

DESIGN FACTORS FOR A DESIGN SPEED OF 25 MPH (RURAL) USING E= 8% MAX.

| DESIGN VELOCITY=25 |      | WIDTH=16 FT                                       |     |     | WIDTH=18 FT |     |     | WIDTH=20 FT |     |     | WIDTH=22 FT |     |     | WIDTH=24 FT |     |     | WIDTH=48 FT |     |     |
|--------------------|------|---|-----|-----|-------------|-----|-----|-------------|-----|-----|-------------|-----|-----|-------------|-----|-----|-------------|-----|-----|
|                    |      | IGRDS EQUIVALENTS (NUMBER OF LANES AT LANE WIDTH) |     |     |             |     |     |             |     |     |             |     |     |             |     |     |             |     |     |
|                    |      | 1 @ 8'  |     |     | 1 @ 9'      |     |     | 1 @ 10'     |     |     | 1 @ 11'     |     |     | 1 @ 12'     |     |     | 2 @ 12'     |     |     |
| RADIUS(FT)         | E(%) | Lt  | Lr  | w   | Lt          | Lr  | w   | Lt          | Lr  | w   | Lt          | Lr  | w   | Lt          | Lr  | w   | Lt          | Lr  | w   |
| 20000              | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 15000              | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 10000              | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 7000               | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 5000               | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 4000               | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 3000               | 2.1  | 80  | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 2500               | 2.1  | 18  | 80  | 3.7 | 19          | 80  | 2.7 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 2250               | 2.1  | 17  | 80  | 3.8 | 19          | 80  | 2.8 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 2000               | 2.1  | 17  | 80  | 3.9 | 19          | 80  | 2.9 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 1750               | 2.1  | 17  | 80  | 3.9 | 19          | 80  | 2.9 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 | 80          | 80  | 0.0 |
| 1500               | 2.4  | 17  | 80  | 4.0 | 18          | 80  | 3.0 | 20          | 80  | 2.0 | 70          | 80  | 0.0 | 70          | 80  | 0.0 | 70          | 80  | 0.0 |
| 1300               | 2.7  | 17  | 80  | 4.1 | 18          | 80  | 3.1 | 20          | 80  | 2.0 | 63          | 80  | 0.0 | 63          | 80  | 0.0 | 63          | 80  | 0.0 |
| 1150               | 2.9  | 17  | 80  | 4.2 | 18          | 80  | 3.2 | 19          | 80  | 2.2 | 58          | 80  | 0.0 | 58          | 80  | 0.0 | 58          | 80  | 0.0 |
| 1000               | 3.3  | 17  | 80  | 4.3 | 18          | 80  | 3.3 | 19          | 80  | 2.3 | 51          | 80  | 0.0 | 51          | 80  | 0.0 | 64          | 100 | 0.0 |
| 900                | 3.6  | 17  | 80  | 4.4 | 18          | 80  | 3.4 | 19          | 80  | 2.4 | 47          | 80  | 0.0 | 47          | 80  | 0.0 | 59          | 100 | 0.0 |
| 800                | 3.9  | 17  | 80  | 4.5 | 18          | 80  | 3.5 | 19          | 80  | 2.5 | 44          | 80  | 0.0 | 44          | 80  | 0.0 | 54          | 100 | 0.0 |
| 750                | 4.1  | 17  | 80  | 4.6 | 18          | 80  | 3.6 | 19          | 80  | 2.6 | 41          | 80  | 0.0 | 41          | 80  | 0.0 | 62          | 120 | 0.0 |
| 700                | 4.3  | 17  | 80  | 4.7 | 18          | 80  | 3.7 | 19          | 80  | 2.7 | 40          | 80  | 0.0 | 40          | 80  | 0.0 | 59          | 120 | 0.0 |
| 650                | 4.6  | 17  | 80  | 4.8 | 18          | 80  | 3.8 | 19          | 80  | 2.8 | 37          | 80  | 0.0 | 37          | 80  | 0.0 | 55          | 120 | 0.0 |
