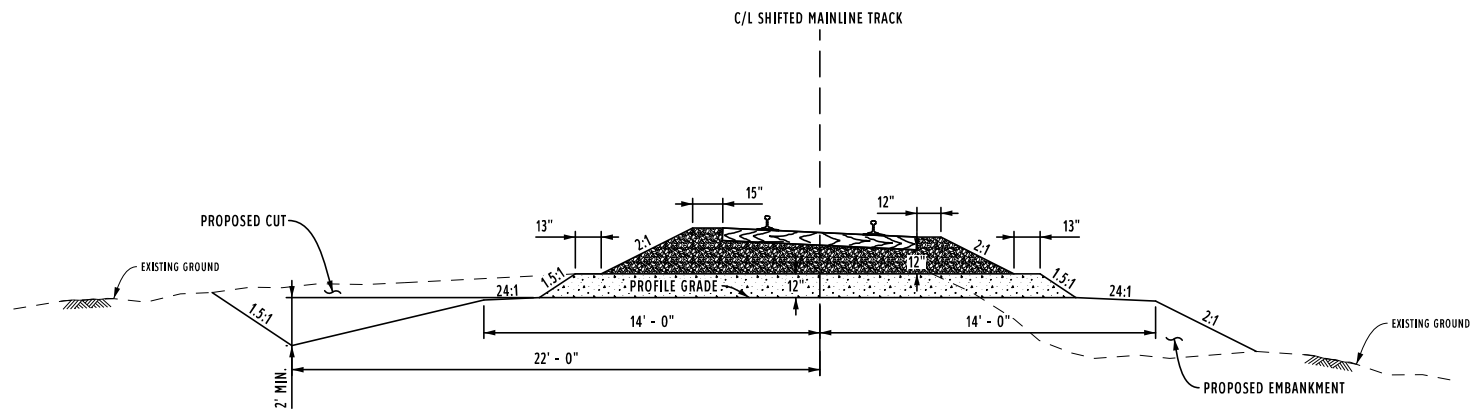
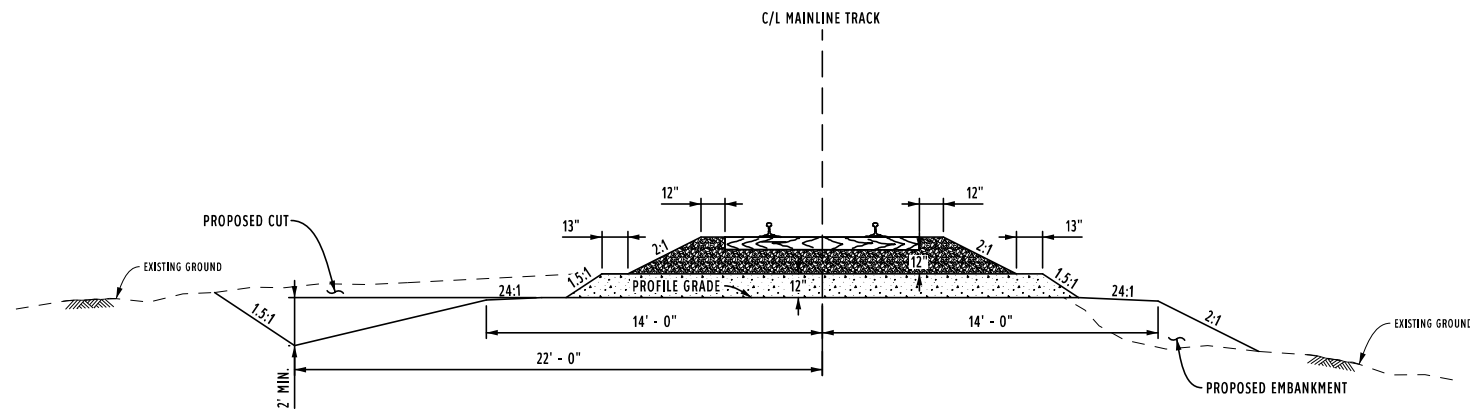


