INTERSTATE 405 Corridor Program
Congestion Relief & Bus Rapid Transit Projects

APPENDIX T2

Northwest Region Traffic Operations Redbook Sections G and H

I-405, SR520 to SR522 Stage 1 (Kirkland Stage 1)

Request For Proposal
July 15, 2005

Washington State Department of Transportation

Draft #7

SECTION G -NWR STRIPING AND SIGNING DRAWINGS (LAYOUTS AND DETAILS)

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File Plot Name -

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File Plot Name -

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File Plot Name-

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File Plot Name -

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File Plot Name -

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SECTION H -NWR HOV STRIPING AND SIGNING DRAWINGS (LAYOUTS AND DETAILS)

Freeway/Expressway Mainline and Ramp –

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File Plot Name -

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File Plot Name-

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File Plot Name -

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File Plot Name -

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File Plot Name -

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File Plot Name -

wwwi.wsdot.wa.gov - /regions/northwest/traffic/trafficoperations/Redbook/tiff

[To Parent Directory]

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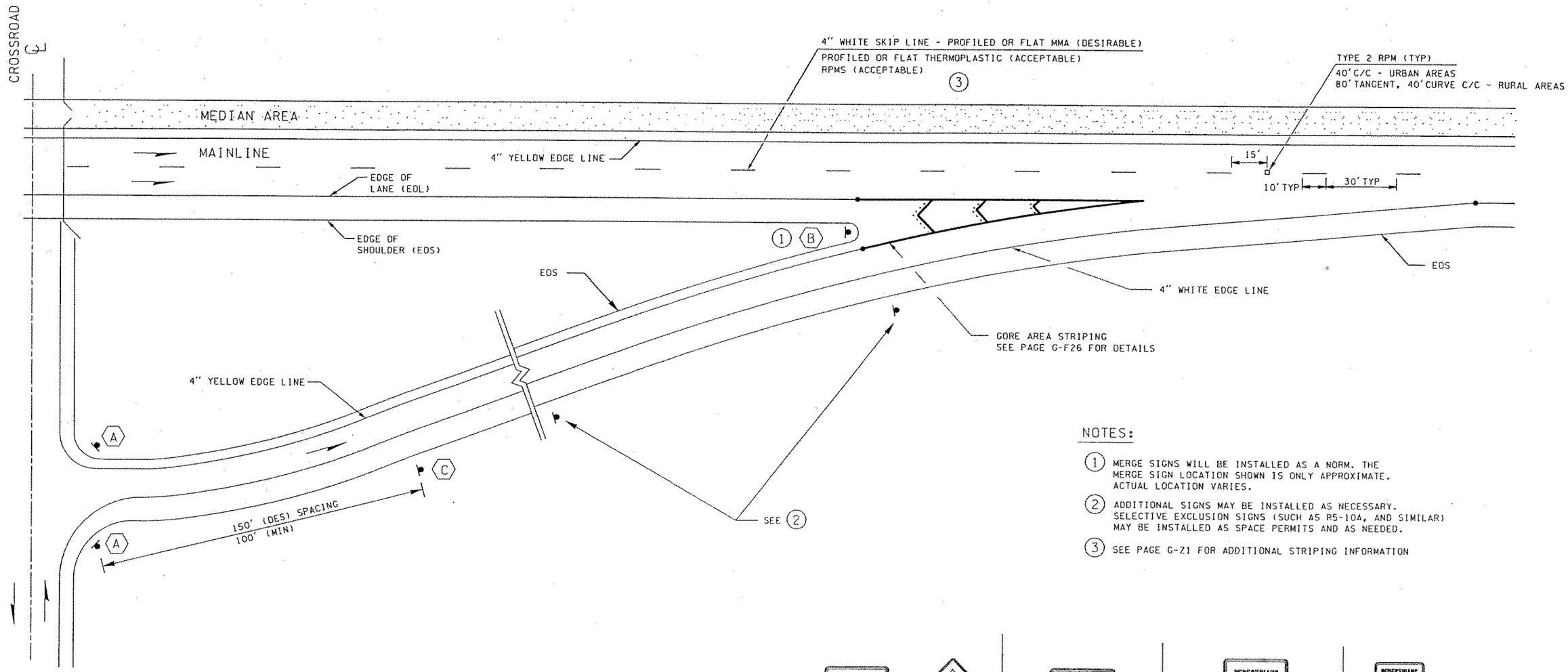

NOTES:

1. MERGE SIGNS WILL BE INSTALLED AS A NORM. THE MERGE SIGN LOCATION SHOWN IS ONLY APPROXIMATE. ACTUAL LOCATION VARIES.
2. ADDITIONAL SIGNS MAY BE INSTALLED AS NECESSARY. SELECTIVE EXCLUSION SIGNS (SUCH AS R5-10A, AND SIMILAR) MAY BE INSTALLED AS SPACE PERMITS AND AS NEEDED.
3. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

E12-201

A

W4-1R

B

R5-1001

C

"PREFERRED" EXCLUSION (RESTRICTION) SIGN

(WAC 468-58-050)

R5-1002

C

OPTION 1 - IF BICYCLES ARE PROHIBITED

RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC

R5-10A

R9-4

C

OPTION 2 - IF BICYCLES AND MOTOR DRIVEN CYCLES ARE PROHIBITED

RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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ENTERED BY						
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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE ON-RAMP
STRIPING AND SIGNING LAYOUT

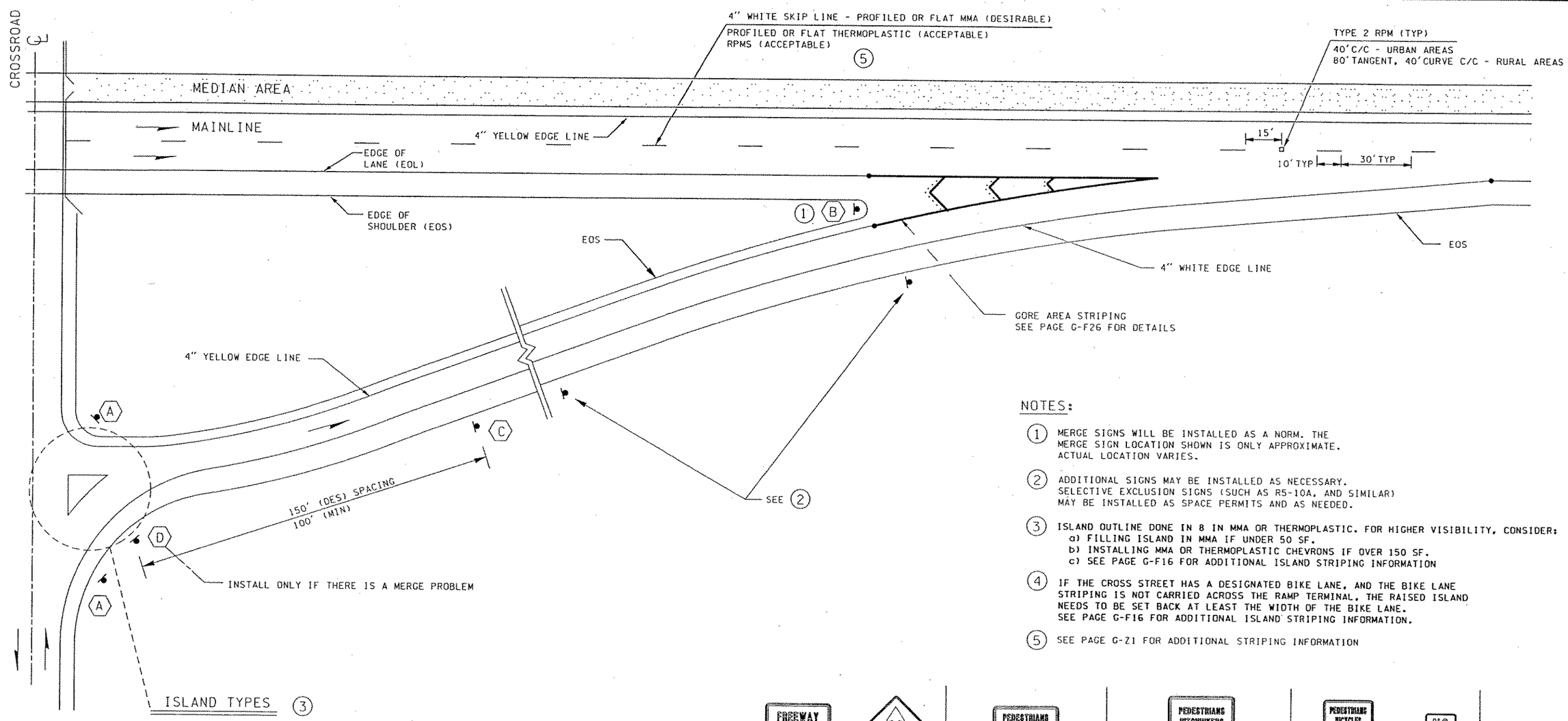
REV. 2-26-02 JBR

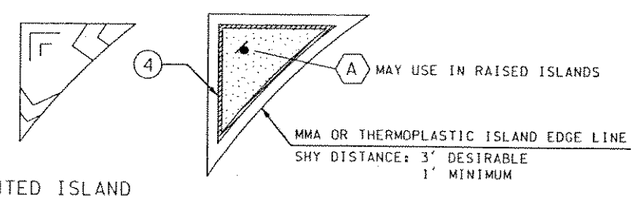
NW REGION TRAFFIC OPERATIONS

PLOT1

G-F1

SHEET 1 OF 4 SHEETS





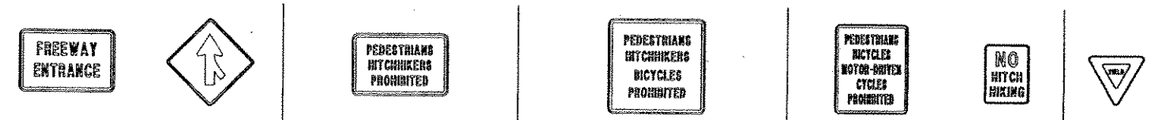
PAINTED ISLAND DETAIL (WITH CHEVRONS)

RAISED ISLAND DETAIL

NOT TO PS&E QUALITY
NOT TO SCALE

NOTES:

1. MERGE SIGNS WILL BE INSTALLED AS A NORM. THE MERGE SIGN LOCATION SHOWN IS ONLY APPROXIMATE. ACTUAL LOCATION VARIES.
2. ADDITIONAL SIGNS MAY BE INSTALLED AS NECESSARY. SELECTIVE EXCLUSION SIGNS (SUCH AS R5-10A, AND SIMILAR) MAY BE INSTALLED AS SPACE PERMITS AND AS NEEDED.
3. ISLAND OUTLINE DONE IN 8 IN MMA OR THERMOPLASTIC. FOR HIGHER VISIBILITY, CONSIDER:
   a) FILLING ISLAND IN MMA IF UNDER 50 SF.
   b) INSTALLING MMA OR THERMOPLASTIC CHEVRONS IF OVER 150 SF.
   c) SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION
4. IF THE CROSS STREET HAS A DESIGNATED BIKE LANE, AND THE BIKE LANE STRIPING IS NOT CARRIED ACROSS THE RAMP TERMINAL, THE RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE BIKE LANE. SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION.
5. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION



E12-201	W4-1R	R5-1001	R5-1002	R5-10A	R9-4	R1-2
A	B	C	C	C		D
		"PREFERRED" EXCLUSION (RESTRICTION) SIGN	OPTION 1 - IF BICYCLES ARE PROHIBITED	OPTION 2 - IF BICYCLES AND MOTOR DRIVEN CYCLES ARE PROHIBITED		
		(WAC 468-58-050)	RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC	RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC		

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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ENTERED BY	
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REGIONAL ADM.	

REVISION | DATE | BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY - GENERIC SINGLE LANE ON-RAMP STRIPING AND SIGNING LAYOUT (WITH TERMINAL ISLAND)

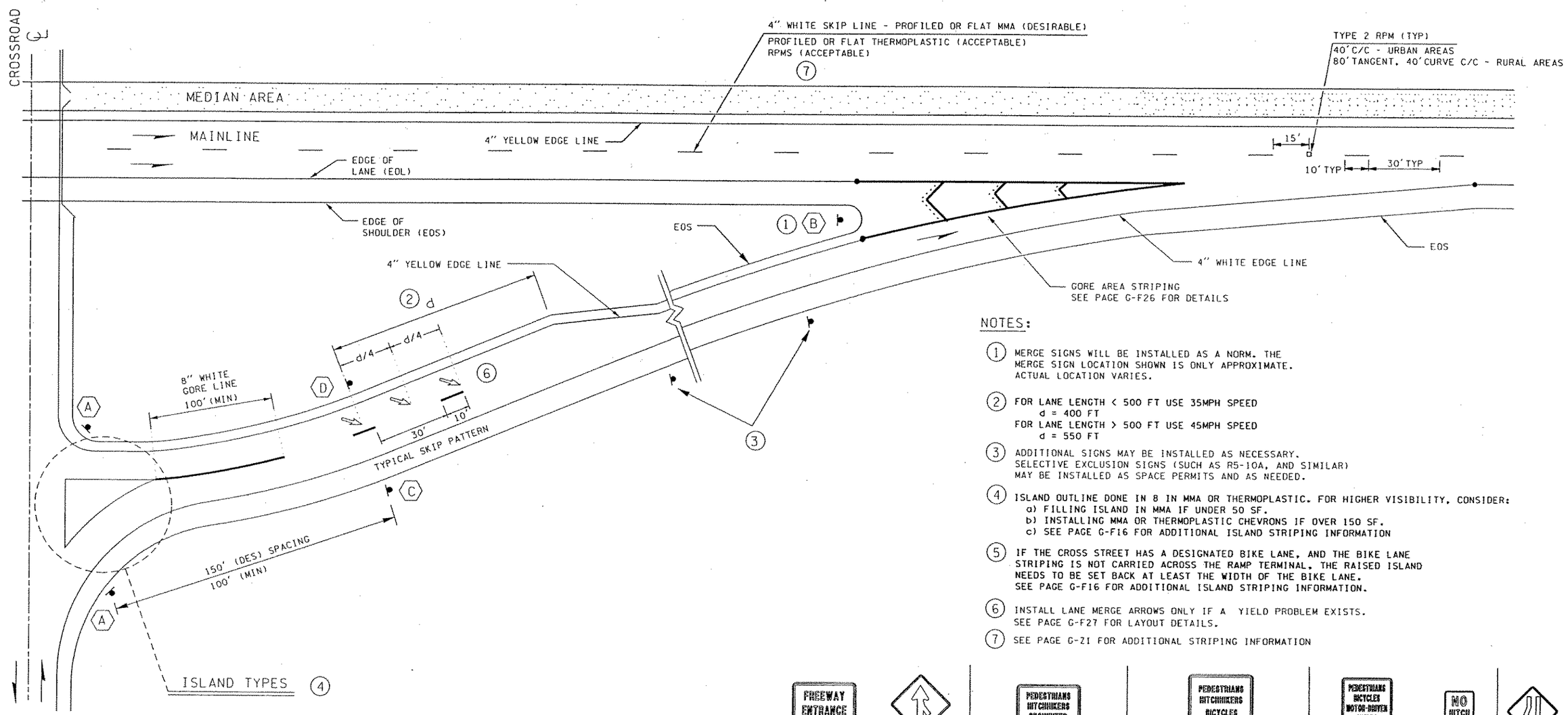
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

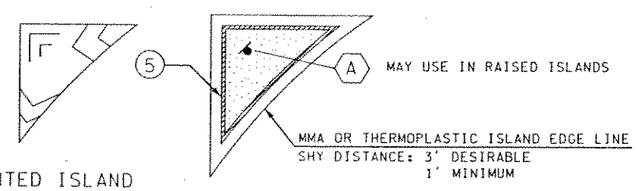
PLOT1

G-F2

SHEET 2 OF 4 SHEETS



ISLAND TYPES 4



PAINTED ISLAND DETAIL (WITH CHEVRONS)

RAISED ISLAND DETAIL

NOTES:

1. MERGE SIGNS WILL BE INSTALLED AS A NORM. THE MERGE SIGN LOCATION SHOWN IS ONLY APPROXIMATE. ACTUAL LOCATION VARIES.
2. FOR LANE LENGTH < 500 FT USE 35MPH SPEED
   d = 400 FT
   FOR LANE LENGTH > 500 FT USE 45MPH SPEED
   d = 550 FT
3. ADDITIONAL SIGNS MAY BE INSTALLED AS NECESSARY. SELECTIVE EXCLUSION SIGNS (SUCH AS R5-10A, AND SIMILAR) MAY BE INSTALLED AS SPACE PERMITS AND AS NEEDED.
4. ISLAND OUTLINE DONE IN 8 IN MMA OR THERMOPLASTIC. FOR HIGHER VISIBILITY, CONSIDER:
   a) FILLING ISLAND IN MMA IF UNDER 50 SF.
   b) INSTALLING MMA OR THERMOPLASTIC CHEVRONS IF OVER 150 SF.
   c) SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION
5. IF THE CROSS STREET HAS A DESIGNATED BIKE LANE, AND THE BIKE LANE STRIPING IS NOT CARRIED ACROSS THE RAMP TERMINAL, THE RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE BIKE LANE. SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION.
6. INSTALL LANE MERGE ARROWS ONLY IF A YIELD PROBLEM EXISTS. SEE PAGE G-F27 FOR LAYOUT DETAILS.
7. SEE PAGE G-21 FOR ADDITIONAL STRIPING INFORMATION

E12-201	W4-1R	R5-1001	R5-1002	R5-10A	R9-4	W4-2R
A	B	C	C	C		D
		"PREFERRED" EXCLUSION (RESTRICTION) SIGN	OPTION 1 - IF BICYCLES ARE PROHIBITED	OPTION 2 - IF BICYCLES AND MOTOR DRIVEN CYCLES ARE PROHIBITED		
		(WAC 468-58-050)	RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC	RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC		

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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PROJ. ENGR.	
REGIONAL ADM.	

REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

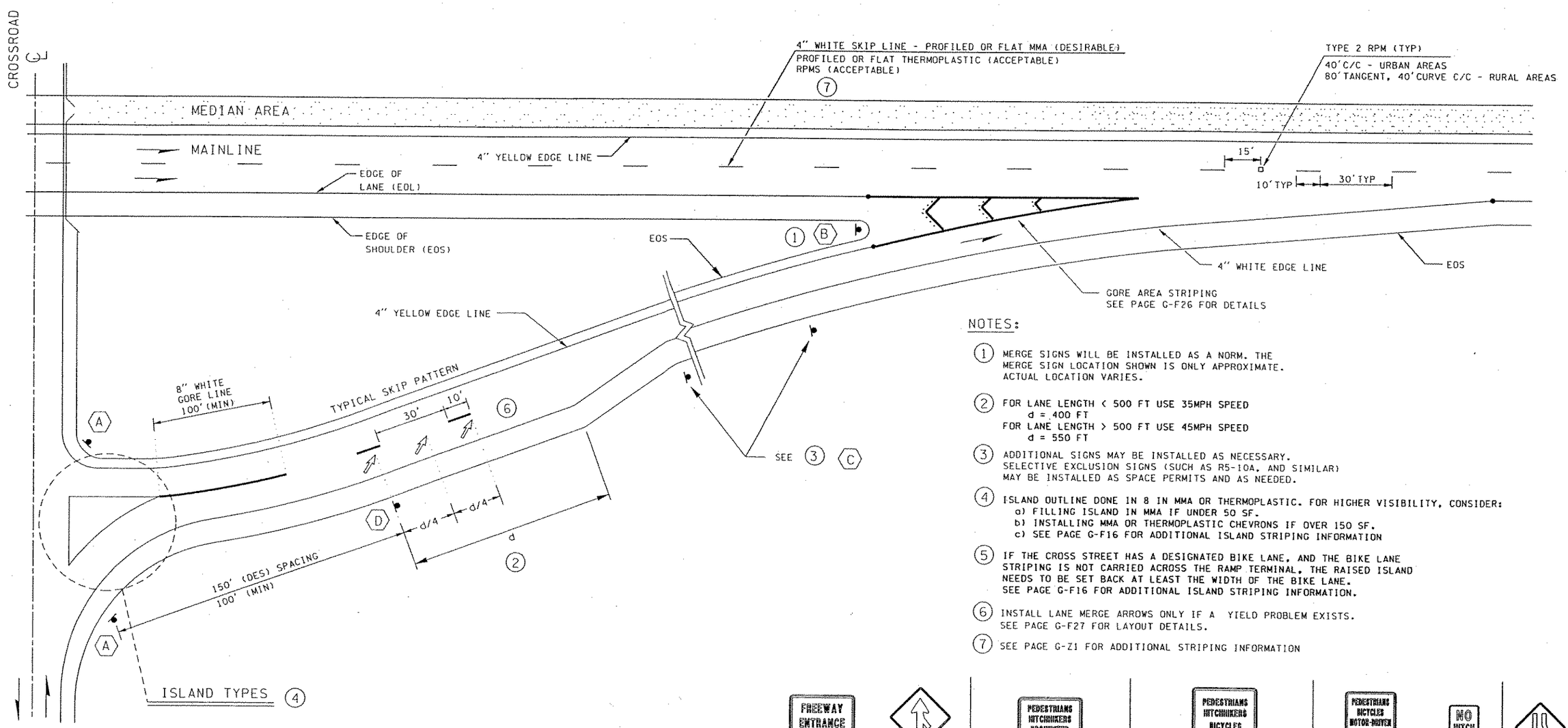
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE ON-RAMP
STRIPING AND SIGNING LAYOUT
(WITH DOUBLE LANE ON-RAMP, LEFT SIDE YIELD)
REV. 2-26-02 JBR

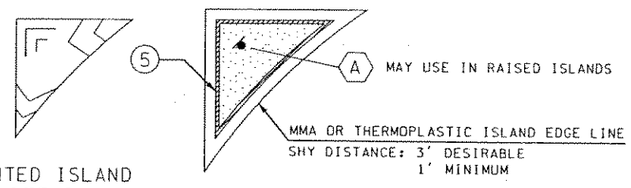
NW REGION TRAFFIC OPERATIONS

PLOT1
G-F3
SHEET 3 OF 4 SHEETS



NOTES:

1. MERGE SIGNS WILL BE INSTALLED AS A NORM. THE MERGE SIGN LOCATION SHOWN IS ONLY APPROXIMATE. ACTUAL LOCATION VARIES.
2. FOR LANE LENGTH < 500 FT USE 35MPH SPEED
   d = 400 FT
   FOR LANE LENGTH > 500 FT USE 45MPH SPEED
   d = 550 FT
3. ADDITIONAL SIGNS MAY BE INSTALLED AS NECESSARY. SELECTIVE EXCLUSION SIGNS (SUCH AS R5-10A, AND SIMILAR) MAY BE INSTALLED AS SPACE PERMITS AND AS NEEDED.
4. ISLAND OUTLINE DONE IN 8 IN MMA OR THERMOPLASTIC. FOR HIGHER VISIBILITY, CONSIDER:
   a) FILLING ISLAND IN MMA IF UNDER 50 SF.
   b) INSTALLING MMA OR THERMOPLASTIC CHEVRONS IF OVER 150 SF.
   c) SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION
5. IF THE CROSS STREET HAS A DESIGNATED BIKE LANE, AND THE BIKE LANE STRIPING IS NOT CARRIED ACROSS THE RAMP TERMINAL, THE RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE BIKE LANE. SEE PAGE G-F16 FOR ADDITIONAL ISLAND STRIPING INFORMATION.
6. INSTALL LANE MERGE ARROWS ONLY IF A YIELD PROBLEM EXISTS. SEE PAGE G-F27 FOR LAYOUT DETAILS.
7. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION



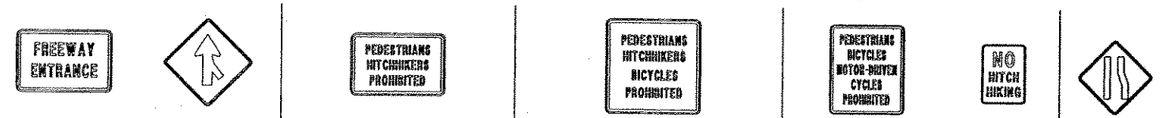
PAINTED ISLAND DETAIL (WITH CHEVRONS)

RAISED ISLAND DETAIL

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



E12-201	W4-1R	R5-1001	R5-1002	R5-10A	R9-4	W4-2L
A	B	C	C	C		D
		"PREFERRED" EXCLUSION (RESTRICTION) SIGN (WAC 468-58-050)	OPTION 1 - IF BICYCLES ARE PROHIBITED. RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC	OPTION 2 - IF BICYCLES AND MOTOR DRIVEN CYCLES ARE PROHIBITED. RESTRICTION MAY REQUIRE CALENDER ACTION APPROVAL BY NWR TRAFFIC		

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DATE	08/28/2002					
DESIGNED BY						
ENTERED BY						
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

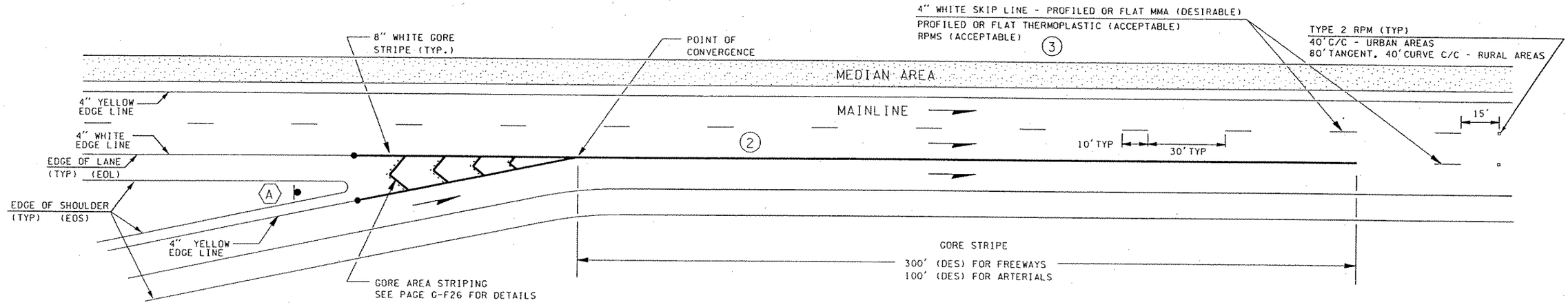
P.E. STAMP BOX DATE

Washington State Department of Transportation

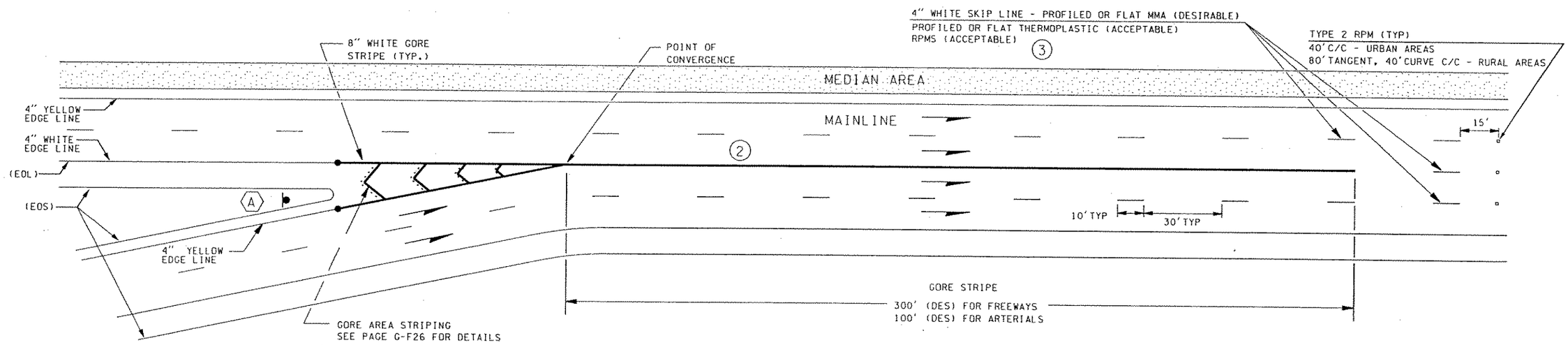
FREEWAY -
GENERIC SINGLE LANE ON-RAMP
STRIPING AND SIGNING LAYOUT
(WITH DOUBLE LANE ON-RAMP, RIGHT SIDE YIELD)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F4
SHEET 4 OF 4 SHEETS



SINGLE ADD LANE LAYOUT



DOUBLE ADD LANE LAYOUT

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

A

W4-3R

NOTES:

1. SEE STANDARD PLAN H-5 AND H-5a FOR OTHER STRIPING DETAILS AND FOR OPTION/ADD LANE STRIPING LAYOUT
2. 8 IN WHITE GORE STRIPE - PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) DO NOT USE RPMS
3. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

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CHECKED BY					CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.								
REGIONAL ADM.		REVISION	DATE	BY				

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
SINGLE AND DOUBLE ADD LANE
STRIPING AND SIGNING LAYOUTS

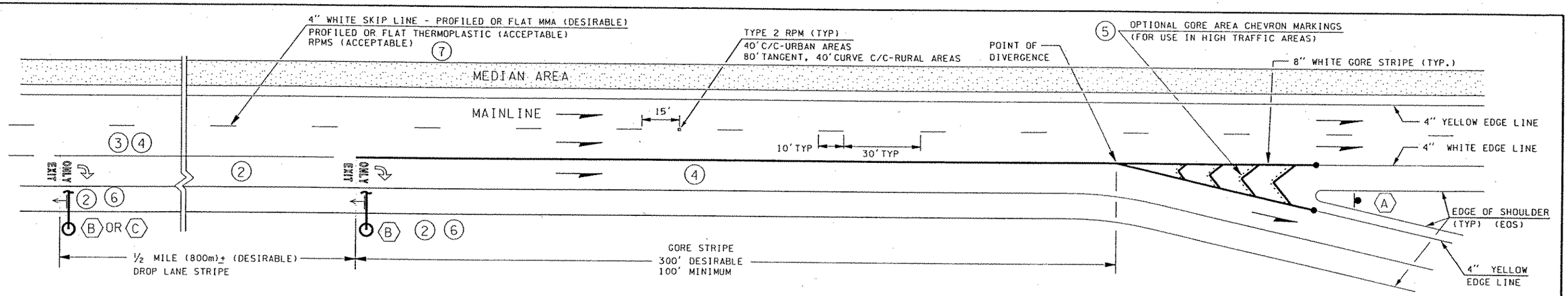
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

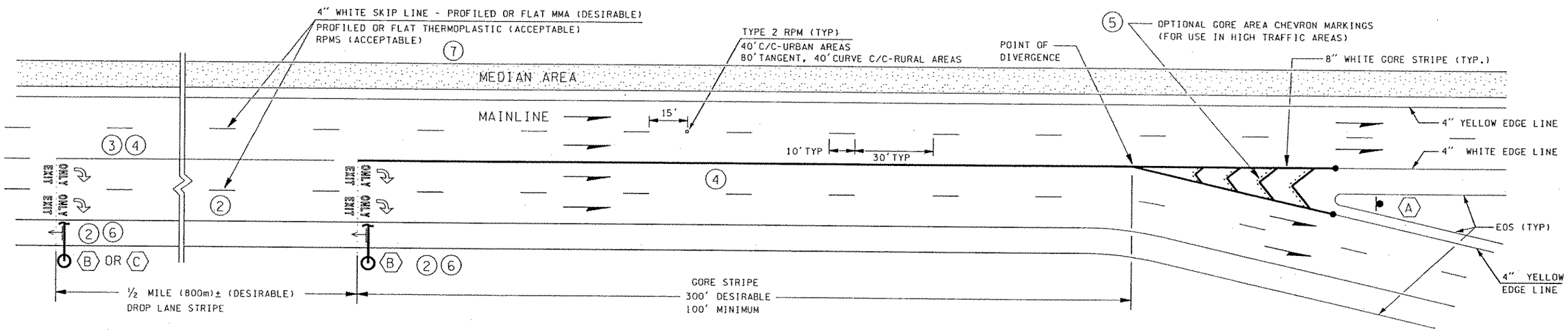
PLOT1

G-F5

SHEET 1 OF 1 SHEETS



SINGLE DROP LANE LAYOUT



DOUBLE DROP LANE LAYOUT

NOTES:

1. SEE STANDARD PLAN H-5 AND H-5A FOR OTHER STRIPING DETAILS AND FOR OPTION/DROP LANE STRIPING LAYOUTS
2. EXIT PAVEMENT MARKINGS SHOULD BE MATCHED UP WITH EITHER AN OVERHEAD OR SHOULDER MOUNT "RIGHT LANE MUST EXIT" SIGN. IF DROP LANE DISTANCE EXCEEDS 1500 FT, PLACE AN INTERMEDIATE TURN ARROW "EXIT ONLY" AND PAVEMENT MARKING AT MIDPOINT
3. DROP LANE STRIPING (3 FT STRIPE / 12 FT SKIP PATTERN)
4. 8 IN WHITE DROP LANE OR GORE LANE STRIPE - PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) DO NOT USE RPMS
5. SEE PAGE G-F26 FOR ADDITIONAL GORE POINT AND CHEVRON DETAILS
6. SEE PAGE G-ID28 FOR DROP LANE PAVEMENT MARKING DETAILS
7. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

E5-1A

A

OVERHEAD EXIT SIGN ON CANTILEVERED SIGN STRUCTURE

THE BEGINNING OF THE DROP OR GORE LANE STRIPING AND PAVEMENT MARKINGS SHOULD BE IN-LINE WITH THE SIGN STRUCTURE

B

R3-701-MOD

X = # OF DROP LANES
(SHOULDER MOUNT SIGN)

C

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\single and double drop lane striping and signing\g_f06.dgn					
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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
SINGLE AND DOUBLE DROP LANE
STRIPING AND SIGNING LAYOUTS

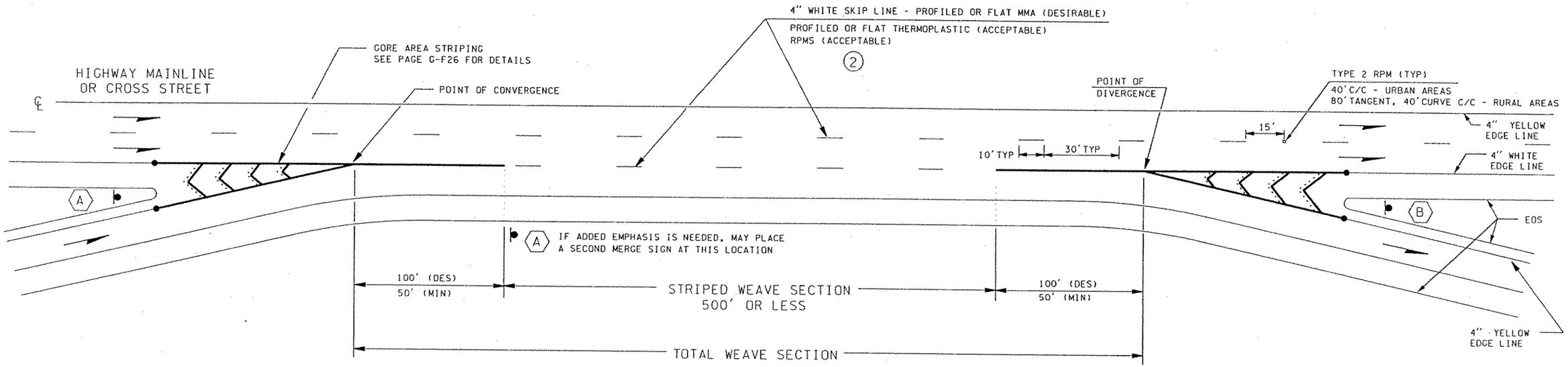
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F6

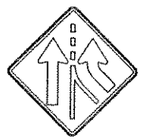
SHEET 1 OF 1 SHEETS



NOTES:

1. SEE STANDARD PLAN H-5 AND H-5A FOR OTHER STRIPING DETAILS.
2. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

A



W4-3R

B

E5-1A

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

SHORT WEAVE SECTION

(CONCURRENT ADD AND DROP LANES)

WITH GORE-TO-GORE POINT LENGTH IS 500' OR LESS
LOW SPEED WEAVING SECTION

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CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State
Department of Transportation

FREEWAY -
SHORT WEAVE SECTION
STRIPING AND SIGNING LAYOUT

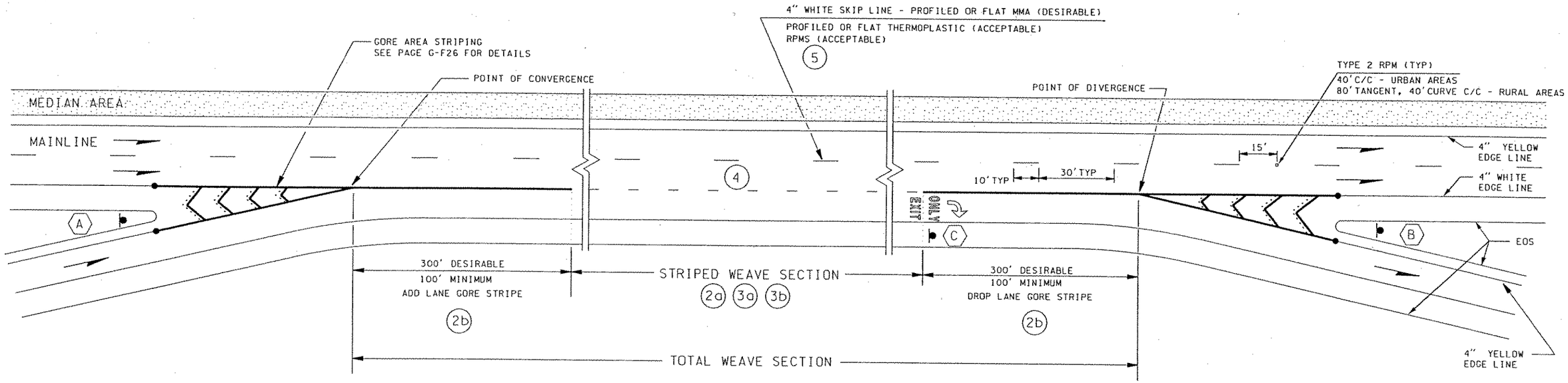
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F7

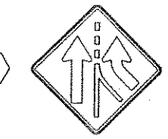
SHEET 1 OF 2 SHEETS



NOTES:

1. SEE STANDARD PLAN H-5 AND H-5A FOR OTHER STRIPING DETAILS.
2a. INTERMEDIATE STRIPED WEAVE SECTION - 500 FT TO 1000 FT IN LENGTH.
2b. IF THE STRIPED DROP LANE DISTANCE IS 500 FT TO 1000 FT IN LENGTH AND ADDITIONAL DROP LANE STRIPING IS NEEDED, THE ADD LANE GORE STRIPE LENGTH CAN BE DECREASED TO 100 FT, THEN THE DROP LANE GORE STRIPE LENGTH CAN BE REDUCED TO 100 FT.
3a. LONG STRIPED WEAVE SECTION - 1000 FT TO $\frac{1}{2}$ ± MILE IN LENGTH.
3b. IF THE LENGTH OF THE DROP LANE STRIPE EXCEEDS $\frac{1}{4}$ ± MILE, CONSIDER INSTALLING A MINIMUM OF 500 FT OF SKIP LANE STRIPE FROM THE END OF THE ADD LANE GORE STRIPE. INSTALL A TYPE 2R ARROW AND "EXIT ONLY" PAVEMENT MARKINGS, AND ANOTHER R3-701 SIGN WHERE DROP LANE STRIPE BEGINS.
4. DROP LANE STRIPING (3 FT STRIPE / 12 FT SKIP PATTERN)
5. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION
6. SEE PAGE G-1D28 FOR DROP LANE PAVEMENT MARKING DETAILS

A



W4-3R

B

E5-1A

C

R3-701

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

INTERMEDIATE AND LONG WEAVE SECTIONS

(CONCURRENT ADD AND DROP LANES)

WITH GORE-TO-GORE POINT LENGTH IS 500' TO $\frac{1}{2}$ MILE ±

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REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

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P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
INTERMEDIATE AND LONG WEAVE SECTION
STRIPING AND SIGNING LAYOUTS

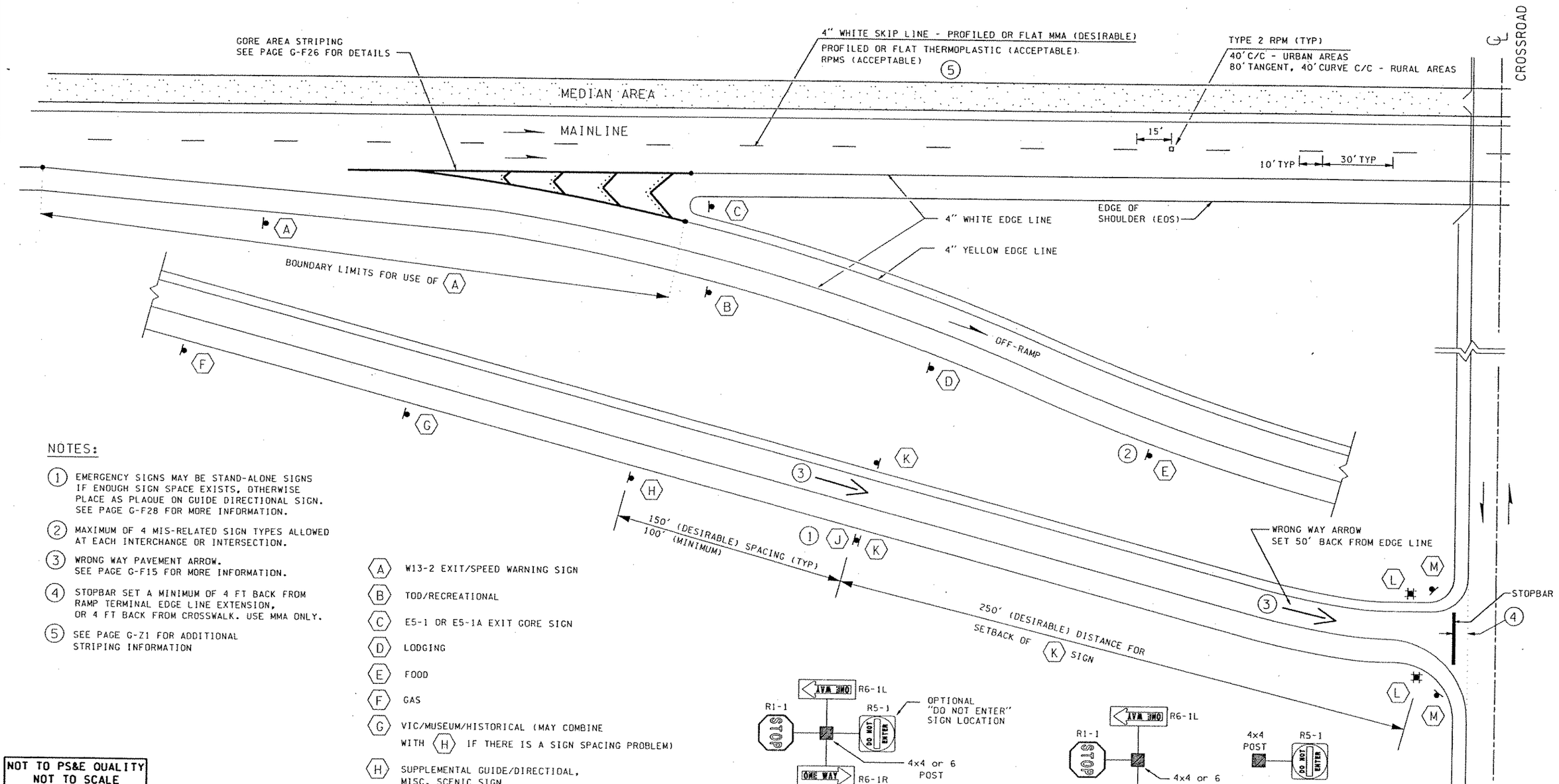
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F8

SHEET 2 OF 2 SHEETS



NOTES:

1. EMERGENCY SIGNS MAY BE STAND-ALONE SIGNS IF ENOUGH SIGN SPACE EXISTS, OTHERWISE PLACE AS PLAQUE ON GUIDE DIRECTIONAL SIGN. SEE PAGE G-F28 FOR MORE INFORMATION.
2. MAXIMUM OF 4 MIS-RELATED SIGN TYPES ALLOWED AT EACH INTERCHANGE OR INTERSECTION.
3. WRONG WAY PAVEMENT ARROW. SEE PAGE G-F15 FOR MORE INFORMATION.
4. STOPBAR SET A MINIMUM OF 4 FT BACK FROM RAMP TERMINAL EDGE LINE EXTENSION, OR 4 FT BACK FROM CROSSWALK. USE MMA ONLY.
5. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

- A — W13-2 EXIT/SPEED WARNING SIGN
- B — TOD/RECREATIONAL
- C — E5-1 OR E5-1A EXIT GORE SIGN
- D — LODGING
- E — FOOD
- F — GAS
- G — VIC/MUSEUM/HISTORICAL (MAY COMBINE WITH H IF THERE IS A SIGN SPACING PROBLEM)
- H — SUPPLEMENTAL GUIDE/DIRECTIOAL, MISC. SCENIC SIGN
- J — PRINCIPAL GUIDE DIRECTIONAL SIGN (IF NEEDED)/ HOSPITAL/POLICE/EMERGENCY
- K — WRONG WAY (R5-1A)

L — STOP/DO NOT ENTER 1-POST INSTALLATION
(USE ONLY IF THERE IS NO ROOM FOR A 2-POST INSTALLATION)

M — "PREFERRED" STOP/DO NOT ENTER 2-POST INSTALLATION
(SEE L FOR ALTERNATE SINGLE-POST INSTALLATION)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-Ramp\G-f09\g_f09.dgn				
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PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE OFF-RAMP STRIPING
WITH RIGHT-SIDE SIGNING LAYOUT

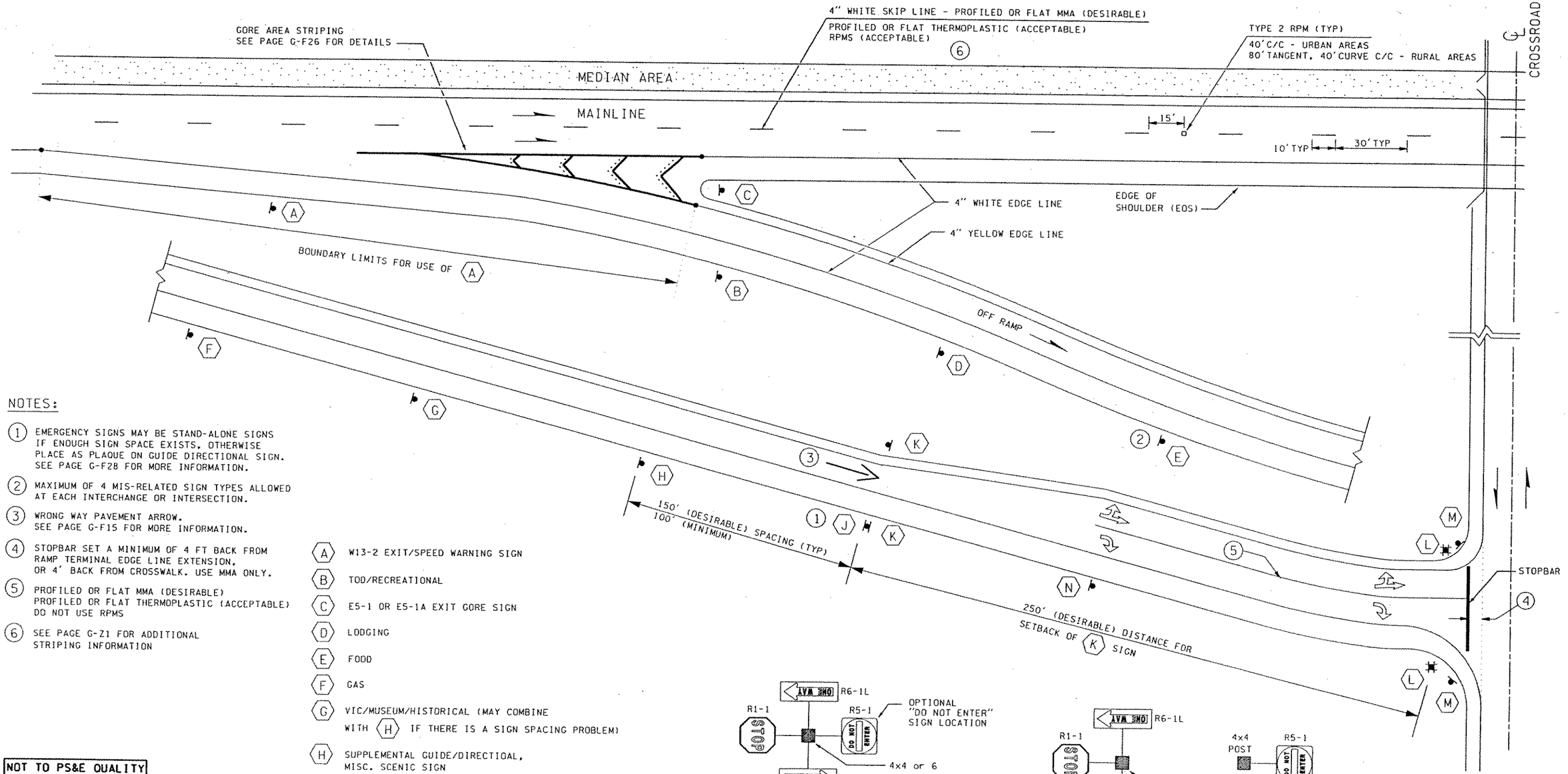
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F9

SHEET 1 OF 5 SHEETS



NOTES:

1. EMERGENCY SIGNS MAY BE STAND-ALONE SIGNS IF ENOUGH SIGN SPACE EXISTS, OTHERWISE PLACE AS PLAQUE ON GUIDE DIRECTIONAL SIGN. SEE PAGE G-F28 FOR MORE INFORMATION.
2. MAXIMUM OF 4 MIS-RELATED SIGN TYPES ALLOWED AT EACH INTERCHANGE OR INTERSECTION.
3. WRONG WAY PAVEMENT ARROW. SEE PAGE G-F15 FOR MORE INFORMATION.
4. STOPBAR SET A MINIMUM OF 4 FT BACK FROM RAMP TERMINAL EDGE LINE EXTENSION, OR 4' BACK FROM CROSSWALK. USE MMA ONLY.
5. PROFILED OR FLAT MMA (DESIRABLE)
   PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE)
   DO NOT USE RPMS
6. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

(A) W13-2 EXIT/SPEED WARNING SIGN

(B) TOD/RECREATIONAL

(C) E5-1 OR E5-1A EXIT GORE SIGN

(D) LODGING

(E) FOOD

(F) GAS

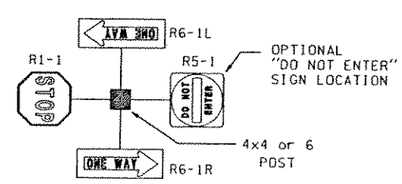
(G) VIC/MUSEUM/HISTORICAL (MAY COMBINE WITH (H) IF THERE IS A SIGN SPACING PROBLEM)

(H) SUPPLEMENTAL GUIDE/DIRECTIOAL, MISC. SCENIC SIGN

(J) PRINCIPAL GUIDE DIRECTIONAL SIGN (IF NEEDED)/ HOSPITAL/POLICE/EMERGENCY

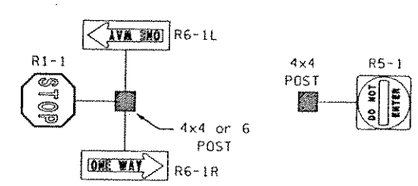
(K) WRONG WAY — R5-1A

(N) LANE CONTROL SIGN



(L)

STOP/DO NOT ENTER 1-POST INSTALLATION
(USE ONLY IF THERE IS NO ROOM FOR A 2-POST INSTALLATION)



(M)

"PREFERRED" STOP/DO NOT ENTER 2-POST INSTALLATION
(SEE (L) FOR ALTERNATE SINGLE-POST INSTALLATION)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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REGIONAL ADM.		REVISION	DATE	BY	

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

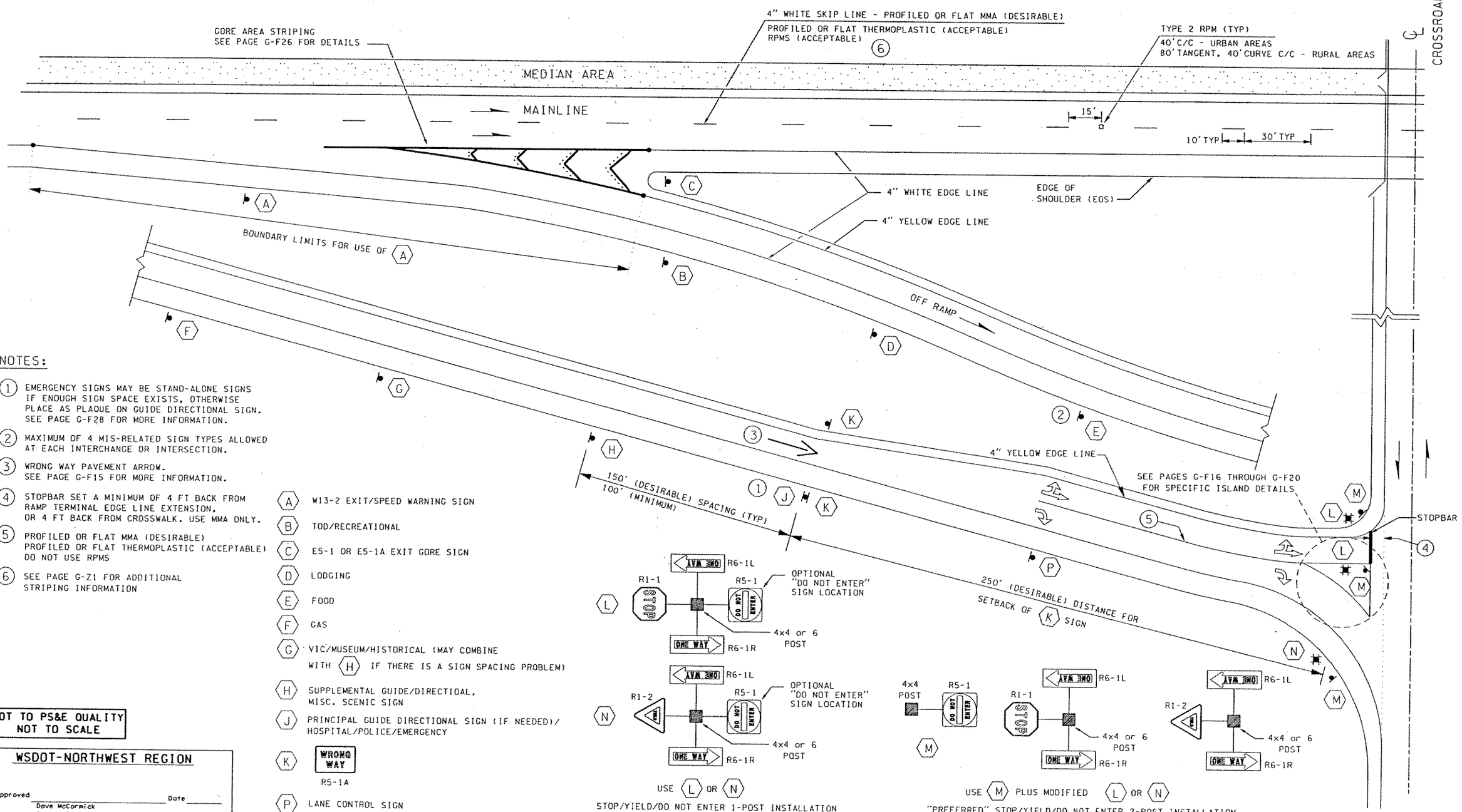
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE OFF-RAMP STRIPING
WITH RIGHT-SIDE SIGNING LAYOUT
(2-LANE RAMP TERMINAL)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F10
SHEET 2 OF 5 SHEETS



NOTES:

1. EMERGENCY SIGNS MAY BE STAND-ALONE SIGNS IF ENOUGH SIGN SPACE EXISTS, OTHERWISE PLACE AS PLAQUE ON GUIDE DIRECTIONAL SIGN. SEE PAGE G-F28 FOR MORE INFORMATION.
2. MAXIMUM OF 4 MIS-RELATED SIGN TYPES ALLOWED AT EACH INTERCHANGE OR INTERSECTION.
3. WRONG WAY PAVEMENT ARROW. SEE PAGE G-F15 FOR MORE INFORMATION.
4. STOPBAR SET A MINIMUM OF 4 FT BACK FROM RAMP TERMINAL EDGE LINE EXTENSION, OR 4 FT BACK FROM CROSSWALK. USE MMA ONLY.
5. PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) DO NOT USE RPMS
6. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

A — W13-2 EXIT/SPEED WARNING SIGN
B — TOD/RECREATIONAL
C — E5-1 OR E5-1A EXIT GORE SIGN
D — LODGING
E — FOOD
F — GAS
G — VIC/MUSEUM/HISTORICAL (MAY COMBINE WITH H IF THERE IS A SIGN SPACING PROBLEM)
H — SUPPLEMENTAL GUIDE/DIRECTIOAL, MISC. SCENIC SIGN
J — PRINCIPAL GUIDE DIRECTIONAL SIGN (IF NEEDED)/ HOSPITAL/POLICE/EMERGENCY
K — WRONG WAY R5-1A
P — LANE CONTROL SIGN

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

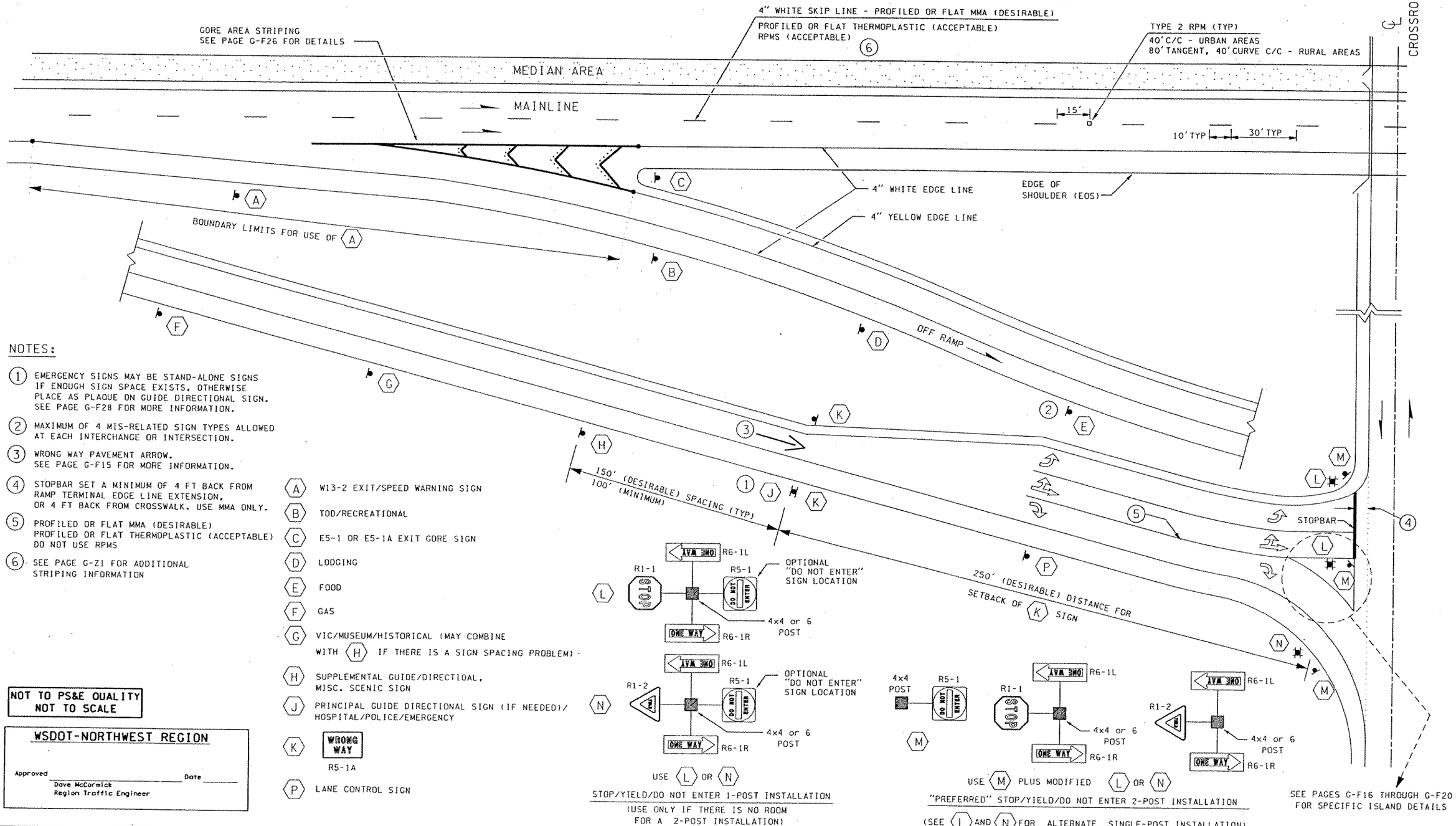
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE OFF-RAMP STRIPING WITH RIGHT-SIDE SIGNING LAYOUT
(2-LANE RAMP/ISLAND TERMINAL)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F11
SHEET 3 OF 5 SHEETS



NOTES:

1. EMERGENCY SIGNS MAY BE STAND-ALONE SIGNS IF ENOUGH SIGN SPACE EXISTS, OTHERWISE PLACE AS PLAQUE ON GUIDE DIRECTIONAL SIGN. SEE PAGE G-F28 FOR MORE INFORMATION.
2. MAXIMUM OF 4 MIS-RELATED SIGN TYPES ALLOWED AT EACH INTERCHANGE OR INTERSECTION.
3. WRONG WAY PAVEMENT ARROW. SEE PAGE G-F15 FOR MORE INFORMATION.
4. STOPBAR SET A MINIMUM OF 4 FT BACK FROM RAMP TERMINAL EDGE LINE EXTENSION, OR 4 FT BACK FROM CROSSWALK. USE MMA ONLY.
5. PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) DO NOT USE RPMS
6. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

A — W13-2 EXIT/SPEED WARNING SIGN
B — TOD/RECREATIONAL
C — E5-1 OR E5-1A EXIT GORE SIGN
D — LODGING
E — FOOD
F — GAS
G — VIC/MUSEUM/HISTORICAL (MAY COMBINE WITH H IF THERE IS A SIGN SPACING PROBLEM)
H — SUPPLEMENTAL GUIDE/DIRECTIOAL, MISC. SCENIC SIGN
J — PRINCIPAL GUIDE DIRECTIONAL SIGN (IF NEEDED)/ HOSPITAL/POLICE/EMERGENCY
K — WRONG WAY R5-1A
P — LANE CONTROL SIGN

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

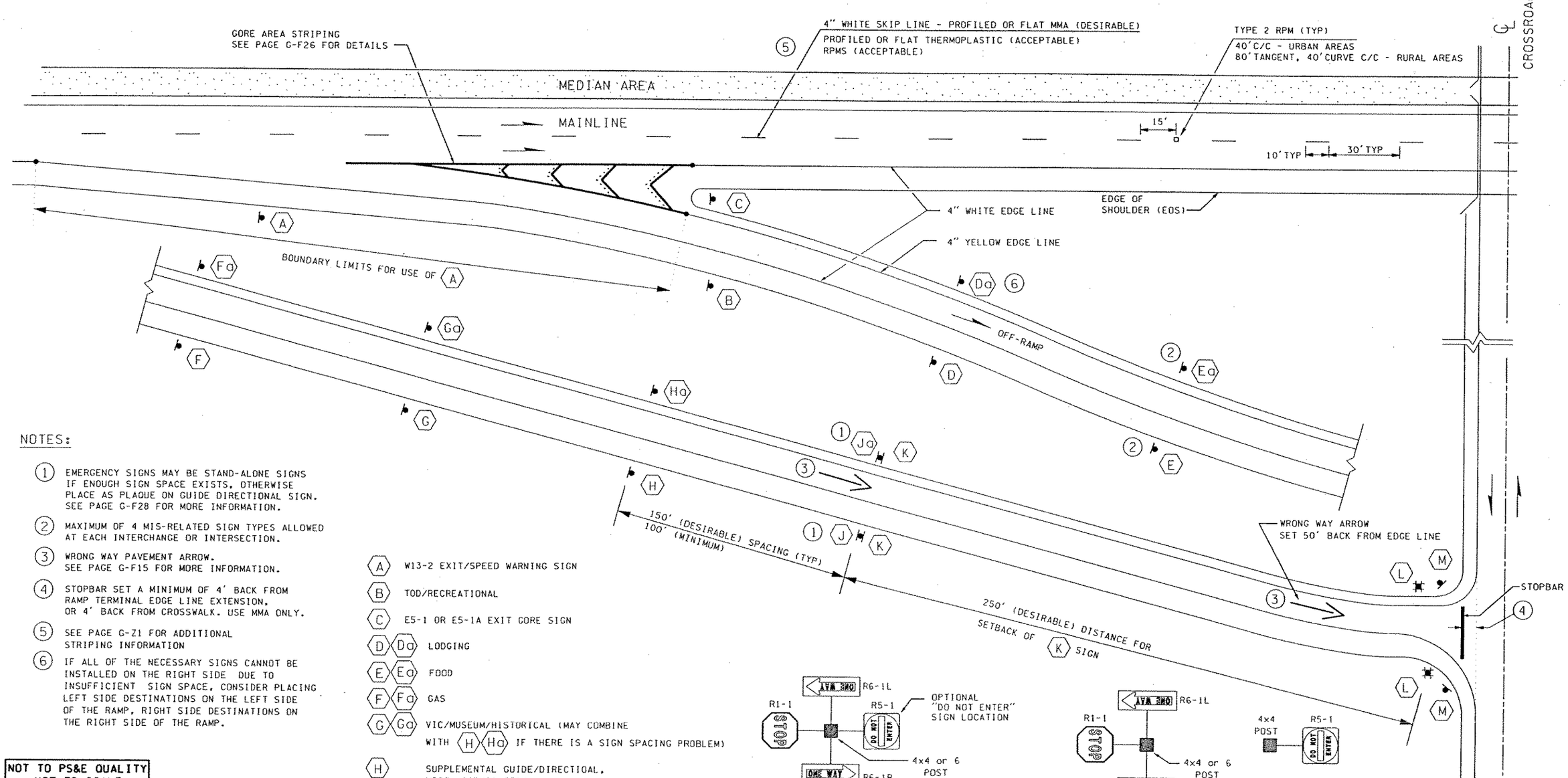
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE OFF-RAMP STRIPING WITH RIGHT-SIDE SIGNING LAYOUT
(3-LANE RAMP/ISLAND TERMINAL)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F12
SHEET 4 OF 5 SHEETS



NOTES:

1. EMERGENCY SIGNS MAY BE STAND-ALONE SIGNS IF ENOUGH SIGN SPACE EXISTS, OTHERWISE PLACE AS PLAQUE ON GUIDE DIRECTIONAL SIGN. SEE PAGE G-F28 FOR MORE INFORMATION.
2. MAXIMUM OF 4 MIS-RELATED SIGN TYPES ALLOWED AT EACH INTERCHANGE OR INTERSECTION.
3. WRONG WAY PAVEMENT ARROW. SEE PAGE G-F15 FOR MORE INFORMATION.
4. STOPBAR SET A MINIMUM OF 4' BACK FROM RAMP TERMINAL EDGE LINE EXTENSION, OR 4' BACK FROM CROSSWALK. USE MMA ONLY.
5. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION
6. IF ALL OF THE NECESSARY SIGNS CANNOT BE INSTALLED ON THE RIGHT SIDE DUE TO INSUFFICIENT SIGN SPACE, CONSIDER PLACING LEFT SIDE DESTINATIONS ON THE LEFT SIDE OF THE RAMP, RIGHT SIDE DESTINATIONS ON THE RIGHT SIDE OF THE RAMP.

