

Plot Scale - 1:200

Plotted From - TRRC12608

STATE OF SOUTH DAKOTA
DEPARTMENT OF TRANSPORTATION

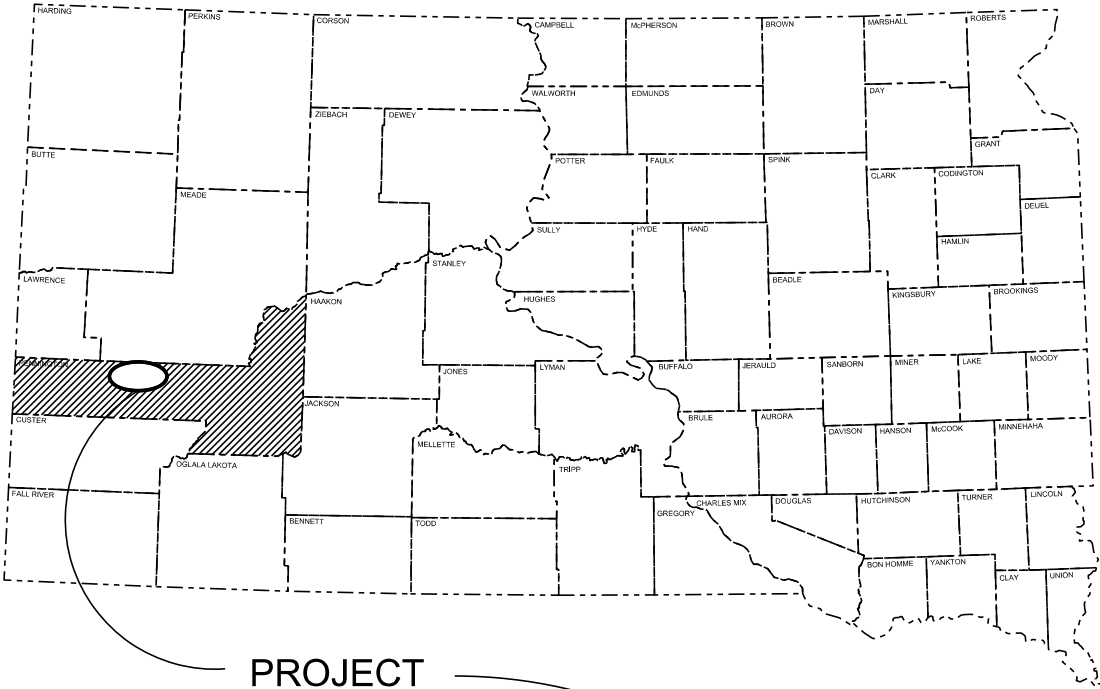
PLANS FOR PROPOSED
PROJECT 090 E-452
PENNINGTON COUNTY
INTERSTATE 90 E
ASPHALT REPAIR
PCNS i5p4

| STATE OF SOUTH DAKOTA | PROJECT | SHEET | TOTAL SHEETS |
|-----------------------------|-----------|-------|-----------------|
| | 090 E-452 | 1 | 11 |

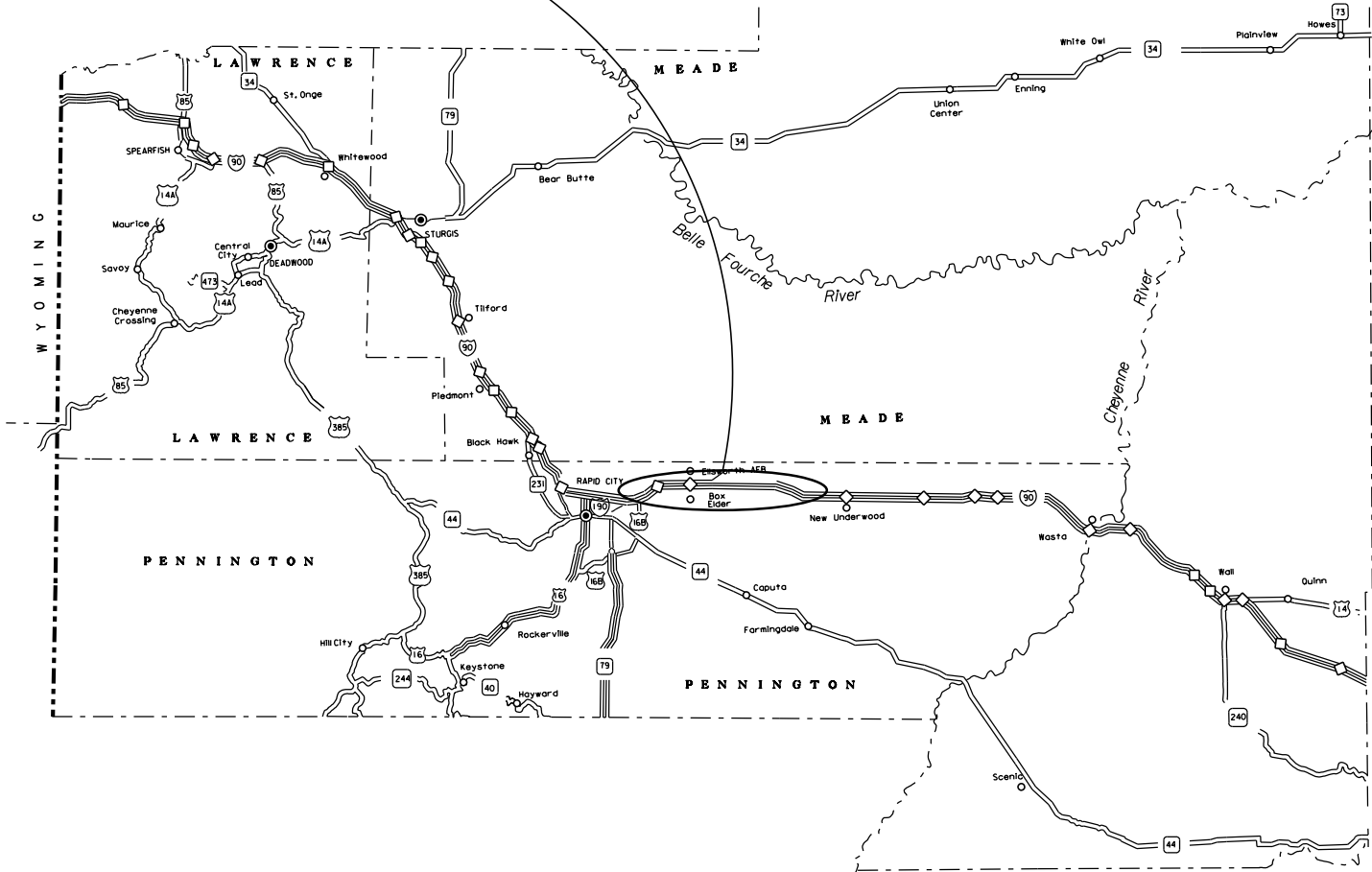
Plotting Date: 06/10/2020

INDEX OF SHEETS

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| 1 | General Layout with Index |
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PROJECT
I-90 E
MRM 65.76 to MRM 75.62



