SECTION M: PAVEMENT MARKINGS

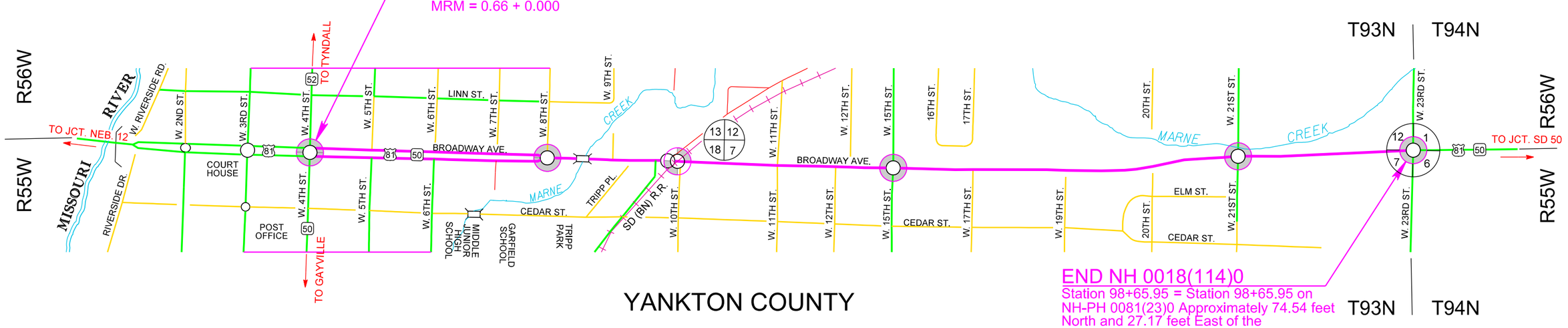
STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M1	M20

Plotting Date: 04/04/2024

INDEX OF SHEETS

BEGIN NH 0018(114)0
Station 10+80.13 = Station 10+80.13 on NH-PH 0081(23)0 Approximately 1878.55 feet North and 21.08 feet West of the Southeast corner of Section 13 - Township 93 North - Range 56 West of the 5th P.M.
MRM = 0.66 + 0.000

YANKTON



YANKTON COUNTY

END NH 0018(114)0
Station 98+65.95 = Station 98+65.95 on NH-PH 0081(23)0 Approximately 74.54 feet North and 27.17 feet East of the Northwest corner of Section 12 - Township 93 North - Range 56 West of the 5th P.M.
MRM = 0.81 + 0.000

SECTION M ESTIMATE OF QUANTITIES

BID ITEM NUMBER	ITEM	QUANTITY	UNIT
633E0210	Preformed Thermoplastic Pavement Marking, 4"	47,340	Ft
633E0225	Preformed Thermoplastic Pavement Marking, 24"	3,240	Ft
633E0230	Preformed Thermoplastic Pavement Marking, Area	19	SqFt
633E0235	Preformed Thermoplastic Pavement Marking, Arrow	98	Each
633E0250	Preformed Thermoplastic Pavement Marking, Railroad Crossing	4	Each
633E5000	Grooving for Cold Applied Plastic Pavement Marking, 4"	47,340	Ft
633E5015	Grooving for Cold Applied Plastic Pavement Marking, 24"	3,240	Ft
633E5020	Grooving for Cold Applied Plastic Pavement Marking, Area	19	SqFt
633E5025	Grooving for Cold Applied Plastic Pavement Marking, Arrow	98	Each
633E5040	Grooving for Cold Applied Plastic Pavement Marking, Railroad Crossing	4	Each

PAVEMENT MARKING PAINT

All materials will be applied as per the manufacturer's recommendations.

GROOVING FOR PREFORMED THERMOPLASTIC PLASTIC PAVEMENT MARKING

The Contractor will establish a positive means for the removal of the grinding and/or grooving residue. Residue from dry grooving will be vacuumed. Solid residue will be removed from the pavement surfaces before being blown by traffic action or wind. The Contractor will conduct this work to control and minimize airborne dust and similar debris that may become a hazard to motor vehicle operation or nuisance to property owners. Residue from wet grooving will 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, will be disposed of in a manner that will prevent it from reaching any waterway in a concentrated state. The cleaning of the residue for grooving will be to the satisfaction of the Engineer and may require more than one pass to adequately remove material. All costs for removal of grinding and/or grooving residue will be included in the contract unit price per foot or each for "Grooving for Cold Applied Plastic Pavement Marking" contract items.

PREFORMED THERMOPLASTIC PAVEMENT MARKING

General

- Made of prefabricated retroreflective, resilient thermoplastic material;
- Contains glass beads uniformly distributed through the entire cross-sectional area;
- Capable of being affixed to bituminous or concrete pavement by heating;
- Resistant to deterioration due to exposure to sunlight, water, salt, and adverse weather conditions;
- Under traffic wear, shows no appreciable fading in accordance with the color requirements, lifting, or shrinkage throughout the life of the marking;
- Capable of conforming to pavement contours, breaks, and faults through the action of traffic at normal pavement temperatures;
- Possesses resealing characteristics, such that it is capable of fusing with itself and previous thermoplastic markings when heated; and
- Protected during shipment and in storage.

Apply the preformed thermoplastic pavement marking as recommended by the manufacturer to provide a neat, durable marking that will not flow, distort, or crack due to temperature if the pavement surface remains stable. Use equipment and application methods specified by the manufacturer. Primer as required by the manufacturer will be provided with the material.

Application of the markings will include the use of any manufacturer recommended sealers. Sealers may be required on concrete pavements, inside grooves, or on older asphalt pavements. Prior to placing any markings on new concrete, the Contractor will remove any curing compounds. Removal will be by sandblasting or other standard industry methods.

Any required primers or sealers will be included in the contract unit price for the various preformed thermoplastic pavement marking items.

Provide precut messages and symbols meeting the requirements of the MUTCD and the Standard Signs Manual in custom kits. Use separate pieces or segments to form individual letters or symbols only to the extent supplied by the manufacturer. Provide shapes, sizes, and colors as required by the contract.

Color

- Will meet the color specification limits and luminance factors for Cold Applied Plastic Pavement Marking and Legends (Section 983.2 D, Tables 1 and 2).

Glass Beads

- Ensure the preformed thermoplastic pavement marking contains a minimum 30% intermixed glass beads by weight and a minimum 80% true spheres.
- Ensure preformed thermoplastic pavement markings contain only clear beads.

Skid Resistance

- Ensure the surface of the preformed thermoplastic pavement marking provides a skid resistance value of at least 45 British Pendulum Number (BPN) when tested in accordance with ASTM E303.

Retroreflectivity

- Provide preformed thermoplastic pavement marking meeting the minimum initial pavement marking retroreflectivity values using 30 m geometry and meeting the testing procedures of ASTM E1710:

Minimum Initial Pavement Marking Retroreflectivity		
	White	Yellow
Thermoplastic	400 mcd/sq. ft./ft.	250 mcd/sq. ft./ft.
Thermoplastic, enhanced skid resistance (ESR)	250 d/sq. ft./ft.	150 d/sq. ft./ft.

Thickness

- A longitudinal marking is a minimum 90 mils thick at the edges, and a maximum 125 mils thick at the center of the stripe.
- Transverse markings and symbols are a minimum 125 mils thick at the edges, and a maximum 160 mils thick at the center.

