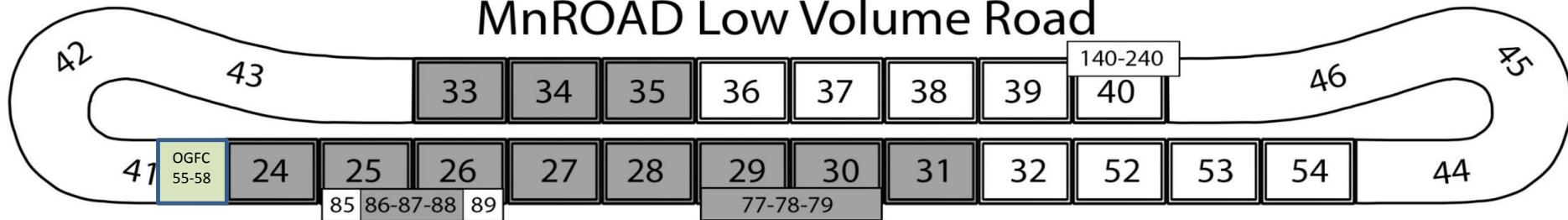


MnROAD Low Volume Road



Cell numbers in "RED" NRRRA is going to utilize in 2017

West Loop			North Side Cells									East Loop		
ASR Concrete Testing (West Loop)			Acid Modified			Original PCC			Pervious Overlay	Unbonded Concrete Overlay		ASR Concrete Testing (East Loop)		
41	42	43	33	34	35	36	37	38	39	140	240	46	45	44
12" Trans Tined 12x15 1" Dowels	12" Trans Tined 12x15 1" Dowels	12" Trans Tined 12x15 1" Dowels	4" 58-34 PPA 12" Class 6	4" 58-34 SBS+PPA 12" Class 6	4" 58-34 SBS 12" Class 6	6" Trans Tined 15x12 1" dowel 5" Class 5	6" Trans Tined 12x12 5" Class 5	6" Trans Tined 15x12 1" dowel 5" Class 5	4" Perv Overlay 6" 20x12 1" dowel 5" Class 5	3" UBOL* thin fabric 5.5"-7.0" Trans Tined 15x12 5" Class 5	3" UBOL* std fabric 5.5"-7.0" Trans Tined 15x12 5" Class 5	12" Trans Tined 12x15 1" Dowels	12" Trans Tined 12x15 1" Dowels	12" Trans Tined 12x15 1" Dowels
Clay	Clay	Clay	Clay	Clay	Clay	Sand	Sand	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Jul 93	Jul 93	Jul 93	Sep 07	Sep 07	Sep 07	Jul 93	Jul-93	Jul 93	Oct 08	Jul 13	Jul 13	Jul 93	Jul 93	Jul 93
Inside Cell (ft) 491	Inside Cell (ft) 490	Inside Cell (ft) 508	Inside Cell (ft) 500	Inside Cell (ft) 499	Inside Cell (ft) 499	Inside Cell (ft) 480	Inside Cell (ft) 504	Inside Cell (ft) 480	Inside Cell (ft) 440	Inside Cell (ft) 225	Inside Cell (ft) 234	Inside Cell (ft) 508	Inside Cell (ft) 489	Inside Cell (ft) 442
Inside Gap 179	Inside Gap 97	Inside Gap 147	Inside Gap 175	Inside Gap 71	Inside Gap 54	Inside Gap 132	Inside Gap 41	Inside Gap 42	Inside Gap 67	Inside Gap 67	Inside Gap 0	Inside Gap 108	Inside Gap 98	Inside Gap 146
Outside Gap 179	Outside Gap 102	Outside Gap 152	Outside Gap 175	Outside Gap 102	Outside Gap 153	Outside Gap 108	Outside Gap 102	Outside Gap 153	Outside Gap 108	Outside Gap 102	Outside Gap 153	Outside Gap 493	Outside Gap 511	Outside Gap 463
Outside Cell (ft) 510	Outside Cell (ft) 510	Outside Cell (ft) 494	Outside Cell (ft) 493	Outside Cell (ft) 511	Outside Cell (ft) 463	Outside Cell (ft) 493	Outside Cell (ft) 511	Outside Cell (ft) 463	Outside Cell (ft) 493	Outside Cell (ft) 511	Outside Cell (ft) 463	Outside Cell (ft) 493	Outside Cell (ft) 511	Outside Cell (ft) 463