STORM WATER PERMIT
None Required
DESIGN DESIGNATION
090 E-452 PCN i5p4 I-90 E
AADT (2018) 8115
AADT (2038) 10476
DHV 1142
D% 51%
DHV T% 5.5%
AADT T% 12.0%
V mph 75

ESTIMATE OF QUANTITIES

| BID ITEM NUMBER | ITEM | QUANTITY | UNIT |
|-----------------|---|----------|------|
| 009E0010 | Mobilization | Lump Sum | LS |
| 110E1010 | Remove Asphalt Concrete Pavement | 224.0 | SqYd |
| 120E0010 | Unclassified Excavation | 354 | CuYd |
| 260E1010 | Base Course | 334.2 | Ton |
| 320E1200 | Asphalt Concrete Composite | 393.9 | Ton |
| 332E0010 | Cold Milling Asphalt Concrete | 311 | SqYd |
| 633E0010 | Cold Applied Plastic Pavement Marking, 4" | 30 | Ft |
| 633E1220 | High Build Waterborne Pavement Marking Paint, 4" White | 100 | Ft |
| 633E1222 | High Build Waterborne Pavement Marking Paint, 4" Yellow | 100 | Ft |
| 633E5000 | Grooving for Cold Applied Plastic Pavement Marking, 4" | 30 | Ft |
| 634E0010 | Flagging | 100.0 | Hour |
| 634E0110 | Traffic Control Signs | 572.0 | SqFt |
| 634E0120 | Traffic Control, Miscellaneous | Lump Sum | LS |
| 634E0275 | Type 3 Barricade | 2 | Each |
| 634E0420 | Type C Advance Warning Arrow Board | 2 | Each |
| 634E0640 | Temporary Pavement Marking | 230 | Ft |

SPECIFICATIONS

Standard Specifications for Roads and Bridges, 2015 Edition and Required Provisions, Supplemental Specifications, and Special Provisions as included in the Proposal.

ENVIRONMENTAL COMMITMENTS

The SDDOT is committed to protecting the environment and uses Section A Environmental Commitments as a communication tool for the Engineer and Contractor to ensure that attention is given to avoid, minimize, and/or mitigate an environmental impact. Environmental commitments to various agencies and the public have been made to secure approval of this project. An agency with permitting authority can delay a project if identified 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.

Additional guidance on SDDOT's Environmental Commitments can be accessed through the Environmental Procedures Manual found at: <https://dot.sd.gov/media/documents/EnvironmentalProceduresManual.pdf>

For questions regarding change orders in the field that may have an effect on an Environmental Commitment, the Project Engineer will contact the Environmental Office at 605-773-3098 or 605-773-4336 to determine whether an environmental analysis and/or resource agency coordination is necessary.

COMMITMENT B2: WHOOPING CRANE

The Whooping Crane is a spring and fall migratory bird in South Dakota that is about 5 feet tall and typically stops on wetlands, rivers, and agricultural lands along their migration route. An adult Whooping Crane is white with a red crown and a long, dark, pointed bill. Immature Whooping Cranes are cinnamon brown. While in flight, their long necks are kept straight and their long dark legs trail behind. Adult Whooping Cranes' black wing tips are visible during flight.

Action Taken/Required:

Harassment or other measures to cause the Whooping Crane to leave the site is a violation of the Endangered Species Act. If a Whooping Crane is sighted roosting in the vicinity of the project, borrow pits, or staging areas associated with the project, cease construction activities in the affected area until the Whooping Crane departs and immediately contact the Project Engineer. The Project Engineer will contact the Environmental Office so that the sighting can be reported to USFWS.

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.

WASTE DISPOSAL SITE

The Contractor will 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 Public ROW.

The waste disposal site(s) will be managed and reclaimed in accordance with the following from the General Permit for 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) will 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 Environmental Office and the Project Engineer.

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

1. Construction and/or demolition debris consisting of concrete, asphalt concrete, or other similar materials will be buried in a trench completely separate from wood debris. The final cover over the construction and/or demolition debris will consist of a minimum of 1 foot of soil capable of supporting vegetation. Waste disposal sites provided outside of the Public ROW will be seeded in accordance with Natural Resources Conservation Service recommendations. The seeding recommendations may be obtained through the appropriate County NRCS Office. The Contractor will control the access to waste disposal sites not within the Public ROW with 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.

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) will be incidental to the various contract items.

COMMITMENT I: HISTORICAL PRESERVATION OFFICE CLEARANCES

State Historical Preservation Office (SHPO or THPO) concurrence has not been obtained for this project.

Action Taken/Required:

All earth disturbing activities not designated within the plans require a cultural resource review prior to scheduling the pre-construction meeting. This work includes, but is not limited to: Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas.

The Contractor will arrange and pay for a record search and when necessary, a cultural resource survey. 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 if the site was previously surveyed; however, a cultural resources survey may need to be conducted by a qualified archaeologist.

The Contractor will provide ARC with the following: a topographical map or aerial view of 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 will submit the cultural resources survey report to SDDOT Environmental Office, 700 East Broadway Avenue, Pierre, SD 57501-2586. 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.

In the event of an inadvertent discovery of human remains, funerary objects, or if evidence of cultural resources is identified during project construction activities, then such activities will immediately cease and the Project Engineer will be immediately notified. The Project Engineer will contact the SDDOT Environmental Office to determine an appropriate course of action.

The Contractor is responsible for obtaining any additional permits and clearances for Contractor furnished material sources, material processing sites, stockpile sites, storage areas, plant sites, and waste areas that affect wetlands, threatened and endangered species, or waterways. The Contractor will not utilize a site known or suspected of having contaminated soil or water. The Contractor will provide the required permits and clearances to the Project Engineer at the preconstruction meeting.

COMMITMENT K: RAPID CITY AREA AIR QUALITY CONTROL ZONE

Administrative Rule of South Dakota (ARSD) 74:36:18:03 states that "no state facility or state contractor may engage in any construction activity or continuous operation activity within the Rapid City air quality control zone which may cause fugitive emissions of particulate to be released into the ambient air without first obtaining a permit issued by the board or the secretary."