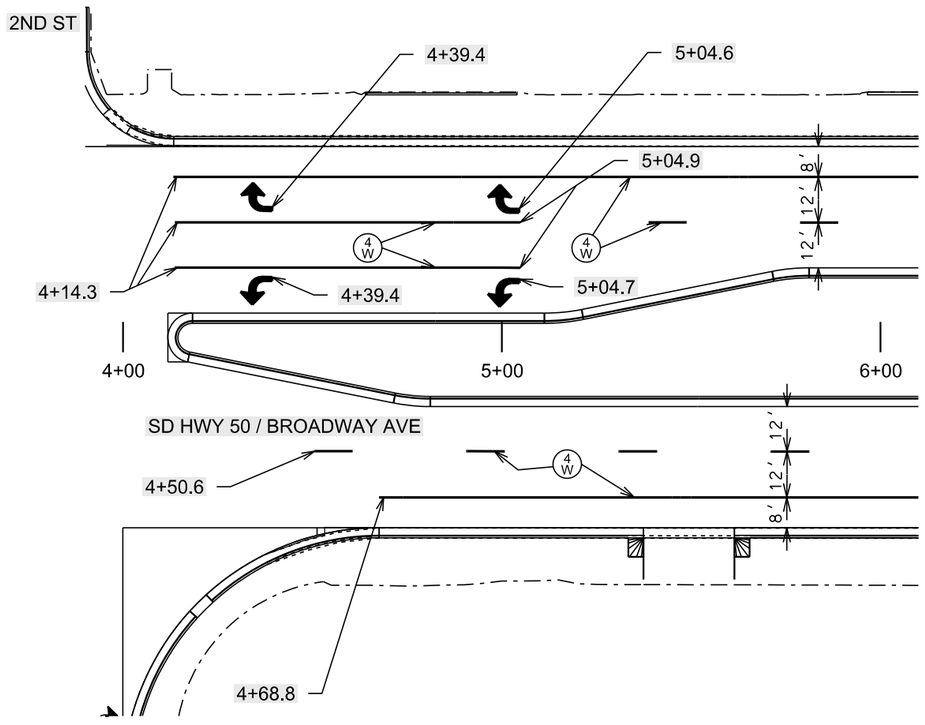
Sample

- Prior to application, the Contractor will provide a sample of the preformed thermoplastic pavement marking to be used on the project to the Region Traffic Engineer for inspection and approval.
- Do not begin application of the preformed thermoplastic pavement marking prior to obtaining the Region Traffic Engineer's approval of the preformed thermoplastic pavement marking material. The Region Traffic Engineer's approval of the preformed thermoplastic pavement marking does not void other preformed thermoplastic pavement marking requirements specified.

PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M3	M20

Plotting Date: 04/04/2024



ESTIMATE OF QUANTITIES

KEY	ITEM	EST QUANT	UNIT
4 W	Thermoplastic Pavement Marking, 4" White	26,670	FT
4 Y	Thermoplastic Pavement Marking, 4" Yellow	20,670	FT
24 W	Thermoplastic Pavement Marking, 24" White	3,160	FT
24 Y	Thermoplastic Pavement Marking, 24" Yellow	80	FT
	Preformed Thermoplastic Pavement Marking, Arrow (Left - 79, Right -19)	98	EACH
	Preformed Thermoplastic Pavement Marking, Railroad Crossing	4	EACH
SA Y	Area Yellow	19	SQ FT
	Grooving For Preformed Thermoplastic Pavement Marking, Railroad Crossing	4	EACH
	Grooving For Area Yellow	19	SQ FT
	Grooving For Thermoplastic Pavement Marking, 4"	47,340	FT
	Grooving For Thermoplastic Pavement Marking, 24"	3,240	FT
	Grooving For Thermoplastic Pavement Marking, Arrow (Left - 79 , Right - 19)	98	EACH

Plot Scale - 1:40

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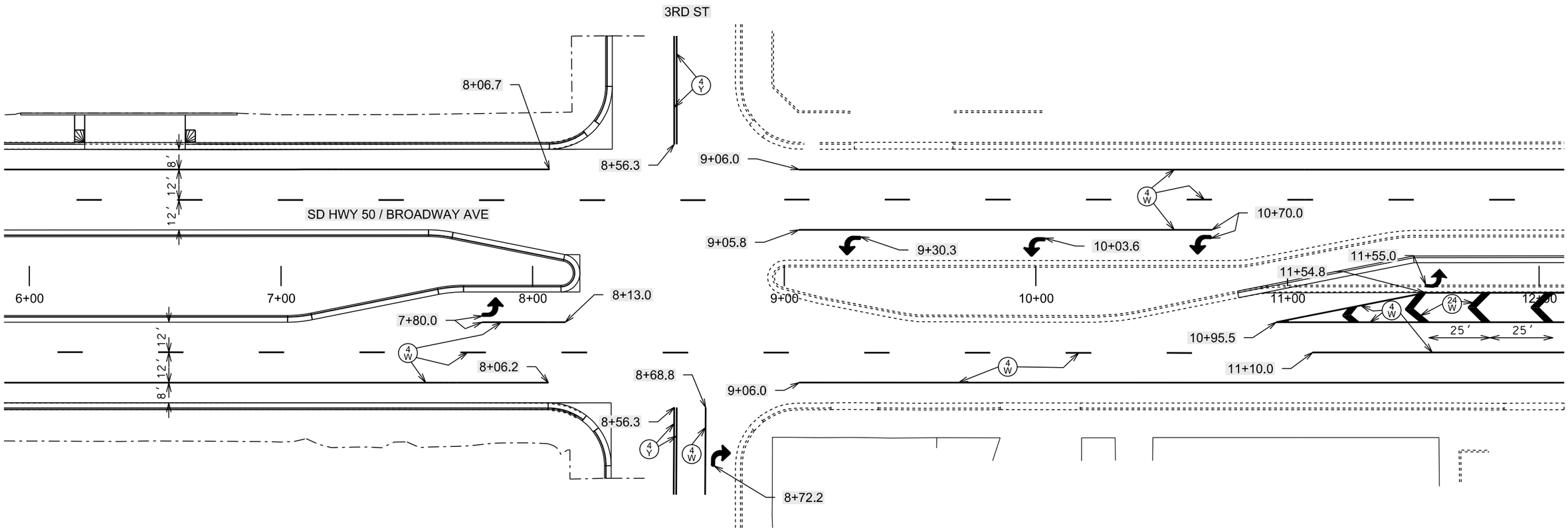
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M4	M20

Plotting Date: 04/04/2024



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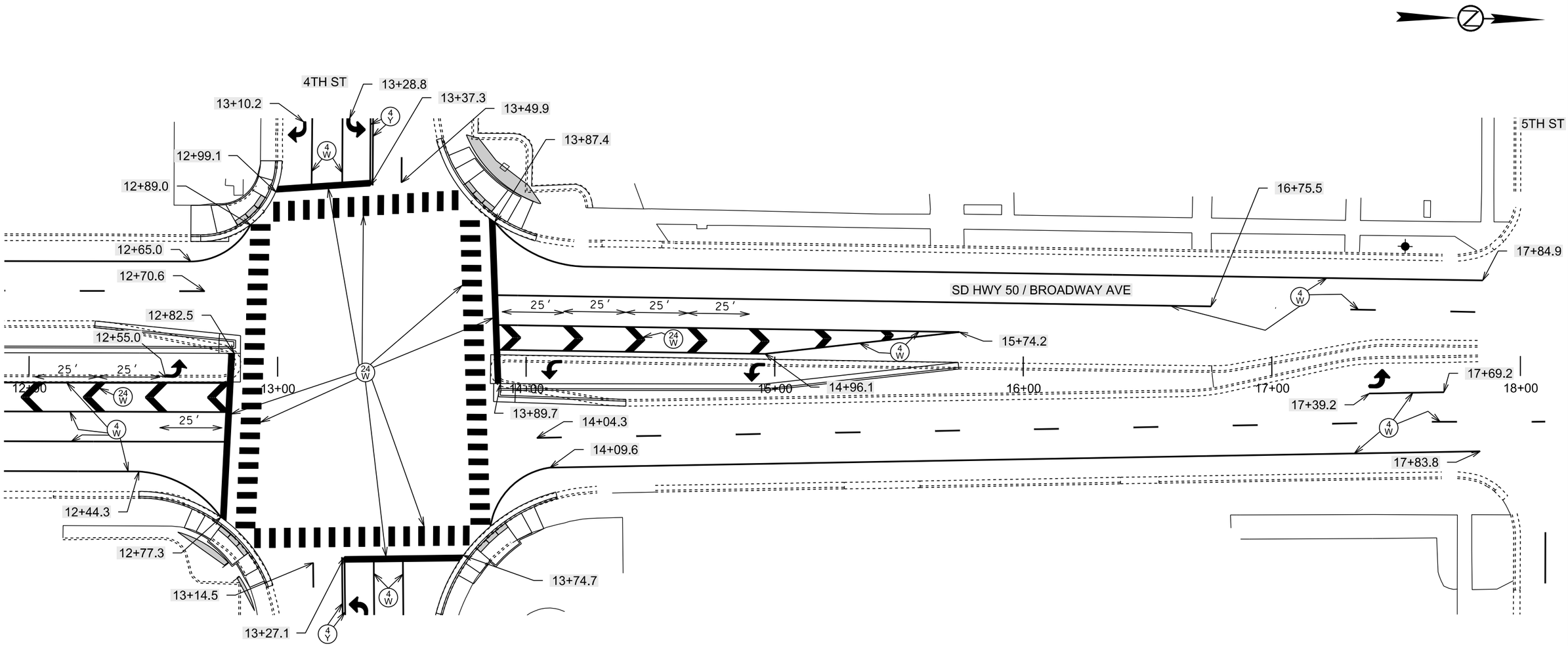
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE & 4TH ST