A — W13-2 EXIT/SPEED WARNING SIGN

B — TOD/RECREATIONAL

C — E5-1 OR E5-1A EXIT CORE SIGN

D, Da — LODGING

E, Ea — FOOD

F, Fa — GAS

G, Ga — VIC/MUSEUM/HISTORICAL (MAY COMBINE WITH H, Ha IF THERE IS A SIGN SPACING PROBLEM)

H — SUPPLEMENTAL GUIDE/DIRECTIOAL, MISC. SCENIC SIGN

J, Ja — PRINCIPAL GUIDE DIRECTIONAL SIGN (IF NEEDED)/ HOSPITAL/POLICE/EMERGENCY

K — WRONG WAY (R5-1A)

L — STOP/DO NOT ENTER 1-POST INSTALLATION (USE ONLY IF THERE IS NO ROOM FOR A 2-POST INSTALLATION)

M — "PREFERRED" STOP/DO NOT ENTER 2-POST INSTALLATION

INSTALL STOP/ONE WAY SIGNS AT LOCATION SHOWN FOR L

(SEE L FOR ALTERNATE SINGLE-POST INSTALLATION)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-Ramp\G-f13\g_f13.dgn				
TIME	02:29:04 PM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002			JOB NUMBER	
DESIGNED BY					
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CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.	REVISION	DATE	BY		

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

FREEWAY -
GENERIC SINGLE LANE OFF-RAMP
STRIPING WITH BOTH
RIGHT AND LEFT SIDE SIGNS
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F13

SHEET 5 OF 5 SHEETS

SIGNS

(A) (IF NEEDED) — NORTH, 5, 500 FT — M8-101, WITH DISTANCE PLAQUE (LEFT OR RIGHT, AS APPROPRIATE)

(B) NORTH, 5 — M8-101 URBAN AREA — OR (IF NEEDED) — NORTH, 5, (CITY NAME) — D1-901 RURAL AREA

(C) R4-7 — OR — KEEP RIGHT — R4-7B

(D) STOP — R1-1

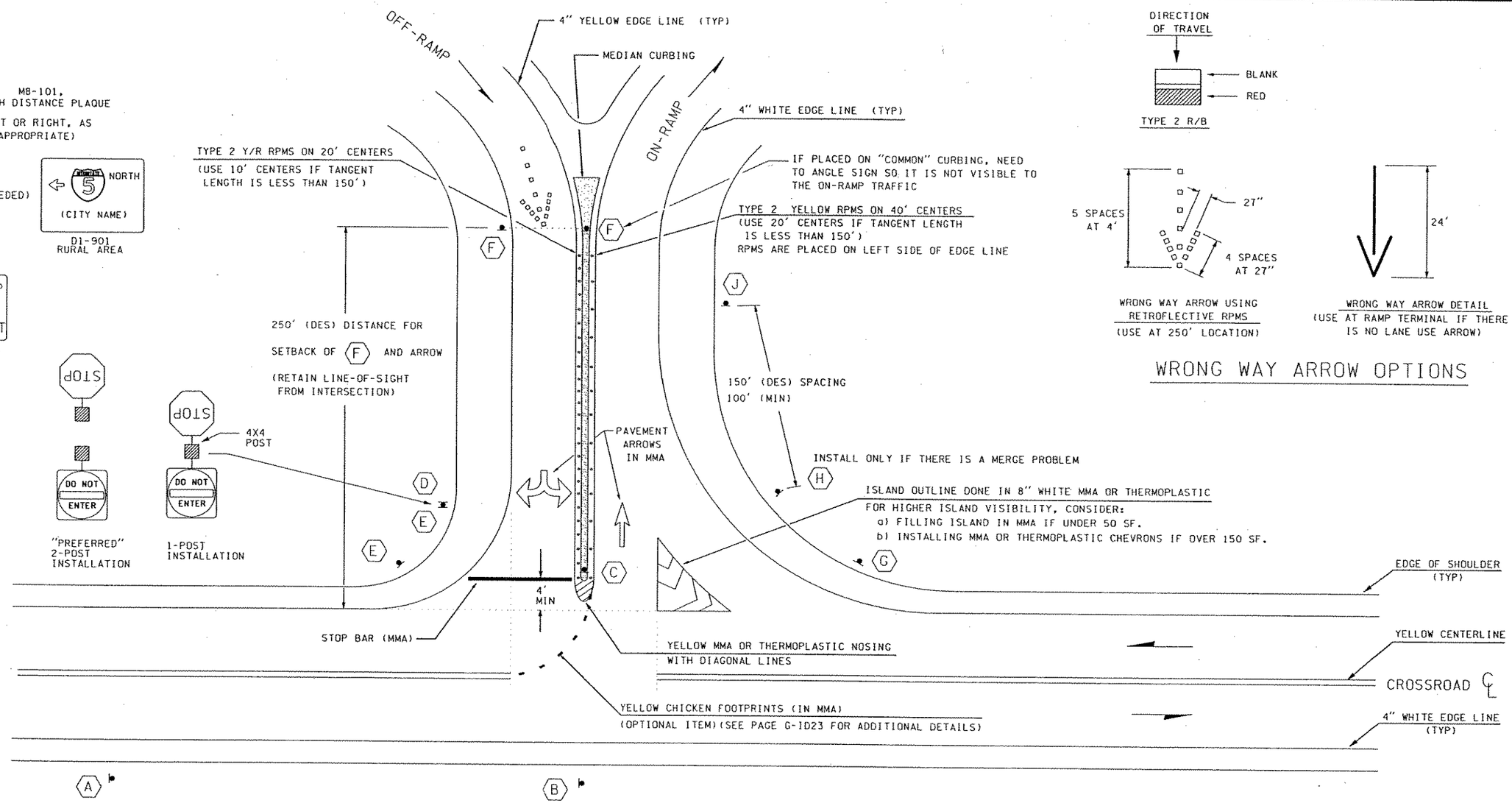
(E) DO NOT ENTER — R5-1

(F) WRONG WAY — R5-1A

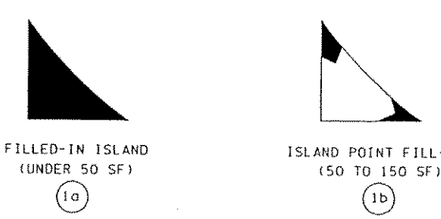
(G) FREEWAY ENTRANCE — E12-201

(H) YIELD — R1-2

(J) EXCLUSION (RESTRICTION) SIGNS



WRONG WAY ARROW OPTIONS



PAINTED ISLAND STRIPING OPTIONS

(SEE PAGE G-F16 THROUGH G-F20 FOR MORE ISLAND INFORMATION)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-Ramp Wrong Way striping and signing enhancements\G-f15\g_f15.dgn				
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CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

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P.E. STAMP BOX — DATE

Washington State Department of Transportation

FREEWAY - WRONG WAY STRIPING/SIGNING ENHANCMENTS FOR SIDE-BY-SIDE OFF/ON RAMPS

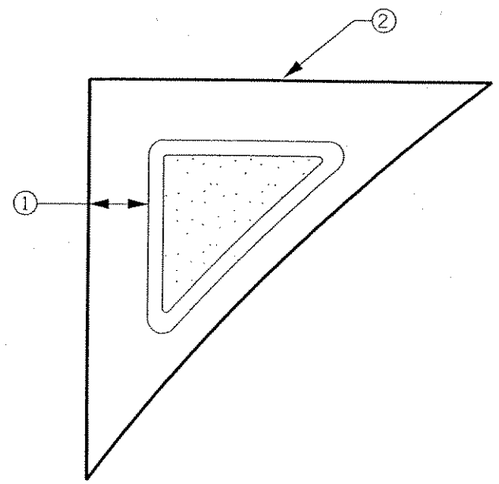
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

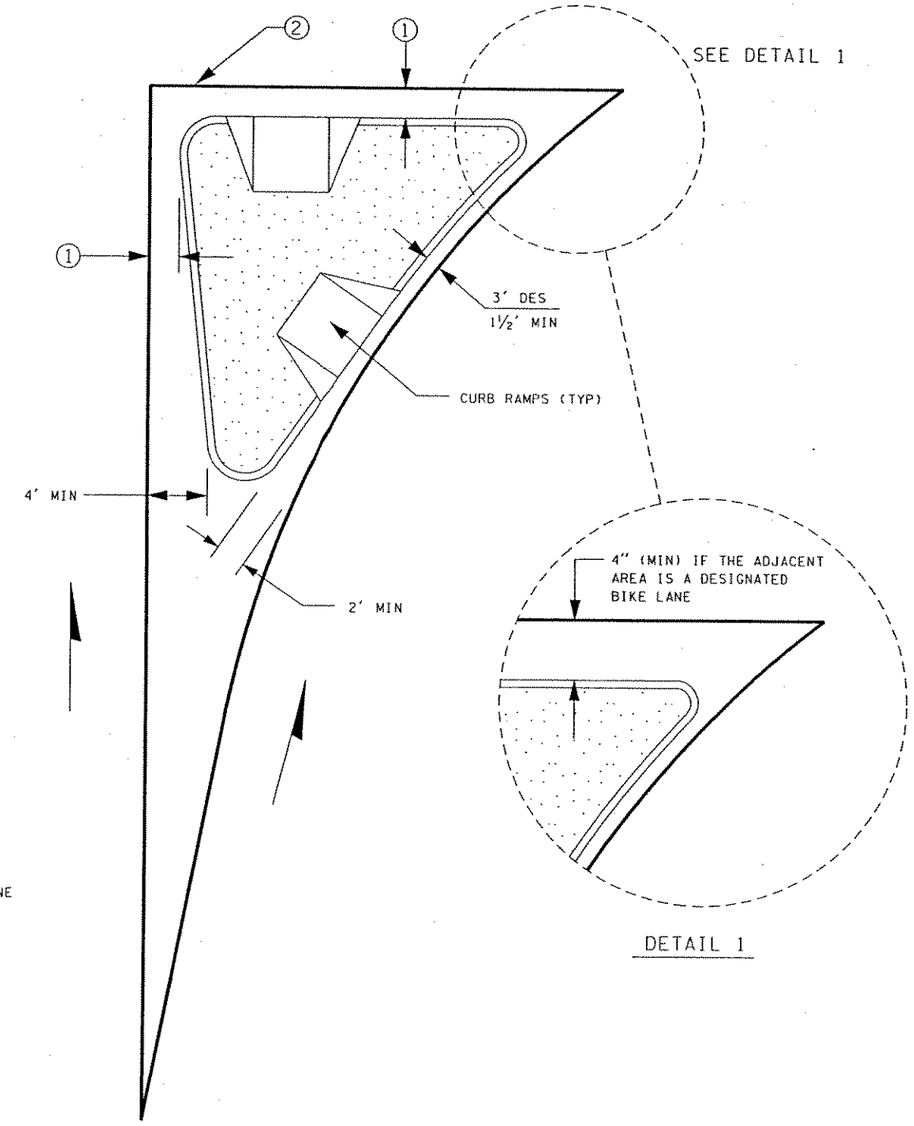
PLOT1

G-F15

SHEET 1 OF 1 SHEETS



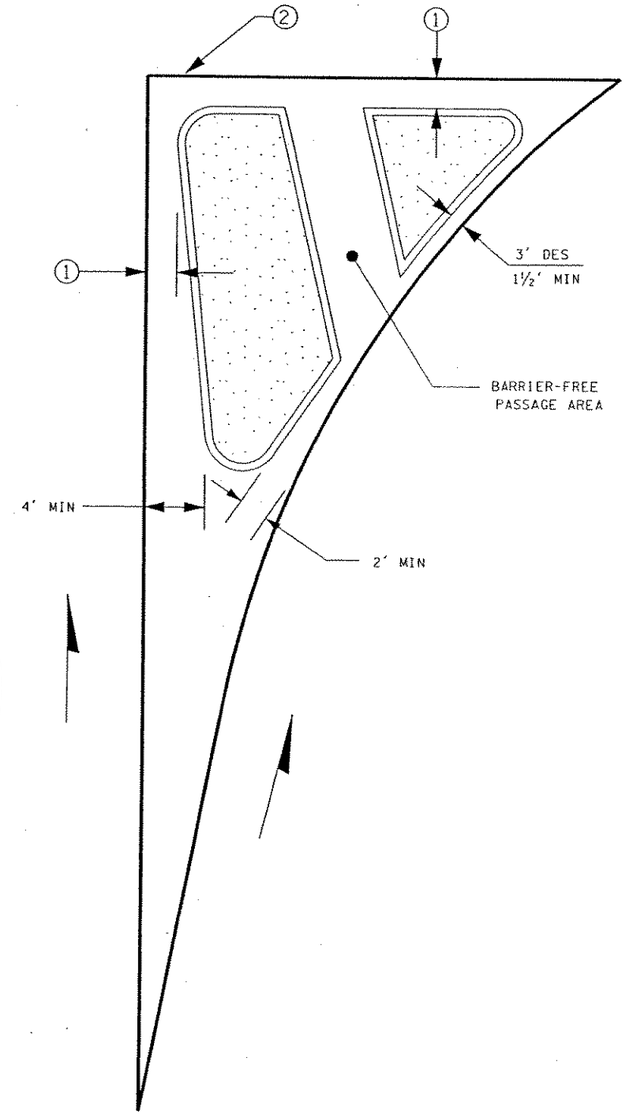
SMALL ISLAND DESIGN



LARGE ISLAND DESIGN

EXAMPLE A

DETAIL 1



LARGE ISLAND DESIGN

EXAMPLE B

NOTES:

1. 1½ FT (MIN) FOR EXISTING ISLANDS
   3 FT (DES) FOR NEW ISLANDS
   4 FT (MIN) IF THE ADJACENT AREA IS WITHIN A DESIGNATED BIKE LANE
2. 8 IN WHITE MMA OR THERMOPLASTIC ISLAND OUTLINE
3. THE OFF-RAMP TERMINAL ISLAND STRIPING DETAILS SHOWN ON THE FOLLOWING FOUR PAGES ARE GENERIC EXAMPLES AND FOR CLARITY DO NOT SHOW THE LEADING EDGE ISLAND SETBACK.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-ramp terminalisland striping\G-f16\g_f16.dgn						
TIME	08:11:52 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
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ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
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P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
GENERIC ISLAND STRIPING DETAILS

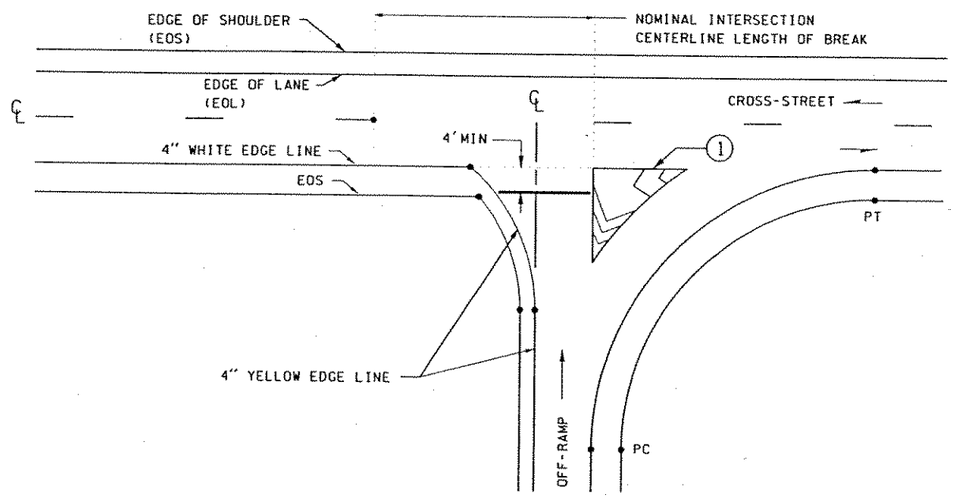
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

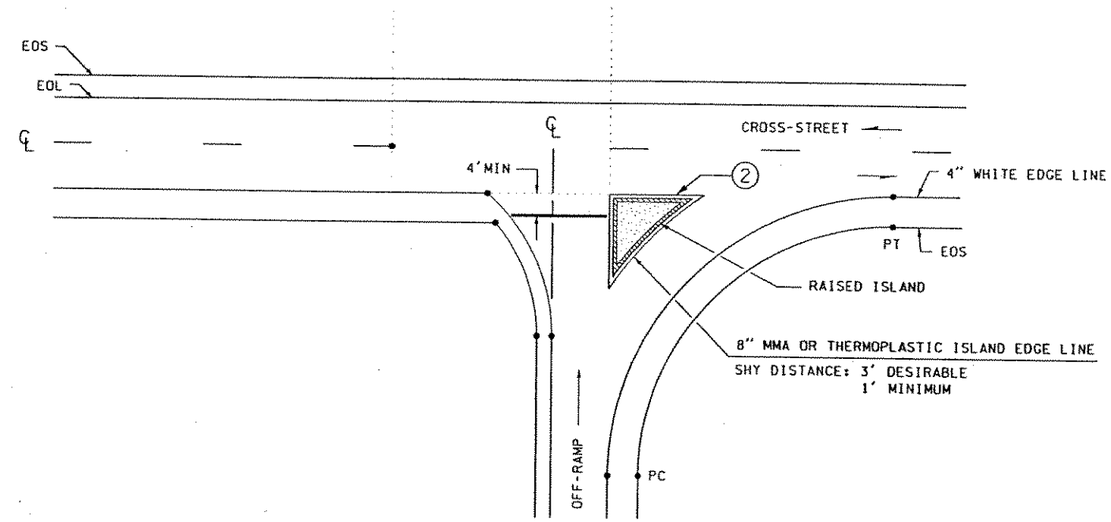
G-F16

SHEET 1 OF 5 SHEETS



PAINTED ISLAND DETAIL

EXAMPLE #1



SIMPLE RAISED ISLAND DETAIL

EXAMPLE #2

FILLED-IN ISLAND
(UNDER 50 SF)

1a

ISLAND POINT FILL-INS
(50 TO 150 SF)

1b

PAINTED ISLAND STRIPING OPTIONS

NOTES:

1. ISLAND OUTLINE DONE IN 8 IN MMA OR THERMOPLASTIC. FOR HIGHER VISIBILITY, CONSIDER:
   a) FILLING ISLAND IN MMA IF UNDER 50 SF. DO NOT USE A "FILL-IN" PATTERN IF IT IS IN LINE WITH A MARKED CROSSWALK OR IF IT IS IN LINE WITH AN UNMARKED CROSSWALK THAT MAY HAVE HIGH PEDESTRIAN USAGE.
   b) FILL-IN ISLAND POINTS USING A "V" PATTERN. MINIMUM LENGTH OF FILL-IN SHOULD BE 5 FT.
   c) INSTALLING THERMOPLASTIC CHEVRONS IF OVER 150 SF.
   45+/- DEG. VEE ANGLE (2 TO 3 EQUALLY SPACED VEES USED AT EACH CORNER)

2. IF CROSS STREET HAS A DESIGNATED BIKE LANE, RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE ADJACENT BIKE LANE.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-ramp terminal island striping\G-f17\g_f17.dgn					
TIME	08:15:08 AM					
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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
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CONTRACT NO.		LOCATION NO.

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Washington State
Department of Transportation

FREEWAY -
OFF-RAMP TERMINAL
ISLAND STRIPING DETAILS

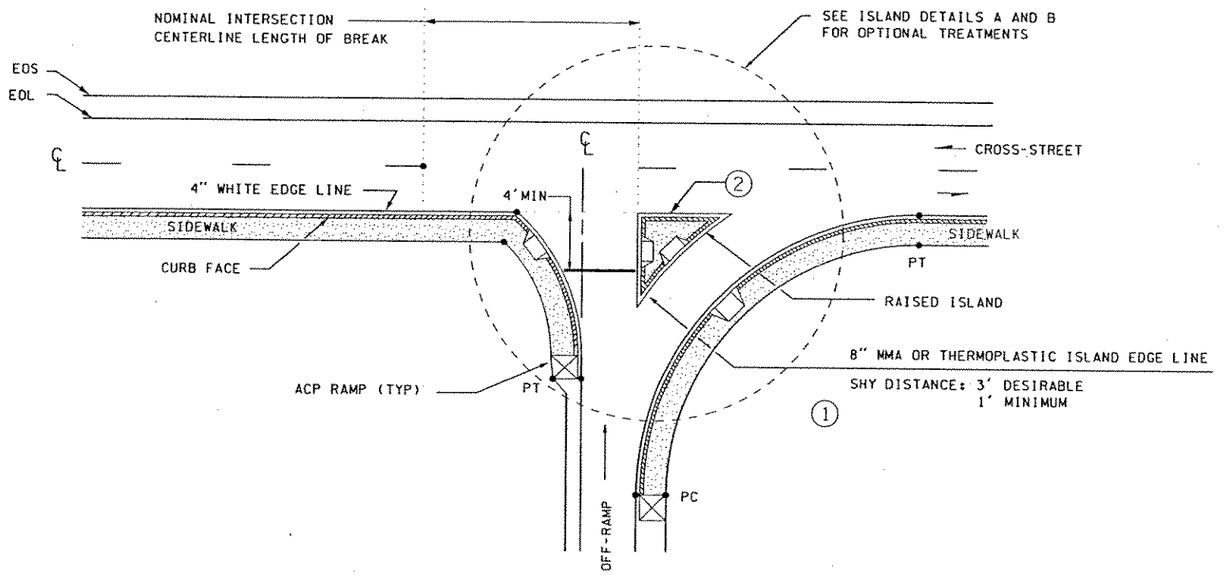
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

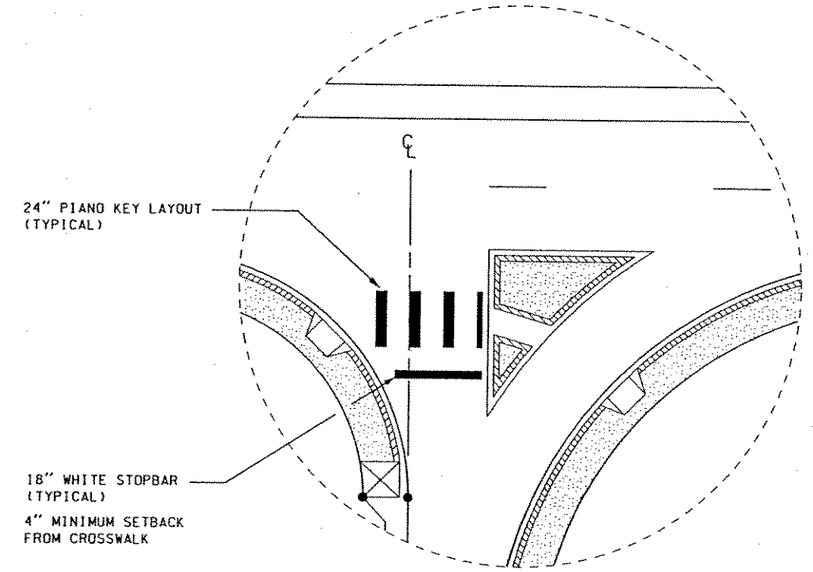
G-F17

SHEET 2 OF 5 SHEETS

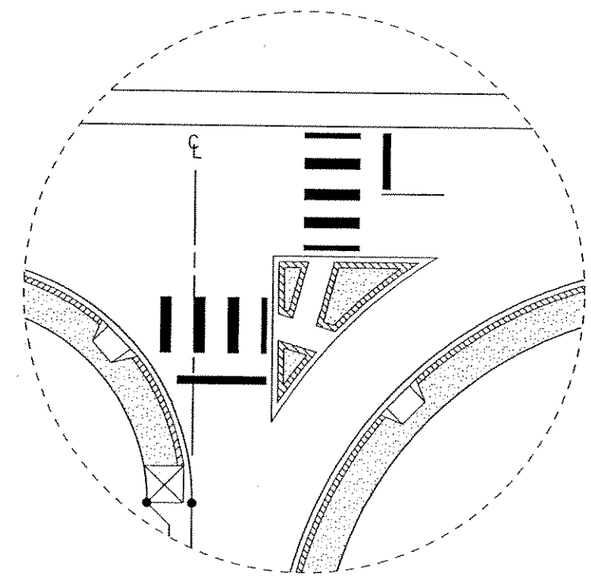


RAISED ISLAND AND SIDEWALK DETAIL

EXAMPLE #3



DETAIL A - ISLAND HANDICAP WALKWAY
WITH ADJACENT RAMP CROSSWALK STRIPING
(CONTROLLED STOP)



DETAIL B - ISLAND HANDICAP WALKWAYS WITH ADJACENT
RAMP AND CROSSTREET CROSSWALK STRIPING
(CONTROLLED STOP)

NOTES:

1. ISLAND OUTLINE DONE IN MMA OR THERMOPLASTIC.
2. IF CROSS STREET HAS A DESIGNATED BIKE LANE, RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE ADJACENT BIKE LANE.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-ramp terminalisland striping\G-f18\g_f18.dgn						
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10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

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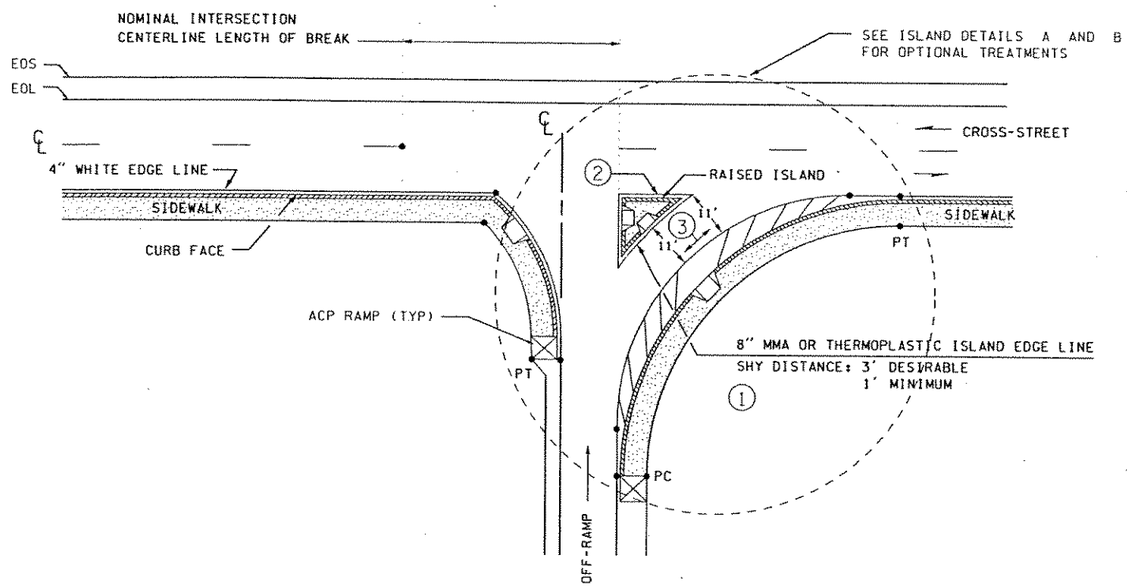
Washington State Department of Transportation

FREEWAY -
OFF-RAMP TERMINAL
ISLAND STRIPING DETAILS
(WITH CROSSWALK LAYOUT)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F18
SHEET 3 OF 5 SHEETS



SPECIAL RIGHT EDGE LINE STRIPING AT OFF-RAMP FREE RIGHT TURN AREAS (RIGHT SIDE PINCH POINT)

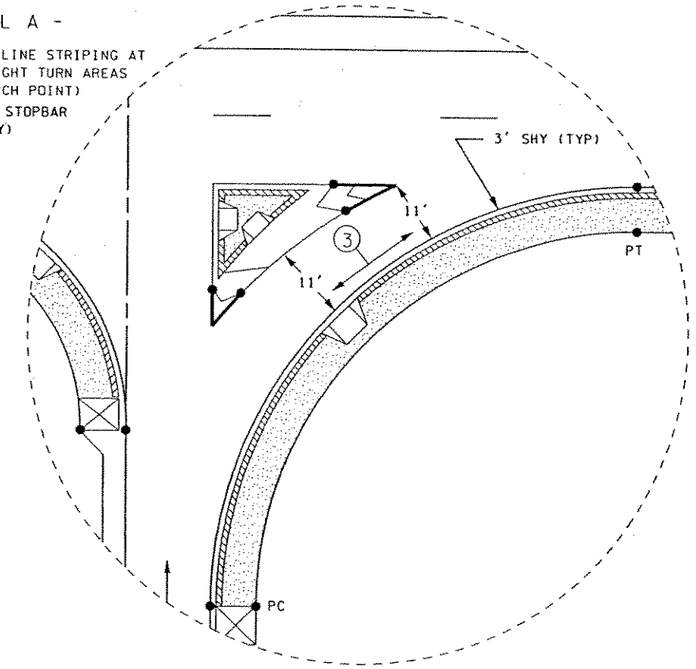
EXAMPLE #4
-PREFERRED OPTION OF THE THREE EXAMPLES SHOWN ON THIS PAGE-
PINCH POINT DESIGNS SHOULD ONLY BE USED
AT HIGH PEDESTRIAN USAGE AREAS.

NOTES:

1. ISLAND OUTLINE STRIPED IN MMA OR THERMOPLASTIC.
2. IF CROSS STREET HAS A DESIGNATED BIKE LANE, RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE ADJACENT BIKE LANE.
3. EDGE LINE OFFSET WILL VARY IN ORDER TO CREATE A PINCH POINT. THE TURNING LANE WIDTH MAY BE REDUCED TO 11 FT.
4. EQUAL SHY DISTANCE SO LANE IS CENTERED BETWEEN THE TWO CURB FACES.

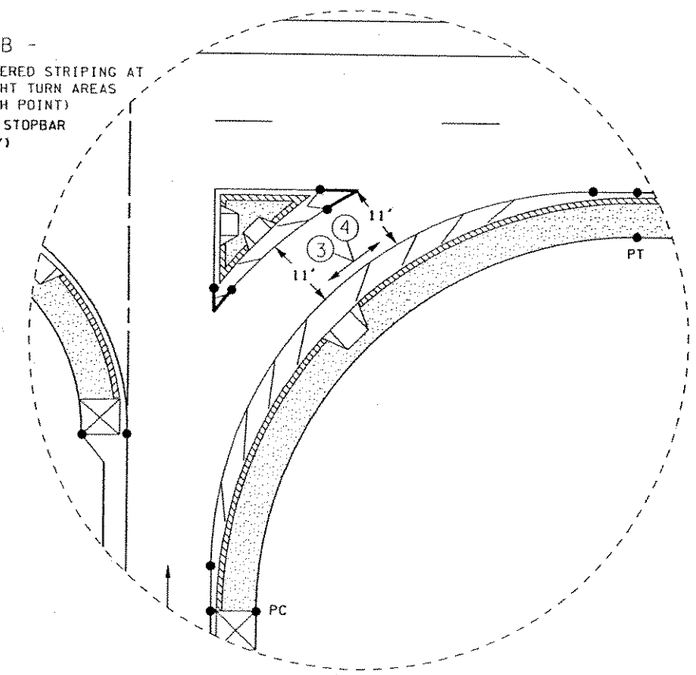
DETAIL A -

SPECIAL LEFT EDGE LINE STRIPING AT OFF-RAMP FREE RIGHT TURN AREAS (LEFT SIDE PINCH POINT)
(MARKED CROSSWALK AND STOPBAR NOT SHOWN FOR CLARITY)



DETAIL B -

SPECIAL LANE - CENTERED STRIPING AT OFF-RAMP FREE RIGHT TURN AREAS (CENTERED PINCH POINT)
(MARKED CROSSWALK AND STOPBAR NOT SHOWN FOR CLARITY)



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-ramp terminal island striping\G-f19\g_f19.dgn				
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DESIGNED BY				JOB NUMBER	
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CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

P.E. STAMP BOX DATE

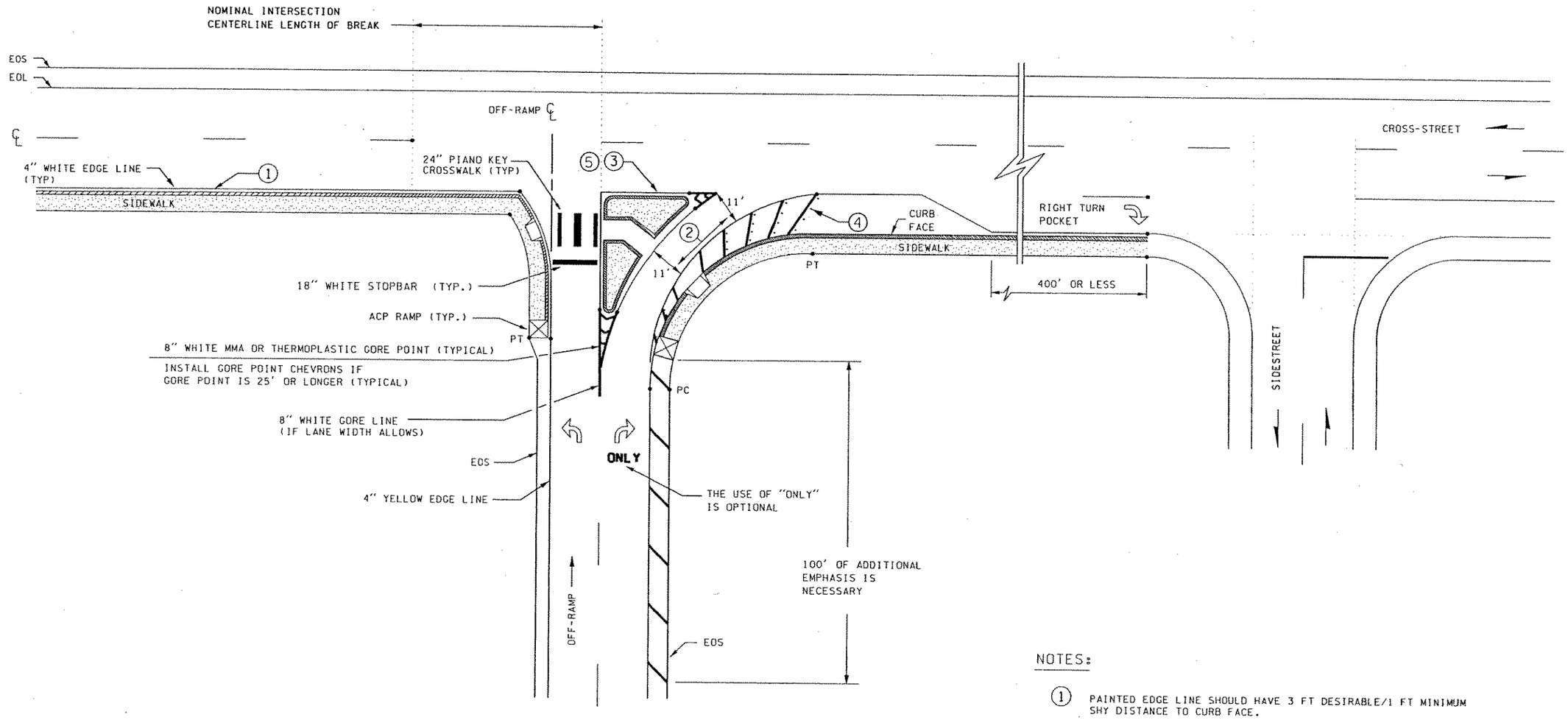
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
OFF-RAMP TERMINAL
ISLAND STRIPING DETAILS
(WITH FREE RIGHT TURN PINCH POINTS)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F19
SHEET 4 OF 5 SHEETS



NOTES:

1. PAINTED EDGE LINE SHOULD HAVE 3 FT DESIRABLE/1 FT MINIMUM SHY DISTANCE TO CURB FACE.
2. EDGE LINE OFFSET WILL VARY IN ORDER TO CREATE A PINCH POINT. THE TURNING LANE WIDTH MAY BE REDUCED TO 11 FT.
3. ISLAND OUTLINE STRIPED IN MMA OR THERMOPLASTIC.
4. 8 IN WHITE MMA OR THERMOPLASTIC DIAGONAL SHOULDER LINES ON EITHER A 10 FT, 15 FT, OR 25 FT SPACING. OUTSIDE OF PEDESTRIAN ZONE, INSTALL AN ADJACENT ROW OF WHITE TYPE 1 RPMS FOR ADDED RUMBLE AND VISUAL EFFECT.
5. IF CROSS STREET HAS A DESIGNATED BIKE LANE, RAISED ISLAND NEEDS TO BE SET BACK AT LEAST THE WIDTH OF THE ADJACENT BIKE LANE.

NOT TO PS&E QUALITY
NOT TO SCALE

SPECIAL EDGE LINE STRIPING AT OFF-RAMP FREE RIGHT TURN AREAS WITH ADD LANE WIDTH

EXAMPLE #5

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\Off-ramp terminal island striping\G-f20\g_f20.dgn						
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Washington State Department of Transportation

FREEWAY -
OFF-RAMP TERMINAL
ISLAND STRIPING DETAILS
(WITH FREE RIGHT TURN/ADD LANE DETAIL)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F20
SHEET 5 OF 5 SHEETS

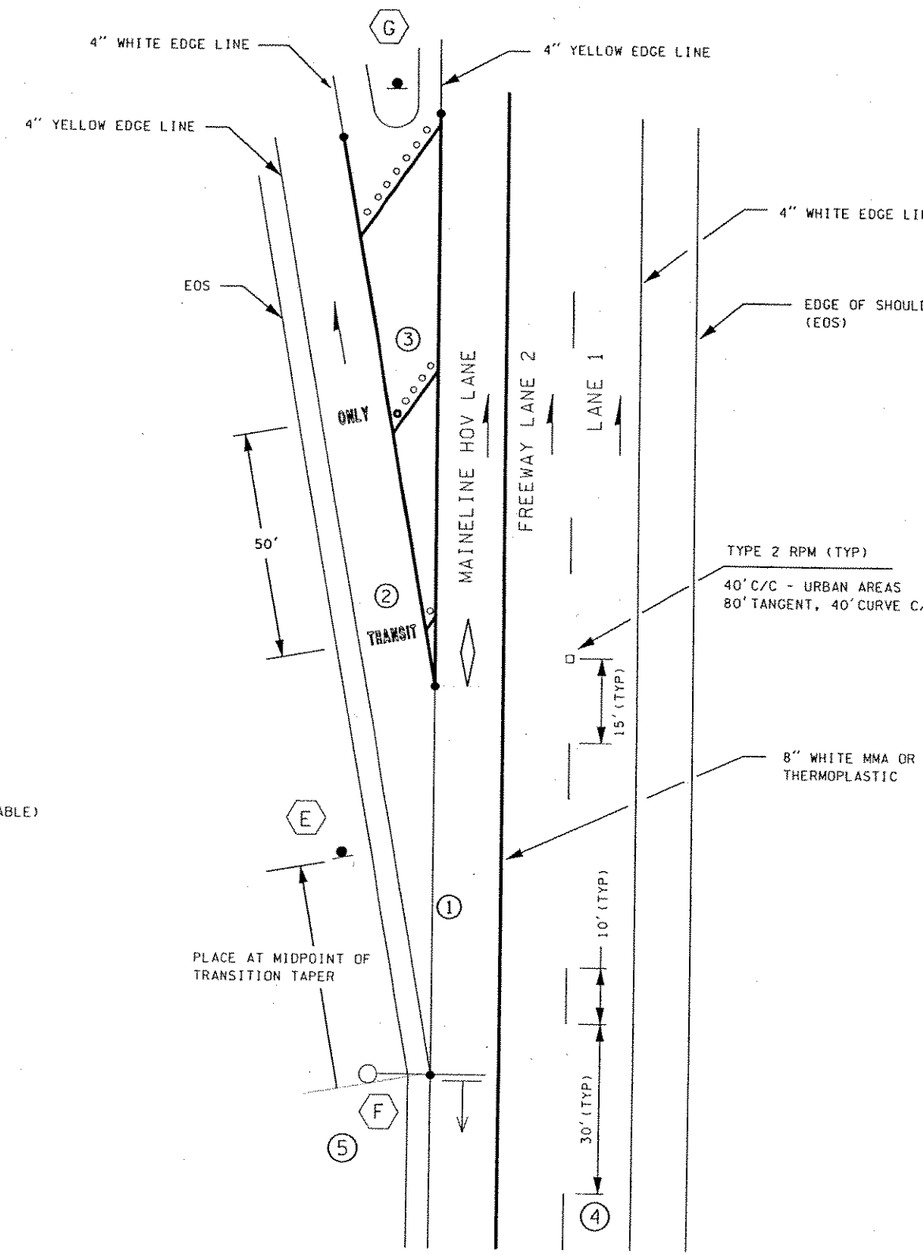
NOTES:

1. 4 IN WHITE SOLID MMA OR THERMOPLASTIC EDGE LINE ACROSS OFF-RAMP TO THE TRANSIT LANE.
2. MMA "TRANSIT ONLY" PAVEMENT LEGENDS ACROSS OFF-RAMP EXIT. SEE PAGE G-Z2 FOR ADDITIONAL LAYOUT DETAILS.
3. 8 IN WHITE GORE POINT AREA AND DIAGONAL HASH MARKINGS IN MMA OR THERMOPLASTIC. DIAGONAL HASH MARKS ON 25 FT C/C AT 45-DEG ANGLE. SPACING CAN BE INCREASED TO 50 FT C/C IF GORE POINT EXCEEDS 150 FT IN LENGTH. SEE PAGE G-F26 FOR ADDITIONAL GORE POINT DETAILS.
4. 4 IN WHITE SKIP LINE - PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) RPMS (ACCEPTABLE)
5. SIGNS - SEE PAGE G-F25 FOR SIGNING DETAILS

NOT TO PS&E QUALITY
NOT TO SCALE

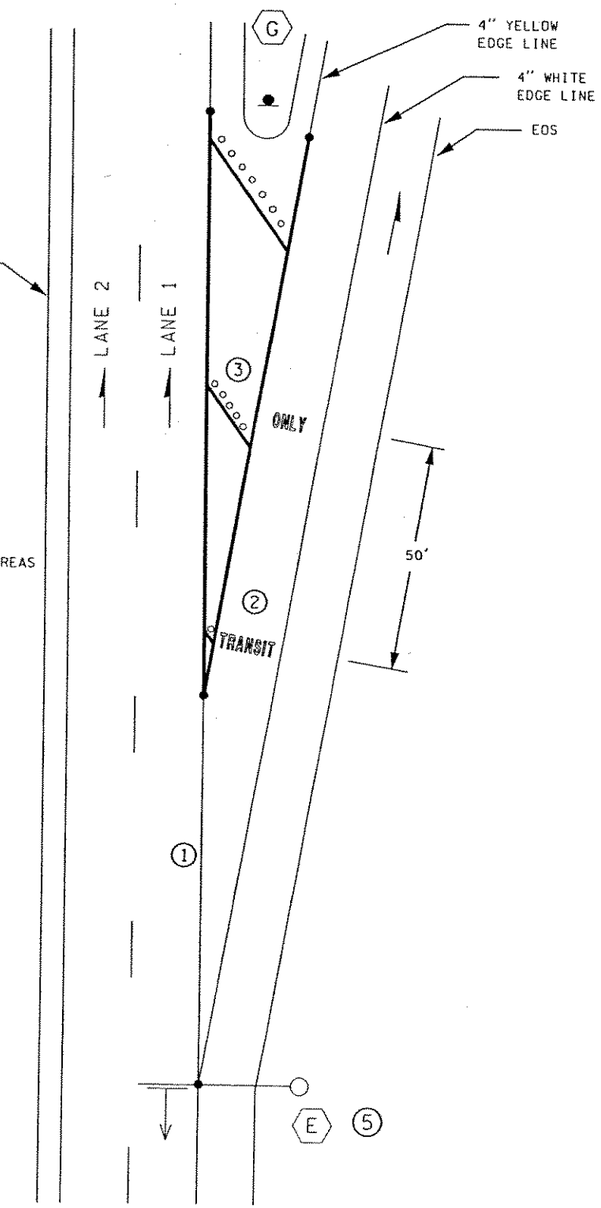
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



TRANSIT ONLY -

LEFT SIDE DIRECT ACCESS OFF-RAMP DETAILS



TRANSIT ONLY -

RIGHT SIDE DIRECT ACCESS OFF-RAMP DETAILS
RIGHT SIDE FLYER STOP OFF-RAMP DETAILS

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PROJ. ENGR.							
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REGION NO.	STATE	FED.AID PROJ.NO.
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JOB NUMBER		
CONTRACT NO.		LOCATION NO.

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Washington State Department of Transportation

FREEWAY -
TRANSIT ONLY AND FLYER STOP
OFF-RAMP STRIPING AND SIGNING DETAILS

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F21

SHEET 1 OF 5 SHEETS

NOTES:

1. 8 IN WHITE GORE POINT AREA AND DIAGONAL HASH MARKINGS IN MMA OR THERMOPLASTIC. DIAGONAL HASH MARKS ON 25 FT C/C AT 45-DEG ANGLE. SPACING CAN BE INCREASED TO 50 FT C/C IF GORE POINT EXCEEDS 150 FT IN LENGTH. SEE PAGE G-F26 FOR ADDITIONAL GORE POINT DETAILS.

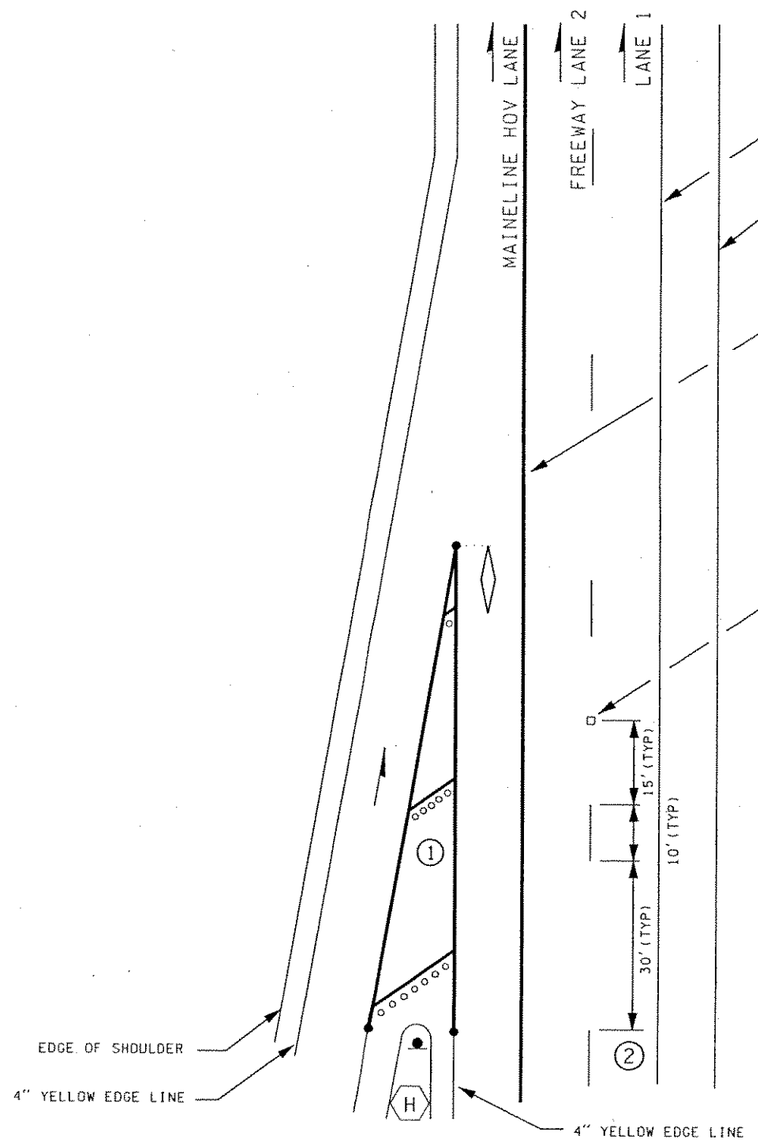
2. 4 IN WHITE SKIP LINE - PROFILED OR FLAT MMA (DESIRABLE)
PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE)
RPMS (ACCEPTABLE)

3. SIGNS - SEE PAGE G-F25 FOR SIGNING DETAILS

NOT TO PS&E QUALITY
NOT TO SCALE

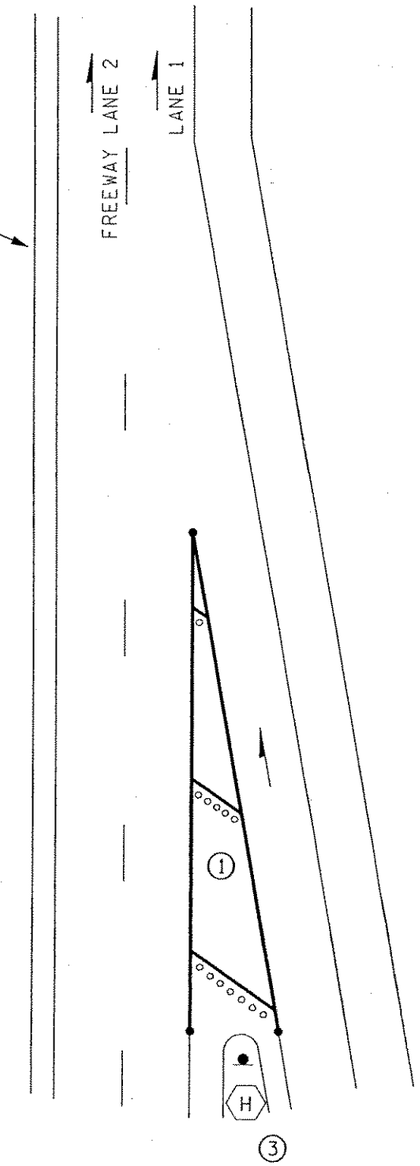
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



TRANSIT ONLY -

LEFT SIDE DIRECT ACCESS ON-RAMP DETAIL



TRANSIT ONLY -

RIGHT SIDE FLYER STOP ON-RAMP DETAIL
DIRECT ACCESS ON-RAMP DETAIL

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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

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Washington State Department of Transportation

FREEWAY -
TRANSIT ONLY AND FLYER STOP
ON-RAMP STRIPING AND SIGNING DETAILS

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F22

SHEET 2 OF 5 SHEETS

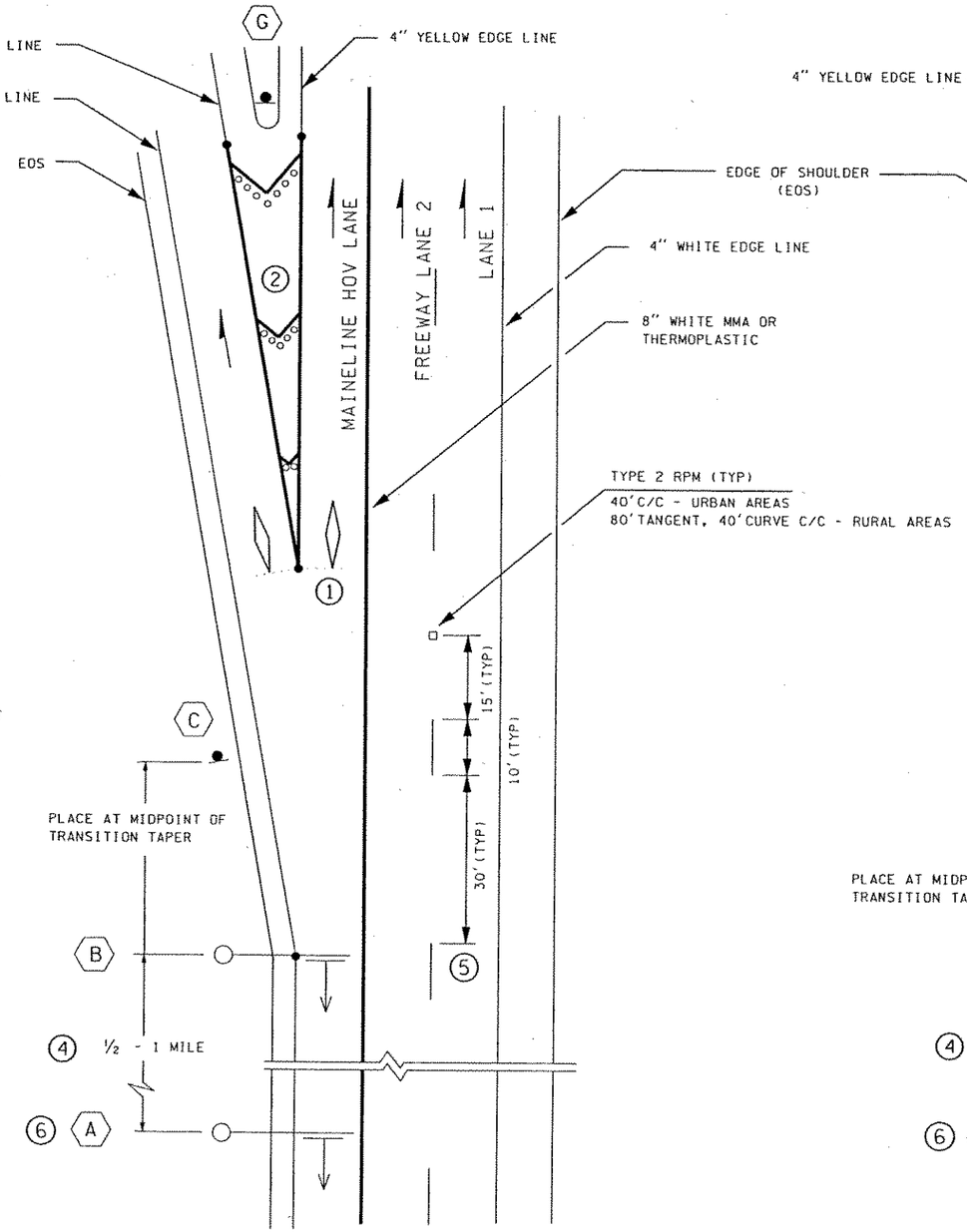
NOTES:

1. 16 FT X 4 FT MMA PAVEMENT DIAMOND SYMBOL.
2. 8 IN WHITE GORE POINT AREA AND DIAGONAL HASH MARKINGS IN MMA OR THERMOPLASTIC. DIAGONAL HASH MARKS ON 25 FT C/C AT 45-DEG ANGLE. SPACING CAN BE INCREASED TO 50 FT C/C IF GORE POINT EXCEEDS 150 FT IN LENGTH. SEE PAGE G-F26 FOR ADDITIONAL GORE POINT DETAILS.
3. 8 IN WHITE SOLID MMA OR THERMOPLASTIC EDGE LINE EXTENSION
4. SIGN SPACING DEPENDS ON SITE CONDITIONS. THE ADVANCED SIGN CAN BE ANYWHERE FROM ½ MILE TO 1 MILE IN ADVANCE OF THE EXIT DEPENDING ON WHAT STRUCTURES MAY BE AVAILABLE TO MOUNT THE SIGN ON ALONG WITH THE ALIGNMENT OF THE ROADWAY.
5. 4 IN WHITE SKIP LINE - PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) RPMS (ACCEPTABLE)
6. SIGNS - SEE PAGE G-F25 FOR SIGNING DETAILS

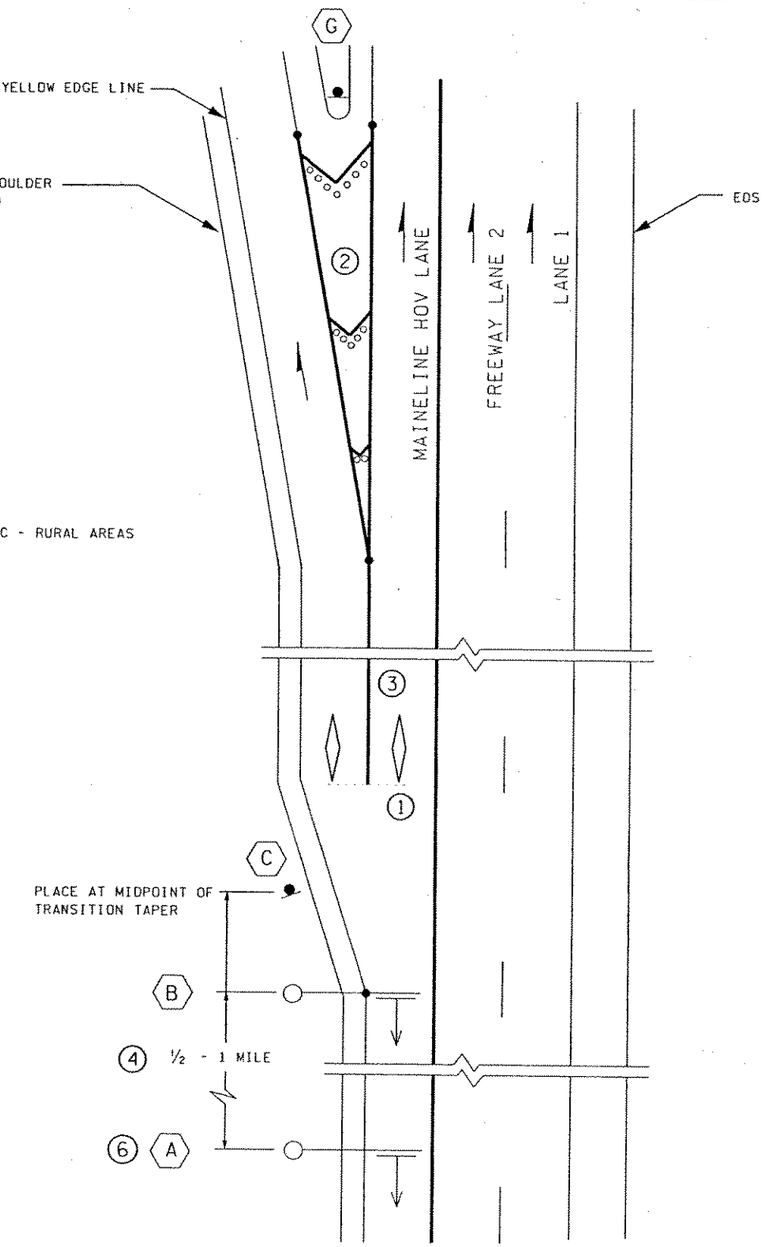
NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



HOV - DIRECT ACCESS OFF-RAMP DETAIL



HOV - DIRECT ACCESS OFF-RAMP WITH DECEL LANE DETAIL

FILE NAME	J:\Redbook\Section G\freeway\transit-flyerstop-hov direct access\G-f23\g_f23.dgn						
TIME	09:00:37 AM						
DATE	08/28/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
HOV DIRECT ACCESS OFF-RAMP
STRIPING AND SIGNING DETAILS

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-F23
SHEET 3 OF 5 SHEETS

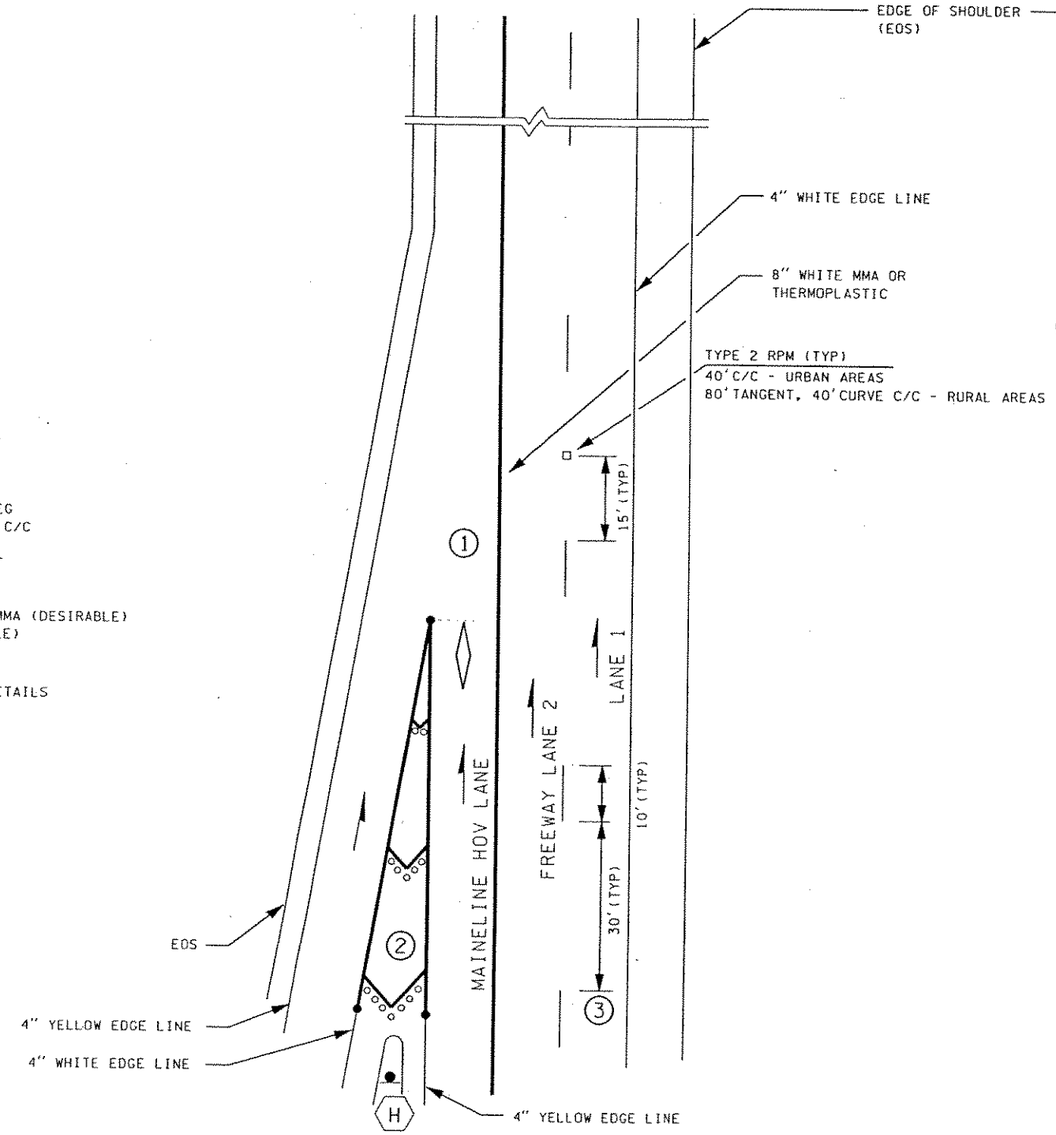
NOTES:

1. 16 FT X 4 FT MMA PAVEMENT DIAMOND SYMBOL.
2. 8 IN WHITE GORE AREA POINT AND DIAGONAL HASH MARKINGS IN MMA OR THERMOPLASTIC. DIAGONAL HASH MARKS ON 25 FT C/C AT 45-DEG ANGLE. SPACING CAN BE INCREASED TO 50 FT C/C IF GORE POINT EXCEEDS 150 FT IN LENGTH. SEE PAGE G-F26 FOR ADDITIONAL GORE POINT DETAILS.
3. 4 IN WHITE SKIP LINE - PROFILED OR FLAT MMA (DESIRABLE) PROFILED OR FLAT THERMOPLASTIC (ACCEPTABLE) RPMS (ACCEPTABLE)
4. SIGNS - SEE PAGE G-F25 FOR SIGNING DETAILS
5. SEE PAGE G-F27 FOR "d" DISTANCE

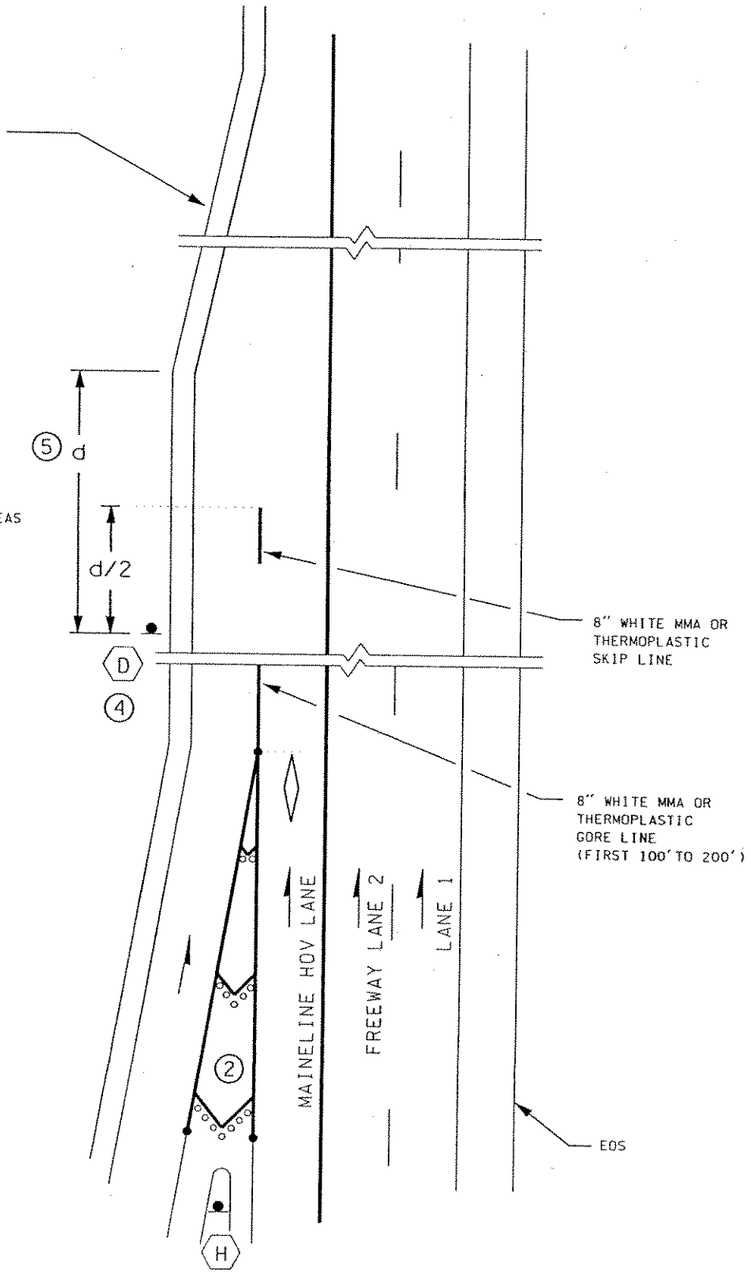
NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



HOV - DIRECT ACCESS ON-RAMP DETAIL



HOV - DIRECT ACCESS ON-RAMP WITH ACCEL LANE DETAIL

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DATE	08/28/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
HOV DIRECT ACCESS ON-RAMP
STRIPING AND SIGNING DETAILS

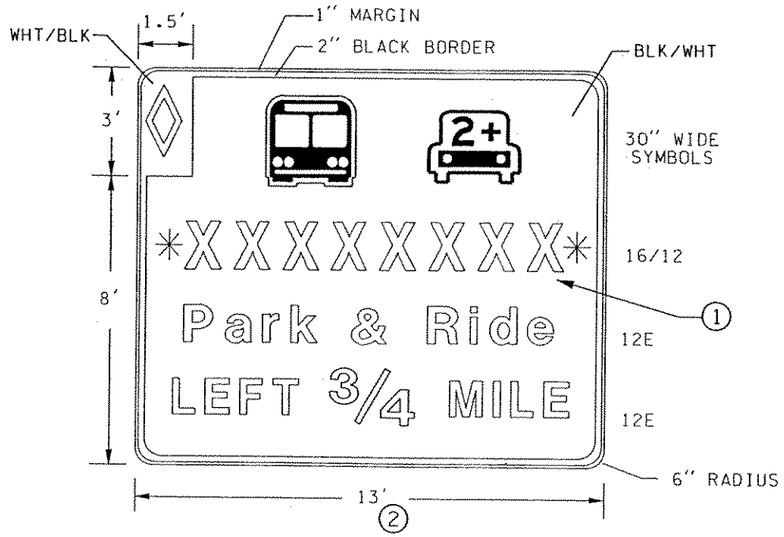
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F24

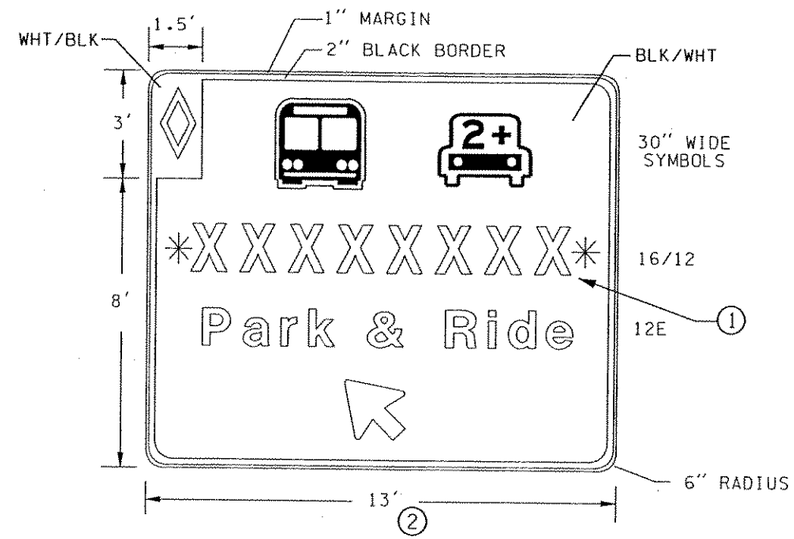
SHEET 4 OF 5 SHEETS



✳ FOR ANY MESSAGE UP TO 126" THE SIGN WILL BE 13' WIDE. FOR ANY MESSAGE OVER 126" THE SIGN WILL HAVE TO BE WIDENED ACCORDINGLY IN 1' INCREMENTS.

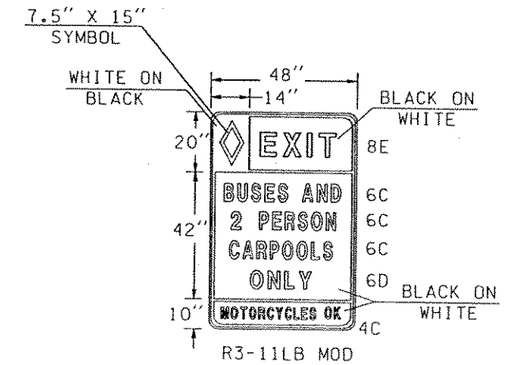
THE ADVANCED SIGN CAN BE ANYWHERE FROM ½ MILE TO 1 MILE IN ADVANCE OF THE EXIT DEPENDING ON WHAT STRUCTURES MAY BE AVAILABLE TO MOUNT THE SIGN ON ALONG WITH THE ALIGNMENT OF THE ROADWAY.

(A)



✳ FOR ANY MESSAGE UP TO 126" THE SIGN WILL BE 13' WIDE. FOR ANY MESSAGE OVER 126" THE SIGN WILL HAVE TO BE WIDENED ACCORDINGLY IN 1' INCREMENTS.

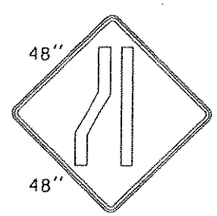
(B)



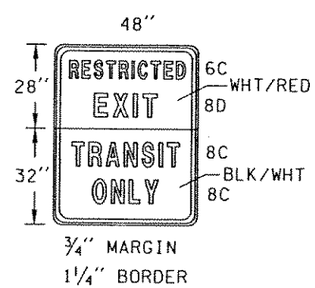
(C)

NOTES:

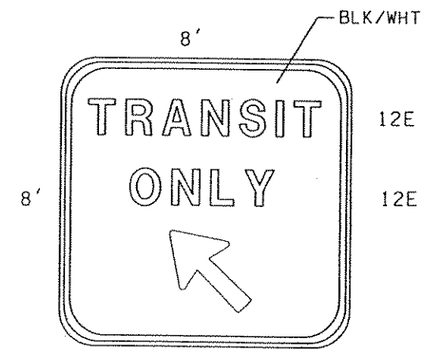
1. GENERIC NAME USE ONLY. (NO SPECIFIC TRANSIT AGENCY NAME) SIGN DESIGN DETAILS FOUND IN CELL LIBRARY ON THE S-DRIVE AT ----------.
2. FOR ANY MESSAGE UP TO 126 IN, THE SIGN WILL BE 13 FT WIDE. FOR ANY MESSAGE OVER 126 IN THE SIGN WILL HAVE TO BE WIDENED ACCORDINGLY IN 1 IN INCREMENTS.



