Appendix D - Noise

APPENDIX D. NOISE

The following text and tables were taken from the *Belfry North, STPP-72-1(1)10, Traffic Noise Impact Assessment Report*.

Field Noise Measurements

The field-testing for this noise study was performed along the proposed alignment during morning and evening rush-hour traffic with the representative sampling performed at high traffic flows. These include measurements taken during times of high traffic volumes, commercial truck traffic, or peak periods of human activity and are not necessarily at rush hour. The measurements are not taken at each sensitive receptor and are only used to verify the computer model accuracy. A concerted effort is made to take noise measurements at each of the most sensitive areas, and field measurements can vary from the computer modeling results based on factors such as community noise and atmospherics.

The ambient noise levels were taken using a CEL-573.C1 precision impulse integrating sound level meter S1.4 Type 1. The meter was calibrated using a CEL 284/2 calibrator before use, with meteorological data taken before and after the field measurements. Ambient levels in the vicinity of a representative sample of the receptors were taken during a 2-day period on 9/3/02 and 9/4/02 for the Belfry North project. The resulting ambient levels are listed below in Table 1. A comparison of the field measurements to the noise levels predicted by modeling is shown in Tables 1 and 2. Since the modeled noise levels closely represented the actual levels, no adjustments were made to the noise model results.

Table 1. Actual and modeled noise levels at 3 receptor sites in Belfry.

Receptor	Address	Date	Location	Time	Leq Field	Leq Model
1.	Around the Corner	9/3/02	Northwest	2:10 pm	59	61
2.	MW&S Railroad Depot	9/3/02	North	2:45 pm	44	46
3.	St. John's Lutheran Church	9/3/02	West	1:00 pm	61	63
1.	Around the Corner	9/4/02	Northwest	7:00 am	62	61
2.	MW&S Railroad Depot	9/4/02	North	7:30 am	47	46
3.	St. John's Lutheran Church	9/4/02	West	8:00 am	60	63

Table 2. Calibration of model to field results based on observed traffic volumes and speeds.

Receptor	Address	Leq Field AM	Leq Model AM	Leq Field PM	Leq Model PM
1.	Around the Corner	62	60	59	60
2.	MW&S Railroad Depot	47	45	44	46
3.	St. John's Lutheran Church	60	59	61	62

Impacts

The results of the FHWA Traffic Noise Model 2.1 (TNM 2.1) computer model analysis at representative receptor locations in the project area are noted in Tables 3 - 6.

Table 3. No Build Alternative, current and projected Leq noise levels (dBA).

No.	Owner	2006 Vaill Avenue 40 kph	2026 Vaill Avenue 40 kph
1	Around the Corner	61	62
2	MW&S RR Depot	46	48
3	St. John's Church	63	65
4	Belfry School	56	58
5	Gasser Trust	49	51
6	Cichosz Residence	48	50
7	Roberts Residence	48	50
8	Krum Residence	49	51
9	Toogood Residence	45	47
10	Lenz Residence	58	60
11	Salo Residence	59	61
12	Secretary HUD	59	61

Table 4. Railroad Alignment Alternative, projected Leq noise levels (dBA).

No.	Owner	Railroad 2006 40 kph	Railroad 2026 40 kph	RR Alignment 2026 100 kph
1	Around the Corner	61	62	79
2	MW&S RR Depot	46	48	64
3	St. John's Church	63	65	50
4	Belfry School	56	58	47
5	Gasser Trust	49	51	49
6	Cichosz Residence	48	50	50
7	Roberts Residence	48	50	53
8	Krum Residence	49	51	60
9	Toogood Residence	45	47	59
10	Lenz Residence	58	60	55
11	Salo Residence	59	61	51
12	Secretary HUD	59	61	50

Table 5. Broadway Avenue Alternative, current and projected L_{eq} noise levels (dBA).

No.	Owner	Broadway 2006 40 kph*	Broadway 2026 30 kph	Broadway 2026 40 kph	Broadway 2026 50 kph	Broadway 2026 60 kph	Broadway 2026 70 kph
1	Around the Corner	61	70	70	71	72	64
2	MW&S RR Depot	46	61	60	58	56	55
3	St. John's Church	63	52	51	51	51	51
4	Belfry School	56	51	51	51	50	51
5	Gasser Trust	49	64	64	66	67	69
6	Cichosz Residence	48	63	64	65	66	68
7	Roberts Residence	48	62	62	63	64	70
8	Krum Residence	50	54	54	54	55	55
9	Toogood Residence	45	52	52	52	52	52
10	Lenz Residence	58	52	52	52	53	56
11	Salo Residence	59	50	50	50	51	53
12	Secretary HUD	59	51	51	51	51	52

Table 6. Ridgeway Lane Alternatives and Modified Existing Alignment Alternative, current and projected Leq noise levels (dBA).

