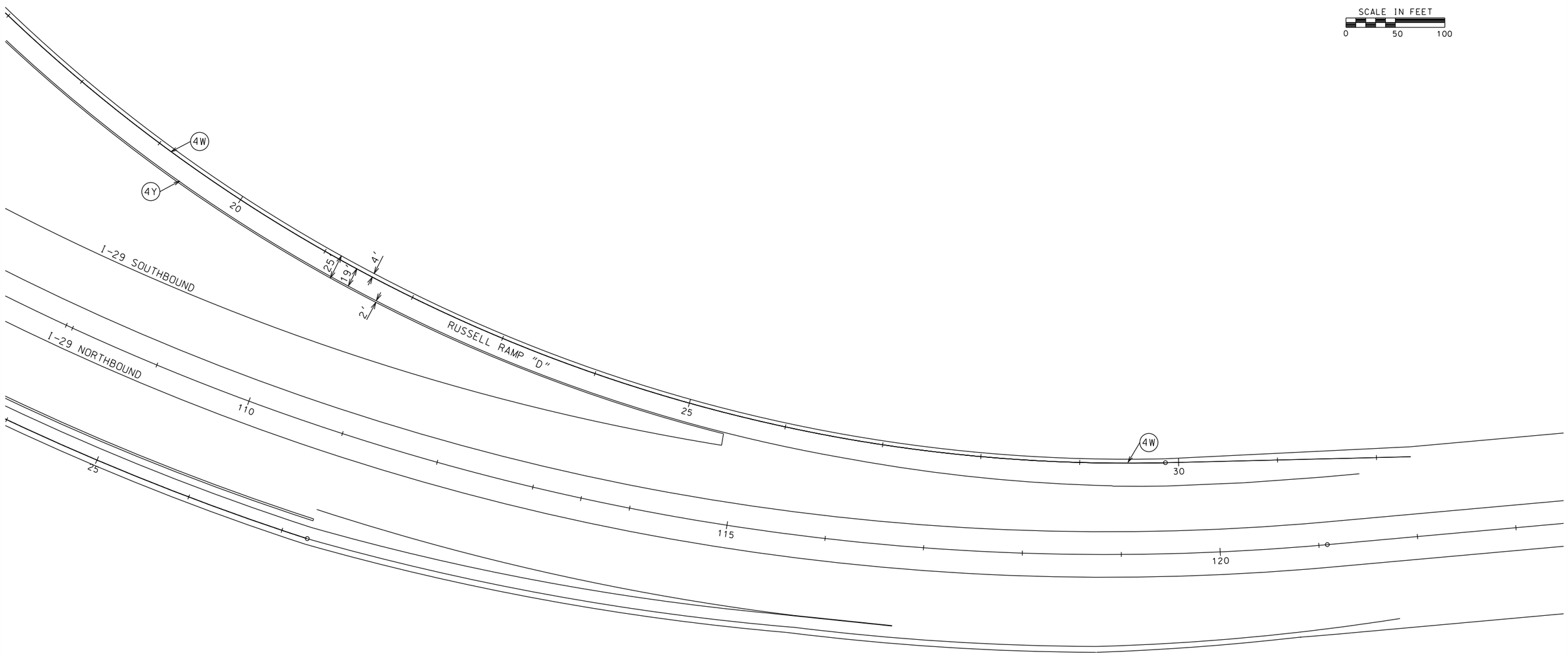
PLOT NAME - 63

FILE - ...\RUSSELL\PMRUSS(DH)000.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	67	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
RUSSELL STREET RAMPS "D" AND "H"



PLOT SCALE - 1:99.2

PLOTTED FROM - TRMI11119

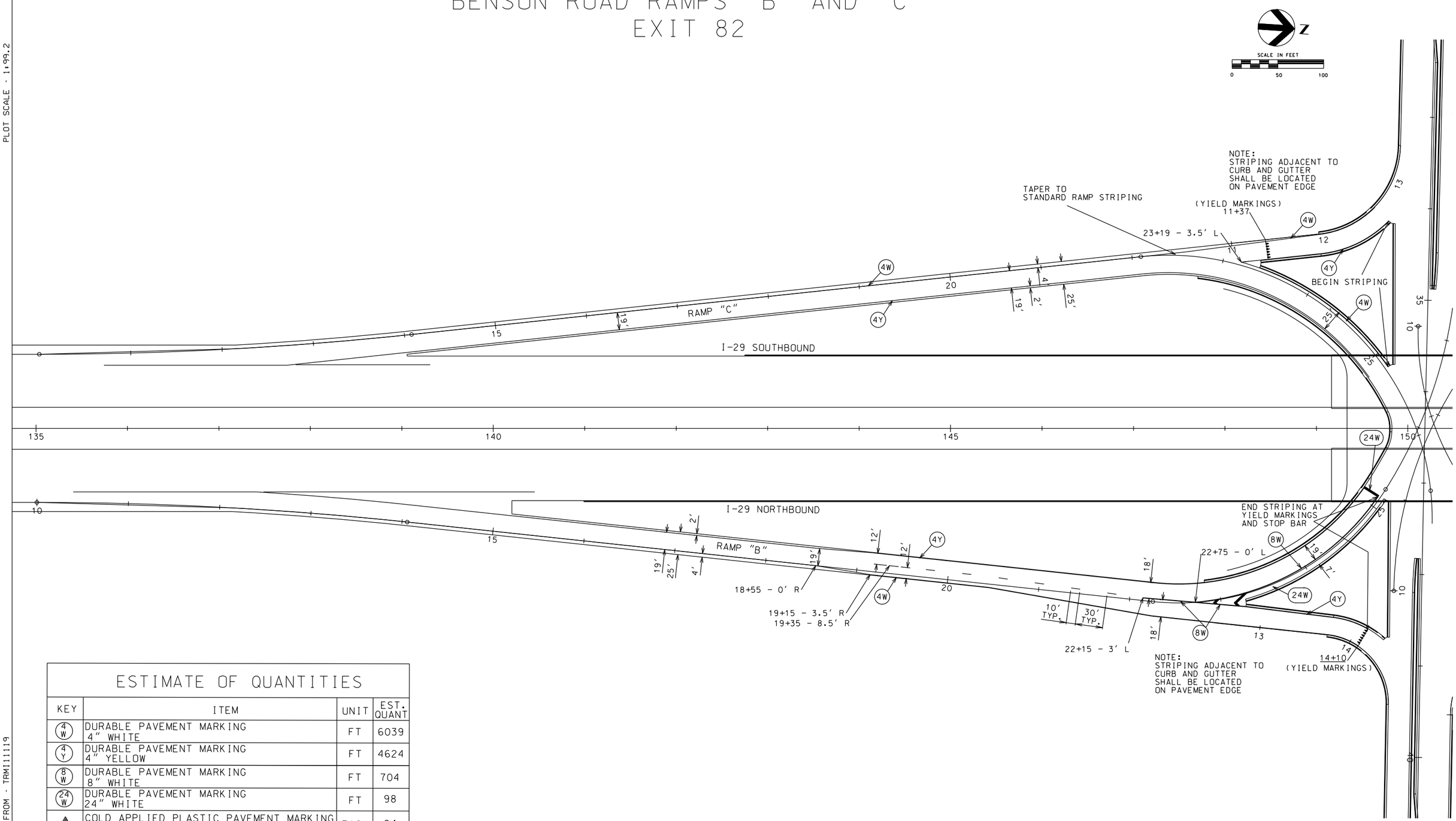
PLOT NAME - 64

FILE - ...\RUSSELL\PMRUSS(DH)014.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	68	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKINGS
BENSON ROAD RAMPS "B" AND "C"
EXIT 82



ESTIMATE OF QUANTITIES

KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	6039
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	4624
8 W	DURABLE PAVEMENT MARKING 8" WHITE	FT	704
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	98
▲	COLD APPLIED PLASTIC PAVEMENT MARKING SYMBOL	EACH	24

PLOT SCALE - 1:99.2

PLOT NAME - 65

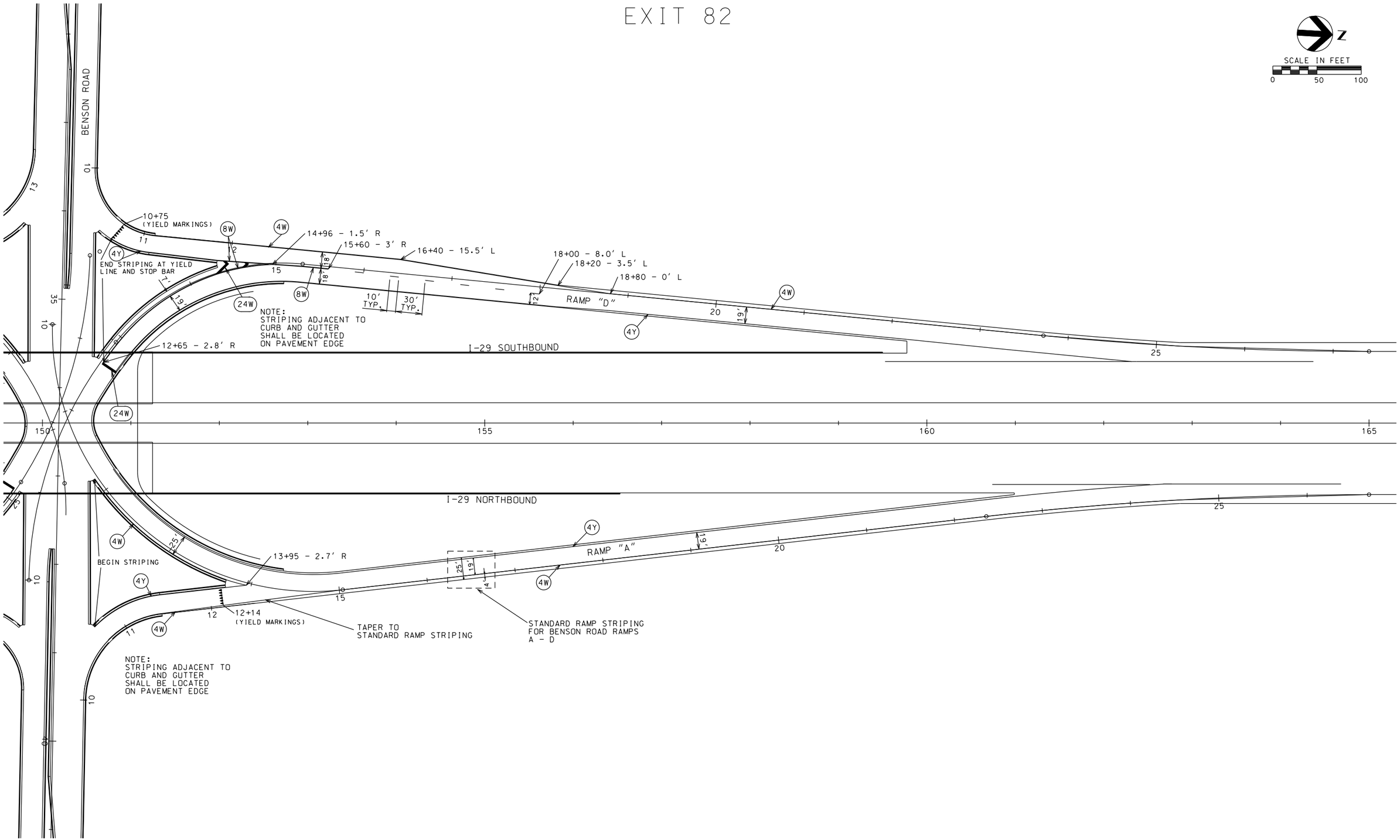
FILE - ...\RUSSELL\PMBEN(S)6-28-01.DGN

PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	69	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
BENSON ROAD RAMPS "A" AND "D"
EXIT 82



PLOT SCALE - 1:100.378

PLOTTED FROM - TRM111119

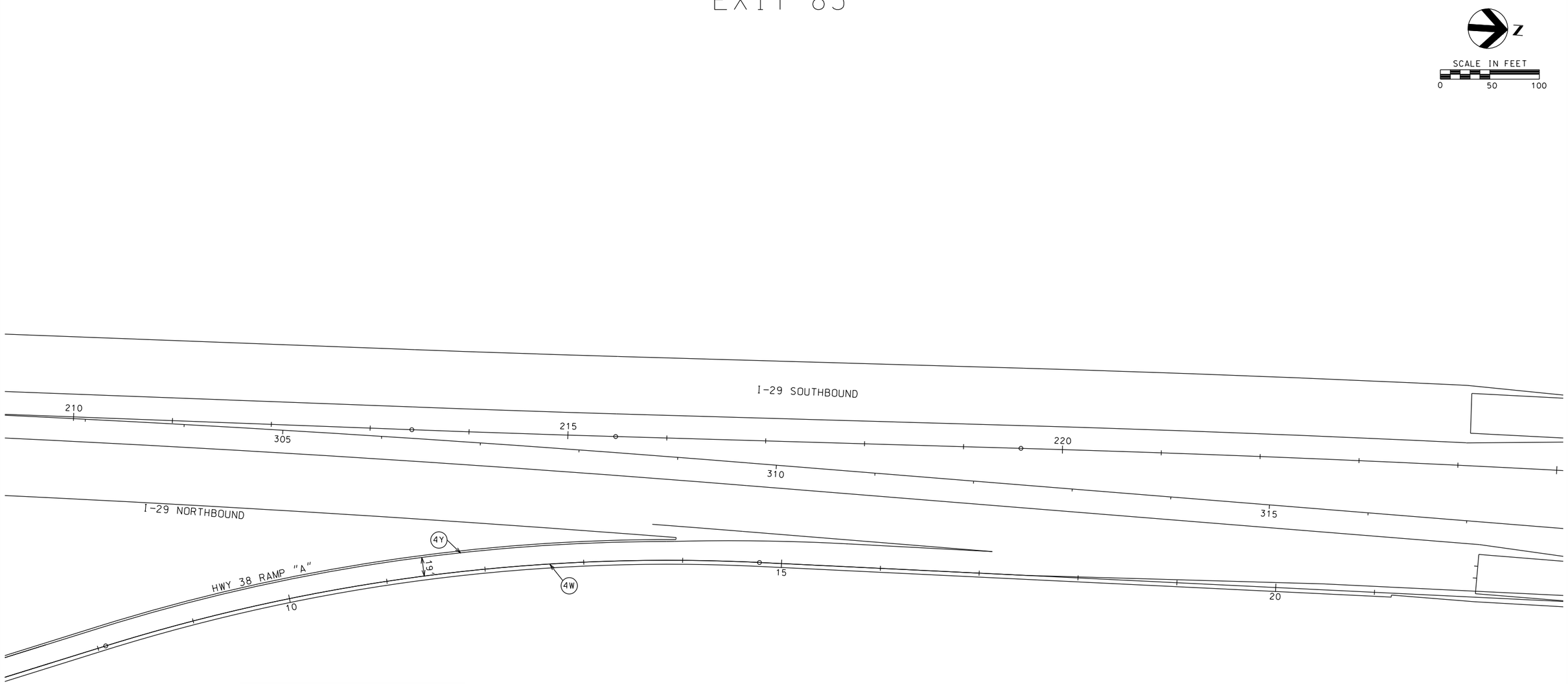
PLOT NAME - 66

FILE - ...\RUSSELL\PMBEN\N16-28-01.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	70	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKINGS
HIGHWAY 38 RAMP "A"
EXIT 83



ESTIMATE OF QUANTITIES

KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	8978
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	5775
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	42
	COLD APPLIED PLASTIC PVMT MKG ARROW LEFT - 6, RIGHT 3	EACH	9
	COLD APPLIED PLASTIC PVMT MKG ARROW	EACH	3

PLOT SCALE - 1:99.2

PLOT NAME - 67

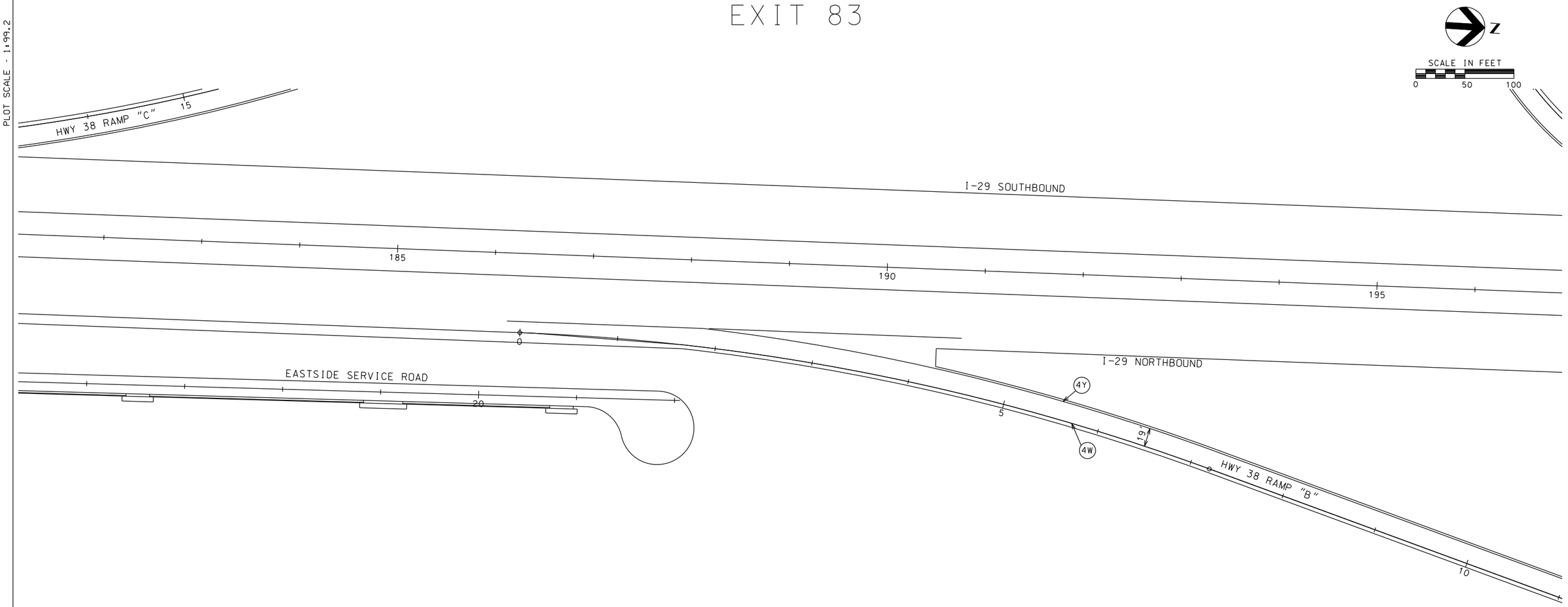
FILE - ...\RUSSELL\PMHWY38(A)000.DGN

PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	71	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
HIGHWAY 38 RAMP "B"
EXIT 83



PLOT SCALE - 1:99.2

PLOT NAME - 68

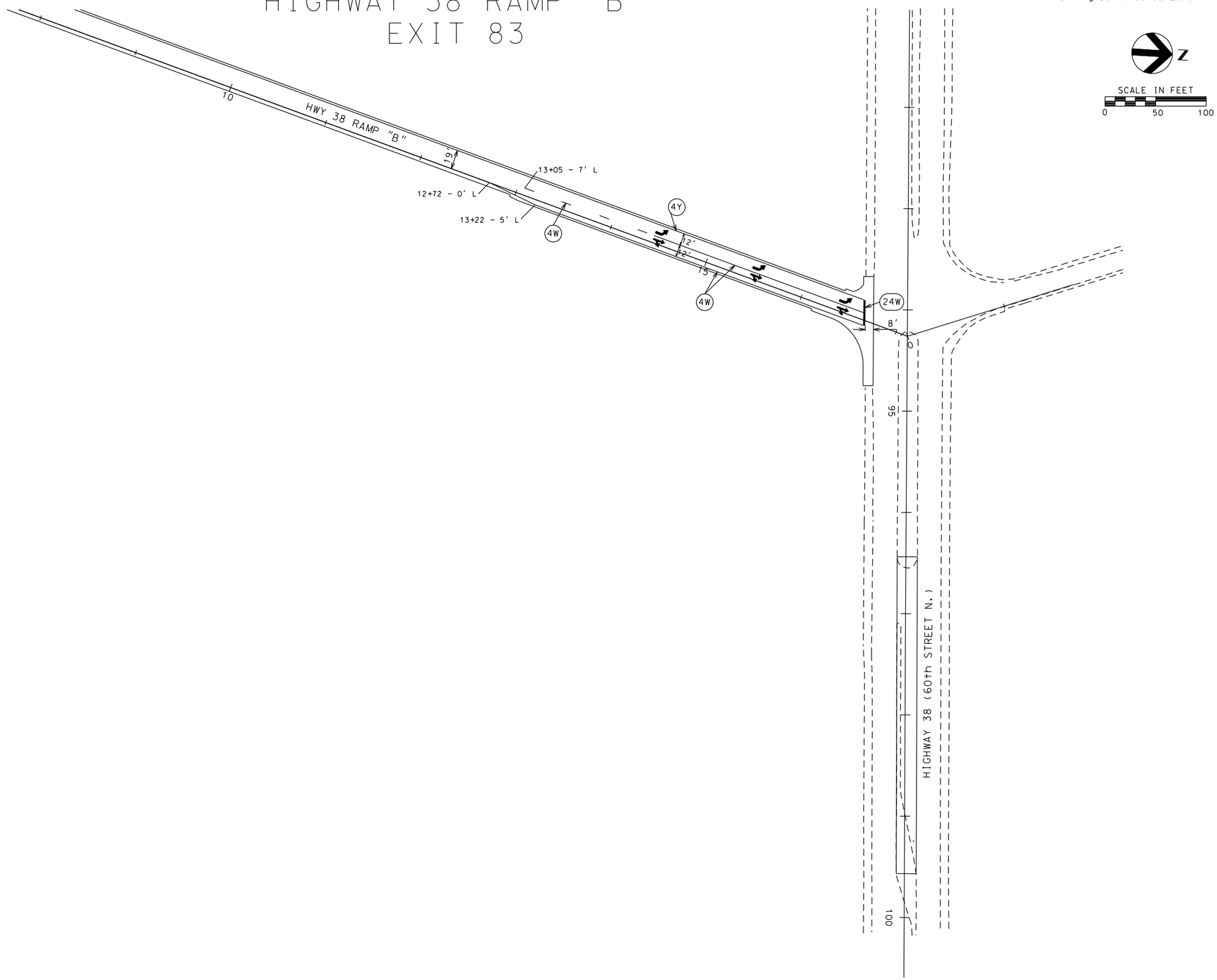
FILE - ...\RUSSELL\PMHWY38(B)1000.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	72	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
HIGHWAY 38 RAMP "B"
EXIT 83