(D)

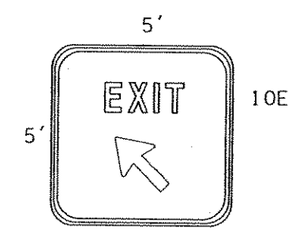


(E)



NO. 6 ARROW

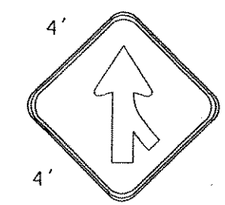
(F)



NO. 4 ARROW

E5-1 OR E5-1A

(G)



W4-1R OR W4-1L

(H)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

TRANSIT AND HOV - SIGN DESIGN DETAILS

FILE NAME	J:\Redbook\Section G\freeway\transit-flyerstop-hov direct access\G-f25\g_f25.dgn				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
TIME	09:05:19 AM				JOB NUMBER		
DATE	08/28/2002				CONTRACT NO.		LOCATION NO.
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY - TRANSIT AND HOV DIRECT ACCESS SIGNING DETAILS

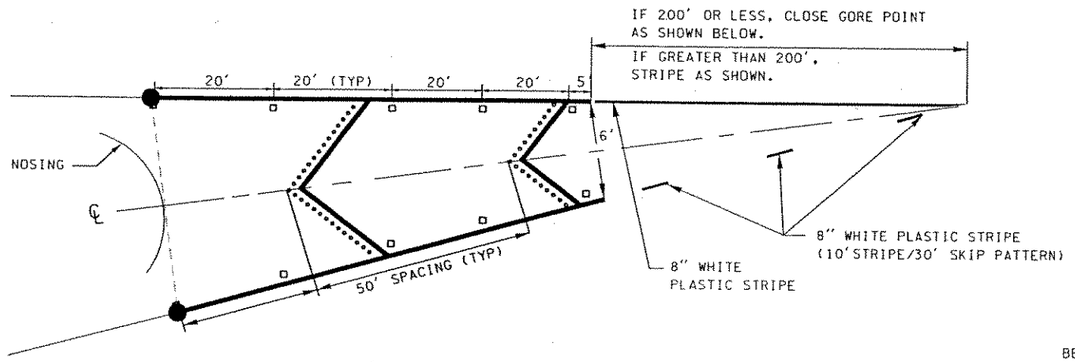
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

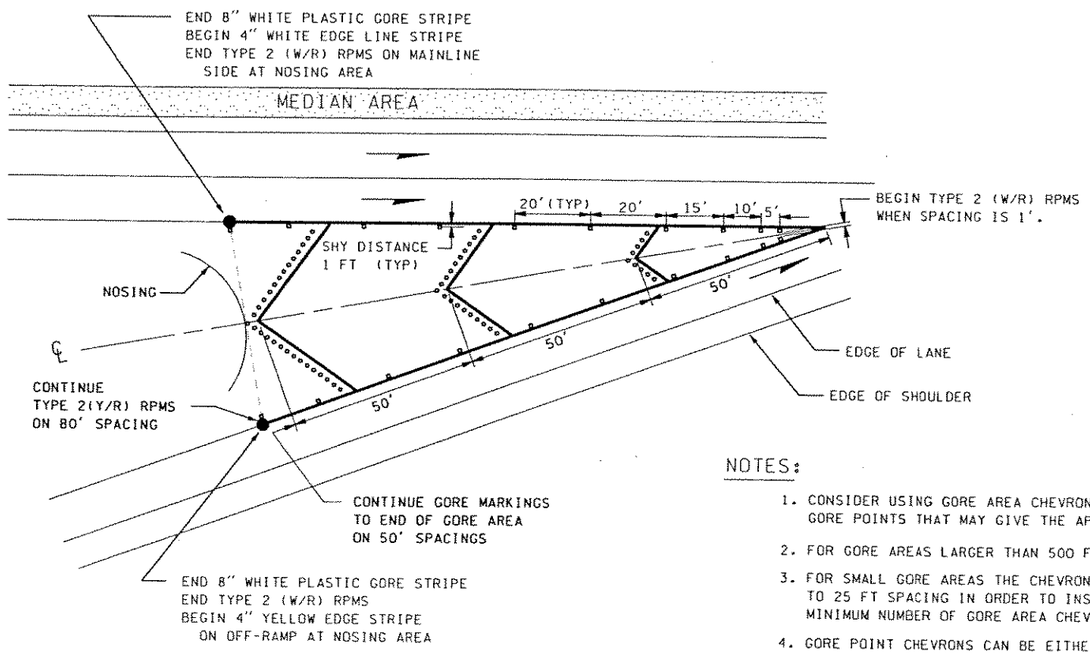
PLOT1

G-F25

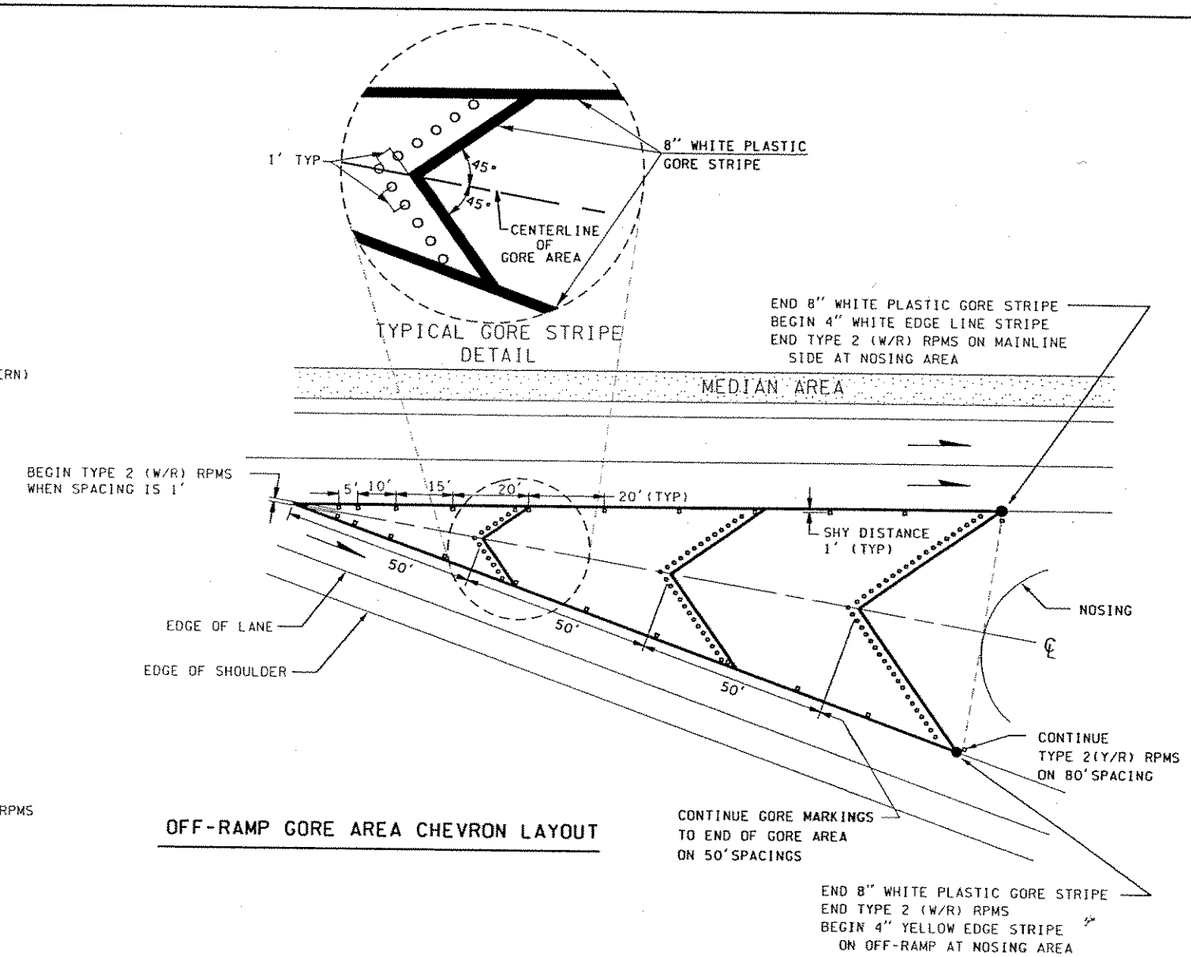
SHEET 5 OF 5 SHEETS



FOR USE IN AGGRESSIVE TRAFFIC AREAS WHERE MAINLINE TRAFFIC CROSSES OVER TO RAMP SIDE



ON-RAMP GORE AREA CHEVRON LAYOUT



OFF-RAMP GORE AREA CHEVRON LAYOUT

LEGEND

○ TYPE 1W RAISED PAVEMENT MARKER

□ TYPE 2W/R (OR Y/R) RAISED PAVEMENT MARKER

NOTES:

1. CONSIDER USING GORE AREA CHEVRONS FOR HIGH VOLUME AREA; AND, FOR LONG GORE POINTS THAT MAY GIVE THE APPEARANCE OF BEING ANOTHER TRAFFIC LANE.
2. FOR GORE AREAS LARGER THAN 500 FT, CHEVRON SPACING MAY BE INCREASED TO 100 FT C/C.
3. FOR SMALL GORE AREAS THE CHEVRON SPACING CAN BE DECREASED TO 25 FT SPACING IN ORDER TO INSTALL A SET OF 3 CHEVRONS AS THE MINIMUM NUMBER OF GORE AREA CHEVRONS.
4. GORE POINT CHEVRONS CAN BE EITHER MMA OR THERMOPLASTIC.
5. THE TERM "PLASTIC" DENOTES EITHER MMA OR THERMOPLASTIC.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\ramp gore area and chevron marking\G-f26\g_f26.dgn						
TIME	08:46:45 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY					CONTRACT NO.	LOCATION NO.	
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

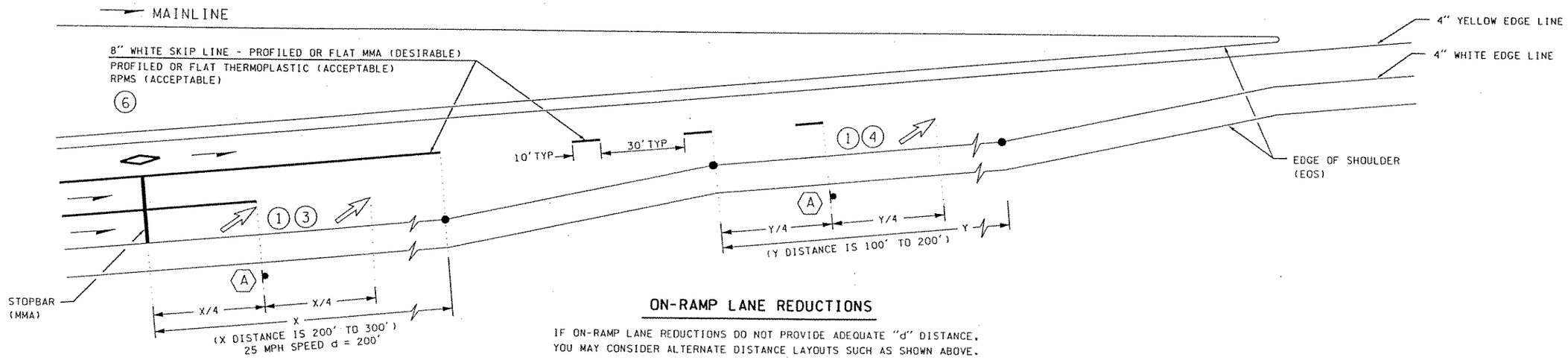
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
RAMP GORE AREA AND CHEVRON MARKING LAYOUTS (FOR USE IN URBAN AND HIGH TRAFFIC AREAS)
REV. 2-26-02 JBR

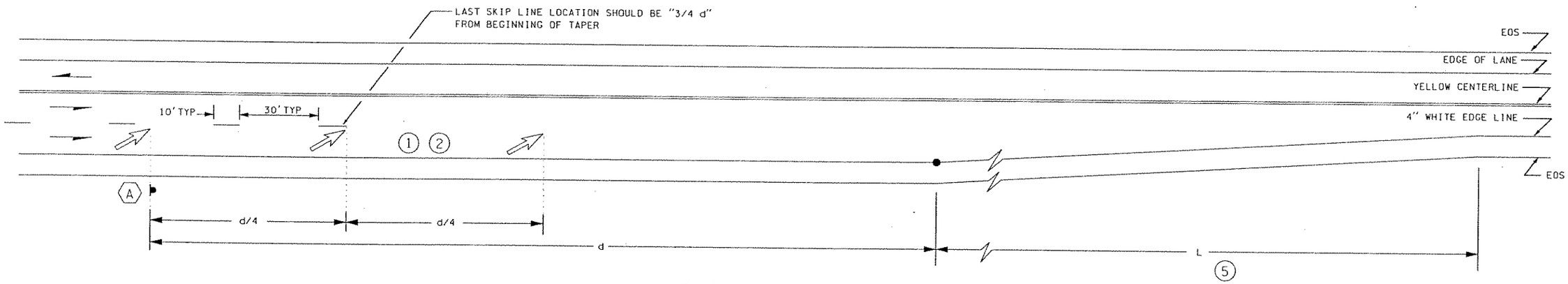
NW REGION TRAFFIC OPERATIONS

PLOT1
G-F26
SHEET 1 OF 1 SHEETS



ON-RAMP LANE REDUCTIONS

IF ON-RAMP LANE REDUCTIONS DO NOT PROVIDE ADEQUATE "d" DISTANCE, YOU MAY CONSIDER ALTERNATE DISTANCE LAYOUTS SUCH AS SHOWN ABOVE.



MAINLINE LANE REDUCTION

NOT TO PS&E QUALITY
NOT TO SCALE

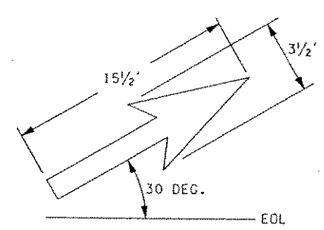
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

MPH	d (FT)
30	325
35	400
40	475
45	550
50	625
55	700
60	775

W4-2L

A



DIAGONAL ARROW DETAIL

NOTES:

1. DIAGONAL LANE MERGE ARROWS SHOULD BE USED ONLY WHEN THERE IS LANE MERGE/YIELD PROBLEMS.
2. IF USED, THE ARROW LAYOUT WILL BE COMPRISED OF 3 ARROWS.
   a) 1ST ARROW WILL BE PLACED ADJACENT TO MERGE SIGN LOCATED AT "d" DISTANCE.
   b) 2ND ARROW WILL BE PLACED ADJACENT TO LAST SKIP LINE/END OF GORE LINE AND LOCATED AT "d/4" DISTANCE FROM 1ST ARROW.
   c) 3RD ARROW WILL BE PLACED AT "d/2" DISTANCE FROM 1ST ARROW.
3. TWO ARROW LAYOUT
4. ONE ARROW LAYOUT
5. L = TAPER LENGTH. FOR 40 MPH OR LESS, $L = WS^2/60$
   FOR 45 MPH OR GREATER, $L = WS$
   WHERE W = LANE WIDTH (FT), S = SPEED (MPH)
6. SEE PAGE G-Z1 FOR ADDITIONAL STRIPING INFORMATION

FILE NAME	j:\Redbook\Section G\freeway\lane reduction using merge arrows\G-f27\g_f27.dgn					
TIME	02:47:03 PM					
DATE	08/28/2002					
DESIGNED BY						
ENTERED BY						
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
LANE REDUCTIONS USING MERGE ARROWS
FOR ADDED EMPHASIS

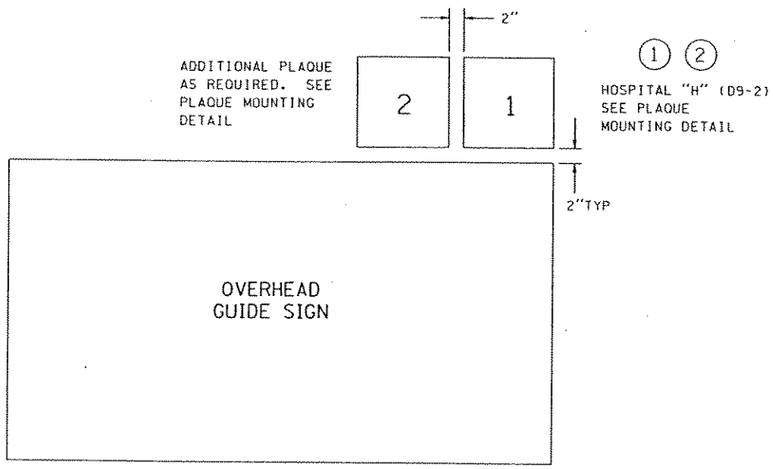
REV. 2-26-02 JBR

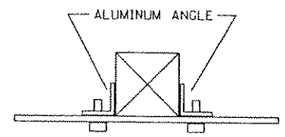
NW REGION TRAFFIC OPERATIONS

PLOT1

G-F27

SHEET 1 OF 1 SHEETS



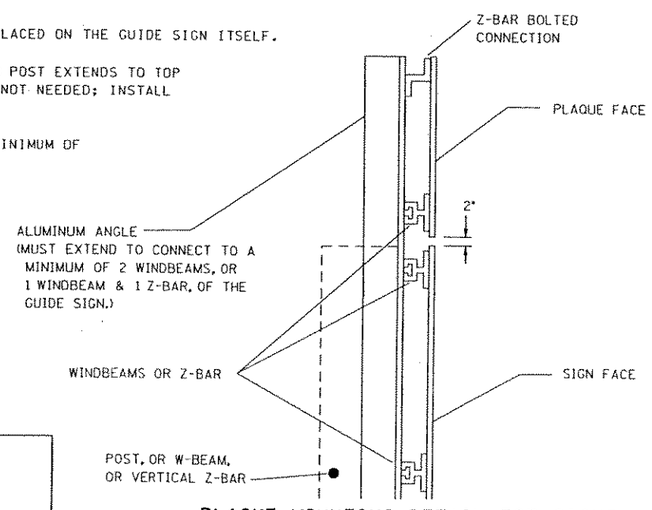


TYPICAL -5/16"SS BOLTS WITH 2 WASHERS AND NUT. ON SIGNS WITH Type III, IV, OR VII SHEETING, USE A NYLON WASHER ON THE SIGN FACE.

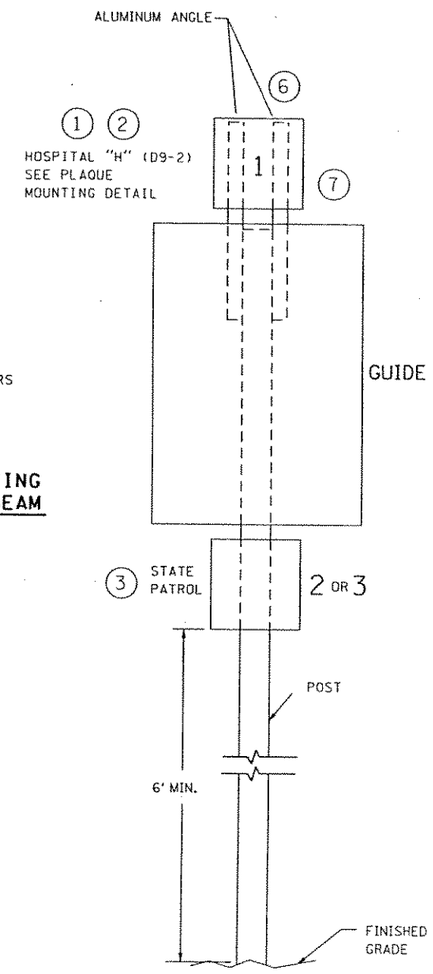
SINGLE POST WOOD - PLAQUE MOUNTING DETAIL FOR SIGNS WITHOUT WINDBEAM

NOTES:

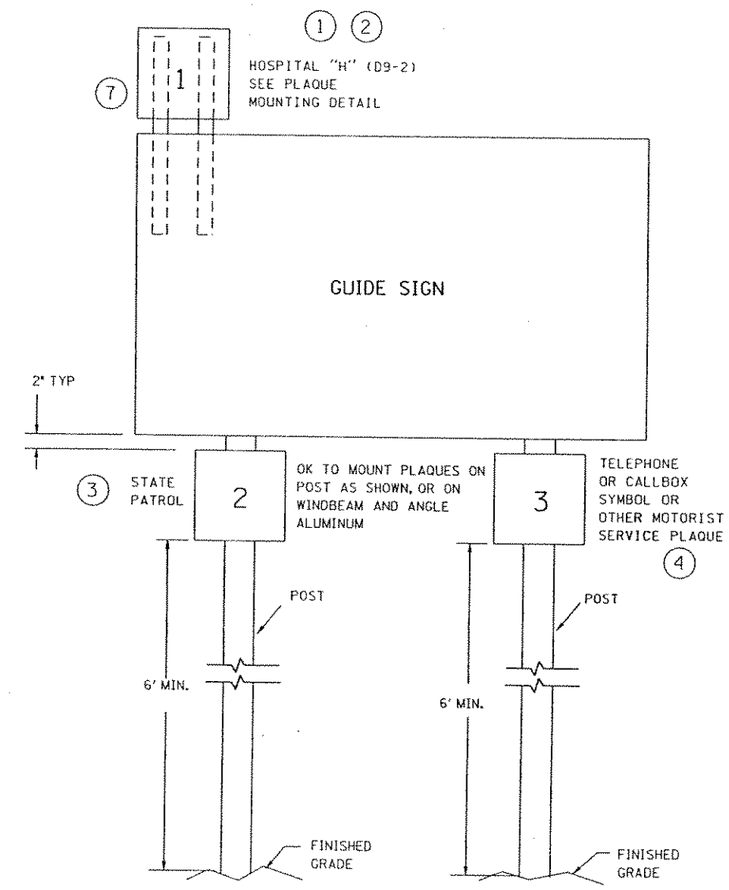
1. ALWAYS USE THE SYMBOL "H" FOR THE HOSPITAL PLAQUE.
2. IF APPROPRIATE,"AMBULANCE STATION" MAY BE SUSTITUTED. OR SEE NEW MUTCD LEGENDS FOR HOSPITAL.
3. IF APPROPRIATE, "POLICE" (D9-19) OR "SHERIFF" MAY BE SUBSTITUTED FOR "STATE PATROL".
4. ALWAYS USE THE TELEPHONE SYMBOL (D9-1) INSTEAD OF THE LEGEND.
5. NO SUPPLEMENTAL SIGN MAY BE PLACED ON THE GUIDE SIGN ITSELF.
6. ON SINGLE POST SIGNS, IF WOOD POST EXTENDS TO TOP OF PLAQUE, ALUMINUM ANGLE IS NOT NEEDED; INSTALL PLAQUE SAME AS GUIDE SIGN.
7. PLAQUES ALWAYS MOUNTED ONTO MINIMUM OF TWO ALUMINUM ANGLE PIECES.



PLAQUE MOUNTING DETAIL FOR SIGNS WITH WINDBEAM - END VIEW



SINGLE POST INSTALLATION



DOUBLE POST INSTALLATION

PLACEMENT AND MOUNTING DETAIL OF EMERGENCY SERVICES AND SUPPLEMENTAL SIGNS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\freeway\placement of emergency signs and supplemental signs\G-f28\g_f28.dgn					
TIME	08:38:43 AM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002			JOB NUMBER		
DESIGNED BY				CONTRACT NO.	LOCATION NO.	
ENTERED BY						
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

PLACEMENT OF EMERGENCY SERVICES AND SUPPLEMENTAL SIGNS

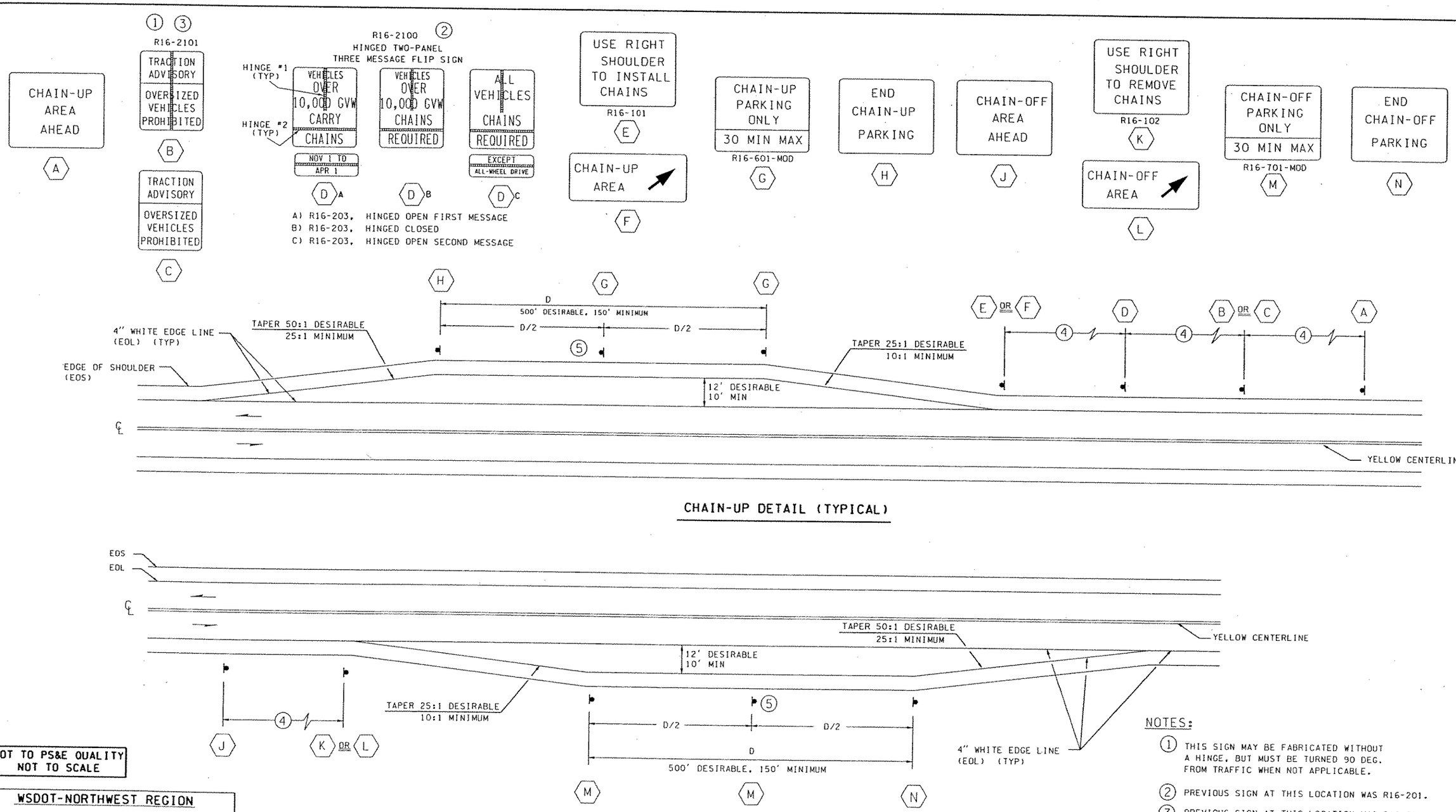
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-F28

SHEET 1 OF 1 SHEETS



NOTES:

1. THIS SIGN MAY BE FABRICATED WITHOUT A HINGE, BUT MUST BE TURNED 90 DEG. FROM TRAFFIC WHEN NOT APPLICABLE.
2. PREVIOUS SIGN AT THIS LOCATION WAS R16-201.
3. PREVIOUS SIGN AT THIS LOCATION WAS R16-501A.
4. 500 FT +/- DESIRABLE, 300 FT +/- MINIMUM
5. FOR AREAS OF LESS THAN 300 FT, ONLY ONE SIGN NEEDED

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\conv roadway\Chain-up and Chain-off area striping and signing\G-cr1\g_cr1.dgn				
TIME	02:45:04 PM				
DATE	08/28/2002				
DESIGNED BY					
ENTERED BY					
CHECKED BY					
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

CONVENTIONAL ROADWAY - CHAIN-UP AND CHAIN-OFF AREA STRIPING AND SIGNING LAYOUTS

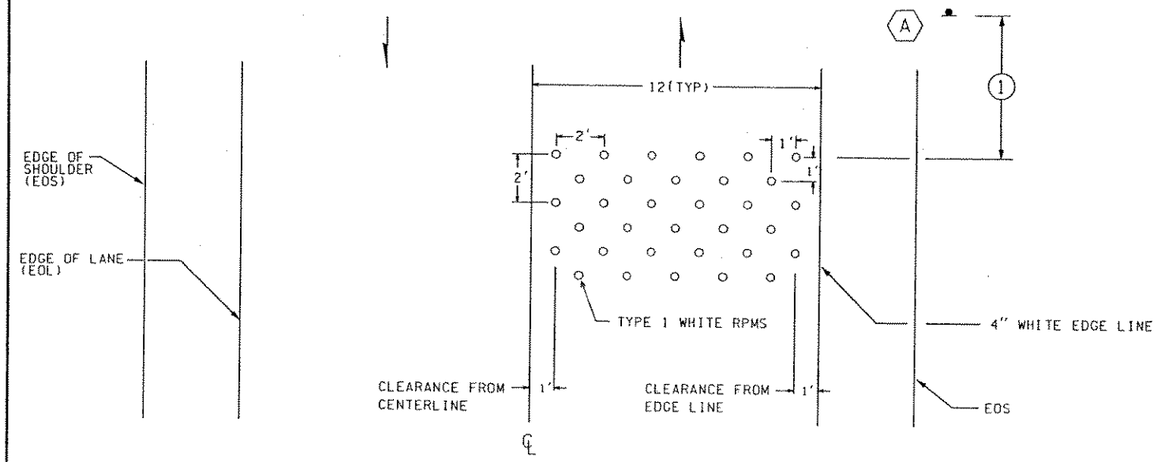
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

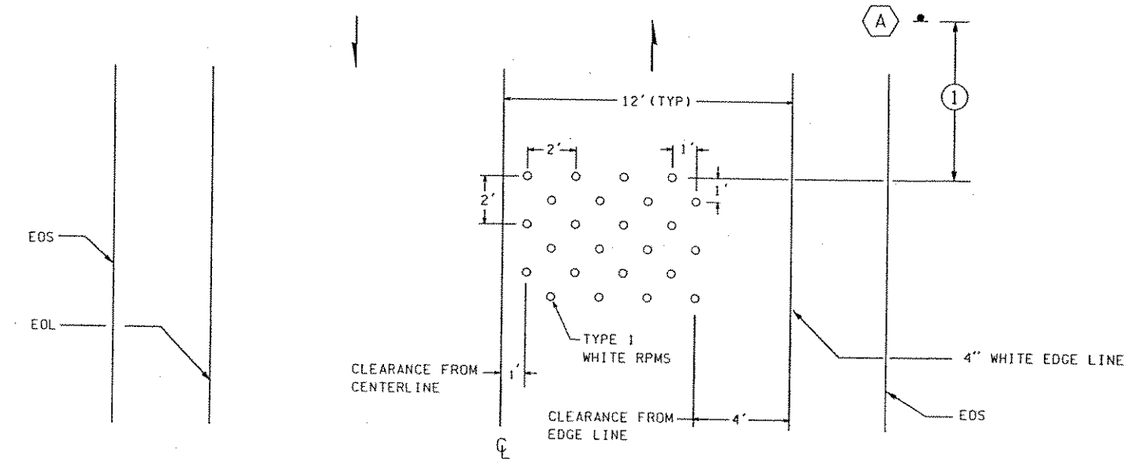
PLOT1

G-CR1

SHEET 1 OF 1 SHEETS

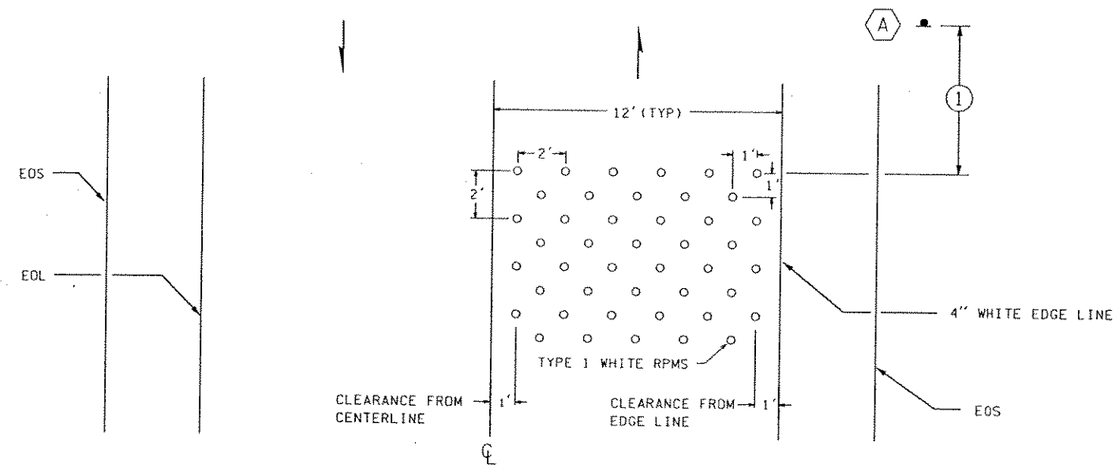


TYPE 1-RUMBLE (NOISE) STRIP LAYOUT (6 ROW LAYOUT)



TYPE 2-RUMBLE (NOISE) STRIP LAYOUT (6 ROW LAYOUT)

(CLEARANCE FOR MOTORCYCLES AND BICYCLES)



TYPE 3-RUMBLE (NOISE) STRIP LAYOUT (8 ROW LAYOUT)

(HIGHER NOISE VOLUME)

SPACE RESERVED FOR TYPE-4 RUMBLE STRIP LAYOUT

(WHICH IS STILL UNDER EVALUATION)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

(A) SIGNS SUCH AS:
ADVANCE SPEED LIMIT, WARNING, SPEED LIMIT, STOP SIGN, ETC.

NOTES:

(1) SPACING BETWEEN SIGN AND FIRST BAR:
50 FT TO 100 FT FOR RAMPS
100 FT TO 150 FT AT INTERSECTIONS

FILE NAME	J:\Redbook\Section G\conv roadway\Rumble and Speed strip\G-cr2\g_cr2.dgn					
TIME	03:03:20 PM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/27/2002			JOB NUMBER		
DESIGNED BY						
ENTERED BY						
CHECKED BY				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

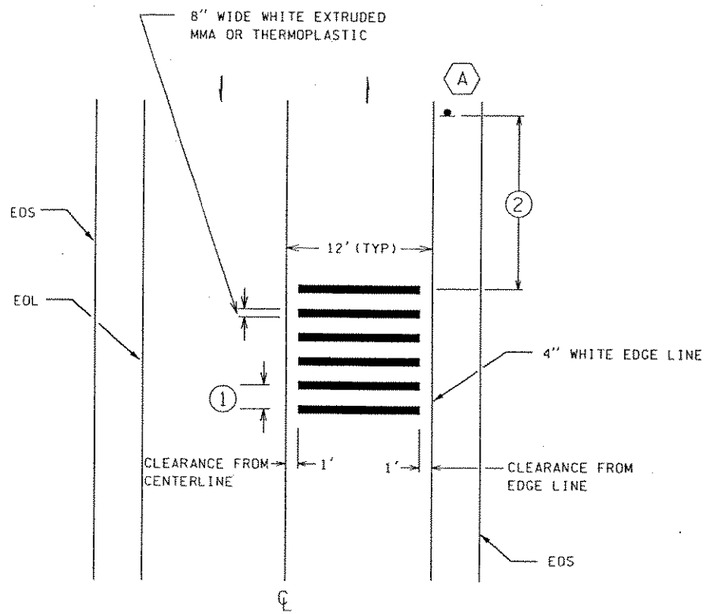
Washington State Department of Transportation

CONVENTIONAL ROADWAY -
RUMBLE (NOISE) AND SPEED (VISUAL) STRIP
SINGLE PATTERN LAYOUTS

REV. 2-26-02 JBR

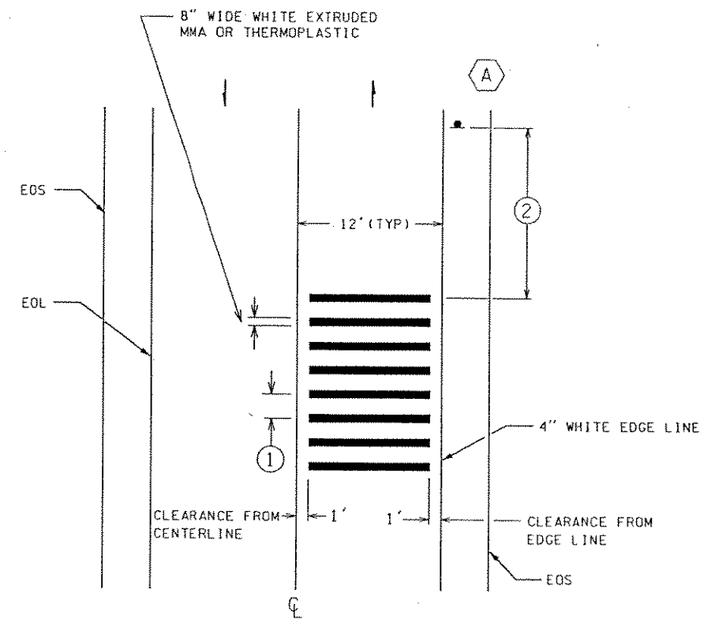
NW REGION TRAFFIC OPERATIONS

PLOT1
G-CR2
SHEET 1 OF 3 SHEETS



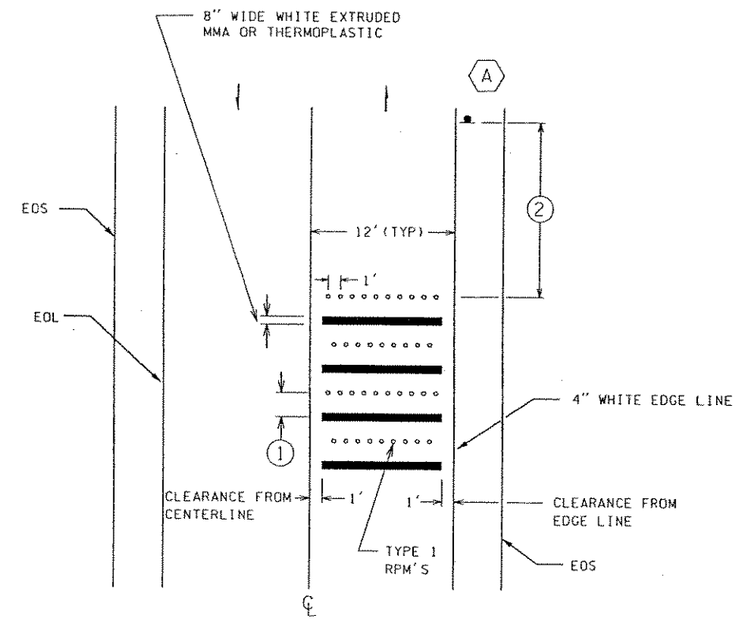
TYPE 5-SPEED (VISUAL) STRIP LAYOUT - 6 ROW LAYOUT

(MUTED NOISE)



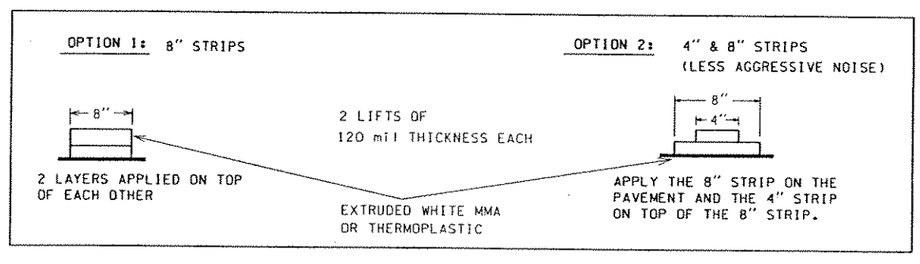
TYPE 6-SPEED (VISUAL) STRIP LAYOUT - 8 ROW LAYOUT

(MORE VISIBLE/MORE MUTED NOISE)



TYPE 7-SPEED/RUMBLE (VISUAL/AUDIO) STRIP LAYOUT

(MIX OF VISUAL AND NOISE)



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NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

(A) SIGNS SUCH AS:
ADVANCE SPEED LIMIT, WARNING, SPEED LIMIT, STOP SIGN, ETC.

NOTES:

(1) SPACING BETWEEN TRANSVERSE BARS:

3 FT FOR 30 MPH
4 FT FOR 40 MPH
5 FT FOR 50 MPH
6 FT FOR 60 MPH OR OVER

(2) SPACING BETWEEN SIGN AND FIRST BAR:

50 FT TO 100 FT FOR RAMPS
100 FT TO 150 FT AT INTERSECTIONS

(3) SPEED STRIPS APPEAR TO BE SOMEWHAT EFFECTIVE IN REDUCING THE OPERATIONAL SPEED OF THE FIRST TIME USER. HOWEVER, THERE DOES NOT APPEAR TO BE A LONG TERM EFFECT IN REDUCING THE OPERATIONAL SPEED WITH THE SPEED STRIPS. THE USE OF SPEED STRIPS SHOULD BE RESTRICTED TO HIGH ACCIDENT LOCATIONS.

(4) CONSULT NWR TRAFFIC OPERATIONS FOR LAYOUT OPTIONS IF THE AREA HAS HIGH BICYCLE USAGE.

FILE NAME	j:\Redbook\Section G\conv roadway\Rumble and Speed strip\G-cr3\g_cr3.dgn						
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DATE	08/27/2002				10 / WASH		
DESIGNED BY					JOB NUMBER		
ENTERED BY							
CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

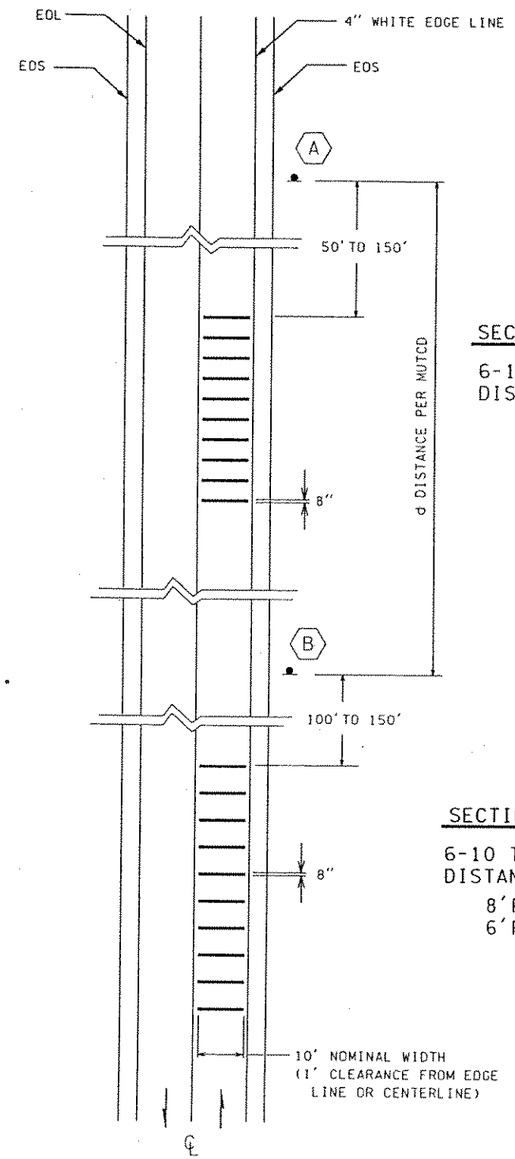
Washington State
Department of Transportation

CONVENTIONAL ROADWAY -
RUMBLE (NOISE) AND SPEED (VISUAL) STRIP
SINGLE PATTERN LAYOUTS

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-CR3
SHEET 2 OF 3 SHEETS



10' TRAVERSE BAR LAYOUT

SECTION 2:

6-10 TRANSVERSE STRIPS;
DISTANCE BETWEEN STRIPS:
3' FOR 35 MPH AND UNDER
4' FOR OVER 35 MPH

SECTION 1:

6-10 TRANSVERSE STRIPS;
DISTANCE BETWEEN STRIPS:
8' FOR 60 MPH OR OVER
6' FOR 55 MPH OR UNDER

OBJECTIVE:

TO REDUCE SPEED BY
USING BOTH BOTH VISUAL
AND MUTED NOISE SIGNALS.

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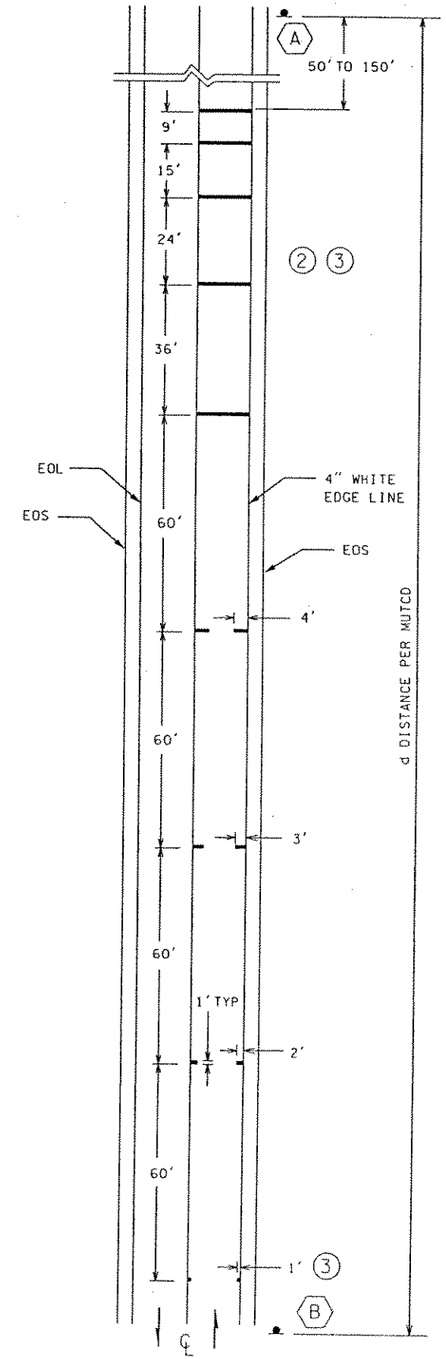
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

TYPE 8-DOUBLE SPEED STRIP LAYOUT
FOR USE AT HIGH SPEED AREAS



A SPEED LIMIT / INTERSECTION / STOP SIGN / ETC.

B ADVANCE SPEED LIMIT / INTERSECTION AHEAD / WARNING SIGN / ETC.

NOTES:

1. SPEED STRIPS APPEAR TO BE SOMEWHAT EFFECTIVE IN REDUCING THE OPERATIONAL SPEED OF THE FIRST TIME USER. HOWEVER, THERE DOES NOT APPEAR TO BE A LONG TERM EFFECT IN REDUCING THE OPERATIONAL SPEED WITH THE SPEED STRIPS. THE USE OF SPEED STRIPS SHOULD BE RESTRICTED TO HIGH ACCIDENT LOCATIONS.
2. CONSULT NWR TRAFFIC OPERATIONS FOR LAYOUT OPTIONS. IF THE AREA HAS HIGH BICYCLE USAGE.
3. TRANSVERSE BARS ABUTT BOTH THE EDGE LINE AND THE CENTERLINE. BARS ARE DOUBLE LAYER EXTRUDED WHITE MMA OR THERMOPLASTIC AS SHOWN ON PAGE G-CR3. FOR INCREASED VISIBILITY, THE TYPE-8 BARS CAN HAVE A BASE WIDTH OF 12 IN AND THE TOP WIDTH OF 8 IN.

TYPE 8-OPTICAL ILLUSION - CLOSING BAR LAYOUT

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DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

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Washington State Department of Transportation

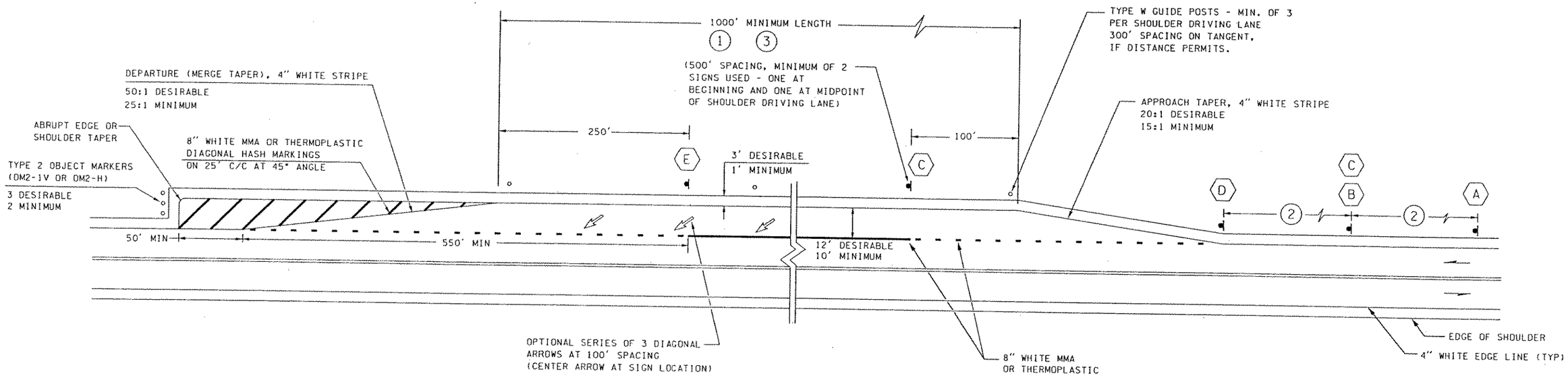
CONVENTIONAL ROADWAY -
RUMBLE (NOISE) AND SPEED (VISUAL) STRIP
MULTIPLE PATTERN LAYOUTS

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1 G-CR4

SHEET 3 OF 3 SHEETS



NOTES:

1. THIS LAYOUT DOES NOT SHOW ANY INTERSECTIONS OR DRIVEWAYS WITHIN THE SHOULDER DRIVING AREA. DUE TO POTENTIAL CONFLICTS AT INTERSECTIONS, IT MAY BE MORE APPROPRIATE TO TERMINATE THE SHOULDER DRIVING AREA AS AN INTERSECTION RIGHT TURN LANE, OR TERMINATE THE DRIVING AREA PRIOR TO THE INTERSECTION.
2. 500 FT NORMAL SPACING BETWEEN SIGNS (TYP).
3. INSTALL "NO PARKING / TOW AWAY ZONE" SIGNS ON SIGN POSTS WITHIN SHOULDER DRIVING AREA. THE PARKING RESTRICTION REQUIRES A CALENDER ACTION APPROVAL FROM THE NWR TRAFFIC MANAGER. TRAFFIC OPERATIONS WILL PROCESS THE CALENDER ACTION.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

SHOULDER DRIVING LANE xx MILES AHEAD OR SHOULDER DRIVING LANE xx FEET AHEAD
I-SPECIAL A
(A)

DAYLIGHT HOURS ONLY
I8-701
(B)
(OPTIONAL)

SLOW VEHICLES MAY USE SHOULDER
I8-501
(C)

BEGIN SHOULDER DRIVING
I-SPECIAL B
(D)

END SHOULDER DRIVING
I8-601
(E)

FILE NAME	J:\Redbook\Section G\conv roadway\shoulder driving area striping and signing\G-cr5\g_cr5.dgn					
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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

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CONVENTIONAL ROADWAY - SHOULDER DRIVING AREA STRIPING AND SIGNING GUIDELINES

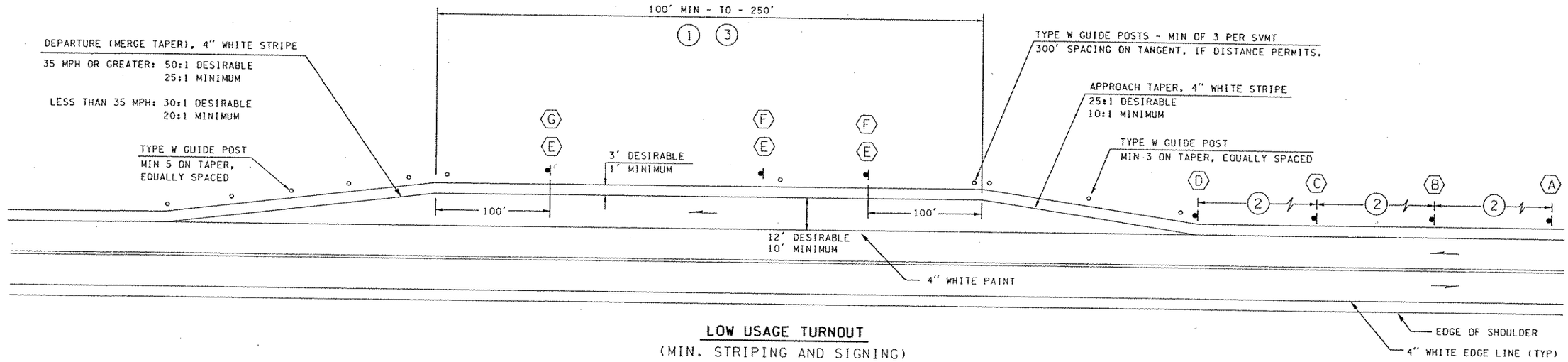
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

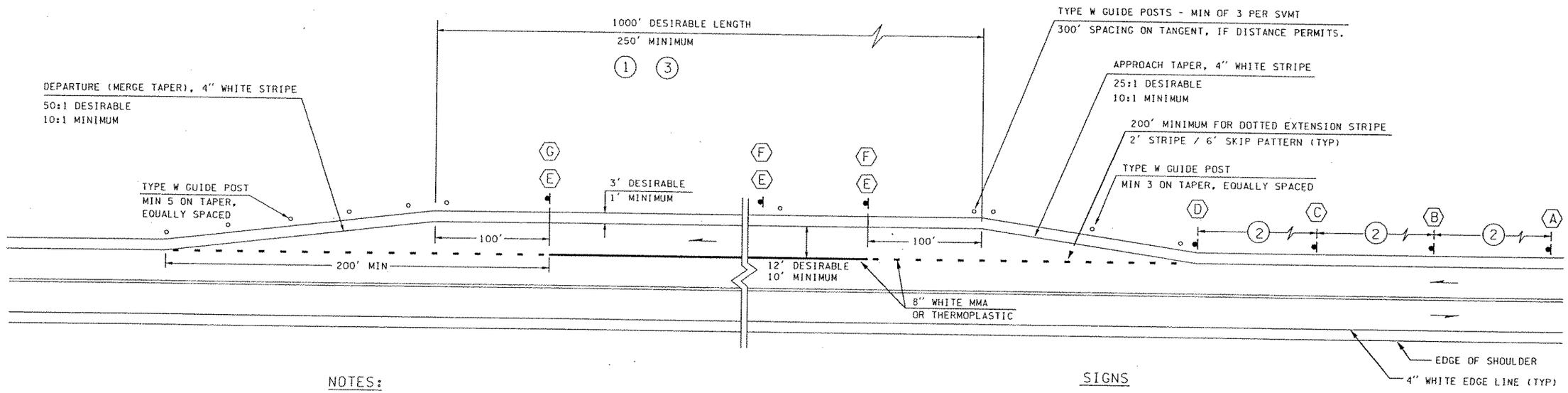
G-CR5

SHEET 1 OF 1 SHEETS



LOW USAGE TURNOUT

(MIN. STRIPING AND SIGNING)



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. THIS LAYOUT DOES NOT SHOW ANY INTERSECTIONS OR DRIVEWAYS WITHIN THE SMVT AREA. DUE TO POTENTIAL CONFLICTS AT INTERSECTIONS, IT MAY BE MORE APPROPRIATE TO TERMINATE THE SMVT AREA AS AN INTERSECTION RIGHT TURN LANE, OR TERMINATE THE SMVT AREA PRIOR TO THE INTERSECTION.
2. 500 FT NORMAL SPACING BETWEEN SIGNS (TYP).
3. INSTALL "NO PARKING / TOW AWAY ZONE" SIGNS ON SIGN POSTS WITHIN SMVT AREA. THE PARKING RESTRICTION REQUIRES A CALENDER ACTION APPROVAL FROM THE NWR TRAFFIC MANAGER. TRAFFIC OPERATIONS WILL PROCESS THE CALENDER ACTION.

SIGNS

(OPTIONAL) (A) I8-101= SLOW VEHICLES USE TURNOUTS NEXT XX MILES
(B) I8-201= DELAY OF 5 VEHICLES ILLEGAL MUST USE TURNOUTS
(C) I8-401= SLOW VEHICLE TURNOUT XXX FEET
(D) I8-301= SLOW VEHICLE TURNOUT (WITH ARROW)
(OPTIONAL) (E) R8-3A = NO PARKING (SYMBOL), OR, R8-3 = NO PARKING SAME POST AS (F) AND (G)
(F) I8-501 = SLOW VEHICLES MAY USE SHOULDER
(G) I-SPECIAL C = END SLOW VEHICLE TURNOUT (WITH ARROW)

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DESIGNED BY					CONTRACT NO.	LOCATION NO.	
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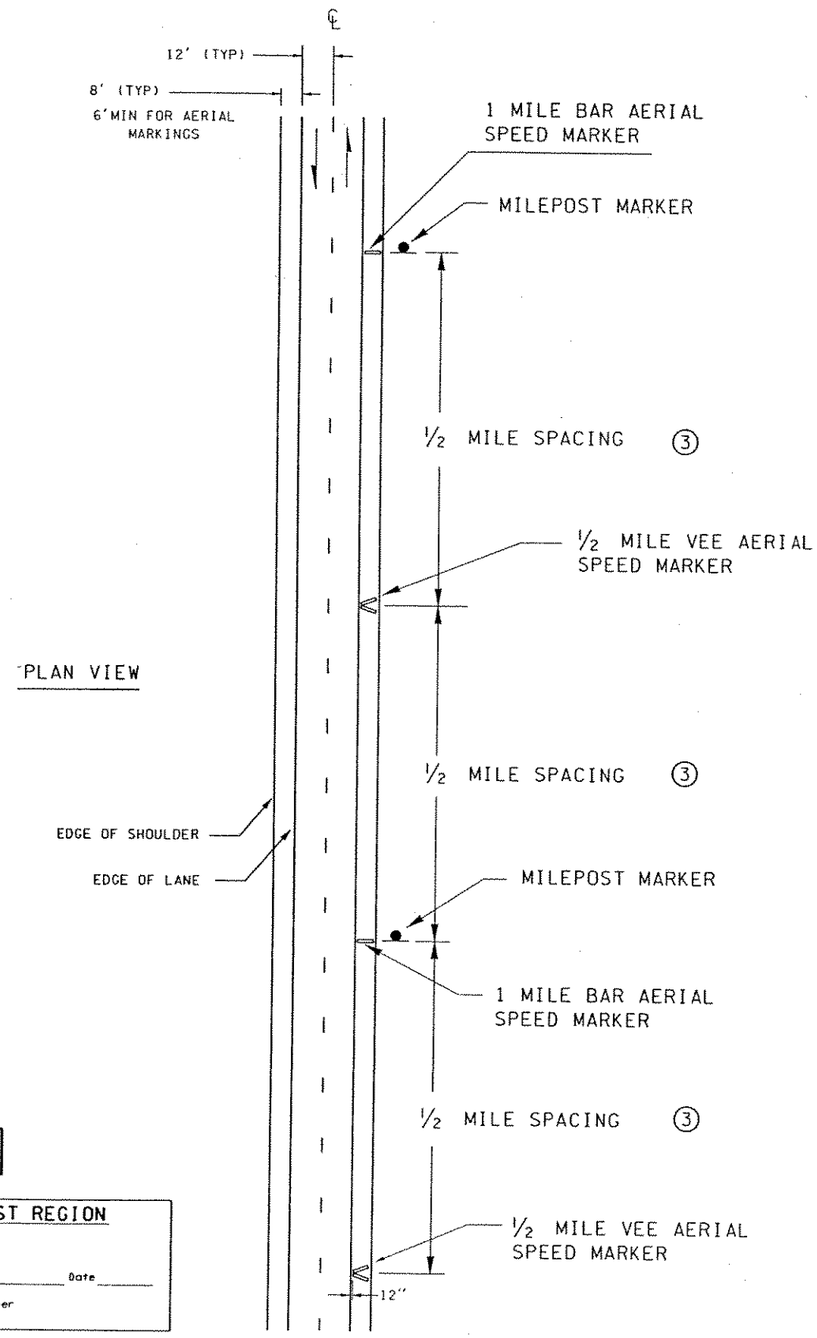
CONVENTIONAL ROADWAY -
SLOW MOVING VEHICLE TURNOUT (SMVT)
STRIPING AND SIGNING GUIDELINES

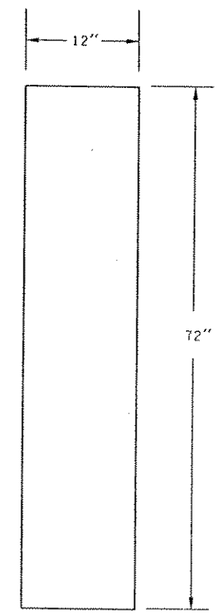
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-CR6
SHEET 1 OF 1 SHEETS

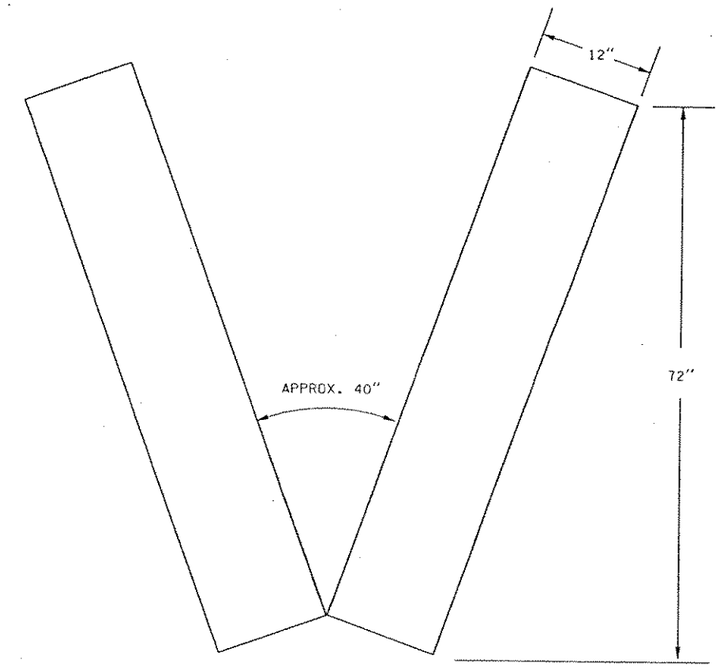


PLAN VIEW



1 MILE BAR MARK

① ③



½ MILE VEE MARK

① ③

NOTES:

① 6 FT BAR LENGTH IS BASED ON AN 8 FT SHOULDER WIDTH. IF SHOULDER WIDTH IS LESS THAN 8 FT, DECREASE THE BAR LENGTH ACCORDINGLY.

② THE NOMINAL COURSE LENGTH IS 2½ TO 3 MILES LONG. RCW 46.61.470 - MAX. LAYOUT ERROR NOT TO EXCEED 5% (i.e. +/- 132 FT IN ½ MILE).
WSP WOULD LIKE A TOLERANCE OF +/- 5 FT IN ½ MILE.

③ MARKING OPTIONS:
a) 1st CHOICE IS TO INSTALL INLAYED MMA WITH A ⅜IN TO ½IN INLAY DEPTH.
b) 2nd CHOICE IS TO INSTALL RAISED MMA THAT IS ⅜IN TO ½IN THICK.

④ WSP REQUESTS THE GENERAL LOCATION. TRAFFIC OPERATIONS REVIEWS AND CONFIRMS SPECIFIC SITE LOCATIONS. THE NWR PAVEMENT MARKING GROUP WILL BE RESPONSIBLE FOR THE INSTALLATION AND CERTIFICATION OF ALL AERIAL SPEED LAYOUTS IN THE NWR.
A LAYOUT CERTIFICATION LETTER IS REQUIRED FOR EACH NEW LAYOUT.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\conv roadway\WSP aerial speed marking\G-cr7\g_cr7.dgn						
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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

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CONVENTIONAL ROADWAY - WSP AERIAL SPEED MARKING LAYOUT

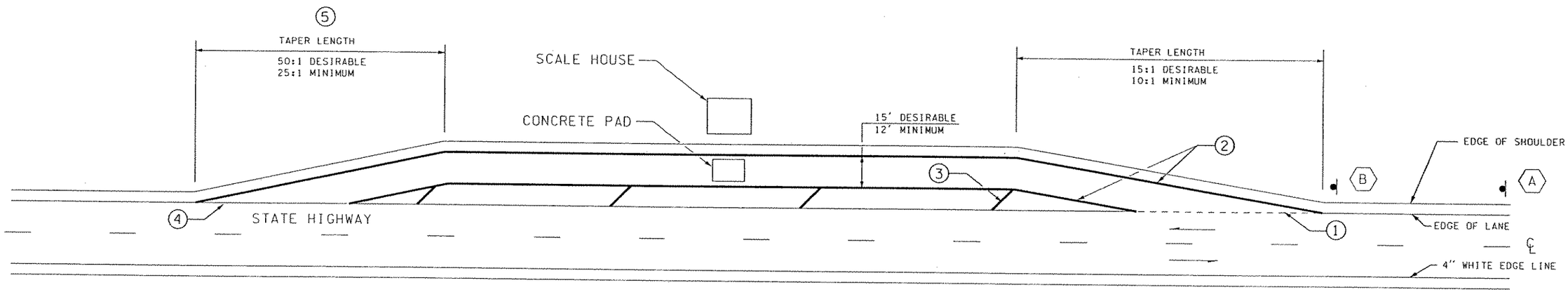
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-CR7

SHEET 1 OF 1 SHEETS



NOTES:

1. WEIGH STATION ENTRANCE:
STRIPE A DOTTED EXTENSION LINE ACROSS THE ENTRANCE
IN MMA OR THERMOPLASTIC USING A 2 FT STRIPE / 6 FT SKIP PATTERN.

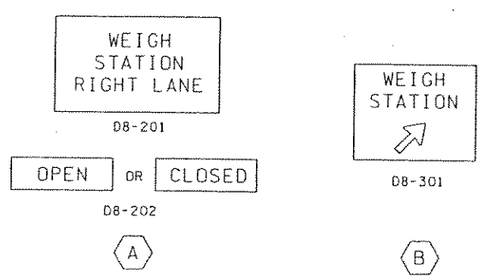
2. 8 IN WHITE MMA OR THERMOPLASTIC EDGE LINES, BOTH SIDES.

3. IF APPLICABLE, INSTALL 8 IN WHITE MMA OR THERMOPLASTIC DIAGONAL
CROSS-HATCH LINES IN SHOULDER AREA BETWEEN THE TWO DRIVEWAYS.
USE 50' SPACING BETWEEN DIAGONAL LINES.

4. WEIGH STATION EXIT: STRIPE A SOLID EDGE LINE ACROSS THE EXIT
IN MMA OR THERMOPLASTIC, IF STATION HAS ONE-WAY TRAFFIC.
STRIPE A DOTTED EXTENSION LINE ACROSS THE DRIVEWAY,
IF IT HAS TWO-WAY TRAFFIC.

5. IF TAPER LENGTH CANNOT BE OBTAINED,
CONTACT NWR TRAFFIC OPERATIONS FOR REVIEW.

6. IF A PARKING RESTRICTION IS REQUESTED BY THE WSP, IT WILL
REQUIRE A CALENDAR ACTION APPROVAL FROM THE NWR TRAFFIC
MANAGER. TRAFFIC OPERATIONS WILL PROCESS THE CALENDAR ACTION.



