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STATE OF VERMONT  
AGENCY OF TRANSPORTATION



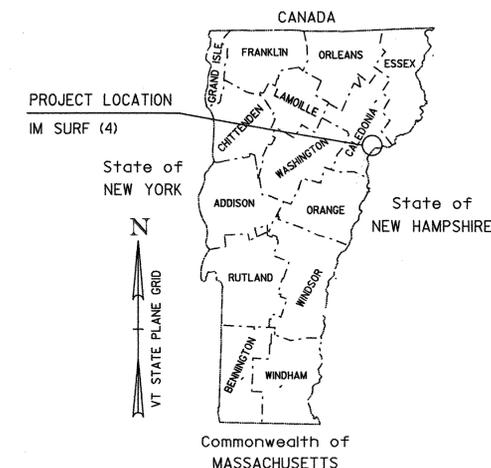
PROPOSED IMPROVEMENT

**TOWNS OF BARNET-WATERFORD  
COUNTY OF CALEDONIA  
INTERSTATE ROUTE 91**

119.25  
BEGINNING AT MM ~~119.23~~ ON THE SOUTHBOUND BARREL IN THE TOWN OF BARNET  
AND EXTENDING NORTHERLY 9.05 MILES TO MM ~~128.28~~ IN THE TOWN OF WATERFORD.

128.30  
LENGTH OF PROJECT 9.05 MILES (47784 FEET)  
LENGTH OF ROADWAY 9.05 MILES (47784 FEET)

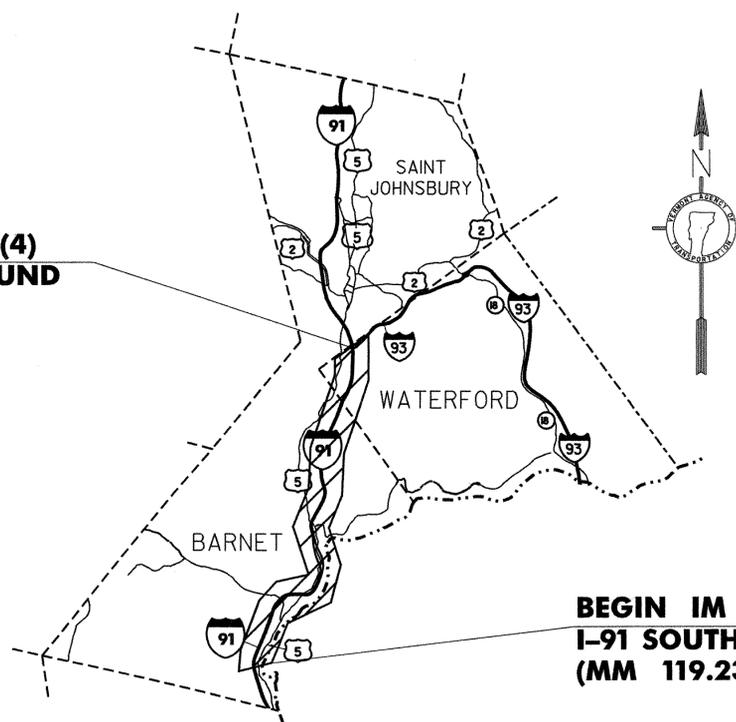
WORK TO BE PERFORMED UNDER THIS PROJECT INCLUDES FOG SEALING,  
MICRO-SURFACING, AND NEW PAVEMENT MARKINGS ON THE EXISTING INTERSTATE TYPICAL.



**TRAFFIC DATA**

MM 119.23 ~ MM 120.45
2007 ADT = 2500
2007 DHV = 300
2017 ADT = 3000
2017 DHV = 360
2007 ~ 2017 ESALS = 2,166,000
MM 120.45 ~ MM 128.28
2007 ADT = 3000
2007 DHV = 360
2017 ADT = 3600
2017 DHV = 440
2007 ~ 2017 ESALS = 3,120,000

**END IM SURF(4)  
I-91 SOUTHBOUND  
(MM 128.28)**



**BEGIN IM SURF(4)  
I-91 SOUTHBOUND  
(MM 119.23)**

NOT TO SCALE

**CONVENTIONAL SIGNS**

COUNTY LINE	---
TOWN LINE	- - - - -
LIMITS OF ACCESS	—○—○—○—○—
POINT OF ACCESS	X
FENCE LINE	—x—x—x—x—
STONE WALL	—○—○—○—○—
TRAVELED WAY	— - - - -
GUARD RAIL	—○—○—○—○—
RAILROAD	—+—+—+—+—
SURVEY LINE	—+—+—+—+—
CULVERT	—+—+—+—+—
POWER POLE	⊕
TELEPHONE POLE	⊕
TREES	⊗
CONTROL OF ACCESS	///
PROPERTY LINE	—
R.O.W. TAKING LINE	—SR—
SLOPE RIGHTS	—○—○—○—○—
TOP OF CUT	—△—△—△—△—
TOE OF SLOPE	—○—○—○—○—

<b>DATUM</b>	
VERTICAL	N/A
HORIZONTAL	N/A

**RECORD PLANS**

CONTRACTOR: THE GORMAN GROUP, LLC. - ALBANY, NY

RESIDENT ENGINEER: BRIGITTE CODLING

CONSTRUCTION BEGAN: JULY 17, 2007

CONSTRUCTION COMPLETE: SEPTEMBER 14, 2007

RECORD PLANS BY: BRIGITTE CODLING & NICK GARBACIK

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

BY *Brigitte M. Codling* RESIDENT ENGINEER  
DATE *October 22, 2008*

NOTE: Any further information concerning final quantities, amounts or other details relative to this project may be found at Central Files in the electronic archives.

THESE PLANS ARE SUBJECT TO SUCH ENGINEERING CHANGES AS MAY BE REQUIRED BY THE FEDERAL HIGHWAY ADMINISTRATION OR THE DIRECTOR OF PROGRAM DEVELOPMENT. CONSTRUCTION IS TO BE CARRIED ON IN ACCORDANCE WITH THESE PLANS AND THE STANDARD SPECIFICATIONS FOR CONSTRUCTION DATED 2006, AS APPROVED BY THE FEDERAL HIGHWAY ADMINISTRATION ON JUNE 15, 2006 FOR USE ON THIS PROJECT, INCLUDING ALL SUBSEQUENT REVISIONS AND SUCH REVISED SPECIFICATIONS AND SPECIAL PROVISIONS AS ARE INCORPORATED IN THESE PLANS.