Appendix E. Build Alternative Design Information



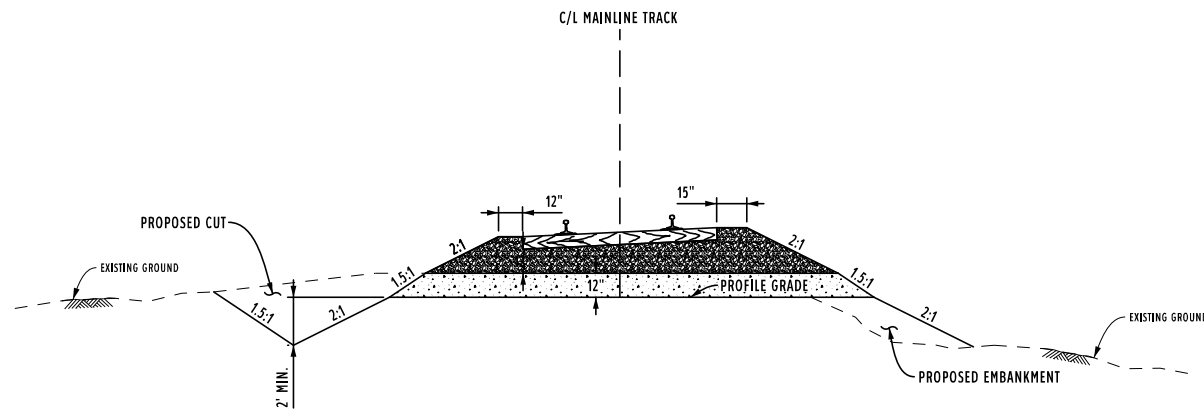
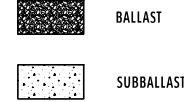


SINGLE TRACK ON CURVES
TYPICAL SECTION



SINGLE TRACK TANGENT
TYPICAL SECTION

HATCHING KEY



SINGLE TRACK ON CURVES
TYPICAL SECTION FOR
CURVES 45, 31, 27A AND 27

- NOTES:
1. THE GRADE RAIL SHALL BE RAISED 2" NOMINALLY DURING TRACK LINING AND RELOCATING EXCEPT WHERE UNDERCUTTING IS PROPOSED.
 2. REPLACE TIES, PLATE, SPIKES, AND SPRINGLOADED ANCHORS AS NEEDED OR AT THE DIRECTION OF THE ENGINEER.
 3. PLUG RAIL AND THERMITE WELDS ARE INCLUDED ON AN AS-NEEDED BASIS.
 4. TRACK SHALL BE THERMALLY ADJUSTED IN ACCORDANCE WITH BNSF STANDARDS.
 5. CONTRACTOR SHALL NOT DISTURB EXISTING BALLAST SHOULDER OF PARALLEL TRACKS

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

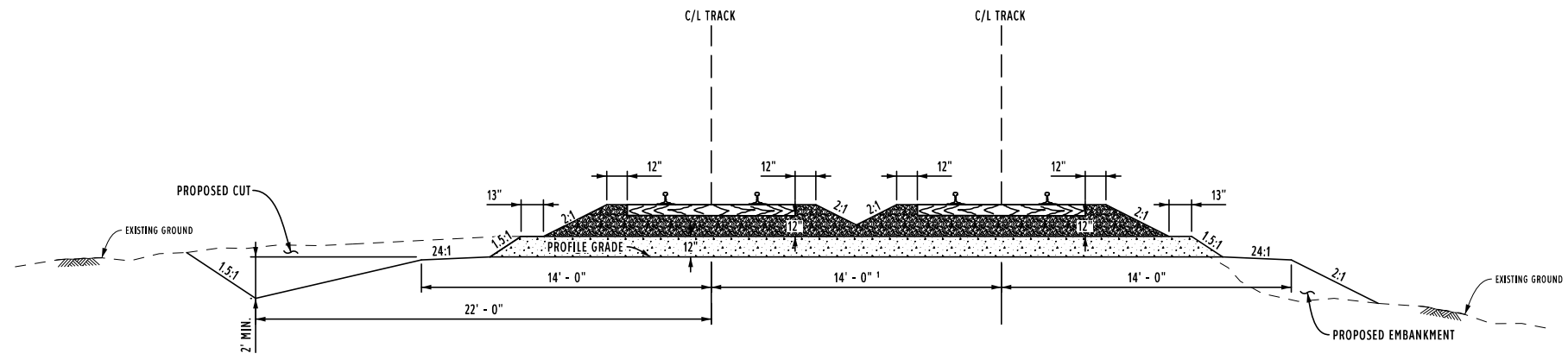
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DATE: 10/31/2016
DESIGN UNIT: US SURVEY FEET
TSC: _____

