

**Winter Grassland Raptor Survey Report**

for

**SHELBY CRUSHED STONE**

**Wetland Mitigation Area**

**Town of Barre**

**Orleans County, New York**

for

**SHELBY CRUSHED STONE**



May 17, 2022

EDI Project Code: **W4D12b**

**REPORT SUMMARIZING  
THE RESULTS OF  
A WINTER GRASSLAND RAPTOR SURVEY OF**

# **SHELBY CRUSHED STONE**

## **Wetland Mitigation Area**

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## TABLE OF CONTENTS

Executive Summary .....	1
Section I: Site Description .....	2
Section II: Survey Methods .....	3
Section III: Species Descriptions .....	4
Section IV: Results & Conclusions .....	5
Appendix A – Figures	
Appendix B – Species List	
Appendix C – Northern Harrier Observation Maps	
Appendix D – References	
Appendix E - Field Investigation Personnel	

## EXECUTIVE SUMMARY

Shelby Crushed Stone is proposing the expansion of an existing stone quarry in the Town of Shelby, County of Orleans, and State of New York. The proposed expansion will permanently impact state and federally jurisdictional wetlands, which are proposed to be mitigated at an off-site property in the Town of Barre. In response to comments provided by NYSDEC during the Determination of Adequacy of the DEIS EIS for Public Review, Shelby Crushed Stone has retained Earth Dimensions, Inc. (EDI) to perform a Winter Grassland Raptor Survey at the proposed Wetland Mitigation Site (Site) to identify the existence or potential for listed State and/or Federal species and/or their habitats.

During DEIS review, NYSDEC identified the Site as immediately adjacent to a recently documented Northern Harrier (*Circus cyaneus*) wintering area and within 0.5 mile home range for this species. NYSDEC requested an analysis of potential impacts on wintering raptor habitat for the wetland mitigation construction. In response to this comment, a baseline Winter Raptor Survey was conducted per the August 2021 NYSDEC Survey protocol for Wintering Grassland Raptor Species.

Winter Raptor Survey visits were conducted at the Site from December 13, 2021 through March 21, 2022. A total of eight (8) surveys were conducted, twice per month from December through March on suitable weather days. During the surveys at the Site, no Northern Harriers were observed within or adjacent to the property. Driving surveys of the surrounding area did identify two (2) occurrences of Northern Harrier in the vicinity of the known wintering location. A combination of driving surveys and stationary surveys were utilized to document all bird activity within the Site and adjacent habitats.

Baseline habitat data was obtained during the field surveys, which identified the Site as dominated by agricultural fields that had been planted with soybeans the previous season. Hedgerows are present which may provide perches during hunting, but limited potential for high small mammal populations are expected based on the current land use and adjacent habitats.

In summary, it is EDI's professional opinion that the Site does not host potentially suitable habitat for wintering Northern Harriers, nor is it used frequently by wintering Northern Harriers.

## SECTION I: SITE DESCRIPTION

The Shelby Crushed Stone Mitigation Site is comprised of a 138± acre parcel on the east side of Townline Road and south side of Pask Road. The Site is approximately 5.45 miles east of the proposed stone quarry expansion. The Site is dominated by agricultural fields with several shrubby hedgerows and a forested wetland area in the southeast portion of the Site. Several emergent wetland communities were identified within the agricultural fields. The Site is outlined on Figure 1 in Appendix A.

The natural topography of the Site is flat to gently sloping. The uplands within the investigation areas consisted of a row crop community. The wetland areas were found to consist of shallow emergent marsh, scrub-shrub swamp, and hardwood swamp communities. The vegetative communities of the investigation area are described according to *Ecological Communities of New York State* (Edinger et al. 2014).

The Site is approximately 1.90 miles northeast of the known wintering Northern Harrier location along Posson Road. The home range for the Harriers extends from the Posson Road site to within 0.5 mile of the wetland mitigation parcel. A driving survey route which includes Posson Road and the surrounding home range area was implemented to confirm Northern Harrier presence or absence.

## SECTION II: SURVEY METHODS

Surveys were conducted between December 13, 2021 and March 21, 2022. Surveys consisted of stationary point-counts and driving transects. Ebird checklists were completed during all stationary counts and when Northern Harriers were observed away from the Site.