/pave/06a180/p06a180.dgn/pa180ti.i

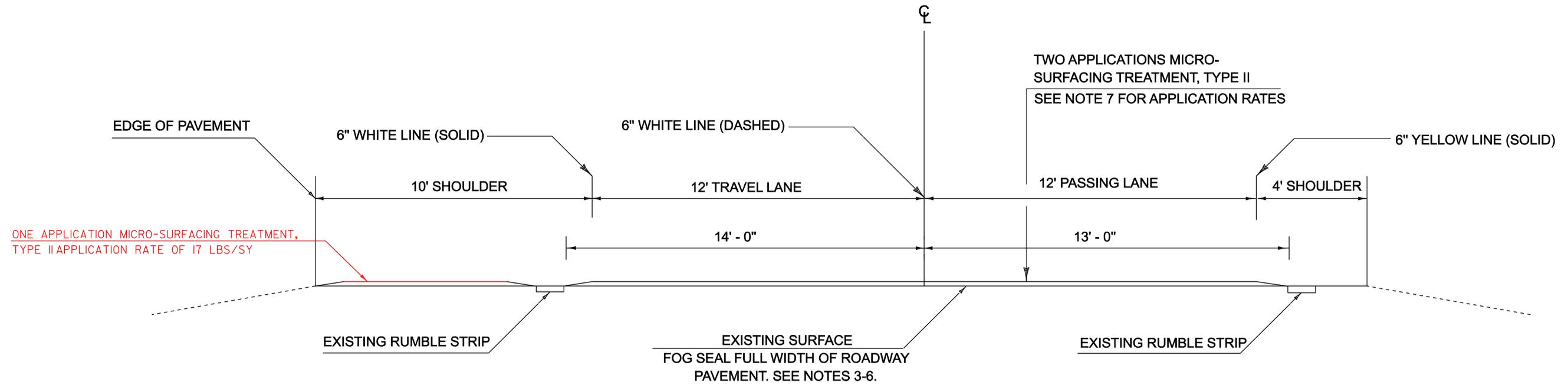
APPROVED *[Signature]* DATE *5-10-07*  
DIRECTOR OF PROGRAM DEVELOPMENT

DEPARTMENT OF TRANSPORTATION  
FEDERAL HIGHWAY ADMINISTRATION

APPROVED *[Signature]* DATE *5-18-07*  
DIVISION ADMINISTRATOR

PROJECT BARNET-WATERFORD  
IM SURF (4)

SHEET 1 OF 11 SHEETS



**PROJECT TYPICAL SECTION  
I 91 SOUTHBOUND - MM 119.23 - 128.280**

**NOTES:**

- ALL NECESSARY SURFACE PREPARATION (POTHOLE REPAIR, PATCHING AND CRACK SEALING) SHALL BE PERFORMED PRIOR TO APPLICATION OF THE MICRO SURFACING TREATMENT. POTHOLE REPAIR AND PATCHING SHALL BE COMPLETED USING BITUMINOUS CONCRETE PAVEMENT, TYPE IV. ALL CRACKS GREATER THAN 0.10 INCHES AND LESS THAN 1.0 INCHES SHALL BE SEALED USING A FLUSH FILL CONFIGURATION OR AS DIRECTED BY THE ENGINEER. CRACK SEALING SHALL ALSO INCLUDE ALL BRIDGE DECKS AS NECESSARY. AN ESTIMATED QUANTITY OF ITEM 900.680 SPECIAL PROVISION ( BIT. CONCRETE PAVEMENT SURFACE PREPARATION, TYPE II) HAS BEEN INCLUDED TO COVER ALL COSTS ASSOCIATED WITH THIS WORK.
- ALL EXISTING PAVEMENT MARKINGS SHALL BE REMOVED PRIOR TO APPLYING THE MICRO SURFACE TREATMENT. AN ESTIMATED QUANTITY OF 50% REMOVAL OF EXISTING MARKINGS HAS BEEN INCLUDED TO COVER THIS PROVISION. LANE DELINEATION IS TO BE MAINTAINED DURING CONSTRUCTION BY EITHER AN APPLICATION OF TEMPORARY PAINT, OR THE USE OF LINE STRIPING TARGETS.
- FOG SEAL TO BE APPLIED AT THE RATE OF 0.15 GAL./S.Y. (+/- 0.05 GAL./S.Y.).
- FOG SEAL SHALL BE APPLIED PRIOR TO MICRO-SURFACING APPLICATION WITH THE EXPECTATION MICRO-SURFACING APPLICATION WILL OCCUR WITHIN 24 TO 48 HOURS OF FOG SEAL APPLICATION OR AS DIRECTED BY THE ENGINEER.
- FOG SEAL MUST BE ALLOWED TO CURE COMPLETELY BEFORE MICRO-SURFACING APPLICATION OR AS DIRECTED BY THE ENGINEER.
- MICRO-SURFACING TREATMENT WILL BE APPLIED IN 2 APPLICATIONS. AN OVERALL APPLICATION RATE OF 34 LBS./S.Y. HAS BEEN USED FOR PURPOSES OF QUANTITY CALCULATION.
- MICRO-SURFACING TREATMENT APPLIED FULL WIDTH ON BRIDGES. DO NOT APPLY TREATMENT OVER D.I.'S OR OPEN BRIDGE JOINTS.

BRIDGES WITHIN THE PROJECT ARE:

BRIDGE NUMBER	71-S	MM 120.447 (REPLACE 2 PLUG JOINTS)	
BRIDGE NUMBER	74-S	MM 121.040 (REPLACE 1 PLUG JOINT)	
BRIDGE NUMBER	76-S	MM 122.577 (REPLACE 2 PLUG JOINTS)	
BRIDGE NUMBER	<del>77-S</del>	<del>MM 123.217 (REPLACE 1 PLUG JOINT)</del>	NO JOINT
BRIDGE NUMBER	78-S	MM 123.382 (REPLACE 1 PLUG JOINT)	
BRIDGE NUMBER	81-S	MM 128.253 (REPLACE 2 PLUG JOINTS)	

N.T.S.

**PROJECT  
TYPICAL  
SHEET 1**

PROJECT NAME: BARNET-WATERFORD  
PROJECT NUMBER: IM SURF(4)

FILE NAME: /pave/06a180/p06a180.dgn	PLOT DATE: 08-JAN-2009 12:00
PROJECT LEADER: WOOLLAVER	DRAWN BY: JLR
DESIGNED BY: JLR	CHECKED BY: KML
p06a180+y01.1	SHEET 2 OF 11

## ASPHALTIC PLUG BRIDGE JOINT GENERAL NOTES

### INSTALLATION:

THE JOINT SHALL BE LOCATED CENTRALLY OVER THE DECK EXPANSION GAP OR FIXED JOINT MARKED OUT TO THE MANUFACTURER'S RECOMMENDED WIDTH.

THE JOINT SHALL BE EXCAVATED AS SHOWN ON THE PLANS BY USE OF SAWS AND PNEUMATIC HAMMER OR A HAMMER AND CHISEL.