Construction activity is defined as any temporary activity which involves the removal or alteration of the natural or pre-existing cover of one acre or more of land. One acre of surface area is based on a cumulative area of disturbance to be completed for the entire project. Construction activity will include, but not be limited to, stripping of topsoil, drilling, blasting, excavation, dredging, ditching, grading, street maintenance and repair, or earth moving. It also includes stockpiles, access roads, and disposal areas. An off-site disposal area of excess material will require an additional permit.

Action Taken/Required:

To be considered eligible for authorization to conduct a construction activity under the terms and conditions of this permit, the owner operator must submit a Notice of Intent (NOI) form. The form must be submitted to the address below at least seven business days prior to the anticipated date of beginning the construction activity.

South Dakota Department of Environment and Natural Resources Air Quality Program, 523 East Capitol, Joe Foss Building, Pierre, SD 57501-3181, Phone: 605-773-3151.

The permit requires the Contractor to use reasonably available technology to control fugitive dust emissions. The Contractor is required to use control measures for track out, paved areas, unpaved roads, unpaved parking lots, disturbed areas, and for material handling and storage. The control measures that the Contractor is required to use are listed in the permit.

The Rapid City Air Quality Permit will need to be renewed annually by the Contractor until construction activities are completed.

The online form can be found at: <http://denr.sd.gov/des/aq/airpermits.aspx>

COLD MILLING

The removed material from the Cold Milling operation shall be properly disposed of by the Contractor.

The Contractor shall provide temporary asphalt ramps with a 50:1 transition at all locations where traffic is transitioning from a milled to a paved surface and vice versa. All costs associated with this work shall be incidental to the various bid items on the project

EXCAVATION OF MATERIAL

Backfill of excavated areas shall be 6" of Base Course and 6" Asphalt Concrete Composite paid for at the contract unit price per ton.

Compaction of Base Course will be to the Satisfaction of the Engineer.

Excess unclassified excavation will be considered waste.

ASPHALT CONCRETE COMPOSITE

Locations and quantities of asphalt repair are subject to change. The exact locations will be determined in the field by the Engineer. The Engineer reserves the right to adjust quantities and/or add locations at no additional cost to the state.

SURFACING THICKNESS DIMENSIONS

Plans tonnage will be applied even though the thickness may vary from that shown in the plans. At those locations where material must be placed to achieve a required elevation for smoothness, plans tonnage may be varied to achieve the required elevation.

| Table of Material Quantities | | | | | | | | | | | | | | | | |
|------------------------------|-------|-----------------------|--------|-------|------|-------------------------------|----------------------------|----------------------------------|-------------------------|-------------|----------------------------|-----------------------------------|-----------------------------------|---------------------------------------|---------------------------------------|---|
| Location | MRM | Type of Repair | Length | Width | | Cold Milling Asphalt Concrete | Asphalt Concrete Composite | Remove Asphalt Concrete Pavement | Unclassified Excavation | Base Course | Temporary Pavement Marking | Applied Plastic Pavement Marking, | for Cold Applied Plastic Pavement | Waterborne Pavement Marking Paint, 4" | Waterborne Pavement Marking Paint, 4" | Comments |
| | | | Ft | Ft | SqFt | (SqYd) | (Ton) | (SqYd) | (CuYd) | (Ton) | (Ft) | (Ft) | (Ft) | (Ft) | (Ft) | |
| I-90 E | 65.76 | Mill 2" and Overlay | 100 | 28 | 2800 | 311.1 | 35.7 | | | | 230 | 30 | 30 | 100 | 100 | Off End Railroad Bridge |
| I-90 E | 66.34 | Maintenance Crossover | | | 4948 | | 185.6 | 224 | 183.3 | 173.2 | | | | | | 12" Unclassified Excavation, 6" Base Course, 6" Asphalt |
| I-90 E | 69.46 | Maintenance Crossover | | | 2500 | | 93.8 | | 92.6 | 87.5 | | | | | | 12" Unclassified Excavation, 6" Base Course, 6" Asphalt |
| I-90 E | 75.62 | Maintenance Crossover | | | 2100 | | 78.8 | | 77.8 | 73.5 | | | | | | 12" Unclassified Excavation, 6" Base Course, 6" Asphalt |
| Total | | | | | | 311.1 | 393.9 | 224 | 353.7 | 334.2 | 230 | 30 | 30 | 100 | 100 | |

GENERAL TRAFFIC CONTROL

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

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

All temporary speed limit signs will have a minimum mounting height of 5 feet in rural locations, even when mounted on portable supports. Portable sign supports will not be located on sidewalks, bicycle facilities, or other areas designated for pedestrian or bicycle traffic.

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

If there is a discrepancy between the traffic control plans, standard plates, and the MUTCD, whichever is more stringent will be used, as determined by the Engineer.

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

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

Fixed location signing placed more than 4 calendar days prior to the start of construction will be covered or laid down until the time of construction. The covers must be approved by the Engineer prior to installation. The cost of materials, labor, and equipment necessary to complete this work will be incidental to other contract items. No separate payment will be made.

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

All haul trucks will be equipped with an additional flashing amber light that is visible from the backside of the haul truck. The costs for the flashing amber lights will be incidental to the various related contract bid items.

At no time will a vertical drop-off of greater than 3 inches be left overnight adjacent to the traveled way. The Contractor will utilize embankment material to ensure a 3-inch vertical drop-off is not exceeded. The slope of the embankment material will not be steeper than a 4:1 within 30 feet of the traveled way.

Traffic will be maintained on the driving lanes. Use of the shoulder as a driving lane will not be permitted. Any damage to the shoulder due to rerouted traffic or Contractor's equipment will be repaired at no expense to the Department. The Contractor will furnish, install, maintain, and remove TRUCK CROSSING (W8-6) signs daily. The TRUCK CROSSING signs will be displayed always when haul vehicles are hauling material. When hauling conditions no longer exist, the signs will be covered or removed from view. The exact number and location will be determined during construction. Payment for additional signs will be based on the contract unit price per square foot for "Traffic Control Signs".

Construction vehicles will exit or enter the construction work zone at locations identified by the Engineer. At no time will construction vehicles utilize the maintenance crossovers or the Interstate median to exit or enter Interstate traffic.

GROOVED PAVEMENT (W8-15) signs with MOTORCYCLE (W8-15P) plaques are required in advance of areas that have been cold milled and are not resurfaced the same day. The GROOVED PAVEMENT sign assemblies will be installed a minimum of 1000 feet in advance of cold milled sections and remain in place until the sections have been resurfaced.

A mobile work operation will be allowed provided the rumble strip or rumble stripe grooving, flush sealing, and pavement marking can be completed satisfactorily by a continuously moving work operation. A mobile work operation will require approval by the Engineer.