CS:
JN: 1212 - AM 5 - HORIZONTAL GEOMETRY

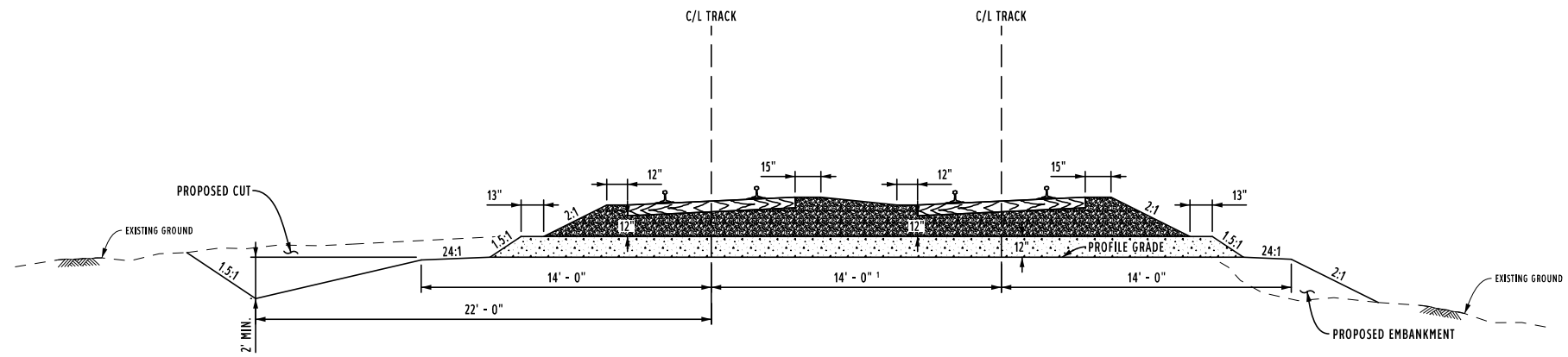
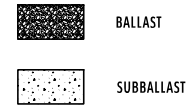
TYPICAL CROSS SECTIONS
SINGLE TRACK
PRELIMINARY DRAWINGS - NOT FOR CONSTRUCTION

DRAWING SHEET
1 OF 1
G1



DOUBLE TRACK TANGENT
TYPICAL SECTION

HATCHING KEY



DOUBLE TRACK ON CURVES
TYPICAL SECTION

- NOTES:
1. TRACK CENTERS VARY, BUT SHALL BE AT 14'-0" MINIMUM. INCREASE TO 15'-0" MINIMUM FOR CURVES GREATER THAN 6° 0' 0".
 2. THE GRADE RAIL SHALL BE RAISED 2" NOMINALLY DURING TRACK LINING AND RELOCATING EXCEPT WHERE UNDERCUTTING IS PROPOSED.
 3. REPLACE TIES, PLATE, SPIKES, AND SPRINGLOADED ANCHORS AS NEEDED OR AT THE DIRECTION OF THE ENGINEER.
 4. PLUG RAIL AND THERMITE WELDS ARE INCLUDED ON AN AS-NEEDED BASIS.
 5. TRACK SHALL BE THERMALLY ADJUSTED IN ACCORDANCE WITH BNSF STANDARDS.
 6. CONTRACTOR SHALL NOT DISTURB EXISTING BALLAST SHOULDER OF PARALLEL TRACKS.

NO.	DATE	AUTH	DESCRIPTION	NO.	DATE	AUTH	DESCRIPTION



NO SCALE

DRAWN: KRM
CHECKED: PJW
FILE: Rail_Typ_Section - Double Track.dgn

DATE: 10/31/2016
DESIGN UNIT: US SURVEY FEET
TSC: _____

CS:
JN: 1212 - AM 5 - HORIZONTAL GEOMETRY

TYPICAL CROSS SECTIONS
DOUBLE TRACK
PRELIMINARY DRAWINGS - NOT FOR CONSTRUCTION

DRAWING SHEET
1 OF 1
G2

NLX Recommended Grade Crossing Improvements and Consideration for Private Crossing Improvements - 01/16/2017

