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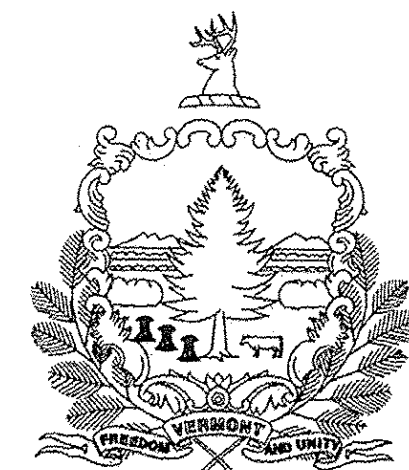
STRUCTURES DETAIL SHEET

SD-516.10 BRIDGE JOINT ASPHALTIC PLUG

VAOT STANDARDS

E-191	02/01/99
E-192	10/12/00
E-193	08/18/95
T-1	08/06/12
T-10	08/06/12
T-11	08/06/12
T-12	08/06/12
T-13	08/06/12
T-16	08/06/12
T-17	08/06/12
T-22	08/06/12
T-23	08/06/12
T-28	08/06/12
T-29	08/06/12
T-30	08/06/12
T-31	08/06/12
T-33	08/06/12
T-36	08/06/12

STATE OF VERMONT AGENCY OF TRANSPORTATION



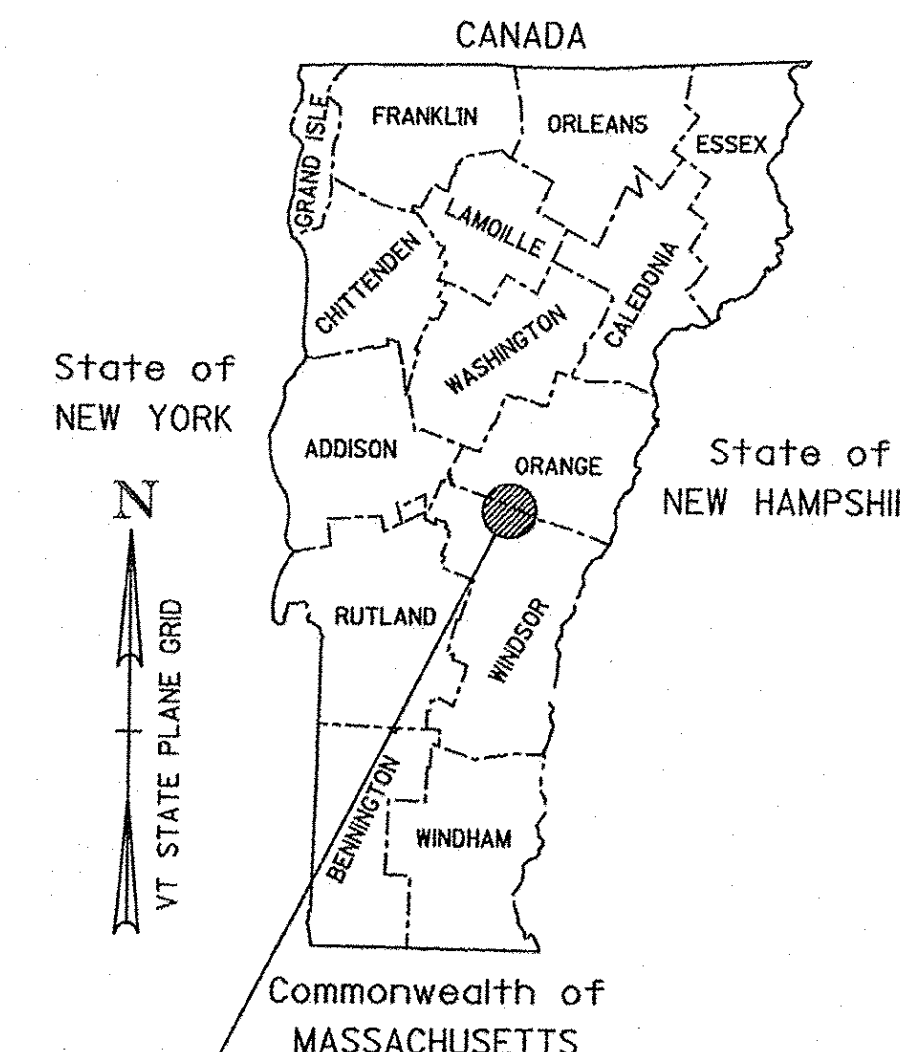
PROPOSED IMPROVEMENT TOWNS OF BETHEL, RANDOLPH & BROOKFIELD COUNTIES OF WINDSOR & ORANGE INTERSTATE ROUTE 89 (PRINCIPAL ARTERIAL - NHS)

BEGINNING IN THE TOWN OF BETHEL AT MM 25.344 AND EXTENDING NORTHERLY ALONG INTERSTATE ROUTE 89 (NORTHBOUND LANE) FOR A DISTANCE OF 65,250.24 FEET (12.358 MILES) TO MM 37.702 IN THE TOWN OF BROOKFIELD.

BEGINNING IN THE TOWN OF BETHEL AT MM 25.400 AND EXTENDING NORTHERLY ALONG INTERSTATE ROUTE 89 (SOUTHBOUND LANE) FOR A DISTANCE OF 60,894.24 FEET (11.533) TO MM 36.933 IN THE TOWN BROOKFIELD.

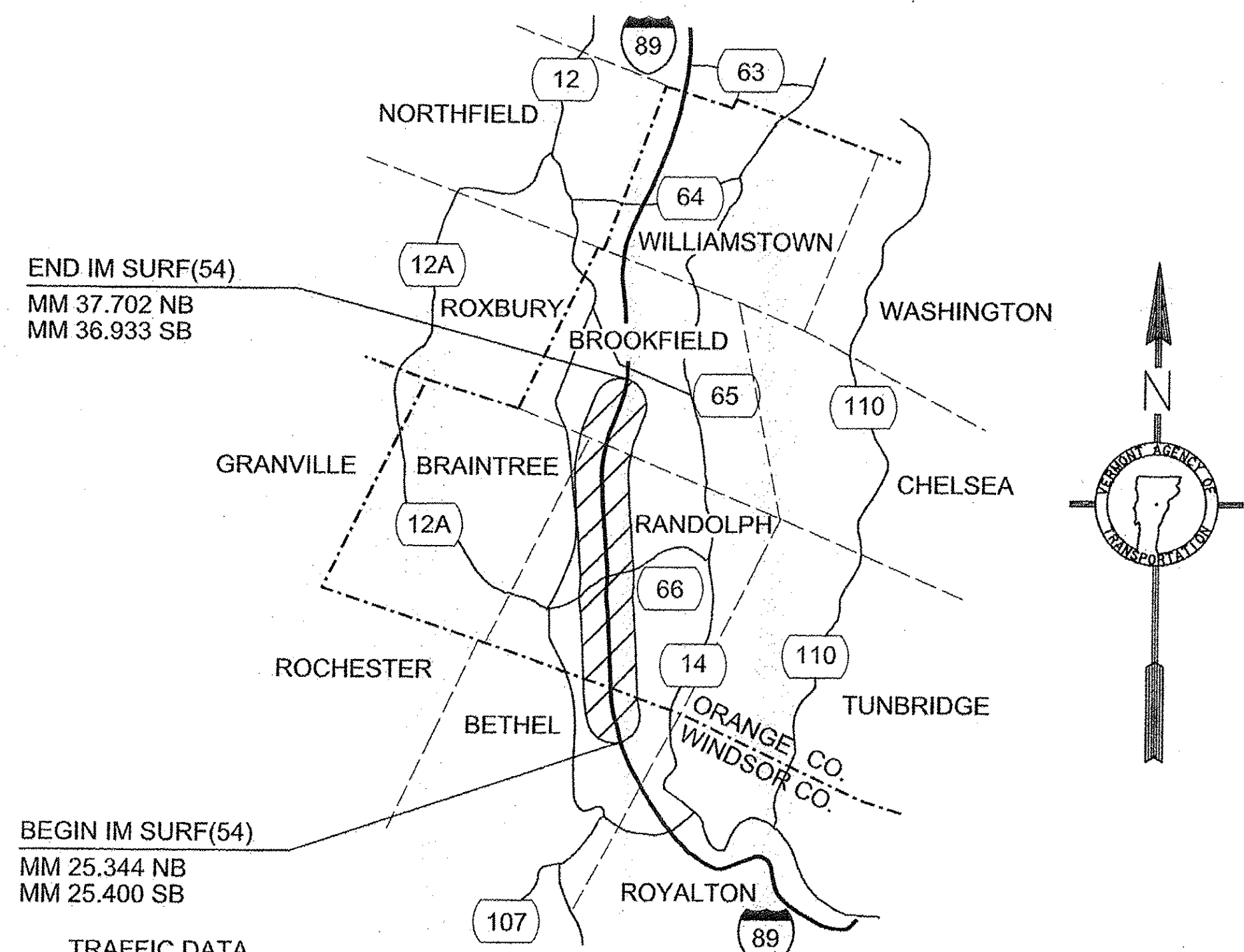
LENGTH OF ROADWAY = 65,250.24 FEET (12.358 MILES)
LENGTH OF PROJECT = 65,250.24 FEET (12.358 MILES)

WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES MICRO-MILLING, SURFACE PREPARATION INVOLVING PATCHING, POT HOLE REPAIR, CRACK SEALING, OVERLAYING WITH A THIN BITUMINOUS SURFACE TREATMENT, TRAFFIC MARKINGS AND OTHER HIGHWAY RELATED ITEMS.



PROJECT LOCATION
BETHEL-BROOKFIELD
IM SURF(54)

BUILT AS DESIGNED



CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2011, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JULY 20, 2011 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

QUALITY ASSURANCE PROGRAM : LEVEL 1

SURVEYED BY : NA
SURVEYED DATE : NA

DATUM
VERTICAL NA
HORIZONTAL NA

TRAFFIC DATA

	AADT		DHV		%T		%D		ADTT		FLEXIBLE ESALs (2015-2025)	FLEXIBLE ESALs (2015-2035)
	2015	2025	2015	2025	2015	2025	2015	2025	2015	2025		
I-89 NB (MM 25.344 - MM 30.900)	7,300	7,900	1,100	1,100	15.5%	19.3%	100	100	1,500	2,000	4,462,000	10,362,000
I-89 NB (MM 30.900 - MM 37.702)	6,900	7,500	990	1,100	13.4%	16.6%	100	100	1,200	1,600	3,991,000	9,343,000
I-89 SB (MM 25.400 - MM 30.900)	7,300	7,900	1,100	1,200	12.4%	15.5%	100	100	1,300	1,700	3,090,000	7,146,000
I-89 SB (MM 30.900 - MM 36.933)	6,900	7,500	1,100	1,200	10.6%	13.3%	100	100	1,200	1,600	3,513,000	8,232,000

RECORD PLANS

CONTRACTOR: PIKE INDUSTRIES, INC. - BERLIN, VT

RESIDENT ENGINEER: JOHN SLADYK

CONSTRUCTION BEGAN: JUNE 25, 2015

CONSTRUCTION COMPLETE: AUGUST 12, 2015

RECORD PLANS BY: JOHN SLADYK & AARON JAMES

I HEREBY CERTIFY THAT ALL THE CONSTRUCTION REQUIRED BY THIS SET OF DRAWINGS HAS BEEN ACCOMPLISHED AS INDICATED HEREIN.

BY: *John Sladyk* RESIDENT ENGINEER

DATE: 8-2-16

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found by contacting Vtrans Records Management.

DIRECTOR OF PROJECT DELIVERY:
APPROVED: *[Signature]* DATE: 2/11/2015

PROJECT MANAGER : MICHAEL J. FOWLER, P.E.

PROJECT NAME : BETHEL-BROOKFIELD
PROJECT NUMBER : IM SURF(54)

SHEET 1 OF 22

NOT TO SCALE

GENERAL INFORMATION

SYMBOLY LEGEND NOTE

THE SYMBOLY ON THIS SHEET IS INTENDED TO COVER STANDARD CONVENTIONAL SYMBOLY. THE SYMBOLY IS USED FOR EXISTING & PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROJECT ANNOTATION, AS NOTED ON PROJECT PLAN SHEETS. THIS LEGEND SHEET COVERS THE BASICS. SYMBOLY ON PLANS MAY VARY, PLAN ANNOTATIONS AND NOTES SHOULD BE USED TO CLARIFY AS NEEDED.

R.O.W. ABBREVIATIONS (CODES) & SYMBOLS

POINT CODE	DESCRIPTION
CH	CHANNEL EASEMENT
CONST	CONSTRUCTION EASEMENT
CUL	CULVERT EASEMENT
D&C	DISCONNECT & CONNECT
DIT	DITCH EASEMENT
DR	DRAINAGE EASEMENT
DRIVE	DRIVEWAY EASEMENT
EC	EROSION CONTROL
I&M	INSTALL & MAINTAIN EASEMENT
LAND	LANDSCAPE EASEMENT
R&RES	REMOVE & RESET
R&REP	REMOVE & REPLACE
SR	SLOPE RIGHT
UE	UTILITY EASEMENT
(P)	PERMANENT EASEMENT
(T)	TEMPORARY EASEMENT
■	BNDNS BOUND SET
▣	BNDNS BOUND TO BE SET
●	IPNS IRON PIN SET
⊙	IPNS IRON PIN TO BE SET
⊗	CALC EXISTING ROW POINT
○	PROW PROPOSED ROW POINT
[LENGTH]	LENGTH CARRIED ON NEXT SHEET

COMMON TOPOGRAPHIC POINT SYMBOLS

POINT CODE	DESCRIPTION
⊕	APL BOUND APPARENT LOCATION
□	BM BENCH MARK
▣	BND BOUND
▢	CB CATCH BASIN
⊕	COMB COMBINATION POLE
▢	DITHR DROP INLET THROATED DNC
⊕	EL ELECTRIC POWER POLE
○	FPOLE FLAGPOLE
⊙	GASFIL GAS FILLER
⊙	GP GUIDE POST
⊗	GSO GAS SHUT OFF
○	GUY GUY POLE
○	GUYW GUY WIRE
⊗	GV GATE VALUE
⊕	H TREE HARDWOOD
△	HCTRL CONTROL HORIZONTAL
▲	HVCTRL CONTROL HORIZ. & VERTICAL
◇	HYD HYDRANT
●	IP IRON PIN
●	IPIPE IRON PIPE
⊕	LI LIGHT - STREET OR YARD
⊕	MB MAILBOX
○	MH MANHOLE (MH)
▣	MM MILE MARKER
●	PM PARKING METER
▣	PMK PROJECT MARKER
○	POST POST STONE/WOOD
⊕	RRSIG RAILROAD SIGNAL
⊕	RRSL RAILROAD SWITCH LEVER
⊕	S TREE SOFTWOOD
⊕	SAT SATELLITE DISH
⊕	SHRUB SHRUB
⊕	SIGN SIGN
⊕	STUMP STUMP
⊕	TEL TELEPHONE POLE
○	TIE TIE
⊕	TSIGN SIGN W/DOUBLE POST
⊕	VCTRL CONTROL VERTICAL
○	WELL WELL
⊗	WSO WATER SHUT OFF

THESE ARE COMMON VAOT SURVEY POINT SYMBOLS FOR EXISTING FEATURES, ALSO USED FOR PROPOSED FEATURES WITH HEAVIER LINEWEIGHT, IN COMBINATION WITH PROPOSED ANNOTATION.

PROPOSED GEOMETRY CODES

CODE	DESCRIPTION
PC	POINT OF CURVATURE
PI	POINT OF INTERSECTION
CC	CENTER OF CURVE
PT	POINT OF TANGENCY
PCC	POINT OF COMPOUND CURVE
PRC	POINT OF REVERSE CURVE
POB	POINT OF BEGINNING
POE	POINT OF ENDING
STA	STATION PREFIX
AH	AHEAD STATION SUFFIX
BK	BACK STATION SUFFIX
D	CURVE DEGREE OF (100FT)
R	CURVE RADUIS OF
T	CURVE TANGENT LENGTH
L	CURVE LENGTH OF
E	CURVE EXTERNAL DISTANCE

UTILITY SYMBOLY

UNDERGROUND UTILITIES	DESCRIPTION
— UT —	TELEPHONE
— UE —	ELECTRIC
— UC —	CABLE (TV)
— UEC —	ELECTRIC+CABLE
— UET —	ELECTRIC+TELEPHONE
— UCT —	CABLE+TELEPHONE
— UECT —	ELECTRIC+CABLE+TELEP.
— G —	GAS LINE
— W —	WATER LINE
— S —	SANITARY SEWER (SEPTIC)

ABOVE GROUND UTILITIES (AERIAL)

— T —	TELEPHONE
— E —	ELECTRIC
— C —	CABLE (TV)
— EC —	ELECTRIC+CABLE
— ET —	ELECTRIC+TELEPHONE
— AER E&T —	ELECTRIC+TELEPHONE
— CT —	CABLE+TELEPHONE
— ECT —	ELECTRIC+CABLE+TELEP.
—	UTILITY POLE GUY WIRE

