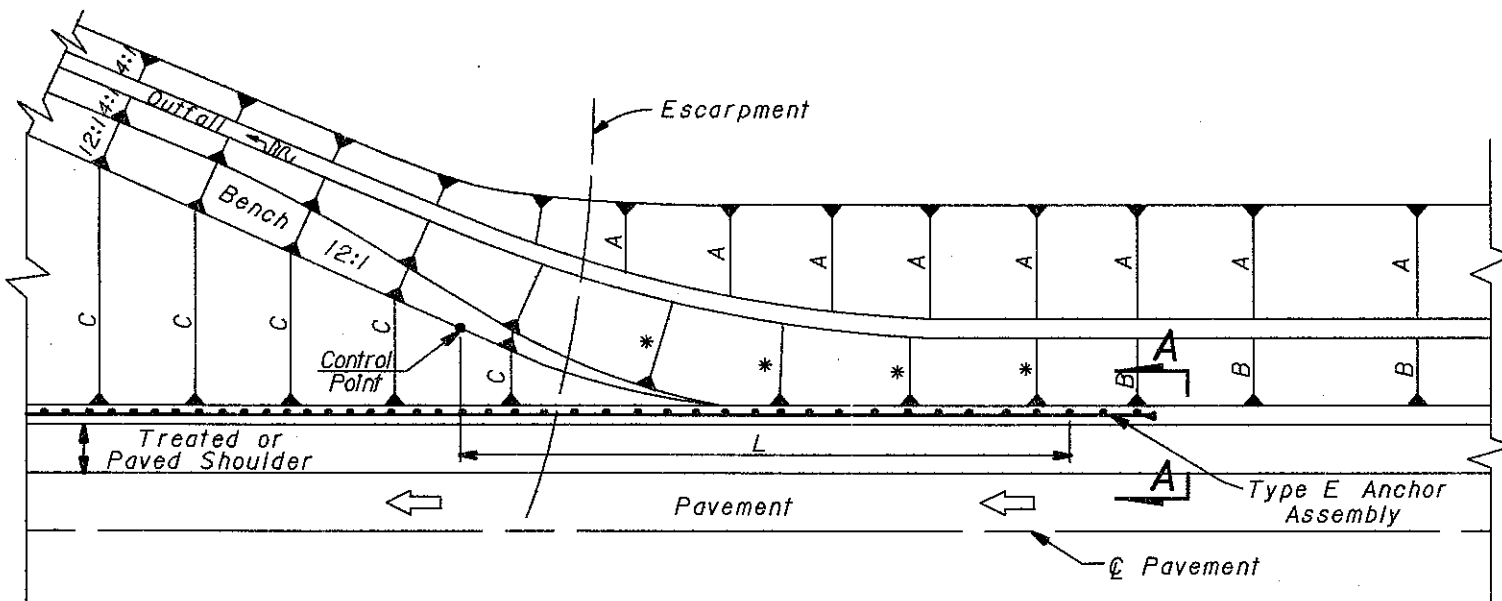
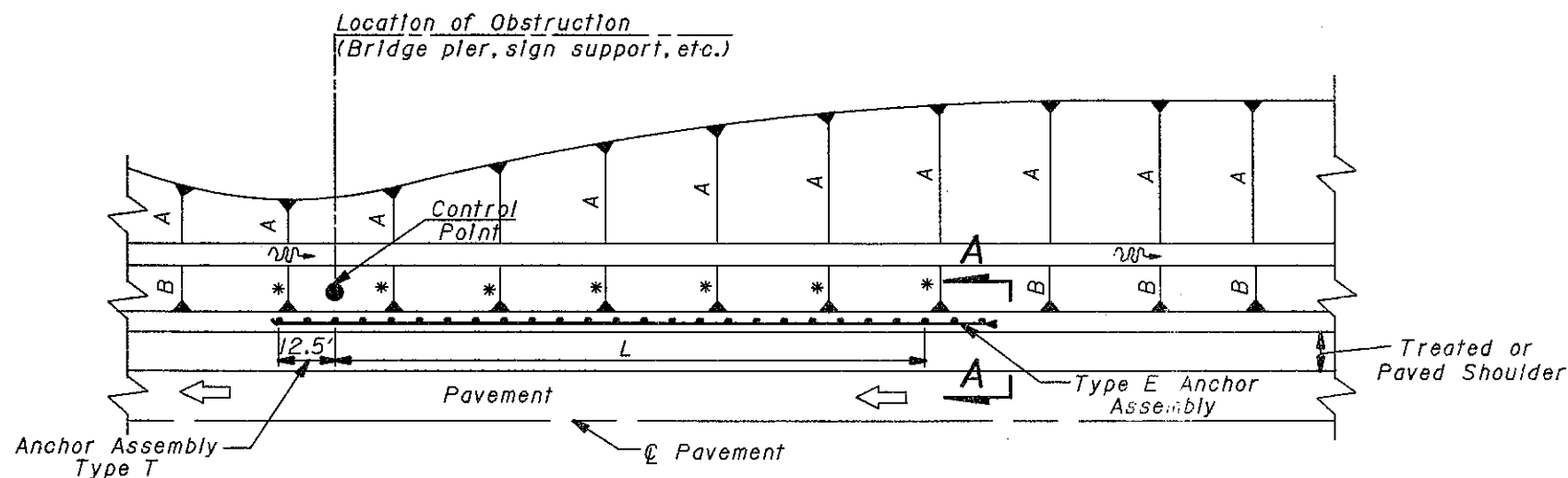


**FILL TO FILL**



**CUT TO FILL**



**OBSTRUCTION**

**NOTES**

**THE APPLICATION** of details shown herein shall only be utilized where approach foreslopes are steeper than 6:1, but not steeper than 3:1.

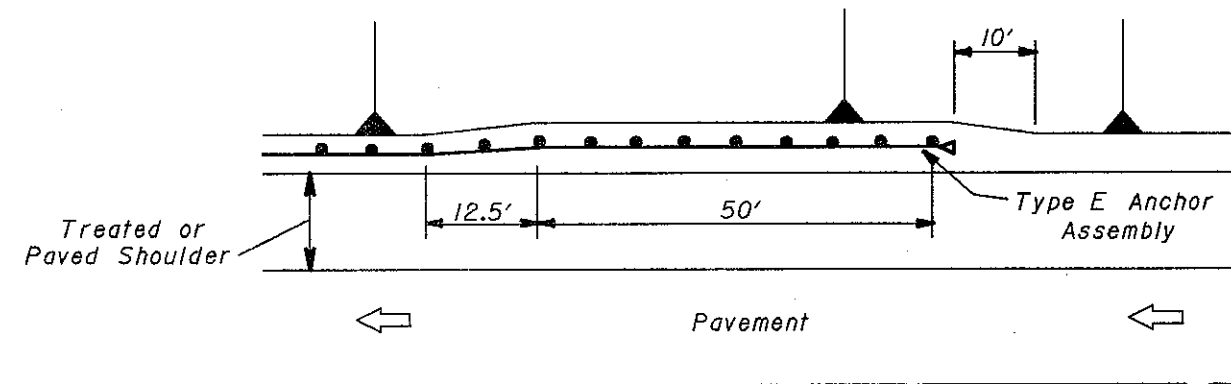
**SLOPES** designated by \* shall be 3:1 or flatter. Slopes labeled A, B or C shall be constructed as specified in the plans.