Segment	Grade Crossing ID	Name of Crossing	MP	DOT #	Type of Work at Crossing	Existing Devices	Recommended Warning Devices/ Considerations for Improvements to Private Crossings
1	2	W Island Ave	10.79	061314N		Dual gates with flashing lights	Dual gates with flashing lights
	3	E Island Ave	10.61	061313G		Dual gates with flashing lights	Dual gates with flashing lights
	4	Harrison St NE	9.85	061312A	Second track added; relocate east flashers	Dual gates with flashing lights	Dual gates with flashing lights
2	5	12th Ave NE	10.19	061205K		Dual gates with flashing lights - cantilevered	Dual gates with flashing lights - cantilevered
	6	14th Ave NE	10.37	061206S		Dual gates with flashing lights	Dual gates with flashing lights
3	7	Private	15.26				
	8	Osborne Rd NE (CSAH 8)	17.84	082803G	Third track added: warning device relocation, median extension east approach	Dual gates with median and flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	9	77th Ave NE (MSAS 343)	18.1	082804N	Third track added: warning device relocation, median extension east approach	Dual gates with median and flashing lights	Dual gates with median and flashing lights
	10	85th Ave NW (CR 132)	19.46	082806C	Third track added: warning device relocation, median extension east approach Full grade crossing reconstruction for track shifts and third track added; relocate warning devices	Dual gates with median and flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	11	Foley Blvd (CSAH 11)	20.5	082807J		Dual gates with median and flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
4	12	Egret Blvd	135.91	082810S		Dual gates with median and flashing lights	Dual gates with median and flashing lights
	13	Northdale Blvd (CSAH 11)	134.61	061573A		Dual gates with median and flashing lights	Dual gates with median and flashing lights
	14	121st Ave NW	134.01	061574G		Dual gates with median and flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	17	Bunker Lake Blvd	131.93	061577C	Curve modification, Coon Rapids to improve	Coon Rapids is making improvements to this intersection and will provide new grade crossing warning devices	
	18	Andover Blvd NW	130.99	061578J	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	18A	Private (Holasek Farm)	130.16	061579R		Stop signs	Locked gates in proposed fencing
	20	Crosstown Blvd (CR 18)	129.65	061580K	Second track added and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	21	161st Ave NW (CSAH 20)	128.98	061582Y	Second track added	Dual gates with median and flashing lights	Dual gates with median and flashing lights
	22	Private	128.56	061583F		Stop signs	Locked gates in proposed fencing
	23	Private	128.23	061584M		Stop signs	Locked gates in proposed fencing
	24	Private	127.92	061585U		Stop signs	Locked gates in proposed fencing
	25	Private	127.73			None	Locked gates in proposed fencing
	26	Ward Lake Dr	127.47	061586B	Second track added and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	27	181st Ave NW	126.51	061588P	Second track added and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	28	191st Ave N	125.28	061590R	Second track added, median construction, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	29	Viking Blvd NW	125.04	061591X	Second track added and median construction	Dual gates with flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	30	CSAH 13 (Cedar Dr NW)	124.08	061592E	Curve modification and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	31	206th Ave NW	123.33	061594T	Roadway widening for median	Dual gates with flashing lights	Dual gates with median and flashing lights
