|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Design Element | | | | **Manual**  **Section** | **Design Criteria** |
| Design  **Controls** | Design Forecast Year | | | 9.6.2 | 20 Years |
| \*Design Speed (maximum) | Level | | 9.5.2 | 70 mph  65 mph |
| Rolling | | 60 mph |
| Mountainous | | 50 mph |
| Access Control | | | 9.8 | Controlled by Regulation |
| Level of Service | | | 9.6.4 | Level/Rolling: B Mountainous: C |
| Cross Section  **Elements** | \*Travel Lane Width **(1)** | | | 13.2.3 | 12′  ′ |
| \*Shoulder Width **(2)** | Total Width | | 13.2.4 | 10′  ′ |
| Paved | | 2′ |
| Auxiliary Lanes | Lane Width | | 13.2.5 | 12′ |
| Shoulder  Width | Total Width | 10′ |
| Paved | 2′ |
| Cross Slope | \*Travel Lane | | 13.2.3.3 | 2.08% |
| Auxiliary Lane | | 13.2.5 | 2.08% |
| \*Shoulder | Paved | 13.2.4.3 | 2.08% **(3)** |
| Unpaved | 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 | **(4)** |
| **Bridges** | New and Reconstructed   Bridges | \*Structural Capacity | |  | HL-93 |
| \*Clear Roadway Width | | 13.5.1.1 | 44′ **(5)** |
| Existing Bridges to Remain in Place | \*Structural Capacity | |  | HS-20 **(6)** |
| \*Clear Roadway Width | | 13.5.1.1 | 44′ |
| \*Vertical Clearance   (Arterial Under) **(7a)** | New/Replaced Overpassing  Bridges **(7b)** | | 12.6 | 17′-0″ |
| Existing Overpassing Bridges | | 16′-0″ |
| Pedestrian Bridges | | 18′-0″ |
| Overhead Signs | | 17′-6″ |
| Clearance (Arterial 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 Arterials (New Construction/Reconstruction)

Figure 20.1D (SCHDM 2003)