| 600                | 4.8  | 17  | 80  | 4.9 | 18          | 80  | 3.9 | 19          | 80  | 2.9 | 35          | 80  | 0.0 | 44          | 100 | 0.0 | 62          | 140 | 0.0 |
| 550                | 5.1  | 16  | 80  | 5.0 | 18          | 80  | 4.0 | 23          | 100 | 3.0 | 25          | 100 | 2.0 | 42          | 100 | 0.0 | 36          | 140 | 2.0 |
| 500                | 5.3  | 20  | 80  | 5.1 | 22          | 100 | 4.1 | 23          | 100 | 3.1 | 24          | 100 | 2.0 | 39          | 100 | 0.0 | 41          | 160 | 2.2 |
| 475                | 5.5  | 20  | 100 | 5.2 | 22          | 100 | 4.2 | 23          | 100 | 3.2 | 24          | 100 | 2.2 | 39          | 100 | 0.0 | 40          | 160 | 2.4 |
| 450                | 5.7  | 20  | 100 | 5.3 | 22          | 100 | 4.3 | 23          | 100 | 3.3 | 24          | 100 | 2.3 | 37          | 100 | 0.0 | 40          | 160 | 2.6 |
| 425                | 5.8  | 20  | 100 | 5.4 | 22          | 100 | 4.4 | 23          | 100 | 3.4 | 24          | 100 | 2.4 | 37          | 100 | 0.0 | 40          | 160 | 2.8 |
| 400                | 6.0  | 20  | 100 | 5.5 | 21          | 100 | 4.5 | 23          | 100 | 3.5 | 29          | 120 | 2.5 | 42          | 120 | 0.0 | 45          | 180 | 3.0 |
| 375                | 6.2  | 20  | 100 | 5.6 | 21          | 100 | 4.6 | 27          | 120 | 3.6 | 29          | 120 | 2.6 | 41          | 120 | 0.0 | 45          | 180 | 3.2 |
| 350                | 6.4  | 20  | 100 | 5.8 | 25          | 120 | 4.8 | 27          | 120 | 3.8 | 28          | 120 | 2.8 | 40          | 120 | 0.0 | 44          | 180 | 3.6 |
| 325                | 6.7  | 24  | 120 | 5.9 | 25          | 120 | 4.9 | 27          | 120 | 3.9 | 28          | 120 | 2.9 | 38          | 120 | 0.0 | 49          | 200 | 3.8 |
| 300                | 6.9  | 23  | 120 | 6.1 | 25          | 120 | 5.1 | 27          | 120 | 4.1 | 33          | 140 | 3.1 | 34          | 140 | 2.0 | 49          | 200 | 4.2 |
| 280                | 7.1  | 23  | 120 | 6.3 | 25          | 120 | 5.3 | 31          | 140 | 4.3 | 32          | 140 | 3.3 | 34          | 140 | 2.3 | 48          | 200 | 4.6 |
| 265                | 7.3  | 23  | 120 | 6.4 | 29          | 140 | 5.4 | 31          | 140 | 4.4 | 32          | 140 | 3.4 | 34          | 140 | 2.4 | 53          | 220 | 4.8 |
| 250                | 7.4  | 23  | 120 | 6.6 | 29          | 140 | 5.6 | 30          | 140 | 4.6 | 32          | 140 | 3.6 | 34          | 140 | 2.6 | 53          | 220 | 5.2 |
| 235                | 7.6  | 26  | 140 | 6.8 | 28          | 140 | 5.8 | 30          | 140 | 4.8 | 32          | 140 | 3.8 | 38          | 160 | 2.8 | 52          | 220 | 5.6 |
| 220                | 7.7  | 26  | 140 | 7.0 | 28          | 140 | 6.0 | 30          | 140 | 5.0 | 36          | 160 | 4.0 | 38          | 160 | 3.0 | 52          | 220 | 6.0 |
| 205                | 7.9  | 26  | 140 | 7.2 | 28          | 140 | 6.2 | 34          | 160 | 5.2 | 36          | 160 | 4.2 | 38          | 160 | 3.2 | 56          | 240 | 6.4 |
| 190                | 8.0  | 26  | 140 | 7.4 | 28          | 140 | 6.4 | 34          | 160 | 5.4 | 35          | 160 | 4.4 | 37          | 160 | 3.4 | 56          | 240 | 6.8 |
| 175                | 8.0  | 25  | 140 | 7.7 | 27          | 140 | 6.7 | 33          | 160 | 5.7 | 35          | 160 | 4.7 | 37          | 160 | 3.7 | 55          | 240 | 7.4 |
| 171 ⊗              | 8.0  | 25  | 140 | 7.8 | 27          | 140 | 6.8 | 33          | 160 | 5.8 | 35          | 160 | 4.8 | 37          | 160 | 3.8 | 55          | 240 | 7.6 |

NOTE:  
Lt, Lr & w VALUES IN FEET.

⊗ MINIMUM ALLOWABLE RADIUS