**DISTANCES** shown as L shall be constructed as specified in the plans. Distance L is the length of guardrail extending beyond the control point parallel to the centerline. The control points shown designate the extent of the hazard being shielded and is shown for design use only.

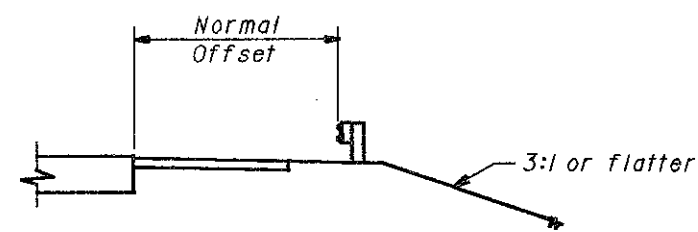
**GUARDRAIL END TERMINALS** utilized for the situations shown herein shall be Type E Anchor Assemblies unless otherwise specified in the plans.

**THE OBSTRUCTION INSTALLATION** shown is applicable for one-directional roadways only.

**THE OFFSET DESIGN** shown may be specified and/or constructed where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E Anchor Assembly. The final 50' of guardrail is to be offset an additional 9" from the normal guardrail offset by tapering within the 12.5' shown below. The graded shoulder width shall be increased 9" also and tapered back to the normal width in 10' as shown.

