

**LEGEND**

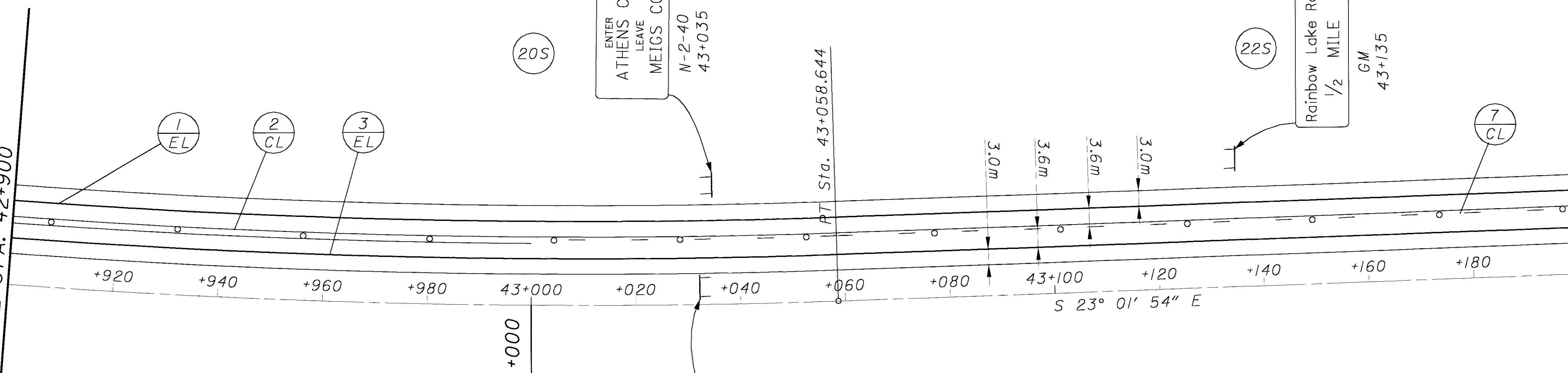
- |                          |                                 |
|--------------------------|---------------------------------|
| (CL) - CENTERLINE        | (TL) - TRANSVERSE LINE (YELLOW) |
| (EL) - EDGE LINE         | (SL) - STOP LINE                |
| (LL) - LANE LINE         | (LA) - LANE ARROW               |
| (CH) - CHANNELIZING LINE | (WP) - WORD ON PAVEMENT "ONLY"  |

- RAISED PAVEMENT MARKERS**
- - 2 WAY REFLECTORS (YELLOW/YELLOW)
  - - 2 WAY REFLECTORS (WHITE/RED)
  - - 1 WAY REFLECTORS (YELLOW)
  - - 1 WAY REFLECTORS (WHITE)

 HORIZONTAL SCALE IN METERS 0 10 20		
CALCULATED: _____ CHECKED: _____ TOW: _____		
SIGNING AND PAVEMENT MARKING PLAN		
ATH-33-40.981		
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600		
949		

02/07/01 PM  
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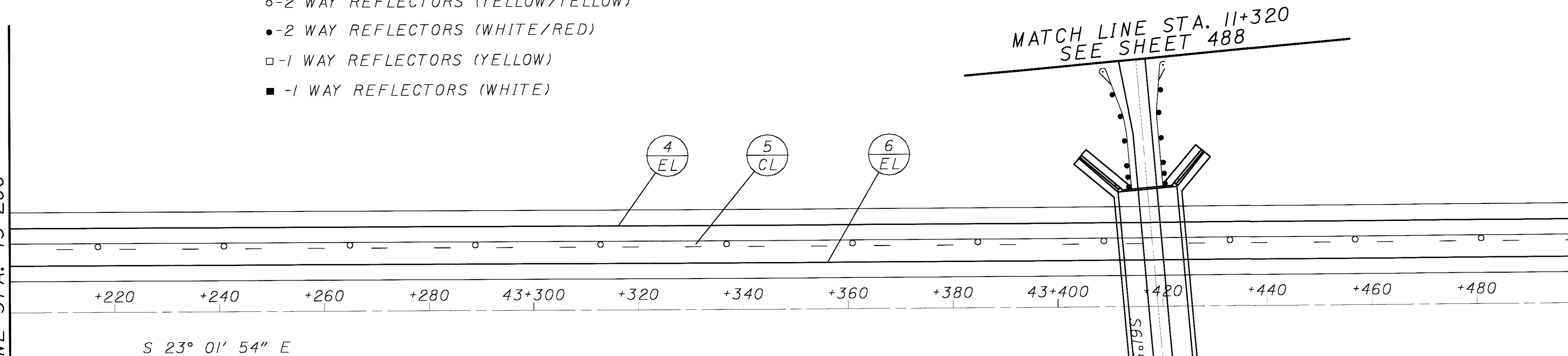
MATCH LINE STA. 42+900



- LEGEND**
- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
| (LL) -LANE LINE         | (LA) -LANE ARROW               |
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  - -2 WAY REFLECTORS (WHITE/RED)
  - -1 WAY REFLECTORS (YELLOW)
  - -1 WAY REFLECTORS (WHITE)

MATCH LINE STA. 43+200

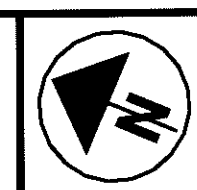


MATCH LINE STA. 43+500

ENTER  
ATHENS CO  
LEAVE  
MEIGS CO  
N-2-40  
43+035

ENTER  
MEIGS CO  
LEAVE  
ATHENS CO  
N-2-40  
43+032

Rainbow Lake Rd.  
1/2 MILE  
GM  
43+135



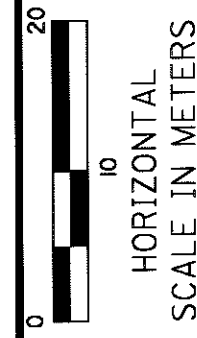
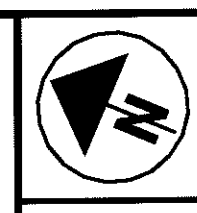
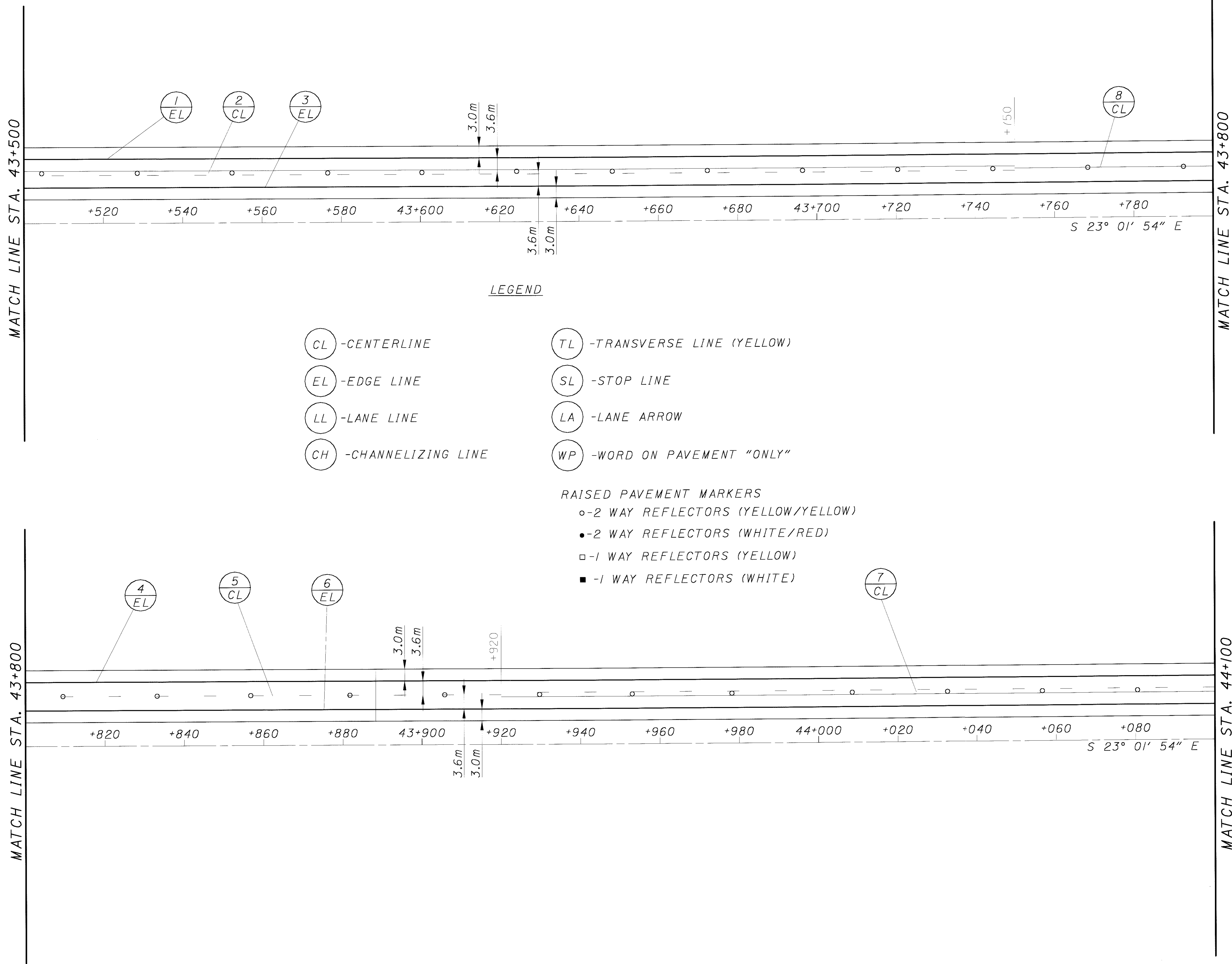
0 10 20  
 HORIZONTAL  
 SCALE IN METERS

CALCULATED  
BDD  
CHECKED  
TDW

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**

601  
949

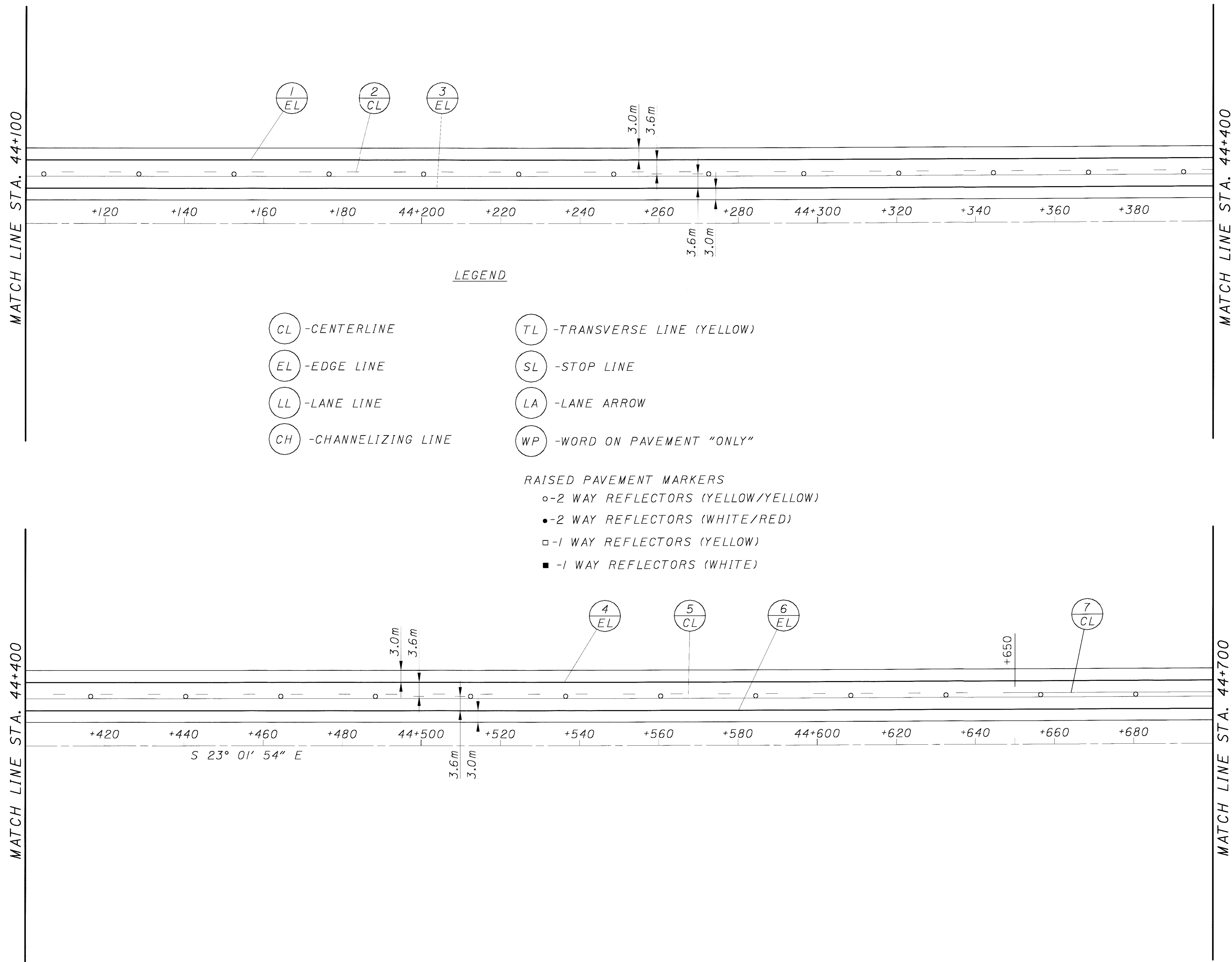


CALCULATED  
 BBD  
 CHECKED  
 TDW

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**

602  
 949

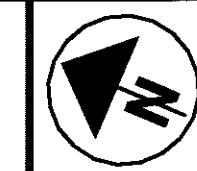


LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
| (LL) -LANE LINE         | (LA) -LANE ARROW               |
| (CH) -CHANNELIZING LINE | (WP) -WORD ON PAVEMENT "ONLY"  |

RAISED PAVEMENT MARKERS

- -2 WAY REFLECTORS (YELLOW/YELLOW)
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- -1 WAY REFLECTORS (YELLOW)
- -1 WAY REFLECTORS (WHITE)

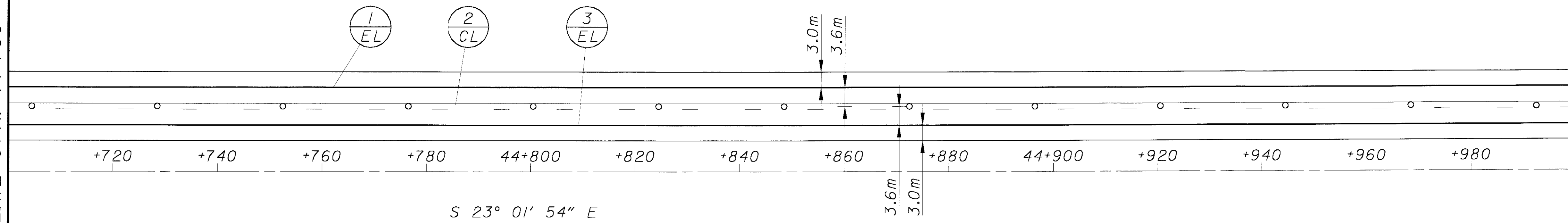


CALCULATED	BRD
CHECKED	TOW

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**

MATCH LINE STA. 44+700



MATCH LINE STA. 45+000

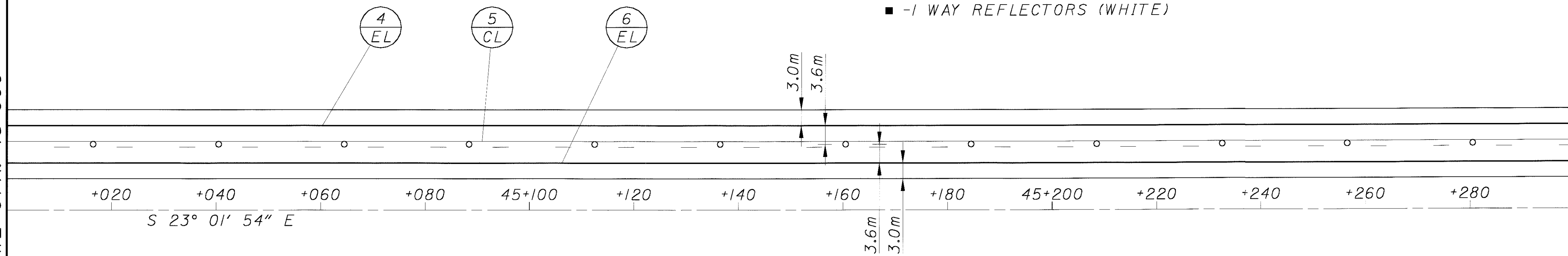
LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
| (LL) -LANE LINE         | (LA) -LANE ARROW               |
| (CH) -CHANNELIZING LINE | (WP) -WORD ON PAVEMENT "ONLY"  |

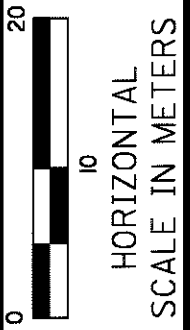
RAISED PAVEMENT MARKERS

- -2 WAY REFLECTORS (YELLOW/YELLOW)
- -2 WAY REFLECTORS (WHITE/RED)
- -1 WAY REFLECTORS (YELLOW)
- -1 WAY REFLECTORS (WHITE)

MATCH LINE STA. 45+000



MATCH LINE STA. 45+300

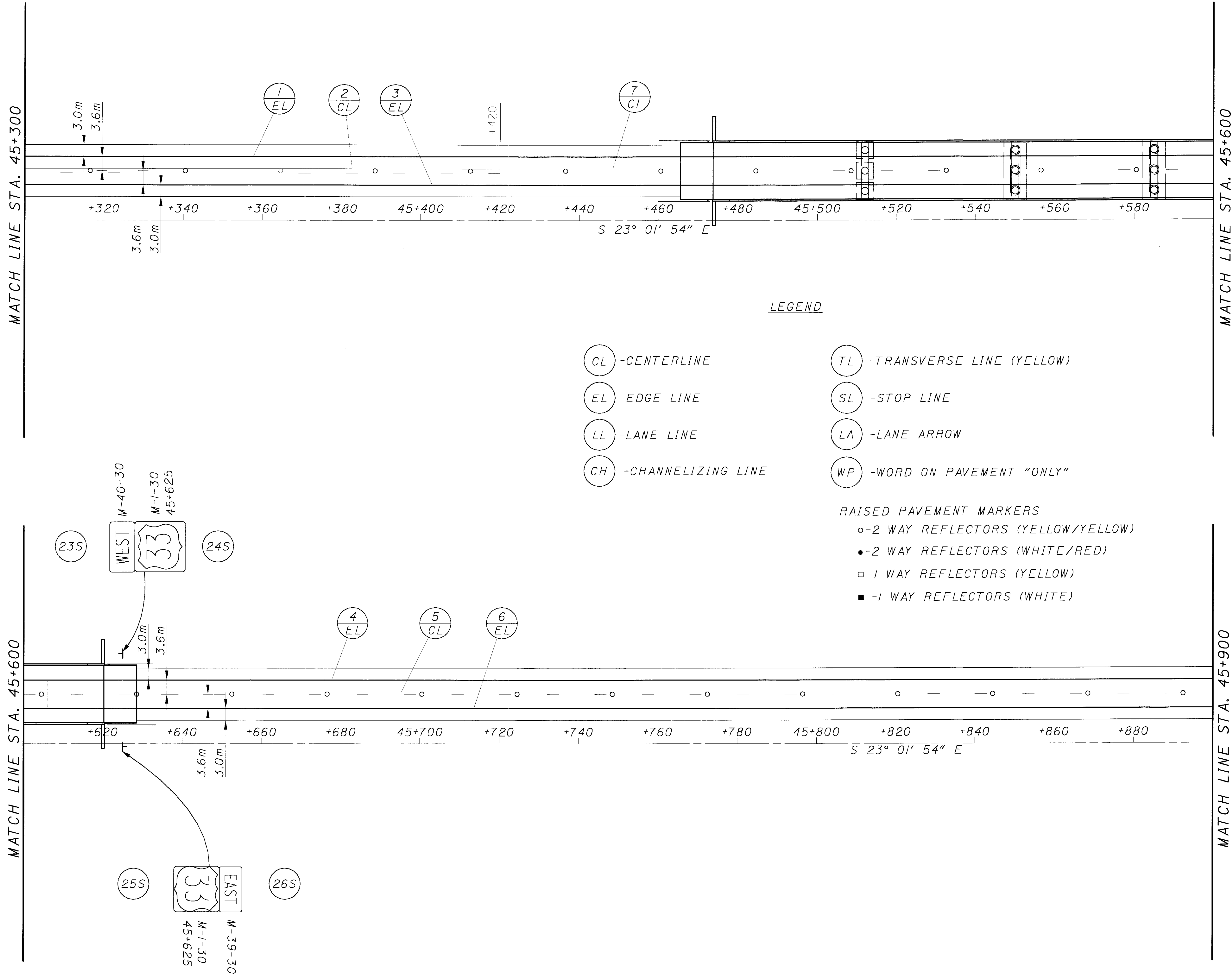


CALCULATED  
 BBG  
 CHECKED  
 TOW

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**

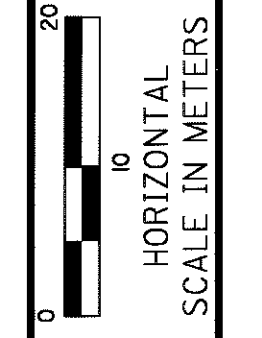
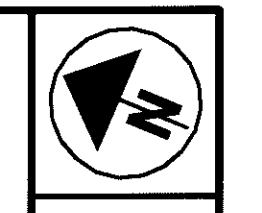
604  
 949



LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
| (LL) -LANE LINE         | (LA) -LANE ARROW               |
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- -2 WAY REFLECTORS (YELLOW/YELLOW)
  - -2 WAY REFLECTORS (WHITE/RED)
  - -1 WAY REFLECTORS (YELLOW)
  - -1 WAY REFLECTORS (WHITE)

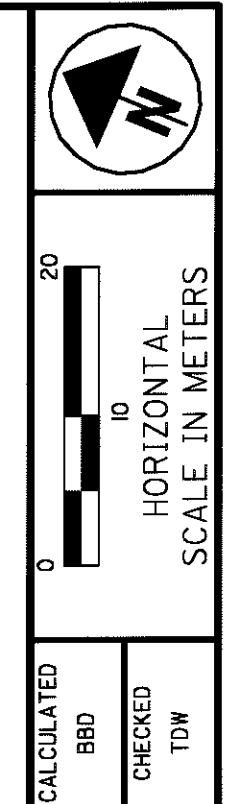
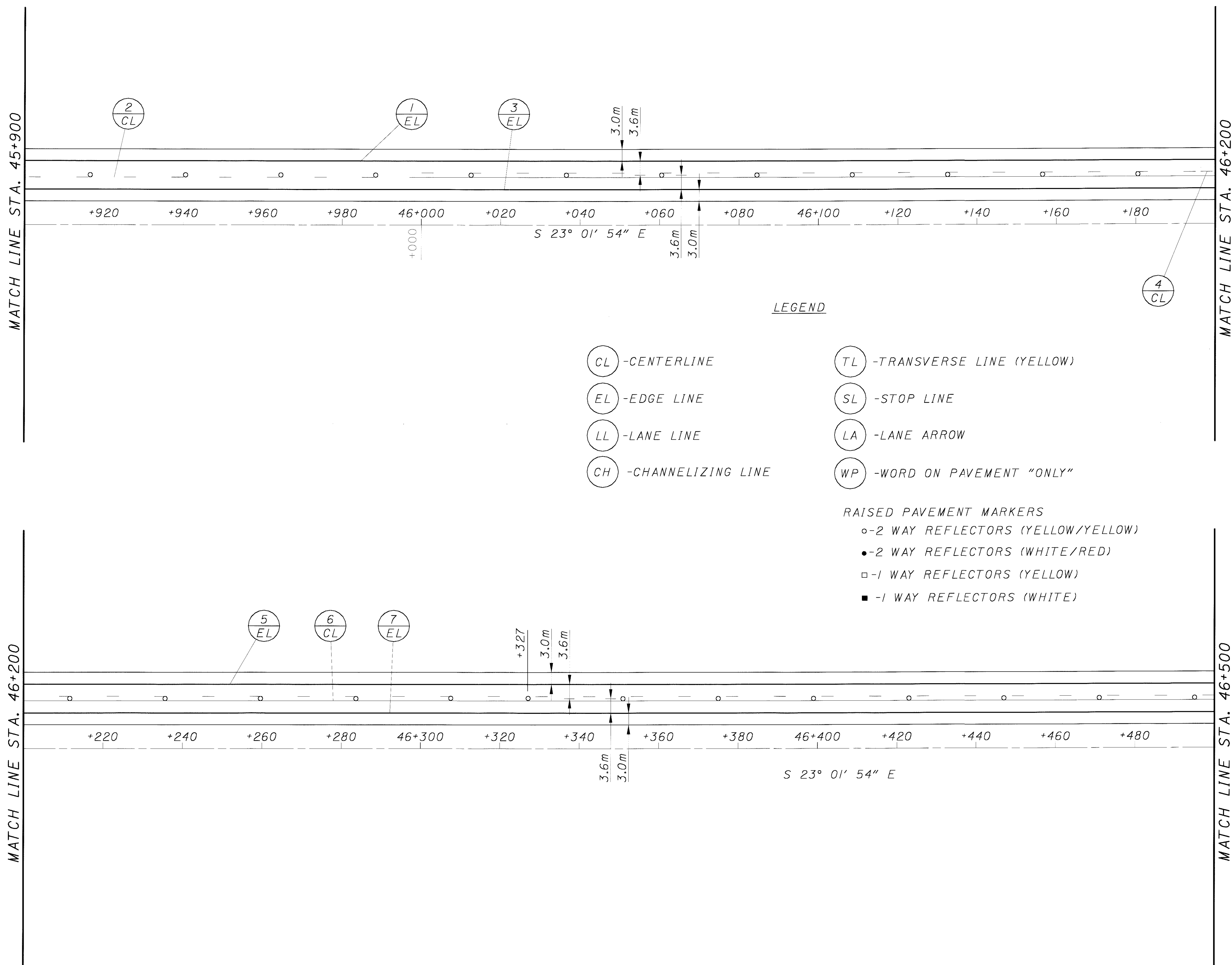


