|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| DOTLOGO2 | | | | | | | | | | **Level Two Design Criteria Checklist** | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Key Route: | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| Marked Route/Road Name: | | | | | | |  | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| State Job No.: | | | | |  | | | | | | | Contract No.: | |  | | |
|  | | | | | | | | | | | | | | | | |
| Functional Classification: | | | | | |  | | | | | | Highway Type: | |  | | |
|  | | | | | | | | | | | | | | | | |
| County(ies): | | | | |  | | | | | | | Project Length: | |  | | |
|  | | | | | | | | | | | | | | | | |
| City: | | | | |  | | | | | | | Section: | |  | | |
|  | | | | | | | | | | | | | | | | |
| Project Location: | | | | |  | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
| **Project Scope of Work** | | | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
|  | a. | Check the appropriate box. See Section 31-6 for definitions. | | | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |
|  | |  | New construction | | | | |  | \*Reconstruction | |  | | \*3R (non-freeway) | |  | \*3R (freeway) |
|  | | | | | | | | | | | | | | | | |
|  | |  | 3P | | | | |  | SMART | |  | | HSIP | |  | Other |
|  | | | | | | | | | | | | | | | | |
|  | | *\*Note: May include "Allowed to Remain in Place" criteria.* | | | | | | | | | | | | | | |
|  | | | | *This form is required for all new construction, reconstruction, and 3R projects.* | | | | | | | | | | | | |
|  | | | | | | | | | | | | | | | | |

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| --- | --- | --- |
|  | b. | Provide a brief project description: |
|  | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Design Criteria | | | | | | Does the proposed design meet the criteria? | | |
| (Provide numerical values, where indicated.) | | | | | | Yes | No | N/A |
| 1. Basic Design Controls (Chapter 31) | | | | | |  |  |  |
| 1. Design speed | |  | | | mph (km/h) |  |  |  |
| 1. Stopping Sight Distance (SSD) application for vertical curves (downgrade adjusted SSD used) | | | | | |  |  |  |
| 1. Truck SSD (level) (at specific sites) | | | | | |  |  |  |
| 1. Level of service (mainline) | | | | | |  |  |  |
|  | | | | | |
| 1. Horizontal Alignment (mainline) (Chapter 32) | | | | | |  |  |  |
| * 1. Horizontal curvature (minimum radius for selected design speed)       feet (meters) | | | | | |  |  |  |
| * 1. Superelevation rates (emax =       %) | | | | | |  |  |  |
| * 1. Superelevation transition lengths | | | | | |  |  |  |
|  | | | | | |
| * 1. SSD application at horizontal curves (downgrade adjusted SSD used) | | | | | |  |  |  |
| * 1. Superelevation distribution between tangent | | | | | |  |  |  |
| and curve (ratio or percent) | | | |  | |
| * 1. “Breakover” of outside shoulder on super- | | | | | |  |  |  |
| elevated curves (percent) | | | |  | |
| * 1. Relative longitudinal slope of shoulder to edge of traveled way on high side of S.E. curve | | | | | |  |  |  |
| adjacent to bridge with S.E. | | |  | | |
| * 1. Superelevation development at reverse | | | | | |  |  |  |
| curves |  | | | | |

|  |  |  |  |
| --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
| * 1. Is superelevation transition length located off of bridges and bridge approach pavements? |  |  |  |
| * 1. Horizontal stopping sight distance on inside of horizontal curves (Level SSD for passenger cars) |  |  |  |
| 1. Vertical Alignment (mainline) (Chapter 33) |  |  |  |