PROJECT CONSTRUCTION SYMBOLY

—	CLEAR ZONE
—	PLAN LAYOUT MATCHLINE

PROJECT CONSTRUCTION FEATURES

▲	TOP OF CUT SLOPE
○	TOE OF FILL SLOPE
⊕	STONE FILL
---	BOTTOM OF DITCH 'L
---	CULVERT PROPOSED
---	STRUCTURE SUBSURFACE
PDF	PROJECT DEMARCATION FENCE
BF	BARRIER FENCE
XXXXXX	TREE PROTECTION ZONE (TPZ)
////	STRIPING LINE REMOVAL
~~~~	SHEET PILES

**CONVENTIONAL BOUNDARY SYMBOLY**

BOUNDARY LINES	DESCRIPTION
— TOWN LINE —	TOWN BOUNDARY LINE
— COUNTY LINE —	COUNTY BOUNDARY LINE
— STATE LINE —	STATE BOUNDARY LINE
—	PROPOSED STATE R.O.W. (LIMITED ACCESS)
—	PROPOSED STATE R.O.W.
—	STATE ROW (LIMITED ACCESS)
—	STATE ROW
—	TOWN ROW
---	PERMANENT EASEMENT LINE (P)
---	TEMPORARY EASEMENT LINE (T)
---	SURVEY LINE
---	PROPERTY LINE (P/L)
SR	SLOPE RIGHTS
6f	6F PROPERTY BOUNDARY
4f	4F PROPERTY BOUNDARY
HAZ	HAZARDOUS WASTE

**EPSC LAYOUT PLAN SYMBOLY**

ONNOONNOONNO	FILTER CURTAIN
—	SILT FENCE
—	SILT FENCE WOVEN WIRE
—	CHECK DAM
▣	DISTURBED AREAS REQUIRING RE-VEGETATION
⊕	EROSION MATTING

**ENVIRONMENTAL RESOURCES**

—	WETLAND BOUNDARY
---	RIPARIAN BUFFER ZONE
---	WETLAND BUFFER ZONE
---	SOIL TYPE BOUNDARY
---	THREATENED & ENDANGERED SPECIES
HAZ	HAZARDOUS WASTE AREA
---	AGRICULTURAL LAND
---	FISH & WILDLIFE HABITAT
---	FLOOD PLAIN
---	ORDINARY HIGH WATER (OHW)
---	STORM WATER
---	USDA FOREST SERVICE LANDS
---	WILDLIFE HABITAT SUIT/CONN

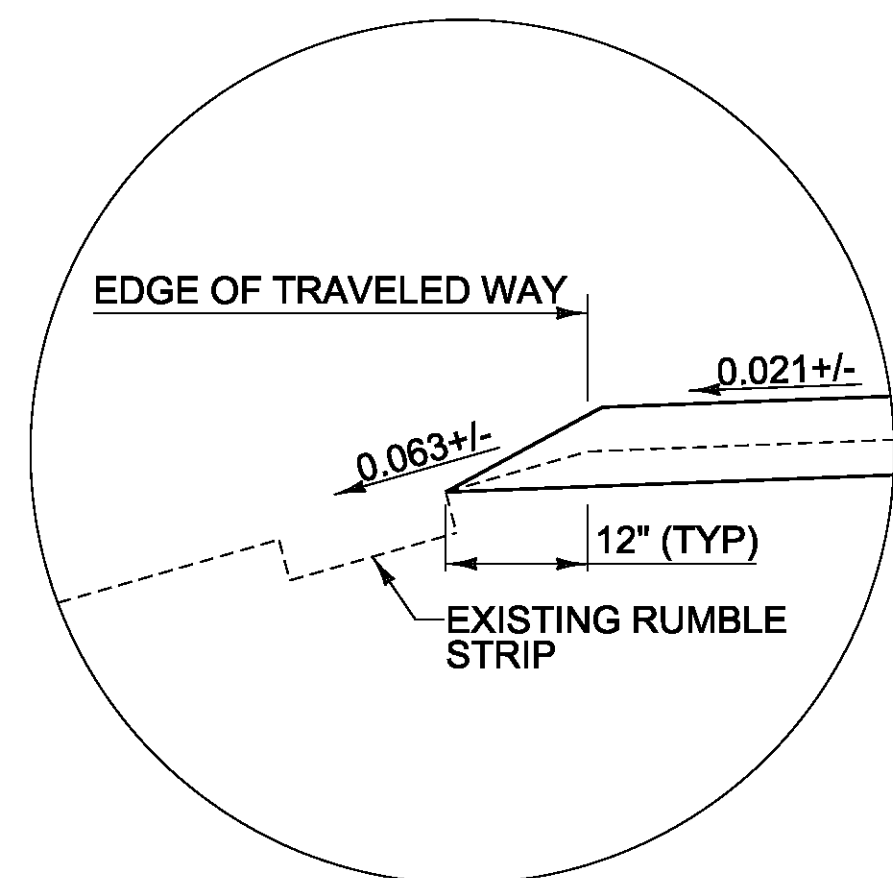
**ARCHEOLOGICAL & HISTORIC**

---	ARCHEOLOGICAL BOUNDARY
---	HISTORIC DISTRICT BOUNDARY
---	HISTORIC AREA
(H)	HISTORIC STRUCTURE

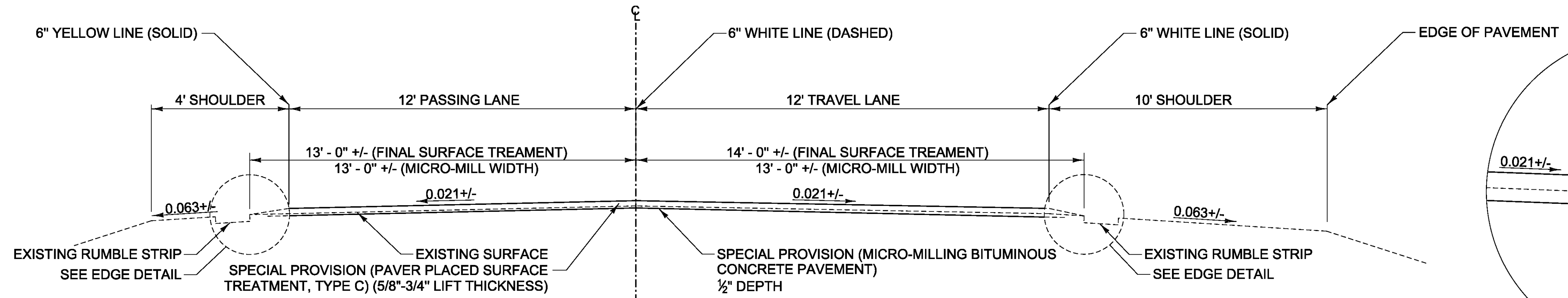
**CONVENTIONAL TOPOGRAPHIC SYMBOLY**

EXISTING FEATURES	DESCRIPTION
---	ROAD EDGE PAVEMENT
---	ROAD EDGE GRAVEL
---	DRIVEWAY EDGE
---	DITCH
---	FOUNDATION
x-x-x-x	FENCE (EXISTING)
□-□-□-□	FENCE WOOD POST
○-○-○-○	FENCE STEEL POST
~~~~	GARDEN
o-o-o-o	ROAD GUARDRAIL
	RAILROAD TRACKS
---	CULVERT (EXISTING)
o-o-o-o	STONE WALL
---	WALL
~~~~	WOOD LINE
~~~~	BRUSH LINE
~~~~	HEDGE
---	BODY OF WATER EDGE
////	LEDGE EXPOSED

PROJECT NAME: BETHEL-BROOKFIELD  
 PROJECT NUMBER: IM SURF(54)  
 FILE NAME: pl4v206wrk.dgn PLOT DATE: 2/10/2015  
 PROJECT LEADER: M. FOWLER DRAWN BY: B. KIPP  
 DESIGNED BY: B. KIPP CHECKED BY: M. FOWLER  
 CONVENTIONAL SYMBOLY SHEET SHEET 2 OF 22

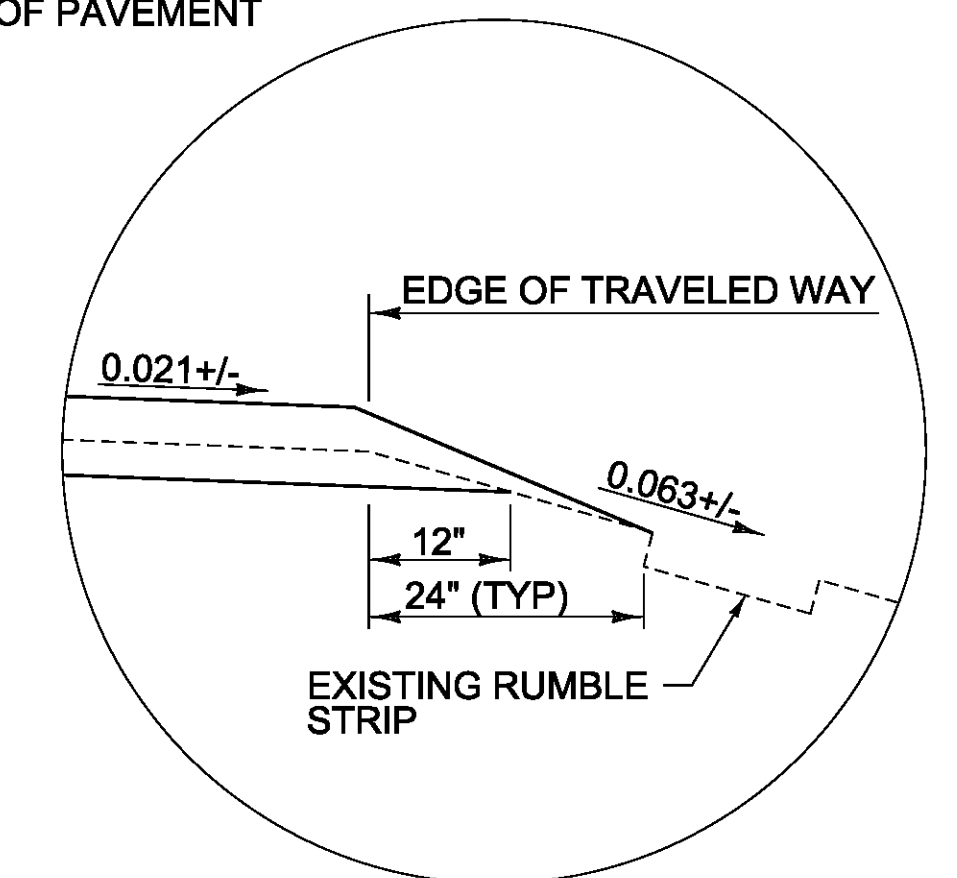


**EDGE DETAIL  
NORMAL CROWN SECTION**

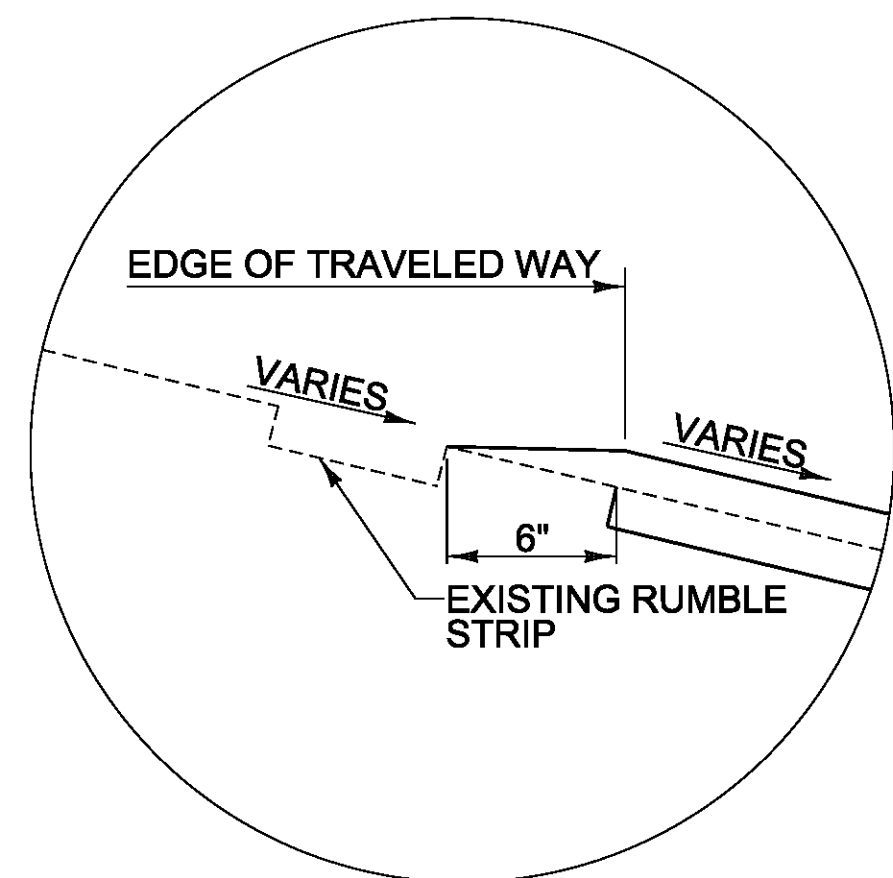


**ROADWAY TYPICAL NORMAL SECTION**

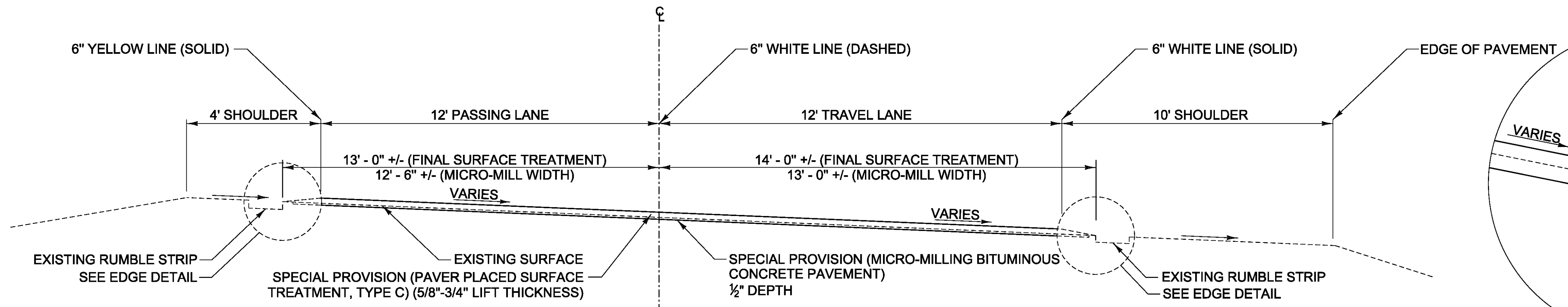
**ALTERNATE A  
NOT TO SCALE**



**EDGE DETAIL  
NORMAL CROWN SECTION**

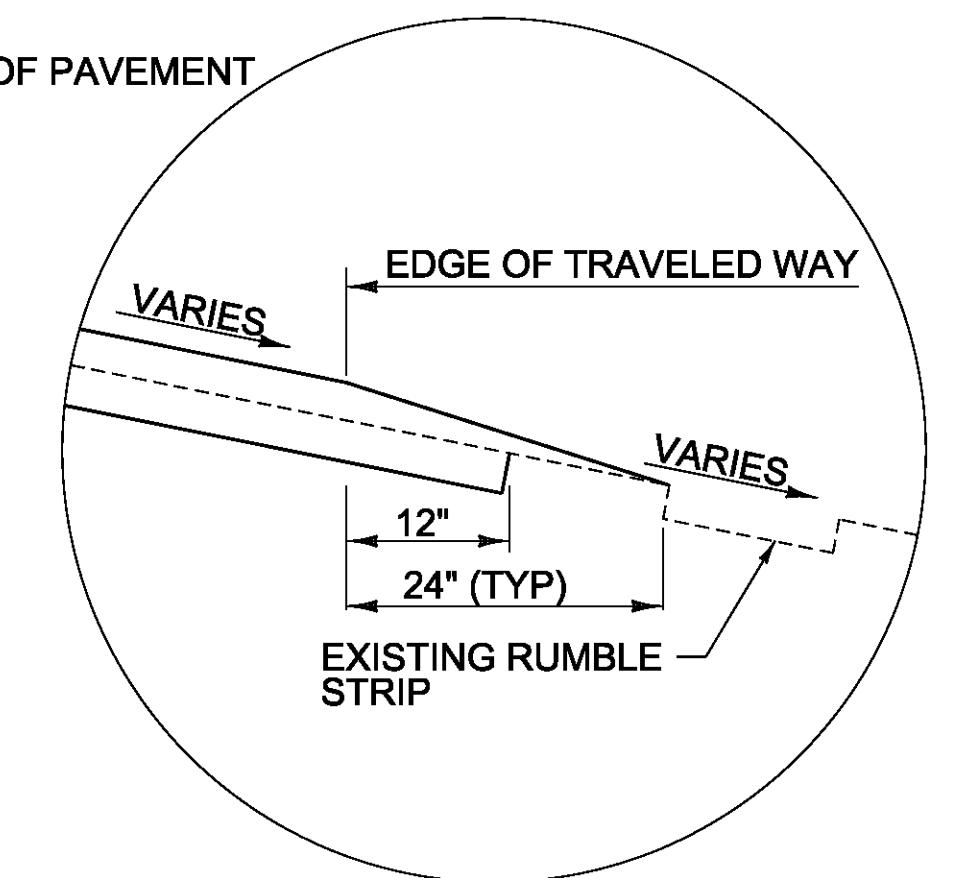


**EDGE DETAIL  
MAX BANK SECTION**

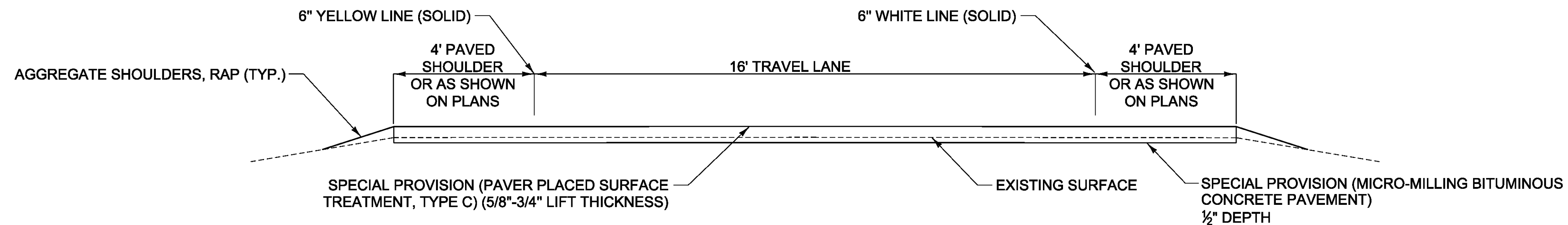


**ROADWAY TYPICAL BANKED SECTION**

**ALTERNATE A  
NOT TO SCALE**



**EDGE DETAIL  
MAX BANK SECTION**



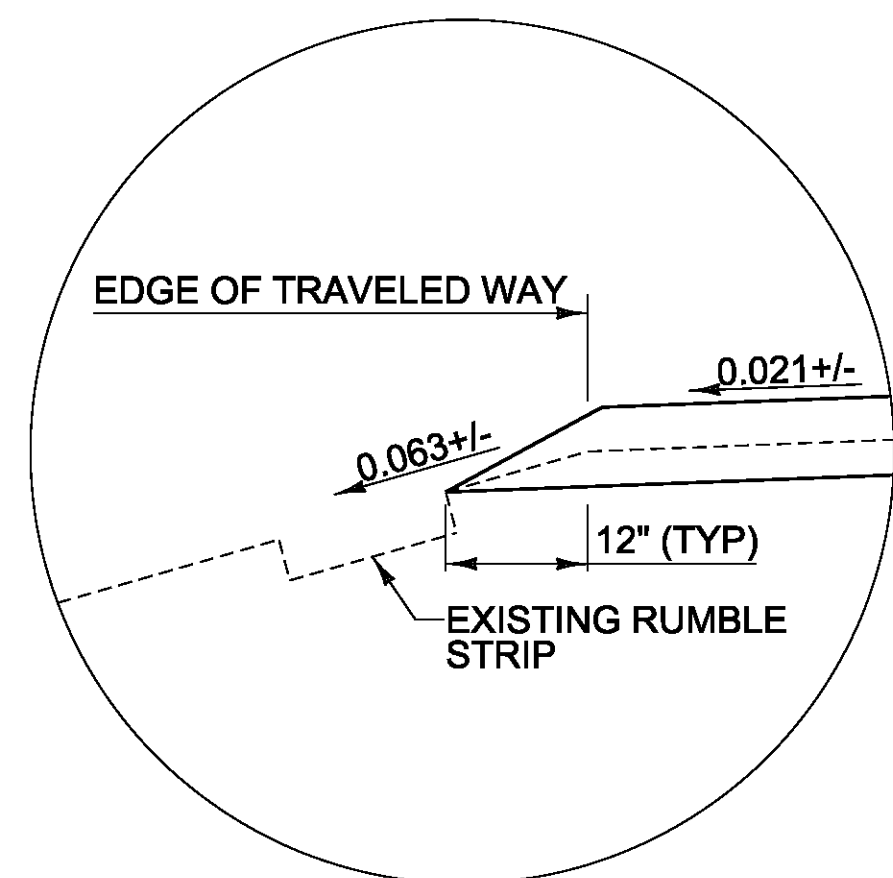
**TYPICAL RAMP SECTION**

**ALTERNATE A  
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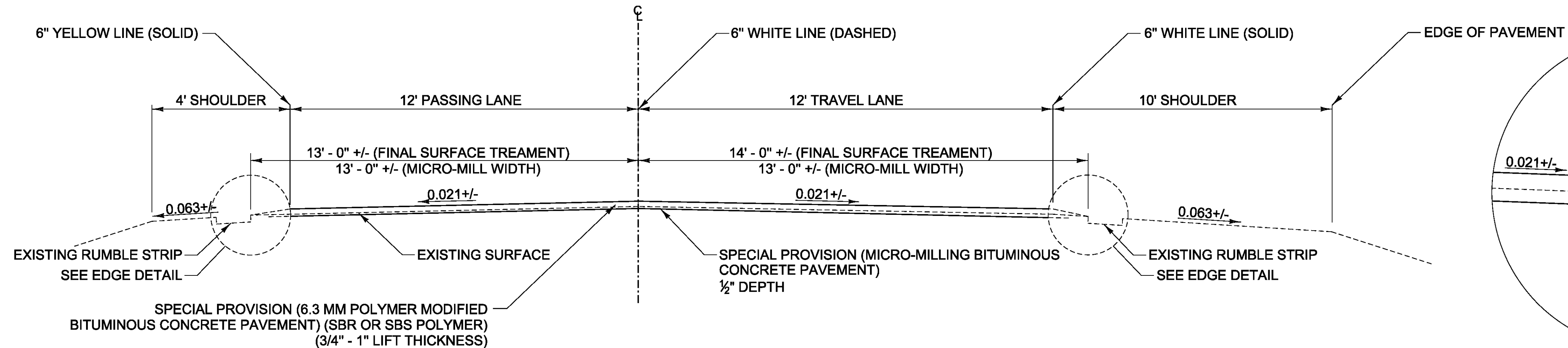
**NOTE:**

1. PERFORMANCE GRADED BINDER SHALL BE PG 58-28.

PROJECT NAME: BETHEL-BROOKFIELD	PLOT DATE: 2/17/2015
PROJECT NUMBER: IM SURF(54)	DRAWN BY: B. KIPP
FILE NAME: pl4v206wrk.dgn	CHECKED BY: M. FOWLER
PROJECT LEADER: M. FOWLER	SHEET 3 OF 22
DESIGNED BY: B. KIPP	TYPICAL SECTIONS - ALTERNATE A

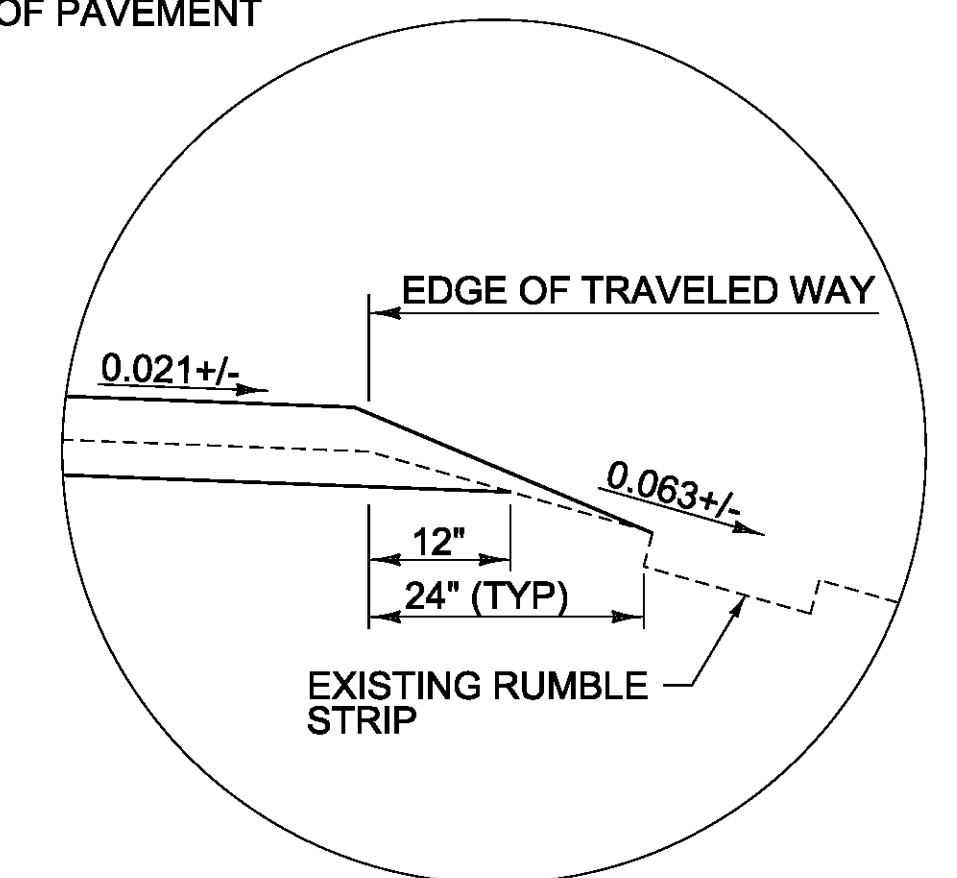


**EDGE DETAIL  
NORMAL CROWN SECTION**

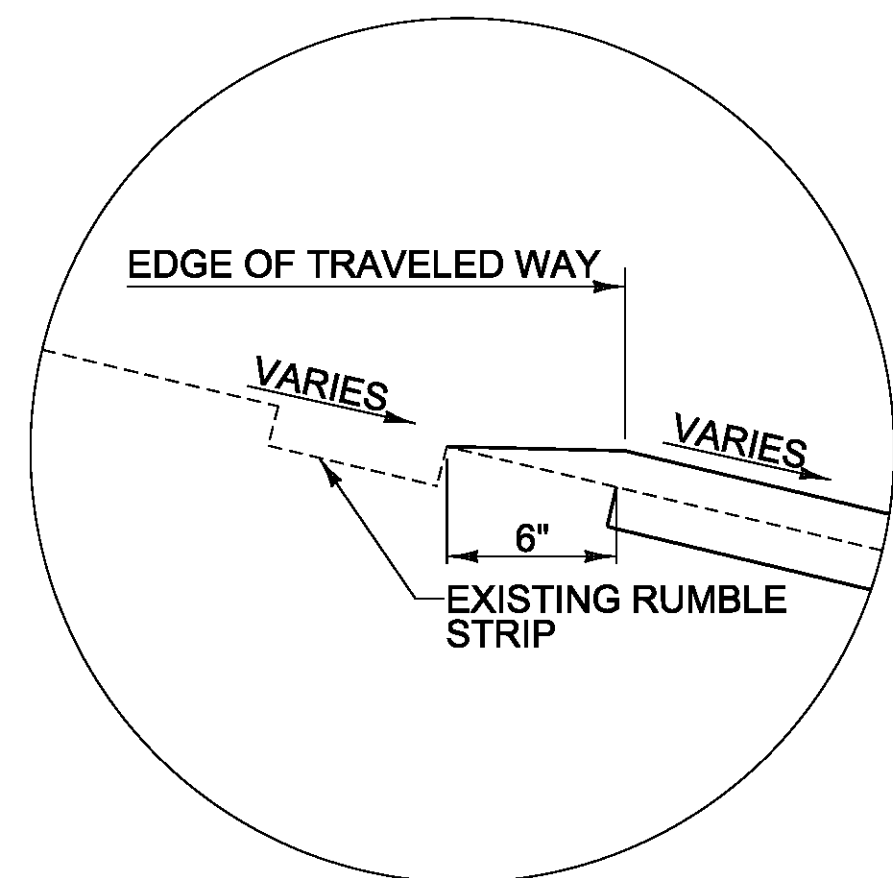


**ROADWAY TYPICAL NORMAL SECTION**

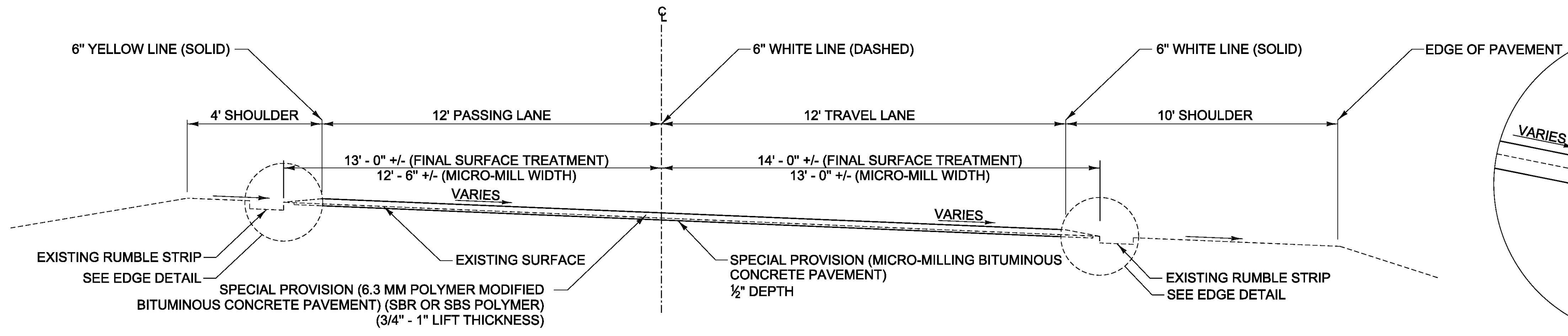
**ALTERNATE B  
NOT TO SCALE**



**EDGE DETAIL  
NORMAL CROWN SECTION**

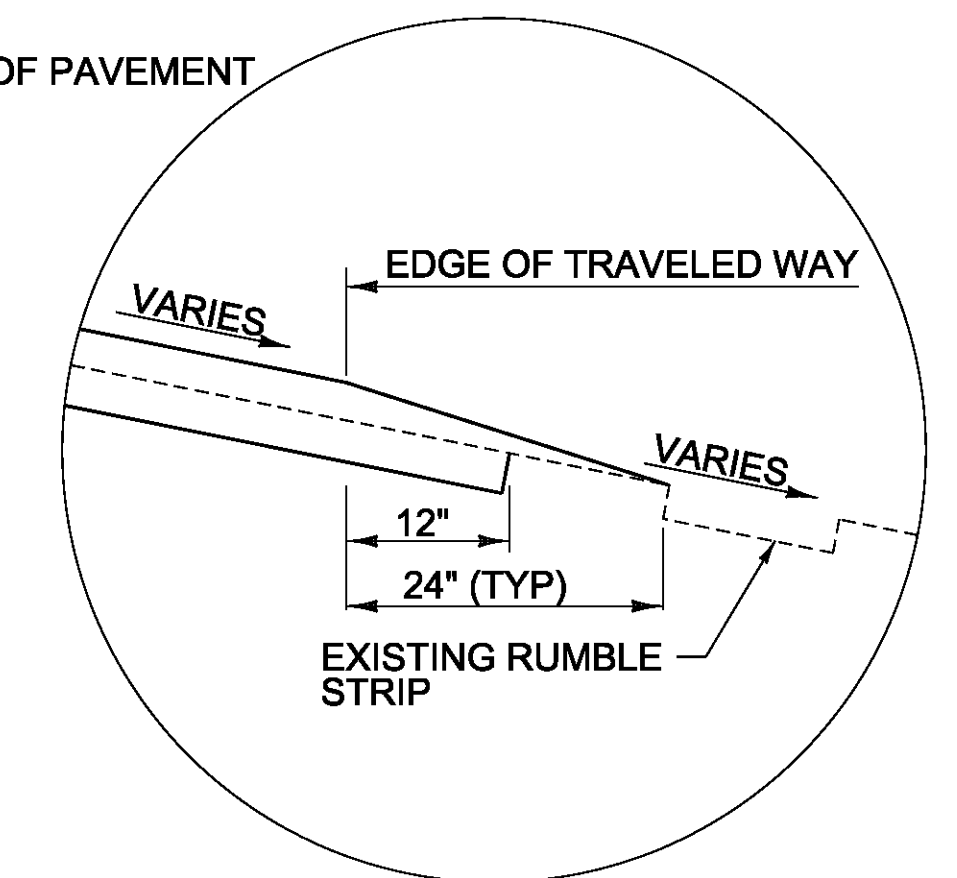


**EDGE DETAIL  
MAX BANK SECTION**

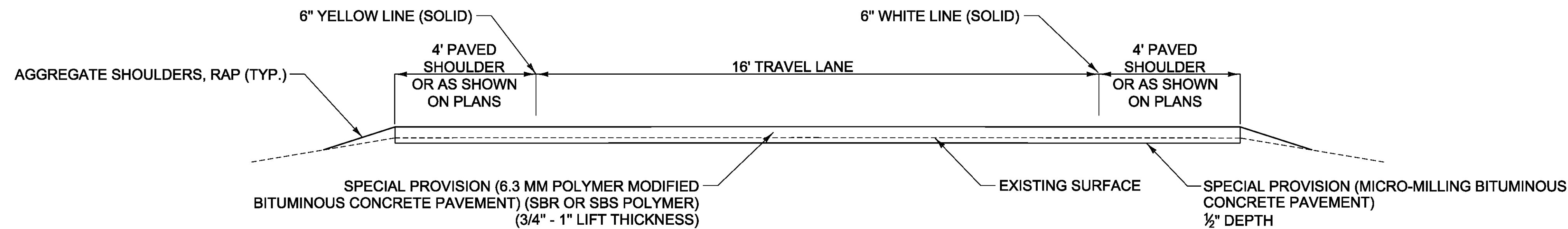


**ROADWAY TYPICAL BANKED SECTION**

**ALTERNATE B  
NOT TO SCALE**



**EDGE DETAIL  
MAX BANK SECTION**



**TYPICAL RAMP SECTION**

**ALTERNATE B  
NOT TO SCALE**

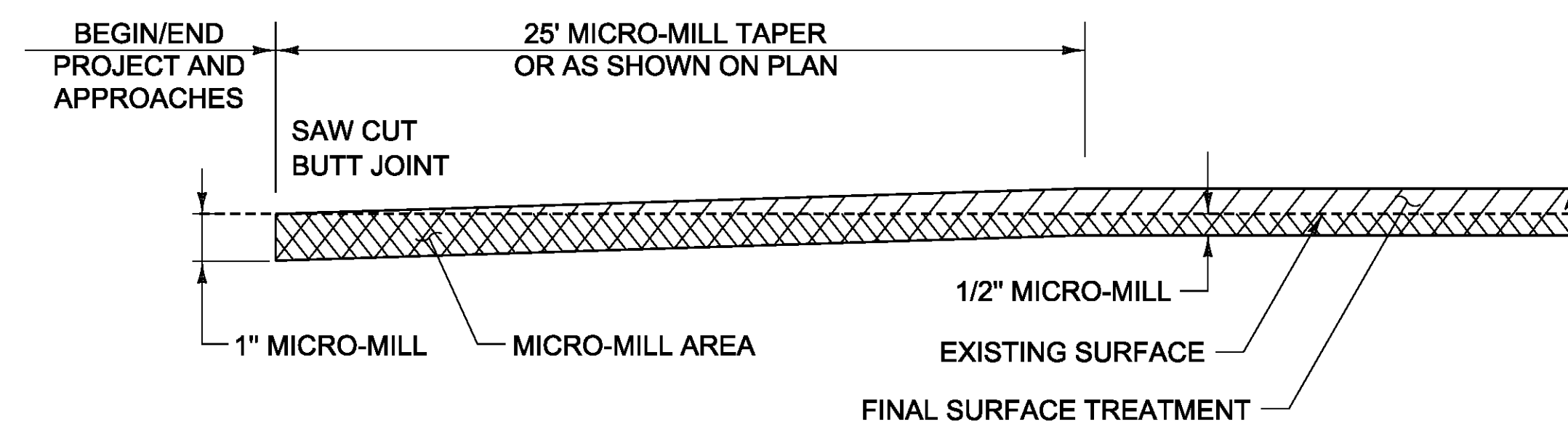
**NOTES:**

1. PRIOR TO THE PLACEMENT OF THE 6.3 MM POLYMER MODIFIED BITUMINOUS CONCRETE PAVEMENT, EMULSIFIED ASPHALT SHALL BE APPLIED TO ALL EXISTING PAVEMENT SURFACES AND ON ALL COLD PLANED SURFACES AT A RATE OF 0.080 GAL/SY (+/- 0.01 GAL/SY) OR AS DIRECTED BY THE ENGINEER. EMULSIFIED ASPHALT SHALL BE RS-1H OR CRS-1H PER THE MANUFACTURER'S RECOMMENDATION AND PAID UNDER ITEM 900.683 SPECIAL PROVISION (EMULSIFIED ASPHALT) (RS-1H OR CRS-1H).
2. THE GYRATION SPECIFICATION FOR THE 6.3 MM POLYMER MODIFIED BITUMINOUS CONCRETE PAVEMENT SHALL BE 65. PERFORMANCE GRADED BINDER SHALL BE PG 58-28.

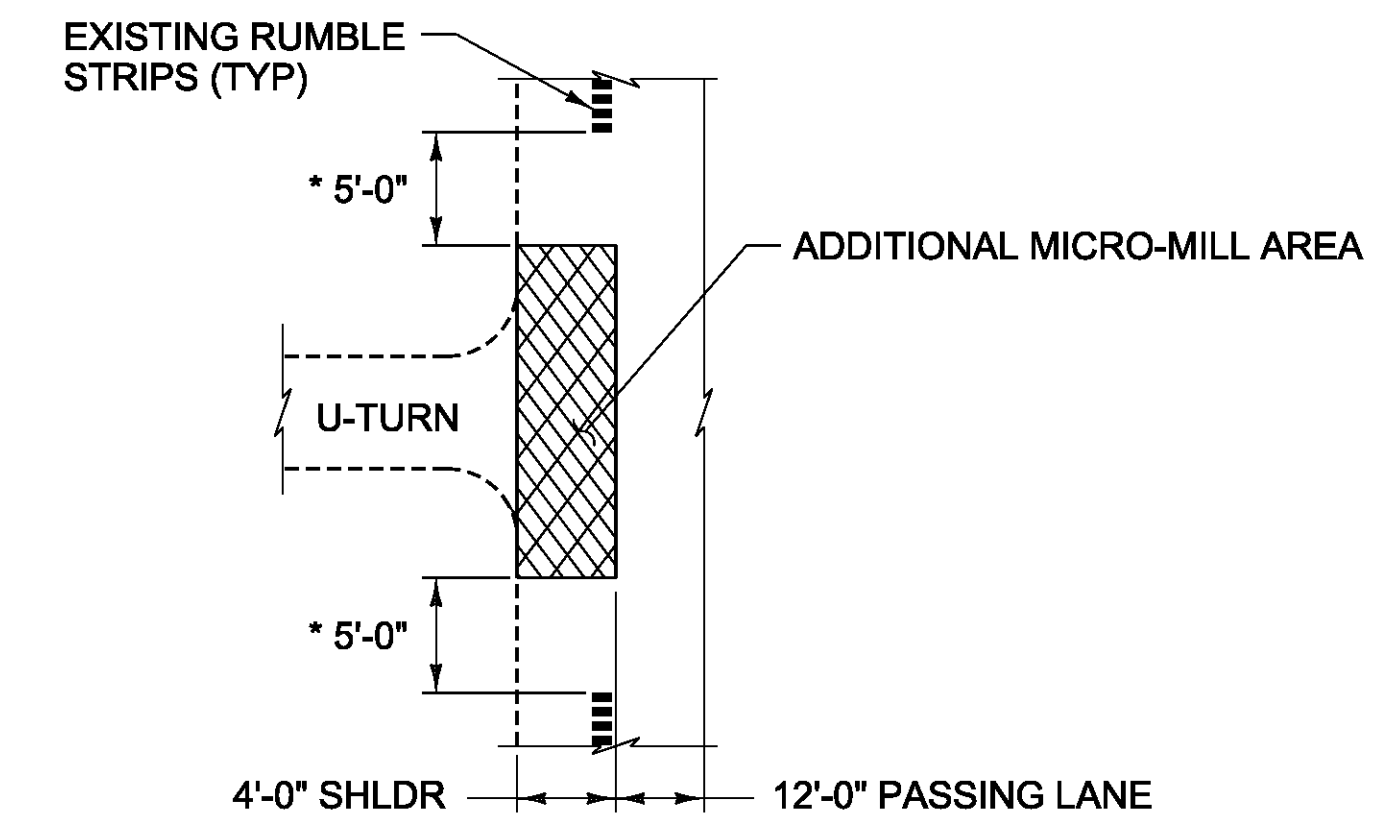
PROJECT NAME: BETHEL-BROOKFIELD  
PROJECT NUMBER: IM SURF(54)

FILE NAME: pl4v206wrk.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: B. KIPP  
TYPICAL SECTIONS - ALTERNATE B

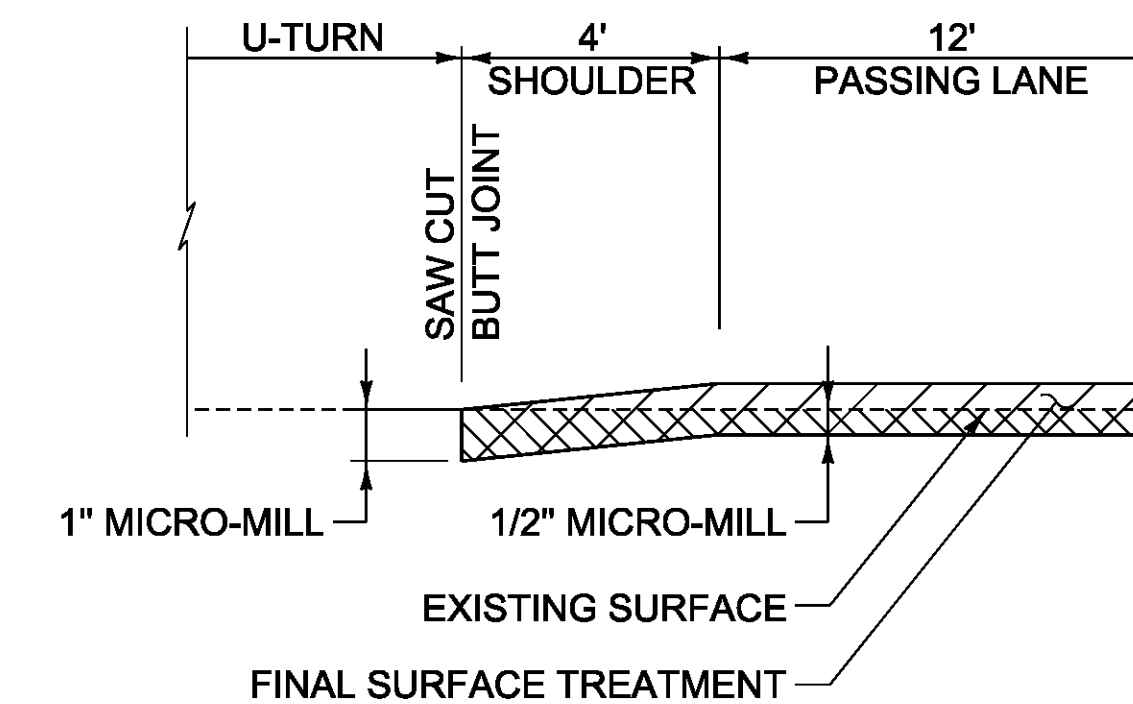
PLOT DATE: 2/17/2015  
DRAWN BY: B. KIPP  
CHECKED BY: M. FOWLER  
SHEET 4 OF 22



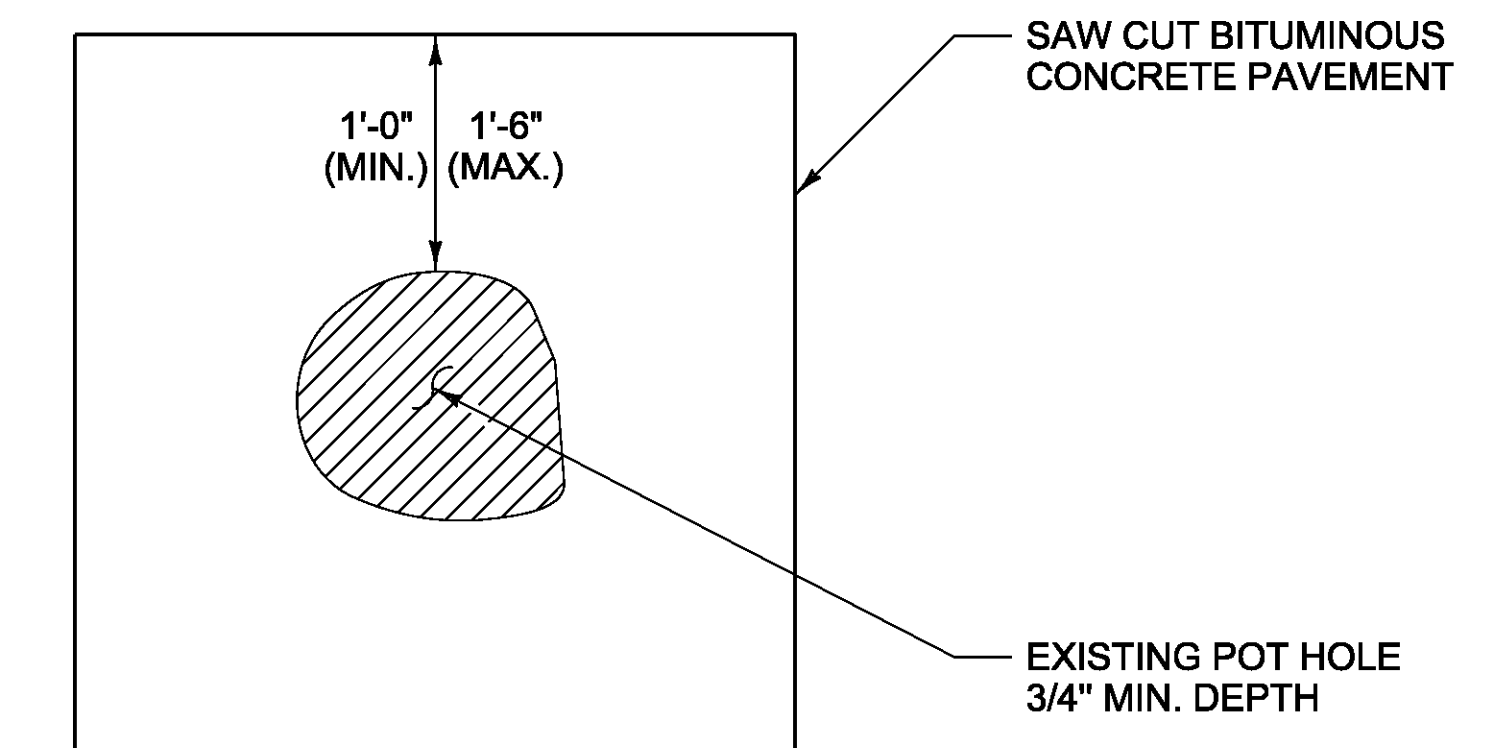