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WSDOT-NORTHWEST REGION

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Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\conv roadway\WSP weigh station striping for 2 lane conv roadway\G-cr8\g_cr8.dgn					
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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

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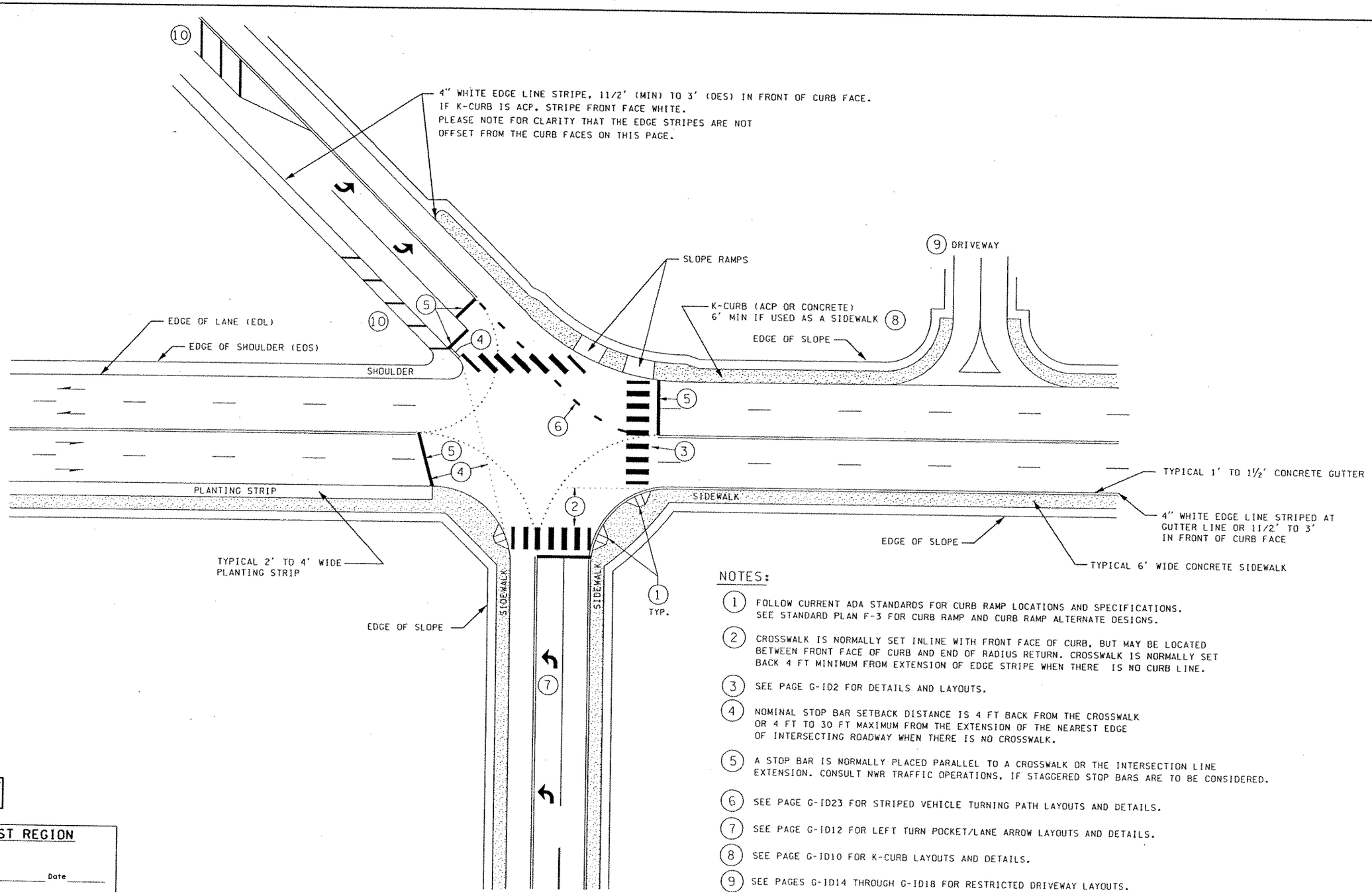
CONVENTIONAL ROADWAY -
WSP WEIGH STATION STRIPING
FOR 2-LANE CONVENTIONAL ROADWAY
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-CR8

SHEET 1 OF 1 SHEETS



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NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. FOLLOW CURRENT ADA STANDARDS FOR CURB RAMP LOCATIONS AND SPECIFICATIONS. SEE STANDARD PLAN F-3 FOR CURB RAMP AND CURB RAMP ALTERNATE DESIGNS.
2. CROSSWALK IS NORMALLY SET INLINE WITH FRONT FACE OF CURB, BUT MAY BE LOCATED BETWEEN FRONT FACE OF CURB AND END OF RADIUS RETURN. CROSSWALK IS NORMALLY SET BACK 4 FT MINIMUM FROM EXTENSION OF EDGE STRIPE WHEN THERE IS NO CURB LINE.
3. SEE PAGE G-ID2 FOR DETAILS AND LAYOUTS.
4. NOMINAL STOP BAR SETBACK DISTANCE IS 4 FT BACK FROM THE CROSSWALK OR 4 FT TO 30 FT MAXIMUM FROM THE EXTENSION OF THE NEAREST EDGE OF INTERSECTING ROADWAY WHEN THERE IS NO CROSSWALK.
5. A STOP BAR IS NORMALLY PLACED PARALLEL TO A CROSSWALK OR THE INTERSECTION LINE EXTENSION. CONSULT NWR TRAFFIC OPERATIONS, IF STAGGERED STOP BARS ARE TO BE CONSIDERED.
6. SEE PAGE G-ID23 FOR STRIPED VEHICLE TURNING PATH LAYOUTS AND DETAILS.
7. SEE PAGE G-ID12 FOR LEFT TURN POCKET/LANE ARROW LAYOUTS AND DETAILS.
8. SEE PAGE G-ID10 FOR K-CURB LAYOUTS AND DETAILS.
9. SEE PAGES G-ID14 THROUGH G-ID18 FOR RESTRICTED DRIVEWAY LAYOUTS.
10. SEE PAGE G-ID19 FOR RESTRICTED MEDIAN AND SHOULDER DETAILS.

FILE NAME	J:\Redbook\Section G\intersection driveways\generic sketch of intersection&driveway items\G-id-index\G-id-index.dgn
TIME	03:47:42 PM
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DESIGNED BY	
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JOB NUMBER
CONTRACT NO. | LOCATION NO.

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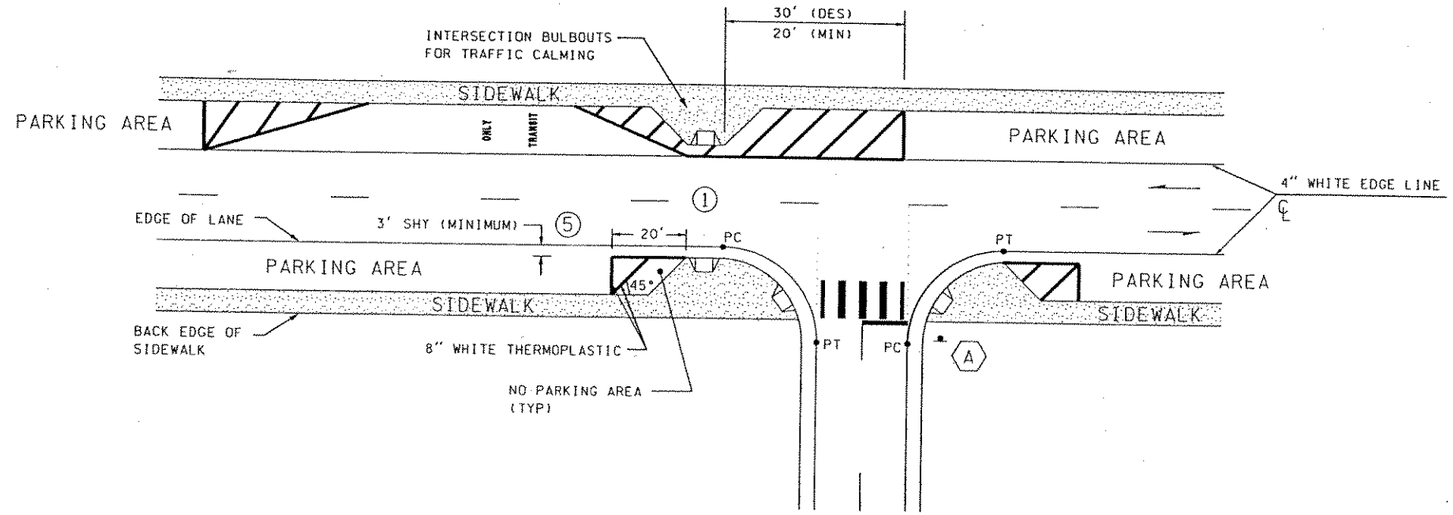
INTERSECTION / DRIVEWAYS - GENERIC SKETCH OF INTERSECTION STOP BARS, CROSSWALKS, AND WHEELCHAIR RAMPS
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-ID INDEX
SHEET 1 OF 1 SHEETS

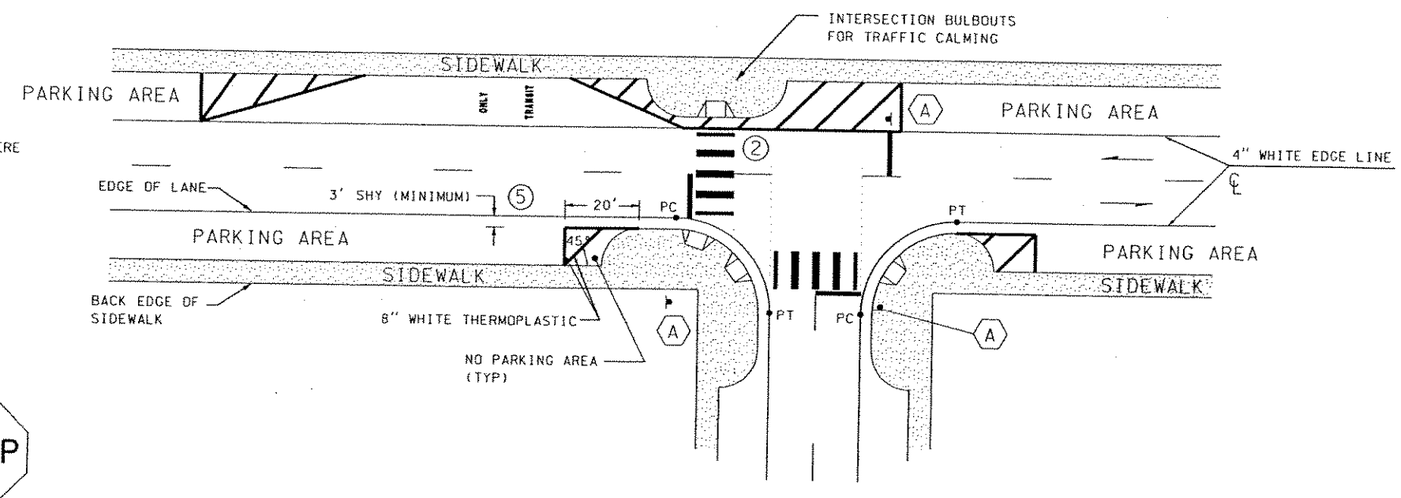


INTERSECTION BULB-OUTS (HALF-CORNER FLARE)

PREFERRED OPTION (USING 45-DEG. ANGLE FLARES)

NOTES:

1. TYPICALLY, MARKED CROSSWALKS ARE NOT INSTALLED AT UNCONTROLLED AREAS.
2. MARKED CROSSWALKS MAY BE INSTALLED AT CONTROLLED AREAS, IF SUPPORTED BY AN ENGINEERING STUDY.
3. STOP BARS ARE TO BE PLACED A MINIMUM OF 4 FT IN ADVANCE OF A MARKED CROSSWALK.
4. WSDOT WILL NORMALLY INSTALL AND MAINTAIN THE STOP SIGN AND STOP BAR ON A SIDE STREET. HOWEVER, IF A SIDE STREET'S MARKED CROSSWALK AND STOP BAR FALL OUTSIDE WSDOT RIGHT-OF-WAY, A MAINTENANCE AGREEMENT MAY BE REQUIRED WITH THE LOCAL AGENCY DESCRIBING WHO WILL MAINTAIN THESE ITEMS.
5. THE MINIMUM SHY DISTANCE AT BULB-OUTS SHALL BE 3 FT. THIS DISTANCE SHOULD BE INCREASED TO 4 FT OR 5 FT IF THERE IS HEAVY BICYCLE USAGE OR "TURNING" FARM EQUIPMENT.



INTERSECTION BULB-OUTS (FULL-CORNER FLARE)

(USING RADIUS FLARES)

R1-1

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WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\Intersection driveways\Intersection Bulb-out details\G-id1\g_id1.dgn							
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PROJ. ENGR.								
REGIONAL ADM.		REVISION	DATE	BY				

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

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INTERSECTION / DRIVEWAYS - INTERSECTION BULB-OUT DETAILS (TRAFFIC CALMING MEASURE)

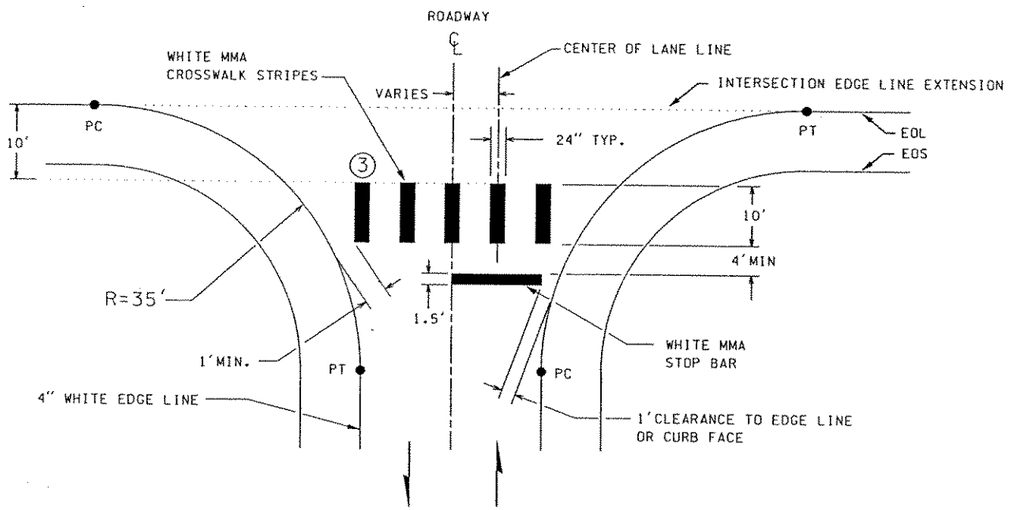
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

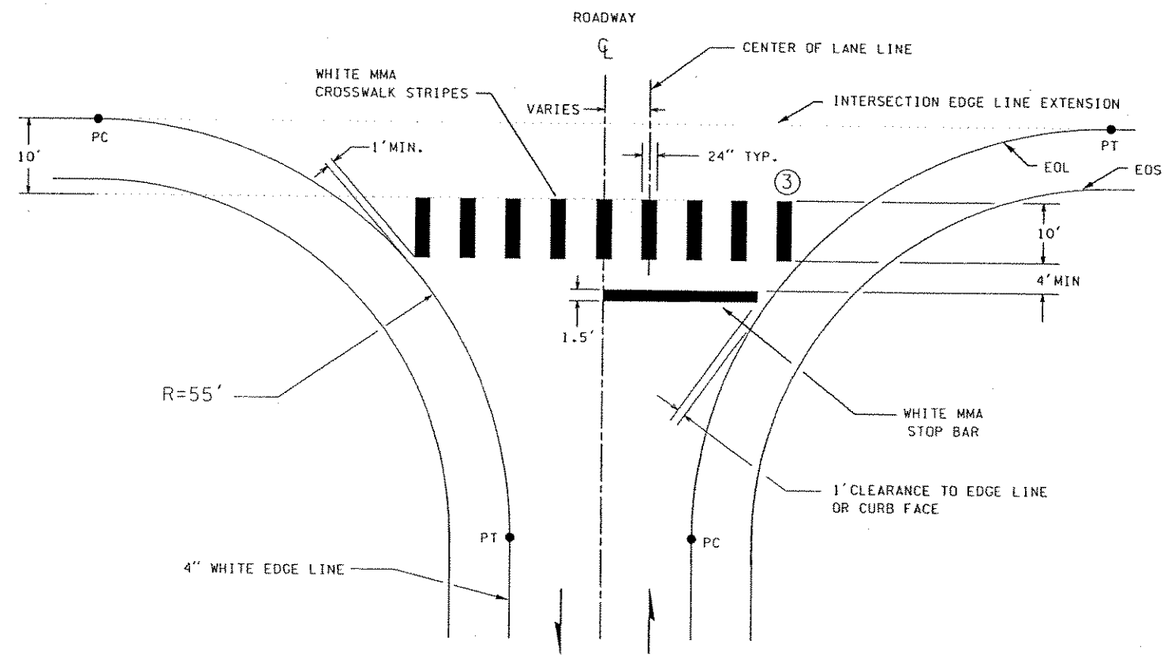
PLOT1

G-ID1

SHEET 1 OF 1 SHEETS



CROSSWALK LAYOUT FOR 35'RADIUS RETURN SET AT
10' FROM INTERSECTION LANE LINE EXTENSION



CROSSWALK LAYOUT FOR 55'RADIUS RETURN SET AT
10' FROM LANE EXTENSION LINE

NOTES:

1. THE PREFERRED CROSSWALK SETBACK FROM THE INTERSECTION EDGE LINE EXTENSION IS FROM 10 FT TO 15 FT. THIS SETBACK CAN VARY DUE TO OTHER GEOMETRIC CONSIDERATIONS. SEE PAGE G-ID3 FOR GENERIC SETBACK LOCATIONS.

2. WSDOT WILL NORMALLY INSTALL AND MAINTAIN A STOP SIGN AND STOP BAR ON A SIDE STREET TO A STATE HIGHWAY. HOWEVER, IF A SIDE STREET'S MARKED CROSSWALK AND STOP BAR ARE LOCATED OUTSIDE OF WSDOT'S RIGHT-OF-WAY, A MAINTENANCE AGREEMENT MAY BE REQUIRED WITH THE LOCAL AGENCY DESCRIBING WHO WILL MAINTAIN THESE ITEMS.

3. THE CROSSWALK BAR NEAREST THE RADIUS RETURN EDGE LINE OR SHOULDER CURB FACE SHOULD HAVE A 1 FT CLEARANCE BETWEEN THE BAR AND THE EDGE LINE/CURB FACE. THE NOMINAL 24 IN BAR WIDTH CAN BE REDUCED TO 12 IN IN ORDER TO OBTAIN THIS CLEARANCE.

4. THE STOP BAR LOCATION IS INDEPENDANT OF THE CROSSWALK LOCATION. THE STOP BAR CANNOT BE PLACED ANY CLOSER THAN 4 FT IN ADVANCE OF THE CROSSWALK AND SHOULD NOT BE PLACED ANY FURTHER THAN 30 FT FROM THE CROSSWALK. THE STOP BAR LOCATION IS BASED UPON THE DESIGN VEHICLE'S TURNING PATH. IF THE STOP BAR IS SET TOO FAR BACK, MOTORISTS MAY OVERRIDE THE STOP BAR LOCATION. IN THESE CASES IT MAY BE MORE APPROPRIATE TO USE A SMALLER DESIGN VEHICLE IN ORDER TO DECREASE THE TURNING PATH DISTANCE.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\typical 24 inch piano key crosswalk layouts and details\G-Id2\g_id2.dgn								
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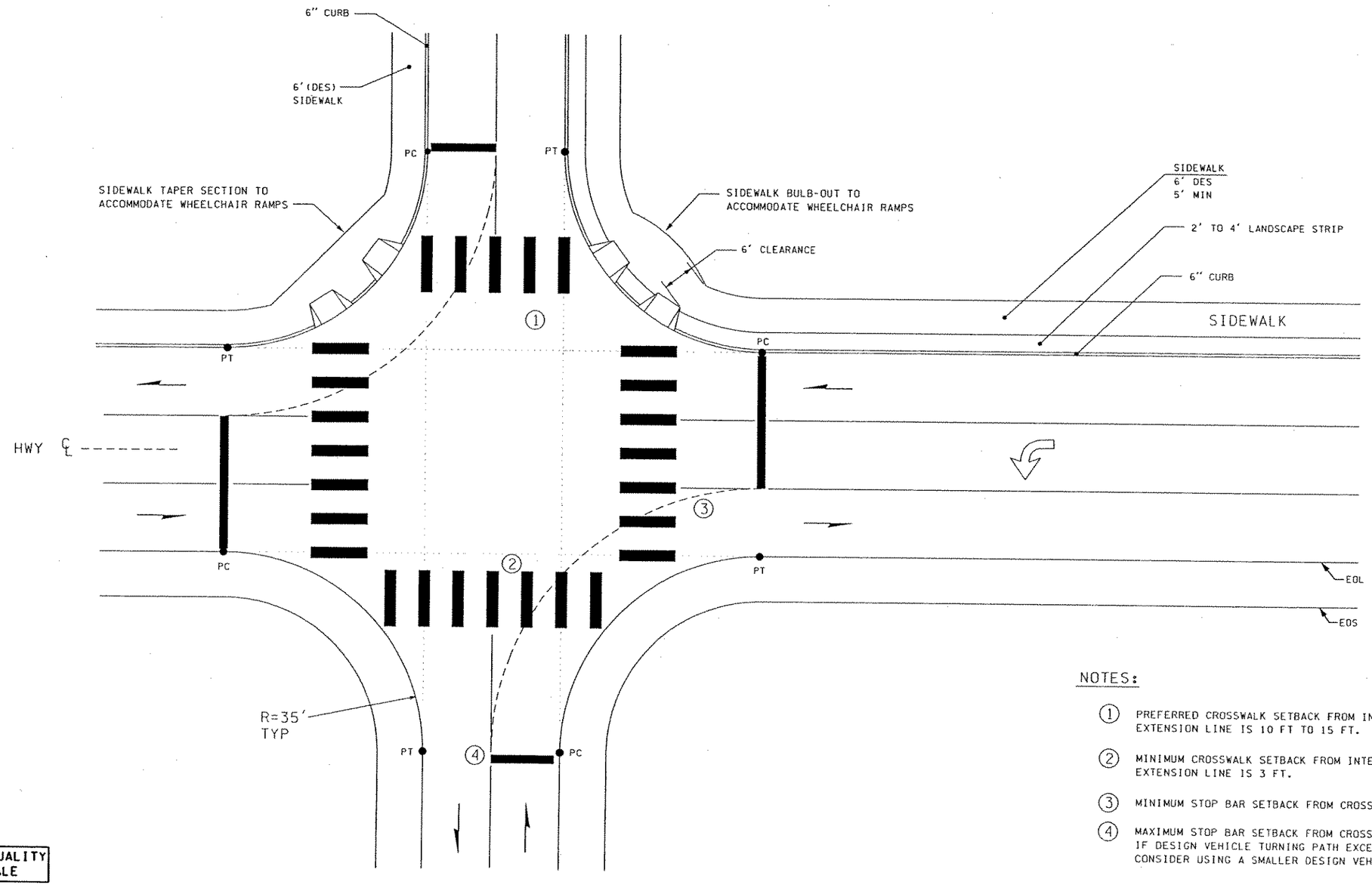
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY				P.E. STAMP BOX DATE	P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY -
TYPICAL 24" PIANO KEY
CROSSWALK LAYOUTS
(35' AND 55' RADIUS RETURN EXAMPLES)
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-ID2
SHEET 1 OF 2 SHEETS



NOTES:

1. PREFERRED CROSSWALK SETBACK FROM INTERSECTION EXTENSION LINE IS 10 FT TO 15 FT.
2. MINIMUM CROSSWALK SETBACK FROM INTERSECTION EXTENSION LINE IS 3 FT.
3. MINIMUM STOP BAR SETBACK FROM CROSSWALK IS 4 FT.
4. MAXIMUM STOP BAR SETBACK FROM CROSSWALK IS 30 FT. IF DESIGN VEHICLE TURNING PATH EXCEEDS THIS DESIGN, CONSIDER USING A SMALLER DESIGN VEHICLE.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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PROJ. ENGR.							
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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - GENERIC 24" PIANO KEY INTERSECTION CROSSWALK LAYOUTS

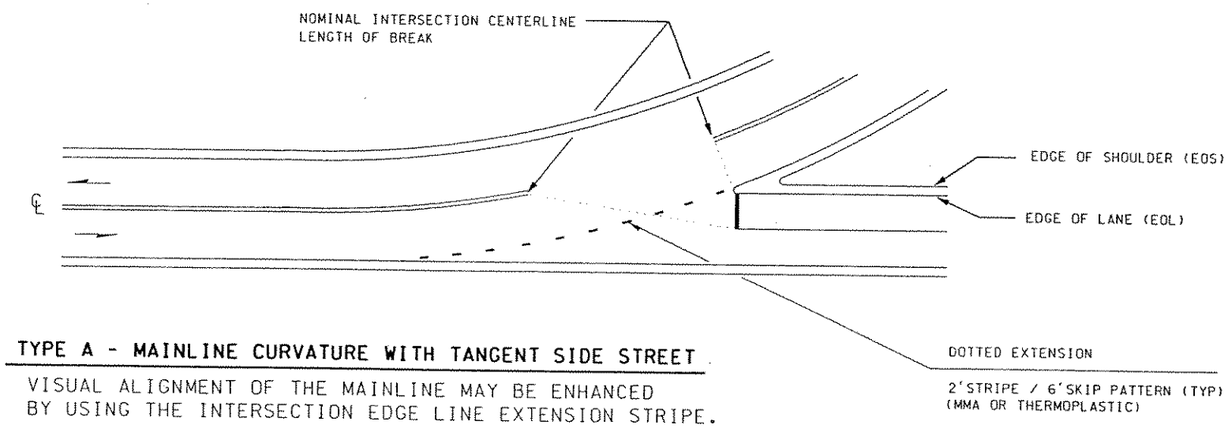
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

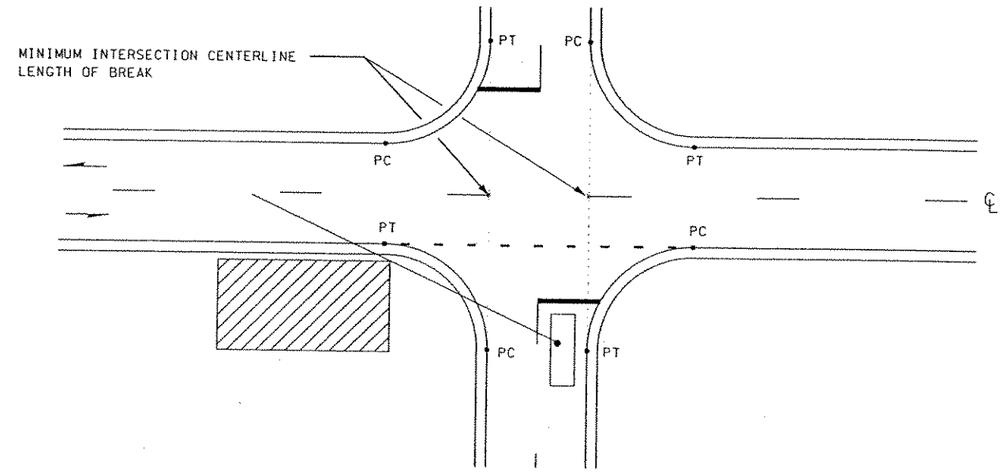
G-ID3

SHEET 2 OF 2 SHEETS



TYPE A - MAINLINE CURVATURE WITH TANGENT SIDE STREET

VISUAL ALIGNMENT OF THE MAINLINE MAY BE ENHANCED BY USING THE INTERSECTION EDGE LINE EXTENSION STRIPE.



TYPE B - LIMITED SIGHT TRIANGLE

WHEN AN OBSTRUCTION SUCH AS FENCE, WALL, BUILDING, OR CUT SLOPE LIMITS THE SIGHT OF A DRIVER ON A STOP-CONTROLLED SIDE STREET. THE DOTTED EXTENSION STRIPE WILL SERVE AS A REFERENCE TO HELP THE DRIVER DETERMINE HOW FAR THEY CAN ADVANCE INTO THE INTERSECTION.

INTERSECTION EDGE LINE EXTENSION STRIPE

A WHITE 4" WIDE DOTTED EXTENSION LINE INTENDED FOR USE AT INTERSECTIONS TO HELP GUIDE DRIVERS THROUGH THE INTERSECTION. THE NORTHWEST REGION WILL USE A 2' STRIPE / 6' GAP PATTERN FOR ITS INTERSECTION EXTENSION STRIPE.

NOTES:

1. THE EDGELINE EXTENSION STRIPE IS NOT MEANT FOR WIDESPREAD USE. SPECIFIC SITE SELECTION AND APPLICATION WILL BE DETERMINED BY NWR TRAFFIC OPERATIONS BASED ON AN ENGINEERING STUDY. TRAFFIC OPERATIONS WILL MAINTAIN A LIST OF INTERSECTIONS APPROVED FOR EDGELINE EXTENSION STRIPING.
2. THE EXTENSION STRIPE SHOULD BE DONE IN EITHER MMA OR THERMOPLASTIC. DO NOT USE ANY TYPE OF RPMS FOR INTERSECTION LINE EXTENSIONS.
3. THE INTERSECTION SKETCHES ARE NOT DRAWN TO ANY SCALE. ALL INFORMATION SHOWN IN THE SKETCHES, EXCLUSIVE OF THE INTERSECTION EDGE LINE EXTENSION STRIPE, IS FOR REFERENCE ONLY AND IS NOT INTENDED TO DEPICT ACTUAL CASE CONDITIONS.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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PROJ. ENGR.						
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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - EDGE LINE EXTENSION STRIPE DETAILS

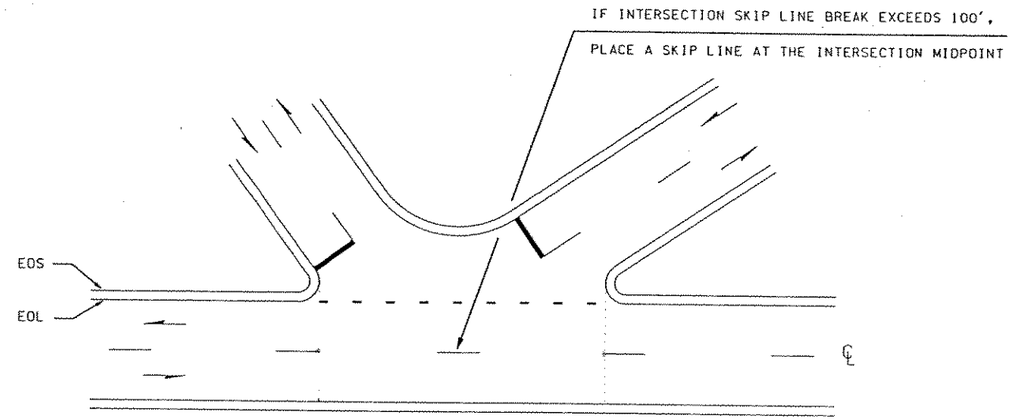
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

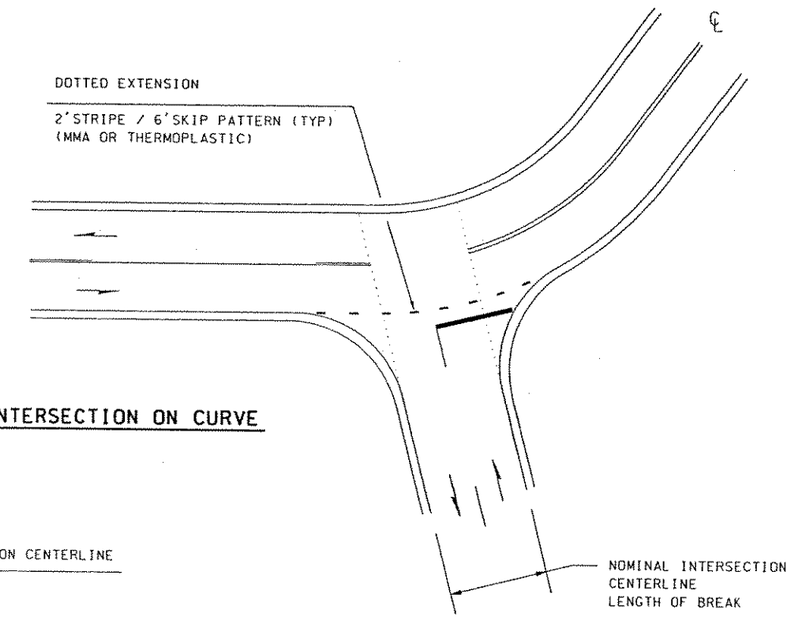
G-ID5

SHEET 1 OF 3 SHEETS

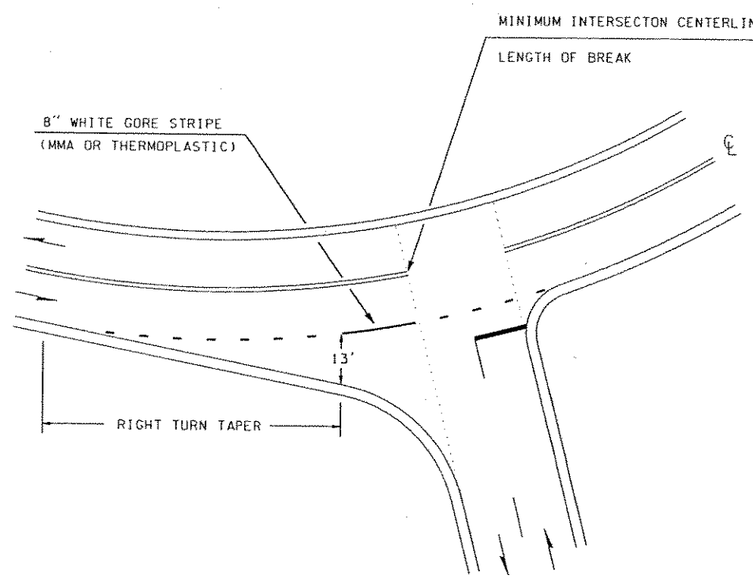


TYPE C - WIDE INTERSECTION WITH MULTIPLE LEGS ON ONE SIDE

IF MORE THAN ONE SIDE STREET LEG CONVERGES TOGETHER ON THE SAME SIDE OF THE HIGHWAY, IT WILL OFTEN RESULT IN A LARGE UNDEFINED PAVEMENT AREA IN WHICH A MAINLINE DRIVER, AS WELL AS A SIDE STREET DRIVER, MAY NEED GUIDANCE.



TYPE D - INTERSECTION ON CURVE



TYPE E - INTERSECTION ON CURVE WITH RIGHT TURN DECEL TAPER

USE ONLY FOR EXISTING RURAL INTERSECTIONS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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REGIONAL ADM.		REVISION	DATE	BY			

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - EDGE LINE EXTENSION STRIPE DETAILS

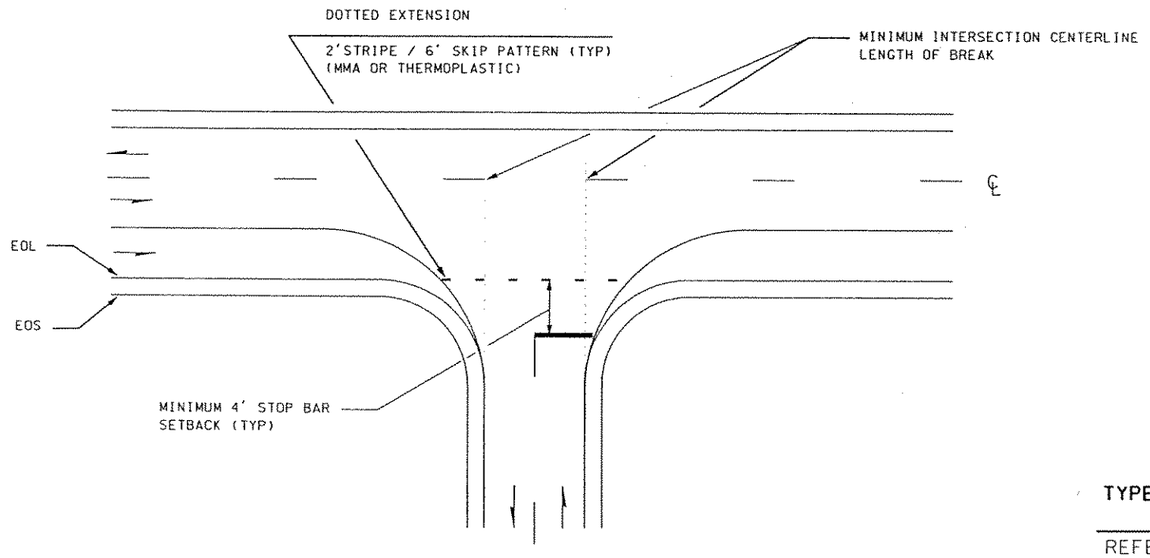
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

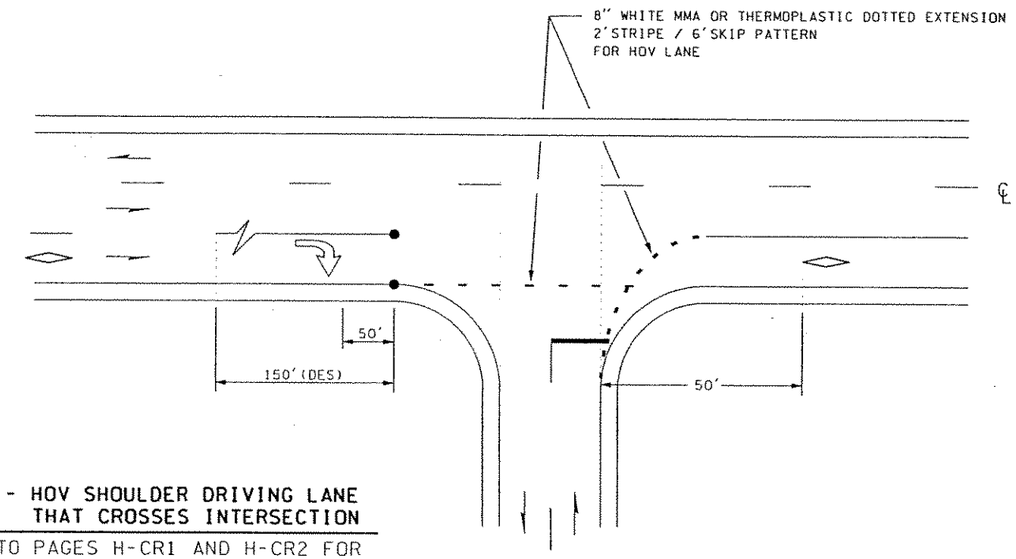
G-ID6

SHEET 2 OF 3 SHEETS



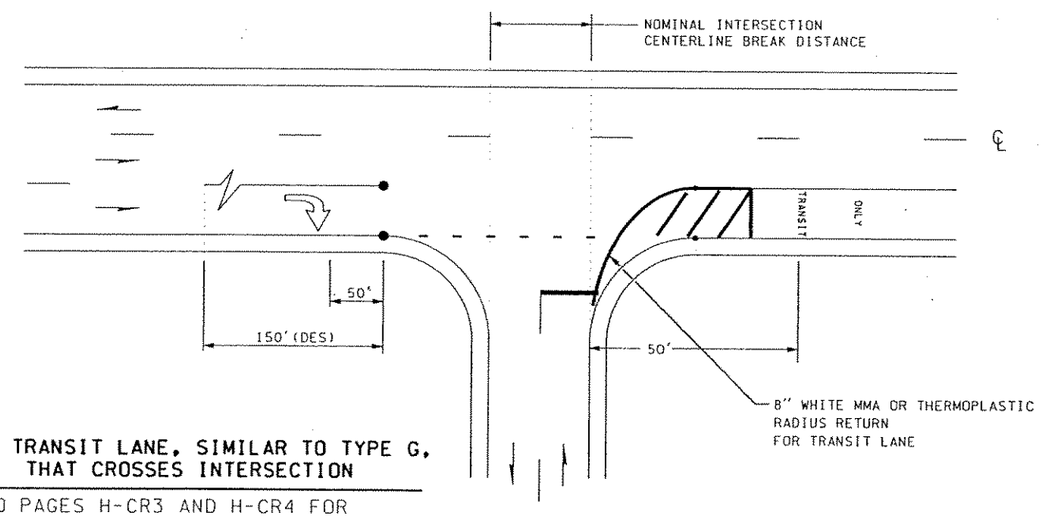
TYPE F - SHOULDER DRIVING LANE / SLOW MOTOR VEHICLE PULLOUT THAT CROSSES INTERSECTION

PLEASE NOTE THAT THIS DESIGN CAN CAUSE A CONFLICT BETWEEN GP TRAFFIC AND SHOULDER TRAFFIC AT INTERSECTIONS



TYPE G - HOV SHOULDER DRIVING LANE THAT CROSSES INTERSECTION

REFER TO PAGES H-CR1 AND H-CR2 FOR ADDITIONAL HOV-RELATED DETAILS



TYPE H - TRANSIT LANE, SIMILAR TO TYPE G, THAT CROSSES INTERSECTION

REFER TO PAGES H-CR3 AND H-CR4 FOR ADDITIONAL HOV-RELATED DETAILS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

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Dave McCormick
Region Traffic Engineer

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - EDGE LINE EXTENSION STRIPE DETAILS

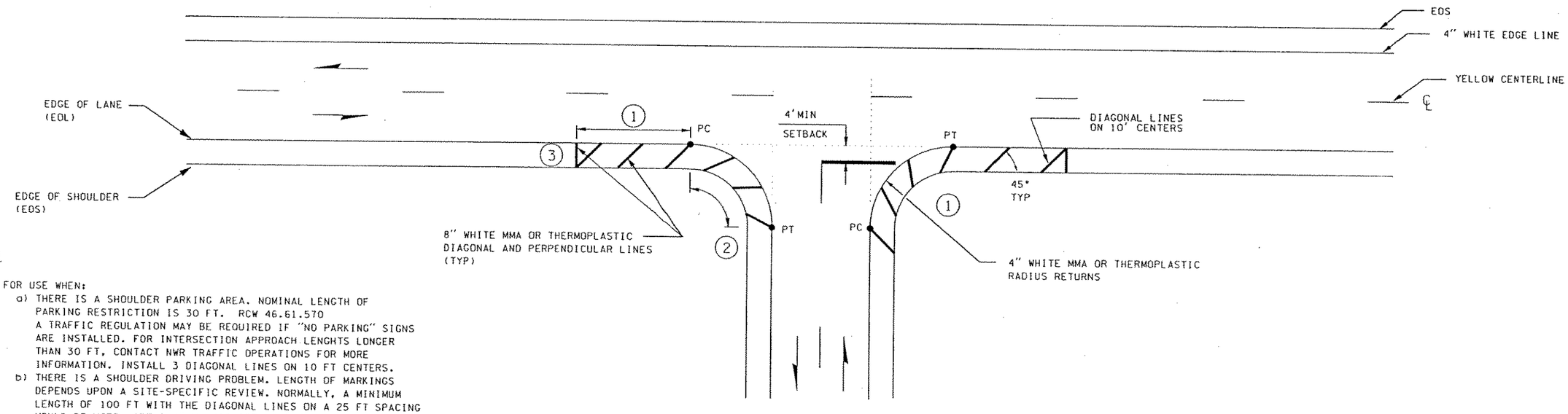
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID7

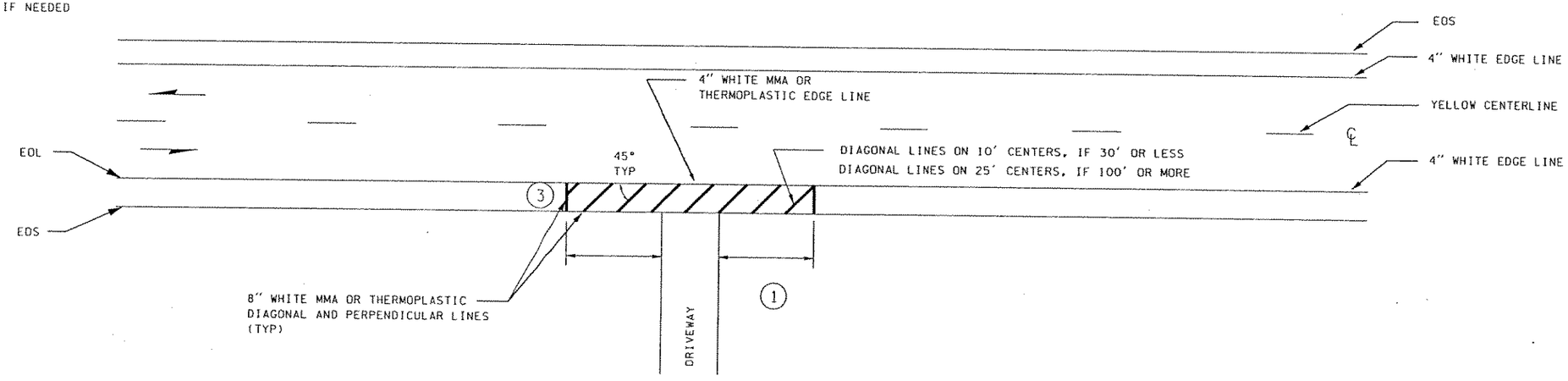
SHEET 3 OF 3 SHEETS



NOTES:

1. FOR USE WHEN:
   a) THERE IS A SHOULDER PARKING AREA. NOMINAL LENGTH OF PARKING RESTRICTION IS 30 FT. RCW 46.61.570
   A TRAFFIC REGULATION MAY BE REQUIRED IF "NO PARKING" SIGNS ARE INSTALLED. FOR INTERSECTION APPROACH LENGHTS LONGER THAN 30 FT, CONTACT NWR TRAFFIC OPERATIONS FOR MORE INFORMATION. INSTALL 3 DIAGONAL LINES ON 10 FT CENTERS.
   b) THERE IS A SHOULDER DRIVING PROBLEM. LENGTH OF MARKINGS DEPENDS UPON A SITE-SPECIFIC REVIEW. NORMALLY, A MINIMUM LENGTH OF 100 FT WITH THE DIAGONAL LINES ON A 25 FT SPACING WOULD BE USED. SEE PAGE G-1D19 FOR LAYOUT DETAILS.
2. MINIMUM OF 3 DIAGONALS IN RADIUS RETURN
3. "DO NOT BLOCK" MMA LEGEND, IF NEEDED, OR "NO PARKING" MMA LEGEND, IF NEEDED

INTERSECTION DIAGONAL HACHURE MARKS DETAIL



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DRIVEWAY DIAGONAL HACHURE MARKS DETAIL

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - DIAGONAL HASH MARK RESTRICTION LAYOUTS

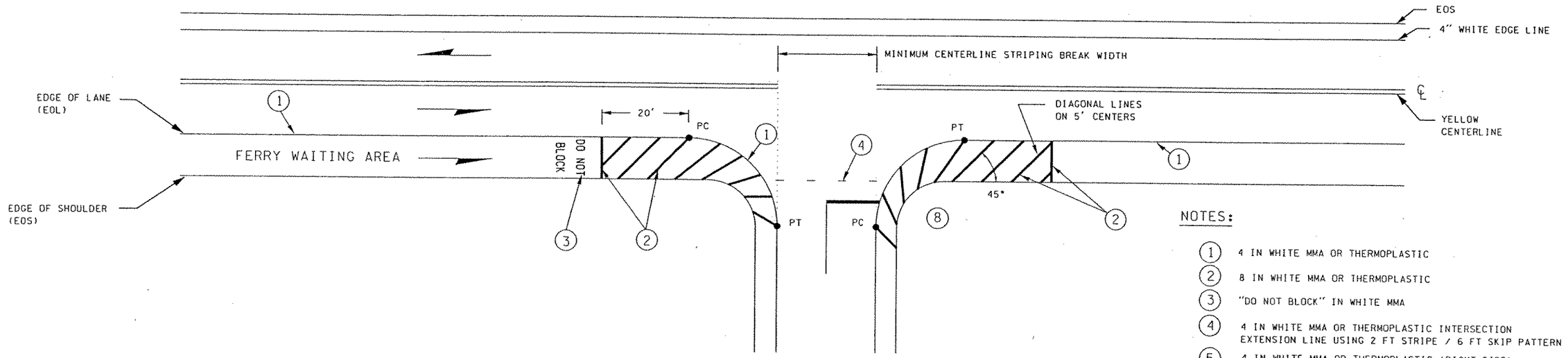
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID8

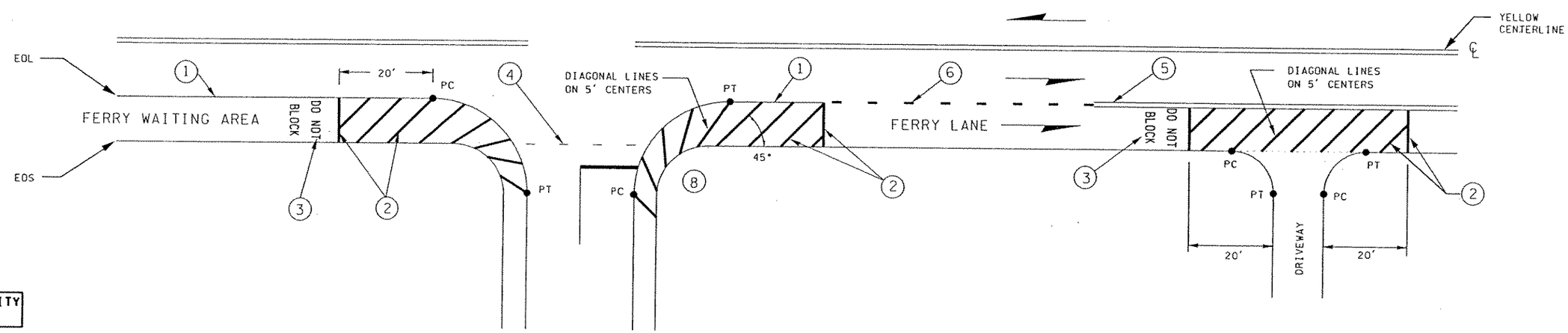
SHEET 1 OF 1 SHEETS



FERRY WAITING AREA - INTERSECTION DETAILS

NOTES:

1. 4 IN WHITE MMA OR THERMOPLASTIC
2. 8 IN WHITE MMA OR THERMOPLASTIC
3. "DO NOT BLOCK" IN WHITE MMA
4. 4 IN WHITE MMA OR THERMOPLASTIC INTERSECTION EXTENSION LINE USING 2 FT STRIPE / 6 FT SKIP PATTERN
5. 4 IN WHITE MMA OR THERMOPLASTIC (RIGHT SIDE) DOUBLE NO-PASS STRIPE (REQUIRES CALENDER ACTION FROM NWR TRAFFIC OPERATIONS)
6. 8 IN WHITE MMA OR THERMOPLASTIC DOTTED EXTENSION STRIPE USING 2 FT STRIPE / 6 FT SKIP PATTERN
7. INTERSECTION DETAILS THE SAME AT FERRY WAITING AND FERRY LANE AREAS
8. MINIMUM OF 3 DIAGONALS IN RADIUS RETURN



NOT TO PS&E QUALITY
NOT TO SCALE

TRANSITION FROM FERRY WAITING AREA TO FERRY LANE - INTERSECTION DETAILS

DRIVEWAY DETAILS FOR BOTH FERRY WAITING AREA AND FERRY LANE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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CONTRACT NO.		LOCATION NO.

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - DIAGONAL HASH MARK RESTRICTION LAYOUTS FOR FERRY LANES

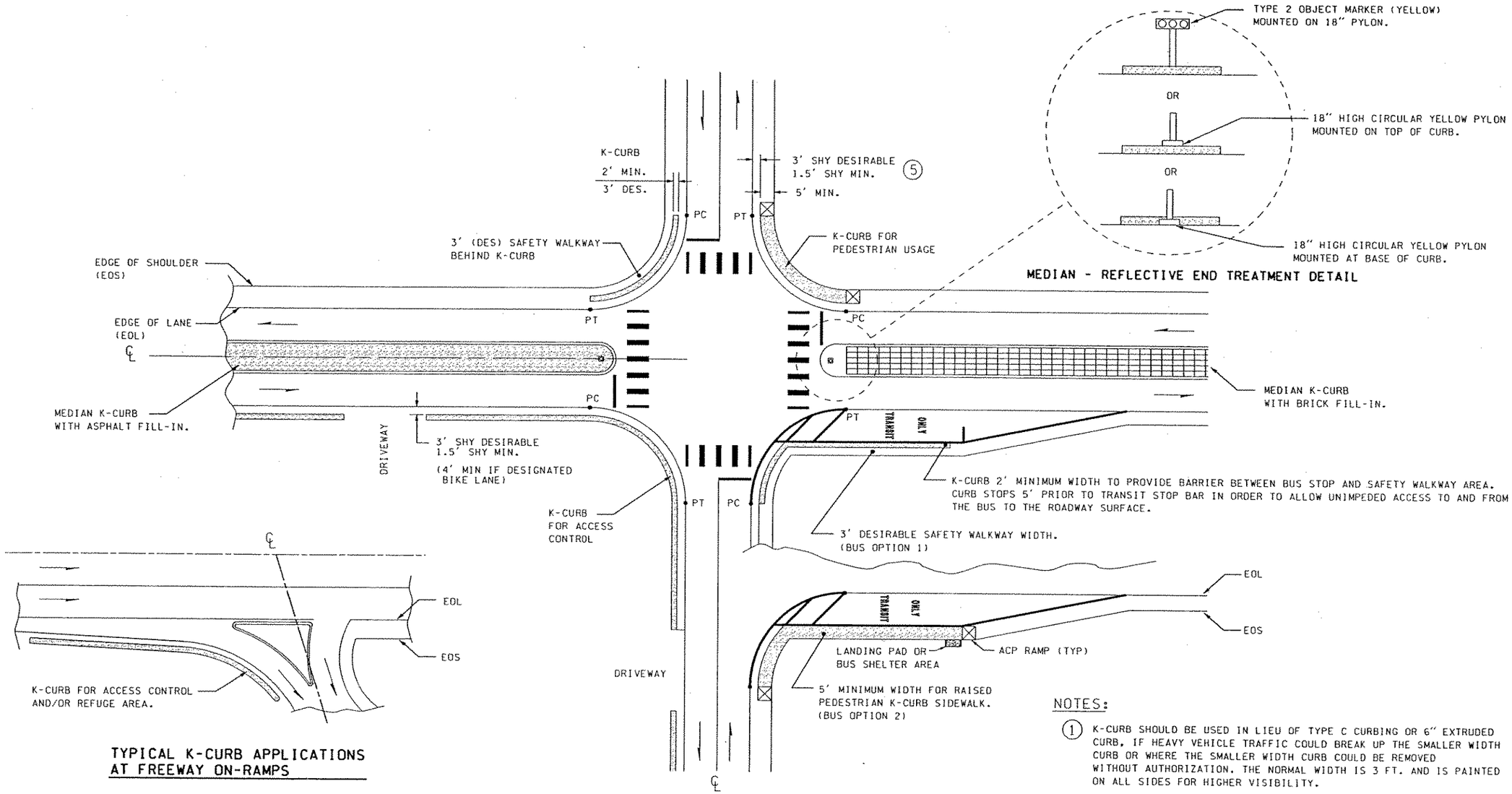
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID9

SHEET 1 OF 1 SHEETS



TYPICAL K-CURB APPLICATIONS AT FREEWAY ON-RAMPS

TYPICAL K-CURB APPLICATIONS AT INTERSECTIONS

(EACH INTERSECTION CORNER SHOWS A DIFFERENT GENERIC LAYOUT CONCEPT)

NOTES:

1. K-CURB SHOULD BE USED IN LIEU OF TYPE C CURBING OR 6" EXTRUDED CURB, IF HEAVY VEHICLE TRAFFIC COULD BREAK UP THE SMALLER WIDTH CURB OR WHERE THE SMALLER WIDTH CURB COULD BE REMOVED WITHOUT AUTHORIZATION. THE NORMAL WIDTH IS 3 FT. AND IS PAINTED ON ALL SIDES FOR HIGHER VISIBILITY.
2. K-CURB MAY BE USED AS A PEDESTRIAN SIDEWALK AREA. IT MUST BE AT LEAST 5 FT WIDE AND MEET CURRENT ADA REQUIREMENTS.
3. FOR CLARITY, NO ADA REQUIREMENTS ARE SHOWN. ADA REQUIREMENTS MUST BE CONSIDERED IN THE DESIGN DEVELOPEMENT PHASE.
4. FOR CLARITY, NO MEDIAN EDGE LINE STRIPING IS SHOWN ON THIS DRAWING.
5. 1-1/2 FT SHY DISTANCE SHOULD ONLY BE USED AT EXISTING LOCATIONS WHERE THE SHOULDER GEOMETRIES WILL NOT ALLOW A 3 FT WIDTH.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - K - CURB LAYOUT AND CROSS-SECTION DETAILS

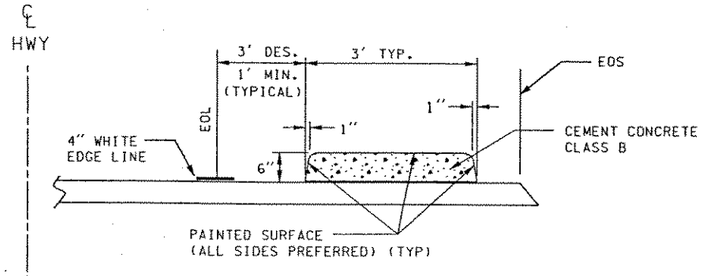
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID10

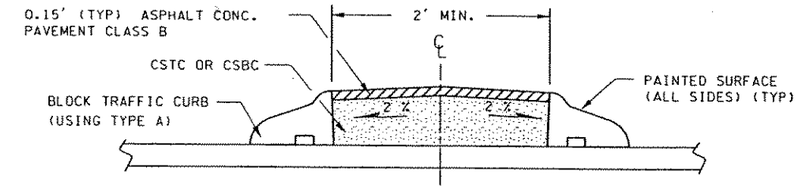
SHEET 1 OF 2 SHEETS



CAST-IN-PLACE CONCRETE OPTION

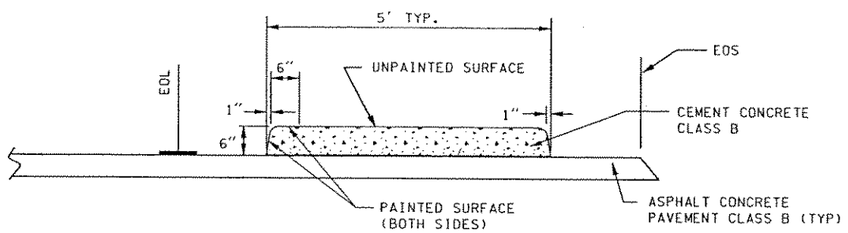
NOTES:

1. K-CURB SHOULD BE USED INSTEAD OF TYPE C CURBING OR 6 IN EXTRUDED CURB WHERE HEAVY VEHICLE TRAFFIC COULD BREAK UP THE SMALLER WIDTH CURB; OR, WHERE THE SMALLER WIDTH CURB COULD BE REMOVED WITHOUT AUTHORIZATION.
2. MINIMUM K-CURB WIDTH IS 2 FT, DESIRABLE K-CURB WIDTH IS 3 FT. IF USED AS A PEDESTRIAN WALKWAY, MINIMUM WIDTH SHALL BE AT LEAST 5 FT WITH WHEELCHAIR RAMPS AT EACH END OT THE K-CURB.



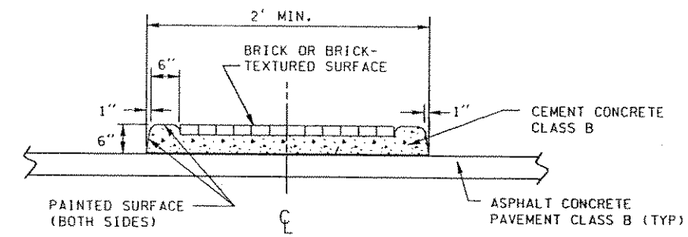
MOUNTABLE K-CURB DETAIL

FOR ROADWAY MEDIANS NOT TO SCALE



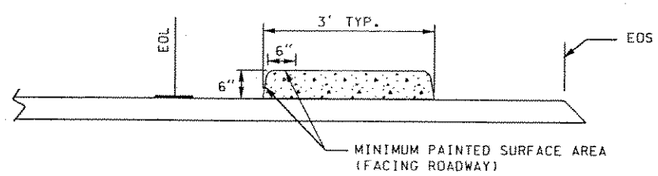
CAST-IN-PLACE CONCRETE OPTION

FOR RAISED WALKWAY



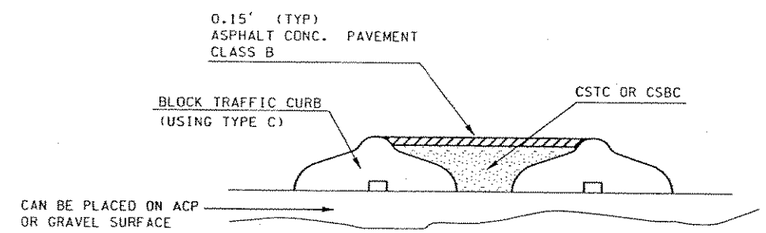
CAST-IN-PLACE CONCRETE OPTION

FOR CONTRASTED WALKWAYS, REFUGE AREAS, MEDIAN AREAS, ETC.



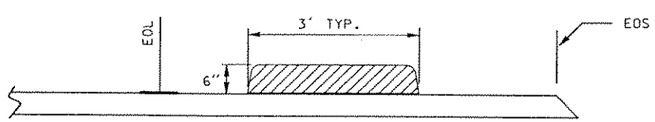
EXTRUDED CONCRETE

EXTRUDED CONCRETE CURB



MOUNTABLE K-CURB DETAIL

NOT TO SCALE



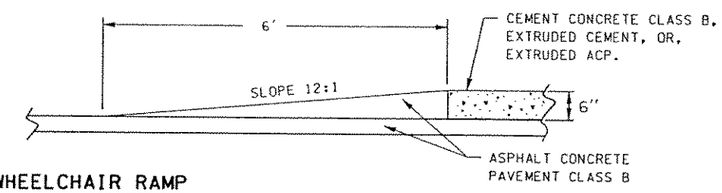
EXTRUDED ACP OPTION

EXTRUDED ACP CURB

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer



WHEELCHAIR RAMP

FOR ALL RAISED 5' OR WIDER PEDESTRIAN WALKWAY SECTIONS

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PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

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INTERSECTION DRIVEWAY -
K-CURB LAYOUT
AND CROSS-SECTION DETAILS

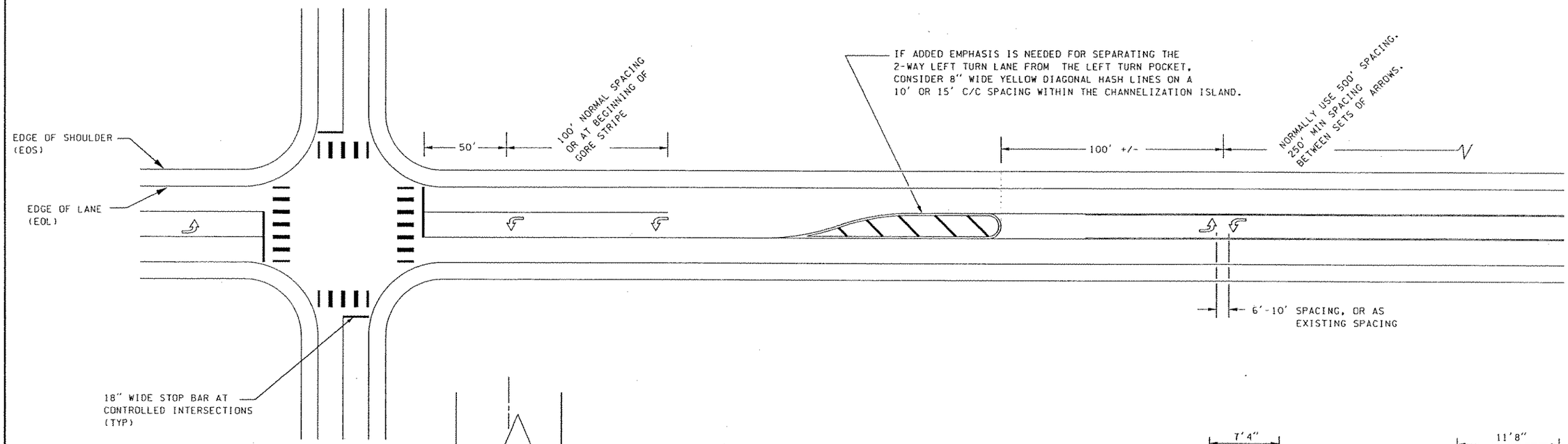
REV. 2-26-02 JBR

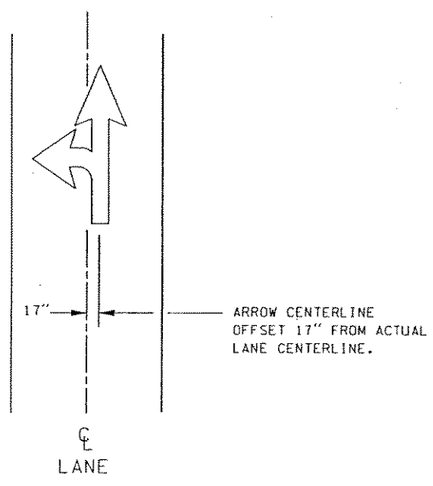
NW REGION TRAFFIC OPERATIONS

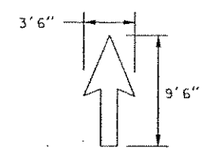
PLOT1

G-ID11

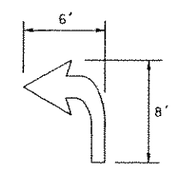
SHEET 2 OF 2 SHEETS



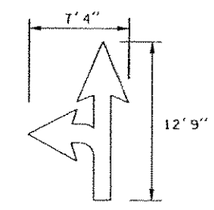




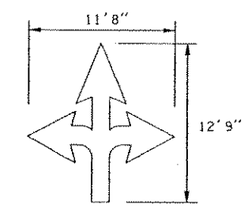
TYPE 1 TRAFFIC ARROW (TYP)



TYPE 2L TRAFFIC ARROW (TYP)



TYPE 3 (COMBINATION) ARROWS ARE LAID OUT WITH A 3-PIECE TEMPLATE SET.



3-HEADED ARROW IS MADE BY COMBINING THE 2-HEADED ARROW AND TURN ARROW

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME j:\Redbook\Section G\intersection driveways\left turn lane pavement arrow layout and other arrow types\G-id12\g_id12.dgn							
TIME 11:13:01 AM				REGION NO.	STATE	FED.AID PROJ.NO.	
DATE 08/28/2002				10	WASH		
DESIGNED BY				JOB NUMBER			
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.	REVISION	DATE	BY				

DATE
P.E. STAMP BOX

DATE
P.E. STAMP BOX

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - LEFT TURN LANE PAVEMENT ARROW LAYOUT AND OTHER ARROW TYPES

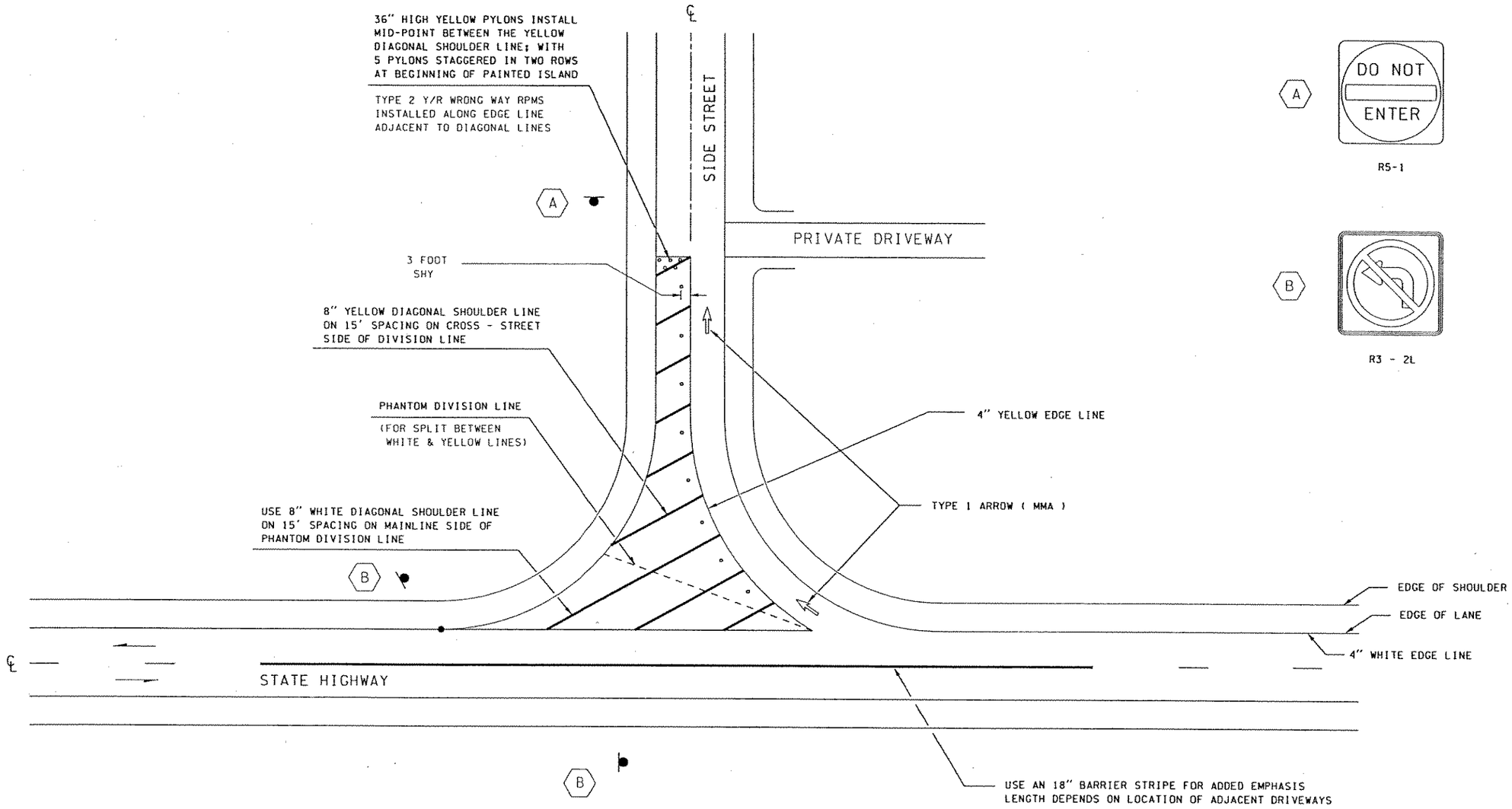
REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID12

SHEET 1 OF 1 SHEETS



R5-1

R3 - 2L

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. PARTIAL ACCESS CLOSURE WILL REQUIRE AN AGREEMENT WITH THE LOCAL AGENCY.
2. THE LEFT TURN RESTRICTION MUST BE APPROVED BY THE NWR TRAFFIC ENGINEER VIA A TRAFFIC REGULATION. THE NWR TRAFFIC OPERATIONS GROUP WILL PROCESS THE REGULATION.