| * 1. Maximum grades (in percent) |  |  |  |
| * 1. SSD at crest vertical curves (level SSD for passenger cars) |  |  |  |
| * 1. SSD at sag vertical curves (level SSD for passenger cars) |  |  |  |
| * 1. Minimum grades (in percent) considering drainage |  |  |  |
|  |
| * 1. Critical length of grade |  |  |  |
|  |
| * 1. Truck-climbing lanes/critical grade analysis |  |  |  |
|  |
| * 1. Design criteria for truck-climbing lanes (e.g., lane width and shoulder width) |  |  |  |
|  |
| * 1. Minimum length of vertical curves for selected design speed |  |  |  |
|  |
| * 1. Maximum length of vertical curves (drainage of curbed facilities and bridges) |  |  |  |
|  |
| 1. Cross Section Elements (mainline) (Chapter 34) |  |  |  |
| * 1. Lane widths       feet (meters) |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | | | | | | | | | | | Does the proposed design meet the criteria? | | |
|  | | | | | | | | | | | Yes | No | N/A |
| * 1. Traveled way widening | | | | | | | | | | |  |  |  |
| * 1. Cross-slopes on through lanes (in percent): | | | | | | | | | | |  |  |  |
| Inside lane | | | | Lane 1 | |  | | | |  |  |  |  |
| Outside lanes | | | | Lane 2 | |  | | | |  |  |  |  |
|  | | | | Lane 3 | |  | | | |  |  |  |  |
|  | | | | Lane 4 | |  | | | |  |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Shoulder widths | |  | | | feet (meters)(inside) | | | | | |  |  |  |
|  | |  | | | feet (meters)(outside) | | | | | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Design of parking lanes: | | | | | | | | | | |  |  |  |
| * Cross-slope | |  | | | | % | | | | |  |  |  |
| * Width | |  | | | | feet (meters) | | | | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Type of curb and gutter used on median | | | | | | | | | | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Drainage of raised curb medians: | | | | | | | | | | |  |  |  |
| * Direction of flow of median surface or | | | | | | | | | | |  |  |  |
| pavement |  | | | | | | | | |  |  |  |  |
| * Direction of cross-slope on gutter | | | | | | | |  | % | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Type of curb and gutter used along outside | | | | | | | | | | |  |  |  |
| edges of pavement | | |  | | | | | |  | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Two Way Left Turn Lane (TWLTL) width: | | | | | | | | | | |  |  |  |
| * Flush type | | |  | | | | | feet (meters) | | |  |  |  |
| * Traversable type | | |  | | | | | feet (meters) | | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Median widths: | | | | | | | | | | |  |  |  |
| * Urban | |  | | | | | | feet (meters) | | |  |  |  |
| * Suburban | |  | | | | | | feet (meters) | | |  |  |  |
| * Rural | |  | | | | | | feet (meters) | | |  |  |  |
|  | | | | | | | | | | |  |  |  |
| * 1. Shoulder cross slopes | | | |  | | | % | | | |  |  |  |
| * 1. Fill slopes | | | | : | | | (V:H) | | | |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | | | | | | | | | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
| * 1. Outside roadway ditch: | | | | | | | | |  |  |  |
| * Slopes | : | | | | * Depth | |  | |
| * Widths |  | | | |  | | | |  |  |  |
| Median ditch: | | | | | | | | |  |  |  |
| * Slopes |  | | | | * Depth | | : | |  |  |  |
| * Width |  | | | |  | | | |  |  |  |
|  | | | | | | | | |  |  |  |
| * 1. Cross-section transitions into bridges/ | | | | | | | | |  |  |  |
| underpasses |  | | | | | | | |
| * 1. Use of mountable curbs (V > 45 mph (70 km/h)) | | | | | | | | |  |  |  |
|  | | | | | | | | |