**TYPICAL APPROACH AREA DETAIL MAINLINE & RAMPS**



* BEGIN MICRO-MILL 5'-0" AFTER RUMBLE STRIPS END, AND END MICRO-MILL 5'-0" BEFORE RUMBLE STRIPS BEGIN



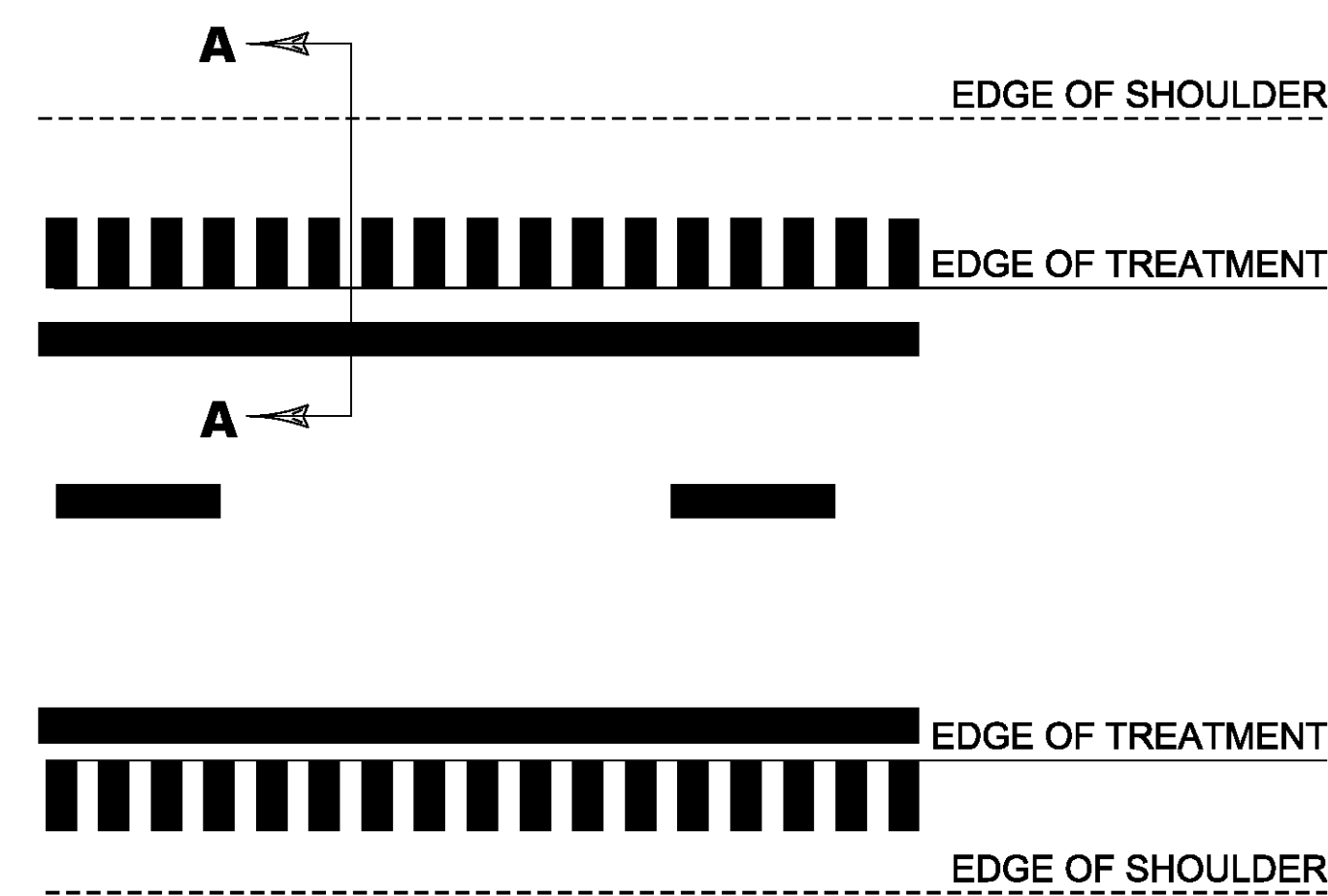
**MICRO-MILL DETAIL AT U-TURNS**



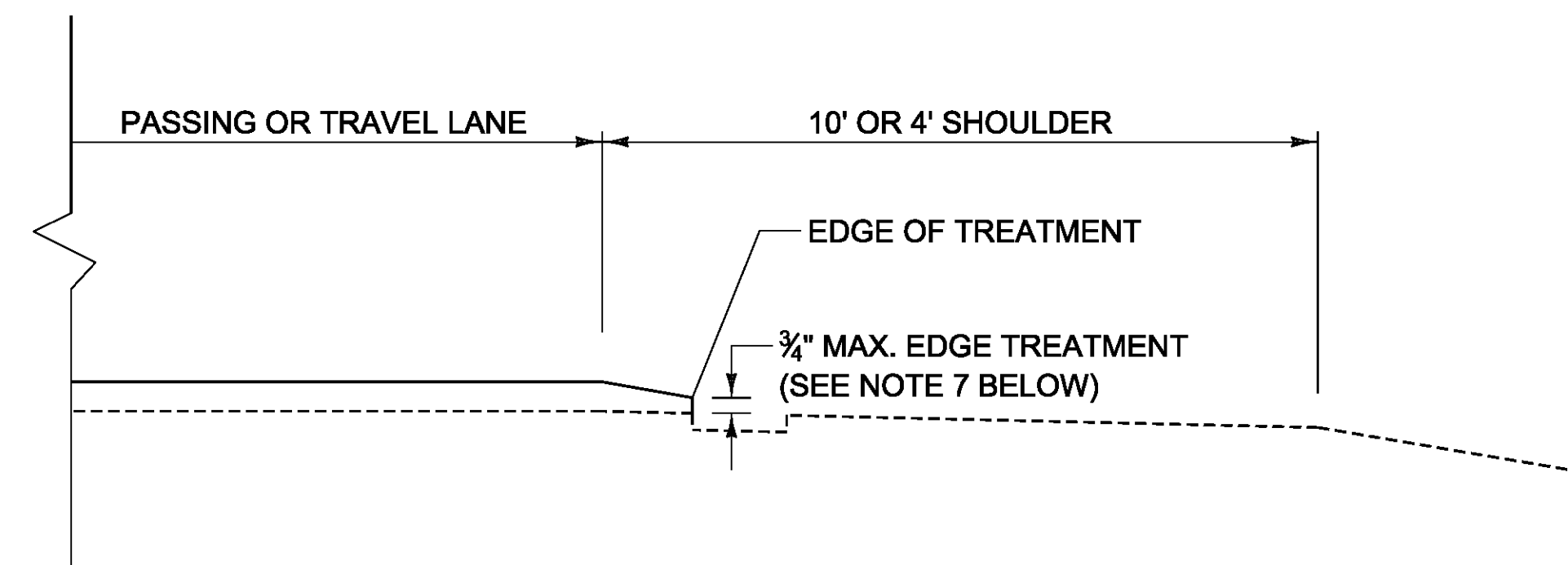
**TYPICAL - POT HOLE REPAIR**

NOTE:

EMULSIFIED ASPHALT SHALL BE APPLIED AT ALL PATCH INTERFACES AT A RATE OF 0.25 - 0.50 GAL/SY. EMULSIFIED ASPHALT SHALL MEET THE REQUIREMENTS OF SECTION 404 AND WILL BE CONSIDERED INCIDENTAL TO SPECIAL PROVISION(BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION, TYPE I)



**EDGE OF TREATMENT TYPICAL PLAN**  
NOT TO SCALE



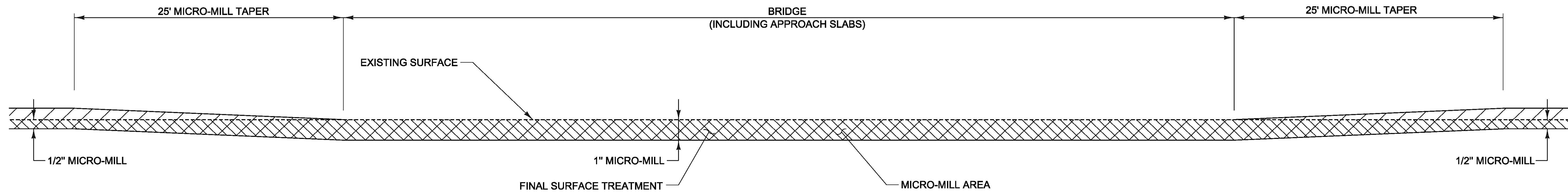
**EDGE OF TREATMENT TYPICAL SECTION A-A**  
NOT TO SCALE

NOTES:

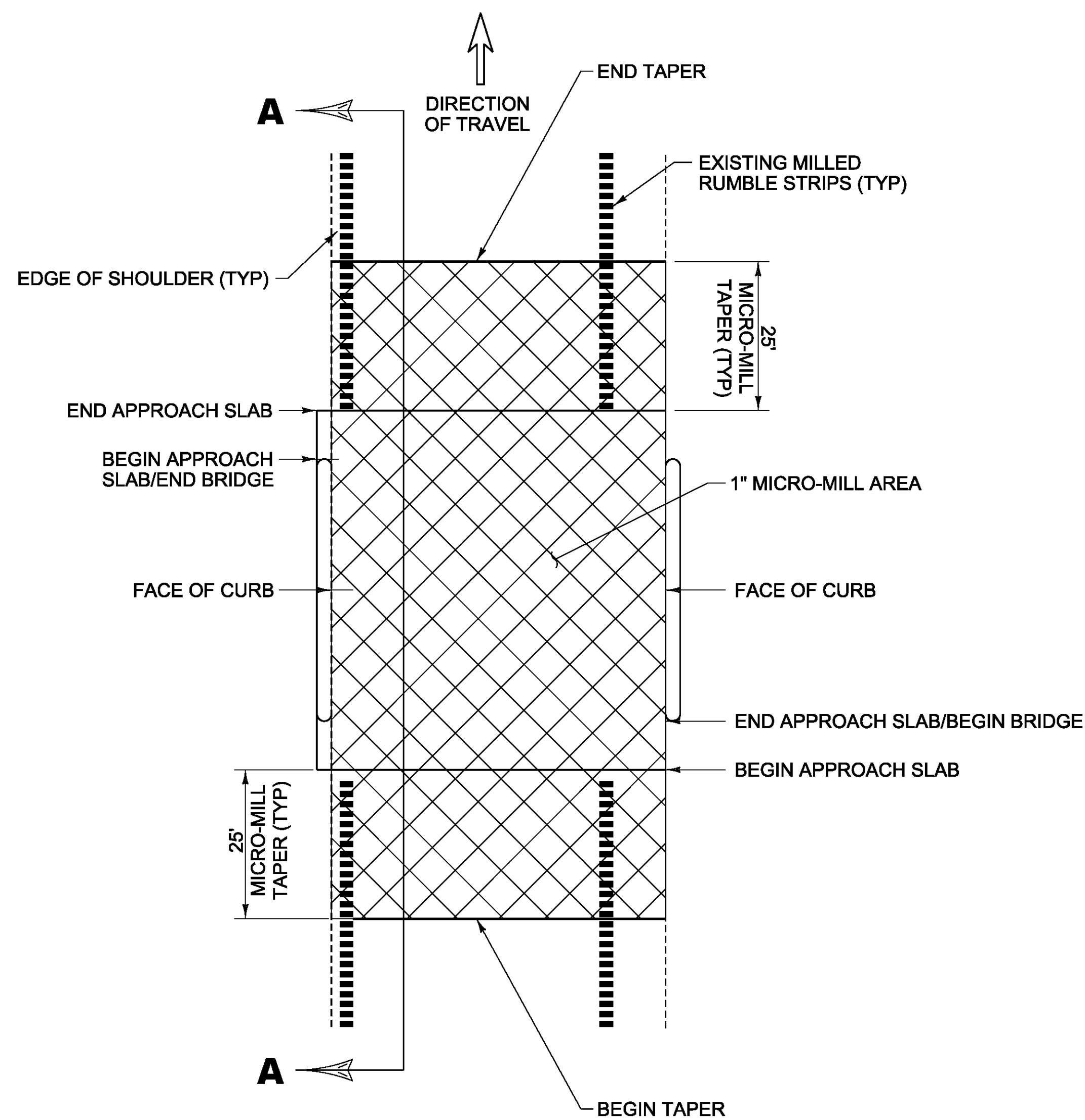
1. ALL NECESSARY SURFACE PREPARATION INVOLVING PATCHING, POT HOLE REPAIR, AND CRACK-SEALING SHALL BE PERFORMED PRIOR TO APPLICATION OF THE FINAL SURFACE TREATMENT. ALL CRACKS GREATER THAN 0.10" AND UP TO 1.0" IN WIDTH SHALL BE SEALED USING THE "BLOW AND GO" FILL METHOD. ALL COSTS ASSOCIATED WITH THIS WORK SHALL BE PAID FOR UNDER ITEM 417.20, BITUMINOUS CRACK SEALING, "BLOW AND GO" METHOD. THE PATCHING OF ALL CRACKS GREATER THAN 1.0" AND ALL OTHER PATCHING AND POT HOLE REPAIR SHALL BE COMPLETED USING BITUMINOUS CONCRETE PAVEMENT IN ACCORDANCE WITH ITEM 900.680 SPECIAL PROVISION (BITUMINOUS CONCRETE PAVEMENT SURFACE PREPARATION, TYPE I). AN ESTIMATED QUANTITY FOR THIS ITEM HAS BEEN INCLUDED TO COVER ALL COSTS ASSOCIATED WITH THIS WORK.
2. EXISTING SHOULDER PAVEMENT SURFACES BEYOND THE LIMITS OF THE FINAL SURFACE TREATMENT SHALL ALSO RECEIVE CRACK-SEALING AND RELATED PATCHING AND POT HOLE REPAIR TREATMENTS.
3. FOLLOWING COMPLETION OF MICRO-MILLING, THE MILLED SURFACE FOR ALL BRIDGES TO BE MILLED SHALL ALSO RECEIVE CRACK-SEALING AND RELATED PATCHING AND POT HOLE REPAIR TREATMENTS, AS DIRECTED BY THE ENGINEER.
4. ALL LANE DELINEATION IS TO BE MAINTAINED DURING CONSTRUCTION BY THE USE OF LINE STRIPING TARGETS OR TEMPORARY PAINT.
5. A 25' MICRO-MILLED WEDGE SHALL BE CONSTRUCTED AT THE PROJECT BEGIN, PROJECT END, RAMPS, AND AT ALL BRIDGE APPROACHES OR AS DIRECTED BY THE ENGINEER. THE LONGITUDINAL EDGES OF THE SURFACE TREATMENT SHALL BE FEATHERED AS SHOWN ON THE TYPICAL SECTION, OR AS DIRECTED BY THE ENGINEER. ANY SAWCUTTING AT BUTT JOINTS SHALL BE PAID INCIDENTAL TO ITEM 900.675, SPECIAL PROVISION(MICRO-MILLING BITUMINOUS CONCRETE PAVEMENT).
6. IF IT IS DETERMINED BY THE ENGINEER IN AREAS ALONG THE BASE OF THE GUARDRAIL THAT WINTER SAND AND OTHER DEBRIS HAS ACCUMULATED SUFFICIENTLY TO AFFECT PROPER CRACK-SEALING AND RELATED PATCHING AND POT HOLE REPAIR TREATMENTS, THIS MATERIAL SHALL BE REMOVED PRIOR TO CRACK-SEALING, PATCHING, AND POT HOLE REPAIR AS DIRECTED BY THE ENGINEER. AN ESTIMATED QUANTITY FOR ITEM 203.40 SHOULDER BERM REMOVAL HAS BEEN INCLUDED TO COVER THE COSTS ASSOCIATED WITH THIS WORK.
7. THE SCREED OF THE PAVER SHALL BREAK AT THE BREAK POINT OF THE SHOULDER SUCH THAT THE DESIGNED NOMINAL THICKNESS IS CARRIED ON TO THE SHOULDER AND BROKEN OR PINCHED BY ROLLING. EDGE HEIGHT SHALL BE MEASURED AT A MINIMUM OF FIVE RANDOMLY SPACED POINTS PER TENTH OF A MILE. IF IT IS FOUND THAT THE AVERAGE EDGE HEIGHT IS GREATER THAN 3/4" OVER THE TENTH OF A MILE, WORK SHALL BE PERFORMED SUCH THAT THE 3/4" AVERAGE HEIGHT IS ACHIEVED. THIS APPLIES TO BOTH THE 10' AND 4' SHOULDER SIDES OF THE HIGHWAY.

**NOT TO SCALE**

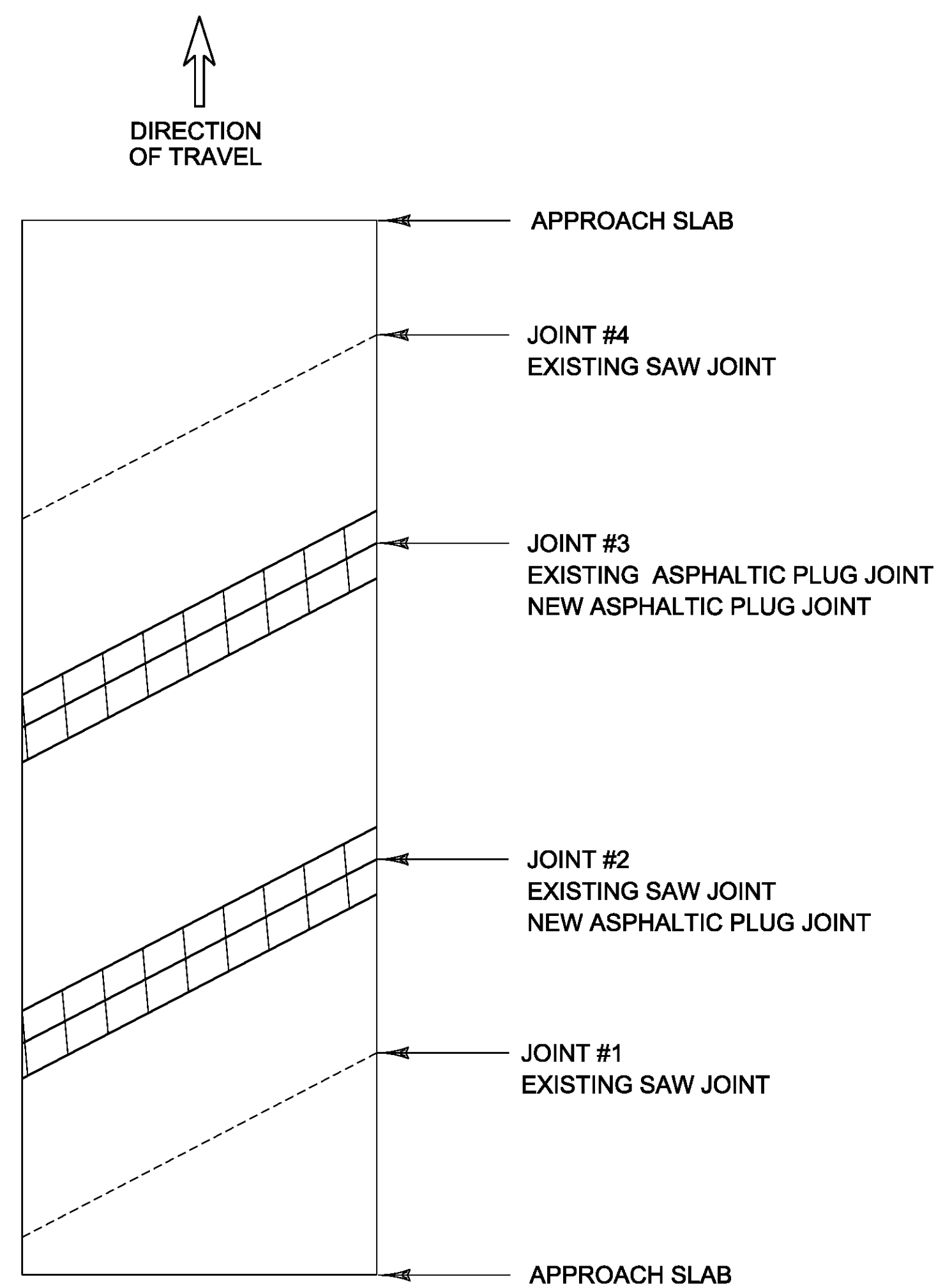
PROJECT NAME:	BETHEL-BROOKFIELD
PROJECT NUMBER:	IM SURF(54)
FILE NAME:	pl4v206wrk.dgn
PROJECT LEADER:	M. FOWLER
DESIGNED BY:	B. KIPP
NOTES & DETAILS COMMON TO BOTH ALTERNATES	PLOT DATE: 2/10/2015 DRAWN BY: B. KIPP CHECKED BY: PVT. MGT. SHEET 5 OF 22



**BRIDGE #32-N MICRO-MILL DETAIL**  
NOT TO SCALE



**BRIDGE MICRO-MILL TYPICAL PLAN**  
NOT TO SCALE



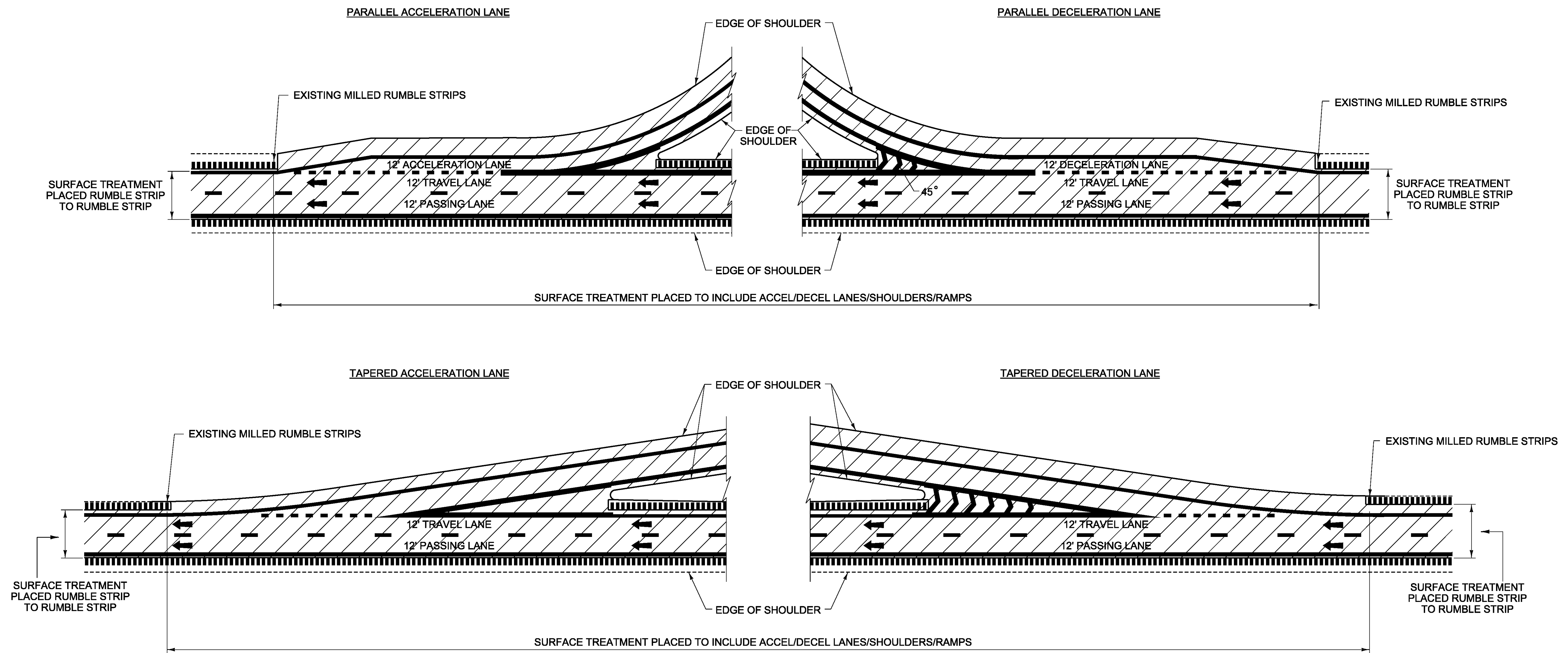
**BRIDGE #32-N**  
MM 36.580  
LENGTH OF NEW ASPHALTIC PLUG JOINTS:  
JOINT #2 = 41'  
JOINT #3 = 41'  
TOTAL = 82'

**NOTES:**

1. REFER TO BRIDGE DETAIL SHEET 2. ALL NEW JOINTS TO BE PAID FOR UNDER ITEM 516.10, "BRIDGE EXPANSION JOINT, ASPHALTIC PLUG."
2. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID DAMAGING DRAINAGE STRUCTURES AND EXPANSION JOINTS. ANY DAMAGE CAUSED BY THE CONTRACTOR SHALL BE REPAIRED BY THE CONTRACTOR AT THE SOLE EXPENSE OF THE CONTRACTOR.
3. THE CONTRACTOR SHALL TAKE PRECAUTIONS TO AVOID THE ACCUMULATION OF DEBRIS IN THE DRAINAGE STRUCTURES LOCATED AT CURB LINE AND IN THE EXPANSION JOINTS. THE CONTRACTOR SHALL EXAMINE THESE BRIDGE FEATURES ON A DAILY BASIS TO ENSURE THAT DEBRIS HAS NOT ACCUMULATED. ANY DEBRIS WHICH IS PRESENT SHALL BE REMOVED BY THE CONTRACTOR AT NO COST TO THE STATE.