CALCULATED	BRD
CHECKED	TDW

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**

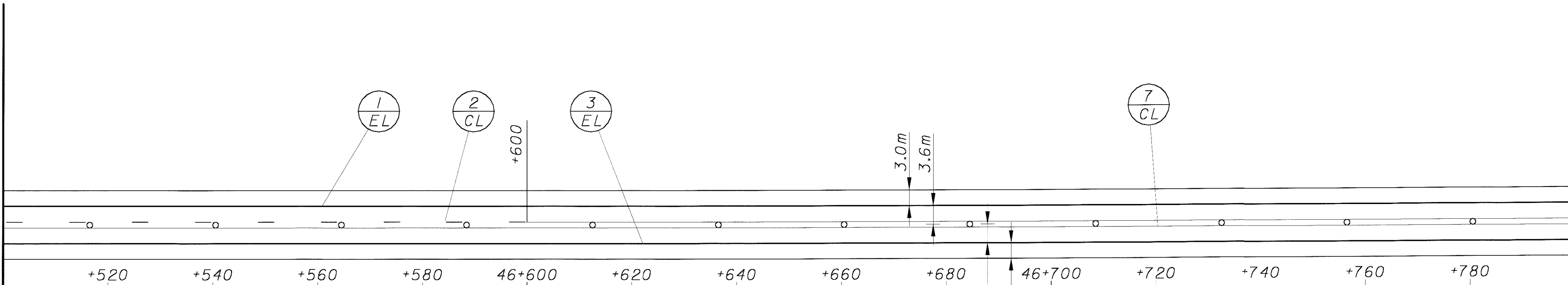
605  
949



**SIGNING AND PAVEMENT MARKING PLAN**

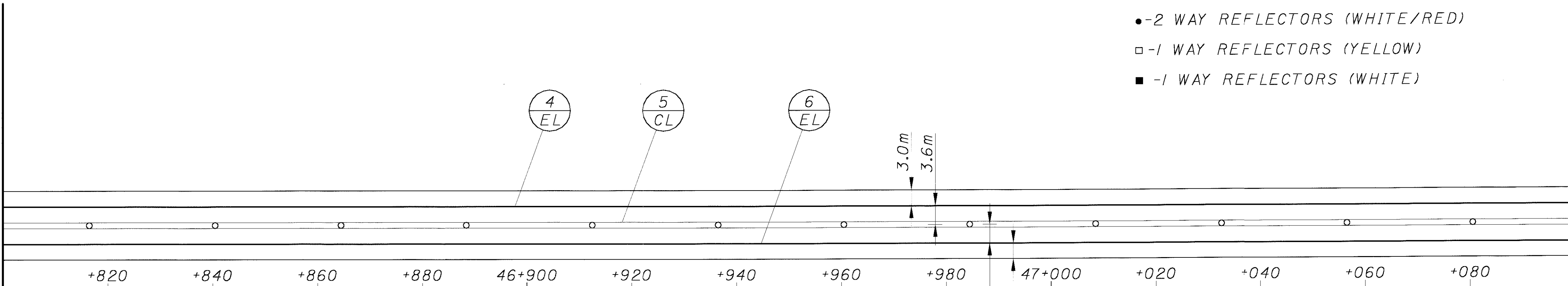
**ATH-33-40.981**

MATCH LINE STA. 46+500



MATCH LINE STA. 46+800

MATCH LINE STA. 46+800



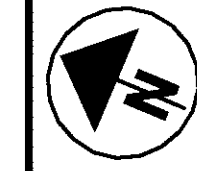
MATCH LINE STA. 47+100

LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
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RAISED PAVEMENT MARKERS

- -2 WAY REFLECTORS (YELLOW/YELLOW)
- -2 WAY REFLECTORS (WHITE/RED)
- -1 WAY REFLECTORS (YELLOW)
- -1 WAY REFLECTORS (WHITE)

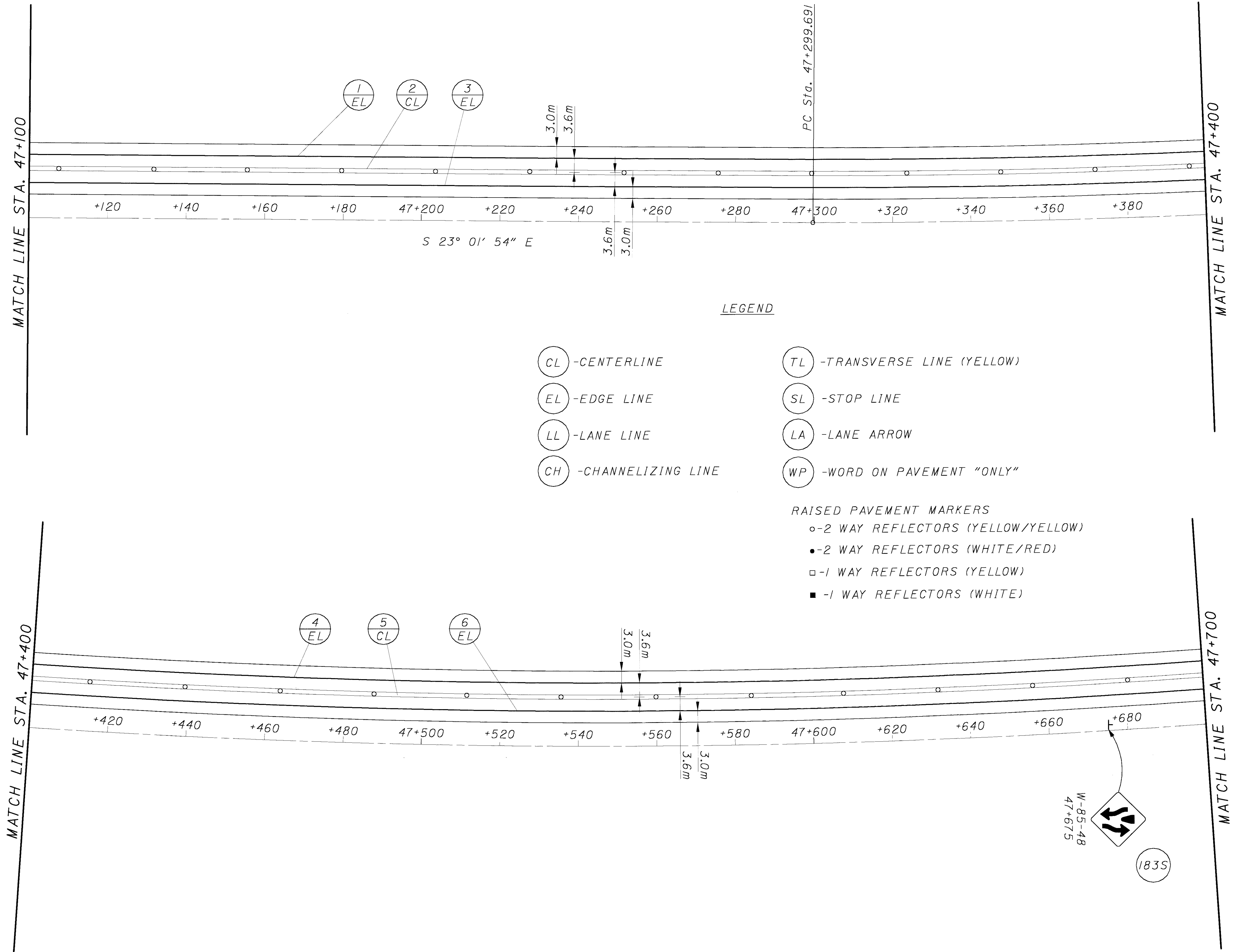


CALCULATED	BDD
CHECKED	TDW

SIGNING AND PAVEMENT MARKING PLAN

ATH-33-40.981

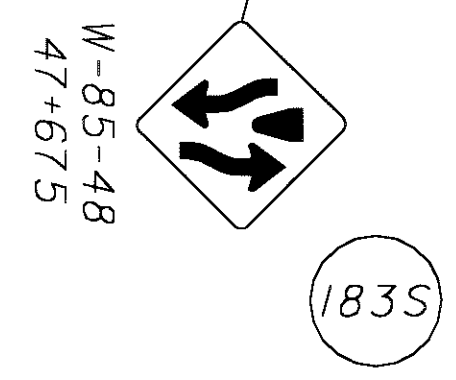




LEGEND

- (CL) - CENTERLINE
- (EL) - EDGE LINE
- (LL) - LANE LINE
- (CH) - CHANNELIZING LINE
- (TL) - TRANSVERSE LINE (YELLOW)
- (SL) - STOP LINE
- (LA) - LANE ARROW
- (WP) - WORD ON PAVEMENT "ONLY"

- RAISED PAVEMENT MARKERS
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  - - 1 WAY REFLECTORS (WHITE)

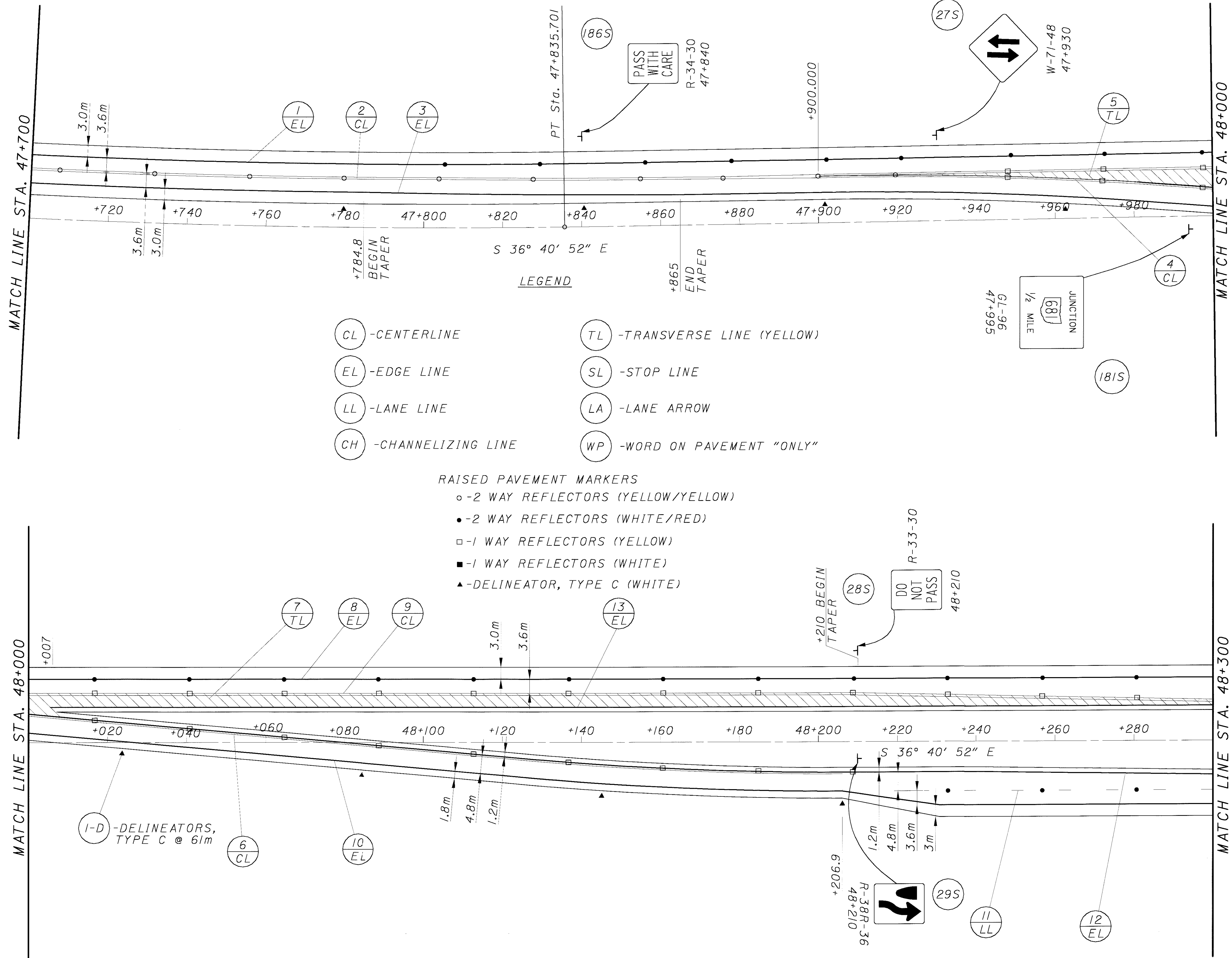


CALCULATED  
BDD  
CHECKED  
TOW

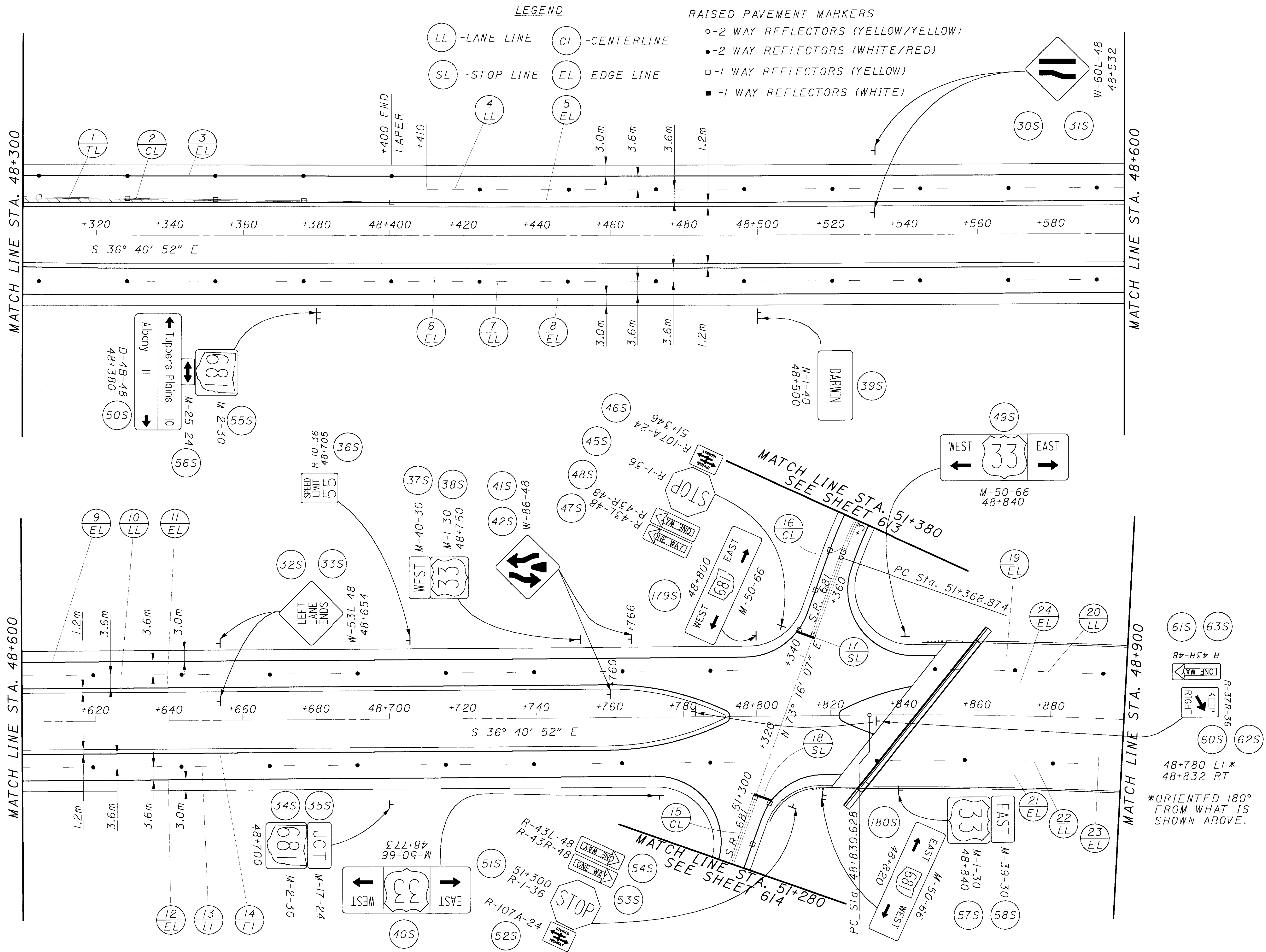
HORIZONTAL SCALE IN METERS

SIGNING AND PAVEMENT MARKING PLAN

ATH-33-40.981



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**LEGEND**

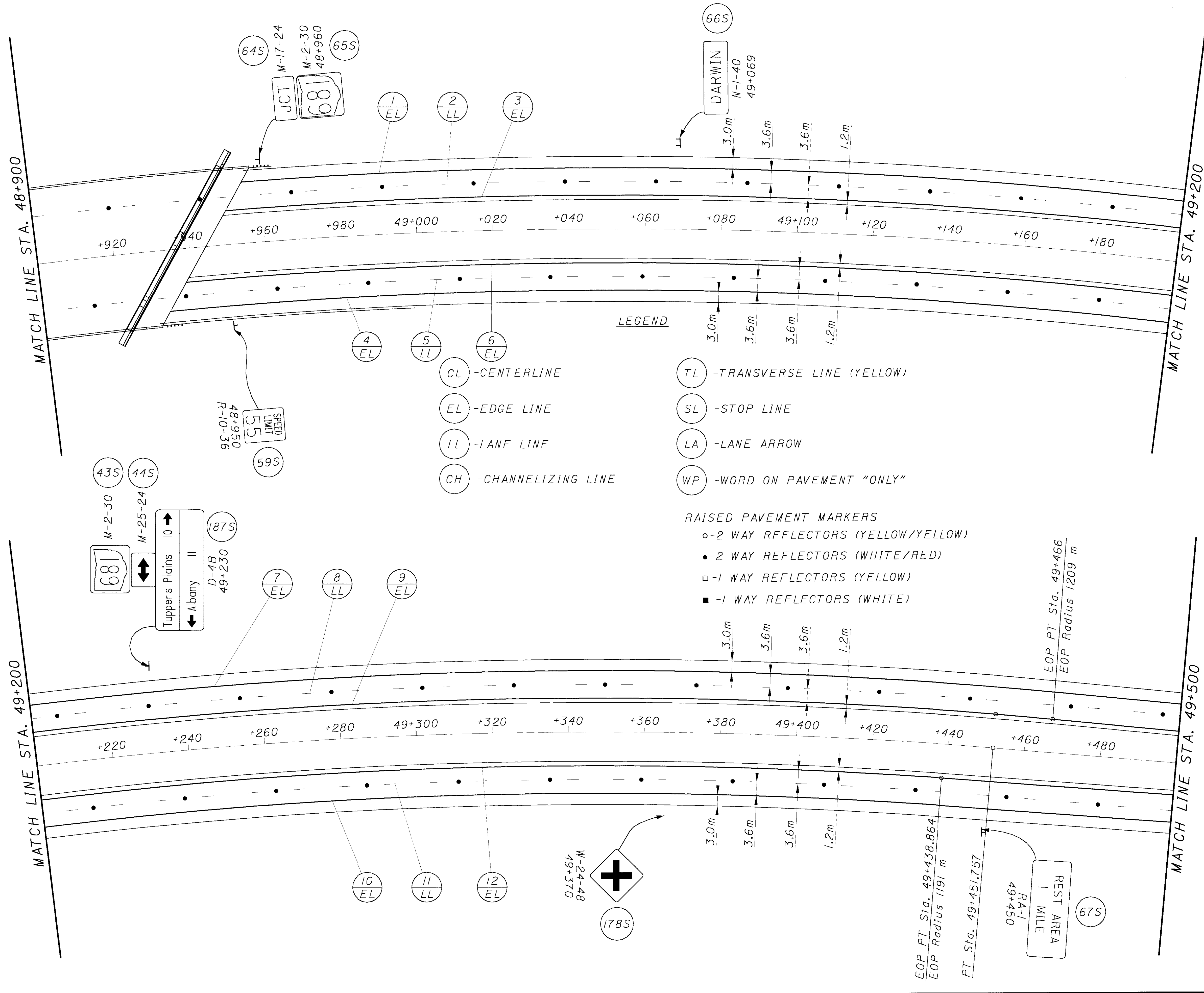
- LL -LANE LINE
- CL -CENTERLINE
- SL -STOP LINE
- EL -EDGE LINE

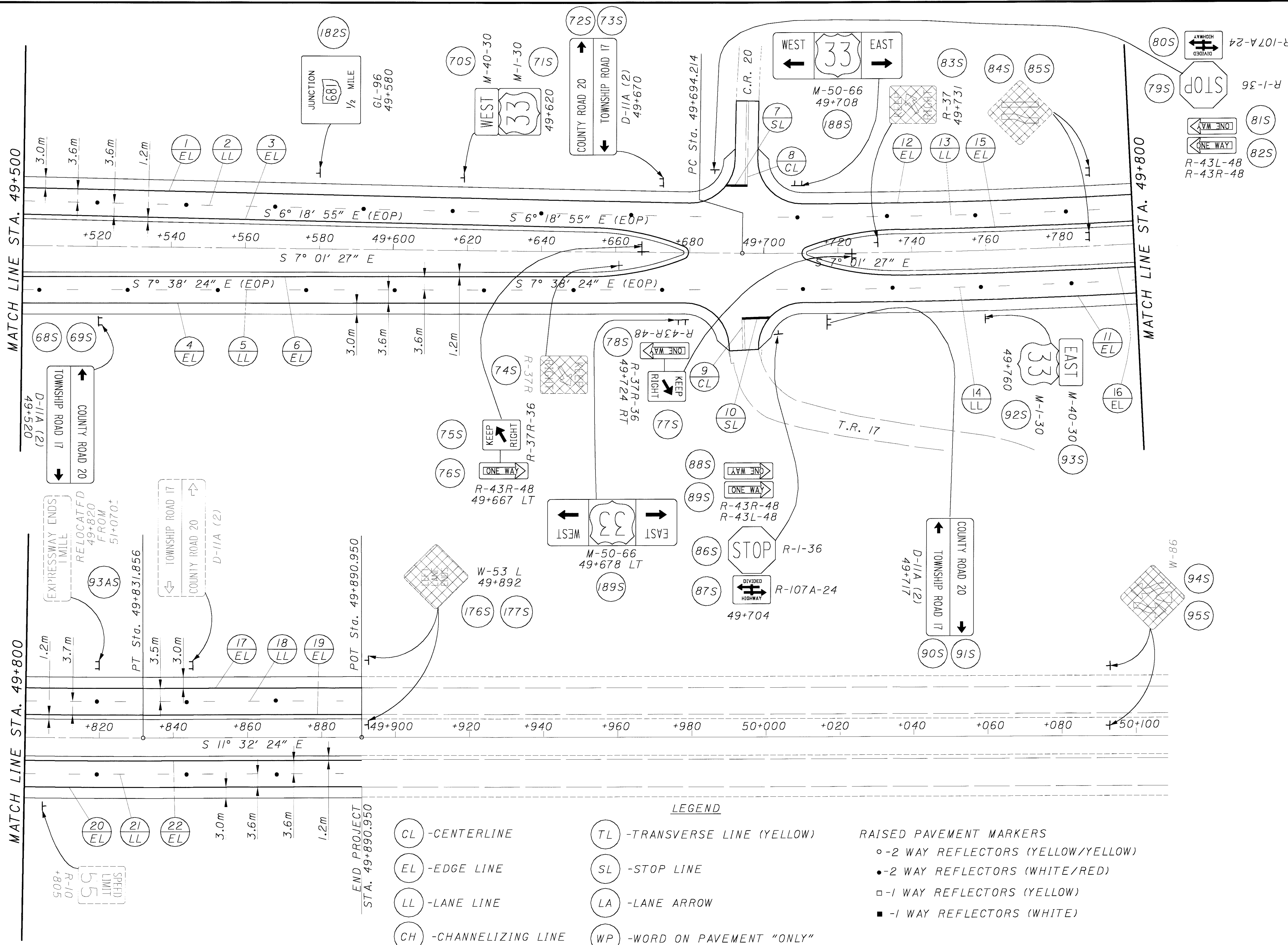
**RAISED PAVEMENT MARKERS**

- -2 WAY REFLECTORS (YELLOW/YELLOW)
- -2 WAY REFLECTORS (WHITE/RED)
- -1 WAY REFLECTORS (YELLOW)
- -1 WAY REFLECTORS (WHITE)

<p>HORIZONTAL SCALE IN METERS</p>		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">CALCULATED BBD</td> <td style="width: 50%; text-align: center;">CHECKED TOW</td> </tr> </table>	CALCULATED BBD	CHECKED TOW
CALCULATED BBD	CHECKED TOW	
SIGNING AND PAVEMENT MARKING PLAN		
ATH-33-40.981		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center;">610</td> <td style="width: 50%; text-align: center;">949</td> </tr> </table>	610	949
610	949	

48+780 LT\*  
 48+832 RT  
 \*ORIENTED 180°  
 FROM WHAT IS  
 SHOWN ABOVE.