THE JOINT AREA SHALL BE BLAST CLEANED OF DEBRIS AND ASPHALT. THE JOINT AREA SHALL BE THOROUGHLY DRIED USING HOT COMPRESSED AIR PRIOR TO APPLYING BINDER MATERIAL.

SPALLED AND DEFECTIVE CONCRETE SHALL BE REPAIRED WITH AN APPROVED MATERIAL AS AGREED UPON BY THE ENGINEER.

PROPERLY SIZED HEAT RESISTANT BACKER ROD SHALL BE PLACED IN THE MOVEMENT GAP ALLOWING FOR 25MM (1 INCH) +/- OF BINDER ABOVE THE ROD.

THE BINDER MATERIAL SHALL BE HEATED AND PLACED AS RECOMMENDED BY THE MANUFACTURER.

PLACE 6 MM (1/4 INCH) THICK BY 200 MM (8 INCH) WIDE SECTIONS OF STEEL PLATE OVER THE CENTER OF THE MOVEMENT GAP. SECURE PLATES FROM MOVING BY INSERTING LOCATING PINS THROUGH THE PRESTAMPED HOLES INTO BACKER ROD AND COVER WITH HOT BINDER.

A. THE STEEL PLATES MAY BE OMITTED WHERE THE APPROACH SLAB IS COVERED WITH A STONE BASE OR BITUMINOUS PAVEMENT, AND VERTICAL MOVEMENT OF THE PLATES MIGHT OCCUR.

THE BINDER MATERIAL AND AGGREGATE SHALL BE HEATED AND MIXED AS RECOMMENDED BY THE MANUFACTURER.

THE INSTALLATION OF MATERIAL, COMPACTION, AND TOPCOATING SHALL BE AS RECOMMENDED BY THE MANUFACTURER.

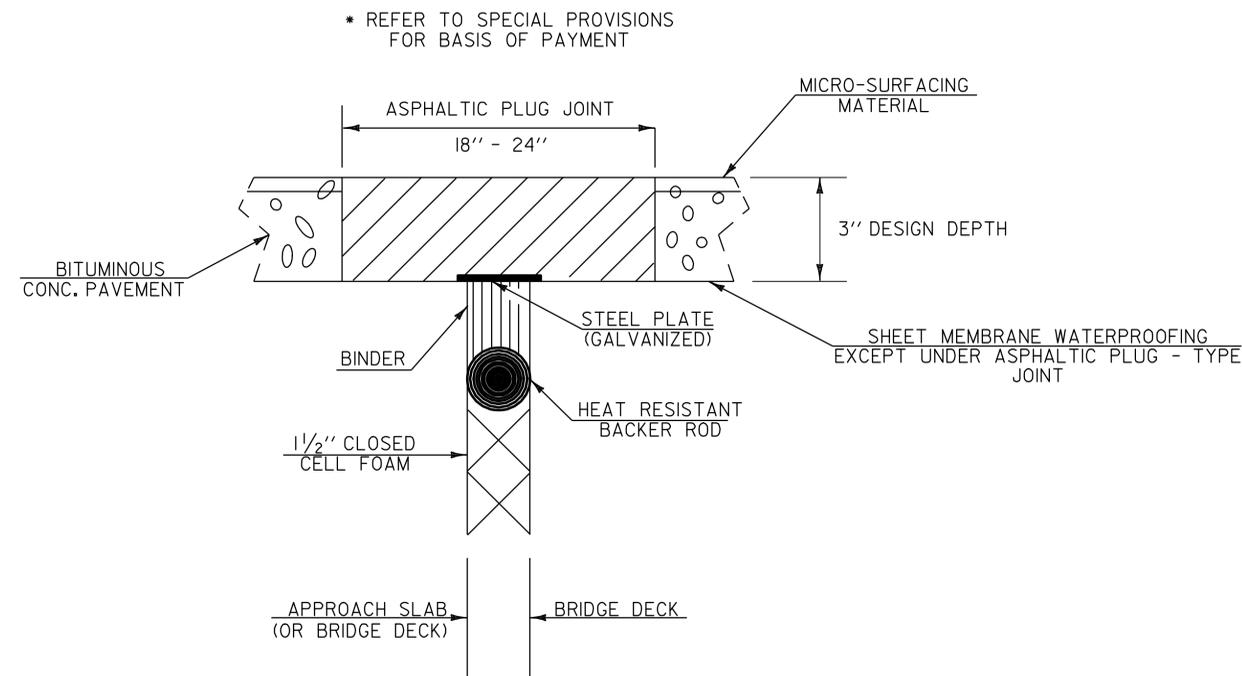
IMMEDIATELY AFTER TOPCOATING, AN ANTI-SKID MATERIAL SHALL BE CAST OVER THE JOINT TO REDUCE THE RISK OF TRACKING.

JOINT SHALL BE PROTECTED FROM TRAFFIC UNTIL THE MATERIAL HAS COOLED TO 52 C° +/- (125°F).

### WEATHER LIMITATIONS:

BINDER MATERIAL SHALL BE APPLIED ONLY WHEN THE FOLLOWING CONDITIONS PREVAIL:

- (A) THE AMBIENT AIR TEMPERATURE IS AT LEAST 10° C (50° F) AND RISING.
- (B) THE ROAD SURFACE IS SUFFICIENTLY DRY.
- (C) WEATHER CONDITIONS OR OTHER CONDITIONS ARE FAVORABLE AND ARE EXPECTED TO REMAIN SO FOR THE PERFORMANCE OF THE SATISFACTORY WORK.