Two (2) stationary point-count locations were established at the Site. The stationary points were surveyed every other week from at least one hour before sunset to at least one half hour after sunset. The point-count locations were chosen based on ability to survey large portions of the Site, safe road-side access and unobstructed view. Point-count surveys were conducted at one site per week by an experienced Ecologist experienced in identifying Northern Harriers, as well as other winter raptors such as Short-eared Owl (*Asio flammeus*). Surveys were not conducted during inclement weather such as persistent precipitation, fog, or strong winds (over 12 mph). Each point-count survey identified all birds seen and/or heard.

On each survey day, driving transects were conducted for several hours on the same day as point-count surveys prior to peak Harrier activity (early to late afternoon). The driving transect route was created to include the known wintering location of Northern Harrier and any potentially suitable habitat near the Site. The route was driven slowly (average 20 mph) and in areas of suitable habitat or with noticeable bird activity, a brief stationary count was conducted.

### SECTION III: SPECIES DESCRIPTIONS

NYSDEC identified State Threatened Northern Harrier as potentially adjacent to the Wetland Mitigation Site. Northern Harrier is identified as a S3B, S3N/G5 species. S3B/S3N represents a species that is vulnerable to disappearing both as a breeder and as a non-breeder in New York. Currently, 21-80 breeding locations and 21-80 wintering populations have been identified, with few individuals, restricted range, or few remaining acres of suitable habitat. Northern Harrier populations in the northeastern United States were considered abundant and widespread historically. Populations began to decline in the 1950's, likely due to habitat loss from urban development expansion. While breeding populations have appeared to decline steadily, wintering populations appear to be consistent.

Northern Harrier is a 16-24 inch, slender-bodied hawk which hunts open grasslands and marshes for small rodents. Birds are identified by a long tail and wings, yellow legs, distinct facial disk, and a white rump patch. Sexes can be fairly accurately identified in the field; males are pale gray with black wing tips and a slightly banded tail. Females are browner overall with dark streaks on the breast. Juvenile Harries are similar in appearance to females, but adult females have bright yellow eyes while juveniles have gray eyes. Primary prey items include small rodents such as meadow voles and field mice, and sometimes small birds. Northern Harriers utilize open grasslands, shrubland, and marshes.

## SECTION IV: RESULTS & CONCLUSIONS

Two surveys per month for December, January, February, and March were conducted during the Winter Raptor survey period, for a total of eight survey days. Three permanent stationary points were established, one at the Site on Pask Road, one at the Site on Townline Road and one at the known Ebird hotspot location on Posson Road. During the eight surveys, 46 total bird species were identified at the point-count locations and on the driving transects (Appendix B). Ebird was used to list all species and total number counts for each species at each stationary location, as well as important observations during driving that were not at a stationary point. A total of 27 raptor observations of six different species were recorded during driving and stationary surveys. The six species identified were Red-tailed Hawk (*Buteo jamaicensis*), Bald Eagle (*Haliaeetus leucocephalus*), Northern Harrier, American Kestrel (*Falco sparverius*), Cooper's hawk (*Accipiter cooperii*) and Sharp-shinned Hawk (*Accipiter striatus*). Red-tailed Hawk was the most common raptor identified, with 18 of the 27 individual observations. Bald Eagle was the next most common with 4 of the 27 observations followed by Northern Harriers (2 of 27) and American Kestrel, Cooper's Hawk and Sharp-shinned Hawk with 1 observation each.

Two separate Northern Harrier observations were noted during the driving surveys. The first observation was a female-type (could not confirm female or juvenile bird) on January 12, 2022. The observation occurred at 2:39pm while driving along the transect route. The bird was observed along the south side of Martin Road, east of the Bigford Road intersection. The bird was observed flying southward high over a hay field, and disappeared briefly behind a large, forested area. The bird was observed shortly after the initial observation flying southwest over Bigford Road. Appendix C: Map 2 shows the location and flight path of the observation, which is approximately 2.25 miles west of the Site. The bird did not appear to be hunting due to flight speed and height.