MATCH LINE STA. 49+500

MATCH LINE STA. 49+800

MATCH LINE STA. 49+800

END PROJECT  
STA. 49+890.950

- LEGEND**
- CL - CENTERLINE
  - EL - EDGE LINE
  - LL - LANE LINE
  - CH - CHANNELIZING LINE
  - TL - TRANSVERSE LINE (YELLOW)
  - SL - STOP LINE
  - LA - LANE ARROW
  - WP - WORD ON PAVEMENT "ONLY"

- RAISED PAVEMENT MARKERS**
- - 2 WAY REFLECTORS (YELLOW/YELLOW)
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  - - 1 WAY REFLECTORS (YELLOW)
  - - 1 WAY REFLECTORS (WHITE)

CALCULATED  
BRD  
CHECKED  
TOW

0 10 20  
HORIZONTAL  
SCALE IN METERS

**SIGNING AND PAVEMENT MARKING PLAN**

**ATH-33-40.981**



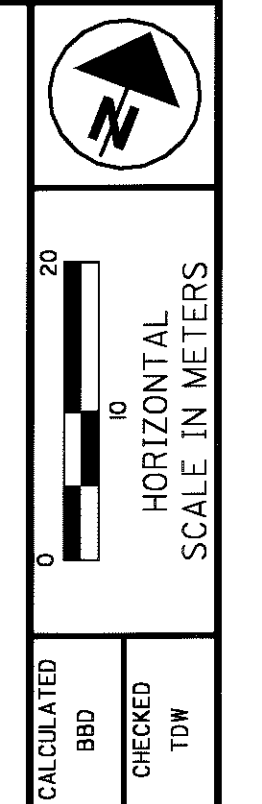
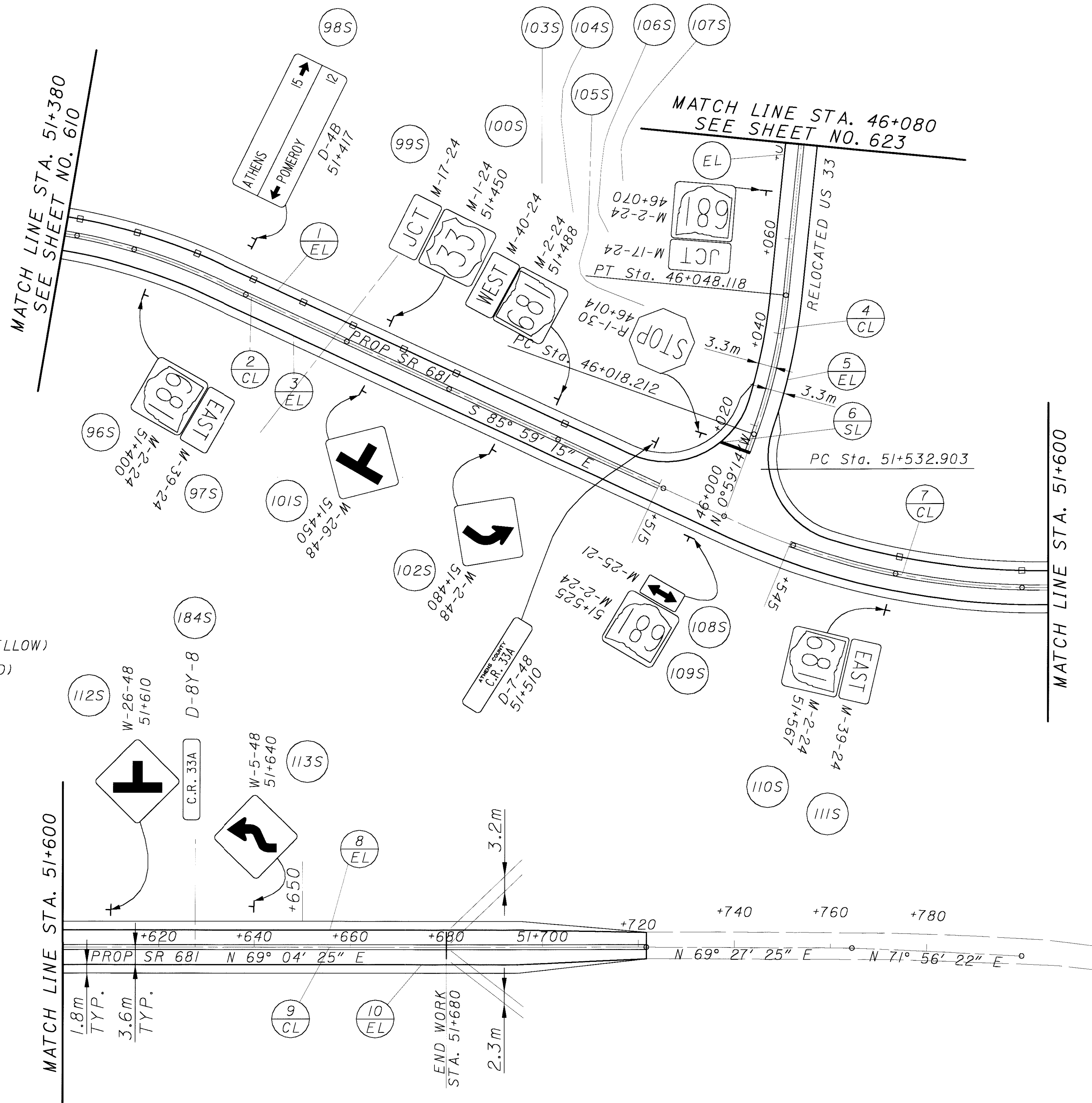
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**LEGEND**

- CL -CENTERLINE
- EL -EDGE LINE
- LL -LANE LINE
- CH -CHANNELIZING LINE
  
- TL -TRANSVERSE LINE (YELLOW)
- SL -STOP LINE
- LA -LANE ARROW
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**RAISED PAVEMENT MARKERS**

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**SIGNING AND PAVEMENT MARKING PLAN  
STATE ROUTE 681**

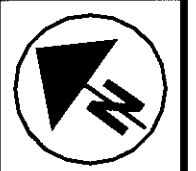
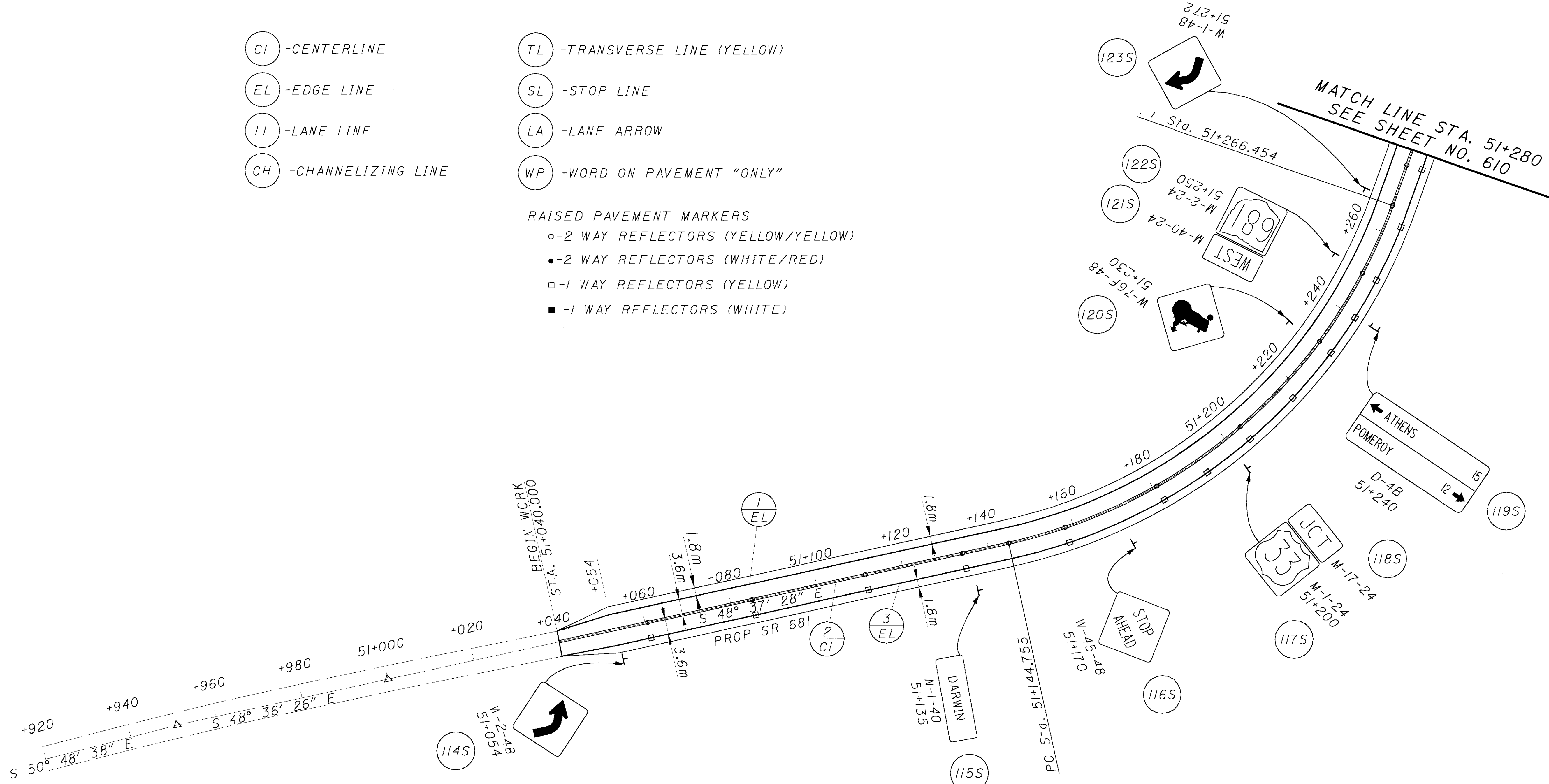
**ATH-33-40.981**

613  
949

LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
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  - -1 WAY REFLECTORS (WHITE)



CALCULATED BBD CHECKED TDW

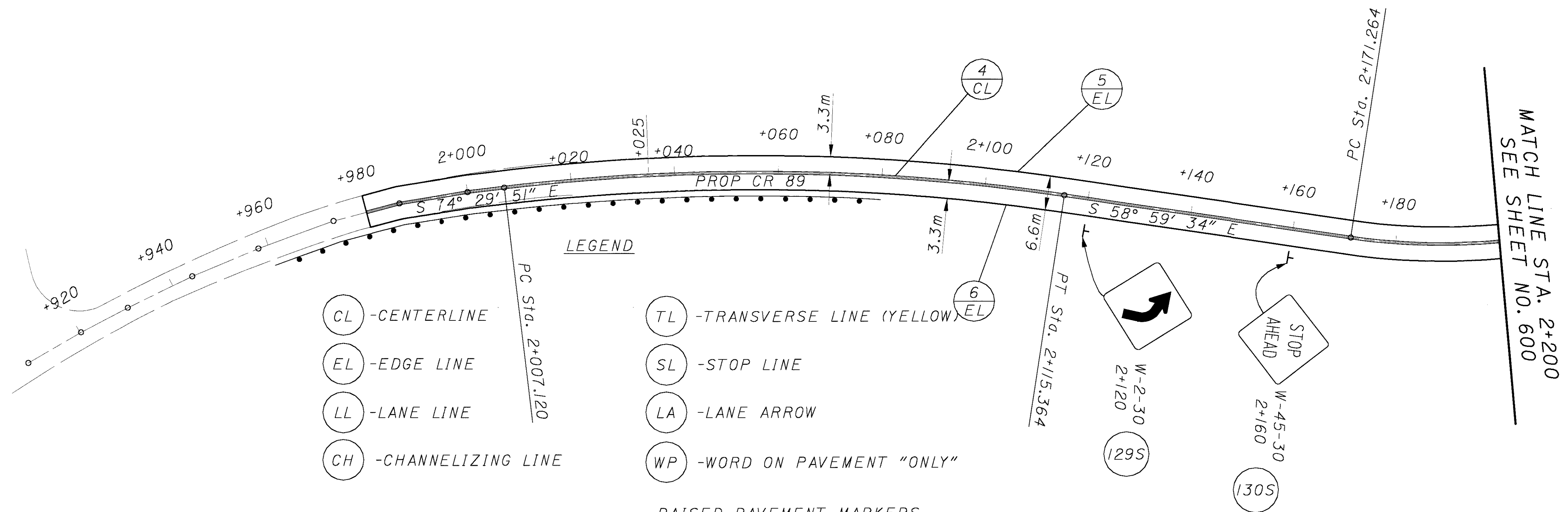
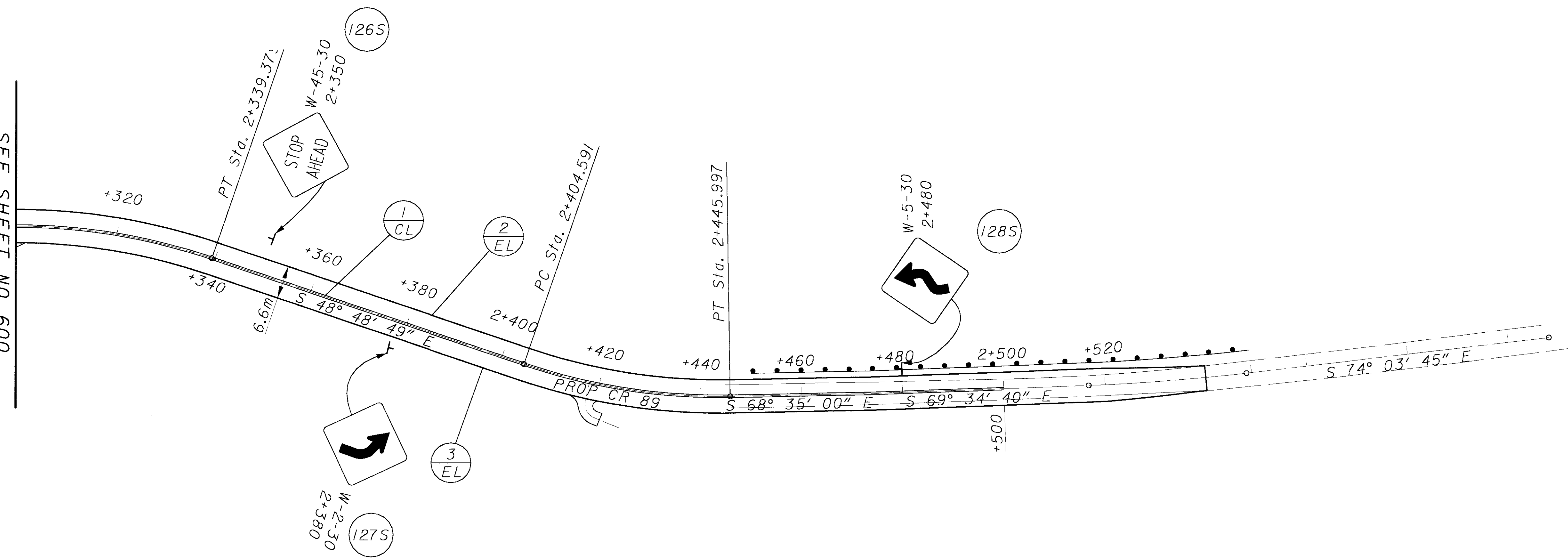
**SIGNING AND PAVEMENT MARKING PLAN  
STATE ROUTE 681**

**ATH-33-40.981**

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SEE SHEET NO. 600  
MATCH LINE STA. 2+300



LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
| (EL) -EDGE LINE         | (SL) -STOP LINE                |
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- -1 WAY REFLECTORS (WHITE)

MATCH LINE STA. 2+200  
SEE SHEET NO. 600



0 10 20  
HORIZONTAL  
SCALE IN METERS

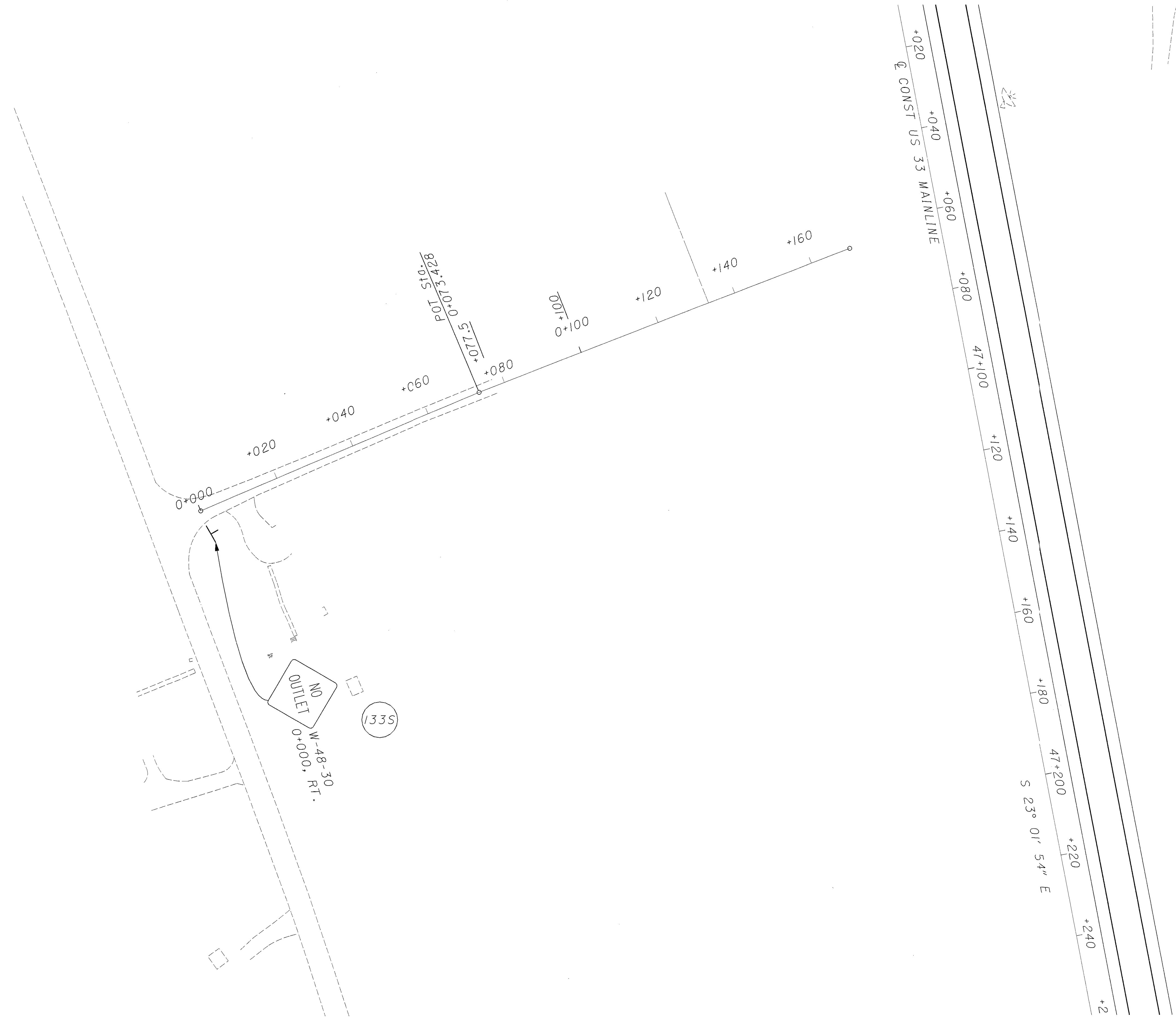
CALCULATED  
BDD  
CHECKED  
TDW


SIGNING AND PAVEMENT MARKING PLAN  
COUNTY ROAD 89 (ATHENS CO.)