### ASPHALTIC PLUG-TYPE JOINT DETAIL

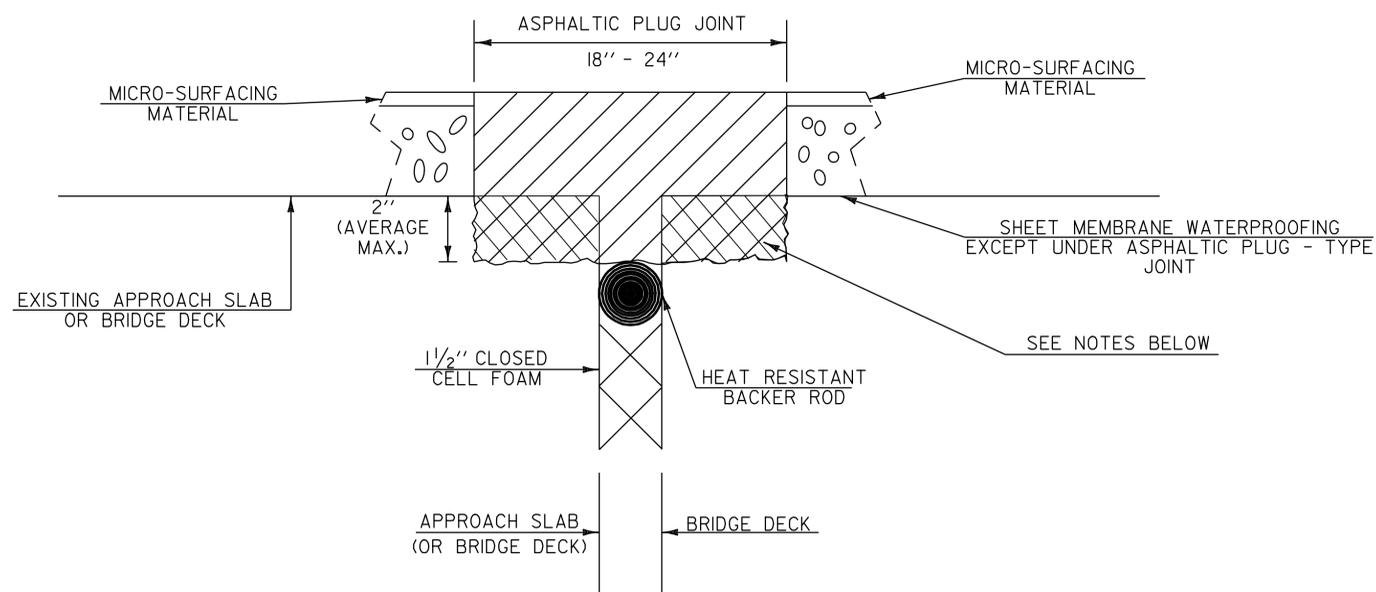
#### LOCATION

BRIDGE NUMBER	71-S MM 120.447 (76 FT. EXP. JOINT)	<b>BURRIED APPROACH SLABS</b>
BRIDGE NUMBER	74-S MM 121.040 (38 FT. EXP. JOINT)	<b>BURRIED APPROACH SLABS</b>
BRIDGE NUMBER	76-S MM 122.577 (76 FT. EXP. JOINT)	<b>BURRIED APPROACH SLABS</b>
BRIDGE NUMBER	77-S MM 123.217 (38 FT. EXP. JOINT)	<b>NO ASPHALTIC PLUG JOINTS</b>
BRIDGE NUMBER	78-S MM 123.382 (38 FT. EXP. JOINT)	<b>CONCRETE APPROACH SLABS</b>
BRIDGE NUMBER	81-S MM 128.253 (76 FT. EXP. JOINT)	<b>BURRIED APPROACH SLABS</b>

**PROJECT  
TYPICAL  
SHEET 2**

PROJECT NAME: BARNET-WATERFORD  
PROJECT NUMBER: IM SURF(4)

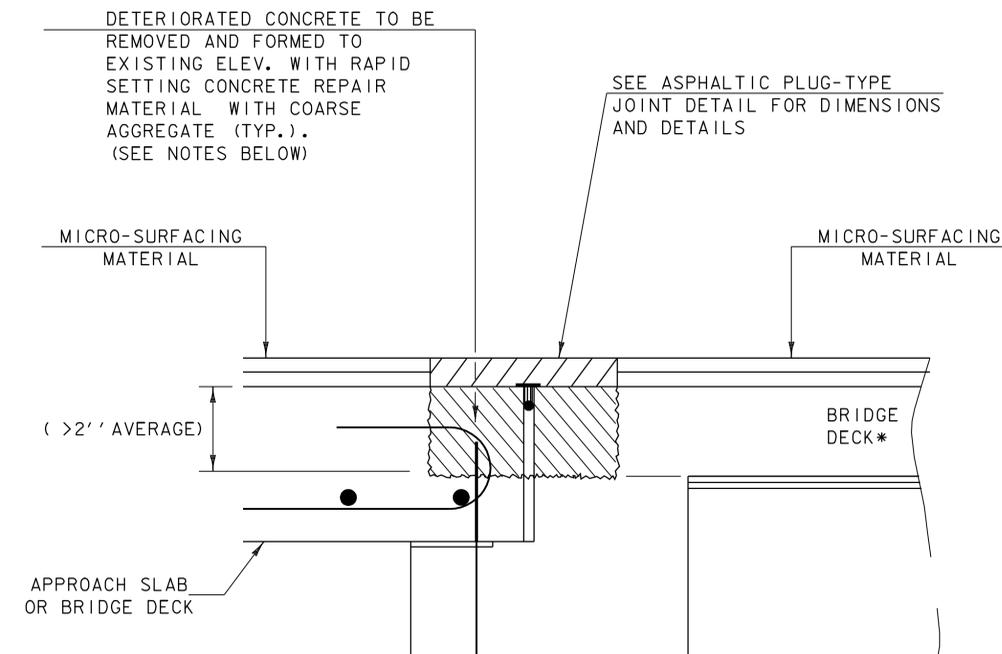
FILE NAME: /pave/06a180/p06a180.dgn	PLOT DATE: 08-JAN-2009 12:00
PROJECT LEADER: M. WOOLAVER	DRAWN BY: JLR
DESIGNED BY: JLR	CHECKED BY: JLR
pa180+y02.1	SHEET 3 OF 11



**ASPHALTIC PLUG-TYPE  
JOINT DETAIL  
REMOVAL OF UP TO  
2" DETERIORATED CONCRETE**

NOTES:

- UPON ENCOUNTERING UP TO 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH THE ASPHALTIC PLUG JOINT MATERIAL AS DIRECTED BY THE RESIDENT ENGINEER.
- REMOVAL OF THE DETERIORATED CONCRETE WILL NOT BE PAID SEPARATELY BUT WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10. THE ADDITIONAL PLUG JOINT MATERIAL BELOW THE DESIGN DEPTH TO REPLACE THE DETERIORATED CONCRETE WILL BE CONSIDERED INCIDENTAL TO THE UNIT BID PRICE FOR THE ITEM 516.10.
- THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED AS SHOWN IN THE DETAIL ABOVE IF DIRECTED BY THE RESIDENT ENGINEER.



**ASPHALTIC PLUG-TYPE  
JOINT DETAIL  
REMOVAL OF >2"  
DETERIORATED CONCRETE**

NOTES:

- UPON ENCOUNTERING GREATER THAN 2" AVERAGE OF DETERIORATED CONCRETE, THE CONTRACTOR SHALL REMOVE THE DETERIORATED MATERIAL AND REPLACE IT WITH RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE.
- REMOVAL OF THE DETERIORATED CONCRETE WILL BE INCLUDED IN THE UNIT BID PRICE FOR ITEM 580.20 "RAPID SETTING CONCRETE REPAIR MATERIAL WITH COARSE AGGREGATE".
- THE STEEL PLATE IN THE ASPHALTIC PLUG JOINT MAY BE OMITTED ONLY IF THE REPAIRED SURFACE IS SO IRREGULAR IT WILL CAUSE VERTICAL MOVEMENT AND IT IS DIRECTED BY THE RESIDENT ENGINEER.