A Type 3 Barricade will be installed at the end of a lane closure taper as detailed in these plans.

Traffic shall only be allowed on a milled surface for a maximum of 14 days.

ITEMIZED LIST OF TRAFFIC CONTROL DEVICES

| | | EXPRESSWAY / INTERSTATE | | | |
|-----------|----------------------------------|--|-----------|---------------|------|
| SIGN CODE | SIGN DESCRIPTION | NUMBER | SIGN SIZE | SQFT PER SIGN | SQFT |
| R2-1 | SPEED LIMIT 45 | 2 | 36" x 48" | 12.0 | 24.0 |
| R2-1 | SPEED LIMIT 55 | 4 | 36" x 48" | 12.0 | 48.0 |
| R2-1 | SPEED LIMIT 65 | 2 | 36" x 48" | 12.0 | 24.0 |
| R2-6aP | FINES DOUBLE (plaque) | 2 | 36" x 24" | 6.0 | 12.0 |
| W3-5 | SPEED REDUCTION AHEAD (45 MPH) | 2 | 48" x 48" | 16.0 | 32.0 |
| W3-5 | SPEED REDUCTION AHEAD (65 MPH) | 4 | 48" x 48" | 16.0 | 64.0 |
| W4-2 | LEFT or RIGHT LANE ENDS (symbol) | 4 | 48" x 48" | 16.0 | 64.0 |
| W8-6 | TRUCK CROSSING | 4 | 48" x 48" | 16.0 | 64.0 |
| W8-11 | UNEVEN LANES | 4 | 48" x 48" | 16.0 | 64.0 |
| W20-1 | ROAD WORK AHEAD | 4 | 48" x 48" | 16.0 | 64.0 |
| W20-5 | LEFT or RIGHT LANE CLOSED AHEAD | 4 | 48" x 48" | 16.0 | 64.0 |
| W20-7 | FLAGGER (symbol) | 2 | 48" x 48" | 16.0 | 32.0 |
| G20-2 | END ROAD WORK | 2 | 48" x 24" | 8.0 | 16.0 |
| | | EXPRESSWAY / INTERSTATE TRAFFIC CONTROL SIGNS SQFT | | | |
| | | 572.0 | | | |

TEMPORARY PAVEMENT MARKING

Temporary flexible vertical markers (tabs) will be used to mark dashed centerline, No Passing Zones, and applicable lane lines. Paint will not be allowed for temporary pavement marking on the asphalt concrete wear course or after application of the flush seal.

Covers on the tabs will be sufficiently secured to prevent traffic from dislodging the cover and when removed, the covers will be properly disposed of. The Contractor will remove and properly dispose of the tabs after permanent pavement marking is applied. Method of removal will be nondestructive to the road surface and will be accomplished within one week of completion of the permanent pavement marking.

In the absence of a signed lane closure or pilot car operation, FLAGGER (W20-7) symbol signs and flaggers, or a shadow vehicle with rotating yellow lights or strobe lights will be positioned on the shoulder in advance of workers for both directions of traffic during the installation and removal of the temporary flexible vertical markers (tabs). The traffic control device used will be moved intermittently to provide proper warning of the work operation. A ROAD WORK AHEAD (W20-1) sign, a WORKER (W21-1) symbol sign or a BE PREPARED TO STOP (W3-4) sign will be mounted on the rear of the shadow vehicle. The method of traffic control used by the Contractor for this work must be approved by the Engineer.

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PERMANENT PAVEMENT MARKING

Cold Applied Pavement Marking, where provided, is to be used for centerline striping.

The Contractor will be required to repaint all existing pavement markings including centerline, edge line, and lane lines. This list is approximate. The cost to duplicate the existing marking locations will be incidental to the contract unit prices for the various contract bid items.

HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

All materials will be applied as per manufacturer’s recommendations.

This material will consist of a durable high build, low VOC, fast drying, waterborne traffic paint with a 100% acrylic polymer (Arkema DT-400, Dow HD-21A, or equivalent). The Contractor will provide certification that the material is one of the following products or an equivalent as approved by the Operations Traffic Engineer:

- Diamond Vogel's Waterborne High Build Polymer Marking Paint
- Ennis-Flint’s High Build Polymer Marking Paint

No further testing of this material will be required. Reflective media will consist of glass beads.

High Build Waterborne Pavement Marking Paint applied after October 15 must be formulated as cold-weather waterborne paint. Cold weather waterborne paint will meet the requirements of Section 980.1 B.

RATES OF MATERIALS FOR HIGH BUILD WATERBORNE PAVEMENT MARKING PAINT

Solid 4” line = 22.5 Gals/Mile
Glass Beads = 8 Lbs/Gal.

All cost for materials, labor and equipment necessary to furnish and install the pavement markings will be incidental to the contract unit price for the respective High Build Waterborne Pavement Marking Paint items.

RETROREFLECTIVITY FOR PAVEMENT MARKING PAINT

The Department may take retroreflectivity readings on the pavement marking lines after 2 days and within 30 days of the line application using either a portable or mobile retroreflectometer that conforms to 30-meter geometry. If the Department chooses to take retroreflectivity readings, three retroreflectivity readings will be taken on each line at each test location. The three readings will be averaged and become the reading for that test location.

If the Department chooses to take retroreflectivity readings, three readings will be taken on the edge lines and lane lines in the direction of application. For combination solid yellow and skip yellow lines for turn lanes and for centerline markings on two-way roadways, three readings will be taken in one direction, the reflectometer will be turned 180 degrees and three more readings will be taken. The six readings for the centerline markings will be averaged and become the test reading for that test location.