The second observation was an adult male (slate-gray colored bird) on February 24, 2022. The observation occurred at 2:40pm while approaching the Posson Road stationary point. The bird was observed along the west side of Posson Road, south of Fletcher Chapel Road. The bird was observed flying low and sporadic, dropping to the ground out of view several times. Based on flight pattern and habitat, the bird was very likely hunting at the time of the observation. The bird was observed for nearly 3 minutes, ultimately flying out of view to the southwest. Appendix C: Map 3 shows the location and flight path of the observation, which is approximately 1.75 miles southwest of the Site.

Surveys at the Site identified no listed wintering raptors. A total of 1,583 minutes (26.38 hours) were spent observing the Site from the two point-survey locations. The point-survey location on Townline Road was surveyed for 926 minutes and the point-survey location on Pask Road was

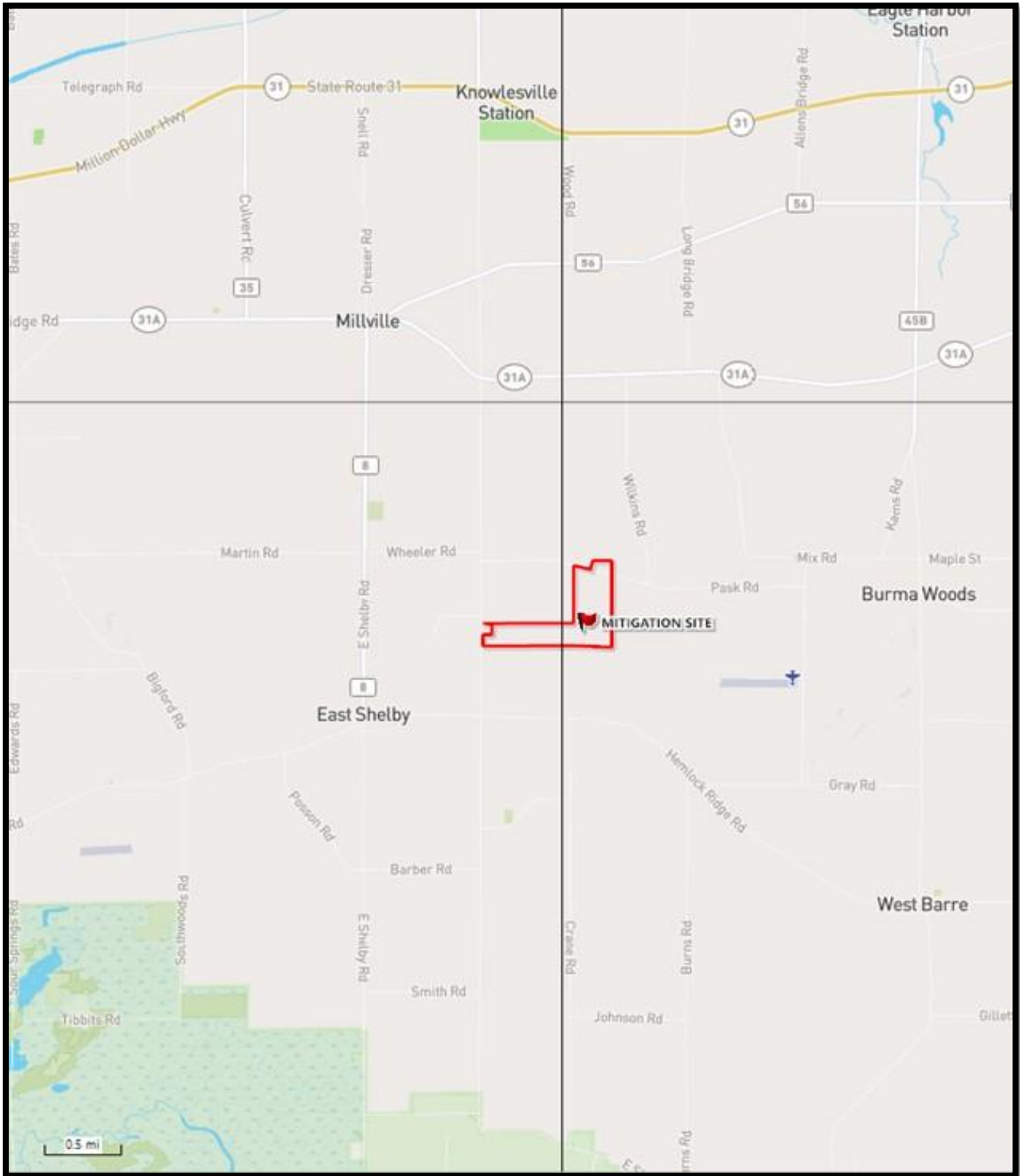


surveyed for 657 minutes. The Townline location was determined to have a better view of the site (sun glare, vegetation obstruction, etc.), leading to more survey time spent at that location. A total of forty-two (42) bird species were identified within the Site during the point-surveys. Four (4) raptor species were identified; Bald Eagle, Cooper's Hawk, Red-tailed Hawk and Sharp-shinned Hawk. The Bald Eagle observations included two adults feeding on a deer carcass on the Site, within feet of Townline Road. Additionally, two (2) Bald Eagle sightings of flyover birds were observed.

No direct observations of foraging, roosting, perched or flying Northern Harriers (or other listed wintering raptor species) were noted at the Site. Site conditions and ecological communities are not ideal for use by wintering Northern Harriers. The stubble from soybeans that had been harvested and lack of dense herbaceous vegetation for small mammals resulted in lack of use within the Site. Northern Harriers were not observed in high numbers in the community surrounding the Site. The proposed site plan of creating wetland mitigation will have no impact on wintering Northern Harriers. Additionally, the creation of emergent marsh wetland mitigation will enhance the Site and may lead to foraging opportunities by Northern Harriers in the future.