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

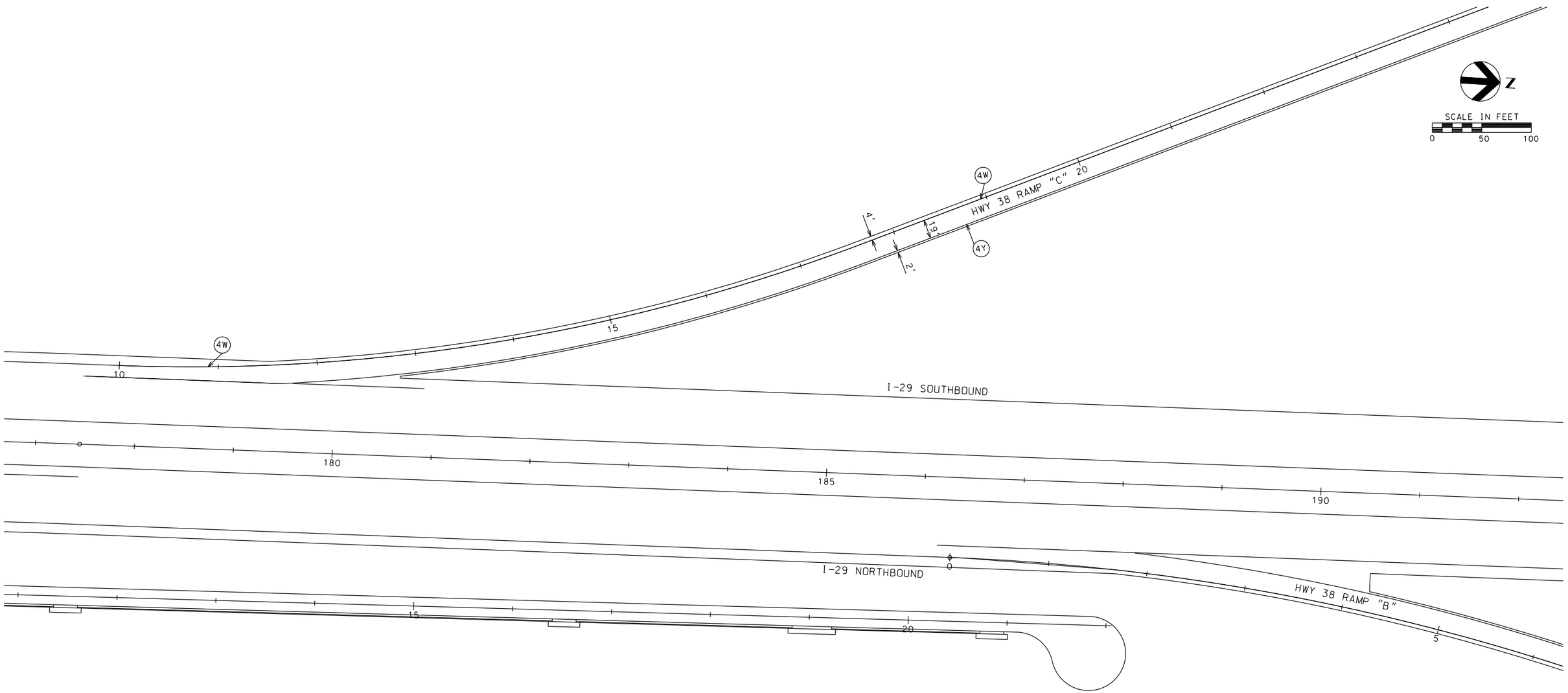
PLOT NAME - 69

FILE - ...\RUSSELL\PMHWY38(B)1011.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	73	113

Plotting Date: 03/30/2016

PAVEMENT MARKINGS
HIGHWAY 38 RAMP "C"
EXIT 83



PLOT SCALE - 1:99.2

PLOTTED FROM - TRM111119

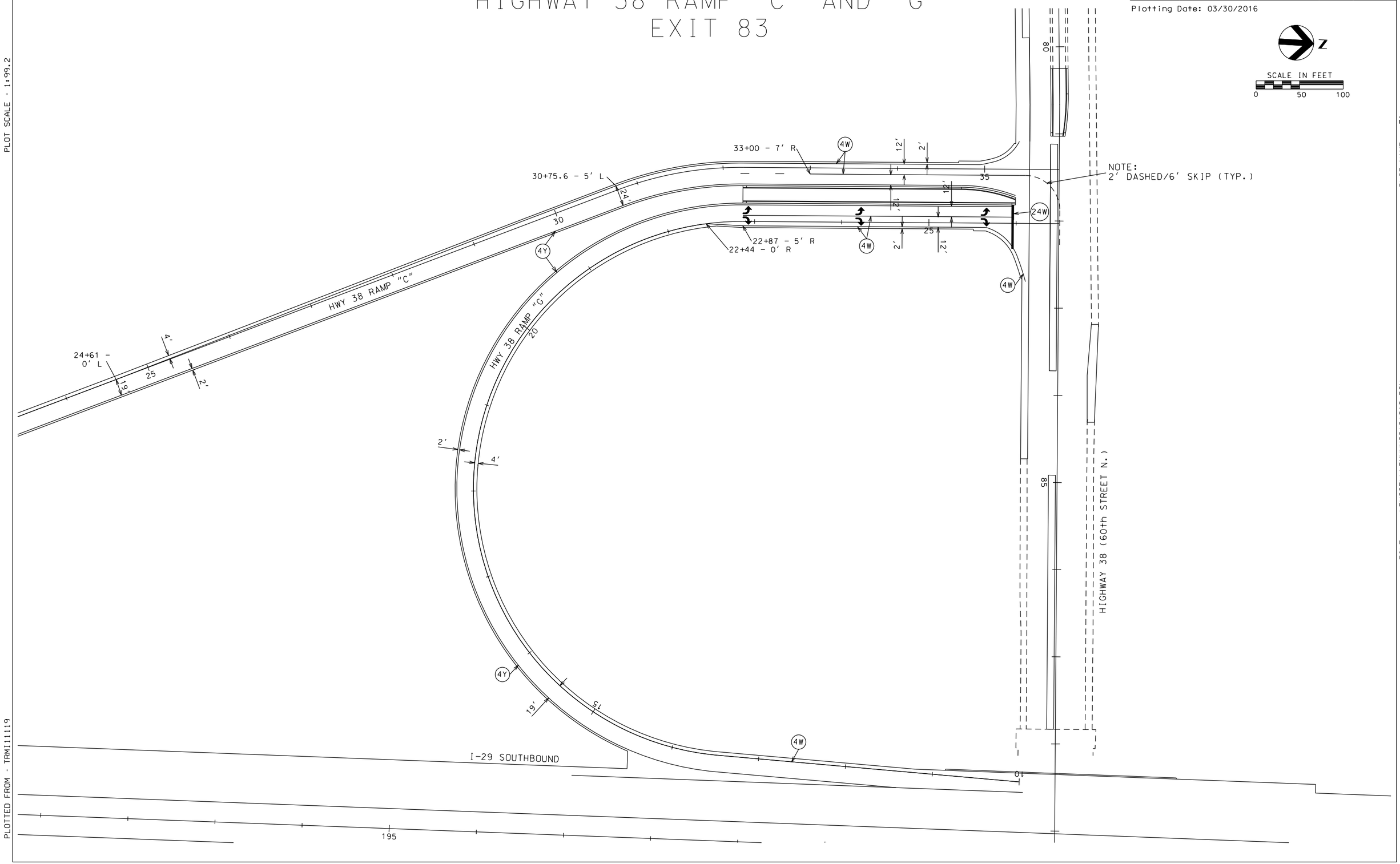
PLOT NAME - 70

FILE - ...\RUSSELL\PMHWY38(C)000.DGN

PAVEMENT MARKINGS
HIGHWAY 38 RAMP "C" AND "G"
EXIT 83

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	74	113

Plotting Date: 03/30/2016



PLOT SCALE - 1:99.2

PLOTTED FROM - TRMI11119

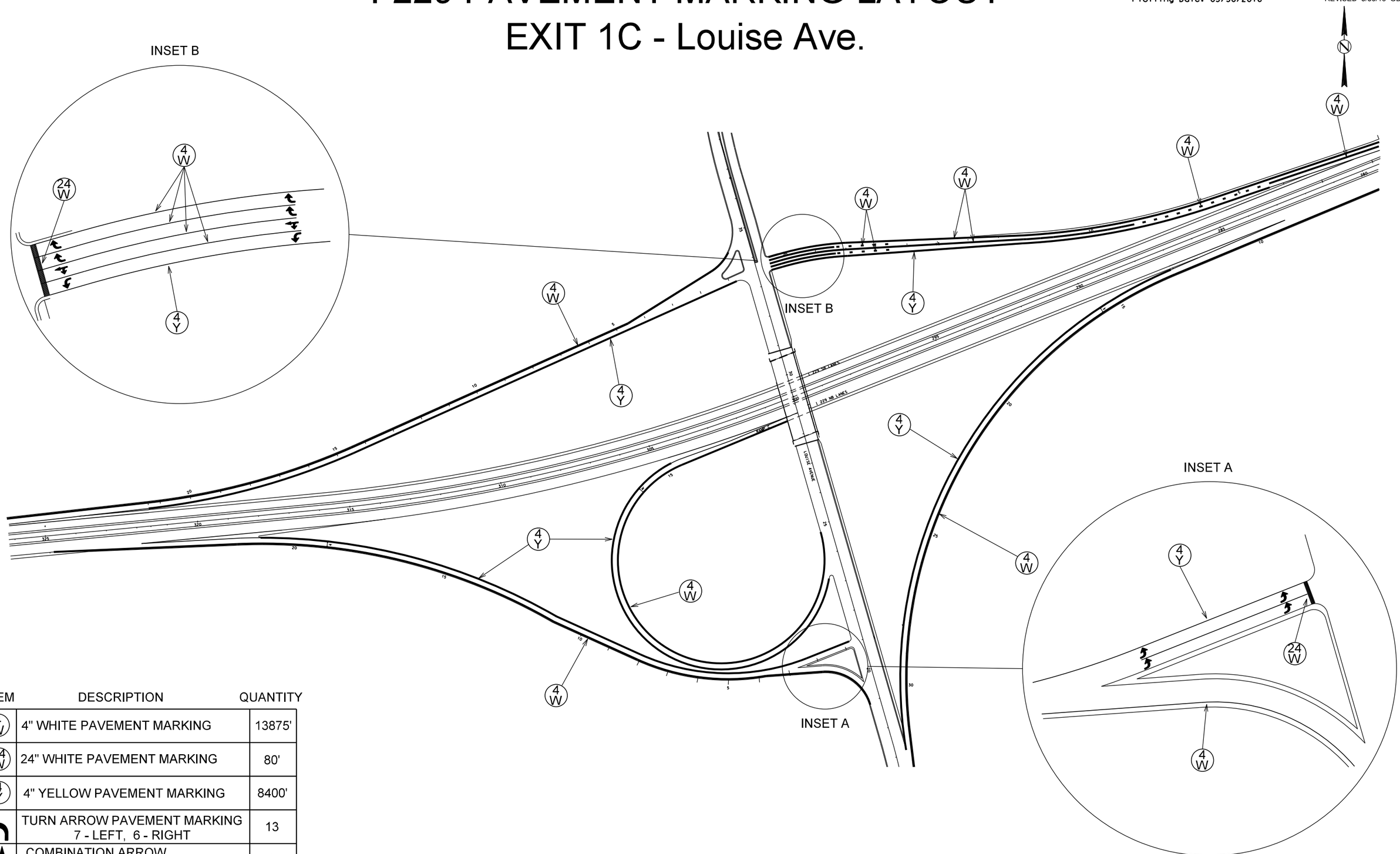
PLOT NAME - 71

FILE - ...\RUSSELL\PMHWY38(C)010.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	75	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

I-229 PAVEMENT MARKING LAYOUT
EXIT 1C - Louise Ave.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	13875'
24 W	24" WHITE PAVEMENT MARKING	80'
4 Y	4" YELLOW PAVEMENT MARKING	8400'
	TURN ARROW PAVEMENT MARKING 7 - LEFT, 6 - RIGHT	13
	COMBINATION ARROW PAVEMENT MARKING	2

PLOT SCALE - 1:161

PLOTTED FROM - TRMI11119

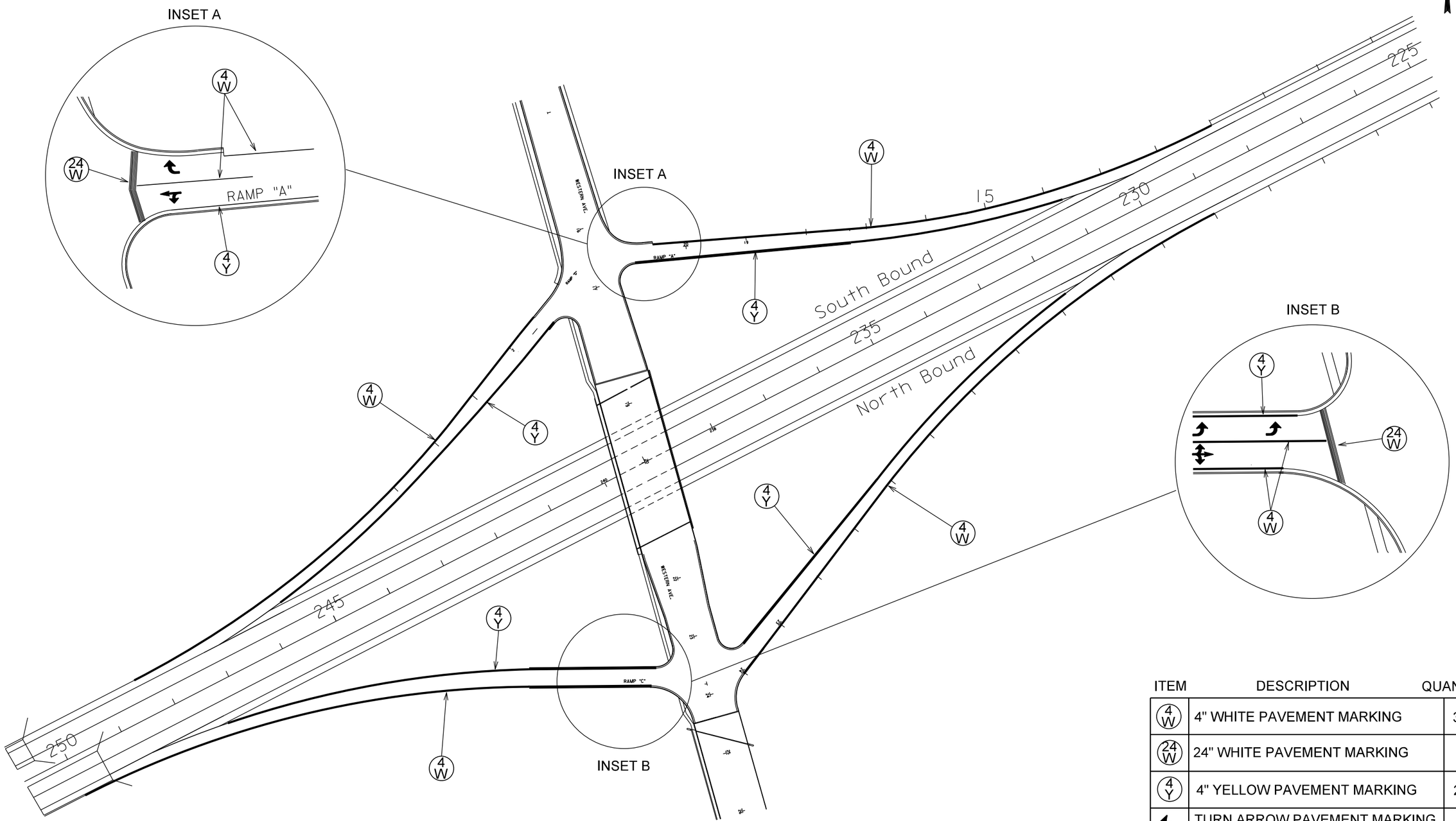
PLOT NAME - 72

FILE - ...\EXITS\229EXITS.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	76	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 2 - Western Ave.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	3950'
24 W	24" WHITE PAVEMENT MARKING	75'
4 Y	4" YELLOW PAVEMENT MARKING	2740'
	TURN ARROW PAVEMENT MARKING 3 - LEFT	3
	COMBINATION ARROW PAVEMENT MARKING	2

PLOT SCALE - 1:161

PLOT NAME - 73

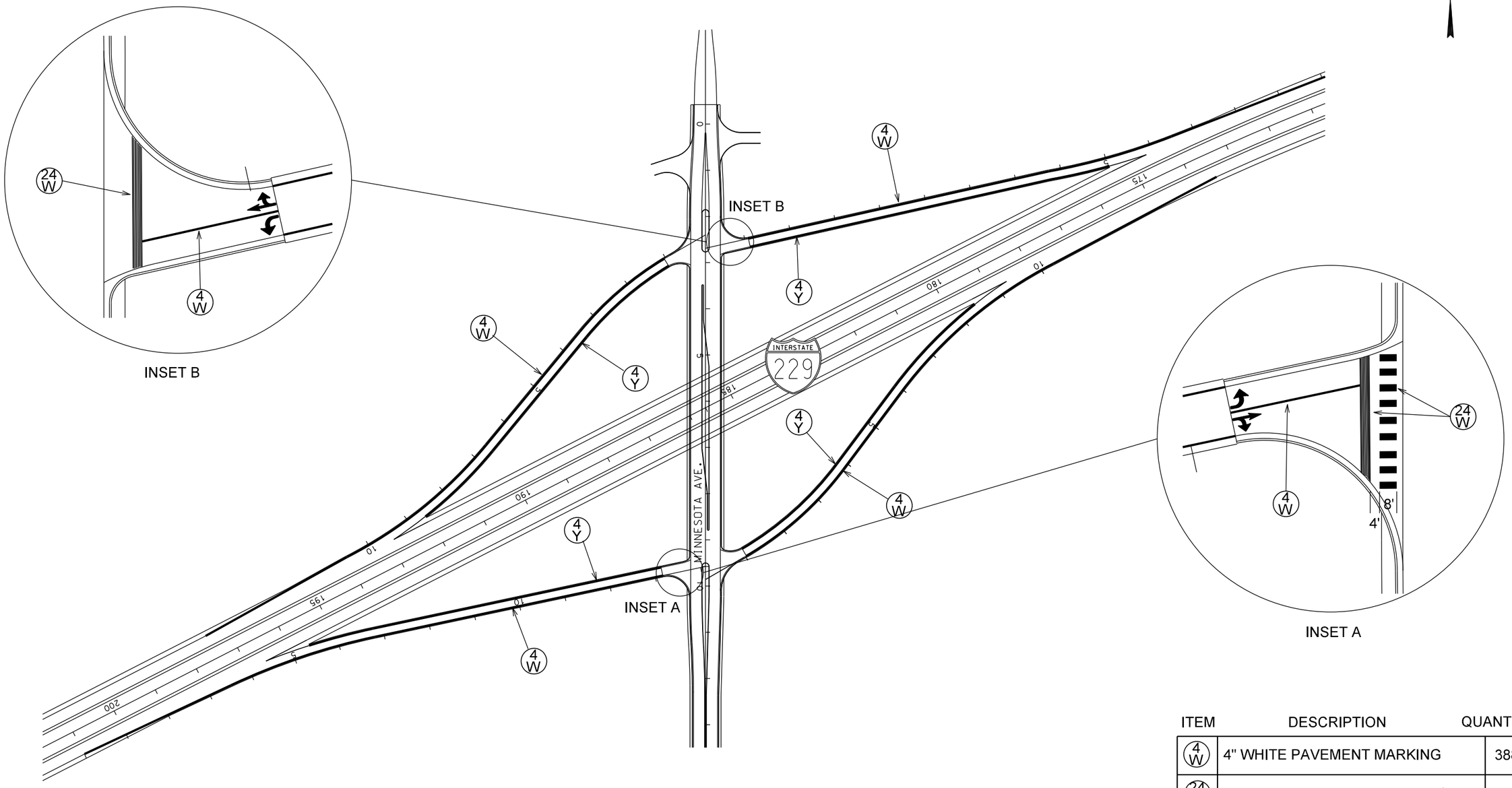
FILE - ...\EXITS\229EXITS.DGN

PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	77	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 3 - Minnesota Ave.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	3885'
24 W	24" WHITE PAVEMENT MARKING	168'
4 Y	4" YELLOW PAVEMENT MARKING	3035'
	TURN ARROW PAVEMENT MARKING 2 - LEFT	2
	COMBINATION ARROW PAVEMENT MARKING	2

PLOT SCALE - 1:161

PLOT NAME - 74

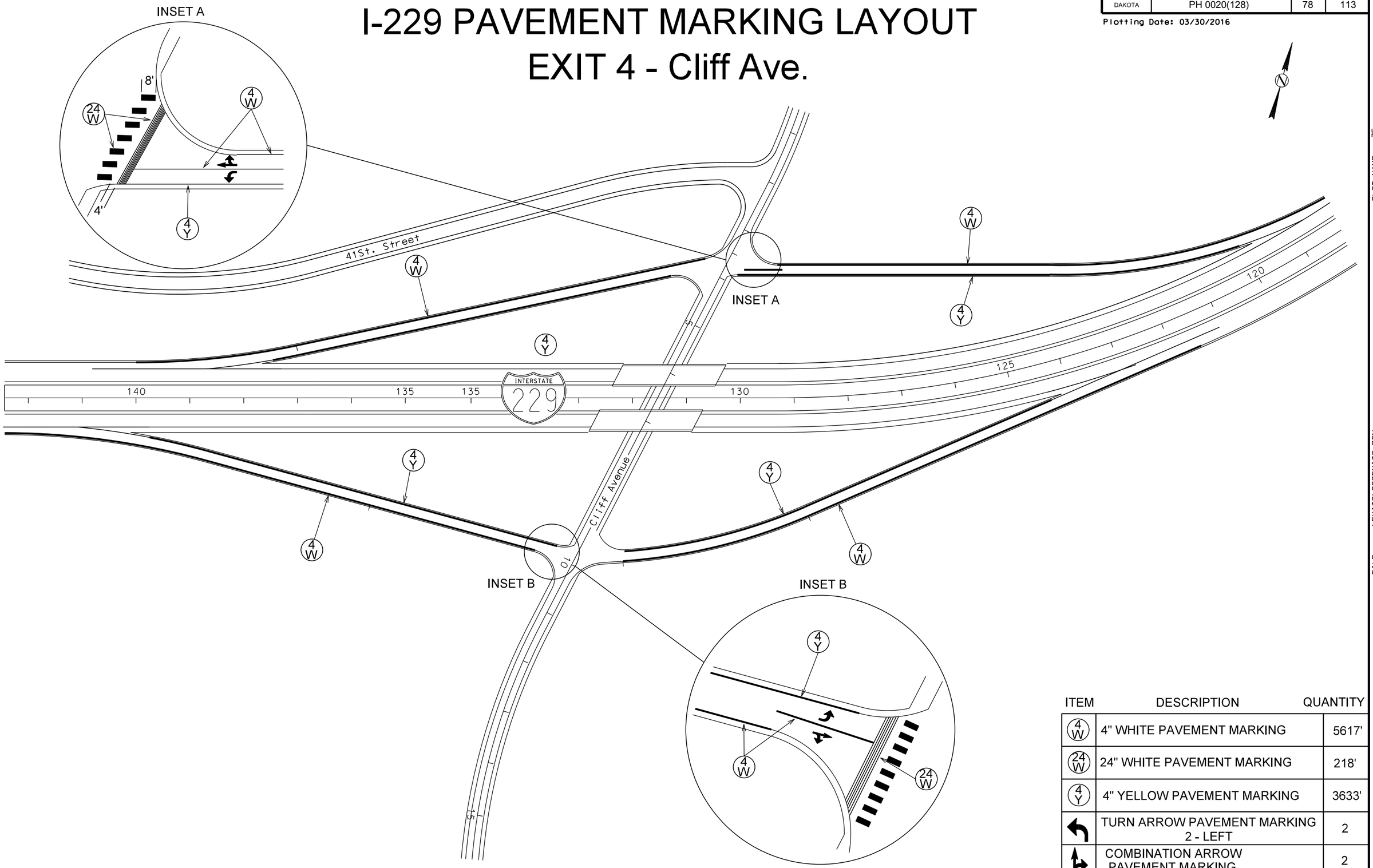
FILE - ...\EXITS\229EXITS.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	78	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 4 - Cliff Ave.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	5617'
24 W	24" WHITE PAVEMENT MARKING	218'
4 Y	4" YELLOW PAVEMENT MARKING	3633'
	TURN ARROW PAVEMENT MARKING 2 - LEFT	2
	COMBINATION ARROW PAVEMENT MARKING	2