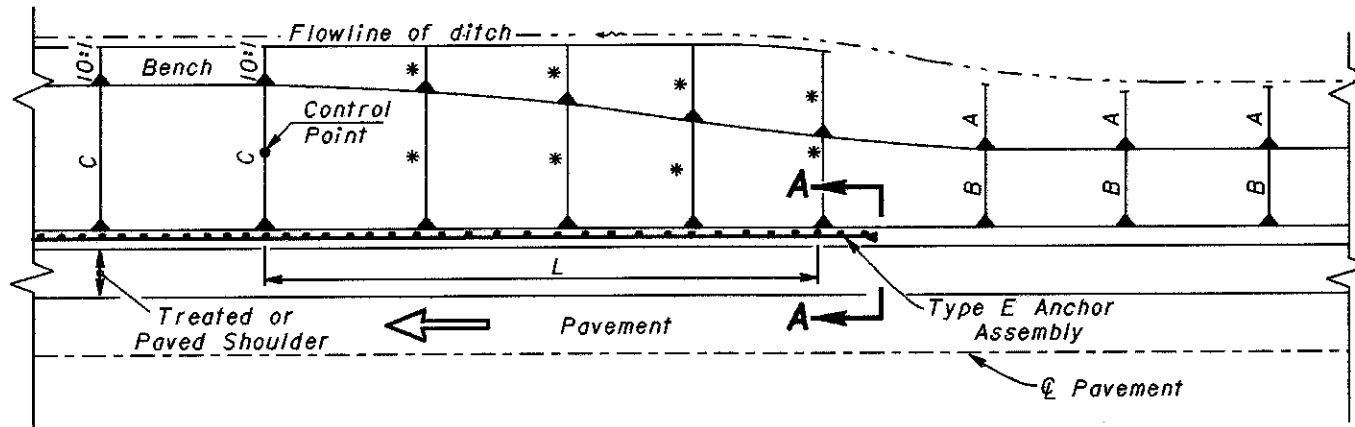


**OFFSET DESIGN**  
(Plan View)

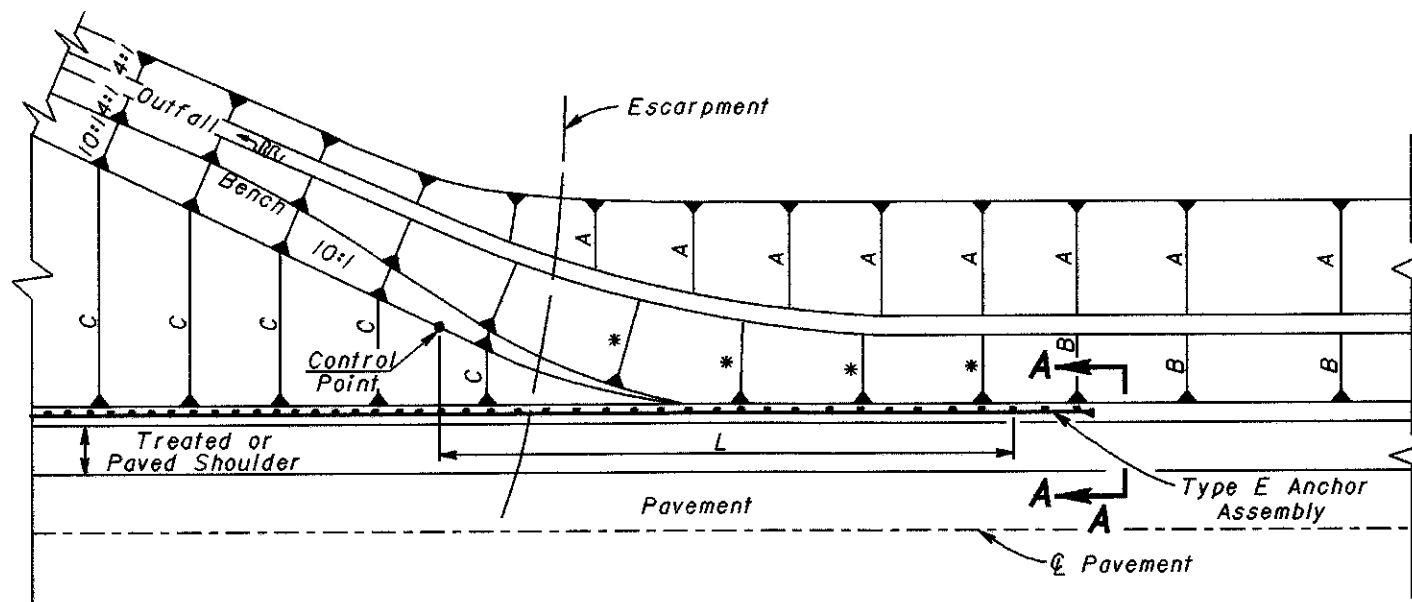


**SECTION A-A**

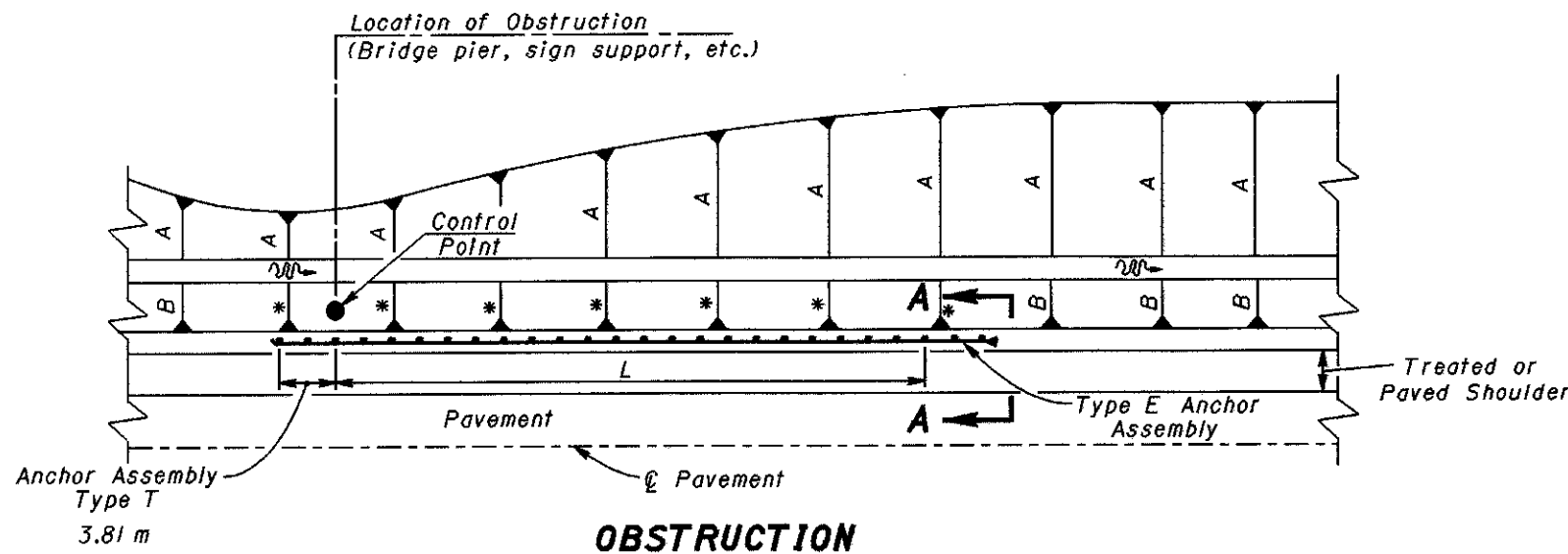
BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
<b>INTRODUCTION OF GUARDRAIL RUNS Foreslope steeper than 6:1</b>	
STANDARD CONSTRUCTION DRAWING	<b>GR-5.3</b>
APPROVED <i>D.K. Hulman</i> ENGR., L & D	
DATE 10-30-92	



**FILL TO FILL**



**CUT TO FILL**



**OBSTRUCTION**

**NOTES**

**APPLICATION:** The application of details shown herein shall only be utilized where approach foreslopes are steeper than 6:1, but not steeper than 3:1.

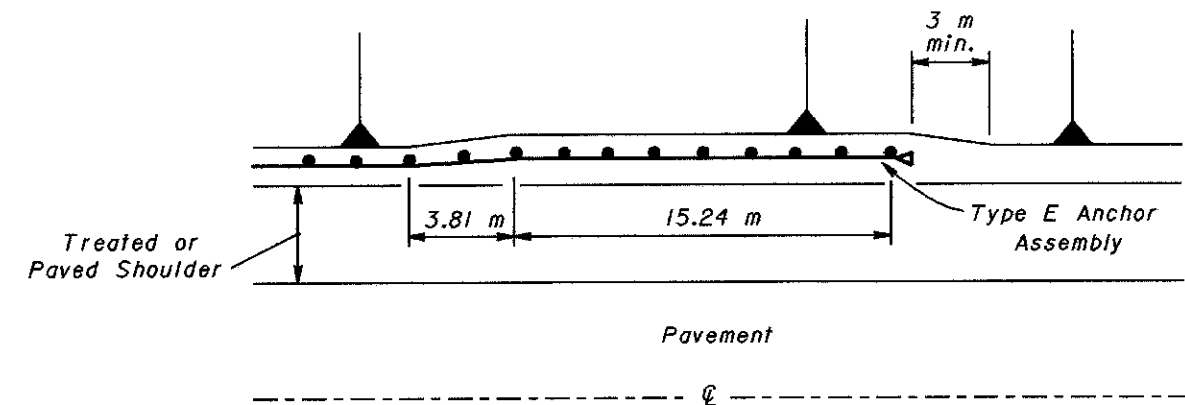
**SLOPES:** Slopes designated by \* shall be 3:1 or flatter. Slopes labeled A, B or C shall be constructed as specified in the plans.

**\*L\* DISTANCE:** Dimensions shown as L shall be constructed as specified in the plans. Distance L is the length of guardrail extending beyond the control point parallel to the centerline. The control points shown designate the extent of the hazard being shielded and is shown for design use only.

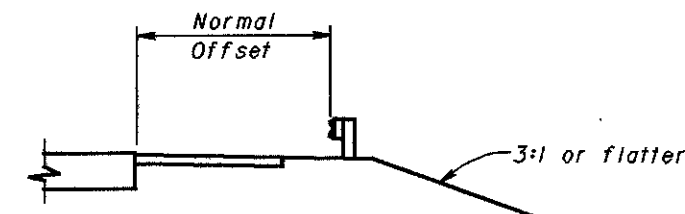
**GUARDRAIL END TERMINALS:** Terminals utilized for the situations shown herein shall be Type E Anchor Assemblies unless otherwise specified in the plans.

**OBSTRUCTION INSTALLATION:** The installation shown is applicable for one-directional roadways only.

**OFFSET DESIGN:** The design shown may be specified and/or constructed where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E Anchor Assembly. The final 15.24 m of guardrail is to be offset an additional 230 mm from the normal guardrail offset by tapering within the 3.81 m shown below. The graded shoulder width shall be increased 230 mm also and tapered back to the normal width in 3 m as shown.