| * 1. Cross-section transition details (e.g., four-lane | | | | | | | | |  |  |  |
| to two-lane) |  | | | | | | | |
| 1. Intersections (Chapter 36) | | | | | | | | |  |  |  |
| * 1. Accommodation of design vehicle | | | | | | | | |  |  |  |
| (identify vehicle) | | |  | | | | |  |
|  | | | | | | | | |
| * 1. Level of service: | | | | | | | | |  |  |  |
| * Through lanes | | | |  | | | |  |
| * Turn lanes | | |  | | | | |  |  |  |  |
|  | | | | | | | | |
| * 1. Skew angle | | | | | | | | |  |  |  |
|  | | | | | | | | |
| * 1. Profiles | | | | | | | | |  |  |  |
|  | | | | | | | | |
| * 1. Volume guidelines for turn-lanes: | | | | | | | | |  |  |  |
| * Right-turns | |  | | | | | | |
| * Left turns | |  | | | | | | |  |  |  |
|  | | | | | | | | |
| * 1. Design of right-turn lanes | | | | | |  | | |  |  |  |
| Design of left-turn lanes | | | | | |  | | |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | | | | | | | | | | | | | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
|  | | | | | Approach taper | | | | |  | | |  |  |  |
| * 1. Turn-lane tapers | | | | | Departure taper | | | | |  | | |  |  |  |
|  | | | | | Bay taper | | | | |  | | |  |  |  |
| * 1. Turning roadway widths | | | | | | | |  | | | | |  |  |  |
| * 1. Turn-lane | | | | Deceleration (rural) | | | | |  | | | |  |  |  |
| lengths | | | | Storage (urban) | | | | |  | | | |  |  |  |
| * 1. Intersection sight distance: | | | | | | | | | | | | |  |  |  |
| List criteria and type | | | | | | |  | | | | |  |
|  | |  | | | | | | | | | |  |
|  | | | | | | | | | | | | |
| * 1. Median opening length | | | | | | | | | | | | |  |  |  |
|  | |  | | | | | | | feet (meters) | | | |
|  | | | | | | | | | | | | |
| * 1. Minimum corner island size | | | | | | | | | | | | |  |  |  |
|  | |  | | | | | | | sq. ft (sq. m) | | | |
|  | | | | | | | | | | | | |
| * 1. Does right-turn radius accommodate design vehicle without encroachment? | | | | | | | | | | | | |  |  |  |
|  | | | | | | | | | | | | |
| * 1. Driveway widths | | | | | | | | | | | | |  |  |  |
|  |  | | | | | | | | feet (meters) | | | |
| * 1. Type of traffic control: | | | | | | | | | | | | |  |  |  |
| * Two-way stop | | | | | |  | | | | | | |
| * All-way stop | | | | | |  | | | | | | |  |  |  |
| * Traffic signals | | | | | |  | | | | | | |  |  |  |
|  | | | | | | | | | | | | |  |  |  |
| * 1. Is maximum grade exceeded on any approach? | | | | | | | | | | | | |  |  |  |
|  | | | | | | | | | | | | |
| * 1. Max. superelevation “e” (in percent) for intersections on curve | | | | | | | | | | | | |  |  |  |
|  | | | | | | | | | | | | |
| 1. Interchanges (Chapter 37) | | | | | | | | | | | | |  |  |  |
| * 1. Exit terminal | | | Standard type | | | | | | | |  | |  |  |  |
| Design speed of first curve | | | | | | | |  | |  |  |  |
| Are any exit terminals located on mainline horizontal curve? | | | | | | | |  | |  |  |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | | | | | | | | | | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
| * 1. Entrance terminal | | | Standard type | | | | | |  |  |  |  |
| Length of tangent after the entering curve | | | | | |  |  |  |  |
| Design speed of entering curve | | | | | |  |  |  |  |
| * 1. Design speed of ramp proper | | | | | | | | | |  |  |  |
|  |  | | | | | | | mph (km/h) | |
|  | | | | | | | | | |
| * 1. Design speed of crossroad | | | | | | | | | |  |  |  |
|  |  | | | | | | | mph (km/h) | |
|  | | | | | | | | | |
| * 1. Maximum ramp grades: | | | | | | | | | |  |  |  |
| * Exit ramp | | | | | |  | | | % |