4. THE CONTRACTOR SHALL USE CAUTION WHEN MICRO-MILLING AND PAVING OPERATIONS OCCUR ON BRIDGE DECKS. SHOULD ANY DAMAGE OCCUR TO THE DECK OR MEMBRANE AS A RESULT OF THESE OPERATIONS THE ENGINEER SHALL CONTACT THE VTRANS CONSTRUCTION STRUCTURES ENGINEER TO PROVIDE AN ASSESSMENT OF THE DAMAGE AND RECOMMEND ANY NECESSARY REPAIRS. THE CONSTRUCTION STRUCTURES ENGINEER WILL ALSO DETERMINE IF THE DAMAGE WAS AVOIDABLE. IF THE CONTRACTOR IS DETERMINED BY THE ENGINEER TO BE AT FAULT FOR THE DAMAGE, THE RECOMMENDED REPAIRS SHALL BE COMPLETED BY THE CONTRACTOR AT NO COST TO THE STATE.

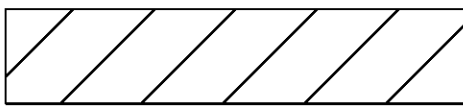


PROJECT NAME:	BETHEL-BROOKFIELD	PLOT DATE:	2/10/2015
PROJECT NUMBER:	IM SURF (54)	DRAWN BY:	B. KIPP
FILE NAME:	pl4v206wrk.dgn	CHECKED BY:	M. FOWLER
PROJECT LEADER:	M. FOWLER	BRIDGE DETAIL SHEET	SHEET 6 OF 22
DESIGNED BY:	B. KIPP		

**TYPICAL INTERCHANGE CONSTRUCTION DETAILS # 1**



NOTES:  
1. LINE STRIPING SHOWN FOR REFERENCE ONLY.

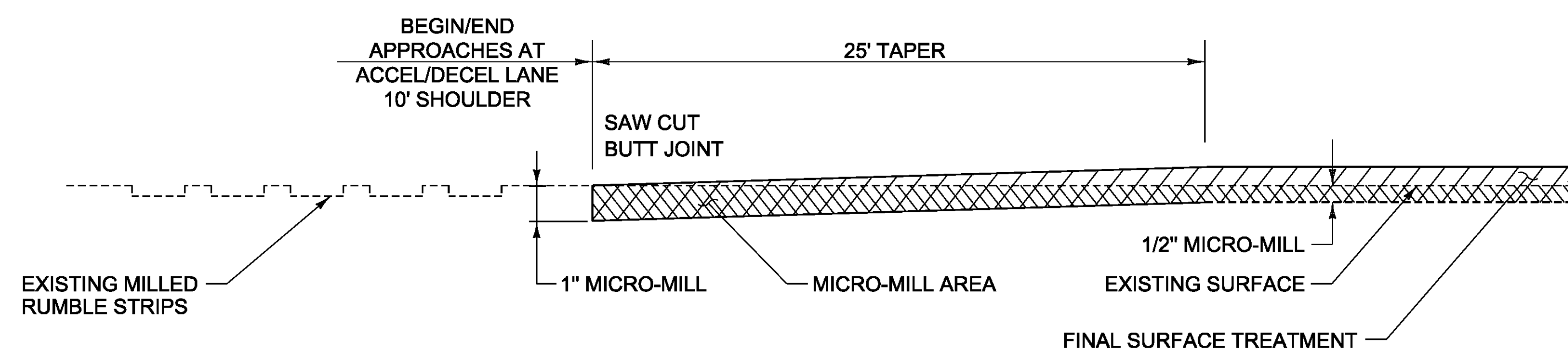
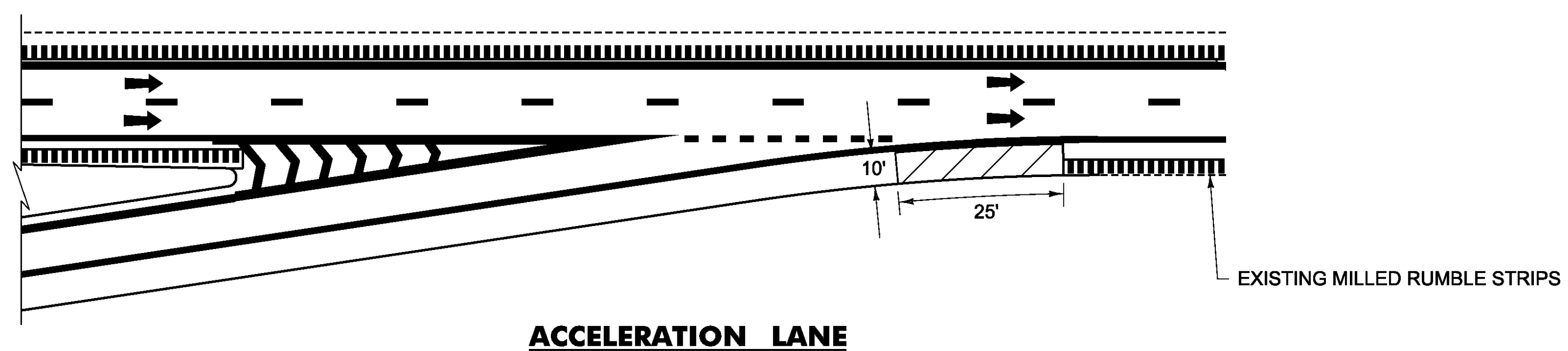
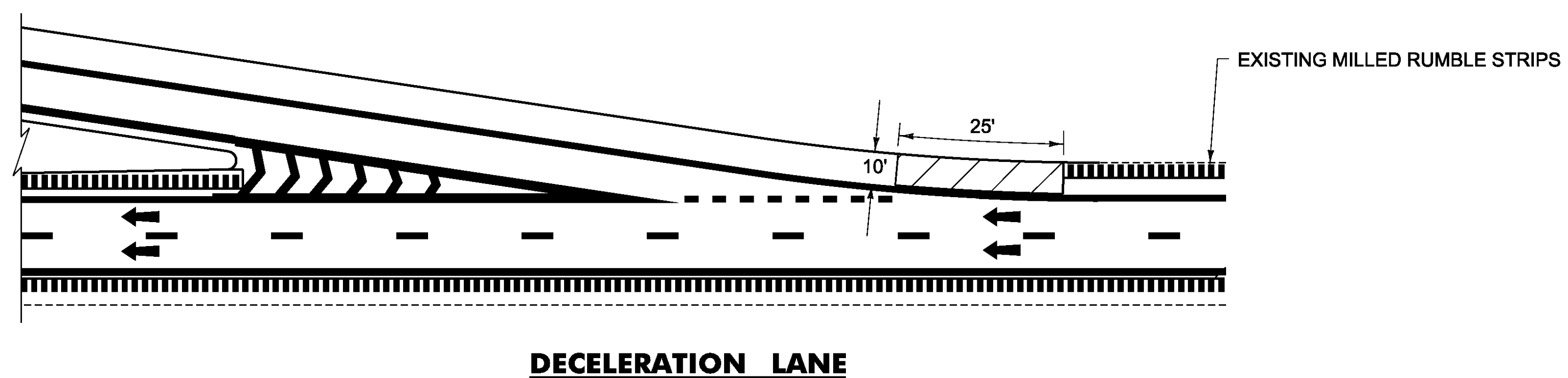
**LEGEND**

-  SURFACE TREATMENT
-  DIRECTION OF TRAFFIC FLOW
-  EXISTING MILLED RUMBLE STRIPS

**NOT TO SCALE**

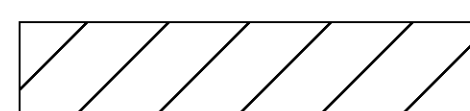
PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/10/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
TYPICAL INTERCHANGE CONSTRUCTION DETAILS   SHEET 7 OF 22	

## TYPICAL INTERCHANGE CONSTRUCTION DETAILS # 2



**TYPICAL APPROACH AREA DETAIL AT ACCEL/DECEL LANE 10 FT SHOULDER**

### LEGEND



AREA TO BE MICRO-MILLED



DIRECTION OF TRAFFIC FLOW



EXISTING MILLED RUMBLE STRIPS

**NOT TO SCALE**

PROJECT NAME: BETHEL-BROOKFIELD

PROJECT NUMBER: IM SURF(54)

FILE NAME: pl4v206wrk.dgn

PLOT DATE: 2/18/2015

PROJECT LEADER: M. FOWLER

DRAWN BY: B. KIPP

DESIGNED BY: B. KIPP

CHECKED BY: PVT. MGT.

TYPICAL INTERCHANGE CONSTRUCTION DETAILS 2 SHEET 8 OF 22



# QUANTITY SHEET 2

**STATE OF VERMONT  
AGENCY OF TRANSPORTATION**

SUMMARY OF ESTIMATED QUANTITIES									
ROADWAY (ALT. A)	ROADWAY (ALT. B)	BRIDGE	ROADWAY	FULL C.E.	QUANTITIES GRAND TOTAL	UNIT	ITEMS	ITEM NO.	ROUNDING
							BEGIN ALTERNATE A		
413,600					413,600	SY	SPECIAL PROVISION (PAVER PLACED SURFACE TREATMENT, TYPE C)	900.675	132
							END ALTERNATE A		
							BEGIN ALTERNATE B		
	I				I	LU	AIR VOIDS PAY ADJUSTMENT (N.A.B.I.)	490.31	-
	24,250				24,250	TON	SPECIAL PROVISION (6.3 MM POLYMER-MODIFIED BITUMINOUS CONCRETE PAVEMENT)(SBR OR SBS POLYMER)	900.680	132
	2,650				2,650	CWT	SPECIAL PROVISION (EMULSIFIED ASPHALT)(RS-IH OR CRS-IH)	900.683	EST.
							END ALTERNATE B		

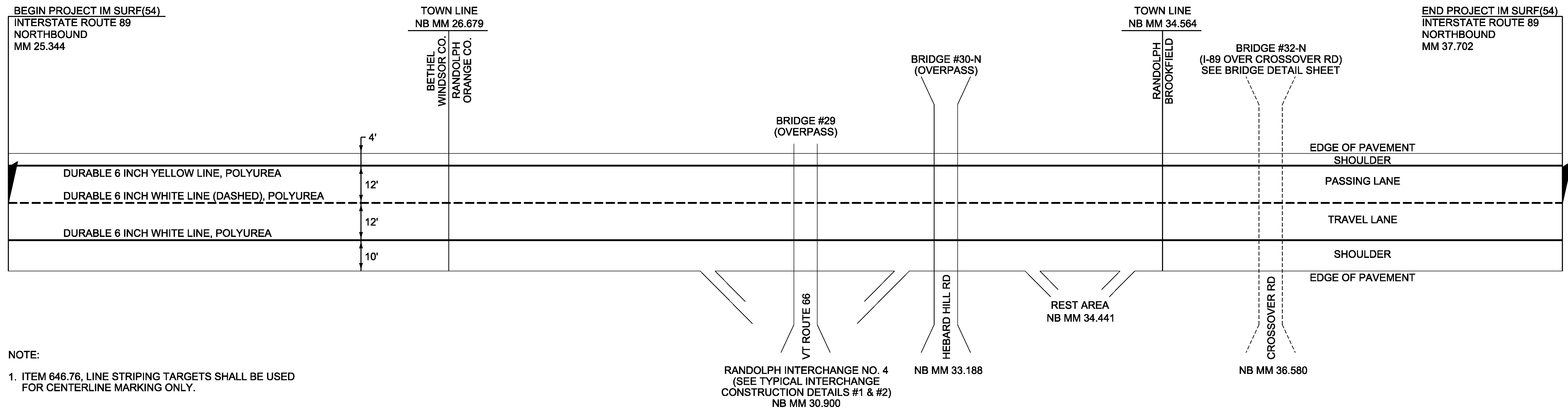
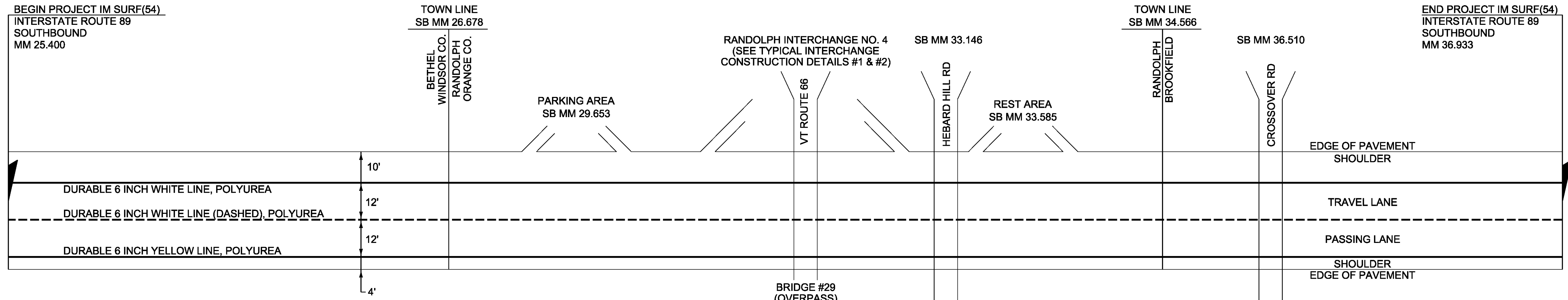
DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS
		ALTERNATE A
		SPECIAL PROVISION (PAVER PLACED SURFACE TREATMENT, TYPE C)
195,040	SY	MAINLINE NORTHBOUND
182,683	SY	MAINLINE SOUTHBOUND
711	SY	BRIDGE 32N & APPROACHES
21,877	SY	EXIT 4 RAMPS
3,191	SY	NORTHBOUND REST AREA RAMPS
5,871	SY	SOUTHBOUND PARKING AREA & RAMPS
3,707	SY	SOUTHBOUND REST AREA RAMPS
388	SY	U-TURNS
132	SY	ROUNDING
413,600	SY	TOTAL

DETAILED SUMMARY OF QUANTITIES		
QUANTITIES	UNIT	ITEMS
		ALTERNATE B
		SPECIAL PROVISION (6.3 MM POLYMER MODIFIED BITUMINOUS CONCRETE PAVEMENT)(SBR OR SBS POLYMER)
11,378	TON	MAINLINE NORTHBOUND
10,656	TON	MAINLINE SOUTHBOUND
41	TON	BRIDGE 32N & APPROACHES
1,276	TON	EXIT 4 RAMPS
186	TON	NORTHBOUND REST AREA RAMPS
342	TON	SOUTHBOUND PARKING AREA & RAMPS
216	TON	SOUTHBOUND REST AREA RAMPS
23	TON	U-TURNS
132	TON	ROUNDING
24,250	TON	TOTAL

PROJECT NAME: BETHEL-BROOKFIELD  
 PROJECT NUMBER: IM SURF(54)  
 FILE NAME: p14v206wrk.dgn PLOT DATE: 2/17/2015  
 PROJECT LEADER: M. FOWLER DRAWN BY: B. KIPP  
 DESIGNED BY: B. KIPP CHECKED BY: M. FOWLER  
 QUANTITY SHEET 2 SHEET 10 OF 22

DURABLE 6 INCH WHITE LINE, POLYUREA  
 TEMPORARY 6 INCH WHITE LINE, PAINT  
 MM 25.344 - MM 37.702 (NB, SOLID RT)  
 MM 25.344 - MM 37.702 (NB, DASHED CENTERLINE)  
 MM 25.400 - MM 36.933 (SB, SOLID LT)  
 MM 25.400 - MM 36.933 (SB, DASHED CENTERLINE)

DURABLE 6 INCH YELLOW LINE, POLYUREA  
 TEMPORARY 6 INCH YELLOW LINE, PAINT  
 MM 25.344 - MM 37.702 (NB, SOLID LT)  
 MM 25.400 - MM 36.933 (SB, SOLID RT)



NOTE:  
 1. ITEM 646.76, LINE STRIPING TARGETS SHALL BE USED FOR CENTERLINE MARKING ONLY.

**NOT TO SCALE**

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/17/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
PAVEMENT MARKING DETAIL SHEET I	SHEET II OF 22

**DURABLE 6 INCH WHITE LINE, POLYUREA**  
 RAMP A:  
 STA. A1+00.0 - STA. A21+02.0 (EDGE LINE RT)  
 STA. A13+00.0 - STA. A21+02.0 (DOTTED LANE LINE LT)

RAMP B:  
 STA. B1+00.0 - STA. B21+32.0 (EDGE LINE RT)  
 STA. B1+00.0 - STA. B6+80.0 (DOTTED LANE LINE LT)

**DURABLE 6 INCH YELLOW LINE, POLYUREA**  
 RAMP A:  
 STA. A1+00.0 - STA. A8+88.0 (EDGE LINE LT)

RAMP B:  
 STA. B8+50.0 - STA. B21+32.0 (EDGE LINE LT)

**DURABLE 12 INCH WHITE LINE, POLYUREA**  
 RAMP A:  
 STA. A8+88.0 - STA. A13+15.0 (SOLID GORE LINES LT)

RAMP B:  
