

MAD JULY 2016

WITH:

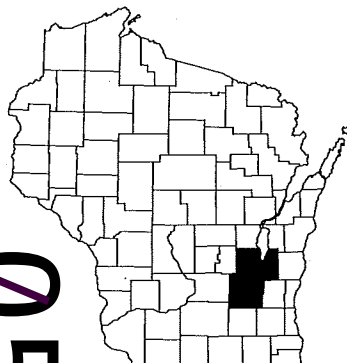
PROJECT ID: 1420-28-60

COUNTY: FOND DU LAC, DODGE

ORDER OF SHEETS

Section No. 1	Title
Section No. 2	Typical Sections and Details
Section No. 3	Estimate of Quantities
Section No. 3	Miscellaneous Quantities
Section No. 4	Right of Way Plat
Section No. 5	Plan and Profile
Section No. 6	Standard Detail Drawings
Section No. 7	Sign Plates
Section No. 8	Structure Plans
Section No. 9	Computer Earthwork Data
Section No. 9	Cross Sections

TOTAL SHEETS = 90



DESIGN DESIGNATION

	USH 151	WIS 49
A.A.D.T. 2011	= 13,900	8,900
A.A.D.T. 2031	= 16,800	11,400
D.H.V.	= 1,160	
D.D.	= 60/40	59/41
T.	= 8.2%	18.5%
DESIGN SPEED	= 70 MPH	30 MPH
ESALS	= 4,000,000	

CONVENTIONAL SYMBOLS

PLAN	
CORPORATE LIMITS	////
PROPERTY LINE	----
LOT LINE	----
LIMITED HIGHWAY EASEMENT	----
EXISTING RIGHT OF WAY	----
PROPOSED OR NEW R/W LINE	----
SLOPE INTERCEPT	----
REFERENCE LINE	----
EXISTING CULVERT	----
PROPOSED CULVERT (Box or Pipe)	----
COMBUSTIBLE FLUIDS	CAUTION
MARSH AREA	----
WOODED OR SHRUB AREA	----

PROFILE	
GRADE LINE	----
ORIGINAL GROUND	----
MARSH OR ROCK PROFILE (To be noted as such)	----
SPECIAL DITCH	----
GRADE ELEVATION	95.36
CULVERT (Profile View)	----
UTILITIES	
ELECTRIC	----
FIBER OPTIC	----
GAS	----
SANITARY SEWER	----
STORM SEWER	----
TELEPHONE	----
WATER	----
UTILITY PEDESTAL	----
POWER POLE	----
TELEPHONE POLE	----

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PLAN OF PROPOSED IMPROVEMENT

CITY OF WAUPUN, USH 151

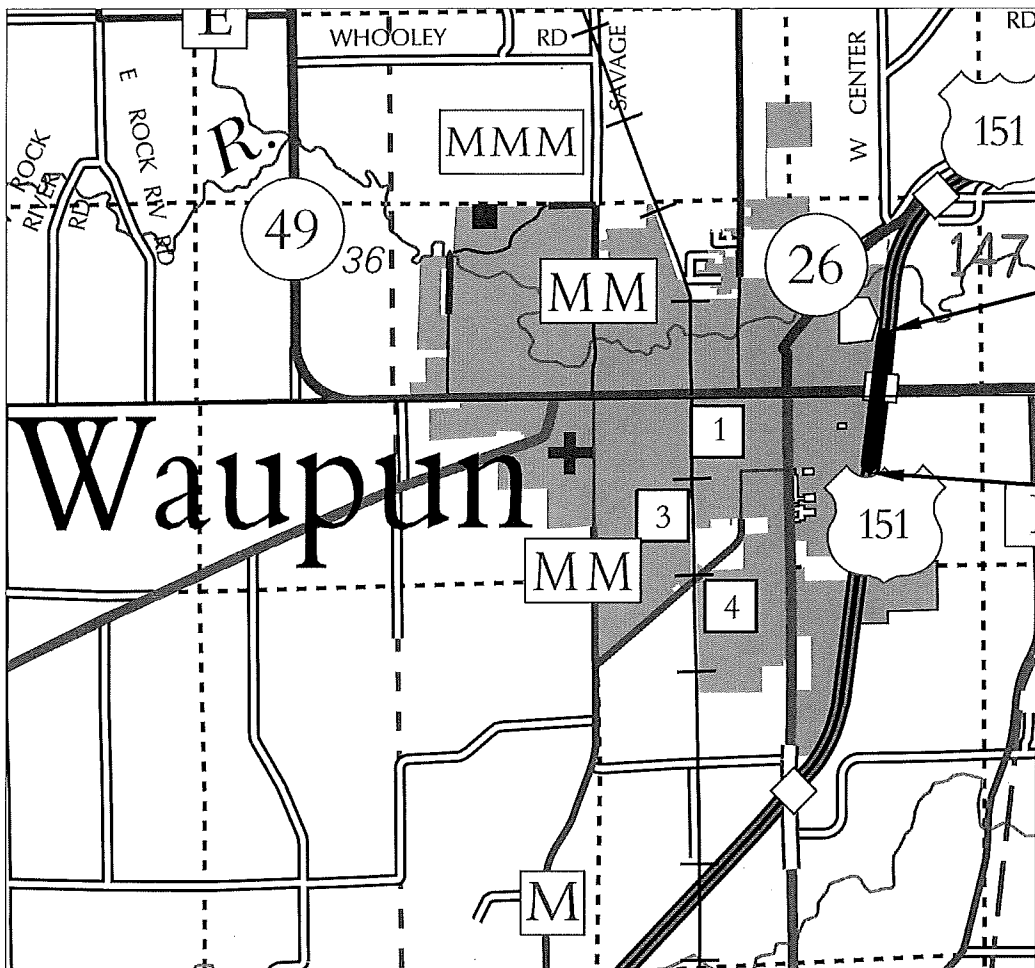
STH 49 INTERCHANGE

USH 151

FOND DU LAC AND DODGE COUNTIES

STATE PROJECT NUMBER

1420-28-60



SCALE 0 1 MILE

TOTAL NET LENGTH OF CENTERLINE = 0.847 MI.

HORIZONTAL POSITIONS SHOWN ON THIS PLAN ARE WISCONSIN COUNTY COORDINATES, FOND DU LAC COUNTY, NAD83 (2007), IN U.S. SURVEY FEET. VALUES ARE GRID COORDINATES, GRID BEARINGS, AND GRID DISTANCES. GRID DISTANCES MAY BE USED AS GROUND DISTANCES.

STATE PROJECT

1420-28-60

FEDERAL PROJECT

PROJECT

CONTRACT

END PROJECT
STA. 145+05 'NB'
Y= 334,849.41
X= 746,301.59

BEGIN PROJECT
STA. 100+31 'NB'
Y= 330,416.15
X= 745,703.05

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

PREPARED BY

Surveyor	SURVEYOR
Designer	JOHN JENKINS
Project Manager	JEREMY HALL
Regional Examiner	REGIONAL EXAMINER
Regional Supervisor	JIM OETTINGER

APPROVED FOR THE DEPARTMENT

DATE: 1/22/2016

Signature

E

DIMENSIONS GIVEN FOR EXISTING FEATURES SHALL BE CONSIDERED AS APPROXIMATE AND MEASURED IN THE FIELD FOR MATCHING PURPOSES.

TRAFFIC CONTROL DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS DIRECTED BY THE ENGINEER.

DISTURBED AREAS WITHIN THE RIGHT-OF-WAY, EXCEPT THE AREAS WITHIN THE FINISHED SHOULDER POINTS, SHALL BE FERTILIZED, SEEDED AND RESTORED WITH EROSION MAT.

THE LOCATIONS OF EXISTING AND PROPOSED UTILITY INSTALLATIONS AS SHOWN ON THE PLANS ARE APPROXIMATE. THERE MAY BE OTHER UTILITY INSTALLATIONS WITHIN THE PROJECT AREA THAT ARE NOT SHOWN. THE CONTRACTOR SHALL COORDINATE HIS ACTIVITIES WITH A CALL TO DIGGERS HOTLINE AND/OR A DIRECT CALL TO THE UTILITIES THAT HAVE FACILITIES IN THE AREA. NOT ALL UTILITIES ARE MEMBERS OF DIGGERS HOTLINE.

IF UTILITY CONFLICTS OCCUR DURING CONSTRUCTION FACILITIES ADJUSTMENTS WILL BE COORDINATED WITH CONTRACTOR. IF THERE ARE CONFLICTS WITH NEW BEAM GUARD, SIGNS, OR OTHER WORK UNDER THIS PROJECT, THE CONTRACTOR WILL WORK AROUND THE UTILITY FACILITIES.

HMA PAVEMENT WEIGHT CALCULATIONS ARE BASED ON 112 LB/SY/INCH.

APPLY TACK COAT TO MILLED SURFACES. THE RATE OF APPLICATION IS 0.070 GALLONS PER SQUARE YARD OR AS DIRECTED BY THE ENGINEER.

PRIOR TO PLACEMENT OF MGS RAIL, THE SHOULDERS SHALL BE IN PLACE, SHAPED AND COMPACTED.

ALL EXISTING SIGNS SHALL REMAIN IN PLACE UNTIL CONSTRUCTION OPERATIONS REQUIRE THEIR REMOVAL OR UNLESS THE ENGINEER APPROVES THEIR REMOVAL.

THE LOCATION OF STOP LINES SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER.

FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, ALL SIGNS RELATING TO THIS OPERATION SHALL BE COVERED OR REMOVED AND FACILITY RESTORED TO NORMAL OPERATION.

EXISTING SHOULDER AGGREGATE SHALL BE INCORPORATED INTO THE NEW SHOULDERS UNLESS OTHERWISE DIRECTED BY THE ENGINEER IN THE FIELD.

CURVE INFORMATION SHOWN ON THE PLANS HAS NOT BEEN VERIFIED BY A FIELD SURVEY. THE ENGINEER SHALL DETERMINE THE APPROPRIATE SUPER-ELEVATION AND RUN-OFF INFORMATION AND PROVIDE TO THE CONTRACTOR PRIOR TO PAVING.

HMA PAVEMENT OVERLAY WILL BE PLACED IN ONE LAYER FOR A TOTAL DEPTH OF 2". FOR 4" HMA PAVEMENT OVERLAY, PLACE IN TWO LAYERS OF 2" EACH.

THE CONTRACTOR'S PAVING OPERATIONS SHALL BE CONSISTENT WITH THE PLAN TYPICAL SECTIONS AND CONSTRUCTED TO PREVENT HMA LONGITUDINAL JOINTS FROM BEING LOCATED WITHIN A DRIVING, TURNING, PASSING OR PARKING LANE.

BEAM GUARD WILL BE REPLACED THE SAME DAY IT IS REMOVED.

EROSION CONTROL ITEMS ON THE PLANS ARE AT SUGGESTED LOCATIONS. EXACT LOCATIONS WILL BE DETERMINED BY THE ENGINEER IN THE FIELD. ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE MAINTAINED UNTIL SUCH TIME AS THE ENGINEER DETERMINES THE MEASURE IS NO LONGER NECESSARY.

PROTECT WETLANDS AND OTHER WATERWAYS THAT ARE PRESENT WITHIN THE PROJECT LIMITS. KEEP ALL EQUIPMENT AND MATERIALS OUT OF ENVIRONMENTALLY SENSITIVE AREAS. DO NOT PARK IN THESE AREAS.

CONVENTIONAL ABBREVIATIONS

CENTER LINE	C/L
NORMAL	NOR
REFERENCE LINE	R/L
RIGHT-OF-WAY	R/W
SLOPE INTERCEPT	SI
TYPICAL	TYP
VAR	VARIABLE
UG	UNDERGROUND
OH	OVERHEAD

UTILITY CONTACTS

ALLIANT ENERGY (WPL) - GAS & ELECTRIC
JASON HOGAN
SUITE 1000, 4902 N BILTMORE LN
MADISON, WI 53718
(608) 458-4871 (OFC)
(608) 395-7395 (MOB)
JASONHOGAN@ALLIANTENERGY.COM

AT&T WISCONSIN - COMMUNICATION
CHARLES BARTELT
70 E DIVISION ST
FOND DU LAC, WI 54935
(920) 929-1013 (OFC)
(920) 410-5104 (MOB)
CB1461@ATT.COM

McLEOD USA TELECOMMUNICATIONS SERVICES INC. - COMMUNICATION
JIM KOSTUCH
13935 BISHOPS DR
BROOKFIELD, WI 53005
(262) 792-7938
JAMES.KOSTUCH@WINDSTREAM.COM

WAUPUN UTILITIES - SEWER, WATER & ELECTRIC
RANDY POSTHUMA
817 S MADISON ST, PO BOX 431
WAUPUN, WI 53963
(920) 324-7920 (OFC)
(920) 960-2636 (MOB)
RPOSTHUMA@WPPIENERGY.ORG



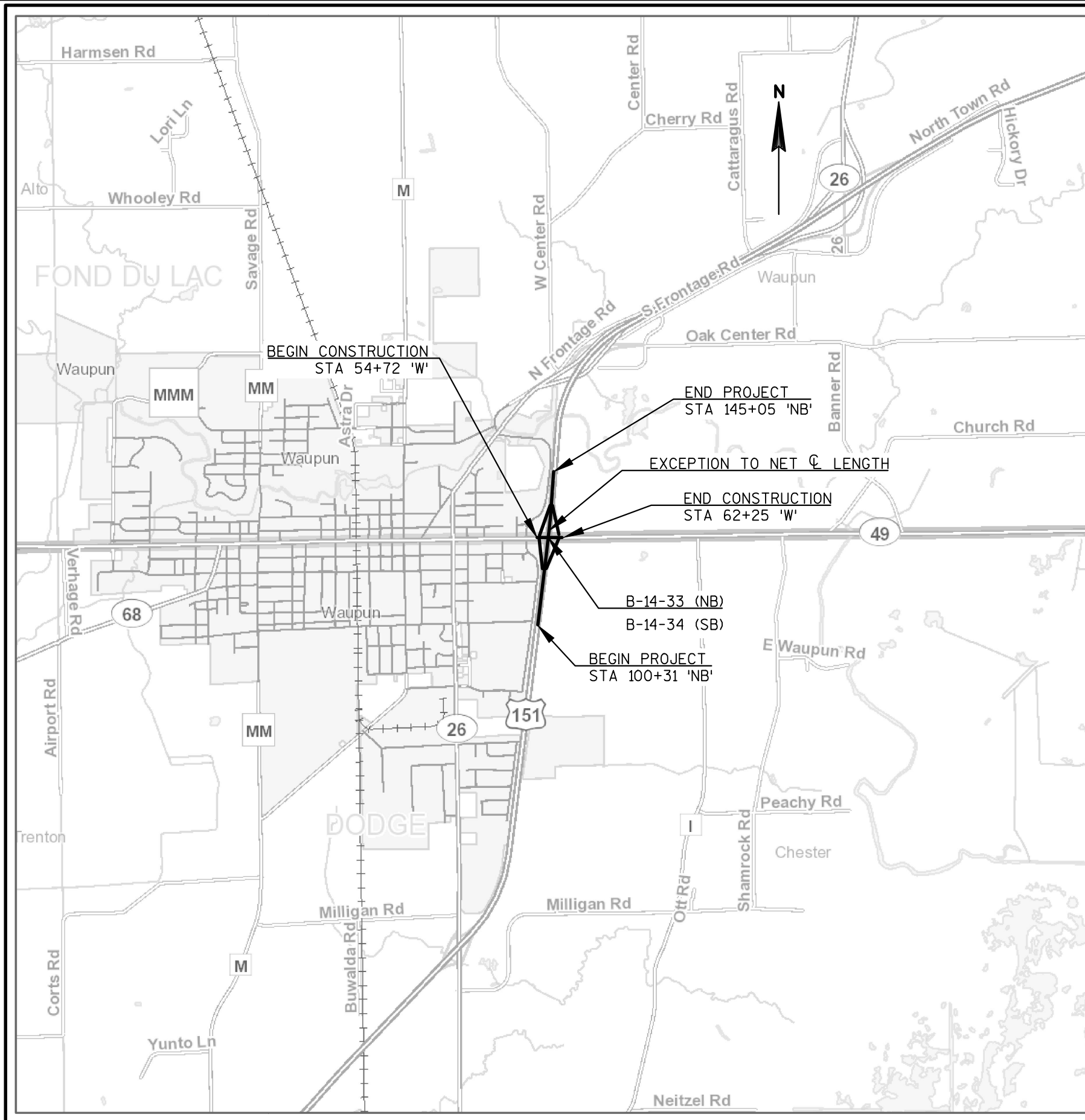
ORDER OF SECTION 2 SHEETS

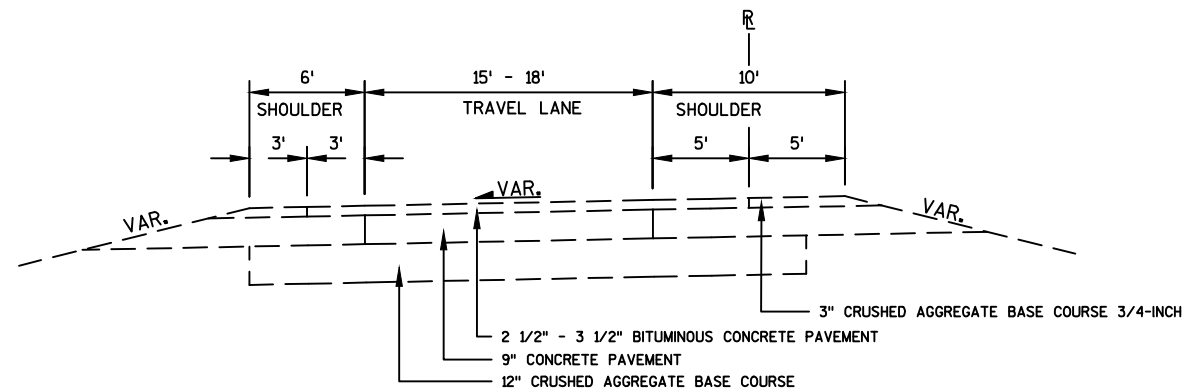
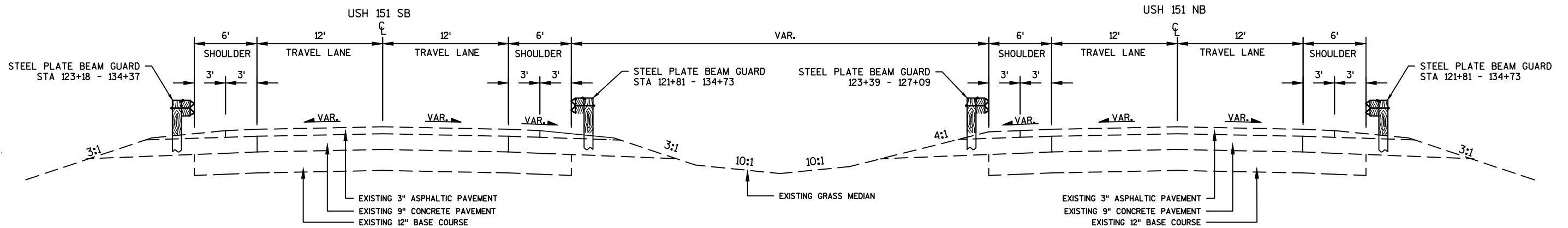
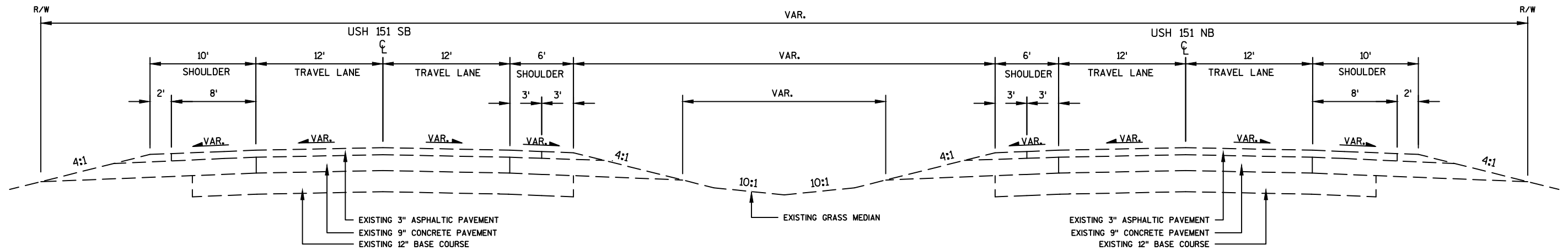
- GENERAL NOTES
- PROJECT OVERVIEW
- TYPICAL SECTIONS
- CONSTRUCTION DETAILS
- EROSION CONTROL
- PERMANENT PAVEMENT MARKING
- TRAFFIC CONTROL
- TRAFFIC STAGING
- DETOUR PLAN

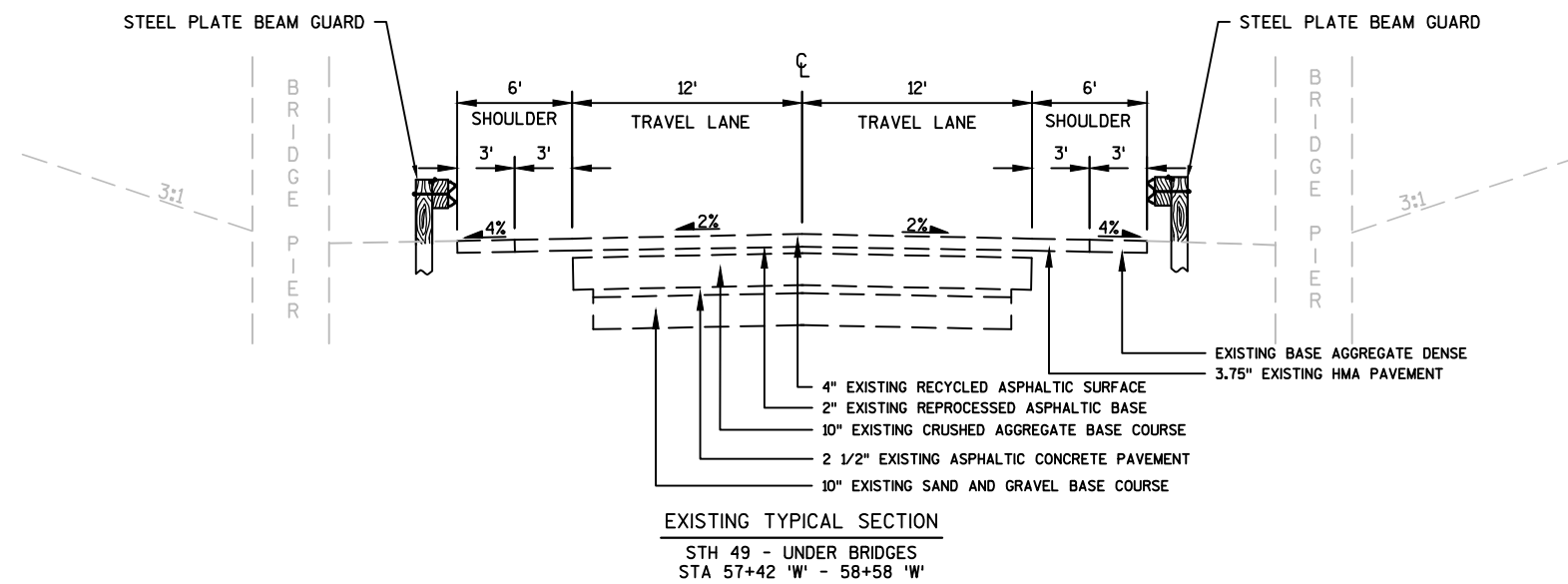
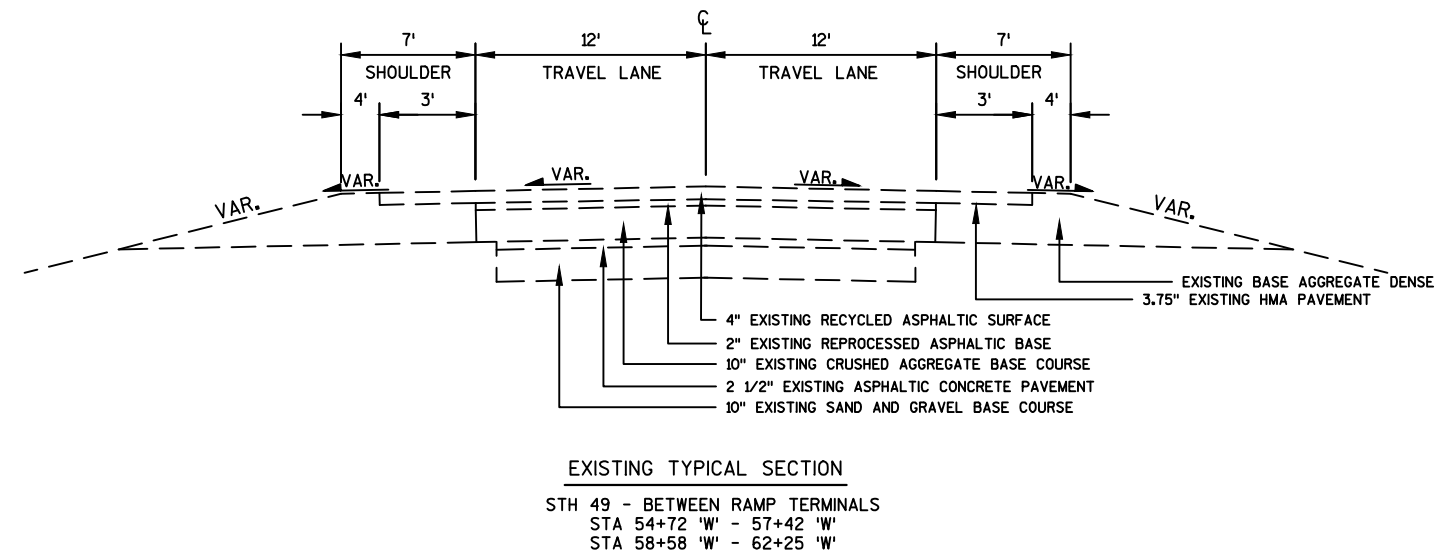
WISCONSIN DEPT OF NATURAL RESOURCES
ERIC HEGGELUND
3911 FISH HATCHERY RD
MADISON, WI 53711
(608) 275-3301
ERIC.HEGGELUND@WISCONSIN.GOV

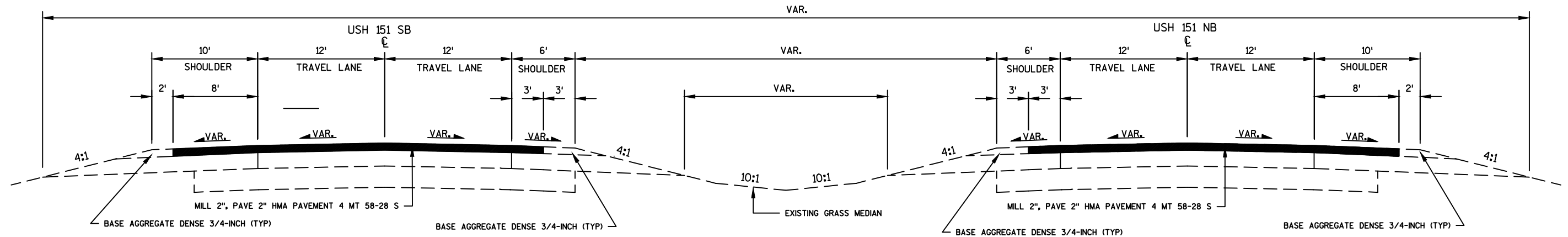
WISDOT PROJECT MANAGER
JEREMY HALL, P.E.
2101 WRIGHT ST
MADISON, WI 53704
(608) 245-2655
JEREMY.HALL@DOT.WI.GOV

WISDOT PROJECT LEADER
JOHN JENKINS
2101 WRIGHT ST
MADISON, WI 53704
(608) 246-3866
JOHN.JENKINS@DOT.WI.GOV



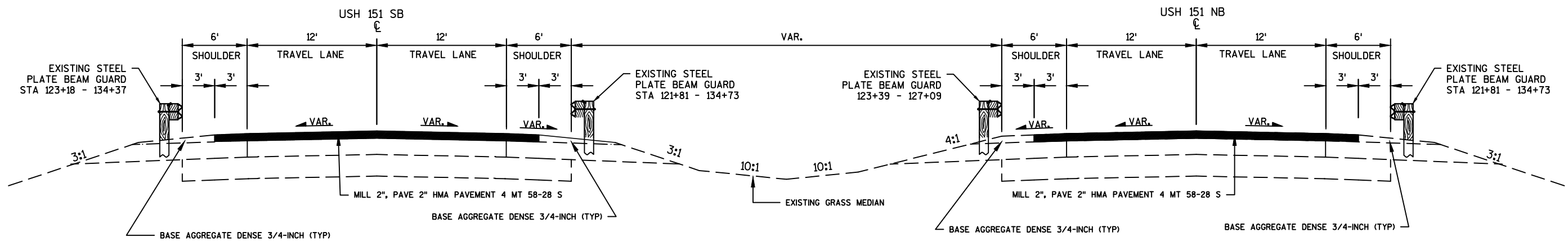






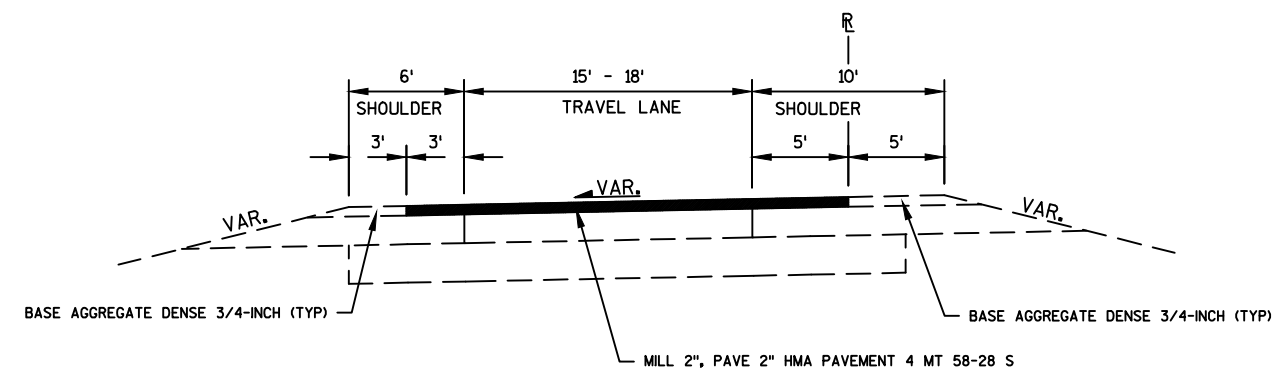
PROPOSED TYPICAL SECTION

USH 151 - OUTSIDE RAMPS
STA 100+31 - STA 116+06
STA 144+41 - STA 144+83



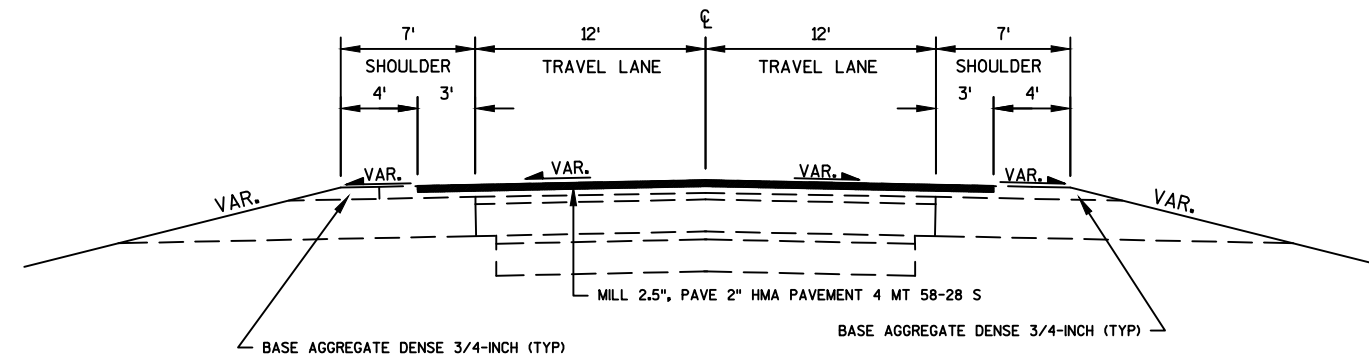
PROPOSED TYPICAL SECTION

USH 151 - BETWEEN RAMPS
STA 119+94 - STA 136+24

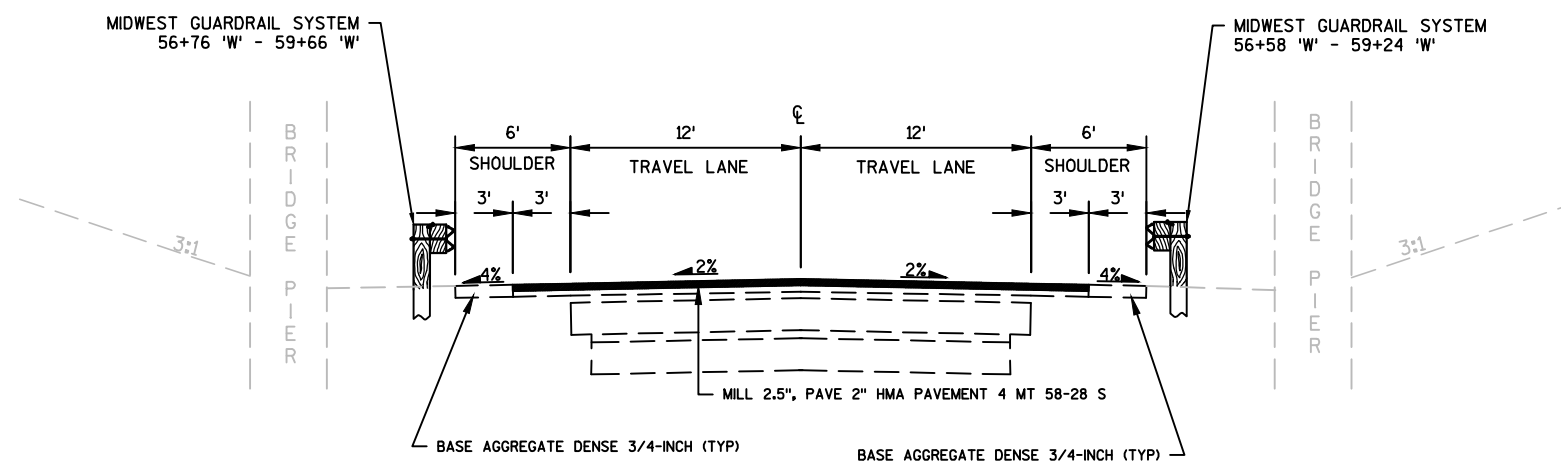


PROPOSED TYPICAL SECTION

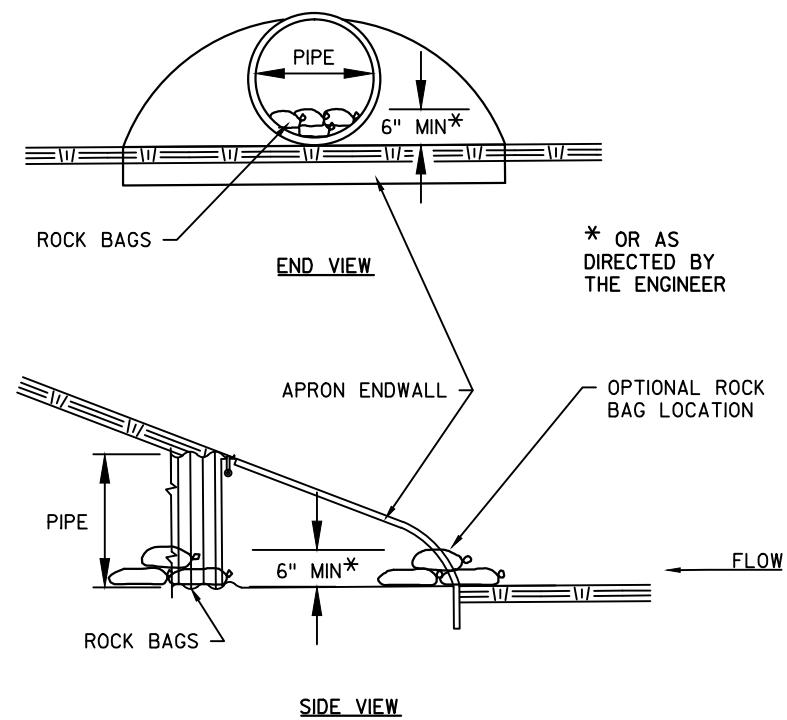
RAMPS A, B, C, D
STA 5+00 'A' - 17+49 'A'
STA 5+12 'B' - 21+55 'B'
STA 5+12 'C' - 19+33 'C'
STA 5+00 'D' - 21+88 'D'



PROPOSED TYPICAL SECTION
STH 49 - BETWEEN RAMP TERMINALS
STA 54+72 'W' - 57+42 'W'
STA 58+58 'W' - 62+25 'W'

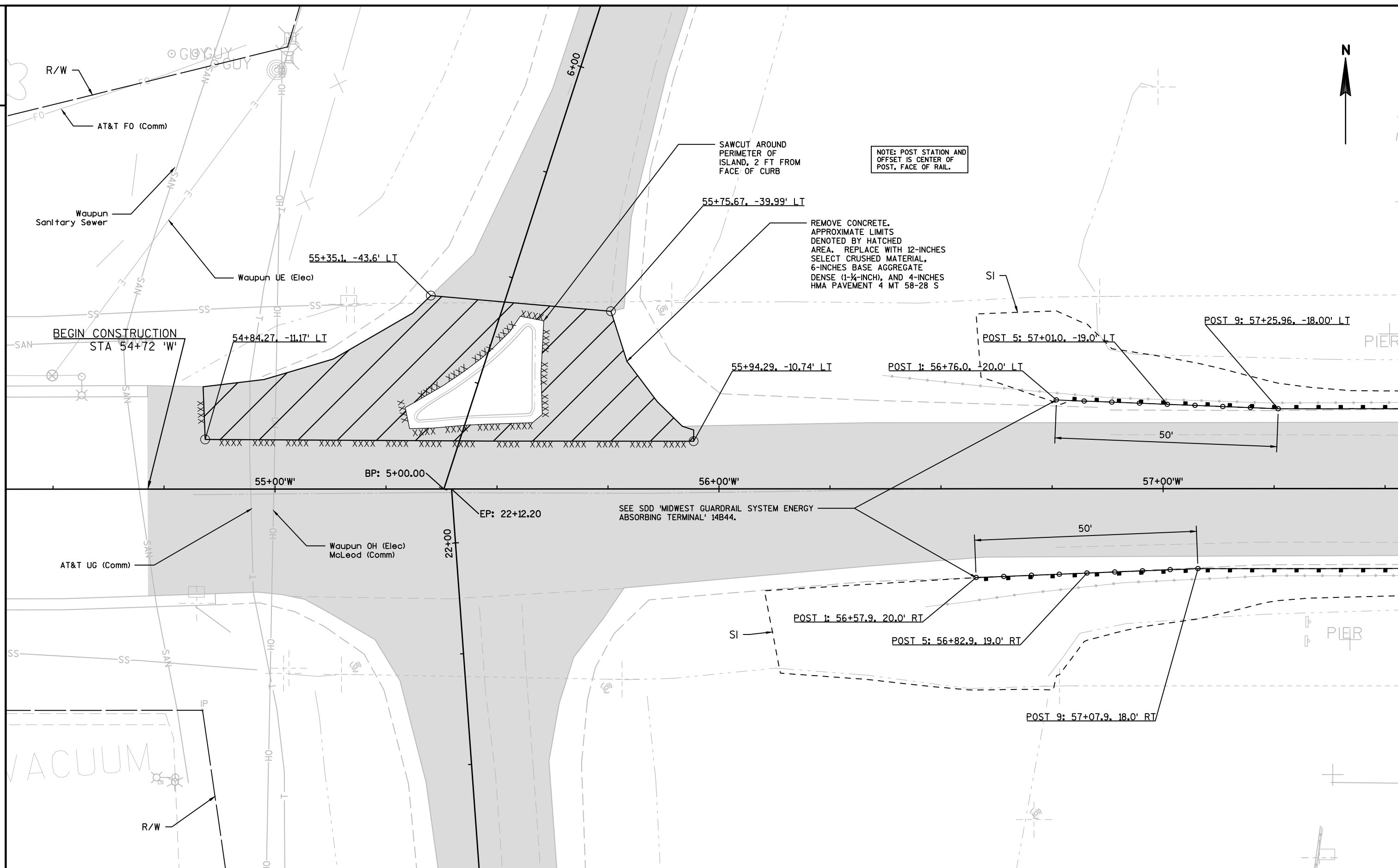


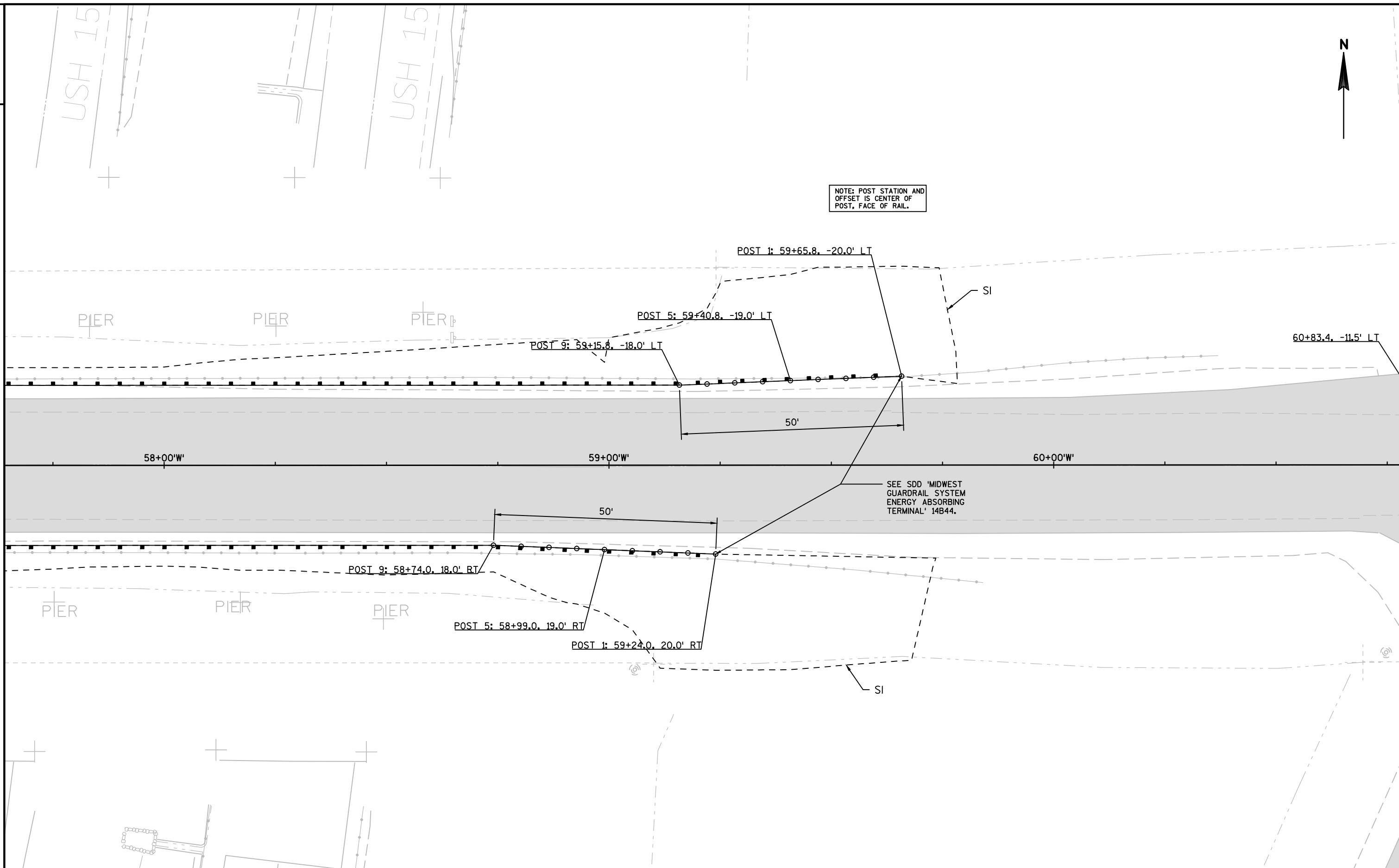
PROPOSED TYPICAL SECTION
STH 49 - UNDER BRIDGES
STA 57+42 'W' - 58+58 'W'

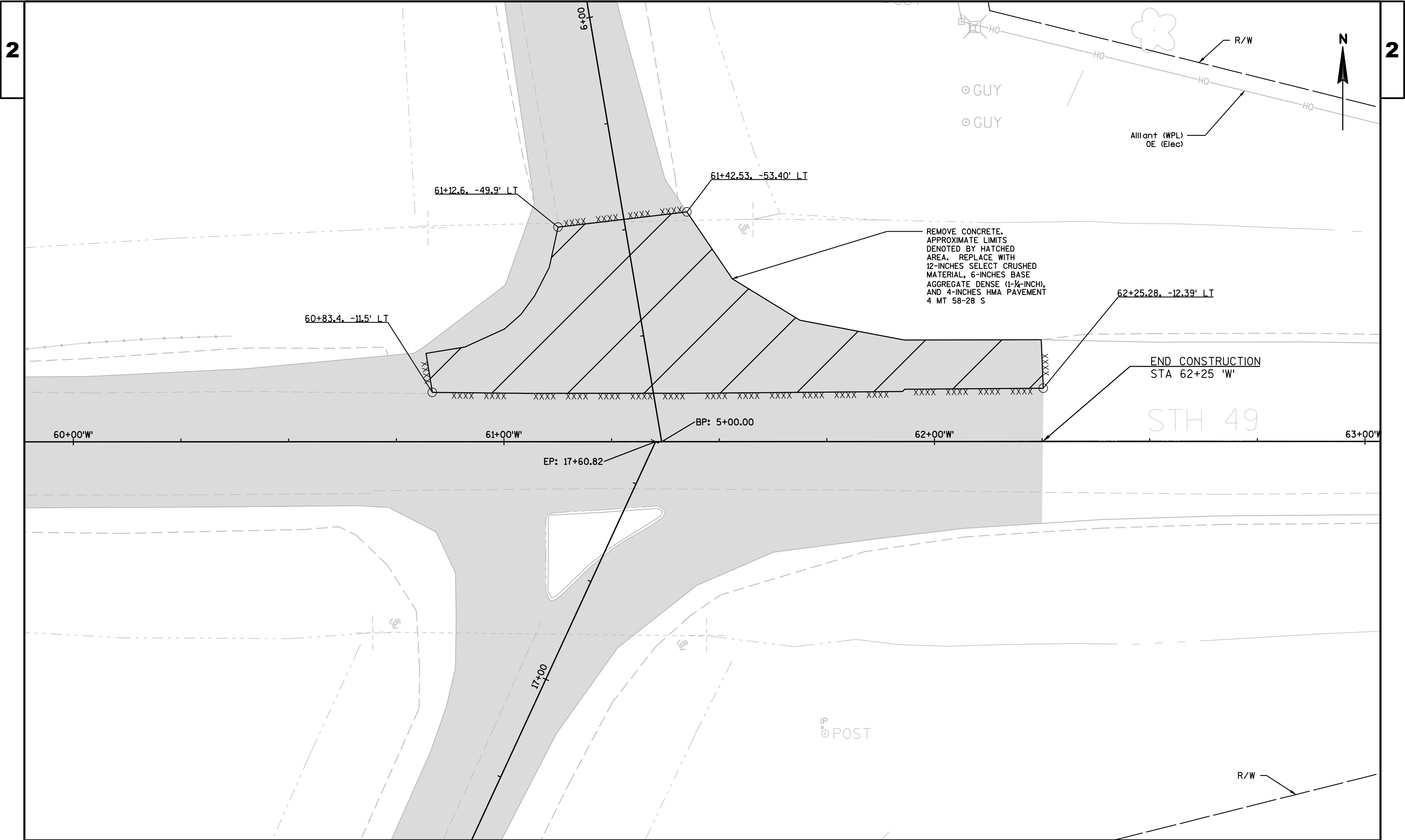


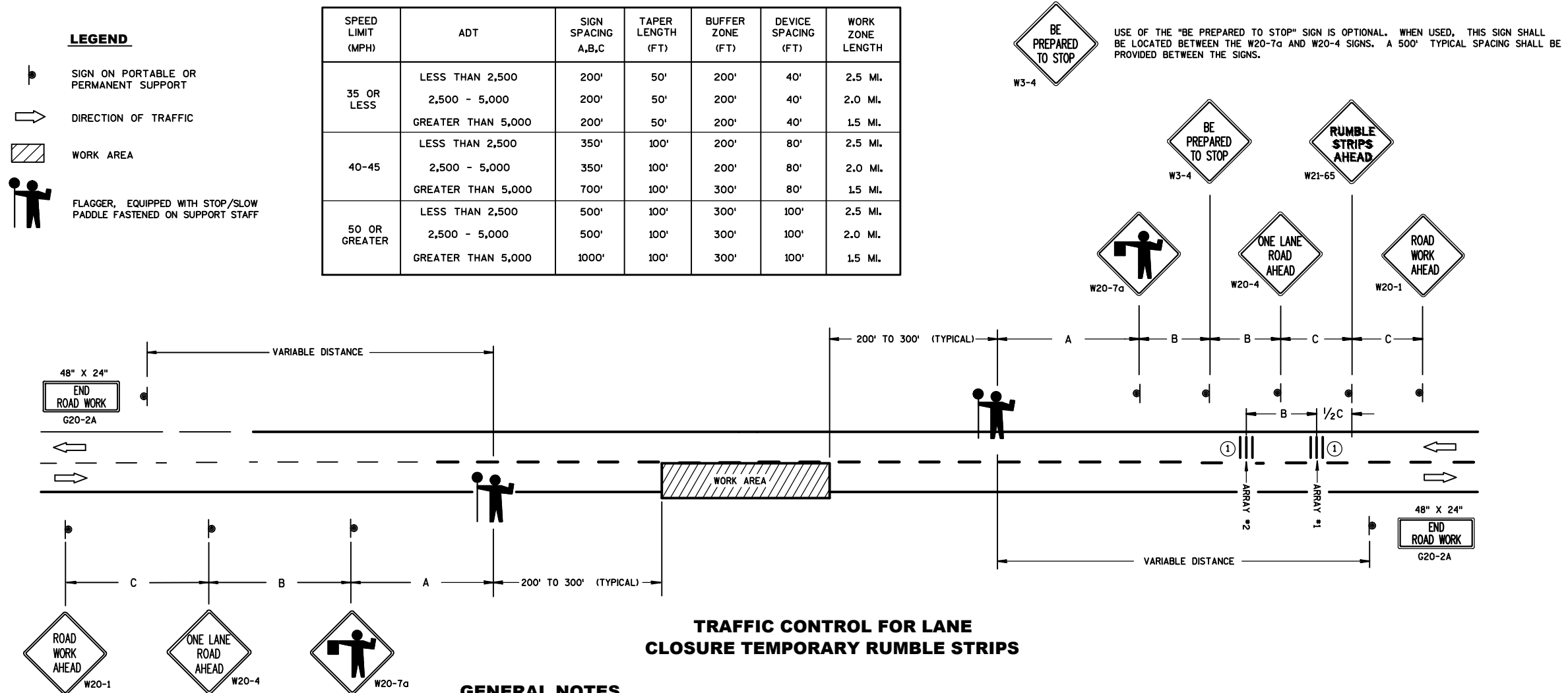
CULVERT PIPE CHECK
(INSTALL ON INLET END ONLY)

ESTIMATED BAG SIZE = 18" X 12" X 6"	
PIPE SIZE	ESTIMATED NO. OF BAGS
12 "	1
15 "	2
18 "	2
21 "	3
14 " X 23 "	3
24 "	3
27 "	4
30 "	5
19 " X 30 "	5
36 "	7
24 " X 38 "	8
42 "	8
29 " X 45 "	10
48 "	10
34 " X 53 "	10
38 " X 60 "	13
60 "	13
66 "	15
53 " X 83 "	19







**GENERAL NOTES**

DETAILS OF TRAFFIC CONTROL DEVICES AND INSTALLATION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES (AND THE LOCATION OF ALL FLAGGERS) SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE FIRST ADVANCE WARNING SIGN SHOULD TYPICALLY BE LOCATED IN ADVANCE OF THE ANTICIPATED TRAFFIC BACKUP OR QUEUE.