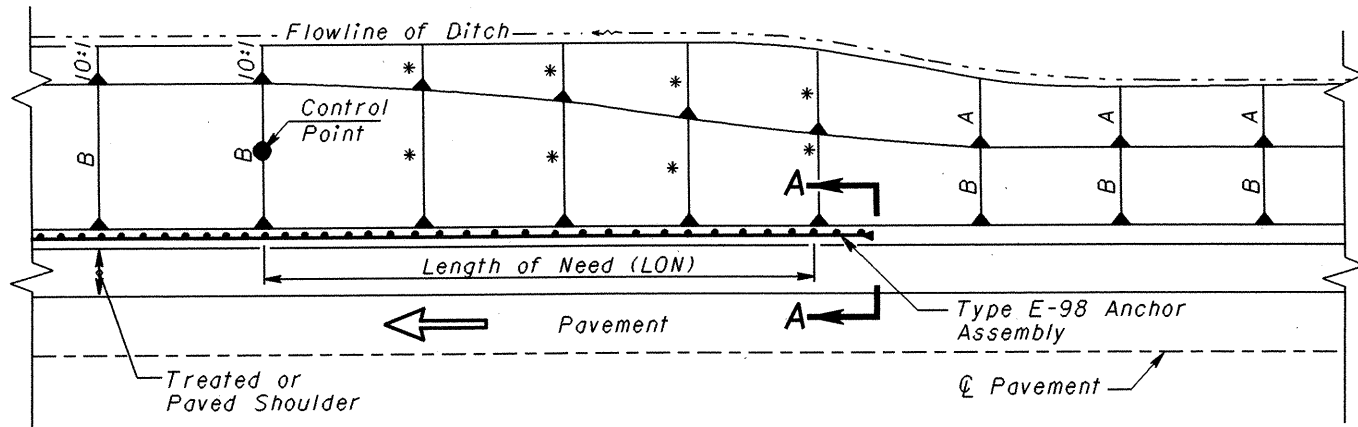


**OFFSET DESIGN**  
(Plan View)

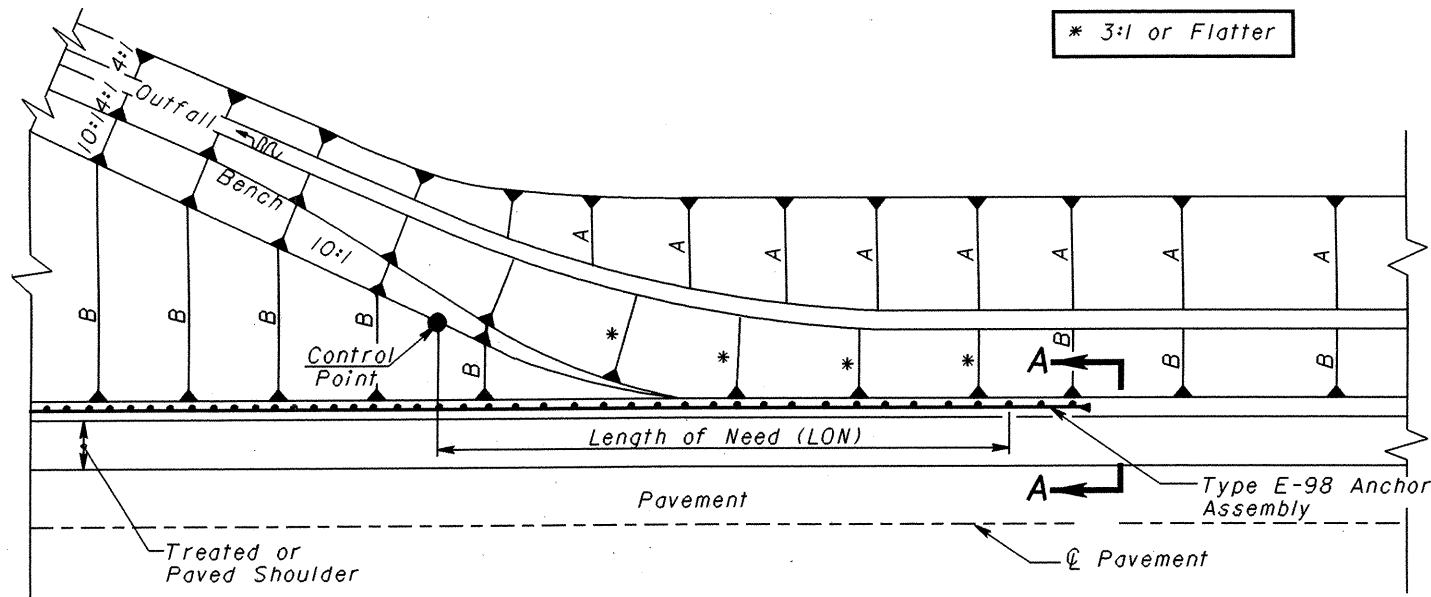


**SECTION A-A**

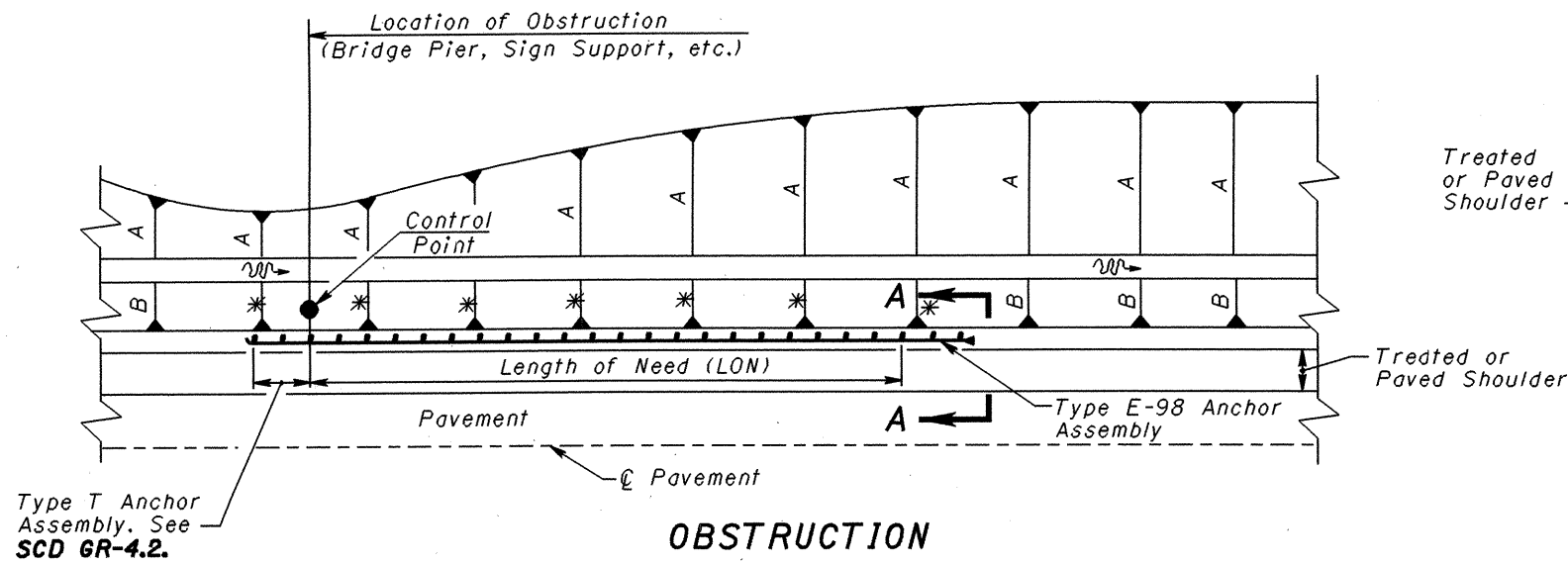
BUREAU OF LOCATION AND DESIGN OHIO DEPARTMENT OF TRANSPORTATION	
INTRODUCTION OF GUARDRAIL RUNS Foreslope steeper than 6:1	DATE 11-30-94
STANDARD CONSTRUCTION DRAWING <b>GR-5.3M</b>	
APPROVED <i>W. K. Hulman</i> ENGR., L & D	



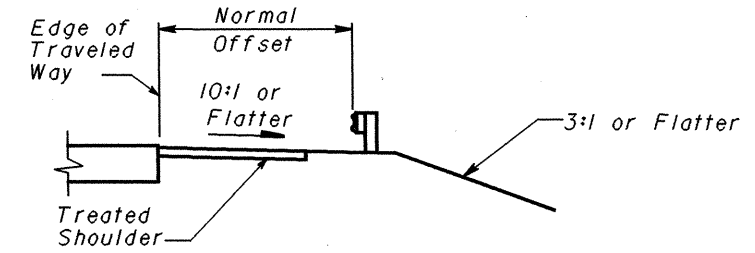
FILL TO FILL



CUT TO FILL



OBSTRUCTION



SECTION A-A

NOTES

**APPLICATION:** Utilize details shown here only where approach foreslopes are steeper than 6:1, but not steeper than 3:1.