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M5	M20

Revised 3/21/2024 - RR



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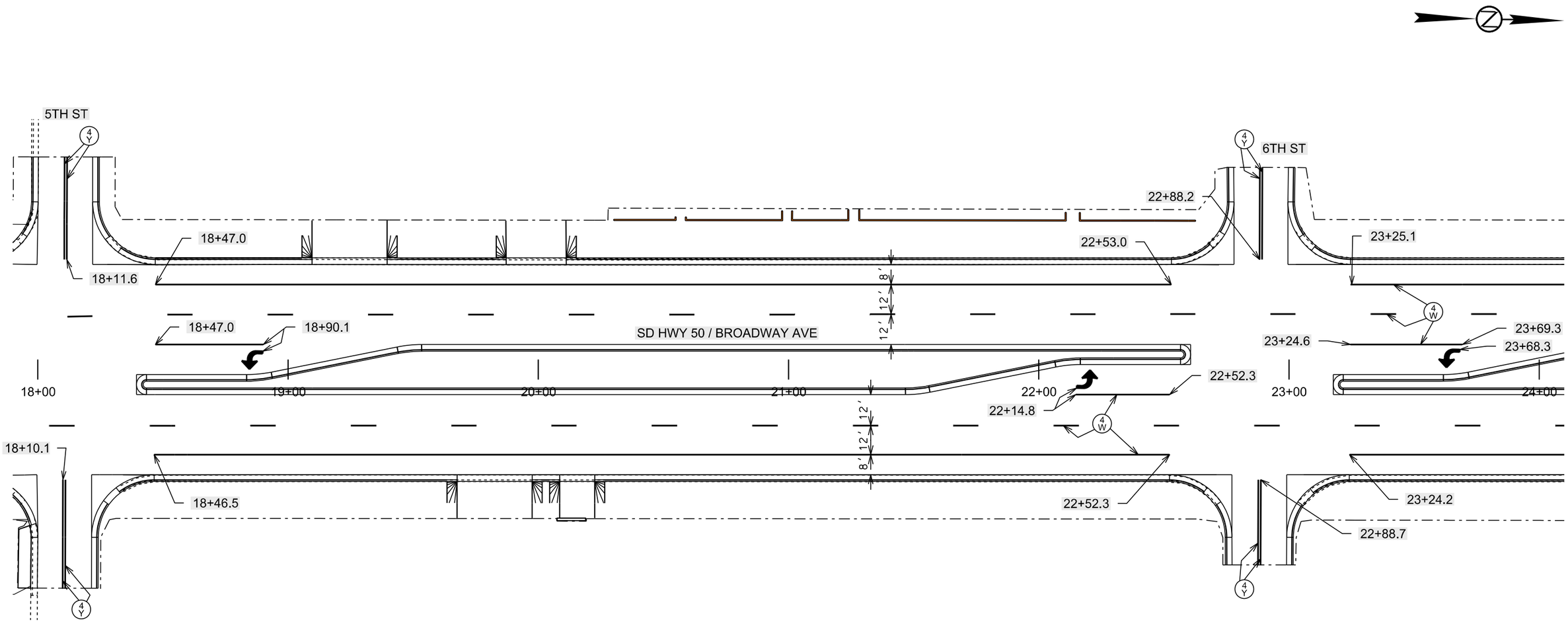
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M6	M20

Plotting Date: 04/04/2024



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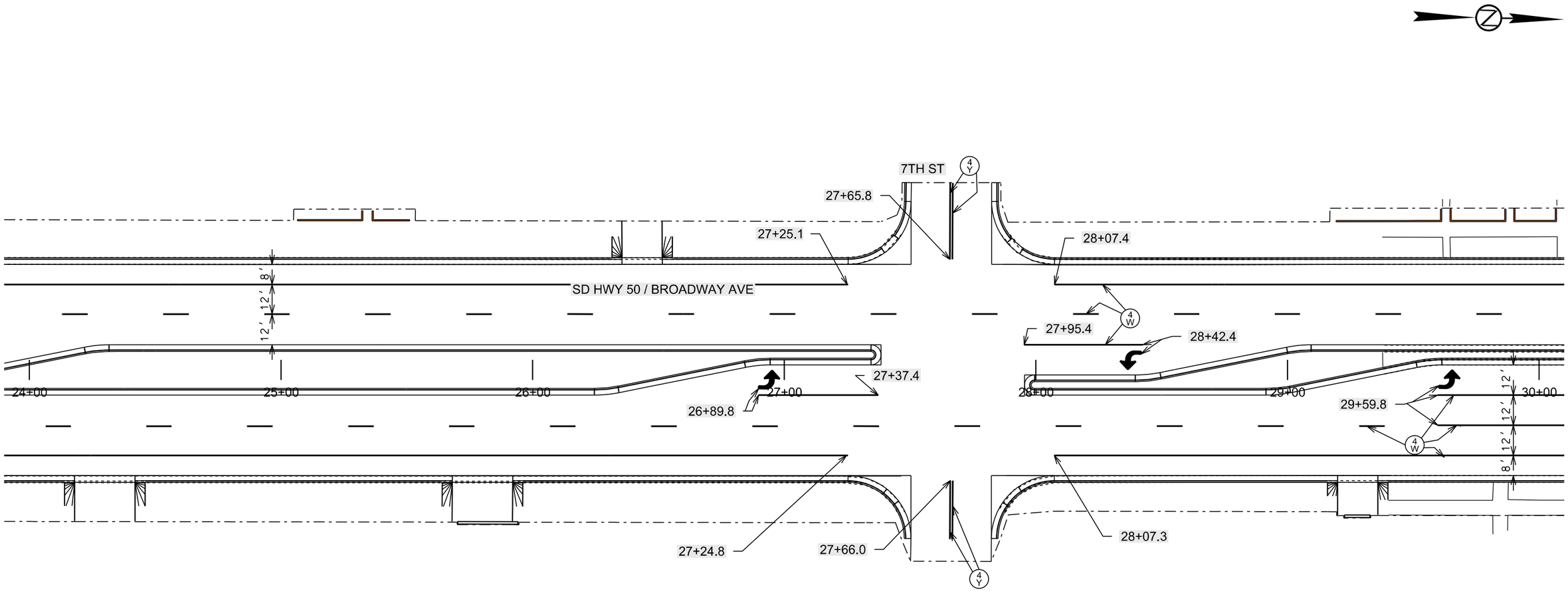
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M7	M20