# **SHELBY CRUSHED STONE**

APPENDIX A – FIGURES

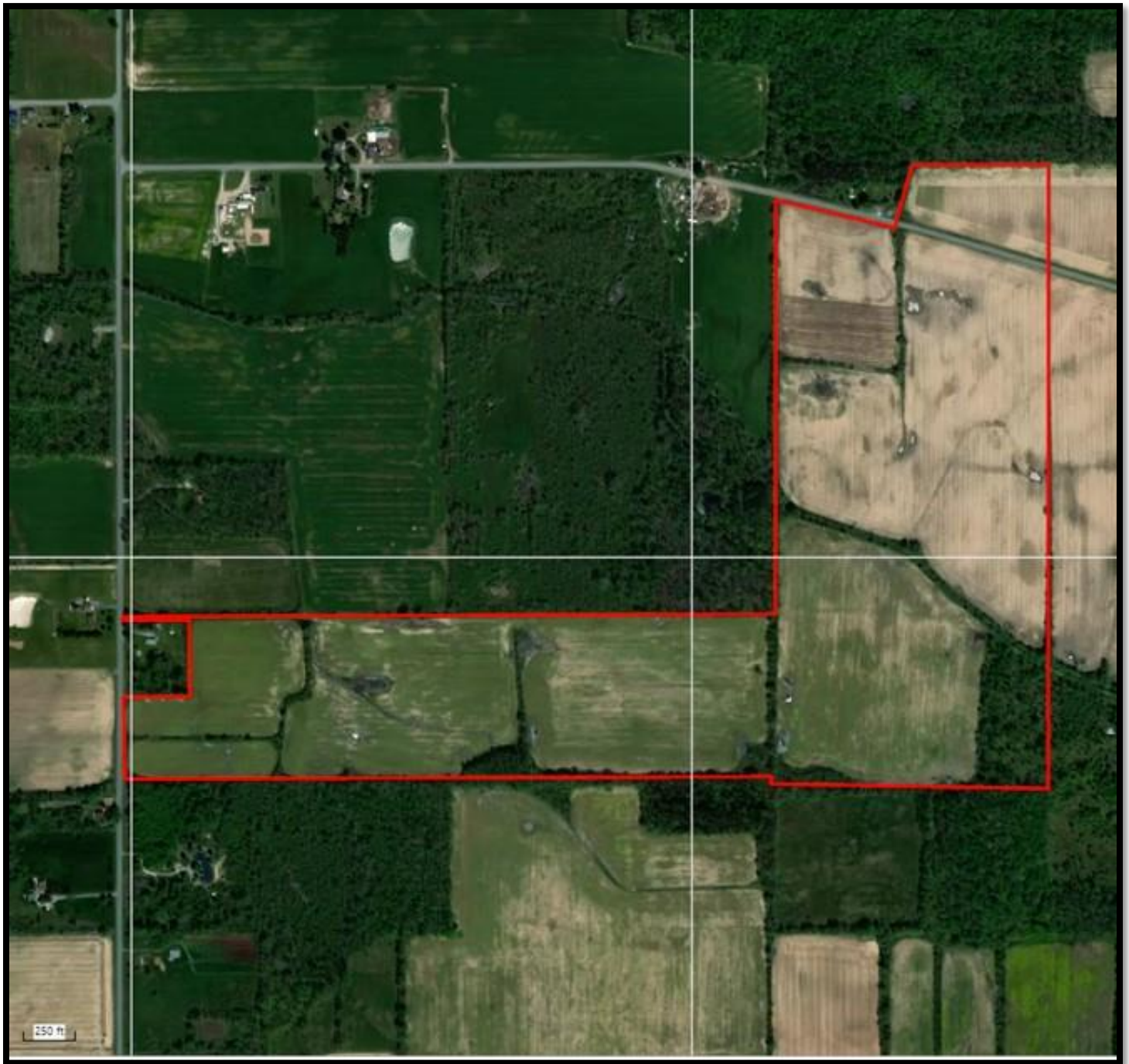


**FIGURE 1: SITE LOCATION MAP**

Expert GPS Software

Shelby Crushed Stone – Mitigation Site

Town of Barre, Orleans County, New York