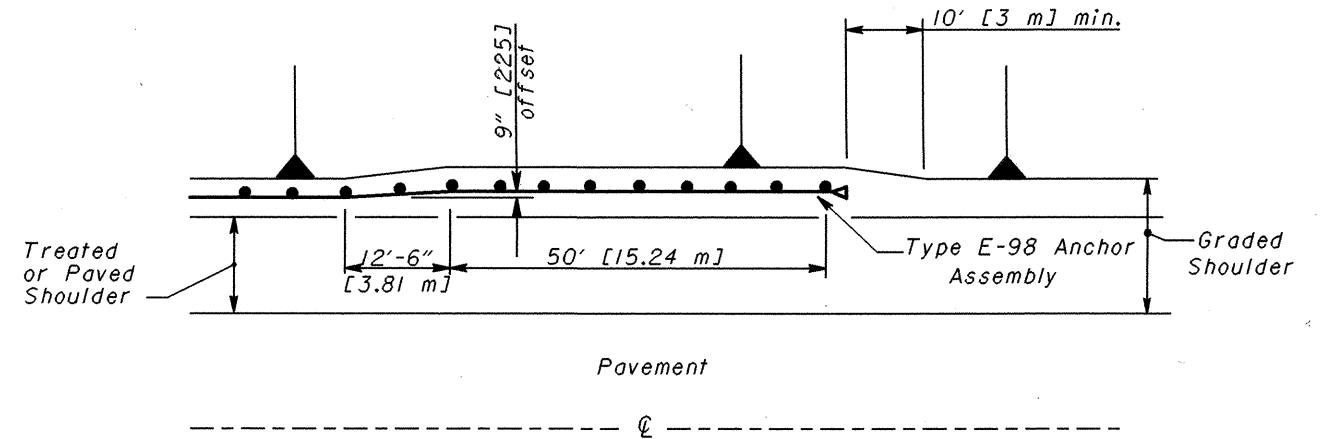
**SLOPES:** Slopes designated by \* shall be 3:1 or flatter. Slopes labeled "A" and "B" shall be constructed as specified in the plans.

**"LON" DISTANCE:** The Length of Need, LON, represents the distance from the control point to the beginning of the end treatment. The control point shown designates the extent of the hazard to be shielded and is shown for design use only. See *Location & Design Manual, Volume I, Section 602.*

**GUARDRAIL END TERMINALS:** Terminals utilized for the situations shown here shall be Type E-98 Anchor Assemblies unless otherwise specified in the plans.

**OBSTRUCTION INSTALLATION:** Use this installation for one-directional roadways only.

**OFFSET DESIGN:** The design shown may be specified and/or constructed where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E-98 Anchor Assembly. The Type E-98 which represents the final 50' [15.24 m] of guardrail is to be offset an additional 9" [225] from the normal guardrail offset by tapering within the 12'-6" [3.81 m] shown below. The graded shoulder width shall be increased 9" [225] and tapered back to the normal width to 10' [3m] as shown.



OFFSET DESIGN  
(Plan View)

THIS DRAWING REPLACES GR-5.3M DATED 11-30-94.

NUMBER  
GR-5.3

STANDARD ROADWAY CONSTRUCTION DRAWING  
INTRODUCTION OF GUARDRAIL RUNS  
Foreslope steeper than 6:1

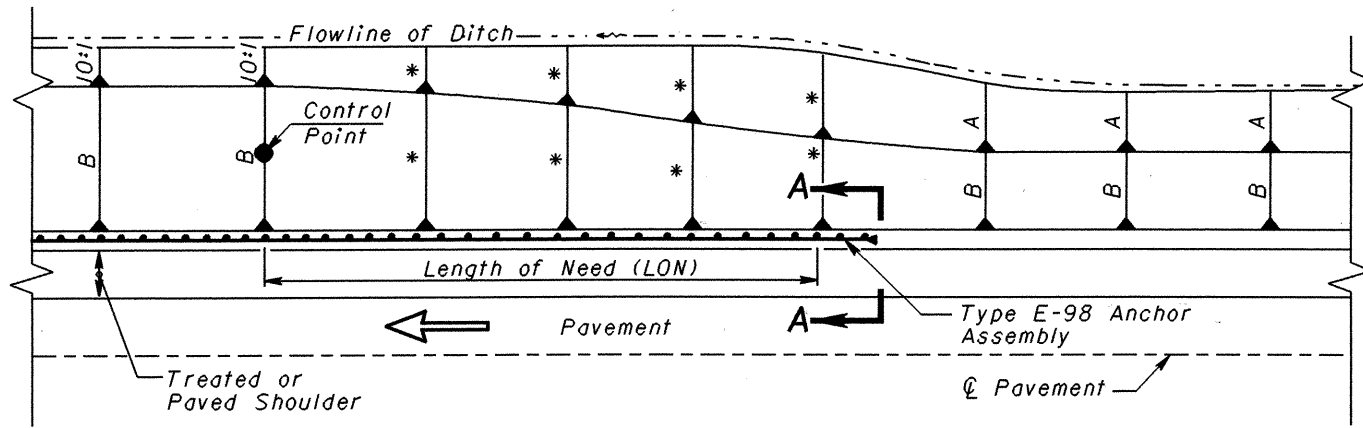
ROADWAY  
ENGINEERING  
SERVICES

All metric dimensions  
(in brackets [ ]) are  
in millimeters unless  
otherwise noted.