\*BRIDGE DECK REINFORCEMENT NOT SHOWN FOR CLARITY

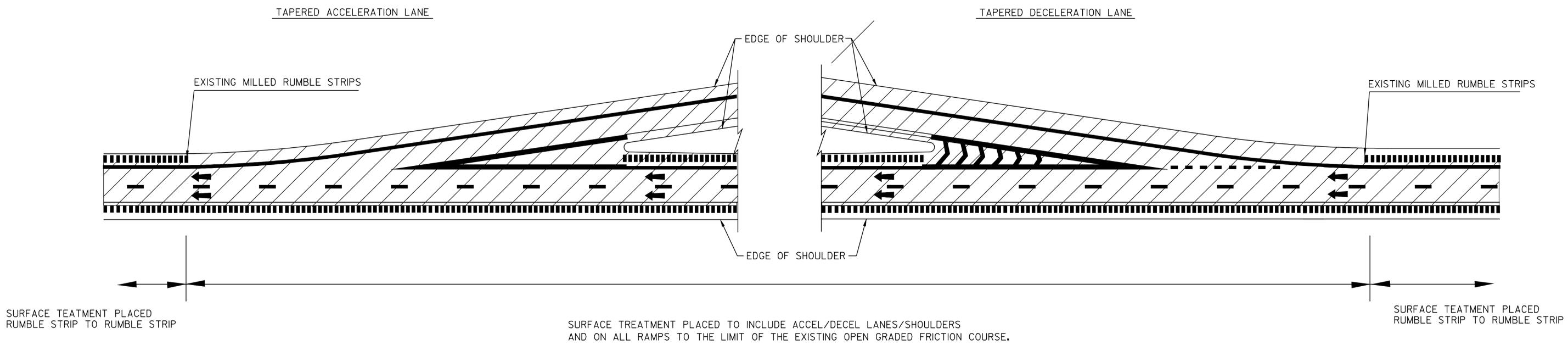
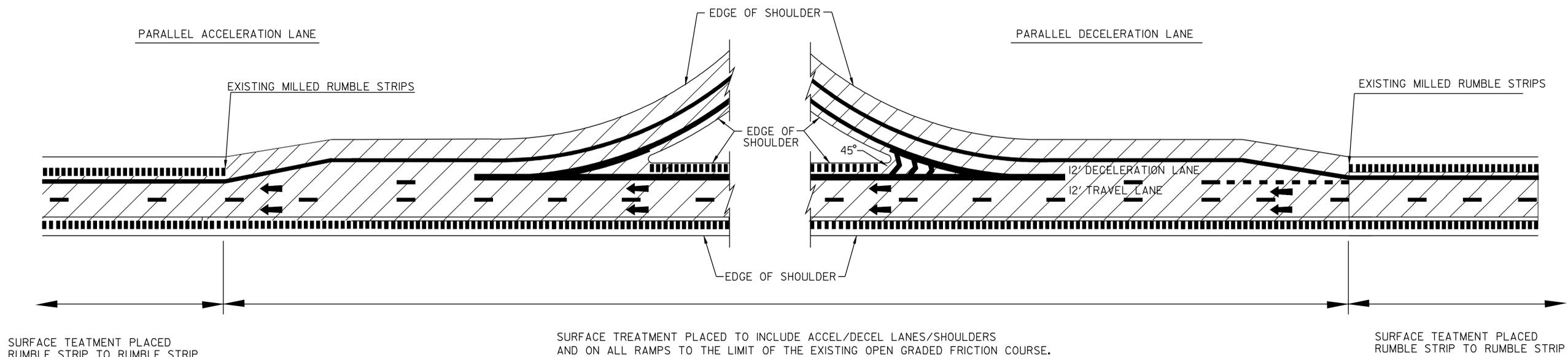
**PROJECT  
TYPICAL  
SHEET 3**

PROJECT NAME: BARNET-WATERFORD  
PROJECT NUMBER: IM SURF(4)

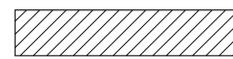
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PROJECT LEADER: M. WOOLAVER DRAWN BY: JLR  
DESIGNED BY: JLR CHECKED BY: JLR  
pa180+y03.1 SHEET 4 OF 11



# TYPICAL INTERCHANGE SURFACING DETAILS



### LEGEND

-  = AREA OF MICROSURFACE TREATMENT, TYPE II
-  DIRECTION OF TRAFFIC FLOW
-  MILLED RUMBLE STRIPS

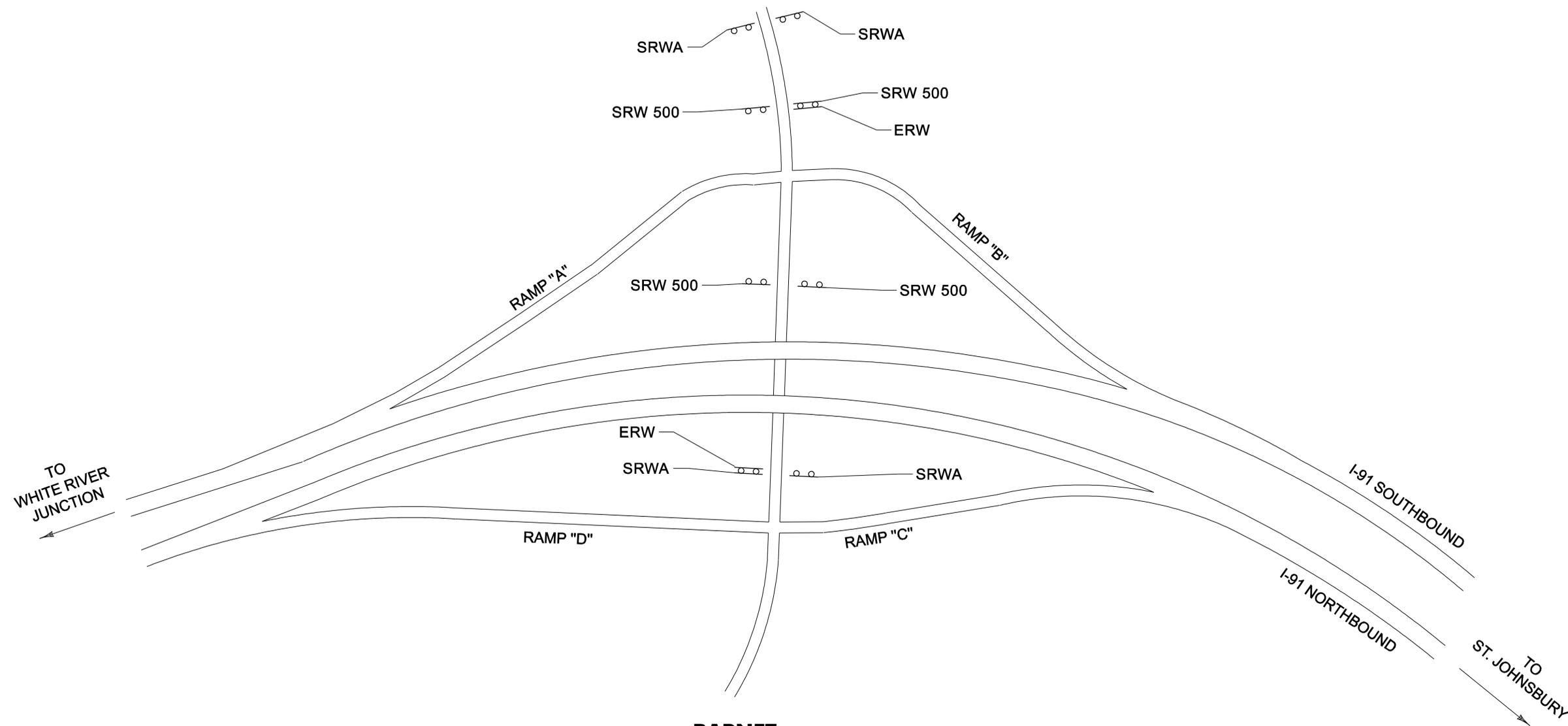
NOTES:  
1. LINE STRIPING SHOWN FOR REFERENCE ONLY.