WHEN A SIDE ROAD OR RAMP INTERSECTS THE FACILITY ON WHICH THE WORK IS BEING PERFORMED, ADDITIONAL TRAFFIC CONTROLS SHALL BE PROVIDED AS SPECIFIED IN THE PLANS AND/OR THE SPECIAL PROVISIONS OR AS APPROVED BY THE ENGINEER.

INSTALL TEMPORARY RUMBLE STRIPS PER MANUFACTURER'S RECOMMENDATIONS.

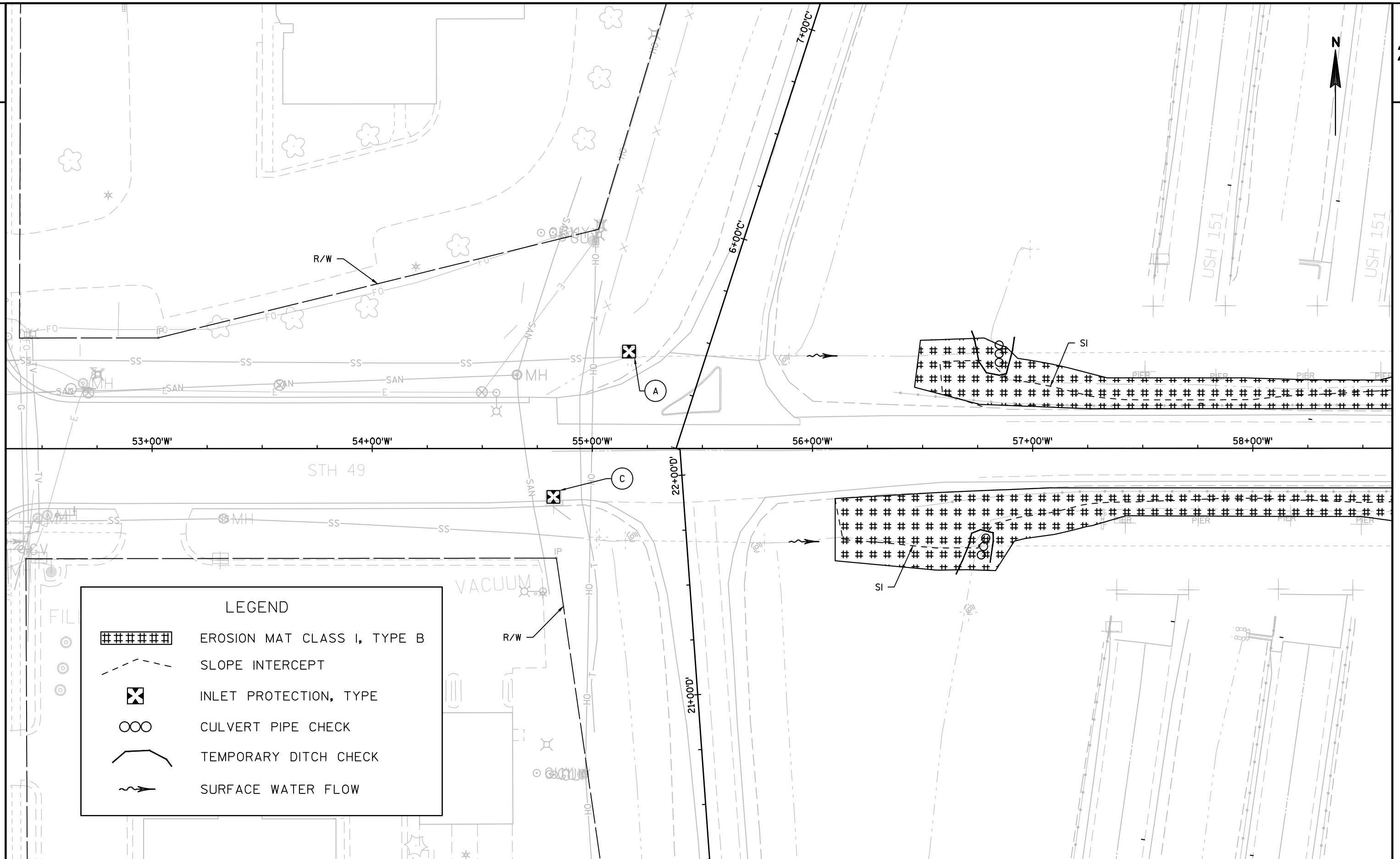
ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED.

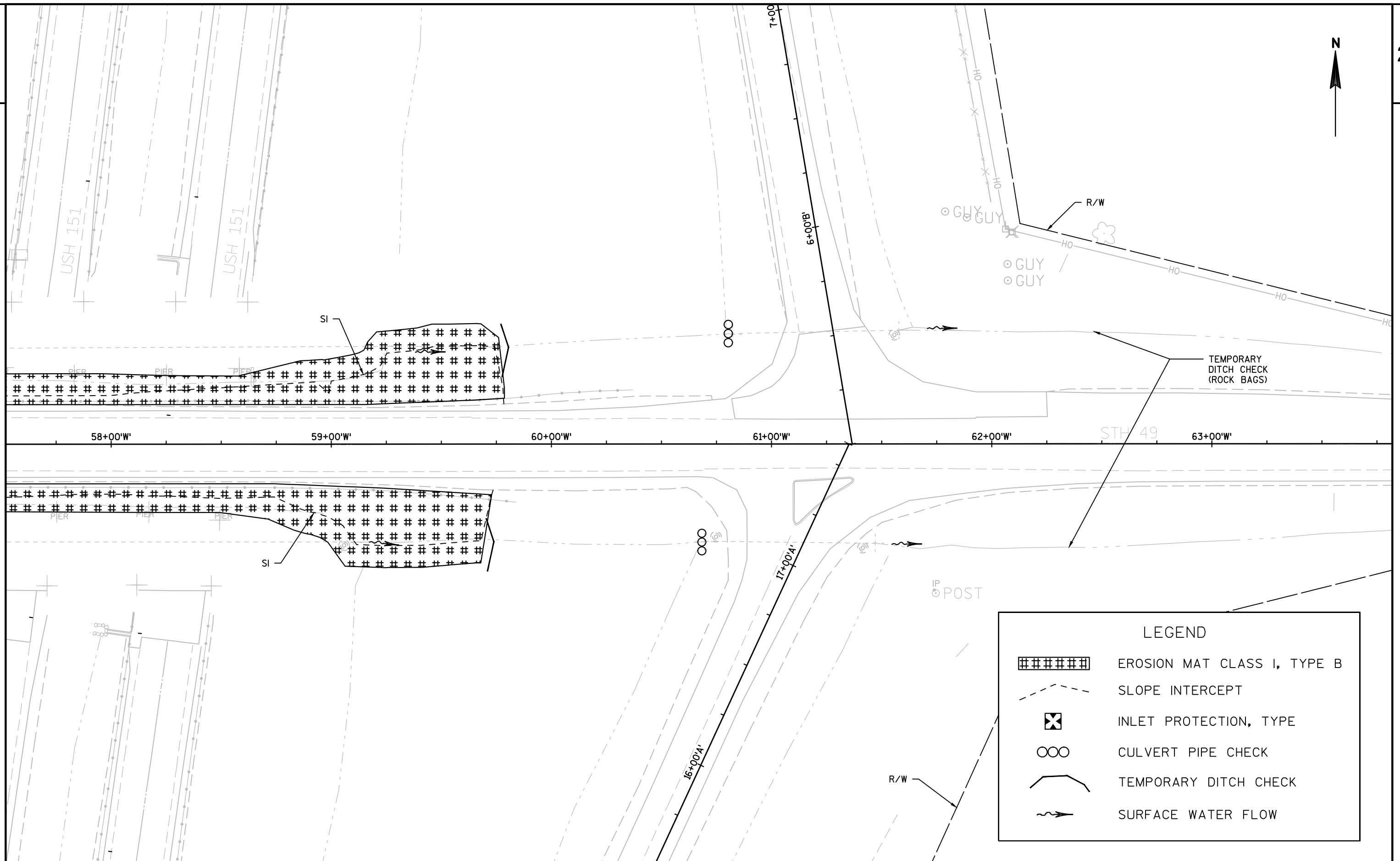
FLAGGERS SHALL BE IN SIGHT OF EACH OTHER OR IN DIRECT COMMUNICATION AT ALL TIMES. THEY SHALL BE EQUIPPED WITH STOP/SLOW PADDLES FASTENED ON SUPPORT STAFFS. WHEN THE FLAGGING OPERATION IS NOT IN EFFECT, REMOVE TEMPORARY RUMBLE STRIPS AND COVER OR REMOVE ALL TEMPORARY TRAFFIC CONTROL SIGNS.

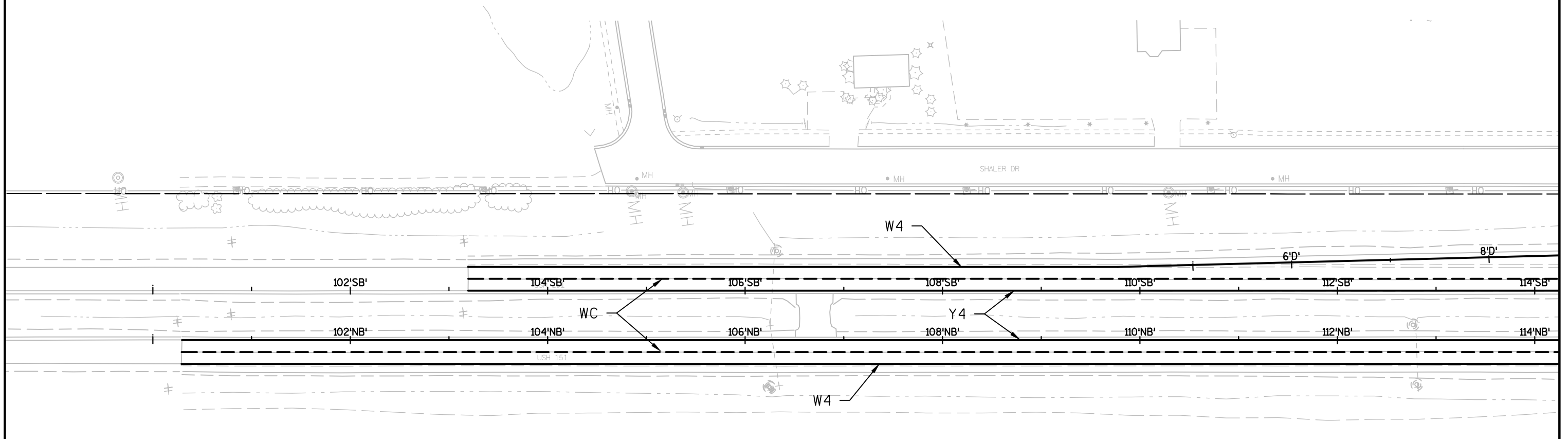
COSTS FOR FLAGGING AND GUIDANCE SERVICES, AND SIGNS ASSOCIATED WITH FLAGGING AND GUIDANCE, ARE INCIDENTAL TO THE CONTRACT.

- ① EACH RUMBLE STRIP ARRAY CONSISTS OF THREE RUMBLE STRIPS SPACED 8 - 10 FEET CENTER TO CENTER, PLACED TRANSVERSE ACROSS THE LANE AT LOCATIONS SHOWN.

TEMPORARY PORTABLE RUMBLE STRIP ARRAY





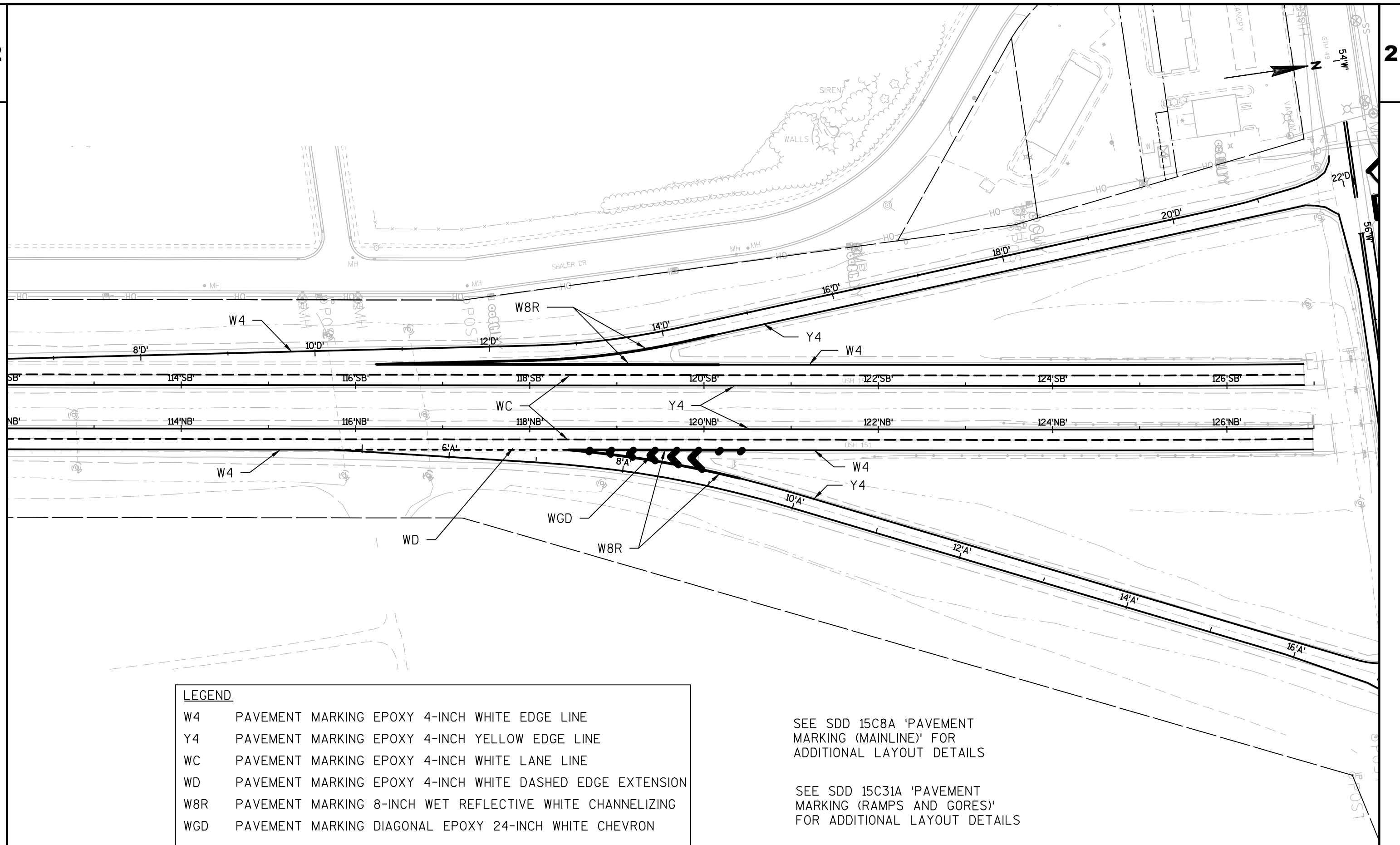


LEGEND	
W4	PAVEMENT MARKING EPOXY 4-INCH WHITE EDGE LINE
Y4	PAVEMENT MARKING EPOXY 4-INCH YELLOW EDGE LINE
WC	PAVEMENT MARKING EPOXY 4-INCH WHITE LANE LINE

SEE SDD 15C8A 'PAVEMENT MARKING (MAINLINE)' FOR ADDITIONAL LAYOUT DETAILS

2

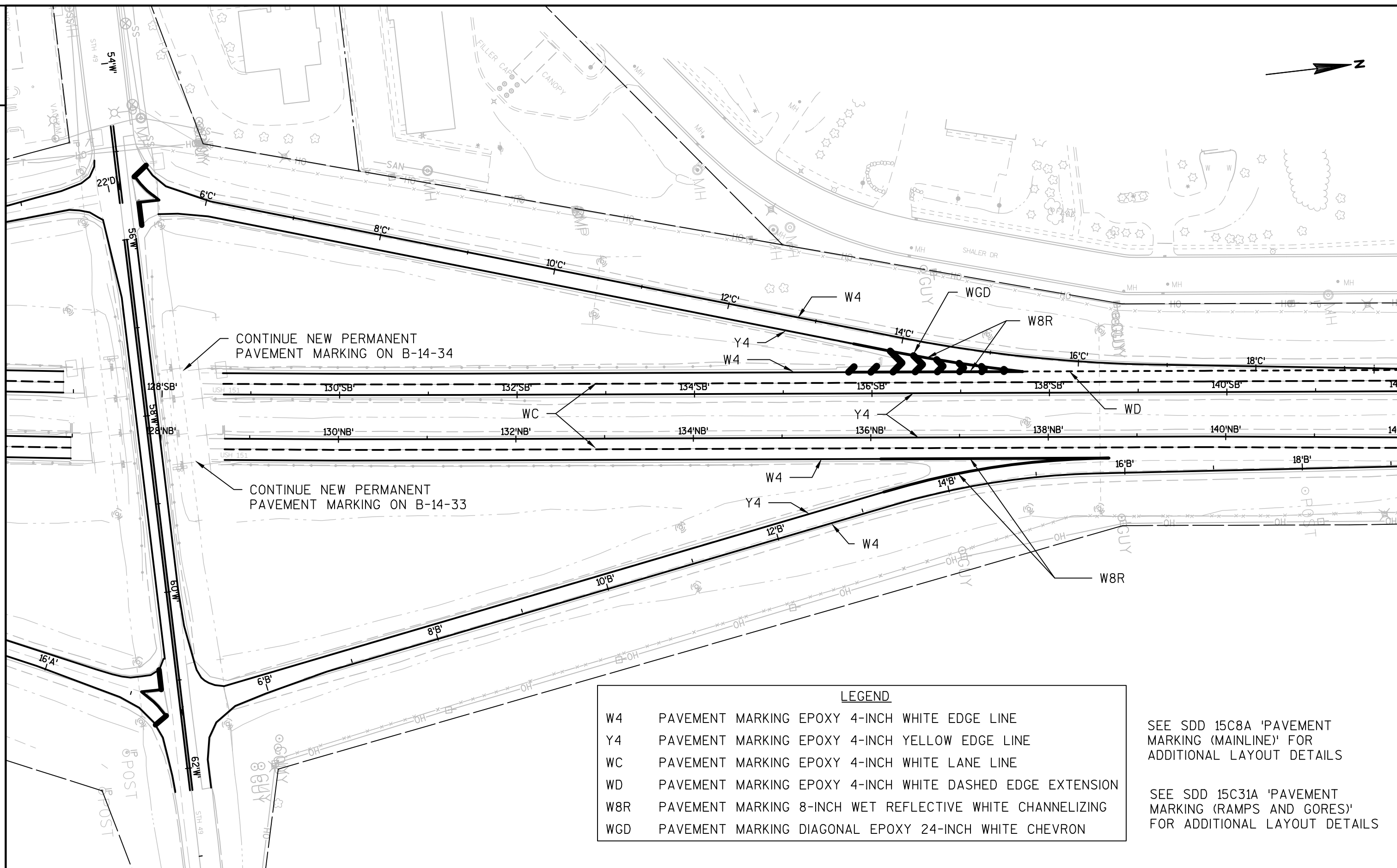
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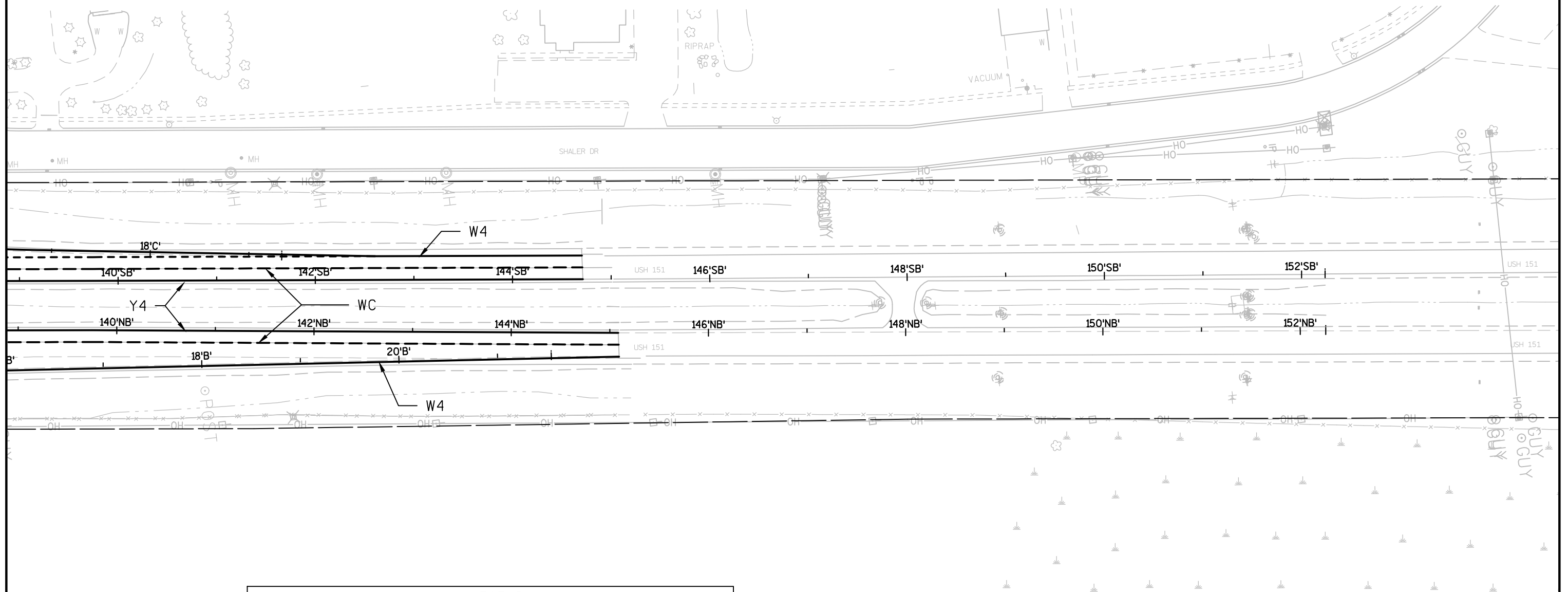


LEGEND						
W4	PAVEMENT	MARKING	EPOXY	4-INCH	WHITE	EDGE LINE
Y4	PAVEMENT	MARKING	EPOXY	4-INCH	YELLOW	EDGE LINE
WC	PAVEMENT	MARKING	EPOXY	4-INCH	WHITE	LANE LINE
WD	PAVEMENT	MARKING	EPOXY	4-INCH	WHITE	DASHED EDGE EXTENSION
W8R	PAVEMENT	MARKING	8-INCH	WET	REFLECTIVE	WHITE CHANNELIZING
WGD	PAVEMENT	MARKING	DIAGONAL	EPOXY	24-INCH	WHITE CHEVRON

SEE SDD 15C8A 'PAVEMENT
MARKING (MAINLINE)' FOR
ADDITIONAL LAYOUT DETAILS

SEE SDD 15C31A 'PAVEMENT
MARKING (RAMPS AND GORES)'
FOR ADDITIONAL LAYOUT DETAILS



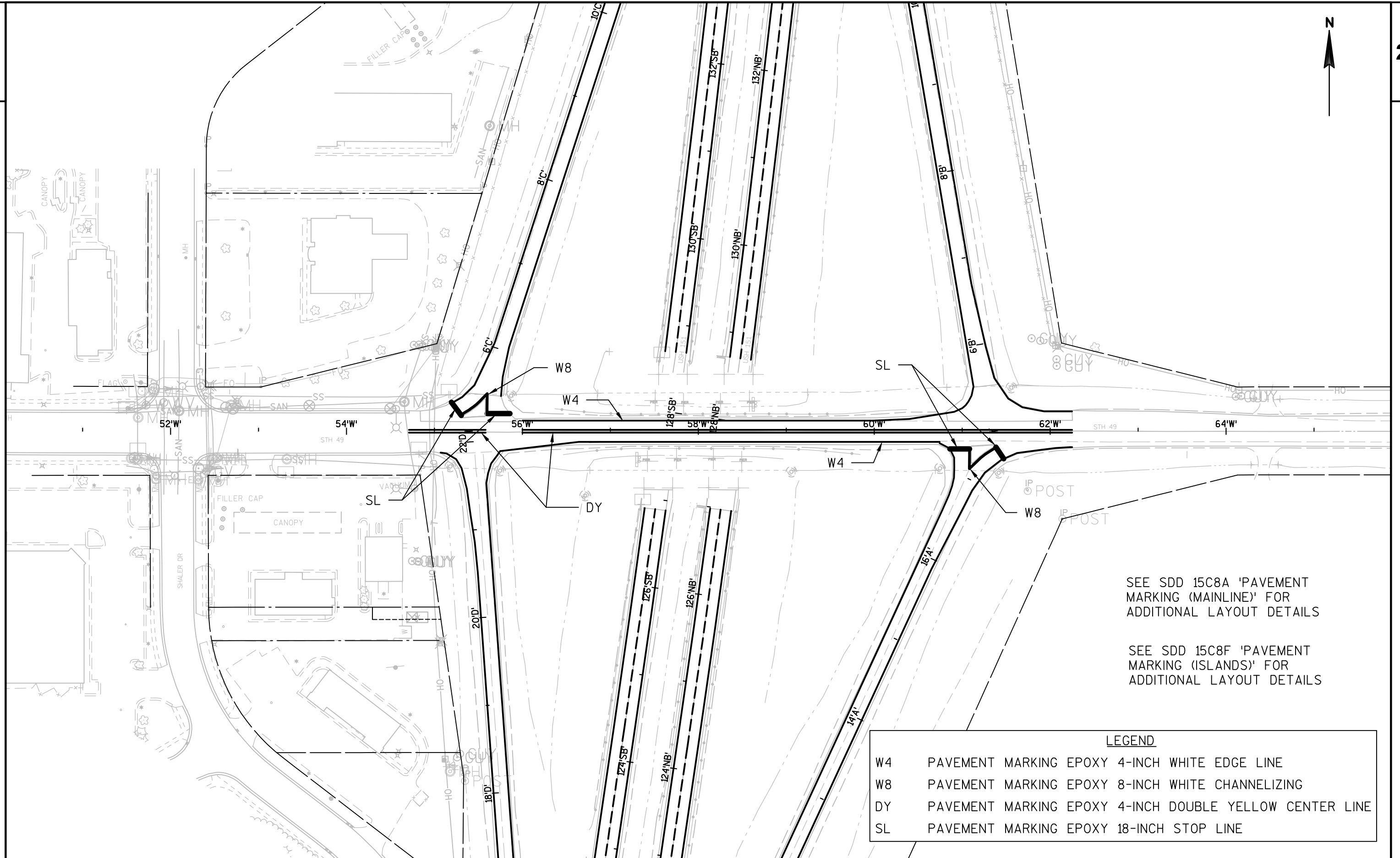


LEGEND	
W4	PAVEMENT MARKING EPOXY 4-INCH WHITE EDGE LINE
Y4	PAVEMENT MARKING EPOXY 4-INCH YELLOW EDGE LINE
WC	PAVEMENT MARKING EPOXY 4-INCH WHITE LANE LINE

SEE SDD 15C8A 'PAVEMENT MARKING (MAINLINE)' FOR ADDITIONAL LAYOUT DETAILS

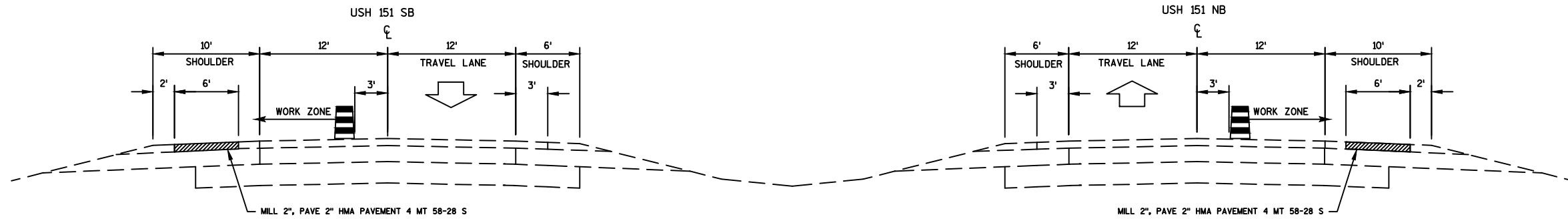
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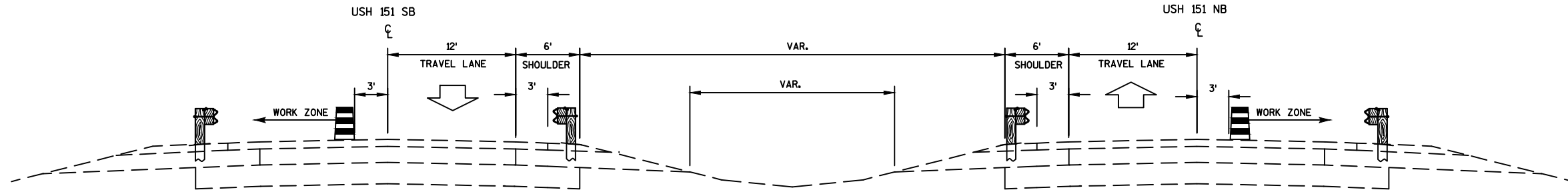
PROJECT NO:1420-28-30	HWY:USH 151	COUNTY:DODGE & FOND DU LAC	PAVEMENT MARKING STH 49	SHEET	E
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FILE NAME : N:\PDS\C3D\14202830\SHEETSPLAN\024501 PAVEMENT MARKING\024501-PM.DWG	PLOT DATE : 1/21/2016 3:07 PM	PLOT BY : JENKINS, JOHN L	PLOT NAME :	PLOT SCALE : 1 IN:100 FT	WISDOT/CADDs SHEET 42
LAYOUT NAME - 024505_PM					



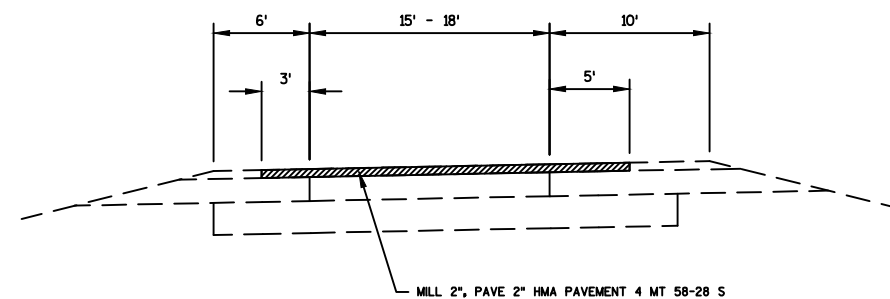
STAGE 1A, 1B, 1C, AND 1D TYPICAL SECTION

USH 151 - OUTSIDE RAMP
STA 100+31 - STA 116+06
STA 144+41 - STA 145+05



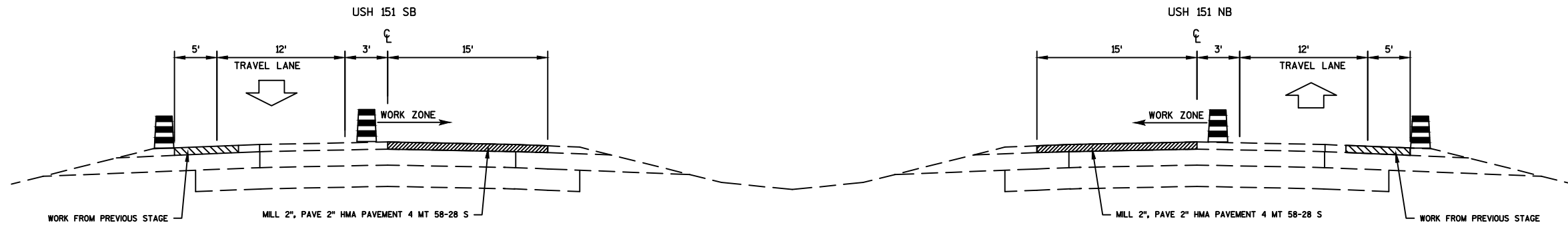
STAGE 1B AND 1D TYPICAL SECTION

USH 151 - BETWEEN RAMP
STA 119+94 TO STA 136+24



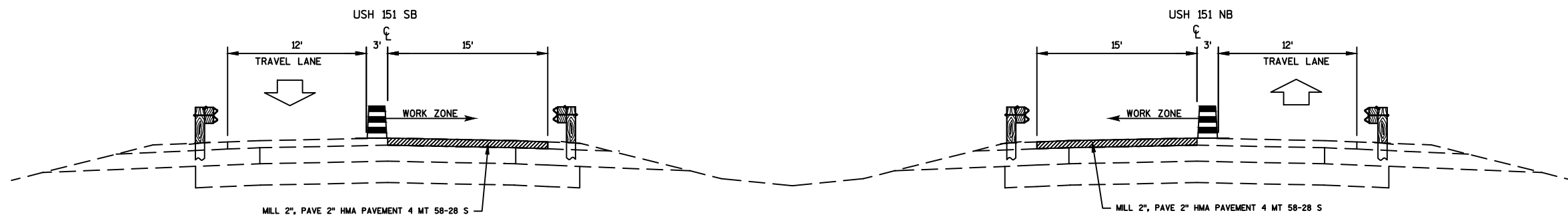
STAGE 1A, 1B, 1C, 1D TYPICAL SECTION

RAMP A, B, C, D
STA 5+00 'A' - 17+49 'A'
STA 5+12 'B' - 21+55 'B'
STA 5+12 'C' - 19+33 'C'
STA 5+00 'D' - 21+88 'D'



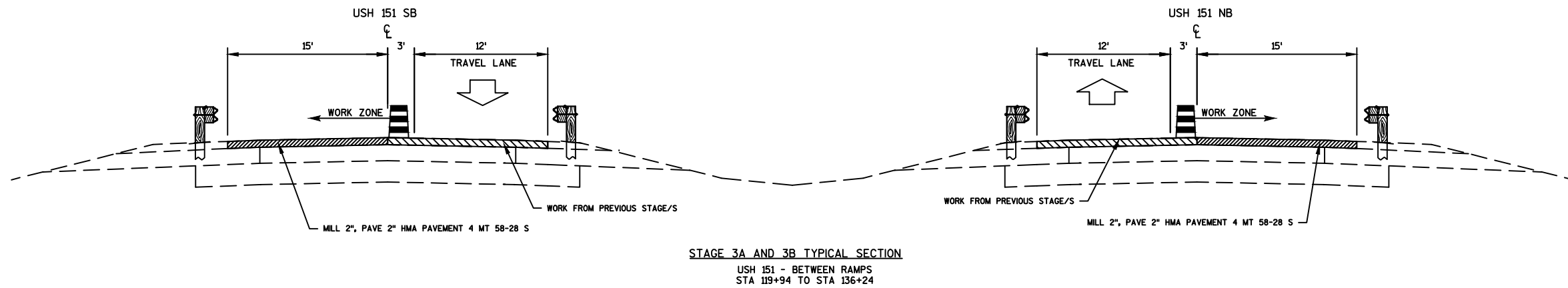
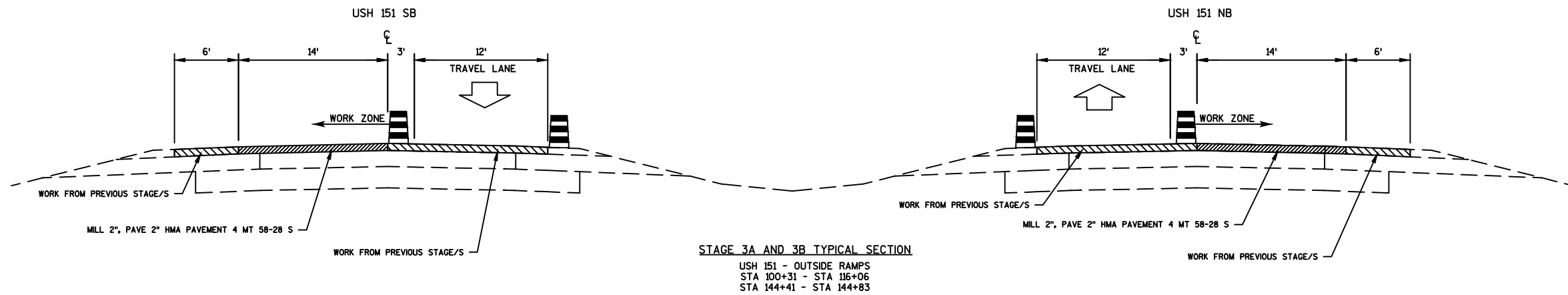
STAGE 2 TYPICAL SECTION

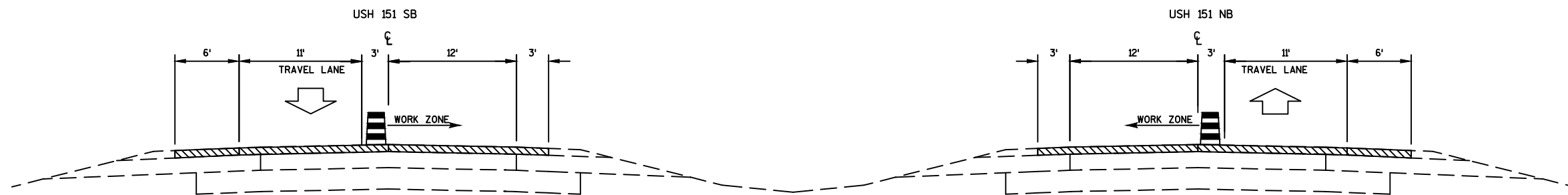
USH 151 - OUTSIDE RAMPS
STA 100+31 - STA 116+06
STA 144+41 - STA 144+83



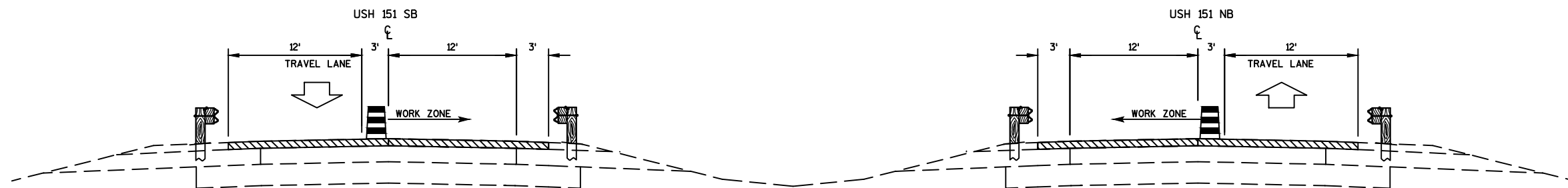
STAGE 2 TYPICAL SECTION

USH 151 - BETWEEN RAMPS
STA 119+94 TO STA 136+24



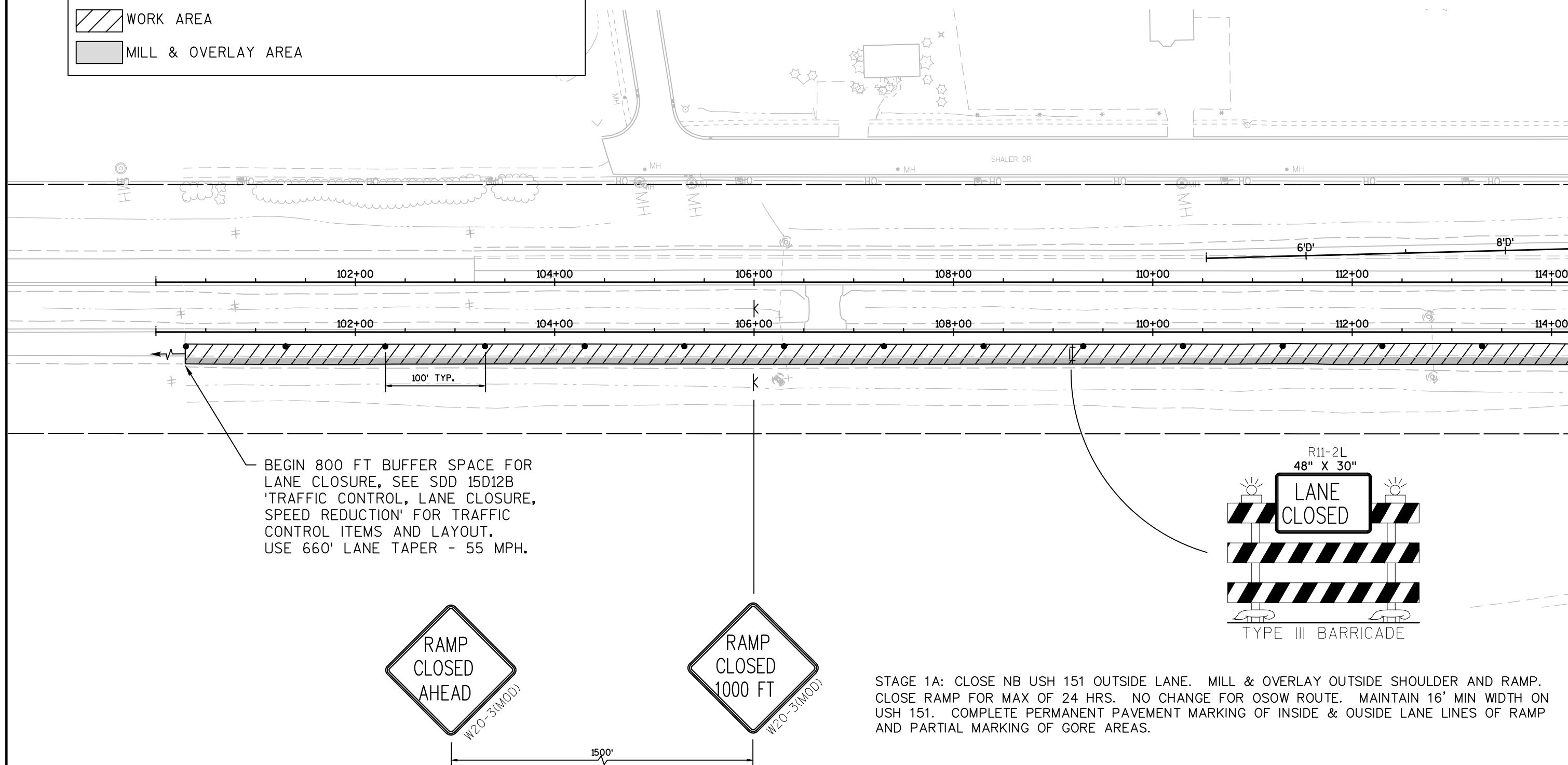
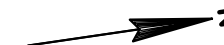
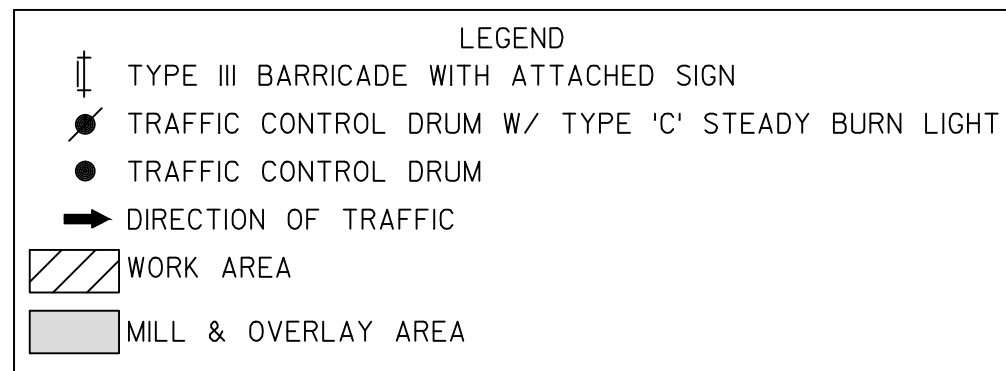


STAGE 4 TYPICAL SECTION
 USH 151 - OUTSIDE RAMPS
 STA 100+31 - STA 116+06
 STA 144+41 - STA 144+83



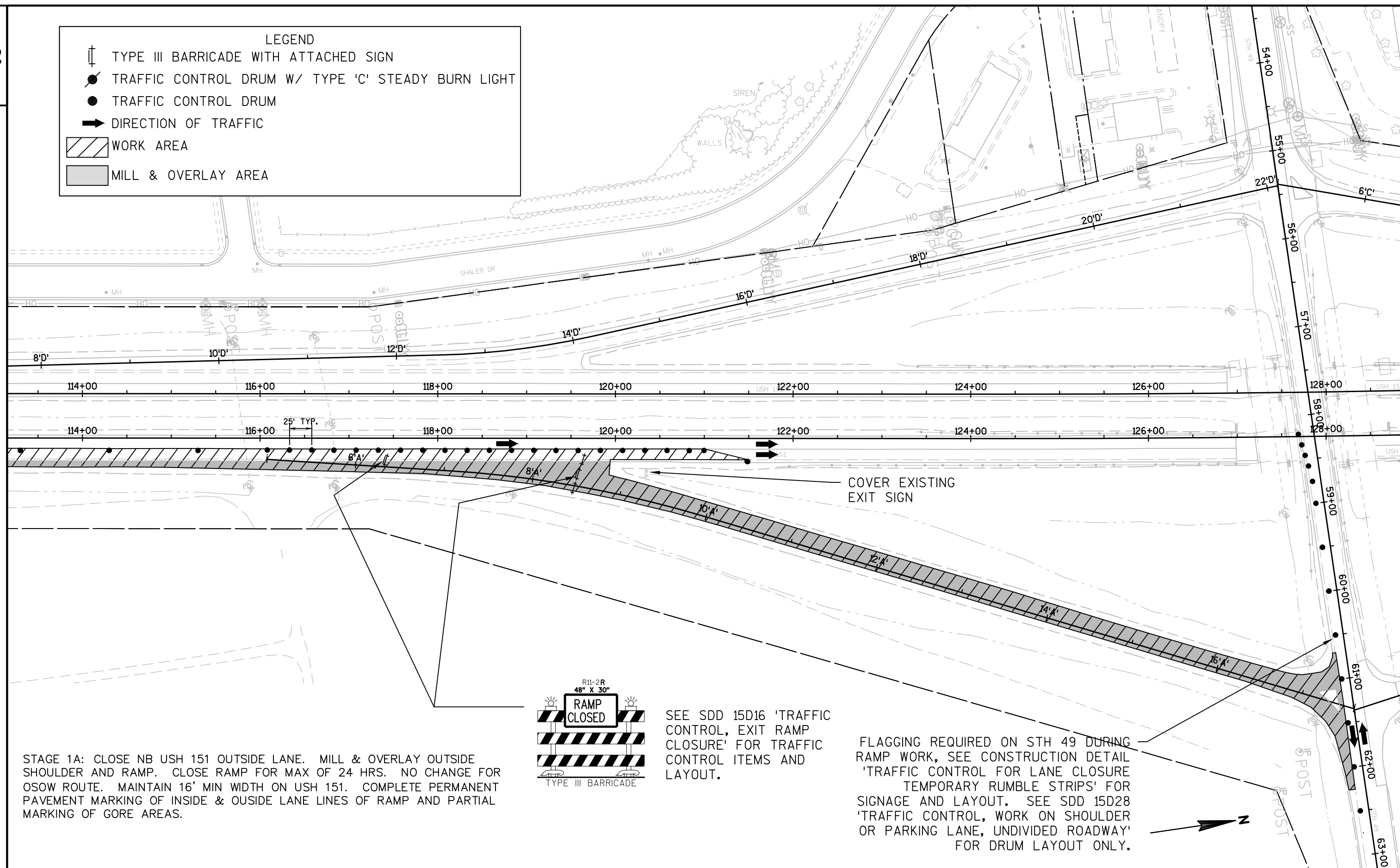
STAGE 4 TYPICAL SECTION
 USH 151 - BETWEEN RAMPS
 STA 119+94 TO STA 136+24

STAGE 4: COMPLETE PERMANENT PAVEMENT
 MARKING OF USH 151 NB & SB MEDIAN LANE LINES
 AND CENTERLINE. MILL MEDIAN RUMBLE STRIPS.



LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK AREA
- MILL & OVERLAY AREA



PROJECT NO:1420-28-30

HWY:USH 151

COUNTY:DODGE & FOND DU LAC

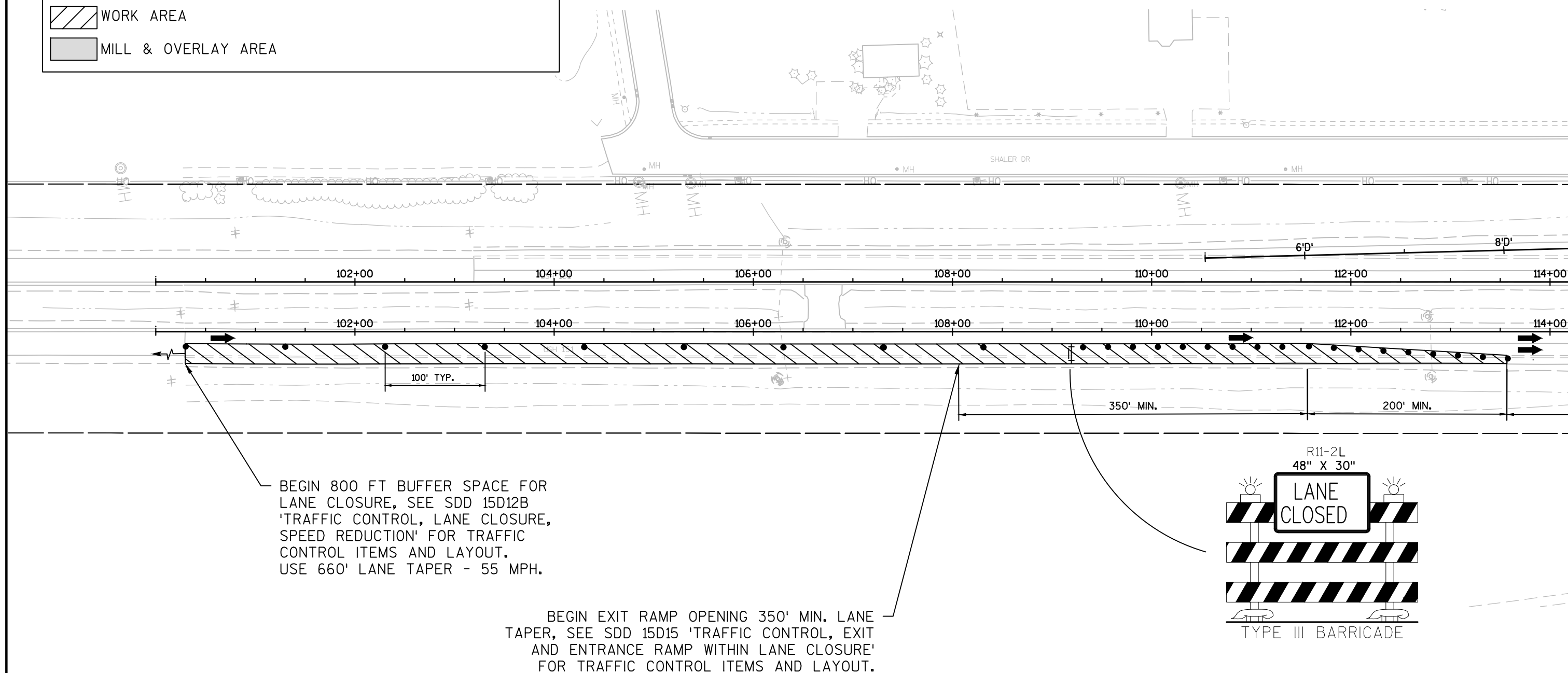
CONSTRUCTION STAGING - 1A

SHEET

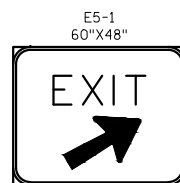
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LEGEND

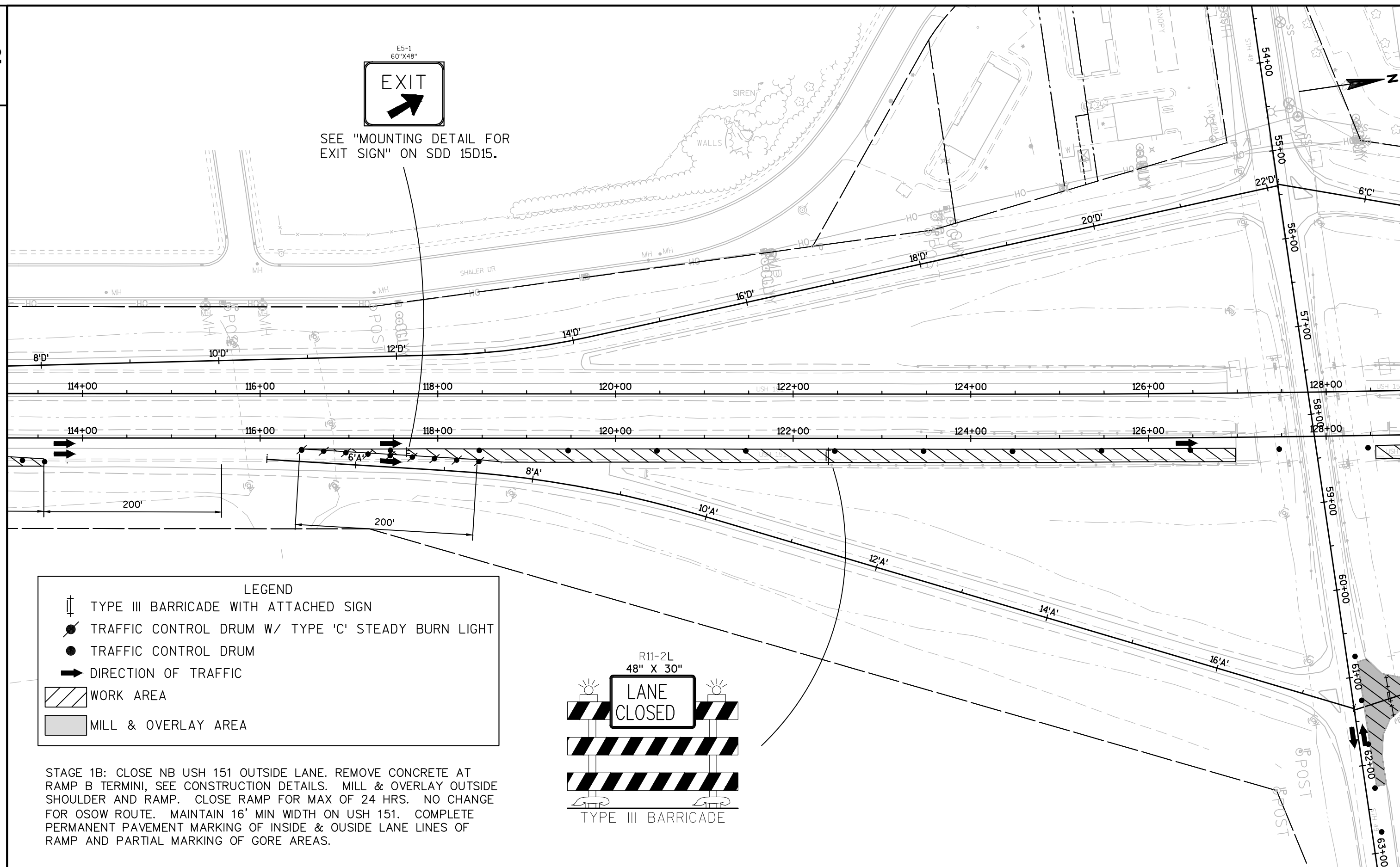
- ⋮ TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- ➔ DIRECTION OF TRAFFIC
- ▨ WORK AREA
- MILL & OVERLAY AREA

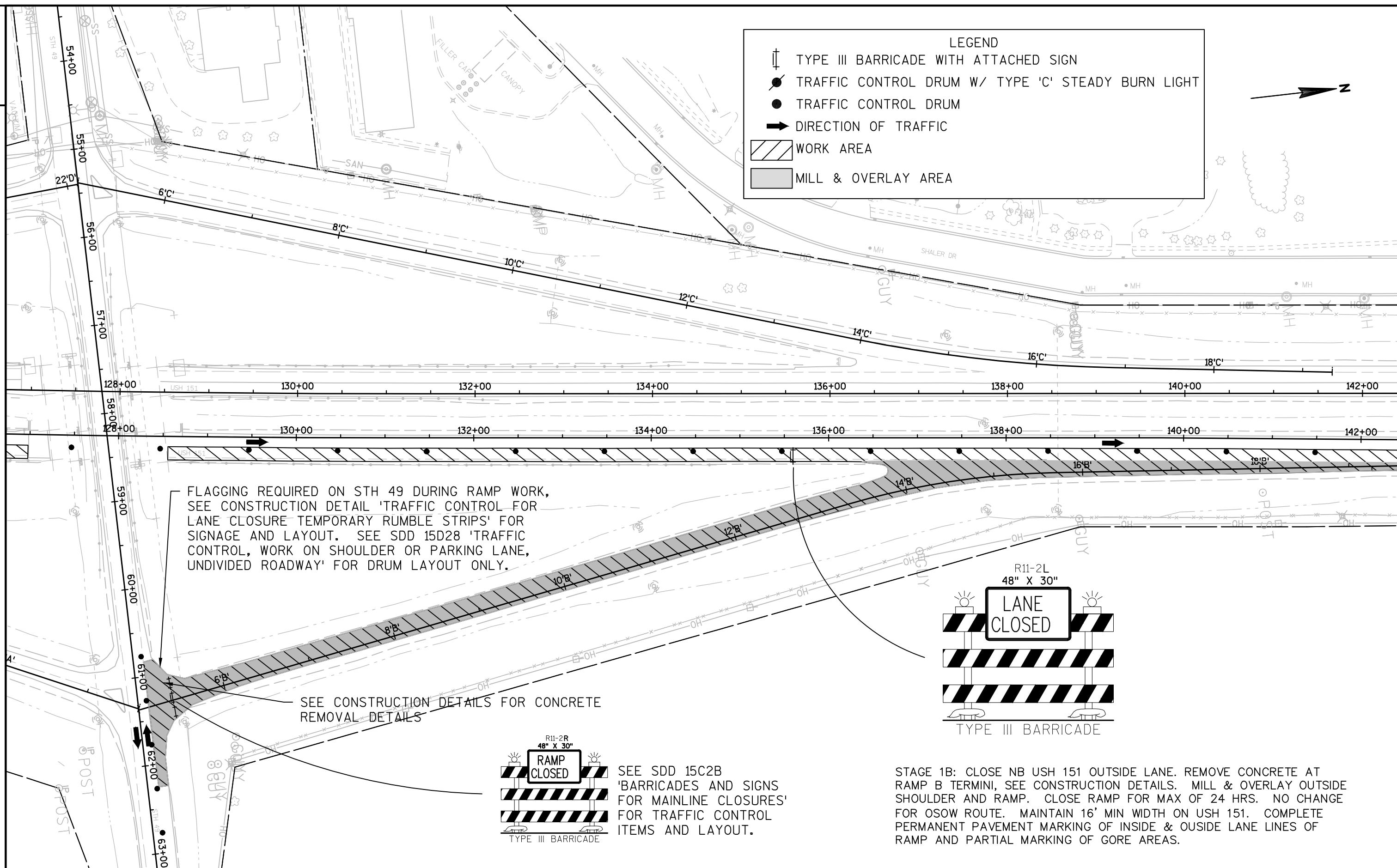


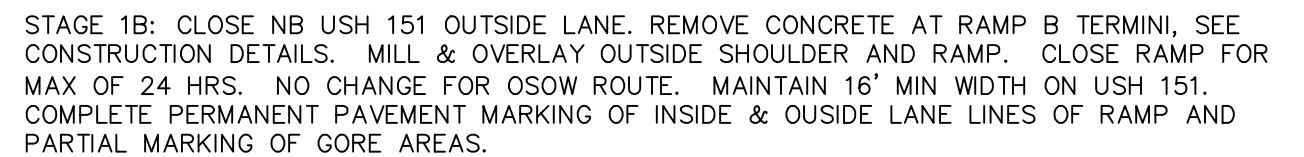
STAGE 1B: CLOSE NB USH 151 OUTSIDE LANE. REMOVE CONCRETE AT RAMP B TERMINI, SEE CONSTRUCTION DETAILS. MILL & OVERLAY OUTSIDE SHOULDER AND RAMP. CLOSE RAMP FOR MAX OF 24 HRS. NO CHANGE FOR OSOW ROUTE. MAINTAIN 16' MIN WIDTH ON USH 151. COMPLETE PERMANENT PAVEMENT MARKING OF INSIDE & OUTSIDE LANE LINES OF RAMP AND PARTIAL MARKING OF GORE AREAS.



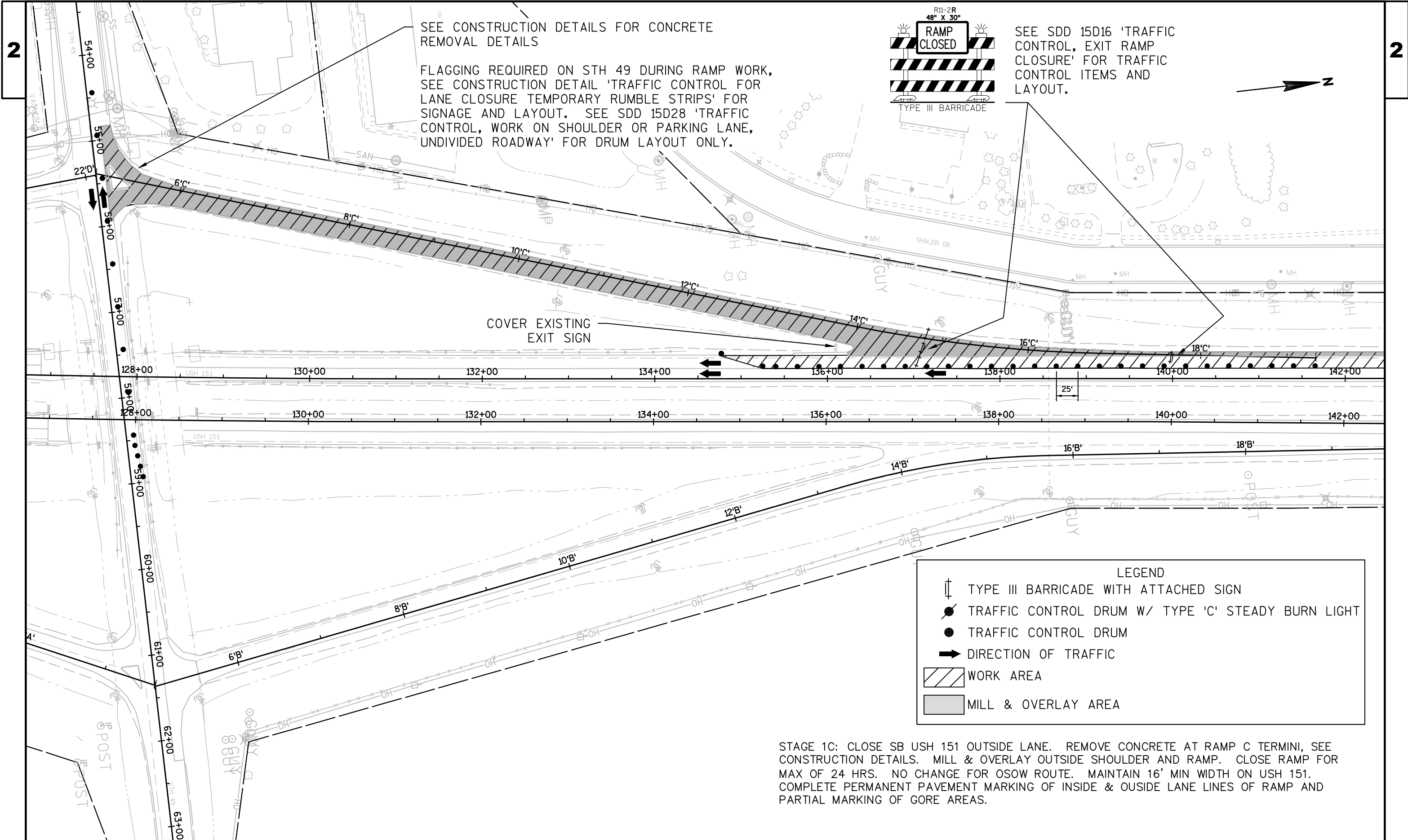
SEE "MOUNTING DETAIL FOR
EXIT SIGN" ON SDD 15D15.





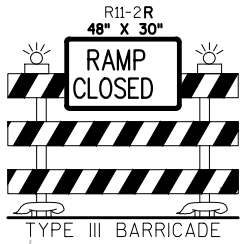


11



SEE CONSTRUCTION DETAILS FOR CONCRETE REMOVAL DETAILS

FLAGGING REQUIRED ON STH 49 DURING RAMP WORK, SEE CONSTRUCTION DETAIL 'TRAFFIC CONTROL FOR LANE CLOSURE TEMPORARY RUMBLE STRIPS' FOR SIGNAGE AND LAYOUT. SEE SDD 15D28 'TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY' FOR DRUM LAYOUT ONLY.



SEE SDD 15D16 'TRAFFIC CONTROL, EXIT RAMP CLOSURE' FOR TRAFFIC CONTROL ITEMS AND LAYOUT.

LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT

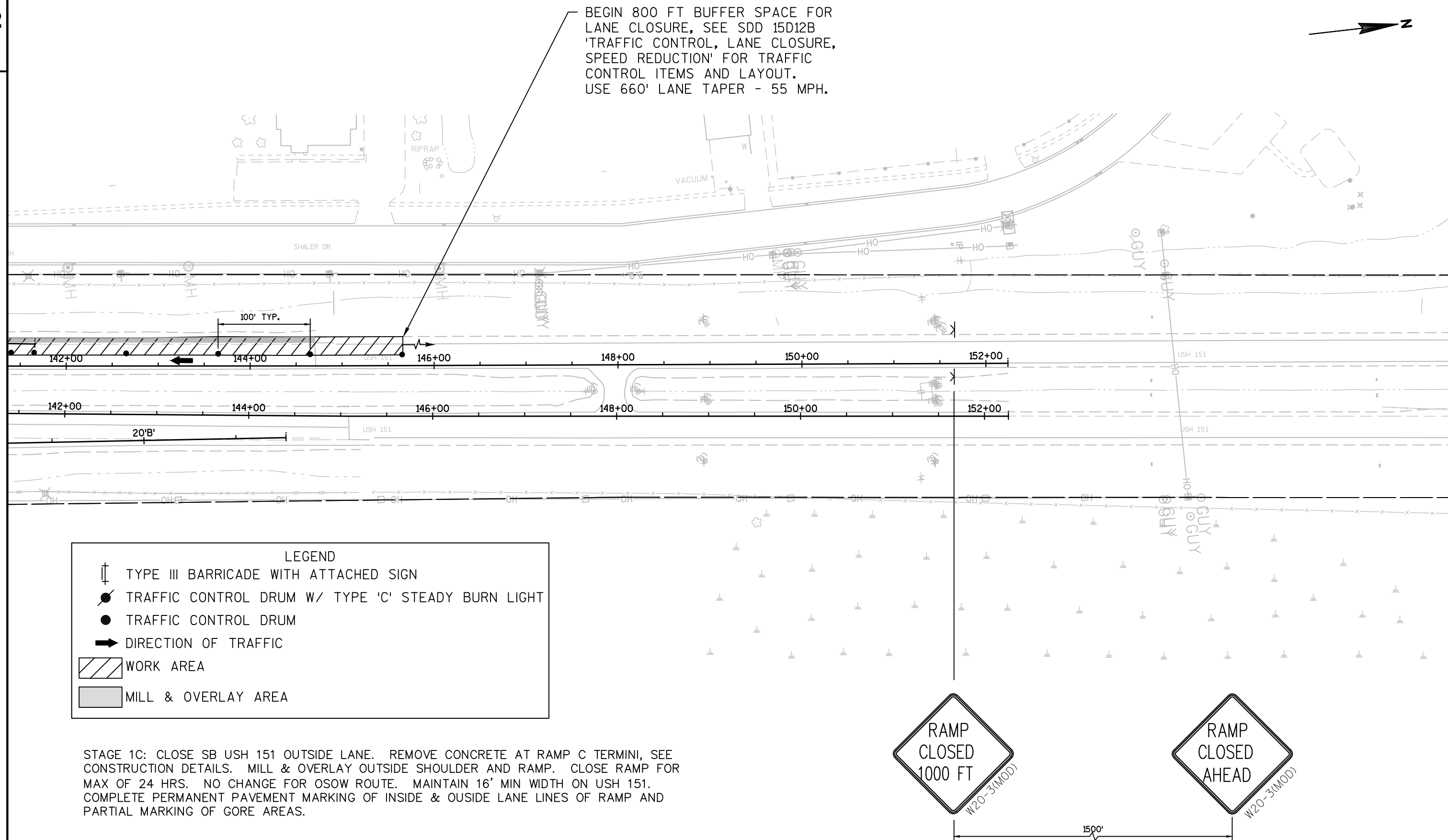
TRAFFIC CONTROL DRUM

DIRECTION OF TRAFFIC

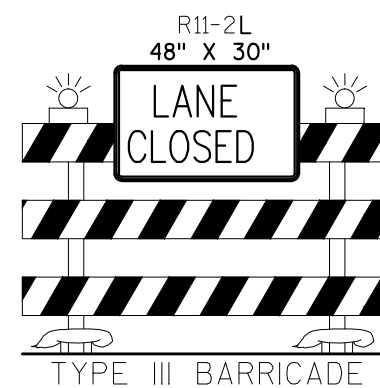
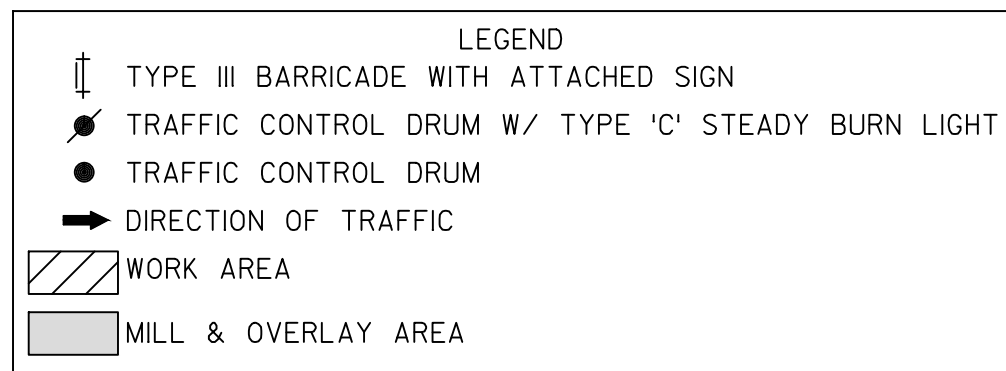
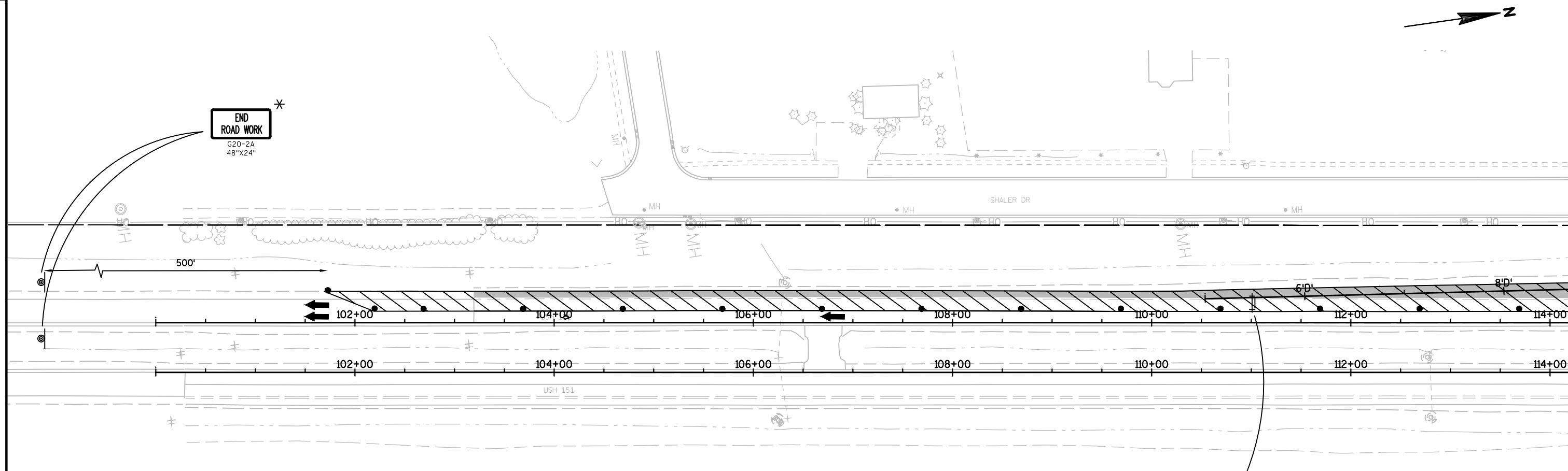
WORK AREA

MILL & OVERLAY AREA

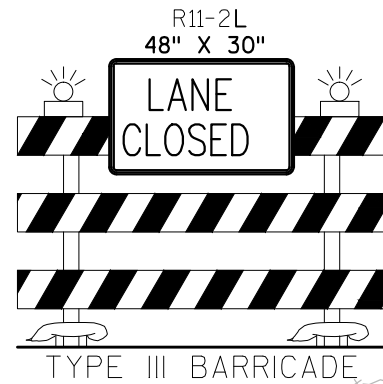
STAGE 1C: CLOSE SB USH 151 OUTSIDE LANE. REMOVE CONCRETE AT RAMP C TERMINI, SEE CONSTRUCTION DETAILS. MILL & OVERLAY OUTSIDE SHOULDER AND RAMP. CLOSE RAMP FOR MAX OF 24 HRS. NO CHANGE FOR OSOW ROUTE. MAINTAIN 16' MIN WIDTH ON USH 151. COMPLETE PERMANENT PAVEMENT MARKING OF INSIDE & OUTSIDE LANE LINES OF RAMP AND PARTIAL MARKING OF GORE AREAS.



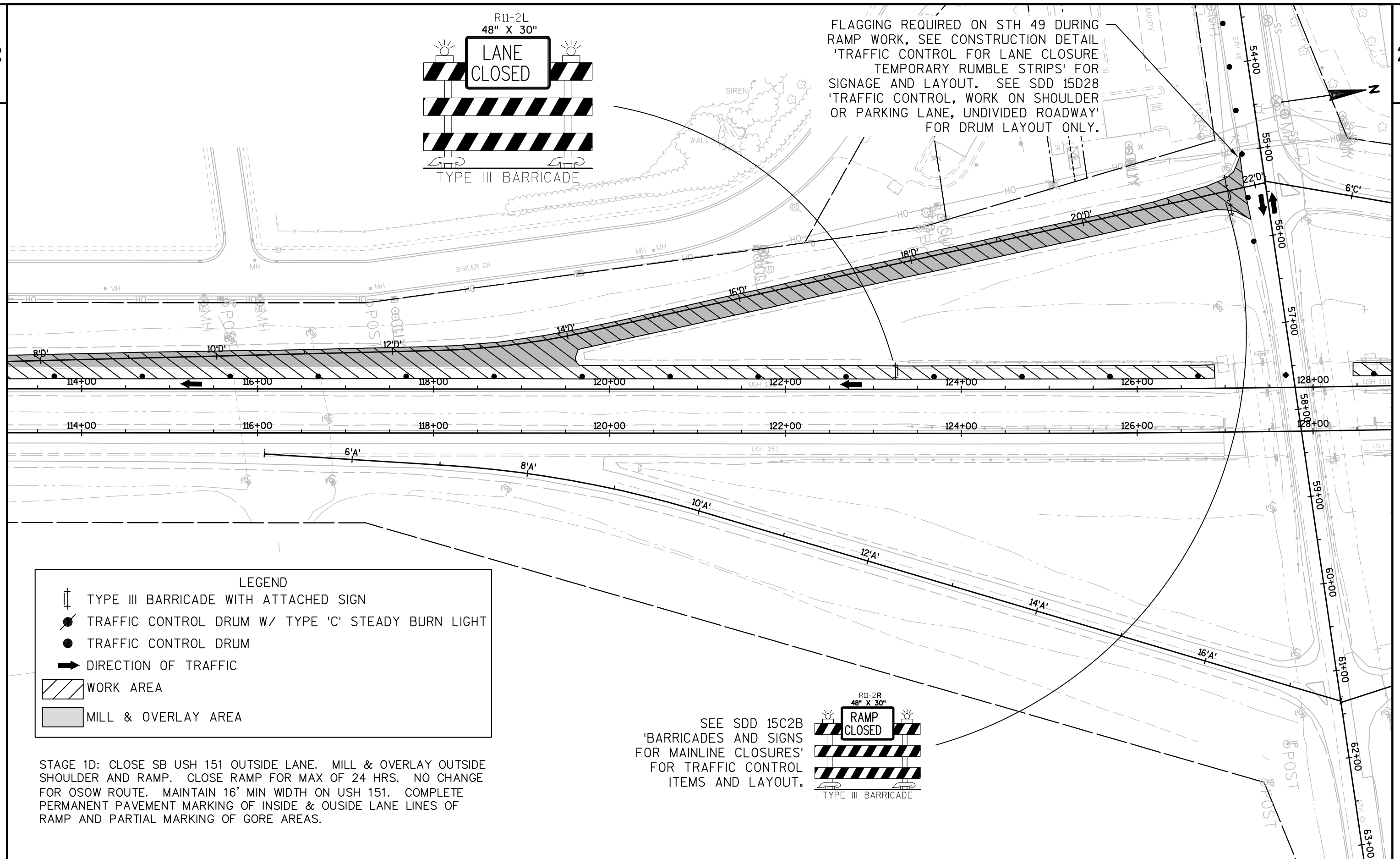
* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.



STAGE 1D: CLOSE SB USH 151 OUTSIDE LANE. MILL & OVERLAY OUTSIDE SHOULDER AND RAMP. CLOSE RAMP FOR MAX OF 24 HRS. NO CHANGE FOR OSOW ROUTE. MAINTAIN 16' MIN WIDTH ON USH 151. COMPLETE PERMANENT PAVEMENT MARKING OF INSIDE & OUTSIDE LANE LINES OF RAMP AND PARTIAL MARKING OF GORE AREAS.



FLAGGING REQUIRED ON STH 49 DURING RAMP WORK, SEE CONSTRUCTION DETAIL 'TRAFFIC CONTROL FOR LANE CLOSURE TEMPORARY RUMBLE STRIPS' FOR SIGNAGE AND LAYOUT. SEE SDD 15D28 'TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY' FOR DRUM LAYOUT ONLY.

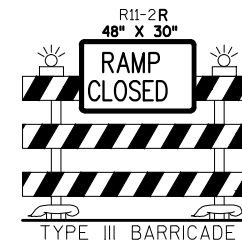


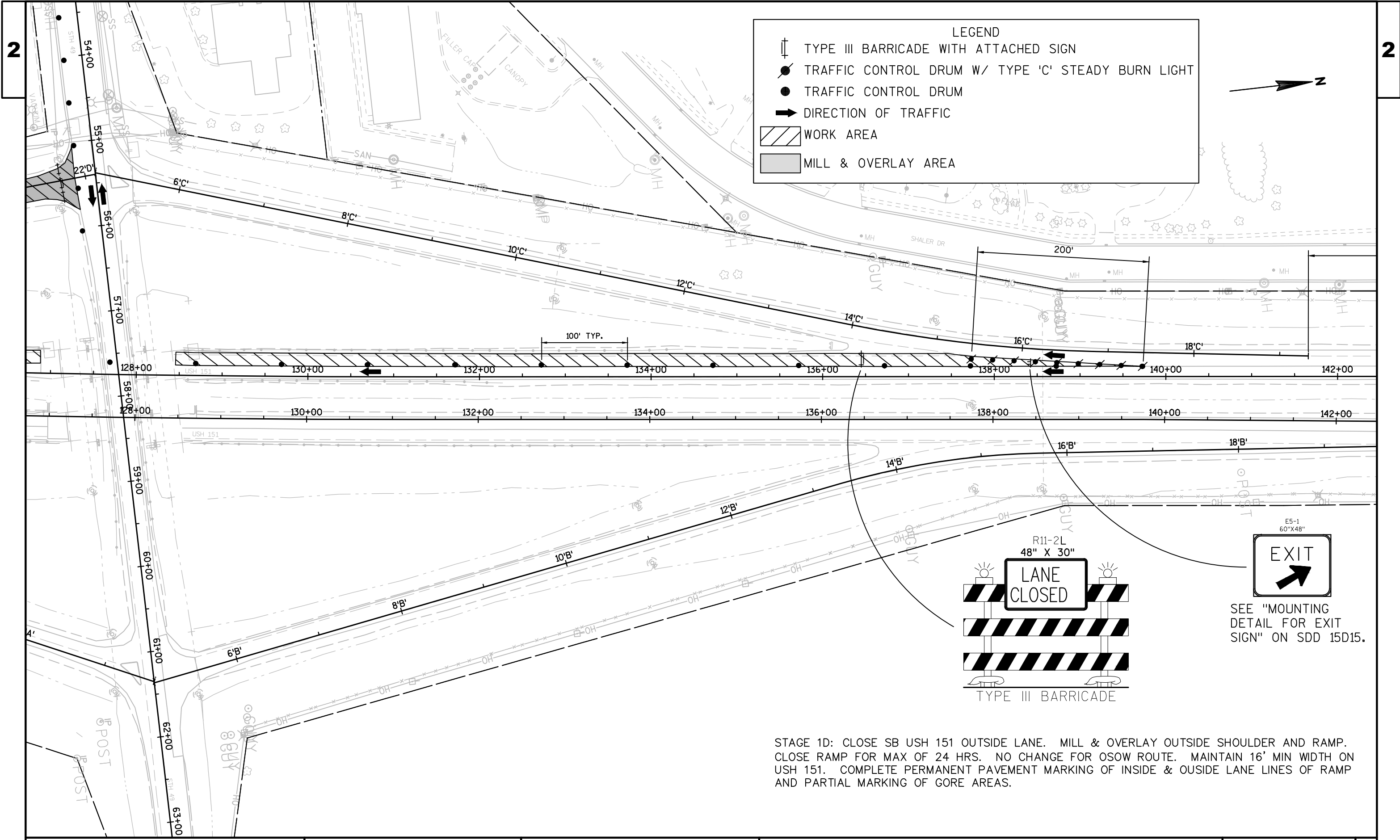
LEGEND

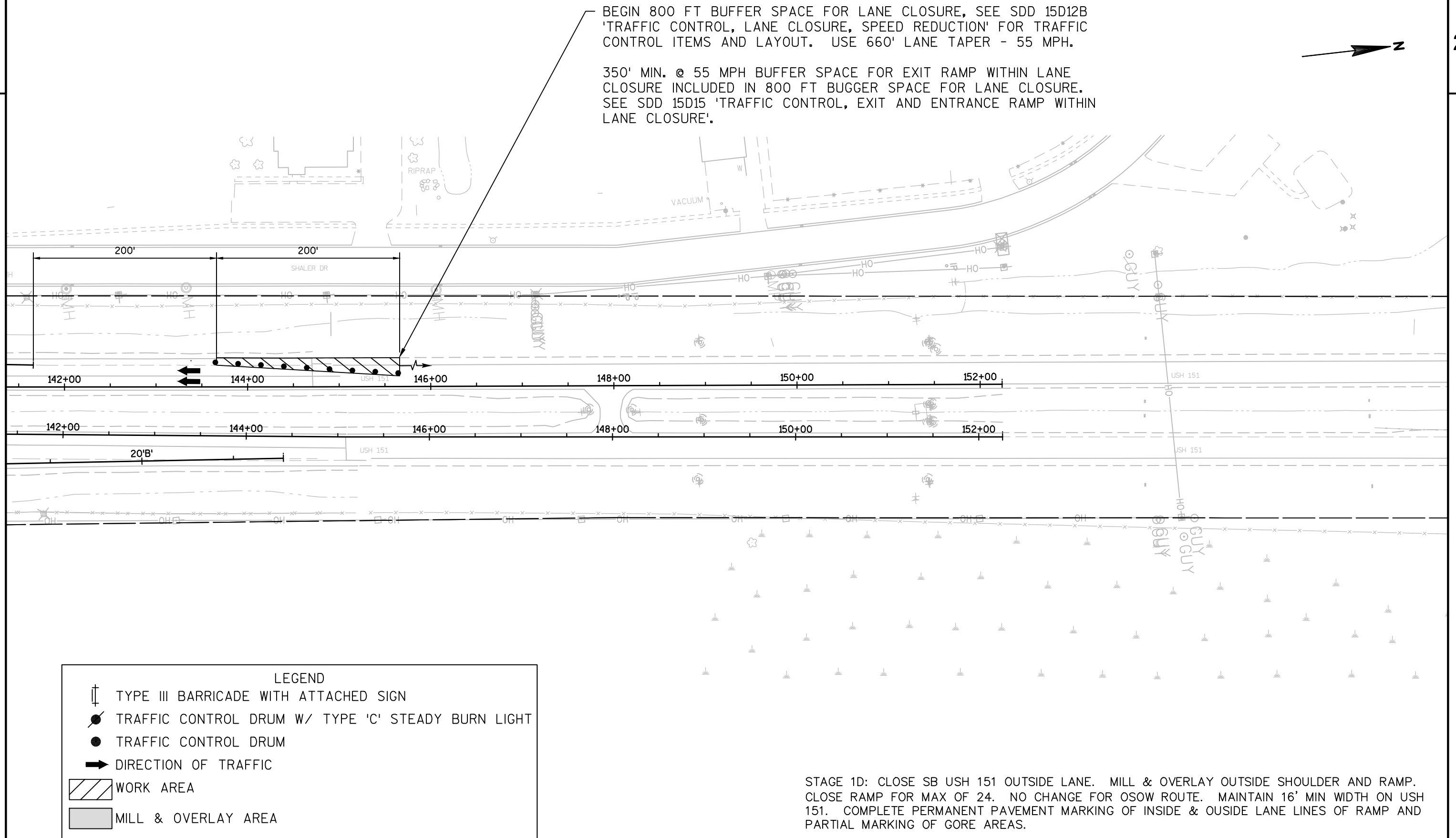
- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK AREA
- MILL & OVERLAY AREA

STAGE 1D: CLOSE SB USH 151 OUTSIDE LANE. MILL & OVERLAY OUTSIDE SHOULDER AND RAMP. CLOSE RAMP FOR MAX OF 24 HRS. NO CHANGE FOR OSOW ROUTE. MAINTAIN 16' MIN WIDTH ON USH 151. COMPLETE PERMANENT PAVEMENT MARKING OF INSIDE & OUTSIDE LANE LINES OF RAMP AND PARTIAL MARKING OF GORE AREAS.

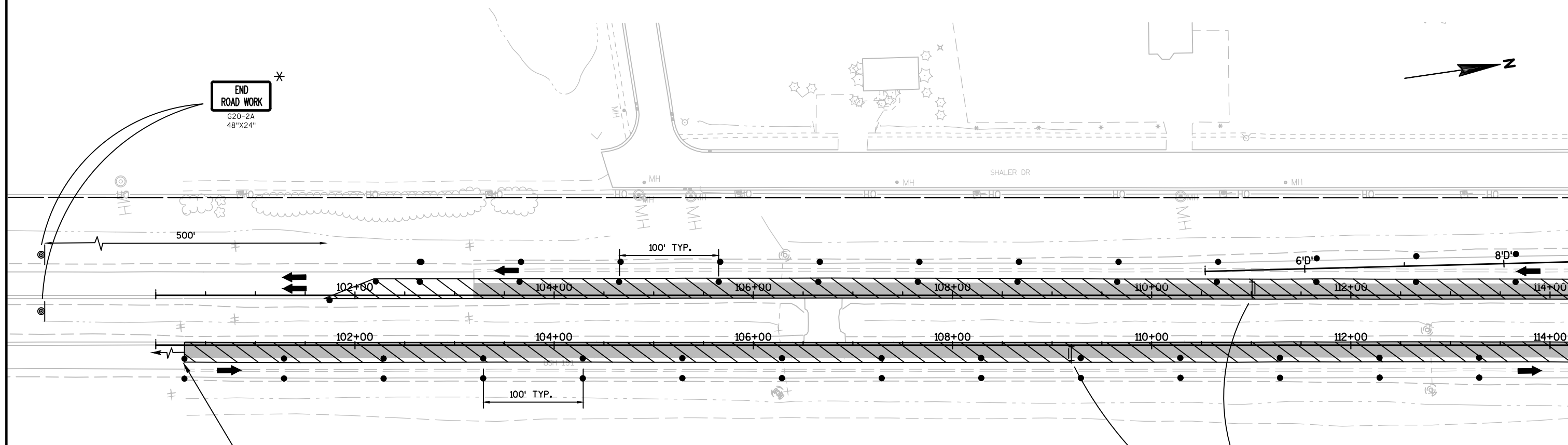
SEE SDD 15C2B 'BARRICADES AND SIGNS FOR MAINLINE CLOSURES' FOR TRAFFIC CONTROL ITEMS AND LAYOUT.







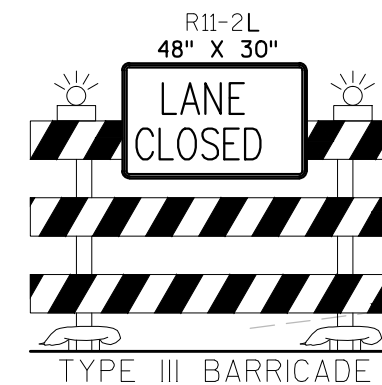
* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.



BEGIN 800 FT BUFFER SPACE FOR LANE CLOSURE, SEE SDD 15D12B 'TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION' FOR TRAFFIC CONTROL ITEMS AND LAYOUT. USE 660' LANE TAPER - 55 MPH.

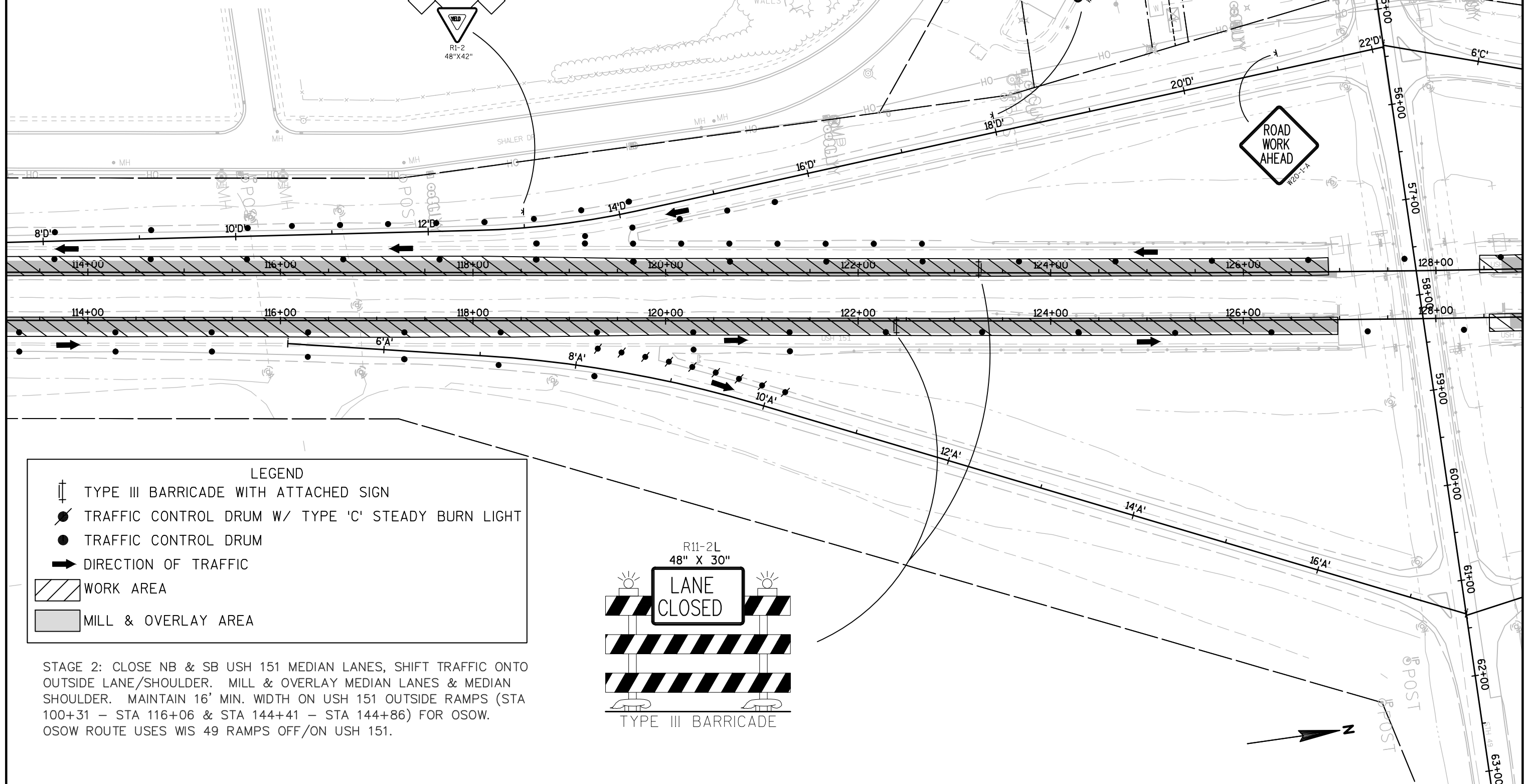
LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- DIRECTION OF TRAFFIC
- WORK AREA
- MILL & OVERLAY AREA









STAGE 2: CLOSE NB & SB USH 151 MEDIAN LANES, SHIFT TRAFFIC ONTO OUTSIDE LANE/SHOULDER. MILL & OVERLAY MEDIAN LANES & MEDIAN SHOULDER. MAINTAIN 16' MIN. WIDTH ON USH 151 OUTSIDE RAMPS (STA 100+31 - STA 116+06 & STA 144+41 - STA 144+86) FOR OSOW. OSOW ROUTE USES WIS 49 RAMPS OFF/ON USH 151.