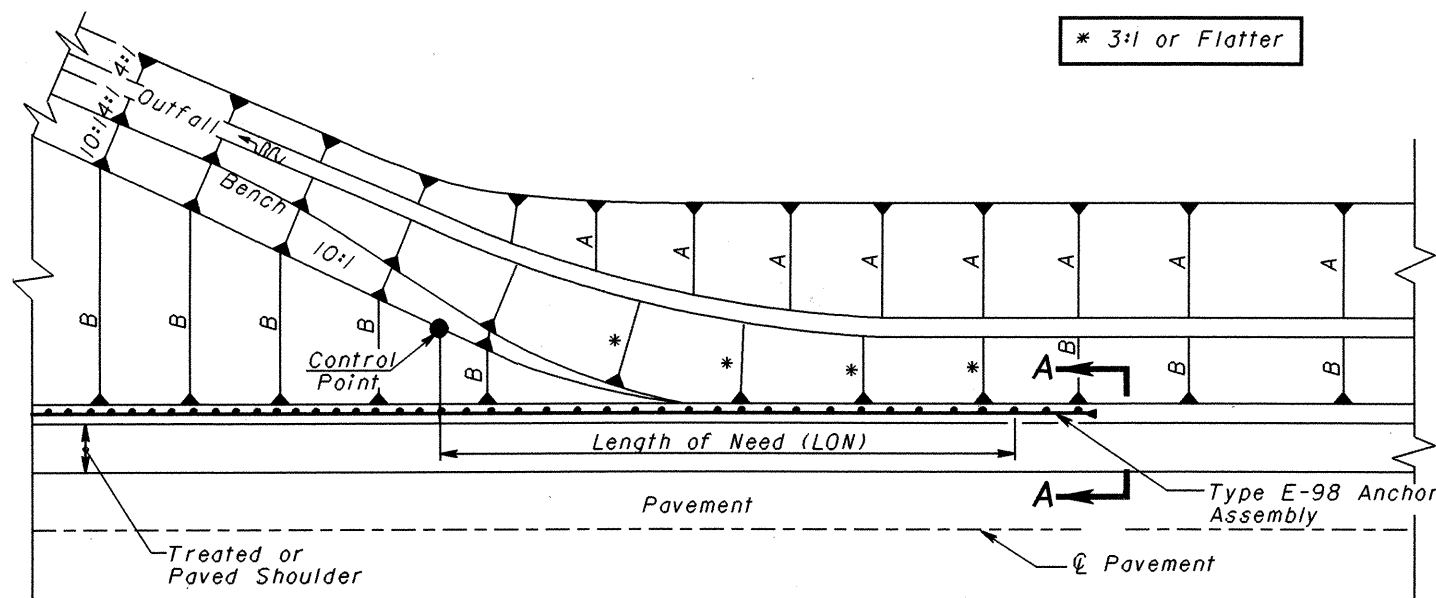
STDS. ENGR.  
D. Focke

ILLINOIS DEPARTMENT OF TRANSPORTATION  
ROADWAY DESIGN ENGINEER  
Ray T. Siskind

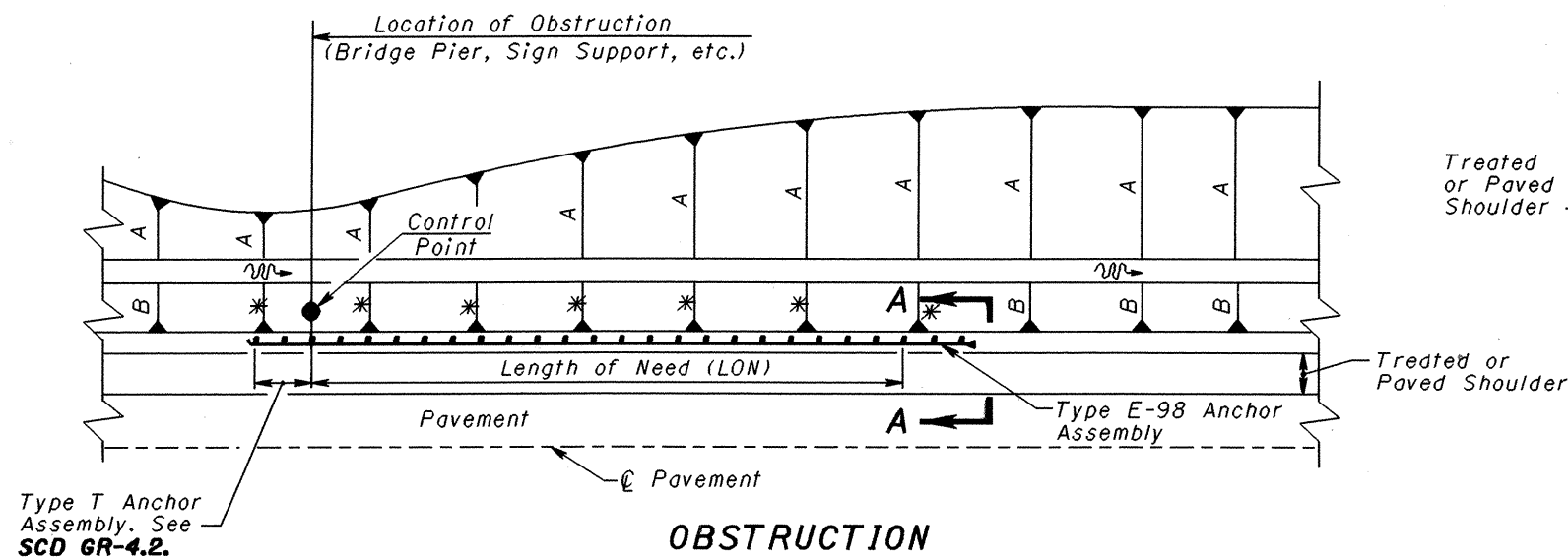
4-18-03  
DATE



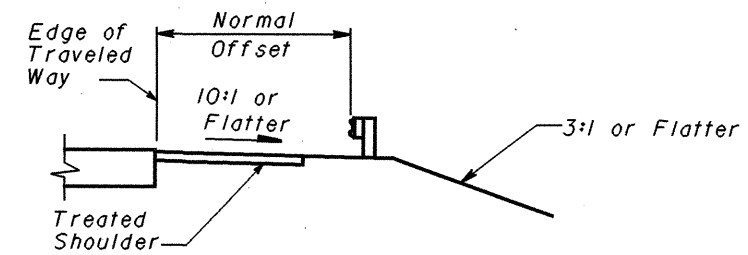
FILL TO FILL



CUT TO FILL



OBSTRUCTION



SECTION A-A

NOTES

**APPLICATION:** Utilize details shown here only where approach foreslopes are steeper than 6:1, but not steeper than 3:1.