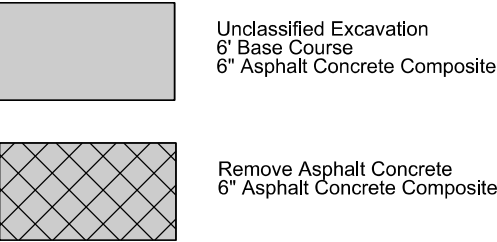
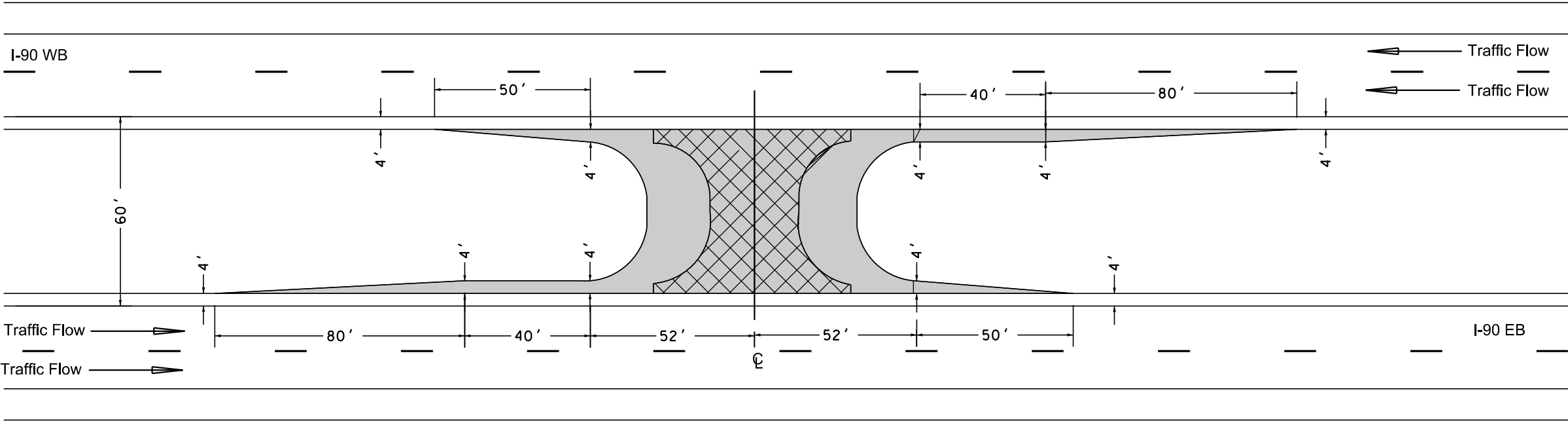
If the Department chooses to take readings, the minimum retroreflectivity values will be 275 mc/m²/lux for white and 170 mc/m²/lux for yellow.

INTERSTATE CROSSOVER

I-90 MRM 66.34

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Gravel generated by unclassified excavation maybe used for the widening areas.

The Contractor will grade the new asphalt locations such that positive drainage will be maintained.
Grading will be to the satisfaction of the Engineer.

PLOT SCALE - 1"=40'

PLOTTED FROM - TRRC12608

PLOT NAME - 2

FILE - ... \HP TURNAROUND LAYOUT.DGN

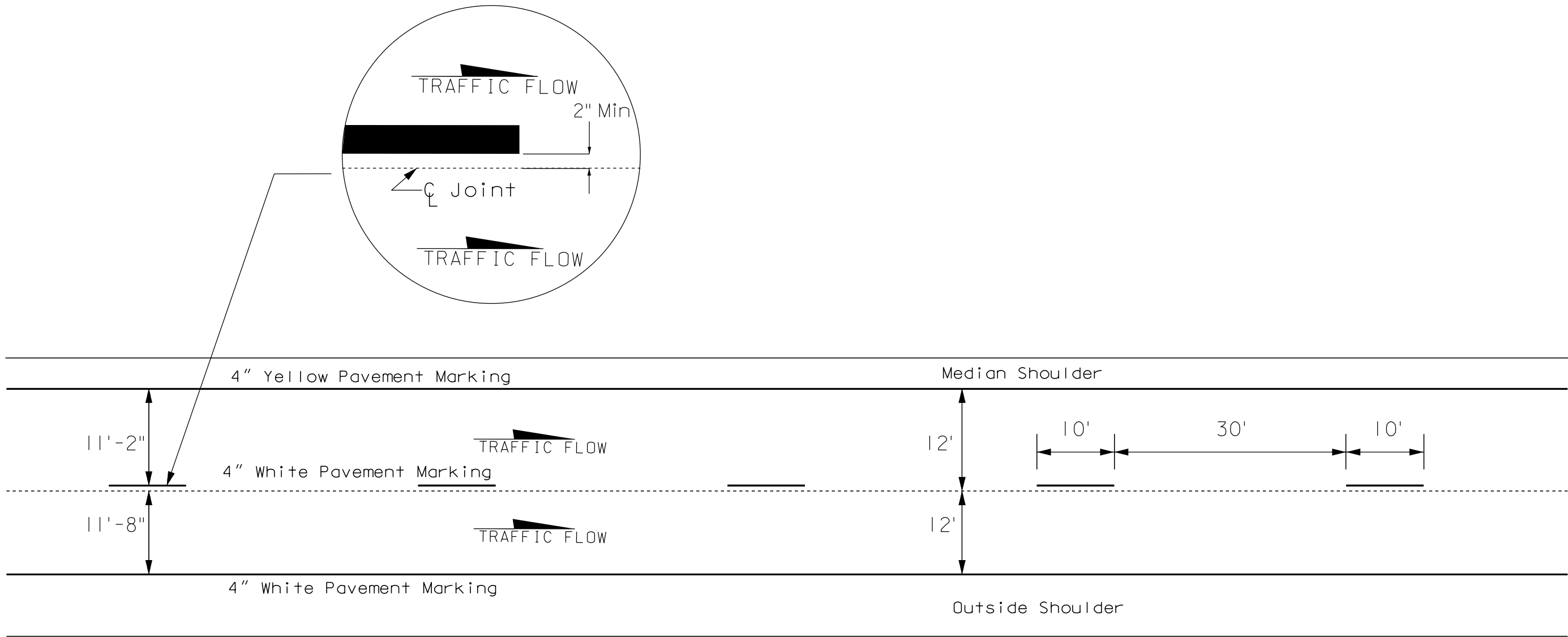
Plot Scale - 1:20

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PAVEMENT MARKING LAYOUT (4 LANE DIVIDED)



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Vehicle-mounted signs shall be mounted in a manner such that they are not obscured by equipment or supplies.

Sign legends on vehicle-mounted signs shall be covered or turned from view when work is not in progress.