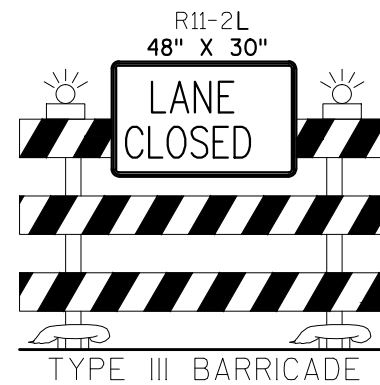
FOR RAMPS A & D, SEE SDD 15D15
'TRAFFIC CONTROL, EXIT AND ENTRANCE
RAMP WITHIN LANE CLOSURE' FOR
TRAFFIC CONTROL ITEMS AND LAYOUT.

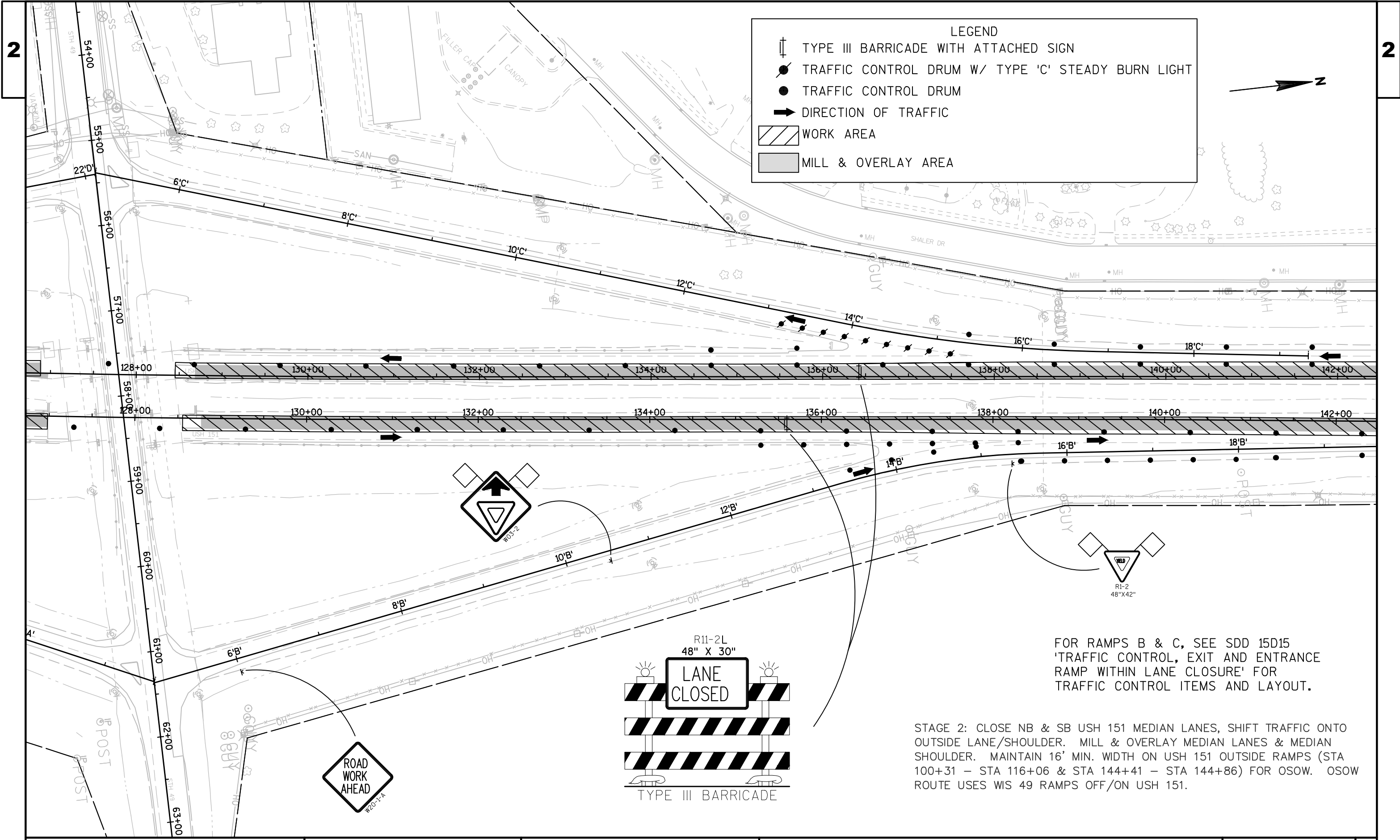


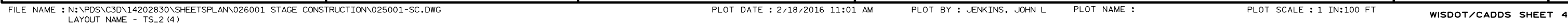
LEGEND

- LEGEND
-  TYPE III BARRICADE WITH ATTACHED SIGN
 -  TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
 -  TRAFFIC CONTROL DRUM
 -  DIRECTION OF TRAFFIC
 -  WORK AREA
 -  MILL & OVERLAY AREA







STAGE 2: CLOSE NB & SB USH 151 MEDIAN LANES, SHIFT TRAFFIC ONTO OUTSIDE LANE/SHOULDER. MILL & OVERLAY MEDIAN LANES & MEDIAN SHOULDER. MAINTAIN 16' MIN. WIDTH ON USH 151 OUTSIDE RAMPS (STA 100+31 - STA 116+06 & STA 144+41 - STA 144+86) FOR OSOW. OSOW ROUTE USES WIS 49 RAMPS OFF/ON USH 151.

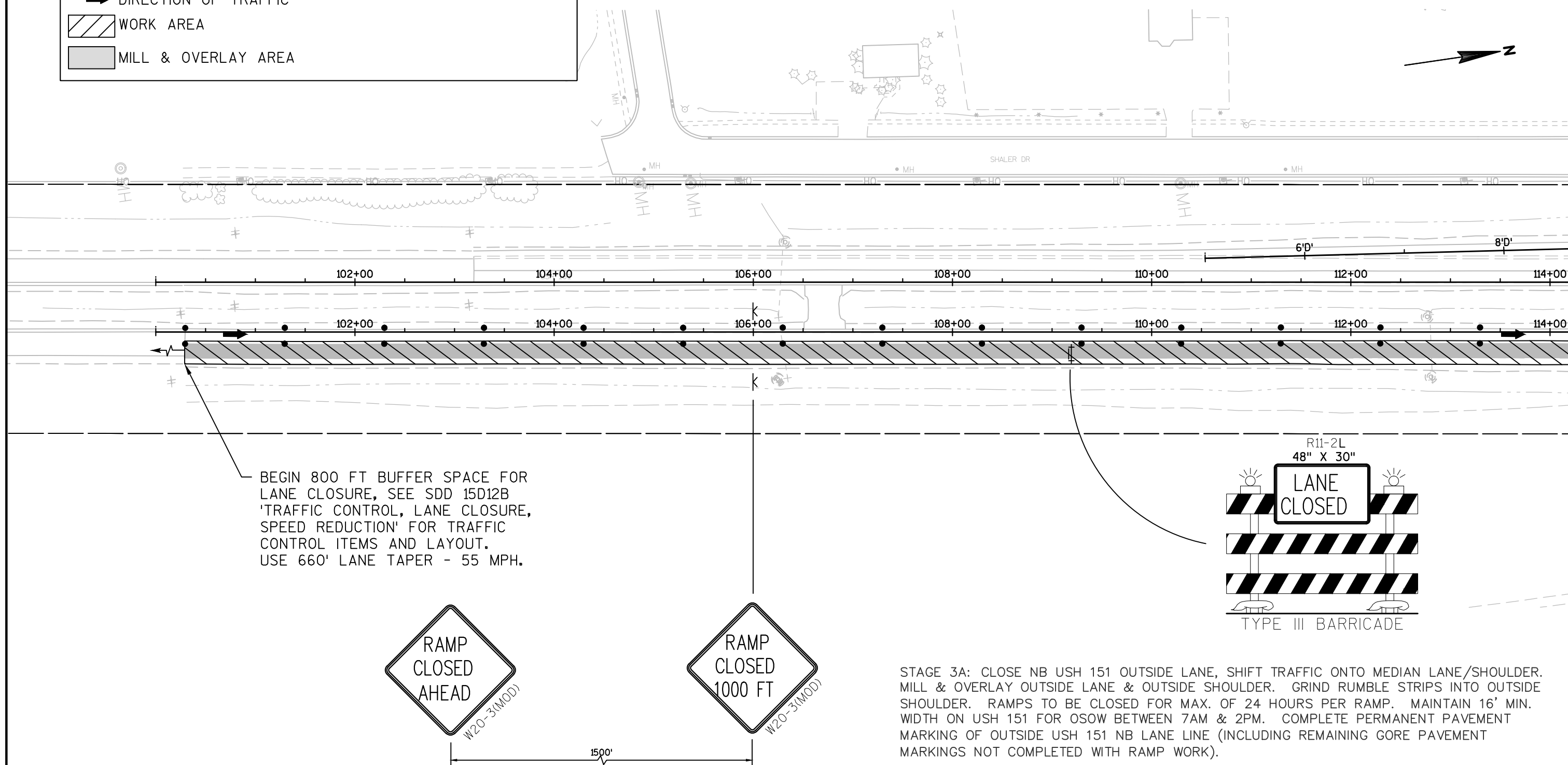


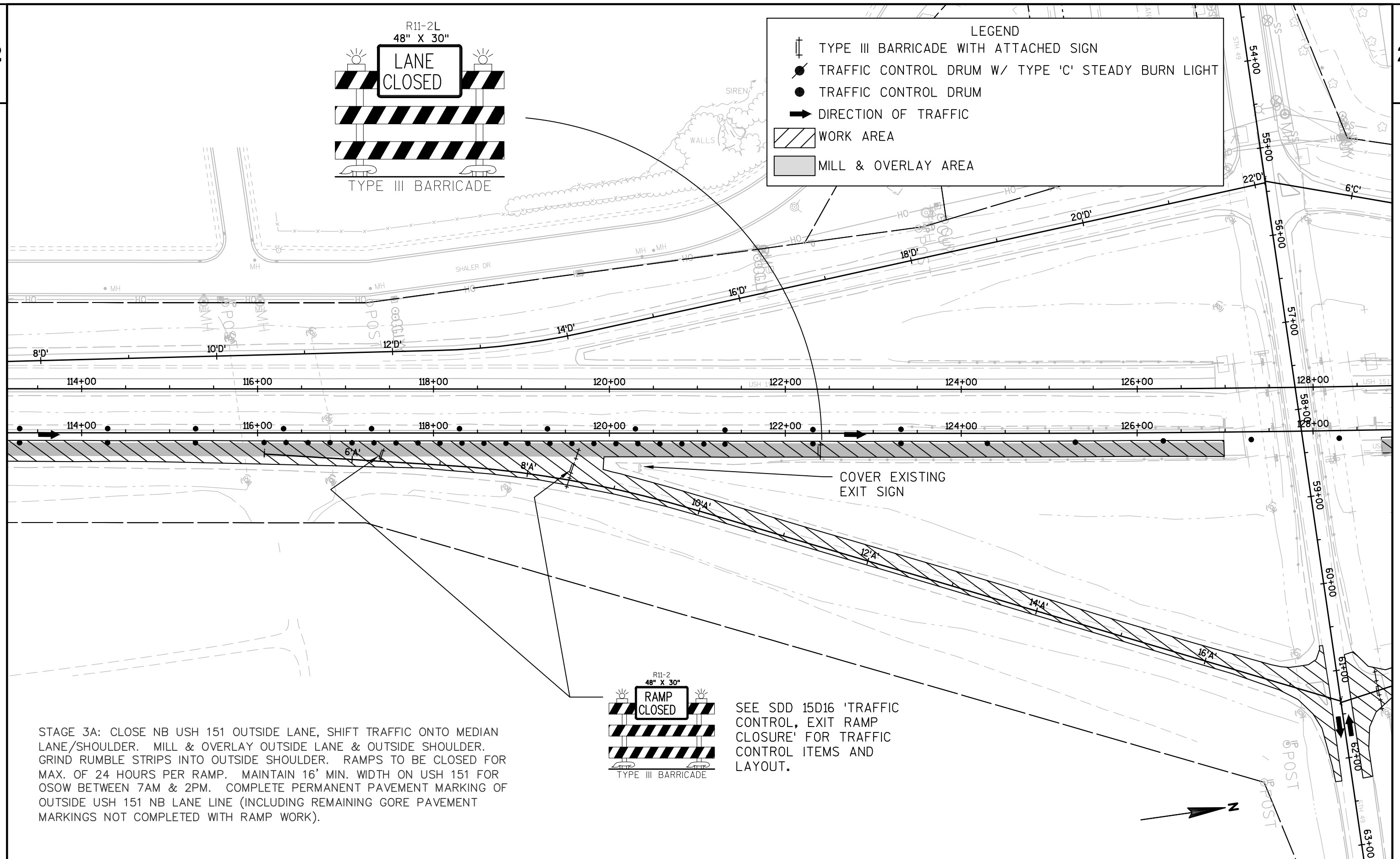
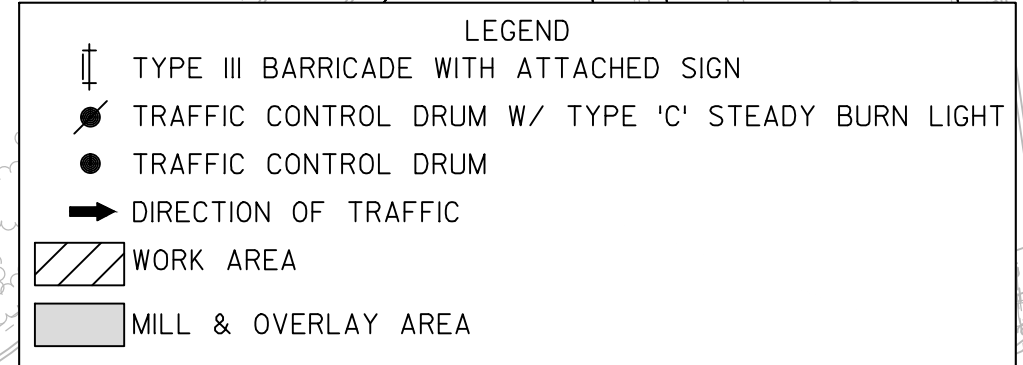
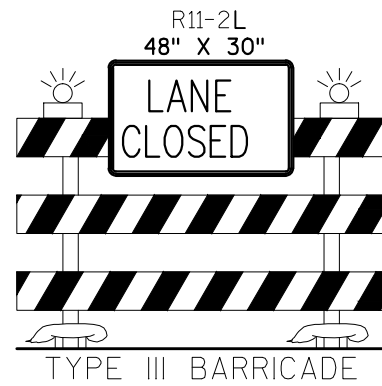




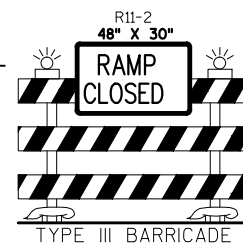
LEGEND

-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  MILL & OVERLAY AREA

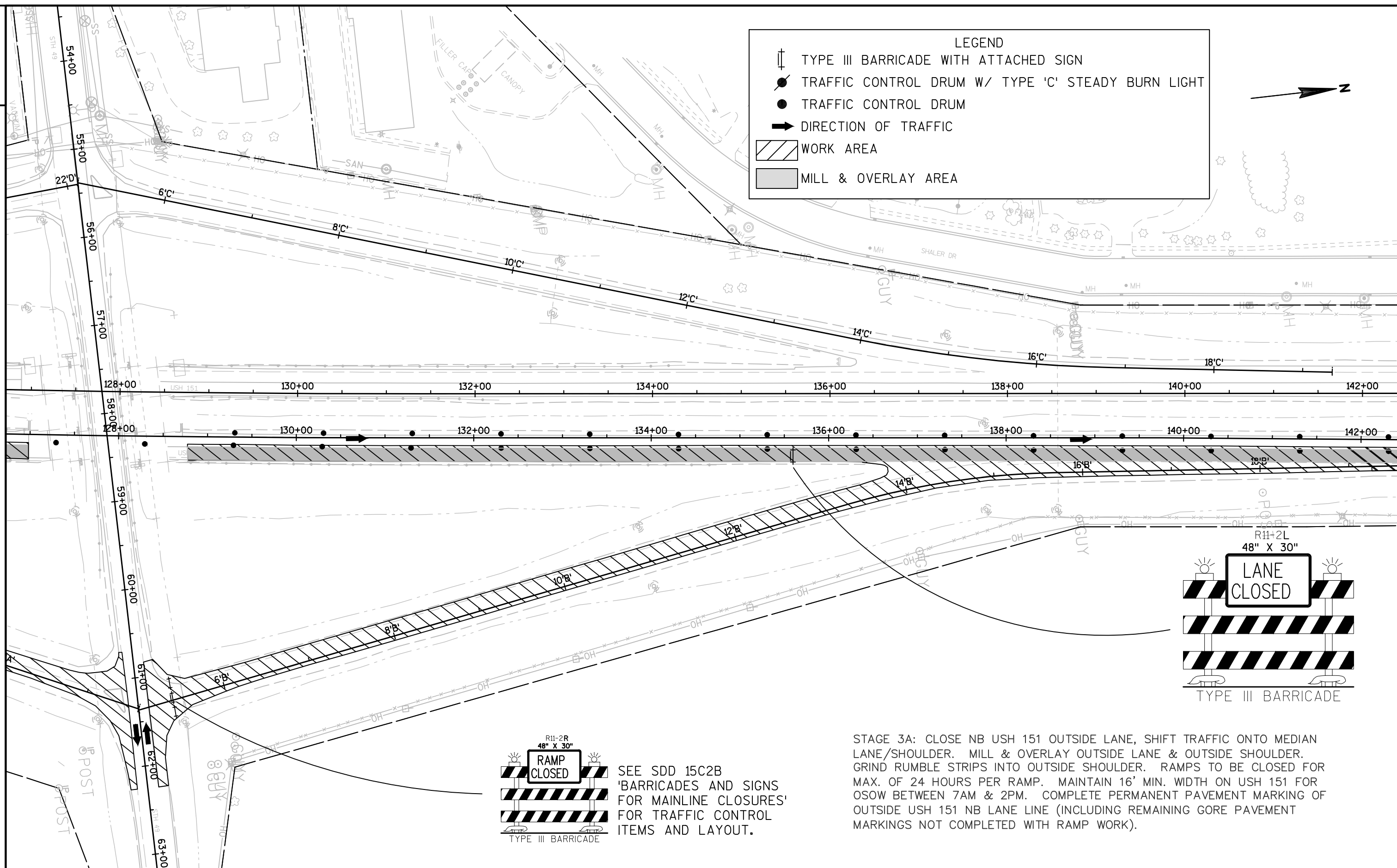


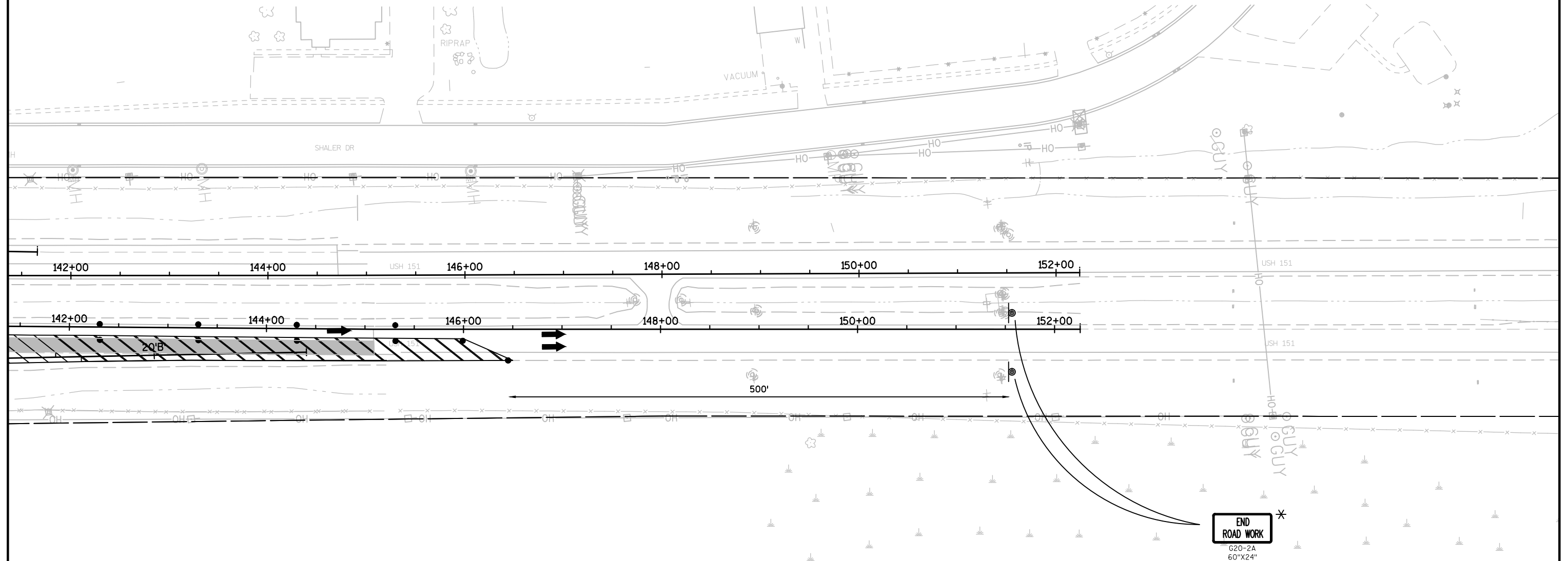


STAGE 3A: CLOSE NB USH 151 OUTSIDE LANE, SHIFT TRAFFIC ONTO MEDIAN LANE/SHOULDER. MILL & OVERLAY OUTSIDE LANE & OUTSIDE SHOULDER. GRIND RUMBLE STRIPS INTO OUTSIDE SHOULDER. RAMPS TO BE CLOSED FOR MAX. OF 24 HOURS PER RAMP. MAINTAIN 16' MIN. WIDTH ON USH 151 FOR OSOW BETWEEN 7AM & 2PM. COMPLETE PERMANENT PAVEMENT MARKING OF OUTSIDE USH 151 NB LANE LINE (INCLUDING REMAINING GORE PAVEMENT MARKINGS NOT COMPLETED WITH RAMP WORK).









SEE SDD 15D16 'TRAFFIC CONTROL, EXIT RAMP CLOSURE' FOR TRAFFIC CONTROL ITEMS AND LAYOUT.





LEGEND

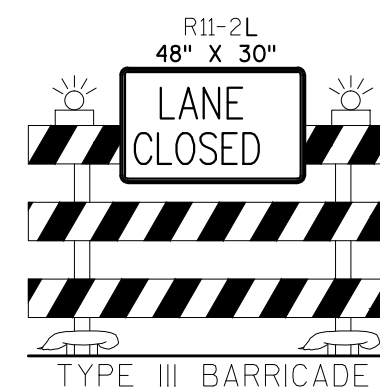
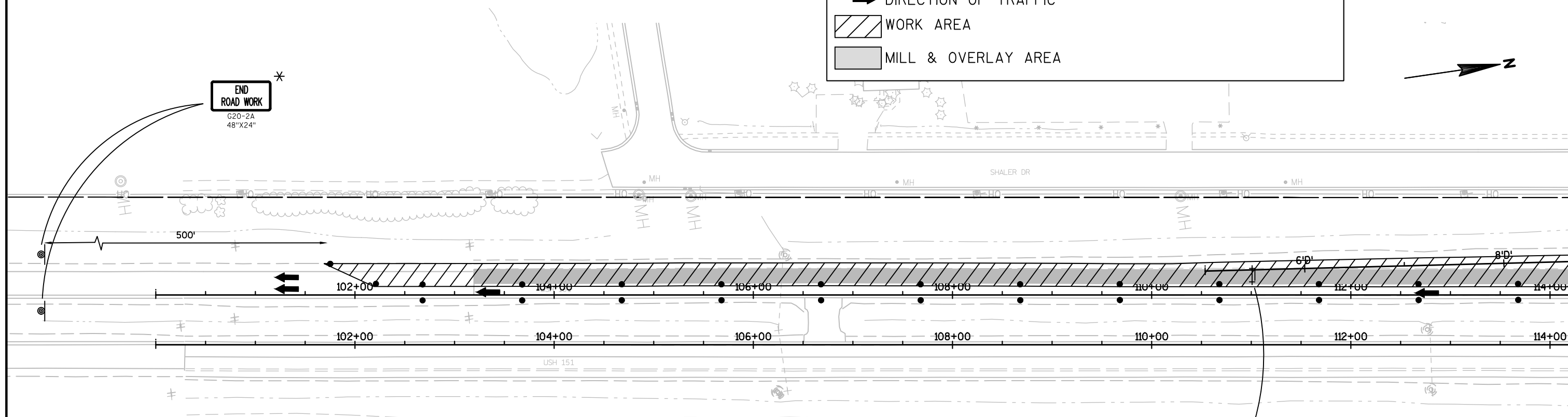
-  TYPE III BARRICADE WITH ATTACHED SIGN
-  TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
-  TRAFFIC CONTROL DRUM
-  DIRECTION OF TRAFFIC
-  WORK AREA
-  MILL & OVERLAY AREA

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

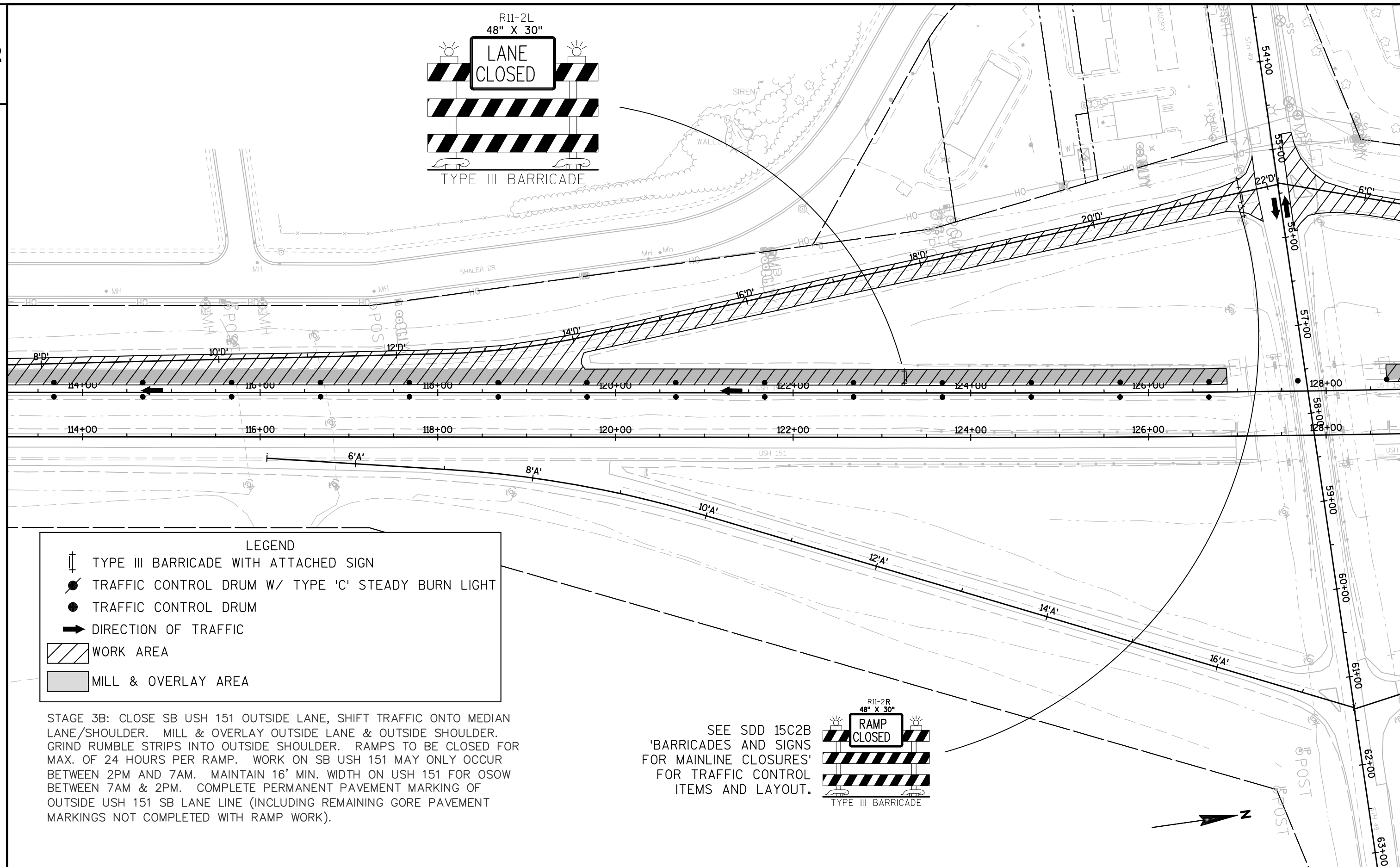
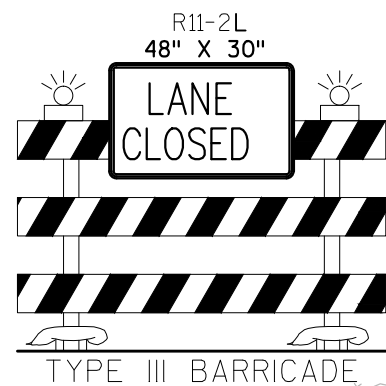
STAGE 3A: CLOSE NB USH 151 OUTSIDE LANE, SHIFT TRAFFIC ONTO MEDIAN LANE/SHOULDER. MILL & OVERLAY OUTSIDE LANE & OUTSIDE SHOULDER. GRIND RUMBLE STRIPS INTO OUTSIDE SHOULDER. RAMPS TO BE CLOSED FOR MAX. OF 24 HOURS PER RAMP. MAINTAIN 16' MIN. WIDTH ON USH 151 FOR OSOW BETWEEN 7AM & 2PM. COMPLETE PERMANENT PAVEMENT MARKING OF OUTSIDE USH 151 NB LANE LINE (INCLUDING REMAINING GORE PAVEMENT MARKINGS NOT COMPLETED WITH RAMP WORK).

* INCLUDE RESUME SPEED LIMIT SIGN A MINIMUM OF 200 FEET (500 FEET DESIRABLE) AFTER END ROAD WORK SIGNS.

- LEGEND
- TYPE III BARRICADE WITH ATTACHED SIGN
 - TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
 - TRAFFIC CONTROL DRUM
 - DIRECTION OF TRAFFIC
 - WORK AREA
 - MILL & OVERLAY AREA



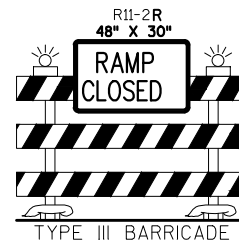
STAGE 3B: CLOSE SB USH 151 OUTSIDE LANE, SHIFT TRAFFIC ONTO MEDIAN LANE/SHOULDER. MILL & OVERLAY OUTSIDE LANE & OUTSIDE SHOULDER. GRIND RUMBLE STRIPS INTO OUTSIDE SHOULDER. RAMPS TO BE CLOSED FOR MAX. OF 24 HOURS PER RAMP. WORK ON SB USH 151 MAY ONLY OCCUR BETWEEN 2PM AND 7AM. MAINTAIN 16' MIN. WIDTH ON USH 151 FOR OSOW BETWEEN 7AM & 2PM. COMPLETE PERMANENT PAVEMENT MARKING OF OUTSIDE USH 151 SB LANE LINE (INCLUDING REMAINING GORE PAVEMENT MARKINGS NOT COMPLETED WITH RAMP WORK).

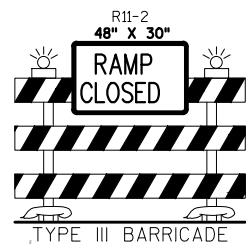
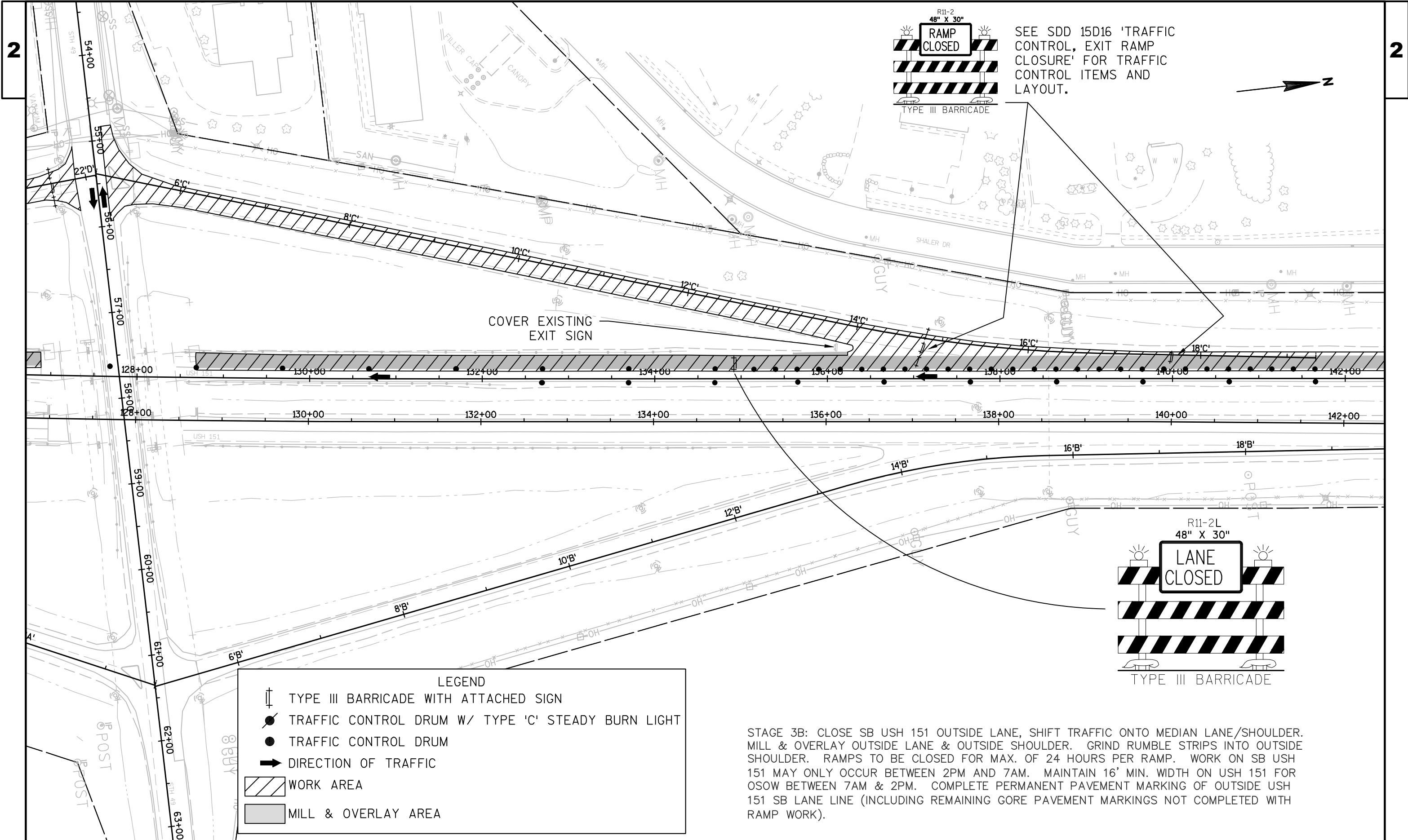


- LEGEND
- TYPE III BARRICADE WITH ATTACHED SIGN
 - TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
 - TRAFFIC CONTROL DRUM
 - DIRECTION OF TRAFFIC
 - WORK AREA
 - MILL & OVERLAY AREA

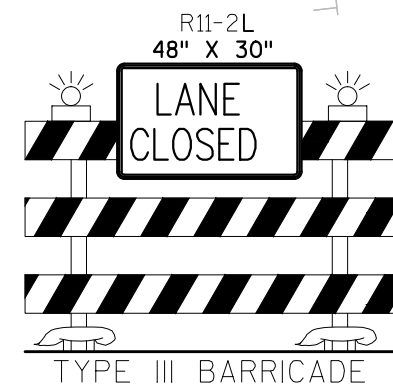
STAGE 3B: CLOSE SB USH 151 OUTSIDE LANE, SHIFT TRAFFIC ONTO MEDIAN LANE/SHOULDER. MILL & OVERLAY OUTSIDE LANE & OUTSIDE SHOULDER. GRIND RUMBLE STRIPS INTO OUTSIDE SHOULDER. RAMPS TO BE CLOSED FOR MAX. OF 24 HOURS PER RAMP. WORK ON SB USH 151 MAY ONLY OCCUR BETWEEN 2PM AND 7AM. MAINTAIN 16' MIN. WIDTH ON USH 151 FOR OSOW BETWEEN 7AM & 2PM. COMPLETE PERMANENT PAVEMENT MARKING OF OUTSIDE USH 151 SB LANE LINE (INCLUDING REMAINING GORE PAVEMENT MARKINGS NOT COMPLETED WITH RAMP WORK).

SEE SDD 15C2B
'BARRICADES AND SIGNS
FOR MAINLINE CLOSURES'
FOR TRAFFIC CONTROL
ITEMS AND LAYOUT.





SEE SDD 15D16 'TRAFFIC CONTROL, EXIT RAMP CLOSURE' FOR TRAFFIC CONTROL ITEMS AND LAYOUT.



LEGEND

TYPE III BARRICADE WITH ATTACHED SIGN

TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT

TRAFFIC CONTROL DRUM

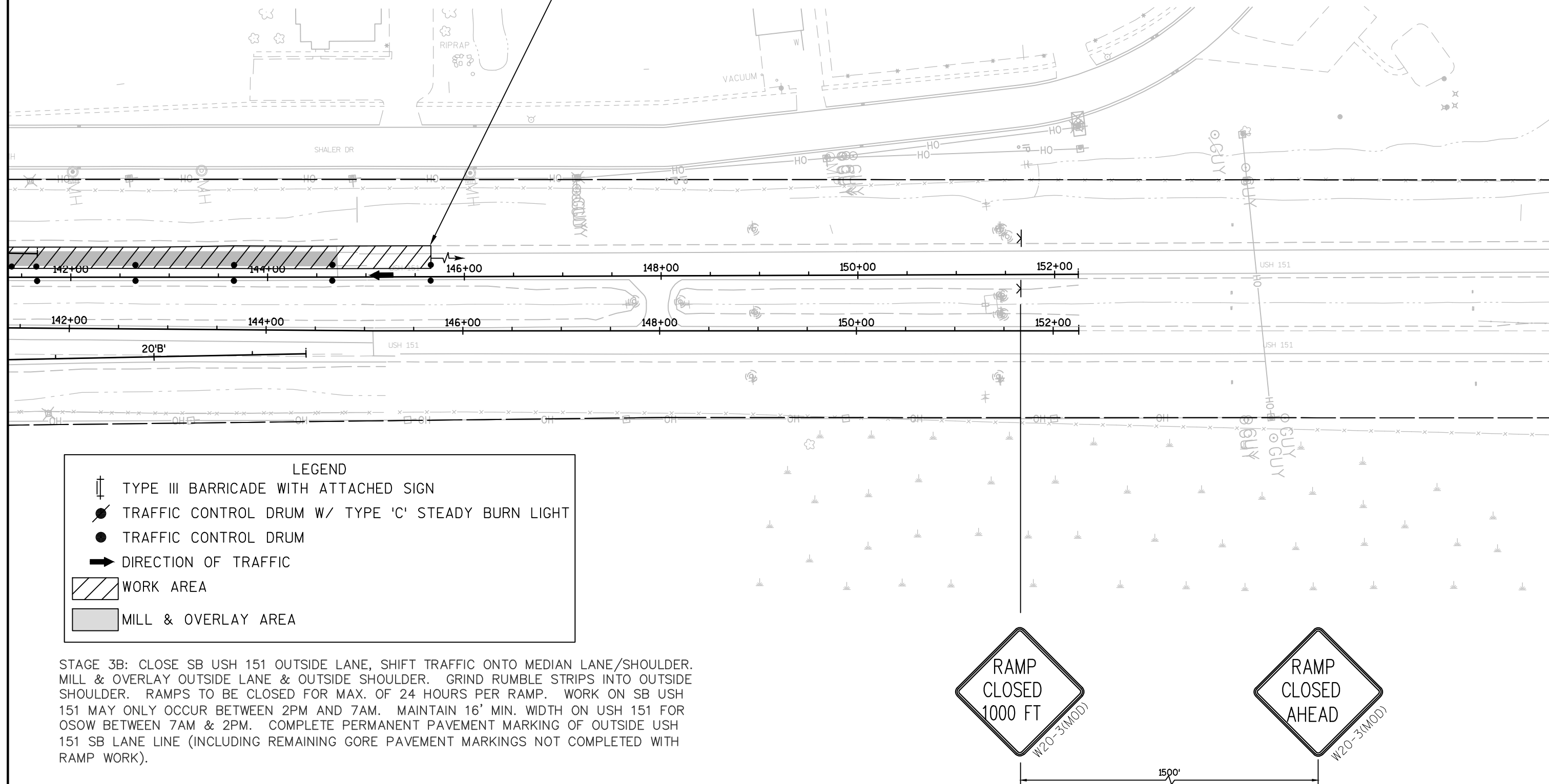
DIRECTION OF TRAFFIC

WORK AREA

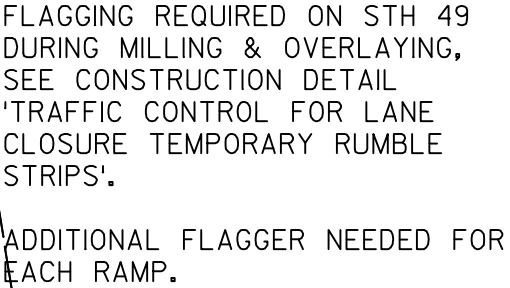
MILL & OVERLAY AREA

STAGE 3B: CLOSE SB USH 151 OUTSIDE LANE, SHIFT TRAFFIC ONTO MEDIAN LANE/SHOULDER. MILL & OVERLAY OUTSIDE LANE & OUTSIDE SHOULDER. GRIND RUMBLE STRIPS INTO OUTSIDE SHOULDER. RAMPS TO BE CLOSED FOR MAX. OF 24 HOURS PER RAMP. WORK ON SB USH 151 MAY ONLY OCCUR BETWEEN 2PM AND 7AM. MAINTAIN 16' MIN. WIDTH ON USH 151 FOR OSOW BETWEEN 7AM & 2PM. COMPLETE PERMANENT PAVEMENT MARKING OF OUTSIDE USH 151 SB LANE LINE (INCLUDING REMAINING GORE PAVEMENT MARKINGS NOT COMPLETED WITH RAMP WORK).

BEGIN 800 FT BUFFER SPACE FOR
LANE CLOSURE, SEE SDD 15D12B
'TRAFFIC CONTROL, LANE CLOSURE,
SPEED REDUCTION' FOR TRAFFIC
CONTROL ITEMS AND LAYOUT.
USE 660' LANE TAPER - 55 MPH.