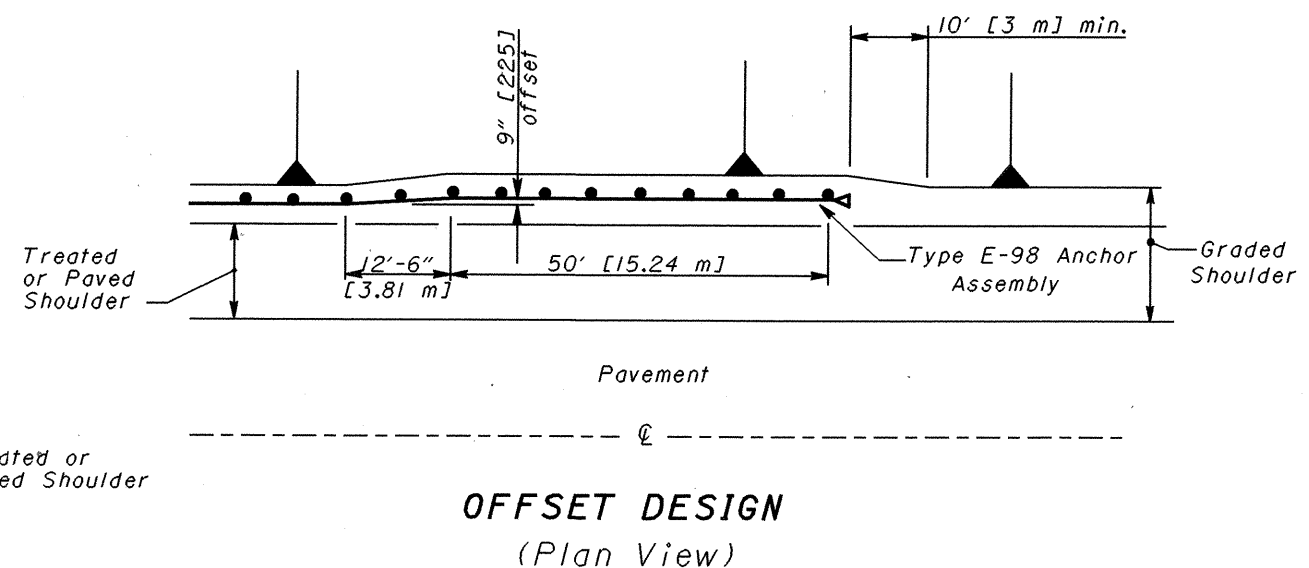
**SLOPES:** Slopes designated by \* shall be 3:1 or flatter. Slopes labeled "A" and "B" shall be constructed as specified in the plans.

**"LON" DISTANCE:** The Length of Need, LON, represents the distance from the control point to the beginning of the end treatment. The control point shown designates the extent of the hazard being shielded and is shown for design use only. See *Location & Design Manual, Volume 1, Section 602.*

**GUARDRAIL END TERMINALS:** Terminals utilized for the situations shown here shall be Type E-98 Anchor Assemblies unless otherwise specified in the plans.

**OBSTRUCTION INSTALLATION:** Use this installation for one-directional roadways only.

**OFFSET DESIGN:** The design shown may be specified on the plans where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E-98 Anchor Assembly. The Type E-98 which represents the final 50' [15.24 m] of guardrail is to be offset an additional 9" [225] from the normal guardrail offset by tapering within the 12'-6" [3.81 m] shown below. The graded shoulder width shall be increased 9" [225] and tapered back to the normal width to 10' [3 m] as shown.



OFFSET DESIGN  
(Plan View)

THIS DRAWING REPLACES GR-5.3 DATED 4-18-03.

STANDARD ROADWAY CONSTRUCTION DRAWING  
INTRODUCTION OF GUARDRAIL RUNS  
Foreslope steeper than 6:1

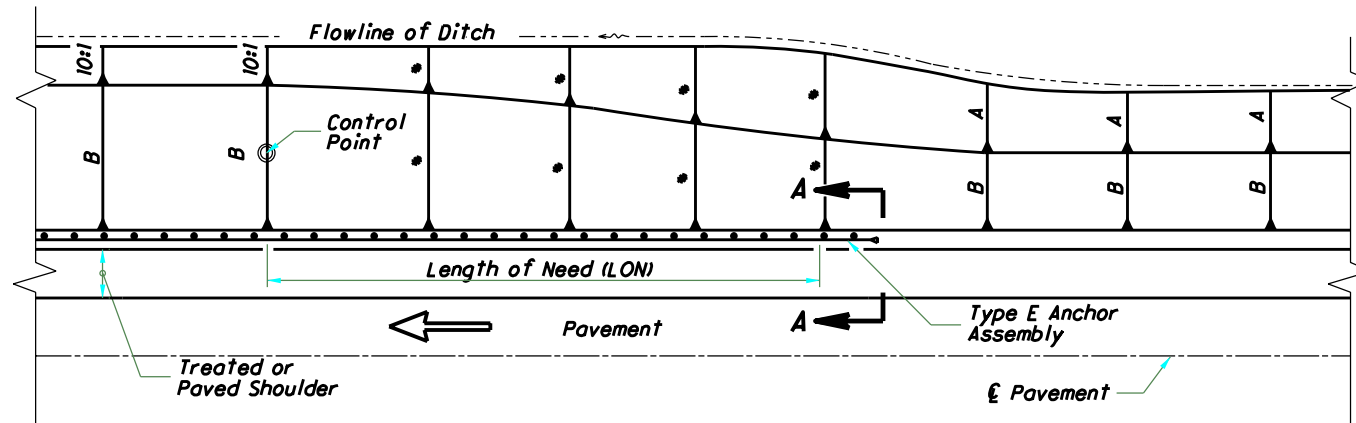
NUMBER  
GR-5.3

STDS. ENGR.  
D. Focke

All metric dimensions  
(in brackets [ ]) are  
in millimeters unless  
otherwise noted.