 STA. B6+45.0 - STA. B8+25.0 (SOLID GORE LINES LT)  
 STA. B7+15.0 - STA. B8+25.0 (GORE HATCHING LT)

**TEMPORARY 6 INCH WHITE LINE, PAINT**  
 RAMP A:  
 STA. A1+00.0 - STA. A21+02.0 (EDGE LINE RT)  
 STA. A13+00.0 - STA. A21+02.0 (DOTTED LANE LINE LT)

RAMP B:  
 STA. B1+00.0 - STA. B21+32.0 (EDGE LINE RT)  
 STA. B1+00.0 - STA. B6+80.0 (DOTTED LANE LINE LT)

**TEMPORARY 6 INCH YELLOW LINE, PAINT**  
 RAMP A:  
 STA. A1+00.0 - STA. A8+88.0 (EDGE LINE LT)

RAMP B:  
 STA. B8+50.0 - STA. B21+32.0 (EDGE LINE LT)

**TEMPORARY 12 INCH WHITE LINE, PAINT**  
 RAMP A:  
 STA. A8+88.0 - STA. A13+15.0 (SOLID GORE LINES LT)

RAMP B:  
 STA. B6+45.0 - STA. B8+25.0 (SOLID GORE LINES LT)

**DURABLE 24 INCH STOP BAR, POLYUREA**  
 RAMP B:  
 STA. B21+25.0 LT/RT

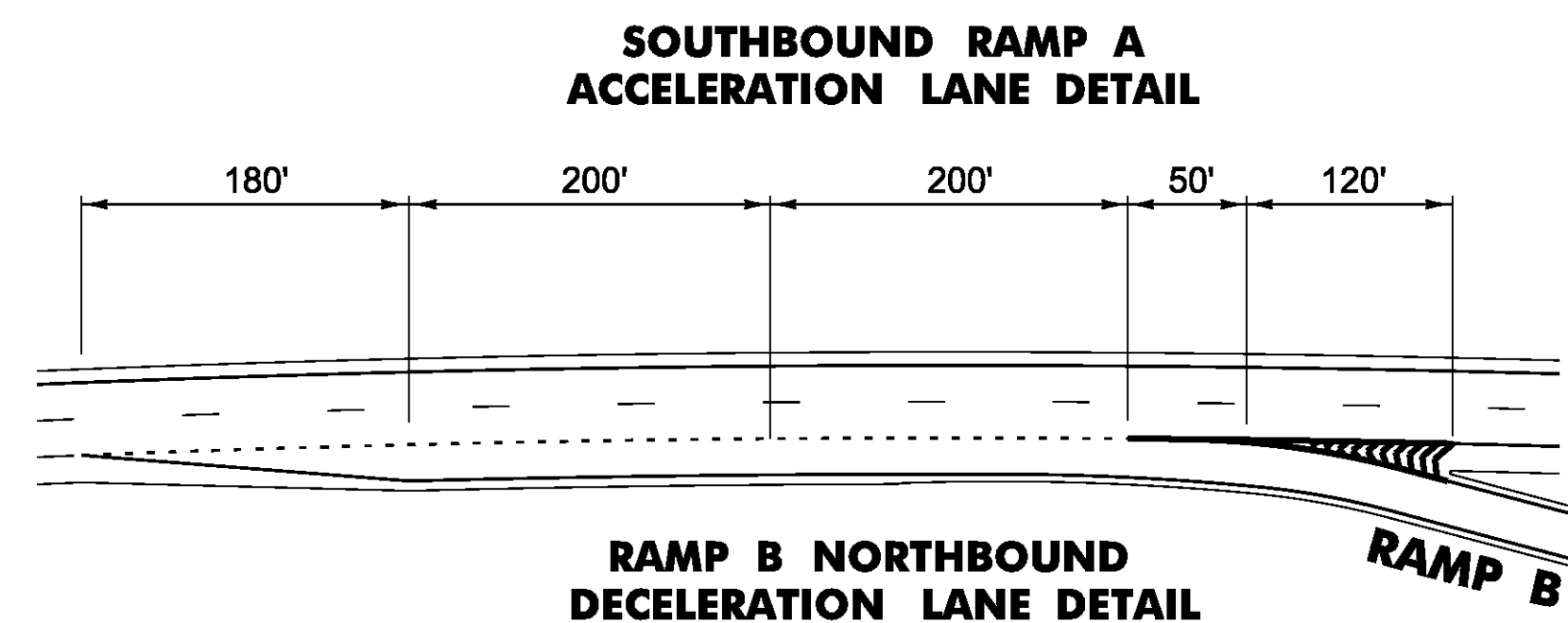
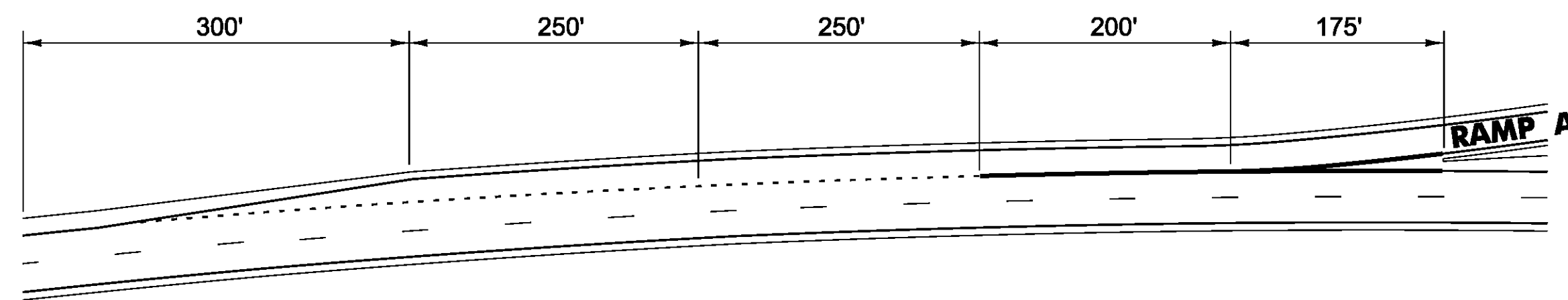
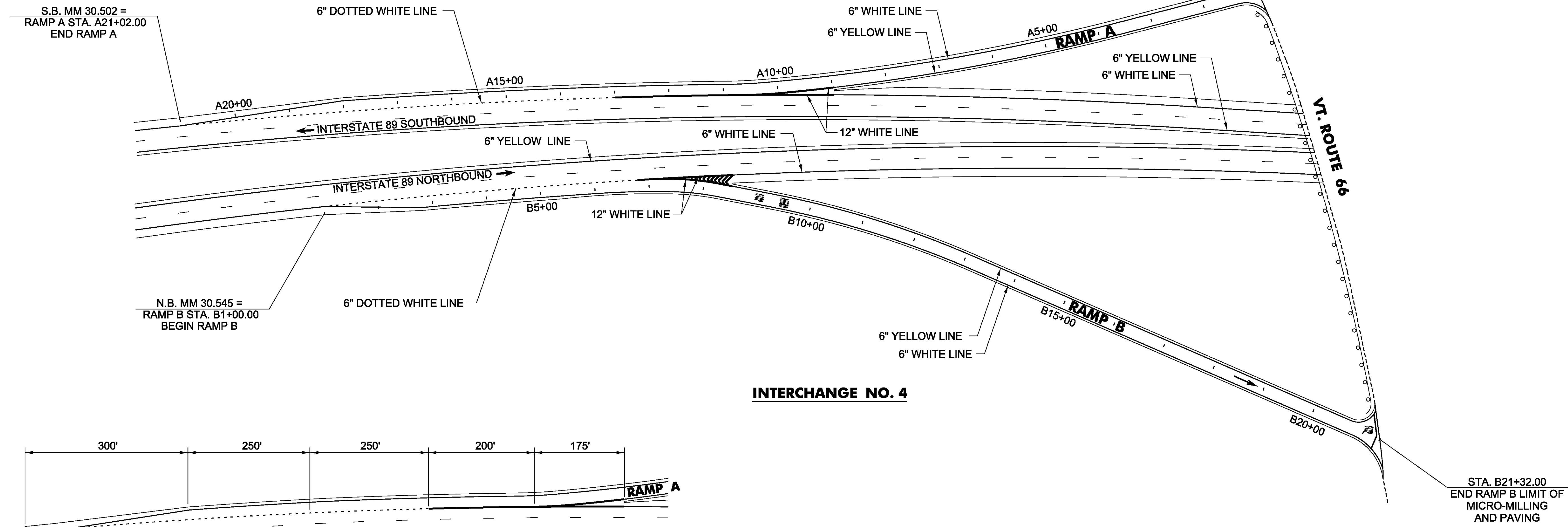
**DURABLE LETTER OR SYMBOL, POLYUREA**  
 RAMP B:

STA. B9+07.0 CL "STOP" (4 EA)  
 STA. B9+47.0 CL "AHEAD" (5 EA)  
 STA. B18+53.0 CL WRONG WAY ARROW (1 EA)  
 STA. B21+20.0 CL "STOP" (4 EA)

**TEMPORARY 24 INCH STOP BAR, PAINT**  
 RAMP B:  
 STA. B21+25.0 LT/RT

**TEMPORARY LETTER OR SYMBOL, PAINT**  
 RAMP B:

STA. B9+07.0 CL "STOP" (4 EA)  
 STA. B9+47.0 CL "AHEAD" (5 EA)  
 STA. B18+53.0 CL WRONG WAY ARROW (1 EA)  
 STA. B21+20.0 CL "STOP" (4 EA)



**INTERCHANGE NO. 4**

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/10/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
PAVEMENT MARKING DETAIL SHEET 2	SHEET 12 OF 22

**DURABLE 6 INCH WHITE LINE, POLYUREA**  
**RAMP C:**  
 STA. C1+00.0 - STA. C16+86.0 (EDGE LINE RT)  
 STA. C1+00.0 - STA. C6+00.0 (DOTTED LANE LINE LT)

**RAMP D:**  
 STA. D1+00.0 - STA. D26+84.0 (EDGE LINE RT)  
 STA. D17+84.0 - STA. D26+84.0 (DOTTED LANE LINE LT)

**TEMPORARY 6 INCH WHITE LINE, PAINT**  
**RAMP C:**  
 STA. C1+00.0 - STA. C16+86.0 (EDGE LINE RT)  
 STA. C1+00.0 - STA. C6+00.0 (DOTTED LANE LINE LT)

**RAMP D:**  
 STA. D1+00.0 - STA. D26+84.0 (EDGE LINE RT)  
 STA. D17+84.0 - STA. D26+84.0 (DOTTED LANE LINE LT)

**DURABLE 24 INCH STOP BAR, POLYUREA**  
**RAMP C:**  
 STA. C16+83.0 LT/RT

**DURABLE LETTER OR SYMBOL, POLYUREA**  
**RAMP C:**  
 STA. C8+65.0 CL "STOP" (4 EA)  
 STA. C9+52.0 CL "AHEAD" (5 EA)  
 STA. C14+00.0 CL WRONG WAY ARROW (1 EA)  
 STA. C16+74.0 CL "STOP" (4 EA)

**TEMPORARY 24 INCH STOP BAR, PAINT**  
**RAMP C:**  
 STA. C16+83.0 LT/RT

**TEMPORARY LETTER OR SYMBOL, PAINT**  
**RAMP C:**  
 STA. C8+64.8 CL "STOP" (4 EA)  
 STA. C9+52.2 CL "AHEAD" (5 EA)  
 STA. C14+00.0 CL WRONG WAY ARROW (1 EA)  
 STA. C16+73.7 CL "STOP" (4 EA)

**DURABLE 6 INCH YELLOW LINE, POLYUREA**  
**RAMP C:**  
 STA. C7+50.0 - STA. C16+86.0 (EDGE LINE LT)

**RAMP D:**  
 STA. D1+00.0 - STA. D14+34.0 (EDGE LINE LT)

**TEMPORARY 6 INCH YELLOW LINE, PAINT**  
**RAMP C:**  
 STA. C7+50.0 - STA. C16+86.0 (EDGE LINE LT)

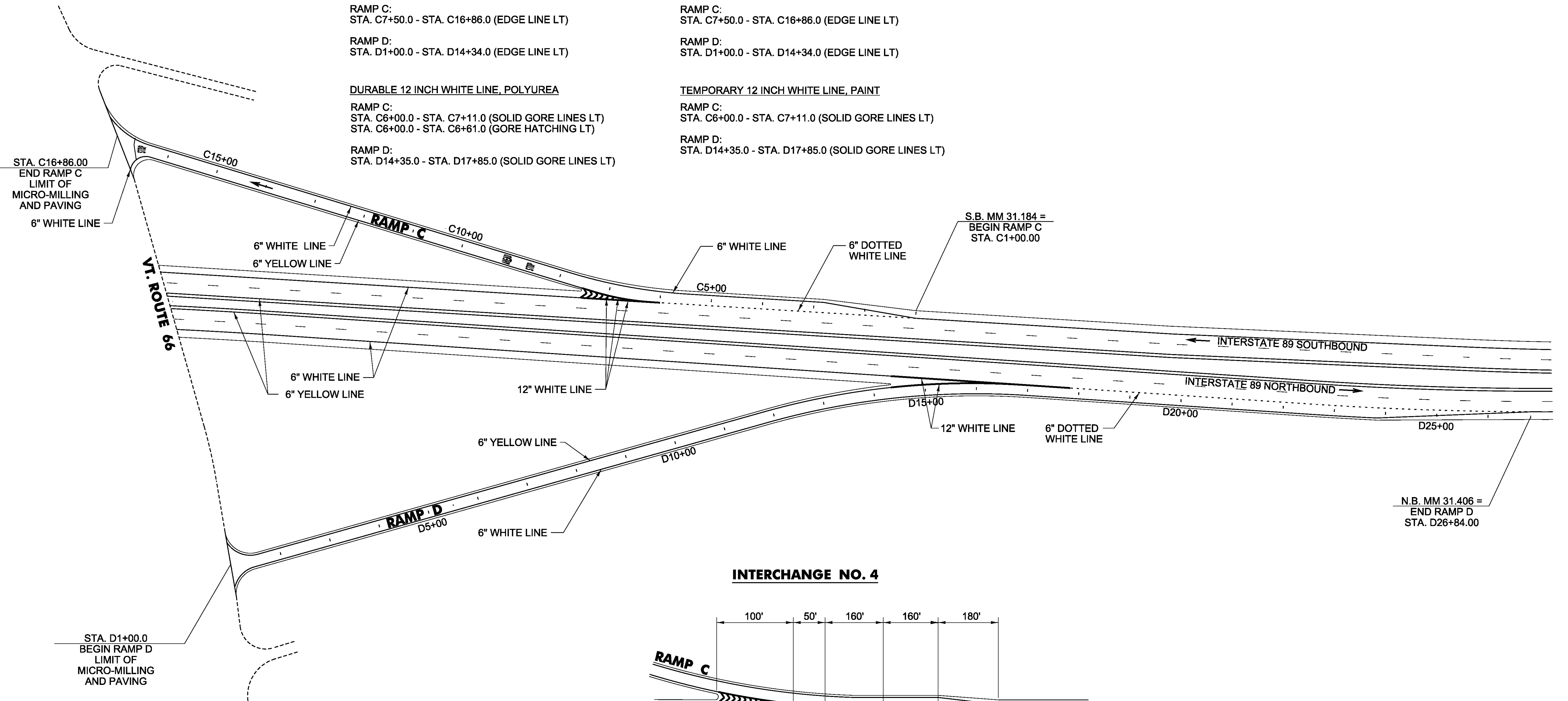
**RAMP D:**  
 STA. D1+00.0 - STA. D14+34.0 (EDGE LINE LT)

**DURABLE 12 INCH WHITE LINE, POLYUREA**  
**RAMP C:**  
 STA. C6+00.0 - STA. C7+11.0 (SOLID GORE LINES LT)  
 STA. C6+00.0 - STA. C6+61.0 (GORE HATCHING LT)

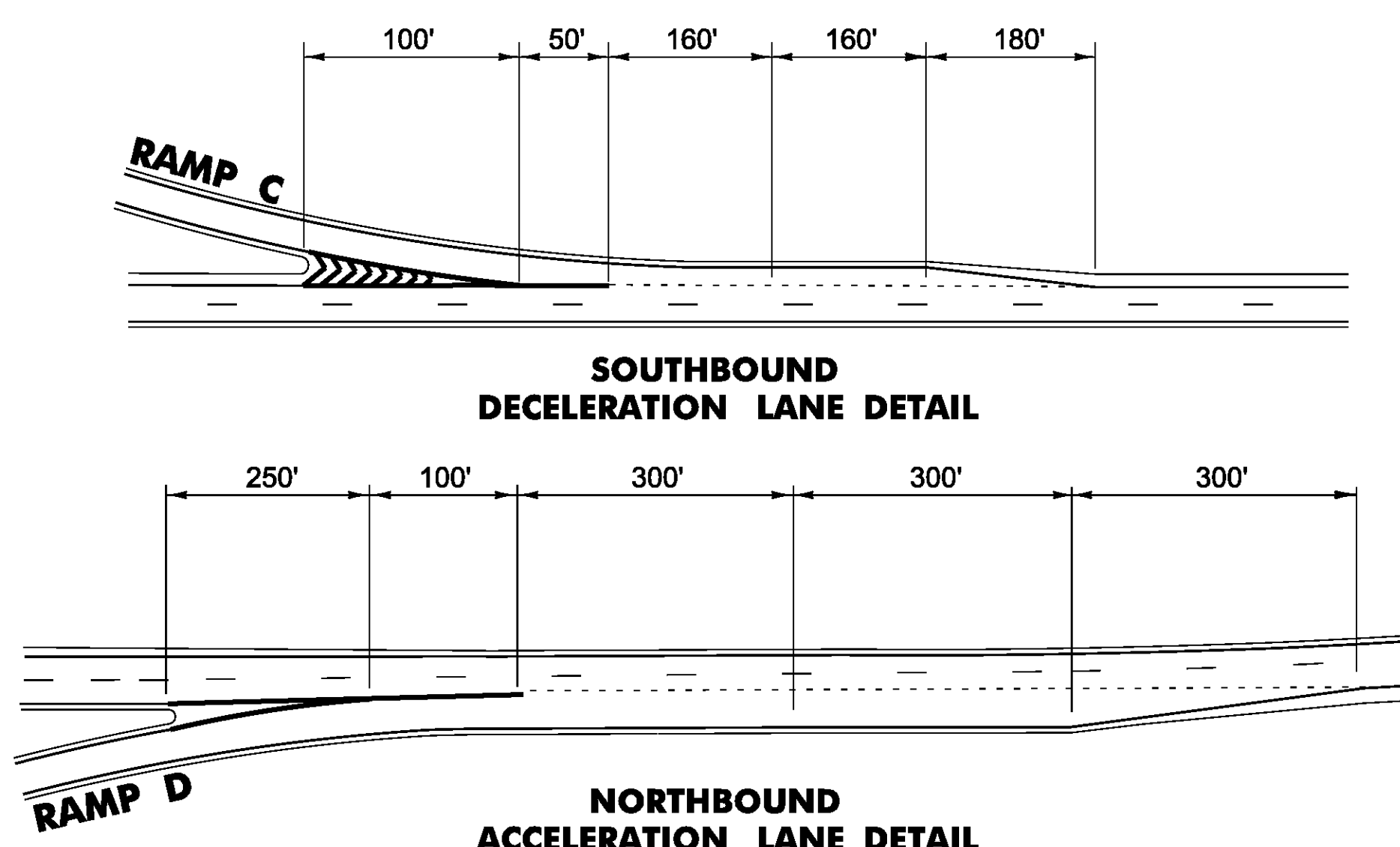
**RAMP D:**  
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**TEMPORARY 12 INCH WHITE LINE, PAINT**  
**RAMP C:**  
 STA. C6+00.0 - STA. C7+11.0 (SOLID GORE LINES LT)

**RAMP D:**  
 STA. D14+35.0 - STA. D17+85.0 (SOLID GORE LINES LT)



**INTERCHANGE NO. 4**



PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/10/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
PAVEMENT MARKING DETAIL SHEET 3	SHEET 13 OF 22

# REST AREA NORTHBOUND

MM 34.441

TEMPORARY 6 INCH WHITE LINE, PAINT

REST AREA	SOLID RT EDGE LINE
NORTHBOUND OFF RAMP	DOTTED RT LANE LINE
INTERSTATE 89	SOLID RT EDGE LINE
NORTHBOUND ON RAMP	DOTTED RT LANE LINE
INTERSTATE 89	SOLID RT EDGE LINE

TEMPORARY 6 INCH YELLOW LINE, PAINT

REST AREA	SOLID RT EDGE LINE
NORTHBOUND OFF RAMP	SOLID RT EDGE LINE

TEMPORARY 12 INCH WHITE LINE, PAINT

REST AREA	SOLID RT GORE AREA
NORTHBOUND OFF RAMP	SOLID RT GORE AREA
INTERSTATE 89	SOLID RT GORE AREA
NORTHBOUND ON RAMP	SOLID RT GORE AREA
INTERSTATE 89	SOLID RT GORE AREA

DURABLE 6 INCH WHITE LINE, POLYUREA

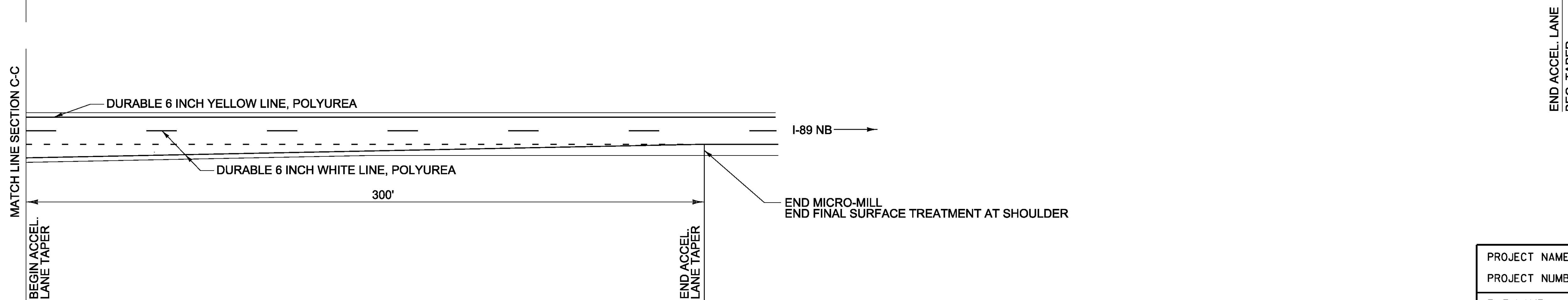
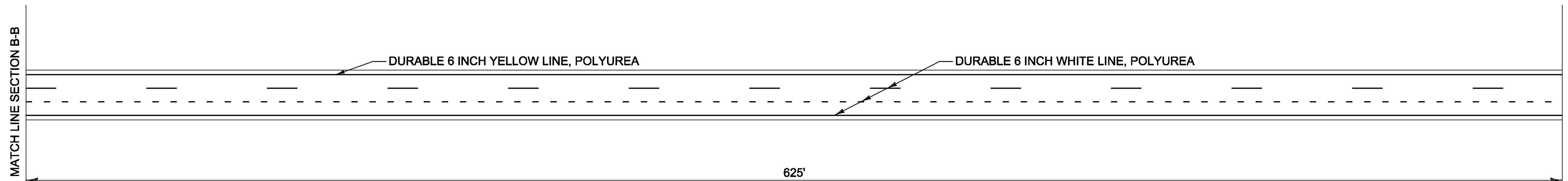
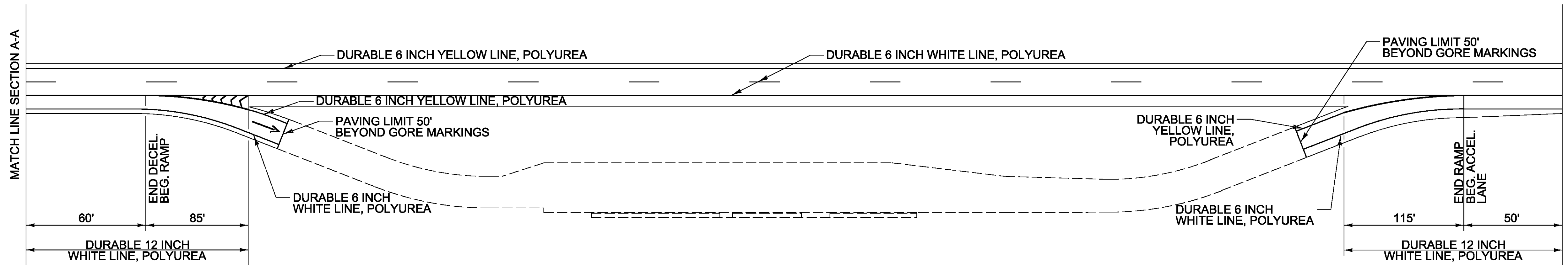
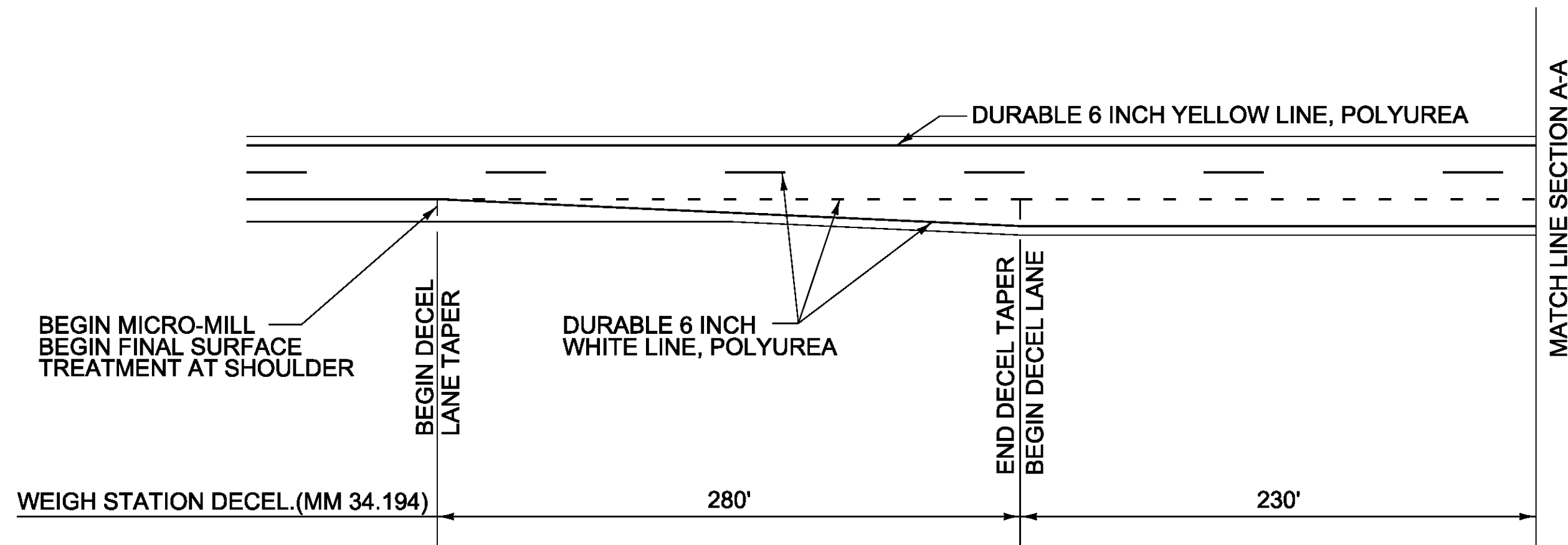
REST AREA	SOLID RT EDGE LINE
NORTHBOUND OFF RAMP	DOTTED RT LANE LINE
INTERSTATE 89	SOLID RT EDGE LINE
NORTHBOUND ON RAMP	DOTTED RT LANE LINE
INTERSTATE 89	SOLID RT EDGE LINE

DURABLE 6 INCH YELLOW LINE, POLYUREA

REST AREA	SOLID RT EDGE LINE
NORTHBOUND OFF RAMP	SOLID RT EDGE LINE

DURABLE 12 INCH WHITE LINE, POLYUREA

REST AREA	SOLID RT GORE AREA
NORTHBOUND OFF RAMP	SOLID RT GORE AREA
INTERSTATE 89	SOLID RT GORE AREA
NORTHBOUND ON RAMP	SOLID RT GORE AREA