PLOT SCALE - 1:161

PLOT NAME - 75

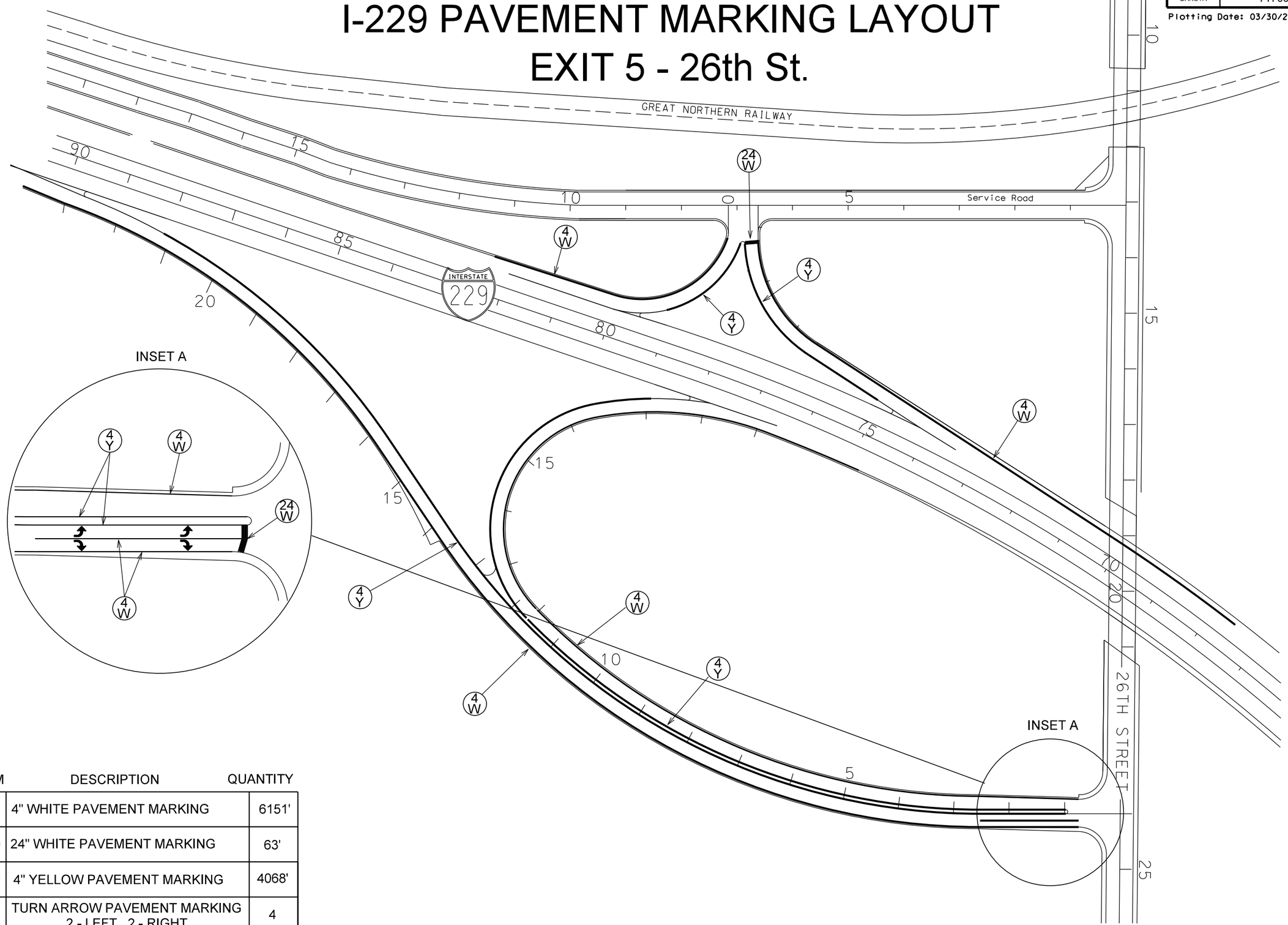
FILE - ...\EXITS\229EXITS.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	79	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 5 - 26th St.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	6151'
24 W	24" WHITE PAVEMENT MARKING	63'
4 Y	4" YELLOW PAVEMENT MARKING	4068'
	TURN ARROW PAVEMENT MARKING 2 - LEFT, 2 - RIGHT	4

PLOT SCALE - 1:161

PLOT NAME - 76

FILE - ...\EXITS\229EXITS.DGN

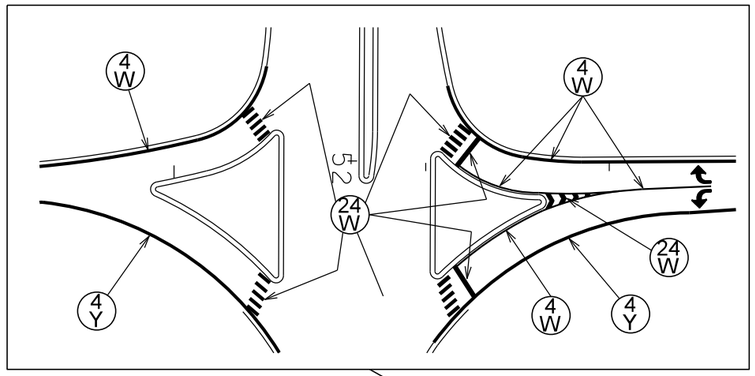
PLOTTED FROM - TRM111119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	80	113

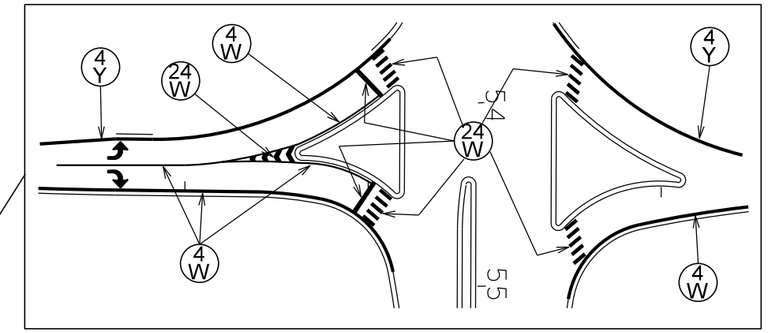
Plotting Date: 03/30/2016

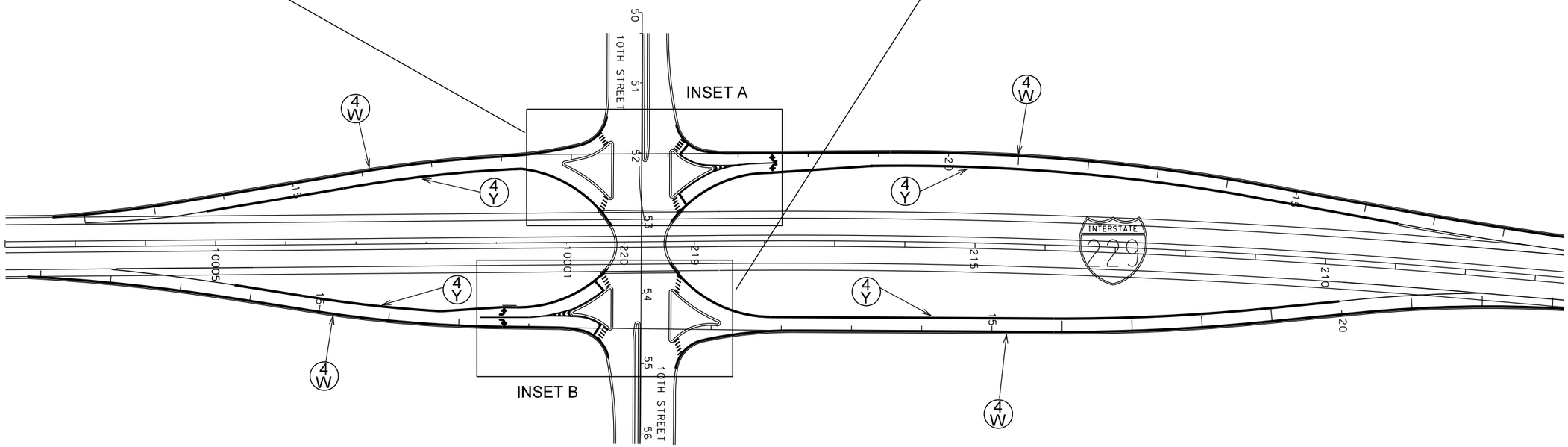
I-229 PAVEMENT MARKING LAYOUT
EXIT 6 - 10th St.

INSET A



INSET B





ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	5973'
24 W	24" WHITE PAVEMENT MARKING	570'
4 Y	4" YELLOW PAVEMENT MARKING	3535'
	TURN ARROW PAVEMENT MARKING 2 - LEFT, 2 - RIGHT	4

PLOT SCALE - 1:161

PLOTTED FROM - TRM111119

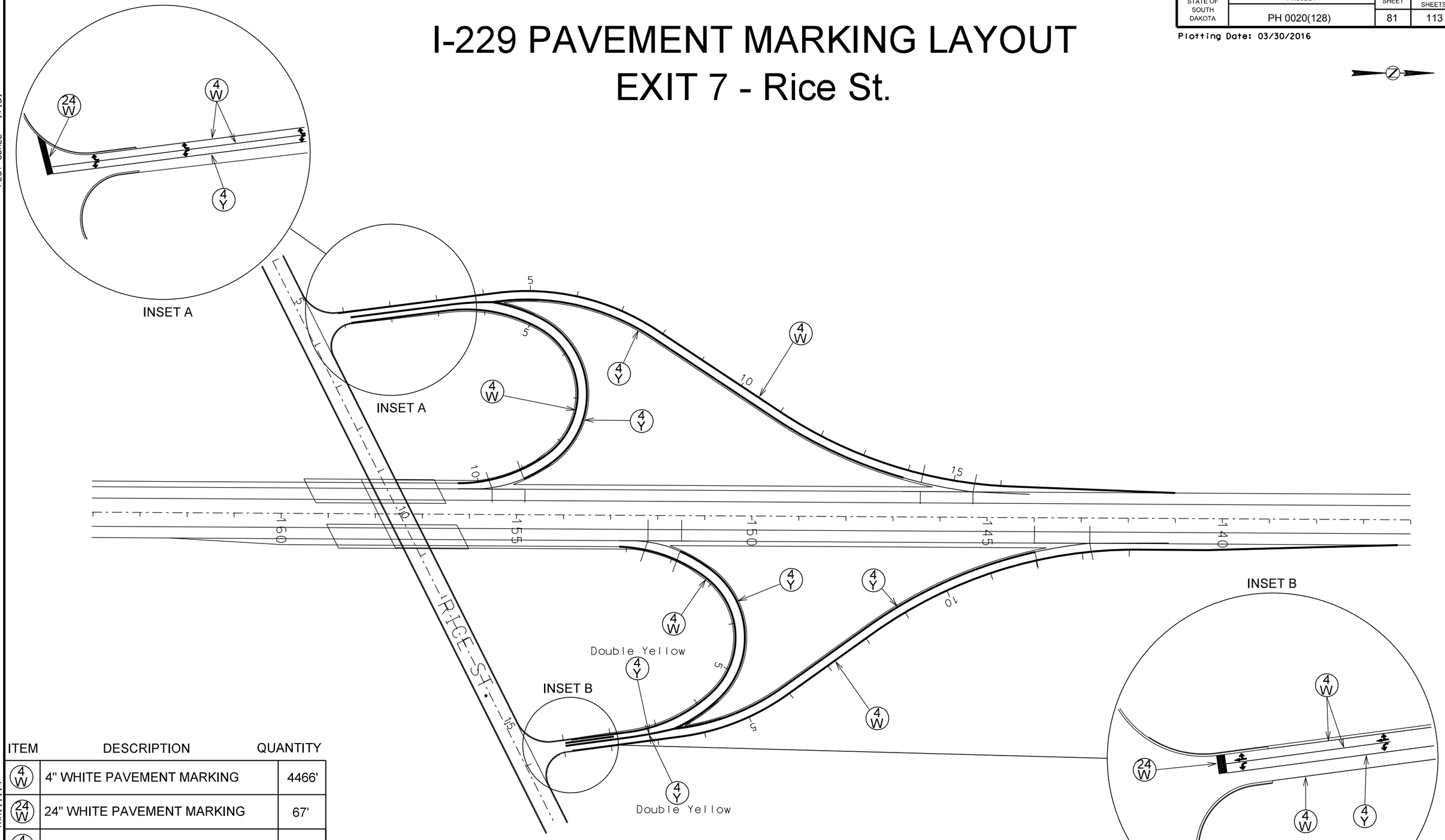
PLOT NAME - 77

FILE - ...\EXITS\229EXITS.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	81	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 7 - Rice St.



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	4466'
24 W	24" WHITE PAVEMENT MARKING	67'
4 Y	4" YELLOW PAVEMENT MARKING	4198'
	TURN ARROW PAVEMENT MARKING 5 - LEFT 3 - RIGHT	8
	COMBINATION ARROW PAVEMENT MARKING	2

PLOT SCALE - 1:161

PLOTTED FROM - TRMI11119

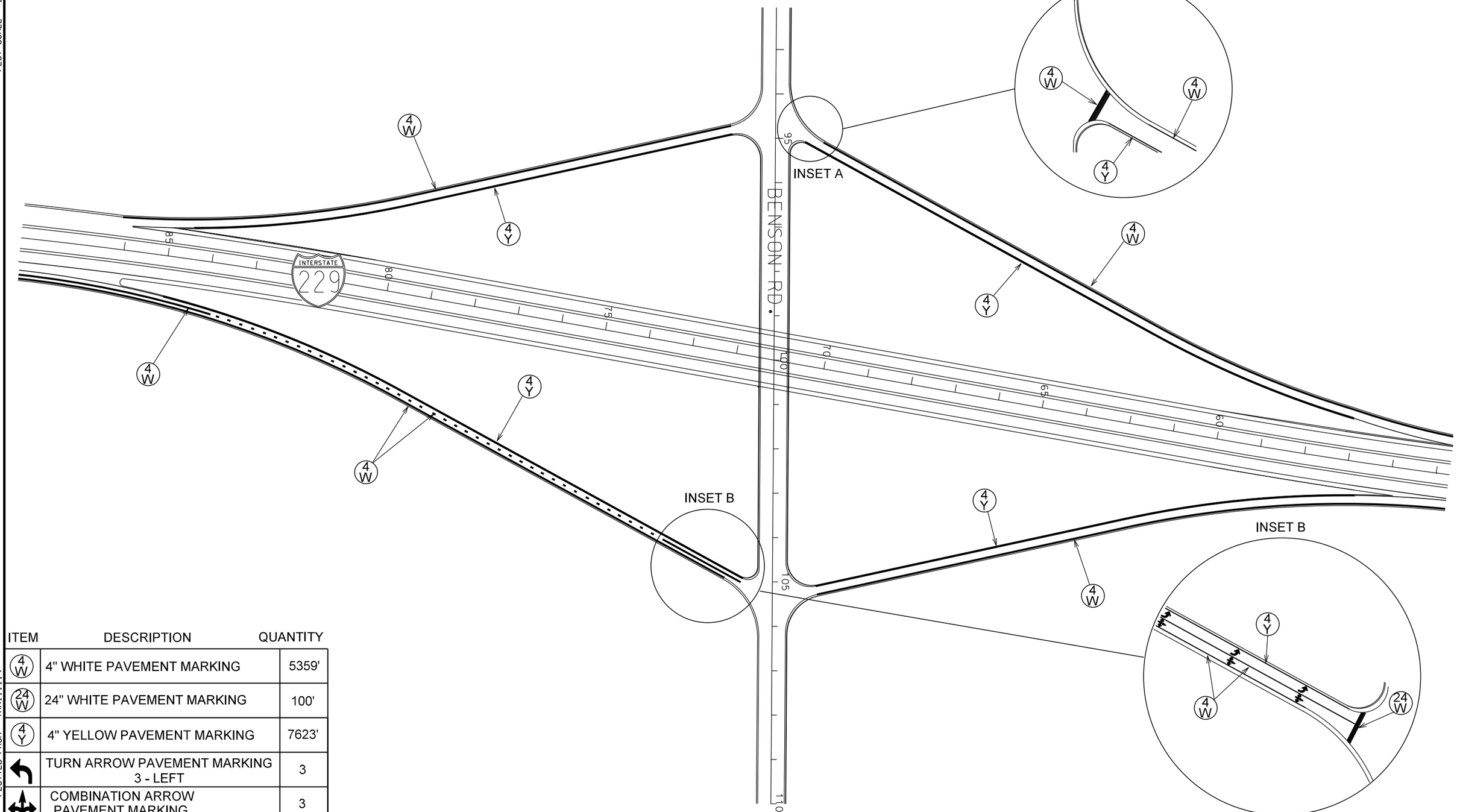
PLOT NAME - 78

FILE ...\EXITS\229EXITS.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	82	113

Plotting Date: 03/30/2016

I-229 PAVEMENT MARKING LAYOUT
EXIT 9 - Benson Road



ITEM	DESCRIPTION	QUANTITY
4 W	4" WHITE PAVEMENT MARKING	5359'
24 W	24" WHITE PAVEMENT MARKING	100'
4 Y	4" YELLOW PAVEMENT MARKING	7623'
	TURN ARROW PAVEMENT MARKING 3 - LEFT	3
	COMBINATION ARROW PAVEMENT MARKING	3

PLOT SCALE - 1:161

PLOTTED FROM - TRM111119

PLOT NAME - 79

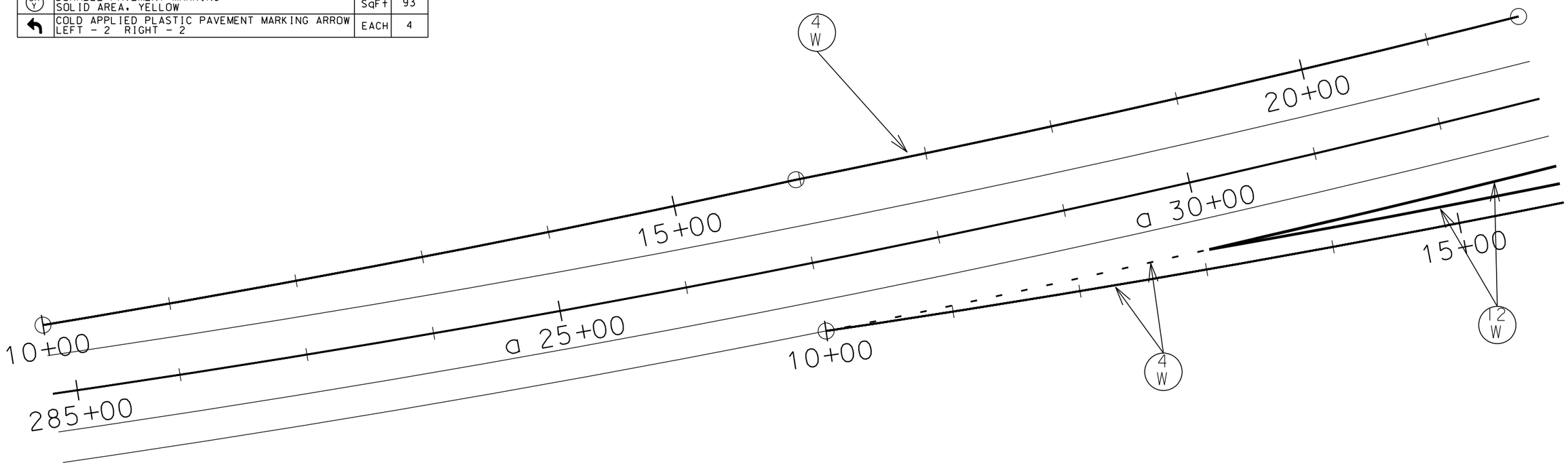
FILE - ...\EXITS\229EXITS.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	83	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT
I-90 Marion Rd (Exit 395)

ESTIMATE OF QUANTITIES			
KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	10410
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	1585
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	266
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	4837
SA Y	DURABLE PAVEMENT MARKING SOLID AREA, YELLOW	SqFt	93
↰	COLD APPLIED PLASTIC PAVEMENT MARKING ARROW LEFT - 2 RIGHT - 2	EACH	4



PLOT SCALE - 1:80

PLOT NAME - 80

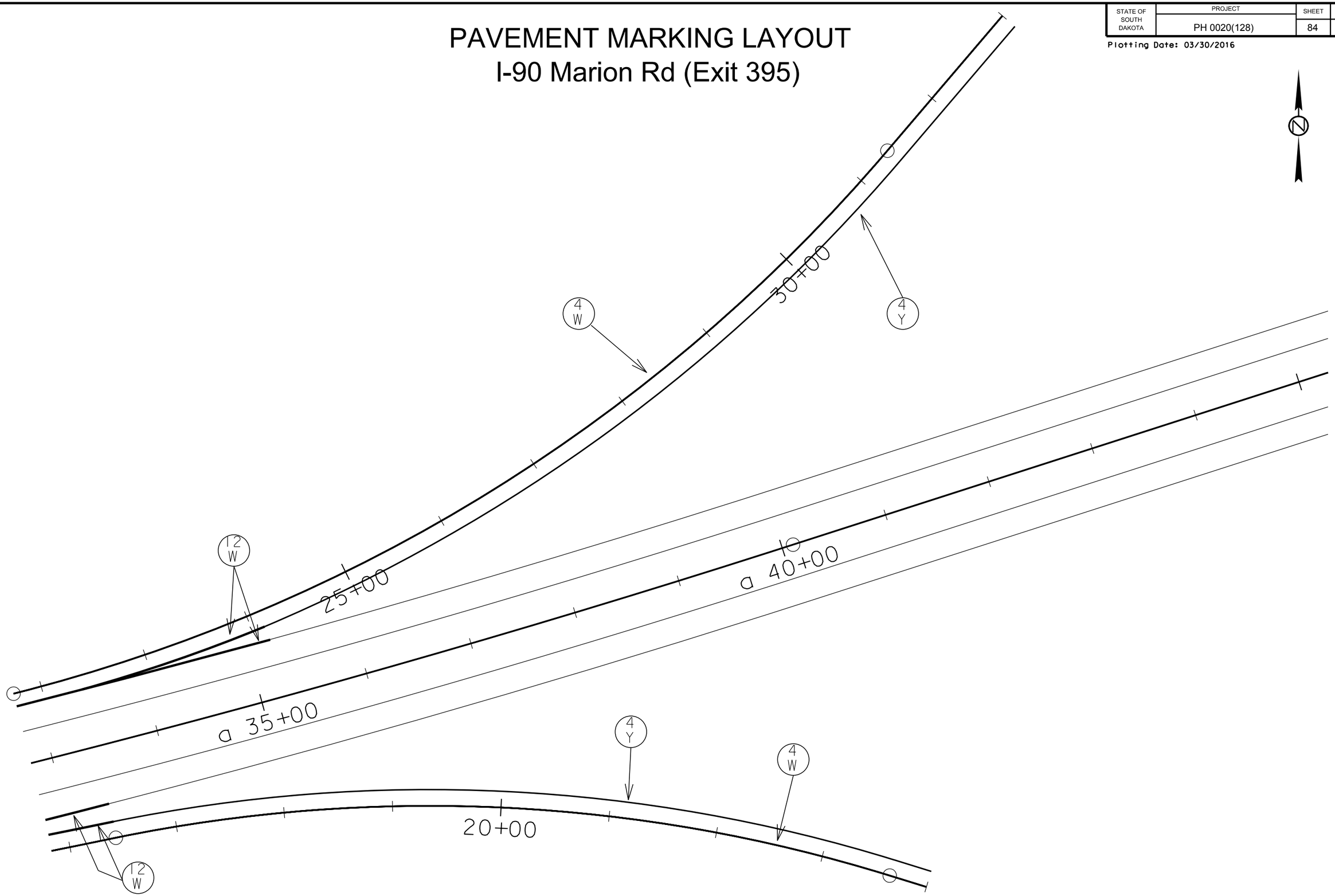
FILE ....\MARION\MARION RD.DGN

PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	84	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT
I-90 Marion Rd (Exit 395)



