

**NOTES:**

GUARDRAIL INSTALLATION CRITERIA AS SHOWN ON THESE SHEETS IS TO APPLY TO THOSE LOCATIONS WHERE GUARDRAIL HAS TO BE TRANSITIONED FROM THE NORMAL LOCATION.

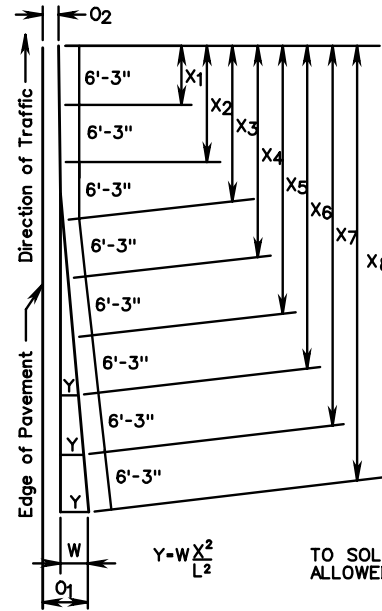
LENGTH OF TRANSITION (L) IS TO BE IN ACCORDANCE WITH TABLE III OR IV FOR APPLICABLE VALUES OF W OR AS DIRECTED BY THE ENGINEER.

RAIL TERMINAL SECTIONS IN ACCORDANCE WITH STANDARD GR-6, GR-7 OR GR-8 ARE TO BE INSTALLED AT EACH TERMINUS OF GUARDRAIL WHERE SPECIFIED ON PLANS.

ALL LENGTHS (L) ARE APPLIED ALONG FACE OF GUARDRAIL.

OFFSETS SHOWN IN TABLES ARE FOR 6'-3" SPACING. FOR 12'-6" SPACING (GR-8) USE EVERY SECOND VALUE FOR Y.

INSTALLATION METHODS SHOWN ON THESE SHEETS ARE APPLICABLE TO STANDARD PLANS GR-2, GR-2A AND GR-8.



- W = TOTAL LATERAL TRANSITION OF GUARDRAIL O1- O2
- O<sub>1</sub> = OFFSET FROM EDGE OF PAVEMENT TO FACE OF GUARDRAIL MAX.
- O<sub>2</sub> = OFFSET FROM EDGE OF PAVEMENT TO FACE OF GUARDRAIL MIN.
- X<sub>1</sub> = ...X<sub>n</sub> CUMULATIVE DISTANCE IN INCREMENTS OF 6'-3" FROM FIRST GUARDRAIL POST MEASURED ALONG FACE OF GUARDRAIL.
- Y = LATERAL OFFSET FROM FACE OF GUARDRAIL OF POST NEAREST TO PAVEMENT EDGE TO FACE OF GUARDRAIL AT EACH SUCCESSIVE POST.
- L = TOTAL LENGTH OF TRANSITIONAL PORTION OF GUARDRAIL.

TO SOLVE FOR "Y", USE THE MAXIMUM "L" ALLOWED FOR THE APPROPRIATE "W".