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted intersection partialaccess closure ingress only\G-id13\gid13.dgn						
TIME	04:02:29 PM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	
DATE	08/28/2002			JOB NUMBER			
DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - PARTIAL ACCESS CLOSURE INGRESS ONLY

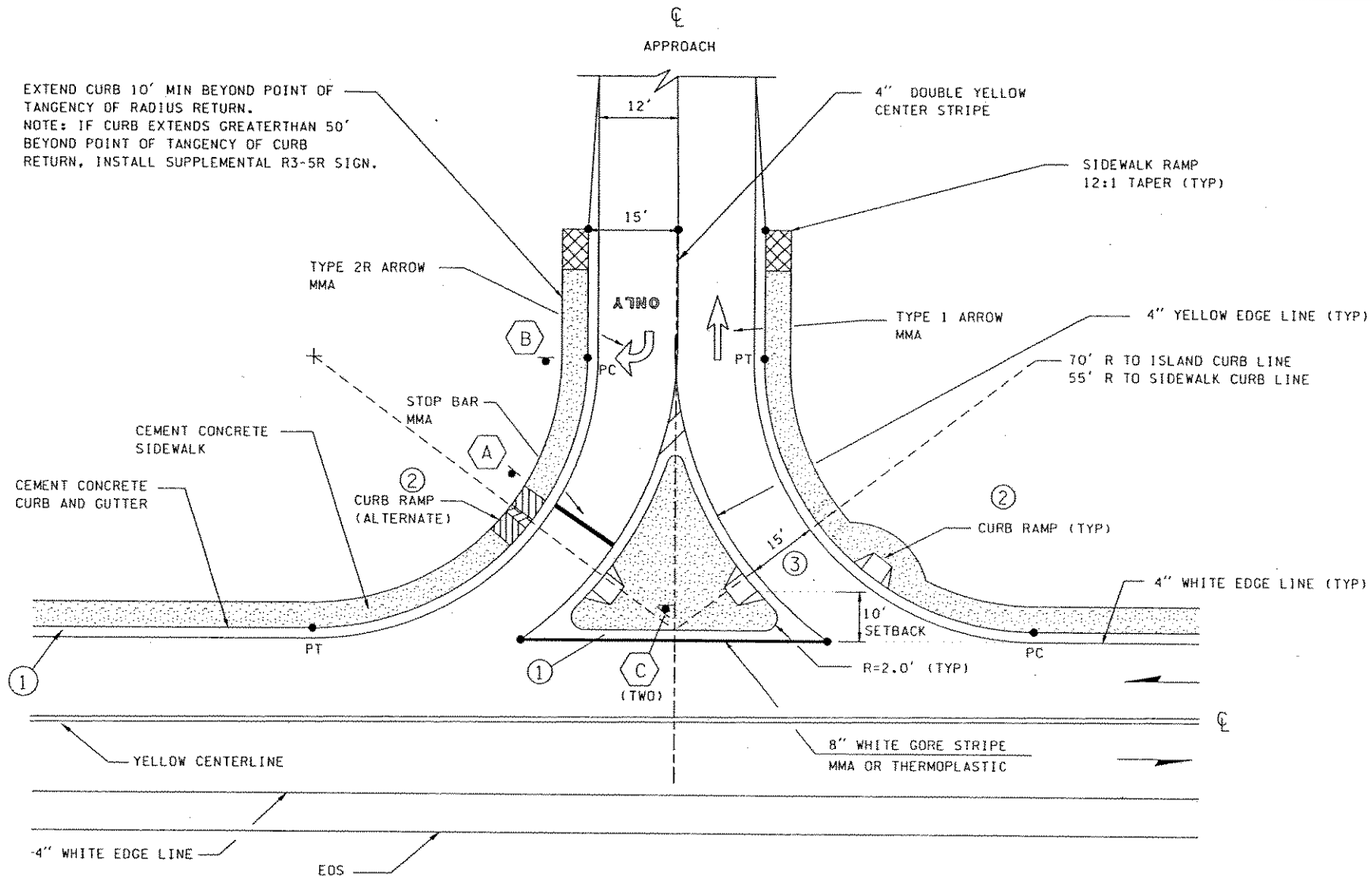
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

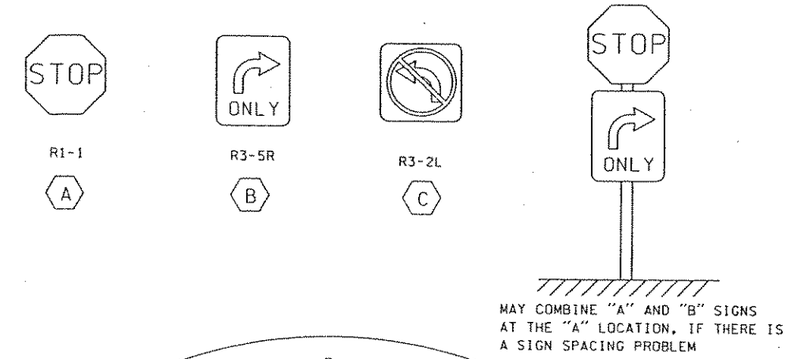
G-ID13

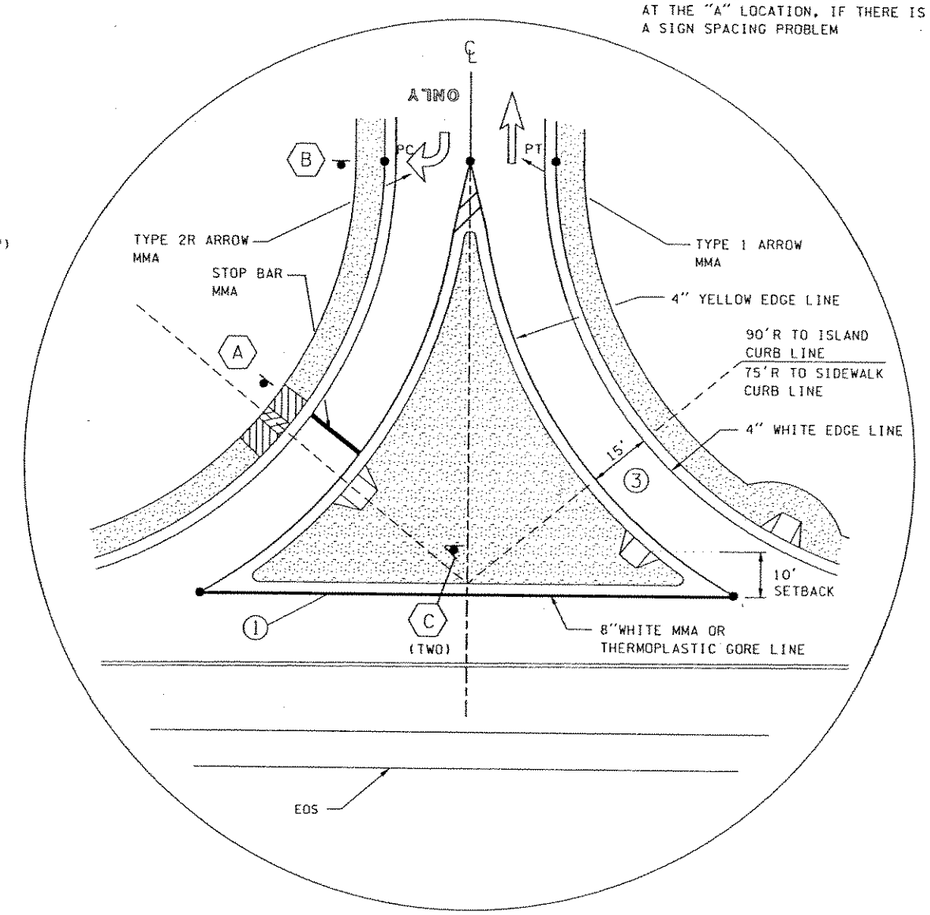
SHEET 1 OF 1 SHEETS



TYPE 1A

(70' ISLAND RADIUS FOR USE WHERE FRONTAGE IS LESS THAN 150' IN LENGTH.)





TYPE 1B

(90' ISLAND RADIUS FOR USE WHERE FRONTAGE IS BETWEEN 150' TO 400' IN LENGTH.)

NOTES:

1. 1½ FT MINIMUM/ 3 FT DESIRABLE SHY DISTANCE (TYP)
2. CURB RAMP, AND ITS LOCATION, SHOWN IS GENERIC. USE CURRENT STD PLAN F-3 AND CURRENT ADA REQUIREMENTS.
3. DRIVEWAY WIDTH MAY BE INCREASED IF LONGER VEHICLE WARRANTS IT.
4. PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL STRIPING AND SIGNING ITEMS OUTSIDE OF STATE RIGHT-OF-WAY.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted driveway access layouts\G-id14\g_id14.dgn					
TIME	04:15:29 PM			REGION NO.	STATE	FED.AID PROJ.NO.
DATE	08/28/2002			10	WASH	
DESIGNED BY				JOB NUMBER		
ENTERED BY						
CHECKED BY				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - "RIGHT-IN / RIGHT-OUT" ACCESS WITH RAISED ISLAND LAYOUT

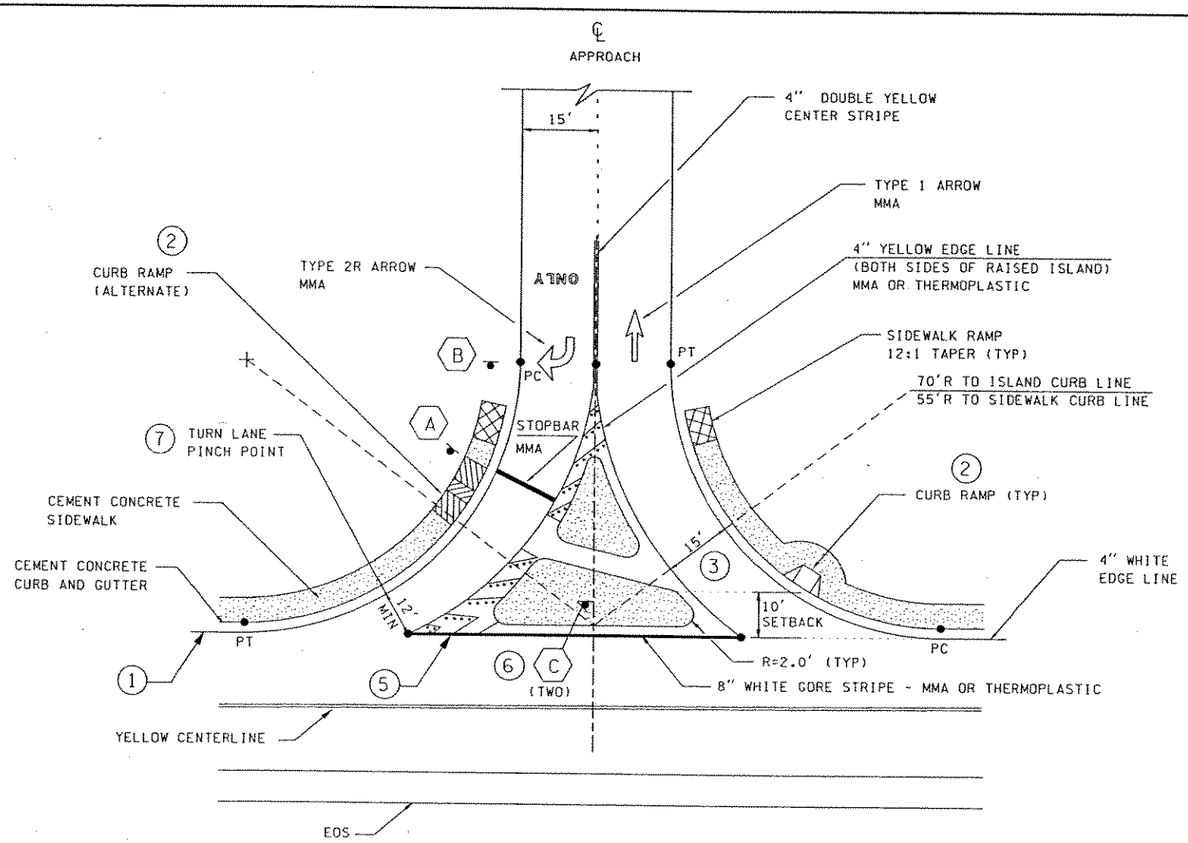
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

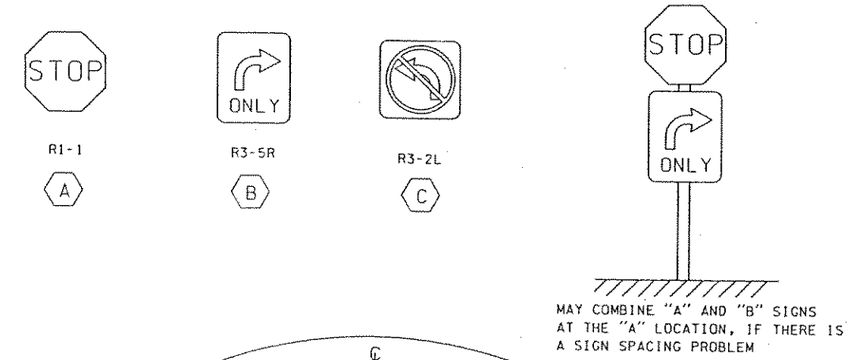
G-ID14

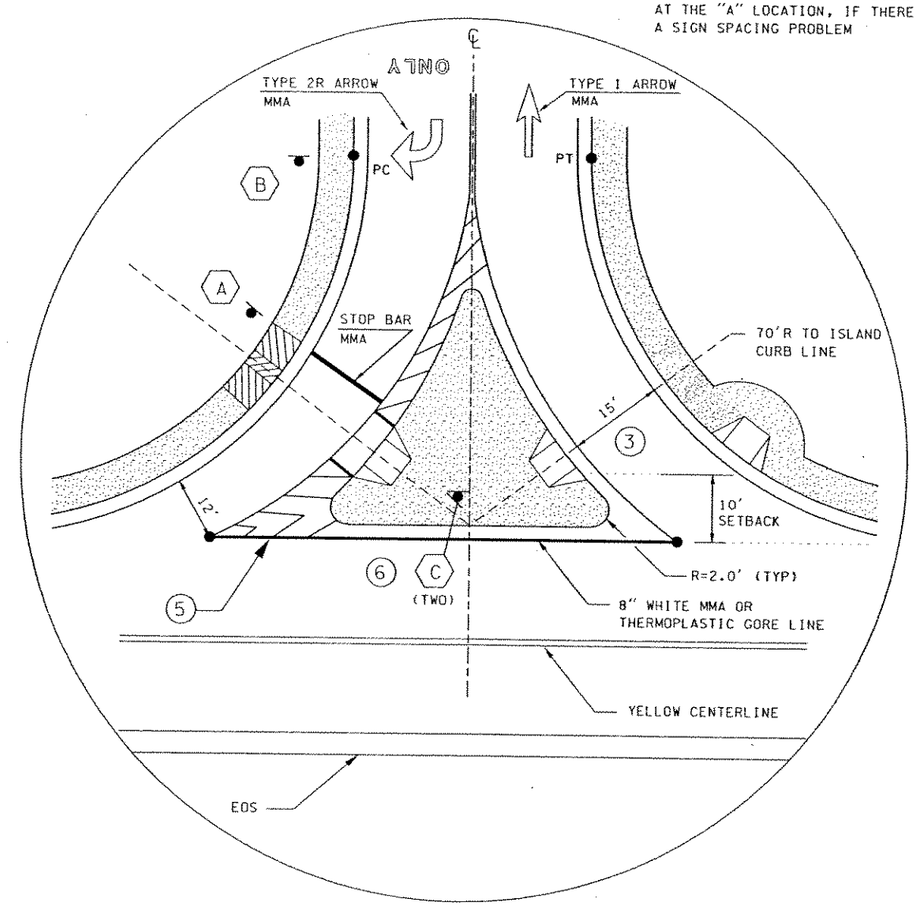
SHEET 1 OF 5 SHEETS



TYPE 1C

(70' ISLAND RADIUS; LESS THAN 150' FRONTAGE; STIPED PINCH POINT MEDIAN ISLAND BREAK FOR PEDESTRIANS.)





TYPE 1D

(70' ISLAND RADIUS;LESS THAN 150' FRONTAGE; STRIPED PINCH POINT MEDIAN ISLAND PEDESTRIAN RAMPS.)

NOTES:

1. 1½ FT MINIMUM/ 3 FT DESIRABLE SHY DISTANCE (TYP)
2. CURB RAMP, AND ITS LOCATION, SHOWN IS GENERIC. USE CURRENT STD PLAN F-3 AND CURRENT ADA REQUIREMENTS.
3. DRIVEWAY WIDTH MAY BE INCREASED IF LONGER VEHICLE WARRANTS IT.
4. PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL STRIPING AND SIGNING ITEMS OUTSIDE OF STATE RIGHT-OF-WAY.
5. FOR GORE POINT CHEVRONS AND DIAGONAL HASH MARK DETAILS, SEE PAGE G-F26.
6. THE USE OF TWO 30 IN "NO LEFT TURN" SIGNS MAY REQUIRE INDIVIDUAL POSTS.
7. TURN LANE WIDTH REDUCES FROM A TYPICAL 15 FT WIDTH TO A 12 FT WIDTH AT END OF ISLAND. INSTALL DIAGONAL HASH MARKS ON 5 FT CENTERS.
   (8 IN YELLOW THERMOPLASTIC LINE WITH ADJACENT YELLOW RPM LINE - - . SEE PAGE G-1D19 FOR THIS TYPICAL DIAGONAL LINE LAYOUT)
   FOR USE AS ADDED "RIGHT TURN ONLY" EMPHASIS.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\Intersection driveways\restricted driveway access layouts\G-1d15\g_1d15.dgn						
TIME	04:15:54 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY					CONTRACT NO.	LOCATION NO.	
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - RESTRICTED DRIVEWAY "RIGHT-IN / RIGHT-OUT" ACCESS RAISED ISLAND WITH STRIPED PINCH POINT

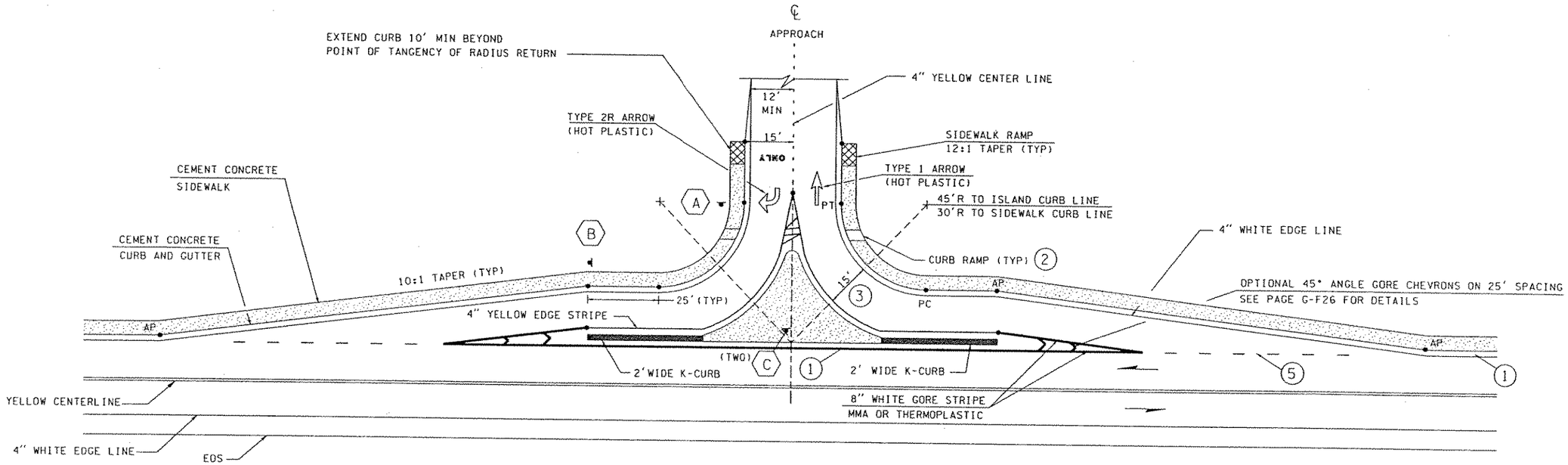
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-1D15

SHEET 2 OF 5 SHEETS

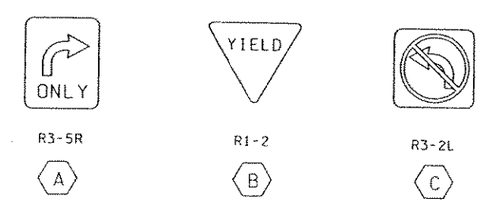


TYPE 2A

WITH K-CURB EXTENSION DESIGN TO DISCOURAGE LEFT TURN MOVEMENTS
(FOR USE WHERE FRONTAGE EXCEEDS 400' IN LENGTH. THIS DESIGN ALLOWS
FOR AN ACCELERATION / DECELERATION LANE EXTENSION, IF TRAFFIC VOLUMES WARRANT.)

NOTES:

1. 1½ FT MINIMUM/ 3 FT DESIRABLE SHY DISTANCE (TYP)
2. CURB RAMP, AND ITS LOCATION, SHOWN IS GENERIC. USE CURRENT STD PLAN F-3 AND CURRENT ADA REQUIREMENTS.
3. DRIVEWAY WIDTH MAY BE INCREASED IF LONGER VEHICLE WARRANTS IT.
4. PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL STRIPING AND SIGNING ITEMS OUTSIDE OF STATE RIGHT-OF-WAY.
5. OPTIONAL DRIVEWAY EXTENSION STRIPE USING A 2 FT STRIPE / 6 FT SKIP PATTERN IN EITHER MMA OR THERMOPLASTIC.



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted driveway access layouts\G-id16\g_id16.dgn						
TIME	04:16:22 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY							
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CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - RESTRICTED DRIVEWAY "RIGHT-IN / RIGHT-OUT" ACCESS WITH K-CURB WING EXTENSION

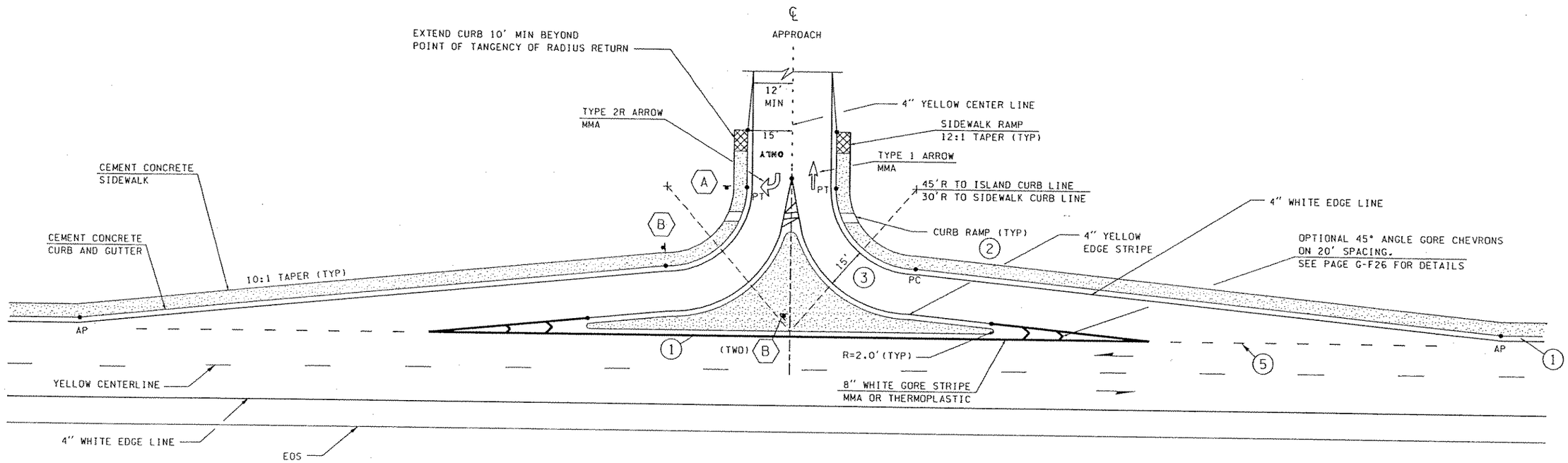
REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID16

SHEET 3 OF 5 SHEETS

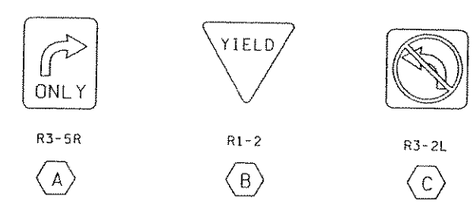


TYPE 2B

"RIGHT-IN/RIGHT-OUT" ISLAND WITH WING EXTENSION
DESIGN TO DISCOURAGE LEFT TURN MOVEMENTS.
(FOR USE WHERE FRONTAGE EXCEEDS 400' IN LENGTH.)

NOTES:

1. 1½ FT MINIMUM/ 3 FT DESIRABLE SHY DISTANCE (TYP)
2. CURB RAMP, AND ITS LOCATION, SHOWN IS GENERIC. USE CURRENT STD PLAN F-3 AND CURRENT ADA REQUIREMENTS.
3. DRIVEWAY WIDTH MAY BE INCREASED IF LONGER VEHICLE WARRANTS IT.
4. PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL STRIPING AND SIGNING ITEMS OUTSIDE OF STATE RIGHT-OF-WAY.
5. OPTIONAL DRIVEWAY EXTENSION STRIPE USING A 2 FT STRIPE / 6 FT SKIP PATTERN IN EITHER MMA OR THERMOPLASTIC.



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted driveway access layouts\G-id17\g_id17.dgn						
TIME	04:16:53 PM						
DATE	08/28/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

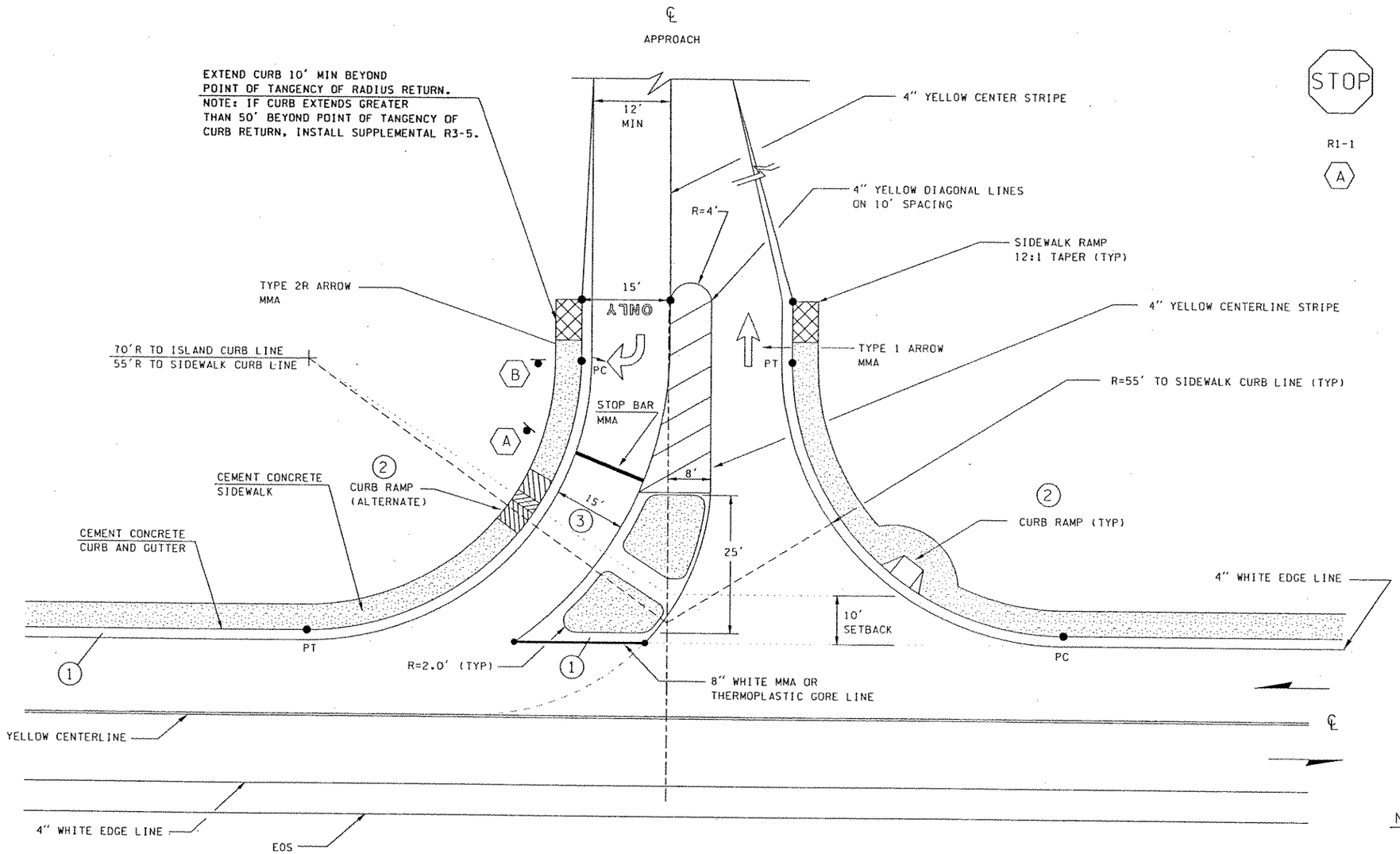
P.E. STAMP BOX DATE

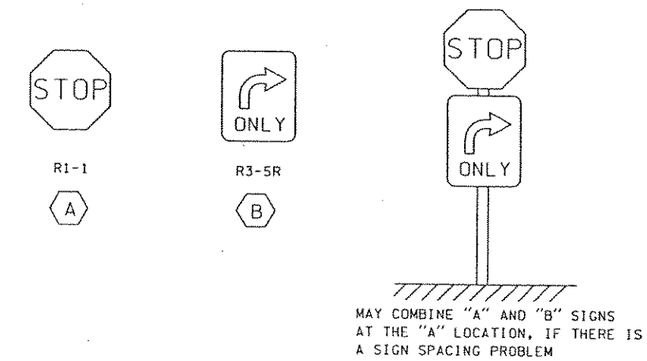
Washington State Department of Transportation

INTERSECTION / DRIVEWAY -
RESTRICTED DRIVEWAY
"RIGHT-IN / RIGHT-OUT" ACCESS
WITH ISLAND WING EXTENSION
REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-ID17
SHEET 4 OF 5 SHEETS





TYPE 3

"RIGHT-OUT ONLY" DESIGN WITH CURB AND SIDEWALK

NOTES:

1. 1½ FT MINIMUM/ 3 FT DESIRABLE SHY DISTANCE (TYP)
2. CURB RAMP, AND ITS LOCATION, SHOWN IS GENERIC. USE CURRENT STD PLAN F-3 AND CURRENT ADA REQUIREMENTS.
3. DRIVEWAY WIDTH MAY BE INCREASED IF LONGER VEHICLE WARRANTS IT.
4. PROPERTY OWNER IS RESPONSIBLE FOR MAINTAINING ALL STRIPING AND SIGNING ITEMS OUTSIDE OF STATE RIGHT-OF-WAY.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted driveway access layouts\G-id18\g_id18.dgn						
TIME	04:17:17 PM						
DATE	08/28/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - RESTRICTED DRIVEWAY "RIGHT-OUT" ACCESS WITH RAISED ISLAND DESIGN

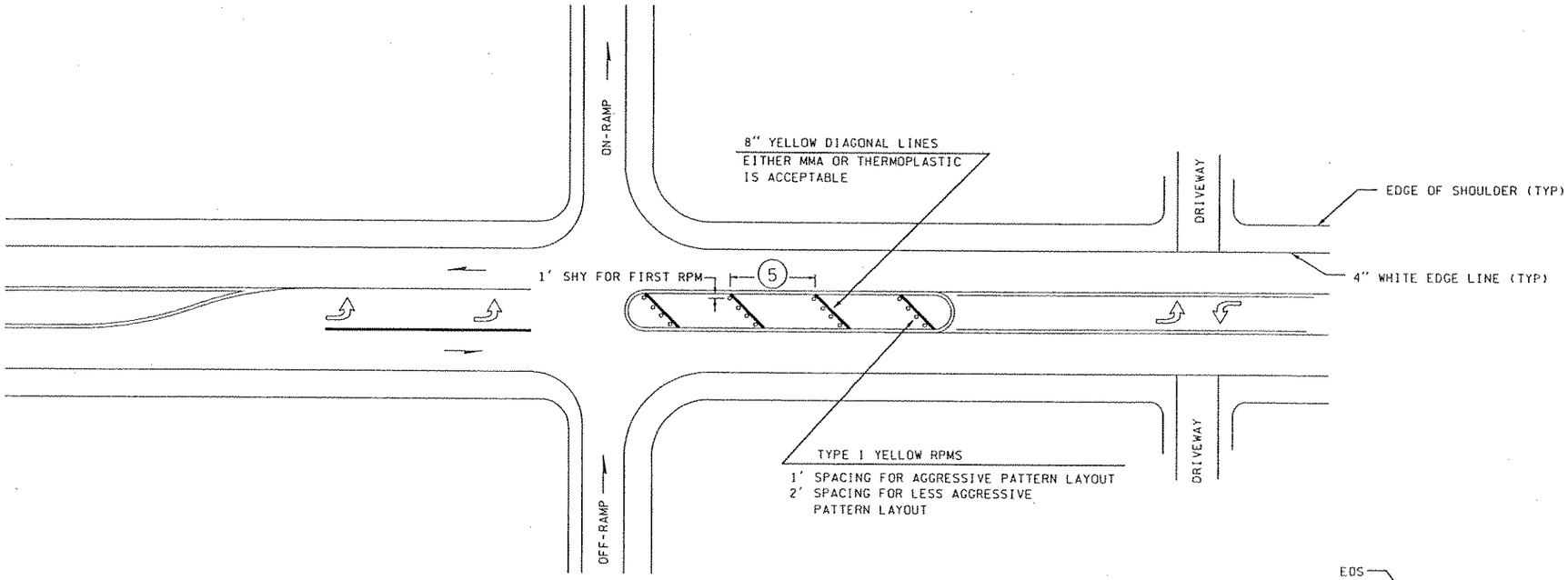
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

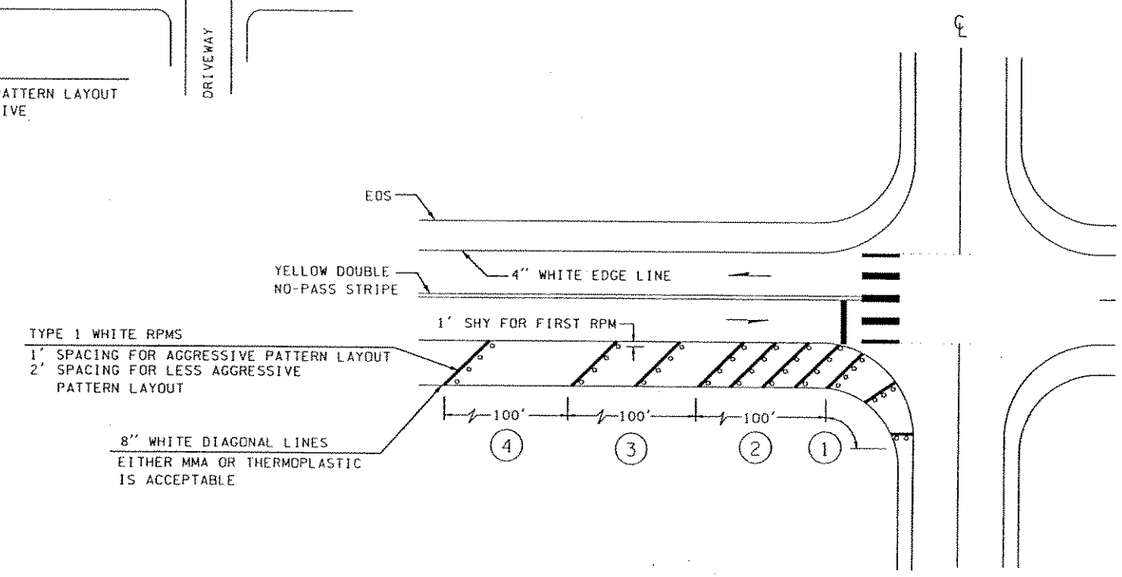
G-ID18

SHEET 5 OF 5 SHEETS



RESTRICTED MEDIAN MARKINGS
(DIAGONAL HASH LINES)

- FOR USE WHERE ADDED EMPHASIS IS NEEDED TO KEEP MOTORISTS FROM DRIVING IN THE MEDIAN AREA.



NOTES:

1. MINIMUM OF 3 DIAGONAL LINES WITHIN RADIUS RETURN.
2. 4 DIAGONAL LINES ON 25 FT C/C, FIRST 100 FT FROM RADIUS RETURN.
3. 2 DIAGONAL LINES ON 50 FT C/C, SECOND 100 FT FROM RADIUS RETURN.
4. OPTIONAL IF NECESSARY THIRD 100 FT FROM RADIUS RETURN:
   a) REPEAT 2 DIAGONAL LINES ON 50 FT C/C, OR
   b) 1 DIAGONAL LINE ON 100 FT C/C, AS NEEDED
5. NOMINAL LINE SPACING IS 25 FT. DECREASE SPACING AS NECESSARY IN ORDER TO ACCOMMODATE A MINIMUM OF 3 DIAGONAL LINES.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

RESTRICTED SHOULDER MARKINGS
(DIAGONAL HASH LINES)

- FOR USE AT INTERSECTIONS AND OFF-RAMPS WHERE SHOULDER DRIVING IS A PROBLEM.
- THE USE OF "DO NOT DRIVE ON SHOULDER" SIGNS IS NOT PERMITTED AT THIS TIME.

FILE NAME	J:\Redbook\Section G\intersection driveways\restricted median area and shoulder marking details\G-id19\g_id19.dgn						
TIME	11:19:52 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY							
ENTERED BY							
CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

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Washington State Department of Transportation

INTERSECTION / DRIVEWAY - RESTRICTED MEDIAN AREA AND SHOULDER MARKING DETAILS

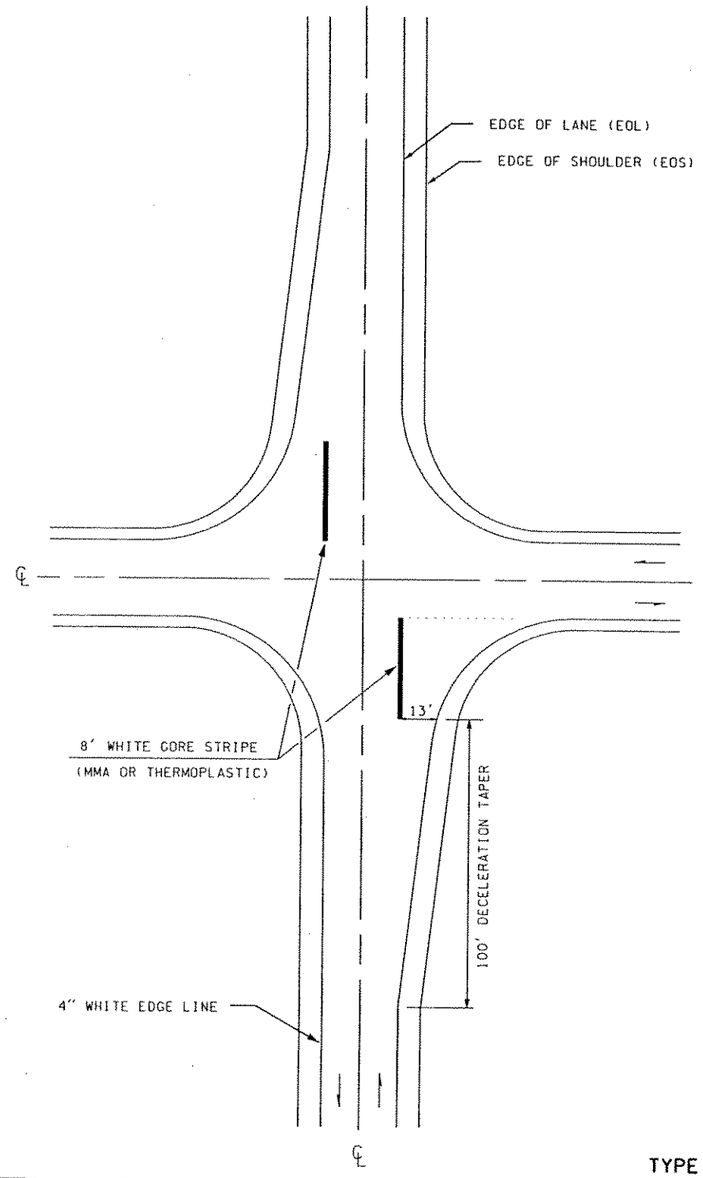
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID19

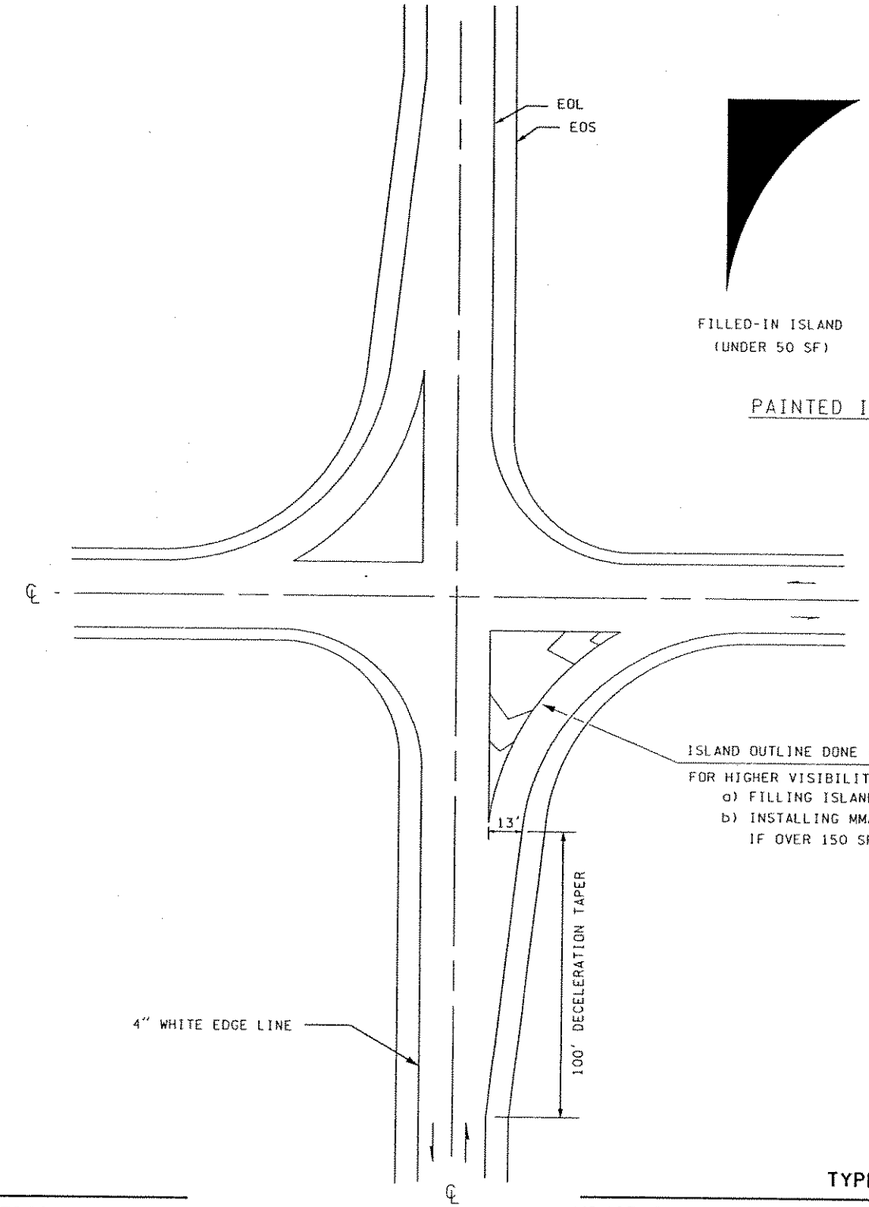
SHEET 1 OF 1 SHEETS

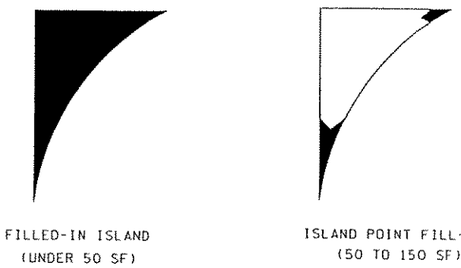


NOT TO PS&E QUALITY
NOT TO SCALE

TYPE 1

MINOR INTERSECTION CONTROL STRIPING LAYOUT
FOR EXISTING 100' DECELERATION TAPER
WITH SMALL RADIUS RETURN





PAINTED ISLAND STRIPING OPTIONS

ISLAND OUTLINE DONE IN MMA OR THERMOPLASTIC

FOR HIGHER VISIBILITY, CONSIDER:
a) FILLING ISLAND IN MMA IF UNDER 50 SF.
b) INSTALLING MMA OR THERMOPLASTIC CHEVRONS IF OVER 150 SF.

TYPE 2

MINOR INTERSECTION CONTROL STRIPING LAYOUT
FOR EXISTING 100' DECELERATION TAPER
WITH LARGE RADIUS RETURN

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\right turn decel-pocket-lane pavement marking\G-id20\g_id20.dgn			REGION NO.	STATE	FED.AID PROJ.NO.
TIME	11:35:51 AM			10	WASH	
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CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - RIGHT TURN STRIPING FOR INTERSECTIONS WITH 100' DECELERATION TAPER

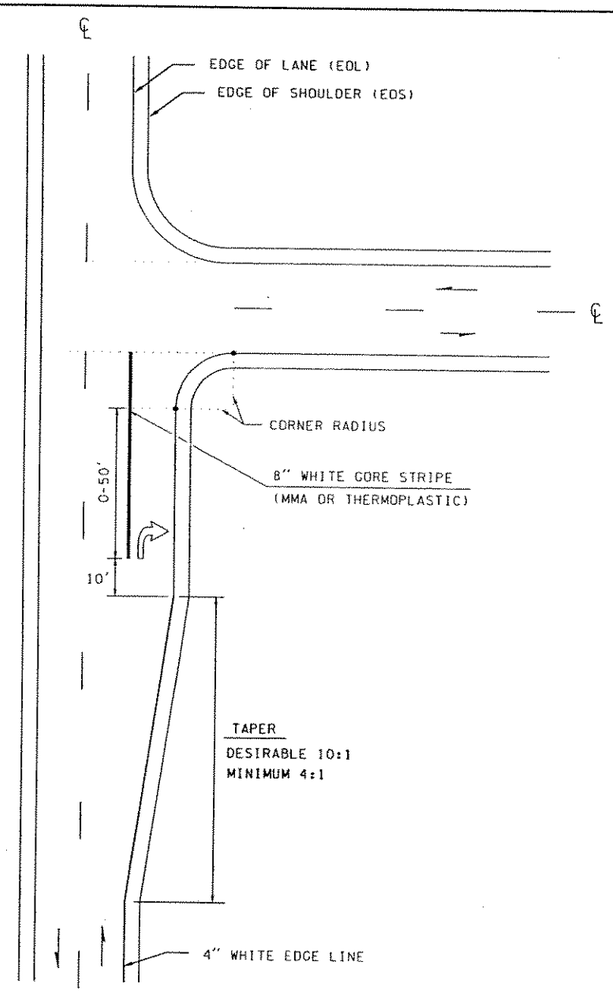
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

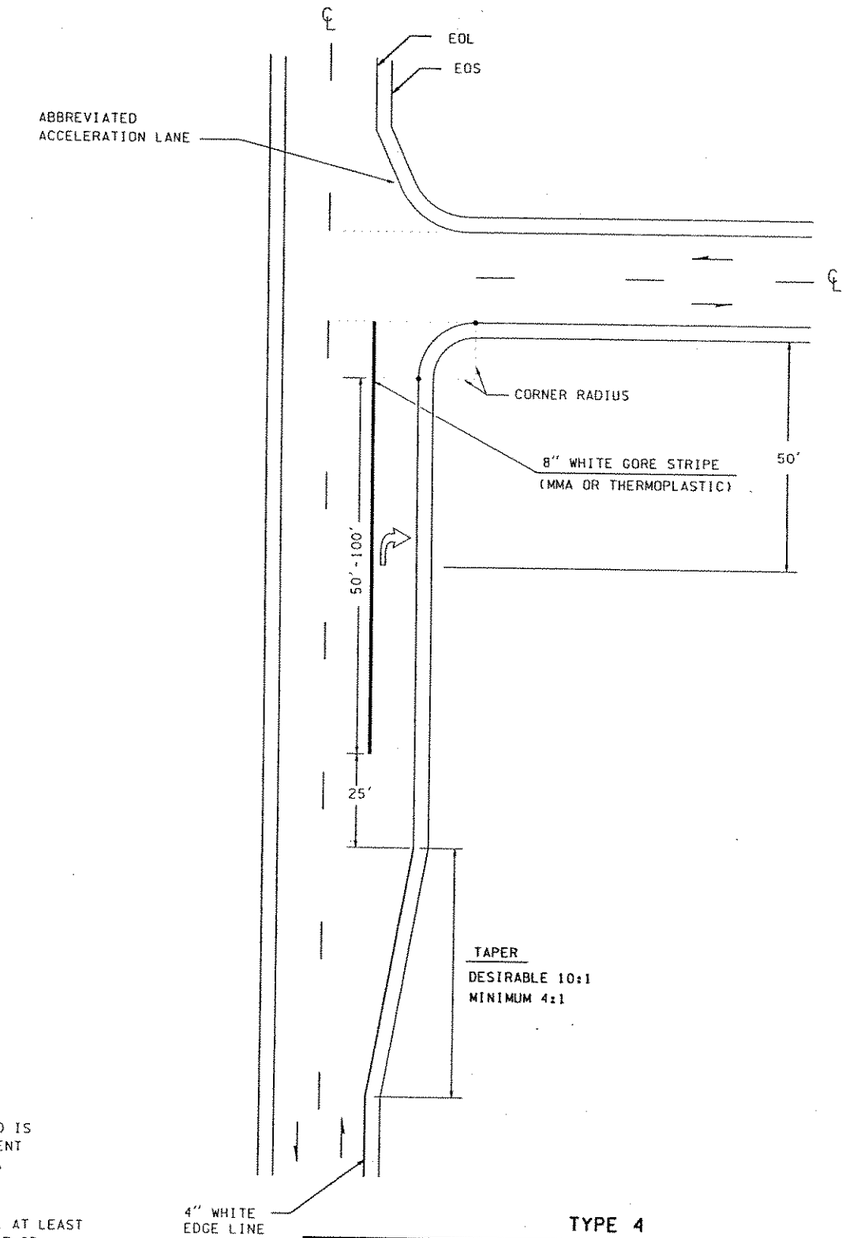
G-ID20

SHEET 1 OF 3 SHEETS



TYPE 3

STRIPING FOR EXISTING ABBREVIATED RIGHT TURN POCKET (0 - 50' IN LENGTH)



TYPE 4

STRIPING FOR EXISTING ABBREVIATED RIGHT TURN POCKET WITH ABBREVIATED ACCELERATION LANE (50' - 100' IN LENGTH)

NOTES:

1. IF A RIGHT TURN POCKET IS NOT A "TRAP LANE", AND IS LESS THAN 100 FT LONG, DO NOT INSTALL ANY PAVEMENT MARKERS. IF THE POCKET EXCEEDS 100 FT IN LENGTH, A TURN ARROW MAY BE CONSIDERED.
2. IF THE RIGHT LANE BECOMES A "TRAP LANE", INSTALL AT LEAST ONE (2R) ARROW AND "ONLY" 50 FT FROM THE STOP BAR OR TURNING POINT. IF THE RIGHT LANE EXCEEDS 100 FT, INSTALL AT LEAST 2 SETS OF PAVEMENT ARROWS AND "ONLY".

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\Intersection driveways\right turn decel-pocket-lane pavement marking\G-id21\g_id21.dgn						
TIME	04:23:38 PM						
DATE	08/28/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - ABBREVIATED RIGHT TURN POCKETS AT NON-CONTROLLED INTERSECTIONS

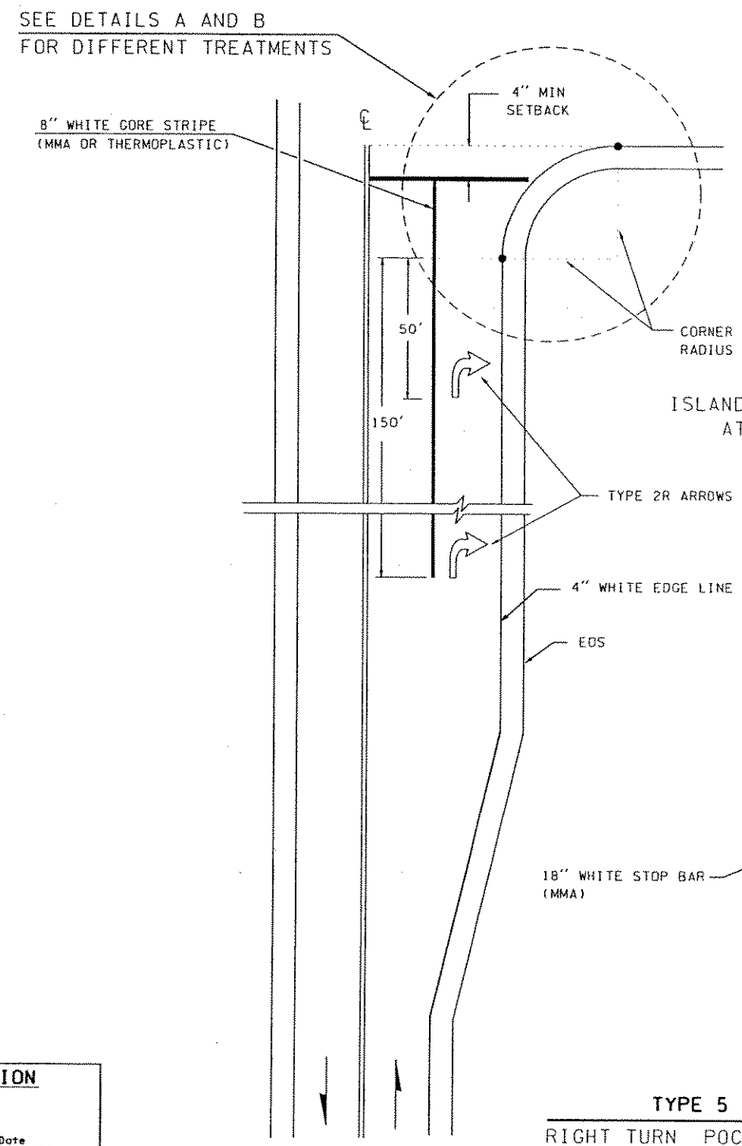
REV. 2-26-02 JBR

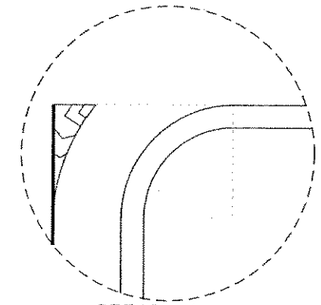
NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID21

SHEET 2 OF 3 SHEETS

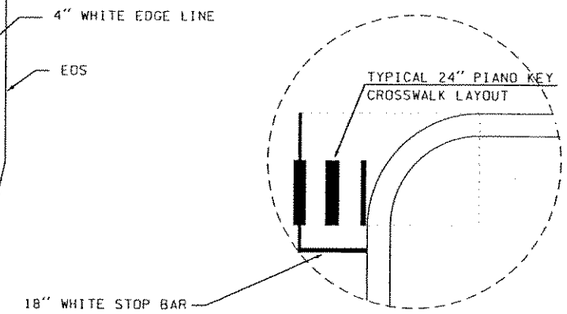




DETAIL A

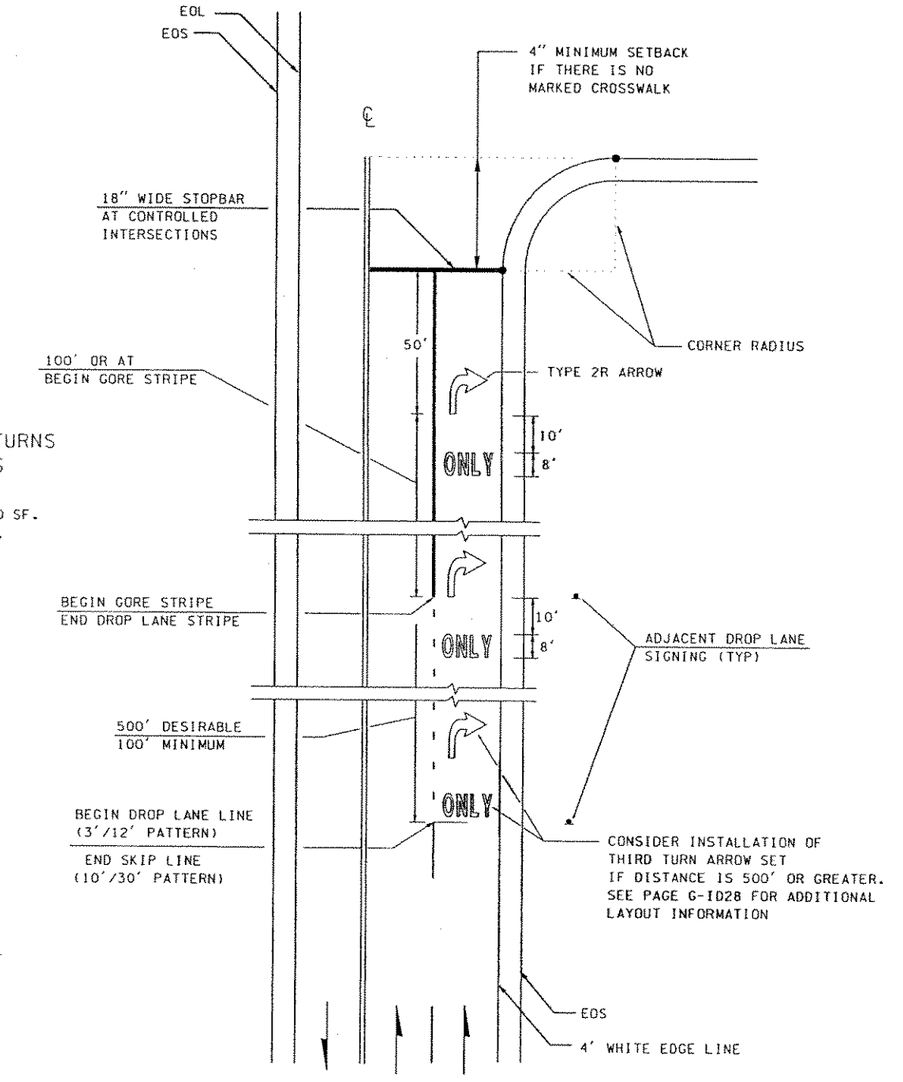
ISLAND OUTLINE FOR LARGE RADIUS RETURNS
AT NON-CONTROLLED INTERSECTIONS

FOR HIGHER VISIBILITY, CONDSIDER:
a) FILLING ISLAND IN MMA, IF UNDER 50 SF.
b) INSTALLING THERMOPLASTIC CHEVRONS, IF OVER 150 SF.
c) SEE PAGE G-ID20 FOR ISLAND STRIPING OPTIONS



DETAIL B

AT CONTROLLED INTERSECTION



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

TYPE 5

RIGHT TURN POCKET AT
NON-CONTROLLED INTERSECTION

TYPE 6

RIGHT TURN DROP LANE
STRIPING LAYOUT
(FOR DROP LANE LENGTH GREATER
THAN 300', SEE PAGE G-ID28)

FILE NAME	J:\Redbook\Section G\intersection driveways\right turn decel-pocket-lane pavement marking\G-id22\g_id22.dgn								
TIME	04:24:03 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.		
DATE	08/28/2002				JOB NUMBER				
DESIGNED BY									
ENTERED BY									
CHECKED BY					CONTRACT NO.		LOCATION NO.		
PROJ. ENGR.									
REGIONAL ADM.		REVISION	DATE	BY					

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State
Department of Transportation

INTERSECTION / DRIVEWAY -
RIGHT TURN LANE PAVEMENT MARKING
LAYOUTS AND DETAILS
(300' LENGTH AND UNDER)

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-ID22

SHEET 3 OF 3 SHEETS

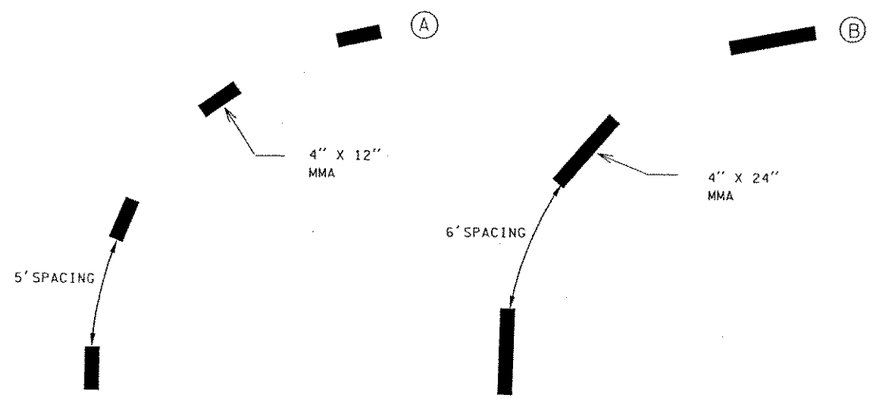
NOTES:

1. A VEHICLE TURNING RADIUS GUIDE (CHICKEN FOOTPRINTS) IS ALWAYS REQUIRED BETWEEN PARALLEL (DOUBLE LANE) TURNING MOVEMENTS.

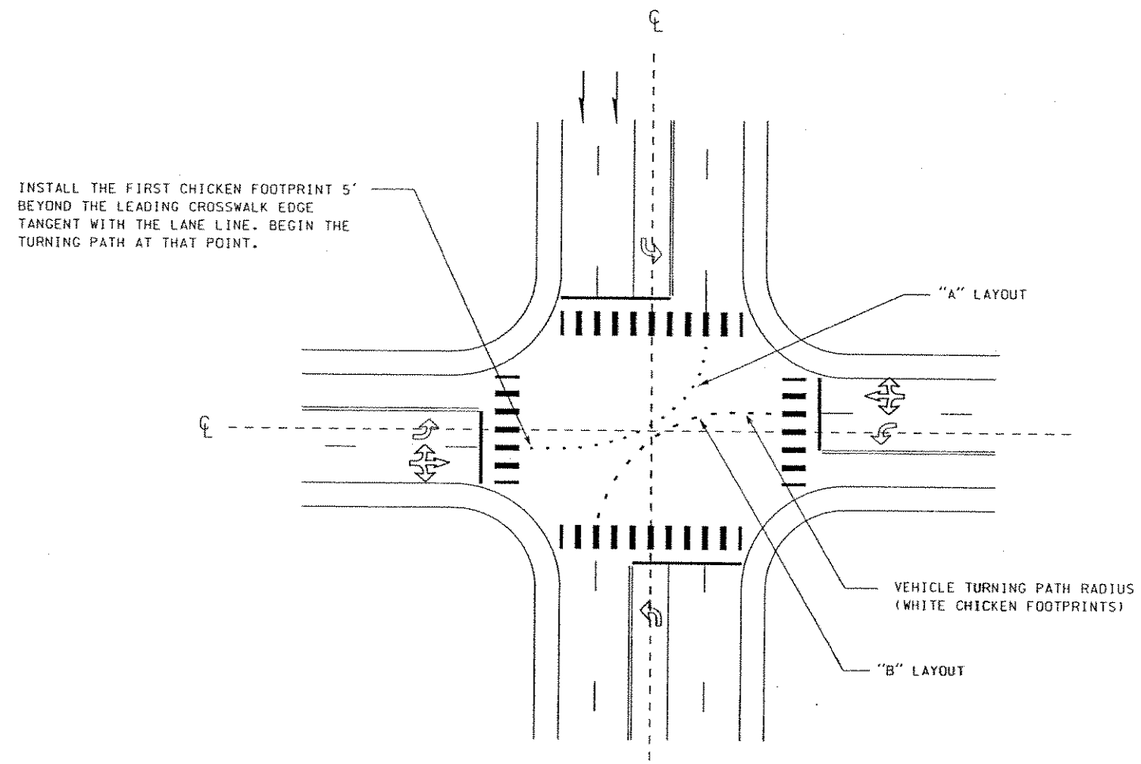
2. CHICKEN FOOTPRINTS ARE OCCASIONALLY USED TO DELINEATE A SINGLE LEFT TURN MOVEMENT THROUGH AN INTERSECTION IF IT IS SEVERLY SKEWED. SEE PAGE G-ID26 FOR EXAMPLES. CONSULT WITH NWR TRAFFIC OPERATIONS TO SEE IF WARRANTED.

3. CHICKEN FOOTPRINT LAYOUTS SHOULD BE DONE USING METHYL METHACRYLATE MATERIAL. THERMOPLASTIC MATERIAL IS ACCEPTABLE, IF OK'D BY NWR TRAFFIC OPERATIONS.
   a) METHLYMETHACRYLATE MUST BE USED WHERE THERE ARE HIGH TRUCK TURNING VOLUMES.
   b) THERMOPLASTIC MATERIAL SHOULD NOT BE USED IN SNOW ZONE AREAS OR AREAS WHERE GRADERS AND ICE CHISEL MACHINERY ARE USED TO REMOVE ROADWAY SNOW/ICE.
   c) THE USE OF RPMS (CHICKEN TRACKS) HAS BEEN DISCONTINUED DUE TO SHORTER SERVICE LIFE AND IT'S NON-REFLECTIVE SURFACE.

4. FOOTPRINT LAYOUTS CAN BE EITHER OF THE 2 LAYOUTS LISTED BELOW.



TYPICAL 5' AND 6' TURNING PATH LAYOUTS



EXAMPLE 1

BASIC LAYOUT SHOWING THE "A" AND "B" PATTERNS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section G\intersection driveways\vehicle turning path layout\G-id23\g_id23.dgn						
TIME	11:41:32 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY	B.Lindskov						
ENTERED BY	B.Lindskov						
CHECKED BY	V.Kientz				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.	V.Kientz						
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - VEHICLE TURNING PATH LAYOUT (CHICKEN FOOTPRINT DETAIL)

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

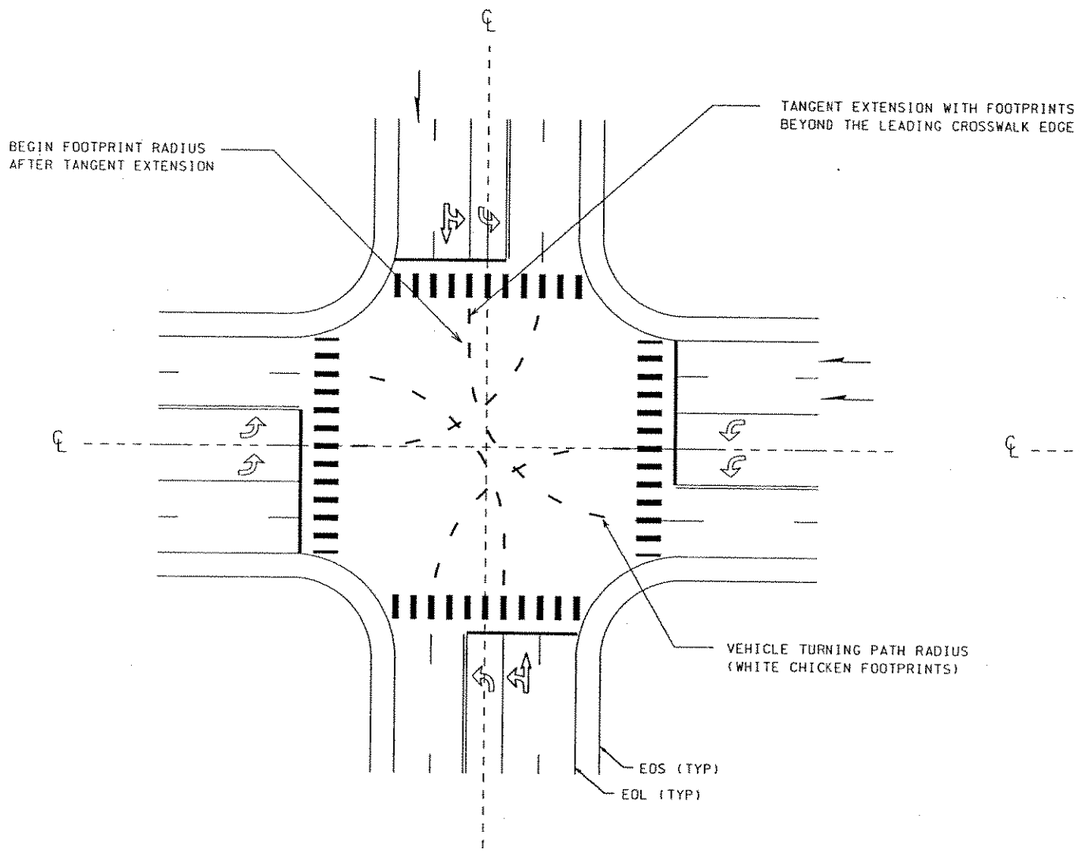
PLOT1

G-ID23

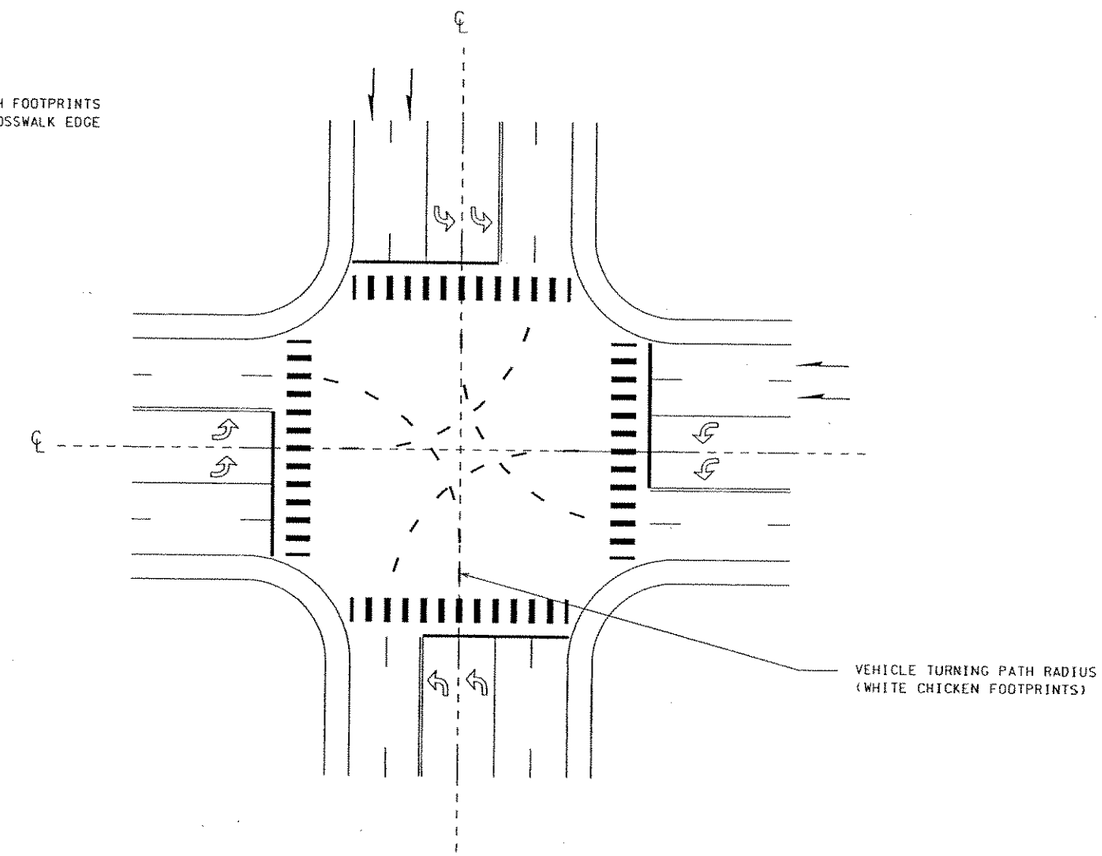
SHEET 1 OF 5 SHEETS

NOTES:

1. DO NOT INSTALL ANY TURNING PATH STRIPE WITHIN THE CROSSWALK AREA.
2. FOR CLARITY, NO OTHER STRIPING OR SIGNING ARE SHOWN, OTHER THAN STOP BARS, TURN ARROWS, AND CROSSWALKS.