	32	Sims Rd NW	122.47	061595A	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	33	221st Ave NW	121.44	061622U	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	34	CSAH 13 (229th Ave NW)	120.43	061619L	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	35	CSAH 24 (237th Ave NW)	119.4	061616R	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	36	MUN 1 (Main St. NW)	119.08	061615J	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	37	County Road 56 (University Ave NW)	118.26	061614C	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	38	Private (LA Nelson)	117.29	061613F	Dual gates	Stop signs	Dual gates with flashing lights
	39	County Road 56 (261st Ave NE)	116.38	061611G	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	40	T 184 (265th Ave NE)	115.87	061610A	Median construction and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	41	T176 (273rd Ave NE)	114.84	061607S	Median construction and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	42	T 169 (281st Ave NE)	113.86	061605D	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
43	CSAH 25 (Main Street)	113.03	061603P	Quad gates	Dual gates with flashing lights - cantilevered	Quad Gates and flashing lights - cantilevered	
44	CSAH 5	112.85	061602H	Median construction	Dual gates with flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered	
45	TH 149 (Isanti Parkway)	112.31	061601B	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights	
46	T 138 (299th Ave NE)	111.73	061599C	Median construction and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
5	47	T 133 (305th Ave NE)	110.84	061598V	Second track added, median construction, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	48	CR 43 (40th Ave SW/313th Ave NE)	109.79	086124G	Second track added, curve modification, and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
6	49	MN 45 (11th Ave SW)	107.96	061625P	Quad gates	Dual gates with flashing lights	Quad gates and flashing lights
	50	1st Ave E (MN 95)	107.19	061628K		MnDOT Installing New Crossing Design	
	51	Emerson Ave N (CR 27)	106.59	061631T	Quad gates	Dual gates with flashing lights	Quad gates and flashing lights
	52	T 75 (343rd Ave NE)	105.95	061481M	Critical crossing and quad gates	Dual gates with flashing lights	Quad gates with flashing lights
	53	T 74 (349th Ave NE)	105.11	061483B	Median construction and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	54	T 66 (357th Ave NE)	104.07	061487D	Critical crossing and roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	55	Bataan St (361st Ave NE) T 61	103.5	061489S	Median construction and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	56	CSAH 6 (367th Ave NE)	102.77	061491T	Critical crossing and quad gates	Dual gates with flashing lights	Quad gates with flashing lights
	57	T 56 (269th Ave NE)	102.51	061492A	Quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	57A	Snowmobile Crossing near 370th					
	57B	Snowmobile Crossing near 375th					
	57C	Snowmobile Crossing near 377th					
	58	Private	100.41	061495V		Stop signs	Locked gates in proposed fencing
	59	CSAH 3 (389th Ave NE)	99.94	061496C	Second track added and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	60	Private	99.54	061497J		Stop signs	Locked gates in proposed fencing
	61	CR 36 (395th Ave SE)	99.24	061498R	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	62	Private	98.81	061499X		Stop signs	
	63	T 20 (401st Ave NE)	98.49	061501W	Quad gates	Crossbucks/stop sign	Quad gates and flashing lights
	64	Private	97.77	061502D	Curve modification	Stop signs	