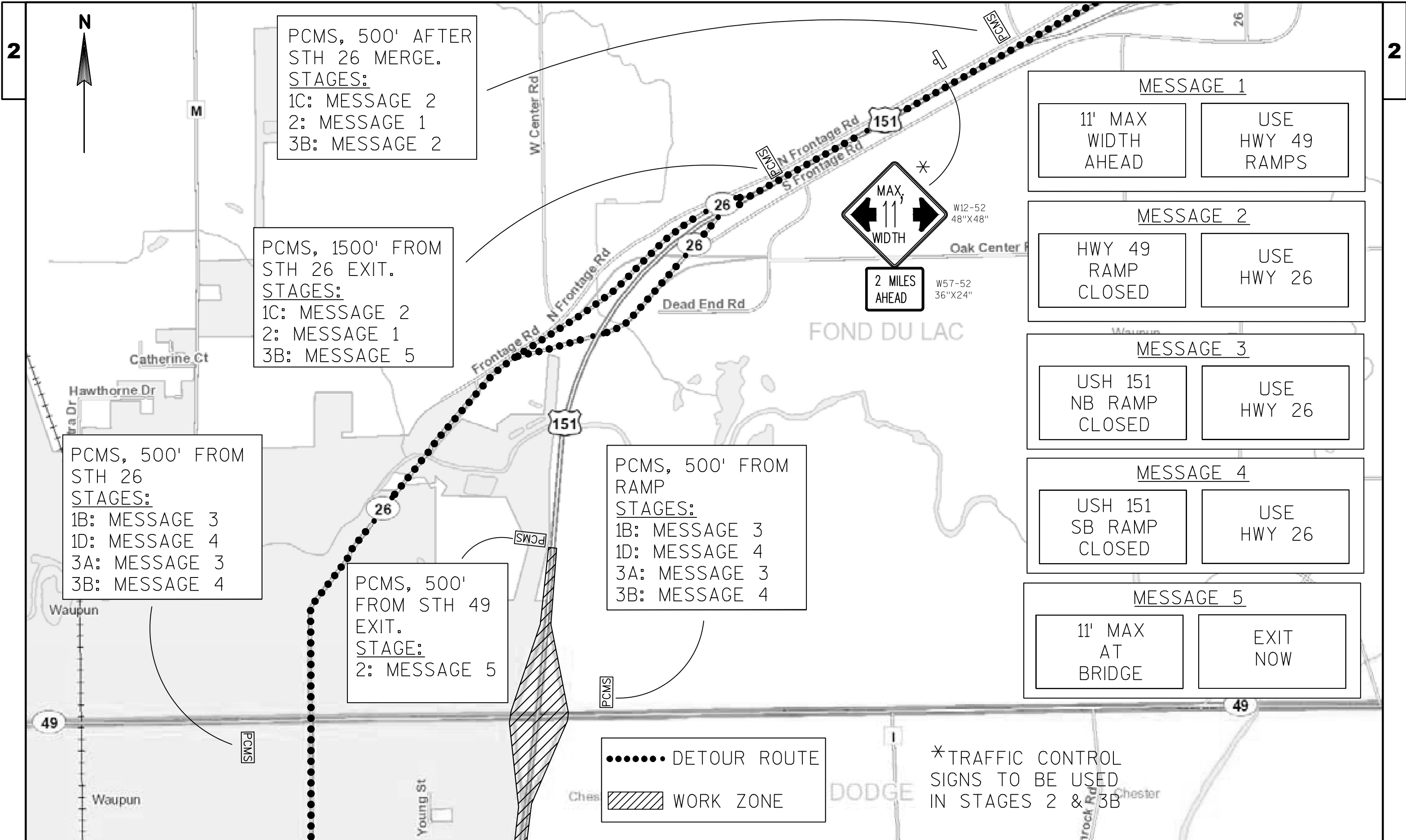
2



STAGE ~~STH~~ 49: MILL & OVERLAY STH 49M

- LEGEND

 -  TYPE III BARRICADE WITH ATTACHED SIGN
 -  TRAFFIC CONTROL DRUM W/ TYPE 'C' STEADY BURN LIGHT
 -  TRAFFIC CONTROL DRUM
 -  DIRECTION OF TRAFFIC
 -  WORK AREA
 -  MILL & OVERLAY AREA



PCMS, 500' AFTER
STH 26 MERGE.
STAGES:
1C: MESSAGE 2
2: MESSAGE 1
3B: MESSAGE 2

PCMS, 1500' FROM
STH 26 EXIT.
STAGES:
1C: MESSAGE 2
2: MESSAGE 1
3B: MESSAGE 5

PCMS, 500' FROM
STH 26
STAGES:
1B: MESSAGE 3
1D: MESSAGE 4
3A: MESSAGE 3
3B: MESSAGE 4

PCMS, 500'
FROM STH 49
EXIT.
STAGE:
2: MESSAGE 5

PCMS, 500' FROM
RAMP
STAGES:
1B: MESSAGE 3
1D: MESSAGE 4
3A: MESSAGE 3
3B: MESSAGE 4

MESSAGE 1

11' MAX WIDTH AHEAD	USE HWY 49 RAMPS
---------------------------	------------------------

MESSAGE 2

HWY 49 RAMP CLOSED	USE HWY 26
--------------------------	---------------

MESSAGE 3

USH 151 NB RAMP CLOSED	USE HWY 26
------------------------------	---------------

MESSAGE 4

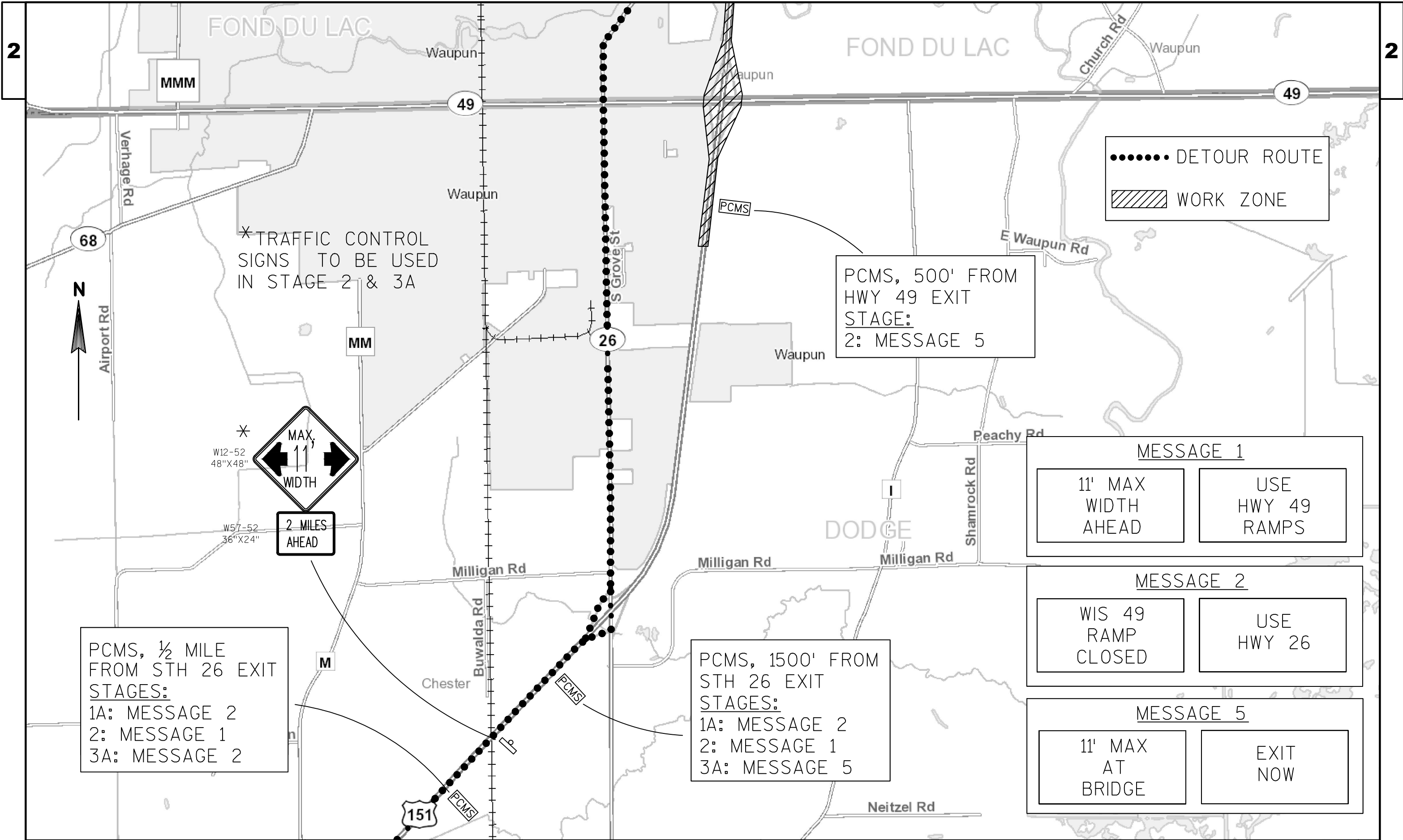
USH 151 SB RAMP CLOSED	USE HWY 26
------------------------------	---------------

MESSAGE 5

11' MAX AT BRIDGE	EXIT NOW
-------------------------	-------------

..... DETOUR ROUTE
WORK ZONE

*TRAFFIC CONTROL
SIGNS TO BE USED
IN STAGES 2 & 3B



..... DETOUR ROUTE
WORK ZONE

*TRAFFIC CONTROL
SIGNS TO BE USED
IN STAGE 2 & 3A

PCMS, 500' FROM
HWY 49 EXIT
STAGE:
2: MESSAGE 5

MESSAGE 1

11' MAX WIDTH AHEAD	USE HWY 49 RAMPS
---------------------------	------------------------

MESSAGE 2

WIS 49 RAMP CLOSED	USE HWY 26
--------------------------	---------------

MESSAGE 5

11' MAX AT BRIDGE	EXIT NOW
-------------------------	-------------

PCMS, 1/2 MILE
FROM STH 26 EXIT
STAGES:
1A: MESSAGE 2
2: MESSAGE 1
3A: MESSAGE 2

PCMS, 1500' FROM
STH 26 EXIT
STAGES:
1A: MESSAGE 2
2: MESSAGE 1
3A: MESSAGE 5

*
W12-52
48"X48"
MAX,
11'
WIDTH
2 MILES
AHEAD

DATE 03MAY16		E S T I M A T E O F Q U A N T I T I E S			
LINE					1420-28-60
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTI TY
0010	204.0100	Removing Pavement	SY	567.000	567.000
0020	204.0120	Removing Asphaltic Surface Milling	SY	42,625.000	42,625.000
0030	204.0165	Removing Guardrail	LF	738.000	738.000
0040	205.0100	Excavation Common	CY	347.000	347.000
0050	213.0100	Finishing Roadway (project) 01. 1420-28-30	EACH	1.000	1.000
0060	305.0110	Base Aggregate Dense 3/4-Inch	TON	1,710.000	1,710.000
0070	305.0120	Base Aggregate Dense 1 1/4-Inch	TON	166.000	166.000
0080	312.0110	Select Crushed Material	TON	331.000	331.000
0090	440.4410	Incentive IRI Ride	DOL	6,779.000	6,779.000
0100	455.0605	Tack Coat	GAL	3,218.000	3,218.000
0110	460.2000	Incentive Density HMA Pavement	DOL	3,280.000	3,280.000
0120	460.6224	HMA Pavement 4 MT 58-28 S	TON	5,113.000	5,113.000
0130	465.0400	Asphaltic Shoulder Rumble Strips	LF	14,938.000	14,938.000
0140	614.0010	Barrier System Grading Shaping Finishing	EACH	4.000	4.000
0150	614.2300	MGS Guardrail 3	LF	356.000	356.000
0160	614.2610	MGS Guardrail Terminal EAT	EACH	4.000	4.000
0170	618.0100	Maintenance And Repair of Haul Roads (project) 01. 1420-28-30	EACH	1.000	1.000
0180	619.1000	Mobilization	EACH	1.000	1.000
0190	625.0100	Topsoil	SY	1,685.000	1,685.000
0200	628.1504	Silt Fence	LF	50.000	50.000
0210	628.1520	Silt Fence Maintenance	LF	50.000	50.000
0220	628.1905	Mobilizations Erosion Control	EACH	2.000	2.000
0230	628.1910	Mobilizations Emergency Erosion Control	EACH	1.000	1.000
0240	628.2004	Erosion Mat Class I Type B	SY	1,685.000	1,685.000
0250	628.7005	Inlet Protection Type A	EACH	1.000	1.000
0260	628.7015	Inlet Protection Type C	EACH	1.000	1.000
0270	628.7504	Temporary Ditch Checks	LF	141.000	141.000
0280	628.7555	Culvert Pipe Checks	EACH	20.000	20.000
0290	628.7570	Rock Bags	EACH	18.000	18.000
0300	629.0210	Fertilizer Type B	CWT	1.070	1.070
0310	630.0120	Seeding Mixture No. 20	LB	45.600	45.600
0320	630.0200	Seeding Temporary	LB	45.600	45.600
0330	643.0100	Traffic Control (project) 01. 1420-28-30	EACH	1.000	1.000
0340	643.0300	Traffic Control Drums	DAY	3,222.000	3,222.000
0350	643.0420	Traffic Control Barricades Type III	DAY	167.000	167.000
0360	643.0705	Traffic Control Warning Lights Type A	DAY	230.000	230.000
0370	643.0715	Traffic Control Warning Lights Type C	DAY	518.000	518.000
0380	643.0800	Traffic Control Arrow Boards	DAY	56.000	56.000
0390	643.0900	Traffic Control Signs	DAY	595.000	595.000
0400	643.0910	Traffic Control Covering Signs Type I	EACH	20.000	20.000
0410	643.1050	Traffic Control Signs PCMS	DAY	86.000	86.000
0420	643.2000	Traffic Control Detour (project) 01. 1420-28-30	EACH	1.000	1.000
0430	646.0106	Pavement Marking Epoxy 4-Inch	LF	28,100.000	28,100.000
0440	646.0126	Pavement Marking Epoxy 8-Inch	LF	2,210.000	2,210.000
0450	646.0881.S	Pavement Marking Grooved Wet Reflective Tape 4-Inch	LF	178.000	178.000
0460	647.0566	Pavement Marking Stop Line Epoxy 18-Inch	LF	84.000	84.000
0470	647.0746	Pavement Marking Diagonal Epoxy 24-Inch	LF	226.000	226.000
0480	650.8000	Construction Staking Resurfacing Reference	LF	9,701.000	9,701.000
0490	650.9910	Construction Staking Supplemental Control (project) 01. 1420-28-30	LS	1.000	1.000

DATE 03MAY16		E S T I M A T E O F Q U A N T I T I E S			
LINE		1420-28-60			
NUMBER	ITEM	ITEM DESCRIPTION	UNIT	TOTAL	QUANTITY
0500	690.0150	Sawing Asphalt	LF	321.000	321.000
0510	690.0250	Sawing Concrete	LF	96.000	96.000
0520	SPV.0060	Special 01. Temporary Portable Rumble Strip Array	EACH	2.000	2.000

CONCRETE PAVEMENT REMOVAL									
CATEGORY	STATION	TO	STATION	LOCATION	REMOVING PAVEMENT 204. 0100 SY	EXCAVATION COMMON 205. 0100 CY	BASE AGGREGATE DENSE 1-1/4" 305. 0120 TON	SELECT CRUSHED MATERIAL 312. 0110 TON	REMARKS
0010	54+84 ' W'	-	55+94 ' W'	LT	222	136	65	130	
0010	60+84 ' W'	-	62+25 ' W'	LT	345	211	101	201	
TOTAL 0010					567	347	166	331	

REMOVING GUARDRAIL						204. 0165	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION		LF	
0010	56+37 ' W'	-	60+37 ' W'	STH 49 LT		400	
0010	56+46 ' W'	-	59+84 ' W'	STH 49 RT		338	
TOTAL 0010						738	

BASE AGGREGATE DENSE 3/4-INCH						305. 0110	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION		TON	
0010	100+31	-	126+93	USH 151 NB		270	
0011	128+88	-	145+05	USH 151 NB		170	
0010	103+19	-	126+89	USH 151 SB		240	
0011	103+20	-	144+71	USH 151 SB		430	
0010	56+00 ' W'	-	60+75 ' W'	STH 49		130	
0010	9+00 ' A	-	17+50 ' A'	RAMP A		120	
0010	5+25 ' B'	-	13+75 ' B'	RAMP B		120	
0010	5+25 ' C'	-	13+75 ' C'	RAMP C		120	
0010	14+15 ' D'	-	21+85 ' D'	RAMP D		110	
TOTAL 0010						1710	

REMOVING ASPHALTIC SURFACE MILLING							204. 0120	REMARKS
CATEGORY	STATION	TO	STATION	STAGE	LOCATION		SY	
0010	100+31	-	116+06	1A	USH 151 NB			
	5+00 ' A'	-	17+49 ' A'		RAMP A		4237	
0010	5+12 ' B'	-	21+55 ' B'	1B	RAMP B			
	144+41	-	145+05		USH 151 NB		3922	
0010	5+12 ' C'	-	19+33 ' C'	1C	RAMP C			
0010	141+66	-	141+72		USH 151 SB		3164	
0010	103+19	-	110+54	1D	USH 151 SB			
0010	5+00 ' D'	-	21+88 ' D'		RAMP D		4303	
0010	100+31	-	145+05	2A	USH 151 NB		7154	
0010	103+19	-	141+72	2B	USH 151 SB		6579	
0010	100+31	-	145+05	3A	USH 151 NB		6860	
0010	103+19	-	141+72	3B	USH 151 SB		6406	
0010	54+72 ' W'	-	62+25 ' W'	4	STH 49		2529	
TOTAL 0010							42625	

TEMPORARY PORTABLE RUMBLE STRIP ARRAY				SPV. 0060. 01	REMARKS
CATEGORY	LOCATION			EACH	
0010	WIS 49, EAST OF USH 151 INTERCHANGE			2	USED IN STAGES: 1A, 1B, 1C, 1D, WIS 49
TOTAL 0010				2	

SAWCUTS							SAWING ASPHALT 690. 0150 LF	SAWING CONCRETE 690. 0250 LF	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION					
0010	54+84 ' W'	-	55+94 ' W'	LT			127	96	
0010	60+84 ' W'	-	62+25 ' W'	LT			194		
TOTAL 0010							321	96	

ASPHALT PAVING

						TACK COAT 455. 0605 GAL	HMA PAVEMENT 4 MT 58-28 S 460. 6224 TON	REMARKS
CATEGORY	STATION	TO	STATION	STAGE	LOCATION			
0010	100+31	-	116+06	1A	USH 151 NB			
	5+00 'A'	-	17+49 'A'		RAMP A	297	466	
0010	5+12 'B'	-	21+55 'B'	1B	RAMP B	25	76	
	144+41	-	145+05		USH 151 NB	272	428	
0010	5+12 'C'	-	19+33 'C'	1C	RAMP C	16	49	
0010	141+66	-	141+72		USH 151 SB	236	370	
0010	103+19	-	110+54	1D	USH 151 SB			
0010	5+00 'D'	-	21+88 'D'		RAMP D	302	474	
0010	100+31	-	145+05	2A	USH 151 NB	501	787	
0010	103+19	-	141+72	2B	USH 151 SB	461	724	
0010	100+31	-	145+05	3A	USH 151 NB	481	755	
0010	103+19	-	141+72	3B	USH 151 SB	449	705	
0010	54+72 'W'	-	62+25 'W'	4	STH 49	178	279	
TOTAL 0010						3218	5113	

ASPHALTIC SHOULDER RUMBLE STRIPS

						465. 0400 LF	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION			
0010	100+31	-	126+93	USH 151 NB		4848	
0010	128+88	-	145+05	USH 151 NB		3088	
0010	103+19	-	126+89	USH 151 SB		4434	
0010	103+20	-	144+71	USH 151 SB		2568	
TOTAL 0010						14938	

BARRIER SYSTEM GRADING SHAPING FINISHING

						614. 0010 BORROW (CY)* EACH	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION			
0010	56+58 'W'	-	57+08 'W'	STH 49 RT	9	1	
0010	56+76 'W'	-	57+26 'W'	STH 49 LT	9	1	
0010	58+74 'W'	-	59+24 'W'	STH 49 RT	34	1	
0010	59+16 'W'	-	59+66 'W'	STH 49 LT	34	1	
TOTAL 0010						4	

*BORROW WILL USE TOPSOIL. SEE LANDSCAPING TABLE.
*FOR INFORMATIONAL PURPOSES ONLY
BARRIER SYSTEM ITEM IS PAID FOR PER EACH BARRIER SYSTEM

GUARD RAIL

						MGS GUARDRAI L 3 614. 2300 LF	MGS GUARDRAI L TERMI NAL EAT 614. 2610 EACH	REMARKS
CATEGORY	STATION	TO	STATION	LOCATION				
0010	56+58 'W'	-	57+08 'W'	STH 49 RT	-		1	
0010	56+76 'W'	-	57+26 'W'	STH 49 LT	-		1	
0010	58+74 'W'	-	59+24 'W'	STH 49 RT	-		1	
0010	59+16 'W'	-	59+66 'W'	STH 49 LT	-		1	
0010	57+08 'W'	-	58+74 'W'	STH 49 RT	166		-	
0010	57+26 'W'	-	59+16 'W'	STH 49 LT	190		-	
TOTAL 0010						356	4	

LANDSCAPING

CATEGORY	STATION TO	STATION	LOCATION	TOPSOIL 625.0100 SY	FERTILIZER TYPE B 629.0210 CWT	SEEDING MIXTURE NO. 20 630.0120 LB	SEEDING TEMPORARY 630.0200 LB	REMARKS
0010	56+46	- 59+78	LT	756	0.48	20.5	20.5	
0010	56+10	- 59+73	RT	929	0.59	25.1	25.1	
TOTAL 0010				1685	1.07	45.6	45.6	

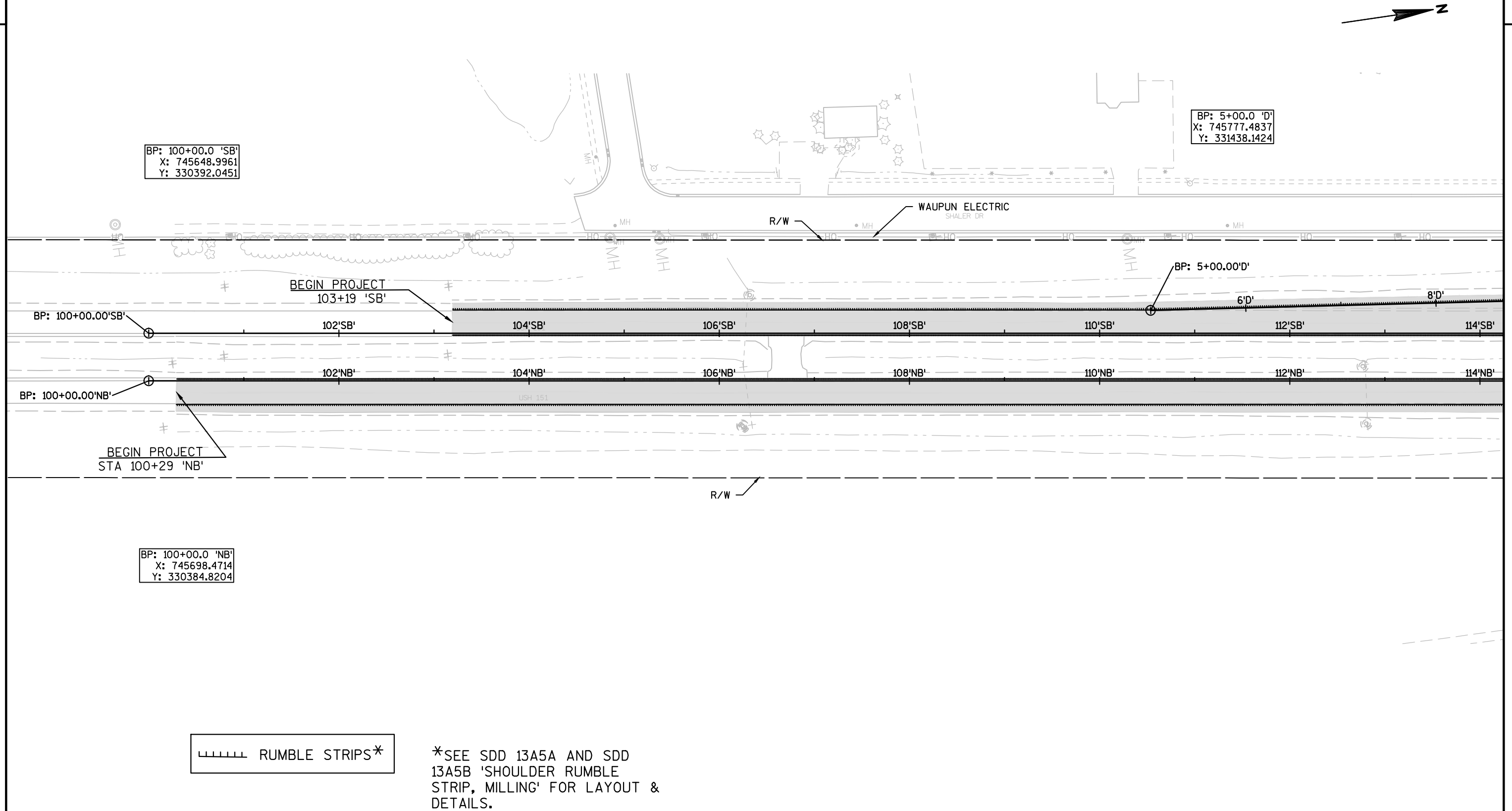
*AVERAGE TOPSOIL DEPTH IS 2 INCHES. (FOR INFORMATIONAL PURPOSES ONLY)
TOPSOIL WILL BE PAID PER SQUARE YARD

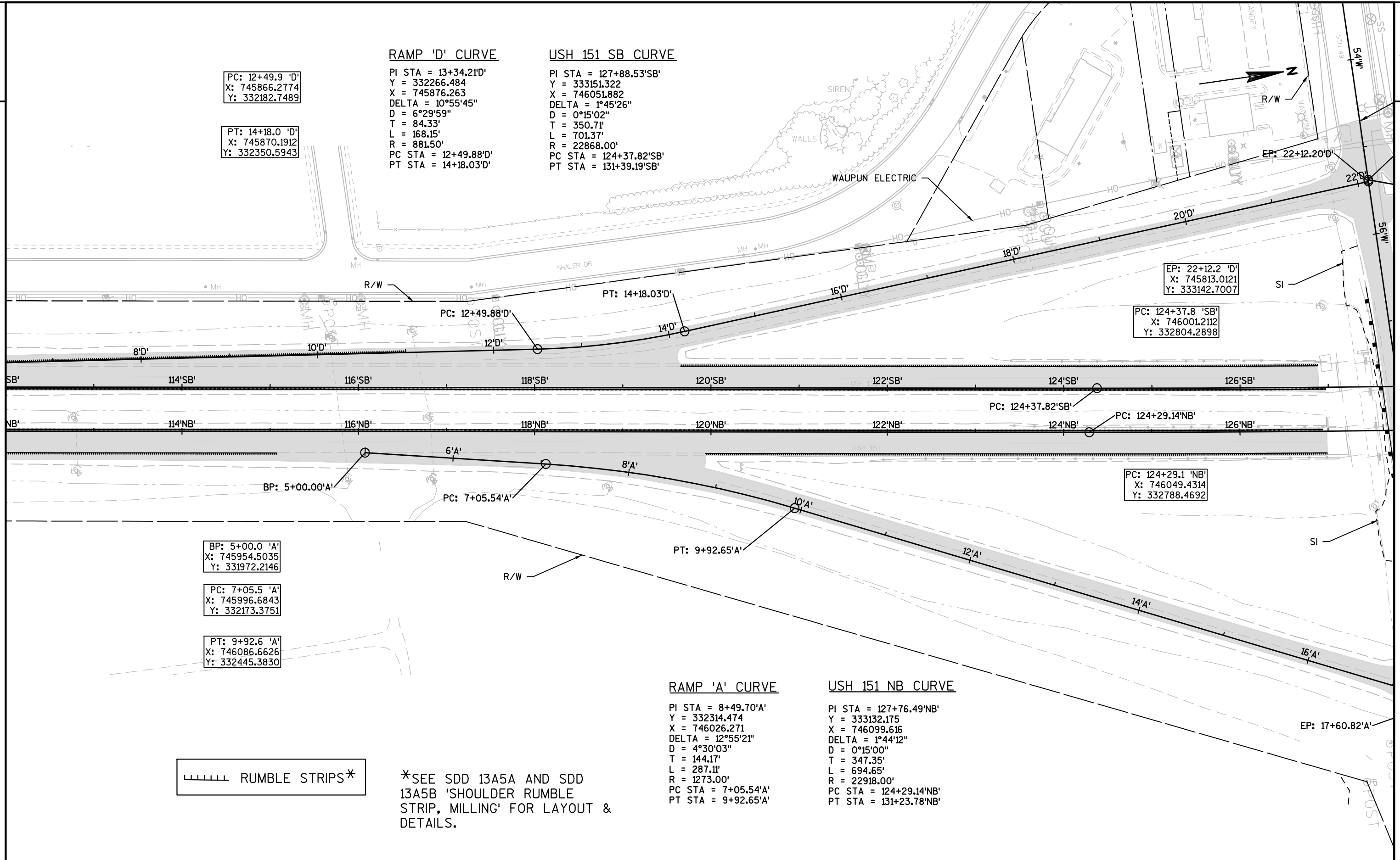
EROSION CONTROL

CATEGORY	STATION	TO	STATION	LOCATION	SILT FENCE		EROSION MAT	CULVERT		I NLET	I NLET	TEMPORARY	REMARKS
					SILT FENCE	MAINTENANCE	CLASS I	PIPE	PROTECTION	PROTECTION	DITCH		
					628. 1504	628. 1520	TYPE B	ROCK BAGS	CHECK	TYPE A	TYPE C	CHECK	
					LF	LF	SY	EACH	EACH	EACH	EACH	LF	
0010	56+10 'W'	-	59+79 'W'	LT	-	-	756	-	-	-	-	-	
0010	56+10 'W'	-	59+73 'W'	RT	-	-	929	-	-	-	-	-	
0010	STH 49		54+77 'W'	21' RT	-	-	-	-	-	-	1	-	
0010	STH 49		55+10 'W'	42' LT	-	-	-	-	-	1	-	-	
0010	STH 49		56+77 'W'	44' RT	-	-	-	-	5	-	-	44	30-INCH PIPE
0010	STH 49		56+85 'W'	43' LT	-	-	-	-	5	-	-	47	30-INCH PIPE
0010	STH 49		59+72 'W'	35' RT	-	-	-	-	-	-	-	25	
0010	STH 49		59+80 'W'	37' LT	-	-	-	-	-	-	-	25	
0010	STH 49		60+69 'W'	44' RT	-	-	-	-	5	-	-	-	30-INCH PIPE
0010	STH 49		60+81 'W'	50' LT	-	-	-	-	5	-	-	-	30-INCH PIPE
0010	STH 49		62+34 'W'	52' LT	-	-	-	6	-	-	-	-	TEMPORARY DITCH CHECK
0010	STH 49		62+47 'W'	46' RT	-	-	-	6	-	-	-	-	TEMPORARY DITCH CHECK
0010	UNDISTRIBUTED				50	50	-	6	-	-	-	-	
TOTAL 0010					50	50	1685	18	20	1	1	141	

TRAFFIC CONTROL										
CATEGORY	LOCATION	TRAFFI C	TRAFFI C	TRAFFI C	TRAFFI C	TRAFFI C	TRAFFI C	TRAFFI C	TRAFFI C	REMARKS
		CONTROL	CONTROL	WARNI NG	WARNI NG	CONTROL	CONTROL	COVERI NG	CONTROL	
		DRUMS	BARRI CADES	LI GHTS	LI GHTS	ARROW	SIGNS	SIGNS	SIGNS	
		643. 0300	643. 0420	643. 0705	643. 0715	643. 0800	643. 0900	643. 0910	643. 1050	
		DAY	DAY	DAY	DAY	DAY	DAY	EACH	DAY	
0010	Stage 1A	267	18	24	42	6	66	6	26	
0010	Stage 1B	354	21	30	69	6	51	0	6	
0010	Stage 1C	249	15	18	42	6	63	6	6	
0010	Stage 1D	336	21	30	69	6	51	0	6	
0010	Stage 2	1108	32	40	184	16	184	0	24	
0010	Stage 3A	286	22	28	28	4	54	4	8	
0010	Stage 3B	284	22	28	28	4	54	4	8	
0010	Stage 4	338	16	32	56	8	72	0	0	
0010	WIS 49	0	0	0	0	0	0	0	2	
TOTAL 0010		3222	167	230	518	56	595	20	86	

PERMANENT PAVEMENT MARKING											
CATEGORY	STATION	TO	STATION	LOCATION	PAVEMENT MARKING EPOXY 4-INCH YELLOW 646. 0106 LF	PAVEMENT MARKING EPOXY 4-INCH WHITE 646. 0106 LF	PAVEMENT MARKING EPOXY 8-INCH WHITE 646. 0126 LF	PAVEMENT MARKING GROOVED WET REFLECTIVE TAPE 4-INCH WHITE 646. 0881. S LF	PAVEMENT MARKING STOP LINE EPOXY 18-INCH WHITE 647. 0566 LF	PAVEMENT MARKING DIAGONAL EPOXY 24-INCH WHITE 647. 0746 LF	REMARKS
0010	100+30 'NB'	-	128+72 'NB'	USH 151 NB, RT & LT LANE EDGE, CENTERLINE	2843	3084	-	58	-	-	B-14-33 INCLUDED
0010	128+72 'NB'	-	145+09 'NB'	USH 151 NB, RT & LT LANE EDGE, CENTERLINE	1637	1152	-	34	-	-	
0010	103+19 'SB'	-	128+69 'SB'	USH SB 151, RT & LT LANE EDGE, CENTERLINE	2549	2097	-	52	-	-	B-14-34 INCLUDED
0010	128+69 'SB'	-	144+72 'SB'	USH SB 151, RT & LT LANE EDGE, CENTERLINE	1602	1315	-	34	-	-	
0010	5+00 'A'	-	17+60 'A'	RAMP A RT & LEFT EDGE, GORE AREA, DOTTED EDGE, STOPLINE	810	1419	460	-	39	103	
0010	5+00 'B'	-	21+54 'B'	RAMP B RT & LEFT EDGE, GORE AREA	822	1420	515	-	-	-	
0010	5+00 'C'	-	19+33 'C'	RAMP C RT & LEFT EDGE, GORE AREA, DOTTED EDGE, STOP LINE	798	1632	452	-	45	123	
0010	5+00 'D'	-	22+12 'D'	RAMP B RT & LEFT EDGE, GORE AREA	735	1779	783	-	-	-	
0010	54+71 'W'	-	62+25 'W'	STH 49, RT & LT EDGE, CENTERLINE	1424	982	-	-	-	-	
SUB TOTAL 0010					13220	14880	2210	178	84	226	
TOTAL 0010					28100		2210	178	84	226	





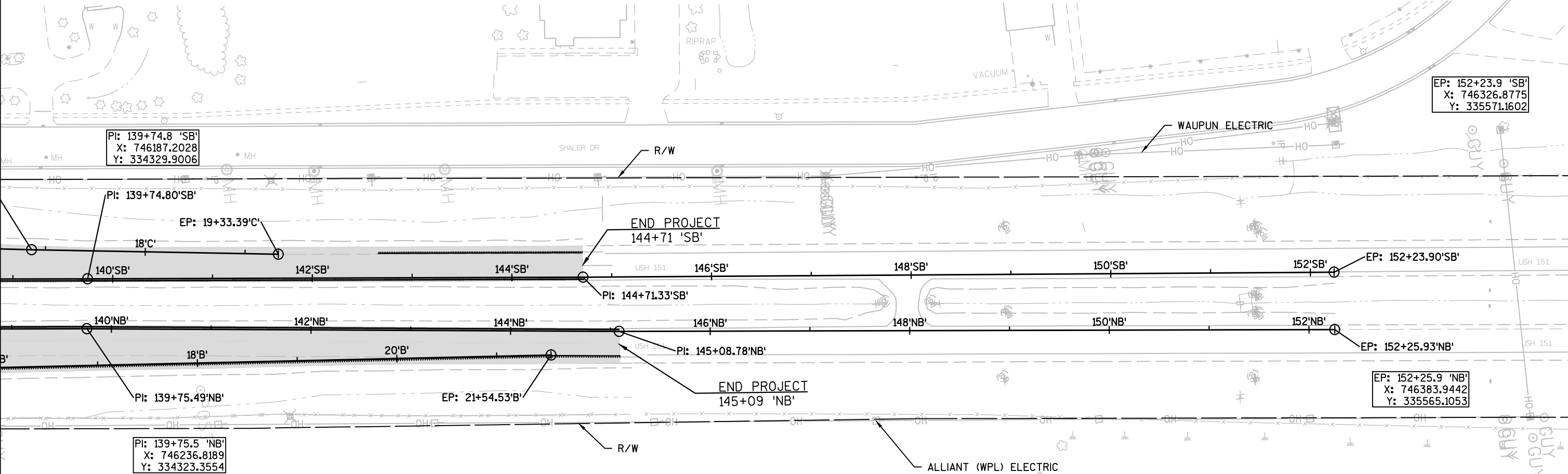


RAMP 'C' CURVE

PI STA = 15+40.87'C'
Y = 334132.889
X = 746132.128
DELTA = 10°12'39"
D = 3°30'26"
T = 145.96'
L = 291.14'
R = 1633.66'
PC STA = 13+94.92'C'
PT STA = 16+86.06'C'

PI: 144+71.3 'SB'
X: 746243.7027
Y: 334823.2004

PI: 145+08.8 'NB'
X: 746301.9851
Y: 334852.6487



RAMP 'B' CURVE

PI STA = 14+51.39'B'
Y = 334080.906
X = 746250.791
DELTA = 15°03'36"
D = 6°29'43"
T = 116.60'
L = 231.86'
R = 882.12'
PC STA = 13+34.79'B'
PT STA = 15+66.65'B'

EP: 21+54.5 'B'
X: 746317.5079
Y: 334782.2189

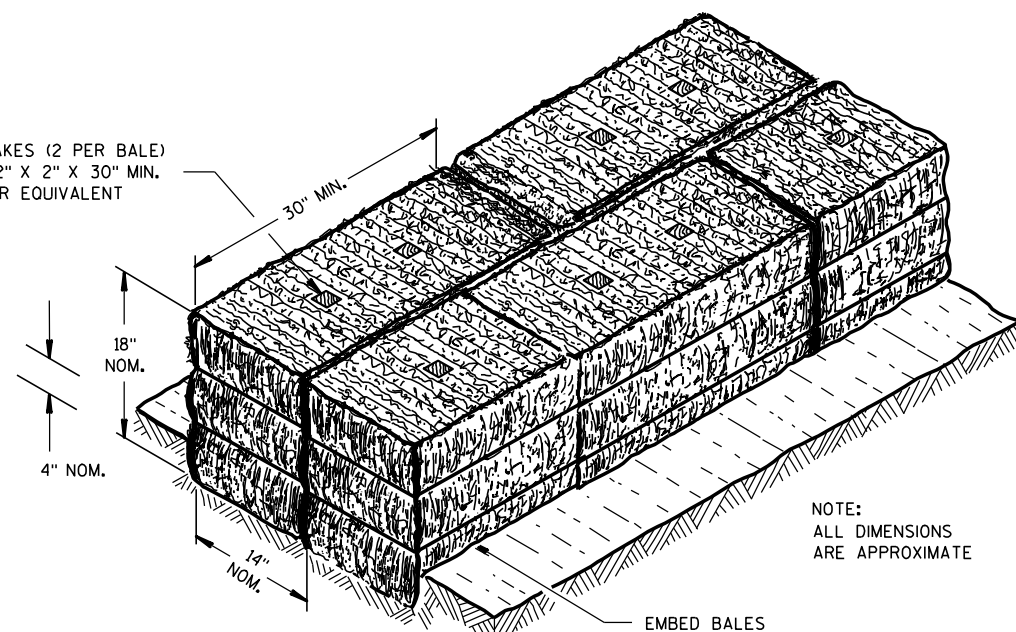
||||| RUMBLE STRIPS*

*SEE SDD 13A5A AND SDD 13A5B 'SHOULDER RUMBLE STRIP, MILLING' FOR LAYOUT & DETAILS.

Standard Detail Drawing List

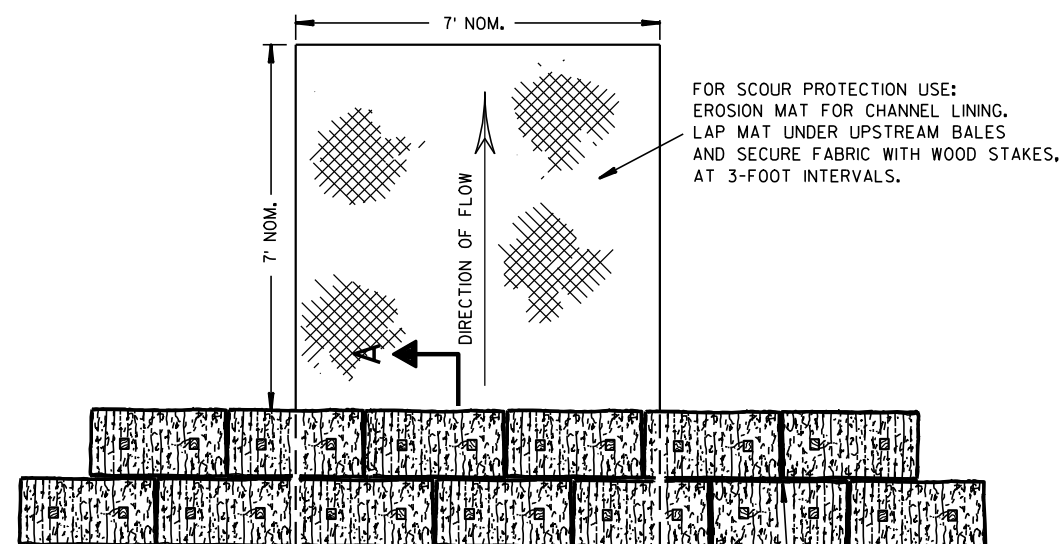
08E08-03	TYPICAL INSTALLATIONS OF EROSION BALES / TEMPORARY DITCH CHECKS
08E09-06	SILT FENCE
08E10-02	INLET PROTECTION TYPE A, B, C AND D
13A05-05A	SHOULDER RUMBLE STRIP, MILLING
13A05-05B	SHOULDER RUMBLE STRIP, MILLING
14B42-03A	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03B	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B42-03C	MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL
14B44-02A	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02B	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
14B44-02C	MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)
15C02-06B	BARRICADES AND SIGNS FOR MAINLINE CLOSURES
15C08-16A	PAVEMENT MARKING (MAINLINE)
15C08-16F	PAVEMENT MARKING (ISLANDS)
15C31-01A	PAVEMENT MARKING (RAMPS AND GORES)
15C33-01	STOP LINE AND CROSSWALK PAVEMENT MARKING
15D12-05B	TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION
15D15-02	TRAFFIC CONTROL, EXIT AND ENTRANCE RAMP WITHIN LANE CLOSURE
15D16-03	TRAFFIC CONTROL, EXIT RAMP CLOSURE
15D28-03	TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY

WOOD STAKES (2 PER BALE)
NOMINAL 2" X 2" X 30" MIN.
LENGTH OR EQUIVALENT



NOTE:
ALL DIMENSIONS
ARE APPROXIMATE

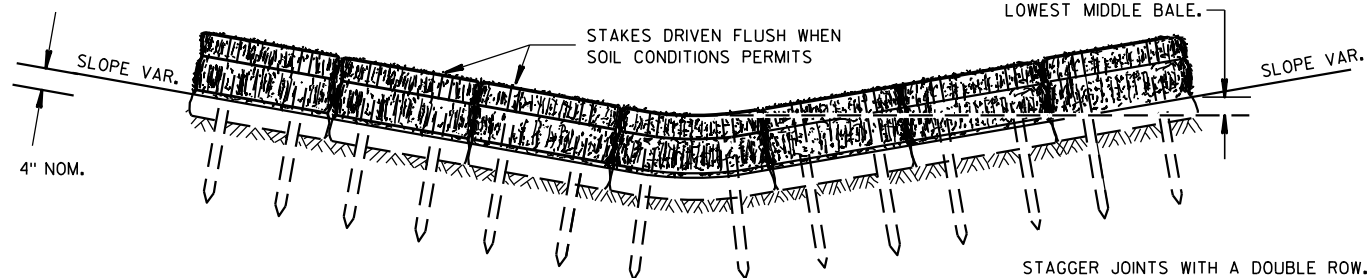
SECTION A-A



PLAN VIEW

STAGGER JOINTS BETWEEN ADJACENT
ROWS OF BALES.

BOTTOM ELEVATION OF END BALE SHALL
BE EQUAL TO OR GREATER THAN TOP OF
LOWEST MIDDLE BALE.



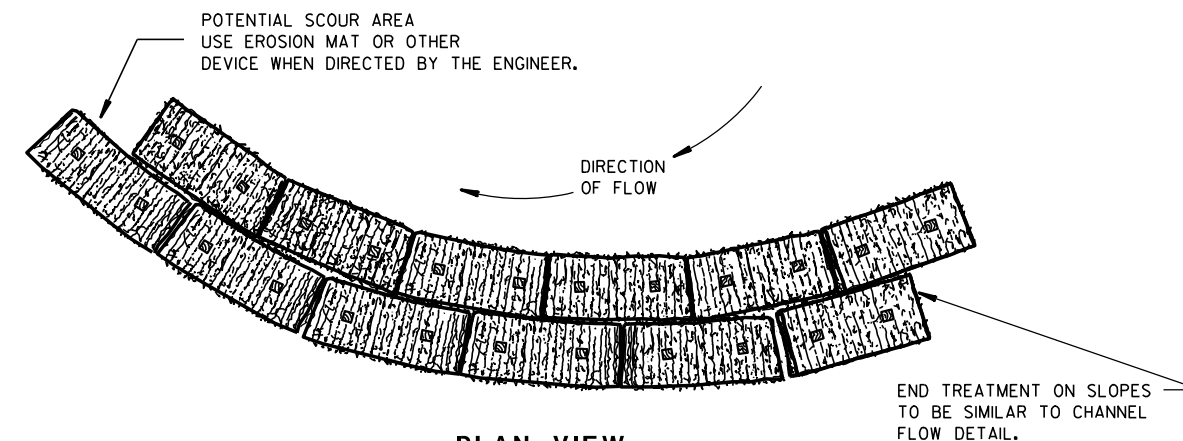
FRONT ELEVATION

TEMPORARY DITCH CHECK USING EROSION BALES ①

GENERAL NOTES

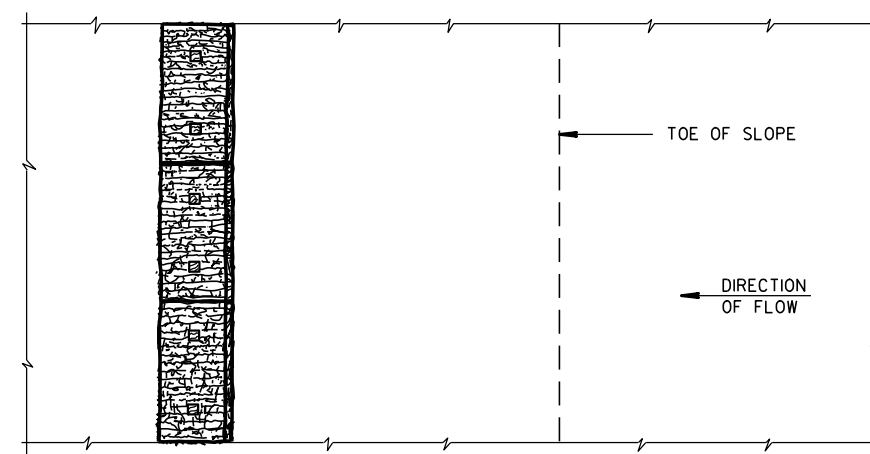
DETAILS OF CONSTRUCTION, MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND THE APPLICABLE SPECIAL PROVISIONS.

- ① TEMPORARY DITCH CHECKS EITHER EROSION BALES OR MANUFACTURED SHALL BE PAID FOR UNDER THE BID ITEM OF TEMPORARY DITCH CHECK. THE DEPARTMENT WILL NOT PAY FOR TEMPORARY DITCH CHECKS CONSTRUCTED OF A SINGLE ROW OF EROSION BALES.

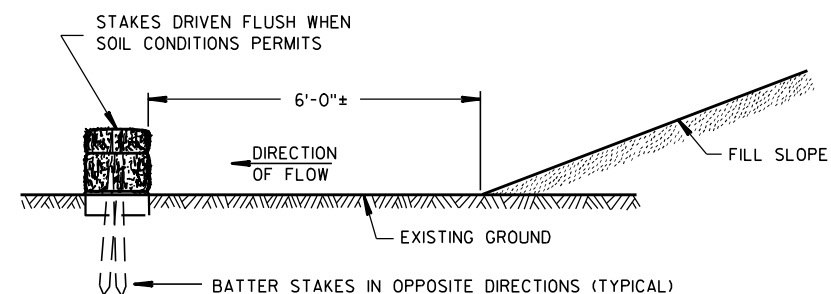


PLAN VIEW

WHEN ALTERING THE DIRECTION OF FLOW



PLAN VIEW



FRONT ELEVATION

WHEN EXISTING GROUND SLOPES AWAY FROM FILL SLOPE

EROSION BALES FOR SHEET FLOW

TYPICAL INSTALLATIONS OF
EROSION BALES / TEMPORARY
DITCH CHECKS

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED

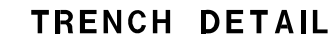
6/04/02
DATE

FHWA

/S/ Beth Canestra
CHIEF ROADWAY DEVELOPMENT ENGINEER



- ① HORIZONTAL BRACE REQUIRED WITH 2" X 4" WOODEN FRAME OR EQUIVALENT AT TOP OF POSTS.
- ② FOR MANUAL INSTALLATIONS THE TRENCH SHALL BE A MINIMUM OF 4" WIDE & 6" DEEP TO BURY AND ANCHOR THE GEOTEXTILE FABRIC. FOLD MATERIAL TO FIT TRENCH AND BACKFILL & COMPACT TRENCH WITH EXCAVATED SOIL.
- ③ WOOD POSTS SHALL BE A MINIMUM SIZE OF 1½" X 1½" OF OAK OR HICKORY.
- ④ SILT FENCE TO EXTEND ACROSS THE TOP OF THE PIPE.
- ⑤ CONSTRUCT SILT FENCE FROM A CONTINUOUS ROLL IF POSSIBLE BY CUTTING LENGTHS TO AVOID JOINTS. IF A JOINT IS NECESSARY USE ONE OF THE FOLLOWING TWO METHODS; A) OVERLAP THE END POSTS AND TWIST, OR ROTATE, AT LEAST 180 DEGREES, B) HOOK THE END OF EACH SILT FENCE LENGTH.



SILT FENCE	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED <u>4-29-05</u> DATE	<u>/S/ Beth Canestra</u> CHIEF ROADWAY DEVELOPMENT ENGINEER



INLET PROTECTION, TYPE A

GENERAL NOTES

INLET PROTECTION DEVICES SHALL BE MAINTAINED OR REPLACED AT THE DIRECTION OF THE ENGINEER.

MANUFACTURED ALTERNATIVES APPROVED AND LISTED ON THE DEPARTMENT'S EROSION CONTROL PRODUCT ACCEPTABILITY LIST MAY BE SUBSTITUTED.