No.	Owner	2006 P-72 100 kph (65 mph)	2026P-72 100 kph (65 mph) No Build
13	Hergenrider Residence	64	66
14	Morgan Residence	61	63

No.	Owner	2006 Ridgeway Lane 40 kph	2026 Ridgeway Lane 40 kph No Build	2026 Ridgeway Lane North 100 kph	2026 Ridgeway Lane South 100 kph
15	Nott Residence	55	55	51	50
16	Peterson Residence	50	50	66	69
17	Richards Residence	45	46	62	58
18	Kapor Residence	63	65	54	54
19	Meinhardt Residence	46	47	61	59
20	Feller Residence	45	47	47	43

Approximate Receptor Locations

Table 7. Sensitive Noise Receptors

Receptor No.	Property/Owner	Receptor No.	Property/Owner
1	Around the Corner	11	Salo Residence
2	MW&S RR Depot	12	Secretary HUD
3	St. John's Church	13	Hergenrider Residence
4	Belfry School	14	Morgan Residence
5	Gasser Trust	15	Nott Residence
6	Cichosz Residence	16	Peterson Residence
7	Roberts Residence	17	Richards Residence
8	Krum Residence	18	Kapor Residence
9	Toogood Residence	19	Meinhardt Residence
10	Lenz Residence	20	Feller Residence

Figure 1. Site map depicting receptors within the town of Belfry, MT 72 Belfry North project area, Carbon County, Montana.

