Design Criteria QC Checklist

N/A	Initial (30%)	Detailed (60%)	Final (90/95 %)	Sealed (100%)	RTL	Design Criteria	Comments
						Target design speed is appropriate for functional classification and context classification:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Ramps	
☐	☐	☐	☐	☐	☐	Frontage Roads	
☐	☐	☐	☐	☐	☐	Cross Streets	
						Lane widths meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Turning lanes	
☐	☐	☐	☐	☐	☐	Speed Change lanes	
☐	☐	☐	☐	☐	☐	Ramps	
☐	☐	☐	☐	☐	☐	Frontage Roads	
☐	☐	☐	☐	☐	☐	Cross Streets	
						Shoulder widths meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlane outside and inside shoulders	
☐	☐	☐	☐	☐	☐	Ramp outside and inside shoulders	
☐	☐	☐	☐	☐	☐	Frontage road outside and inside shoulder	
☐	☐	☐	☐	☐	☐	Cross streets on-system meet criteria and/or off-system match existing	
						Pavement cross slope meets design criteria:	
☐	☐	☐	☐	☐	☐	Verify 3% max/2% usual/1% min cross slope (unless 3+ lanes of travel are used)	
☐	☐	☐	☐	☐	☐	Verify max algebraic difference of cross slope between lanes and shoulder grades is not > 6%	
☐	☐	☐	☐	☐	☐	Verify shoulder cross slope is not >10%	
						Sight Distance meets design criteria:	
☐		☐	☐	☐	☐	Verify stopping sight distance length is met	
☐		☐	☐	☐	☐	Verify locations where decision sight distance is used in lieu of stopping sight distance	
						Curb offsets meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Frontage Roads	
☐	☐	☐	☐	☐	☐	Cross Streets	
						Median widths meet design criteria:	
☐		☐	☐	☐	☐	Mainlanes	
☐		☐	☐	☐	☐	Two-Way Left-Turn Lanes	
☐		☐	☐	☐	☐	Raised Medians at left turn lanes ≥ 16-ft and 4-ft (without ped refuge) or 6-ft (with ped refuge) divider is used	
☐		☐	☐	☐	☐	Cross Streets	
						Lateral offsets to structures meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Frontage roads	
						Clear zone widths meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Frontage Roads	