WHEN REMOVING OR MAINTAINING INLET PROTECTION, CARE SHALL BE TAKEN SO THAT THE SEDIMENT TRAPPED ON THE GEOTEXTILE FABRIC DOES NOT FALL INTO THE INLET. ANY MATERIAL FALLING INTO THE INLET SHALL BE REMOVED IMMEDIATELY.

- ① FINISHED SIZE, INCLUDING FLAP POCKETS WHERE REQUIRED, SHALL EXTEND A MINIMUM OF 10" AROUND THE PERIMETER TO FACILITATE MAINTENANCE OR REMOVAL.
- ② FOR INLET PROTECTION, TYPE C (WITH CURB BOX), AN ADDITIONAL 18" OF FABRIC IS WRAPPED AROUND THE WOOD AND SECURED WITH STAPLES. THE WOOD SHALL NOT BLOCK THE ENTIRE HEIGHT OF THE CURB BOX OPENING.
- ③ FLAP POCKETS SHALL BE LARGE ENOUGH TO ACCEPT WOOD 2X4.



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

TYPE D

DO NOT INSTALL INLET PROTECTION TYPE D IN INLETS SHALLOWER THAN 30", MEASURED FROM THE BOTTOM OF THE INLET TO THE TOP OF THE GRATE.

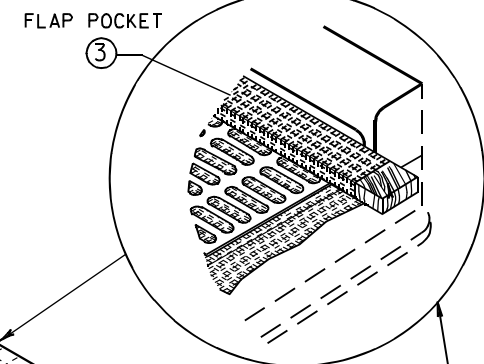
TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE INSTALLED BAG SHALL HAVE A MINIMUM SIDE CLEARANCE, BETWEEN THE INLET WALLS AND THE BAG, MEASURED AT THE BOTTOM OF THE OVERFLOW HOLES, OF 3". WHERE NECESSARY THE CONTRACTOR SHALL CINCH THE BAG, USING PLASTIC ZIP TIES, TO ACHIEVE THE 3" CLEARANCE. THE TIES SHALL BE PLACED AT A MAXIMUM OF 4" FROM THE BOTTOM OF THE BAG.



INLET PROTECTION, TYPE D

(CAN BE INSTALLED IN ANY INLET TYPE WITH OR WITHOUT A CURB BOX AS PER NOTE ②)

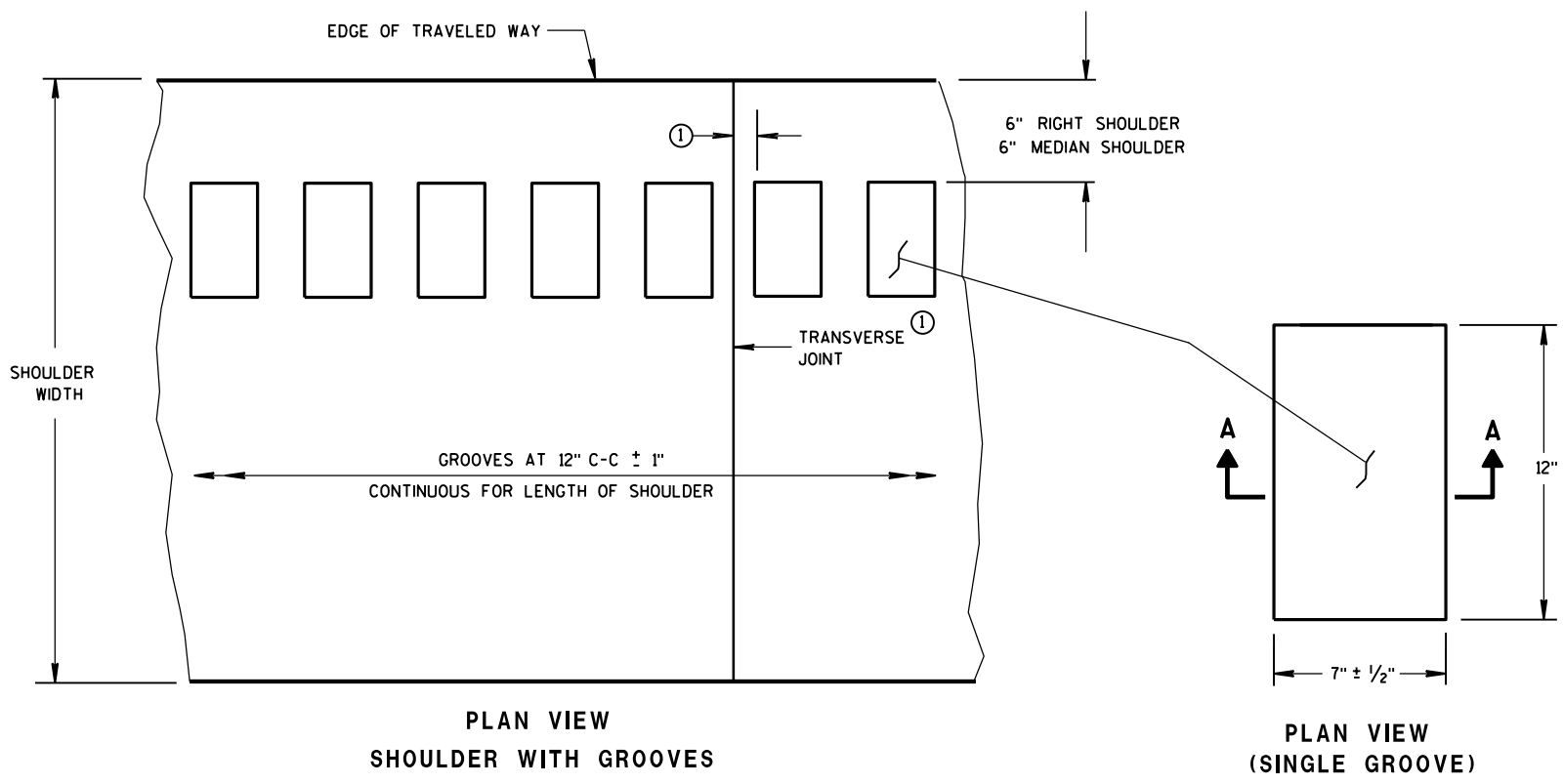


USE REBAR OR STEEL ROD FOR REMOVAL OR
FOR INLETS WITH CAST CURB BOX USE WOOD 2" X 4", EXTEND 10" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

MINIMUM DOUBLE STITCHED SEAMS ALL AROUND SIDE PIECES AND ON FLAP POCKETS.

WOOD 2" X 4" EXTENDS 8" BEYOND GRATE WIDTH ON BOTH SIDES, LENGTH VARIES. SECURE TO GRATE WITH WIRE OR PLASTIC TIES

INLET PROTECTION TYPE A, B, C, AND D	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED 10/16/02 DATE	/S/ Beth Cannestra CHIEF ROADWAY DEVELOPMENT ENGINEER
FHWA	



6

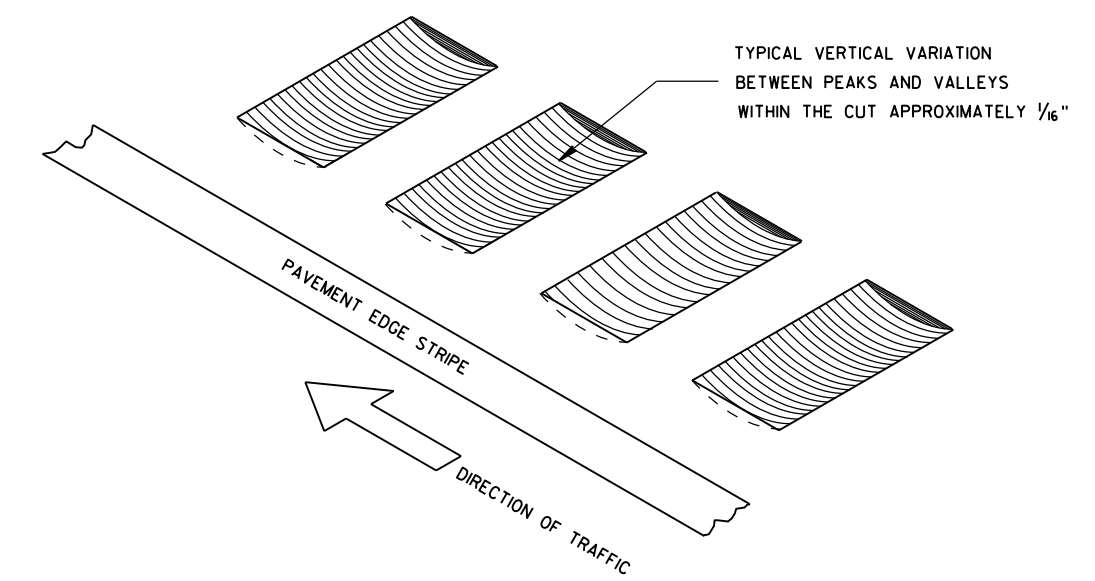
PLACEMENT DETAIL FOR MILLED RUMBLE STRIP

GENERAL NOTES

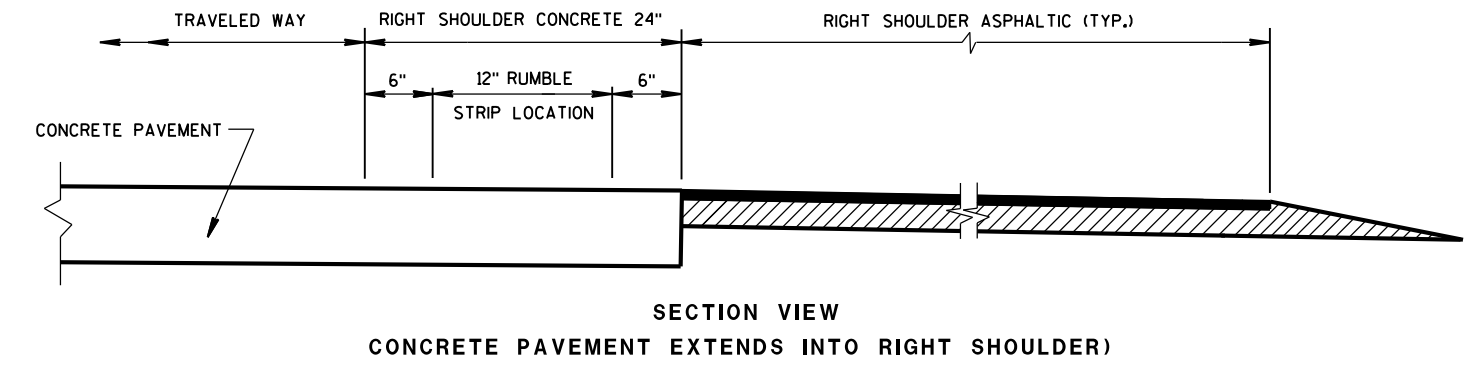
DETAILS OF CONSTRUCTION SHOWN ON THIS DRAWING SHALL CONFORM TO THE PERTINENT REQUIREMENTS OF THE STANDARD SPECIFICATIONS AND APPLICABLE SPECIAL PROVISIONS.

RUMBLE STRIPS ON EXPRESSWAYS
DO NOT INSTALL RUMBLE STRIPS ACROSS SIDE ROAD INTERSECTIONS, COMMERCIAL DRIVEWAYS, PRIVATE DRIVEWAYS OR ADJACENT TO RIGHT TURN LANES, LEFT TURN LANES, TURN LANE TAPERS, BRIDGE DECKS, BRIDGE APPROACHES, OR 100 FEET IN ADVANCE OF RAILROAD CROSSING. THE ATTACHED STANDARD DETAIL DRAWING SHOWS THE LOCATION OF THE RUMBLE STRIPS AT INTERCHANGE AREAS.

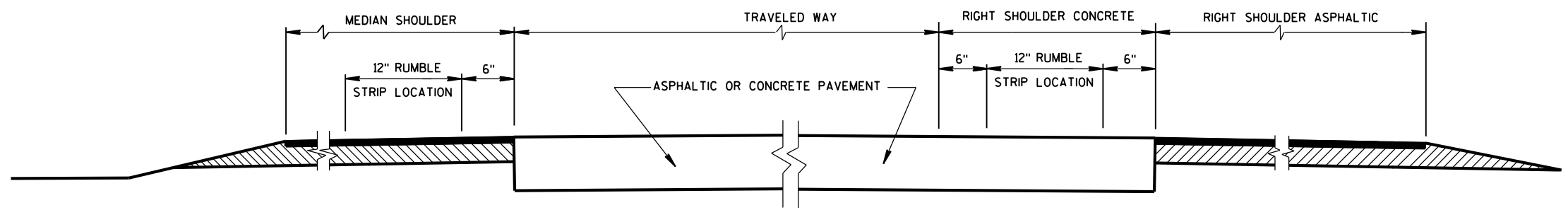
① CONCRETE PAVEMENT - RUMBLE STRIPS SHALL BE A MINIMUM OF 6" AWAY FROM TRANSVERSE JOINTS.



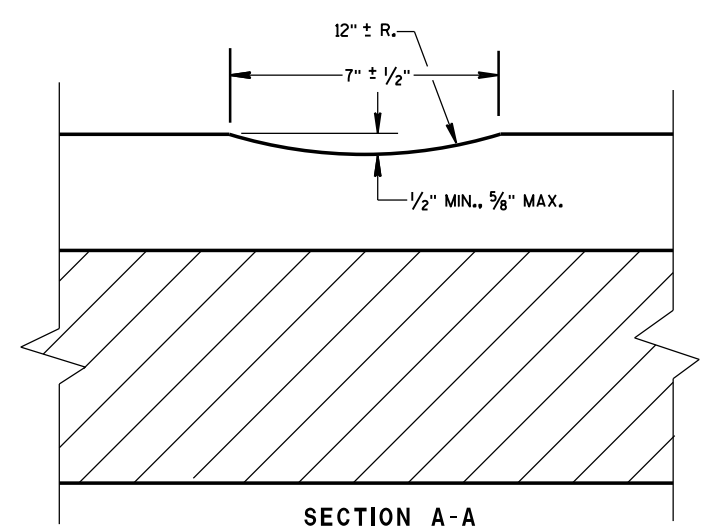
ISOMETRIC



SECTION VIEW
CONCRETE PAVEMENT EXTENDS INTO RIGHT SHOULDER)



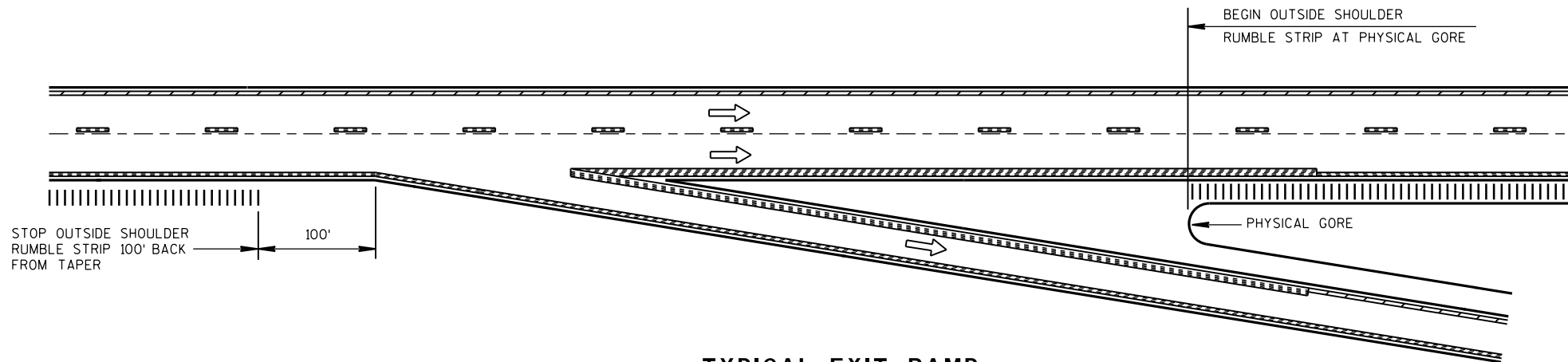
SECTION VIEW
TYPICAL LOCATIONS OF SHOULDER RUMBLE STRIPS
IN RURAL DIVIDED HIGHWAYS
(ONE ROADWAY IS SHOWN)



SECTION A-A

SHOULDER RUMBLE STRIP,
MILLING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



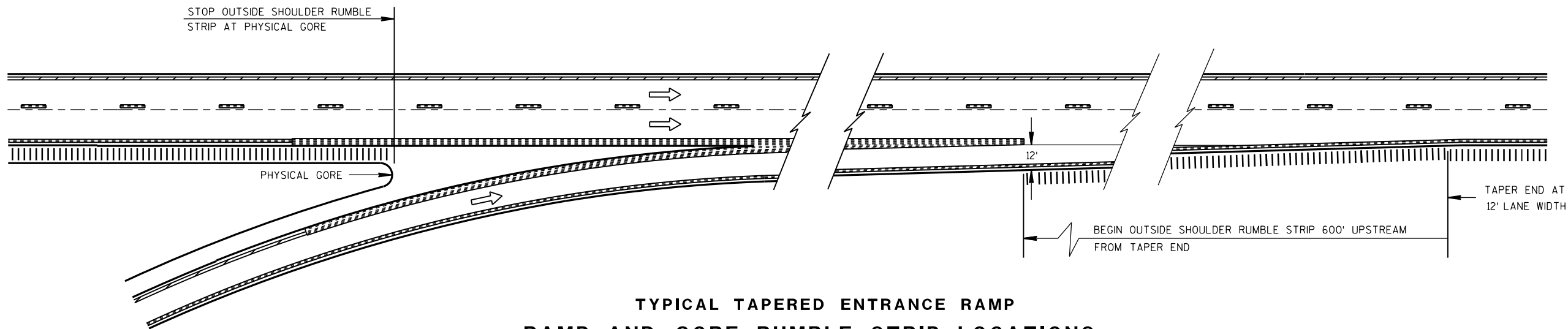
TYPICAL EXIT RAMP

NOTES:

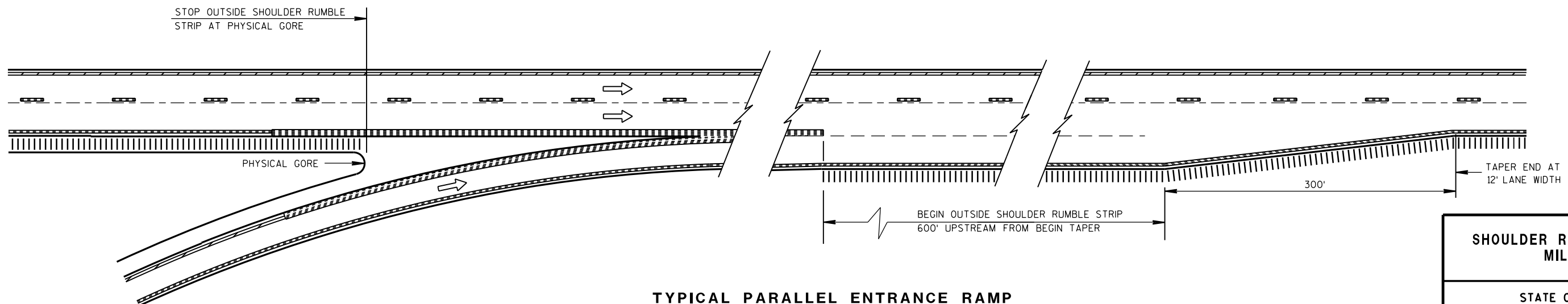
NO RUMBLE STRIP ON EXIT, DIRECTIONAL, OR ENTRANCE RAMPS, EXCEPT NEAR THE ENTRANCE TAPER END AND ALONG THE PARALLEL RAMP AREA AS SHOWN.

PAVEMENT MARKING DETAILS AND SPECIFICATIONS ARE PROVIDED ELSEWHERE IN THE CONTRACT.

NOTE:
ARROW SYMBOL (→)
SHOWS DIRECTION OF TRAVEL



**TYPICAL TAPERED ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS**



**TYPICAL PARALLEL ENTRANCE RAMP
RAMP AND GORE RUMBLE STRIP LOCATIONS**

**SHOULDER RUMBLE STRIP,
MILLING**

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
12/17/2012
DATE
FHWA

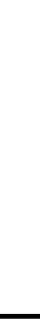
/S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER

6

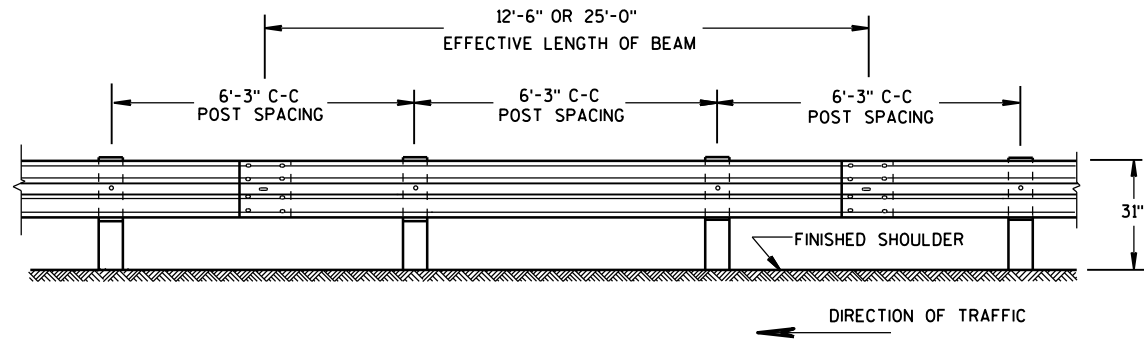
- S.D.D. 14 B 42-3a**



S.D.D. 14 B 42-3a

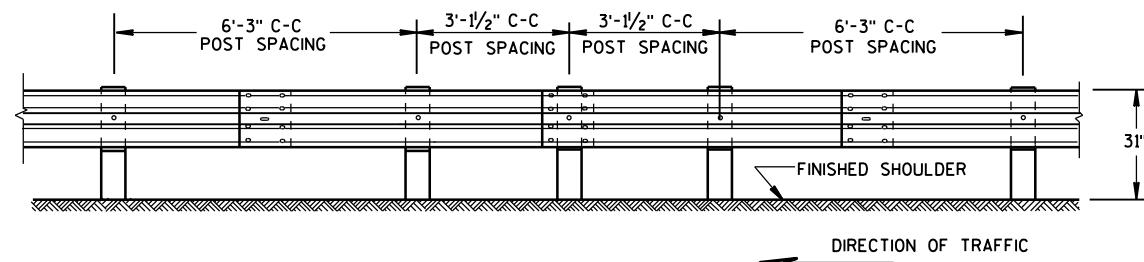


S.D.D. 14 B 42-3a



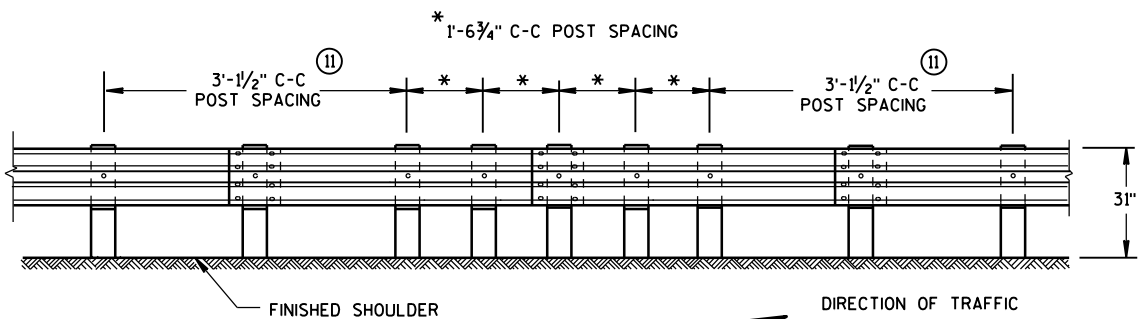
FRONT VIEW

POST SPACING STANDARD INSTALLATION



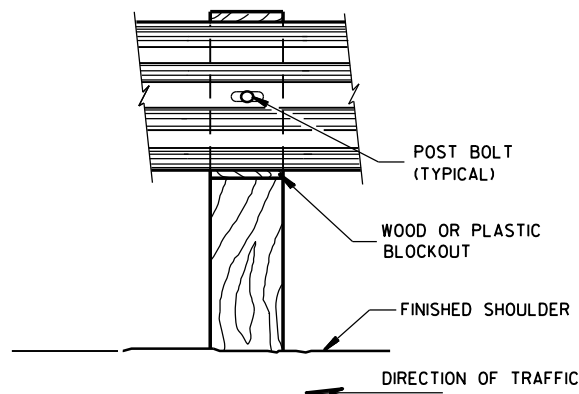
FRONT VIEW

HALF POST SPACING (HS) AND HALF POST SPACING WITH LONGER POSTS (K)

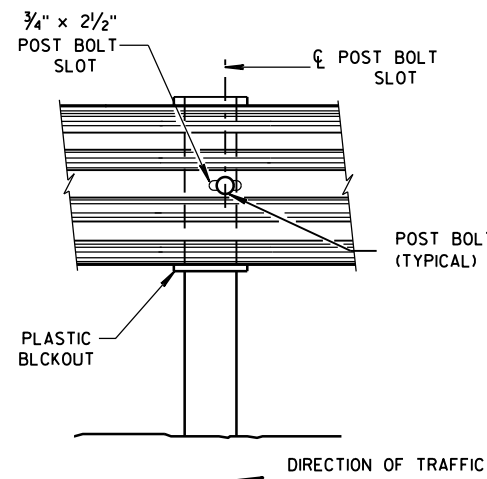


FRONT VIEW

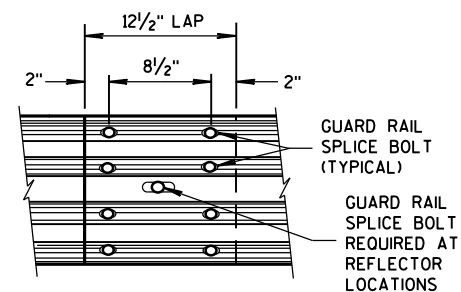
QUARTER POST SPACING (QS)



FRONT VIEW AT WOOD POST

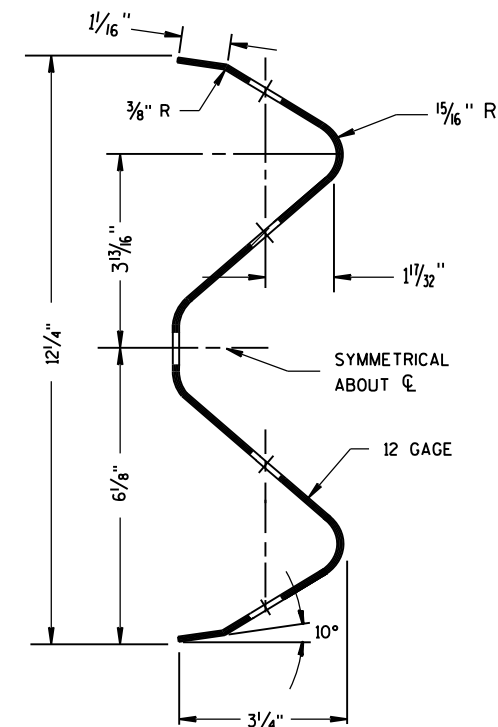


FRONT VIEW AT STEEL POST

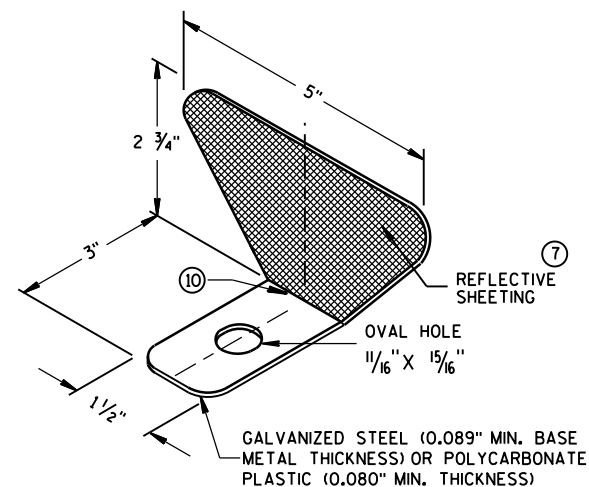
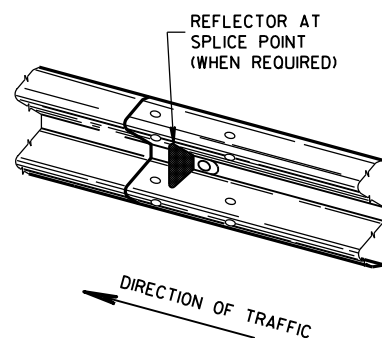


FRONT VIEW

MID-SPAN BEAM SPLICE



SECTION THRU W-BEAM RAIL



ONE SIDED REFLECTOR DETAIL AND TYPICAL INSTALLATION

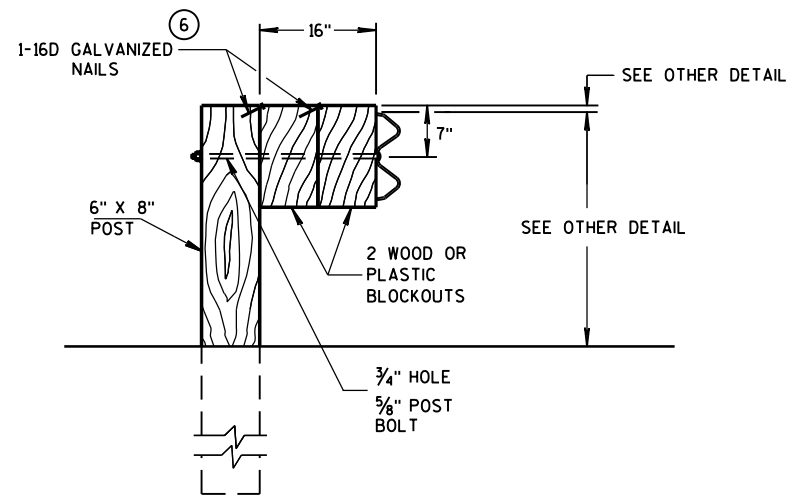
GENERAL NOTES

- ⑦ PROVIDE SILVER REFLECTIVE SHEETING ON ALL REFLECTORS EXCEPT THOSE LOCATED ALONG THE LEFT EDGE OF ONE-WAY ROADWAYS, WHICH SHALL BE PROVIDED WITH YELLOW REFLECTIVE SHEETING. SHEETING IS TYPE H. SEE STANDARD SPECIFICATION 637.
 - ⑧ DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL. RAIL SPLICE LOCATIONS ARE THE ONLY ACCEPTABLE LOCATIONS FOR REFLECTORS.
 - ⑨ REVERSE EVERY OTHER REFLECTOR FOR 2-WAY VISIBILITY. THE CONTRACTOR MAY FURNISH TWO-SIDED REFLECTORS IN LIEU OF ONE-SIDED REFLECTORS.
 - ⑩ PROVIDE AN ANGLE OF BEND OF $90^\circ \pm 1^\circ$ FOR TWO-SIDED REFLECTORS.
 - ⑪ 25 FEET OF HALF POST SPACING IS REQUIRED ON APPROACH AND DEPARTURE ENDS OF QUARTER POST SPACING.
- POST BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL BOLT. A POST BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT AND $\frac{5}{8}$ " DIAMETER F844 FLAT WASHER. POST BOLTS MAY BE LONGER IF MULTIPLE BLOCKOUTS ARE BEING USED.
- GUARD RAIL SPLICE BOLTS ARE A $\frac{5}{8}$ " DIAMETER ASTM A307 GUARDRAIL HEAD BOLT. A GUARDRAIL SPLICE BOLT REQUIRES $\frac{5}{8}$ " DIAMETER A563A DOUBLE RECESSED (DR) HEAVY HEX NUT.

REFLECTOR SPACING ⑧				
	BEAM GUARD LENGTH	REFLECTOR SPACING	NO. SURFACES REFLECTORIZED	MIN. NO. REFLECTORS
ONE WAY TRAFFIC	< 200'	50' C-C	1	3
	> 200'	100' C-C	1	
TWO WAY TRAFFIC	< 200'	25' C-C	1 ⑨	6
	> 200'	50' C-C	1	
TWO WAY TRAFFIC	< 200'	50' C-C	2 ⑩	3
	> 200'	100' C-C	2	

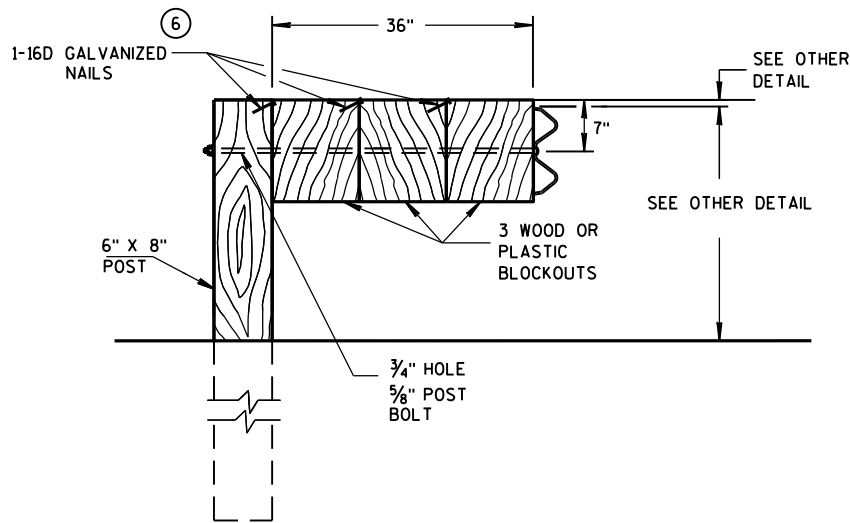
MIDWEST GUARDRAIL SYSTEM (MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



DETAIL FOR 16" BLOCKOUT DEPTH

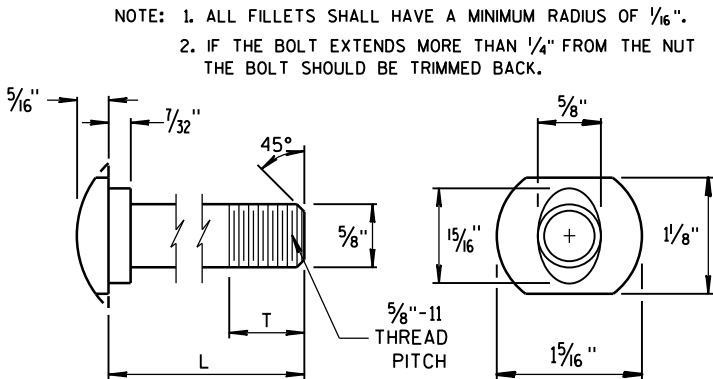
IT IS ACCEPTABLE TO USE BLOCKOUTS UP TO 16" DEEP TO INCREASE THE POST OFFSET TO AVOID UNDERGROUND OBSTACLES. THERE IS NO LIMIT TO THE NUMBER OF POSTS THAT CAN HAVE ADDITIONAL BLOCKOUTS UP TO 16" DEEP.



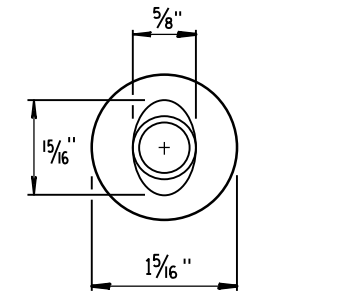
DETAIL FOR 36" BLOCKOUT DEPTH

NOTES: UNDER SPECIAL CIRCUMSTANCES, SUCH AS AVOIDING OBSTACLES THAT ARE NOT RELOCATED, IT IS ACCEPTABLE TO INSTALL ADDITIONAL BLOCKOUTS TO OBTAIN UP TO 36" DEPTH FOR ONE OR TWO POSTS IN A SECTION OF GUARDRAIL.

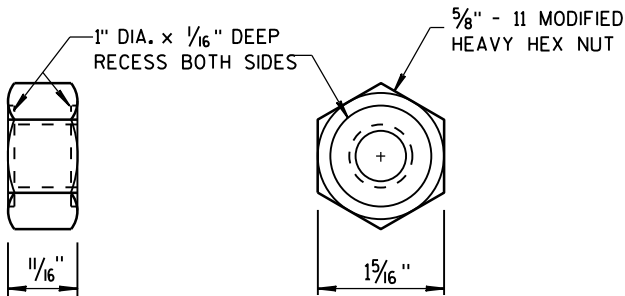
DO NOT USE 16" OR 36" BLOCKOUTS IF IT CAUSES THE POST TO BE DRIVEN BEYOND SHOULDER HINGE POINT OR CAUSES A FIXED OBJECT TO BE WITHIN THE DEFLECTION DISTANCE OF THE BARRIER.



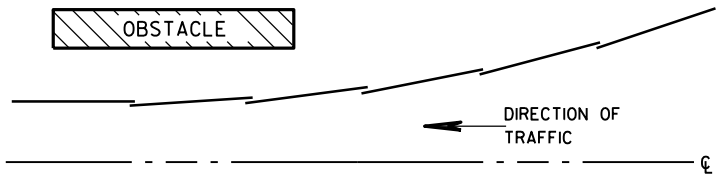
POST BOLT TABLE



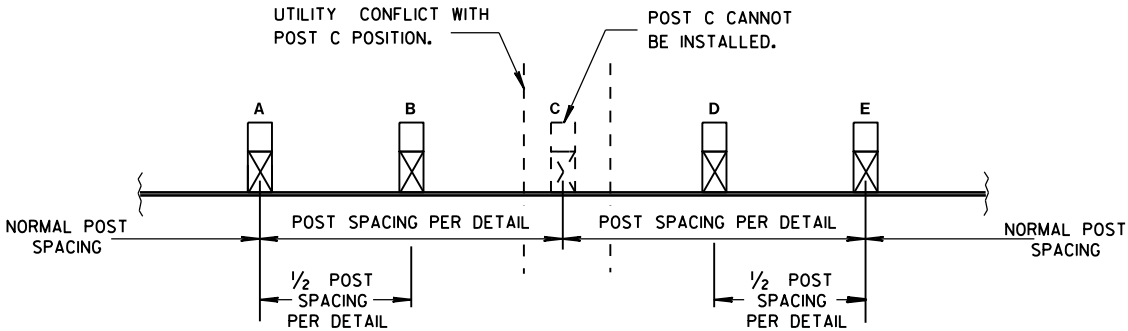
ALTERNATE BOLT HEAD



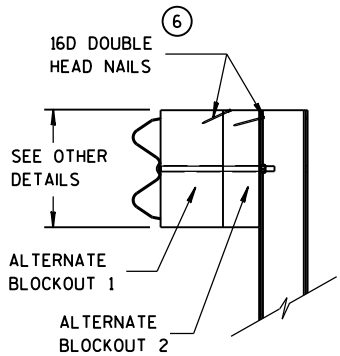
POST BOLT AND RECESS NUT



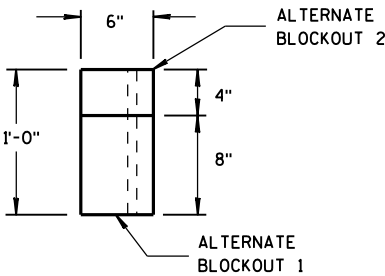
PLAN VIEW
BEAM LAPPING DETAIL



POST DRIVING FOR CONTINUOUS
UNDERGROUND OBSTRUCTION



SIDE VIEW



TOP VIEW

ALTERNATE WOOD
BLOCKOUT DETAIL

MIDWEST GUARDRAIL SYSTEM
(MGS) GUARDRAIL

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
June 2014
DATE /S/ Jerry H. Zogg
ROADWAY STANDARDS DEVELOPMENT
ENGINEER
FHWA

GENERAL NOTES

- (A) THE SLOPE IN THE AREA BOUNDED BY THE GRADELINE, THE HINGE POINT LINE (HPL), AND THE CLEAR ZONE LIMITS (CZL) SHALL BE 4:1 OR FLATTER.
- (B) AFTER FINAL ASSEMBLY, RECHECK CABLE TO BE SURE IT IS TAUT AND HAS NOT RELAXED.
- (C) DIFFERENT MANUFACTURES REQUIRE DIFFERENT PERFORATED W-BEAM RAIL END PANELS. SEE MANUFACTURES INFORMATION.
- (D) THE TOP OF THE STEEL TUBE ON POST 1 AND POST 2 SHALL NOT BE MORE THAN 3" ABOVE THE FINISH GROUND ELEVATION.
- (E) ATTACH ALUMINUM SHEET TO E.A.T. HEAD USING 4 STAINLESS STEEL SELF-TAPPING SCREWS, ONE SCREW PER CORNER.
- (G) 1/2" DIAMETER X 3" LONG LAG BOLT AND WASHER.
- (H) HARDWARE VARIES BETWEEN DIFFERENT MANUFACTURES. SEE MANUFACTURE'S DRAWING FOR INFORMATION.
- (I) DIMENSIONS MAY VARY. SEE MANUFACTURE'S INFORMATION.

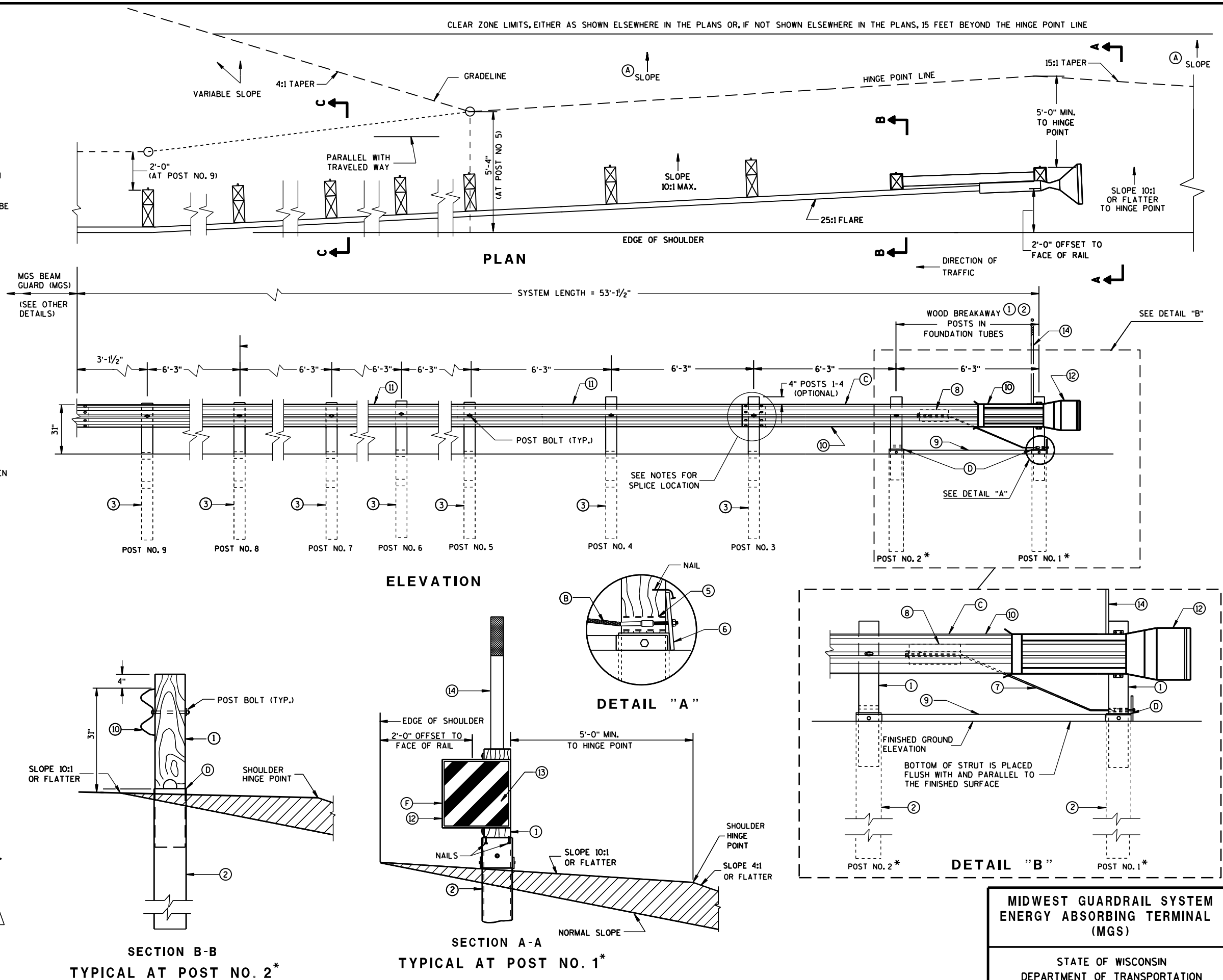
SEE SDD 14B42 FOR MORE INFORMATION.

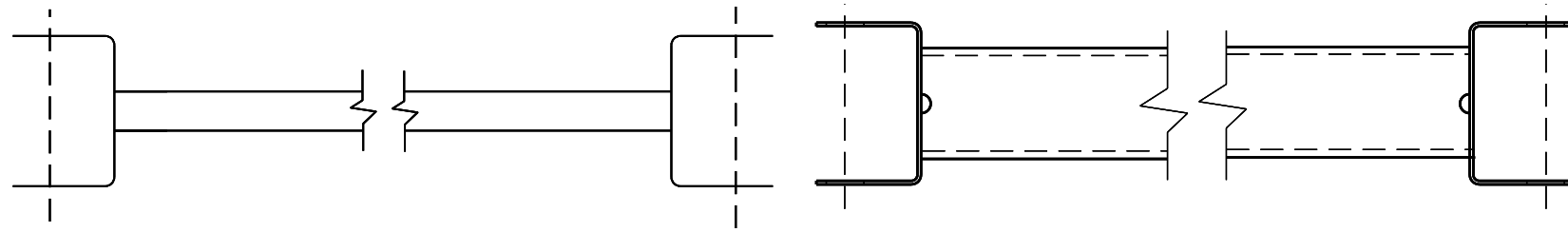
* DO NOT ATTACH BLOCKOUTS TO POSTS 1 AND 2.

DO NOT INSTALL REFLECTORS ON THE FIRST 50 FEET OF THE APPROACH END OF THE ENERGY ABSORBING TERMINAL.

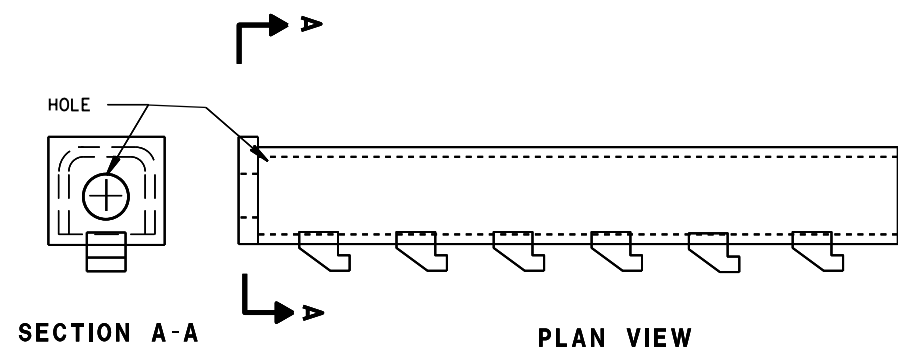
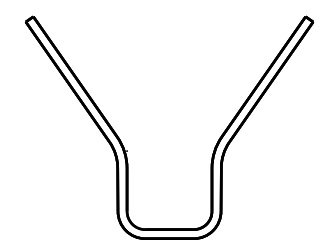
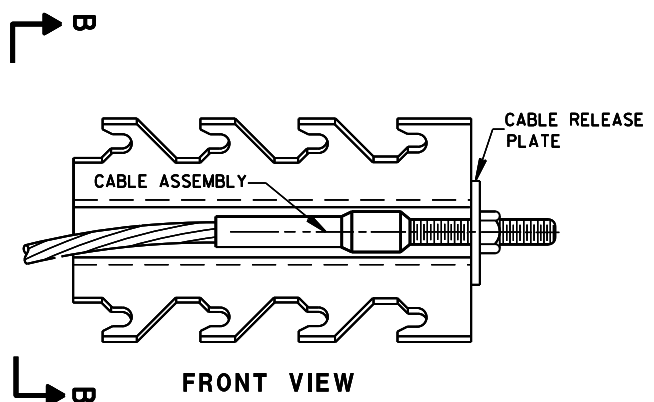
W-BEAM RAIL SPLICES ARE LOCATED AT POST NUMBER 3, AND BETWEEN POST 5 AND 6, BETWEEN POSTS 7 AND 8, AND MIDDLE OF THE SPAN AFTER POST 9.