INTERSTATE 89	SOLID RT GORE AREA

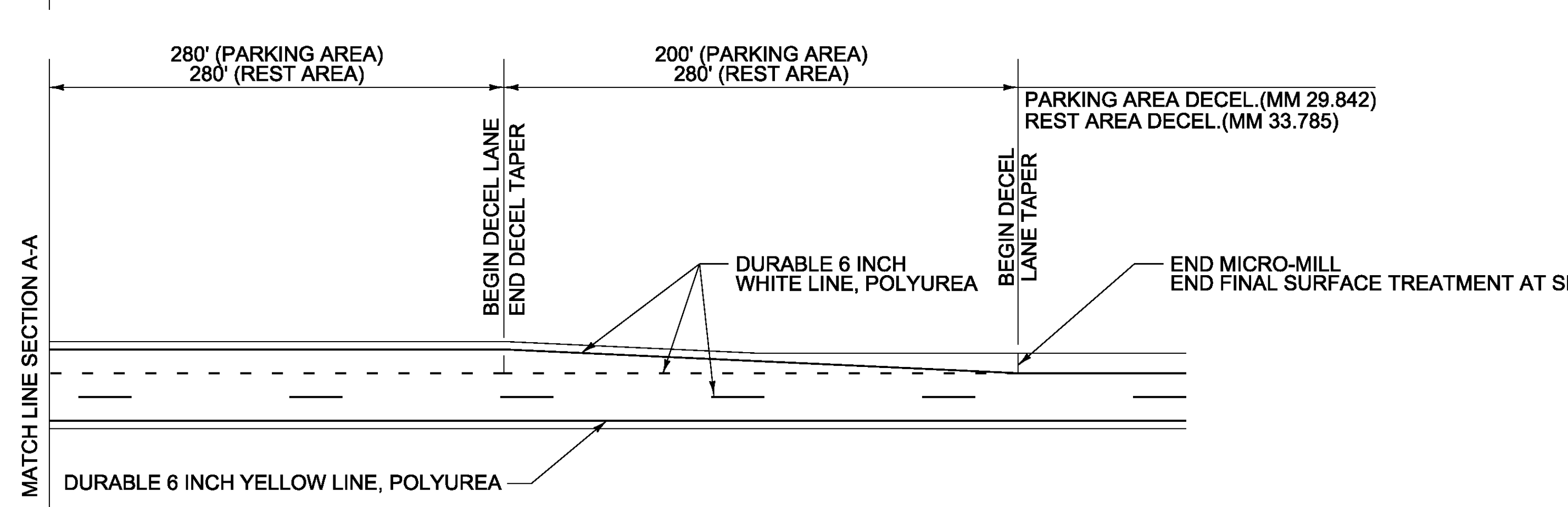
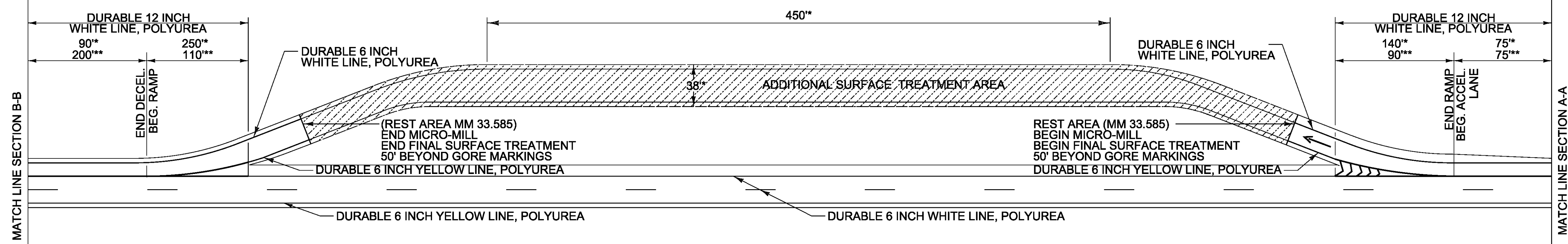
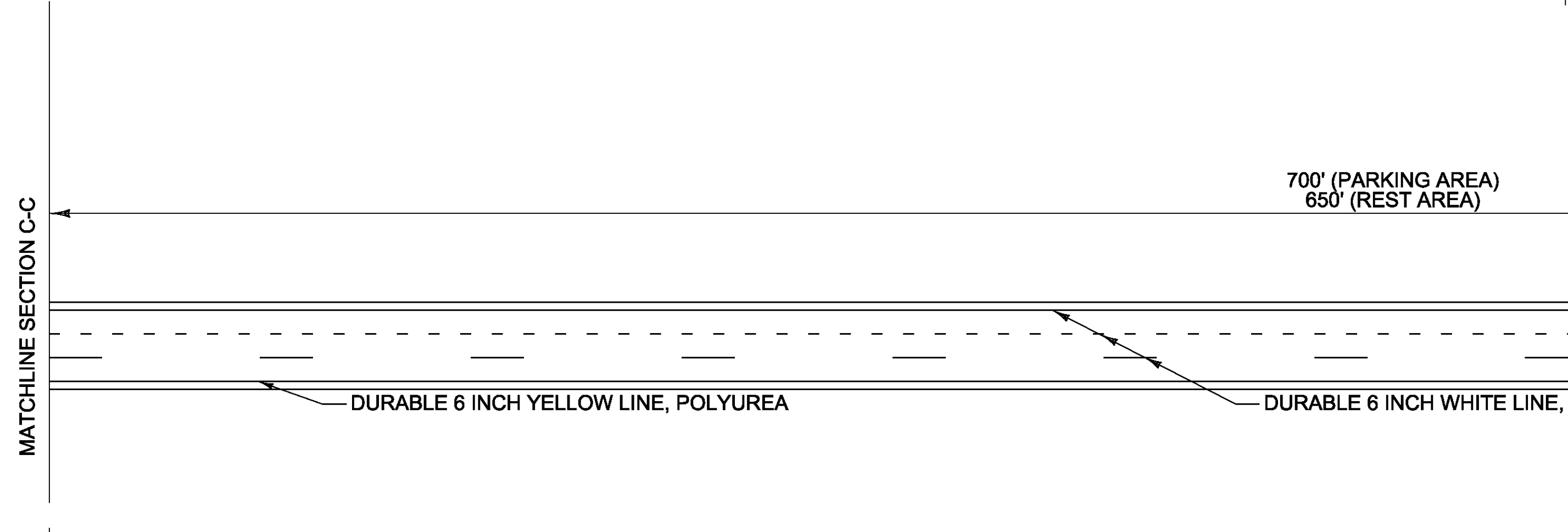
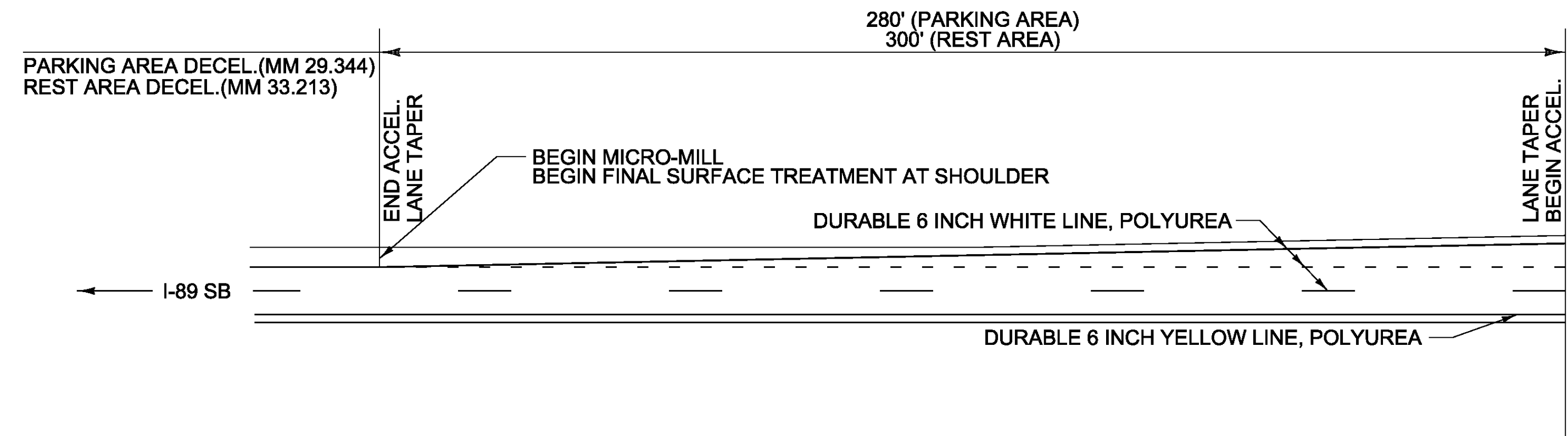


**NOT TO SCALE**

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/17/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
PAVEMENT MARKING DETAIL SHEET 4	SHEET 14 OF 22

# PARKING AREA REST AREA SOUTHBOUND

MM 29.653 (PARKING AREA)  
MM 33.585 (REST AREA)



**DURABLE LETTER OR SYMBOL, POLYUREA**

PARKING AREA:			
SB OFF RAMP	WRONG WAY ARROW	(1 EA)	
REST AREA:			
SB OFF RAMP	WRONG WAY ARROW	(1 EA)	

**TEMPORARY LETTER OR SYMBOL, PAINT**

PARKING AREA:			
SB OFF RAMP	WRONG WAY ARROW	(1 EA)	
REST AREA:			
SB OFF RAMP	WRONG WAY ARROW	(1 EA)	

**DURABLE 6 INCH WHITE LINE, POLYUREA**

PARKING AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		
PARKING AREA	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		

REST AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		

**DURABLE 6 INCH YELLOW LINE, POLYUREA**

PARKING AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
PARKING AREA	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		

REST AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		

**DURABLE 12 INCH WHITE LINE, POLYUREA**

PARKING AREA/REST AREA			
SOUTHBOUND OFF RAMP	SOLID LT GORE AREA		
INTERSTATE 89	SOLID LT GORE AREA		
SOUTHBOUND ON RAMP	SOLID LT GORE AREA		
INTERSTATE 89	SOLID LT GORE AREA		

**DURABLE 6 INCH WHITE LINE, POLYUREA**

PARKING AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		
PARKING AREA	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		

REST AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		
INTERSTATE 89	DOTTED LT LANE LINE		

**DURABLE 6 INCH YELLOW LINE, POLYUREA**

PARKING AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
PARKING AREA	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		

REST AREA:			
SOUTHBOUND OFF RAMP	SOLID LT EDGE LINE		
SOUTHBOUND ON RAMP	SOLID LT EDGE LINE		

**DURABLE 12 INCH WHITE LINE, POLYUREA**

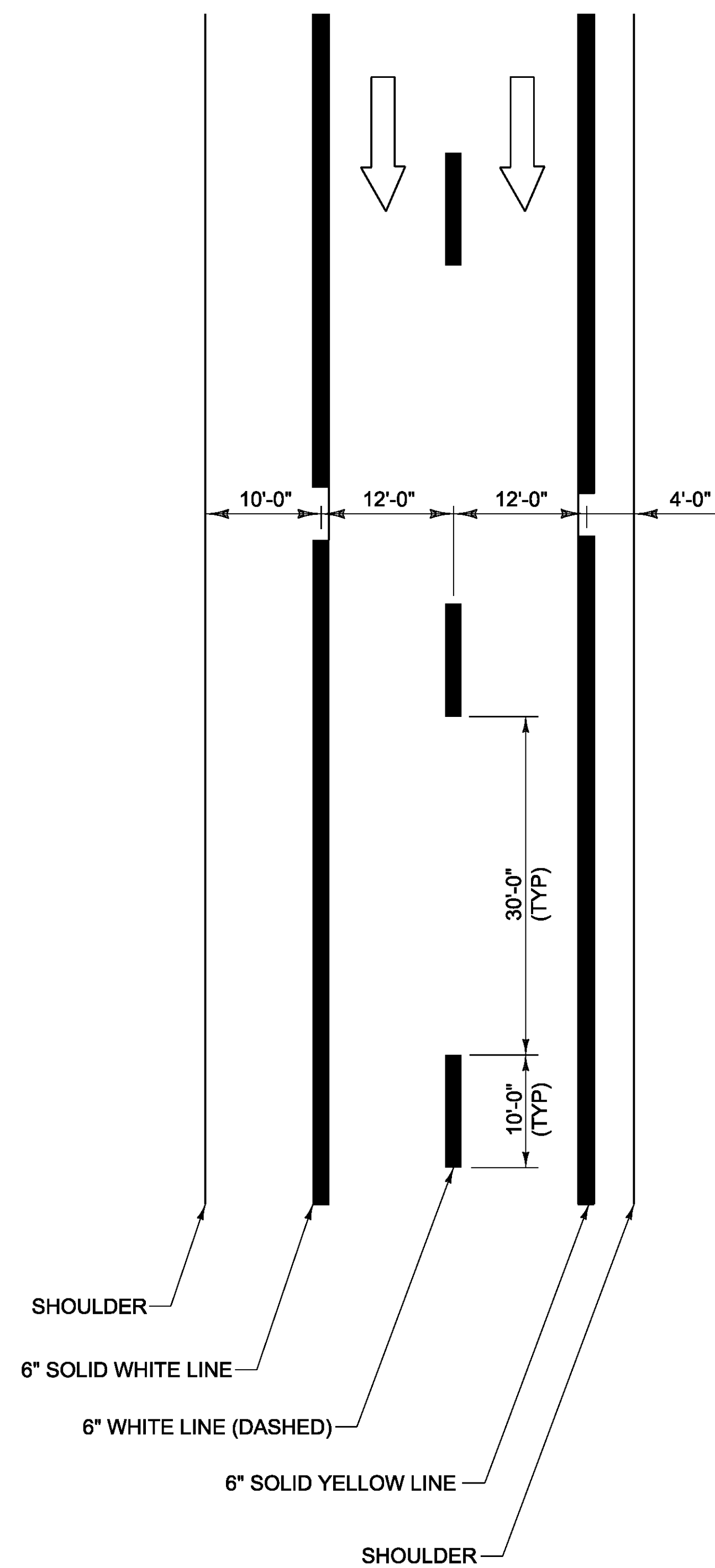
PARKING AREA/REST AREA			
SOUTHBOUND OFF RAMP	SOLID LT GORE AREA		
INTERSTATE 89	SOLID LT GORE AREA		
SOUTHBOUND ON RAMP	SOLID LT GORE AREA		
INTERSTATE 89	SOLID LT GORE AREA		

**KEY**

- * PARKING AREA DIMENSION
- ** REST AREA DIMENSION
- PARKING AREA SURFACE TREATMENT AREA

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/17/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY:
PAVEMENT MARKING DETAIL SHEET 5	SHEET 15 OF 22

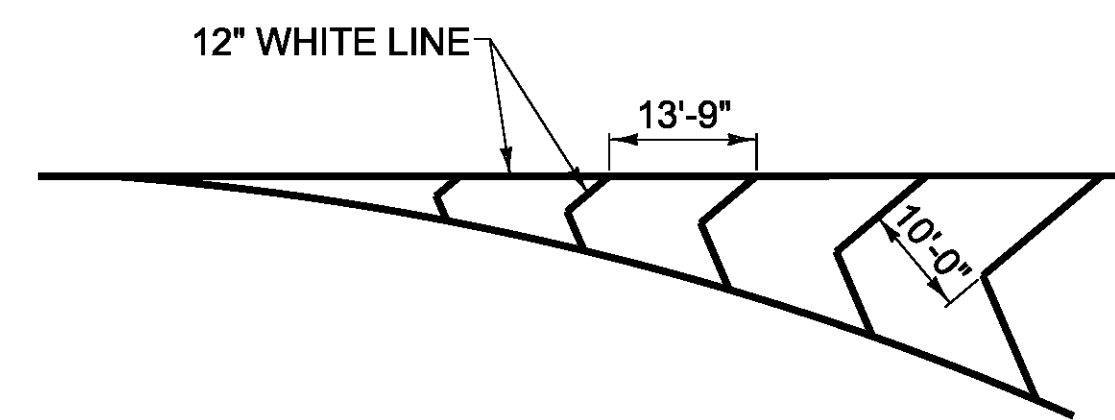
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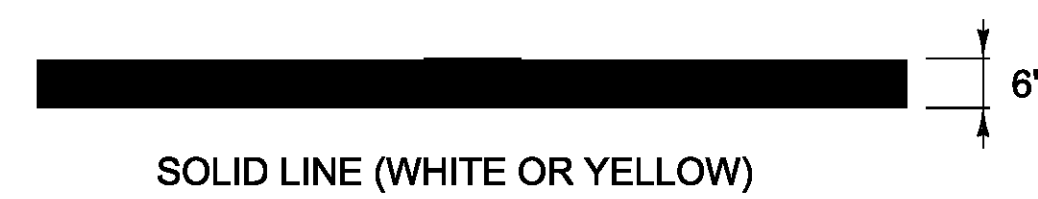
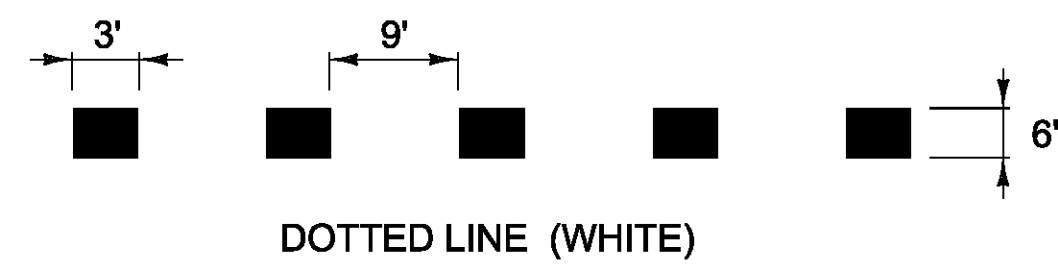
**TYPICAL MAINLINE MARKING PLAN**  
NOT TO SCALE

**LEGEND**

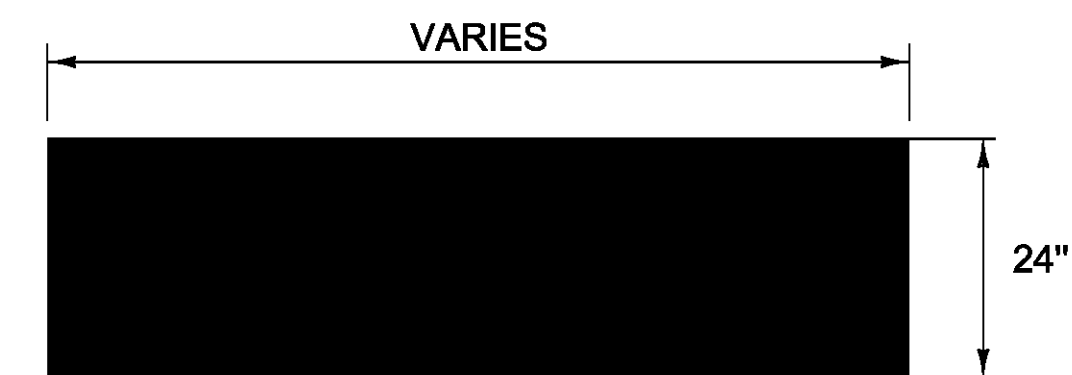
← DIRECTION OF TRAFFIC FLOW



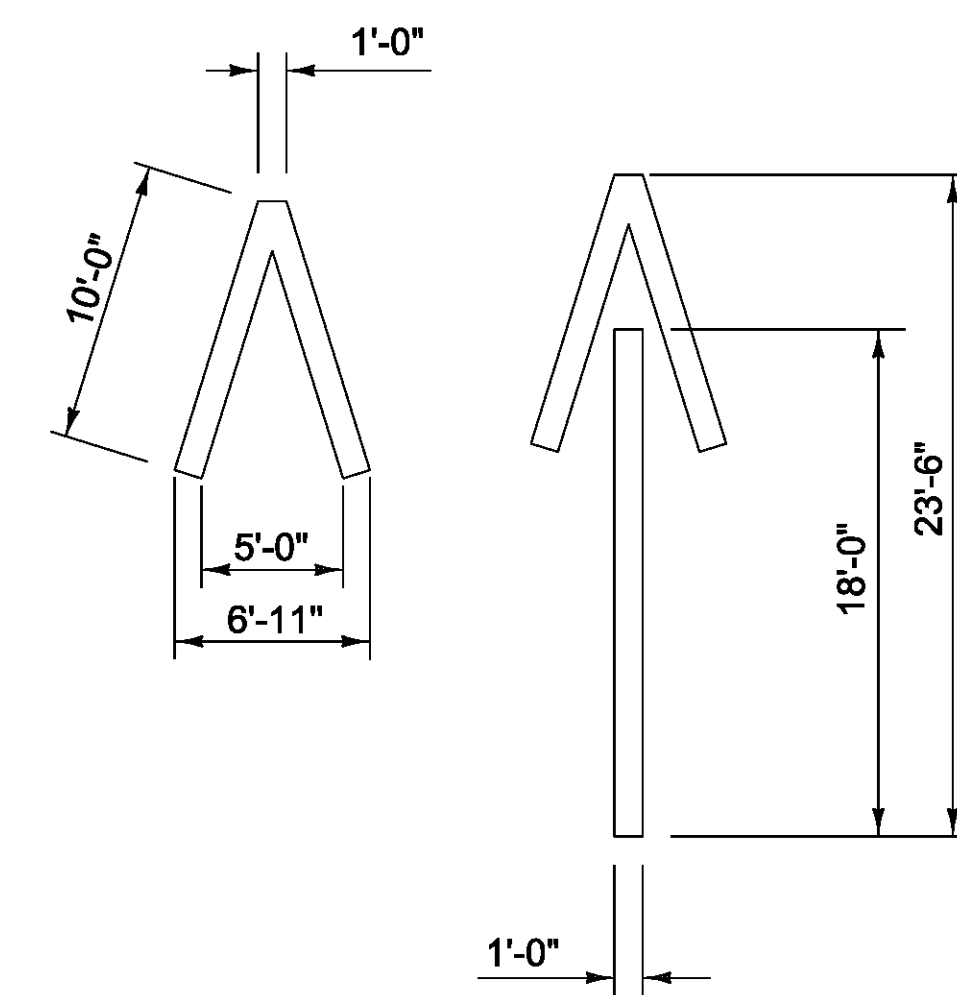
**GORE MARKING DETAIL**  
NOT TO SCALE



**PAVEMENT MARKING LINE DETAILS**  
NOT TO SCALE



**STOP BAR DETAIL**  
NOT TO SCALE

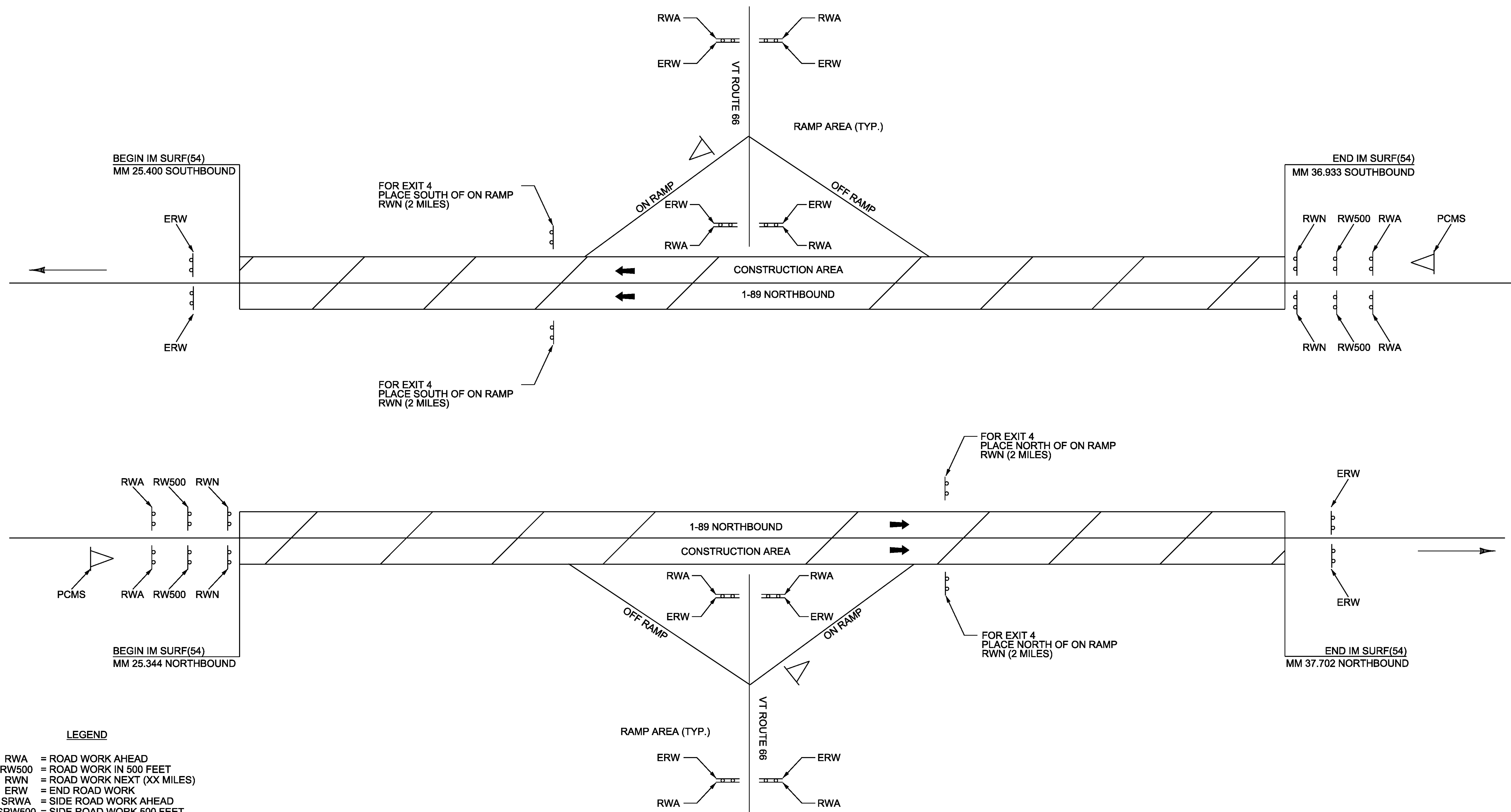


**WRONG WAY ARROW**  
NOT TO SCALE  
MARKINGS TO BE PLACED AT EXISTING WRONG WAY SIGN

PROJECT NAME: BETHEL-BROOKFIELD  
PROJECT NUMBER: IM SURF(54)

FILE NAME: pl4v206wrk.dgn  
PROJECT LEADER: M. FOWLER  
DESIGNED BY: B. KIPP  
PAVEMENT MARKING DETAIL SHEET 6

PLOT DATE: 2/10/2015  
DRAWN BY: B. KIPP  
CHECKED BY: M. FOWLER  
SHEET 16 OF 22



**LEGEND**

- RWA = ROAD WORK AHEAD
- RW500 = ROAD WORK IN 500 FEET
- RWN = ROAD WORK NEXT (XX MILES)
- ERW = END ROAD WORK
- SRWA = SIDE ROAD WORK AHEAD
- SRW500 = SIDE ROAD WORK 500 FEET
- △ = PORTABLE CHANGEABLE MESSAGE SIGN
- [Hatched Box] = WORK AREA
- ← = DIRECTION OF TRAFFIC FLOW

SEE VAOT STANDARDS T-1, T-10, T-11 AND T-13 FOR SIGN PLACEMENT.  
 CONSTRUCTION APPROACH SIGNING SHALL BE PLACED AS NOT TO INTERFERE WITH EXISTING TRAFFIC CONTROL DEVICES.  
 SEE CONSTRUCTION APPROACH SIGNING NOTES SHEET.

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/17/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: M. FOWLER
CONSTRUCTION APPROACH SIGNING SHEET	SHEET 17 OF 22

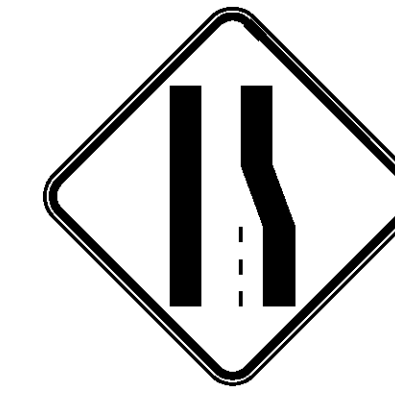
1. THE CONTRACTOR SHALL SUBMIT A SITE SPECIFIC TRAFFIC CONTROL PLAN TO THE ENGINEER FOR APPROVAL PRIOR TO THE START OF CONSTRUCTION. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) WILL NOT BE PAID SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.10, "TRAFFIC CONTROL".
2. THE 2009 MUTCD, WITH REVISIONS, SHALL BE THE STANDARD FOR ALL TRAFFIC CONTROL DEVICES. EXISTING SIGNS, SIGNALS AND MARKINGS SHALL BE VALID UNTIL SUCH TIME AS THEY ARE REPLACED OR RECONSTRUCTED. WHEN NEW TRAFFIC CONTROL DEVICES ARE ERECTED OR PLACED OR EXISTING TRAFFIC CONTROL DEVICES ARE REPLACED OR REPAIRED THE EQUIPMENT, DESIGN, METHOD OF INSTALLATION, PLACEMENT OR REPAIR SHALL CONFORM WITH THE MUTCD.