ATH-33-40.981

615  
949



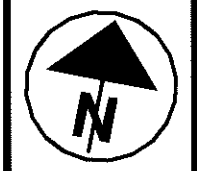
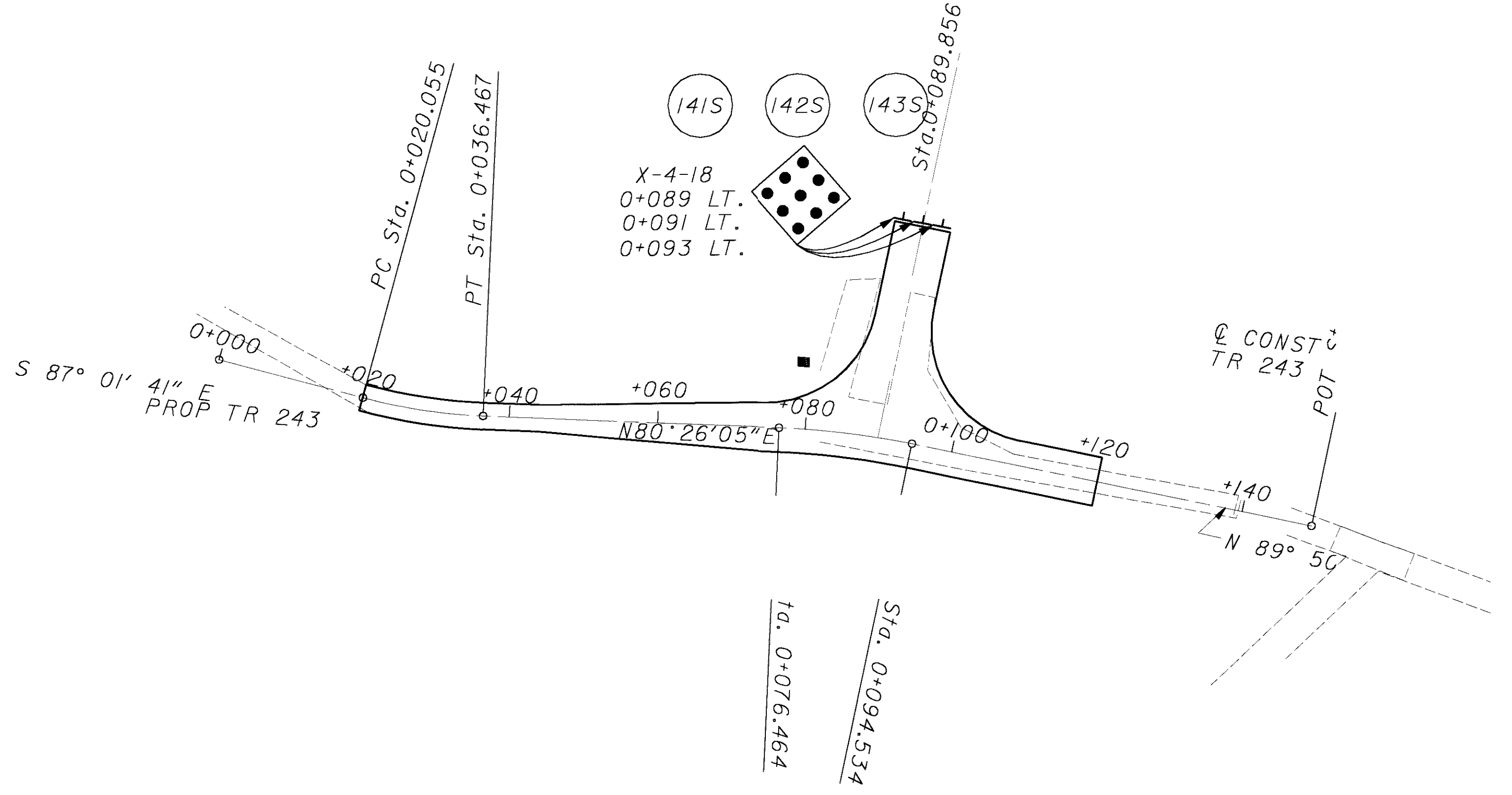
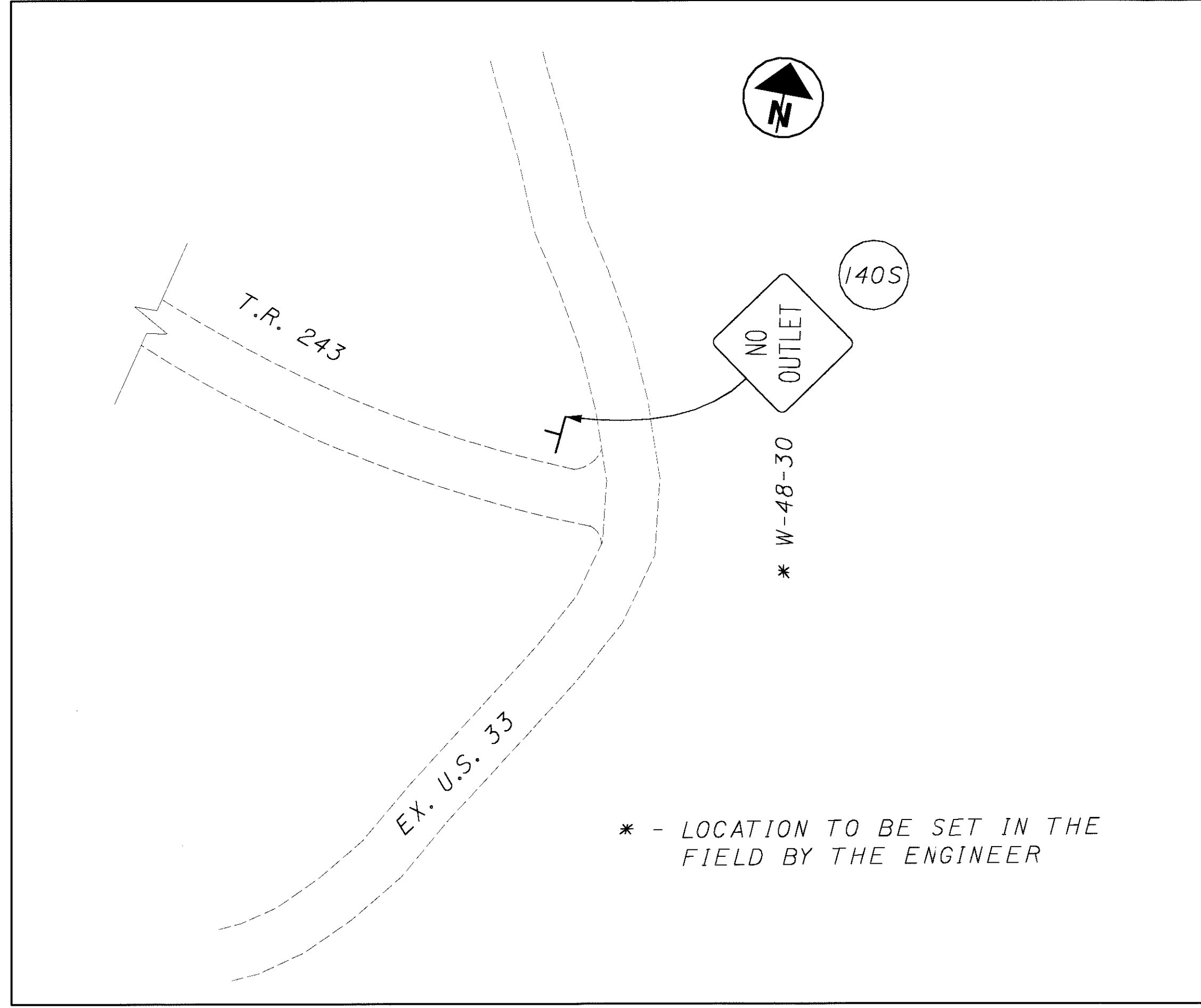


 HORIZONTAL SCALE IN METERS	CALCULATED
	BBG CHECKED JBY

**SIGNING AND PAVEMENT MARKING PLAN**  
**TWP. ROAD 243 (BEDFORD TWP., MEIGS CO.)**

**ATH-33-40.981**

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0 10 20  
 HORIZONTAL  
 SCALE IN METERS

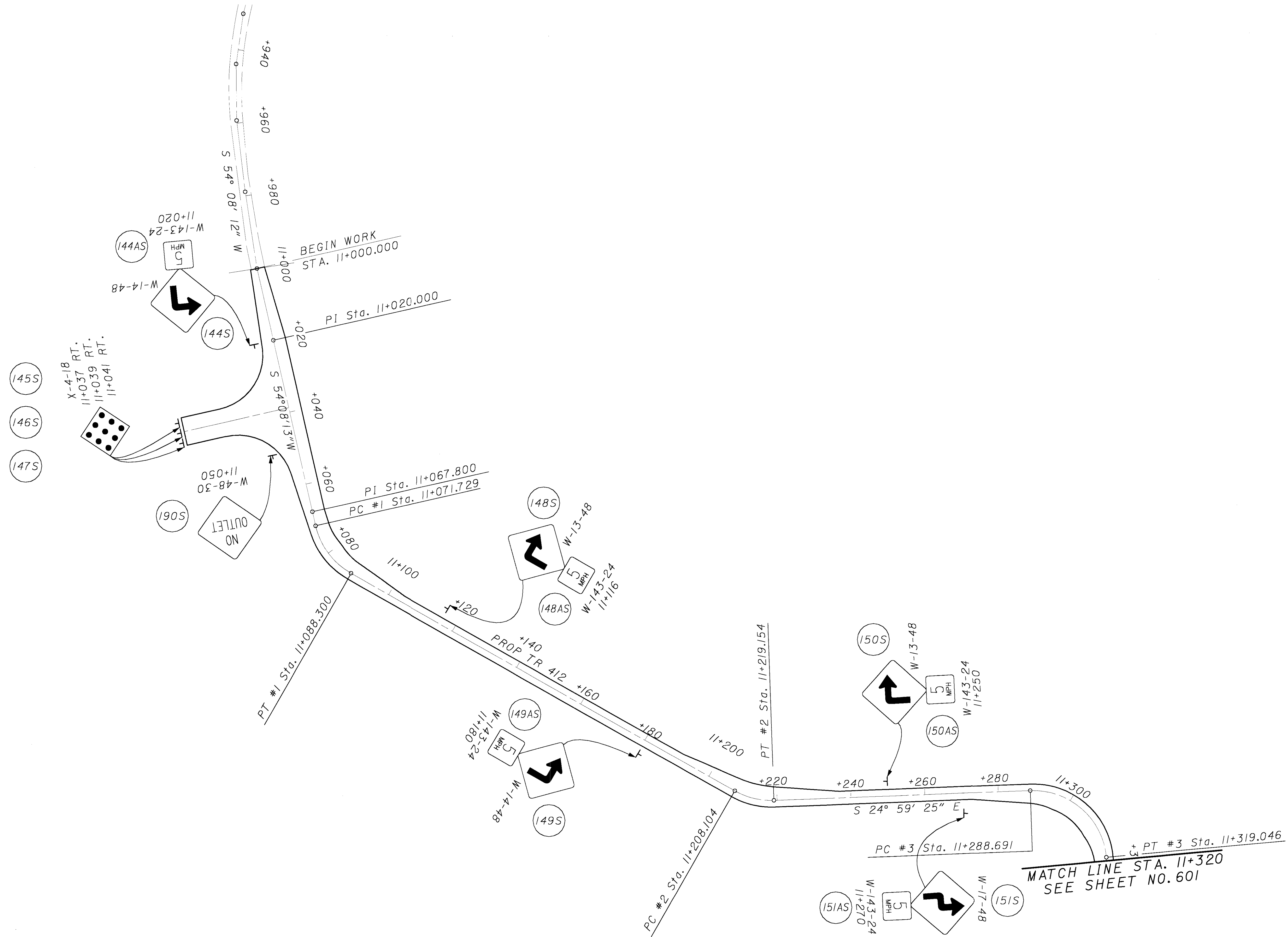
CALCULATED  
 BDD  
 CHECKED  
 TDW

**SIGNING AND PAVEMENT MARKING PLAN  
 TWP. ROAD 243 (BEDFORD TWP., MEIGS CO.)**

**ATH-33-40.981**

617  
 949

02/07/01  
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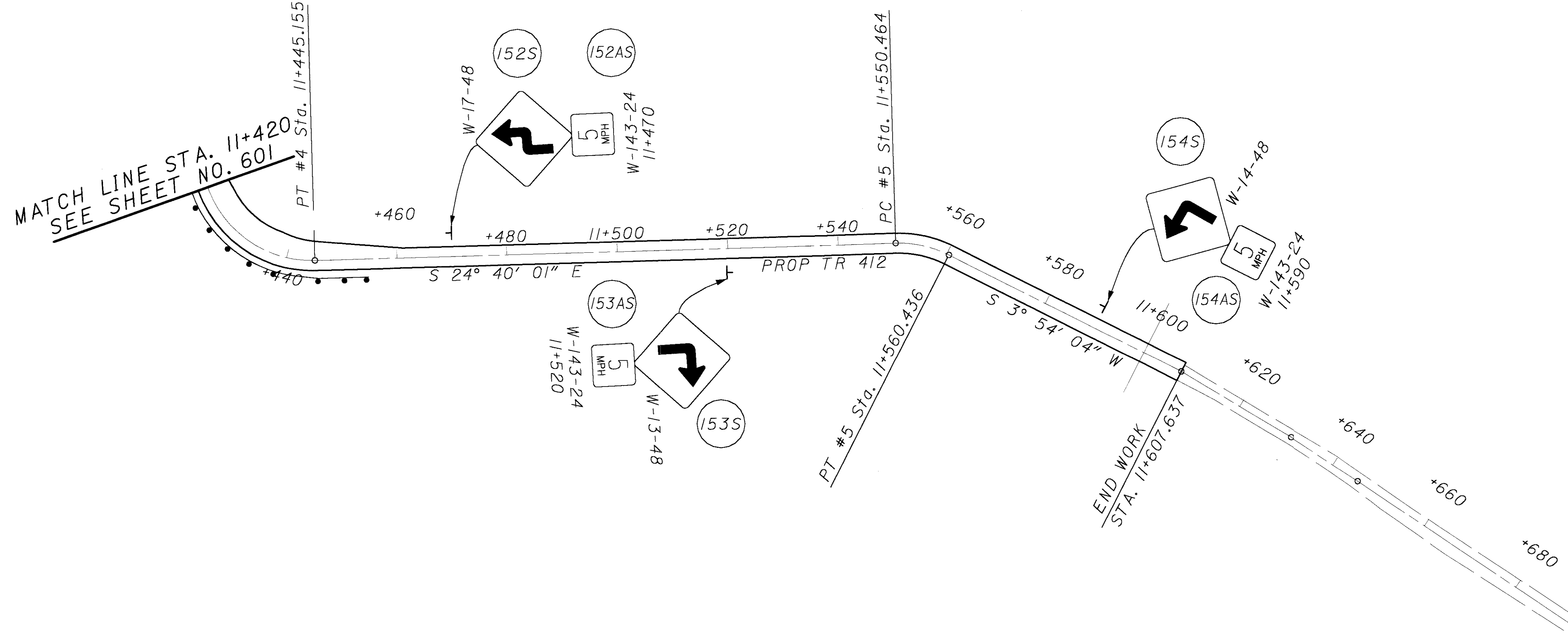


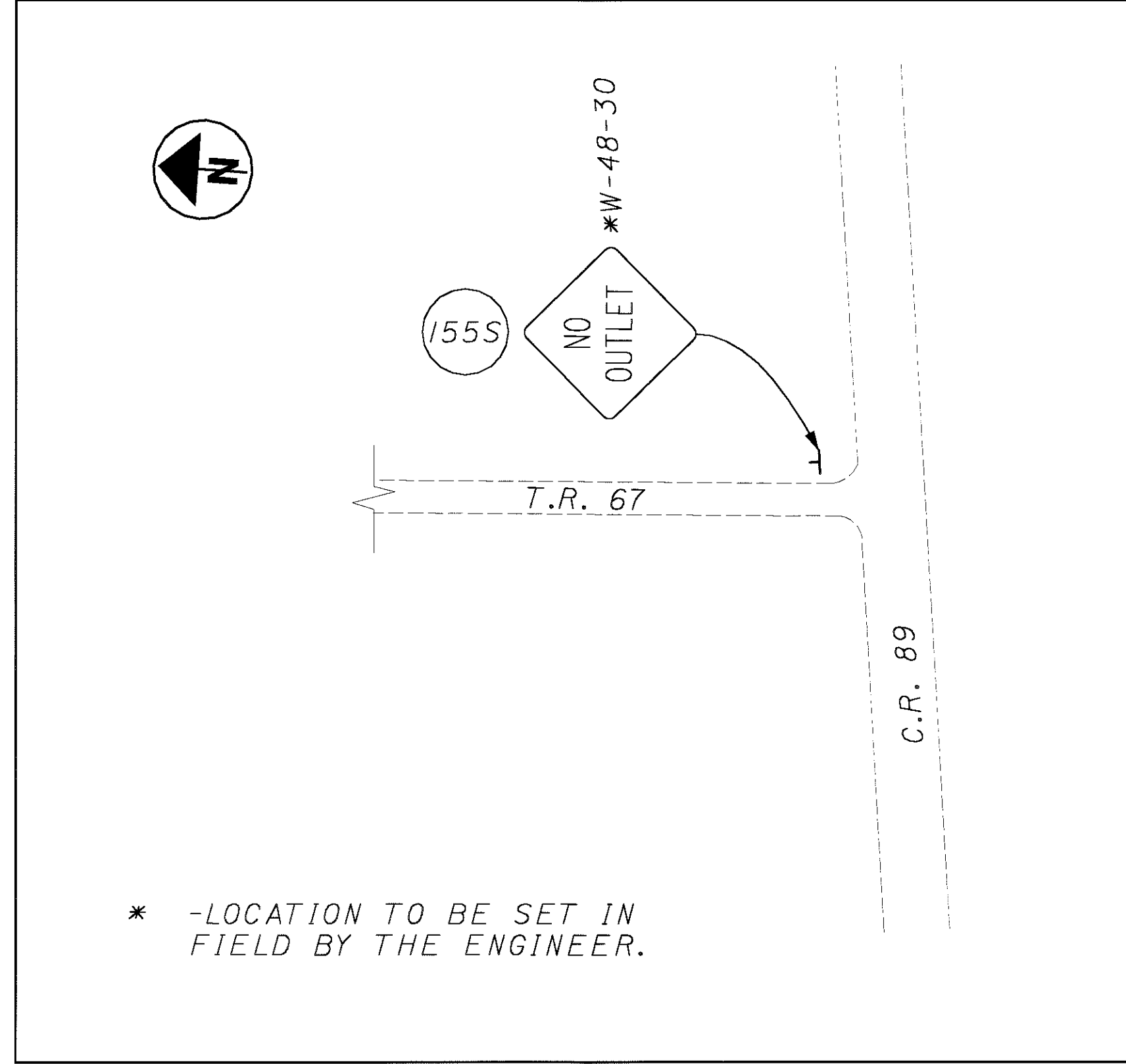
CALCULATED	BDD	CHECKED	TDM

0 10 20  
HORIZONTAL  
SCALE IN METERS

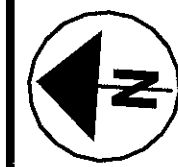
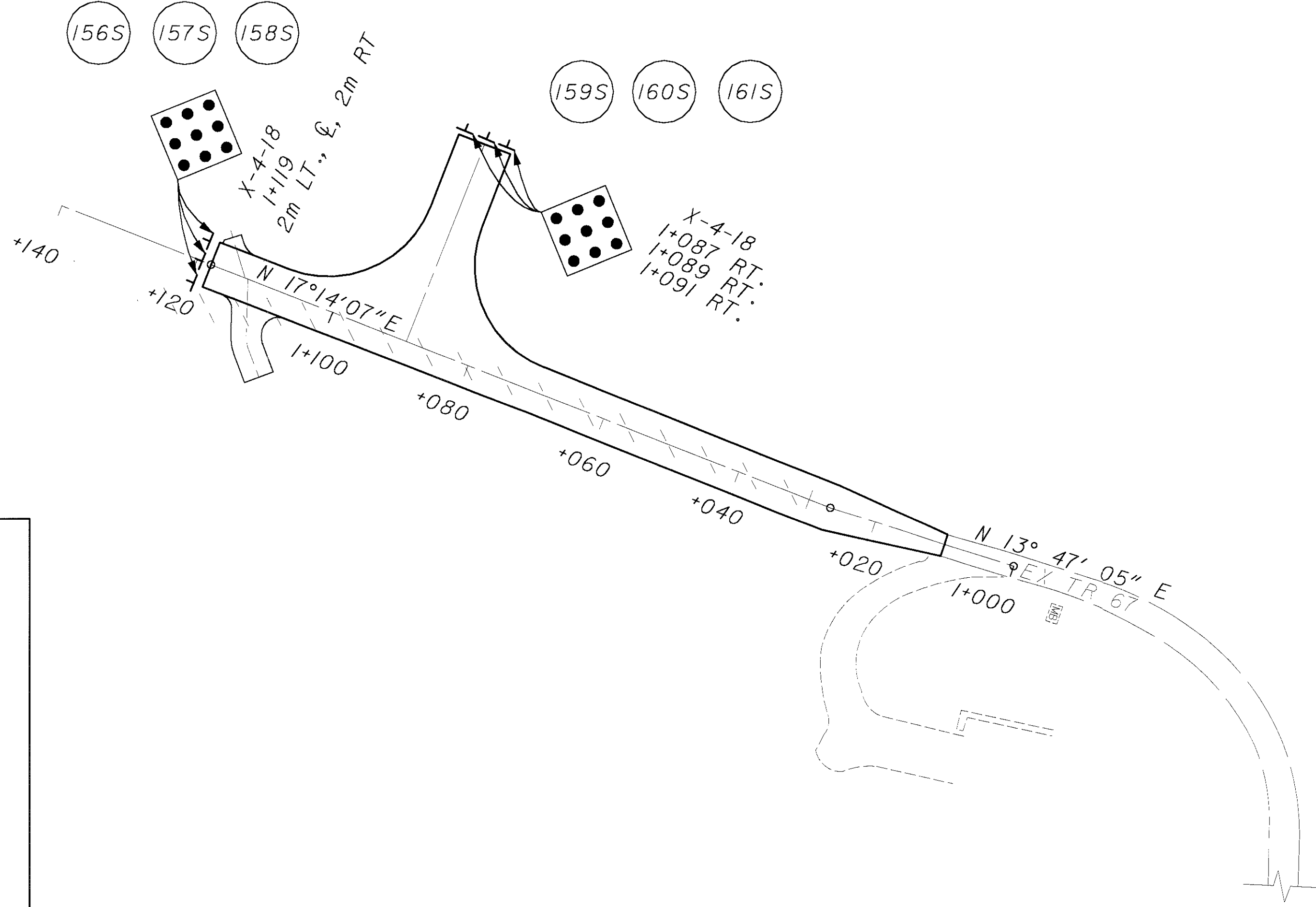
**SIGNING AND PAVEMENT MARKING PLAN**  
**TWP. ROAD 412 (BEDFORD TWP., MEIGS CO.)**

**ATH-33-40.981**





\* -LOCATION TO BE SET IN FIELD BY THE ENGINEER.



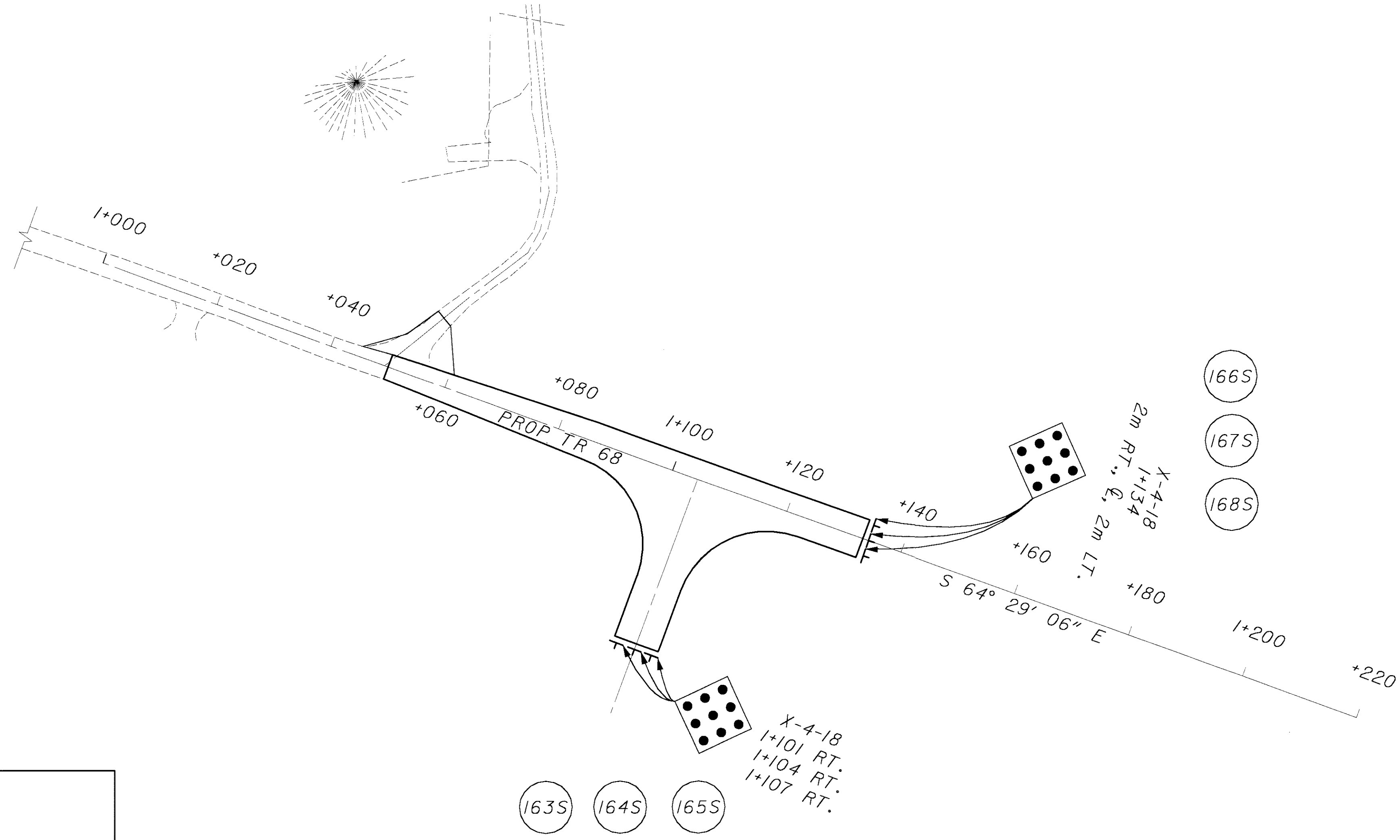
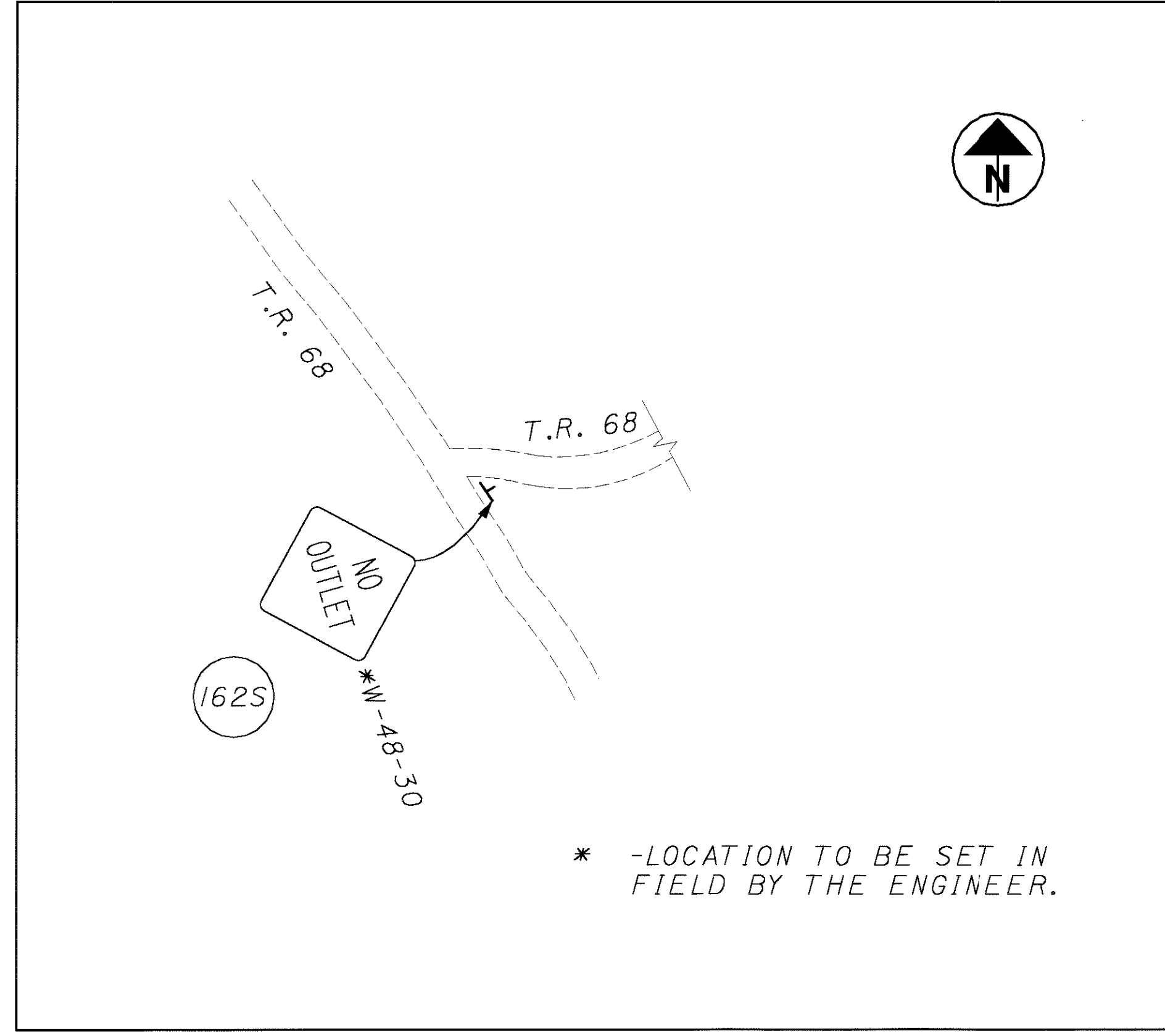
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HORIZONTAL  
SCALE IN METERS