EXAMPLE 2



EXAMPLE 3

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

TYPE 1 - BASIC DOUBLE LEFT TURN LANE (WHITE)

VEHICLE TURNING PATH LAYOUT

FILE NAME	J:\Redbook\Section G\intersection driveways\vehicle turning path layout\G-ID24\g_id24.dgn						
TIME	11:44:37 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY	B.Lindskov						
ENTERED BY	B.Lindskov				CONTRACT NO.	LOCATION NO.	
CHECKED BY	V.Kientz						
PROJ. ENGR.	V.Kientz						
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - VEHICLE TURNING PATH LAYOUT (CHICKEN FOOTPRINT DETAIL)

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

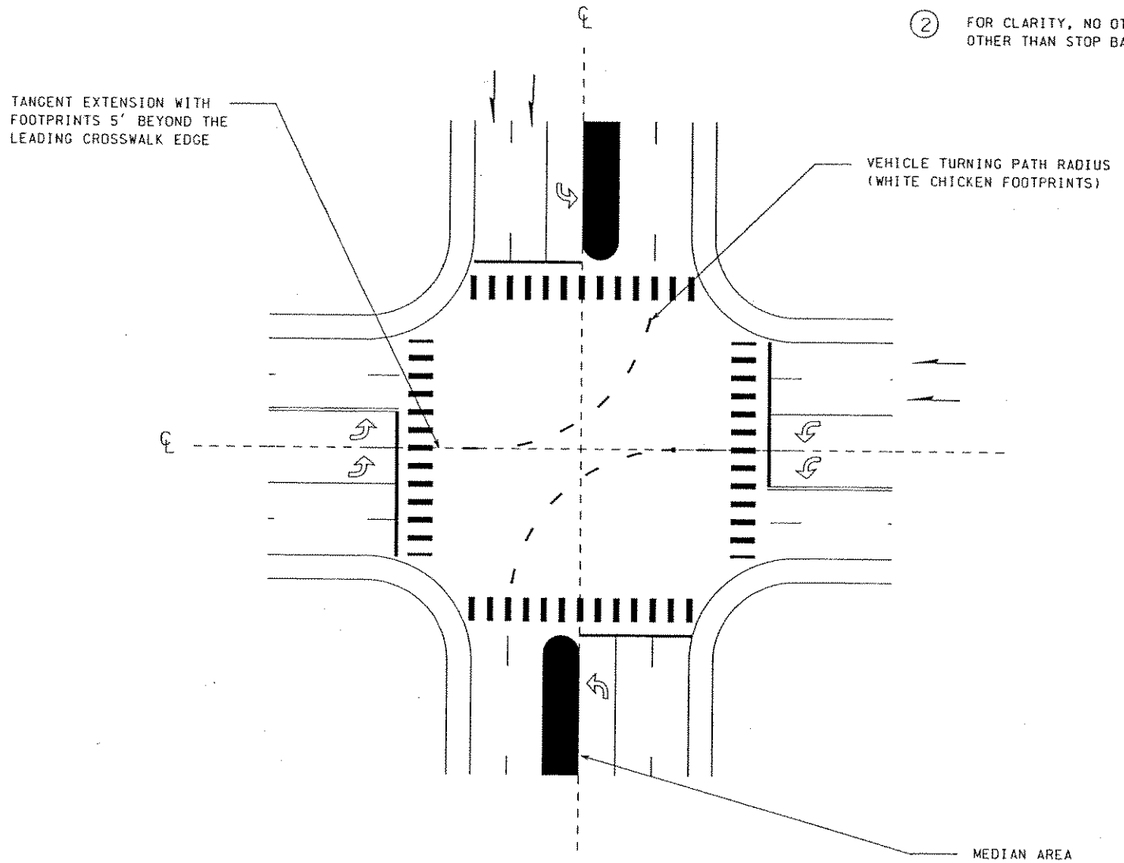
PLOT1

G-ID24

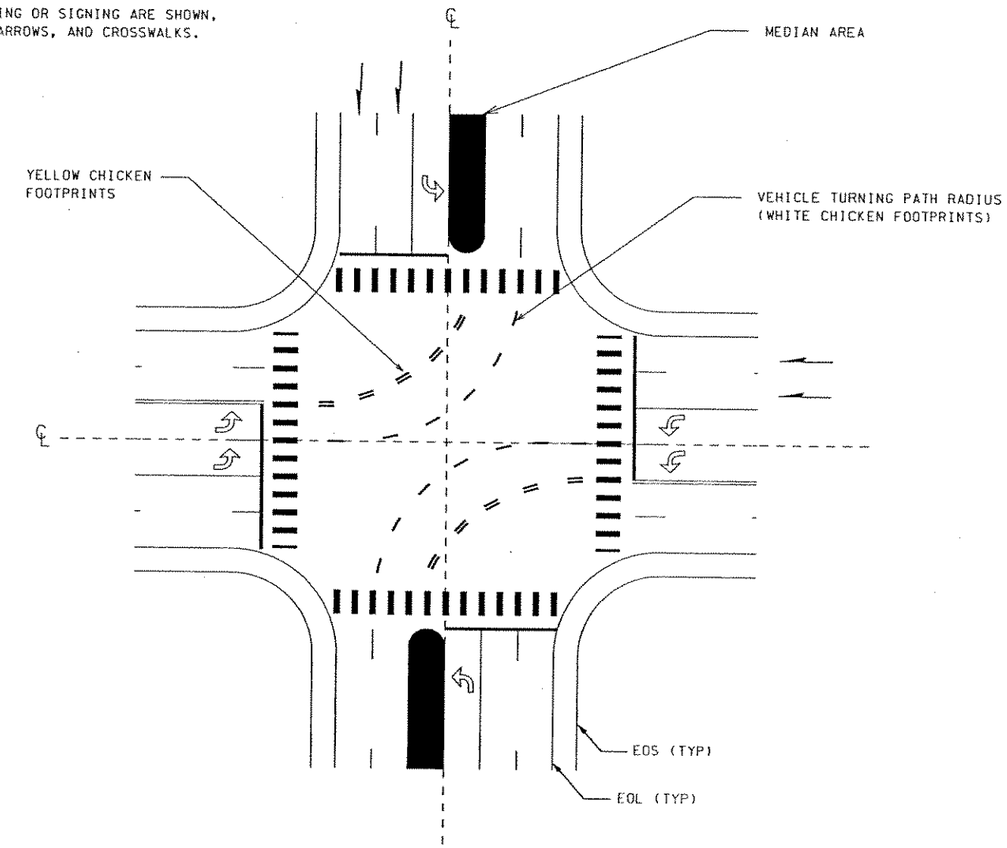
SHEET 2 OF 5 SHEETS

NOTES:

1. DO NOT INSTALL ANY TURNING PATH STRIPE WITHIN THE CROSSWALK AREA.
2. FOR CLARITY, NO OTHER STRIPING OR SIGNING ARE SHOWN, OTHER THAN STOP BARS, TURN ARROWS, AND CROSSWALKS.



EXAMPLE 4



NOT TO PS&E QUALITY
NOT TO SCALE

TYPE 1 - BASIC DOUBLE LEFT TURN LANE (WHITE)

VEHICLE TURNING PATH LAYOUT

TYPE 2 - BASIC DOUBLE LEFT TURN LANE (INCLUDING YELLOW CENTERLINE)

VEHICLE TURNING PATH LAYOUT

(USE WHEN THE INSIDE LEFT TURN LANE MOTORISTS ARE CUTTING THE CORNER TOO SHARP AND RUNNING INTO CENTERLINE MEDIAN OR DRIVING INTO THE FAR SIDE LEFT TURN POCKET)

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\intersection driveways\vehicle turning path layout\G-ID25\g_id25.dgn						
TIME	11:48:48 AM						
DATE	08/28/2002						
DESIGNED BY	B.Lindskov						
ENTERED BY	B.Lindskov						
CHECKED BY	V.Kientz						
PROJ. ENGR.	V.Kientz						
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - VEHICLE TURNING PATH LAYOUT (CHICKEN FOOTPRINT DETAIL)

REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

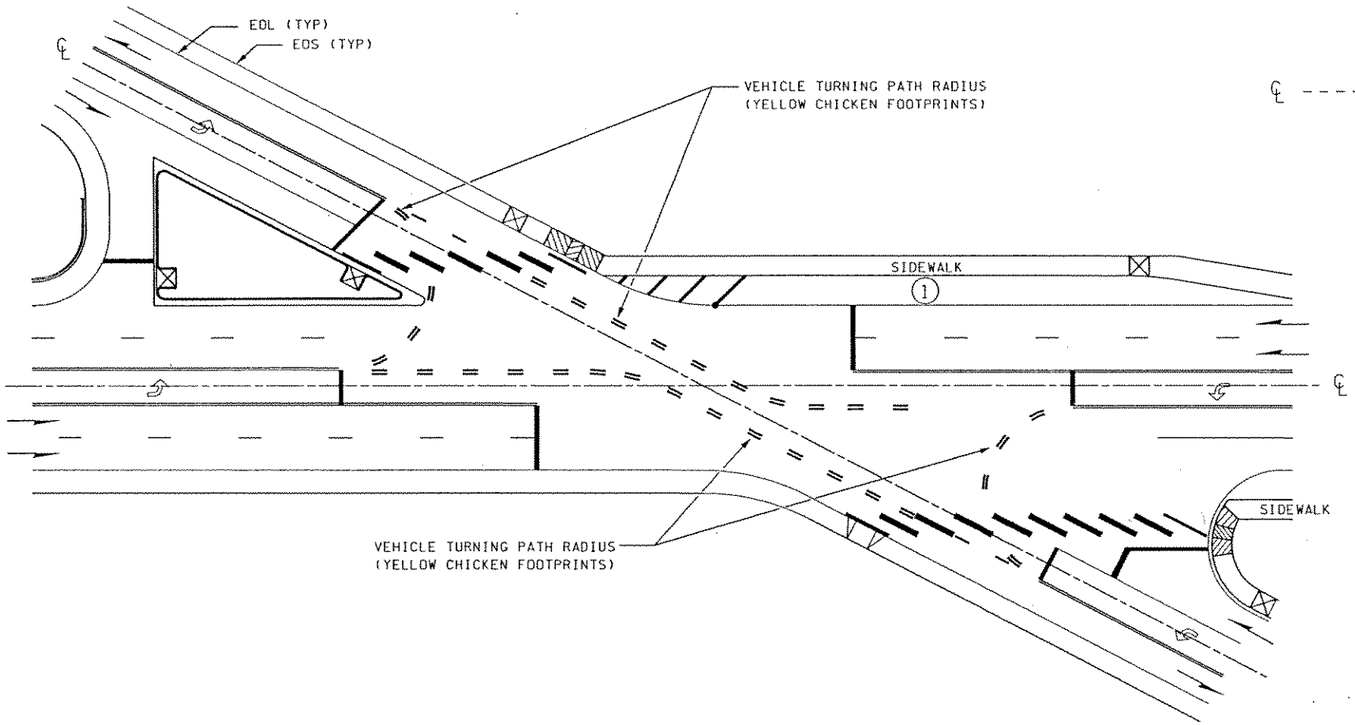
PLOT1

G-ID25

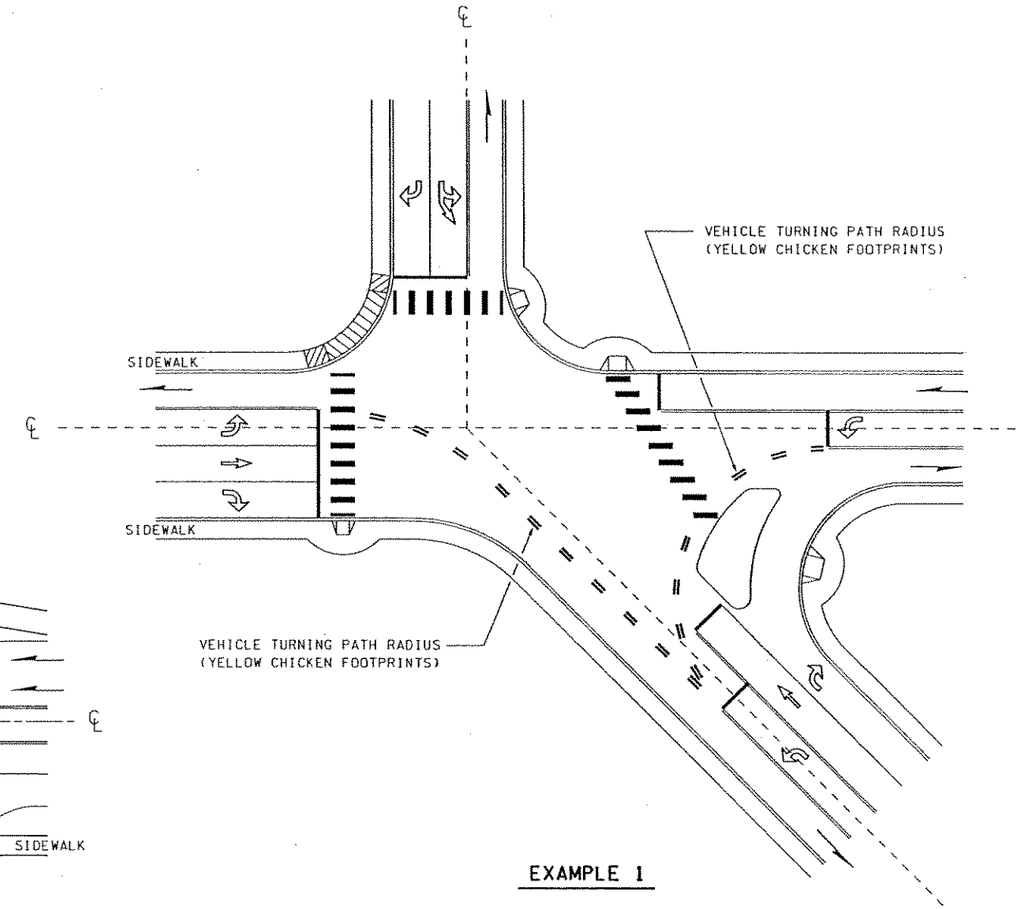
SHEET 3 OF 5 SHEETS

NOTES:

1. NEARSIDE TRANSIT PULLOUT AND STRIPING DETAILS NOT SHOWN.
2. DO NOT INSTALL ANY TURNING PATH STRIPE WITHIN THE CROSSWALK AREA.
3. FOR CLARITY, NO OTHER STRIPING OR SIGNING ARE SHOWN OTHER THAN STOP BARS, TURN ARROWS, AND CROSSWALKS.



EXAMPLE 2



EXAMPLE 1

NOT TO PS&E QUALITY
NOT TO SCALE

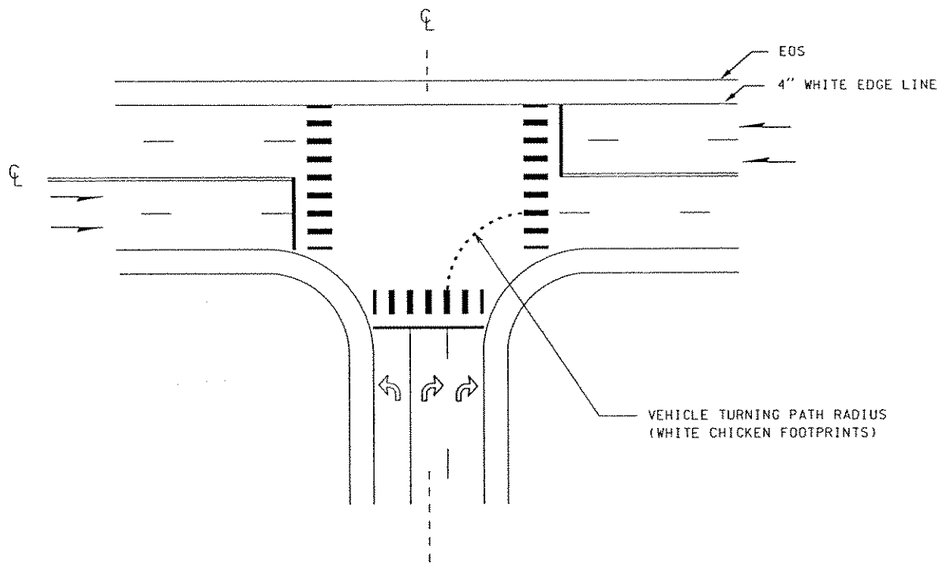
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

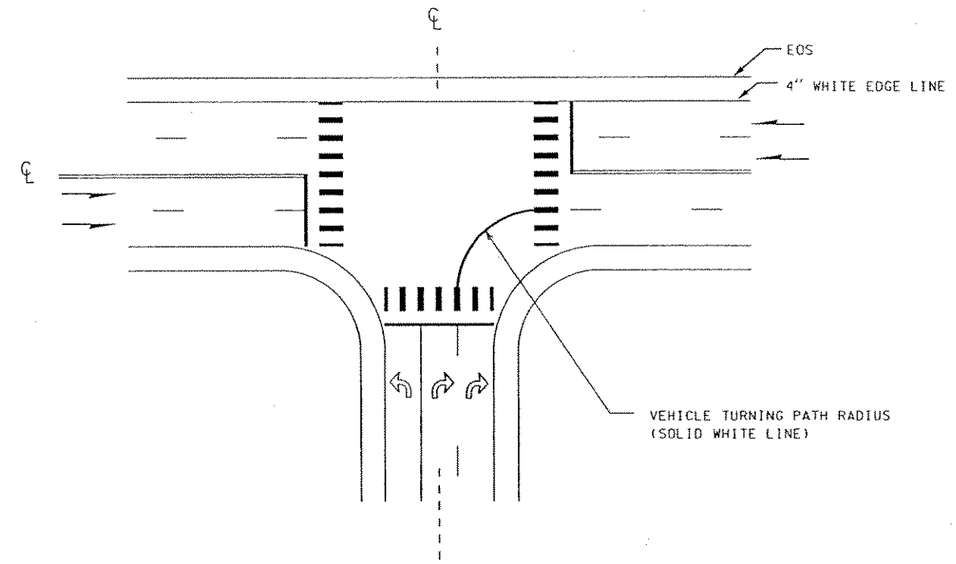
TYPE 3 - BASIC SINGLE LEFT TURN LANE (YELLOW CENTERLINE)

VEHICLE TURNING PATH LAYOUT
(FOR USE AT SKEWED INTERSECTIONS WHERE THERE IS A REPORTED PROBLEM WITH LEFT TURNING TRAFFIC DRIVING INTO ONCOMING LANE DUE TO ROADWAY GEOMETRIES)

FILE NAME	j:\Redbook\Section G\intersection driveways\vehicle turning path layout\G-ID26\g_id26.dgn							PLOT1
TIME	12:08:27 PM				REGION NO. 10 / STATE WASH	FED.AID PROJ.NO.	Washington State Department of Transportation	INTERSECTION / DRIVEWAY - VEHICLE TURNING PATH LAYOUT (CHICKEN FOOTPRINT DETAIL)	G-ID26
DATE	08/28/2002							REV. 2-28-02 JBR	SHEET 4 OF 5 SHEETS
DESIGNED BY	B.Lindskov				JOB NUMBER				
ENTERED BY	B.Lindskov								
CHECKED BY	V.Kientz				CONTRACT NO.	LOCATION NO.			
PROJ. ENGR.	V.Kientz								
REGIONAL ADM.		REVISION	DATE	BY			P.E. STAMP BOX DATE / P.E. STAMP BOX DATE	NW REGION TRAFFIC OPERATIONS	



EXAMPLE 1



EXAMPLE 2

(FOR CONSIDERATION, IF ADDED EMPHASIS IS NEEDED)

NOT TO PS&E QUALITY
NOT TO SCALE

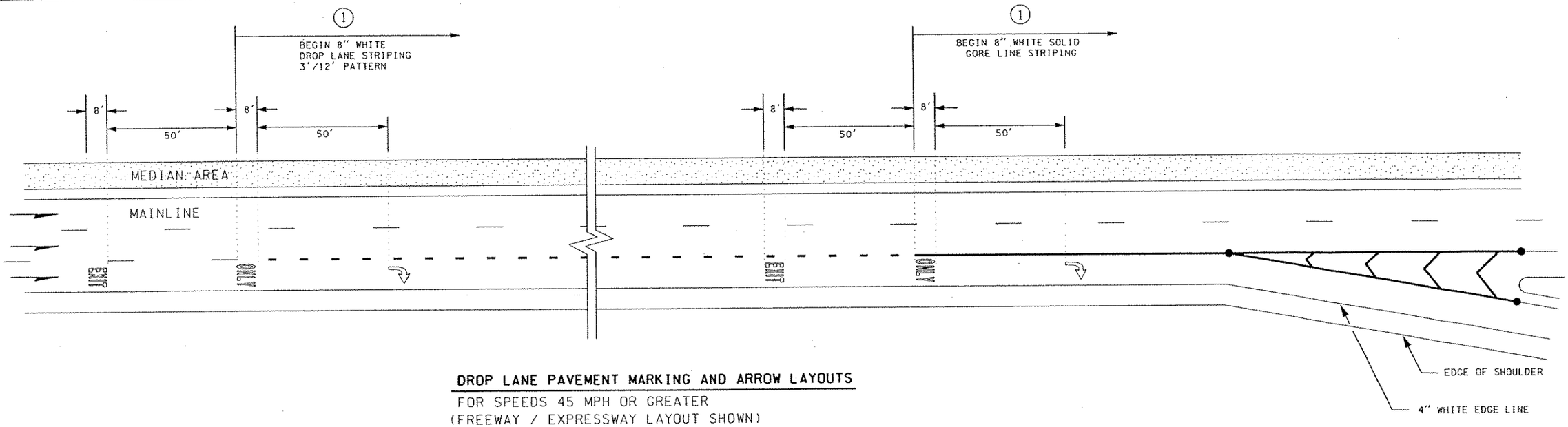
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

TYPE 4 - BASIC DOUBLE RIGHT TURN LANE (WHITE)

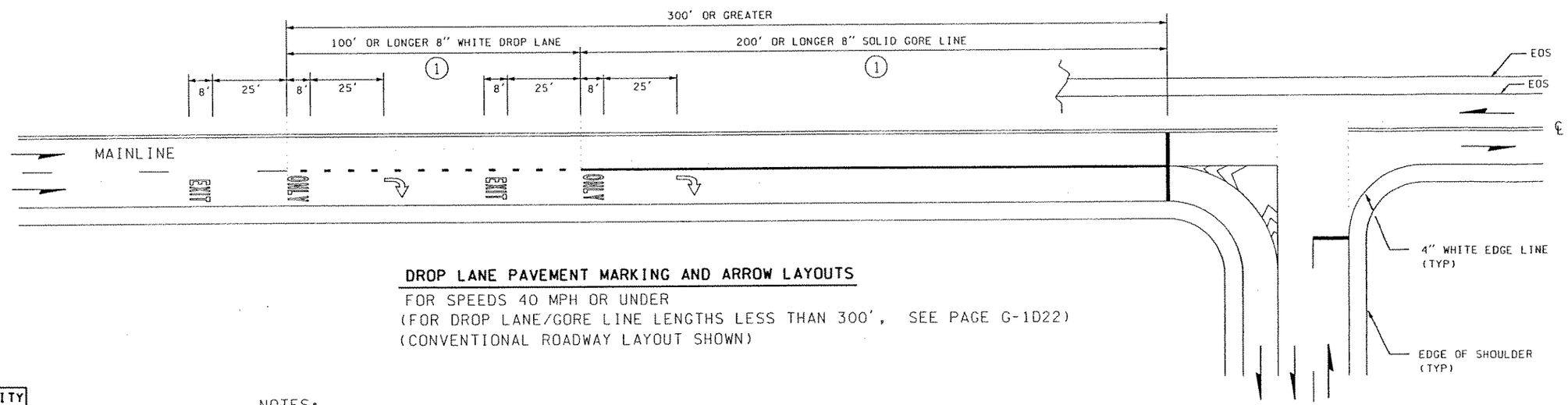
VEHICLE TURNING PATH LAYOUT
(AT OFF-RAMPS OR T-INTERSECTIONS)

FILE NAME	j:\Redbook\Section G\intersection driveways\vehicle turning path layout\G-ID27\g_id27.dgn								PLOT1
TIME	12:02:50 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	Washington State Department of Transportation	INTERSECTION / DRIVEWAY - VEHICLE TURNING PATH LAYOUT (CHICKEN FOOTPRINT DETAIL)	G-ID27
DATE	08/28/2002								REV. 2-26-02 JBR	SHEET 5 OF 5 SHEETS
DESIGNED BY	B.Lindskov				JOB NUMBER					
ENTERED BY	B.Lindskov									
CHECKED BY	V.Kientz				CONTRACT NO.		LOCATION NO.			
PROJ. ENGR.	V.Kientz									
REGIONAL ADM.		REVISION	DATE	BY				P.E. STAMP BOX DATE / P.E. STAMP BOX DATE	NW REGION TRAFFIC OPERATIONS	



DROP LANE PAVEMENT MARKING AND ARROW LAYOUTS

FOR SPEEDS 45 MPH OR GREATER
(FREEWAY / EXPRESSWAY LAYOUT SHOWN)



DROP LANE PAVEMENT MARKING AND ARROW LAYOUTS

FOR SPEEDS 40 MPH OR UNDER
(FOR DROP LANE/GORE LINE LENGTHS LESS THAN 300', SEE PAGE G-1D22)
(CONVENTIONAL ROADWAY LAYOUT SHOWN)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. PROFILED OR RIBBON MMA DESIRABLE
   PROFILED OR RIBBON THERMOPLASTIC ACCEPTABLE
   DO NOT USE TYPE 1 RPMS
2. FOR CLARITY, NO OTHER STRIPING OR SIGNING DETAILS ARE SHOWN.

FILE NAME	j:\Redbook\Section G\intersection driveways\drop lane pavement marking\G-1d28\g_1d28.dgn						
TIME	10:15:39 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/28/2002				JOB NUMBER		
DESIGNED BY							
ENTERED BY					CONTRACT NO.		LOCATION NO.
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

INTERSECTION / DRIVEWAY - DROP LANE PAVEMENT MARKING LAYOUTS AND DETAILS (LENGTHS GREATER THAN 300')

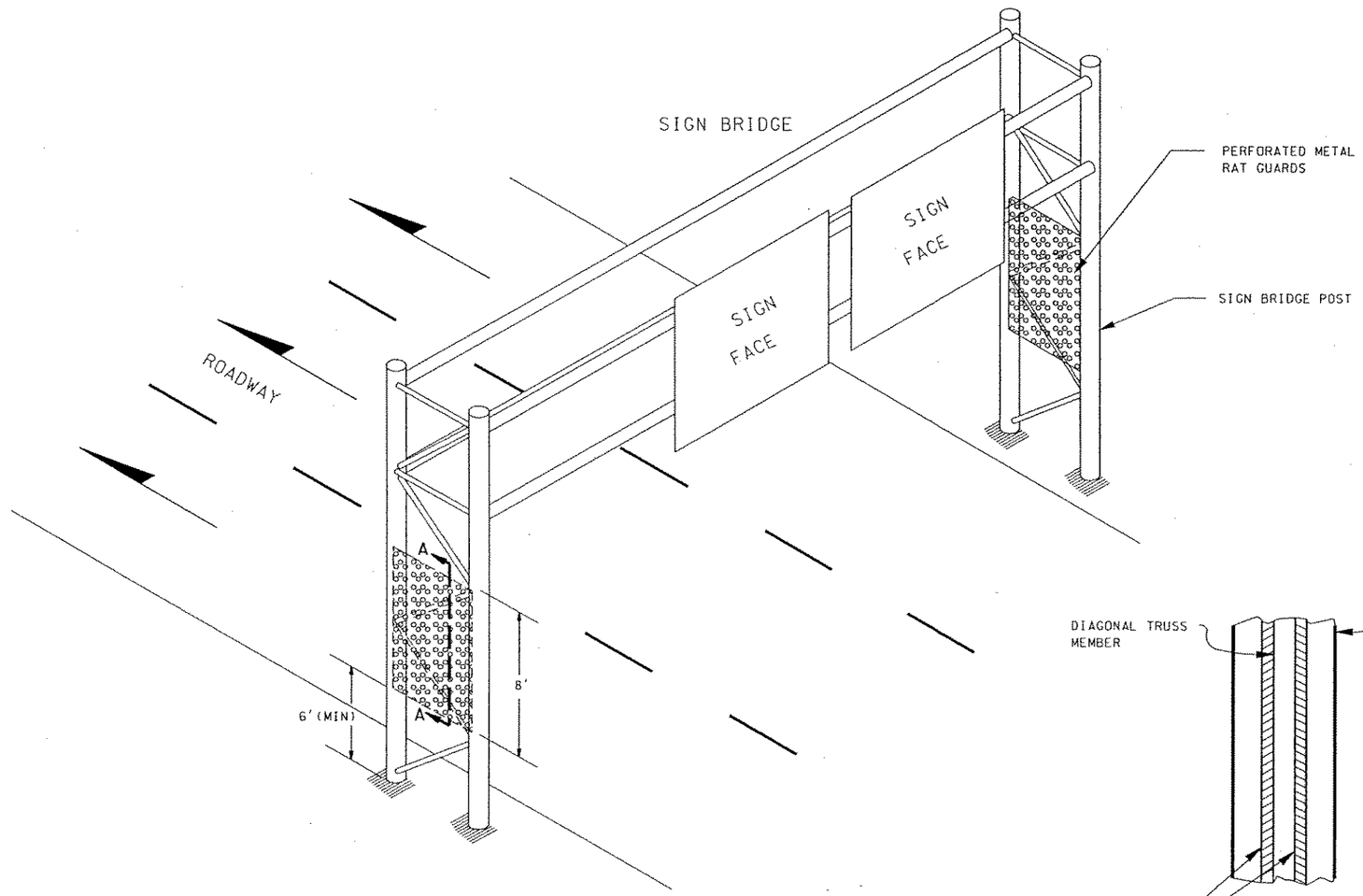
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

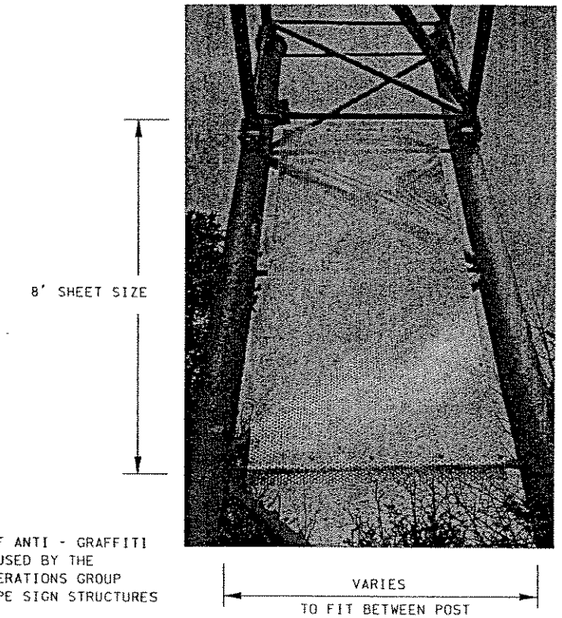
G-1D28

SHEET 1 OF 1 SHEETS

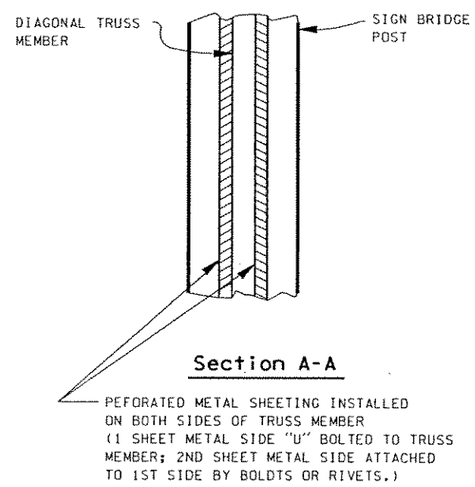


EXAMPLE 1

(PREFFERED OPTION FOR TRUSS SIGN STRUCTURE)



TYPICAL TYPE OF ANTI - GRAFFITI MEASURE BEING USED BY THE NWR TRAFFIC OPERATIONS GROUP FOR TRUSS - TYPE SIGN STRUCTURES



Section A-A

PERFORATED METAL SHEETING

- ALUMINUM SHEETING 3003H14 OR EQUIVALENT
- 5/8" ROUND ON 7/8" STAGGERED CENTERS
- .125" GAUGE THICKNESS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date

Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\graffiti sign guard\truss sign structure - beam and post collar layouts\G-gg1\g_gg01.dgn					
TIME	01:15:15 PM			REGION NO.	STATE	FED.AID PROJ.NO.
DATE	09/04/2002			10	WASH	
DESIGNED BY				JOB NUMBER		
ENTERED BY						
CHECKED BY				CONTRACT NO.		LOCATION NO.
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

GRAFFITI GUARD -
TRUSS SIGN STRUCTURE -
(POST PANEL LAYOUT)

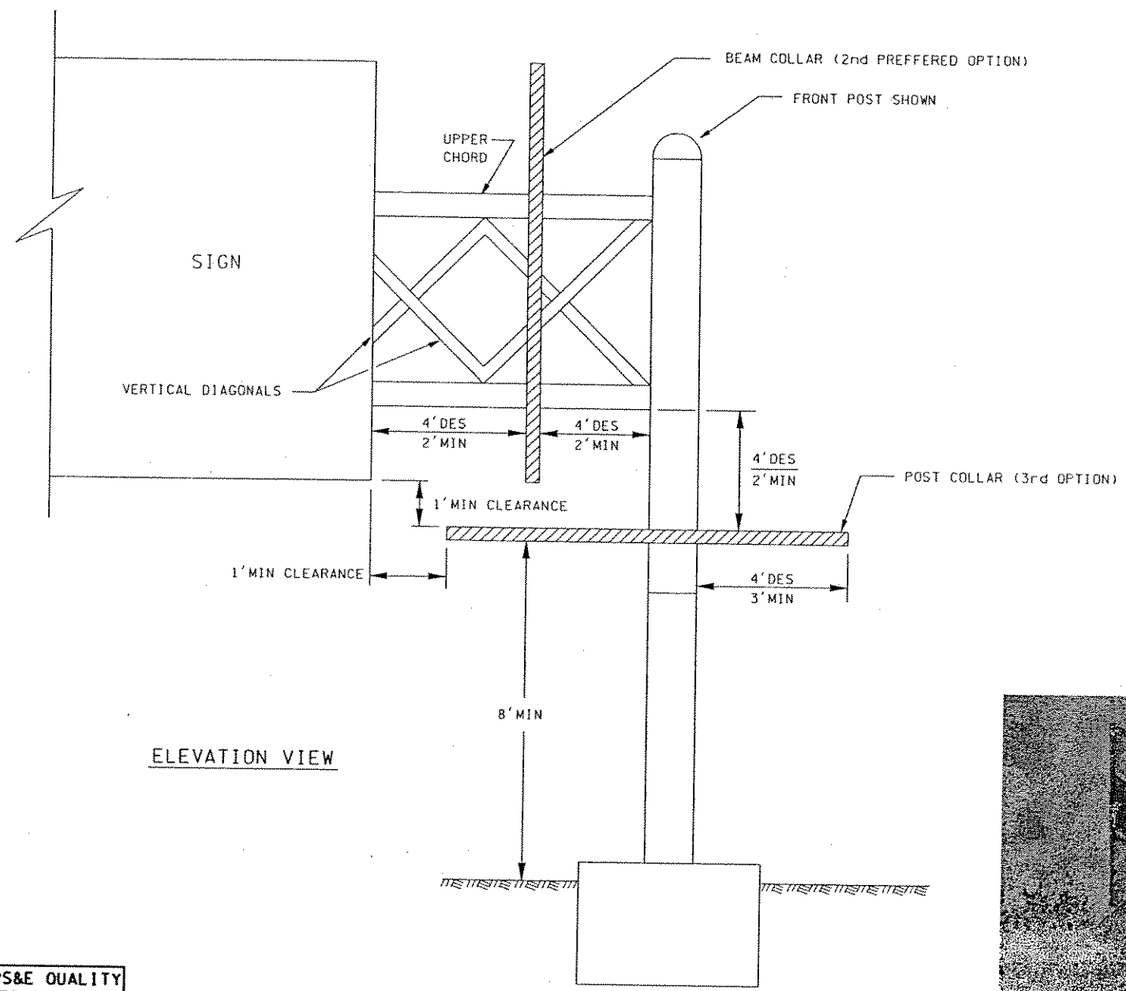
REV. 2-24-02 JBR

NW REGION TRAFFIC OPERATIONS

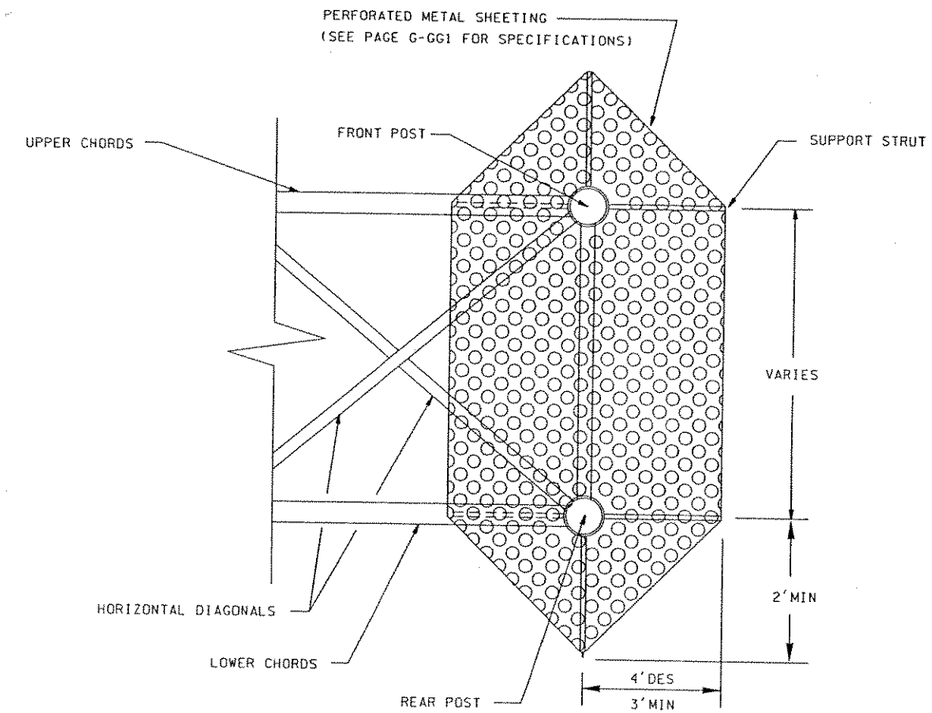
PLOT1

G-GG1

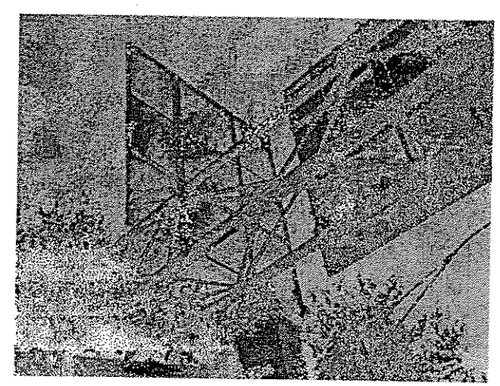
SHEET 1 OF 2 SHEETS

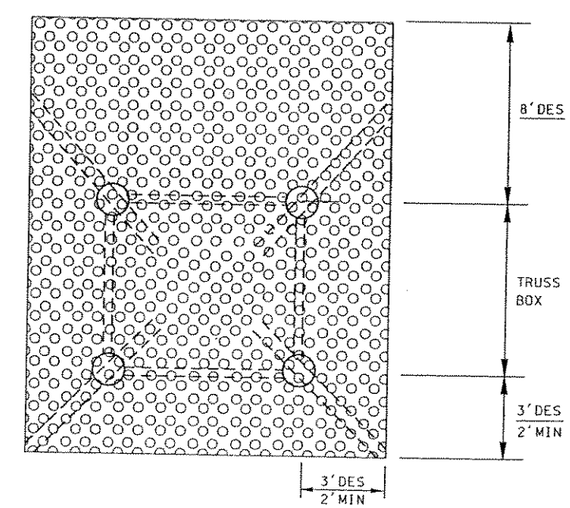


ELEVATION VIEW



POST COLLAR PLAN VIEW
(LOOKING UP)





BEAM COLLAR PLAN VIEW

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date ____
Dave McCormick
Region Traffic Engineer

EXAMPLE 2

FILE NAME	J:\Redbook\Section G\graffitisign guard\truss sign structure - beam and post collar layouts\G-gg2\g_gg02.dgn						
TIME 02:22:05 PM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	
DATE 09/04/2002				JOB NUMBER			
DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

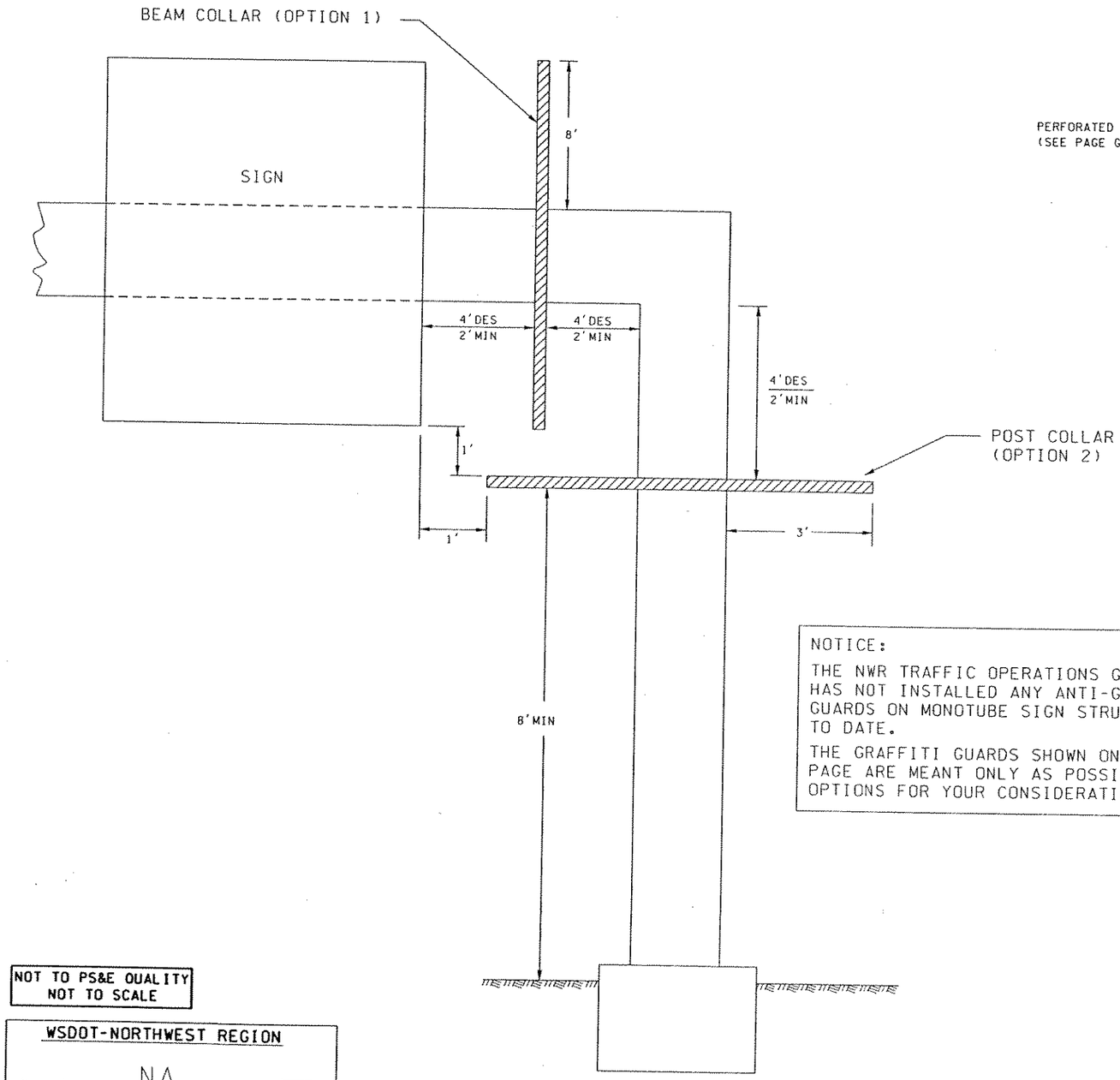
GRAFFITI GUARD -
TRUSS SIGN STRUCTURE
(BEAM AND POST COLLAR LAYOUT)

REV. 2-24-02 JBR

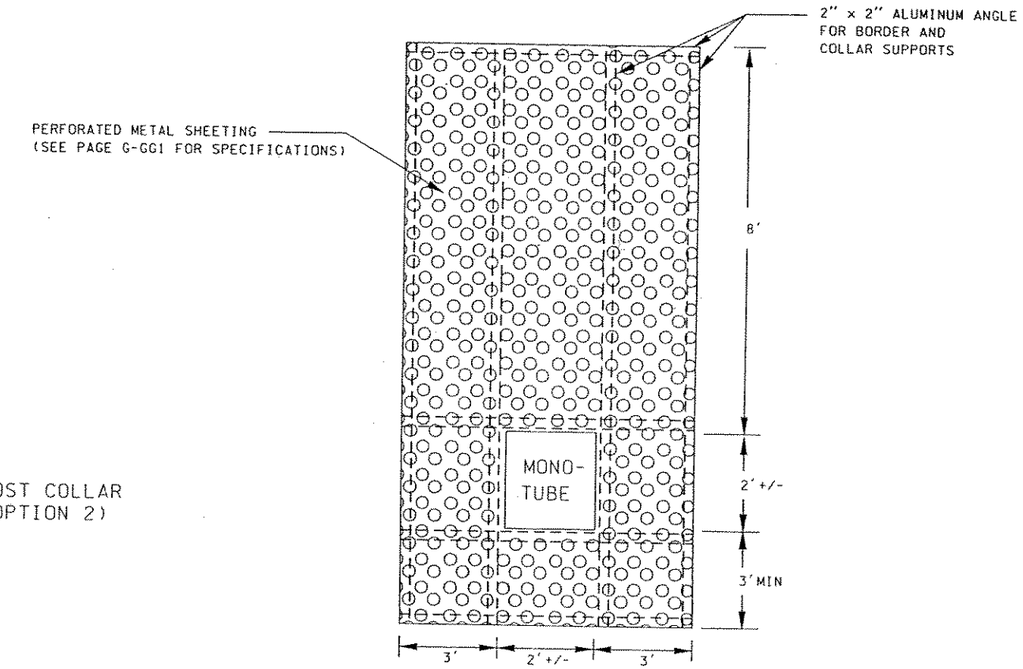
NW REGION TRAFFIC OPERATIONS

PLOT1
G-GG2

SHEET 2 OF 2 SHEETS



ELEVATION VIEW

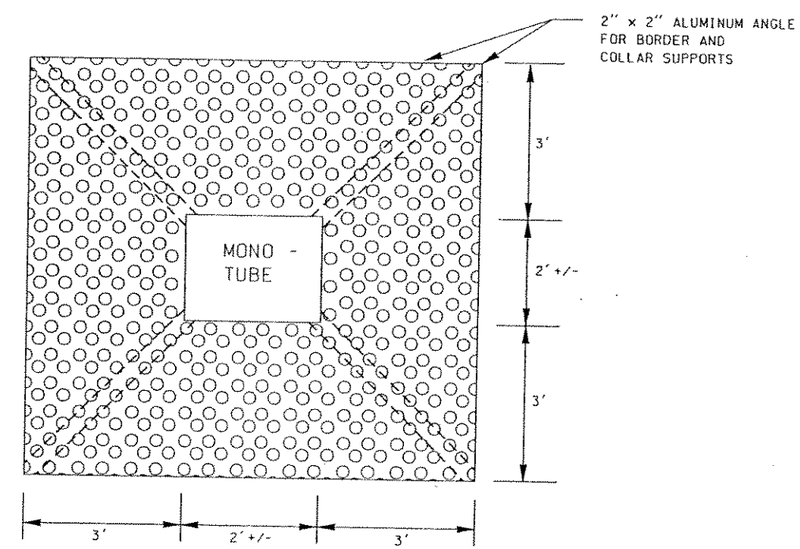


BEAM COLLAR SECTION VIEW (OPTION 1)

NOTICE:

THE NWR TRAFFIC OPERATIONS GROUP HAS NOT INSTALLED ANY ANTI-GRAFFITI GUARDS ON MONOTUBE SIGN STRUCTURES TO DATE.

THE GRAFFITI GUARDS SHOWN ON THIS PAGE ARE MEANT ONLY AS POSSIBLE OPTIONS FOR YOUR CONSIDERATION.



POST COLLAR SECTION VIEW (OPTION 2)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date

Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\graffiti sign guard\monotube sign structure - design examples\G-gg3\g_gg03.dgn
TIME	09:47:17 AM
DATE	08/28/2002
DESIGNED BY	
ENTERED BY	
CHECKED BY	
PROJ. ENGR.	
REGIONAL ADM.	

REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State
Department of Transportation

GRAFFITI GUARDS -
MONOTUBE SIGN STRUCTURE
(BEAM AND POST COLLAR LAYOUTS)

REV. 2-24-02 JBR

NW REGION TRAFFIC OPERATIONS

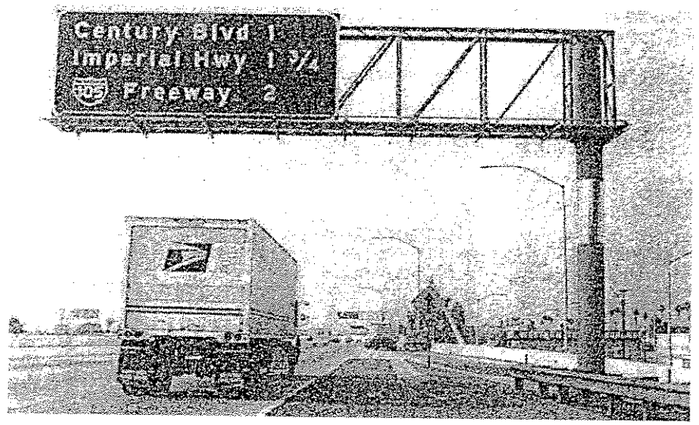
PLOT1

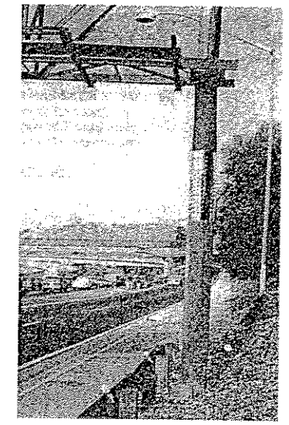
G-GG3

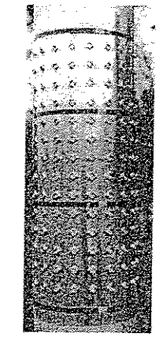
SHEET 1 OF 2 SHEETS

PRODUCT DESCRIPTION

NUGARD SHIELD IS A MECHANICAL DEVICE DESIGNED TO DETER UNAUTHORIZED INDIVIDUALS FROM GAINING ACCESS TO THE VARIOUS HIGHWAY, FREEWAY, AND STREET SIGNS. THE DESIGN OF NUGARD SHIELD IMPLEMENTS A FIELD OF BARBS ABOUT 3 FEET IN HEIGHT AND A LENGTH EQUAL TO THE OUTER CIRCUMFERENCE OF THE SIGN POST. IT IS TO BE INSTALLED AROUND THE POST, AT A DESIRABLE HEIGHT. THE CRITERIA FOR THIS HEIGHT MAY BE VISIBILITY AND MINIMIZATION OF IT'S CIRCUMVENTION (i.e. GAINING ACCESS TO A POLE HEIGHT BEYOND NUGARD SHIELD FROM ADJACENT TREES, WALLS, OR OTHER STRUCTURES); CONSEQUENTLY, WOULD-BE VANDALS ARE PREVENTED AND DETERRED FROM EVEN TRYING TO CLIMB UP THE POST DUE TO THE SHARP AND POINTED BARBS. ITS CIRCUMVENTION IS VIRTUALLY IMPOSSIBLE WITHOUT A SET OF SPECIALIZED TOOLS AND TIME, A LUXURY GRAFFITI DEFACERS AND OTHER VANDALS CANNOT TYPICALLY AFFORD.







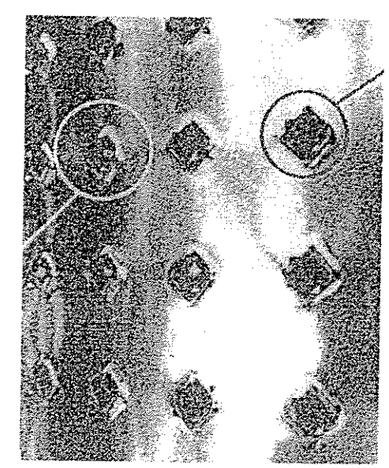
NUGARD SHIELD IS MADE OF A FLAT PIECE OF GALVANIZED SHEET METAL, WITH A THICKNESS OF 15 MILS (0.015"), A HEIGHT OF APPROXIMATELY 36" AND A LENGTH EQUAL TO THE OUTER CIRCUMFERENCE OF THE POLE TO WHICH IT WILL BE ATTACHED. THE AREA-DENSITY OF THE MATERIAL IS 0.6 LBS/FT.

PROTRUSIONS (BARBS) WITH SHARP EDGES ARE CREATED THROUGHOUT THE SHEET BY A STAMPING PROCESS. THE PROTRUSIONS AVERAGE A DENSITY OF 64 SETS PER SQUARE FOOT, EACH SET MAY CONTAIN FROM 1 TO 4 BARBS DEPENDING ON THE TYPE OF DIE USED IN THE STAMPING PROCESS.

NOTICE:

THE NWR TRAFFIC OPERATIONS GROUP HAS NOT INSTALLED ANY ANTI-GRAFFITI GUARDS ON MONOTUBE SIGN STRUCTURES TO DATE.

THE GRAFFITI GUARD SHOWN ON THIS PAGE IS AN EXAMPLE OF WHAT CAL-TRANS IS USING AS A POST COLLAR GRAFFITI GUARD.



PRODUCT IDENTIFICATION

TRADE NAME:	NUGARD SHIELD
MODEL NUMBER/ID NO.:	CAL-TRANS TRACKING NO. 96-09-002
GENERIC:	N/A

MANUFACTURER

NAME:	DORIAN FILIPESCU AND BERNARDO LOPEZ, PARTNERS
ADDRESS:	1739 GLENDALE BLVD., LOS ANGELES, CA 90026

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date

Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\graffiti sign guard\monotube sign structure - design examples\G-gg4\g_gg04.dgn
TIME	05:01:31 PM
DATE	09/04/2002
DESIGNED BY	
ENTERED BY	
CHECKED BY	
PROJ. ENGR.	
REGIONAL ADM.	

REVISION | DATE | BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

DATE

DATE

Washington State Department of Transportation

GRAFFITI GUARD - EXAMPLE OF A DIFFERENT TYPE OF GRAFFITI GUARD

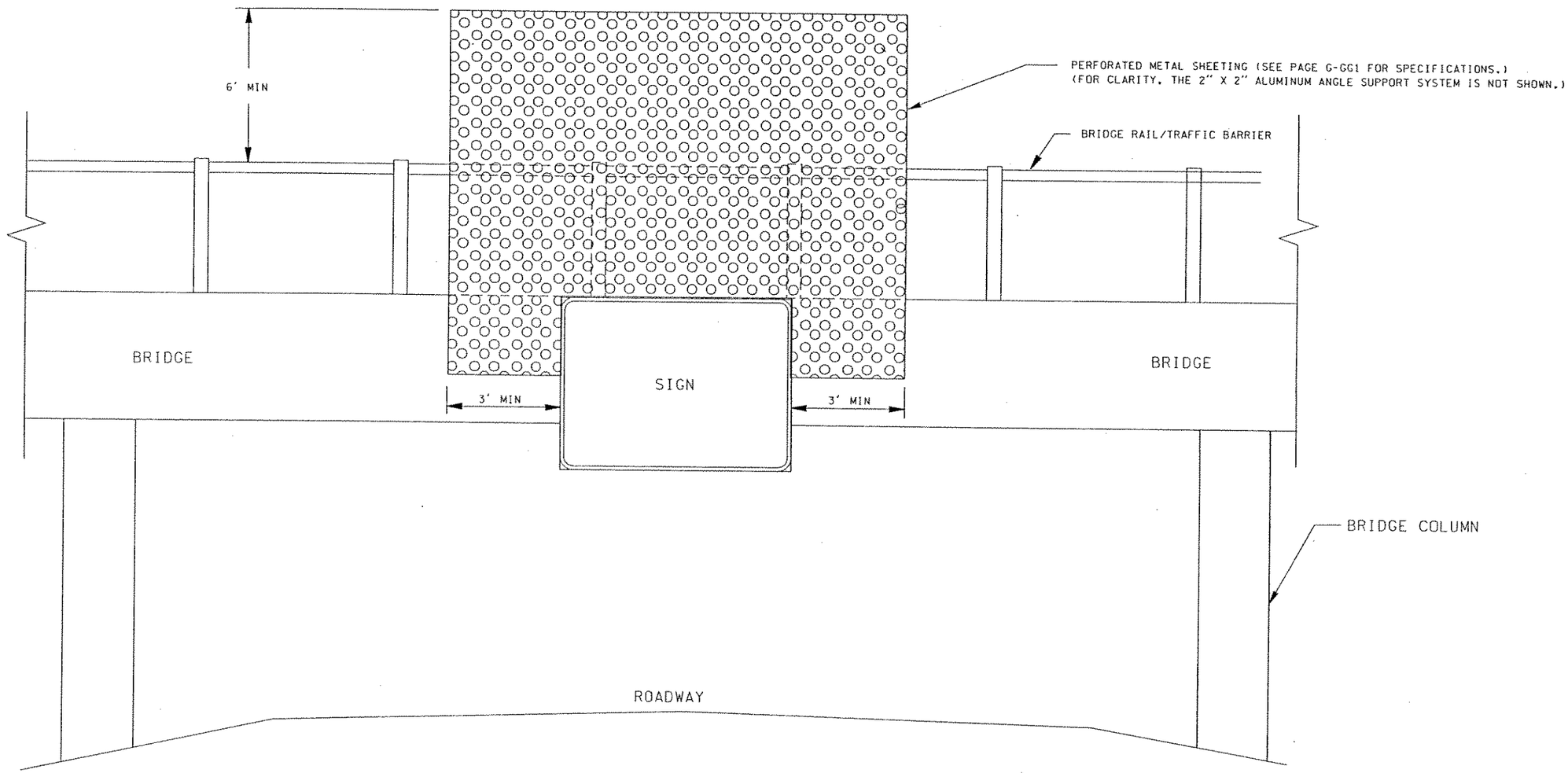
REV. 2-24-02 JBR

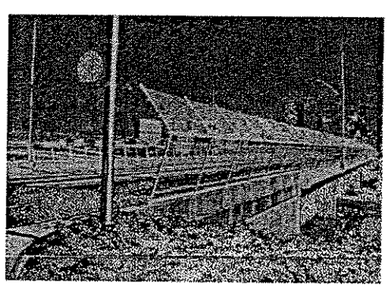
NW REGION TRAFFIC OPERATIONS

PLOT1

G-GG4

SHEET 2 OF 2 SHEETS



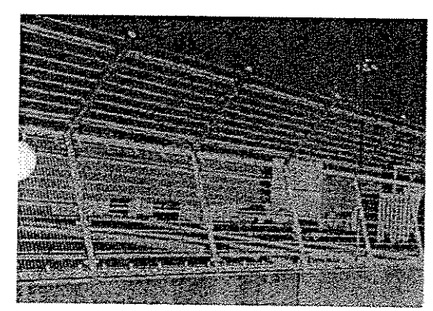


SIDE VIEW 1

NOTICE:

THE NWR TRAFFIC OPERATIONS GROUP HAS NOT INSTALLED ANY ANTI-GRAFFITI GUARDS FOR SIGNS THAT ARE ATTACHED TO BRIDGES.

THE PERFORATED SHEETMETAL GUARD SHOWN ON THIS PAGE IS A POSSIBLE OPTION THAT WILL BE PRESENTED TO THE HEADQUARTERS BRIDGES PRESERVATION GROUP FOR ITS REVIEW AND ACCEPTANCE.



SIDE VIEW 2

EXAMPLE OF FENCE SYSTEM USED AS PEDESTRIAN PROTECTION AND AS A GRAFFITI DETERRENT TO SIGNS MOUNTED ON THE BRIDGE STRUCTURE SIDE. (FENCE DESIGN SHOWN IS FROM OMEGA.)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date —
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\graffiti sign guard\example-1of graffiti deterrent device\G-gg5\g_gg05.dgn						
TIME	11:54:36 AM				REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	09/03/2002				JOB NUMBER		
DESIGNED BY							
ENTERED BY							
CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

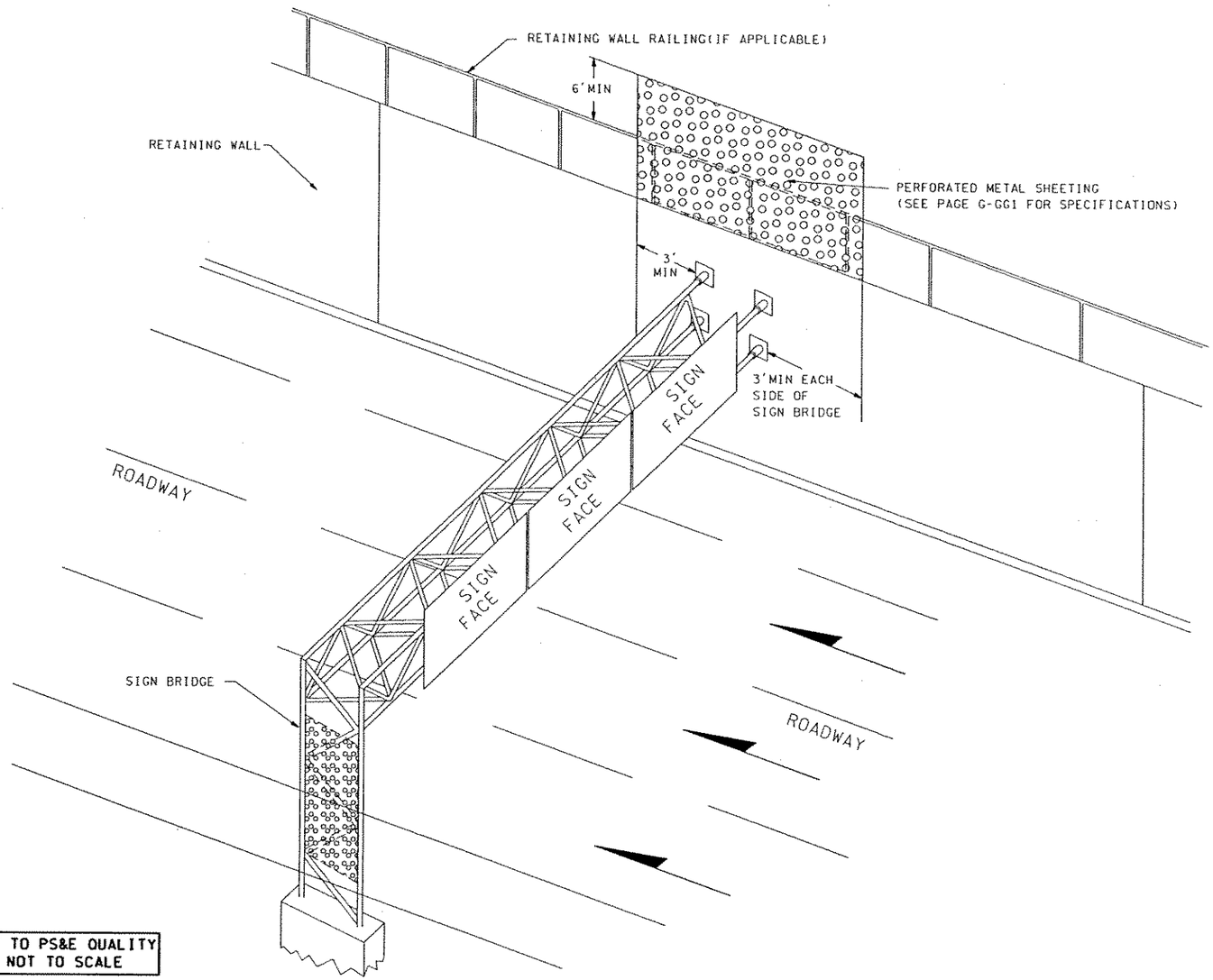
P.E. STAMP BOX DATE

Washington State Department of Transportation

GRAFFITI GUARD -
EXAMPLE OF DETERRENT DEVICE
FOR A SIGN MOUNTED ON A
BRIDGE STRUCTURE SIDE
REV. 2-24-02 JBR

NW REGION TRAFFIC OPERATIONS

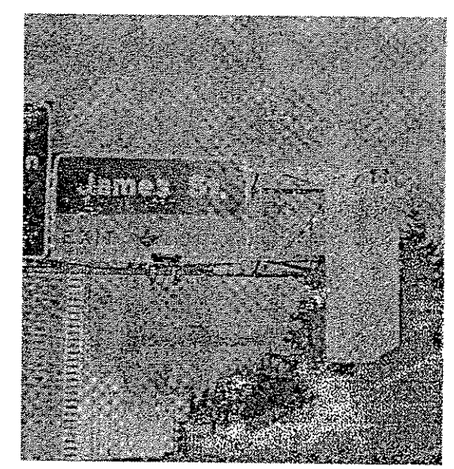
PLOT1
G-GG5
SHEET 1 OF 1 SHEETS



NOTICE:

THE NWR TRAFFIC OPERATIONS GROUP HAS INSTALLED SEVERAL DIFFERENT TYPES OF GRAFFITI GUARDS TO RETAINING WALL AREAS (BARBED WIRE, EXPANDED METAL, ETC.). THE DESIGNS USED TO DATE HAVE BEEN PARTIAL OR TOTAL FAILURES.

THE PERFORATED SHEETMETAL GUARD SHOWN ON THIS PAGE IS A POSSIBLE OPTION THAT WILL BE PRESENTED TO THE HEADQUARTERS BRIDGES PRESERVATION GROUP FOR ITS REVIEW AND ACCEPTANCE.



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved NA Date —
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section G\graffitisign guard\example-2 of graffitideterrent device\G-gg6\g_gg06.dgn						
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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

GRAFFITI GUARDS - EXAMPLE OF GRAFFITI DETERRENT DEVICES FOR SIGN STRUCTURE ATTACHED TO RETAINING WALL

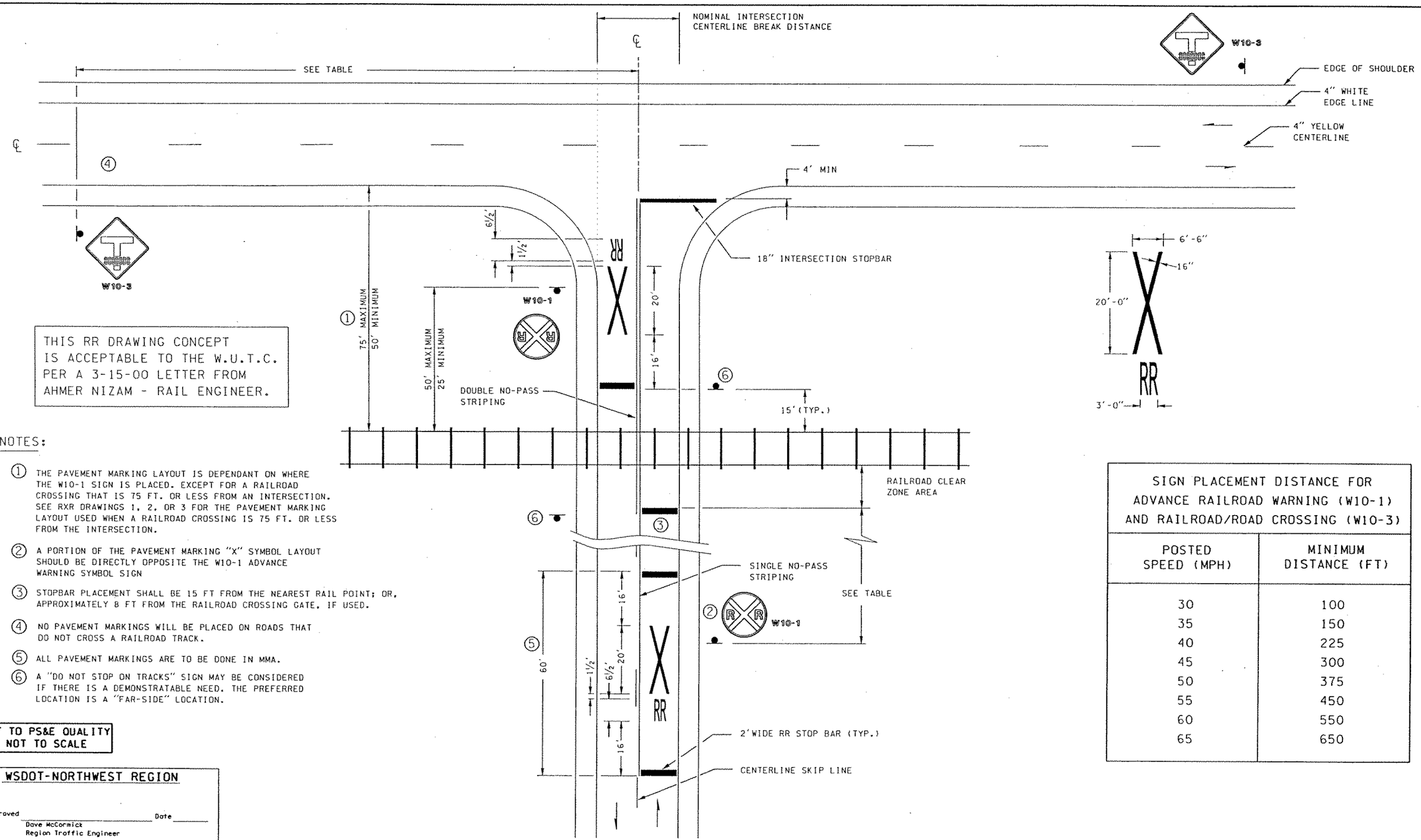
REV. 2-24-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-GG6

SHEET 1 OF 1 SHEETS



THIS RR DRAWING CONCEPT IS ACCEPTABLE TO THE W.U.T.C. PER A 3-15-00 LETTER FROM AHMER NIZAM - RAIL ENGINEER.