**TABLE III  
OFFSETS (Y) FOR INTRODUCED GUARDRAIL TRANSITIONS**

LENGTH L IN FEET	X IN FEET	W																		
		W-2'	W-3'	W-4'	W-5'	W-6'	W-7'	W-8'	W-9'	W-10'	W-11'	W-12'	W-13'	W-14'	W-15'	W-16'	W-17'	W-18'	W-19'	W-20'
37.50	X <sub>1</sub> 6.25	0.06	0.05	0.03	0.02	0.02	0.01	0.01	0.02	0.02	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.03	0.03
	X <sub>2</sub> 12.50	0.22	0.19	0.11	0.08	0.06	0.05	0.06	0.06	0.07	0.08	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.13	0.14
	X <sub>3</sub> 18.75	0.50	0.42	0.25	0.18	0.14	0.11	0.12	0.14	0.16	0.17	0.19	0.20	0.22	0.23	0.25	0.27	0.28	0.30	0.31
	X <sub>4</sub> 25.00	0.89	0.75	0.44	0.31	0.24	0.19	0.22	0.25	0.28	0.31	0.33	0.36	0.39	0.42	0.44	0.47	0.50	0.53	0.56
	X <sub>5</sub> 31.25	1.39	1.17	0.69	0.49	0.38	0.30	0.35	0.39	0.43	0.48	0.52	0.56	0.61	0.65	0.69	0.74	0.78	0.82	0.87
50.00	X <sub>6</sub> 37.50	2.00	1.69	1.00	0.70	0.54	0.44	0.50	0.56	0.62	0.69	0.75	0.81	0.87	0.94	1.00	1.06	1.13	1.19	1.25
	X <sub>7</sub> 43.75		2.30	1.36	0.96	0.74	0.60	0.68	0.77	0.85	0.94	1.02	1.11	1.19	1.28	1.36	1.45	1.53	1.62	1.70
	X <sub>8</sub> 50.00		3.00	1.78	1.25	0.96	0.78	0.89	1.00	1.11	1.22	1.33	1.44	1.56	1.67	1.78	1.89	2.00	2.11	2.22
75.00	X <sub>9</sub> 56.25			2.25	1.58	1.22	0.98	1.12	1.27	1.41	1.55	1.69	1.83	1.97	2.11	2.25	2.39	2.53	2.67	2.81
	X <sub>10</sub> 62.50			2.78	1.95	1.50	1.22	1.39	1.56	1.74	1.91	2.08	2.26	2.43	2.60	2.78	2.95	3.13	3.30	3.47
	X <sub>11</sub> 68.75			3.36	2.36	1.82	1.47	1.68	1.89	2.10	2.31	2.52	2.73	2.94	3.15	3.36	3.57	3.78	3.99	4.20
	X <sub>12</sub> 75.00			4.00	2.81	2.16	1.75	2.00	2.25	2.50	2.75	3.00	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00
87.50	X <sub>13</sub> 82.25				3.30	2.54	2.05	2.35	2.64	2.93	3.23	3.52	3.81	4.11	4.40	4.69	4.99	5.28	5.57	5.87
	X <sub>14</sub> 87.50				3.83	2.94	2.38	2.72	3.06	3.40	3.74	4.08	4.42	4.76	5.10	5.44	5.78	6.13	6.47	6.81
100.00	X <sub>15</sub> 93.75				4.39	3.38	2.73	3.12	3.52	3.91	4.30	4.69	5.08	5.47	5.86	6.25	6.64	7.03	7.42	7.81
	X <sub>16</sub> 100.00				5.00	3.84	3.11	3.56	4.00	4.44	4.89	5.33	5.78	6.22	6.67	7.11	7.56	8.00	8.44	8.89
125.00	X <sub>17</sub> 106.25					4.33	3.51	4.01	4.52	5.02	5.52	6.02	6.52	7.02	7.53	8.03	8.53	9.03	9.53	10.03
	X <sub>18</sub> 112.50					4.86	3.94	4.50	5.06	5.62	6.19	6.75	7.31	7.87	8.44	9.00	9.56	10.13	10.69	11.25
	X <sub>19</sub> 118.75					5.41	4.39	5.01	5.64	6.27	6.89	7.52	8.15	8.77	9.40	10.03	10.65	11.28	11.91	12.53
	X <sub>20</sub> 125.00					6.00	4.86	5.56	6.25	6.94	7.64	8.33	9.03	9.72	10.42	11.11	11.81	12.50	13.19	13.89
150.00	X <sub>21</sub> 131.25						5.36	6.12	6.89	7.66	8.42	9.19	9.95	10.72	11.48	12.25	13.02	13.78	14.55	15.31
	X <sub>22</sub> 137.50						5.88	6.72	7.56	8.40	9.24	10.08	10.92	11.76	12.60	13.44	14.28	15.13	15.97	16.81
	X <sub>23</sub> 143.75						6.43	7.35	8.27	9.18	10.10	11.02	11.94	12.86	13.78	14.69	15.61	16.53	17.45	18.37
	X <sub>24</sub> 150.00						7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	15.00	16.00	17.00	18.00	19.00	20.00

SPECIFICATION REFERENCE

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**W-BEAM GUARDRAIL INSTALLATION CRITERIA**

VIRGINIA DEPARTMENT OF TRANSPORTATION