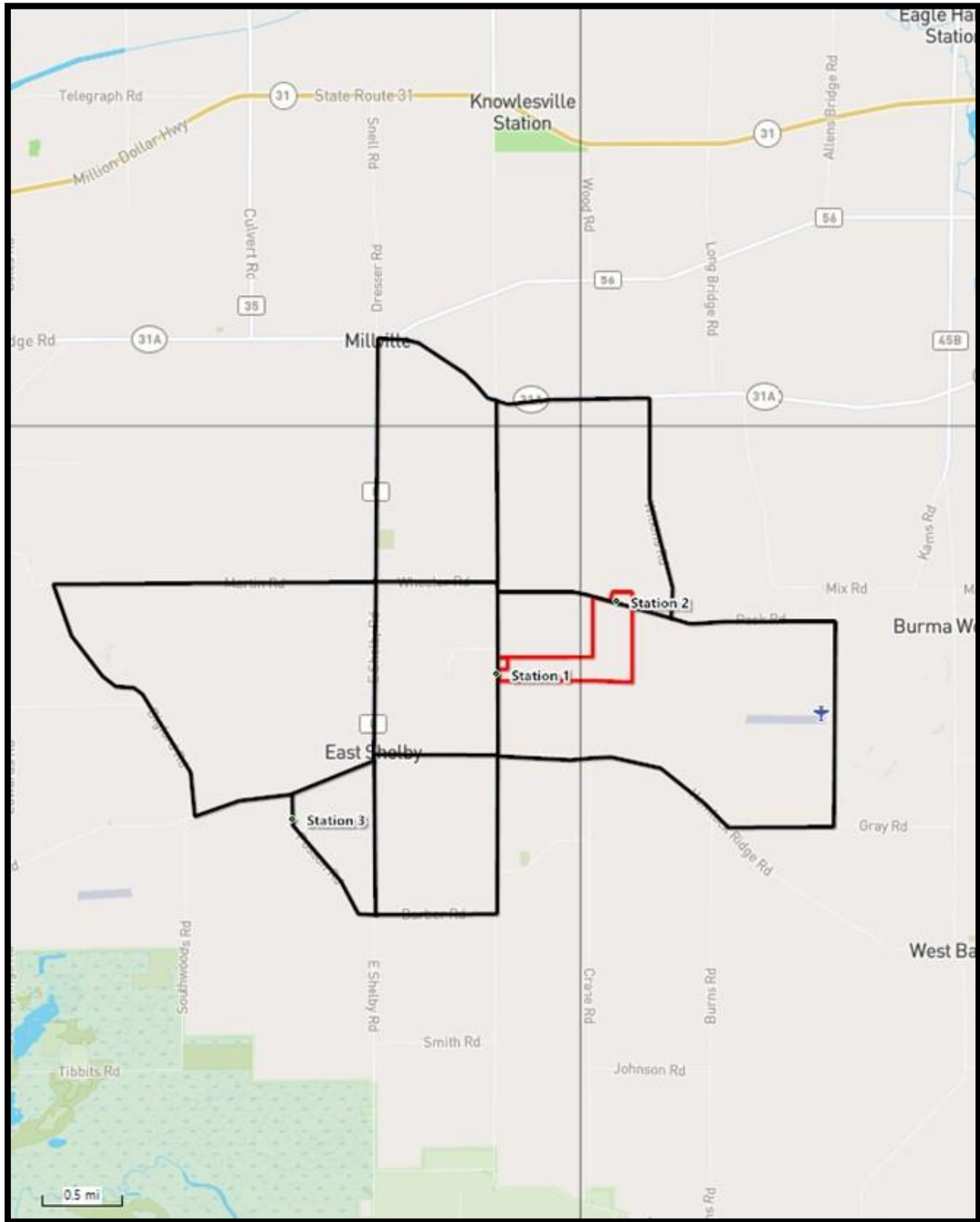


**FIGURE 2: AERIAL PHOTOGRAPH**

**Expert GPS Software**

Shelby Crushed Stone – Mitigation Site

Town of Barre, Orleans County, New York



**FIGURE 3: DRIVING ROUTE MAP**

[Expert GPS Software](#)