| * Entrance ramp | | | | | |  | | | % |  |  |  |
|  | | | | | | | | | |
| * 1. Ramp pavement width | | | | | | | | | |  |  |  |
|  | | | | | | | feet (meters) | | |
| * 1. Ramp shoulder widths: | | | | | | | | | |  |  |  |
| * Left | |  | | | | | feet (meters) | | |
| * Right | |  | | | | | feet (meters) | | |  |  |  |
|  | | | | | | | | | |
| * 1. Horizontal ramp curvature in conjunction with selected design speeds | | | | | | | | | |  |  |  |
|  | | | | | | | | | |
| * 1. Superelevation development on ramps | | | | Superelevation rate | | | | |  |  |  |  |
| Transition length | | | | |  |  |  |  |
| Distribution between tangent & curve | | | | |  |  |  |  |
| * 1. Vertical curvature compliance with selected design speed on ramp | | | | | | | | | |  |  |  |
|  | | | | | | | | | |
| * 1. Length of access control at crossroad | | | | | | | | | |  |  |  |
|  | | | | | | | | | |
| * 1. Type of traffic control at crossroad: | | | | | | | | | |  |  |  |
| * Stop signs | | | | |  | | | | |
| * Traffic signals | | | | |  | | | | |  |  |  |
| * Free flow | | | | |  | | | | |  |  |  |
|  | | | | | | | | | |  |  |  |
| * 1. Is length of crest vertical curve used on crossroad ≥ that required by the selected design speed of crossroad? | | | | | | | | | |  |  |  |
|  | | | | | | | | | |

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| --- | --- | --- | --- | --- | --- | --- |
| Design Criteria  (Provide numerical values, where indicated.) | | | | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
| * 1. Are crossroad approach grades through ramp/ crossroad intersections ≤ 2%? | | | |  |  |  |
|  | | | |
| * 1. Are ramp/crossroad intersections located on a tangent section of crossroad alignment? | | | |  |  |  |
|  | | | |
| * 1. Is decision sight distance available in advance of exit gore? | | | |  |  |  |
|  | | | |
| * 1. Is clear recovery area available beyond gore nose? | | | |  |  |  |
|  | | | |
| * 1. Level of service: | | | |  |  |  |
| * Exit terminal |  | |  |
| * Entrance terminal |  | |  |  |  |  |
| * Ramp proper |  | |  |  |  |  |
| * Weaving area |  | |  |  |  |  |
| * Ramp/crossroad intersection | |  |  |  |  |  |
|  | | | |  |  |  |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  | Upgrade |  |  |  |  |
| Downgrade |  |  |  |  |
| Inside lane |  |  |  |  |
| * 1. Freeway lane drops | Location | Outside lane |  |  |  |  |
|  |  | At exit terminal |  |  |  |  |
| Beyond exit terminal |  |  |  |  |
| Taper length |  |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Roadside Safety (Chapter 38) | |  |  |  |
| * 1. Horizontal clearances: | |  |  |  |
| * Clear zones on tangent sections |  |
| * Clear zones on outside of horizontal curves | |  |  |  |
|  | |
| * 1. Barrier warrants | |  |  |  |
|  | |
| * 1. Barrier length of need | |  |  |  |
|  | |
| Design Criteria  (Provide numerical values, where indicated.) | | Does the proposed design meet the criteria? | | |
| Yes | No | N/A |
| d. Deceleration criteria for impact attenuators | |  |  |  |
|  | |
| 1. Structure Planning/Geometrics (Chapter 39) | |  |  |  |
| * 1. Clear roadway bridge widths       feet (meters) | |  |  |  |
| * 1. Structural capacity of bridges | |  |  |  |
| * 1. Vertical clearances | feet (meters) |  |  |  |
| 1. Pavement Design (Chapter 54) | |  |  |  |
| * 1. Structural capacity of roadway | |  |  |  |

Note: Use multiple forms for each roadway within the project.

|  |  |  |  |
| --- | --- | --- | --- |
| Prepared by: |  | Date: |  |
|  | Designer (IDOT or Consultant) Signature |  |  |