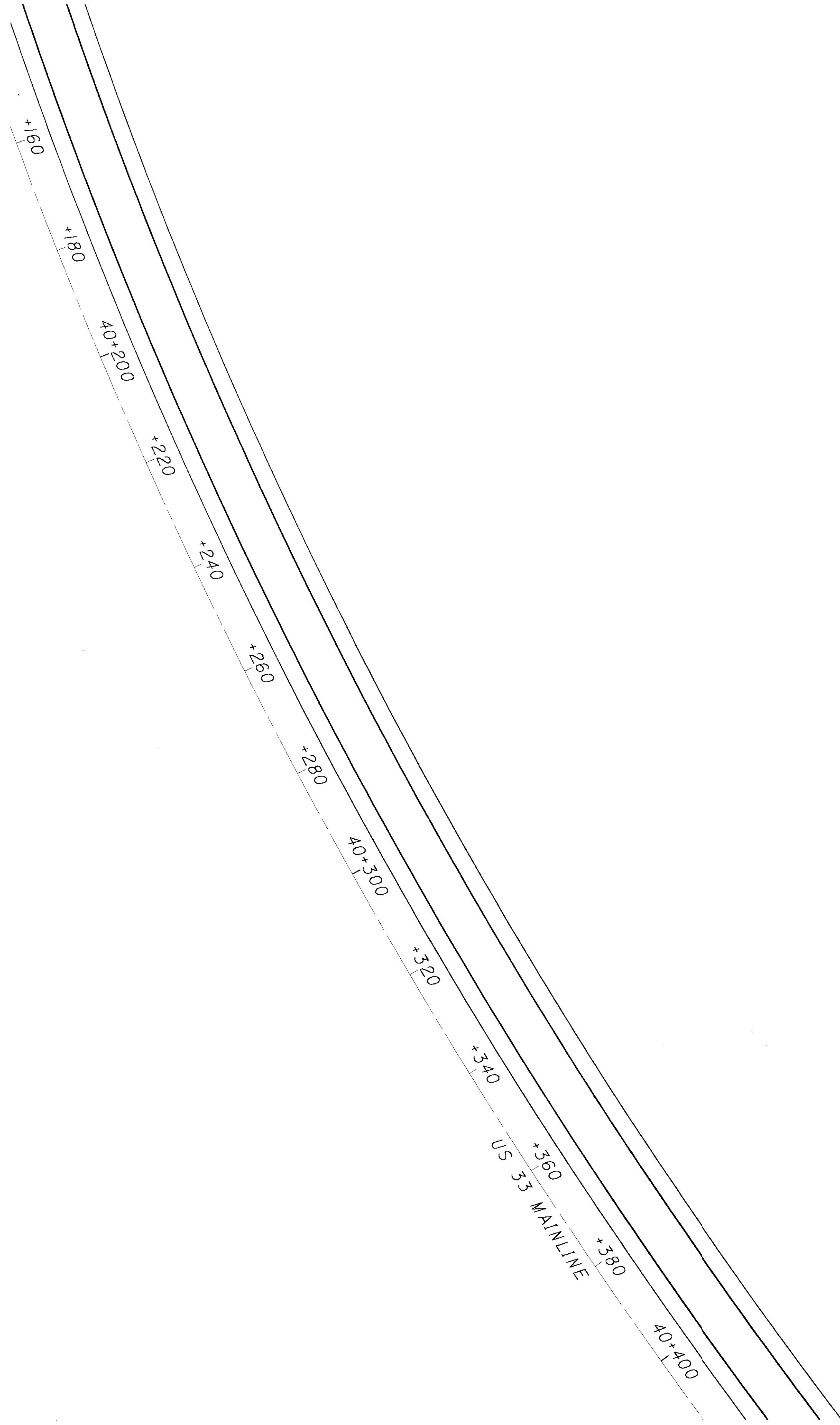
CALCULATED  
BDD  
CHECKED  
TDW

SIGNING AND PAVEMENT MARKING PLAN  
TWP. ROAD 67 (LODI TWP., ATHENS CO.)

ATH-33-40.981

620  
949

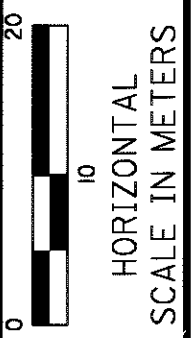
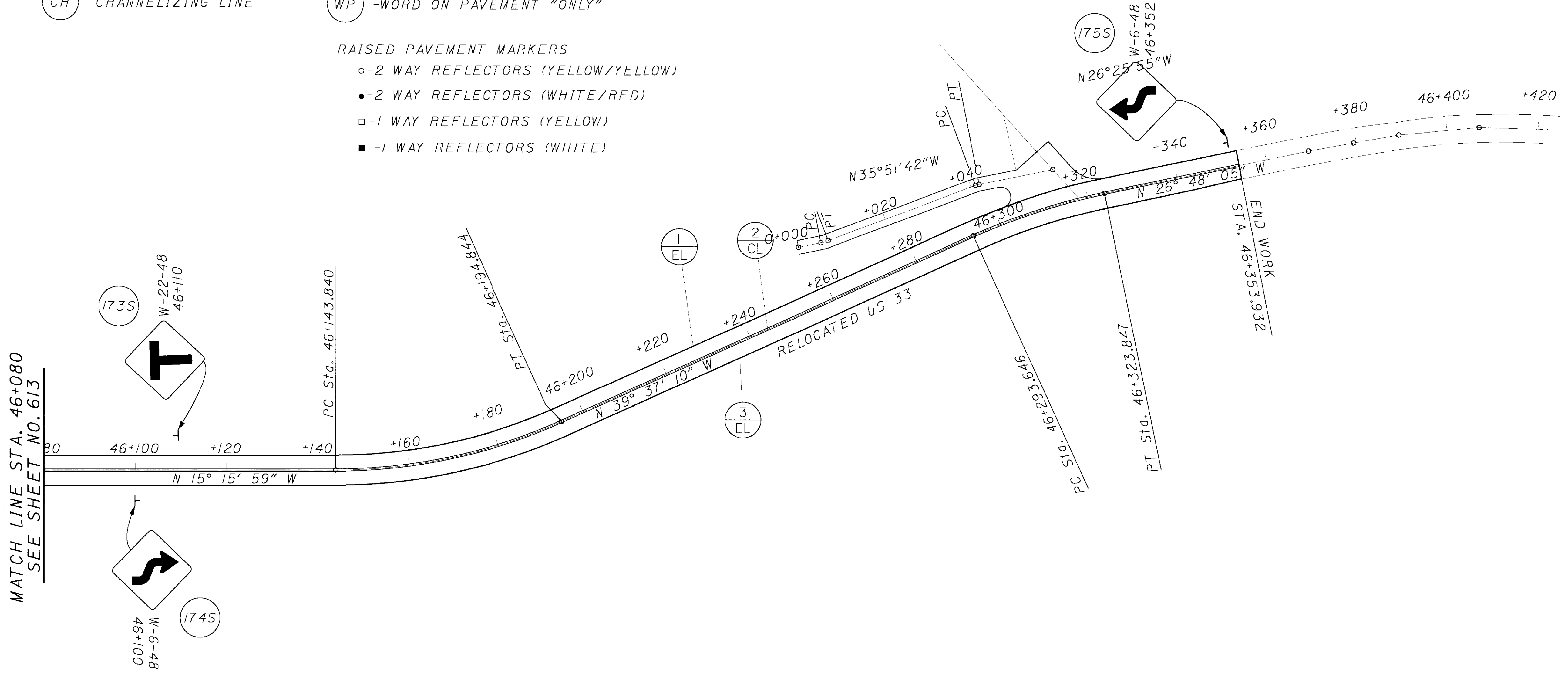




LEGEND

- |                         |                                |
|-------------------------|--------------------------------|
| (CL) -CENTERLINE        | (TL) -TRANSVERSE LINE (YELLOW) |
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| (CH) -CHANNELIZING LINE | (WP) -WORD ON PAVEMENT "ONLY"  |

- RAISED PAVEMENT MARKERS
- -2 WAY REFLECTORS (YELLOW/YELLOW)
  - -2 WAY REFLECTORS (WHITE/RED)
  - -1 WAY REFLECTORS (YELLOW)
  - -1 WAY REFLECTORS (WHITE)



CALCULATED	CHECKED
BBD	TOW

**SIGNING AND PAVEMENT MARKING PLAN  
RELOCATED U.S. ROUTE 33**

**ATH-33-40.981**



02/07/2001  
07:26:46 PM  
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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828			828	828	828			828	828	828	828	828		621	621	621
			EDGE LINE, WHITE	EDGE LINE, YELLOW				CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID			CHANNELIZING LINE, WHITE		STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE		RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED
			FROM	TO		km	km	km	km	km	m	m	EACH	EACH	m	km	EACH	EACH	EACH				
595	1-EL	U.S. 33	39+600	39+900	LT	0.300																	
	2-CL		39+600	39+900	LT						0.300											13	
	3-EL		39+600	39+900	LT	0.300																	
596	1-EL	U.S. 33	39+900	40+200	LT	0.300																	
	2-CL		39+900	40+048	LT						0.148											6	
	3-EL		39+900	40+200	LT	0.300																	
	4-CL		40+048	40+200	LT				0.152													6	
	5-EL		40+200	40+500	LT	0.300																13	
	6-CL		40+200	40+500	LT				0.300														
	7-EL		40+200	40+500	LT	0.300																	
597	1-EL	U.S. 33	40+500	40+800	LT	0.300																	
	2-CL		40+500	40+800	LT				0.300														12
	3-EL		40+500	40+800	LT	0.300																	
	4-EL		40+800	41+100	LT	0.300																	
	5-CL		40+800	41+100	LT				0.300														12
	6-EL		40+800	41+100	LT	0.300																	
598	1-EL	U.S. 33	41+100	41+400	LT	0.300																	
	2-CL		41+100	41+400	LT				0.300														13
	3-EL		41+100	41+400	LT	0.300																	
	4-EL		41+400	41+700	LT	0.300																	
	5-CL		41+400	41+700	LT				0.300														13
	6-EL		41+400	41+700	LT	0.300																	
599	1-EL	U.S. 33	41+700	42+000	LT	0.300																	
	2-CL		41+700	42+000	LT				0.300														13
	3-EL		41+700	42+000	LT	0.300																	
	4-EL		42+000	42+300	LT	0.300																	
	5-EL		42+000	42+300	LT	0.300																	
	6-CL		42+020	42+255	LT				0.255														12
	7-TL		42+020	42+255	LT										185								
	9-CL		42+000	42+300	LT				0.300														13
	10-CH		42+262.5	42+300	LT						37.5												4
	11-LA		42+275		LT											1							
	12-CH		42+295	42+300	LT						5												1
	13-WP		42+295	42+299.5	LT											2							
600	2-LA	U.S. 33	42+315		LT																		
	3-SL	C.R. 89	2+277		LT							3.3											
	4-LA	U.S. 33	42+317		LT																		
TOTALS THIS SHEET						5.400				2.507		0.448		42.5		3.3	3	2	185			126	5
TOTALS CARRIED TO SHEET NO. 629						5.40				2.51		0.45		43		4	3	2	185			126	5

PAVEMENT MARKING SUBSUMMARY

ATH-33-40.981

CALCULATED  
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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828	642		828	828	828		642	828		828	828	828	828	828		621	621	621	
			EDGE LINE, WHITE	EDGE LINE, YELLOW		EDGE LINE, WHITE		CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID		CENTER LINE, DOUBLE SOLID	CHANNELIZING LINE, WHITE		STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE		RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED			
			FROM	TO		km	km	km		km	km	km		m	m	EACH	EACH	m	km		EACH	EACH	EACH			
600	5-CL	C.R. 89	2+200	2+240	C/L									0.026												
	6-SL		2+240		RT																					
	7-CL		2+277	2+300	C/L									0.023												
	8-CH	U.S. 33	42+357	42+383	LT																			3		
	9-LA		42+365		LT																					
	10-WP		42+382.5		LT																					
	11-WP		42+387		LT																					
	12-EL	89 / 33	2+200	42+600	L/R	0.295		0.014																		
	13-CH	U.S. 33	42+357	42+415	LT																				6	
	14-LA		42+407		LT																					
	15-CL		42+357	42+600	LT																				11	
	16-EL	89 / 33	2+300	42+600	LT	0.269																				
	17-TL	U.S. 33	42+423	42+600	LT																				8	
	18-CL		42+423	42+600	LT									0.177												
	19-TL		42+600	42+708	LT																				13	
	20-CL		42+600	42+900	LT									0.200												
	21-EL		42+600	42+900	LT	0.300																				
	22-EL		42+600	42+900	LT	0.300																				
	23-EL	33 / 89	42+300	2+200	L/R	0.046		0.014																		
	24-EL		42+300	2+300	LT	0.073																				
	25-CL	U.S. 33	42+300	42+325	LT									0.025											1	
	26-CH		42+300	42+325	LT																				2	
	27-CH		42+300	42+325	LT																				2	
	28-LA		42+367		LT																					
	29-CL		42+600	42+709	LT									0.108											2	
601	1-EL	U.S. 33	42+900	43+200	LT	0.300																			4	
	2-CL		42+900	43+000	LT									0.100												
	3-EL		42+900	43+200	LT	0.300																				
	4-EL		43+200	43+500	LT	0.300																			12	
	5-CL		43+200	43+500	LT																				0.300	
	6-EL		43+200	43+500	LT	0.300																			0.200	
	7-CL		43+000	43+200	LT																				0.200	
602	1-EL	U.S. 33	43+500	43+800	LT	0.300																			11	
	2-CL		43+500	43+750	LT																				0.250	
	3-EL		43+500	43+800	LT	0.300																				
	4-EL		43+800	44+100	LT	0.300																				
	5-CL		43+800	43+920	LT																				0.120	
	6-EL		43+800	44+100	LT	0.300																			0.180	
	7-CL		43+920	44+100	LT																				0.050	
	8-CL		43+750	43+800	LT																					
TOTALS THIS SHEET						3.683		0.028		0.902	0.170	1.030		0.014	134		3.3	3	2	265			85	13		
TOTALS CARRIED TO SHEET NO. 629						3.69		0.03		0.91	0.17	1.03		0.02	134		4	3	2	265			85	13		

PAVEMENT MARKING SUBSUMMARY

ATH-33-40.981

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CALCULATED  
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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828			828	828	828			828	828	828	828	828	621	621	621		
			EDGE LINE, WHITE	EDGE LINE, YELLOW				CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID			CHANNELIZING LINE, WHITE		STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE		RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED	
			FROM	TO		km	km	km	km	km	m	m	EACH	EACH	m	km	EACH	EACH	EACH					
603	1-EL	U.S. 33	44+100	44+400	LT	0.300																		
	2-CL		44+100	44+400	LT																		13	
	3-EL		44+100	44+400	LT	0.300																		
	4-EL		44+400	44+700	LT	0.300																		
	5-CL		44+400	44+650	LT																		10	
	6-EL		44+400	44+700	LT	0.300																		
	7-CL		44+650	44+700	LT					0.050														2
604	1-EL	U.S. 33	44+700	45+000	LT	0.300																		
	2-CL		44+700	45+000	LT																		13	
	3-EL		44+700	45+000	LT	0.300																		
	4-EL		45+000	45+300	LT	0.300																		
	5-CL		45+000	45+300	LT																		12	
	6-EL		45+000	45+300	LT	0.300																		
605	1-EL	U.S. 33	45+300	45+600	LT	0.300																		
	2-CL		45+300	45+420	LT																		5	
	3-EL		45+300	45+600	LT	0.300																		
	4-EL		45+600	45+900	LT	0.300																		
	5-CL		45+600	45+900	LT					0.300														13
	6-EL		45+600	45+900	LT	0.300																		
	7-CL		45+420	45+600	LT					0.180														7
606	1-EL	U.S. 33	45+900	46+200	LT	0.300																		
	2-CL		45+900	46+000	LT																		4	
	3-EL		45+900	46+200	LT	0.300																		
	4-CL		46+000	46+200	LT																			8
	5-EL		46+200	46+500	LT	0.300																		
	6-CL		46+200	46+500	LT																			13
	7-EL		46+200	46+500	LT	0.300																		
607	1-EL	U.S. 33	46+500	46+800	LT	0.300																		
	2-CL		46+500	46+600	LT																		4	
	3-EL		46+500	46+800	LT	0.300																		
	4-EL		46+800	47+100	LT	0.300																		
	5-CL		46+800	47+100	LT					0.300														12
	6-EL		46+800	47+100	LT	0.300																		
	7-CL		46+600	46+800	LT					0.200														8
TOTALS THIS SHEET						6.000				0.550	0.580	1.870											124	
TOTALS CARRIED TO SHEET NO. 629						6.00				0.55	0.58	1.87												124

PAVEMENT MARKING SUBSUMMARY

ATH-33-40.981

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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828	642		828	828	828		642	828		828	828	828	828	620	621	621	621			
			EDGE LINE, WHITE	EDGE LINE, YELLOW		EDGE LINE, WHITE		CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID		CENTER LINE, DOUBLE SOLID	CHANNELIZING LINE, WHITE		STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE	DELINEATOR, TYPE C, POST MOUNTED	RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED				
			FROM	TO		km	km	km		km	km	km		km	m		m	EACH	EACH	m	km	EACH	EACH	EACH	EACH		
608	1-EL	U.S. 33	47+100	47+400	LT	0.300																					
	2-CL		47+100	47+400	LT				0.300														13				
	3-EL		47+100	47+400	LT	0.300																					
	4-EL		47+400	47+700	LT	0.300																					
	5-CL		47+400	47+700	LT				0.300														12				
	6-EL		47+400	47+700	LT	0.300																					
609	1-EL	U.S. 33	47+700	48+000	LT	0.300																		9			
	2-CL		47+700	48+000	LT				0.300													3	10				
	3-EL		47+700	48+000	LT	0.300																					
	4-CL		47+900	48+000	LT				0.100													3					
	5-TL		47+900	48+000	LT												105										
	6-CL		48+000	48+206.9	L/R				0.207													9					
	7-TL		48+000	48+300	LT												412										
	8-EL		48+000	48+300	LT	0.300																		12			
	9-CL		48+000	48+300	LT				0.300													12					
	10-EL		48+000	48+300	L/R	0.300																					
	11-LL		48+224	48+300	RT													0.076						3			
	12-EL		48+206.9	48+300	RT		0.093																				
	13-EL		48+007	48+300	LT		0.293																				
	1-D		47+280	48+207	RT															8							
610	1-TL	U.S. 33 NB	48+300	48+400	LT												30										
	2-CL		48+300	48+400	LT				0.100													5					
	3-EL		48+300	48+600	LT	0.300																		5			
	4-LL		48+410	48+600	LT														0.190					8			
	5-EL		48+300	48+600	LT		0.300																				
	6-EL	U.S. 33 SB	48+300	48+600	RT		0.300																				
	7-LL		48+300	48+600	RT													0.300						13			
	8-EL		48+300	48+600	RT	0.300																					
	9-EL	33 / 681	48+600	51+380	LT	0.235		0.013														3					
	10-LL	U.S. 33	48+600	48+795	LT													0.195						8			
	11-EL		48+600	48+792.5	LT		0.195																				
	12-EL	33 / 681	48+600	51+280	RT	0.204		0.001																			
	13-LL	U.S. 33	48+600	48+795	RT													0.195						8			
	14-EL		48+600	48+792.5	RT		0.195																				
	15-CL	S.R. 681	51+280	51+300	C/L				0.019					0.001								1					
	16-CL		51+346	51+380	C/L				0.021					0.013								2					
	17-SL		51+346		LT											4.5											
	18-SL		51+300		RT										4.5												
	19-EL	33 / 681	51+380	48+900	LT	0.091		0.013																			
	20-LL	U.S. 33	48+840	48+900	LT														0.060					3			
	21-EL	33 / 681	51+280	48+900	RT	0.115		0.001														2					
	22-LL	U.S. 33	48+825	48+900	RT													0.075						3			
	23-EL		48+822	48+900	RT		0.079																				
	24-EL		48+822	48+900	LT		0.079																				
TOTALS THIS SHEET						3.645	1.534	0.028		1.647				0.014		9.0		547	1.091	8	40	35	72				
TOTALS CARRIED TO SHEET NO. 629						3.65	1.54	0.03		1.65				0.02		9.0		547	1.10	8	40	35	72				