Design Criteria QC Checklist

N/A	Initial (30%)	Detailed (60%)	Final (90/95 %)	Sealed (100%)	RTL	Design Criteria	Comments
☐	☐	☐	☐	☐	☐	Cross Streets	
☐	☐	☐	☐	☐	☐	Ramps	
						Sidewalk widths and offsets meet design criteria:	
☐	☐	☐	☐	☐	☐	Mainlanes	
☐	☐	☐	☐	☐	☐	Frontage Roads	
☐	☐	☐	☐	☐	☐	Cross Streets	
						Pedestrian and Bicycle accommodations are provided:	
☐	☐	☐	☐	☐	☐	Verify sidewalk widths and cross slopes	
☐	☐	☐	☐	☐	☐	Verify Shared-Use Path widths and cross slopes	
☐	☐	☐	☐	☐	☐	Verify Shared-Use Lane widths and cross slopes	
☐	☐	☐	☐	☐	☐	Verify 5' shoulder width is provided on bridges	
☐	☐	☐	☐	☐	☐	Verify ditch front and back slopes	
☐	☐	☐	☐	☐	☐	Verify offset to roadside barriers (if applicable)	
						Horizontal Alignments:	
	☐	☐	☐	☐	☐	Verify all radii meets design speed	
						Superelevation:	
☐	☐	☐	☐	☐	☐	Verify rates are appropriate for the speed and radius	
☐	☐	☐	☐	☐	☐	Verify the lengths of transitions	
☐	☐	☐	☐	☐	☐	Verify placement within the curves	
☐	☐	☐	☐	☐	☐	Check if any zero cross-slope points within the superelevation transitions are in the vicinity of the bottom of sag curves or top of crest curves	
						Vertical Alignments:	
☐	☐	☐	☐	☐	☐	Verify all grades are less than the maximum grade	
☐	☐	☐	☐	☐	☐	Verify the minimum K-values of the crest and sag curves are met	
☐	☐	☐	☐	☐	☐	Verify the lengths of the vertical curves (L = 3*Design Speed preferred but not required)	
☐	☐	☐	☐	☐	☐	Verify vertical clearances at bridges:	
☐	☐	☐	☐	☐	☐	Freight Network (THFN) bridge ≥ 18.5-ft	
☐	☐	☐	☐	☐	☐	Other bridges ≥ 16.5' (see RDM Table 4-12 for exceptions)	
☐	☐	☐	☐	☐	☐	Pedestrian bridge**s vertical clearance = minimum required vertical clearance + 1-ft**	
						Ramps:	
☐	☐	☐	☐	☐	☐	Verify ramp design speed	
☐	☐	☐	☐	☐	☐	Verify ram**ps have independent alignment**	
☐	☐	☐	☐	☐	☐	Verify there is no direct access to ramps	
☐	☐	☐	☐	☐	☐	Verify ramp spacing according to RDM	
						Frontage Roads:	
☐	☐	☐	☐	☐	☐	Verify pedestrian and bicycle accommodations are provided	
☐	☐	☐	☐	☐	☐	Verify driveway access and intersection streets are beyond the recommended ramp access control distances	
						Clear Zone:	
☐	☐	☐	☐	☐	☐	Verify all physical impediments are (in order of preference) removed, made breakaway, moved outside of CZ, or shielded	

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N/A	Initial (30%)	Detailed (60%)	Final (90/95 %)	Sealed (100%)	RTL	Design Criteria	Comments
☐	☐	☐	☐	☐	☐	Verify non-breakaway devices (other than traffic signal supports, RR signal/warning decide supports, and controller cabinets) are outside of CZ or shielded.	
						Cross Streets:	
☐		☐	☐	☐	☐	Verify lengths of deceleration lanes	
☐		☐	☐	☐	☐	Verify lengths of acceleration lanes	
						Driveways:	
☐		☐	☐	☐	☐	Verify radii meet criteria in Chapter XX of RDM	
☐		☐	☐	☐	☐	Verify grades meet criteria in Chapter XX of RDM	
						Drainage - design flood year is correct per the HDM:	
☐	☐	☐	☐	☐	☐	Culverts	
☐	☐	☐	☐	☐	☐	Small bridges	
☐	☐	☐	☐	☐	☐	Major river crossings	
☐	☐	☐	☐	☐	☐	Storm drain systems on interstates and controlled access highways	
☐	☐	☐	☐	☐	☐	Inlets, drain pipe and roadside ditches	
☐	☐	☐	☐	☐	☐	Storm drain systems on other highways and frontage roads	
☐	☐	☐	☐	☐	☐	Inlets, drain pipe and roadside ditches	
☐	☐	☐	☐	☐	☐	Inlets for depressed roadways	
						Culvert End Treatments:	
☐		☐	☐	☐	☐	Verify the ends of bridge-class culverts are protected, in order of preference, safety end treatments, MBGF, or bridge railing regardless of clear zone.	
☐		☐	☐	☐	☐	Verify end treatments for bridge class culverts are provided (bridge railing, low-fill culvert post option, standard guardrail)	
						Traffic Control:	
☐		☐	☐	☐	☐	Verify the lane widths are not less than 1-ft narrower than the existing lane width.	
☐		☐	☐	☐	☐	Verify the barrier offset is a minimum of 1-ft.	
☐		☐	☐	☐	☐	Verify the horizontal alignment meets design criteria per RDM	
						Railroads:	
☐		☐	☐	☐	☐	Verify design criteria meets specific Railroad guidance	