Plotting Date: 04/04/2024



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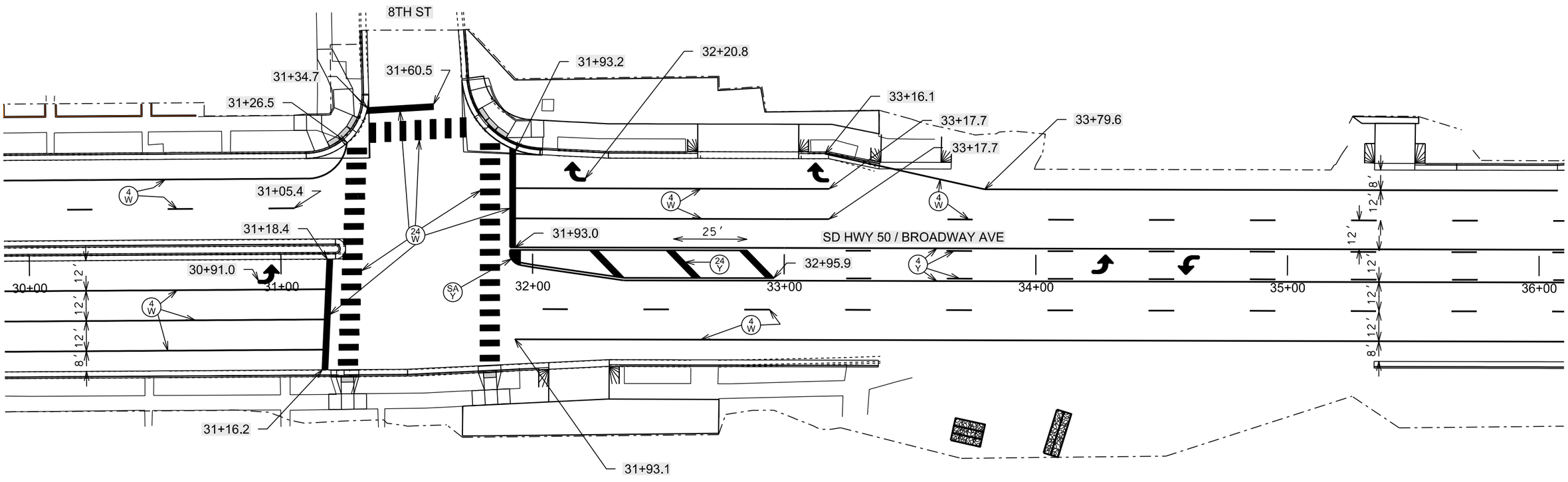
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M8	M20

Plotting Date: 04/04/2024



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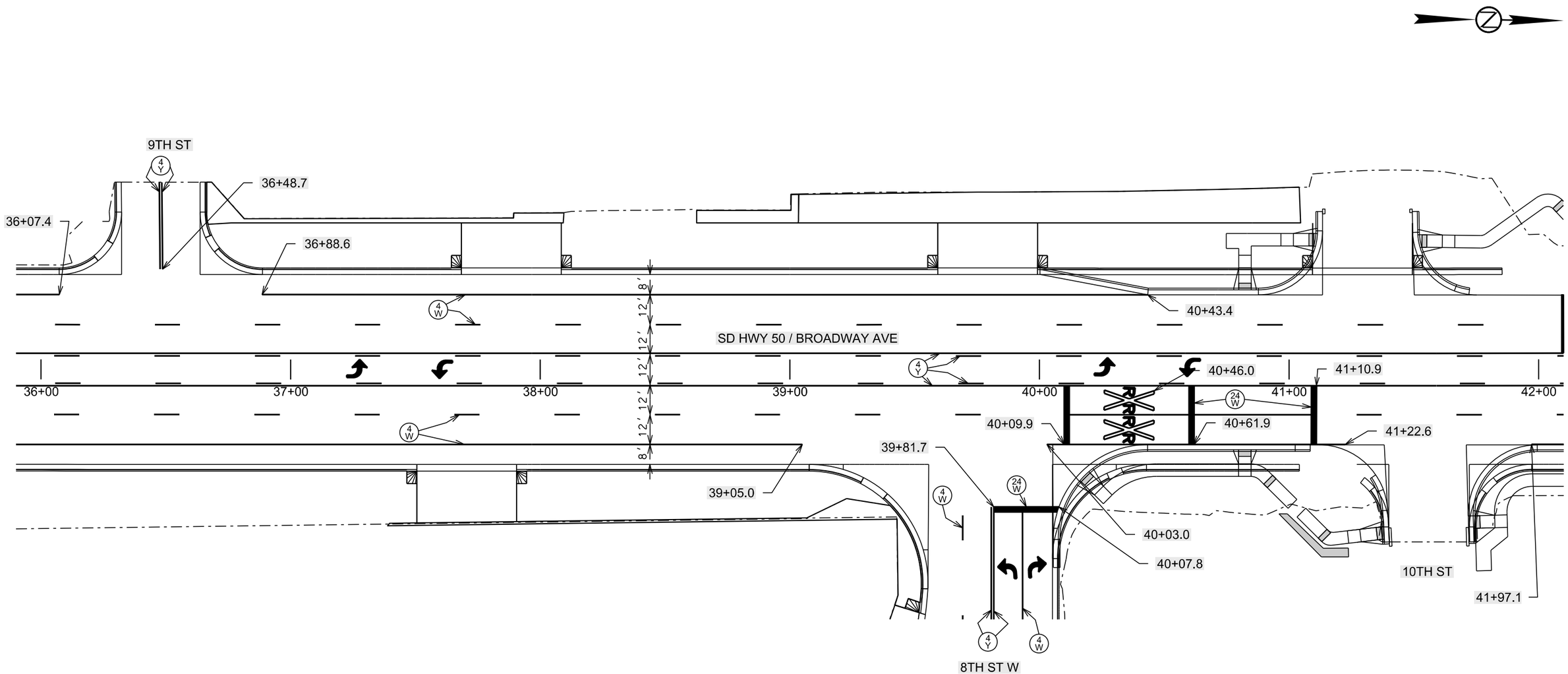
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M9	M20

Plotting Date: 04/04/2024



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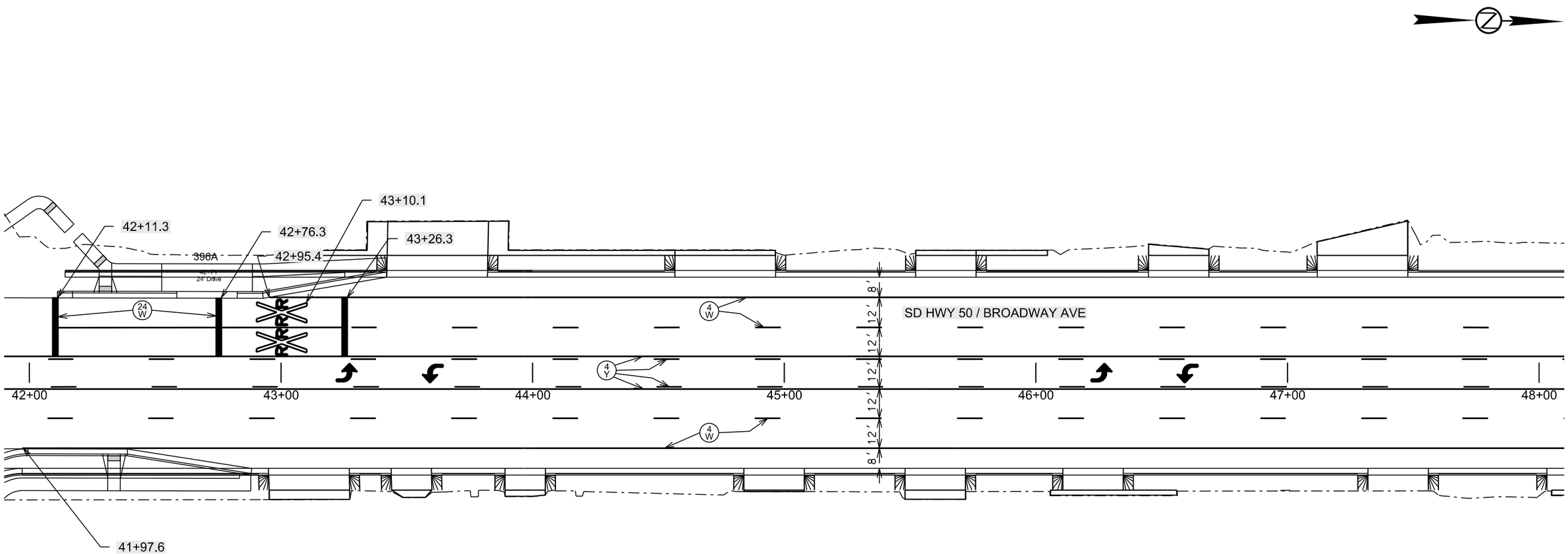
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M10	M20