Shelby Crushed Stone – Mitigation Site

Town of Barre, Orleans County, New York

# **SHELBY CRUSHED STONE**

APPENDIX B – SPECIES LIST

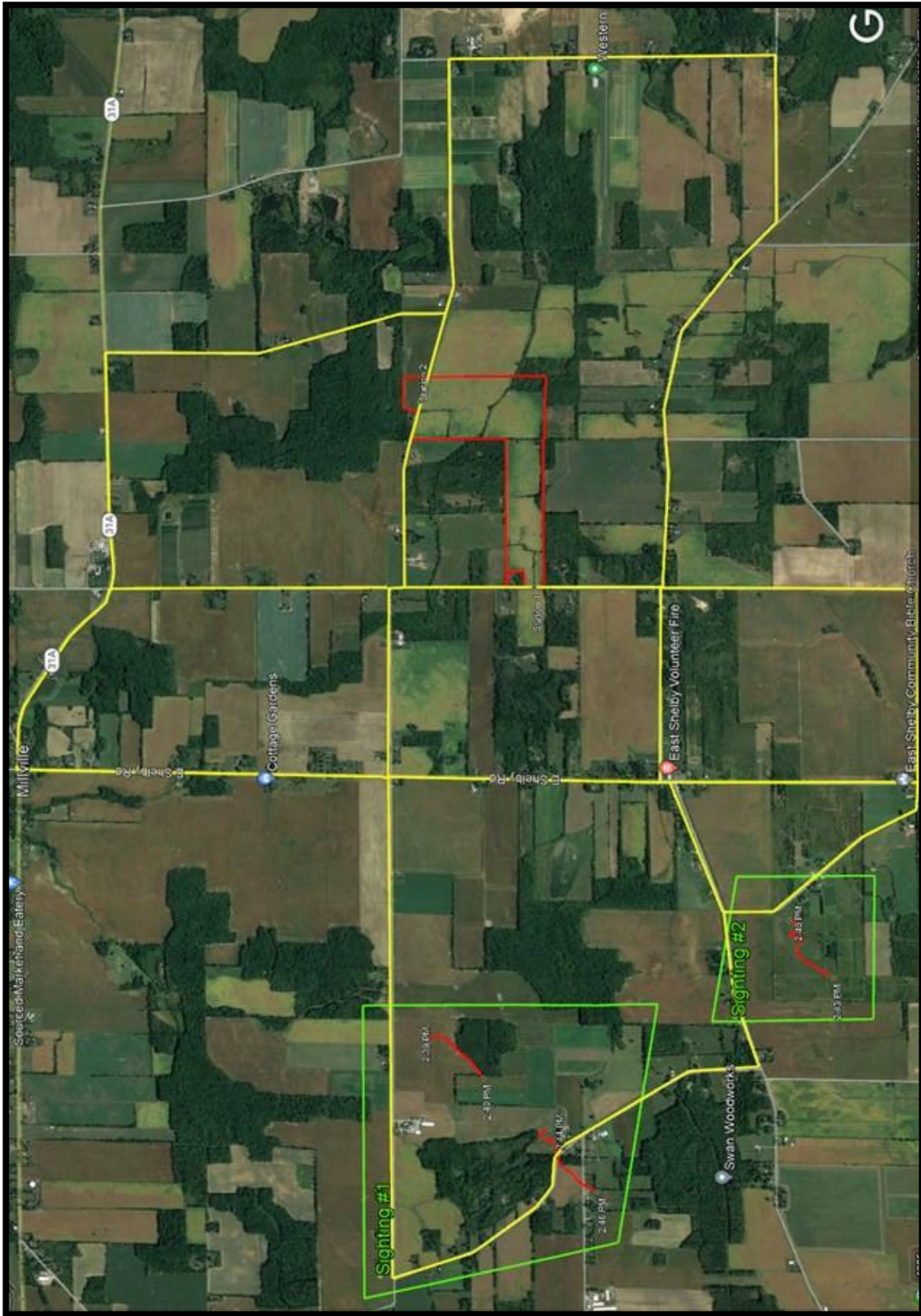
**Table 1: Bird Species Identified During Winter Raptor Surveys**