N.T.S.

<b>INTERCHANGE SURFACING DETAILS</b>	PROJECT NAME: BARNET-WATERFORD	PLOT DATE: 08-JAN-2009 12:00
	PROJECT NUMBER: IM SURF(4)	DRAWN BY: KAS
	FILE NAME: /pave/06a180/p06a180.dgn	CHECKED BY: KML
	DESIGNED BY: KAS	SHEET 6 OF 11

# CONSTRUCTION APPROACH SIGNING SHEET #1

SEE STANDARD E-100A FOR ADDITIONAL SIGN PLACEMENT



**BARNET  
INTERCHANGE NO. 18  
MM 120.45**

**NOTES:**

1. ADDITIONAL RAMP SIGNING MAY BE REQUIRED, AS DIRECTED BY THE RESIDENT ENGINEER.
2. PAYMENT FOR CONSTRUCTION SIGNING WILL BE MADE UNDER CONTRACT ITEM 641.10.

**CONSTRUCTION  
APPROACH  
SIGNING  
SHEET #1**

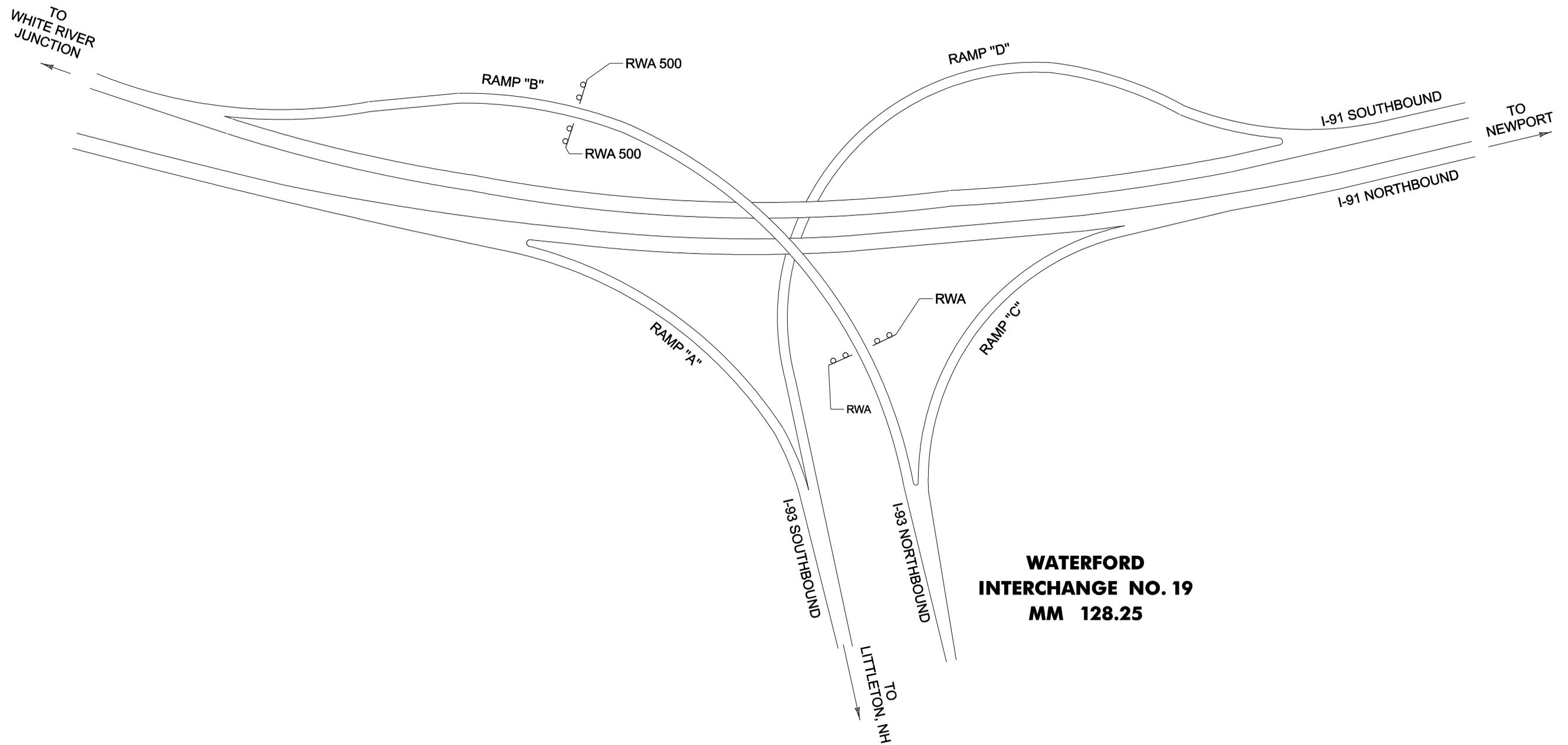
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PROJECT NUMBER: IM SURF(4)

FILE NAME: /pave/06a180/p06a180.dgn  
PROJECT LEADER: WOOLAVER  
DESIGNED BY: JLR  
p06a180d+02.i

PLOT DATE: 08-JAN-2009 12:00  
DRAWN BY: JLR  
CHECKED BY: JLR  
SHEET 7 OF 11

# CONSTRUCTION APPROACH SIGNING SHEET #2

SEE STANDARD E-100 FOR ADDITIONAL SIGN PLACEMENT



**WATERFORD  
INTERCHANGE NO. 19  
MM 128.25**

**NOTES:**

1. ADDITIONAL RAMP SIGNING MAY BE REQUIRED, AS DIRECTED BY THE RESIDENT ENGINEER.
2. PAYMENT FOR CONSTRUCTION SIGNING WILL BE MADE UNDER CONTRACT ITEM 641.10.

