

**OR47-Nehalem Hwy
Signalized Intersection**

OR47-NW Main St, NW Banks Rd & NW Cedar Canyon Rd

INTX MP 82.72 - MP 82.90

PROJ BEG MP 82.85 - END MP 83.12

DESIGN FEATURE	DESIGN CRITERIA	SOURCE	Exemption
Project Class/ Highway Classification	4R Rural Principal Arterial-Other	ODOT HDM, 1.3 (Table 1.1) ODOT HDM - Appendix A	
Design Vehicle	WB-67 Accommodate - LowBoy SemiTruck - Min. Vertical Clearance: 6" Accommodate - Up to 14' width semitrucks	ODOT HDM 8.6.6.4	
Stopping Sight Distance	25 mph = 155 ft	ODOT HDM 3.2.2	
Intersection Travel Lane Alignment (Lane Shift)	Preferred 0 ft , Allowed up to 4 ft (Designed = 3 ft)	ODOT HDM 8.3.4	
Intersection Located on Horizontal Curve	Allowed with design exception	ODOT HDM 8.3.6	X
Intersection skew angle	Preferred 90°, allowed 30° from perpendicular (designed=66°)	ODOT HDM 8.3.7	
Minimum Grade	0.30%	ODOT HYD M (2014)Chapter 13, Appendix A	
Typical Cross Slope	2.00%	ODOT HDM, Table 7-1 ODOT HDM, Chapter 8, Figure 8-30a	
Vertical Curvature Crest - min K 25 mph Sag - min K 25 mph	K 12 26	ODOT HDM Figures 3-8 & 3-9	
Horizontal Radius/Superelevation Spiral Length	See table this page	ODOT HDM, Table 3-3 & 6-2	
Lane Width - Travel Lanes	12 ft	ODOT HDM 8.3.3	
Lane Width - Left Turn Lane	12 ft	ODOT HDM 8.3.3	
Lane Width - Shoulder	Preferred 6 ft, allowed 4 ft	ODOT HDM 8.3.5	X
Raised median traffic separator width	4 ft min. (4 ft north of Banks Rd)	ODOT HDM 8.3.9	
Shy distance from raised curb	2 ft	ODOT HDM 8.3.9	
Striped traffic separator	2 ft min.	ODOT HDM 8.3.9	
Min. turn lane length	100 ft (75 ft eastbound)	ODOT HDM 8.3.9	X
Curb return radius (Design vehicle)	30 ft - 50 ft (Minimize for ped safety and low speeds through corner, site specific design)	ODOT HDM 8.3.8	

Taper distance to develop left turn pocket, T	100 ft	ODOT HDM Fig. 8.9	
Taper rate	15:1	ODOT HDM Fig. 8.9	
Left turn lane traffic separator	Req'd if access points to adjacent properties (Traffic separator striped only on Banks Rd, Cedar Canyon Rd, and Main St south of Banks Rd)	ODOT HDM 8.3.9	X
Clear Zone - Clear Zone - <40 mph	16 ft - 18 ft	ODOT HDM Table 4-3	
Cut/Fill Side Slopes Without Slope Protection	5:1 Max within clear zone 3:1 Ditch back slope 2:1 Max Outside Clear Zone	ODOT HDM, Figure 7-1 AASHTO Roadside Design Guide Page 3-2	
Intersection Sight Distance Conflicting Leg	190 ft (20 mph)	FHWA Chapter 6.3.10, Exhibit 6-33	
Taper Length 40 mph or less 45 mph or more	$L=WS^2/60$ $L=WS$	MUTCD Chapter 6 Table 6C-4	
SPECIAL TRANSPORTATION AREA			
Ped crossing distance	72 ft max. withouth remediation	ODT HDM 8.3.16	
Sidewalk with	10 ft min. less than 10 ft if limited R/W (Varies 6 ft to 10 ft)	ODT HDM 6.2.2	X
Ped buffer	Landscape strip, on-street parking, tree wells	ODT HDM 6.2.2	
Shoulder/bike lane	6 ft, 5 ft to maintain 10 ft sidewalk (4.5 ft at one location)	ODT HDM 6.2.3	X
On-Street parking width	7 ft (designed/existing 8 ft)	ODT HDM 6.2.4	
Lane width	10 ft - 12 ft depending on truck traffic (High truck traffic volume, 12 ft travel lanes proposed)	ODT HDM 6.2.8	

ODOT HDM - Oregon Department of Transportation, Highway Design Manual, 2012
AASHTO 2011, A Policy on Geometric Design of Highways and Streets

SPIRAL CURVE DESIGN PARAMETERS			
DESIGN SPEED		V=	25 mph
DEGREE OF CURVE		D=	8°
NUMBER OF LANES		n=	3
LENGTH OF SPIRAL		Ls=	160 ft
SUPERELEVATION		e=	2.50%
CENTRAL ANGLE OF CIRCULAR CURVE		$\Delta C=$	19.49°
RADIUS OF CIRCULAR CURVE		R=	716.2 ft

[5695 20180328 Design Criteria TS.xlsx](#)