PAVEMENT MARKING SUBSUMMARY

ATH-33-40.981

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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828			828	828	828			828	828	828	828	828	621	621	621		
			EDGE LINE, WHITE	EDGE LINE, YELLOW				CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID			CHANNELIZING LINE, WHITE		STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE		RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED	
			FROM	TO		km	km			km	km	m			m	EACH	EACH	m	km		EACH	EACH	EACH	
611	1-EL	U.S. 33	48+900	49+200	LT	0.300																		
	2-LL		48+900	49+200	LT															0.300			12	
	3-EL		48+900	49+200	LT			0.300																
	4-EL		48+900	49+200	RT	0.300																		
	5-LL		48+900	49+200	RT																0.300			12
	6-EL		48+900	49+200	RT			0.300																
	7-EL			49+200	49+500	LT	0.300																	
	8-LL			49+200	49+500	LT														0.300			13	
	9-EL			49+200	49+500	LT			0.300															
	10-EL			49+200	49+500	RT	0.300																	
	11-LL			49+200	49+500	RT														0.300			12	
	12-EL			49+200	49+500	RT			0.300															
612	1-EL	U.S. 33/20	49+500	49+692	LT	0.216																		
	2-LL		49+500	49+683	LT															0.183			7	
	3-EL		49+500	49+680	LT			0.182																
	4-EL	33/17	49+500	49+691	RT	0.198																		
	5-LL		49+500	49+683	RT															0.183			8	
	6-EL		49+500	49+680	RT			0.182																
	7-SL	33/C.R. 20	49+690	49+695.5	LT										5.5									
	8-CL		49+695		C/L			0.023																
	9-CL	33/T.R. 17	49+695		C/L			0.009																
	10-SL		49+695	49+702	RT										7.0									
	11-EL	17/33	49+697	49+800	LT	0.110																		
	12-EL	20/33	49+699	49+800	RT	0.125																		
	13-LL		49+704	49+800	LT															0.096			4	
	14-LL		49+704	49+800	RT															0.096			4	
	15-EL		49+710	49+800	LT			0.092																
	16-EL		49+710	49+800	RT			0.092																
	17-EL	U.S. 33	49+800	49+891	LT	0.091																		
	18-LL		49+800	49+891	LT															0.091			3	
	19-EL		49+800	49+891	LT			0.091																
	20-EL		49+800	49+891	RT	0.091																		
	21-LL		49+800	49+891	RT															0.091			3	
	22-EL		49+800	49+891	RT			0.091																
TOTALS THIS SHEET						2.031	1.930			0.032				12.5				1.940				78		
TOTALS CARRIED TO SHEET NO. 629						2.04	1.93			0.04				13					1.94				78	

PAVEMENT MARKING SUBSUMMARY

ATH-33-40.981

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SHEET NO.	REFERENCE NO.	LOCATION	STATION		SIDE	828	828	642		828	828	828		642	828	642	828	828	828	828	828	620	621	621	621		
			EDGE LINE, WHITE	EDGE LINE, YELLOW		EDGE LINE, WHITE		CENTER LINE, DOUBLE SOLID	CENTER LINE, DASHED	CENTER LINE, BROKEN & SOLID		CENTER LINE, DOUBLE SOLID	CHANNELIZING LINE, WHITE	STOP LINE	STOP LINE	LANE ARROW	WORD "ONLY" ON PAVEMENT, 2500mm	TRANSVERSE LINE, YELLOW	LANE LINE	DELINEATOR, TYPE C, POST MOUNTED	RAISED PAV'T. MARKER, 1 WAY, YELLOW	RAISED PAV'T. MARKER, 2 WAY, YELLOW/YELLOW	RAISED PAV'T. MARKER, 2 WAY, WHITE/RED				
			FROM	TO		km	km	km		km	km	km		km	m	m	m	EACH	EACH	m	km	EACH	EACH	EACH	EACH		
613	1-EL	S.R. 681	51+380	46+080	LT			0.213																			
	2-CL		51+380	51+515	C/L								0.135														
	3-EL		51+380	51+600	RT			0.220																			
	4-CL	RELOC. 33	46+014	46+080	C/L								0.066														
	5-EL	681	46+080	51+600	R/L			0.136																			
	6-SL	RELOC. 33	46+014		LT										6.0												
	7-CL	S.R. 681	51+545	51+600	C/L								0.055														
	8-EL		51+600	51+680	LT			0.080																			
	9-CL		51+600	51+680	C/L								0.080														
	10-EL		51+600	51+680	RT			0.080																			
614	1-EL	S.R. 681	51+040	51+280	LR			0.240																			
	2-CL		51+040	51+280	C/L								0.240														
	3-EL		51+040	51+280	RT			0.240																			
615	1-CL	C.R. 89	2+300	2+445	C/L				0.002				0.143														
	2-EL		2+300	2+445	LT	0.002		0.143																			
	3-EL		2+300	2+445	RT	0.002		0.143																			
	4-CL		1+980	2+200	C/L								0.220														
	5-EL		1+980	2+200	LT			0.220																			
	6-EL		1+980	2+200	RT			0.220																			
623	1-EL	RELOC. 33	46+080	46+354	LT			0.274																			
	2-CL		46+080	46+354	C/L								0.274														
	3-EL		46+080	46+354	RT			0.274																			
	SUBTOTALS THIS SHEET						0.004		2.483		0.002		1.213		6.0												
	TOTALS THIS SHEET						0.01		2.49		0.01		1.22		6.0												
	TOTALS SHEET 624						5.40				2.51		0.45		43		4	3	2	185				126	5		
	TOTALS SHEET 625						3.69		0.03		0.91	0.17	1.03	0.02	134		4	3	2	265				85	13		
	TOTALS SHEET 626						6.00				0.55	0.58	1.87											124			
	TOTALS SHEET 627						3.69	1.54	0.03		1.65			0.02			9.0			547	1.10	8	40	35	72		
	TOTALS SHEET 628						2.04	1.93			0.04					13				1.94					78		
<b>TOTALS CARRIED TO GENERAL SUMMARY</b>							24.26	2.55		9.77			1.26	177	6	30	6	4	997	3.04	8		578				

PAVEMENT MARKING SUBSUMMARY

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630	630	630	630	630			630		630	630	630	630		
							SIGN FLAT SHEET, TYPE G	SIGN EXTRUSHEET, TYPE G	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	GROUND MOUNTED SUPPORT POST			GROUND MOUNTED SUPPORT BEAM		ONE WAY SIGN SUPPORT, NO. 3	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION		
							Sq m	Sq m	EACH	EACH	#2 m	#3 m	#4 m	W 200x26.6 BEAM (m)	W 250x17.9 BEAM (m)	m	EACH	EACH	EACH		
598	1-S	U.S. 33	41+533	RT	GM	5700 X 1524		8.687	2	2				3.7 / 5.1							
599	2-S	U.S. 33	42+175	RT	GM-1	5700 X 914		5.210	2	2				3.5 / 4.1							
	3-S		41+940	RT	W-24-48	1219 X 1219	1.486					9.00									
	4-S		42+220	LT	R-10-36	914 X 1219	1.114					9.20									
599	5-S		42+240	RT	R-31M-48	1219 X 762	0.929					8.20									
600	6-S		42+313	RT	R-31M-48	1219 X 762	0.929					8.20									
599	7-S		42+278	LT	M-40-30	762 X 381	0.290					8.25									
599	8-S			LT	M-1-30	762 X 762	0.581														
600	9-S	C.R. 89	2+240	RT	R-1-36	914 X 914	0.835					3.75									
	10-S	U.S. 33	42+345	RT	D-7-96	2438 X 457	1.114			6.60											
	11-S		42+326	LT	D-7-96	2438 X 457	1.114			6.60											
	12-S	C.R. 89	2+277	LT	R-1-36	914 X 914	0.835					3.75									
	13-S	U.S.33	42+388	LT	R-31M-48	1219 X 762	0.929					7.50									
	14-S		42+460	LT	R-31M-48	1219 X 762	0.929					7.50									
	15-S		42+400	RT	M-39-30	762 X 381	0.290					8.25									
	16-S			RT	M-1-30	762 X 762	0.581														
	17-S		42+460	RT	R-10-36	914 X 1219	1.114					9.20									
	18-S		42+645	LT	W-24-48	1219 X 1219	1.486					9.00									
	19-S		42+500	LT	GM-1	5700 X 914		5.210	2	2				3.9 / 4.4							
601	20-S	U.S. 33	43+035	LT	N-2-40	1016 X 508	0.516					8.00									
	21-S		43+032	RT	N-2-40	1016 X 508	0.516					8.00									
	22-S		43+135	LT	GM	5700 X 1524		8.687	2	2				5.0 / 5.7							
605	23-S	U.S.33	45+625	LT	M-40-30	762 X 381	0.290					8.25									
	24-S			LT	M-1-30	762 X 762	0.581														
	25-S		45+625	RT	M-1-30	762 X 762	0.581					8.25									
	26-S			RT	M-39-30	762 X 381	0.290														
609	183-S	U.S. 33	47+675	RT	W-85-48	1219 X 1219	1.486					9.00									
609	27-S	U.S. 33	47+845	LT	W-71-48	1219 X 1219	1.486					9.00									
	28-S		48+210	LT	R-33-30	762 X 914	0.696					3.90									
	29-S		48+210	RT	R-38R-36	914 X 1219	1.114					9.20									
	181-S		47+995	RT	GL-96	2489 X 2184		5.268	2	2				5.5 / 5.7							
	186-S		47+840	LT	R-34-30	762 X 914	0.696					3.90									
610	30-S	U.S. 33	48+532 N.B.	LT	W-60L-48	1219 X 1219	1.486					9.00									
	31-S		48+532 N.B.	RT	W-60L-48	1219 X 1219	1.486					9.00									
	32-S		48+654 N.B.	LT	W-53L-48	1219 X 1219	1.486					9.00									
	33-S		48+654 N.B.	RT	W-53L-48	1219 X 1219	1.486					9.00									
	34-S		48+700 S.B.	RT	M-2-30	965 X 762	0.735					8.10									
	35-S			RT	M-17-24	610 X 305	0.186														
	36-S		48+705 N.B.	LT	R-10-36	914 X 1219	1.114					9.00									
610	184-S	C.R. 89	2+230	LT	M-50-66	1676 X 610	1.022					7.60									
610	185-S	C.R. 89	2+286	RT	M-50-66	1676 X 610	1.022					7.60									
TOTALS THIS SHEET							32.831	33.062	10	10	13.20	227.60	19.5	27.1							
TOTALS CARRIED TO SHEET NO. 634							32.9	33.1	10	10	13.2	227.6	19.5	27.1							

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630	630	630	630	630			630		630	630	630	630	
							SIGN FLAT SHEET, TYPE G	SIGN EXTRUSHEET, TYPE G	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	GROUND MOUNTED SUPPORT POST			GROUND MOUNTED SUPPORT BEAM		ONE WAY SIGN SUPPORT, NO. 3	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION	
							Sq m	Sq m	EACH	EACH	#2 m	#3 m	#4 m	W250x17.9 BEAM (m)	W150x13.5 BEAM (m)	m	EACH	EACH	EACH	
610	37-S	U.S. 33	48+750 N.B.	LT	M-40-30	762 X 381	0.281													
	38-S			LT	M-1-30	762 X 762	0.563													
	39-S		48+500 S.B.	RT	N-1-40	1016 X 508	0.516													
	40-S		48+773 S.B.	RT	M-50-66	1676 X 610	1.022													
	41-S		48+760 N.B.	RT	W-86-48	1219 X 1219	1.486													
	42-S		48+766 N.B.	LT	W-86-48	1219 X 1219	1.486													
	45-S	S.R. 681	51+346	LT	R-1-36	914 X 914	0.836										4.05			
	46-S			LT	R-107A-24	610 X 457	0.279													
	47-S			LT	R-43L-48	1219 X 457	0.557													
	48-S			LT	R-43R-48	1219 X 457	0.557													
	49-S	U.S. 33	48+840 N.B.	LT	M-50-66	1676 X 610	1.022													
	50-S		48+380 S.B.	RT	D-4B-72	6600 X 1829		12.071	3	3				4.8 / 5.7 / 6.6						
	51-S	S.R. 681	51+300	RT	R-1-36	914 X 914	0.836										4.05			
	52-S			RT	R-107A-24	610 X 457	0.279													
	53-S			RT	R-43R-48	1219 X 457	0.557													
	54-S			RT	R-43L-48	1219 X 457	0.557													
	55-S	U.S. 33	48+380 S.B.	RT	M-25-24	610 X 457	0.279				2.90									
	56-S			RT	M-2-30	965 X 762	0.735													
	57-S		48+840 S.B.	RT	M-1-30	762 X 762	0.581					8.25								
	58-S			RT	M-39-30	762 X 381	0.290													
	60-S		48+780	LT	R-37R-36	914 X 1219	1.114						4.27							
	61-S			LT	R-43R-48	1219 X 457	0.557										4.72			
	62-S		48+832	RT	R-37R-36	914 X 1219	1.114						4.27							
	63-S			RT	R-43R-48	1219 X 457	0.557										4.72			
	179-S		48+800 N.B.	LT	M-50-66	1676 X 610	1.022						7.20							
	180-S		48+820 S.B.	RT	M-50-66	1676 X 610	1.022						7.20							
611	64-S	U.S. 33	48+960 N.B.	LT	M-17-24	610 X 305	0.186						8.10							
	65-S		48+960 N.B.	LT	M-2-30	965 X 762	0.735													
	66-S		49+069 N.B.	LT	N-1-40	1016 X 508	0.516						7.00							
	67-S		49+450 S.B.	RT	RA-1	2762 X 1219		3.367	2	2					3.5 / 4.2					
	43-S		49+230 N.B.	LT	M-2-30	965 X 762	0.735				2.90									
	44-S			LT	M-25-24	610 X 457	0.279													
	178-S	U.S. 33 S.B.	49+370 S.B.	RT	W-24-48	1219 X 1219	1.486						9.00							
	187-S	U.S. 33 N.B.	49+230 N.B.	LT	D-4B-72	6600 X 1829		12.071	3	3				4.1 / 4.4 / 4.7						
	59-S		48+950 S.B.	RT	R-10-36	914 X 1219	1.114						9.00							
TOTALS THIS SHEET							23.156	27.509	8	8	5.80	113.14		30.3	7.7	17.54				
TOTALS CARRIED TO SHEET NO. 634							23.2	27.6	8	8	5.8	113.2		30.3	7.7	17.6				

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630	630	630	630	630			630		630	630	630	630
							SIGN FLAT SHEET, TYPE G	SIGN SIGN EXTRUSHEET, TYPE G	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	GROUND MOUNTED SUPPORT POST			GROUND MOUNTED SUPPORT BEAM		ONE WAY SIGN SUPPORT, NO. 3	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION
							Sq m	Sq m	EACH	EACH	#2 m	#3 m	#4 m	S100x11.5 BEAM (m)	W250x17.9 BEAM (m)	m	EACH	EACH	EACH
612	68-S	U.S. 33	49+520 S.B.	RT	D-11A	1829 X 457	0.836												
	69-S			RT	D-11A	1829 X 457	0.836												
	70-S		49+620 N.B.	LT	M-40-30	762 X 381	0.290												
	71-S			LT	M-1-30	762 X 762	0.580												
	72-S		49+670 N.B.	LT	D-11A	1829 X 457	0.836												
	73-S			LT	D-11A	1829 X 457	0.836												
	74-S		49+661 S.B.	LT	R-37R-36	914 X 1219													
	75-S		49+667 N.B.	LT	R-37R-36	914 X 1219	1.114									4.72			
	76-S			LT	R-43R-48	1219 X 457	0.557												
	77-S		49+724 S.B.	RT	R-37R-36	914 X 1219	1.114									4.72			
	78-S			RT	R-43R-48	1219 X 457	0.557												
	79-S	FOR CR 20	49+687 N.B.	LT	R-1-36	914 X 914	0.836									4.05			
	80-S			LT	R-107A-24	610 X 457	0.279												
	81-S			LT	R-43R-48	1219 X 457	0.557												
	82-S			LT	R-43L-48	1219 X 457	0.557												
	83-S	U.S. 33	49+731 N.B.	LT	R-37														
	84-S	U.S. 33	49+788 N.B.	LT	W-60L														
	85-S			LT	W-60L														
	86-S	FOR TR17	49+704 S.B.	RT	R-1-36	914 X 914	0.836									4.05			
	87-S			RT	R-107A-24	610 X 457	0.279												
	88-S			RT	R-43L-48	1219 X 457	0.557												
	89-S			RT	R-43R-48	1219 X 457	0.557												
	90-S	U.S. 33	49+717 S.B.	RT	D-11A	1829 X 457	0.836												
	91-S			RT	D-11A	1829 X 457	0.836												
	92-S		49+760 S.B.	RT	M-1-30	762 X 762	0.581												
	93-S			RT	M-40-30	762 X 381	0.290												
	93A-S		49+820 N.B.	LT	W-55														
			EX. @ 51+070+																
	94-S		50+093 N.B.	LT	W-86														
	95-S		50+093 N.B.	RT	W-86														
	176-S	U.S. 33	49+892 N.B.	RT	W-53L														
	177-S			LT	W-53L														
	182-S	U.S. 33	49+580 N.B.	LT	GL-96	2489 X 2184		5.268		2	2				7.5 / 6.6				
	188-S		49+708 N.B.	LT	M-50-66	1676 X 610	1.022												
	189-S		49+678 S.B.	RT	M-50-66	1676 X 610	1.022												
TOTALS THIS SHEET							16.601	5.268	2	2			55.54	14.1	17.54	8	8	1	
<b>TOTALS CARRIED TO SHEET NO. 634</b>							16.7	5.3	2	2			55.6	14.1	17.6	8	8	1	

**SIGNING SUBSUMMARY**

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SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630	630	630	630	630			630		630	630	630	630	
							SIGN FLAT SHEET, TYPE G	SIGN EXTRUSHEET, TYPE G	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	GROUND MOUNTED SUPPORT POST			GROUND MOUNTED SUPPORT BEAM		ONE WAY SIGN SUPPORT, NO. 3	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION	
							Sq m	Sq m	EACH	EACH	#2 m	#3 m	#4 m	S250x32.7 BEAM (m)	W250x17.9 BEAM (m)	m	EACH	EACH	EACH	
613	96-S	S.R. 681	51+400	RT	M-2-24	762 X 610	0.465					4.10								
	97-S	S.R. 681	51+400	RT	M-39-24	610 X 305	0.186													
	98-S		51+417	LT	D-4B-72	4800 X 1829		8.779	2	2			6.6 / 7.5							
	99-S		51+450	LT	M-17-24	610 X 305	0.186					4.10								
	100-S			LT	M-1-24	610 X 610	0.372													
	101-S		51+450	RT	W-26-48	1219 X 1219	1.486					9.00								
	102-S		51+480	RT	W-2-48	1219 X 1219	1.486					9.00								
	103-S		51+488	LT	M-40-24	610 X 305	0.186					4.10								
	104-S		51+488	LT	M-2-24	752 X 610	0.465													
	105-S	RELOC. 33	46+014	LT	R-1-30	762 X 762	0.581					3.75								
	106-S		46+070	LT	M-17-24	610 X 305	0.186					4.10								
	107-S			LT	M-2-24	762 X 610	0.465													
	108-S	S.R.681	51+525	RT	M-25-21	533 X 381	0.203					4.20								
	109-S			RT	M-2-24	762 X 610	0.465													
	110-S		51+567	RT	M-2-24	762 X 610	0.465					4.10								
	111-S			RT	M-39-24	610 X 305	0.186													
	112-S		51+610	LT	W-26-48	1219 X 1219	1.486					9.00								
	184-S			LT	D-8Y-8	914 X 203	0.186													
	113-S		51+640	LT	W-5-48	1219 X 1219	1.486					9.00								
614	114-S	S.R.681	51+054	RT	W-2-48	1219X 1219	1.486					9.00								
	115-S		51+135	RT	N-1-40	1016 X 508	0.516					7.40								
	116-S		51+170	RT	W-45-48	1219 X 1219	1.486					9.00								
	117-S		51+200	RT	M-1-24	610 X 610	0.372					4.00								
	118-S		51+200	RT	M-17-24	610 X 305	0.186													
	119-S		51+240	RT	D-4B-72	4800 X 1829		8.779	2	2			6.6 / 7.5							
	120-S		51+230	LT	W-76F-48	1219 X 1219	1.486					9.00								
	121-S		51+250	LT	M-40-24	610 X 305	0.186					4.10								
	122-S			LT	M-2-24	762 X 610	0.465													
	123-S		51+272	LT	W-1-48	1219 X 1219	1.486					9.00								
615	126-S	C.R.89	2+350	LT	W-45-30	762 X 762	0.581					4.20								
	127-S		2+380	RT	W-2-30	762 X 762	0.581					4.20								
	128-S		2+480	LT	W-5-30	762 X 762	0.581					4.20								
	129-S		2+120	RT	W-2-30	762 X 762	0.581					4.20								
	130-S		2+160	RT	W-45-30	762 X 762	0.581					4.20								
	133-S		0+000	RT	W-48-30	762 X 762	0.581					4.06								
	134-S		0+131	LT	X-4-18	457 X 457	0.209					3.04								
	135-S		0+133	LT	X-4-18	457 X 457	0.209					3.04								
	136-S		0+135	LT	X-4-18	457 X 457	0.209					3.04								
	137-S		0+163	LT	X-4-18	457 X 457	0.209					3.04								
	138-S		0+163	C/L	X-4-18	457 X 457	0.209					3.04								
	139-S		0+163	RT	X-4-18	457 X 457	0.209					3.04								
TOTALS THIS SHEET							22.950	17.558	4	4	18.24	141.01	28.2							
TOTALS CARRIED TO SHEET NO. 634							23.0	17.6	4	4	18.3	141.1	28.2							

SIGNING SUBSUMMARY

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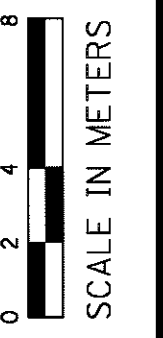
SHEET NO.	REFERENCE NO.	LOCATION	STATION	SIDE	CODE	SIZE (mm)	630	630	630	630	630				630	630	630	630			
							SIGN FLAT SHEET, TYPE G	SIGN EXTRUSHEET, TYPE G	BREAKAWAY BEAM CONNECTION	GROUND MOUNTED BEAM SUPPORT FOUNDATION	GROUND MOUNTED SUPPORT POST			GROUND MOUNTED SUPPORT BEAM				ONE WAY SIGN SUPPORT, NO. 3	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN & REERECTION
							Sq m	Sq m	EACH	EACH	#2 m	#3 m	#4 m	W150x13.5 BEAM (m)	W200x26.6 BEAM (m)	W250x17.9 BEAM (m)	W250x32.7 BEAM (m)	m	EACH	EACH	EACH
617	140-S	T.R. 243	FIELD LOCATED	-	W-48-30	762 X 762	0.581														
	141-S		0+089	LT	X-4-18	457 X 457	0.209				3.04										
	142-S		0+091	LT	X-4-18	457 X 457	0.209				3.04										
	143-S		0+093	LT	X-4-18	457 X 457	0.209				3.04										
618	144-S	T.R. 412	11+020	RT	W-14-48	1219 X 1219	1.486					10.20									
	144A-S			RT	W-143-24	610 X 610	0.372														
	145-S		11+037	RT	X-4-18	457 X 457	0.209				3.04										
	146-S		11+039	RT	X-4-18	457 X 457	0.209				3.04										
	147-S		11+041	RT	X-4-18	457 X 457	0.209				3.04										
	148-S		11+116	LT	W-13-48	1219 X 1219	1.486					10.20									
	148A-S			LT	W-143-24	610 X 610	0.372														
	149-S		11+180	RT	W-14-48	1219 X 1219	1.486					10.20									
	149A-S			RT	W-143-24	610 X 610	0.372														
	150-S		11+250	LT	W-13-48	1219 X 1219	1.486					10.20									
	150A-S			LT	W-143-24	610 X 610	0.372														
	151-S		11+270	RT	W-17-48	1219 X 1219	1.486					10.20									
	151A-S			RT	W-143-24	610 X 610	0.372														
	190-S		11+050	RT	W-48-48	1219 X 1219	1.486					9.00									
619	152-S	T.R. 412	11+470	LT	W-17-48	1219 X 1219	1.486					10.20									
	152A-S			LT	W-143-24	610 X 610	0.372														
	153-S		11+520	RT	W-13-48	1219 X 1219	1.486					10.20									
	153A-S			RT	W-143-24	610 X 610	0.372														
	154-S		11+590	LT	W-14-48	1219 X 1219	1.486					10.20									
	154A-S			LT	W-143-24	610 X 610	0.372														
620	155-S	T.R. 67	FIELD LOCATED	-	W-48-30	762 X 762	0.581					4.06									
	156-S		1+119	LT	X-4-18	457 X 457	0.209				3.04										
	157-S		1+119	C/L	X-4-18	457 X 457	0.209				3.04										
	158-S		1+119	RT	X-4-18	457 X 457	0.209				3.04										
	159-S		1+087	RT	X-4-18	457 X 457	0.209				3.04										
	160-S		1+089	RT	X-4-18	457 X 457	0.209				3.04										
	161-S		1+091	RT	X-4-18	457 X 457	0.209				3.04										
	162-S	T.R. 68	FIELD LOCATED	-	W-48-30	762 X 762	0.581					4.06									
621	163-S		1+101	RT	X-4-18	457 X 457	0.209				3.04										
	164-S		1+104	RT	X-4-18	457 X 457	0.209				3.04										
	165-S		1+107	RT	X-4-18	457 X 457	0.209				3.04										
	166-S		1+134	LT	X-4-18	457 X 457	0.209				3.04										
	167-S		1+134	C/L	X-4-18	457 X 457	0.209				3.04										
	168-S		1+134	RT	X-4-18	457 X 457	0.209				3.04										
622	169-S	T.R. 68	2+015	LT	W-48-30	762 X 762	0.581					4.06									
	170-S		1+199	LT	X-4-18	457 X 457	0.209				3.04										
	171-S		1+199	C/L	X-4-18	457 X 457	0.209				3.04										
	172-S		1+199	RT	X-4-18	457 X 457	0.209				3.04										
623	173-S	RELOC. 33	46+110	LT	W-22-48	1219 X 1219	1.486					9.00									
	174-S		46+100	RT	W-6-48	1219 X 1219	1.486					9.00									
	175-S		46+352	LT	W-6-48	1219 X 1219	1.486					9.00									
			SUB TOTALS THIS SHEET				27.521				63.84	133.84									
			TOTALS THIS SHEET				27.6				63.9	133.9									
			TOTALS FROM SHEET 630				32.9	33.1	10	10	13.2	227.6		19.5		27.1					
			TOTALS FROM SHEET 631				23.2	27.6	8	8	5.8	113.2	7.7			30.3					
			TOTALS FROM SHEET 632				16.7	5.3	2	2		55.6				14.1					
			TOTALS FROM SHEET 633				23.0	17.6	4	4	18.3	141.1				28.2					
			<b>TOTALS CARRIED TO GENERAL SUMMARY</b>				123.4	83.6	24	24	101.2	671.4	7.7	19.5	71.5	28.2	35.2	8	8	1	