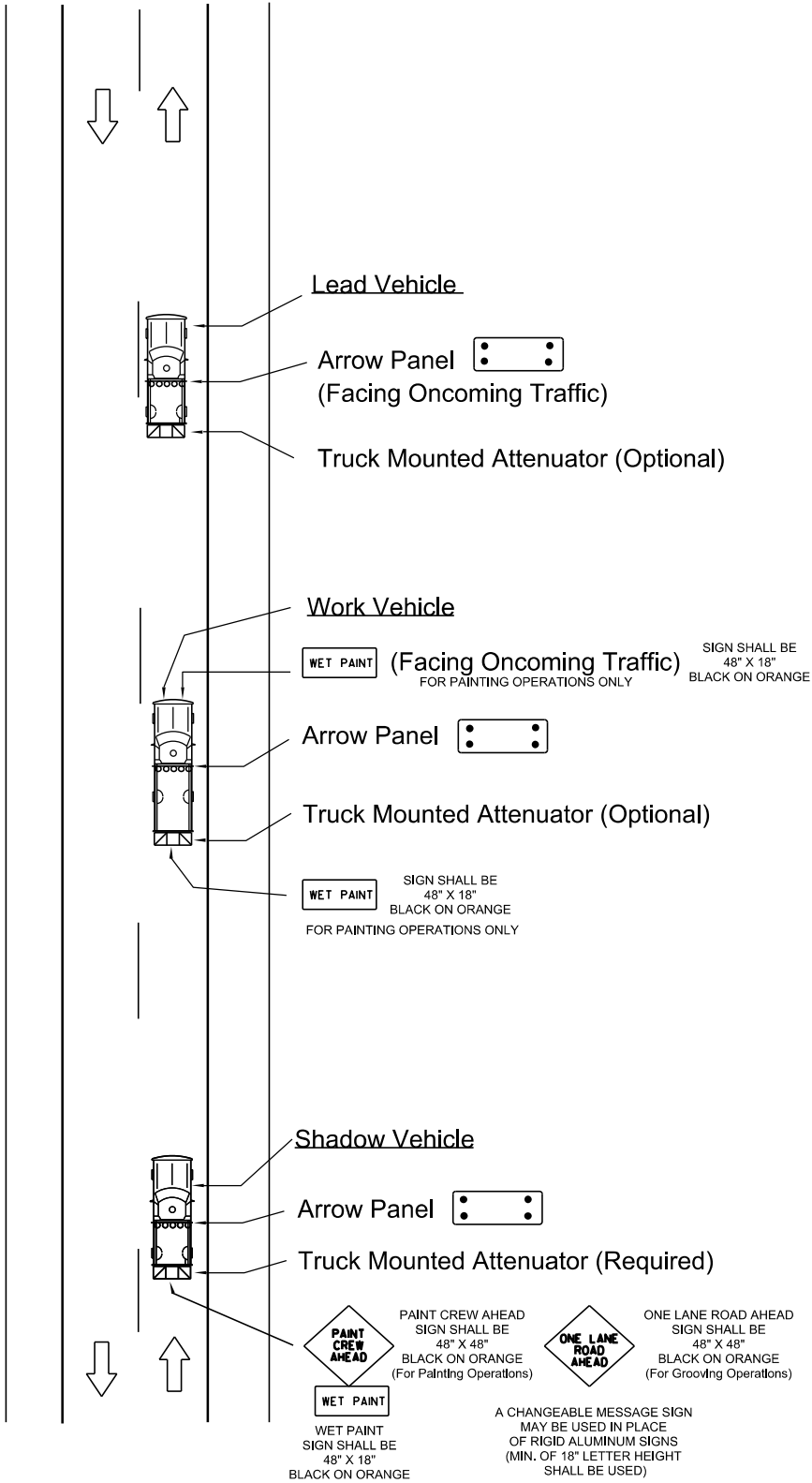
Shadow and Work vehicles shall display high-intensity rotating, flashing, oscillating, or strobe lights, flags, signs, or arrow panels.

Vehicle hazard warning signals shall not be used instead of the vehicle's high-intensity rotating, flashing, oscillating, or strobe lights

Arrow panel shall be used in the caution mode.

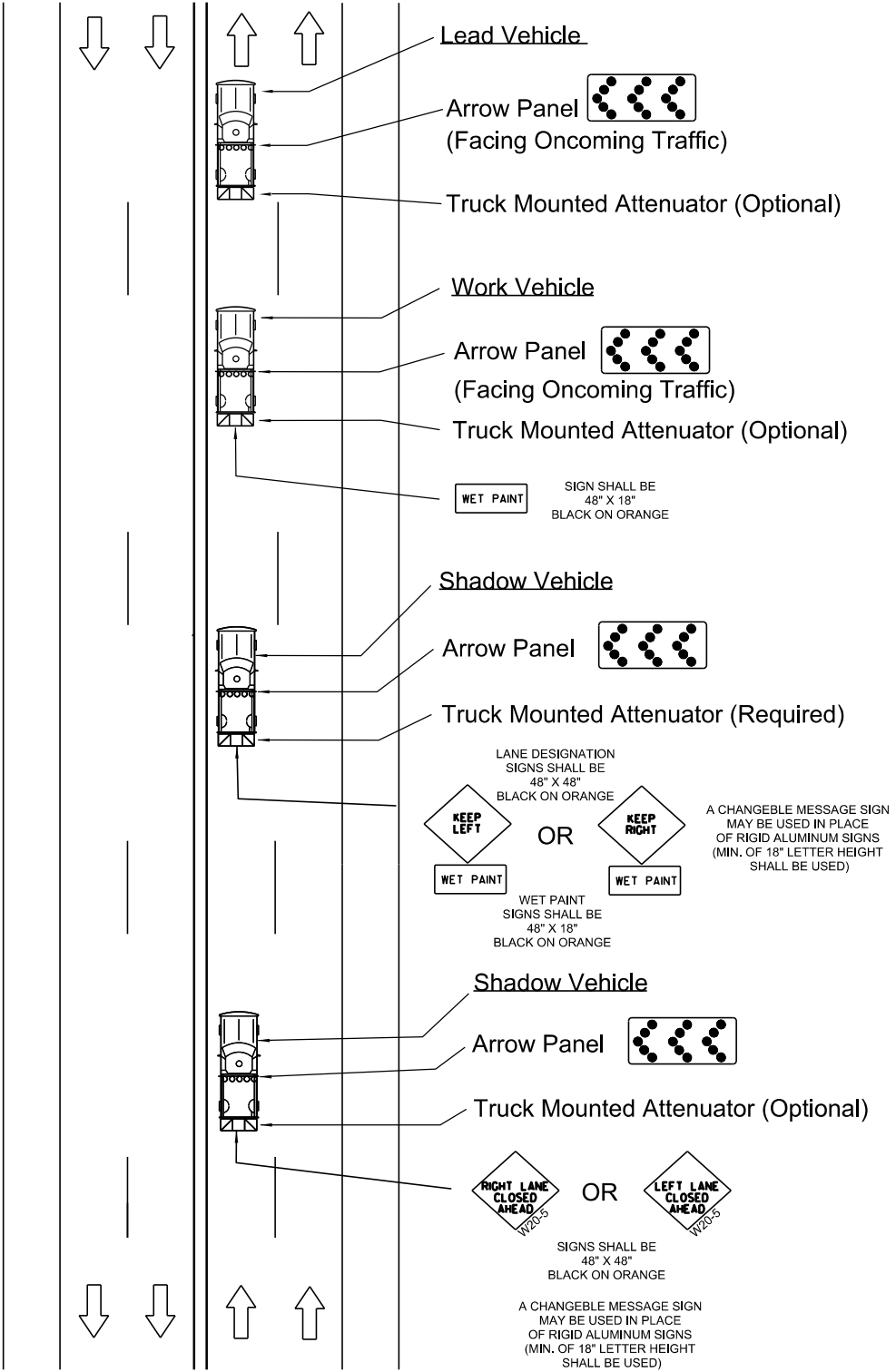
Flashing

Arrow panels shall, as a minimum, be Type B, with a size of 60" x 30".