Cell numbers in "RED" NRRRA is going to utilize in 2017

South Side Cells															
Aging Study	Pervious & Porous Pavements					GCBD Fabric	Stabilized Full Depth Reclamation			Mesabi Rock	Concrete Initiatives			Mesabi Rock	
24	85	86	87	88	89	27	28	77	78	79	31	32	52	53	54
3" 58-34 4" Class 6 Sand	7" Pervious PCC 4" RR Ballast	5" Porous HMA 4" RR Ballast	4" Control 4" Mesabi Ballast	5" Porous HMA 4" RR Ballast	7" Pervious PCC 4" RR Ballast	2" 52-34 2" 58-34 6" Class 5 G CBD 2009 Chip Seal	6" SFDR Chip Seal 2012 Spot Repairs Fog Seal 4" Class 5	4" 58-34 Elvaloy + PPA 8" FDR	4" 58-34 Elvaloy + PPA 8" Class 6	4" 58-34 Elvaloy + PPA 8" FDR + Fly Ash	4" 64-34 4" Class 5 12" Class 3	5" Astro Turf 10x12 Class 1f 6" Class 1c	7.5" Astro Turf 15x13/14 Var Dowels 5" Class 4	12" Trans Broom 15x12 1.5" SS dowels PCC Shld 5" Class 5 36" SG	7.5" Astro Turf 15'x12' 1" dowel 12" Class 6
100' Fog Seals 2008-2012 Chip Seal 2014	8" CA-15 Type V Geo-Textile	10" CA-15 Type V Geo-Textile	11" CA-15 Type V Geo-Textile	10" CA-15 Type V Geo-Textile	CA-15 Type V Geo-Textile	7" Clay Borrow	7" Clay Borrow	Clay	Clay	Clay	Clay	Clay	Clay	Clay	Clay
Oct 08	Oct 08	Oct 08	Oct 08	Oct 08	Oct 08	Aug 06	Sep 11	Oct 07	Oct 07	Sep 07	Sep 04	Jun 00	Jun 00	Oct 08	Oct 04
Opened Length (ft) 507	Opened Length (ft) 216	Opened Length (ft) 235	Opened Length (ft) 225	Opened Length (ft) 225	Opened Length (ft) 217	Opened Length (ft) 499	Opened Length (ft) 500	Opened Length (ft) 286	Opened Length (ft) 365	Opened Length (ft) 325	Opened Length (ft) 500	Opened Length (ft) 460	Opened Length (ft) 285	Opened Length (ft) 118	Opened Length (ft) 194
Gap (ft) 179	Gap (ft) 41	Gap (ft) 0	Gap (ft) 0	Gap (ft) 0	Gap (ft) 0	Gap (ft) 43	Gap (ft) 68	Gap (ft) 65	Gap (ft) 49	Gap (ft) 49	Gap (ft) 70	Gap (ft) 30	Gap (ft) 0	Gap (ft) 0	Gap (ft) 0

Located at the MnROAD Site - not on LVR

Porous Pavements				Implements of Husbandry		Open Graded Friction Course				Low Volume Road ESALS per Year MnROAD 5-Axle Semi Tractor Trailer					
64	64b	74	83	84	55	56	57	58	Year	Inside Lane (80,000 lbs)			Outside Lane (102,000 lbs)		
7" Pervious PCC	6" Pervious Precast PCC	4" Pervious PCC	3.5" 58-34	5.5" 58-34	1" OGFC Reg Tack	1" OGFC Tackless	1" OGFC Tackless	1" OGFC Reg Tack		Laps	Flexible	Rigid	Laps	Flexible	Rigid
12" CA-15 Type V Geo-Textile Clay	1" Class 6 12" CA-15 Type V Geo-Textile Clay	6" Washed Stone Type V Geo-Textile Clay	8" Class 5 Clay	9" Class 5 Clay	12" Trans Tined 12x15 1" Dowels Clay	12" Trans Tined 12x15 1" Dowels Clay	4" Class 6 Sand	4" Class 6 Sand	1994	3,283	7,682	12,311	889	6,285	10,241
2007	Oct 2011	Aug 06	Oct 07	Oct 07	Sept 2016	Sept 2016	Sept 2016	Sept 2016	1995	7,748	18,130	29,055	2,927	20,694	33,719
15x60	15x15	60	450	450	50	50	50	50	1996	8,598	20,119	32,243	2,576	18,212	29,676
Parking Lot	Sidewalk	Sidewalk	Stockpile Area	Stockpile Area	LVR	LVR	LVR	LVR	1997	6,874	16,085	25,778	2,172	15,356	25,021
									1998	10,165	23,786	38,119	2,236	15,809	25,759
									1999	4,658	10,900	17,468	1,694	11,977	19,515
									2000	8,888	20,798	33,330	2,451	17,329	28,236
									2001	8,155	19,083	30,581	2,203	15,575	25,379
									2002	9,849	23,047	36,934	1,797	12,705	20,701
									2003	6,923	16,200	25,961	2,820	19,937	32,486
									2004	3,950	9,243	14,813	1,202	8,498	13,847
									2005	5,986	14,007	22,448	2,082	14,720	23,985
									2006	6,634	15,524	24,878	2,246	15,879	25,874
									2007	5,295	12,390	19,856	935	6,610	10,771
									2008	2,958	6,922	11,093			
									2009	6,229	14,576	23,359			
									2010	6,623	15,498	24,836			
									2011	5,336	12,486	20,010			
									2012	8,447	19,766	31,676			
									2013	6,335	14,824	23,756			
									2014	8,739	20,449	32,771			
									2015	8,160	19,094	30,600			
									2016	7,962	18,631	29,858			
										157,795	350,609	591,734	28,230	199,586	325,210

Since 2008 MnROAD has not loaded the outside lane to learn more about the environmental deterioration without traffic

* All thicknesses shown as design thickness