Plotting Date: 04/04/2024



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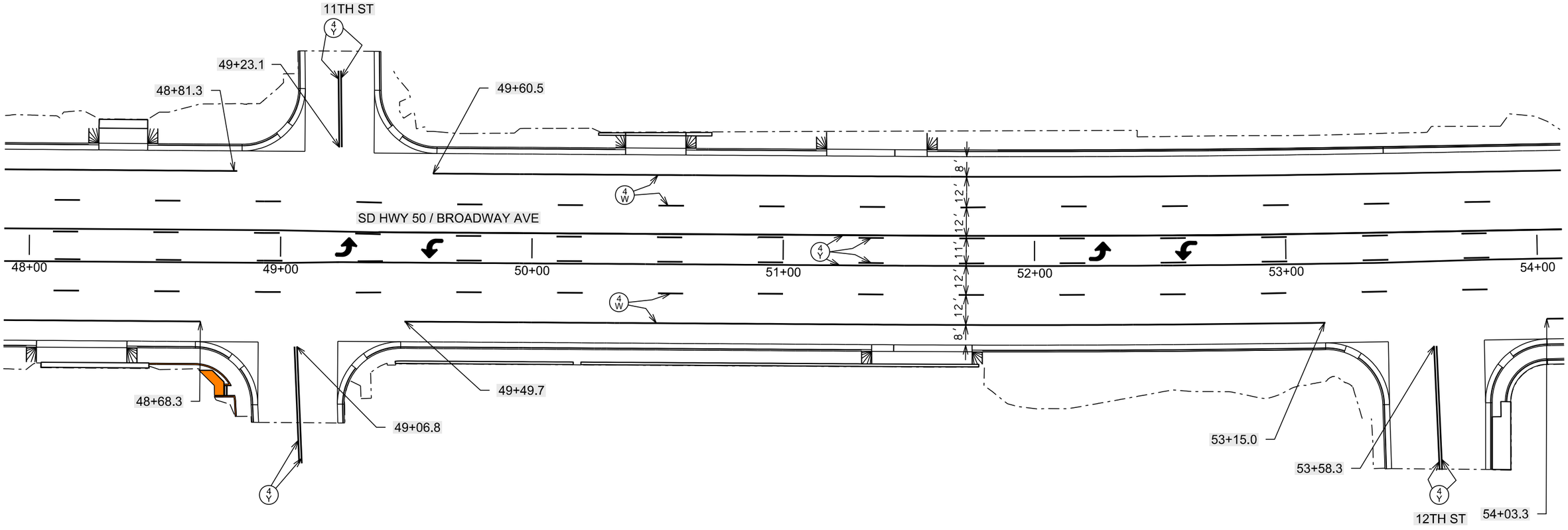
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M11	M20

Plotting Date: 04/04/2024



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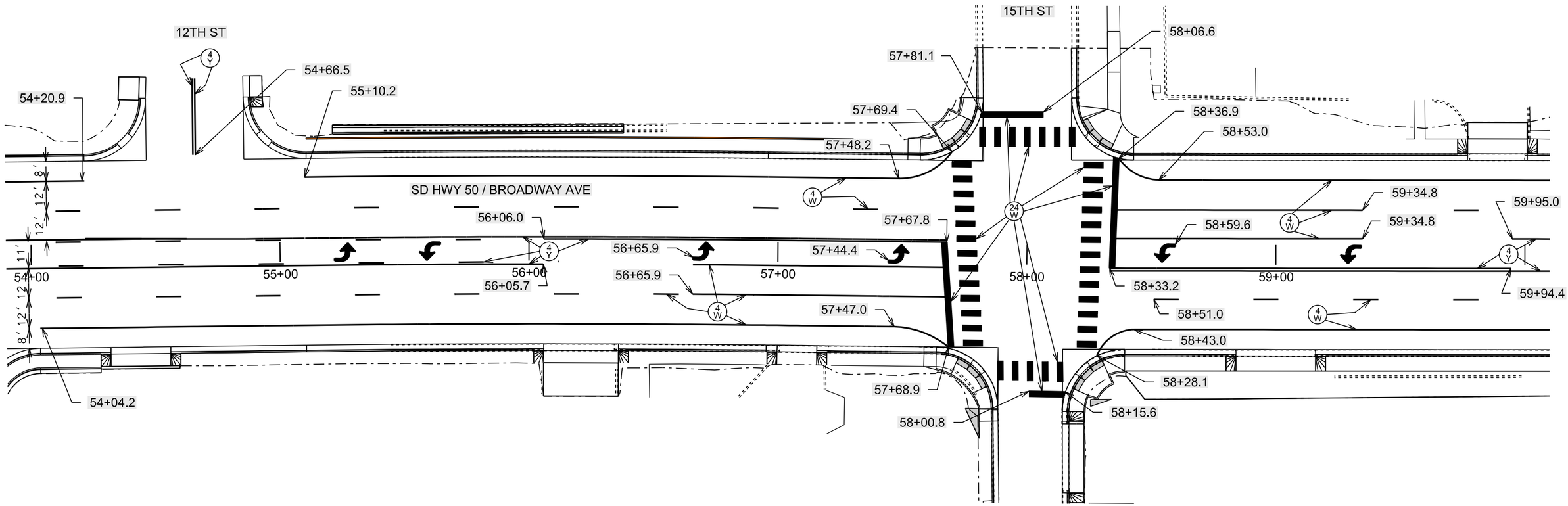
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M12	M20

Plotting Date: 04/04/2024



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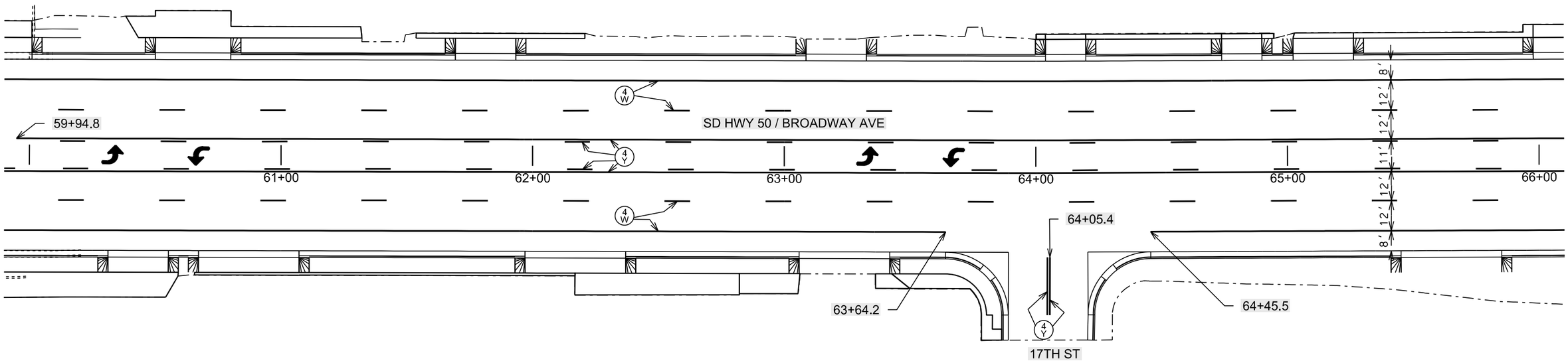
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M13	M20

