|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Design Element | | | | **Manual**  **Section** | **Design Criteria** | | |
| Design  **Controls** | Design Forecast Year | | | 9.6.2 | 20 Years | | |
| Design Year Traffic (ADT) | | | 9.6.3 | **0 to 400** | **400 to 2000** | Over 2000 |
| \*Design Speed (maximum) | Level | | 9.5.2 | 60 mph  60 mph | | |
| Rolling | | 50 mph  50 mph | | |
| Mountainous | | 40 mph  40 mph | | |
| Access Control | | | 9.8 | Controlled by Regulation | | |
| Level of Service | | | 9.6.4 | C | | |
| Cross Section  **Elements** | \*Travel Lane Width | | | 13.2.3 | 11′ **(1a)** | 11′ | 12′ **(1b)** |
| \*Shoulder Width **(2a)** | | | 13.2.4 | 6′ **(2b)** | 6′ **(2b)** | 8′ |
| Auxiliary Lanes | Lane Width | | 13.2.5 | 11′ | 11′ | 12′ |
| Shoulder Width  Width | | 6′ | 6′ | 8′ |
| Cross Slope | \*Travel Lane | | 13.2.3.3 | 2.08% | | |
| Auxiliary Lane | | 13.2.5 | 2.08% | | |
| \*Shoulder | | 13.2.4.3 | 8.33% | | |
| TWLTL Width | | | 21.2.7 | 15′ | | |
| **Roadway**  **Slopes** | Side Slopes | Cut Section | Foreslope | 13.3.1 | 6H:1V to 4H:1V | | |
| Ditch Type | V-Ditch | | |
| Back Slope | 4H:1V to 2H:1V | | |
| Rock Cut | 0.25H:1V | | |
| Fill Section | 0′ – 5′ | 6H:1V | | |
| 5’ – 10’ | 4H:1V | | |
| > 10′ | 2H:1V | | |
| Clear Zone | | | 14.3 | **(3)** | | |
| **Bridges** | New and Reconstructed  Bridges | \*Structural Capacity | |  | HL-93 | | |
| \*Clear Roadway Width **(4)** | | 13.5.1.1 | 34′ | 34′ | 40′ |
| Existing Bridges to Remain  in Place | \*Structural Capacity | |  | H-15 | | |
| \*Clear Roadway Width | | 13.5.1.1 | 22′ | 24′ | 28′ |
| \*Vertical Clearance  (Collector Under) **(5a)** | New/Replaced Overpassing  Bridges **(5b)** | | 12.6 | 16′-0″ | | |
| Existing Overpassing Bridges | | 16′-0″ | | |
| Pedestrian Bridges | | 18′-0″ | | |
| Overhead Signs | | 17′-6″ | | |
| Clearance (Collector Over) | \*Railroads | | 12.6 | 23′-0″ | | |
| Underpass Width | | 13.5.2 | Traveled Way plus Clear Zone | | |

\*Controlling design criteria (see Section 9.2)

Design Criteria for Rural Two-Lane Collectors (New Construction/Reconstruction)

Figure 20.1E (SCHDM 2003)