	Species	Townline Station	Total # Observed	Pask Road Station	Total # Observed	Posson Road Station	Total # Observed	Driving Route
1	Turkey Vulture	X	1	X	2	X	4	X
2	<b>Cooper's Hawk</b>	<b>X</b>	<b>1</b>					
3	Rusty Blackbird	X	1					
4	Snow Goose	X	7					
5	Wood Duck	X	2					
6	Mallard	X	8					
7	Killdeer	X	1	X	1			X
8	Ring-billed Gull	X	40	X	1296	X	4	X
9	Red-winged Blackbird	X	71			X	30	X
10	Brown-headed Cowbird	X	7					
11	Common Grackle	X	14					X
12	Rock Pigeon	X	3	X	7	X	7	x
13	<b>Sharp-shinned Hawk</b>	<b>X</b>	<b>1</b>					
14	<b>Bald Eagle</b>	<b>X</b>	<b>2</b>	<b>X</b>	<b>2</b>			
15	Common Raven	X	2			X	1	
16	American Robin	X	30	X	18			X
17	American Goldfinch	X	3			X	5	X
18	Red-bellied Woodpecker	X	5	X	3	X	2	
19	White-throated Sparrow	X	1					
20	Song Sparrow	X	11	X	2	X	3	
21	Wild Turkey	X	38	X	7			X
22	<b>Red-tailed Hawk</b>	<b>X</b>	<b>2</b>	<b>X</b>	<b>7</b>	<b>X</b>	<b>9</b>	<b>X</b>
23	Canada Goose	X	2333	X	1380	X	353	X
24	Mourning Dove	X	37	X	11	X	32	X
25	Yellow-bellied Sapsucker	X	2					
26	Downy Woodpecker	X	6	X	4	X	2	
27	Hairy Woodpecker	X	2					
28	Northern Flicker	X	11	X	2	X	1	X
29	American Crow	X	98	X	70	X	26	
30	Tufted Titmouse	X	1					
31	Horned Lark	X	8	X	26	X	3	X
32	White-breasted Nuthatch	X	3			X	1	X
33	European Starling	X	1096	X	258	X	72	X
34	Eastern Bluebird	X	3	X	7	X	2	X
35	American Tree Sparrow	X	33	X	4	X	3	X
36	Dark-eyed Junco	X	28			X	8	
37	Northern Cardinal	X	28	X	4	X	2	X
38	Blue Jay	X	52	X	11	X	6	X
39	Black-capped Chickadee	X	9	X	2	X	3	
40	House Sparrow			X	41	X	8	X
41	Northern Mockingbird			X	1			
42	Wilson's Snipe			X	1			
43	<b>Northern Harrier</b>					<b>X</b>	<b>1</b>	<b>X (1)</b>
44	House Finch					X	2	
45	<b>American Kestrel</b>					<b>X</b>	<b>1</b>	<b>X</b>
46	Snow Bunting							X