THE CENTER OF THE UPPER 3/2" DIAMETER HOLE ON POST NUMBER 3 THROUGH POST 9 IS TO BE FLUSH WITH THE GROUND LINE UP TO A MAXIMUM OF 2" ABOVE GROUND LINE.





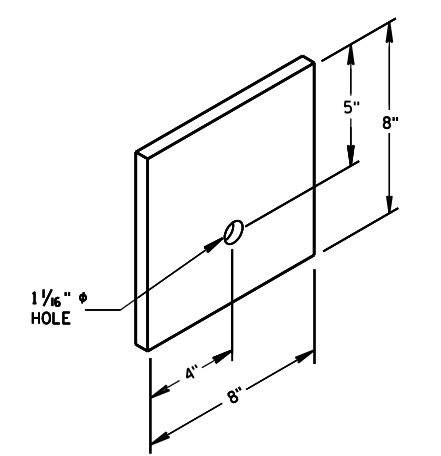
9 H
GENERIC GROUND STRUT



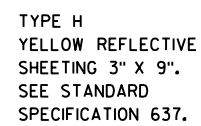
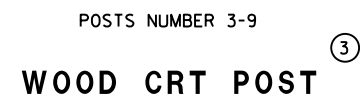
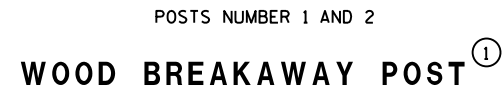
8 H
GENERIC ANCHOR CABLE BOX

BILL OF MATERIALS

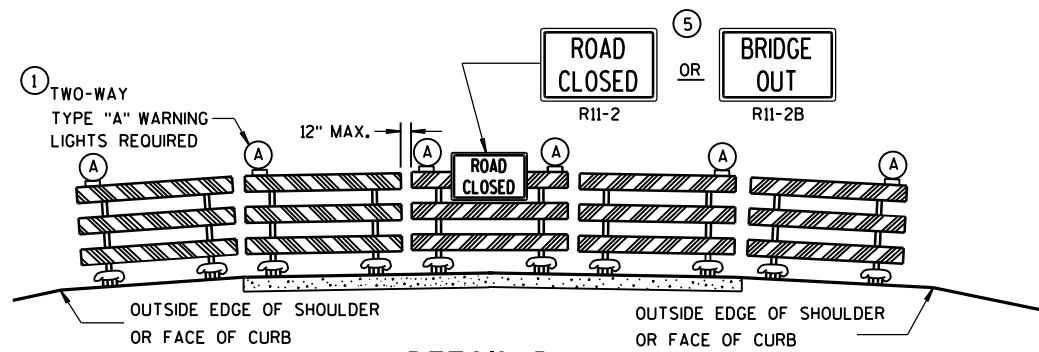
PART NO.	DESCRIPTION
MATERIALS PROVIDED BY MGS EAT MANUFACTURER. SEE MANUFACTURER'S DETAILS FOR MORE INFORMATION.	
①	WOOD BREAKAWAY POST
②	6" X 8" X 0.188", 6'-0" LONG FOUNDATION TUBE AT POSTS 1 AND 2
③	WOOD CRT
④	WOOD BLOCKOUT
⑤	PIPE SLEEVE
⑥	BEARING PLATE
⑦	BCT CABLE ASSEMBLY
⑧	ANCHOR CABLE BOX
⑨	GROUND STRUT
⑩	PERFORATED W-BEAM RAIL END PANEL, 12'-6" LONG.
⑪	STANDARD W-BEAM RAIL. MULTIPLE SECTIONS REQUIRED. SECTIONS VARY IN LENGTH.
⑫	END SECTION EAT
⑬	0.040" ALUMINUM SHEET WITH REFLECTIVE SHEETING TYPE F PER SECTION 637 OF THE STANDARD SPECIFICATIONS
⑭	EAT MARKER POST - YELLOW (SEE APPROVED PRODUCTS LIST)



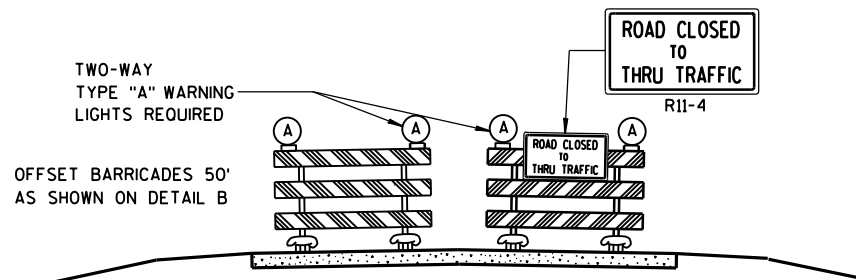
⑥
BEARING PLATE



MIDWEST GUARDRAIL SYSTEM ENERGY ABSORBING TERMINAL (MGS)	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED June 2014	/S/ Jerry H. Zogg
DATE	ROADWAY STANDARDS DEVELOPMENT ENGINEER
FHWA	



DETAIL D
ROAD CLOSURE BARRICADE DETAIL
APPROACH VIEW



DETAIL E
LANE CLOSURE BARRICADE DETAIL
APPROACH VIEW

SEE SDD 15C2-SHEET "a" FOR LEGEND

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND BARRICADES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A DESIRABLE MINIMUM OF 200 FEET CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

BARRICADES THAT MUST BE MOVED FOR A WORK OPERATION SHALL BE IMMEDIATELY RE-ESTABLISHED UPON COMPLETION OF THE OPERATION OR, FOR CONTINUING OPERATIONS, AT THE END OF EACH WORKING DAY.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ALL TYPE III BARRICADES SHALL HAVE RAILS REFLECTORIZED ON BOTH FACES. STRIPES SHALL BE PROPERLY SLOPED DOWN TOWARD THE TRAFFIC SIDE OR AS SHOWN IN THE ROAD CLOSURE BARRICADE DETAIL D FOR FULL ROAD CLOSURES.

TYPE "A" LOW-INTENSITY FLASHING WARNING LIGHTS SHALL BE VISIBLE ON BOTH SIDES OF THE BARRICADE.

THE R11-2, R11-3, M4-9, R11-4 AND R10-61 SIGNS PLACED ON BARRICADES SHALL COVER NO MORE THAN THE TOP RAIL. THE SIGNS SHALL NOT COVER ANY PORTION OF THE MIDDLE OR BOTTOM RAILS.

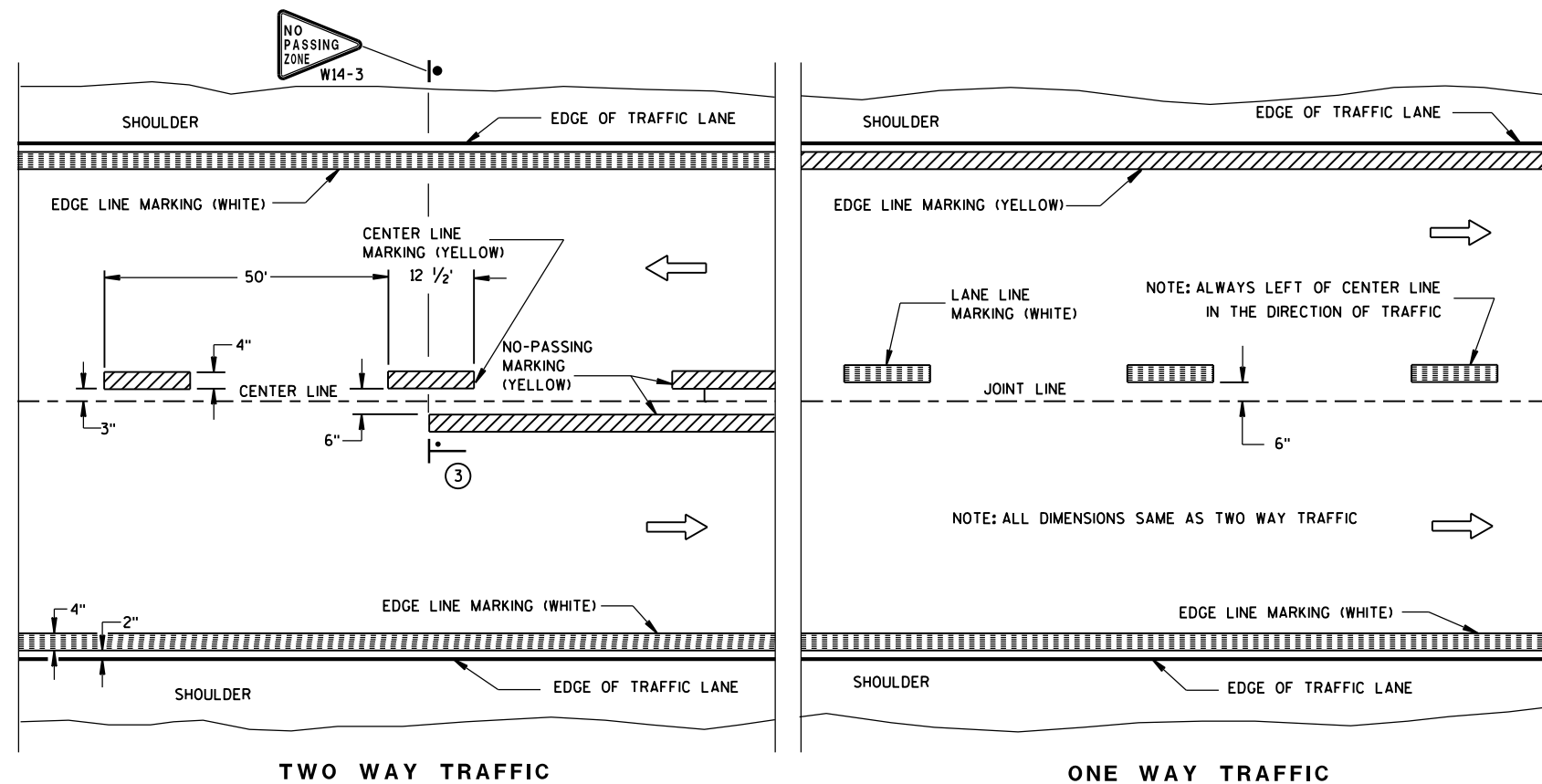
"WO" AND "MO" SIGNS ARE THE SAME AS "W" AND "M" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

ALL SIGNS SHALL BE 48" X 48" UNLESS OTHERWISE NOTED BELOW:

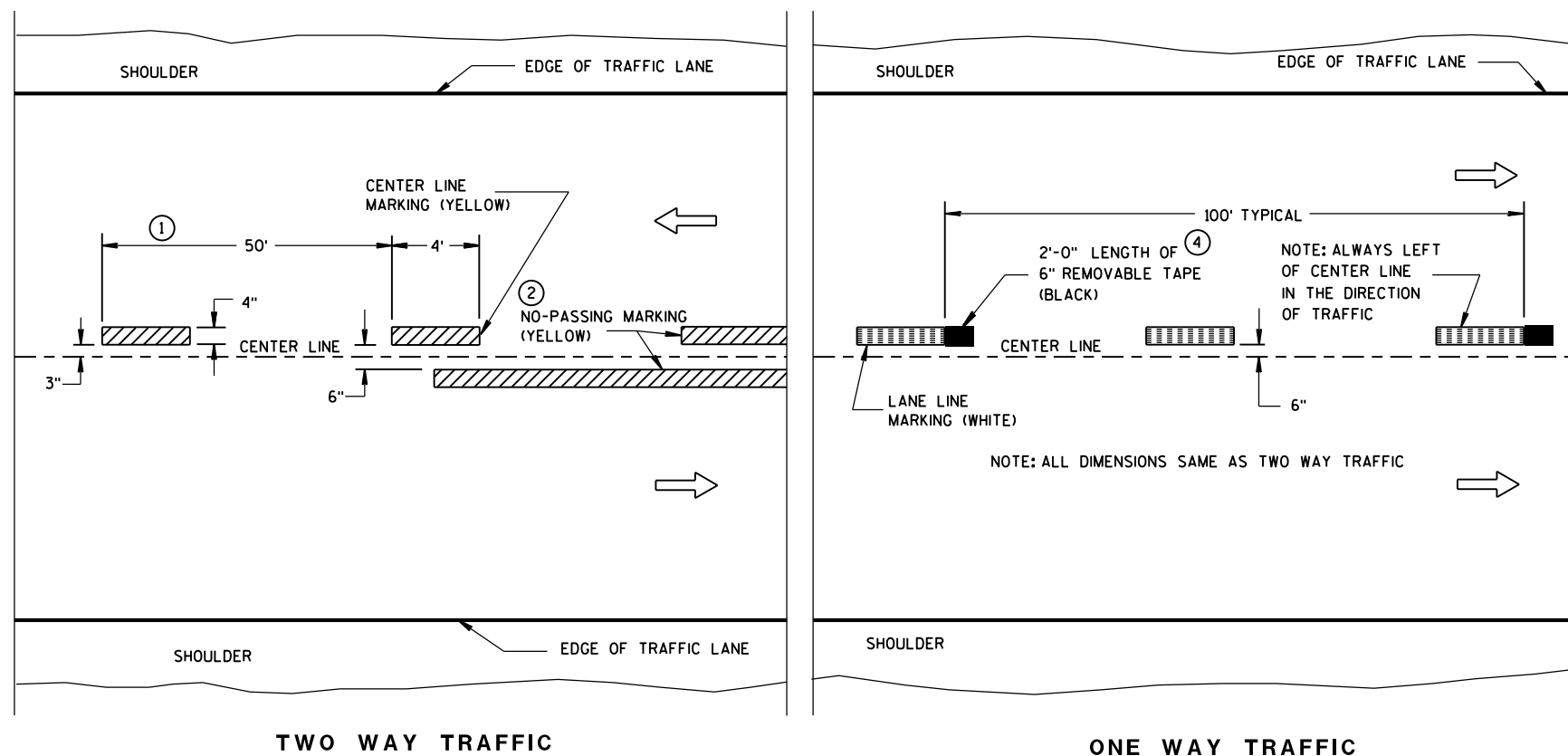
- R11-2 SHALL BE 48" X 30".
- R11-3, R11-4 AND R10-61 SHALL BE 60" X 30".
- M4-9 SHALL BE 30" X 24".
- M3-X SHALL BE 24" X 12". (36" X 18" IF NEEDED TO MATCH EXISTING SIGNS.)
- M4-8 SHALL BE 24" X 12". (30" X 15" IF NEEDED TO MATCH EXISTING SIGNS.)
- M1-4, M1-5A, AND M1-6 SHALL BE 24" X 24". (36" X 36" IF NEEDED TO MATCH EXISTING SIGNS.)
- M05-1 AND M06-1 SHALL BE 21" X 21". (30" X 30" IF NEEDED TO MATCH EXISTING SIGNS.)
- D1-X SHALL BE AS SHOWN ON SPECIFIC PROJECT SIGNING DETAIL SHEETS.
- R1-1 SHALL BE 36" X 36".

- 1 TWO WARNING LIGHTS SHALL BE PROVIDED ON THE CENTER BARRICADE AND A MINIMUM OF ONE WARNING LIGHT SHALL BE PROVIDED ON EACH OF THE OTHER BARRICADES WITHIN THE ROADWAY LIMITS. SPACING OF THE WARNING LIGHTS SHALL BE UNIFORM TO THE EDGE OF ROADWAY AS SHOWN (APPROX. 8-FOOT LIGHT SPACING).
- 2 THESE SIGNS AND BARRICADES ARE NOT REQUIRED IF ROAD CLOSURE BEGINS AT INTERSECTION.
- 3 FOR ROAD CLOSURE WITHOUT LOCAL ACCESS TO PROJECT, SEE ROAD CLOSURE BARRICADE DETAIL D.
- 4 FOR ROAD CLOSURE WITH LOCAL ACCESS TO PROJECT, SEE LANE CLOSURE BARRICADE DETAIL E.
- 5 FOR BRIDGE OR CULVERT REPLACEMENTS, SUBSTITUTE "BRIDGE OUT" INSTEAD OF "ROAD CLOSED" ON R11-2 AND R11-3 SIGNS.
- 6 INSTALL DETOUR AND COMMUNITY GUIDE SIGNS AND ARROWS ONLY IF SPECIFIED IN THE CONTRACT. IF THERE ARE EXISTING ROUTE MARKER ASSEMBLIES THAT WILL REMAIN IN PLACE, ADJUST THE LOCATION OF THE DETOUR ROUTE SIGNS TO CORRESPOND WITH THE EXISTING ASSEMBLIES. MODIFY EXISTING SIGNS WHERE POSSIBLE. SEE SPECIFIC PROJECT DETOUR SIGNING DETAIL SHEETS. IF DETOUR SIGNS ARE BEING INSTALLED BY OTHERS, PLACE THE CONTRACTED TRAFFIC CONTROL SIGNS TO ALLOW FOR PLACEMENT OF ALL WARNING, DETOUR AND GUIDE SIGNS AS SHOWN.
- 7 "EAST" CARDINAL DIRECTION MARKERS AND RIGHT TURN ARROWS ARE SHOWN. USE OTHER CARDINAL DIRECTIONS AND ARROWS AS APPROPRIATE.

BARRICADES AND SIGNS FOR MAINLINE CLOSURES	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
Sept. 2015 DATE	/S/ Peter Amokobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	



PERMANENT PAVEMENT MARKING




TEMPORARY (INTERMEDIATE) PAVEMENT MARKING
(SHOWS CYCLE FOR TEMPORARY CENTER LINE OR TEMPORARY LANE LINE MARKING)

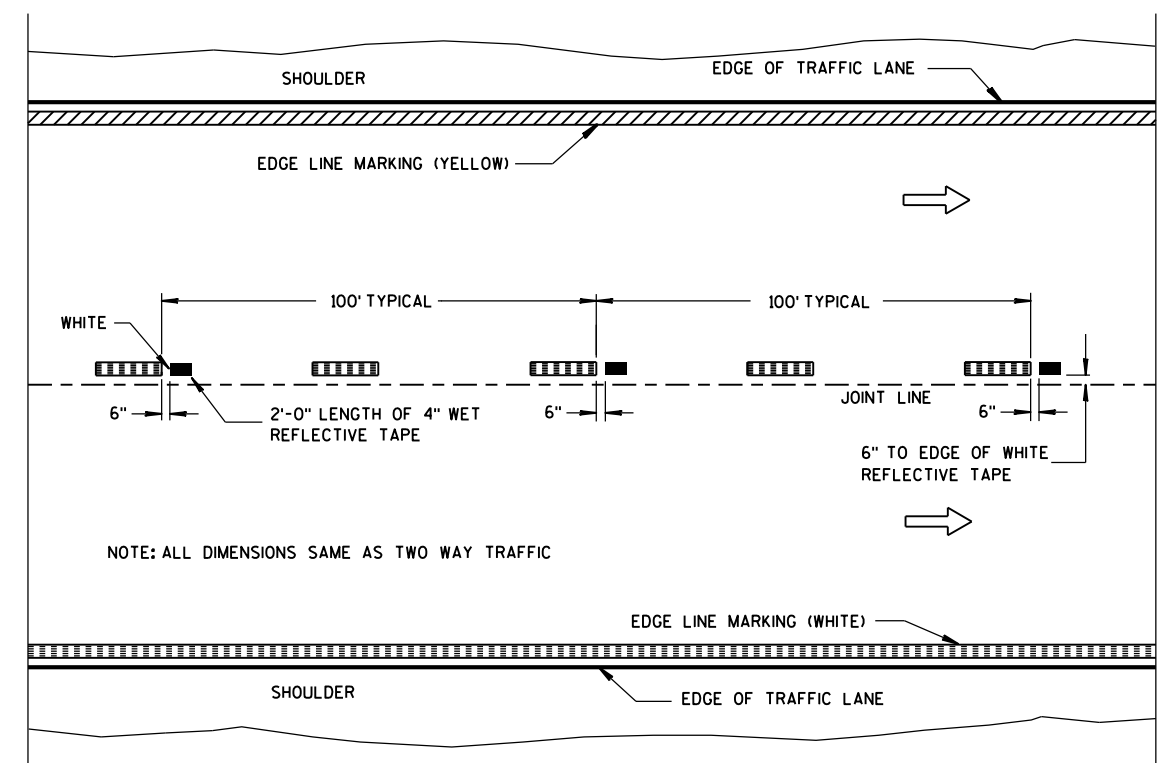
GENERAL NOTES

DETAILS OF CONSTRUCTION NOT SHOWN ON THIS DRAWING SHALL CONFORM TO STANDARD SPECIFICATIONS AND SPECIAL PROVISIONS.

- ① HALF CYCLE LENGTHS (25'±) WITH 2" MINIMUM STRIPE LENGTHS SHALL BE PROVIDED ON ROADWAYS (INCLUDING TEMPORARY TRAVELED WAYS) WITH REVERSE CURVATURE, CURVATURE OF OVER 5 DEGREES OR WHEN DIRECTED BY THE ENGINEER TO MARK UNUSUAL ALIGNMENT OF THE TRAVELED WAY.
- ② NO PASSING ZONE TEMPORARY PAVEMENT MARKING IS REQUIRED TO BE PLACED, WHERE APPROPRIATE, ALONG WITH CENTERLINE TEMPORARY PAVEMENT MARKING WHEN A SAME DAY PERMANENT PAVEMENT MARKING ITEM IS INCLUDED IN THE CONTRACT.
- ③ NO PASSING ZONE MARKINGS ARE PLACED ACCORDING TO "T" MARKINGS. IF EXISTING NO PASSING ZONE W14-3 SIGNS ARE BEYOND 50 FEET IN EITHER DIRECTION, THE SIGNS SHALL BE MOVED TO THE "T" MARKINGS.
- ④ CONCRETE ONLY.



NOTE

ARROW SYMBOL () SHOWS DIRECTION OF TRAVEL



WET REFLECTIVE TAPE SUPPLEMENT TO
SPRAYED OR NON WET REFLECTIVE TAPE LANE LINE

LEGEND

-  "T" MARKING
-  POST MOUNTED SIGN

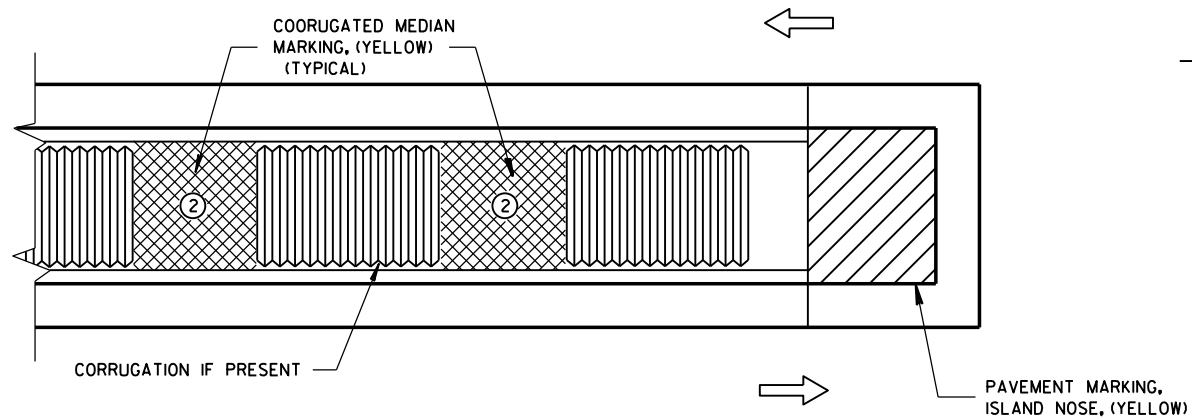
PAVEMENT MARKING (MAINLINE)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

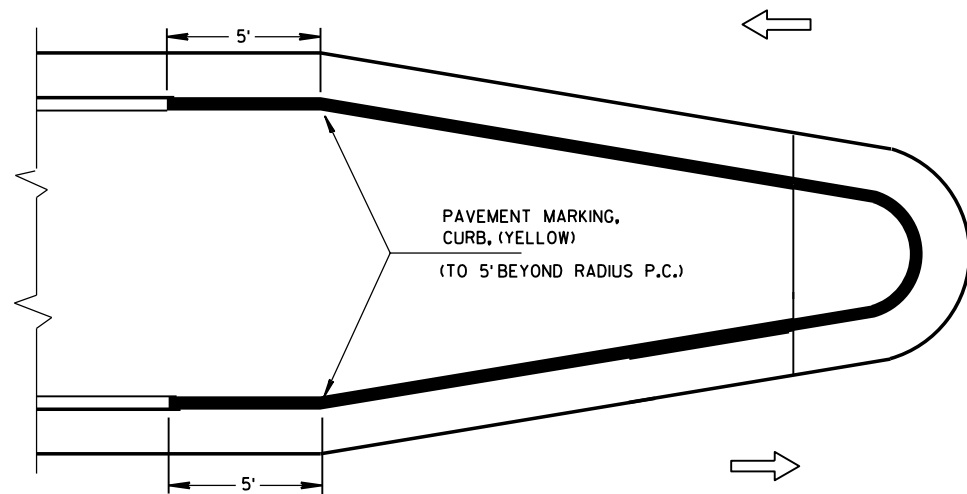
APPROVED

5-13-2013 /S/ Travis Feltes
DATE STATE TRAFFIC ENGINEER

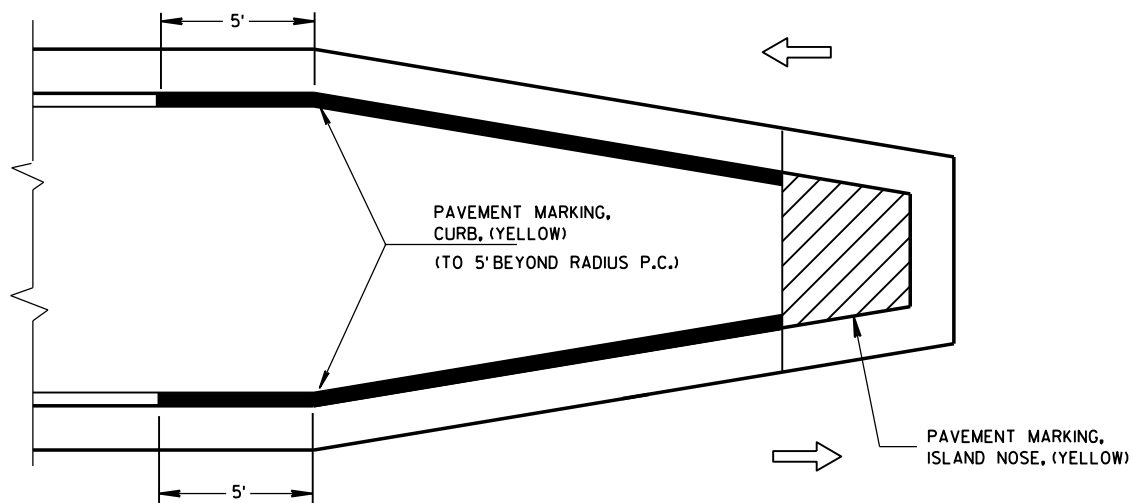
FHWA



MEDIAN ISLAND WITH SQUARE BLUNT NOSE

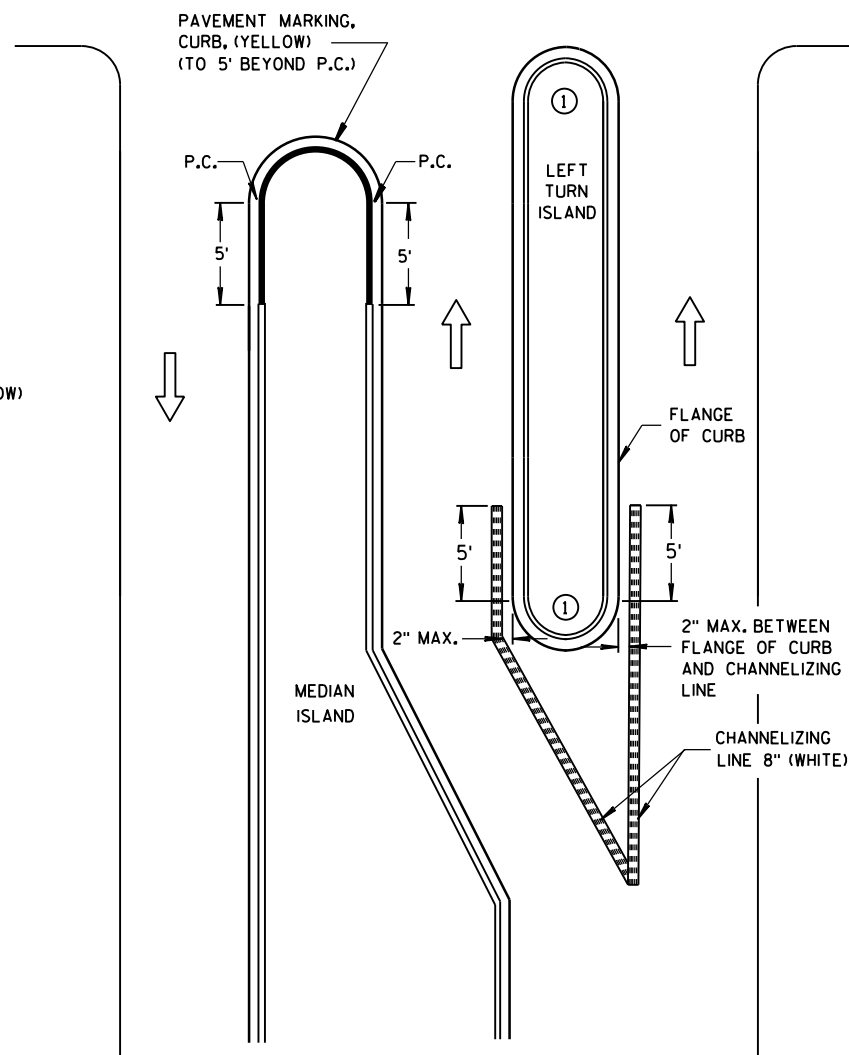


MEDIAN ISLAND WITH ROUND BLUNT NOSE



MEDIAN ISLAND WITH SLOPED NOSE

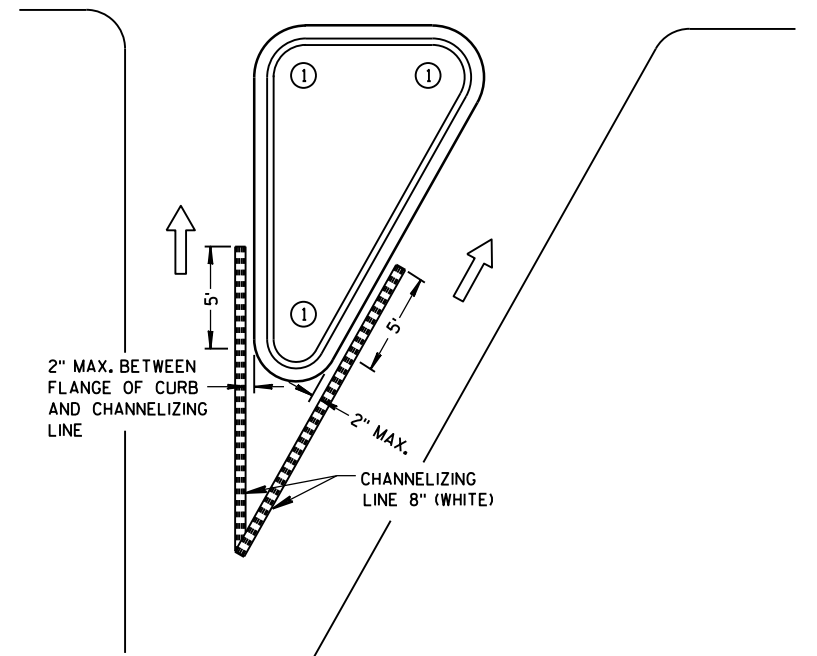
TYPICAL PLACEMENT OF PAVEMENT MARKING ON MEDIAN ISLANDS



LEFT TURN & MEDIAN ISLAND

GENERAL NOTES

- 1 DO NOT MARK CURB NOSES THAT SEPARATE LANES OF TRAFFIC TRAVELING IN THE SAME DIRECTION.
- 2 WHEN CONCRETE CORRUGATED MEDIAN IS CONSTRUCTED TO SEPARATE TRAFFIC OPERATING IN THE OPPOSING DIRECTION YELLOW PAVEMENT MARKING SHALL BE APPLIED TO THE FLAT PORTION OF THE CONCRETE CORRUGATED MEDIAN. THE ITEM OF PAVEMENT MARKING, CONCRETE CORRUGATED MEDIAN, WILL BE MEASURED IN PLACE AND AND ACCEPTED IN ACCORDANCE WITH THE CONTRACT AND PAID FOR AT THE CONTRACT UNIT PRICE PER SQUARE FOOT.



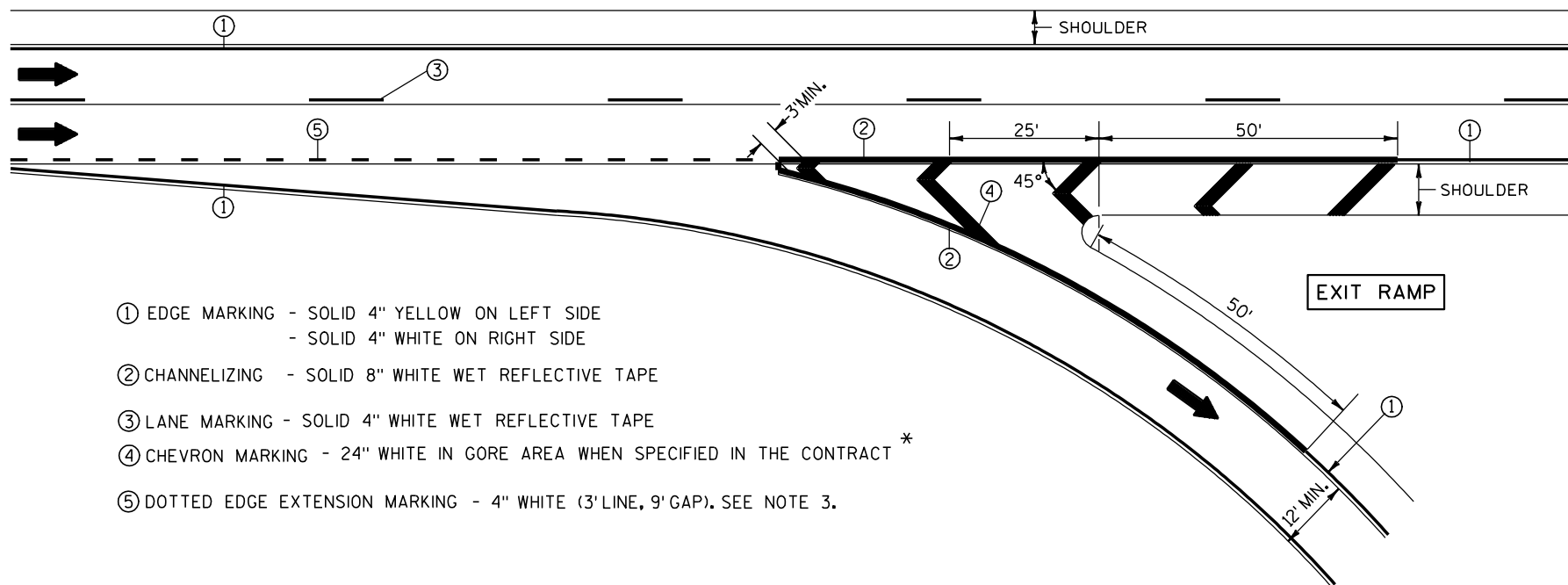
RIGHT TURN ISLAND

LEGEND

- ISLAND NOSE MARKING
- CURB MARKING
- CORRUGATED MEDIAN MARKING
- DIRECTION OF TRAVEL

PAVEMENT MARKING (ISLANDS)

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

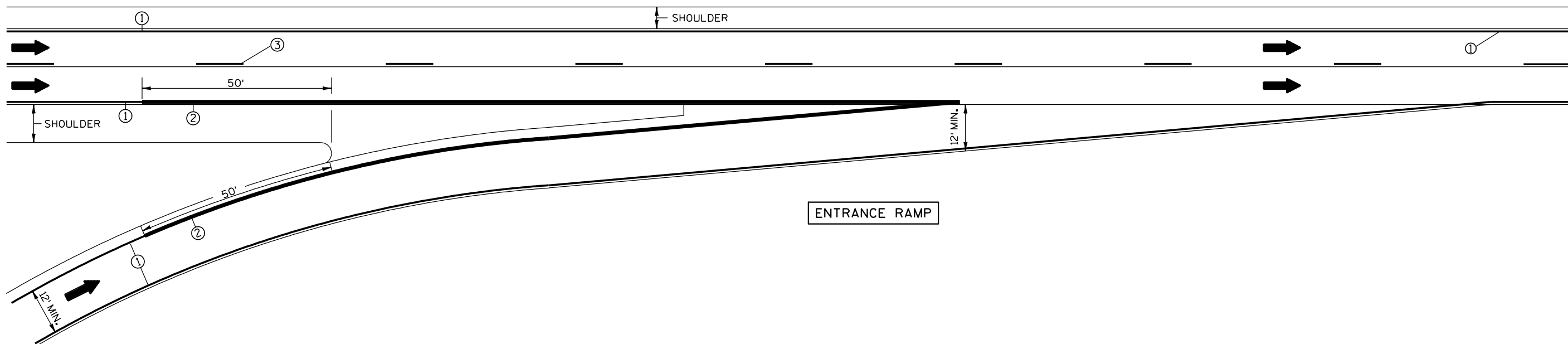


- ① EDGE MARKING - SOLID 4" YELLOW ON LEFT SIDE
- SOLID 4" WHITE ON RIGHT SIDE
- ② CHANNELIZING - SOLID 8" WHITE WET REFLECTIVE TAPE
- ③ LANE MARKING - SOLID 4" WHITE WET REFLECTIVE TAPE
- ④ CHEVRON MARKING - 24" WHITE IN GORE AREA WHEN SPECIFIED IN THE CONTRACT *
- ⑤ DOTTED EDGE EXTENSION MARKING - 4" WHITE (3' LINE, 9' GAP). SEE NOTE 3.

NOTES:

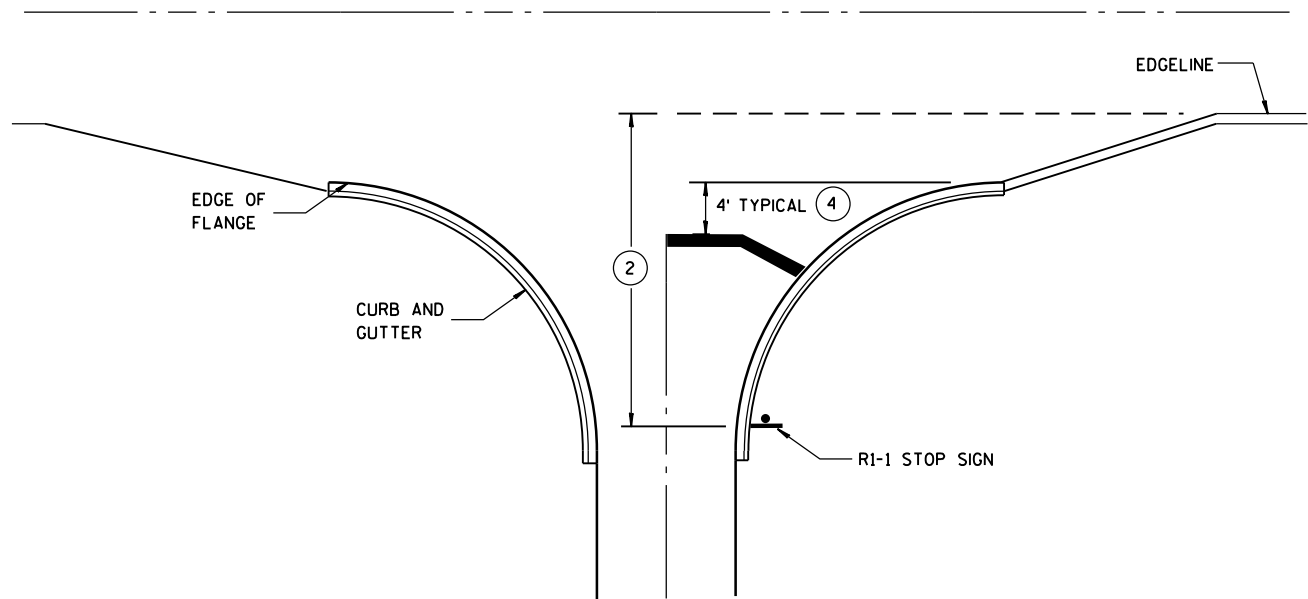
- 1. ARROWS SHOWN ON THIS MARKING PLAN DESIGNATE TRAFFIC FLOW, AND SHALL NOT BE TAKEN AS PROPOSED PAVEMENT MARKINGS.
- 2. PLACE WHITE EDGE OF TAPE 6" LEFT FROM JOINT.
- 3. 3' LINE 9' GAP, EXCEPT RETRACE THE EXISTING LINE-GAP PATTERN WHERE EXISTING MARKINGS ARE IN PLACE.
- 4. RETRACE EXISTING DIAGONAL MARKINGS.

* REFER TO DESIGN NOTES.

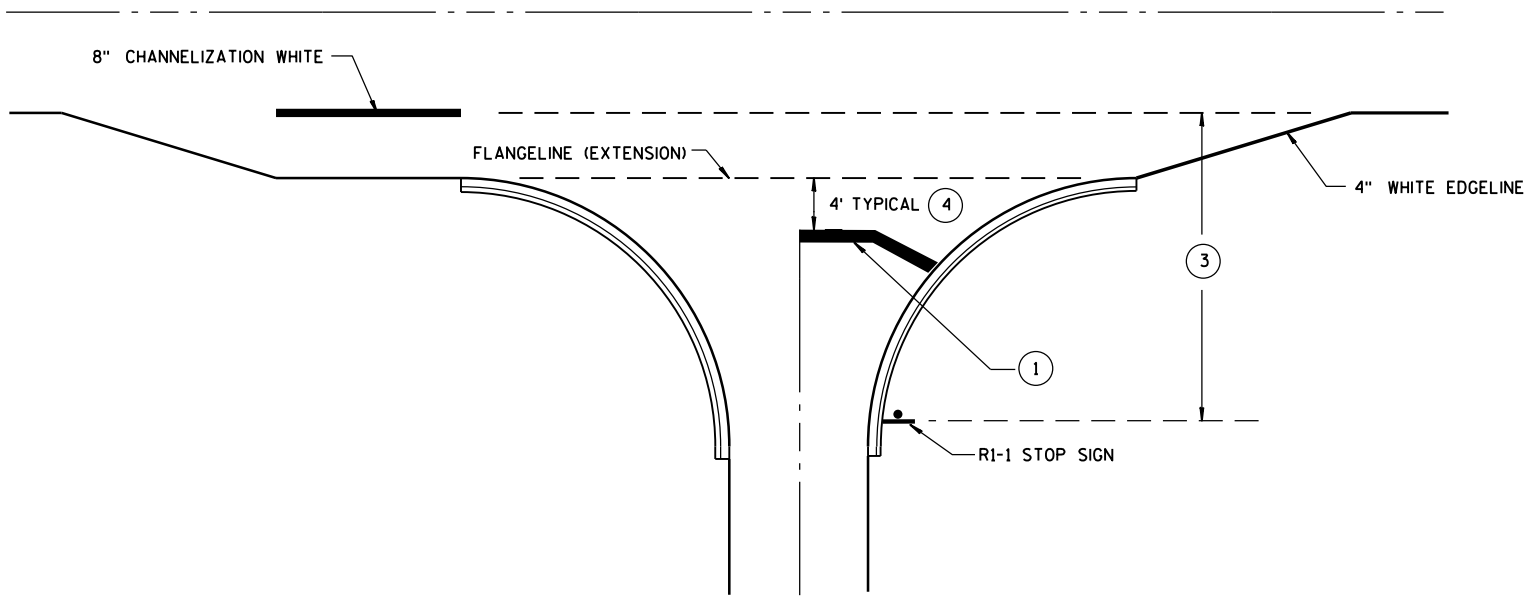


PAVEMENT MARKING
(RAMPS AND GORES)

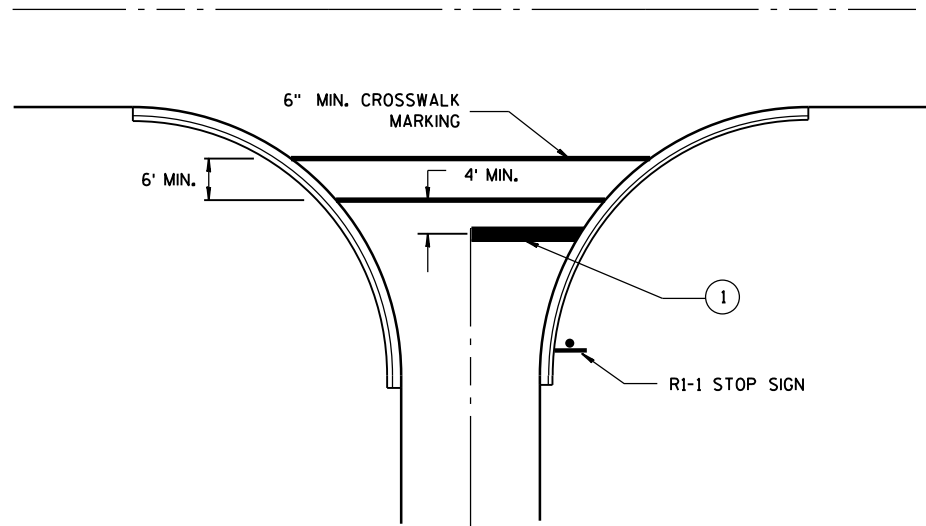
STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION



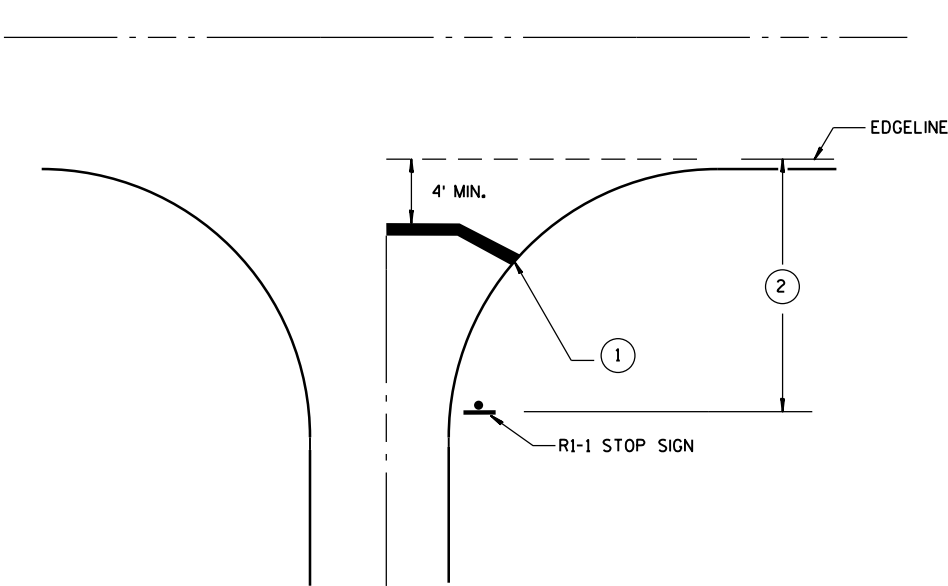
TYPICAL STOP LINE PAVEMENT MARKING
WITH CURB AND GUTTER



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH RIGHT TURN LANE



TYPICAL STOP LINE PAVEMENT MARKING
FOR SIDEROADS WITH CROSSWALK MARKING



TYPICAL STOP LINE PAVEMENT MARKING
WITHOUT CURB AND GUTTER

GENERAL NOTES

- ① 18-INCH STOP LINES MAY BE DELETED OR ADDED BY THE PROJECT ENGINEER BASED ON VISIBILITY AND SIGHT LINES.
- ② IF STOP SIGN IS LESS THAN OR EQUAL TO 40 FEET FROM THE EDGE LINE THAN NO STOP LINE IS REQUIRED.
- ③ IF STOP SIGN IS LESS THAN OR EQUAL TO 30 FEET FROM THE FLANGELINE EXTENSION THAN NO STOP LINE IS REQUIRED.
- ④ MOVE CLOSER TO EDGE OF TRAVEL LANE AS NEEDED FOR VISIBILITY AND SIGHT LINES.