Segment	Grade Crossing ID	Name of Crossing	MP	DOT #	Type of Work at Crossing	Existing Devices	Recommended Warning Devices/ Considerations for Improvements to Private Crossings
6	65	CSAH 4 (8th St SE/314th)	96.95	061503K	Quad gates	Dual gates with flashing lights - cantilevered	Quad gates with flashing lights - cantilevered
	66	MN 19 (4th St SE)	96.59	061504S	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	67	CR 54 (Central Dr E)	96.37	061505Y	Quad gates	Dual gates with flashing lights	Quad gates with flashing lights
	68	Private	95.94	061506F	Dual gates	Stop signs	Dual gates with flashing lights
	70	T 212 (115th Ave)	94.4	061508U	Critical crossing and dual gates	Crossbucks/stop sign	Dual gates and flashing lights
	71	Hwy 70 CR 41 (120th Ave)	93.88	061510V	Quad gates	Dual gates with flashing lights	Quad gates with flashing lights
	72	CR 42 Rice St	92.75	061513R	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates and flashing lights
	73	CSAH 28 (133rd Ave)	92.6	061514X	Critical crossing and roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	74	CSAH 23 (Pine St)	91.37	061515E	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	75	Private	89.25	102157N		Stop signs	
	76	T 34 Paddle Rd	88.47	061518A	Critical crossing - Roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	77	Private	87.94	061521H		Stop signs	
	78	Private	86.65			None	Stop signs and private crossing signs
	80	5th Ave (CSAH 12)	86.13	061523W	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	81	CSAH 11 (Pokegama Ave)	85.87	061524D	Median construction	Dual gates with flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	82	T 56 (CR 126 or Sod Rd)	84.58	061525K	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	83	Private	84.11	061526S		Stop signs	
	84	CSAH 13 (2nd Ave)	80.19	061528F	Roadway widening for median	Dual gates with flashing lights	Dual gates with median and flashing lights
	85	M-2 (3rd Street)	79.72	061529M	Critical crossing and roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	86	Private	79.12	061530G	Dual gates	Stop signs	Dual gates with flashing lights
	87	T 97 (Township Road) Beaver Claw	78.49	076396S	Critical crossing - dual gates	Crossbucks/stop sign	Dual gates with flashing lights
	88	T 97 (Township Road) Birch Bark	77.69	076397Y	Critical crossing - quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	89	T 154 (Aspen Rd)	76.6	076398F	Critical crossing - quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	90	CSAH 17 (Fox Rd)	75.01	076399M	Critical crossing - Add second track, roadway widening for median, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights
	91	Private	73.94	076400E	Add second track, curve modification, dual gates	Stop signs	Dual gates with flashing lights
	92	T 178 (Two Rivers Rd)	73.79	076401L	Add second track, curve modification, and dual gates	Crossbucks/stop sign	Quad gates with flashing lights
	93	CSAH 61 (Old Highway 61)	72.25	076403A	Median construction	Dual gates with flashing lights - cantilevered	Dual gates with median and flashing lights - cantilevered
	94	Lawler - 3rd St SW (CSAH 62)	72.14	076404G	Task 6, Curve modification, Quad gates	Dual gates with flashing lights	Quad gates with flashing lights
	95	2nd St SE	72.05	076405N	Task 6 and median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	96	Main Street	71.89	076406V	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights
	97	MUN 38 (7th St NE)	71.1	076408J	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	98	T 512 (Airport Road)	64.37	076410K	Task 6 and quad gates	Crossbucks/stop sign	Quad gates with flashing lights
	99	MN 123	63.63	076411S	Median construction and curve modification	Dual gates with flashing lights	Dual gates with median and flashing lights
	100	Oak St	62.9	076412Y	Median construction and curve modification	Dual gates with flashing lights	Dual gates with median and flashing lights
101	MN 123	58.86	076415U	Median construction	Dual gates with flashing lights	Dual gates with median and flashing lights	
101A	Private	58.58	076416B		Stop signs		
102	CSAH 32	57.33	076417H	Quad gates	Dual gates with flashing lights	Quad gates and flashing lights	
103	MUN 14 (Bregednalgade St)	57.18	076418P	Quad gates	Dual gates with flashing lights	Quad gates and flashing lights	
104	T 956 (Partridge Dr)	56.01	076419W	Critical crossing -Quad gates	Crossbucks/stop sign	Quad gates and flashing lights	
105	T 889 (Mulling Rd)	54.68	076420R	Critical crossing and dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
106	T 575 (CR 145 Root Rd)	53.36	076421X	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates and flashing lights	
107	T 590 (Starch Rd)	52.1	076422E	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates and flashing lights	
108	Private	51.48	076423L		Stop signs		
109	CSAH 44 (Main Street)	48.82	076425A	Critical crossing and quad gates	Dual gates with flashing lights	Quad gates and flashing lights	
110	MUN 12 (Pine St)	48.57	076426G	Critical crossing and roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
111	T 893	47.22	076428V	Critical crossing and dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
112	T 892	46.18	076430W	Critical crossing and dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
112A	Private	45.50	919109J		None	Stop signs and private crossing signs	
113	Private	43.74	076431D	Dual gates	Crossbucks	Dual gates with flashing lights	
114	CSAH 46	43.12	076432K	Critical crossing and roadway widening for median	Dual gates with flashing lights	Dual gates with median and flashing lights	
115	MUN 9 (Klein Rd)	42.63	076433S	Critical crossing, curve modification, and roadway widening for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
116	Private	42.38	076434Y	Curve modification and dual gates	Stop signs	Dual gates with flashing lights	
117	Private	42.13	076435F	Dual gates	Stop signs	Dual gates with flashing lights	
118	T 648 (Range Line Rd)	40.54	076436M	Critical crossing, roadway paving, dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
119	T 649 (Erickson Rd)	40.07	076437U	Critical crossing, roadway paving, dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
120	T 650 (Old Hwy 23)	39.39	076438B	Critical crossing, roadway paving, dual gates	Crossbucks/stop sign	Dual gates with flashing lights	