Plotting Date: 04/04/2024



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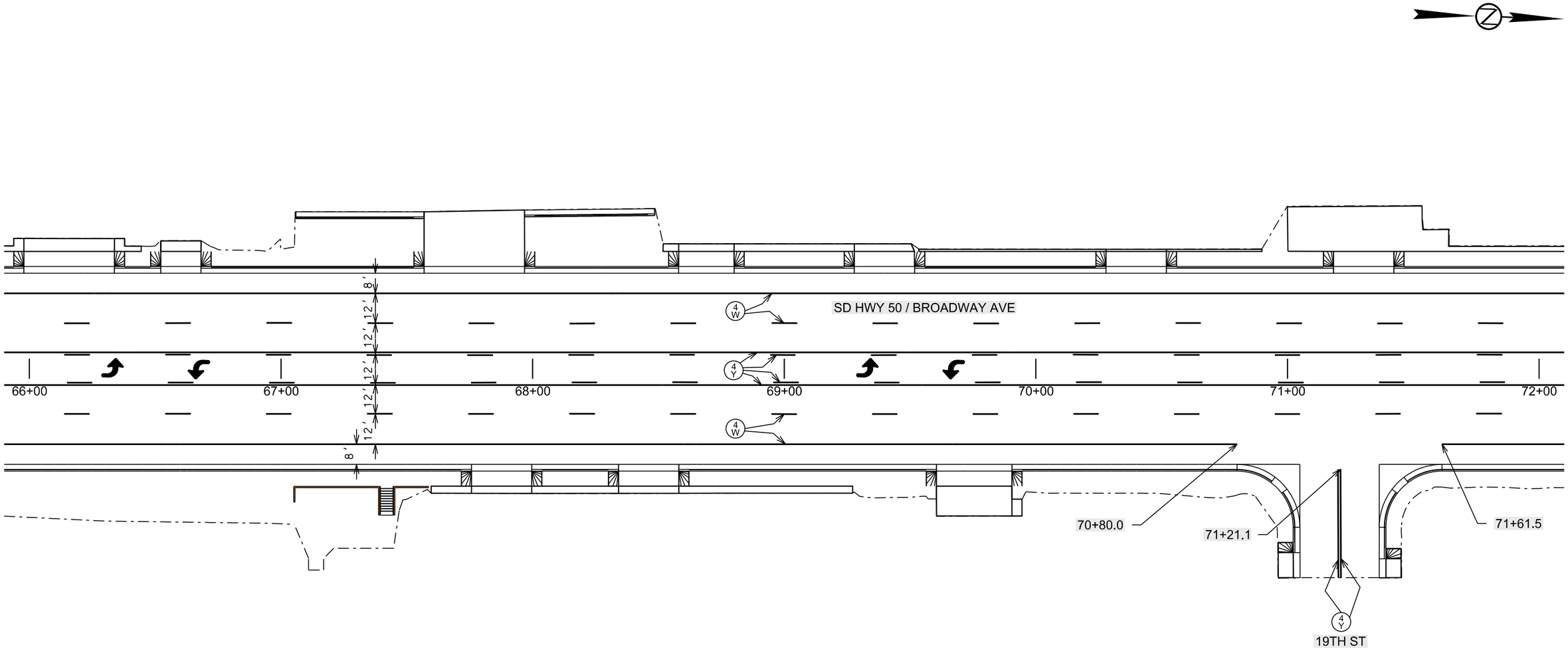
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M14	M20

Plotting Date: 04/04/2024



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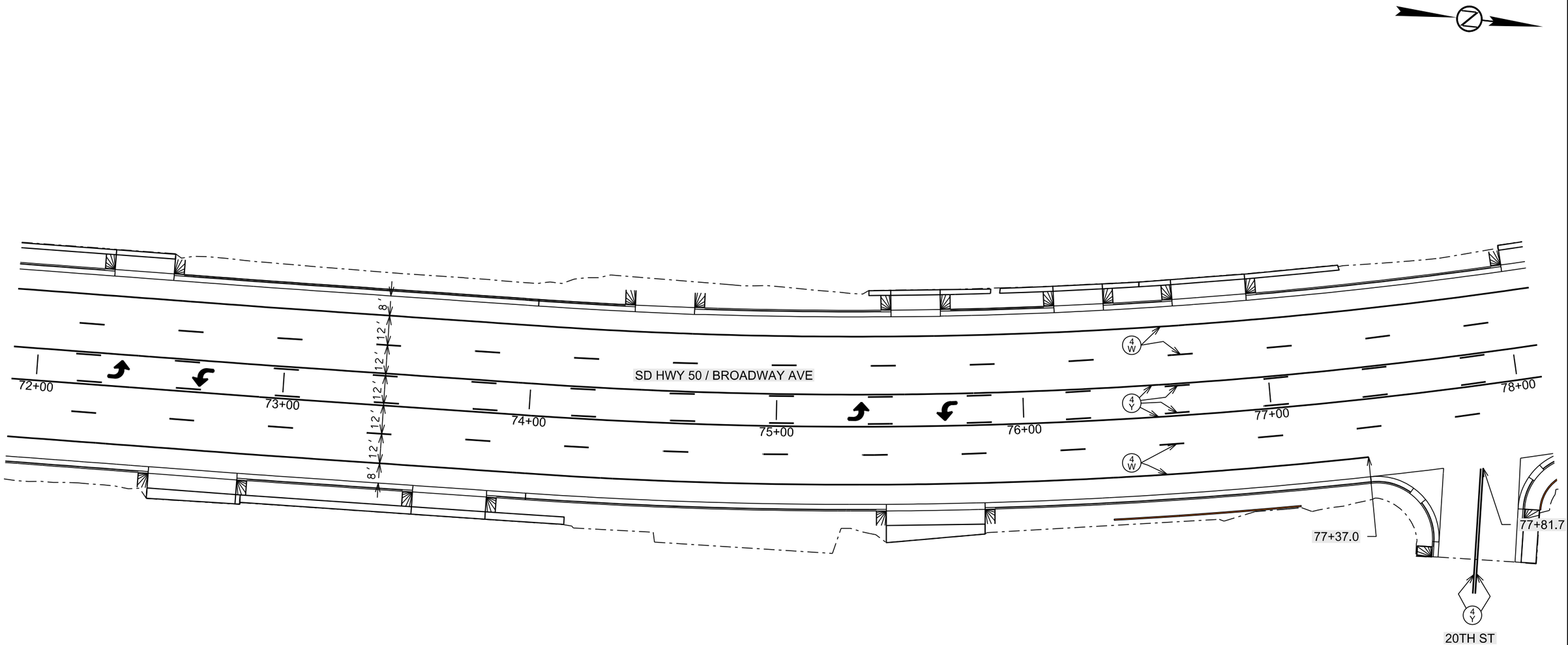
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M15	M20

Plotting Date: 04/04/2024



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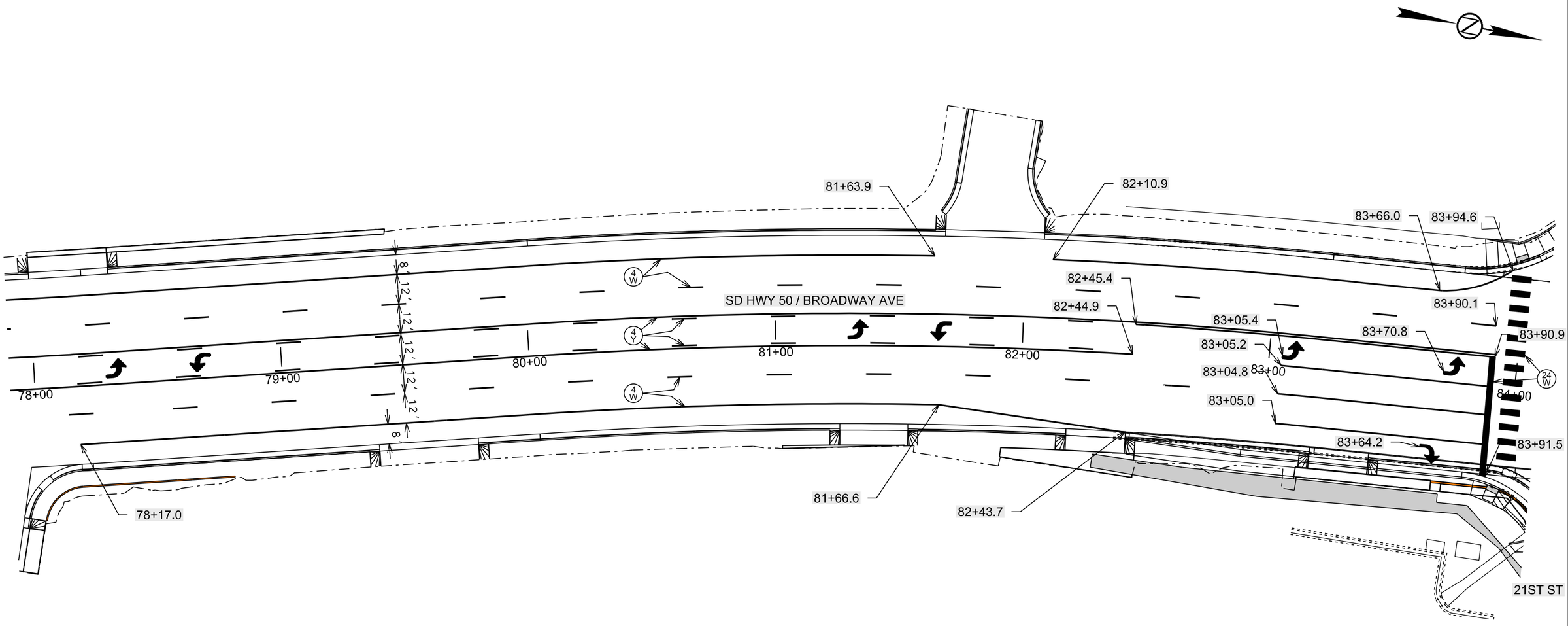
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M16	M20