GUIDES FOR TRAFFIC CONTROL DEVICES MOBILE OPERATIONS ON 2-LANE ROAD

MOBILE: Intermittent & Continuous Moving

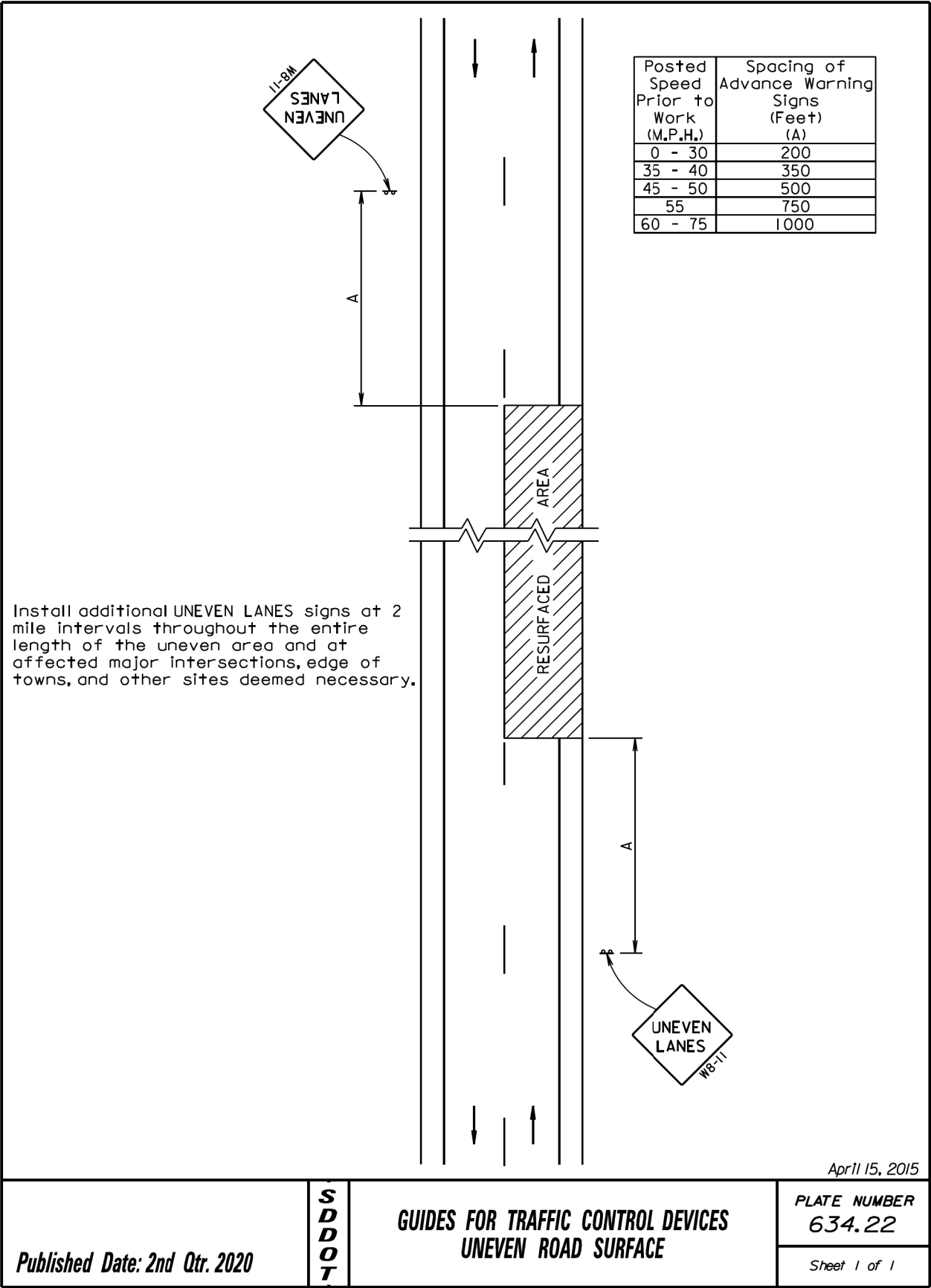


GUIDES FOR TRAFFIC CONTROL DEVICES MOBILE OPERATIONS ON 4-LANE DIVIDED

MOBILE: Intermittent & Continuous Moving

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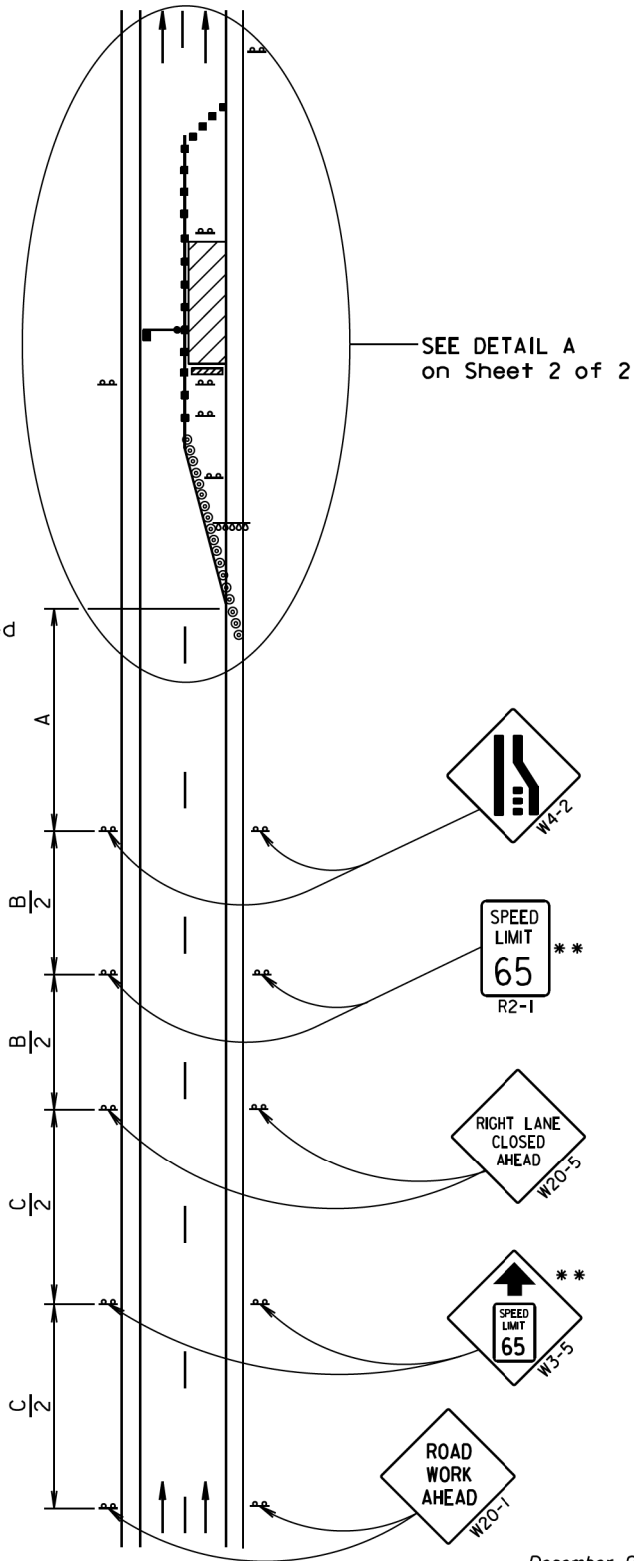