PLOT SCALE - 1:80

PLOTTED FROM - TRM111119

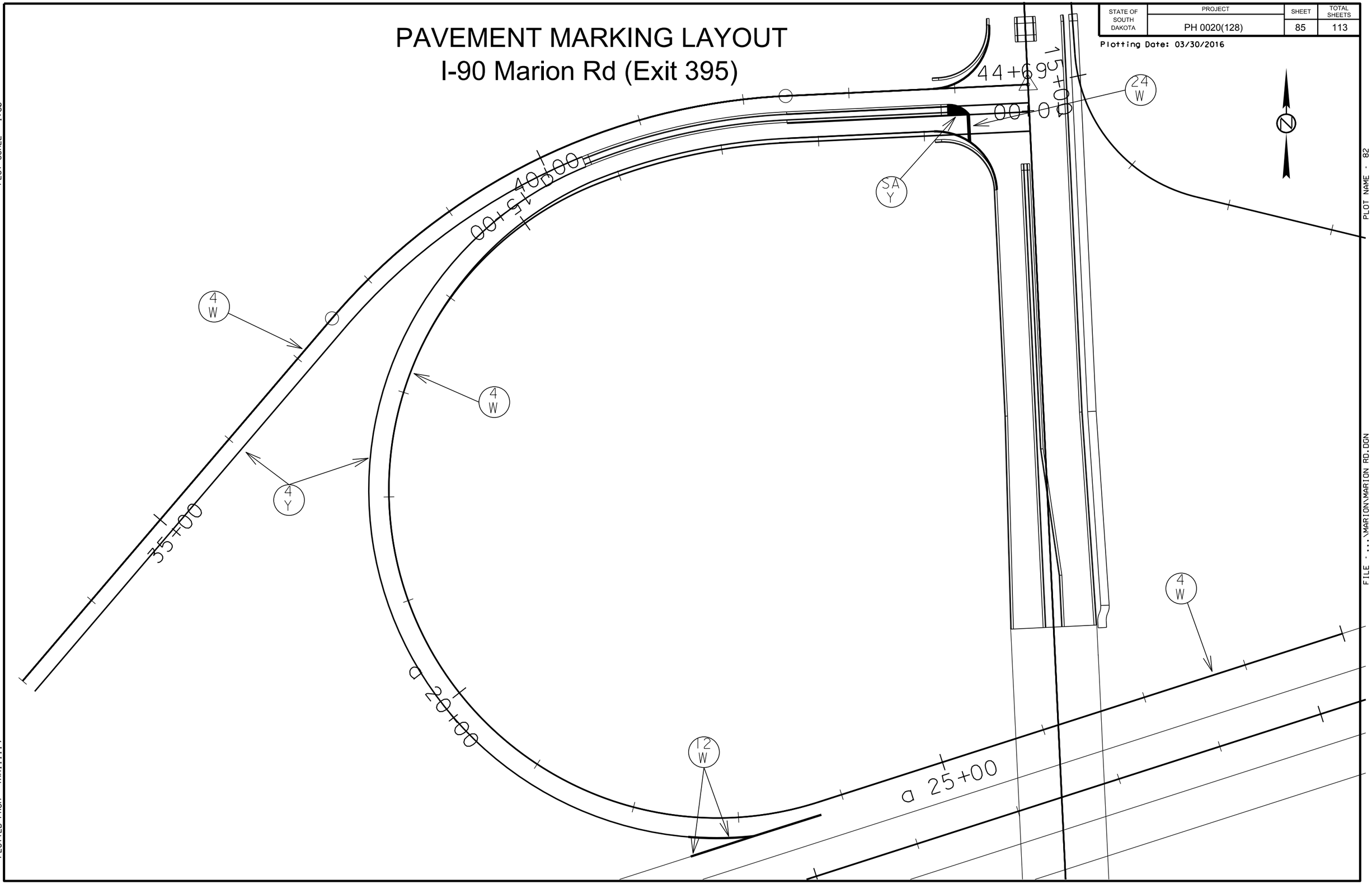
PLOT NAME - 81

FILE - ...\MARION\MARION RD.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	85	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT
I-90 Marion Rd (Exit 395)



PLOT SCALE - 1:80

PLOTTED FROM - TRM111119

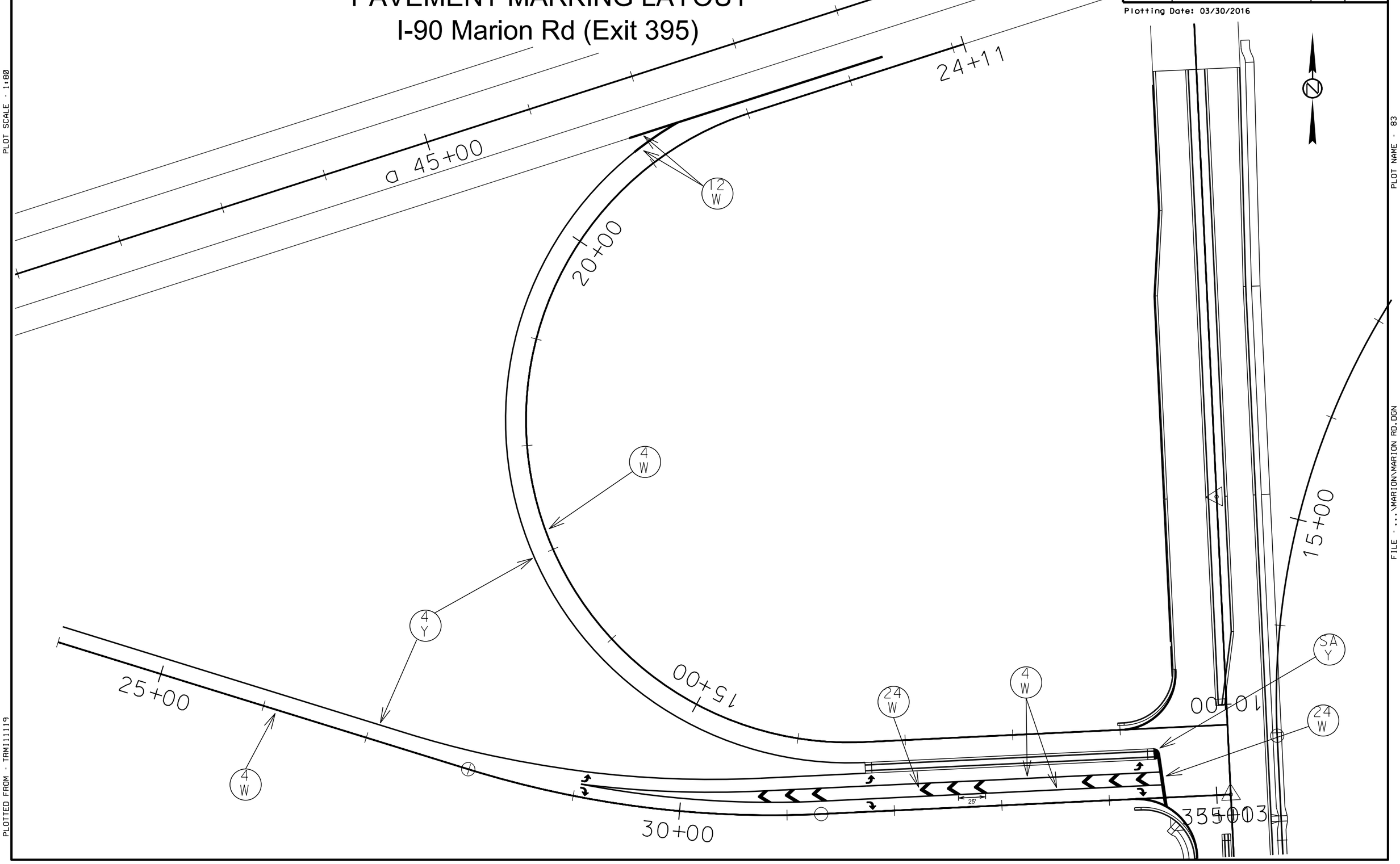
PLOT NAME - 82

FILE - ...\MARION\MARION RD.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	86	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT
I-90 Marion Rd (Exit 395)



PLOT SCALE - 1:80

PLOTTED FROM - TRMI11119

PLOT NAME - 83

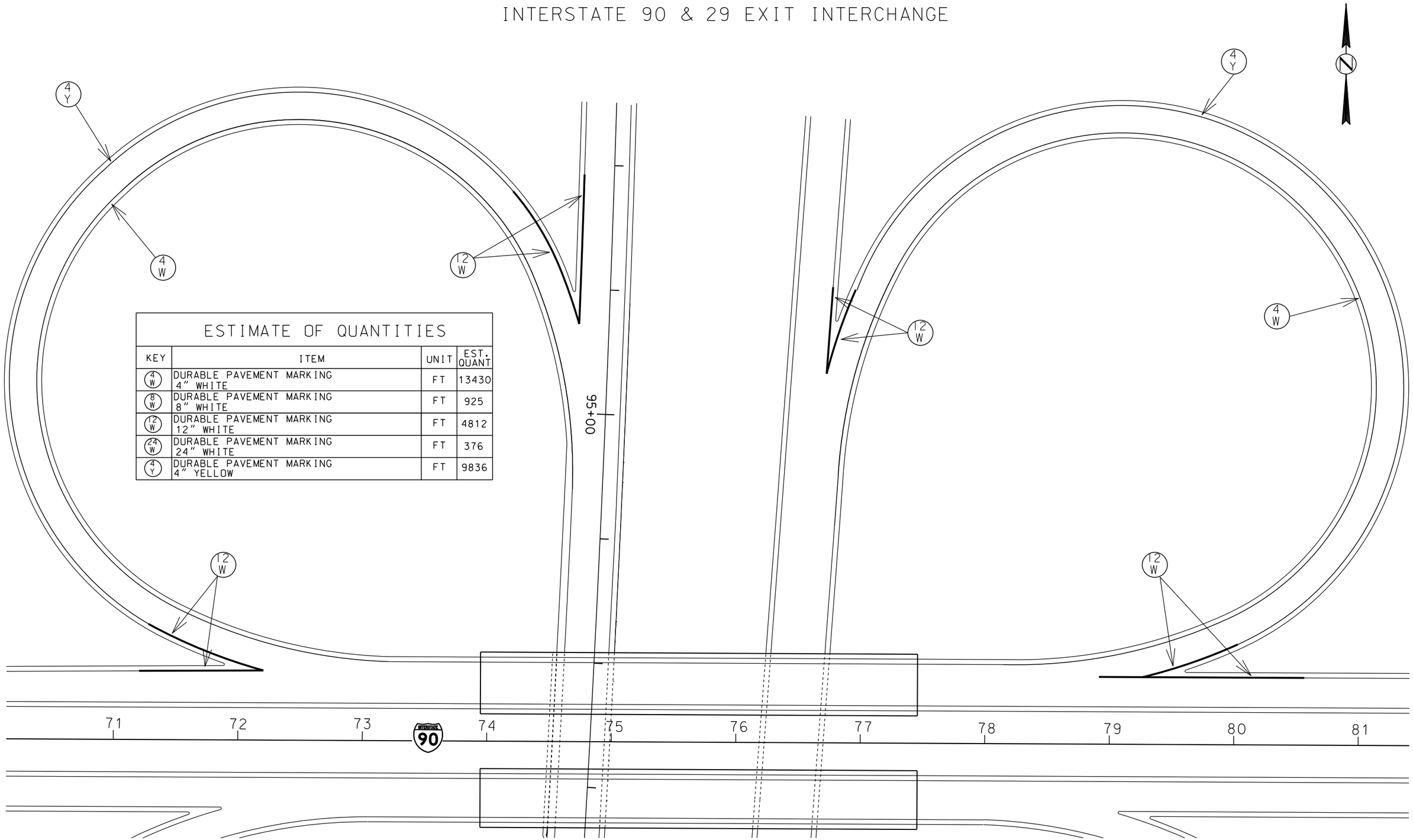
FILE - ...\MARION\MARION RD.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	87	113

Plotting Date: 03/30/2016 REVISED 3/30/16 GB

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



ESTIMATE OF QUANTITIES

KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	13430
8 W	DURABLE PAVEMENT MARKING 8" WHITE	FT	925
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	4812
24 W	DURABLE PAVEMENT MARKING 24" WHITE	FT	376
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	9836

PLOT SCALE - 1:72

PLOTTED FROM - TRM111119

PLOT NAME - 84

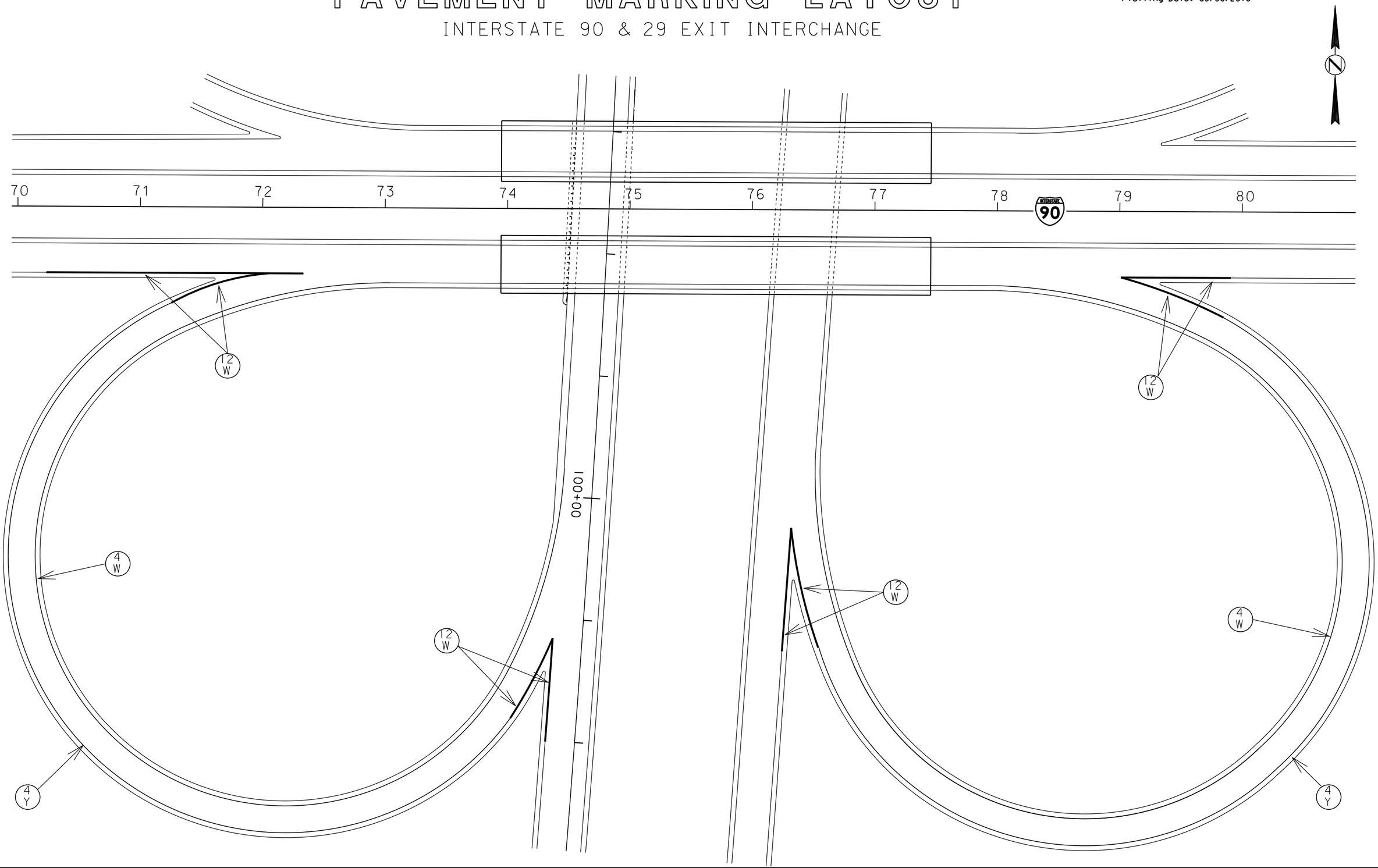
FILE - ...\90&29\190129.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	88	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



PLOT SCALE - 1:72

PLOTTED FROM - TRM111119

PLOT NAME - 85

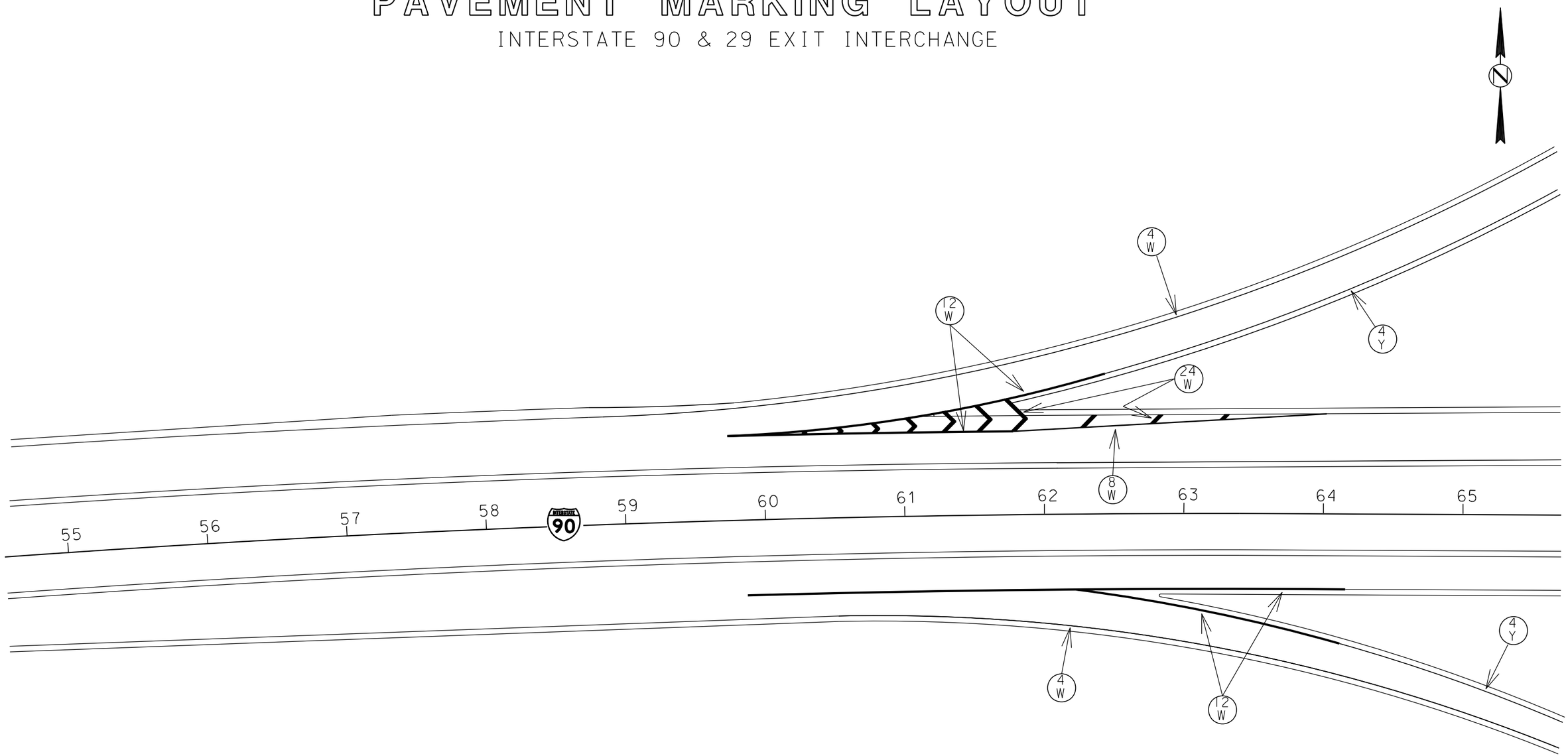
FILE - ...\90&29\190129.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	89	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



PLOT SCALE - 1:72

PLOT NAME - 86

FILE - ...\90&29\T90129.DGN

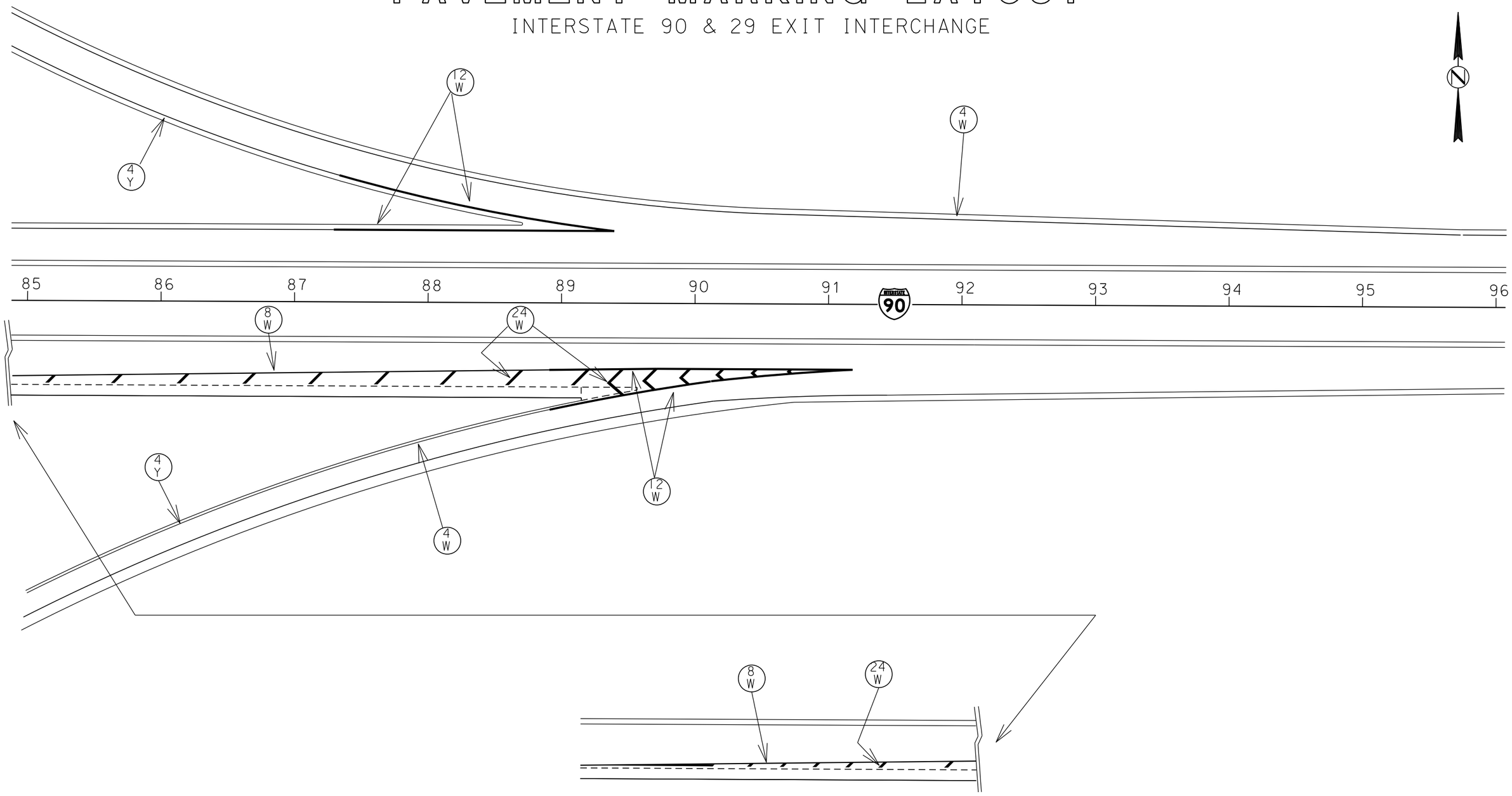
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	90	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