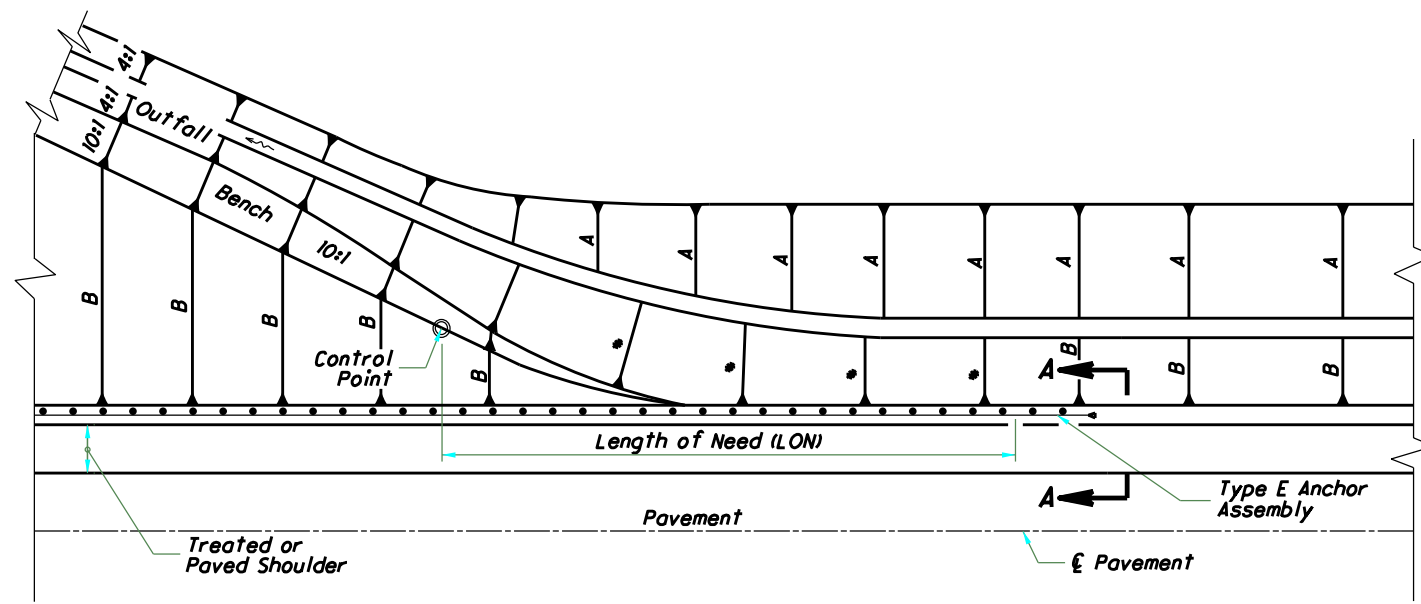
ROADWAY  
ENGINEERING  
SERVICES

INDIANA DEPARTMENT OF TRANSPORTATION  
1-16-04  
DATE  
ROADWAY DESIGN ENGINEER  
*Randy J. Stuebel*

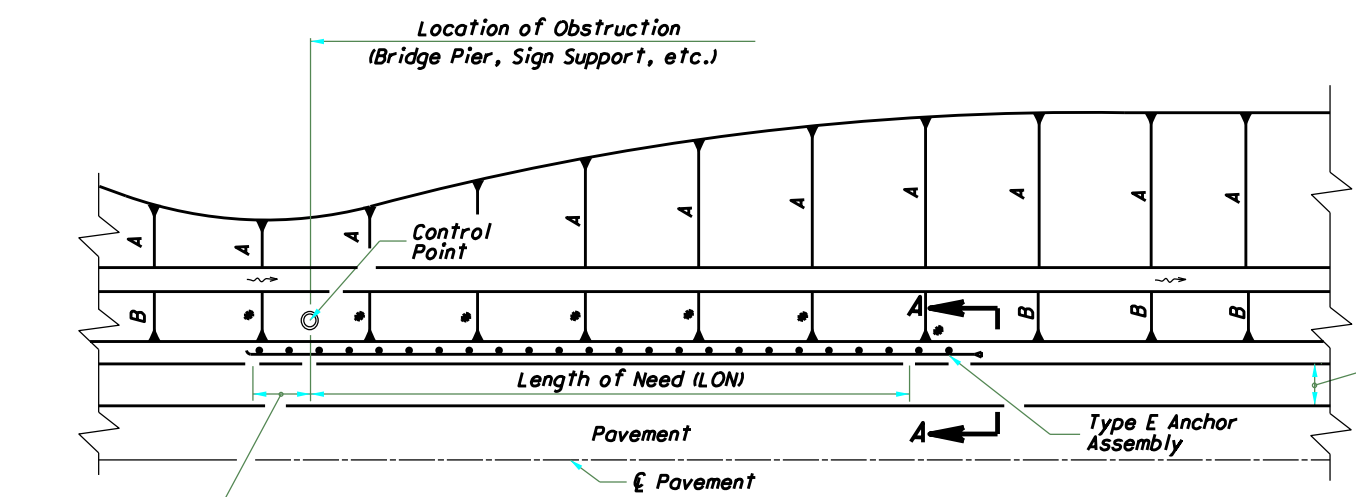


FILL TO FILL

\* 3:1 or Flatter

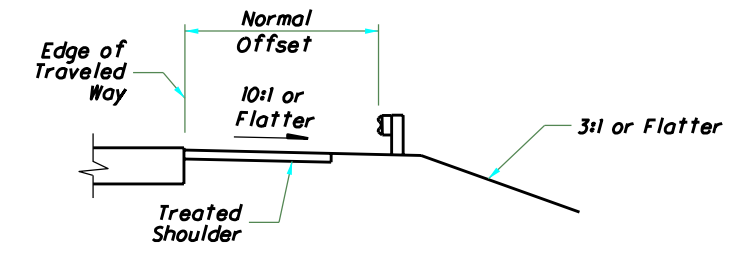


CUT TO FILL



OBSTRUCTION

Type T Anchor Assembly. See SCD GR-4.2.



SECTION A-A

NOTES

**APPLICATION:** Utilize details shown here only where approach foreslopes are steeper than 6:1, but not steeper than 3:1.

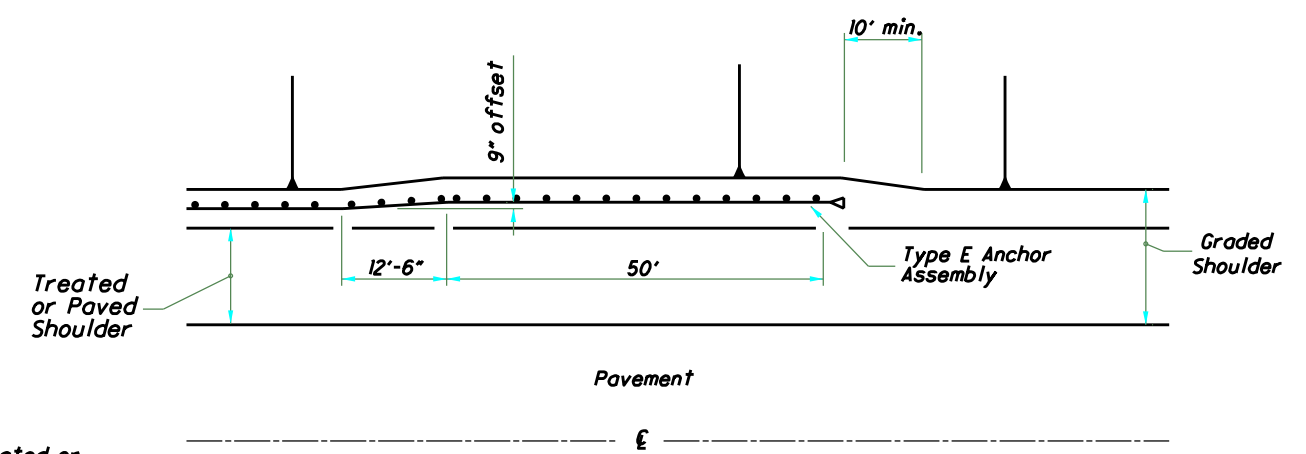
**SLOPES:** Slopes designated by \* shall be 3:1 or flatter. Slopes labeled "A" and "B" shall be constructed as specified in the plans.

**"LON" DISTANCE:** The Length of Need, LON, represents the distance from the control point to the beginning of the end treatment. The control point shown designates the extent of the hazard being shielded and is shown for design use only. See Location & Design Manual, Volume 1, Section 602.

**GUARDRAIL END TERMINALS:** Terminals utilized for the situations shown here shall be Type E Anchor Assemblies unless otherwise specified in the plans.

**OBSTRUCTION INSTALLATION:** Use this installation for one-directional roadways only.

**OFFSET DESIGN:** The design shown may be specified on the plans where it is deemed detrimental to lose effective shoulder width due to the dimensions of the Type E Anchor Assembly. The Type E which represents the final 50' of guardrail is to be offset an additional 9" from the normal guardrail offset by tapering within the 12'-6" shown below. The graded shoulder width shall be increased 9" and tapered back to the normal width to 10' as shown.



OFFSET DESIGN  
(Plan View)