**CONSTRUCTION  
APPROACH  
SIGNING  
SHEET #2**

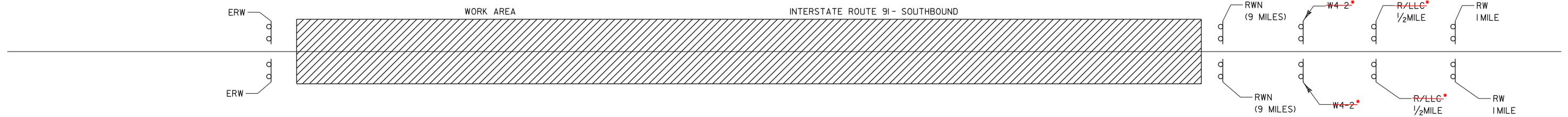
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PROJECT NUMBER: IM SURF(4)

FILE NAME: /pave/06a180/p06a180.dgn	PLOT DATE: 08-JAN-2009 12:00
PROJECT LEADER: WOOLAVER	DRAWN BY: JLR
DESIGNED BY: JLR	CHECKED BY: JLR
p06a180d+03.i	SHEET 8 OF 11

# CONSTRUCTION APPROACH SIGNING SHEET #3

RAMP TYPICALS - SEE SHEETS ~~6 & 7~~ <sup>7 & 8</sup>.

\*THESE SIGNS PART OF PORTABLE PACKAGE



### NOTES:

- ADDITIONAL RAMP SIGNING MAY BE REQUIRED, AS DIRECTED BY THE RESIDENT ENGINEER.
- THE BID PRICE FOR TRAFFIC CONTROL - ITEM 641.10, SHALL INCLUDE ALL APPROACH AND ON-PROJECT CONSTRUCTION SIGNING, BARRIERS, BARRELS, CONES, BARRICADES, TEMPORARY REGULATORY AND WARNING SIGNS AND POSTS AS DETAILED ON STANDARD E-103, MAINLINE TRAFFIC CONTROL--DIVIDED HIGHWAY. ALL ADJUSTING, RELOCATING AND REMOVING OF THESE DEVICES AS DIRECTED BY THE RESIDENT ENGINEER SHALL BE INCLUDED. THE FOLLOWING ITEMS WILL BE PAID UNDER THEIR SPECIFIC BID PRICES:  
 630.10 -- UNIFORMED TRAFFIC OFFICERS  
 630.15 -- FLAGGERS
- PORTABLE CHANGEABLE MESSAGE SIGNS ARE TO USED ALONG THIS PROJECT. THE PLACEMENT OF THESE MESSAGE SIGNS AS WELL AS THEIR MESSAGES WILL BE AS APPROVED BY THE RESIDENT ENGINEER. THIS QUANTITY IS PAID FOR UNDER ITEM 641.15 - PORTABLE CHANGEABLE MESSAGE SIGN.
- THE CONTRACTOR SHALL INCLUDE A CONSTRUCTION SIGN APPROACH PACKAGE FOR EXPECTED LANE CLOSURES AND WORKZONE SPEED REDUCTIONS IN COMPLIANCE WITH STD. E-103. PAYMENT FOR THIS PACKAGE SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".

### LEGEND

- RW 1 MILE = ROAD WORK 1 MILE
- R/LLC 1/2 MILE = RIGHT (OR LEFT) LANE CLOSED 1/2 MILE
- RWN = ROAD WORK NEXT (9 MILES)
- ERW = END ROAD WORK
- SRWA = SIDE ROAD WORK AHEAD
- SRW 500 = SIDE ROAD WORK 500 FT
- W4-2 = LANE ENDS

= WORK AREA

SEE STD E-100 AND E-103 FOR SIGN PLACEMENT.

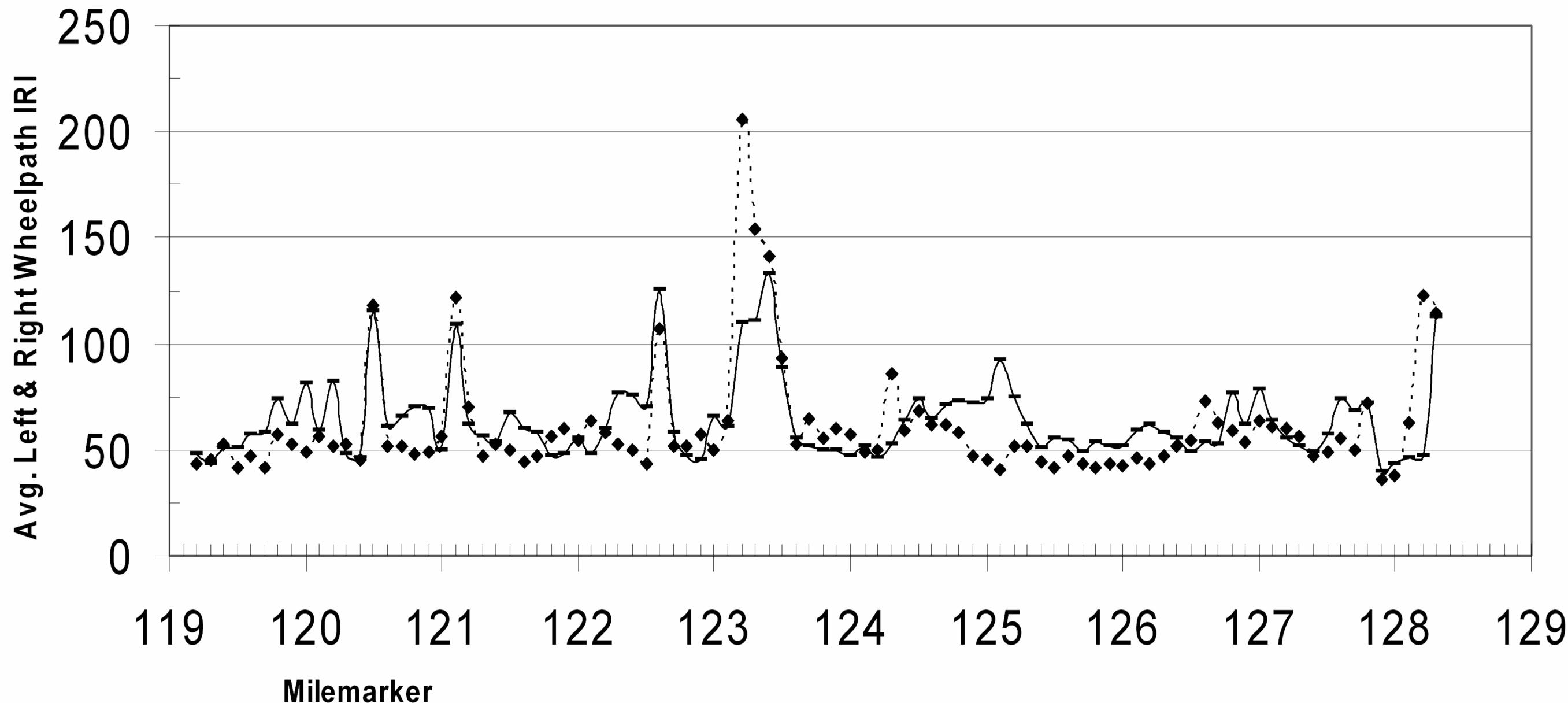
**CONSTRUCTION  
APPROACH  
SIGNING  
SHEET #3**