Segment	Grade Crossing ID	Name of Crossing	MP	DOT #	Type of Work at Crossing	Existing Devices	Recommended Warning Devices/ Considerations for Improvements to Private Crossings	
17	121	T 805 (Wolf Dr)	38.71	076439H	Critical crossing, roadway paving, quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	122	T 913	37.96	076440C	Critical crossing - Add second and third tracks, curve modification, roadway paving, and dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
	123	T 914 (Dahlgren Rd)	37.6	076441J	Critical crossing - Add second and third tracks, roadway paving, dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
	124	T 807 (Main St)	36.65	076442R	Add third track and quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	125	CR 145 (map shows CR 146)	35.61	076443X	Add second track, roadway widening and paving for median, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
	126	CR 153 (map shows CR 153)	33.75	076446T	Roadway widening and paving for median and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
	127	Private	33.1		Dual gates	None	Dual gates with flashing lights	
	128	CR 147	30.81	061430C	Dual gates and roadway paving	Crossbucks/stop sign	Quad gates with flashing lights	
	129	CR 145	29.7	061431J	Critical crossing, roadway widening and paving for median, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
	130	Private	29.15	061432R	Dual gates	Stop signs	Dual gates with flashing lights	
	131	T 362 (Stadin Rd)	28.59	061433K	Curve modification, roadway paving, and dual gates	Crossbucks/stop sign	Dual gates with median and flashing lights	
	132	Private	28.03	919110D		Private xing signs	Stop signs and private crossing signs	
	133	T 365 (Granzow Rd)	27.54	061434E	Critical crossing, curve modification, roadway paving, and quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	134	T 367 (Clark Rd)	26.4	061436T	Critical crossing and quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	135	Private	25.9	061437A	Dual gates	Crossbucks/yield sign	Dual gates with flashing lights	
	136	CSAH 8	25.67	061438G	Curve modification, roadway paving and widening for median	Dual gates with flashing lights	Quad gates with flashing lights	
	137	Private	25.01	061439N		Stop signs		
	138	Nindorf Rd	24.57	061440H	Critical crossing and dual gates	Crossbucks/yield sign	Dual gates with flashing lights	
	140	Private	23.57	061442W	Curve modification and dual gates	None	Dual gates with flashing lights	
	141	County Rd W	23.21	061443D	Quad gates	Crossbucks with flashing lights	Quad gates with flashing lights	
	142	Private	22.47	061446Y		Stop signs		
	143	Private (Warrin Rd.)	21.97	061447F	Curve modification	Stop signs		
	144	Private (S Warring Rd.)	20.46	061448M	Dual gates	Stop signs	Dual gates with flashing lights	
	145	Dedham Rd	18.72	086410M	Dual gates and roadway paving	Crossbucks/yield sign	Dual gates with flashing lights	
	146	Reed Merrill Rd	17.46	086411U	Dual gates and roadway paving	Crossbucks/yield sign	Dual gates with flashing lights	
	147	Private (Manski Rd)	16.6	086409T	Dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
	148	Station Rd	15.17	086408L	Critical crossing, roadway paving, and quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	150	Ellison Rd	13.43	086405R	Dual gates and roadway paving	Crossbucks/yield sign	Dual gates with flashing lights	
	151	Charlie Dr (Raher)	12.93	086413H	Critical crossing, curve modification, roadway paving, and dual gates	Crossbucks/yield sign	Dual gates with flashing lights	
	152	Short Cut Rd	12.42	086404J	Curve modification, roadway paving, and dual gates	Crossbucks/yield sign	Dual gates with flashing lights	
	154	County Rd C	11.96	086403C	Curve modification, median construction, and dual gates	Crossbucks with flashing lights	Dual gates with median and flashing lights	
	18	155	Schallermeir Rd	11.85	061453J	Critical crossing, roadway paving, and dual gates	Crossbucks/yield sign	Dual gates with flashing lights
		156	Ames Rd	11.1	061454R	Critical crossing, roadway paving, and dual gates	Crossbucks/yield sign	Dual gates with flashing lights
		157	69th St	9.05	061455X	Critical crossing, curve modification, roadway paving, and dual gates	Crossbucks/yield sign	Dual gates with flashing lights
158		61st St (STH 105)	8.33	082634W	Quad gates	Dual gates with flashing lights - cantilevered	Quad gates with flashing lights - cantilevered	
159		58th St	8.06	082635D	Task 6 and roadway widening for median and dual gates	Crossbucks/yield sign	Quad gates with flashing lights	
161		28th St N	5.53	082636K	Second track added and warning device relocation	Dual gates with flashing lights	Dual gates with flashing lights	
19	162	Winter St	63.00	086562J	Dual gates	Single gate with flashing lights	Dual gates with flashing lights	
	163	Ajax Road	4.21	082642N	Dual gates	Crossbucks	Dual gates with flashing lights	
	163A	Standard Oil Road	4.42	082643V	Roadway paving and dual gates	Crossbucks	Dual gates with flashing lights	
	164	Private	4.51	082644C	Dual gates	Crossbucks	Dual gates with flashing lights	
	166	Private (Minnesota Power)	6.21	086439K	Dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
	166A	Private (50th Ave W)			Dual gates	Crossbucks/stop sign	Dual gates with flashing lights	
	167	40th Ave			Quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	168	Hallet Dock Rd	2.54	086437W	Quad gates	Crossbucks/stop sign	Quad gates with flashing lights	
	169	Private (N of N CN Ore Dock)			Dual gates	None	Dual gates with flashing lights	
	169A	Depot Yard Superior Hiking Trail	0	970699R			Pedestrian gates with flashing lights	
170	Private (BNSF Rice's Point Yard Rail Facility)	1.6			None	Stop signs and private crossing signs		