PLOT SCALE - 1:72

PLOTTED FROM - TRMI11119

PLOT NAME - 87

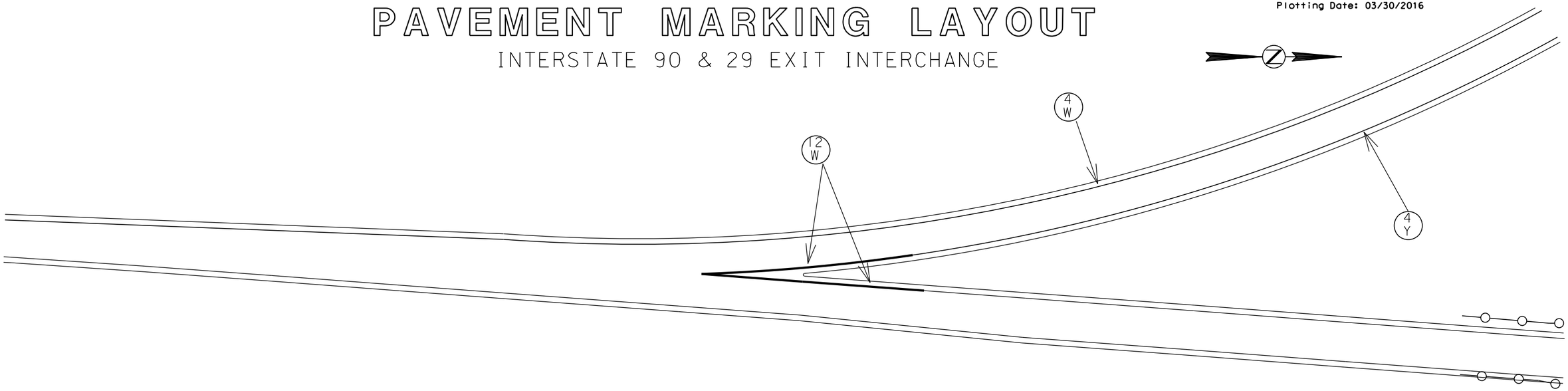
FILE - ...\90&29\I90I29.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	91	113

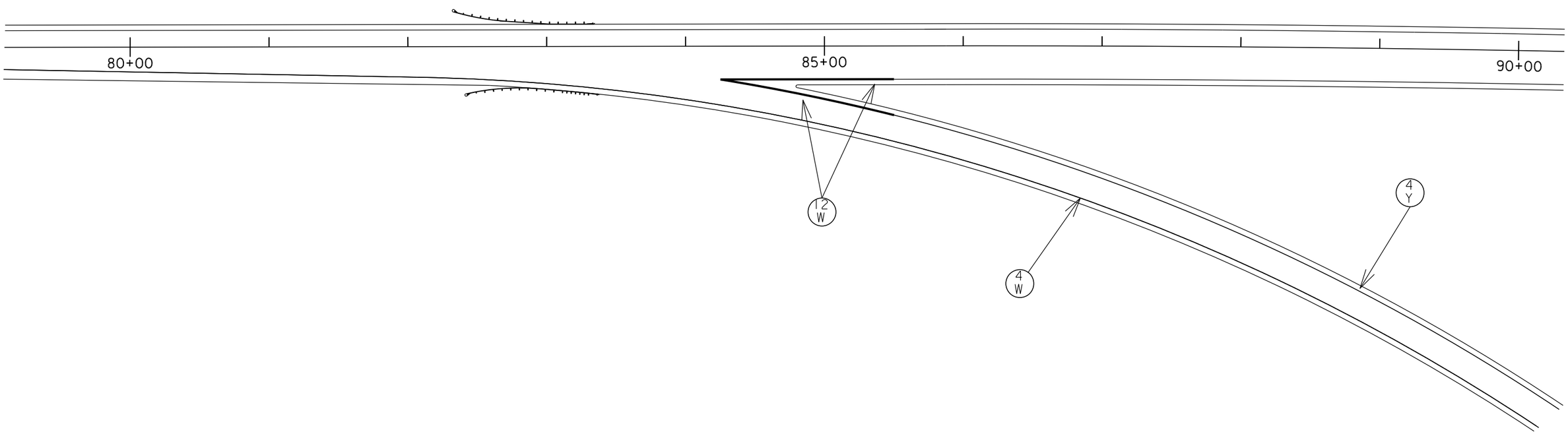
Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



Interstate 29



PLOT SCALE - 1:72

PLOTTED FROM - TRMI11119

PLOT NAME - 88

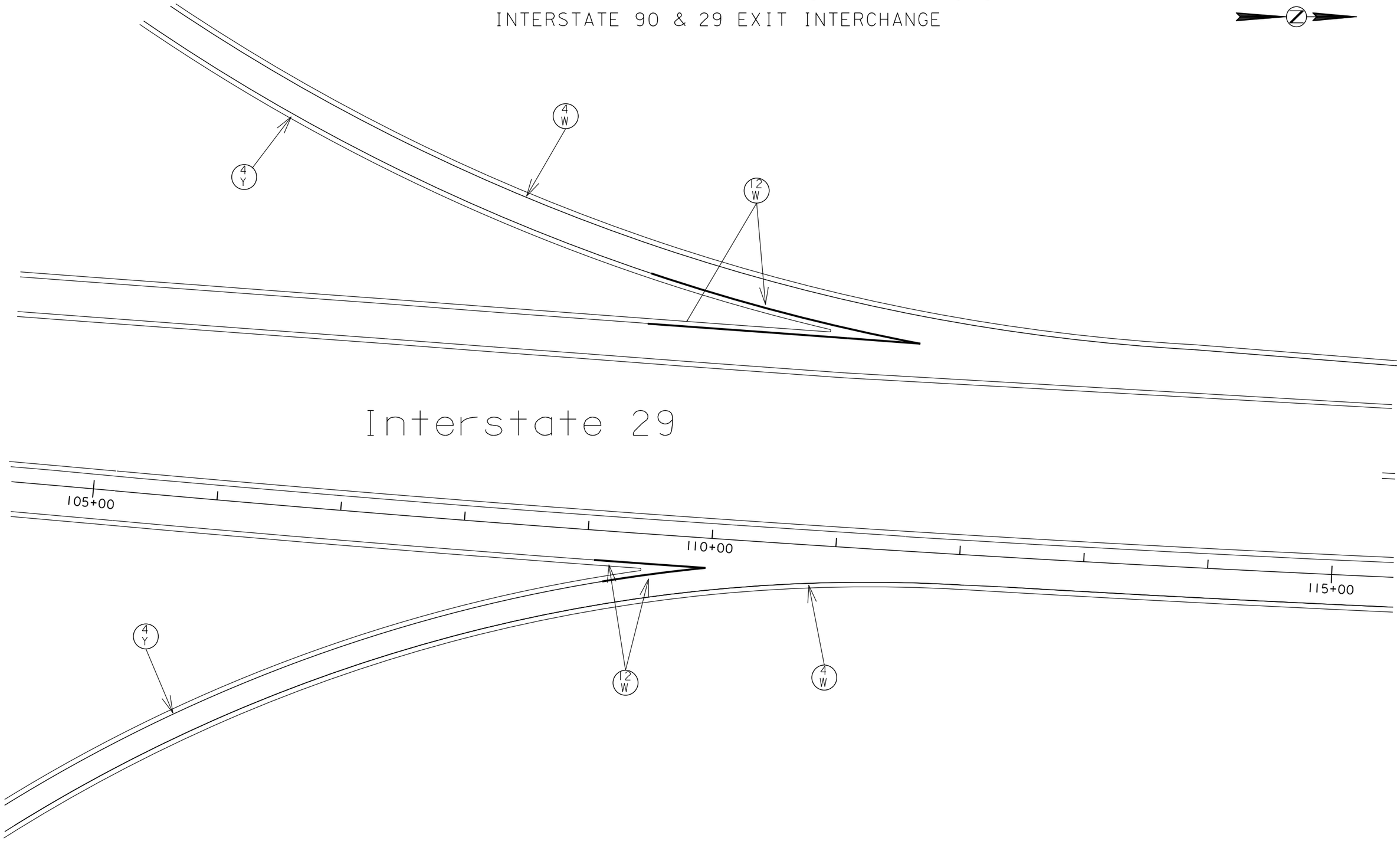
FILE - ...\90&29\190129.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	92	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

INTERSTATE 90 & 29 EXIT INTERCHANGE



PLOT SCALE - 1:72

PLOT NAME - 89

FILE - ...\90&29\190129.DGN

PLOTTED FROM - TRMI11119

PAVEMENT MARKING LAYOUT

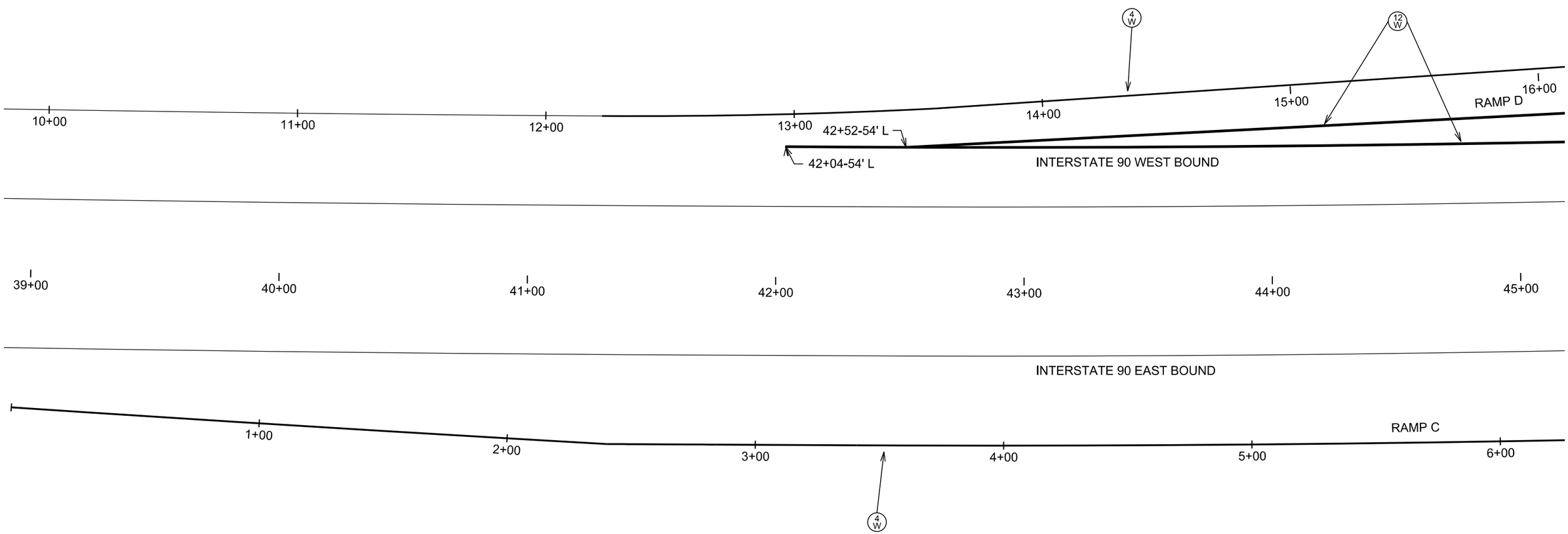
I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	93	113

Plotting Date: 03/30/2016

SCALE
1" = 40'

ESTIMATE OF QUANTITIES			
KEY	ITEM	UNIT	EST. QUANT
(4 W)	DURABLE PAVEMENT MARKING 4" WHITE	FT	9240
(12 W)	DURABLE PAVEMENT MARKING 12" WHITE	FT	3191
(24 W)	DURABLE PAVEMENT MARKING 24" WHITE	FT	498
(4 Y)	DURABLE PAVEMENT MARKING 4" YELLOW	FT	2901
	COLD APPLIED PLASTIC PAVEMENT MARKING ARROW LEFT - 14 RIGHT - 7	EACH	21



PLOT SCALE - 1:40

PLOTTED FROM - TRM111119

PLOT NAME - 90

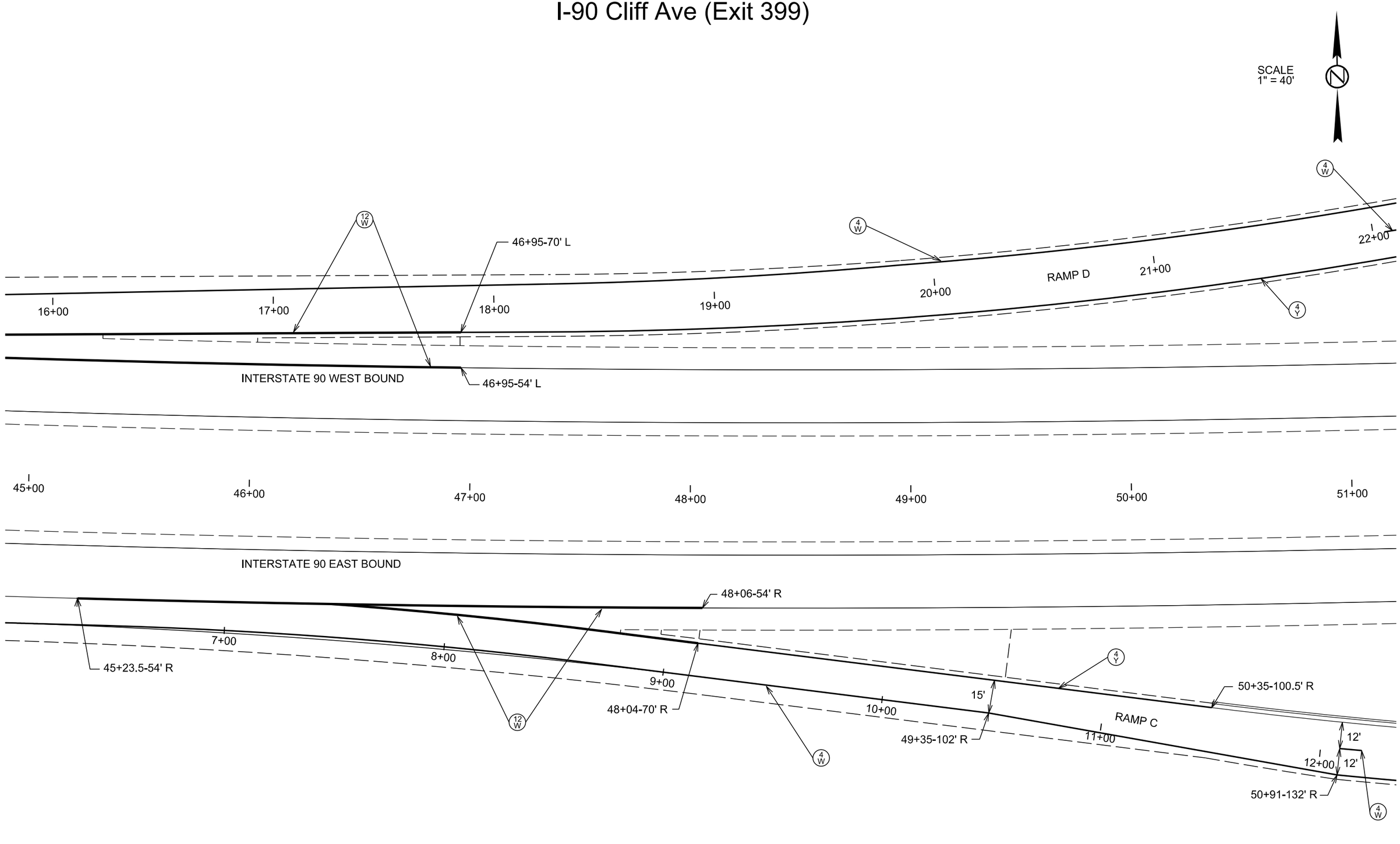
FILE - ...\CLIFF\039190PM.DGN

PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	94	113

Plotting Date: 03/30/2016



PLOT SCALE - 1:40

PLOT NAME - 91

FILE - ...\CLIFF\045I90PM.DGN

PLOTTED FROM - TRMI11119

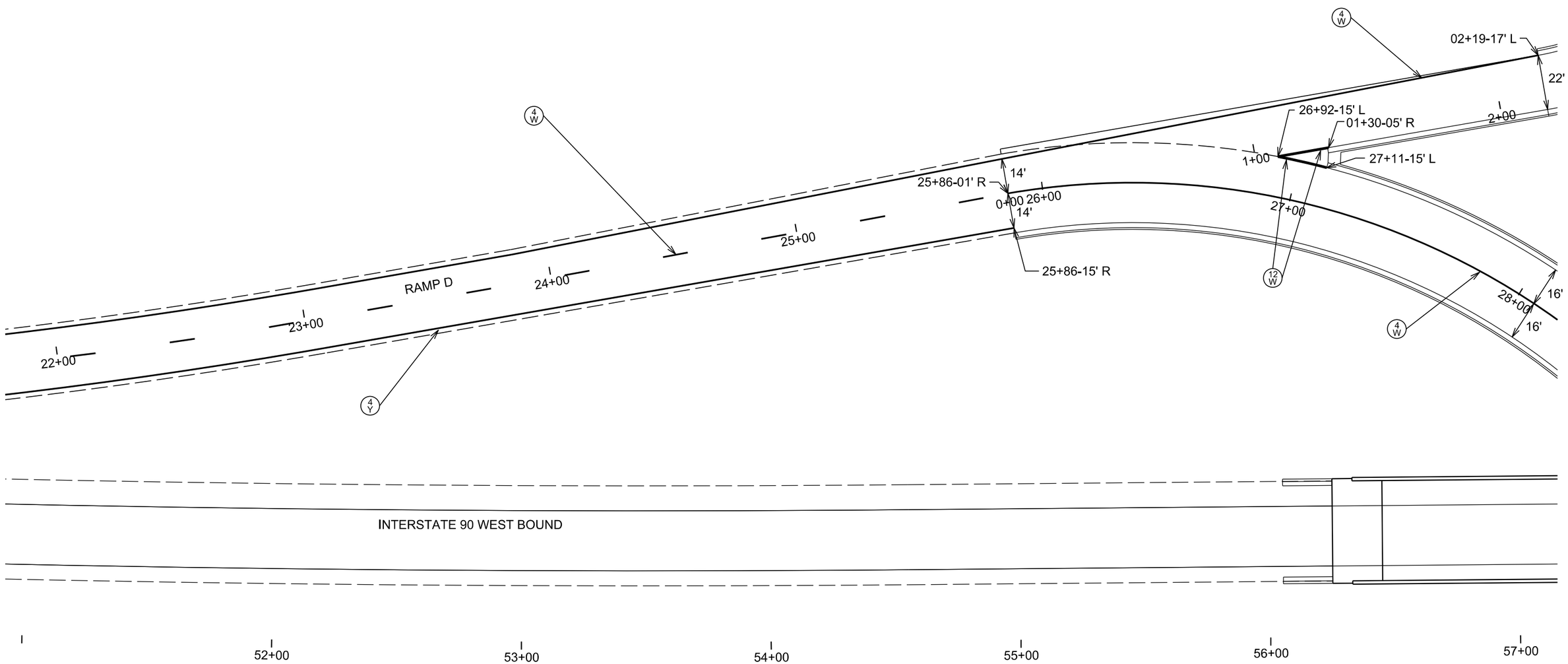
PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	95	113

Plotting Date: 03/30/2016

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 92

FILE - ...\CLIFF\05INI90PM.DGN

PLOTTED FROM - TRMI11119

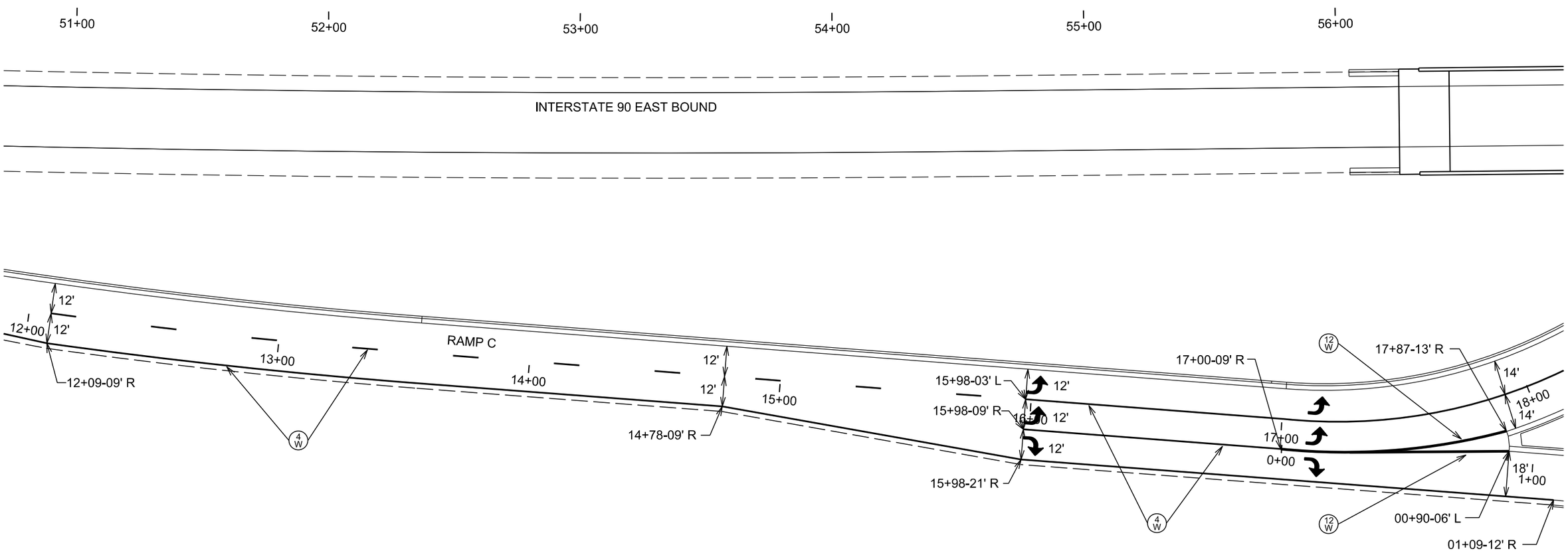
PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	96	113