STOP LINE AND CROSSWALK
PAVEMENT MARKING

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
4/30/2013 DATE /S/ Travis Feltz
STATE TRAFFIC ENGINEER
FHWA

GENERAL NOTES

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND TO PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIREABLE) DISTANCE TO EXISTING SIGNS.

THIS LANE CLOSURE IS TYPICAL FOR CLOSING RIGHT LANE - REVERSE FOR CLOSING LEFT LANE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"W0" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER. NO WARNING LIGHTS SHALL BE WORKING ON "COVERED" OR "DOWNED" SIGNS.

CONSIDER GEOMETRICS WHEN LOCATING SIGNS AND ARROW BOARD SO THE DRIVER HAS A CLEAR VIEW OF THE ARROW BOARD AND LANE CLOSURE DRUMS FOR A MINIMUM 1500 FEET IN FRONT OF DRUMS.

FOR A LANE CLOSURE THAT IS IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, THE ADVANCED WARNING SIGNS MAY BE MOUNTED ON PORTABLE SUPPORTS.

REMOVE PAVEMENT MARKINGS IF LANE CLOSURE IS TO BE IN PLACE FOR LONGER THAN 4 OR MORE DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

IF THE HORIZONTAL ALIGNMENT IS SUCH THAT A CURVE MAY REQUIRE ADDITIONAL DELINEATION, THE DEVICE SPACING MAY BE DECREASED TO 50 FEET.

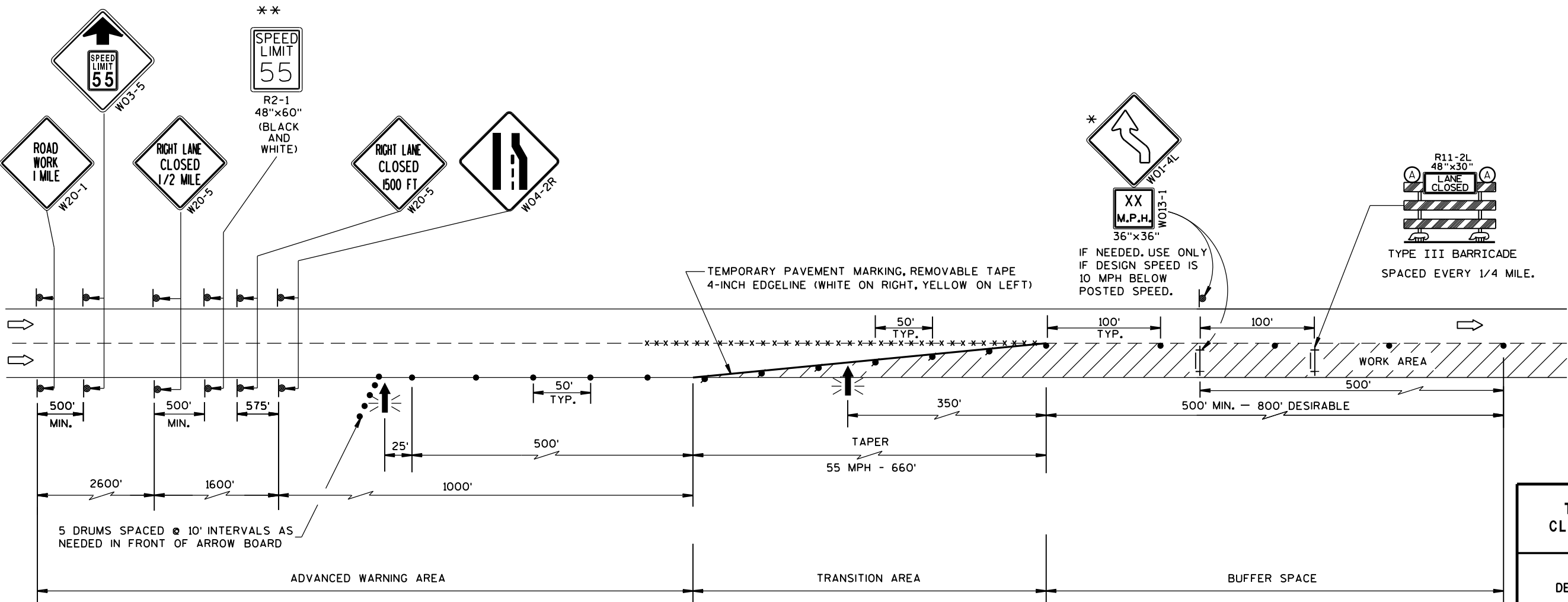
ADJUSTMENTS IN BUFFER SPACE NEED TO BE INCORPORATED WHEN THE LANE CLOSURE OCCURS NEAR AN INTERCHANGE EXIT OR ENTRANCE RAMP. THE LANE CLOSURE MUST MUST TAKE PLACE FAR ENOUGH IN ADVANCE OF AN EXIT OR ENTRANCE RAMP TO STILL ALLOW FOR ADEQUATE BUFFER SPACE. THE MINIMUM LENGTH OF THE BUFFER SPACE BEFORE AN EXIT RAMP SHOULD BE 1/2 THE LENGTH OF THE TRANSITION AREA. THE ENTRANCE RAMP SHOULD BE FOLLOWED BY THE ORIGINAL BUFFER SPACE LENGTH OF 800 FEET DESIRABLE PRIOR TO ANOTHER TRAFFIC CONTROL CHANGE SUCH AS A CROSSOVER MANEUVER.

* THE LEFT REVERSE CURVE SIGN (W01-4L) IS ONLY REQUIRED WHEN THIS DETAIL IS USED IN COMBINATION WITH "SINGLE LANE CROSSOVER" DETAIL.

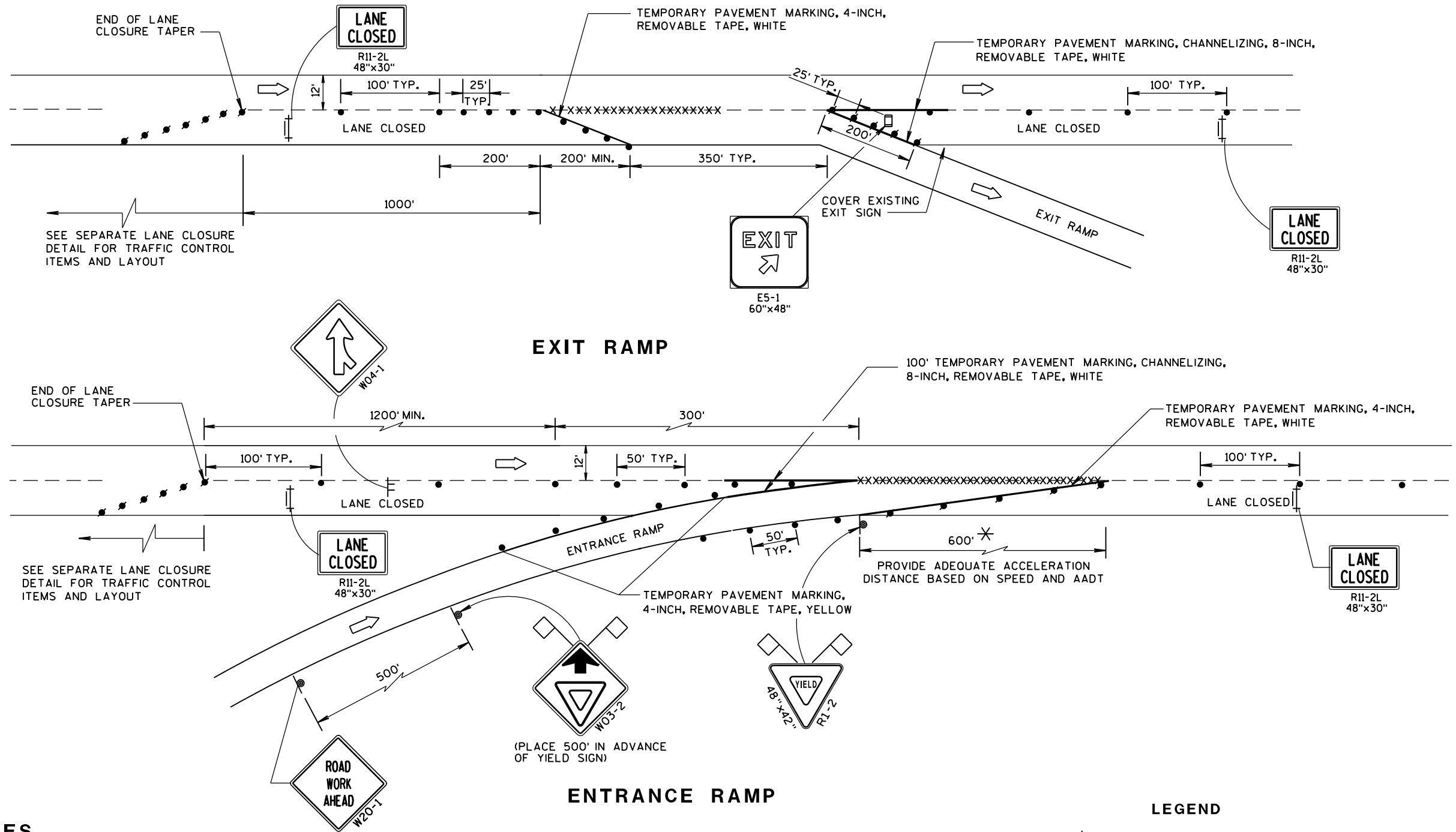
** A SPEED LIMIT SIGN SHALL BE LOCATED 1500 FEET BEYOND THE END OF THE ACCELERATION LANE OF EACH ENTRANCE RAMP. THERE SHOULD BE A SPEED LIMIT SIGN INCORPORATED A MINIMUM OF EVERY 2 OR 3 MILES. INCLUDE A 65 MPH RESUME SPEED LIMIT SIGN 200 FEET MINIMUM (500 FEET DESIREABLE) BEYOND THE "END OF ROADWORK" SIGN.

LEGEND

- TYPE III BARRICADE WITH ATTACHED SIGN
- SIGN ON PERMENENT SUPPORT
- TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
- TRAFFIC CONTROL DRUM
- FLASHING ARROW BOARD
- TYPE "A" WARNING LIGHT (FLASHING)
- REMOVING PAVEMENT MARKING
- DIRECTION OF TRAFFIC
- WORK AREA



TRAFFIC CONTROL, LANE CLOSURE, SPEED REDUCTION	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED Feb. 2015 DATE	/S/ Travis Feltes STATE TRAFFIC ENGINEER OF DESIGN
FHWA	



GENERAL NOTES

THE INSTALLATIONS SHOWN ON THIS SHEET ARE TYPICAL EXAMPLES AND ARE NOT INTENDED TO REPRESENT ANY PARTICULAR RAMP. AT SPECIFIC FIELD LOCATIONS, SIMILAR INSTALLATIONS SHALL BE USED AND ADJUSTED TO THE GEOMETRICS OF THE RAMP AS COORDINATED WITH THE ENGINEER.

THE EXACT NUMBER, LOCATION, AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET, (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

ALL SIGNS ARE 48"x48" UNLESS OTHERWISE NOTED.

"WO" IS THE SAME AS "W" EXCEPT THE BACKGROUND IS ORANGE.

SEE SEPARATE LANE CLOSURE DETAIL FOR TYPICAL SPACING OF TYPE III BARRICADES AND R11-2L "LANE CLOSED" SIGNS.

YIELD SIGN AND WARNING SIGNS ON ENTRANCE RAMP ARE ALSO APPROPRIATE FOR CLOSURE OF THE MAINLINE LEFT LANE. OMIT THE YIELD SIGN IF MORE THAN ONE LANE REMAINS OPEN ON THE MAINLINE AND THE RAMP TAPER IS AT LEAST AS LONG AS THE NORMAL ENTRANCE RAMP TAPER AT THE SITE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS, OR THAT WILL BE PLACED IN A CLOSED LANE, MAY BE MOUNTED ON PORTABLE SUPPORTS.

IF INDICATED IN MISCELLANEOUS QUANTITIES, SUBSTITUTE FLEXIBLE TUBULAR MARKERS FOR DRUMS IN THE GORE BETWEEN THE ENTRANCE RAMP AND MAINLINE TRAFFIC.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

REMOVE PAVEMENT MARKINGS AND PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF LANE CLOSURE IS TO BE IN PLACE FOR 7 OR MORE CONTINUOUS DAYS AND NIGHTS.

WARNING LIGHTS ARE NOT REQUIRED IF THE LANE CLOSURE IS A DAYTIME ONLY OPERATION.

* LENGTH OF OPENING MAY BE REDUCED TO 150 FEET DURING STAGING OF WORK IN IMMEDIATE AREA OF RAMP TAPER.

LEGEND	
	SIGN ON PERMANENT SUPPORT
	SIGN ON TEMPORARY SUPPORT
	TRAFFIC CONTROL DRUM
	TRAFFIC CONTROL DRUM WITH TYPE "C" STEADY BURN LIGHT
	REMOVING PAVEMENT MARKING (SEE GENERAL NOTES)
	TYPE III BARRICADE WITH ATTACHED SIGN
	FLAGS, 16" x 16" MIN., (ORANGE)
	DIRECTION OF TRAFFIC

TRAFFIC CONTROL,
EXIT AND ENTRANCE RAMP
WITHIN LANE CLOSURE

STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015
DATE

/S/ Peter Amokobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

THIS RAMP CLOSURE DETAIL IS TYPICAL FOR CLOSING A RIGHT SIDE EXIT RAMP. FOR A LEFT SIDE EXIT RAMP, REVERSE THE TRAFFIC CONTROL.

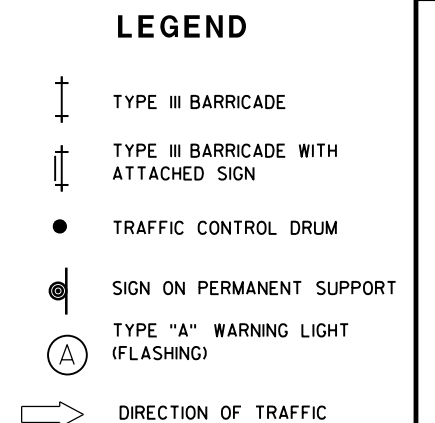
THE SPACING BETWEEN TRAFFIC CONTROL SIGNS SHOULD BE ADJUSTED TO NOT CONFLICT WITH AND SHOULD PROVIDE A MINIMUM OF 200 FEET (500 FEET DESIRABLE) CLEARANCE TO EXISTING SIGNS THAT WILL REMAIN IN PLACE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

PLACE TEMPORARY PAVEMENT MARKING, REMOVABLE TAPE IF RAMP CLOSURE IS TO BE IN PLACE FOR 4 OR MORE CONTINUOUS DAYS AND NIGHTS.

WHERE MEDIAN BARRIER IS IN PLACE, SIGNS SHOWN ON LEFT SIDE OF ROADWAY MAY BE OMITTED FOR RIGHT SIDE RAMP CLOSURES OF LESS THAN 12-HOUR DURATION.

** PLACE "RAMP WILL BE CLOSED" SIGN 7 CALENDAR DAYS PRIOR TO CLOSURE OR AS DIRECTED BY THE ENGINEER. SEE WISCONSIN STANDARD SIGN PLATES FOR SIGN LAYOUT.



STATE OF WISCONSIN
DEPARTMENT OF TRANSPORTATION

APPROVED
Sept. 2015
DATE

/S/ Peter Amakobe Atepe
STATEWIDE WORK ZONE TRAFFIC
SAFETY ENGINEER

FHWA

GENERAL NOTES

THE EXACT NUMBER, LOCATION AND SPACING OF ALL SIGNS AND DEVICES SHALL BE ADJUSTED TO FIT FIELD CONDITIONS AS APPROVED BY THE ENGINEER.

ALL SIGNS ARE 48" X 48" UNLESS OTHERWISE NOTED. IF NECESSARY DUE TO SPACE CONSTRAINTS IN URBAN AREAS, 36" X 36" SIGNS MAY BE USED IF APPROVED BY DISTRICT TRAFFIC UNIT.

"WO" SIGNS ARE THE SAME AS "W" SIGNS EXCEPT THE BACKGROUND IS ORANGE.

SIGNS THAT WILL BE IN PLACE LESS THAN 7 CONTINUOUS DAYS AND NIGHTS MAY BE MOUNTED ON PORTABLE SUPPORTS.

ANY SIGNS TEMPORARY OR EXISTING, WHICH CONFLICT WITH TRAFFIC CONTROL "IN USE" SHALL BE REMOVED OR COVERED AS NEEDED AND AS APPROVED BY THE ENGINEER.

W20-1A AND G20-2A SIGNS ARE NOT REQUIRED IF THE WORK AREA IS WITHIN A LARGER WORK ZONE WHERE THESE SIGNS ARE ALREADY PRESENT. G20-2A SIGNS MAY ALSO BE OMITTED IF DURATION OF WORK IS LESS THAN 7 CONTINUOUS DAYS AND NIGHTS.

CHANNELIZING DEVICES PLACED ADJACENT TO THE WORK AREA SHALL BE PULLED BACK FROM THE TRAVEL LANE WHEN WORK IS NOT IN PROGRESS.

TABLE A

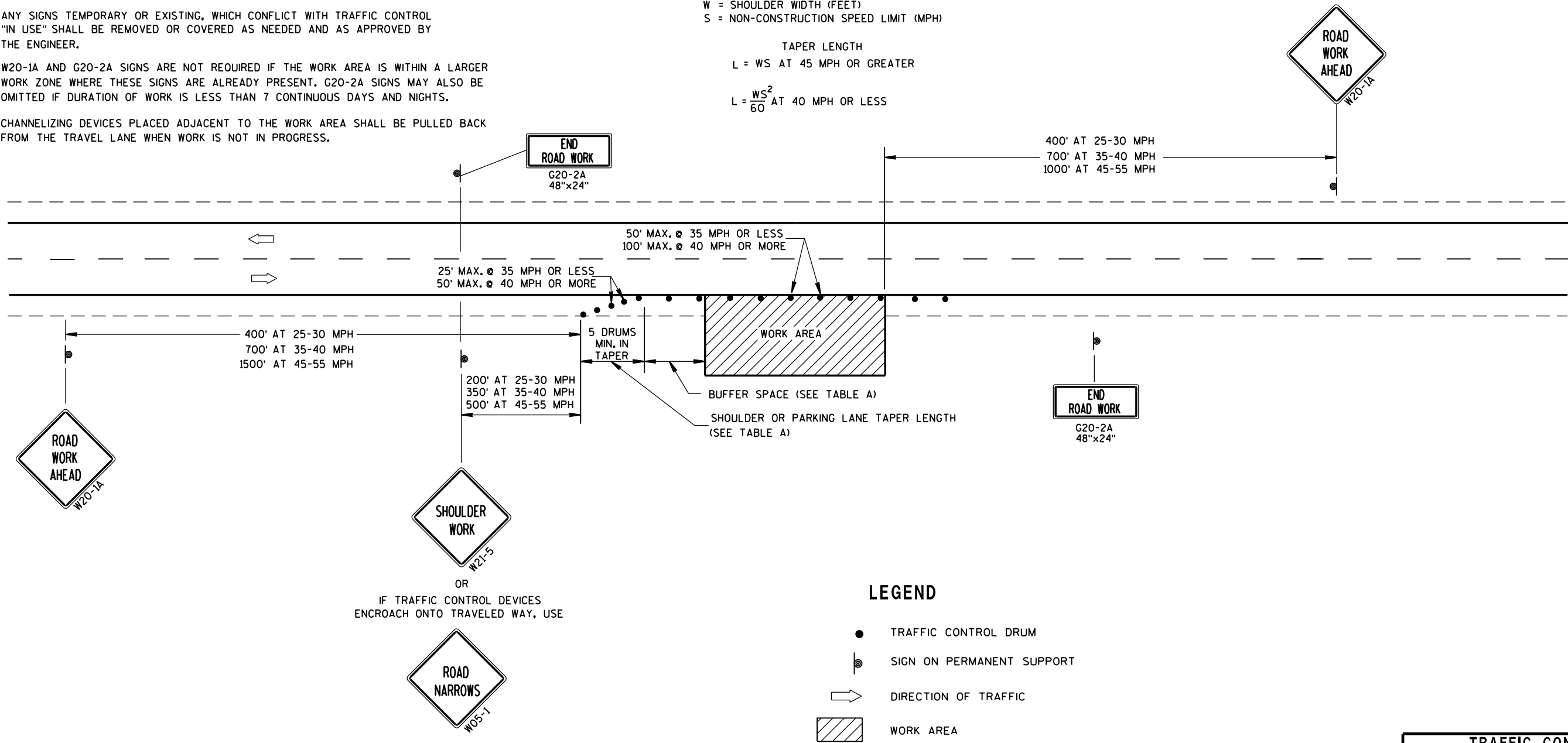
SHOULDER TAPER LENGTH (FEET)					BUFFER SPACE (FEET)
S	W	4	6	8	
30	20	30	40	50	200
35	30	45	55	70	250
40	40	55	75	90	305
45	60	90	120	150	360
50	70	100	135	170	425
55	75	110	150	185	495

W = SHOULDER WIDTH (FEET)
S = NON-CONSTRUCTION SPEED LIMIT (MPH)

TAPER LENGTH
L = WS AT 45 MPH OR GREATER

$L = \frac{WS^2}{60}$ AT 40 MPH OR LESS

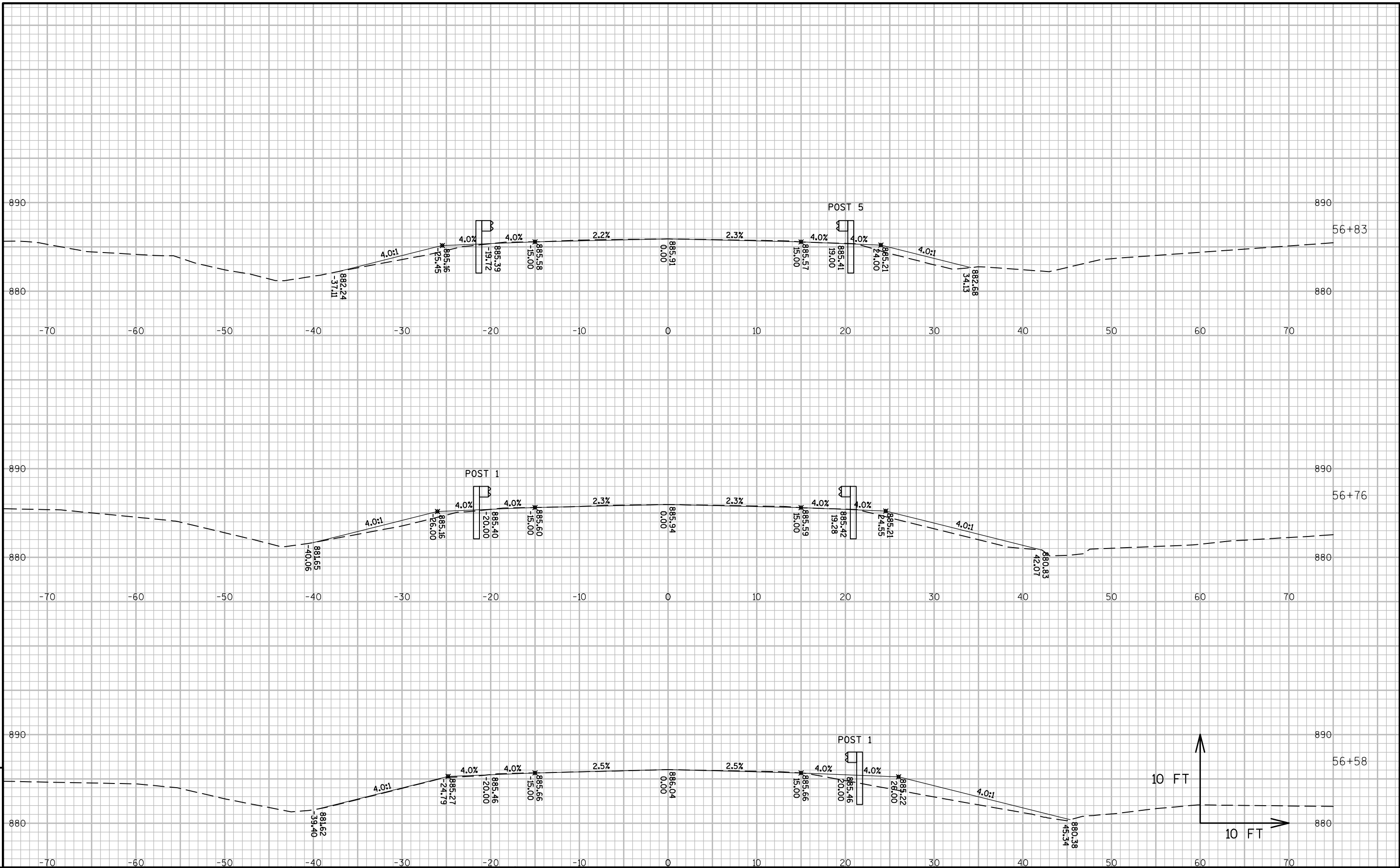
SHOULDER TAPER LENGTH = $\frac{1}{3}L$

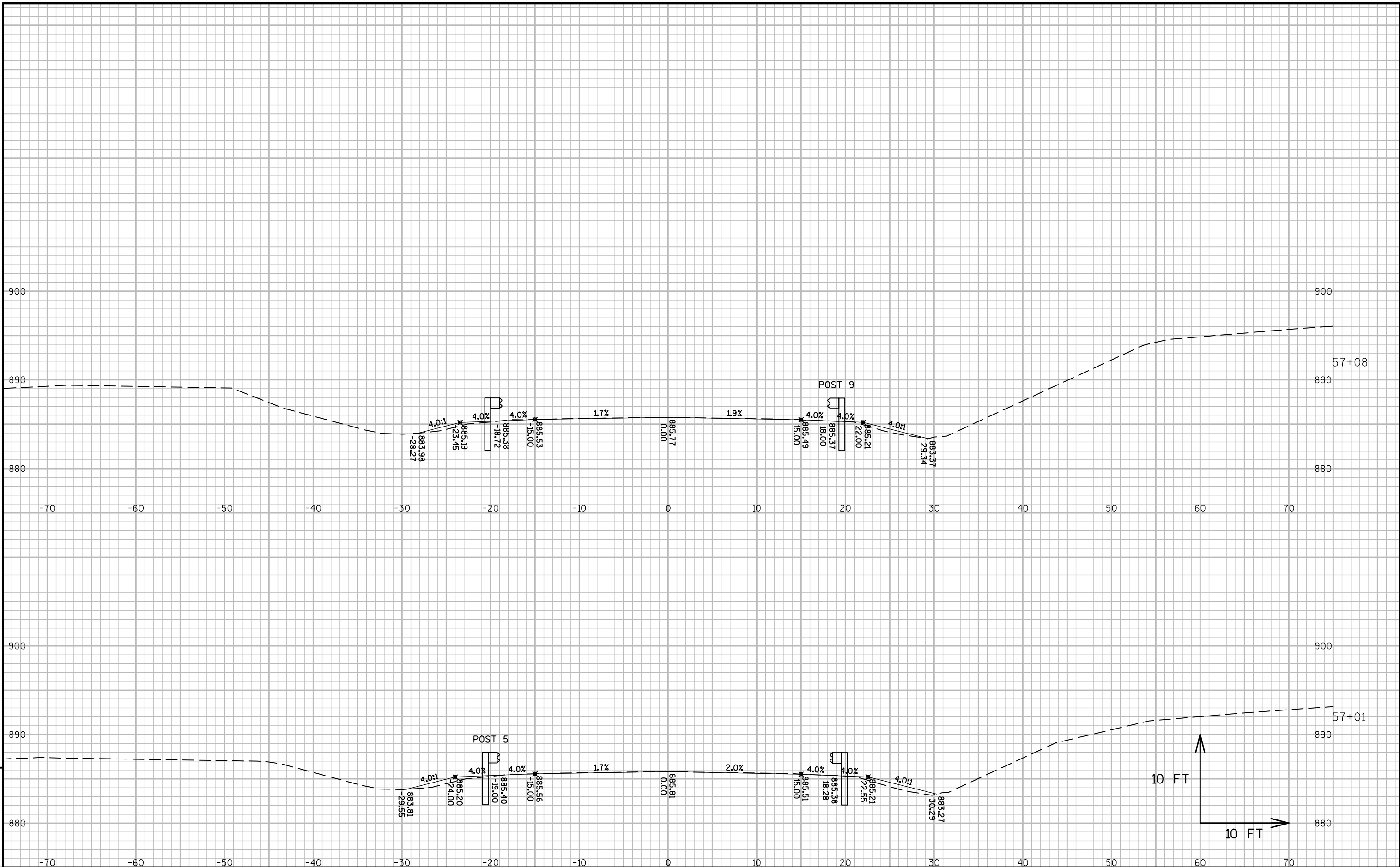


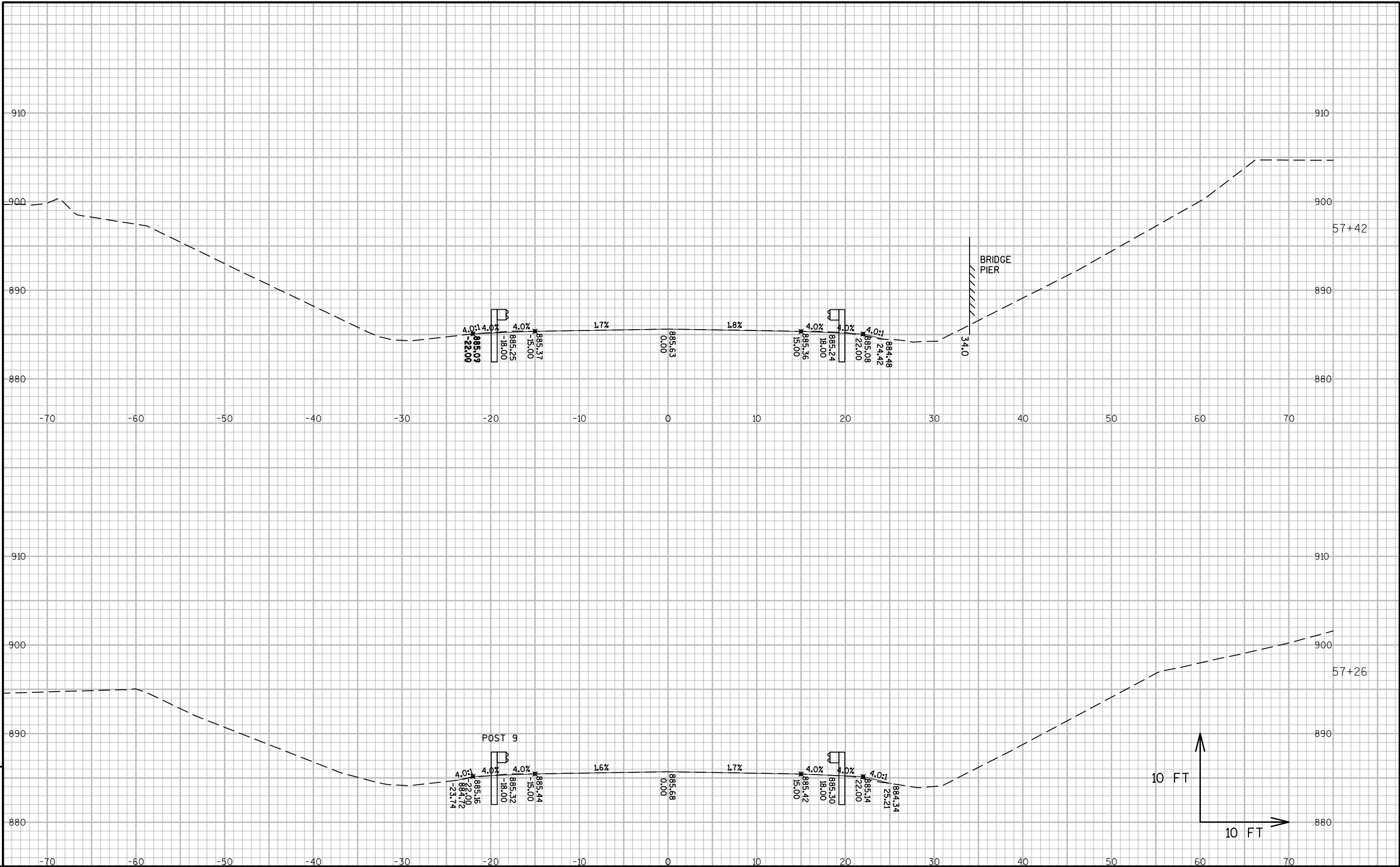
LEGEND

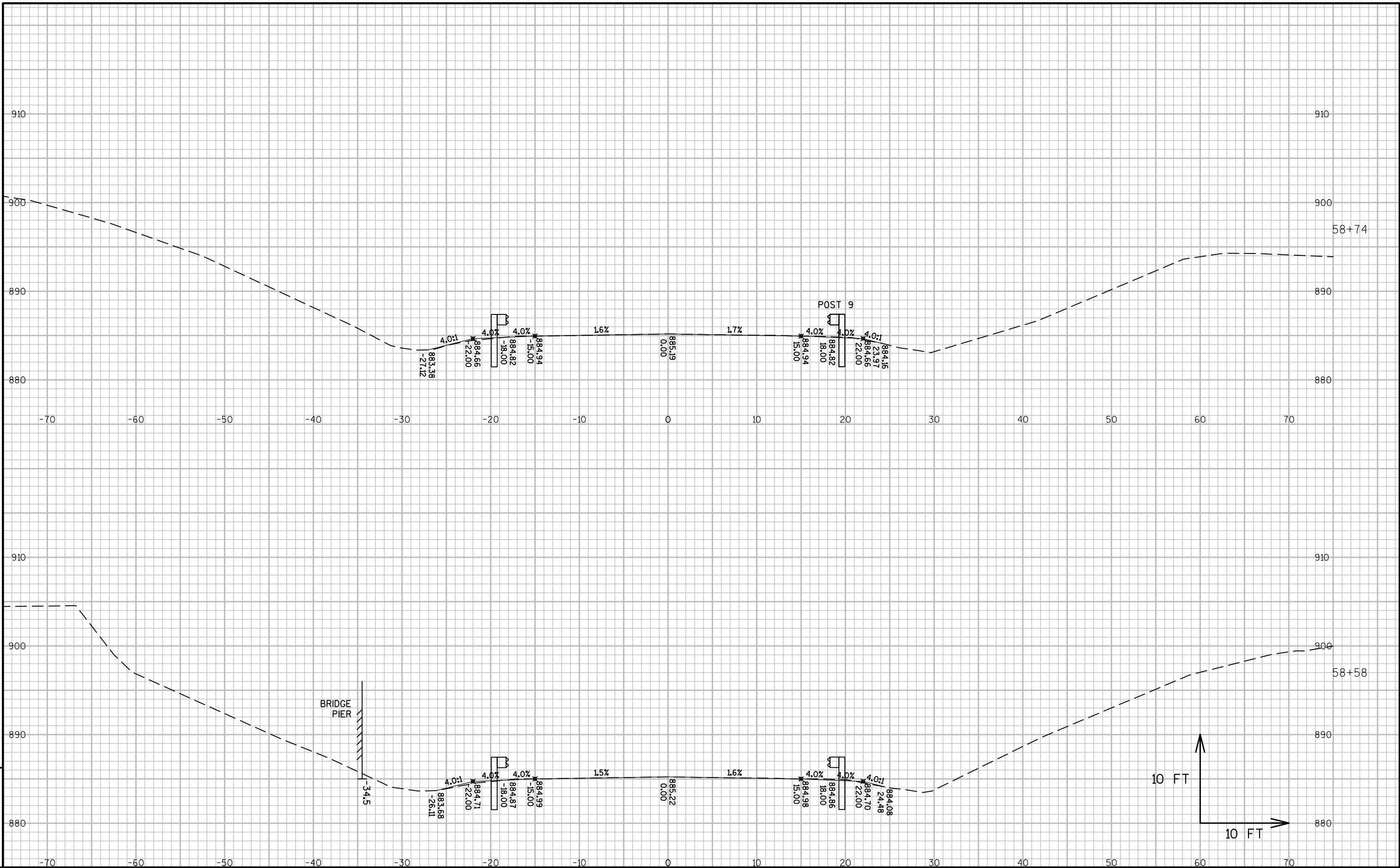
- TRAFFIC CONTROL DRUM
- ⦿ SIGN ON PERMANENT SUPPORT
- ➡ DIRECTION OF TRAFFIC
- ▨ WORK AREA

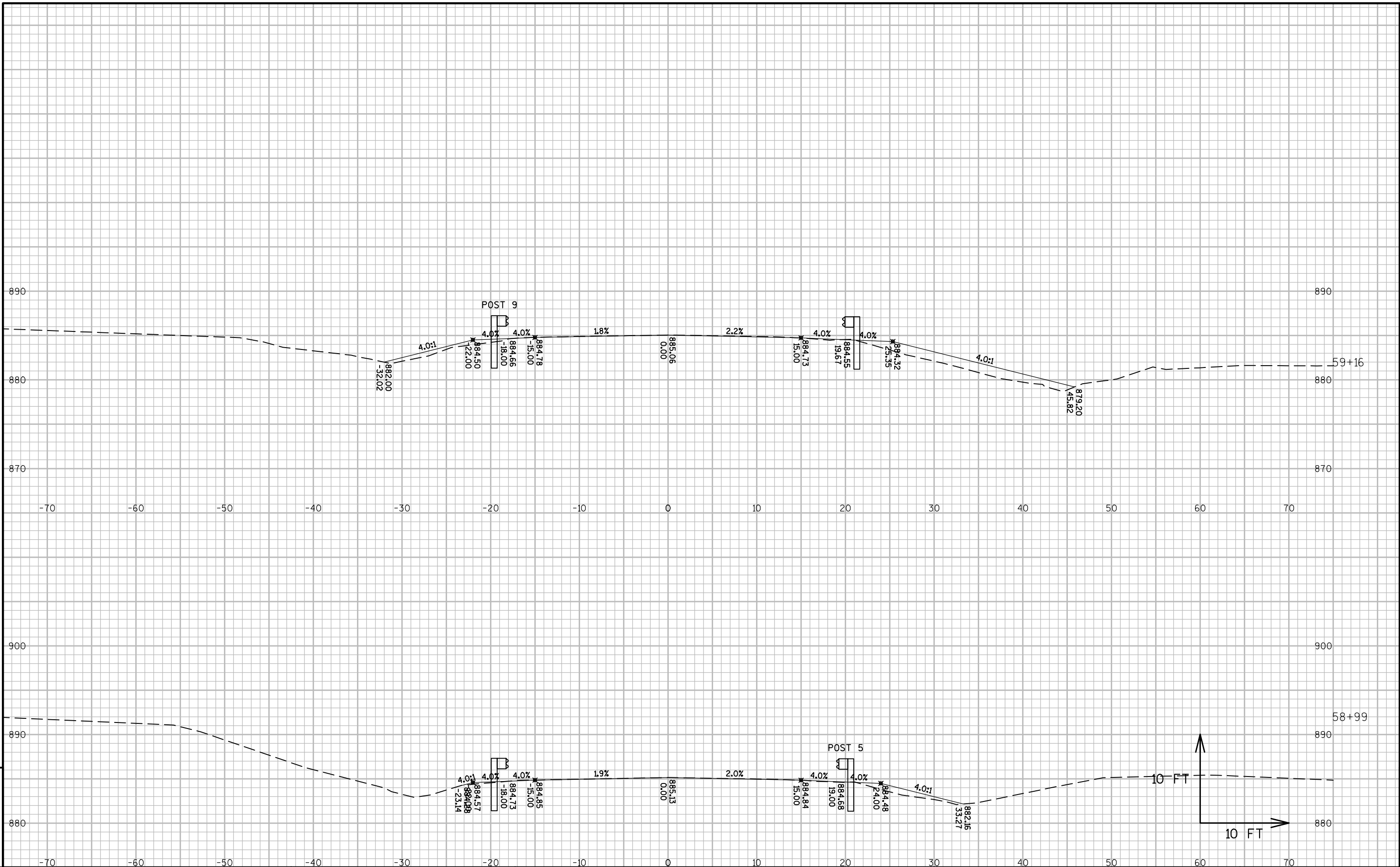
TRAFFIC CONTROL, WORK ON SHOULDER OR PARKING LANE, UNDIVIDED ROADWAY	
STATE OF WISCONSIN DEPARTMENT OF TRANSPORTATION	
APPROVED July 14, 2015 DATE	/S/ Peter Amakobe Atepe STATEWIDE WORK ZONE TRAFFIC SAFETY ENGINEER
FHWA	

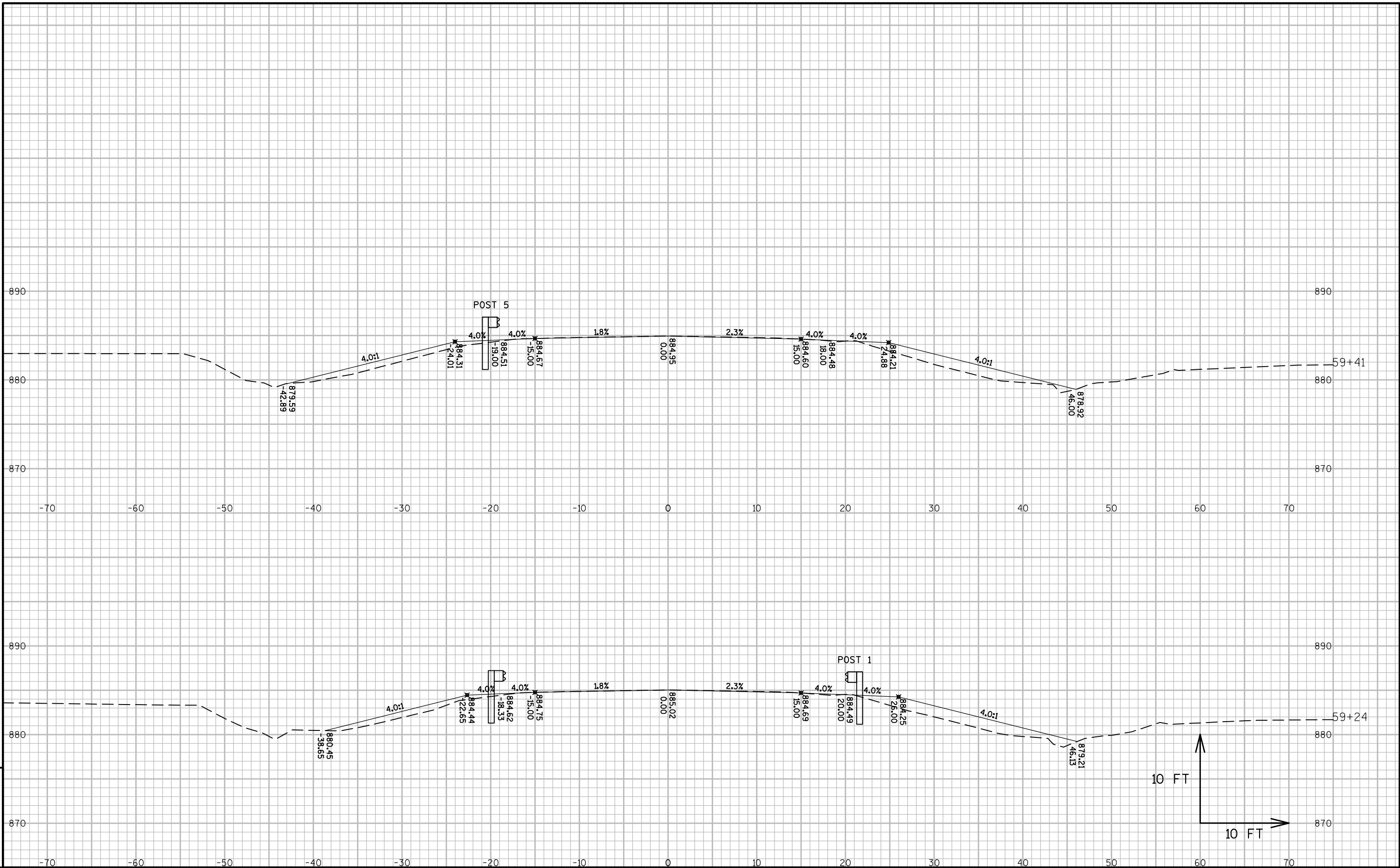




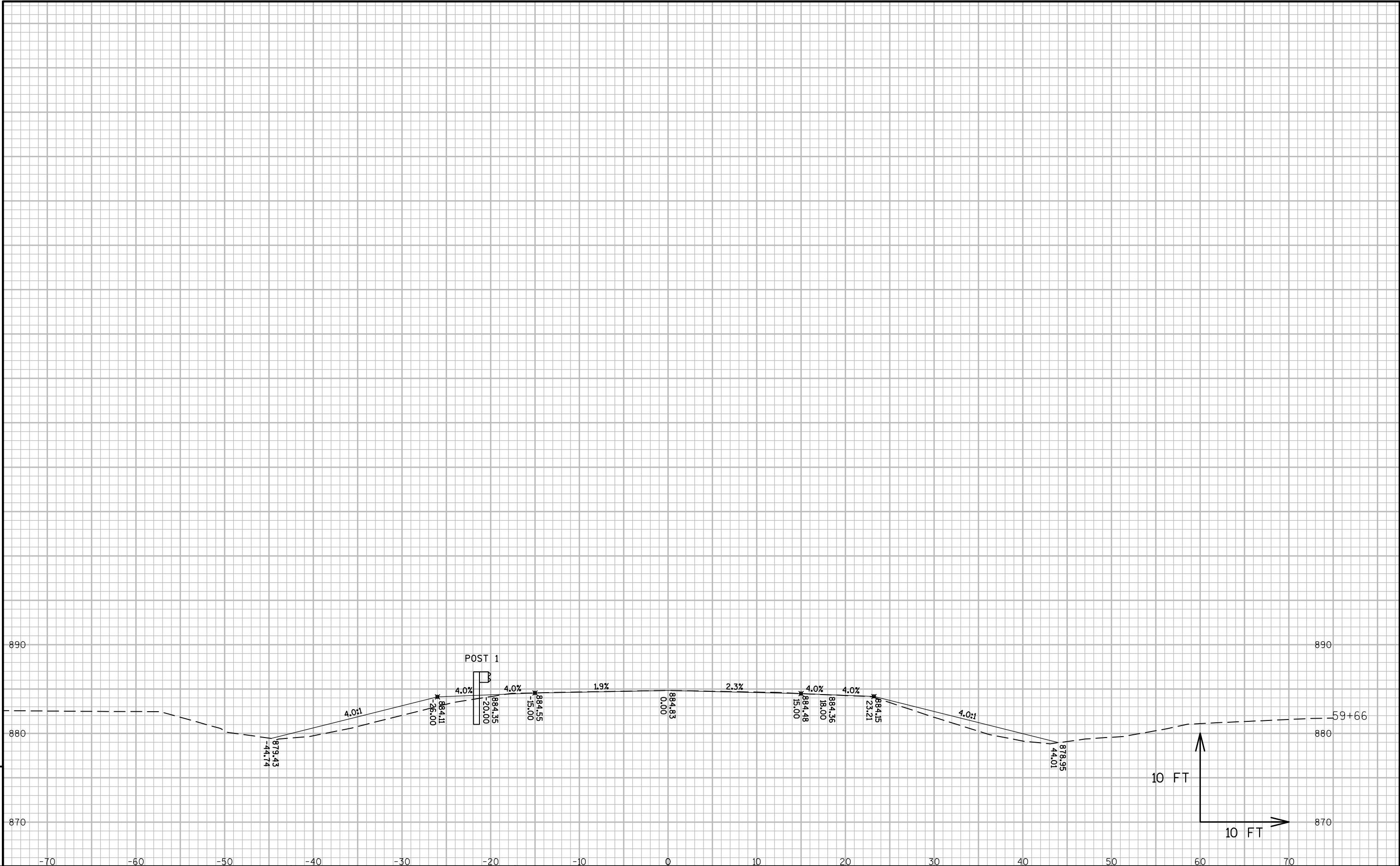








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Notes



Wisconsin Department of Transportation

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