SIGNING SUBSUMMARY

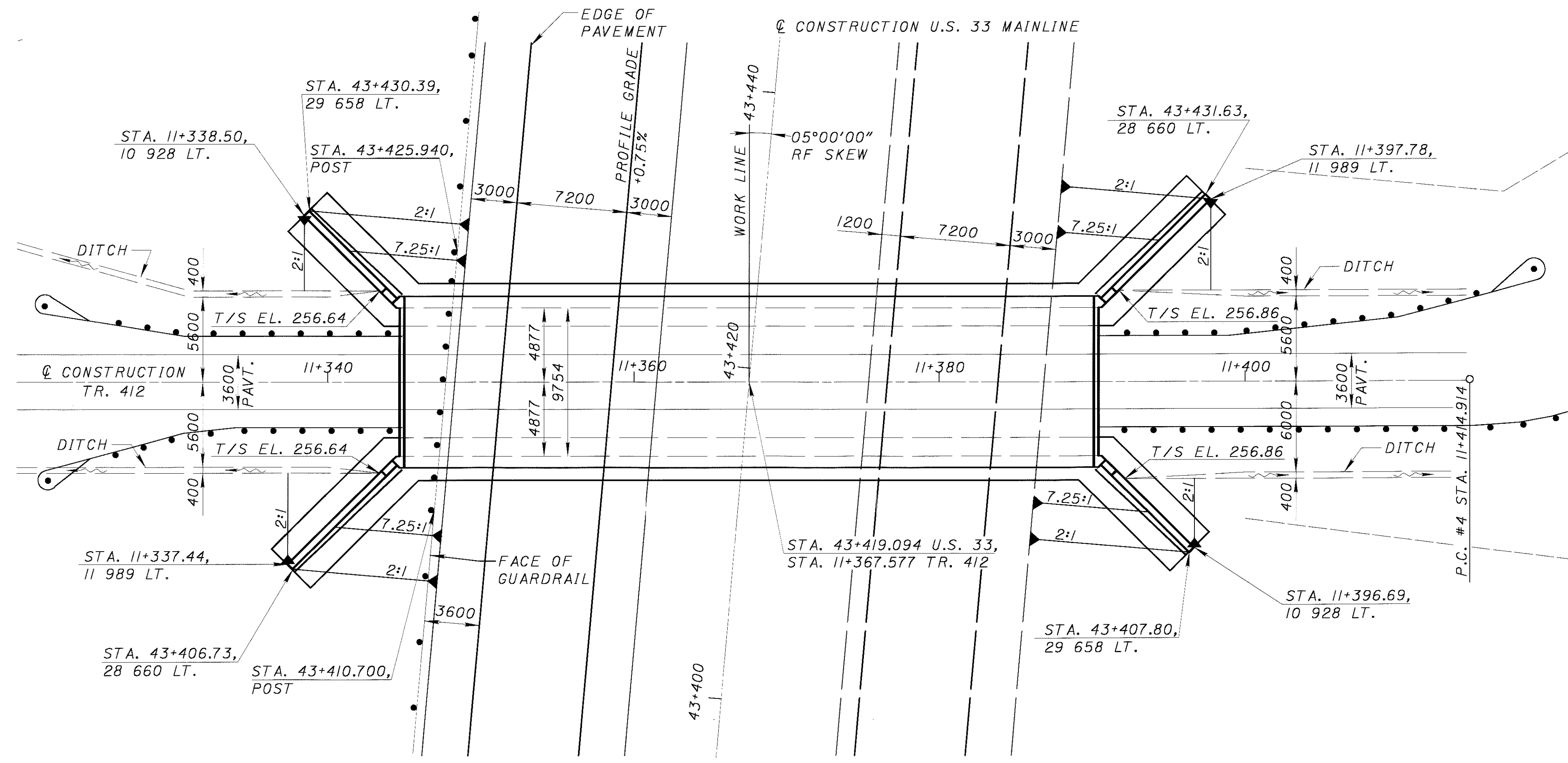
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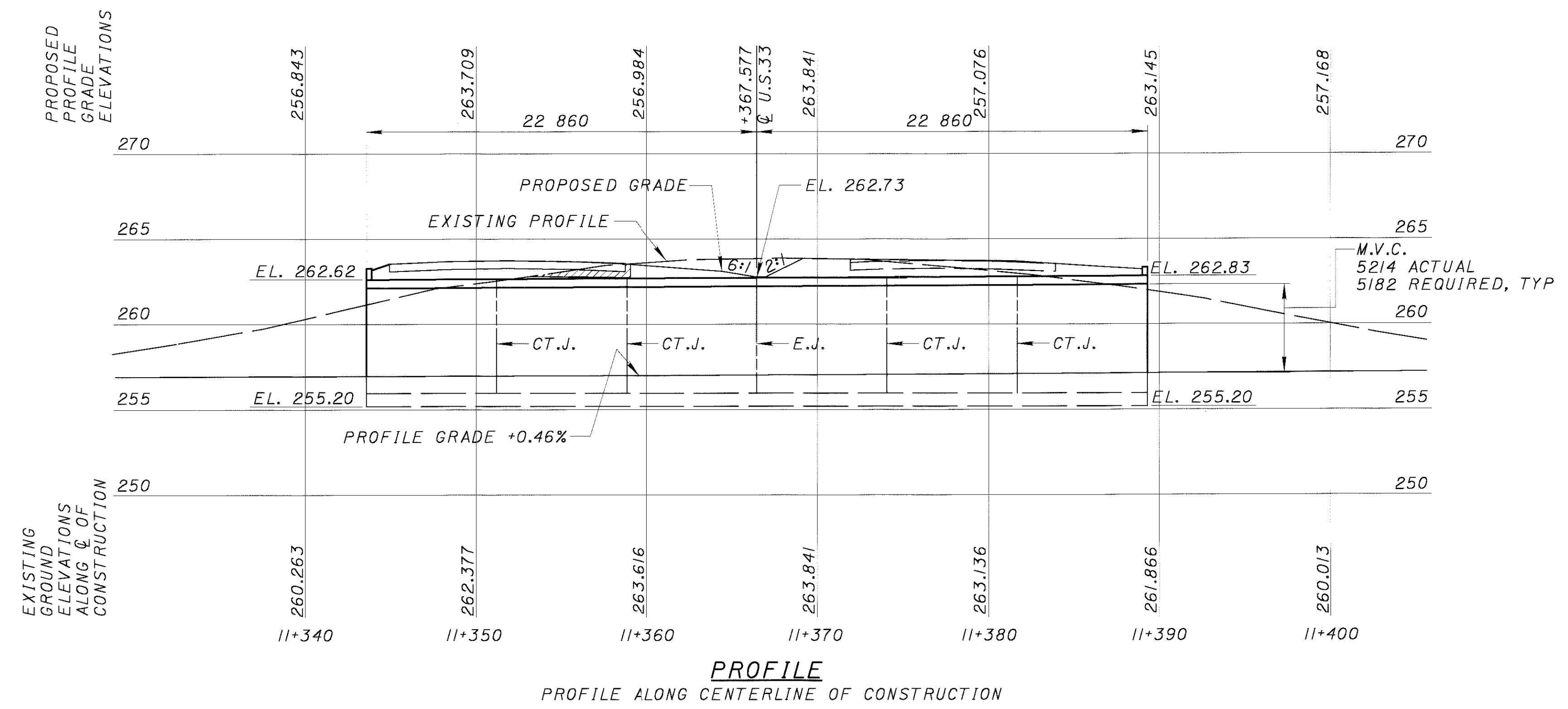


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NOTE:  
1. EARTHWORK LIMITS SHOWN ARE APPROXIMATE  
ACTUAL SLOPES SHALL CONFORM TO PLAN  
CROSS SECTIONS.

- LEGEND
- ⊙ = CENTERLINE
  - C.J. = CONSTRUCTION JOINT
  - CT.J. = CONTRACTION JOINT
  - EL. = ELEVATION
  - E.J. = EXPANSION JOINT
  - M.V.C. = MINIMUM VERTICAL CLEARANCE
  - PAVT. = ASPHALT PAVEMENT
  - P.C. = POINT OF CURVE
  - STA. = STATION
  - T/S = TOE OF SLOPE
  - TYP. = TYPICAL



PROPOSED STRUCTURE DATA	
TYPE: THREE-SIDED FLAT TOPPED CAST-IN-PLACE CONCRETE CULVERT ON CONTINUOUS SPREAD FOOTING.	
LENGTH: 45 700 END TO END UNDER PROPOSED 2 LANE, MEDIAN AND FUTURE 2 LANE US 33 ROADWAY.	
SKEW: 5°00'00"RF WITH RESPECT TO ⊙ CONSTRUCTION T.R.412.	
DESIGN LOADING: MS22.5 AND THE ALTERNATE MILITARY LOADING.	
ROADWAY OPENING: LATERAL CLEARANCE IS 9754 (32'-0") BETWEEN SIDE WALLS. VERTICAL CLEARANCE IS 5214 (17'-1 1/4") ACTUAL AND 5182 (17'-0") REQUIRED	