NOTES:

1. THE PAVEMENT MARKING LAYOUT IS DEPENDANT ON WHERE THE W10-1 SIGN IS PLACED. EXCEPT FOR A RAILROAD CROSSING THAT IS 75 FT. OR LESS FROM AN INTERSECTION. SEE RXR DRAWINGS 1, 2, OR 3 FOR THE PAVEMENT MARKING LAYOUT USED WHEN A RAILROAD CROSSING IS 75 FT. OR LESS FROM THE INTERSECTION.
2. A PORTION OF THE PAVEMENT MARKING "X" SYMBOL LAYOUT SHOULD BE DIRECTLY OPPOSITE THE W10-1 ADVANCE WARNING SYMBOL SIGN
3. STOPBAR PLACEMENT SHALL BE 15 FT FROM THE NEAREST RAIL POINT; OR, APPROXIMATELY 8 FT FROM THE RAILROAD CROSSING GATE, IF USED.
4. NO PAVEMENT MARKINGS WILL BE PLACED ON ROADS THAT DO NOT CROSS A RAILROAD TRACK.
5. ALL PAVEMENT MARKINGS ARE TO BE DONE IN MMA.
6. A "DO NOT STOP ON TRACKS" SIGN MAY BE CONSIDERED IF THERE IS A DEMONSTRATABLE NEED. THE PREFERRED LOCATION IS A "FAR-SIDE" LOCATION.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

SIGN PLACEMENT DISTANCE FOR ADVANCE RAILROAD WARNING (W10-1) AND RAILROAD/ROAD CROSSING (W10-3)

POSTED SPEED (MPH)	MINIMUM DISTANCE (FT)
30	100
35	150
40	225
45	300
50	375
55	450
60	550
65	650

FILE NAME	j:\Redbook\Section G\railroad striping and signing\RxR marking layout for RxR crossing\G-rr1\g_rr1.dgn				
TIME	11:06:58 AM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/29/2002			JOB NUMBER	
DESIGNED BY					
ENTERED BY					
CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

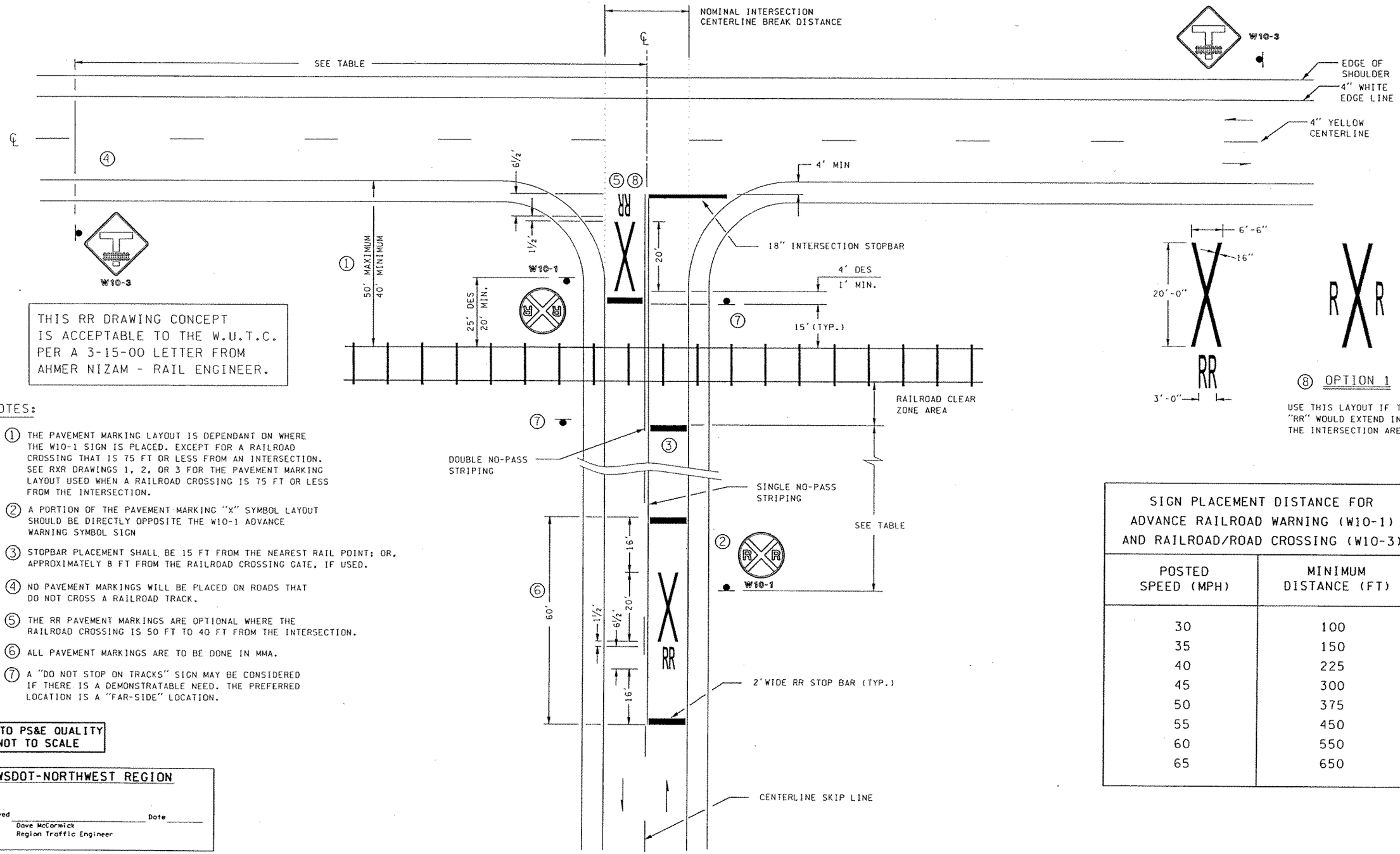
Washington State Department of Transportation

RAILROADS-
RXR MARKING LAYOUT FOR RXR CROSSINGS 75' TO 50' FROM INTERSECTIONS

REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-RR1
SHEET 1 OF 3 SHEETS



THIS RR DRAWING CONCEPT IS ACCEPTABLE TO THE W.U.T.C. PER A 3-15-00 LETTER FROM AHMER NIZAM - RAIL ENGINEER.

NOTES:

1. THE PAVEMENT MARKING LAYOUT IS DEPENDANT ON WHERE THE W10-1 SIGN IS PLACED. EXCEPT FOR A RAILROAD CROSSING THAT IS 75 FT OR LESS FROM AN INTERSECTION. SEE RXR DRAWINGS 1, 2, OR 3 FOR THE PAVEMENT MARKING LAYOUT USED WHEN A RAILROAD CROSSING IS 75 FT OR LESS FROM THE INTERSECTION.
2. A PORTION OF THE PAVEMENT MARKING "X" SYMBOL LAYOUT SHOULD BE DIRECTLY OPPOSITE THE W10-1 ADVANCE WARNING SYMBOL SIGN
3. STOPBAR PLACEMENT SHALL BE 15 FT FROM THE NEAREST RAIL POINT; OR, APPROXIMATELY 8 FT FROM THE RAILROAD CROSSING GATE, IF USED.
4. NO PAVEMENT MARKINGS WILL BE PLACED ON ROADS THAT DO NOT CROSS A RAILROAD TRACK.
5. THE RR PAVEMENT MARKINGS ARE OPTIONAL WHERE THE RAILROAD CROSSING IS 50 FT TO 40 FT FROM THE INTERSECTION.
6. ALL PAVEMENT MARKINGS ARE TO BE DONE IN MMA.
7. A "DO NOT STOP ON TRACKS" SIGN MAY BE CONSIDERED IF THERE IS A DEMONSTRATABLE NEED. THE PREFERRED LOCATION IS A "FAR-SIDE" LOCATION.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

SIGN PLACEMENT DISTANCE FOR ADVANCE RAILROAD WARNING (W10-1) AND RAILROAD/ROAD CROSSING (W10-3)

POSTED SPEED (MPH)	MINIMUM DISTANCE (FT)
30	100
35	150
40	225
45	300
50	375
55	450
60	550
65	650

FILE NAME	J:\Redbook\Section G\railroad striping and signing\RxR marking layout for RxR crossing\G-rr2\g_rr2.dgn				
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DESIGNED BY				JOB NUMBER	
ENTERED BY					
CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

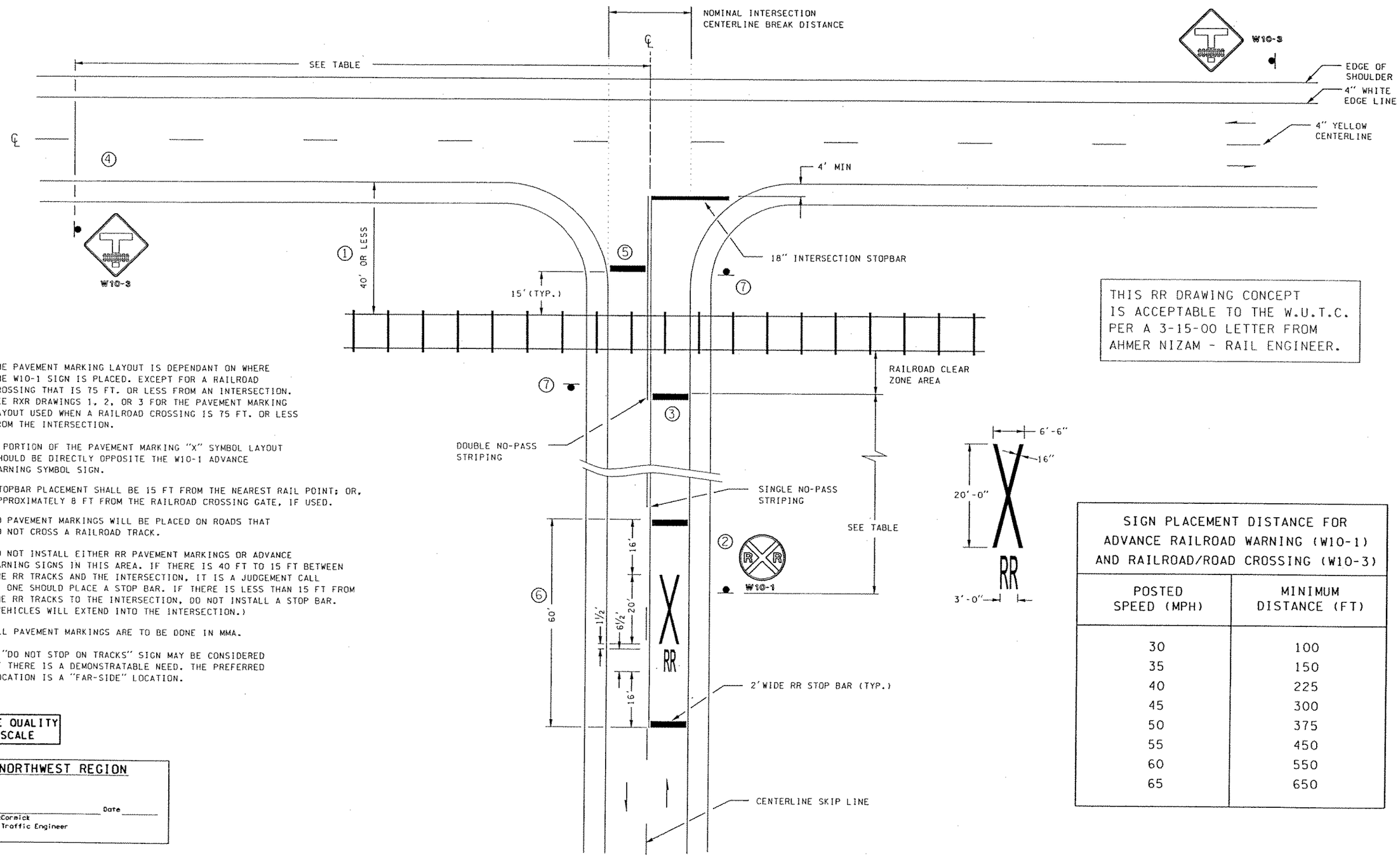
Washington State Department of Transportation

RAILROADS -
RXR MARKING LAYOUT FOR RXR CROSSINGS 50' TO 40' FROM INTERSECTIONS

REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1
G-RR2
SHEET 2 OF 3 SHEETS



THIS RR DRAWING CONCEPT IS ACCEPTABLE TO THE W.U.T.C. PER A 3-15-00 LETTER FROM AHMER NIZAM - RAIL ENGINEER.

NOTES:

1. THE PAVEMENT MARKING LAYOUT IS DEPENDANT ON WHERE THE W10-1 SIGN IS PLACED. EXCEPT FOR A RAILROAD CROSSING THAT IS 75 FT. OR LESS FROM AN INTERSECTION. SEE RXR DRAWINGS 1, 2, OR 3 FOR THE PAVEMENT MARKING LAYOUT USED WHEN A RAILROAD CROSSING IS 75 FT. OR LESS FROM THE INTERSECTION.
2. A PORTION OF THE PAVEMENT MARKING "X" SYMBOL LAYOUT SHOULD BE DIRECTLY OPPOSITE THE W10-1 ADVANCE WARNING SYMBOL SIGN.
3. STOPBAR PLACEMENT SHALL BE 15 FT FROM THE NEAREST RAIL POINT; OR, APPROXIMATELY 8 FT FROM THE RAILROAD CROSSING GATE, IF USED.
4. NO PAVEMENT MARKINGS WILL BE PLACED ON ROADS THAT DO NOT CROSS A RAILROAD TRACK.
5. DO NOT INSTALL EITHER RR PAVEMENT MARKINGS OR ADVANCE WARNING SIGNS IN THIS AREA. IF THERE IS 40 FT TO 15 FT BETWEEN THE RR TRACKS AND THE INTERSECTION, IT IS A JUDGEMENT CALL IF ONE SHOULD PLACE A STOP BAR. IF THERE IS LESS THAN 15 FT FROM THE RR TRACKS TO THE INTERSECTION, DO NOT INSTALL A STOP BAR. (VEHICLES WILL EXTEND INTO THE INTERSECTION.)
6. ALL PAVEMENT MARKINGS ARE TO BE DONE IN MMA.
7. A "DO NOT STOP ON TRACKS" SIGN MAY BE CONSIDERED IF THERE IS A DEMONSTRATABLE NEED. THE PREFERRED LOCATION IS A "FAR-SIDE" LOCATION.

SIGN PLACEMENT DISTANCE FOR ADVANCE RAILROAD WARNING (W10-1) AND RAILROAD/ROAD CROSSING (W10-3)

POSTED SPEED (MPH)	MINIMUM DISTANCE (FT)
30	100
35	150
40	225
45	300
50	375
55	450
60	550
65	650

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\railroad striping and signing\RxR marking layout for RxR crossing\G-rr3\g_rr3.dgn				
TIME	11:19:40 AM				
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DESIGNED BY					
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PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

RAILROADS -
RXR MARKING LAYOUT FOR RXR CROSSINGS 40' OR LESS FROM AN INTERSECTION

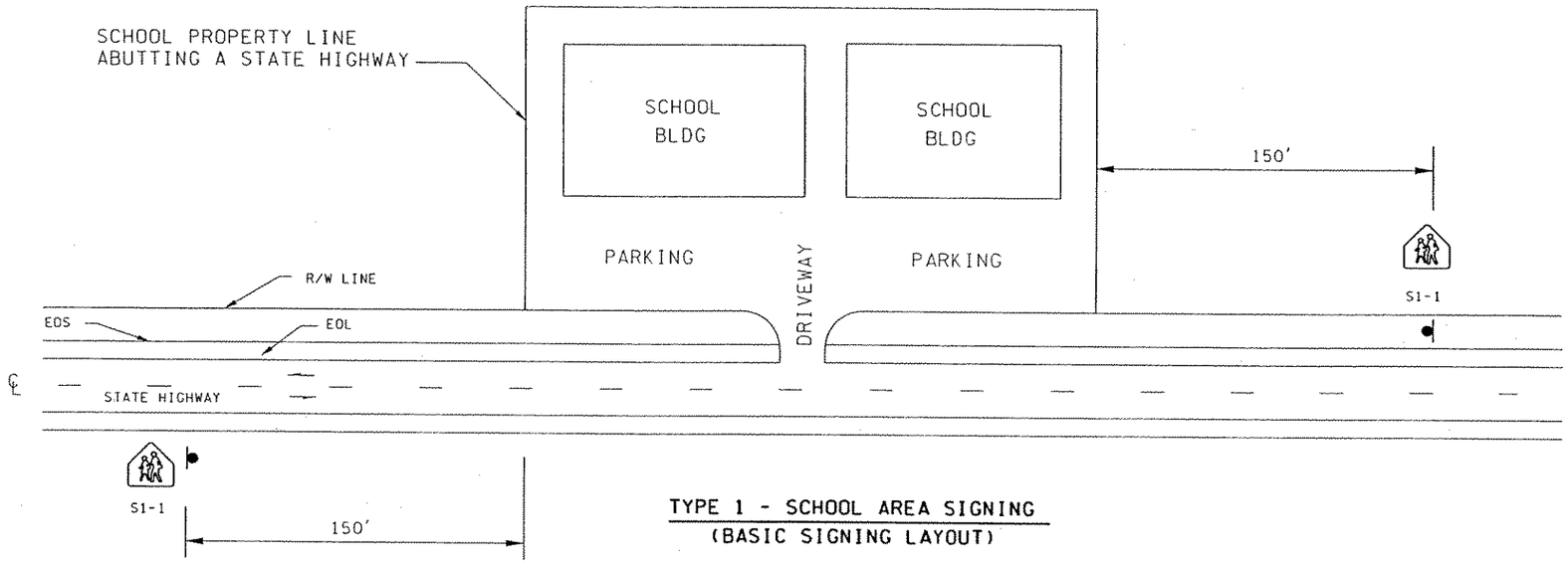
REV. 2-28-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-RR3

SHEET 3 OF 3 SHEETS

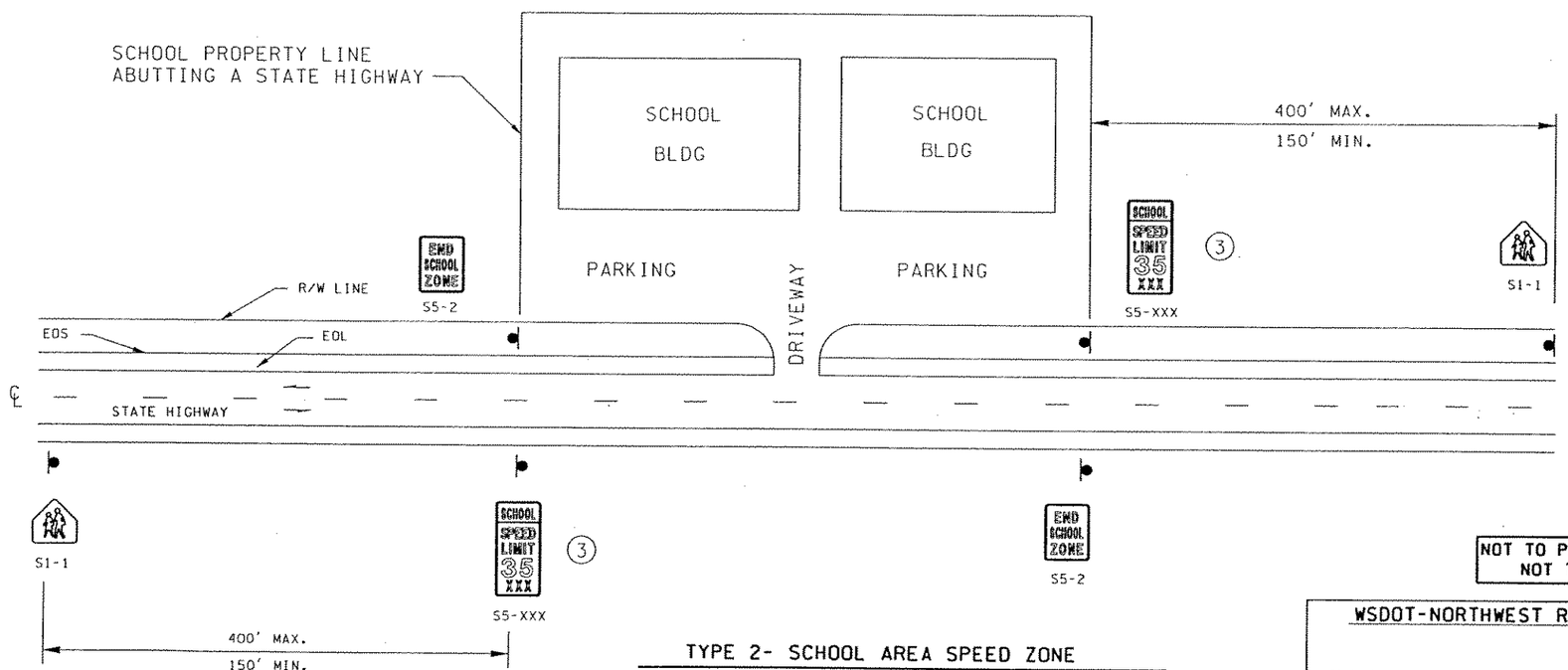


TYPE 1 - SCHOOL AREA SIGNING
(BASIC SIGNING LAYOUT)

NOTES:

SCHOOL AREA STRIPING WARRANT

1. BASIC SCHOOL SIGNING PLAN IF A SCHOOL DOES NOT SUBMIT A SCHOOL WALK ROUTE PLAN PER WAC 392-151-025.
2. SCHOOLS MUST HAVE ABUTTING PROPERTY TO THE STATE HIGHWAY (VISIBILITY ASPECT).
3. SIGN SIZE - SEE PAGE G-S3



TYPE 2- SCHOOL AREA SPEED ZONE
(EXCLUSIVE OF A SCHOOL X-WALK SPEED ZONE)
TRIAL DEMONSTRATION PROGRAM FOR SCHOOL AREA SPEED ZONES

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. SCHOOLS MUST SUBMIT A SCHOOL WALK ROUTE PLAN AS REQUIRED PER WAC 392-151-025.
2. SCHOOLS MUST HAVE ABUTTING PROPERTY TO THE STATE HIGHWAY (VISIBILITY ASPECT).
3. THE NOMINAL SCHOOL AREA SPEED ZONE SHOULD NOT EXCEED A SPEED DEFERENTIAL OF 5 MPH BELOW THE POSTED SPEED LIMIT. A FURTHER SPEED ZONE REDUCTION OF 5 MPH MAY BE CONSIDERED IF SUPPORTED BY AN ENGINEERING STUDY.
4. SCHOOLS MUST PROVIDE A WRITTEN REQUEST FOR ANY SCHOOL AREA SPEED ZONES.
5. INCORPORATED ENTITIES (CITY OR TOWN) MUST PROVIDE A SPEED ZONE ORDINANCE SUPPORTING THE SCHOOL SPEED ZONE REQUEST.
6. THE NWR TRAFFIC ENGINEER MUST REVIEW AND APPROVE THE REQUEST BEFORE ANY PLAN DEVELOPEMENT CAN BEGIN.
7. THE SETTING OF A SCHOOL AREA SPEED ZONE MUST BE APPROVED BY THE STATE TRAFFIC ENGINEER.
8. IF FLASHERS ARE REQUESTED, SEE "FLASHER" NOTES ON PAGE G-S3.
9. SIGN SIZE SEE PAGE G-S3.

FILE NAME	J:\Redbook\Section G\schoolarea striping and signing\schoolarea striping and signing layouts\G-s1\g_s01.dgn
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DATE	08/29/2002
DESIGNED BY	
ENTERED BY	
CHECKED BY	
PROJ. ENGR.	
REGIONAL ADM.	

REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

SCHOOLS - SCHOOL AREA STRIPING AND SIGNING LAYOUT

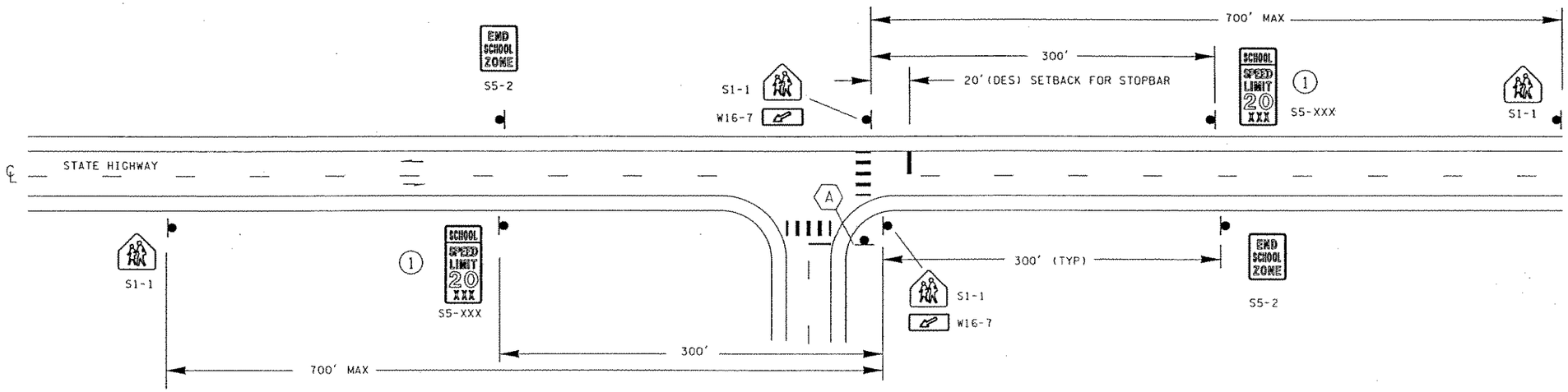
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

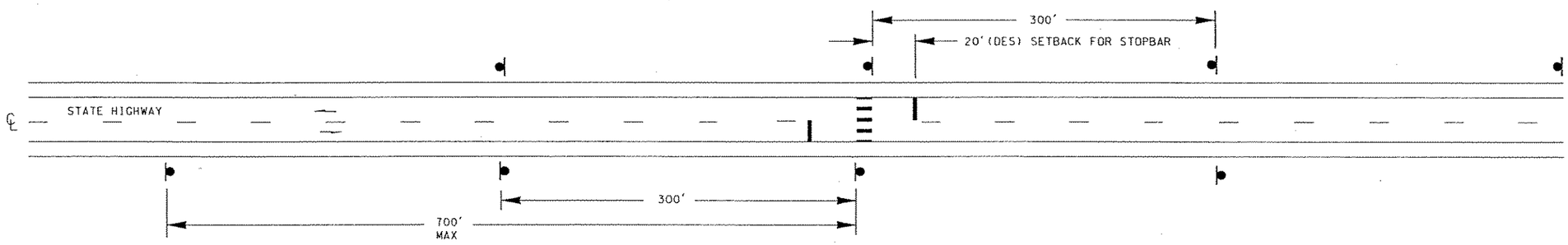
PLOT1

G-S1

SHEET 1 OF 3 SHEETS



INTERSECTION SCHOOL CROSSWALK DETAIL



MID-BLOCK SCHOOL CROSSWALK DETAIL

R1-1

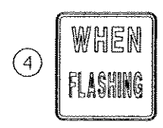
A

S5-XXX

SEE DETAIL A

SPEED LIMIT SIGN LAYOUT, IF THE HOUR TIME FRAME IS USED. (TIME FRAME CAN BE 1 TO 2 HOURS IN THE A.M. AND IN THE P.M.)

TYPE 3 - SCHOOL CROSSWALK SIGNING AND RELATED SPEED ZONE LAYOUT



DETAIL A

(ALTERNATE LINE MESSAGE)

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

CROSSWALK WARRANTS:

A. SCHOOLS MUST SUBMIT A SCHOOL WALK ROUTE PLAN AS REQUIRED PER WAC 392-151-025 IN ORDER TO QUALIFY FOR A MARKED SCHOOL CROSSWALK.

B. THE MAXIMUM SPEED LIMIT AT SCHOOL CROSSWALKS IS 20 MPH. THE SPEED ZONE SHALL EXTEND 300 FT IN EITHER DIRECTION FROM THE MARKED CROSSWALK. (RCW 46.61.440)

NOTES:

1. 20 MPH SCHOOL CROSSWALK SPEED ZONE SIGNING SHOULD NOT BE USED AT A STOP CONTROLLED OR SIGNAL CONTROLLED INTERSECTION. REDUCED SPEED LIMIT AHEAD SIGN MAY BE USED TO PROVIDE ADVANCED NOTICE, IF JUSTIFIED BY ENGINEERING STUDY.
2. IF A CROSSWALK SPEED LIMIT SIGN IS NOT USED AT A MARKED CROSSWALK, THE S1-1 LOCATIONS MAY BE SET 150 FT TO 700 FT IN FRONT OF THE MARKED CROSSWALK S1-1 SIGN.
3. S1-1 SIGNS WITH A DIAGONAL DOWNWARD-POINTING ARROW PLAQUE ARE TO BE PLACED AT THE MARKED CROSSWALK OR ADJACENT TO THE CROSSWALK. (DO NOT PLACE THE SIGN GREATER THAN 50 FT FROM CROSSWALK.)
4. IF FLASHERS ARE REQUESTED, SEE "FLASHER" NOTE ON PAGE G-S3.
5. SIGN SIZE AND COLOR - SEE PAGE G-S3.

FILE NAME	J:\Redbook\Section G\schoolarea striping and signing\schoolarea striping and signing layouts\G-s2\g_s02.dgn							
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DATE	08/29/2002				JOB NUMBER			
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ENTERED BY								
CHECKED BY					CONTRACT NO.	LOCATION NO.		
PROJ. ENGR.								
REGIONAL ADM.		REVISION	DATE	BY				

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Washington State Department of Transportation

SCHOOLS - SCHOOL AREA STRIPING AND SIGNING LAYOUT

REV. 2-26-02 JBR

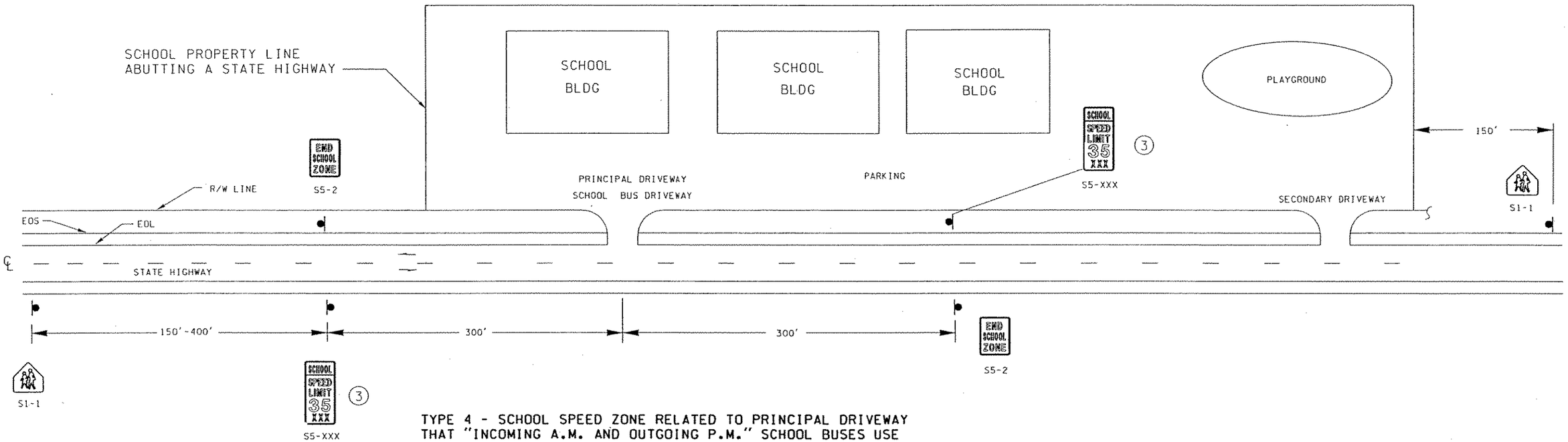
NW REGION TRAFFIC OPERATIONS

PLOT1

G-S2

SHEET 2 OF 3 SHEETS

TRIAL DEMONSTRATION PROGRAM FOR SCHOOL BUS SPEED ZONES



TYPE 4 - SCHOOL SPEED ZONE RELATED TO PRINCIPAL DRIVEWAY THAT "INCOMING A.M. AND OUTGOING P.M." SCHOOL BUSES USE

SPEED LIMIT SIGNS -- PLAQUE NOTES: **

PREFERRED SIGN PLAQUES (IN DESCENDING ORDER):

A. IF FLASHER IS USED:
USE ONLY S4-4 "WHEN FLASHING" PLAQUE.

B. IF NO FLASHER IS USED:
i. "TIME" PLAQUE S4-1 (WITH HOURS SUCH AS 7:30 AM TO 5:30PM M-F)
ii. USE S4-501 "WHEN FLAGGED" PLAQUE.
iii S4-2 "WHEN CHILDREN ARE PRESENT" PLAQUE. USE OF THIS PLAQUE APPLIES 7 DAYS A WEEK, 24 HOURS A DAY. THE USE OF THIS PLAQUE IS STRONGLY DISCOURAGED.

FLASHER GUIDELINES

A. FLASHERS ARE CONSIDERED TO BE EXTRAORDINARY SAFETY DEVICES. FLASHERS MAY BE PROVIDED IF THE SCHOOL AGREES TO PAY FOR THE INITIAL INSTALLATION COSTS AND ANY MAINTENANCE COST VIA A J.A. ACCOUNT. IF A SCHOOL OPERATES THE FLASHERS OUTSIDE OF THE AGREED TIME FRAME, IT WILL BE REMOVED.

B. SHOULDER MOUNT FLASHERS ARE THE PREFERRED FLASHER LOCATIONS.

C. SIGN SIZES:

S1-1: CONVENTIONAL ROADWAYS:

STANDARD IS 36 IN x 36 IN FOR BOTH RURAL AND URBAN AREAS. THE MINIMUM SIZE IS 30 IN x 30 IN AND CAN BE USED FOR LOW SPEED AREAS UNDER 35 MPH.

EXPRESSWAYS AND FREEWAYS:

STANDARD SIZE IS 48 IN x 48 IN FOR BOTH URBAN AND RURAL AREAS.

NOTES:

1. SCHOOLS MUST SUBMIT A SCHOOL BUS ACCESS PLAN SHOWING BUS ARRIVAL/DEPARTURE,TIME OF DAY, ETC.
2. SCHOOLS MUST HAVE ABUTTING PROPERTY TO THE STATE HIGHWAY. (VISIBILITY ASPECT)
3. THE NOMINAL SCHOOL AREA BUS SPEED ZONE SHOULD NOT EXCEED A SPEED DEFERENTIAL OF 5 MPH BELOW THE POSTED SPEED LIMIT. A FURTHER SPEED ZONE REDUCTION OF 5 MPH MAY BE CONSIDERED IF SUPPORTED BY AN ENGINEERING STUDY.
4. SCHOOLS MUST PROVIDE A WRITTEN REQUEST FOR A SCHOOL AREA BUS SPEED ZONE REQUEST.
5. INCORPORATED ENTITIES (CITY OR TOWN) MUST PROVIDE A SPEED ZONE ORDINANCE SUPPORTING THE SCHOOL AREA BUS SPEED ZONE REQUEST.
6. THE NWR TRAFFIC ENGINEER MUST REVIEW AND APPROVE THE REQUEST BEFORE ANY PLAN DEVELOPEMENT CAN BEGIN.
7. THE SETTING OF A SCHOOL AREA BUS SPEED ZONE MUST BE APPROVED BY THE STATE TRAFFIC ENGINEER.
8. THE FOLLOWING SIGNS WILL HAVE A FLUORESCENT YELLOW-GREEN BACKGROUND WITH BLACK LEGEND AND BORDER:
   a) S1-1
   b) S4-3
   c) W16-7

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\schoolarea striping and signing\schoolarea striping and signing layouts\G-s3\g_s03.dgn						
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PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

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Washington State Department of Transportation

SCHOOLS - SCHOOL AREA STRIPING AND SIGNING LAYOUT

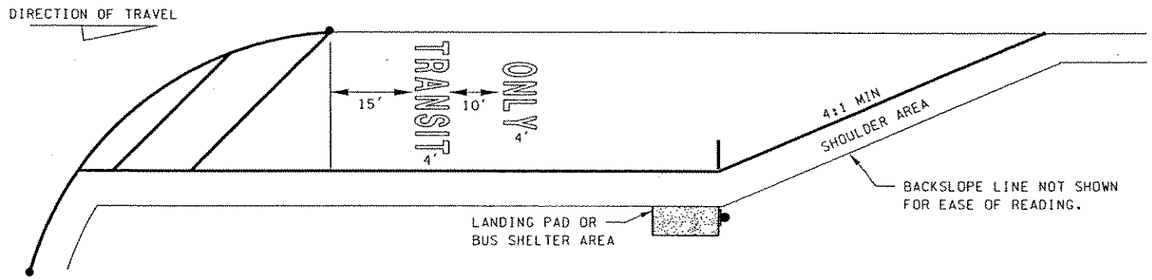
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

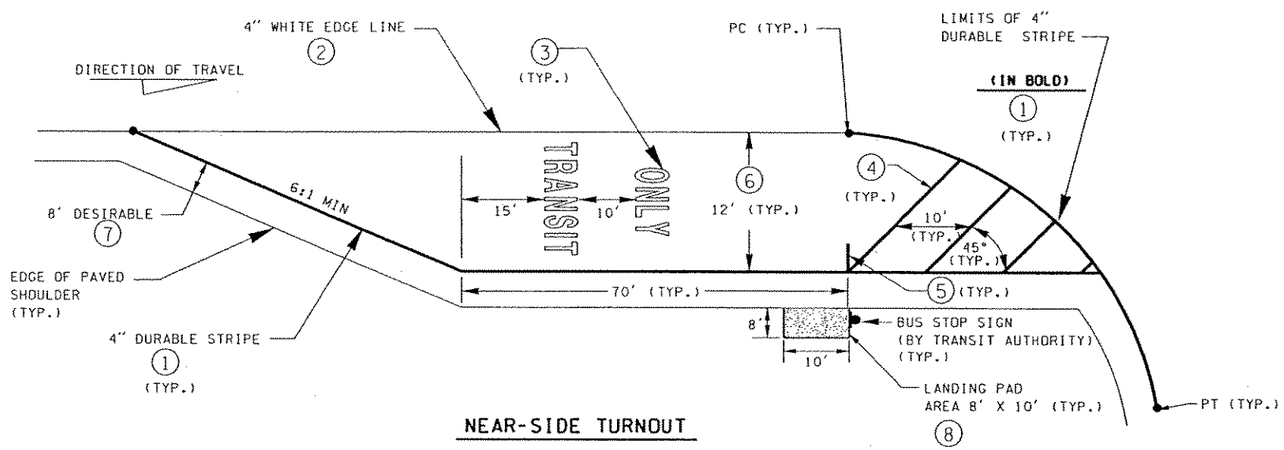
PLOT1

G-S3

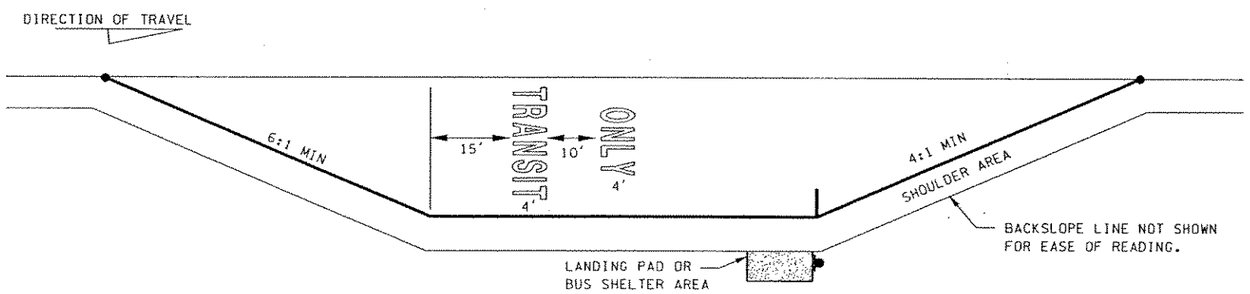
SHEET 3 OF 3 SHEETS



FAR-SIDE TURNOUT (PREFERRED LOCATION)



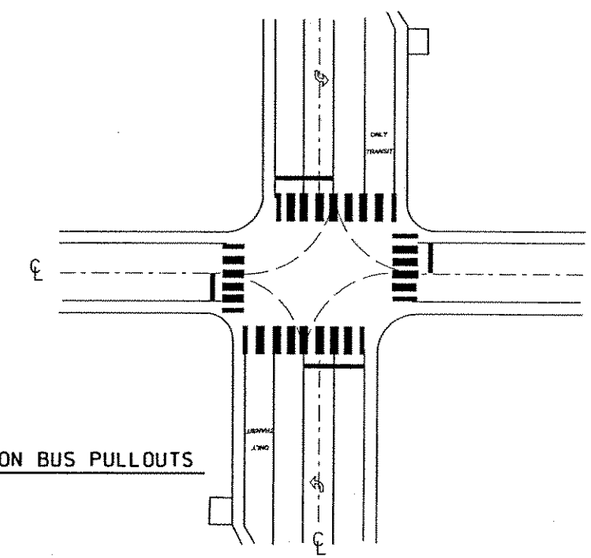
NEAR-SIDE TURNOUT



MID-BLOCK TURNOUT

NOTES:

1. DURABLE STRIPE TO BE EITHER METHYL METHACRYLATE OR THERMOPLASTIC (WHITE)
2. DO NOT USE RPMS FOR EDGE LINE DELINEATION.
3. "TRANSIT ONLY" LEGEND MAY BE USED AS A SUPPLEMENTAL MARKING TO INFORM MOTORISTS THAT THIS IS A SPECIAL USE AREA. "BUS ONLY" LEGEND MAY BE USED, IF SCHOOL BUSES CAN ALSO USE THE TURNOUT.
4. 8 IN WHITE DIAGONAL DURABLE STRIPE BEGINNING AT RADIUS RETURN SHOULD BE USED AS A SUPPLEMENTAL MARKING TO INFORM MOTORISTS THAT THIS IS A RESTRICTED SHOULDER AREA.
5. A 3 FT TO 5 FT LONG BY 8 IN WIDE WHITE STRIPE FOR USE AS A "REFERENCE" STOP LINE FOR TRANSIT MAY BE USED AS A SUPPLEMENTAL MARKING.
6. A TRANSIT STOP WIDTH OF 10 FT. OR 11 FT. MAY BE CONSIDERED FOR EXISTING TRANSIT STOPS IN RURAL AREAS, IF SUFFICIENT JUSTIFICATION FOR A DEVIATION IS PROVIDED.
7. A TRANSIT STOP SHOULDER WIDTH OF LESS THAN 8 FT MAY BE CONSIDERED IF SUFFICIENT JUSTIFICATION FOR A DEVIATION IS PROVIDED.
8. THE DESIGN MANUAL GUIDELINES REQUIRE A 8 FT X 10 FT LANDING PAD IN ADDITION TO THE SHOULDER. ADA REQUIREMENT WILL ALLOW A SMALLER SIZE PAD IF SUFFICIENT JUSTIFICATION EXISTS, AS LONG AS THE PAD CAN STILL ACCOMMODATE A WHEELCHAIR.
   PLEASE NOTE: THE MINIMUM ADA REQUIREMENTS FOR A LANDING PAD IS 5 FT X 8 FT , WHICH CAN INCLUDE THE SHOULDER WIDTH.



CROSSWALK DETAIL AT INTERSECTION BUS PULLOUTS

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section G\transit stop signing\Transit Stop turnout details\G-t1\g_t01.dgn				
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CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

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Washington State Department of Transportation

TRANSIT -
TRANSIT STOP TURNOUT
STRIPING AND SIGNING DETAILS
FOR RURAL AREAS
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

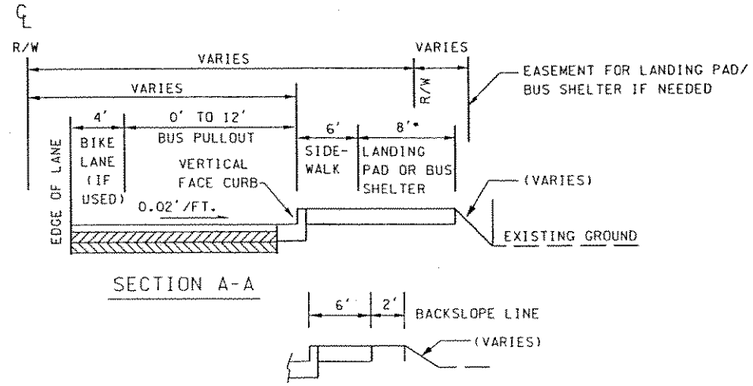
PLOT1

G-T1

SHEET 1 OF 2 SHEETS

NOTES:

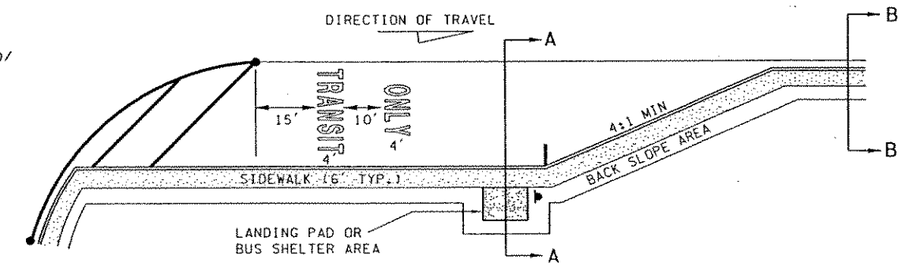
1. RADIUS RETURN AND STRIPING TO BE EITHER WHITE METHYLMETHACRYLATE OR THERMOPLASTIC (WHITE)
2. DO NOT USE RPMS FOR EDGE LINE DELINEATION.
3. "TRANSIT ONLY" LEGEND MAY BE USED AS A SUPPLEMENTAL MARKING TO INFORM MOTORISTS THAT THIS IS A SPECIAL USE AREA. "BUS ONLY" LEGEND MAY BE USED, IF SCHOOL BUSES CAN ALSO USE THE TURNOUT.
4. 8 IN WHITE DIAGONAL DURABLE STRIPE BEGINNING AT RADIUS RETURN SHOULD BE USED AS A SUPPLEMENTAL MARKING TO INFORM MOTORISTS THAT THIS IS A RESTRICTED SHOULDER AREA.
5. A 3 FT TO 5 FT LONG BY 8 IN WIDE WHITE STRIPE FOR USE AS A "REFERENCE" STOP LINE FOR TRANSIT MAY BE USED AS A SUPPLEMENTAL MARKING.
6. IF TRANSIT STOP SHELTER IS USED, TRANSIT STOP SIGN MAY BE RELOCATED TO THE APPROACH SIDE OF THE SHELTER.
7. AT SIDEWALK END SECTIONS, INSTALL ACP WHEELCHAIR RAMP 12:1 SLOPE.
8. THE DESIGN MANUAL GUIDELINES REQUIRE A 8 FT X 10 FT LANDING PAD IN ADDITION TO THE SHOULDER. ADA REQUIREMENT WILL ALLOW A SMALLER SIZE PAD IF SUFFICIENT JUSTIFICATION EXISTS, AS LONG AS THE PAD CAN STILL ACCOMMODATE A WHEELCHAIR. PLEASE NOTE: THE MINIMUM ADA REQUIREMENTS FOR A LANDING PAD IS 5 FT X 8 FT, WHICH CAN INCLUDE THE SHOULDER WIDTH.



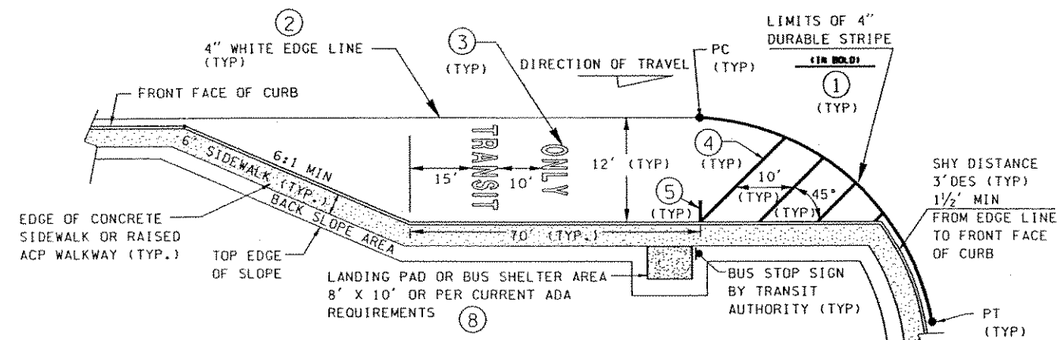
SECTION A-A

SECTION B-B

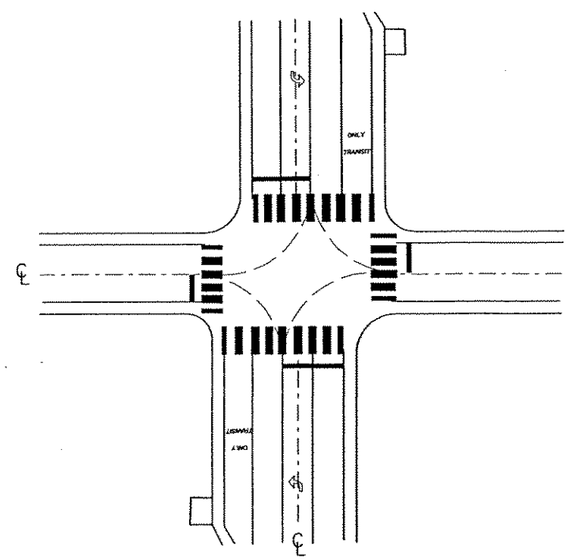
BUS PULL-OUT/CROSS SECTION DETAILS



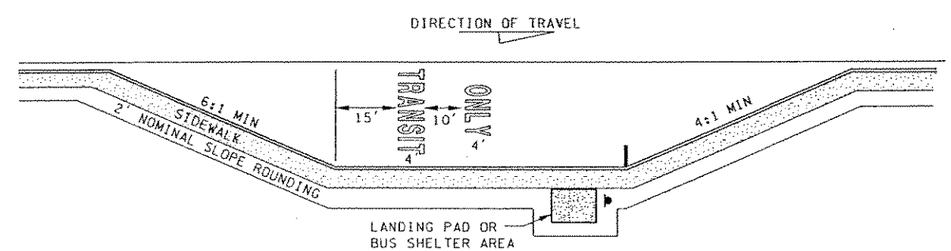
FAR-SIDE TURNOUT (PREFERRED LOCATION)



NEAR-SIDE TURNOUT



CROSSWALK DETAIL AT INTERSECTION BUS PULLOUTS



MID-BLOCK TURNOUT

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

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DESIGNED BY				JOB NUMBER	
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PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

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Washington State Department of Transportation

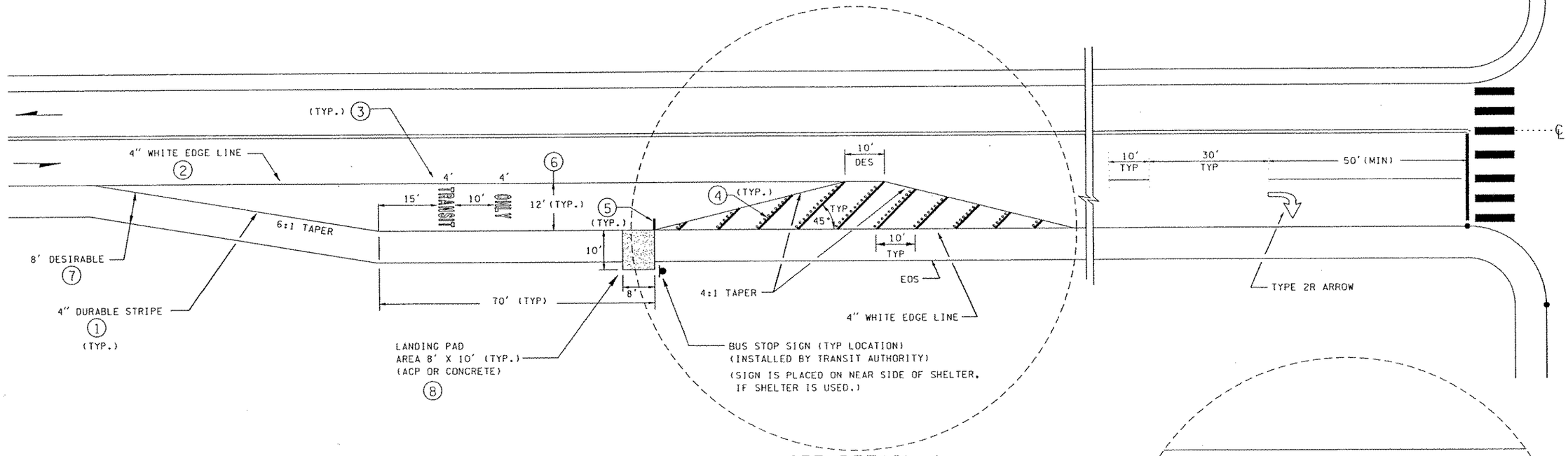
TRANSIT -
TRANSIT STOP TURNOUT
STRIPING AND SIGNING DETAILS
FOR URBAN AREAS
REV. 2-26-02 JBR

NW REGION TRAFFIC OPERATIONS

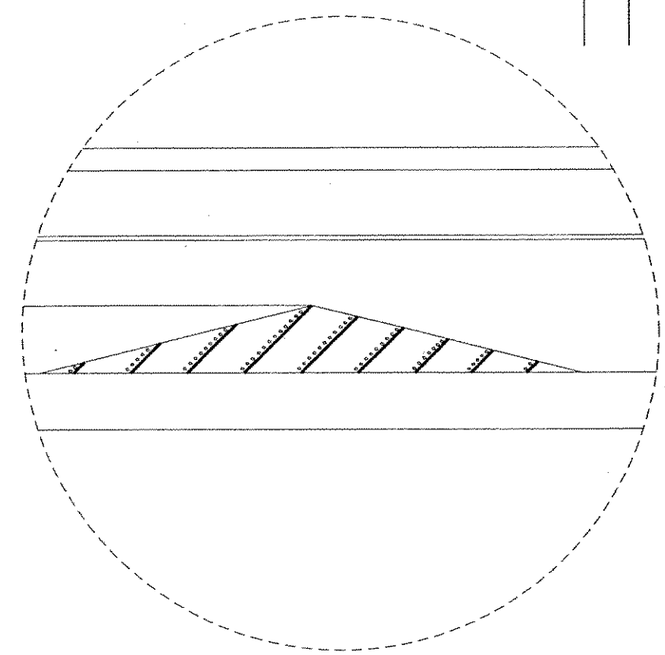
PLOT1

G-T2

SHEET 2 OF 2 SHEETS



SEE DETAIL A



DETAIL A - MINIMUM SEPARATION SECTION

NOTES:

1. DURABLE STRIPE TO BE EITHER METHYL METHACRYLATE (MMA) OR THERMOPLASTIC (WHITE).
2. DO NOT USE RPMS FOR EDGE LINE DELINEATION.
3. "TRANSIT ONLY" LEGEND MAY BE USED AS A SUPPLEMENTAL MARKING TO INFORM MOTORISTS THAT THIS IS A SPECIAL USE AREA. "BUS ONLY" LEGEND MAY BE USED, IF SCHOOL BUSES CAN ALSO USE THE TURNOUT.
4. 8 IN WHITE DIAGONAL MMA STRIPING ON 10 FT SPACING ALONG WITH TYPE 1 WHITE RPM'S ON A 1 FT SPACING.
5. A 3 FT TO 5 FT LONG BY 8 IN WIDE WHITE STRIPE FOR USE AS A "REFERENCE" STOP LINE FOR TRANSIT MAY BE USED AS A SUPPLEMENTAL MARKING.
6. A TRANSIT STOP WIDTH OF 10 FT. OR 11 FT. MAY BE CONSIDERED FOR EXISTING TRANSIT STOPS IN RURAL AREAS, IF SUFFICIENT JUSTIFICATION FOR A DEVIATION IS PROVIDED.
7. A TRANSIT STOP SHOULDER WIDTH OF LESS THAN 8 FT MAY BE CONSIDERED IF SUFFICIENT JUSTIFICATION FOR A DEVIATION IS PROVIDED.
8. THE DESIGN MANUAL GUIDELINES REQUIRE A 8 FT X 10 FT LANDING PAD IN ADDITION TO THE SHOULDER. ADA REQUIREMENT WILL ALLOW A SMALLER SIZE PAD IF SUFFICIENT JUSTIFICATION EXISTS, AS LONG AS THE PAD CAN STILL ACCOMMODATE A WHEELCHAIR.
   PLEASE NOTE: THE MINIMUM ADA REQUIREMENTS FOR A LANDING PAD IS 5 FT X 8 FT , WHICH CAN INCLUDE THE SHOULDER WIDTH.
   IF A SHELTER IS INSTALLED, NEED TO CHECK CLEAR ZONE CONSIDERATIONS.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section G\transit stop signing\shared usage lane for transit-right turning traffic\G-t3\g_t03.dgn							
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Washington State Department of Transportation

INTERSECTION / DRIVEWAY -
RIGHT TURN LANE PAVEMENT MARKINGS -
SHARED USAGE LANE FOR
TRANSIT / RIGHT TURNING TRAFFIC
REV. 5-4-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-T3

SHEET 1 OF 1 SHEETS

NWR - Traffic Operations Group

General Striping Guidelines and Information

Rev. Date: February 25, 2001

Long-line Striping:

- It is our goal to have all urban area roadway centerlines; lane lines and edge lines striped using durable (plastic) markings. The durable markings are listed in descending priority:
  - Profile Methyl Metacrylate (MMA)
  - Flat Methyl Metacrylate (MMA)
  - Profile Thermoplastic
  - Flat Thermoplastic

  The distance between profiles (bumps) shall be 2 feet for the white lane lines, white edge lines, gore lines and other locations where bicyclists may ride.
  The distance between profiles (bumps) should be 2 feet for the yellow centerline. This distance could be reduced to 1 foot if there is a need for added noise. Consult the NWR Traffic Operations Group about this adjustment.

- It is our goal to have all rural area roadway centerlines, lane lines and edge lines striped using durable (plastic) markings. The durable marking priority is the same as listed above and modified as follows:
  Flat MMA should be the only durable product used in snow zone areas.
  Flat MMA should be the only durable product used in the transition areas around the snow areas. The local maintenance area can provide additional information about the locations of the transition areas.

Raised Pavement Markings (RPMs):

- RPMs have a nominal service life of two years. Freeways, expressways and some multilane highway RPMs are usually replaced in the odd years. Conventional roadway and some multilane highway RPMs are replaced in the even years.

- During the two-year replacement cycle our goal is to replace all missing or damaged Type 2 (Reflective) RPMs. However, not all of the Type 1 RPMs may be replaced. If this is the case, we will stripe those areas with paint until such time as the missing Type 1 RPMs can be replaced.

- RPMs are usually installed on highways exclusive of snow zone areas and some transitional areas.

  Recessed RPMs may be considered for the snow zone and transitional areas. Please note that the NWR Pavement Marking Group is not equipped to maintain recessed RPMs at the present time.

- Maintenance for the Type 1 RPMs is becoming a problem in part due to the large number of Type 1 RPMs in use, their service life and their non-reflectivity. For these reasons, the NWR Traffic Section is requesting that all future NWR construction contracts consider the use of durable markings rather than RPMs for any long-line striping.

  The use and replacement of Type 2 RPMs will continue as before.

Durable (Plastic) Pavement Markings:

- All stop bars, pavement arrows, legends, symbols and crosswalk striping shall be done using MMA material. Thermoplastic material may be considered on a case by case basis for pavement arrows, legends and symbols outside of the snow zone and transitional areas subject to approval by the NWR Traffic Operations Group

Snow Zone Areas:

MA 1 -	SR 542	MP 22.9 (SR 547/Kendall Junction) to the Mt. Baker Summit
MA 2 -	SR 20	MP 84.0 (Russell Road Vicinity) to the region boundary
	SR 530	MP 39.0 (310th St. I/S) to the SR 20 Junction (Rockport)
MA 3 -	SR 2	MP 24.5 (Sultan vicinity) to the region boundary
MA 4 -	SR 410	MP 26.0 (Weyerhaeuser Road vicinity) to the region boundary
MA 5 -	SR 90	MP 17.0 (Front St in Issaquah) to the region boundary
	SR 202	MP 21.8 (SR 203 Junction) to the I 90 I/C (in North Bend)
	SR 203	MP 0.0 (SR 202 Junction) to MP 5.0 (Carnation)

Durable Material:

Thermoplastic material is called out as Type A material and MMA material is called out as Type D material in the Standard Specifications Sections 8-22 and 9-34.

NWR - Traffic Operations Group

General Signing Guidelines and Information

Rev. Date: February 25, 2001

General Information:

Sign installations are based upon the following general guidelines –

- Sign installations are usually restricted to the nearest and/or most direct interchange or intersection for the line message or logo destination shown on a specific sign.
- Sign installation layouts are based upon a signing hierarchy (priority).
- Sign installations, other than regulatory, warning and principal guide directional signs, will be evaluated based upon the remaining sign space left at an interchange or intersection after the aforementioned three sign types have been addressed..

Signing Hierarchy:

Hierarchy in descending priority –

1. Regulatory signs — Sign spacing as required by law and where needed.
   Warning signs — Sign spacing per the MUTCD Section 2C3, Table II-1.

2. Principal guide directional signs (white on green colors)
   This type of sign is usually a three-sign layout for interchanges with a maximum of four line messages per sign, which includes symbols (such as highway number and directional arrows).
   Shoulder mount sign installations may be used on conventional roadways. A sign location is based upon the mileage item shown on the sign message. If used, there should be an 800 ft spacing between this sign and any other highway sign for posted speeds of 55 mph or greater; and, a 500 ft spacing for posted speeds of 50 mph and under.

3-a.
Supplemental guide directional sign (white on green colors)
Normally one sign per interchange or intersection is allowed with a max. of four line messages per sign.
Motorists Information Signs (MIS) (white on blue colors)
Signs may be generic or logos.
Layout priority in descending order of gas, food, lodging, camping, RV Park.
MIS Recreational (white on brown colors)
Tourists Oriented Directional Signs (TODS) (white on blue colors)
Visitor Information Sign (VIC) (white on blue colors)
Historical / Cultural Attractions (white on brown colors)
VIC and the Historical/Cultural Attractions may be combined on one sign.

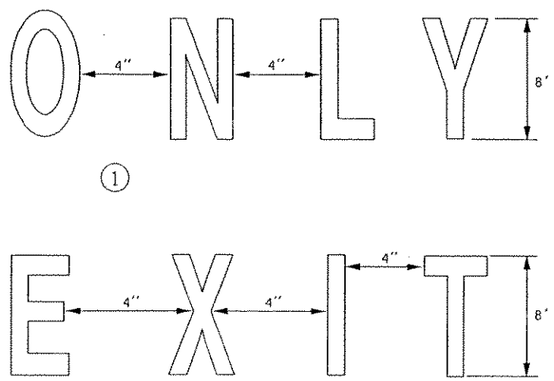
800 ft sign spacing for posted speeds 55 mph or higher
500 ft sign spacing for posted speeds 50 mph or lower

3-b. HOV Regulatory Signs (black on white colors)
Initial sign layout at an interchange or intersection will be the same as noted for the Item 3-a sign spacing.
Repeat signing will be done on one-mile intervals between interchanges for freeways and expressways.
Repeat signing for conventional roadways will depend on the lengths between intersections.

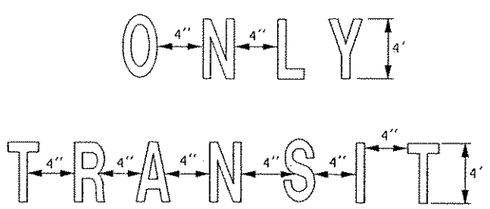
4. Signs that are classified as minor signs such as highway safety awareness signs, river signs, stand alone Park and Ride Lot signs, HAR signs, etc. (sign colors will vary depending upon the sign type classification)

500 ft sign spacing for posted speeds 55 mph or higher
300 ft sign spacing for posted speeds 40 to 50 mph
150 ft sign spacing for posted speeds 35 mph or lower

5. Signs that are not considered essentially highway signs can be offset from the normal signing layout without regard to sign spacing. These signs include Adopt-A-Highway, Mowing Test Area, Fire Danger/Fire District. Memorial Bridge Names, etc.



FREEWAY / EXPRESSWAY - SPACING FOR LEGEND MARKINGS



TRANSIT LANE - SPACING FOR LEGEND MARKINGS

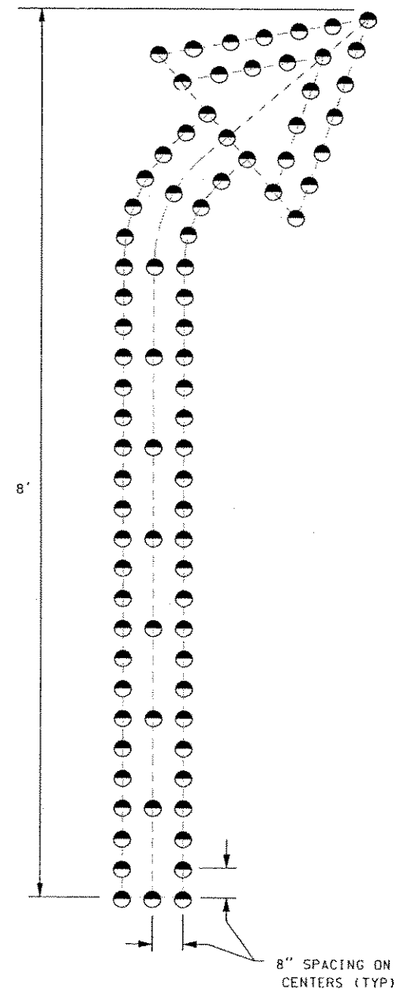
NOTES:

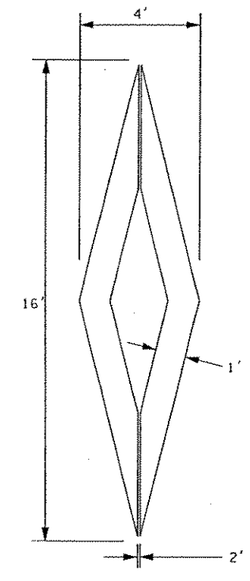
1. THE NWR PAVEMENT GROUP USES A 2 IN X 4 IN BLOCK TO SPACE OUT THE LETTERS. THERE IS NO SPACE BETWEEN TH "L" AND THE "Y".