Plotting Date: 03/30/2016

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 93

FILE - ...\CLIFF\051S190PM.DGN

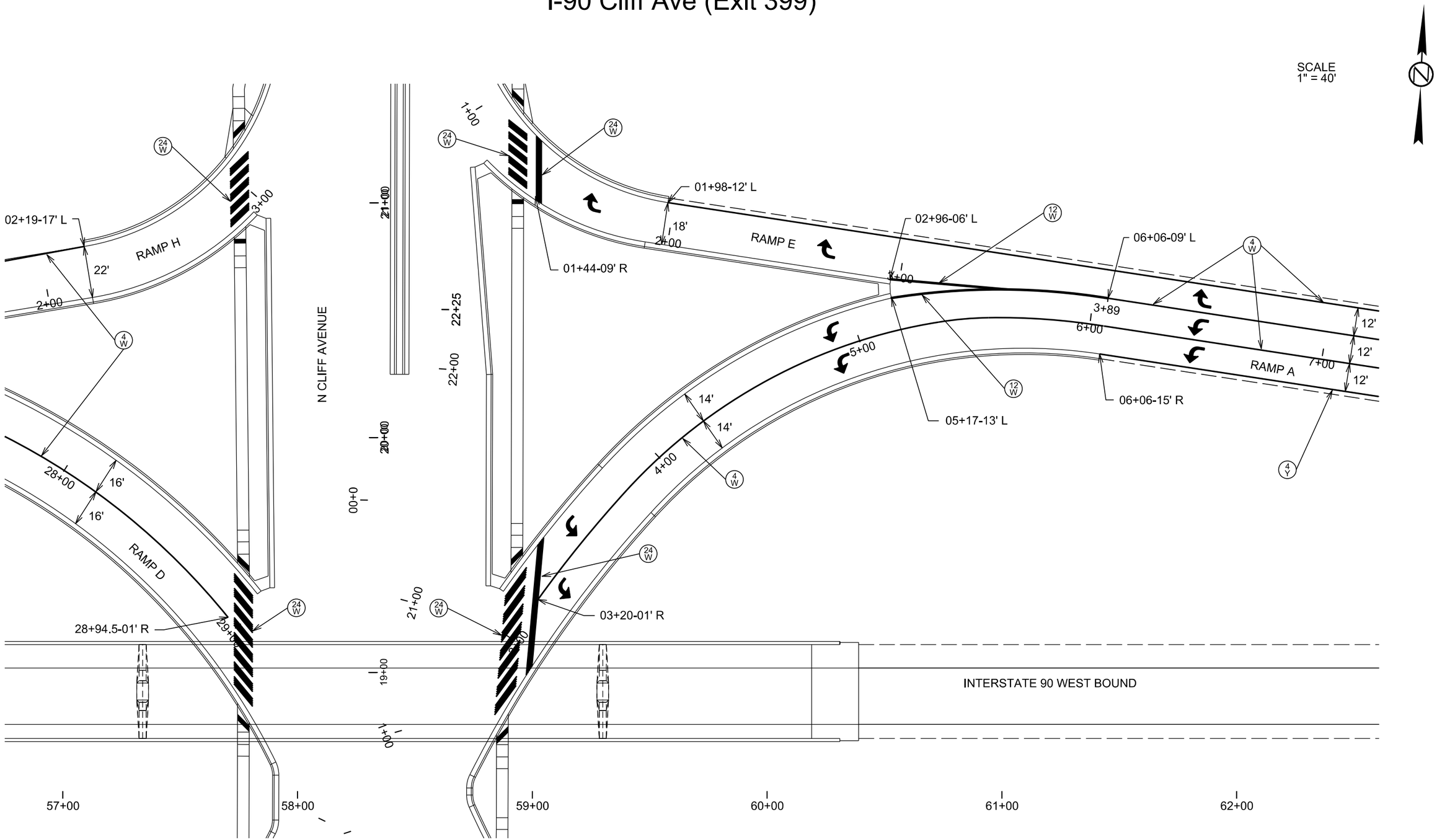
PLOTTED FROM - TRMI11119

PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	97	113

Plotting Date: 03/30/2016



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 94

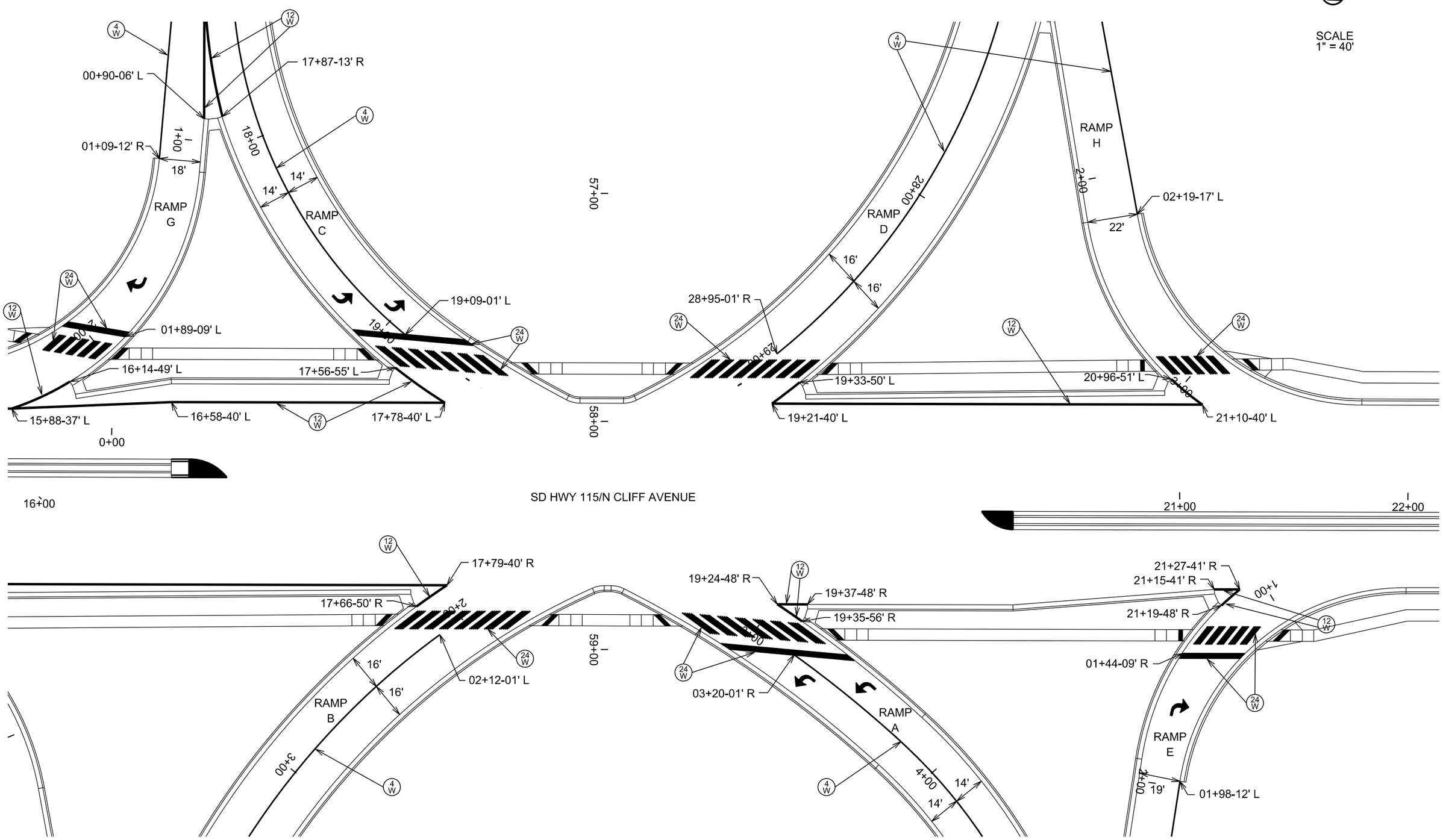
FILE - ...\CLIFF\057N190PM.DGN

PAVEMENT MARKING LAYOUT

SD HWY 115/N CLIFF AVENUE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	98	113

Plotting Date: 03/30/2016



PLOT SCALE - 1:40

PLOT NAME - 95

FILE - ...\CLIFF\016SD115PM.DGN

PLOTTED FROM - TRM111119

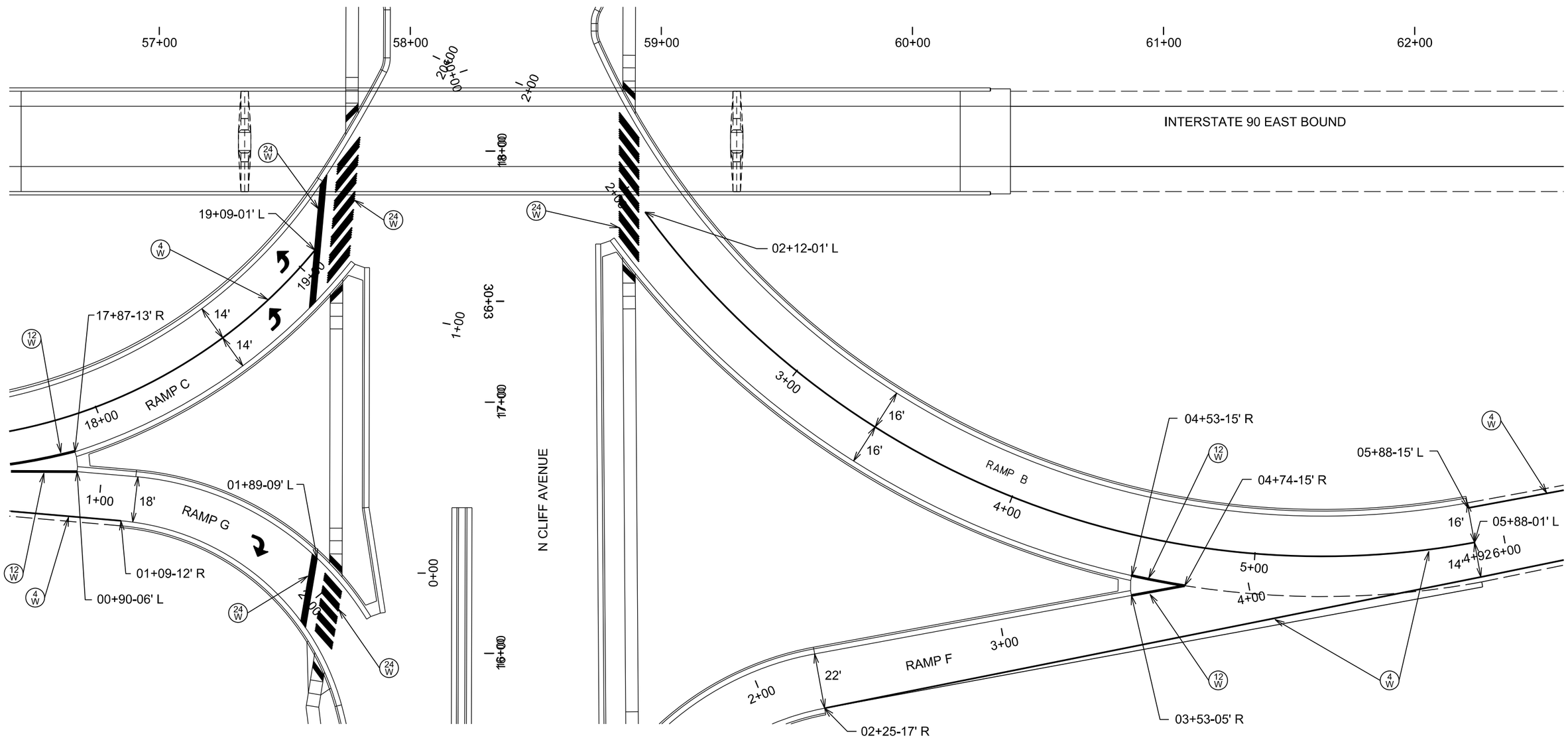
PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	99	113

Plotting Date: 03/30/2016

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 96

FILE - ...\CLIFF\0575I90PM.DGN

PLOTTED FROM - TRMI11119

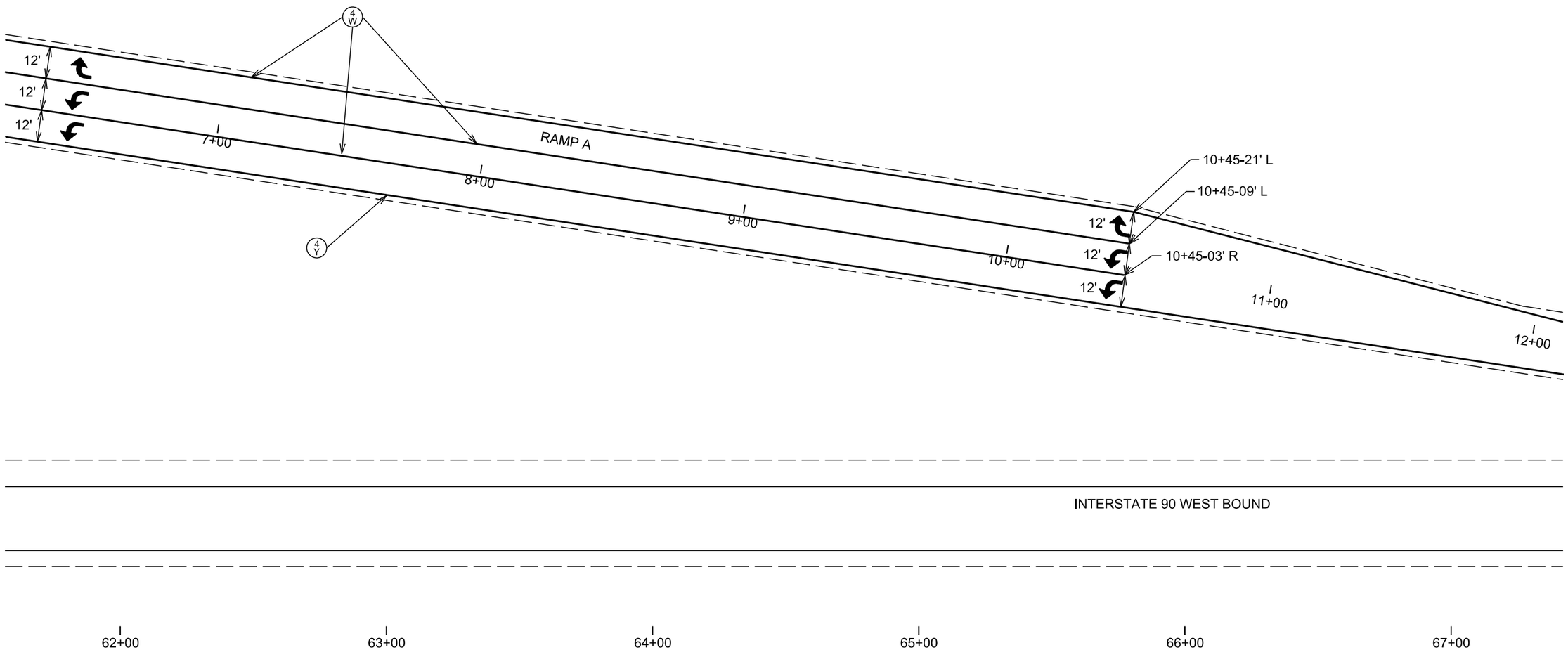
PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	100	113

Plotting Date: 03/30/2016

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOTTED FROM - TRM111119

PLOT NAME - 97

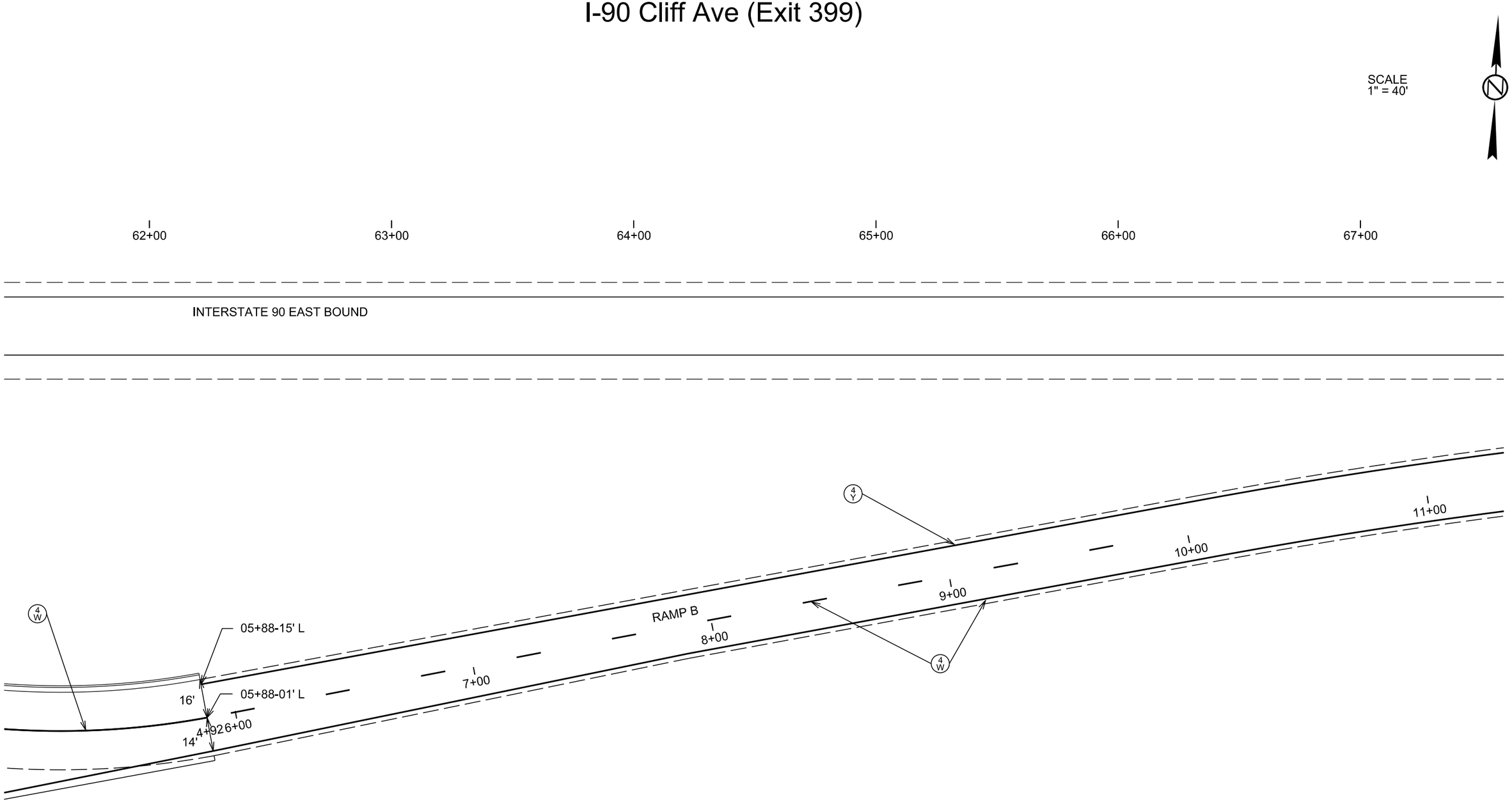
FILE - ...\CLIFF\062NI90PM.DGN

PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	101	113

Plotting Date: 03/30/2016



PLOT SCALE - 1:40

PLOTTED FROM - TRMI11119

PLOT NAME - 98

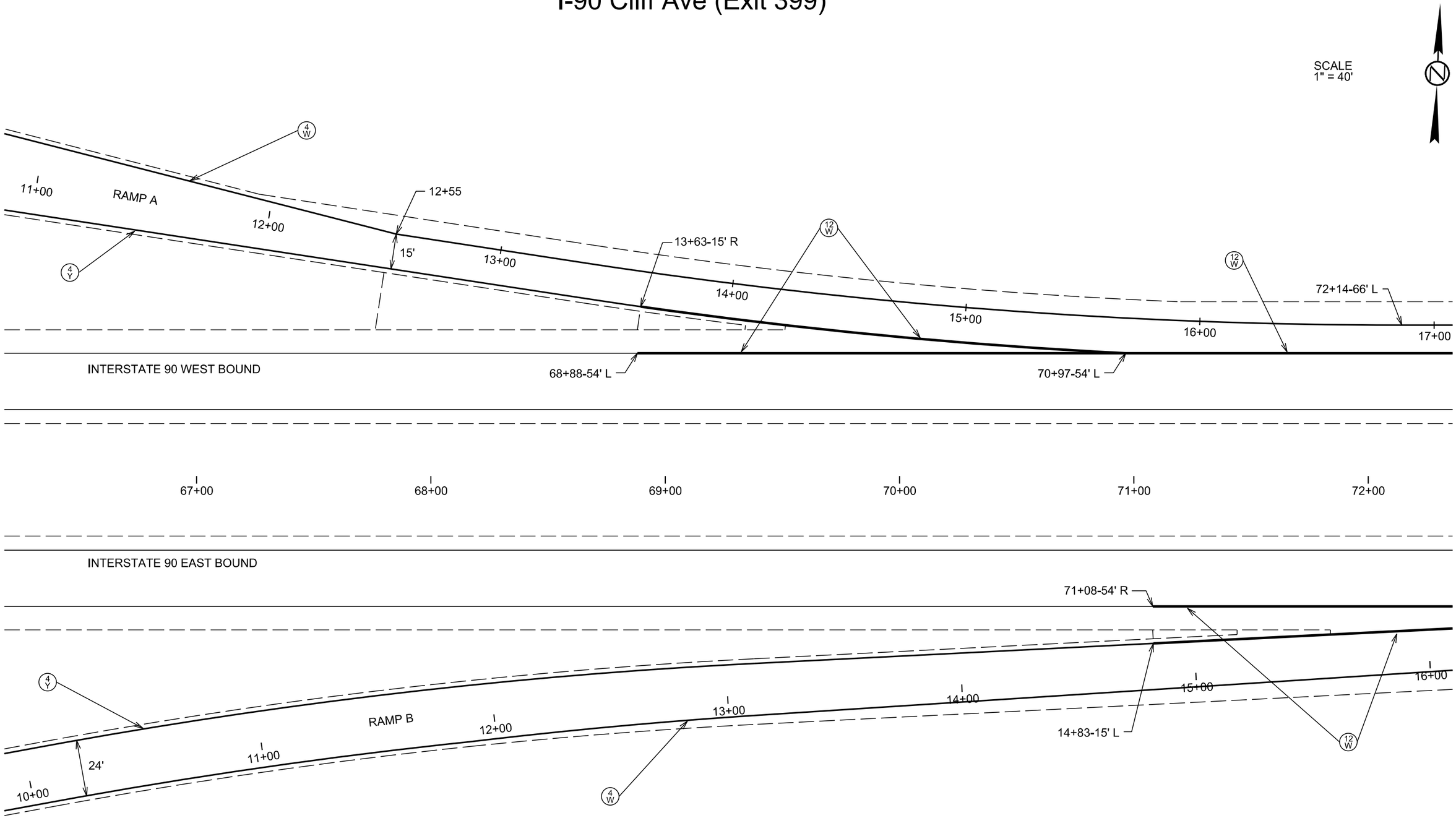
FILE - ...\CLIFF\062S190PM.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	102	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)



PLOT SCALE - 1:40

PLOT NAME - 99

FILE - ...\CLIFF\067190PM.DGN

PLOTTED FROM - TRMI11119

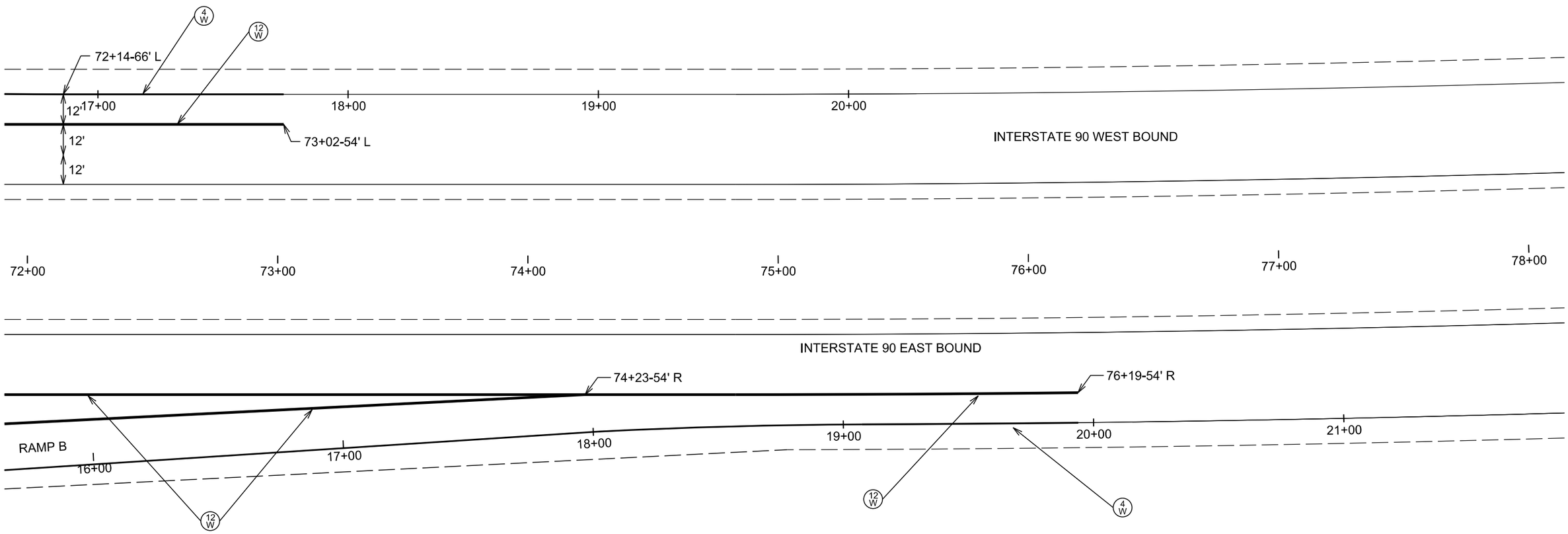
PAVEMENT MARKING LAYOUT

I-90 Cliff Ave (Exit 399)

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	103	113

Plotting Date: 03/30/2016

SCALE
1" = 40'