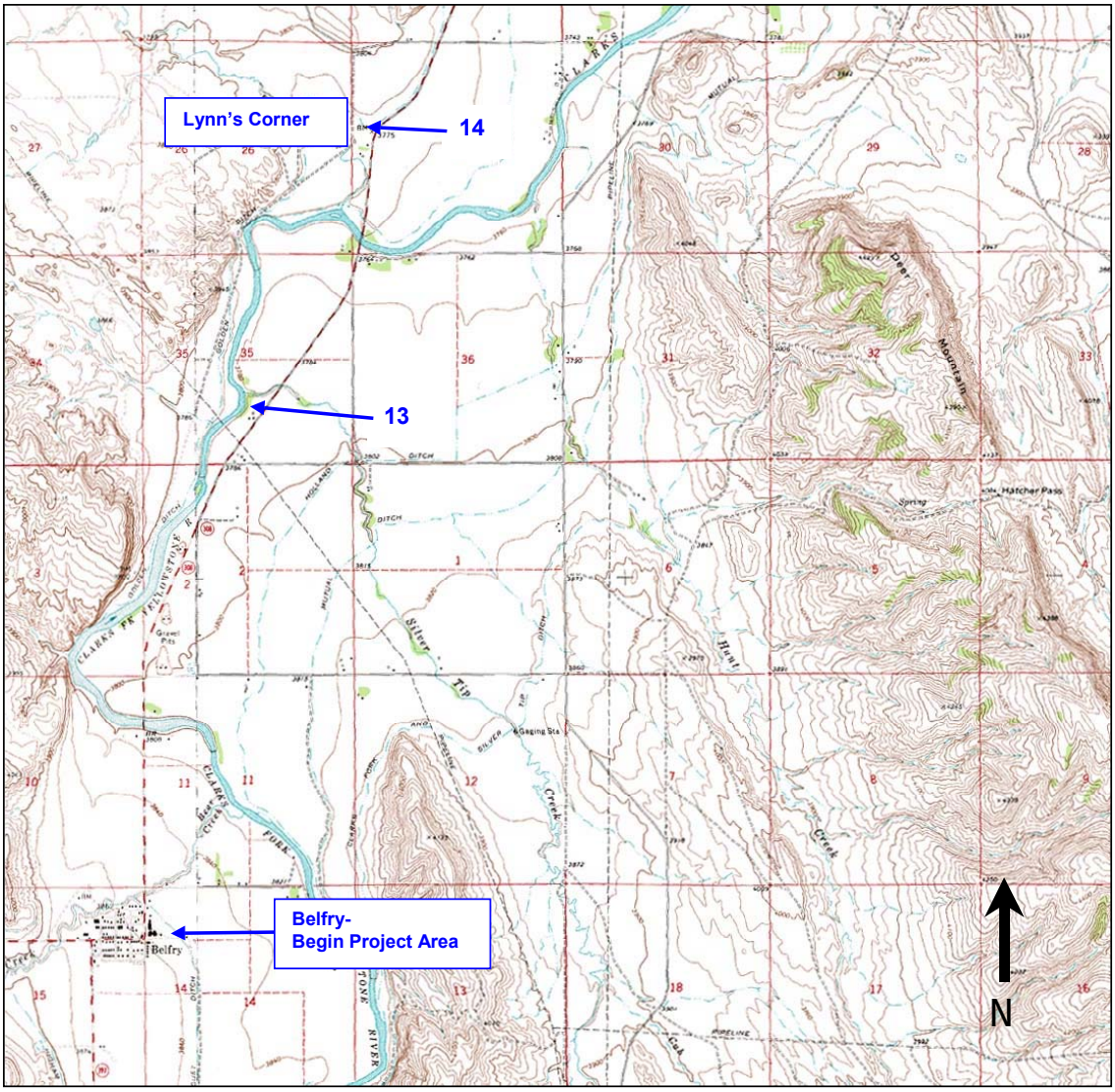

Figure 2. Site map depicting receptors north of Belfry to Lynn's Corner, MT 72 Belfry North project area, Carbon County, Montana.

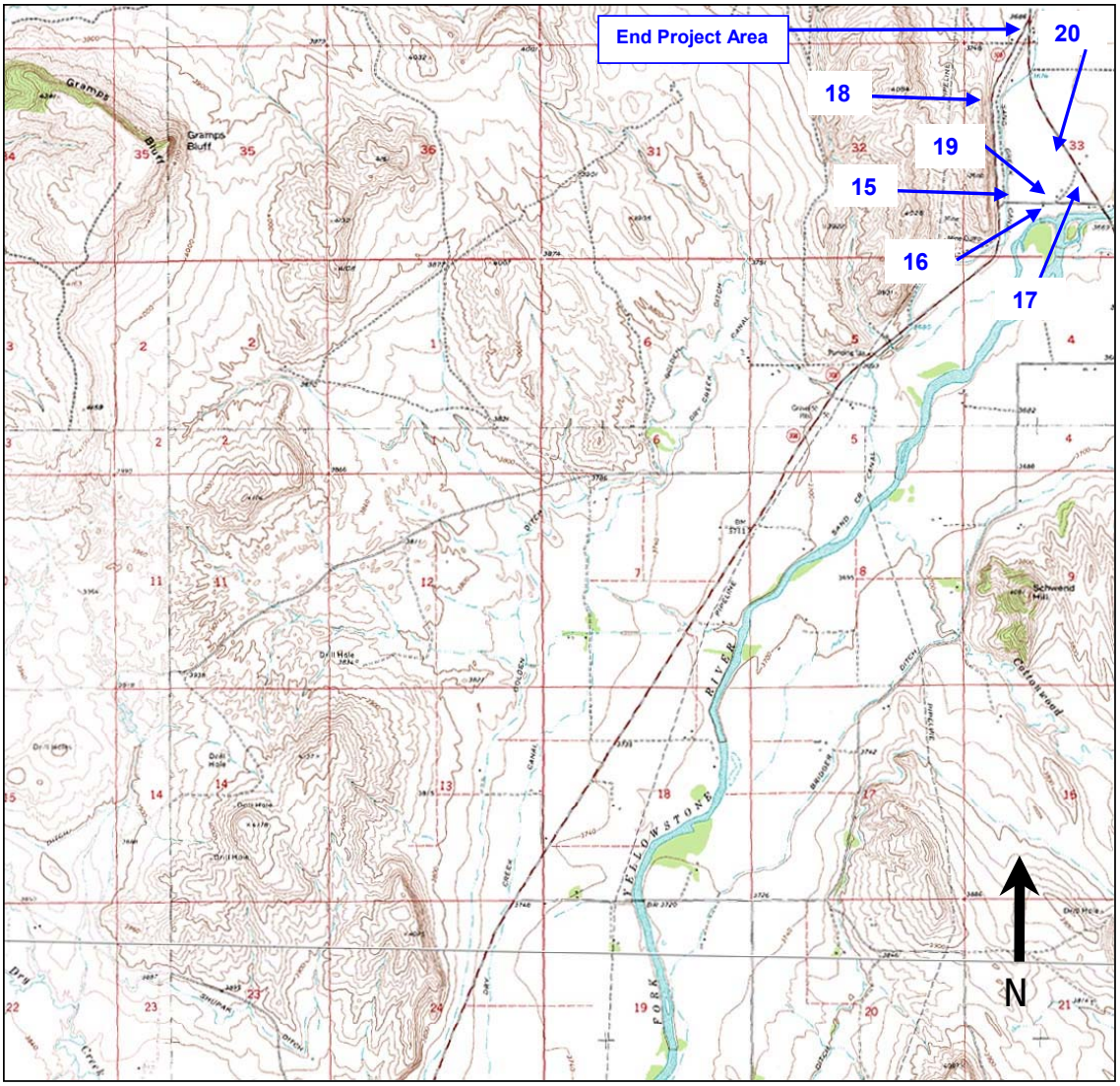

Figure 3. Site map depicting receptors north of Lynn's Corner to project terminus, MT 72 Belfry North project area, Carbon County, Montana