NOT TO PS&E QUALITY
NOT TO SCALE

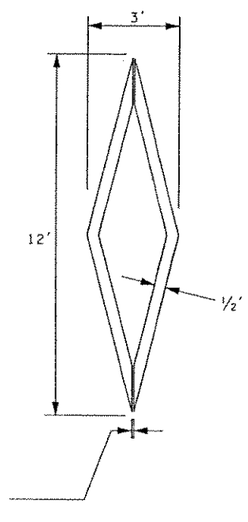
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dove McCormick
Region Traffic Engineer

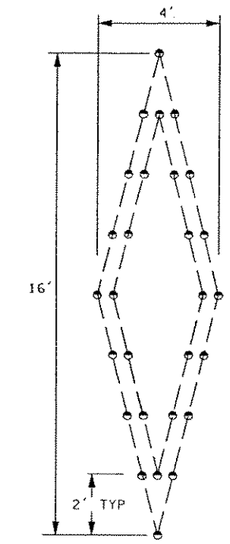




PLASTIC HOV LANE SYMBOL
TYPE 1 (FREEWAYS)



PLASTIC HOV LANE SYMBOL
TYPE 2 (ARTERIALS AND RAMPS)



REVERSIBLE LANE DIAMONDS
TYP I UNIDIRECTIONAL MARKERS

BLACK
WHITE

DIRECTION OF TRAVEL ON RESTRICTED LANE

PAVEMENT HOV SYMBOL DETAIL

FILE NAME	j:\Redbook\Section G\generalstriping and signing pavement marking\G-z2\g_z02.dgn						
TIME	09:34:56 AM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	
DATE	08/28/2002			JOB NUMBER			
DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

GENERAL STRIPING AND SIGNING PAVEMENT MARKING DETAILS

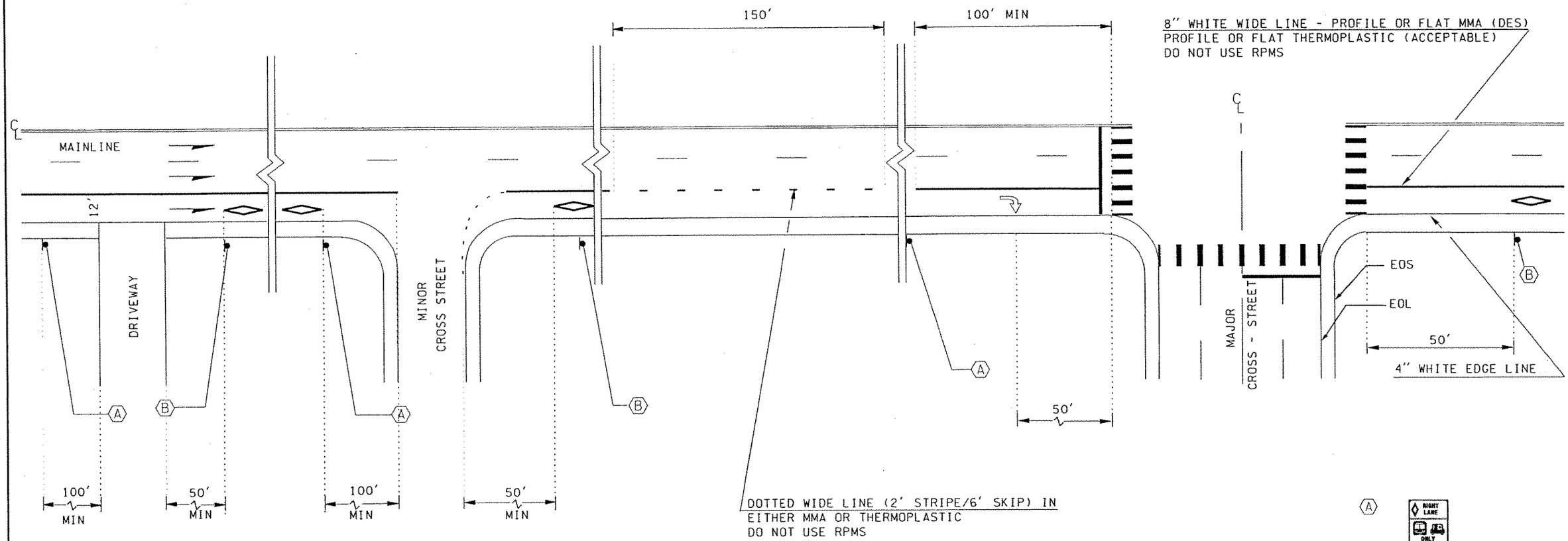
REV. 3-6-02 JBR

NW REGION TRAFFIC OPERATIONS

PLOT1

G-Z2

SHEET 2 OF 2 SHEETS



A — SPECIAL

B — R3-11RA MOD

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. ARTERIAL SPACING FOR HOV LANE SYMBOLS TO BE 500 FT.
2. NOMINAL SIGN SPACING BETWEEN SIGNS IS 500 FT (DES) 300 FT (MIN).
3. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
4. HOV LANE SYMBOLS ARE 12 FT. SEE PAGE G-Z2.

FILE NAME	j:\Redbook\Section H\conventionalroadway\typicalright side HOV lane\H-cr1\H-CR1.dgn				
TIME	08:08:04 AM			REGION NO. / STATE	FED.AID PROJ.NO.
DATE	08/30/2002			10 / WASH	
DESIGNED BY				JOB NUMBER	
ENTERED BY					
CHECKED BY				CONTRACT NO.	LOCATION NO.
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

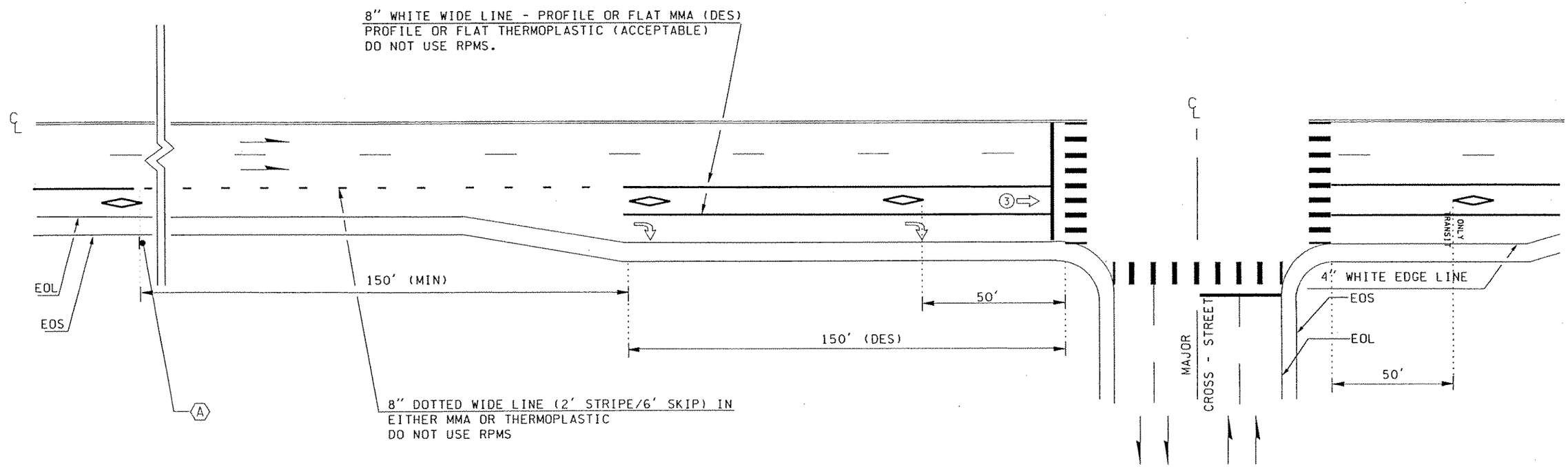
CONVENTIONAL ROADWAY -
TYPICAL RIGHT SIDE HOV LANE
AT SIGNALIZED INTERSECTIONS,
MINOR INTERSECTIONS AND DRIVEWAYS
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

H-CR1

SHEET 1 OF 2 SHEETS



SIGNALIZED INTERSECTION

NOT TO PS&E QUALITY
NOT TO SCALE

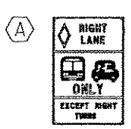
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. ARTERIAL SPACING FOR HOV DIAMOND LANE SYMBOLS IS 500 FT
2. NOMINAL SIGN SPACING BETWEEN SIGNS IS 500 FT (DES) 300 FT (MIN).
3. INSTALL A TYPE 1 ARROW UNLESS HOV TRAFFIC IS ALLOWED TO TURN RIGHT FROM THE HOV LANE.
   INSTALL A TYPE 3R DOUBLE HEADED ARROW ALLOWING STRAIGHT AND RIGHT TURNING TRAFFIC MOVEMENT IF BOTH MOVEMENTS ARE ALLOWED.
4. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
5. HOV LANE SYMBOLS ON ARTERIAL ARE 12 FT. SEE PAGE G-Z2.

A



SPECIAL

FILE NAME	J:\Redbook\Section H\conventionalroadway\typicalright side HOV lane\H-cr2\H-CR2.dgn						
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DATE	08/30/2002				JOB NUMBER		
DESIGNED BY							
ENTERED BY							
CHECKED BY					CONTRACT NO.		LOCATION NO.
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

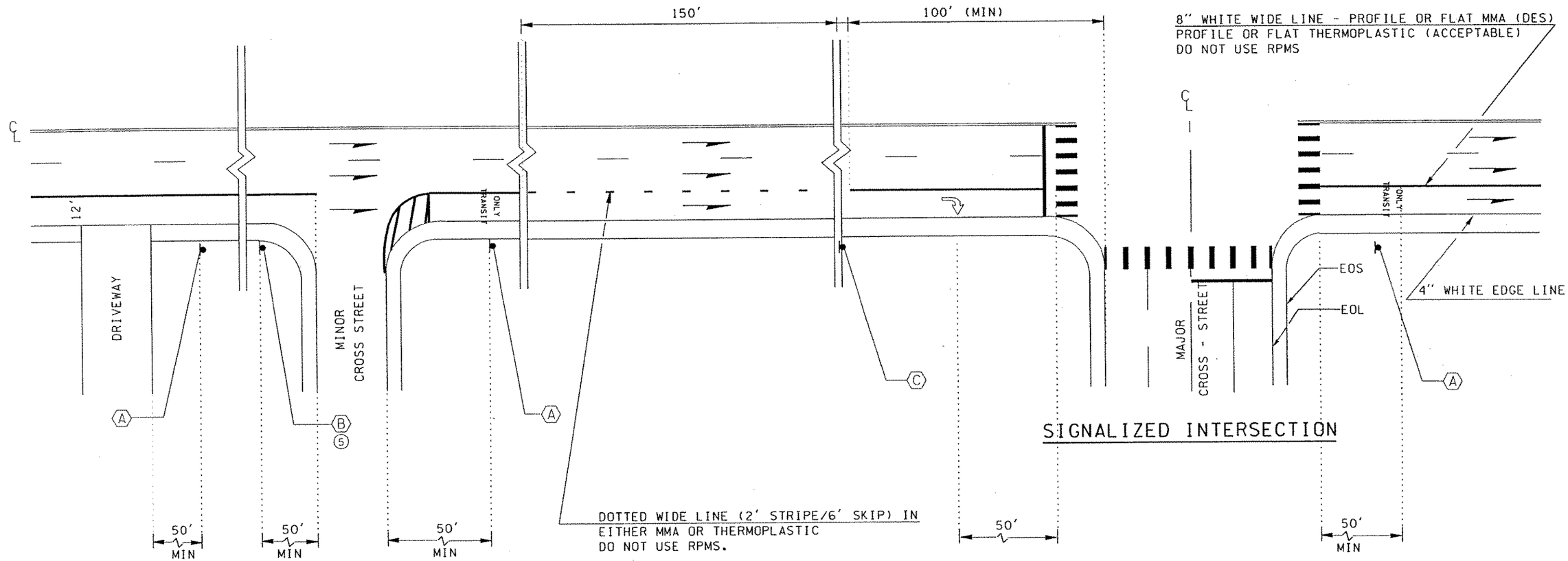
P.E. STAMP BOX DATE

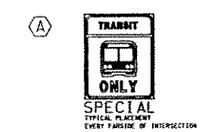
Washington State
Department of Transportation

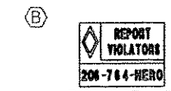
CONVENTIONAL ROADWAY -
RIGHT SIDE HOV LANE CARRY THROUGH
AT MAJOR INTERSECTIONS
STRIPING AND SIGNING LAYOUT
(SEPARATE RIGHT TURN POCKET)
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

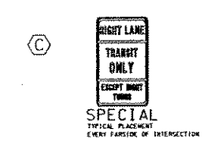
PLOT1
H-CR2
SHEET 2 OF 2 SHEETS







D12-203 MOD



NOTES:

1. ARTERIAL SPACING FOR TRANSIT LANE MARKING TO BE 500 FT (MIN).
2. NOMINAL SIGN SPACING BETWEEN SIGNS IS 500 FT (DES) 300 FT (MIN).
3. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
4. FOR TRANSIT LANE MARKING DETAIL SEE PAGE G-Z2.
5. OPTIONAL SIGN IF SPACING PERMITS.
6. DO NOT USE HOV LANE SYMBOLS WHEN THE RESTRICED LANE IS A "TRANSIT ONLY" LANE.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section H\conventionalroadway\typicalright side transit lane\H-cr3\H-CR3.dgn					
TIME	08:25:00 AM			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.
DATE	08/30/2002			JOB NUMBER		
DESIGNED BY				CONTRACT NO.		LOCATION NO.
ENTERED BY						
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

CONVENTIONAL ROADWAY - TYPICAL RIGHT SIDE TRANSIT LANE AT SIGNALIZED INTERSECTION, MINOR INTERSECTION AND DRIVEWAYS STRIPING AND SIGNING LAYOUT

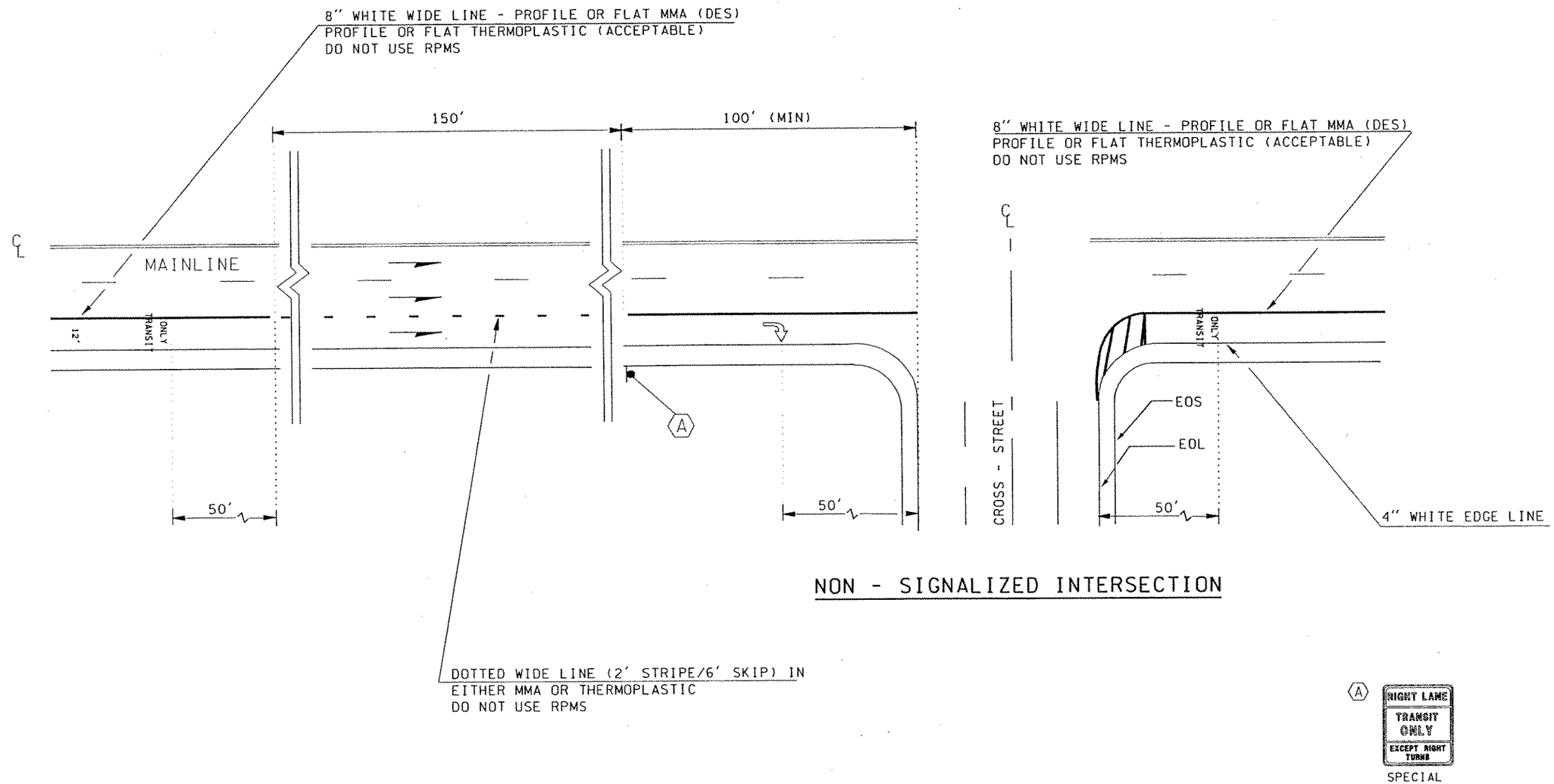
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

H-CR3

SHEET 1 OF 2 SHEETS



NON - SIGNALIZED INTERSECTION

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
2. FOR TRANSIT LANE MARKING DETAILS SEE PAGE G-Z2.
3. DO NOT USE HOV LANE SYMBOLS WHEN THE RESTRICTED LANE IS A "TRANSIT ONLY" LANE.
4. 8 IN WHITE DIAGONAL DASH LINES 45 DEGREE ANGLE; 3 LINES PER RADIUS RETURN AREA.

FILE NAME	J:\Redbook\Section H\conventionalroadway\typicalright side transit lane\H-cr4\H-CR4.dgn		
TIME	08:30:20 AM		
DATE	08/30/2002		
DESIGNED BY			
ENTERED BY			
CHECKED BY			
PROJ. ENGR.			
REGIONAL ADM.	REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

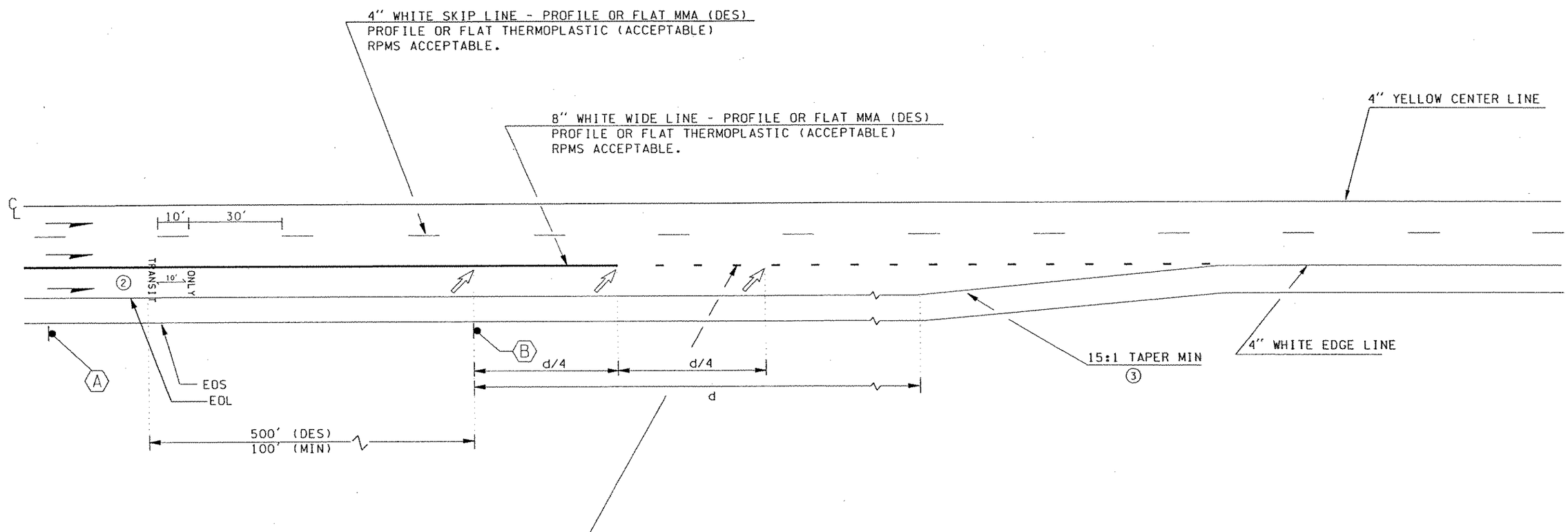
P.E. STAMP BOX DATE

Washington State Department of Transportation

CONVENTIONAL ROADWAY -
TYPICAL RIGHT SIDE TRANSIT LANE
AT MAJOR NON-SIGNALIZED INTERSECTION
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-CR4
SHEET 2 OF 2 SHEETS



A — TRANSIT LANE ENDS X MI — SPECIAL

B — TRANSIT LANE ENDS — SPECIAL

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G___.
2. DO NOT USE ANY HOV LANE SYMBOLS USED WHEN THE RESTRICTED LANE IS A "TRANSIT ONLY" LANE.
3. TAPER LENGTH:
   < 35 MPH TAPER = WS^2 / 60
   40 MPH > TAPER = WS
   W = LANE WIDTH
   S = POSTED SPEED

FILE NAME	j:\Redbook\Section H\conventionalroadway\transit Mid-block lane reduction striping and signing layout\H-cr5\H-CR5.dgn						
TIME	07:34:10 AM				REGION NO. / STATE	FED.AID PROJ.NO.	
DATE	08/30/2002				10 / WASH		
DESIGNED BY					JOB NUMBER		
ENTERED BY							
CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX — DATE

P.E. STAMP BOX — DATE

Washington State Department of Transportation

CONVENTIONAL ROADWAY - TRANSIT MID-ROAD LANE REDUCTION STRIPING AND SIGNING LAYOUT

REV. 2-24-02 JF

NW REGION TRAFFIC OPERATIONS

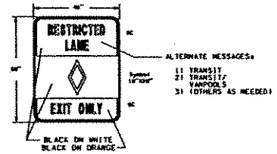
PLOT1

H-CR5

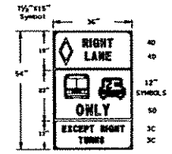
SHEET 1 OF 1 SHEETS

R3-10 MOD

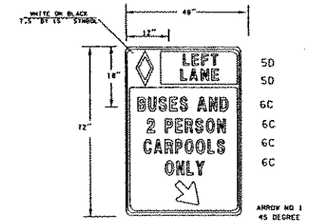
D12-203 MOD
(SPECIAL until approved)



R3-12 MOD

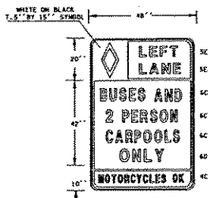


SPECIAL

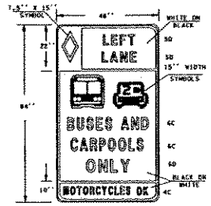


R3-11LC MOD
BLACK ON WHITE

SPECIAL
BLACK ON WHITE
Alternate Message:
2 CARS PER GREEN THIS LANE
(With reduced letter spacing)

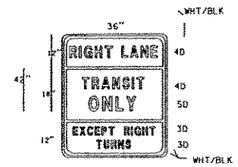


R3-11LB MOD

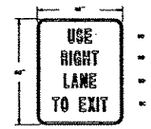


R3-11LA MOD

R10-6

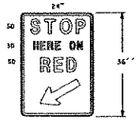


SPECIAL



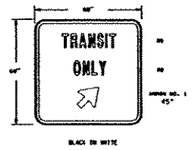
R3-703

SPECIAL
BLACK ON WHITE
Alternate Message:
2 CARS PER GREEN EACH LANE
(With reduced letter spacing)

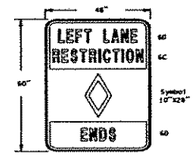


R10-6

W4-2L



SPECIAL



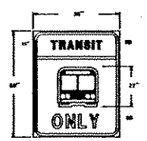
R3-12 MOD

R10-6 MOD

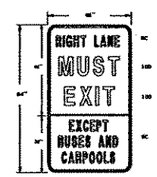
SPECIAL
BLACK ON WHITE

SPECIAL

PANTONES 072, 100
(BLUE, YELLOW)



SPECIAL



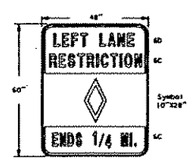
R3-701 MOD

SPECIAL
BLACK ON WHITE

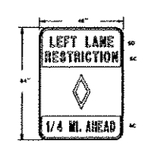
SPECIAL
BLACK ON WHITE
Alternate Message:
2 CARS PER GREEN EACH LANE

SPECIAL

SPECIAL

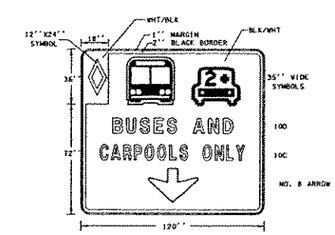


R3-12 MOD



R3-10 MOD

SPECIAL



R3-1101 MOD
TO SCALE

FILE NAME	J:\Redbook\Section H\conventionalroadway\HOV and transit sign types\H-cr6\H-CR6.dgn						
TIME	07:22:50 AM			REGION NO.	STATE	FED.AID PROJ.NO.	
DATE	08/30/2002			10	WASH		
				JOB NUMBER			
DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State
Department of Transportation

CONVENTIONAL ROADWAY -
HOV AND TRANSIT
SIGN TYPES

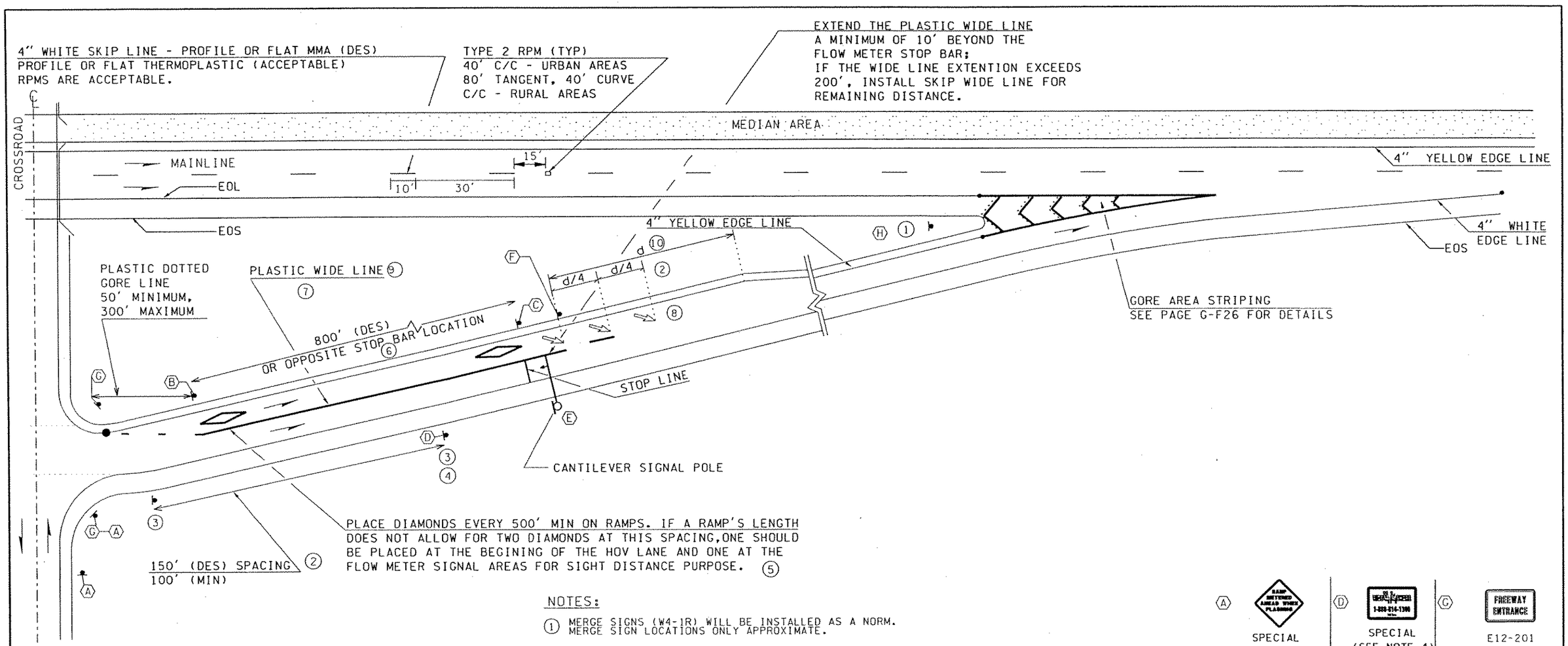
REV. 2-24-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

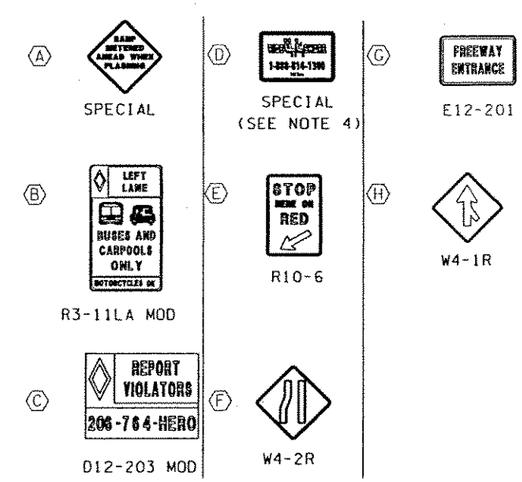
H-CR6

SHEET 1 OF 1 SHEETS



NOTES:

1. MERGE SIGNS (W4-1R) WILL BE INSTALLED AS A NORM. MERGE SIGN LOCATIONS ONLY APPROXIMATE.
2. IF THE UNMARKED LANE AREA CAUSES A MERGE PROBLEM, THE HOV WIDE LINE CAN BE EXTENDED TO THE POINT WHERE THE TOTAL ROADWAY WIDTH IS 24 FT WIDE AND BEGINS TO TAPER TO ONE LANE.
3. PLEASE REFER TO PAGE G-F1 FOR EXCLUSION (RESTRICTIVE) OPTION LAYOUT.
4. HOV SIGNING SUCH AS HERO & RIDESHARE SIGNS (INCLUDE ONLY IF SIGN SPACING PERMITS).
5. HOV LANE SYMBOLS FOR ON-RAMPS ARE 12 FT LONG. SEE DETAIL.
6. IF LENGTH OF RAMP, OR SIGNT DISTANCE, DICTATE, A SECOND SIGN R3-11L/R SHOULD BE USED.
7. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
8. USE DIAGONAL ARROWS ONLY IF A YIELD/MERGE PROBLEM EXISTS. SEE PAGE G-F27.
9. PROFILE OR FLAT MMA (DESIRABLE)
   PROFILE OR FLAT THERMOPLASTIC (ACCEPTABLE)
   DO NOT USE RPMS.
10. FOR THE LANE LENGTH < 500 FT USE 35 MPH SPEED d = 400 FT
    FOR THE LANE LENGTH > 500 FT USE 45 MPH SPEED d = 550 FT



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section H\freeway-expressway mainline and ramp\On-ramps\On-ramp bypass with single GP lane\H-f1\H-F1.dgn				
TIME	10:37:11 AM			REGION NO. 10	STATE WASH
DATE	08/30/2002			JOB NUMBER	FED.AID PROJ.NO.
DESIGNED BY					
ENTERED BY				CONTRACT NO.	LOCATION NO.
CHECKED BY					
PROJ. ENGR.					
REGIONAL ADM.		REVISION	DATE	BY	

P.E. STAMP BOX DATE

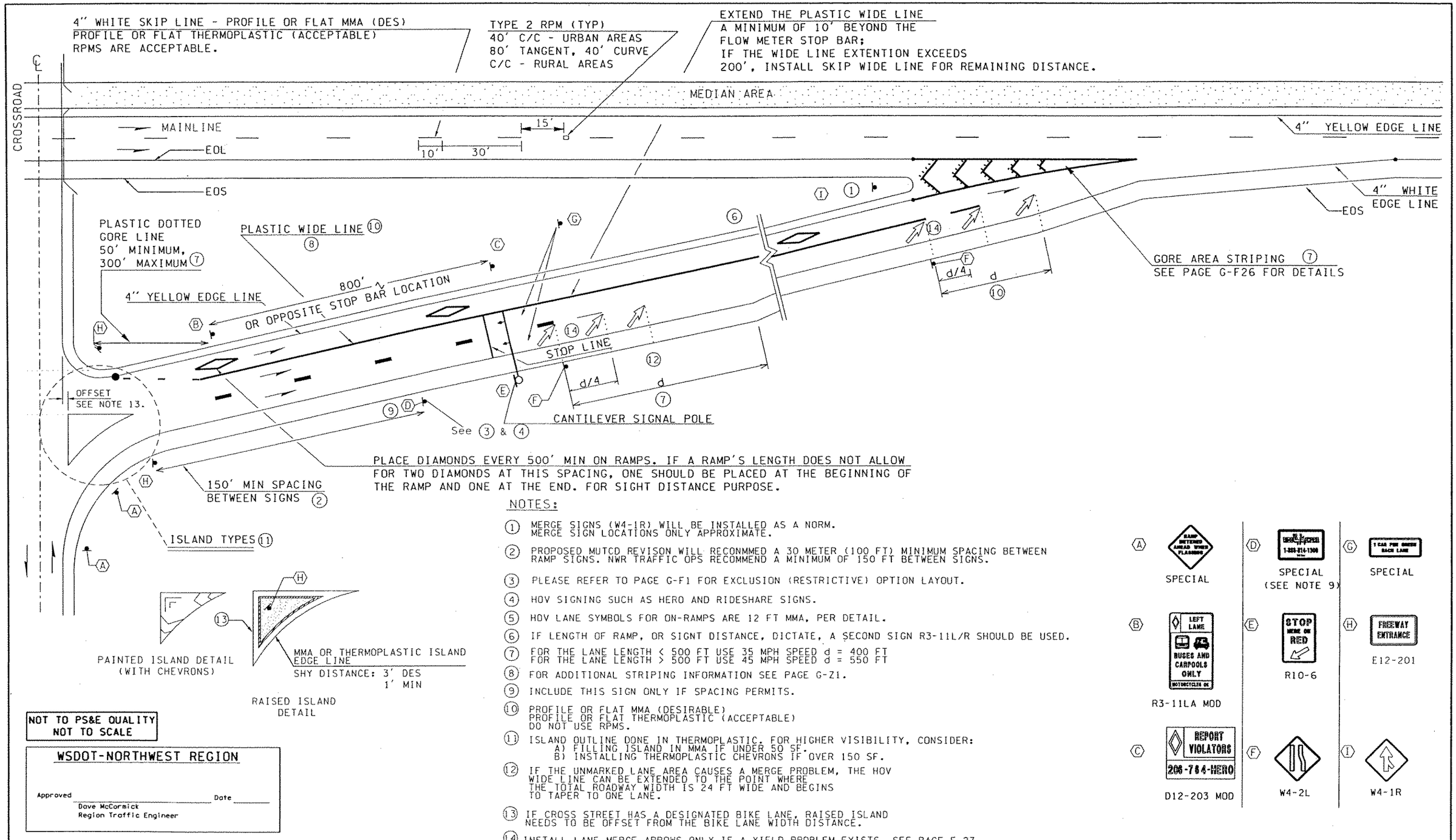
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
HOV ON-RAMP BYPASS WITH SINGLE GP LANE STRIPING AND SIGNING LAYOUT (WITH HOV LANE YIELDING)
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-F1
SHEET 1 OF 3 SHEETS



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. MERGE SIGNS (W4-1R) WILL BE INSTALLED AS A NORM. MERGE SIGN LOCATIONS ONLY APPROXIMATE.
2. PROPOSED MUTCD REVISON WILL RECONMMED A 30 METER (100 FT) MINIMUM SPACING BETWEEN RAMP SIGNS. NWR TRAFFIC OPS RECOMMEND A MINIMUM OF 150 FT BETWEEN SIGNS.
3. PLEASE REFER TO PAGE G-F1 FOR EXCLUSION (RESTRICTIVE) OPTION LAYOUT.
4. HOV SIGNING SUCH AS HERO AND RIDESHARE SIGNS.
5. HOV LANE SYMBOLS FOR ON-RAMPS ARE 12 FT MMA, PER DETAIL.
6. IF LENGTH OF RAMP, OR SIGNT DISTANCE, DICTATE, A SECOND SIGN R3-11L/R SHOULD BE USED.
7. FOR THE LANE LENGTH < 500 FT USE 35 MPH SPEED d = 400 FT
   FOR THE LANE LENGTH > 500 FT USE 45 MPH SPEED d = 550 FT
8. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
9. INCLUDE THIS SIGN ONLY IF SPACING PERMITS.
10. PROFILE OR FLAT MMA (DESIRABLE)
    PROFILE OR FLAT THERMOPLASTIC (ACCEPTABLE)
    DO NOT USE RPMS.
11. ISLAND OUTLINE DONE IN THERMOPLASTIC. FOR HIGHER VISIBILITY, CONSIDER:
    A) FILLING ISLAND IN MMA IF UNDER 50 SF.
    B) INSTALLING THERMOPLASTIC CHEVRONS IF OVER 150 SF.
12. IF THE UNMARKED LANE AREA CAUSES A MERGE PROBLEM, THE HOV WIDE LINE CAN BE EXTENDED TO THE POINT WHERE THE TOTAL ROADWAY WIDTH IS 24 FT WIDE AND BEGINS TO TAPER TO ONE LANE.
13. IF CROSS STREET HAS A DESIGNATED BIKE LANE, RAISED ISLAND NEEDS TO BE OFFSET FROM THE BIKE LANE WIDTH DISTANCE.
14. INSTALL LANE MERGE ARROWS ONLY IF A YIELD PROBLEM EXISTS. SEE PAGE F-27.

(A) SPECIAL
(B) R3-11LA MOD
(C) D12-203 MOD
(D) SPECIAL (SEE NOTE 9)
(E) R10-6
(F) W4-2L
(G) SPECIAL
(H) E12-201
(I) W4-1R

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\On-ramps\On-ramp bypass with double GP lane\H-f2\H-F2.dgn		
TIME	09:55:45 AM		
DATE	08/30/2002		
DESIGNED BY			
ENTERED BY			
CHECKED BY			
PROJ. ENGR.			
REGIONAL ADM.	REVISION	DATE	BY

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

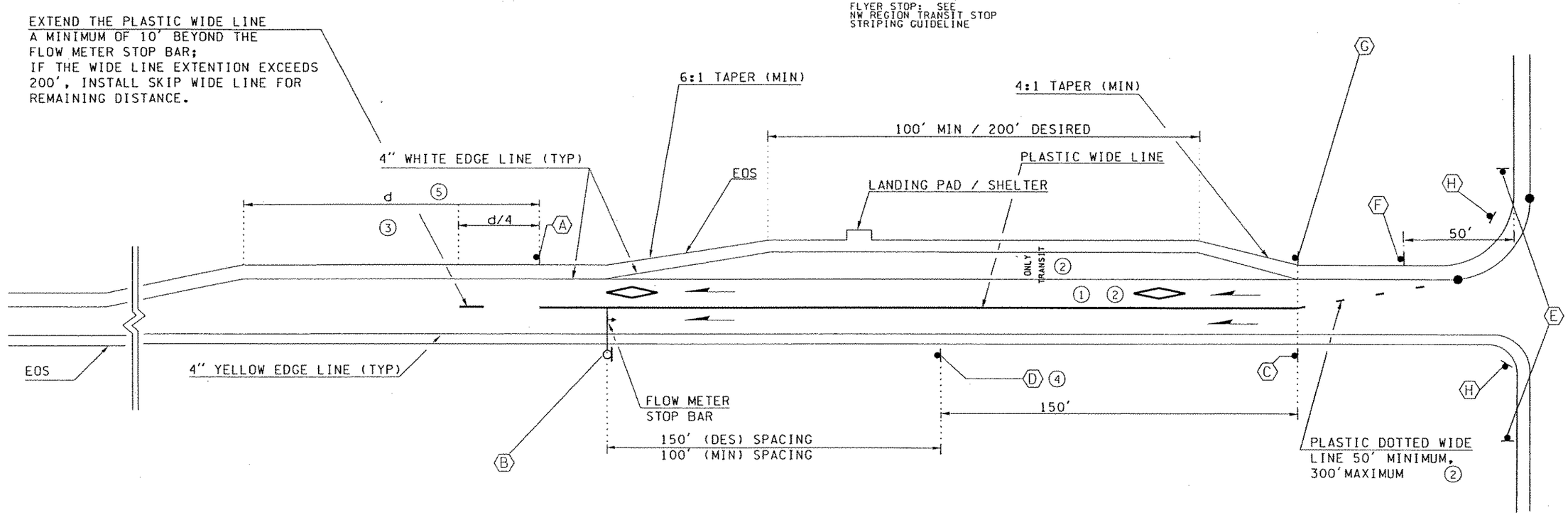
P.E. STAMP BOX DATE

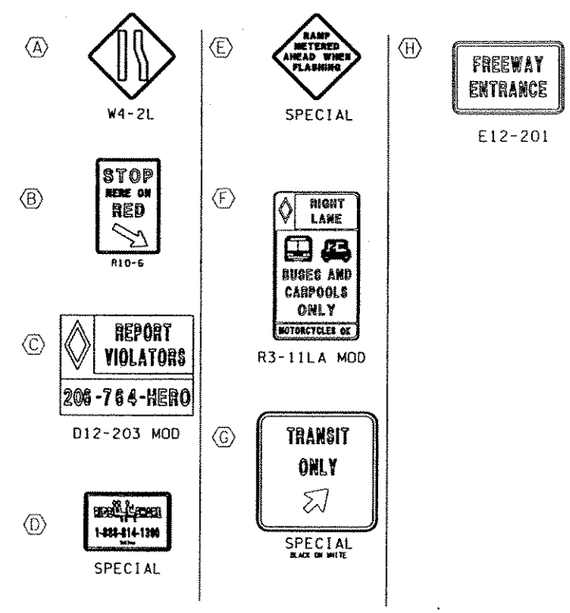
Washington State Department of Transportation

FREEWAY -
HOV ON-RAMP BYPASS WITH DOUBLE GP LANES STRIPING AND SIGNING LAYOUT (WITH GP LANE YIELDING)
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-F2
SHEET 2 OF 3 SHEETS





NOTES:

1. HOV LANE SYMBOLS FOR ON-RAMPS ARE 12 FT LONG (SEE PAGE G-Z2). PLACE DIAMONDS EVERY 500 FT MIN ON RAMPS. IF A RAMP'S LENGTH DOES NOT ALLOW FOR TWO DIAMONDS AT THIS SPACING, ONE SHOULD BE PLACED AT THE BEGINNING OF THE RAMP AND ONE AT THE END (FLOW METER STOP BAR). A THIRD DIAMOND MAY BE NEEDED ON SHORT LOOP RAMPS FOR SIGHT DISTANCE PURPOSES.
2. A) ALL DIAMONDS AND PAVEMENT LEGENDS ARE TO BE DONE IN MMA.
   B) ALL SOLID AND DOTTED SKIP LINES ARE TO BE DONE IN EITHER MMA OR THERMOPLASTIC.
3. IF THE UNMARKED LANE AREA CAUSES A MERGE PROBLEM, THE HOV WIDE LINE CAN BE EXTENDED TO THE POINT WHERE THE TOTAL ROADWAY WIDTH IS 24 FT WIDE AND BEGINS TO TAPER TO ONE LANE.
4. INCLUDE THIS SIGN ONLY IF SPACING PERMITS
5. FOR HOV LANE LENGTH <500 FT USE 35 MPH SPEED d=400 FT.
   FOR HOV LANE LENGTH >500 FT USE 45 MPH SPEED d=550 FT.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\On-ramps\right side bypass transit pullout\H-f3\H-F3.dgn						
TIME	10:43:25 AM			REGION NO.	STATE	FED.AID PROJ.NO.	
DATE	08/30/2002			10	WASH		
DESIGNED BY				JOB NUMBER			
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

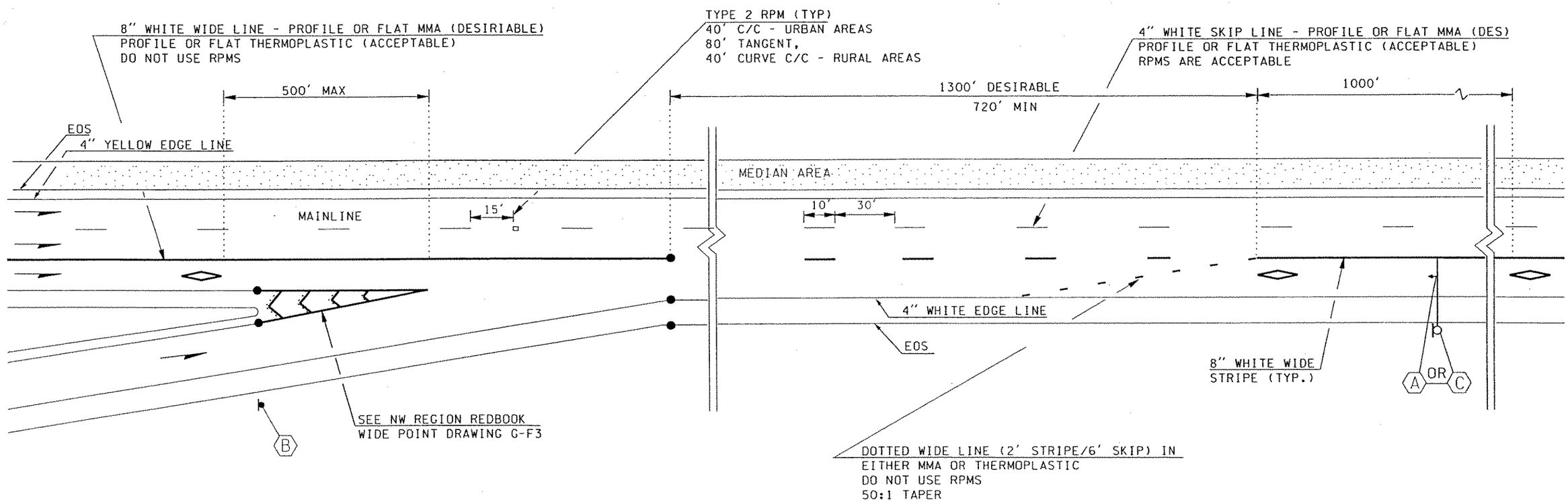
FREEWAY -
HOV ON-RAMP RIGHT SIDE BYPASS
TRANSIT PULL OUT
STRIPING AND SIGNING LAYOUT
(WITH HOV LANE YIELDING)
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

H-F3

SHEET 3 OF 3 SHEETS



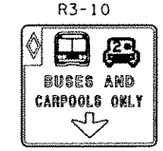
A

R3-11LB MOD

B

R3-10

C



R3-1101 MOD

NOT TO PS&E QUALITY
NOT TO SCALE

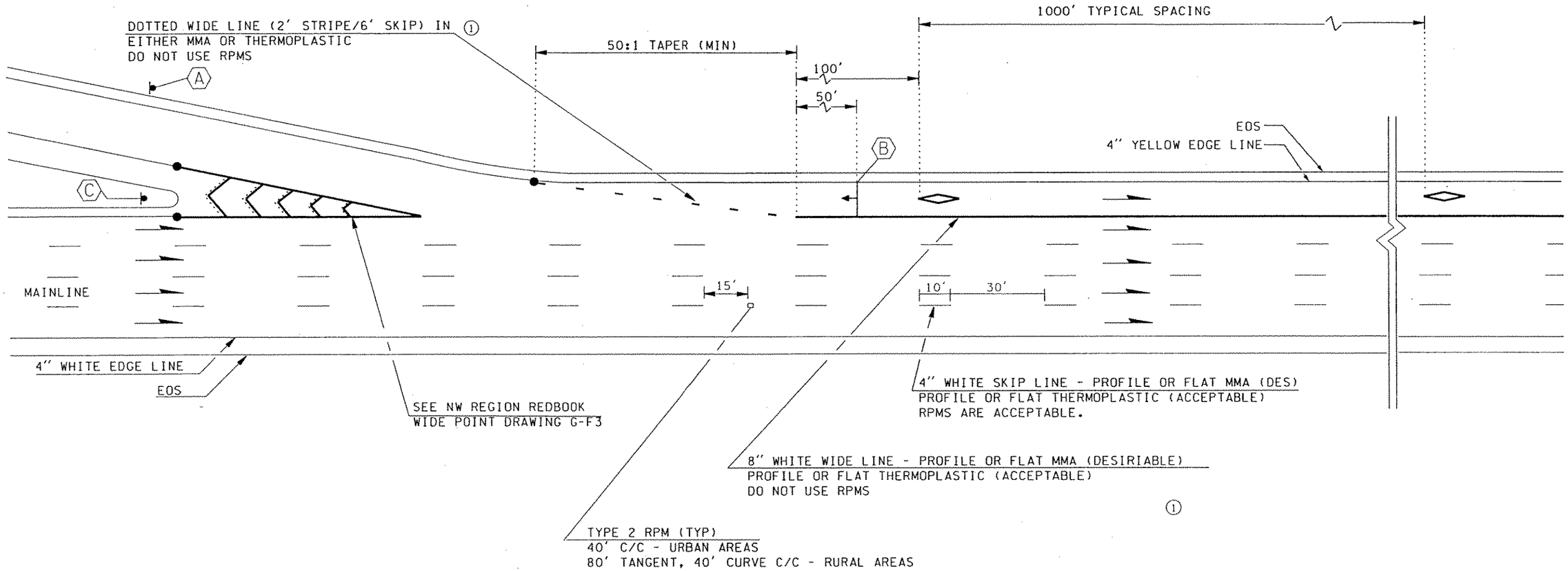
WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. FREEWAY SPACING FOR HOV LANE SYMBOLS TO BE 1000 FT.
2. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
3. HOV DIAMOND LANE SYMBOLS ARE 16 FT. SEE PAGE G-Z2.

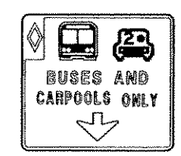
FILE NAME	j:\Redbook\Section H\freeway-expressway mainline and ramp\Add-Lane Connections\Right side Add-Lane connection\H-F4\H-F4.dgn								PLOT1
TIME	10:23:15 AM				REGION NO.	STATE	FED.AID PROJ.NO.	Washington State Department of Transportation	FREEWAY - RIGHT SIDE HOV ADD LANE CONNECTION STRIPING AND SIGNING LAYOUT	H-F4
DATE	08/30/2002				10	WASH			REV. 2-27-02 JF	SHEET 1 OF 2 SHEETS
DESIGNED BY					JOB NUMBER					
ENTERED BY										
CHECKED BY					CONTRACT NO.		LOCATION NO.		NW REGION TRAFFIC OPERATIONS	
PROJ. ENGR.										
REGIONAL ADM.		REVISION	DATE	BY			P.E. STAMP BOX DATE	P.E. STAMP BOX DATE		



Ⓐ

R3-10 MOD

Ⓑ



R3-1101 MOD

Ⓒ

W4-1L

NOTES:

① FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.

② HOV DIAMOND LANE SYMBOLS ARE 16 FT LONG, SEE PAGE G-Z2.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	j:\Redbook\Section H\freeway-expressway mainline and ramp\Add-Lane Connections\Left side Add-Lane connection\H-F5\H-F5.dgn						
TIME	10:27:36 AM						
DATE	08/30/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

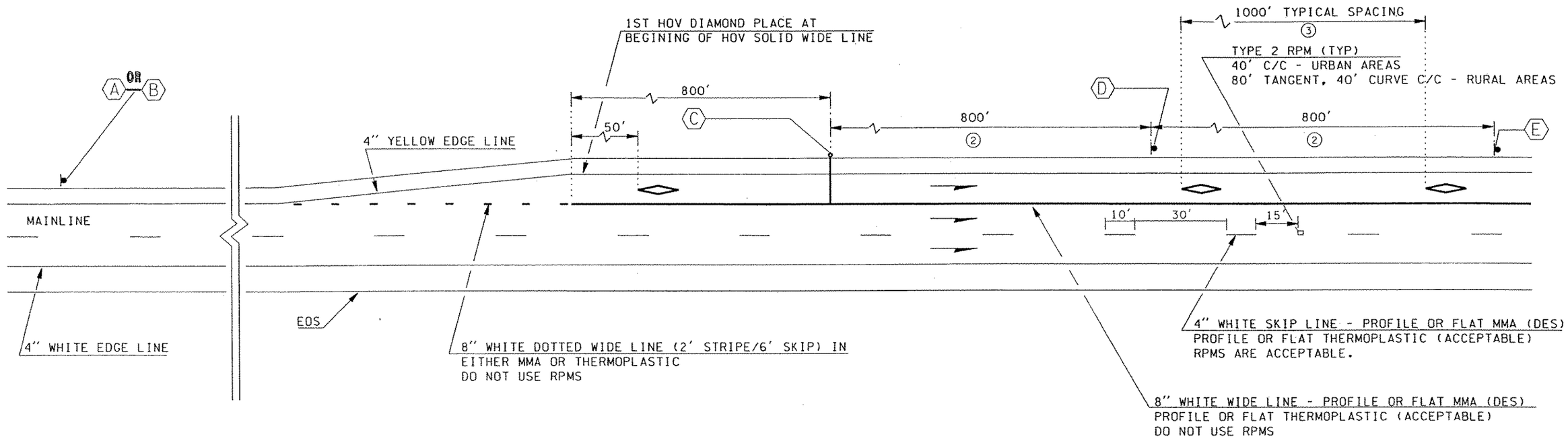
FREEWAY -
LEFT SIDE HOV ADD LANE
CONNECTION
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

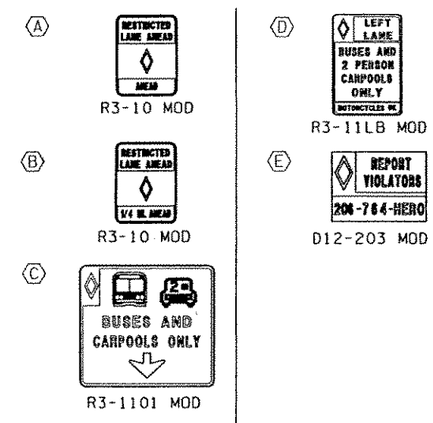
H-F5

SHEET 2 OF 2 SHEETS



NOTES:

1. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
2. NOMINAL 1 MILE SPACING BETWEEN SHOULDER MOUNT HOV SIGNS AFTER BEGINING OF SIGN LAYOUT.
3. FREEWAY DIAMOND HOV LANE SYMBOLS ARE 16 FT. SEE PAGE G-Z2.



NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\typicalleftside Mid-freeway HOV Add-Lane\H-f6\H-F6.dgn						
TIME	11:04:18 AM						
DATE	08/30/2002						
DESIGNED BY							
ENTERED BY							
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

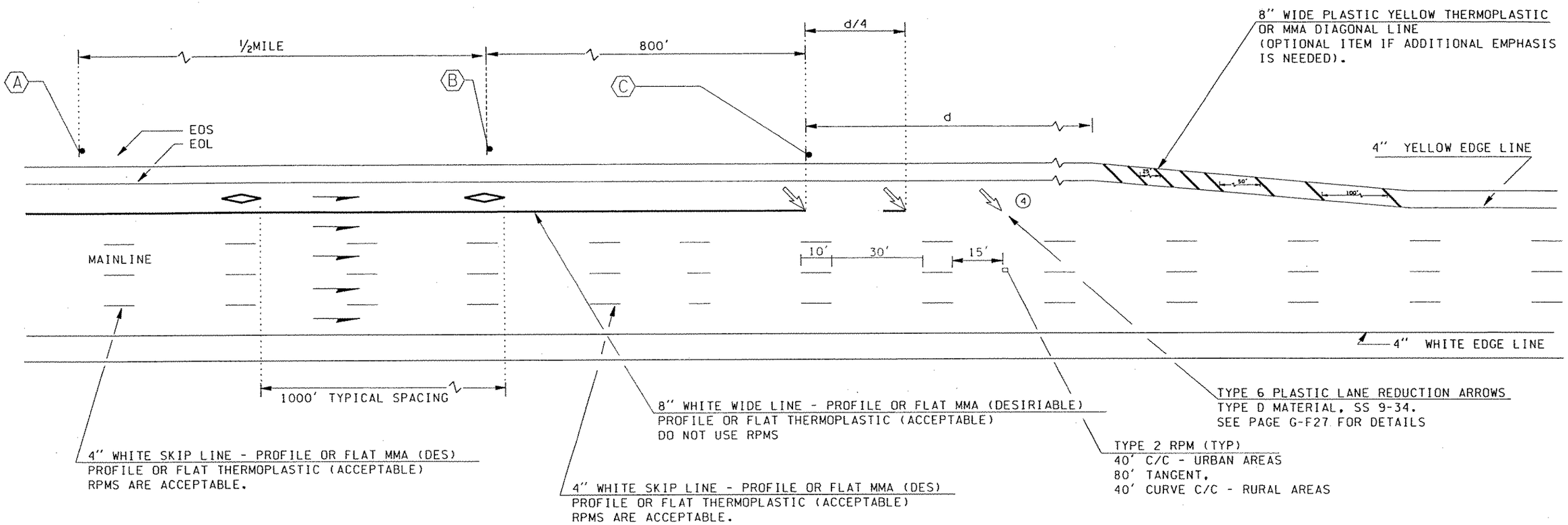
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
TYPICAL LEFT SIDE MID-FREEWAY
HOV ADD LANE
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

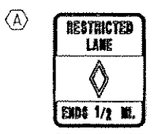
PLOT1
H-F6
SHEET 1 OF 1 SHEETS



NOTES:

1. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
2. HOV LANE SYMBOLS 16 FT. SEE PAGE G-Z2.
3. FREEWAY SPACING FOR HOV LANE SYMBOLS TO BE 1000 FT.
4. USE DIAGONAL ARROW ONLY IF A YIELD/MERGE PROBLEM EXISTS. SEE PAGE G-F27.

A

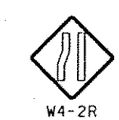


R3-12 MOD

B

W9-2R MOD

C



W4-2R

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\typicalleftside Mid-freeway HOV Drop-Lane\H-f7\H-F7.dgn						
TIME	11:14:20 AM				REGION NO. / STATE	FED.AID PROJ.NO.	
DATE	08/30/2002				10 / WASH		
DESIGNED BY					JOB NUMBER		
ENTERED BY							
CHECKED BY					CONTRACT NO.	LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State Department of Transportation

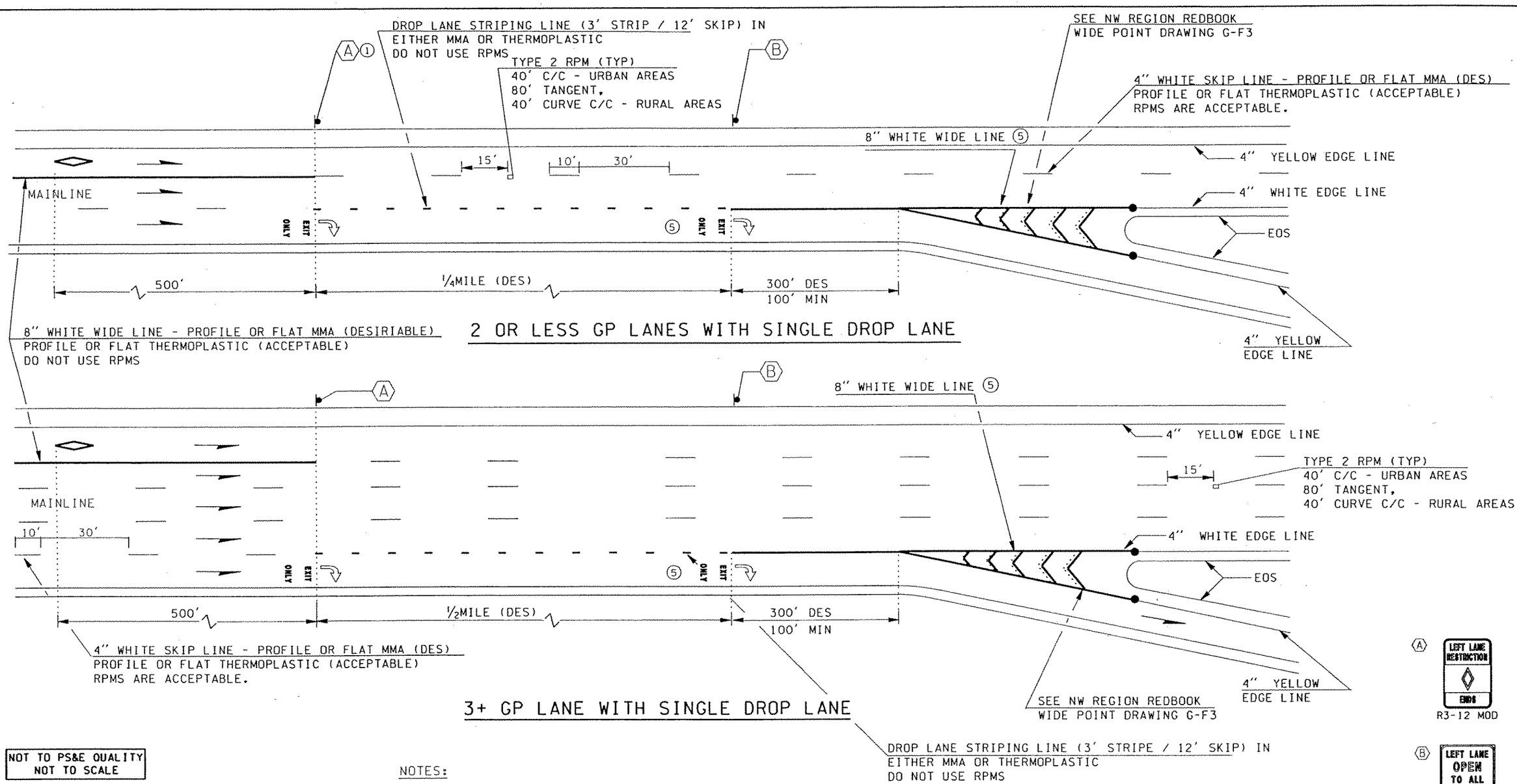
FREEWAY -
TYPICAL LEFT SIDE MID-FREEWAY
HOV DROP LANE
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1

H-F7

SHEET 1 OF 1 SHEETS



2 OR LESS GP LANES WITH SINGLE DROP LANE

3+ GP LANE WITH SINGLE DROP LANE

(A) R3-12 MOD

(B) SPECIAL

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. 800 FT (DES) SPACING BETWEEN HOV SIGNS.
2. HOV DIAMOND LANE SYMBOLS ARE 16 FT. SEE PAGE G-Z2.
3. FREEWAY SPACING FOR HOV LANE SYMBOLS TO BE 1000 FT.
4. PROFILE OR FLAT MMA (DESIRED)
   PROFILE OR FLAT THERMOPLASTIC (ACCEPTED)
   DO NOT USE RPMS.
5. SEE PAGE G-ID28 FOR LEGEND LAYOUT DETAILS.

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\typicalleftside Mid-freeway end HOV lane-begin GP lane\H-f8\H-F8.dgn			REGION NO. 10	STATE WASH	FED.AID PROJ.NO.	
TIME	10:57:23 AM						
DATE	08/30/2002			JOB NUMBER			
DESIGNED BY							
ENTERED BY							
CHECKED BY				CONTRACT NO.		LOCATION NO.	
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

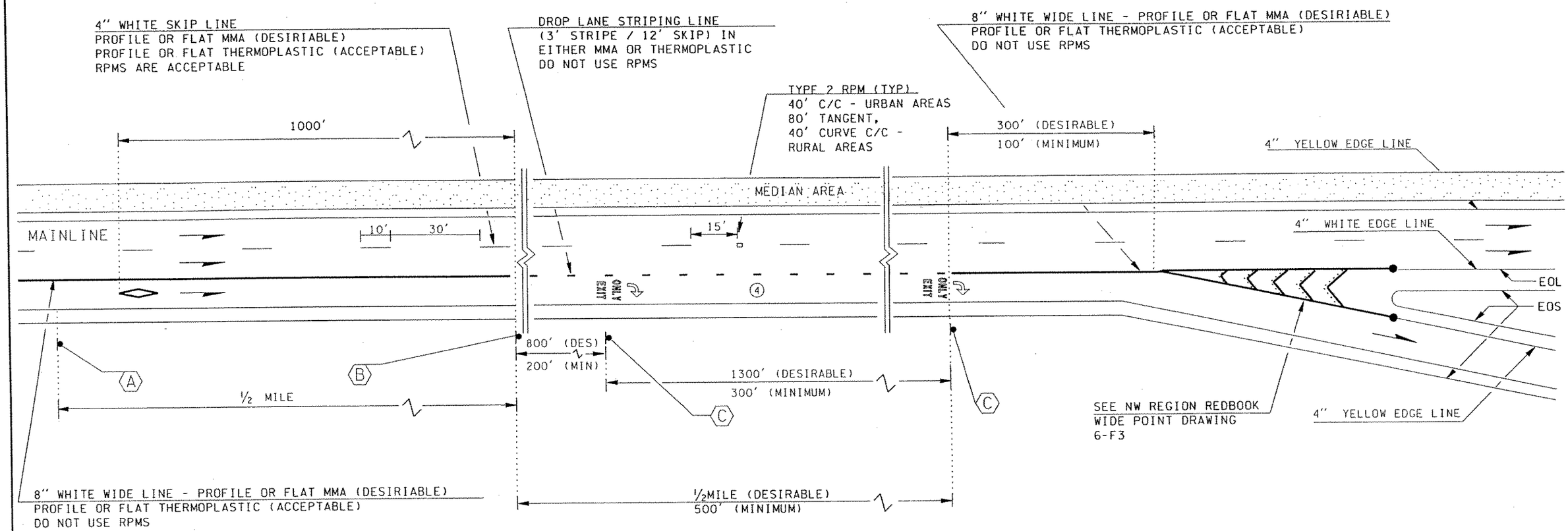
P.E. STAMP BOX DATE

Washington State Department of Transportation

FREEWAY -
TYPICAL LEFT SIDE MID-FREEWAY
END HOV LANE / BEGIN GP LANE
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-F8
SHEET 1 OF 1 SHEETS



A

R3-12 MOD

B

R3-12 MOD

C

R3-701

NOTES:

1. FREEWAY SPACING FOR HOV DIAMOND LANE SYMBOLS TO BE 1000 FT.
2. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
3. HOV LANE SYMBOLS ARE 16 FT. SEE PAGE G-Z2.
4. SEE PAGE G-ID28 FOR LEGEND LAYOUT DETAILS.

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

FILE NAME	J:\Redbook\Section H\freeway-expressway mainline and ramp\Off-ramps\right side HOV drop lane conn\H-f9\H-F9.dgn					
TIME	09:35:53 AM					
DATE	08/30/2002					
DESIGNED BY						
ENTERED BY						
CHECKED BY						
PROJ. ENGR.						
REGIONAL ADM.		REVISION	DATE	BY		

REGION NO.	STATE	FED.AID PROJ.NO.
10	WASH	
JOB NUMBER		
CONTRACT NO.		LOCATION NO.

P.E. STAMP BOX DATE

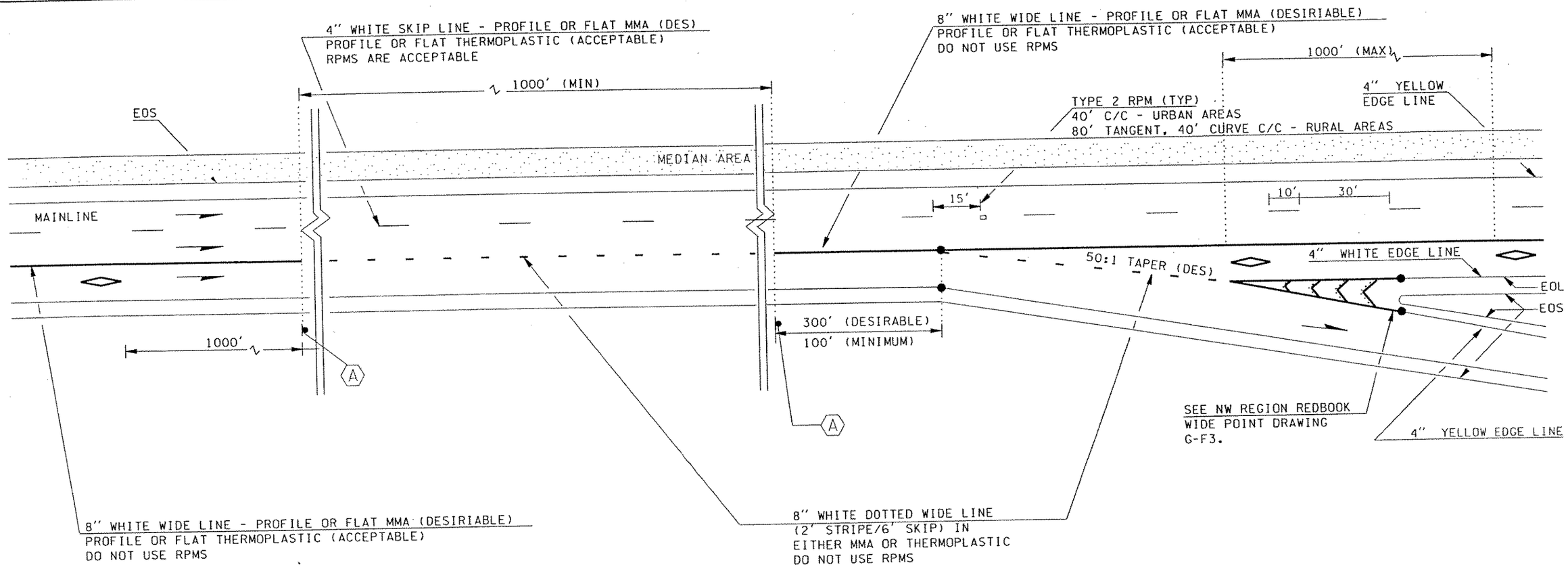
P.E. STAMP BOX DATE

Washington State
Department of Transportation

FREEWAY -
RIGHT SIDE HOV DROP LANE
CONNECTION STRIPING AND SIGNING
LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-F9
SHEET 1 OF 2 SHEETS



A

R3-701 MOD

NOT TO PS&E QUALITY
NOT TO SCALE

WSDOT-NORTHWEST REGION

Approved _____ Date _____
Dave McCormick
Region Traffic Engineer

NOTES:

1. FREEWAY SPACING FOR HOV LANE SYMBOLS TO BE 1000 FT
2. FOR ADDITIONAL STRIPING INFORMATION SEE PAGE G-Z1.
3. HOV LANE SYMBOLS ARE 16 FT. SEE PAGE G-Z2.

FILE NAME	j:\Redbook\Section H\freeway-expressway mainline and ramp\Off-ramps\right side HOV lane carry through conn\H-F10\H-F10.dgn			REGION NO.	STATE	FED.AID PROJ.NO.	
TIME	09:42:12 AM			10	WASH		
DATE	08/30/2002			JOB NUMBER			
DESIGNED BY							
ENTERED BY				CONTRACT NO.		LOCATION NO.	
CHECKED BY							
PROJ. ENGR.							
REGIONAL ADM.		REVISION	DATE	BY			

P.E. STAMP BOX DATE

P.E. STAMP BOX DATE

Washington State
Department of Transportation

FREEWAY -
RIGHT SIDE HOV LANE
CARRY THROUGH AT OFF RAMP CONNECTION
STRIPING AND SIGNING LAYOUT
REV. 2-27-02 JF

NW REGION TRAFFIC OPERATIONS

PLOT1
H-F10
SHEET 2 OF 2 SHEETS