BOX CULVERT SITE PLAN

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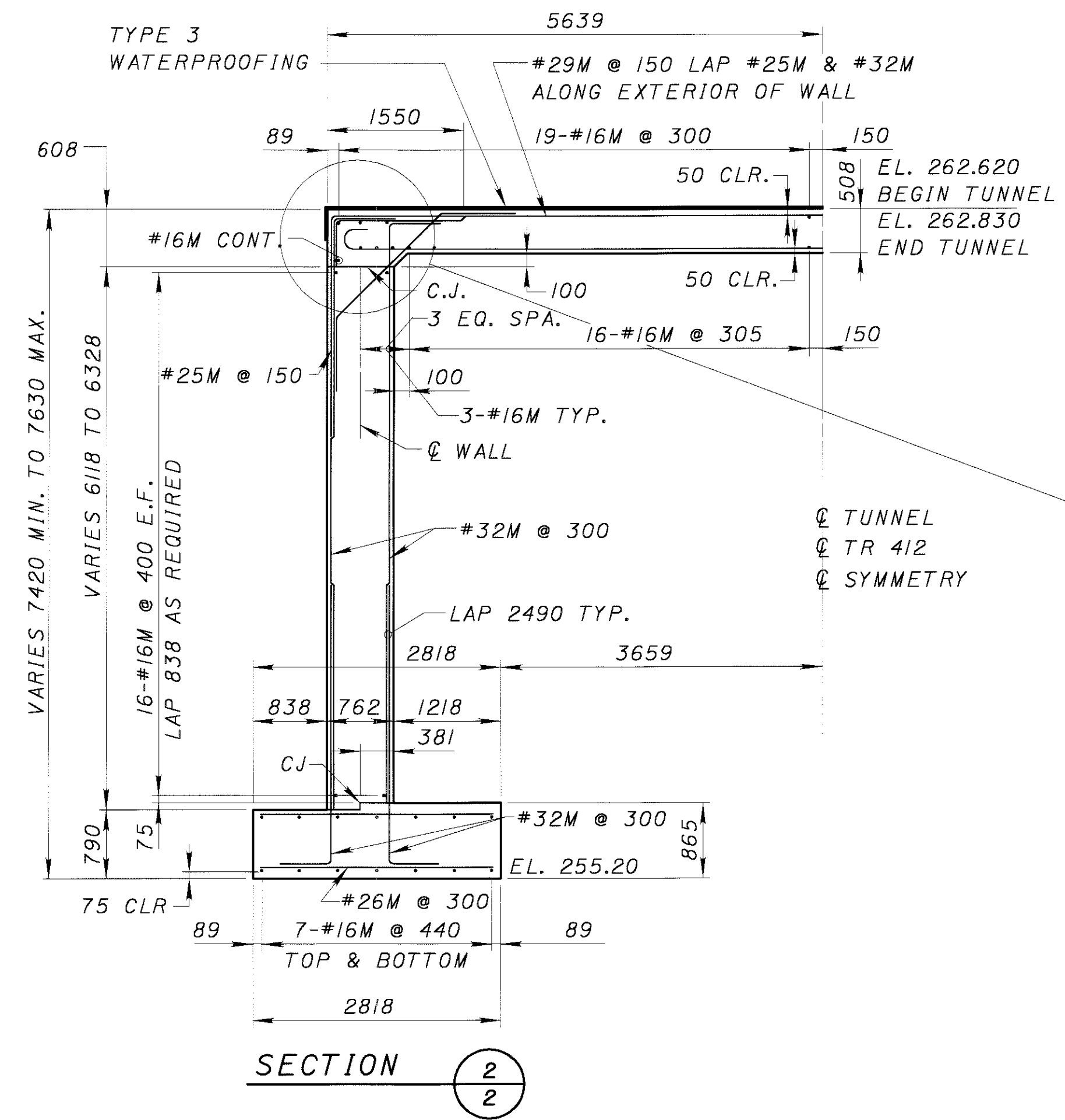
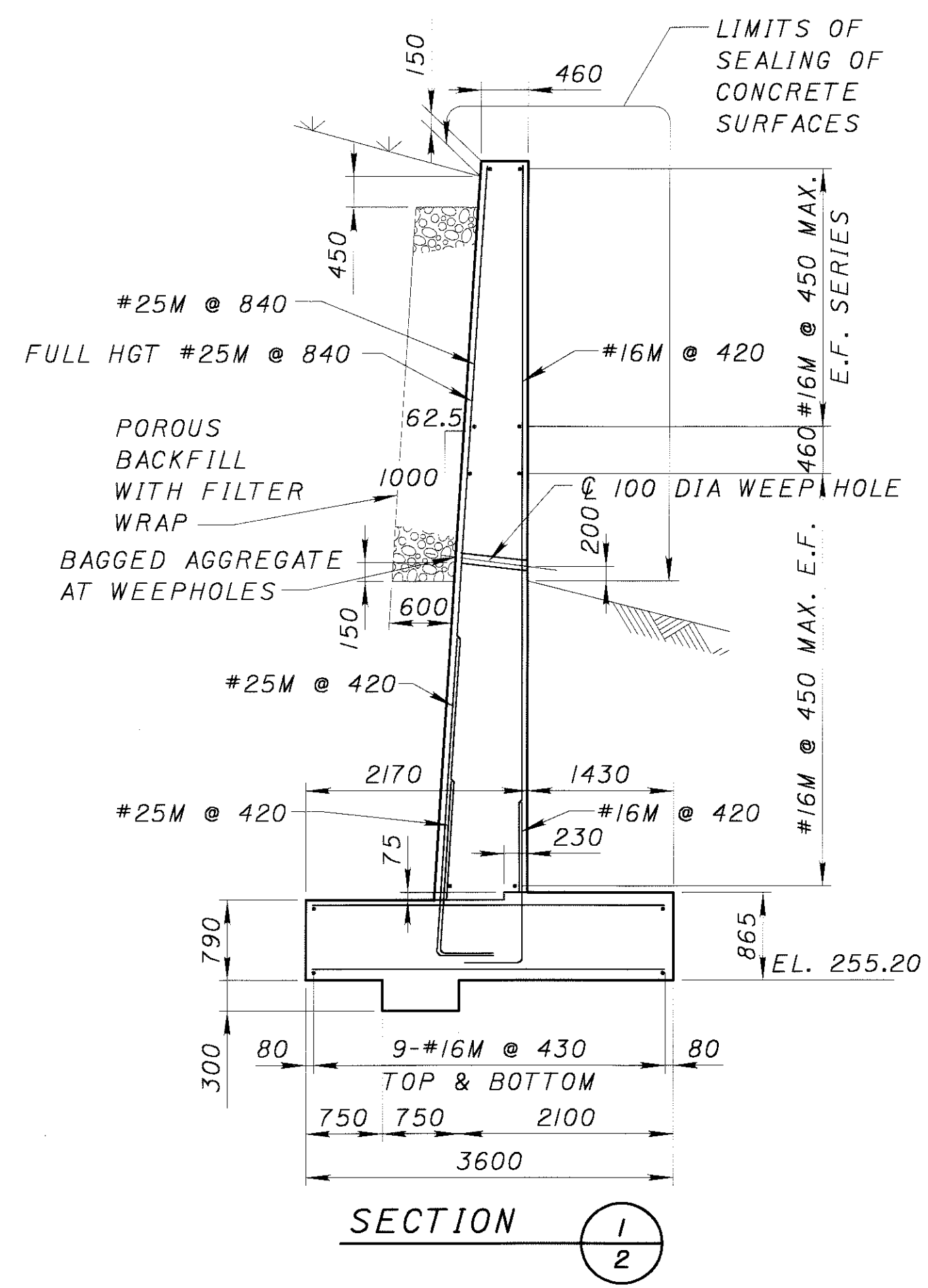
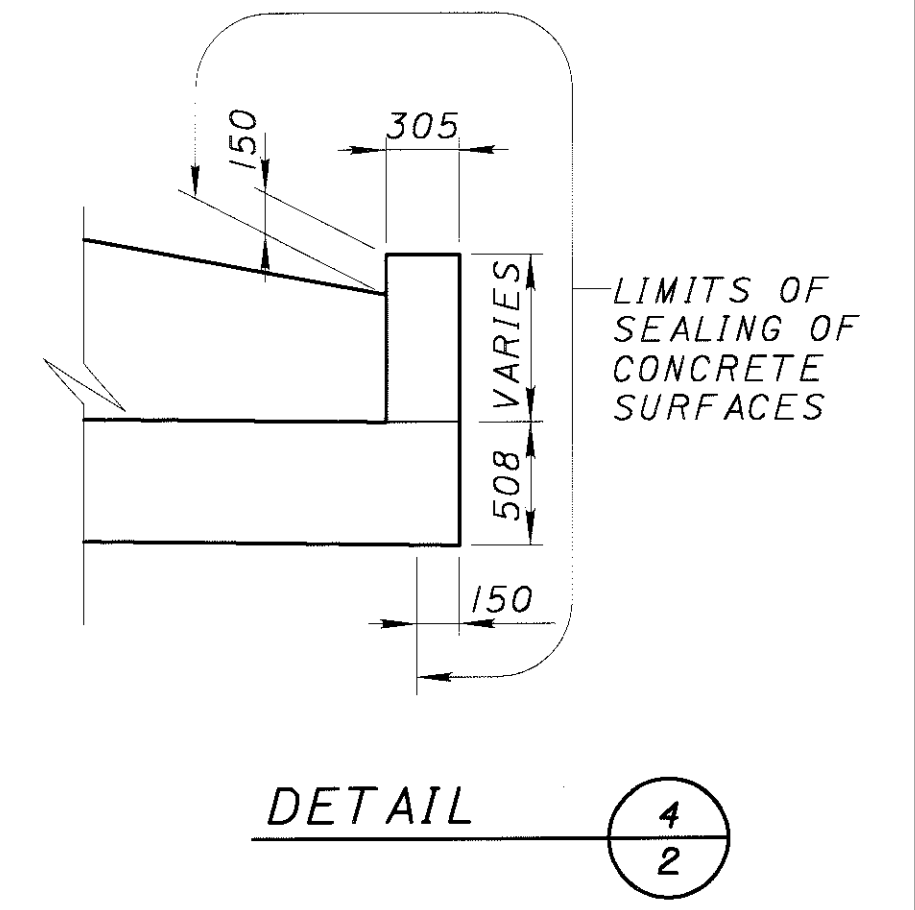
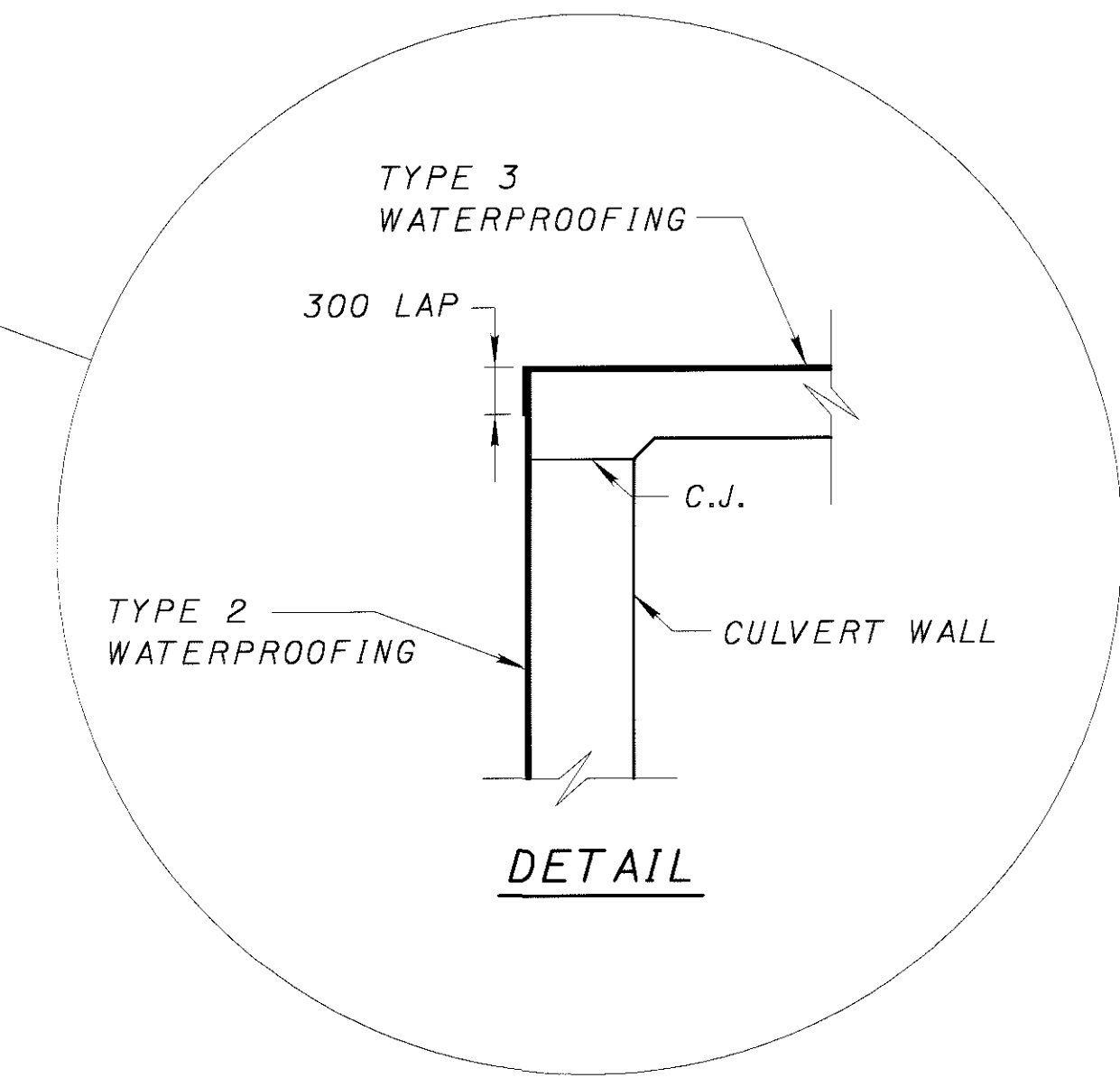
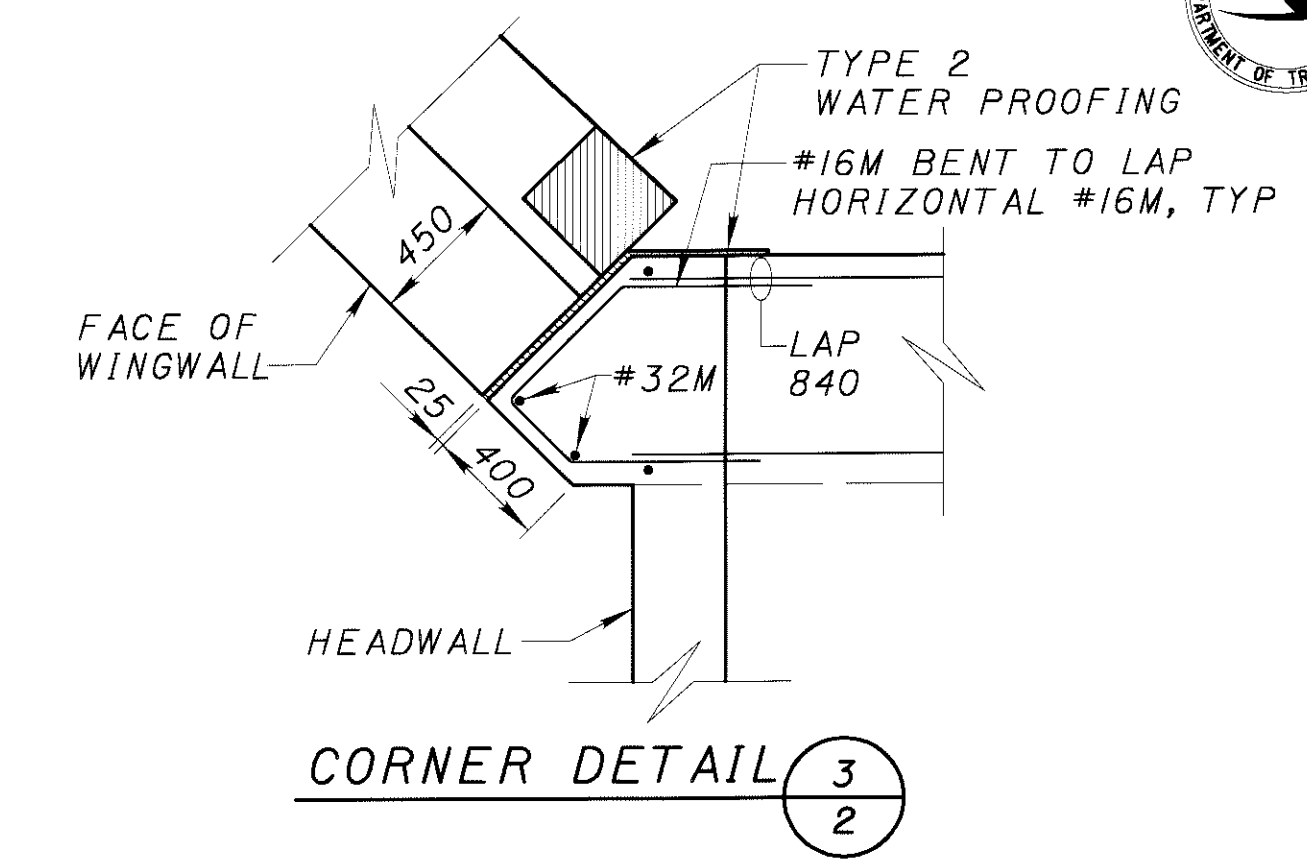
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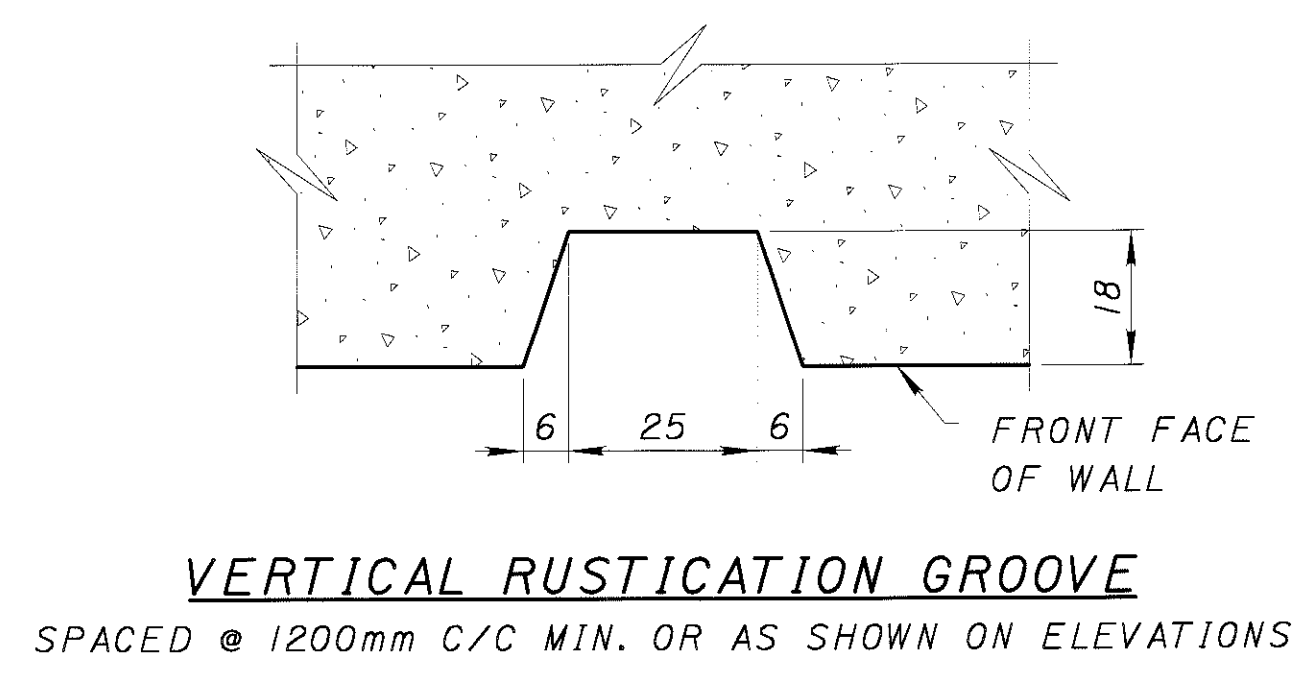
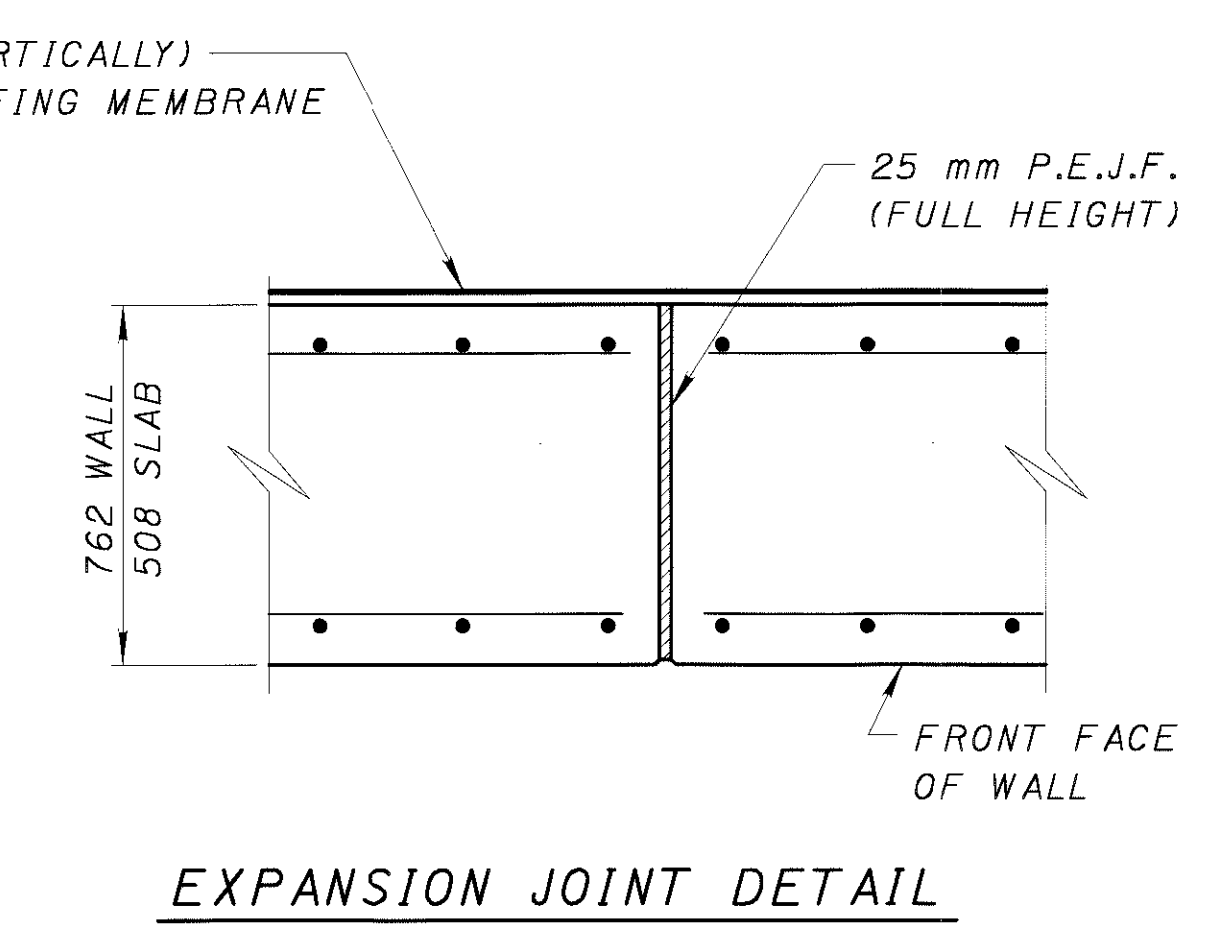
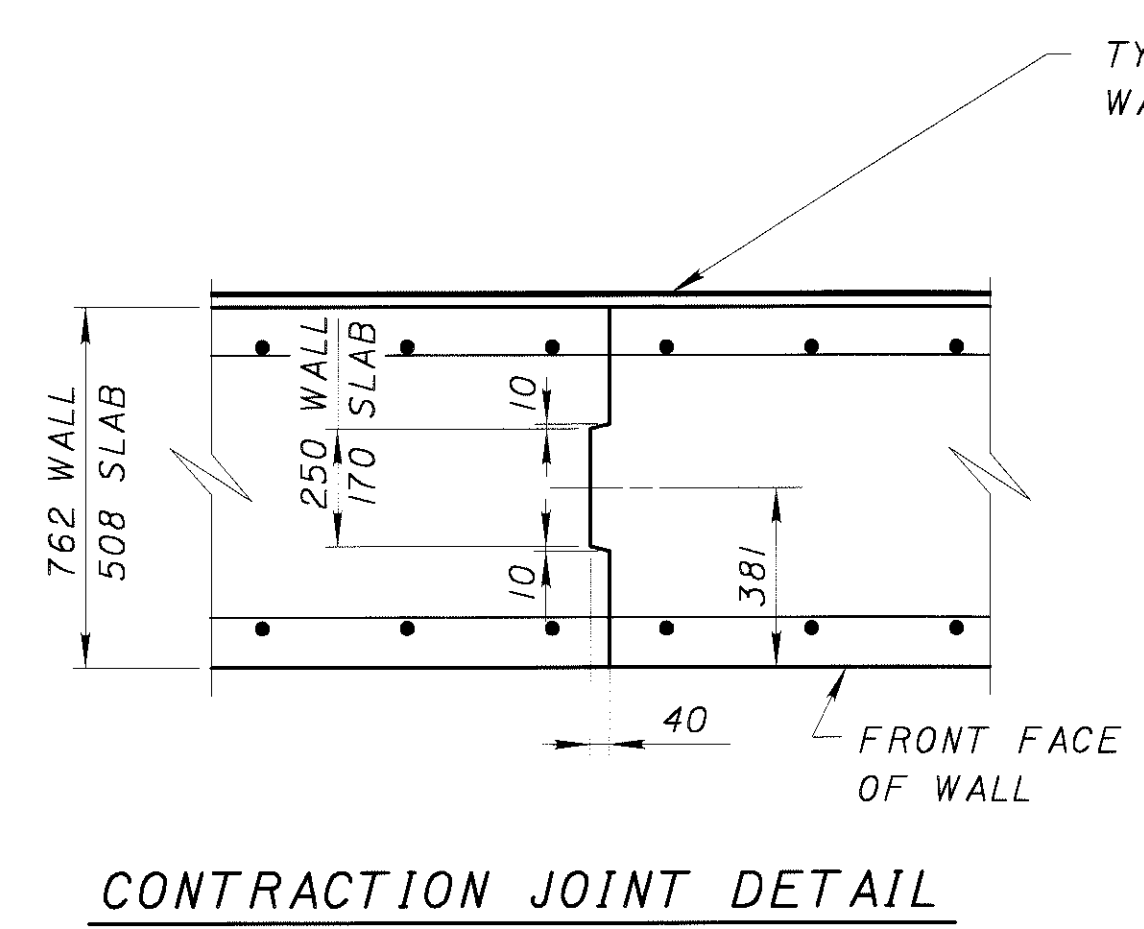


NOTES:

- ALL REINFORCING SHALL BE PLACED TO PROVIDE A MINIMUM COVER OF 50mm UNLESS OTHERWISE NOTED.
- REINFORCING IN THE VICINITY OF THE GUARD RAIL SHALL BE ACCURATELY PLACED TO AVOID INTERFERENCE WITH THE DRILLING OF POST ANCHOR HOLES OR THE PRE-SETTING OF BASE PLATE ANCHOR BOLTS.
- LAP LENGTHS:

BAR SIZE	CLASS C CONCRETE		CLASS S CONCRETE	
	TOP BAR	OTHER BAR	TOP BAR	OTHER BAR
#16M	610	430	840	590
#19M	790	690	1070	940
#22M	990	860	1270	1120
#25M	1300	1140	1650	1470
#29M	1650	1450	1860	2110
#32M	2080	1830	2670	2360

UNLESS OTHERWISE NOTED.



- LEGEND:
- CL. = CENTERLINE
  - CLR. = CLEARANCE
  - C.J. = CONSTRUCTION JOINT
  - CT.J. = CONTRACTION JOINT
  - E.F. = EACH FACE
  - EL. = ELEVATION
  - EQ. SPA. = EQUALLY SPACED
  - E.J. = EXPANSION JOINT
  - MAX. = MAXIMUM
  - MIN. = MINIMUM
  - P.E.J.F. = PREFORMED EXPANSION JOINT FILLER
  - STA. = STATION
  - TYP. = TYPICAL

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**ESTIMATED QUANTITIES**

CALC. BY: JAM    DATE: 12-19-00  
 CHKD. BY: CXW    DATE: 12-20-00

ITEM	ITEM EXTENSION	TOTAL	UNITS	DESCRIPTION	CULVERT	WINGWALL
203	20000	8100	CU M	EMBANKMENT	8100	
503	21300	LUMP	SUM	UNCLASSIFIED EXCAVATION	LUMP	
503	31100	100	CU M	ROCK EXCAVATION	100	
512	3300I	97	SQ M	TYPE 2 WATERPROOFING, AS PER PLAN	579	
512	330II	543	SQ M	TYPE 3 WATERPROOFING, AS PER PLAN	543	
SPECIAL	51267510	200	SQ M	SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)	45	155
516	13600	18	SQ M	25MM PREFORMED EXPANSION JOINT FILLER	18	
518	21200	67	CU M	POROUS BACKFILL WITH FILTER FABRIC		67
606	13011	15.24	M	GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP, AS PER PLAN	15.24	
842	34450	704	CU M	CLASS S CONCRETE, MISC.: STRUCTURE: THREE-SIDED FLAT-TOP CIP REINFORCED CONCRETE CULVERT	704	
842	46500	330	CU M	CLASS C CONCRETE, FOOTING	215	115
842	51100	125	CU M	CLASS C CONCRETE, MISC.: WINGWALL ABOVE FOOTING		125

**GENERAL STRUCTURAL NOTES:**

**REFERENCE SHALL BE MADE TO THE STANDARD CONSTRUCTION DRAWINGS:**  
 GR-2.2M DATED 10/21/97

**REFERENCE SHALL BE MADE TO THE SUPPLEMENTAL SPECIFICATIONS:**  
 842 DATED 01/06/99

**DESIGN SPECIFICATIONS**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION TRANSPORTATION OFFICIALS, 1996, INCLUDING THE 1997, 1998 AND 1999 INTERIM SPECIFICATIONS AND THE ODOT BRIDGE DESIGN MANUAL.

**DESIGN LOADING**

MS-22.5 AND THE ALTERNATE MILITARY LOADING.  
 FUTURE WEARING SURFACE (FWS) OF 2.87 kPa.

**DESIGN STRENGTHS**

CONCRETE CLASS C (FOOTINGS AND WINGWALLS ABOVE FOOTINGS) - COMPRESSIVE STRENGTH 27.5 MPa  
 CONCRETE CLASS S (THREE-SIDED FLAT TOP CULVERT) - COMPRESSIVE STRENGTH 31.0 MPa  
 REINFORCING STEEL - A615M, A616M OR A617M  
 GRADE 420 MINIMUM YIELD STRENGTH 420 MPa.

**TOP SLAB PROTECTION METHOD**

EPOXY COATED REINFORCING STEEL, ALL REINFORCING  
 51 mm CONCRETE COVER  
 TYPE 3 WATERPROOFING

**UTILITY LINES**

ALL EXPENSES INVOLVED IN REINSTALLING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITIES. THE CONTRACTOR AND UTILITIES ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

**FOUNDATION BEARING PRESSURE**

CULVERT AND WINGWALL FOOTINGS, AS DESIGNED, PRODUCE A MAXIMUM BEARING PRESSURE OF 0.22 MPa. THE ALLOWABLE BEARING PRESSURE IS 0.24 MPa.

**CONCRETE HEADWALL**

AS SOON AS A CONCRETE SAW CAN BE OPERATED WITHOUT DAMAGING THE FRESHLY PLACED CONCRETE, 32 mm DEEP CONTROL JOINTS SHALL BE SAWED INTO THE PERIMETER OF THE CONCRETE HEADWALL. THE SAW CUT SHALL BE MADE IN THE COMPLETE CIRCUMFERENCE OF THE HEADWALL, STARTING AND ENDING AT THE ELEVATION OF THE CONCRETE DECK. THE SAWCUTS SHALL BE PLACED AT 2255 mm. THE USE OF AN EDGE GUIDE, FENCE, OR JIG IS REQUIRED TO INSURE THAT THE CUT JOINT IS STRAIGHT, TRUE, AND ALIGNED ON ALL FACES OF THE HEADWALL. THE JOINT WIDTH SHALL BE THE WIDTH OF THE SAW BLADE, A NOMINAL WIDTH OF 6 mm. THE PERIMETER OF THE DEFLECTION CONTROL JOINT SHALL BE SEALED WITH A CAULKING MATERIAL CONFORMING TO FEDERAL SPECIFICATION, TT-S-00227E TO A MINIMUM DEPTH OF 25 mm. THE BOTTOM 13 mm OF THE INSIDE AND OUTSIDE FACE SHOULD BE LEFT UNSEALED TO ALLOW WATER TO ESCAPE. PAYMENT TO BE INCLUDED WITH ITEM 842.

**CONVERSION OF STANDARD CONSTRUCTION DRAWINGS**

THE SUPPLEMENTAL SPECIFICATION BRIDGE SPEC REFERENCED IN THIS PLAN ARE ENGLISH AND METRIC. ANY CONVERSION OF DIMENSIONS REQUIRED TO CONSTRUCT THE ITEMS SHOWN ON THE STANDARDS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. CONVERSIONS SHALL BE MADE USING THE ENGLISH TO SI (METRIC) CONVERSION FACTORS PROVIDED IN SECTION 109.011 OF THE 1997 CONSTRUCTION AND MATERIALS SPECIFICATION. THE APPENDIX OF ASTM E380 SHALL BE UTILIZED FOR ANY ADDITIONAL CONVERSIONS REQUIRED. CONVERSIONS SHALL BE APPROPRIATELY PRECISE AND SHALL REFLECT STANDARD INDUSTRY ENGLISH VALUES WHERE SUITABLE.

**SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)**

ALL CONCRETE SURFACES, INCLUDING CULVERT HEADWALLS AND EXPOSED WINGWALL SURFACES AS DETAILED IN THE PLANS SHALL BE SEALED WITH EPOXY-URETHANE. THE COLOR OF THE URETHANE SHALL CONFORM TO FEDERAL STANDARD NO. 17778 (OFF WHITE).

**REINFORCING STEEL**

A REINFORCING STEEL LIST HAS NOT BEEN PROVIDED WITH THIS PLAN SET. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREPARING THE REINFORCING STEEL LIST AND ALL REINFORCING STEEL DETAILS, IN ACCORDANCE WITH SECTION 301.4 THROUGH 301.4.8 (INCLUSIVE) OF THE ODOT BRIDGE DESIGN MANUAL, APRIL 2000 EDITION. THE COMPLETED REINFORCING STEEL LIST SHALL BE SUBMITTED TO THE DIRECTOR FOR REVIEW AND ACCEPTANCE IN ACCORDANCE WITH CMS 509.05. FABRICATION OF THE REINFORCING STEEL SHALL NOT BEGIN UNTIL WRITTEN ACCEPTANCE OF THE SUBMITTED DRAWINGS HAS BEEN RECEIVED FROM THE DIRECTOR. ALL COSTS FOR PREPARING THE REINFORCING STEEL LIST SHALL BE INCLUDED FOR PAYMENT WITH THE APPROPRIATE 842 CONCRETE ITEMS.

WHEN THE SHAPE OF A BAR IS NOT APPARENT IN THE PLAN DETAILS, A BEND DIAGRAM HAS BEEN SHOWN WITH THE BAR SIZE.

**SUBSTITUTIONS**

THE PROPOSED THREE-SIDED FLAT-TOP CULVERT PROVIDES 9754 mm (32 FT) OF CLEAR LATERAL OPENING AND 5214 mm (17'-1 1/4") OF VERTICAL CLEARANCE ABOVE TR 412 PROFILE GRADE. THE CULVERT TUNNEL IS 45720 mm (150 FEET) LONG UNDERPASSING US 33. THIS CAST-IN-PLACE REINFORCED CONCRETE STRUCTURE MAY BE SUBSTITUTED, AT THE REQUEST OF THE CONTRACTOR, WITH A PRECAST OR PARTIALLY PRECAST STRUCTURE WITH THE APPROVAL OF THE DIRECTOR.

**POROUS BACKFILL WITH FILTER FABRIC**

POROUS BACKFILL WITH FILTER FABRIC, 600 mm THICK SHALL EXTEND UP TO THE PLANE OF THE SUBGRADE, TO 450 mm BELOW THE EMBANKMENT SURFACE, AND Laterally TO THE ENDS OF THE WINGWALLS. GEOTEXTILE FABRIC SHALL CONFIRM WITH 712.09, TYPE A. 0.06 CUBIC METERS OF BAGGED NO. 3 AGGREGATE SHALL BE PLACED AT EACH WEEPHOLE. BAGGED AGGREGATE AND GEOTEXTILE FABRIC ARE INCLUDED WITH POROUS BACKFILL FOR PAYMENT.

**GUARDRAIL, TYPE 5 WITH TUBULAR BACKUP AS PER PLAN**

SHALL BE INSTALLED OVER THE CULVERT AS PER STANDARD CONSTRUCTION DRAWING GR-2.2M EXCEPT THAT THE "PARTIAL DEPTH ANCHORING METHOD" SHALL BE USED AND THE "THROUGH-BOLTING METHOD" SHALL NOT BE USED TO ANCHOR THE GUARDRAIL POST BASE PLATE TO THE TOP SLAB.

CALCULATED  
JAM  
CHECKED  
CXW

BOX CULVERT SITE PLAN

ATH-33-40.981

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