3. ADDITIONAL RAMP SIGNING MAY BE REQUIRED AS DIRECTED BY THE ENGINEER.
4. THE BID PRICE FOR "TRAFFIC CONTROL", ITEM 641.10, SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, PORTABLE ARROW BOARDS, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS, AND POSTS AS DETAILED IN VAOT STANDARDS. ALL ADJUSTING, RELOCATING, AND REMOVING OF THESE DEVICES AS DIRECTED BY THE ENGINEER SHALL ALSO BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID FOR SEPARATELY:
  - 630.10 AND 630.15 - UNIFORMED TRAFFIC OFFICERS AND FLAGGERS
  - 646.622 TEMPORARY 6 INCH WHITE LINE, PAINT
  - 646.632 TEMPORARY 6 INCH YELLOW LINE, PAINT
  - 646.662 TEMPORARY 12 INCH WHITE LINE, PAINT
  - 646.682 TEMPORARY 24 INCH STOP BAR, PAINT
  - 646.692 TEMPORARY LETTER OR SYMBOL, PAINT
  - 646.76 LINE STRIPING TARGETS
5. PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE PROVIDED FOR USE ALONG THIS PROJECT. THE PLACEMENT OF THESE UNITS AS WELL AS THE MESSAGE WILL BE APPROVED BY THE ENGINEER. THESE SIGNS WILL BE PAID FOR UNDER ITEM 641.15, "PORTABLE CHANGEABLE MESSAGE SIGN".
 

PCMS SHOULD NOT REPLACE ANY OF THE SIGNING DETAILED IN THE MUTCD AND SHOULD NOT BE USED IF STANDARD TRAFFIC CONTROL DEVICES ADEQUATELY PROVIDE THE INFORMATION THE MOTORISTS NEED TO TRAVEL SAFELY.

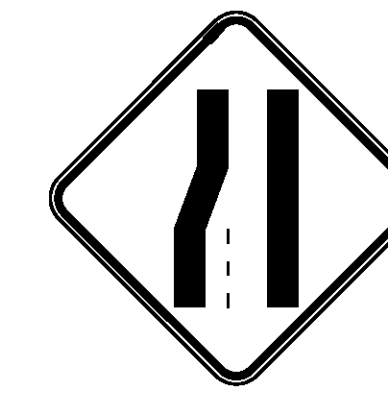
THE PCMS SHALL CONSIST OF EITHER ONE OR TWO PHASES. TYPICALLY, A PHASE SHALL CONSIST OF UP TO THREE LINES OF EIGHT CHARACTERS PER LINE. THE PCMS SHOULD BE USED AS A SUPPLEMENT AND NOT AS A SUBSTITUTE FOR CONVENTIONAL SIGNS AND PAVEMENT MARKINGS.

THE PCMS SHOULD COMMUNICATE WHAT INFORMATION MOTORISTS NEED TO KNOW. UNNECESSARY INFORMATION SHOULD BE AVOIDED. MESSAGES SHOULD BE UPDATED PERIODICALLY TO DESCRIBE THE WORK ACTIVITY OCCURRING SO THAT THE PCMS CONTINUES TO COMMAND THE ATTENTION OF MOTORISTS.
6. THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES AND WORK ZONE SPEED REDUCTIONS IN COMPLIANCE WITH VAOT STANDARDS. PAYMENT FOR PROVIDING THIS PACKAGE SHALL BE INCIDENTAL TO ITEM 641,10, "TRAFFIC CONTROL". ADD G20-5aP "WORK ZONE" PLAQUE AND R2-6aP "FINES DOUBLED" PLAQUE TO SPEED LIMIT SIGNS (SEE FIG. 6F-3 OF MUTCD). OMIT VR-355 "FINES DOUBLED FOR SPEEDING IN WORK ZONE" SIGN. IF LANE CLOSURES ARE USED THEY SHOULD NOT EXCEED 3 MILES AT ANY GIVEN PERIOD OF TIME. IF LANE CLOSURES REDUCE THE TRAVEL LANE BELOW 12 FEET DMV MUST BE NOTIFIED TO DETOUR WIDE LOAD PERMITTED VEHICLES.
7. NO CONSTRUCTION SIGNS SHALL BE INSTALLED AS TO INTERFERE OR OBSTRUCT THE VIEW OF EXISTING TRAFFIC CONTROL DEVICES, STOPPING SIGHT DISTANCE, AND CORNER SIGHT DISTANCE FROM DRIVES AND INTERSECTING HIGHWAYS.
8. REFER TO VT. STATE STANDARDS, THE SPECIAL PROVISIONS, AND THE MUTCD FOR TEMPORARY TRAFFIC CONTROL SIGN DIMENSIONS AND COLORS.

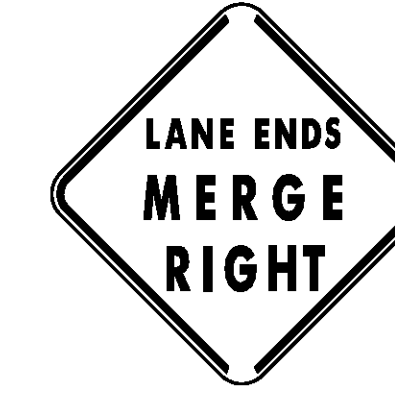
9. SIGN W4-2 MAY BE REPLACED WITH W9-2:



W4-2



W9-2



10. IN ADVANCE OF ANY PROPOSED INTERCHANGE RAMP CLOSURES THE CONTRACTOR SHALL SUBMIT A PLAN THAT WILL DEPICT HOW ADVANCED WARNING TO THE TRAVELING PUBLIC WILL BE ACCOMMODATED DURING THE CLOSURE. ADVANCED WARNING SHALL BE DEFINED AS PROVIDING ADVANCED WARNING SIGNS, BOTH STATIC AND PCMS, THAT PROVIDE INFORMATION FOR MOTORISTS TO SAFELY UTILIZE THE REGIONALLY ACCEPTABLE OPPORTUNITIES FOR SEEKING AN ALTERNATE ROUTE PRIOR TO APPROACHING THE INTERCHANGE INVOLVING RAMP CLOSURES. THE PLAN WILL NEED TO BE SUBMITTED FOR REVIEW AND COMMENT TO THE PROJECT MANAGER A MINIMUM OF 7 CALENDAR DAYS AHEAD OF ANY PLANNED CLOSURE. APPROVAL OF THE PLAN SHALL BE IN PLACE 72 HOURS BEFORE WORK MAY BEGIN. INSTALLATION OF THE PCMS NETWORK SHALL BE DONE 48 HOURS BEFORE WORK MAY BEGIN. ELEMENTS OF THE PLAN SHALL INCLUDE BUT WILL NOT BE LIMITED TO THE LOCATION OF THE PCMS AND ASSOCIATED MESSAGES, ANY OTHER NECESSARY SIGNAGE, LOCATIONS FOR DEPLOYMENT OF UNIFORMED TRAFFIC OFFICERS AND FLAGGERS, AND SEQUENCING AND DURATION OF CLOSURE FOR EACH RAMP WITHIN THE RESPECTIVE INTERCHANGE. NO MORE THAN ONE INTERCHANGE PER WORK PERIOD MAY HAVE RAMP CLOSURES. THE COST OF PREPARING THIS PLAN (AND MAKING CHANGES IF NECESSARY) SHALL NOT BE PAID SEPARATELY BUT WILL BE INCLUDED IN THE UNIT PRICE BID FOR ITEM 641.10, TRAFFIC CONTROL.

PROJECT NAME: BETHEL-BROOKFIELD

PROJECT NUMBER: IM SURF(54)

FILE NAME: pl4v206wrk.dgn

PLOT DATE: 2/17/2015

PROJECT LEADER: M. FOWLER

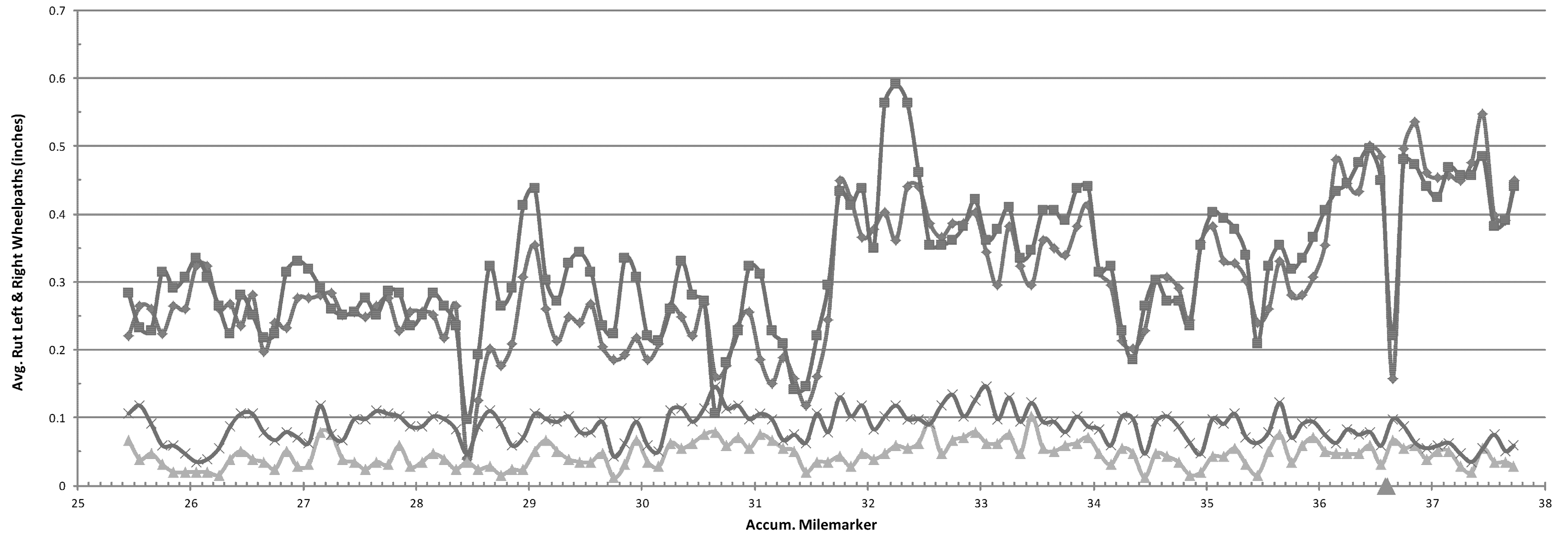
DRAWN BY: B. KIPP

DESIGNED BY: B. KIPP

CHECKED BY: M. FOWLER

CONSTRUCTION APPROACH SIGNING SHEET NOTES SHEET 18 OF 22

**I 89 NB Bethel-Brookfield IM SURF(54) Pre Con Ruts**  
 Profiled 11/10/2014



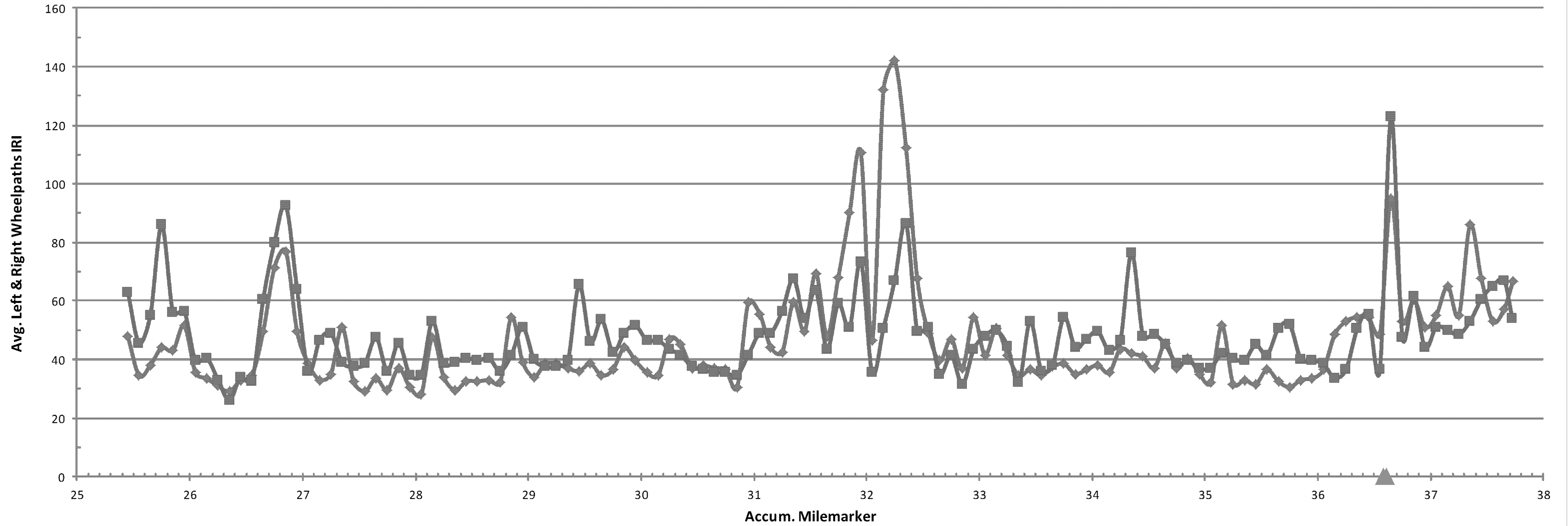
NB Travel Lane LWP Rut    
  NB Travel Lane RWP Rut    
  NB Pass Lane LWP Rut    
  NB Pass Lane RWP Rut    
 ▲ Bridge Limits

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/10/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: M. FOWLER
RUTTING DATA INFORMATION SHEET NB	SHEET 19 OF 22