PLOT SCALE - 1:40

PLOT NAME - 100

FILE - ...\CLIFF\072190PM.DGN

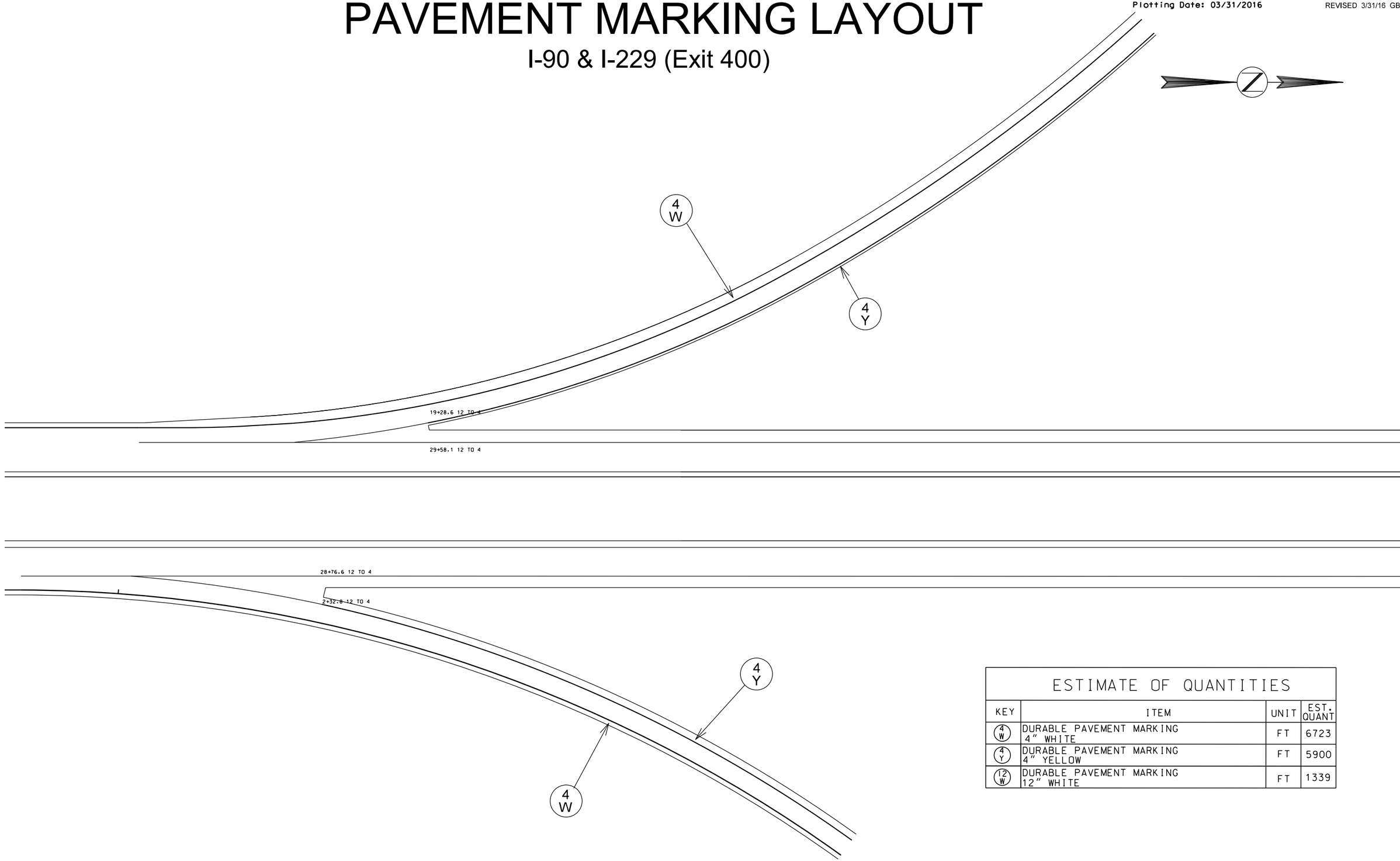
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	104	113

Plotting Date: 03/31/2016 REVISED 3/31/16 GB

PAVEMENT MARKING LAYOUT

I-90 & I-229 (Exit 400)



ESTIMATE OF QUANTITIES			
KEY	ITEM	UNIT	EST. QUANT
4 W	DURABLE PAVEMENT MARKING 4" WHITE	FT	6723
4 Y	DURABLE PAVEMENT MARKING 4" YELLOW	FT	5900
12 W	DURABLE PAVEMENT MARKING 12" WHITE	FT	1339

PLOT SCALE - 1:72

PLOT NAME - 101

FILE '...\90&229\4950MARKING.DGN

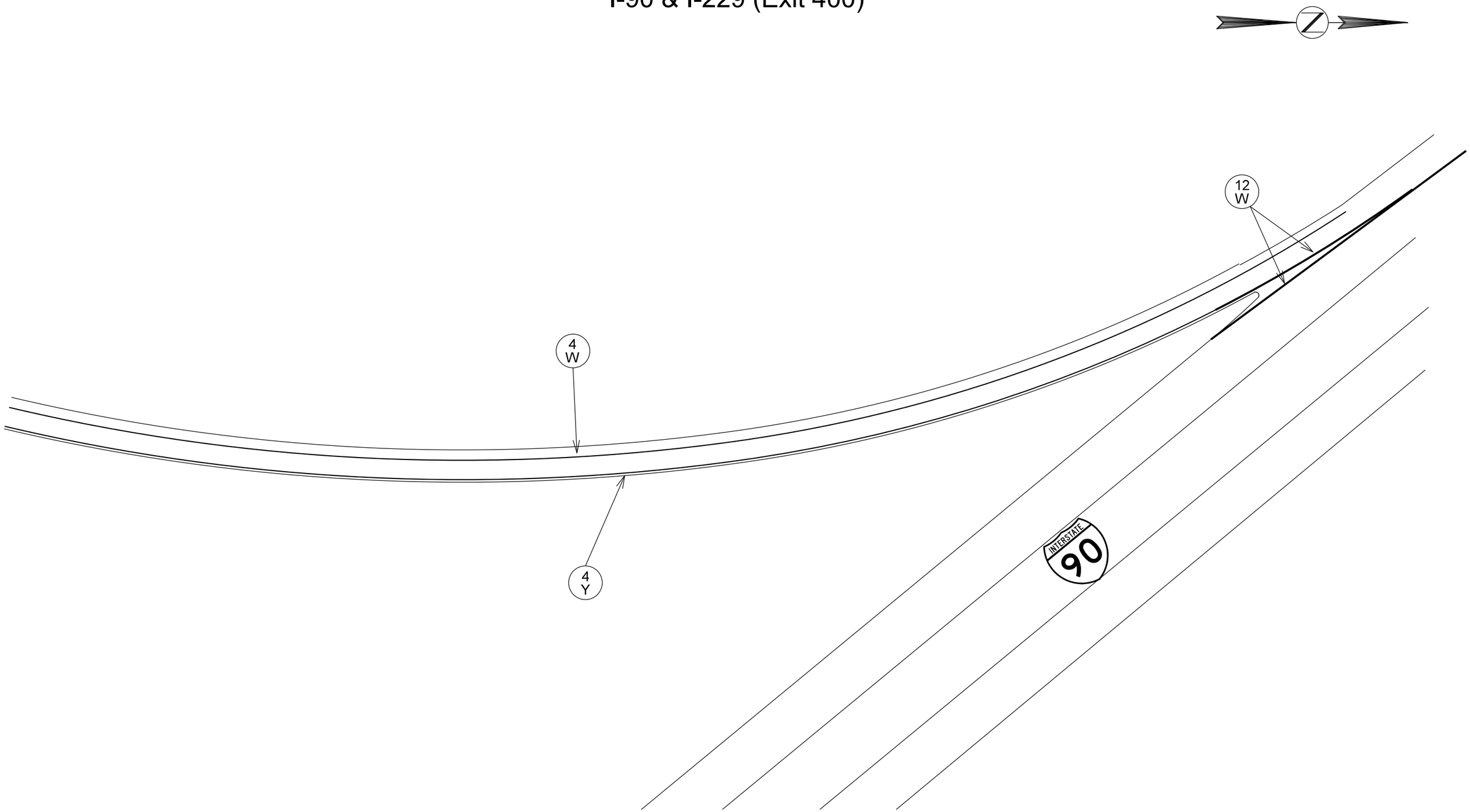
PLOTTED FROM - TRMI11119

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	105	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-90 & I-229 (Exit 400)



PLOT SCALE - 1:72

PLOTTED FROM - TRM111119

PLOT NAME - 102

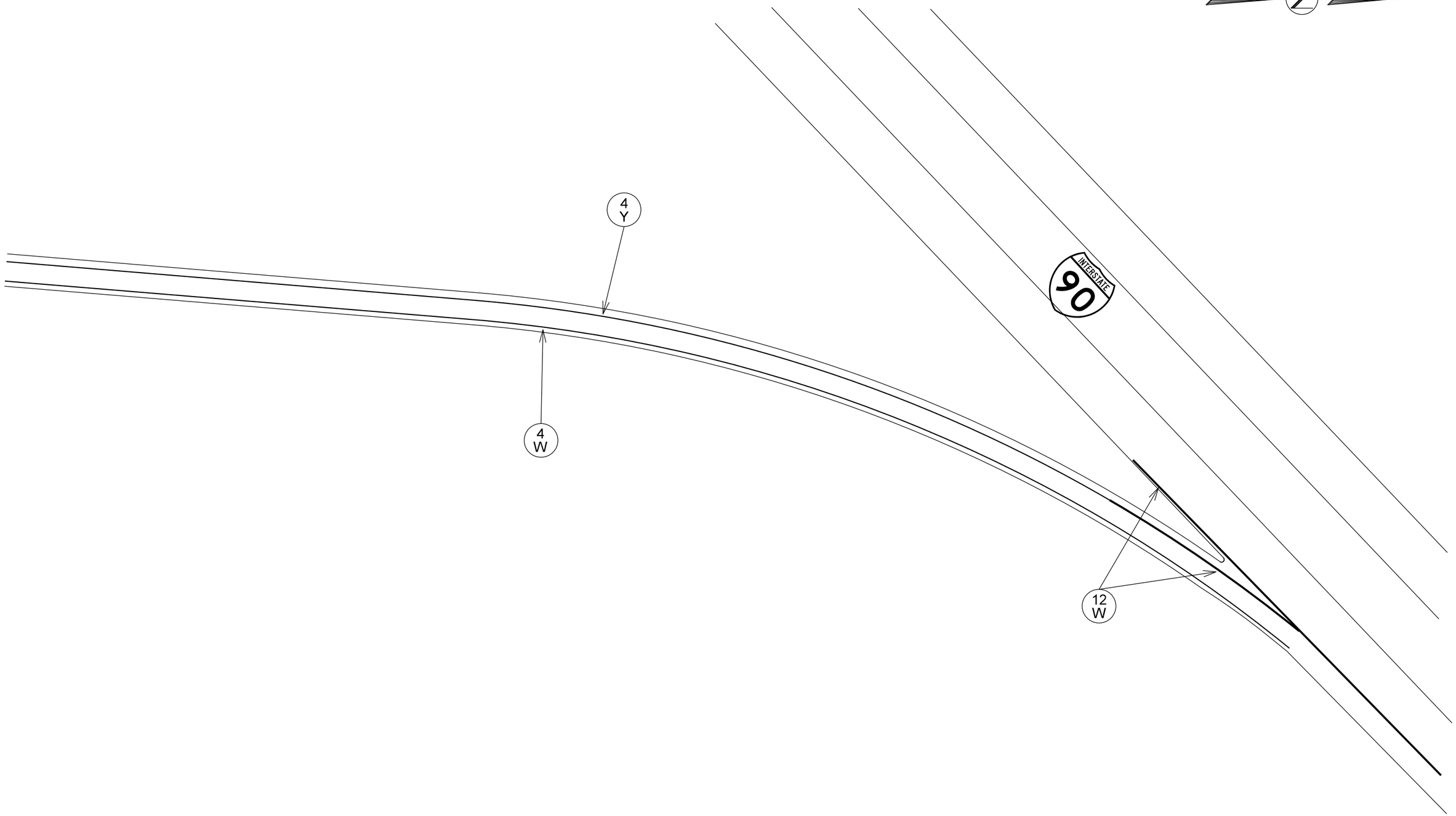
FILE - ...\90&229\4950MARKING.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	106	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-90 & I-229 (Exit 400)



PLOT SCALE - 1:72

PLOTTED FROM - TRM111119

PLOT NAME - 103

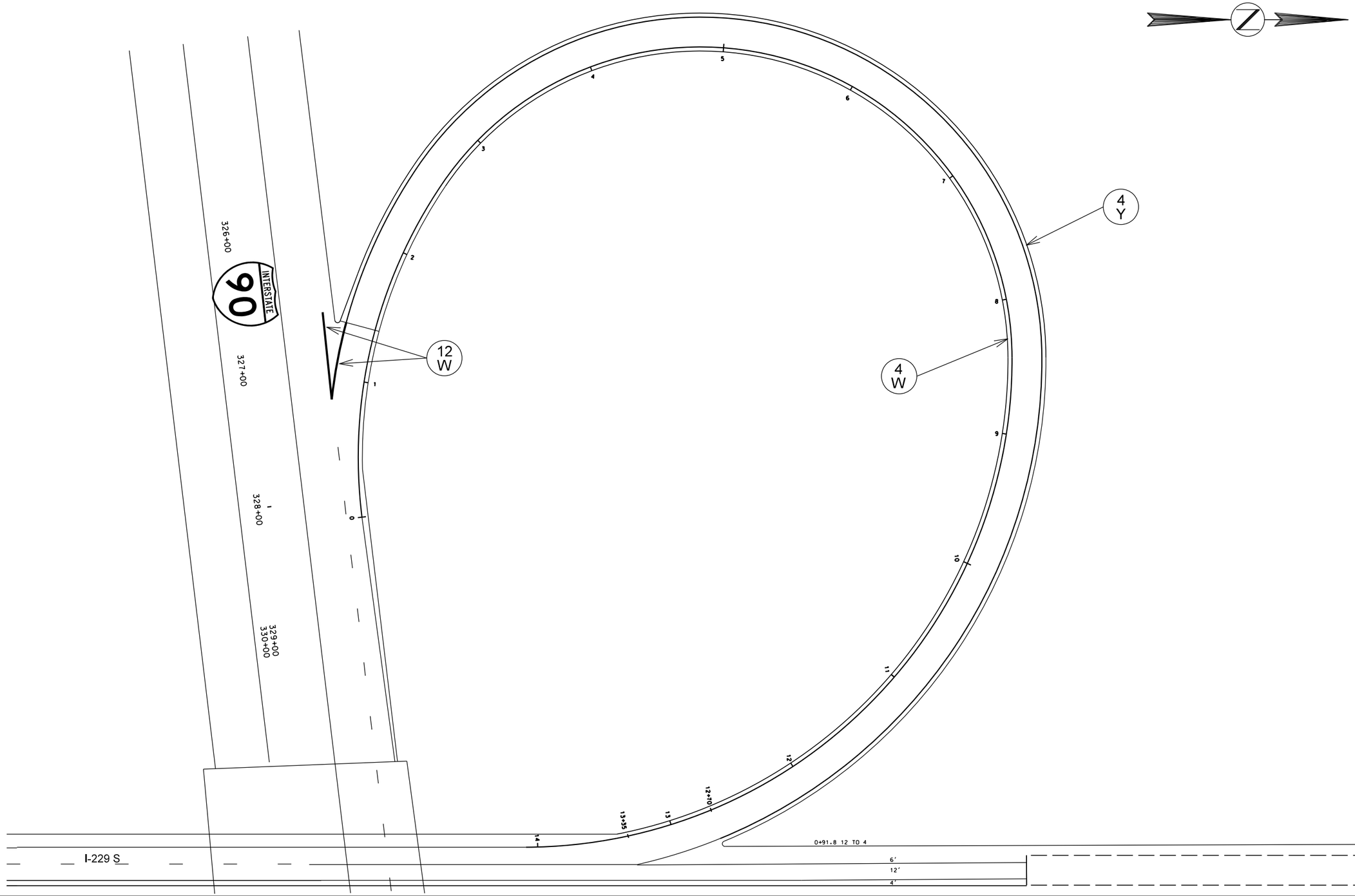
FILE - ...\90&229\4950MARKING.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	107	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-90 & I-229 (Exit 400)



PLOT SCALE - 1:72

PLOTTED FROM - TRM111119

PLOT NAME - 104

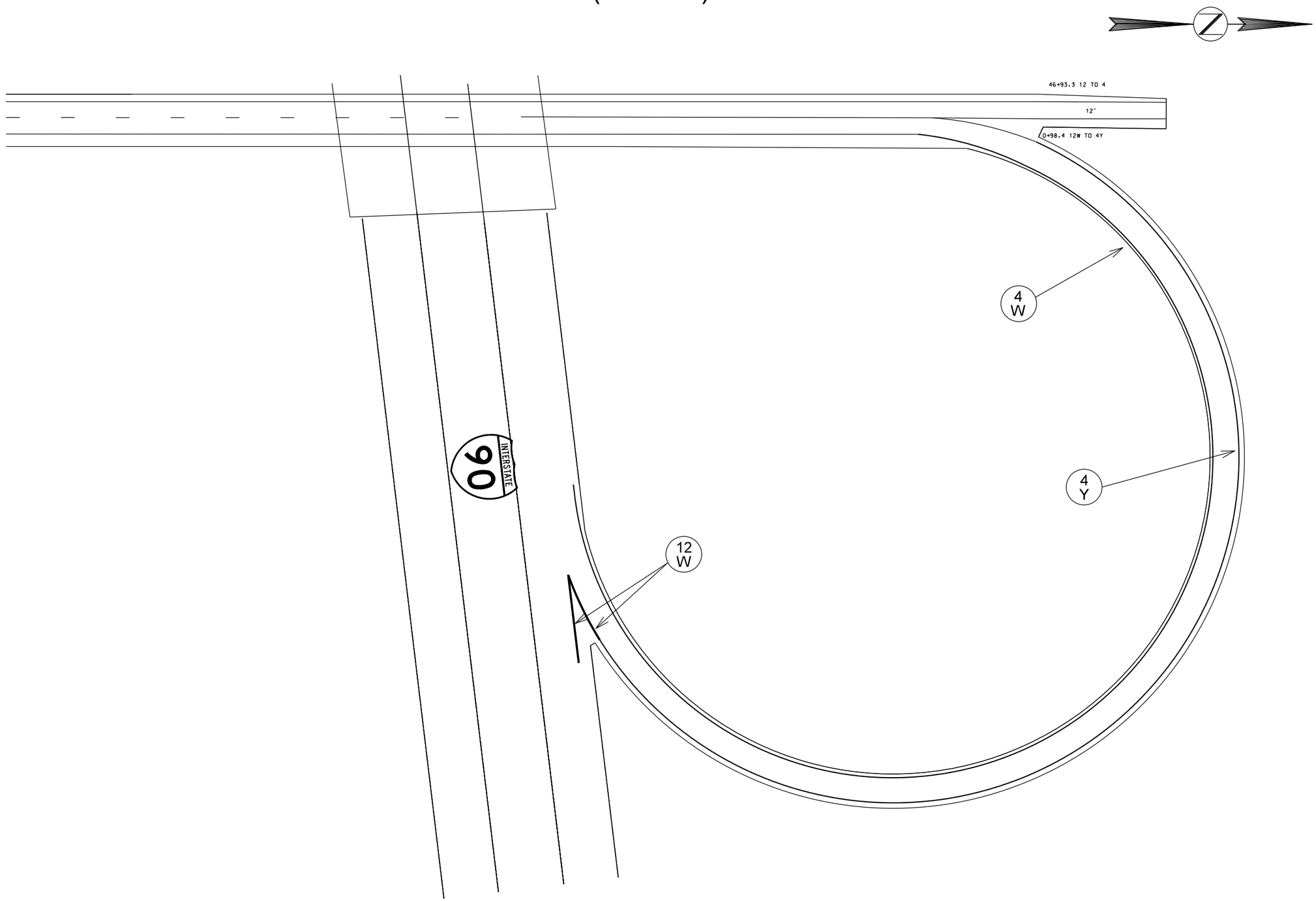
FILE - ...\90&229\4950MARKING.DGN

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	PH 0020(128)	108	113

Plotting Date: 03/30/2016

PAVEMENT MARKING LAYOUT

I-90 & I-229 (Exit 400)



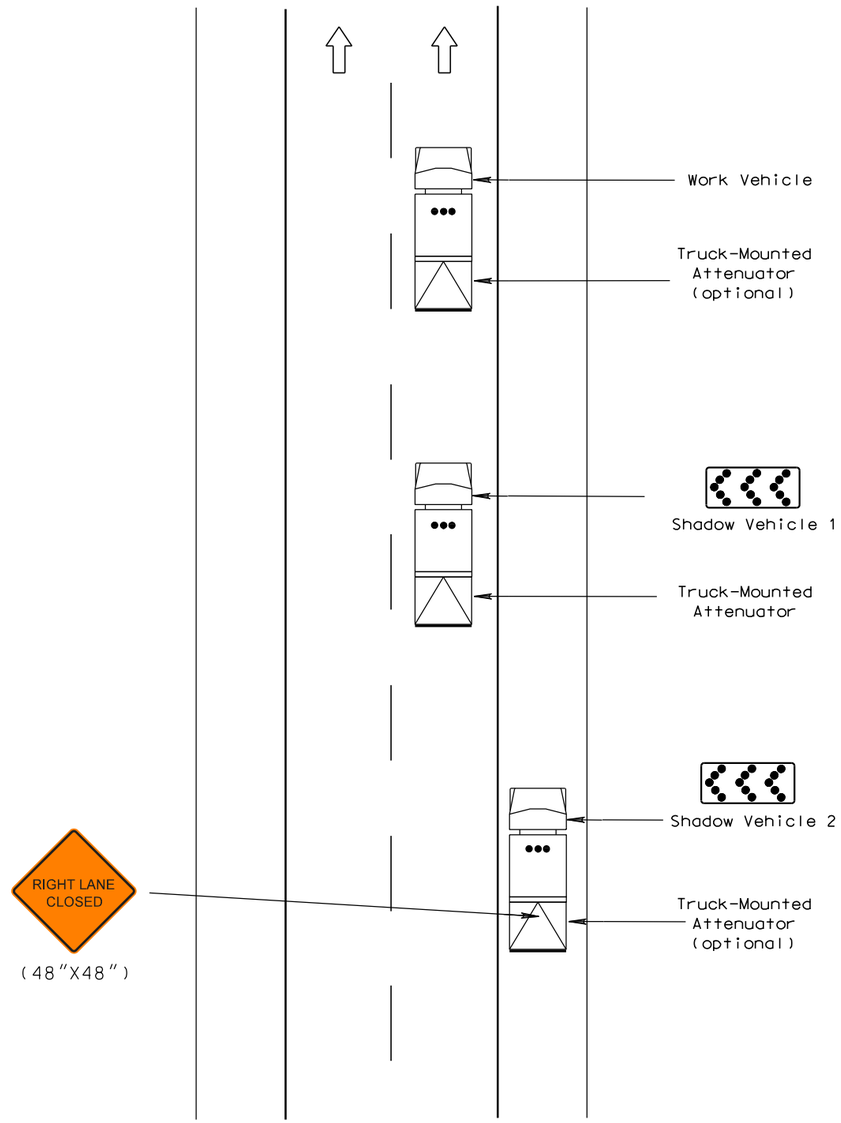
PLOT SCALE - 1:72

PLOT NAME - 105

FILE - ...\90&229\4950MARKING.DGN

PLOTTED FROM - TRMI11119

MOBILE OPERATION ON MULTI-LANE ROAD
(TYPICAL)



MOBILE OPERATION ON MULTI-LANE ROAD

Notes for Mobile Operation on Multi-lane Road (Typical)

Standard:

1. Arrow panels shall, as a minimum, be Type B, with a size of 1500 x 750 mm (60 x 30 in).

Guidance:

2. Vehicles used for these operations should be made highly visible with appropriate equipment, such as: high-intensity rotating, flashing, oscillating, or strobe lights, signs, and arrow panels.
3. Shadow Vehicle 1 shall be equipped with an arrow panel and truck-mounted attenuator.
4. Shadow Vehicle 2 shall be equipped with an arrow panel. An appropriate lane closure sign should be placed on Shadow Vehicle 2 so as not to obscure the arrow panel.
5. Shadow Vehicle 2 should travel at a varying distance from the work operation so as to provide adequate sight distance for vehicular traffic approaching from the rear.
6. The spacing between the work vehicles and the shadow vehicles, and between each shadow vehicle should be minimized to deter road users from driving in between.
7. Work should normally be accomplished during off-peak hours.
8. The advanced warning sign shall read LEFT LANE CLOSED and the chevron direction shall be changed when working within the left passing lane.