Plotting Date: 04/04/2024



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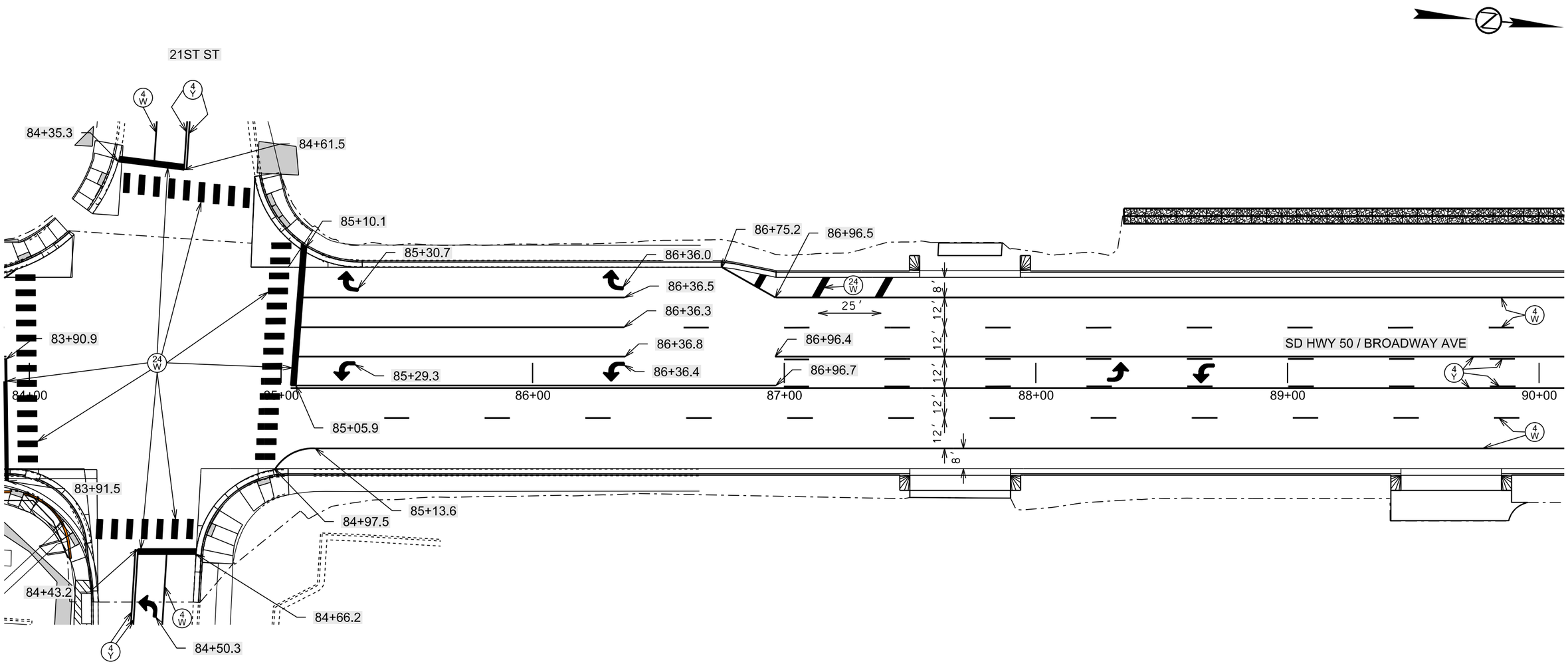
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M17	M20

Plotting Date: 04/04/2024



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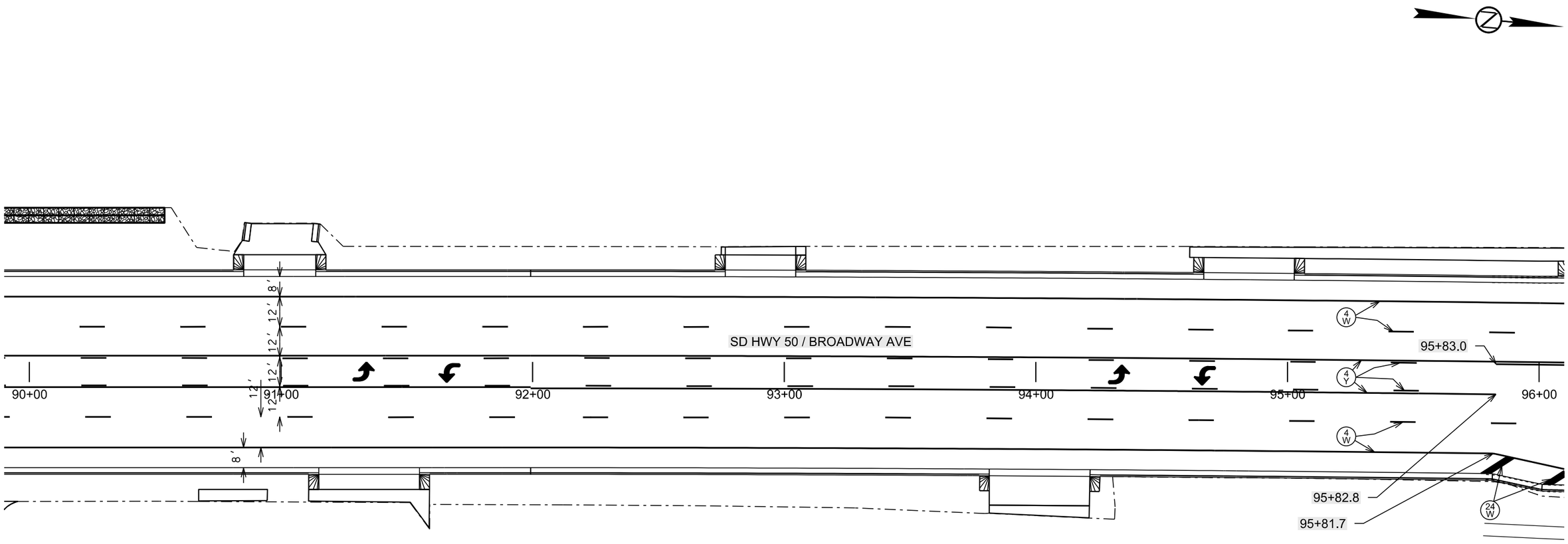
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M18	M20