# I 89 NB Bethel-Brookfield IM SURF(54) Pre Con IRI

Profiled 11/10/2014

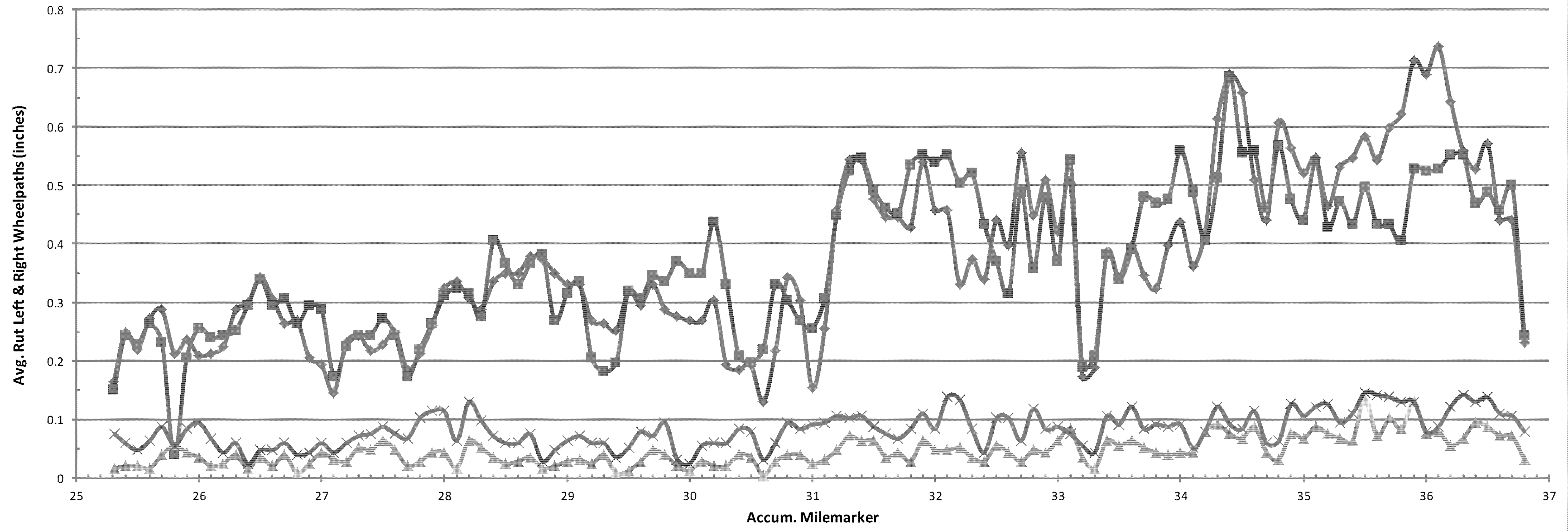
NB Travel Lane Avg. IRI = 46.3 NB Pass Lane Avg. IRI = 47.8



◆ NB Travel Lane IRI    ■ NB Pass Lane IRI    ▲ Bridge Limits

PROJECT NAME: BETHEL-BROOKFIELD	PLOT DATE: 2/10/2015
PROJECT NUMBER: IM SURF(54)	DRAWN BY: B. KIPP
FILE NAME: pl4v206wrk.dgn	DESIGNED BY: B. KIPP
PROJECT LEADER: M. FOWLER	CHECKED BY: M. FOWLER
ROUGHNESS DATA INFORMATION SHEET NB	SHEET 20 OF 22

**I 89 SB Bethel-Brookfield IM SURF(54) Pre Con Ruts**  
 Profiled 11/10/2014



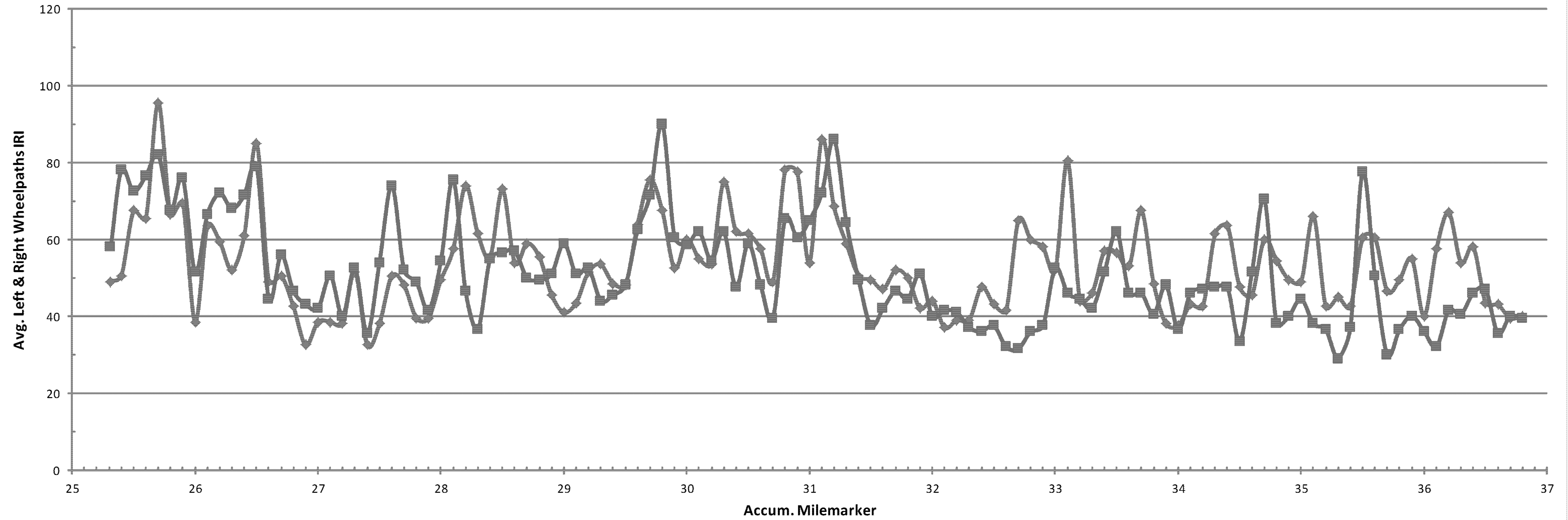
SB Travel Lane LWP Rut    
  SB Travel Lane RWP Rut    
  SB Pass Lane LWP Rut    
  SB Pass Lane RWP Rut

PROJECT NAME: BETHEL-BROOKFIELD	
PROJECT NUMBER: IM SURF(54)	
FILE NAME: pl4v206wrk.dgn	PLOT DATE: 2/10/2015
PROJECT LEADER: M. FOWLER	DRAWN BY: B. KIPP
DESIGNED BY: B. KIPP	CHECKED BY: M. FOWLER
RUTTING DATA INFORMATION SHEET SB	SHEET 21 OF 22

# I 89 SB Bethel-Brookfield IM SURF(54) Pre Con IRI

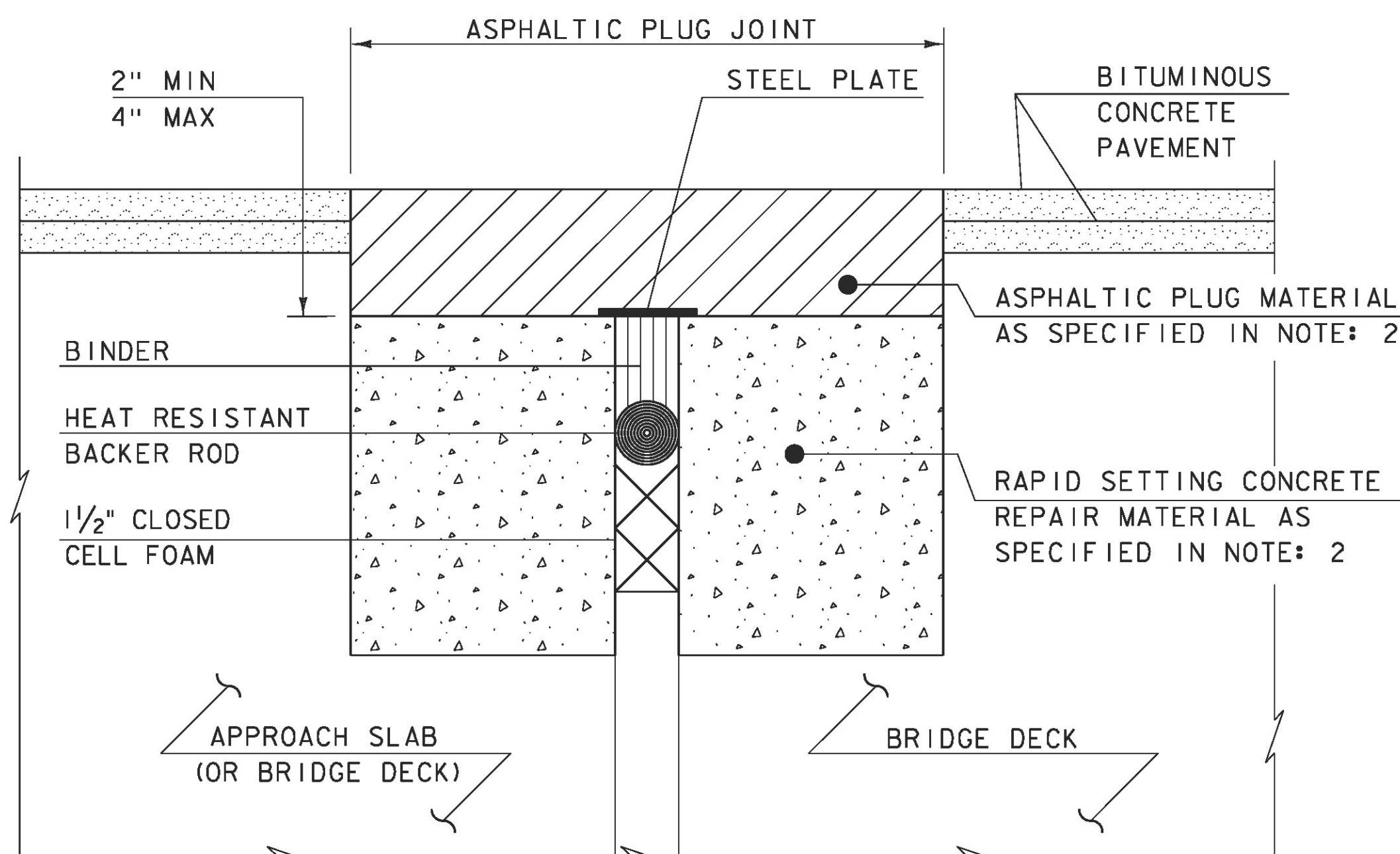
Profiled 11/10/2014

SB Travel Lane Avg. IRI = 53.6 SB Pass Lane Avg. IRI = 51.0



◆ SB Travel Lane IRI      ■ SB Pass Lane IRI

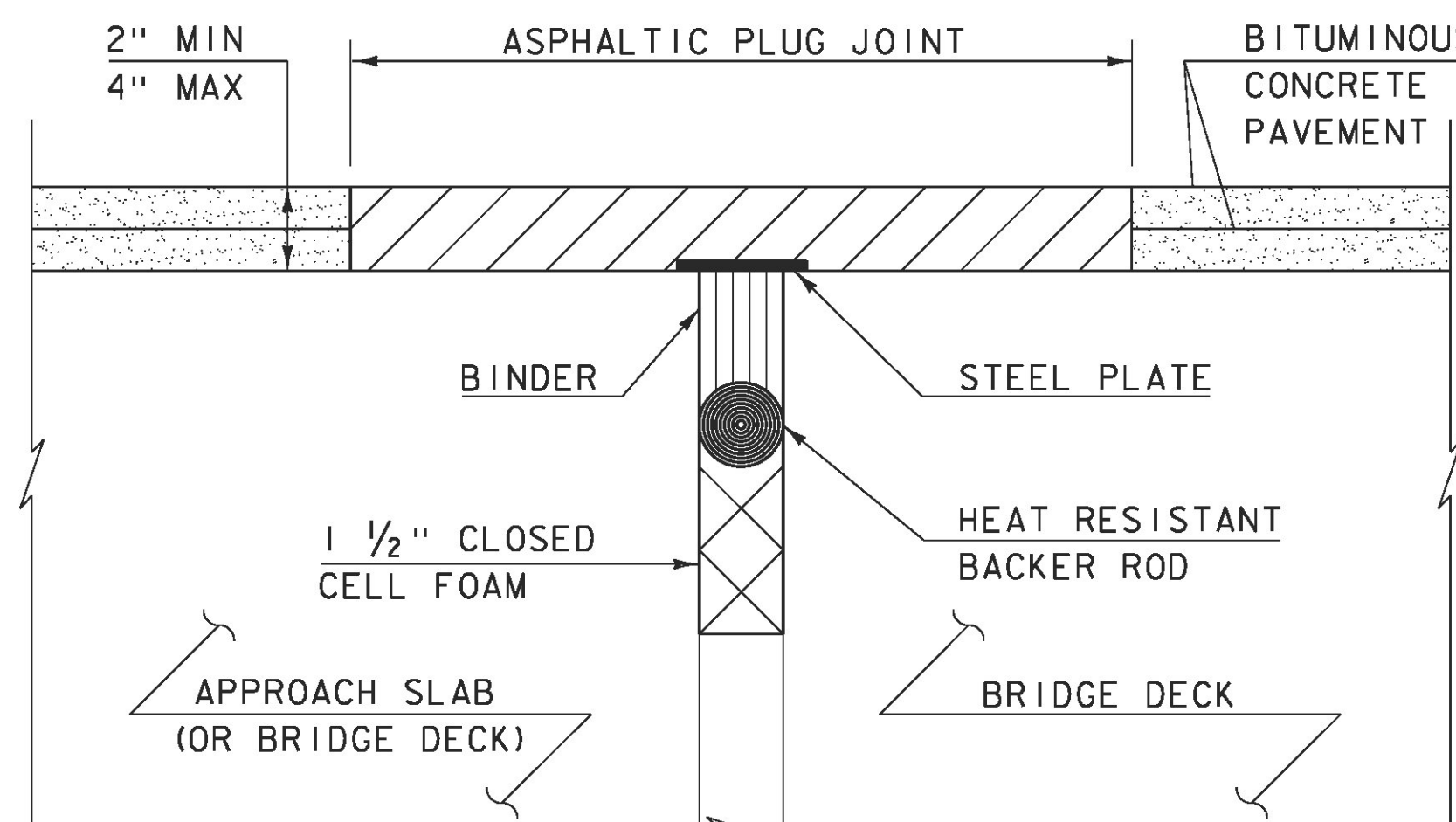
PROJECT NAME: BETHEL-BROOKFIELD	PLOT DATE: 2/10/2015
PROJECT NUMBER: IM SURF(54)	DRAWN BY: B. KIPP
FILE NAME: pl4v206wrk.dgn	DESIGNED BY: B. KIPP
PROJECT LEADER: M. FOWLER	CHECKED BY: M. FOWLER
ROUGHNESS DATA INFORMATION SHEET SB	SHEET 22 OF 22



**ASPHALTIC PLUG-TYPE JOINT DETAIL - REHAB**

NOTES: (NOT TO SCALE)

1. THE CONTRACTOR SHALL REMOVE ALL ASPHALTIC PLUG JOINT MATERIAL AND DETERIORATED CONCRETE AS DIRECTED BY THE ENGINEER. REMOVAL OF THE FIRST 4 INCHES OF MATERIAL SHALL BE INCLUDED IN THE BID PRICE FOR ITEM 516.10 BRIDGE EXPANSION JOINT, ASPHALTIC PLUG. ANY REMOVAL OF MATERIAL GREATER THAN 4 INCHES SHALL BE INCLUDED IN THE BID PRICE OF ITEM 580.20 RAPID SETTING CONCRETE REPAIR MATERIAL WITH COURSE AGGREGATE.
2. THE CONTRACTOR SHALL REPLACE REMOVED MATERIAL THAT IS LESS THAN 4" FROM FINISHED GRADE WITH ASPHALTIC PLUG JOINT MATERIAL MEETING THE REQUIREMENTS OF SUBSECTION 707.15. ALL REMOVED MATERIAL THAT IS GREATER THAN 4 INCHES FROM FINISHED GRADE SHALL BE REPLACED WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COURSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
3. REINFORCING STEEL NOT SHOWN FOR CLARITY.



**ASPHALTIC PLUG-TYPE JOINT DETAIL - NEW**

(NOT TO SCALE)

**ASPHALTIC PLUG JOINT NOTES**

**INSTALLATION:**

1. LOCATE THE JOINT CENTRALLY OVER THE DECK OVERLAY EXPANSION GAP OR FIXED JOINT, MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.
2. REMOVE THE BITUMINOUS CONCRETE PAVEMENT FULL DEPTH AS SHOWN ON THE PLANS. THE PAVEMENT SHALL BE DRY AND SAW CUT TO THE LIMITS REQUIRED TO PLACE THE JOINT. A PNEUMATIC HAMMER AND CHISEL MAY BE USED ADJACENT TO THE CURB ONLY WHEN SAW CUTTING IS NOT POSSIBLE.
3. BLAST CLEAN THE JOINT AREA OF DEBRIS, ASPHALT AND SHEET MEMBRANE. THOROUGHLY DRY THE JOINT AREA WITH COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.
4. REPAIR MATERIAL GREATER THAN 4 INCHES FROM FINISHED GRADE WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COURSE AGGREGATE MEETING THE REQUIREMENTS OF SUBSECTION 780.04.
5. PLACE PROPERLY SIZED HEAT RESISTANT BACKER ROD IN THE MOVEMENT GAP ALLOWING FOR 1" +/- OF BINDER ABOVE THE ROD.
6. HEAT AND PLACE THE BINDER MATERIAL AS RECOMMENDED BY THE MANUFACTURER.
7. PLACE 1/4" THICK BY 8" WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE THE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRE-STAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER. THE STEEL PLATES MAY BE OMITTED WHERE THE ENGINEER DETERMINES THAT THE APPROACH SLAB OR BRIDGE DECK WILL PROVIDE INADEQUATE SUPPORT AND WHERE VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.
8. HEAT AND MIX THE BINDER MATERIAL AND AGGREGATE AS RECOMMENDED BY THE MANUFACTURER.
9. INSTALLATION OF MATERIAL, COMPACTION, AND TOP COATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.
10. IMMEDIATELY AFTER TOP COATING, CAST AN ANTI-SKID MATERIAL OVER THE JOINT TO REDUCE THE RISK OF TRACKING.
11. ONCE THE JOINT REACHES 82 DEG C (180 DEG F) +/-, WATER MAY BE USED TO EXPEDITE THE COOLING PROCESS.
12. PROTECT JOINT FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 51 DEG C (125 DEG F) +/-.

**WEATHER LIMITATIONS**

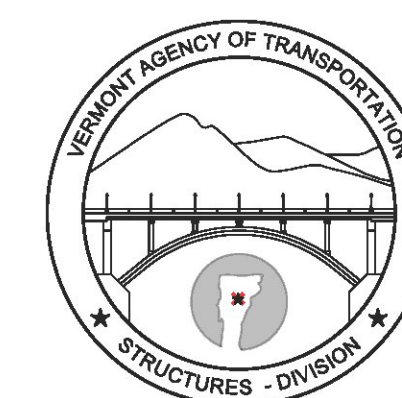
APPLY BINDER MATERIAL ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL OR AS RECOMMENDED BY THE MANUFACTURER:

1. THE AMBIENT AIR TEMPERATURE IS AT LEAST 10 DEG C (50 DEG F) AND RISING.
2. THE ROAD SURFACE IS DRY.
3. WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF SATISFACTORY WORK.

**REVISIONS**

MAY 7, 2010	APPROVED FOR USE BY VAOT STRUCTURES SECTION

**BRIDGE JOINT  
ASPHALTIC PLUG**



**STRUCTURES  
DETAIL  
SD-516.10**