**Northern Lights Express
Bridge and Culvert Improvements
Appendix E of Tier 2 EA**

Culvert Improvements

Milepost	Culvert Type	Existing Culvert Size	Proposed Improvements
129.58	CIP	36" x 42'	15' East Extension for Andover Siding Extension
127.84	CIP	36" x 60'	15' East Extension for Andover Siding Extension
127.20	CIP	36" x 36'	15' East Extension for Andover Siding Extension
126.73	RCP	2-DBL 36" x 40'	15' East Extension for Andover Siding Extension
125.73	CIP	DBL 36" x 54'	15' East Extension for Andover Siding Extension
110.62	RCP	36" x 48'	15' East Extension for Cambridge Siding Extension
109.94	CIP	36" x 66'	15' East Extension for Cambridge Siding Extension
109.81	CIP	30" x 60'	15' East Extension for Cambridge Siding Extension
101.70	RCP	DBL 36" x 59'	10' East Extension for Modification of Curve #101
100.93	CIP	36" x 54'	15' East Extension for New Stanchfield Siding
100.18	BXC	36" x 42'	15' East Extension for New Stanchfield Siding
99.73	CIP	6' x 6' x 36'	15' East Extension for New Stanchfield Siding
99.66	CIP	24" x 48'	15' East Extension for New Stanchfield Siding
99.45	CIP	36" x 48'	15' East Extension for New Stanchfield Siding
75.72	BXM	5' x 3' x 56'	15' East Extension for Hinckley Siding Extension
75.23	CMP	48" x 52'	15' East Extension for Hinckley Siding Extension
74.96	CMP	36" x 42'	15' East Extension for Hinckley Siding Extension
74.84	RCP	48" x 42'	15' East Extension for Hinckley Siding Extension
74.36	CIP	24" x 43' & 24" x 6' CP	15' East Extension for Hinckley Siding Extension
74.11	CIP	18" x 31' & 18" x 6' CP	15' East Extension for Hinckley Siding Extension
63.86	BXM	96" x 85'	25' East Extension for Modification of Curve #63
41.50	CPS	36" x 55'	5' Extension on Both Sides for Modification of Curve #41
38.43	CPS	24" x 66'	15' Extension on Both Sides for New and Extended Nickerson Sidings
38.31	CIP	24" x 38'	15' Extension on Both Sides for New and Extended Nickerson Sidings
38.23	CIP	18" x 48'	15' Extension on Both Sides for New and Extended Nickerson Sidings
38.05	CIP	18" x 49'	15' Extension on Both Sides for New and Extended Nickerson Sidings
37.40	PAM	10' x 10' x 72'	15' Extension on Both Sides for New and Extended Nickerson Sidings
36.61	CIP	30" x 61'	15' West Extension for New Nickerson Siding

Milepost	Culvert Type	Existing Culvert Size	Proposed Improvements
36.19	PAC	2' x 3' x 70'	15' West Extension for New Nickerson Siding
35.98	CIP	24" x 63'	15' West Extension for New Nickerson Siding
13.15	CP	24" x 32'	15' Extension on Both Sides for Modification of Curve #13

Bridge Improvements

Grassy Point Swing Bridge

Milepost 2.8*

Update of operating and control systems of bridge