| Posted Speed Prior to Work (M.P.H.) | Spacing of Advance Warning Signs (Feet) (A) (B) (C) | | |
|---|---|------|------|
| 0 - 30 | 200 | | |
| 35 - 40 | 350 | | |
| 45 - 50 | 500 | | |
| 55 | 750 | | |
| 60 - 65 | 1000 | | |
| | (A) | (B) | (C) |
| 70 - 80 | 1000 | 1500 | 2640 |

- ** 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.



December 23, 2019

| | | | |
|-------------------------------|-----------------------|---|------------------------|
| Published Date: 2nd Qtr. 2020 | S D D O T | 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 | 25 | 600 |
| 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 will be covered or removed when workers are not present.

- Flagger (As Necessary)
- Reflectorized Drum
- Channelizing Device

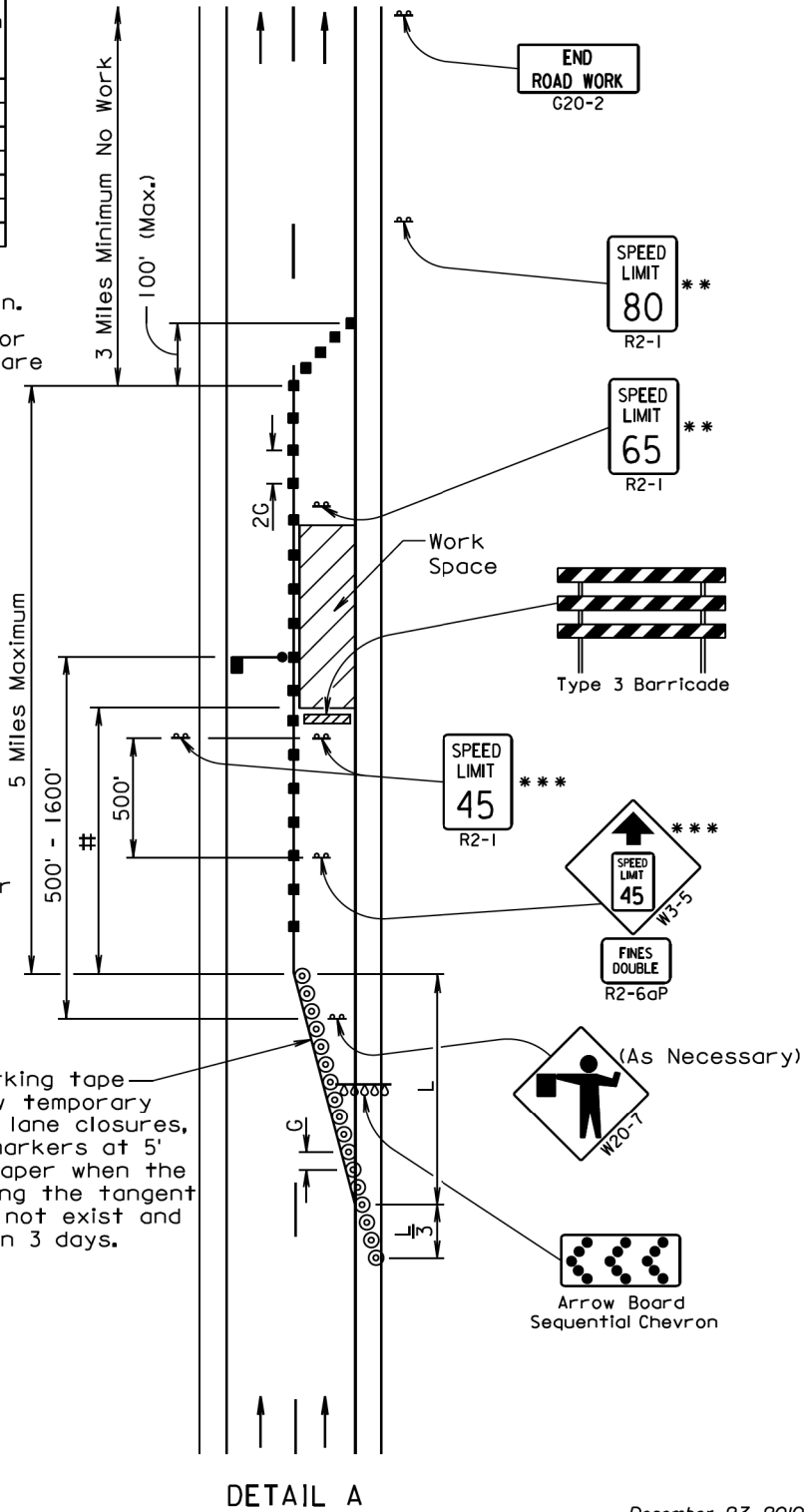
The Work Space will be a minimum of 500' from the end of the taper.

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

The channelizing devices will 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 raised pavement markers at 5' spacing will be installed in the taper when the lane is closed overnight, and along the tangent section where the skip lines do not exist and the lane is closed for more than 3 days.



December 23, 2019

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| Published Date: 2nd Qtr. 2020 | S D D O T | WORK ZONE SPEED REDUCTION FOR INTERSTATE AND HIGH SPEED MULTI-LANE HIGHWAYS | PLATE NUMBER 634.63 |
| | | Sheet 2 of 2 | |