Plotting Date: 04/04/2024



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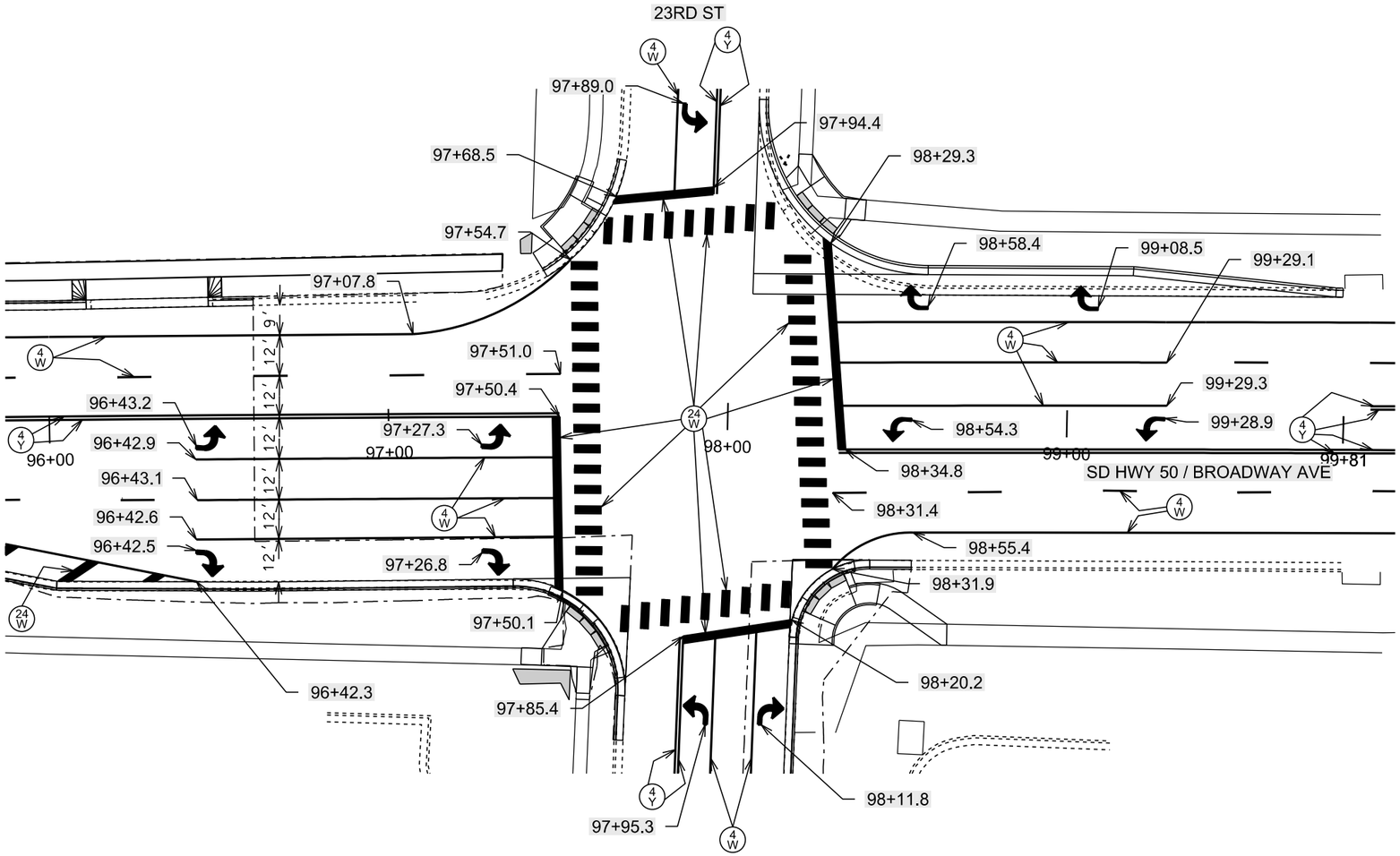
PAVEMENT MARKINGS
SD HWY 50 / BROADWAY AVE

STATE OF SOUTH DAKOTA	PROJECT	SHEET	TOTAL SHEETS
	NH 0081(114)0	M19	M20

Plotting Date: 04/04/2024



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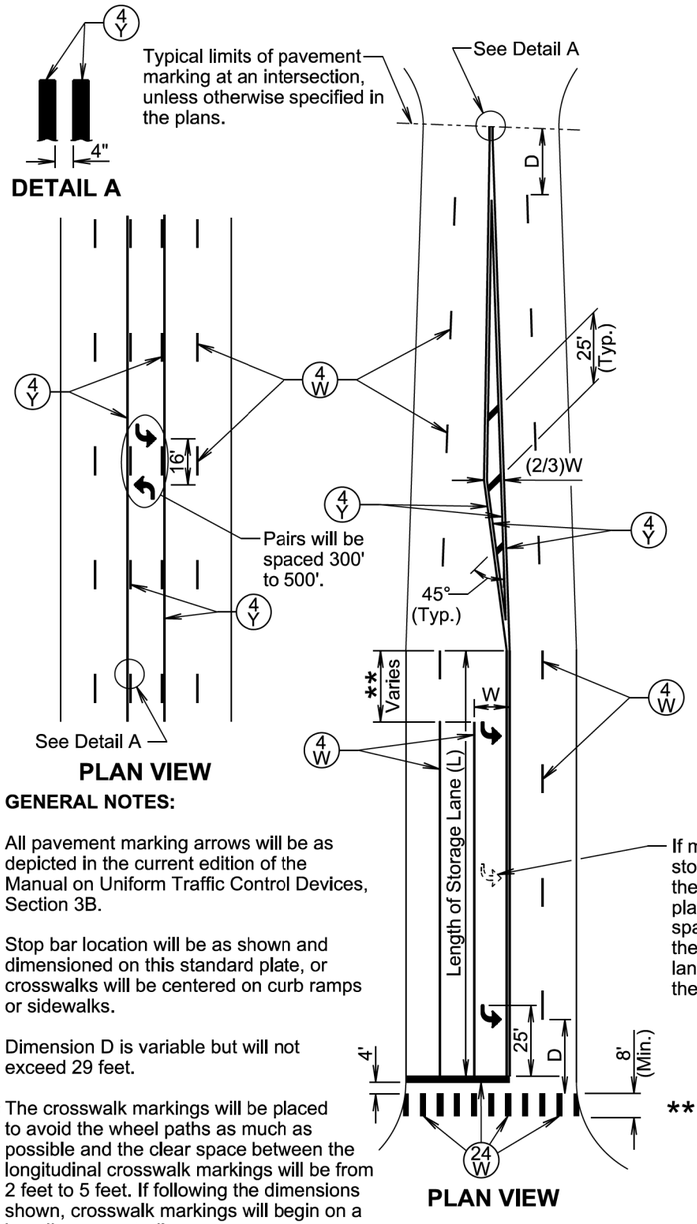
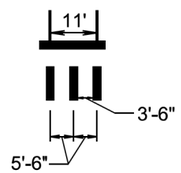


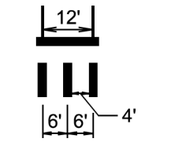
DETAIL A

PLAN VIEW

KEY	ITEM
4 W	4" White
4 Y	4" Yellow
12 W	12" White
24 W	24" White
24 Y	24" Yellow
	Arrow



***CROSSWALK MARKING**
(11' Lane Width)



***CROSSWALK MARKING**
(12' Lane Width)

GENERAL NOTES:

All pavement marking arrows will be as depicted in the current edition of the Manual on Uniform Traffic Control Devices, Section 3B.

Stop bar location will be as shown and dimensioned on this standard plate, or crosswalks will be centered on curb ramps or sidewalks.

Dimension D is variable but will not exceed 29 feet.

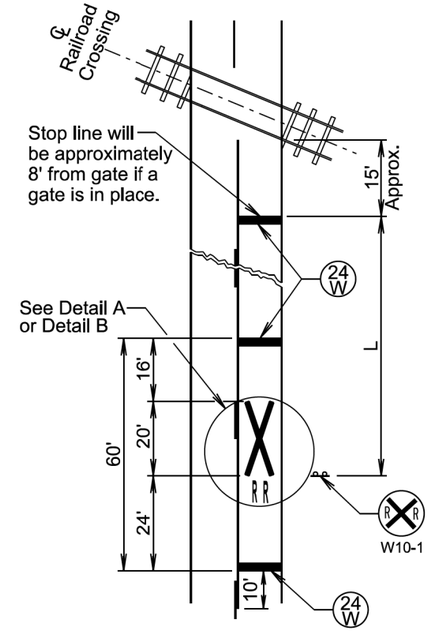
* The crosswalk markings will be placed to avoid the wheel paths as much as possible and the clear space between the longitudinal crosswalk markings will be from 2 feet to 5 feet. If following the dimensions shown, crosswalk markings will begin on a lane line or centerline.

If more than 2 arrows per storage lane are shown, then the additional arrows will be placed at approximately equal spaces between the arrow at the beginning of the storage lane and the arrow nearest the stop bar.

** The length of the gap will be as shown elsewhere in the plans.

September 22, 2021

Published Date: 2024	SDDOT	PAVEMENT MARKINGS FOR ADJACENT INTERSECTIONS AND CENTER TURN LANE	PLATE NUMBER 633.01
			Sheet 1 of 1



PLAN VIEW

KEY	ITEM
24 W	24" White
R R	White

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

GENERAL NOTES:

The railroad crossing pavement markings will be placed symmetrically about the centerline of the railroad crossing. DETAIL A should be used unless the railroad crossing pavement markings are installed in existing grooves that match DETAIL B.

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

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

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

All costs for furnishing and installing the markings, materials, labor, and necessary equipment for the railroad crossing makings will be paid for at the contract unit price per gallon or per each for the type of marking material specified in the plans.

November 19, 2020

Published Date: 2024	SDDOT	PAVEMENT MARKINGS AT RAILROAD CROSSING	PLATE NUMBER 633.10
			Sheet 1 of 2