PROJECT NAME: BARNET-WATERFORD  
PROJECT NUMBER: IM SURF(4)

FILE NAME: /pave/06a180/p06a180.dgn PLOT DATE: 08-JAN-2009 12:11  
PROJECT LEADER: M. WOOLAVER DRAWN BY: KAS  
DESIGNED BY: JLR CHECKED BY: JLR  
p06a180cas.1 SHEET 9 OF 11

NOT TO SCALE

# I91 SB 2005 IRI Data for Barnet-Waterford IM SURF(4)

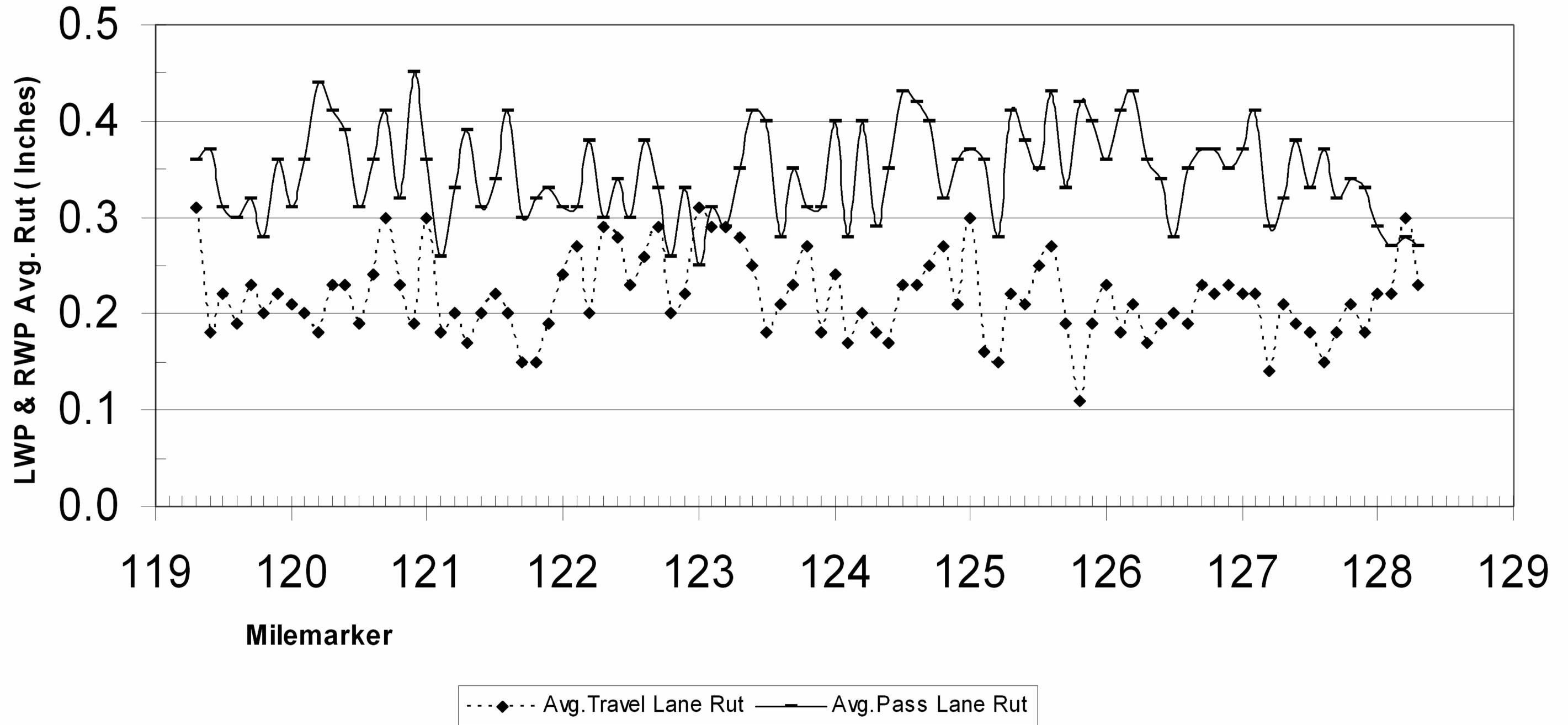


Travel Lane IRI
Pass Lane IRI

**THIS SHEET FOR INFORMATIONAL PURPOSES ONLY**

<b>IRI DATA SHEET 1</b>	PROJECT NAME: BARNET-WATERFORD	
	PROJECT NUMBER: IM SURF(4)	
	FILE NAME: /pave/06a180/p06a180.dgn	PLOT DATE: 08-JAN-2009 12:11
PROJECT LEADER: WOOLLAVER	DRAWN BY: JLR	
DESIGNED BY: JLR	CHECKED BY: JLR	
p06a180d+04.i	SHEET 10 OF 11	

## I91 SB 2005 Rut Data for Barnet-Waterford IM SURF(4)



**THIS SHEET FOR INFORMATIONAL PURPOSES ONLY**

**IRI DATA  
SHEET 2**

PROJECT NAME: BARNET-WATERFORD	
PROJECT NUMBER: IM SURF(4)	
FILE NAME: /pave/06a180/p06a180.dgn	PLOT DATE: 08-JAN-2009 12:11
PROJECT LEADER: WOOLAVER	DRAWN BY: JLR
DESIGNED BY: JLR	CHECKED BY: JLR
p06a180d+05.i	SHEET II OF II