Option:

9. A truck-mounted attenuator may be used on Shadow Vehicle 2.
10. On high-speed roadways, a third shadow vehicle (not shown) may be used with Shadow Vehicle 1 in the closed lane, Shadow Vehicle 2 straddling the edge line, and Shadow Vehicle 3 on the shoulder.
11. Where adequate shoulder width is not available, Shadow Vehicle 3 may drive partially in the lane.

PLOT SCALE - 1:160
PLOTTED FROM - TRM111119
PLOT NAME - 1
FILE - ...\MOBILEOPERATION.DGN

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

◎ Reflectorized Drum

■ Channelizing Device

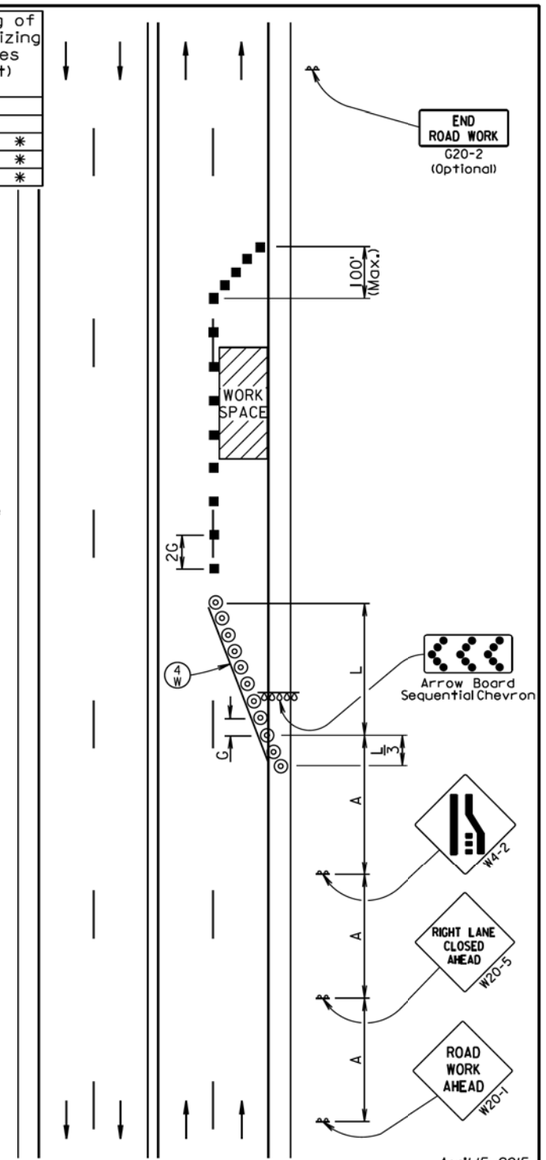
(4 W) 4" White Temporary Pavement Marking

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Temporary pavement markings shall be used if traffic control must remain overnight.

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



April 15, 2015

Published Date: 1st Qtr. 2016

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
4-LANE UNDIVIDED, RIGHT LANE CLOSED

PLATE NUMBER 634.47

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A)	Taper Length (Feet) (L)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	200	180	25
35 - 40	350	320	25
45 - 50	500	600	50 *
55	750	660	50 *
60 - 65	1000	780	50 *

* Spacing is 40' for 42" cones.

◎ Reflectorized Drum

■ Channelizing Device

(4 Y) 4" Yellow Temporary Pavement Marking

Pavement markings no longer applicable shall be removed or obliterated as soon as practical.

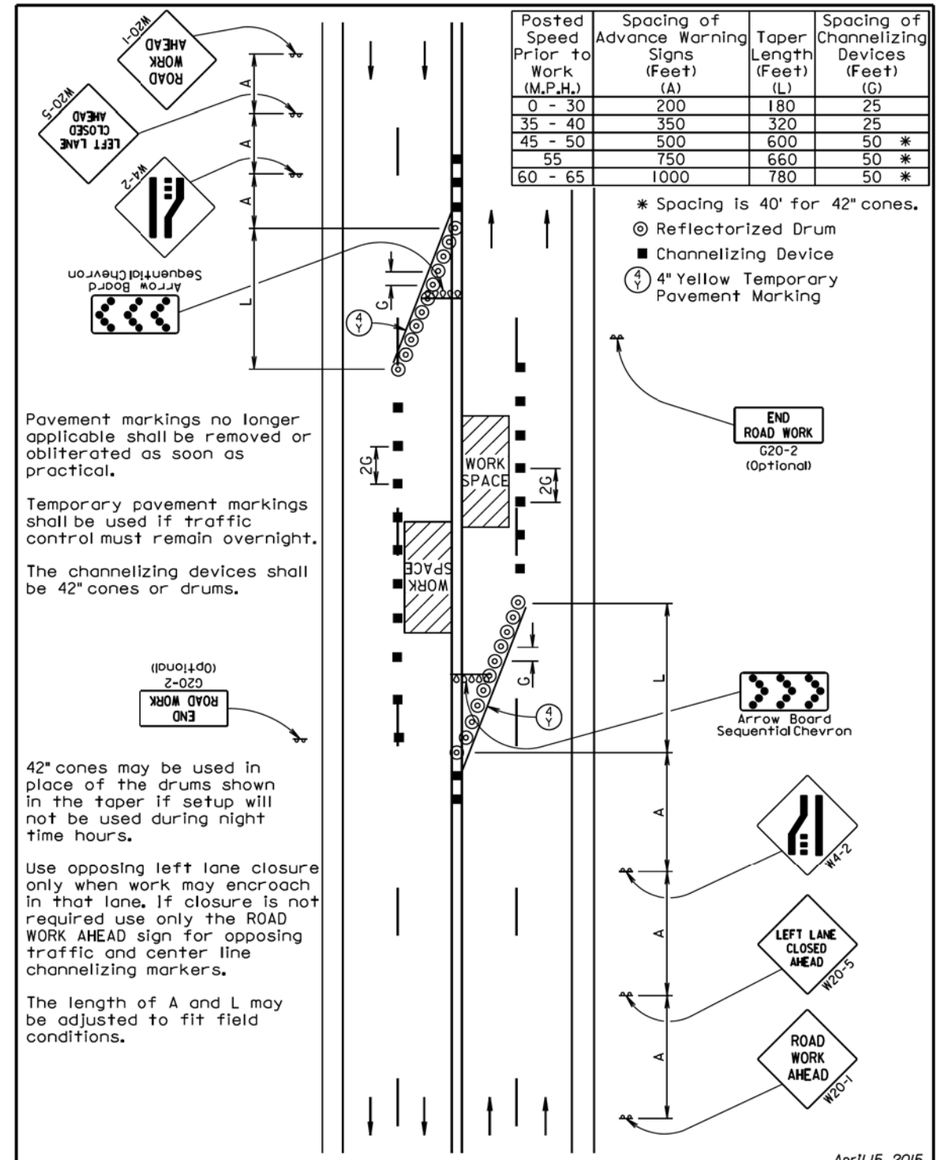
Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

Use opposing left lane closure only when work may encroach in that lane. If closure is not required use only the ROAD WORK AHEAD sign for opposing traffic and center line channelizing markers.

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



April 15, 2015

Published Date: 1st Qtr. 2016

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
4-LANE UNDIVIDED, LEFT LANE CLOSED

PLATE NUMBER 634.48

Sheet 1 of 1

PLOT SCALE - 1:160

PLOTTED FROM - TRMI11119

PLOT NAME - 2

FILE - ...\MOBILEOPERATION.DGN

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)
0 - 30	200
35 - 40	350
45 - 50	500
55	750
60 - 65	1000
	(A) (B) (C)
70 - 80	1000 1500 2640

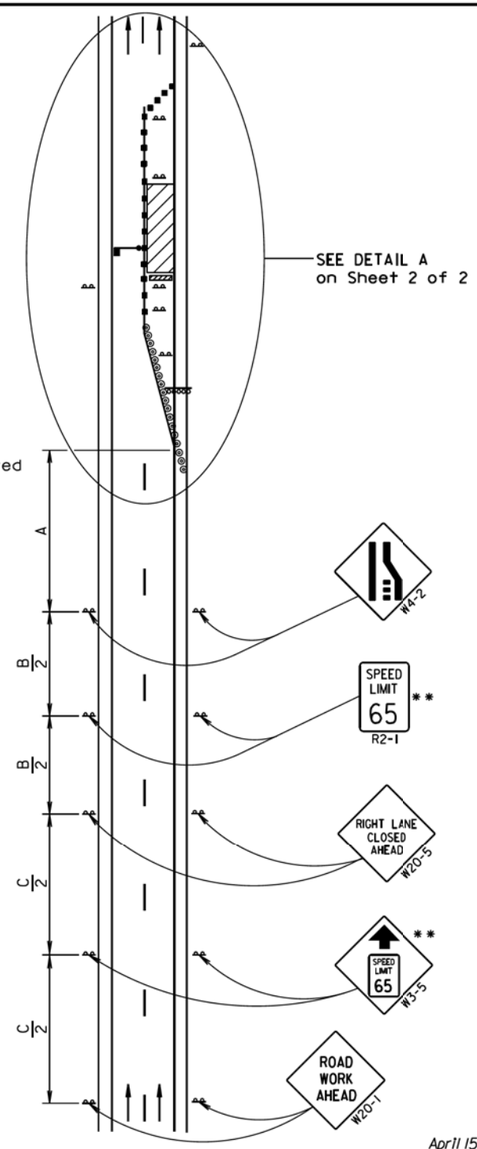
** Speed appropriate for location.

◎ Reflectorized Drum

■ Channelizing Device

ROAD WORK AHEAD sign is only required in advance of the first lane closure.

High speed is defined as having a posted speed limit greater than 45 mph.



April 15, 2015

Published Date: 1st Qtr. 2016

SDDOT

WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS

PLATE NUMBER 634.63

Sheet 1 of 2

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)	Taper Length (Feet) (L)
0 - 30	25	180
35 - 40	25	320
45 - 50	50 *	600
55	50 *	660
60 - 65	50 *	780
70 - 80	50 *	960

* Spacing is 40' for 42" cones.

** Speed appropriate for location.

*** Use speed limit designated for the condition when workers are present in the work space. Signs shall be covered or removed when workers are not present.

■—● Flagger (As Necessary)

◎ Reflectorized Drum

■ Channelizing Device

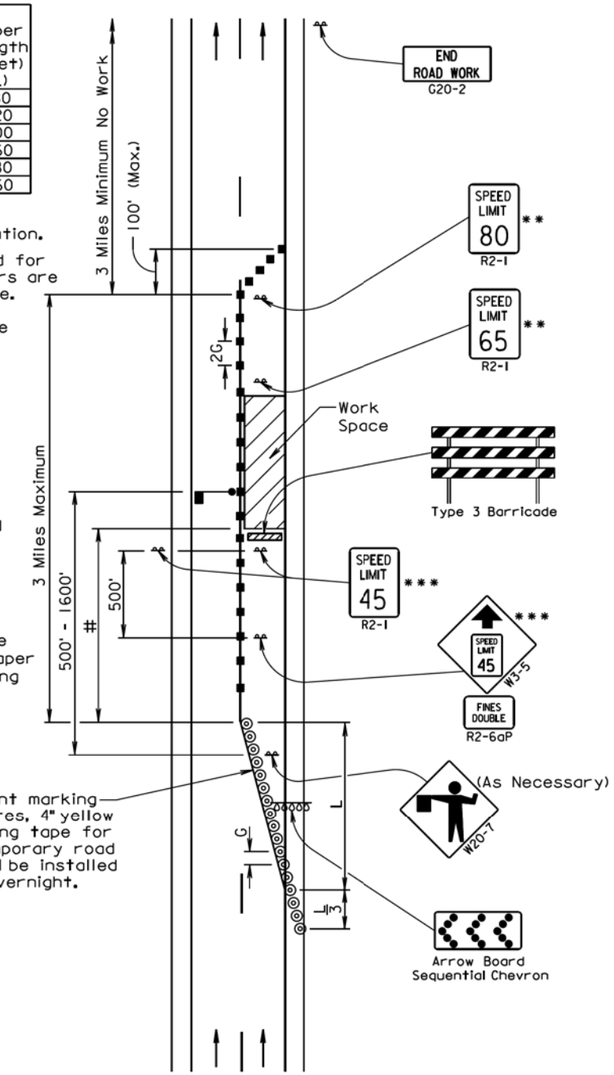
The Work Space shall be a minimum of 500' from the end of the taper.

The FLAGGER sign shall be used whenever there is a Flagger present.

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.

4" white temporary pavement marking tape for right lane closures, 4" yellow temporary pavement marking tape for left lane closures, or temporary road markers at 5' spacing shall be installed when the lane is closed overnight.



DETAIL A

April 15, 2015

Published Date: 1st Qtr. 2016

SDDOT

WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS

PLATE NUMBER 634.63

Sheet 2 of 2

PLOT SCALE - 1:160

PLOT NAME - 3

FILE - ...\MOBILEOPERATION.DGN

PLOTTED FROM - TRM11119

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B) (C)	
70 - 80	1000 1500 2640	960

Posted Speed Prior to Work (M.P.H.)	Length of Longitudinal Buffer Space (Feet)
20	115
25	155
30	200
35	250
40	305
45	360
50	425
55	495
60	570
65	645
70	730
75	820
80	910

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 65	50 *
75 - 80	50 *

* Spacing is 40' for 42" cones.

◎ Reflectorized Drum

■ Channelizing Device

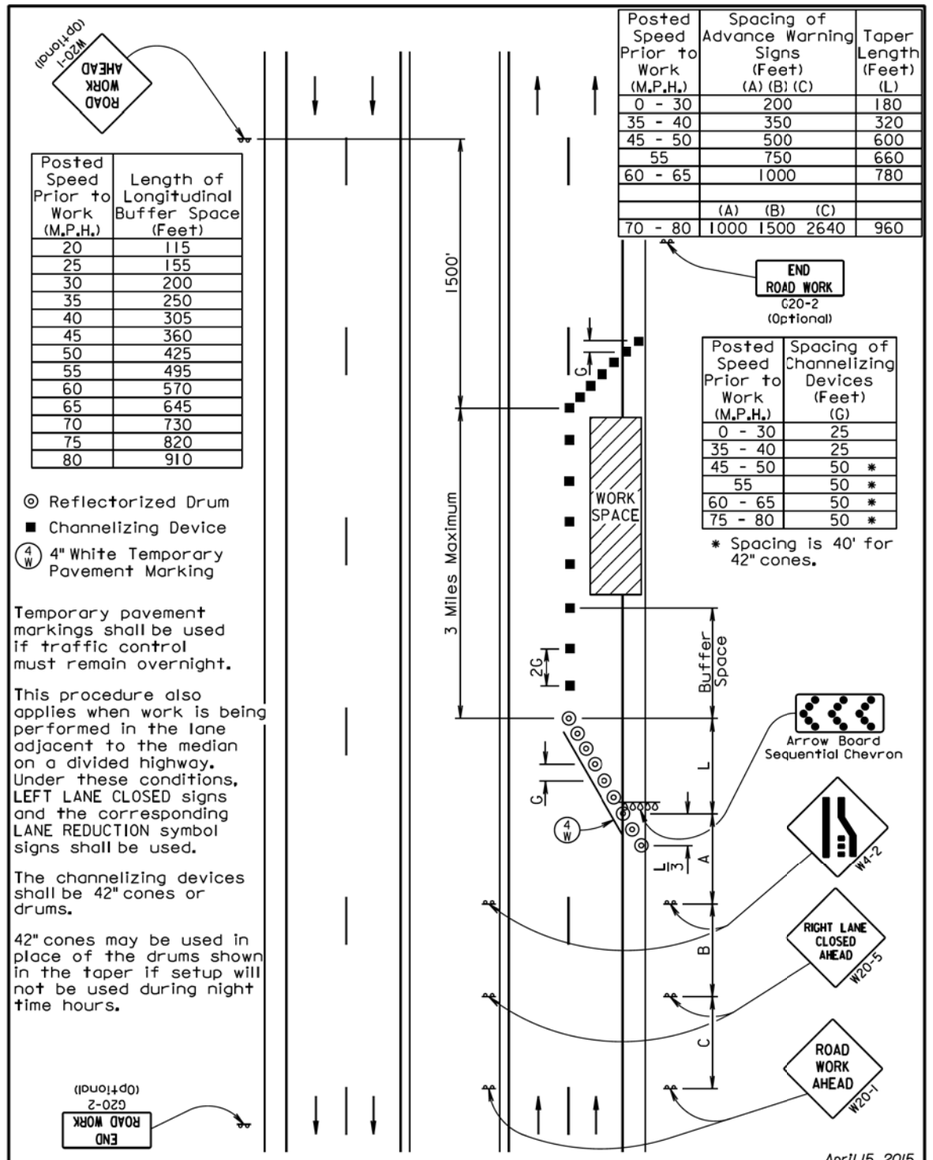
(4 W) 4" White Temporary Pavement Marking

Temporary pavement markings shall be used if traffic control must remain overnight.

This procedure also applies when work is being performed in the lane adjacent to the median on a divided highway. Under these conditions, LEFT LANE CLOSED signs and the corresponding LANE REDUCTION symbol signs shall be used.

The channelizing devices shall be 42" cones or drums.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.



April 15, 2015

Published Date: 1st Qtr. 2016

SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
LANE CLOSURE WITHOUT BARRIER

PLATE NUMBER 634.64

Sheet 1 of 1

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B)	L (Feet)
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B)	
70 - 80	1000 1500	1125

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 80	50 *

* Spacing is 40' for 42" cones.

■ Channelizing Device

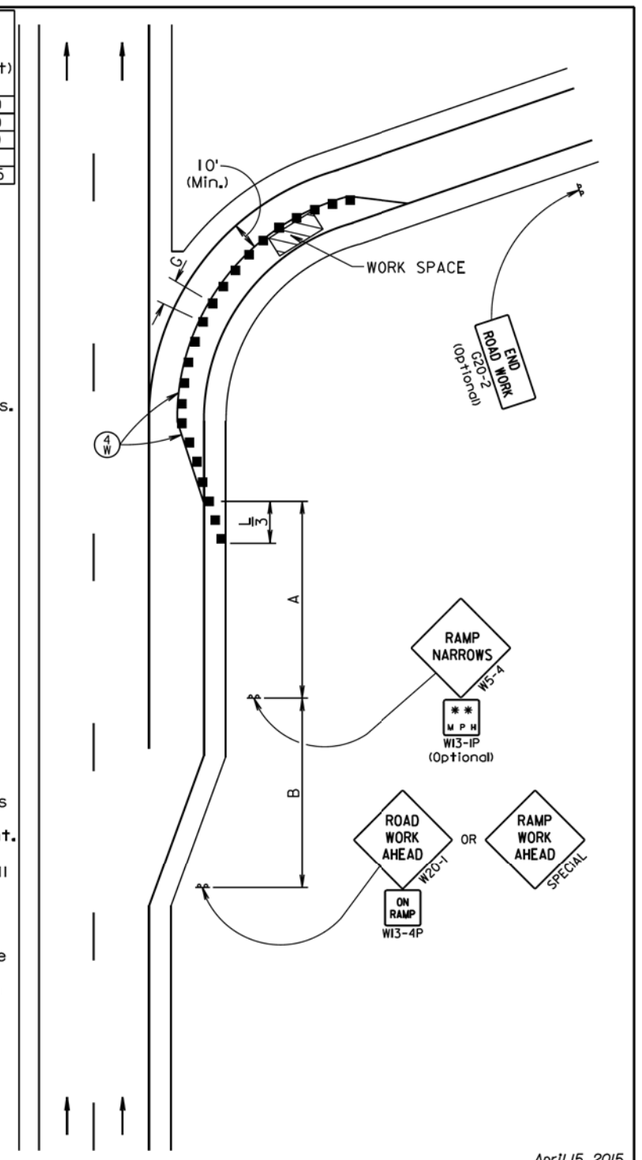
(4 W) 4" White Temporary Pavement Marking

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

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

Truck off-tracking should be considered when determining whether the 10-foot minimum lane width is adequate.



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SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES
PARTIAL EXIT RAMP CLOSURE

PLATE NUMBER 634.69

Sheet 1 of 1

PLOT SCALE - 1:160

PLOT NAME - 4

FILE - ...\MOBILEOPERATION.DGN

PLOTTED FROM - TRM111119

Posted Speed Prior to Work (M.P.H.)	Spacing of Advance Warning Signs (Feet) (A) (B) (C)	Taper Length (Feet) (L)
0 - 30	200	180
35 - 40	350	320
45 - 50	500	600
55	750	660
60 - 65	1000	780
	(A) (B) (C)	
70 - 80	1000 1500 2640	1125

Posted Speed Prior to Work (M.P.H.)	Spacing of Channelizing Devices (Feet) (G)
0 - 30	25
35 - 40	25
45 - 50	50 *
55	50 *
60 - 80	50 *

* Spacing is 40' for 42" cones.

◎ Reflectorized Drum

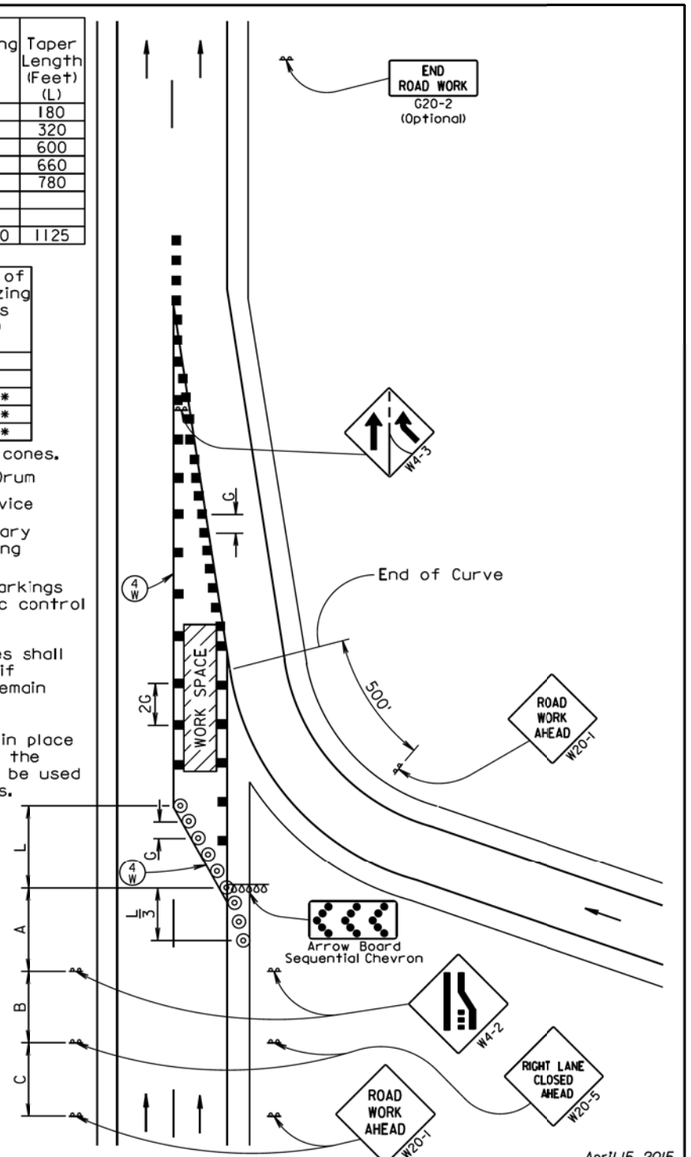
■ Channelizing Device

(4 W) 4" White Temporary Pavement Marking

Temporary pavement markings shall be used if traffic control must remain overnight.

The channelizing devices shall be drums or 42" cones if traffic control must remain overnight.

42" cones may be used in place of the drums shown in the taper if setup will not be used during night time hours.



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SDDOT

GUIDES FOR TRAFFIC CONTROL DEVICES WORK IN VICINITY OF ENTRANCE RAMP

PLATE NUMBER 634.70

Sheet 1 of 1

PLOT SCALE - 1:160

PLOTTED FROM - TRMI11119

PLOT NAME - 5

FILE - ...\MOBILEOPERATION.DGN