# **SHELBY CRUSHED STONE**

APPENDIX C – NORTHERN HARRIER OBSERVATION MAPS

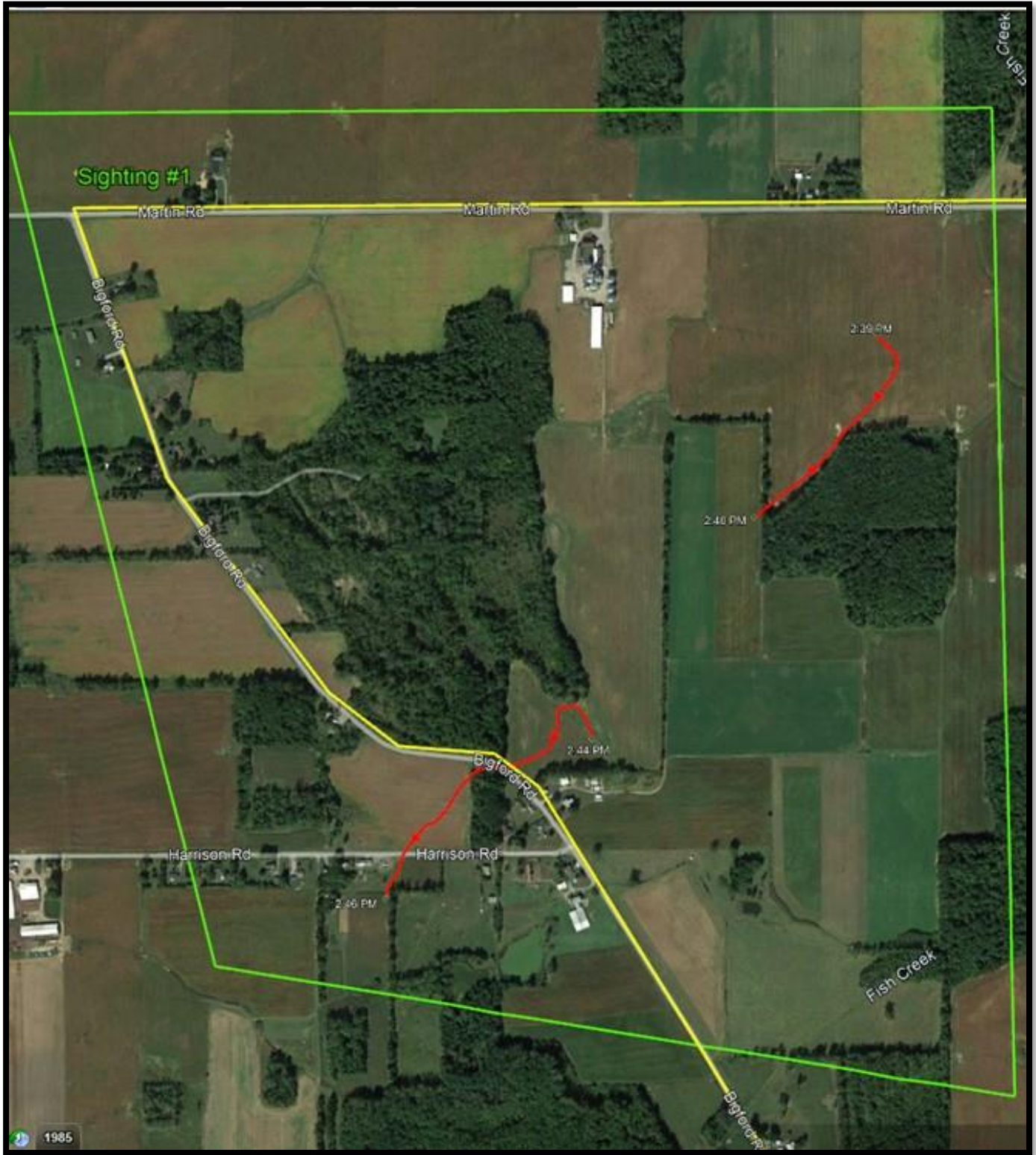




**MAP 1: SIGHTING LOCATION MAP**

[Google Earth](#)

Shelby Crushed Stone – Mitigation Site  
Town of Barre, Orleans County, New York

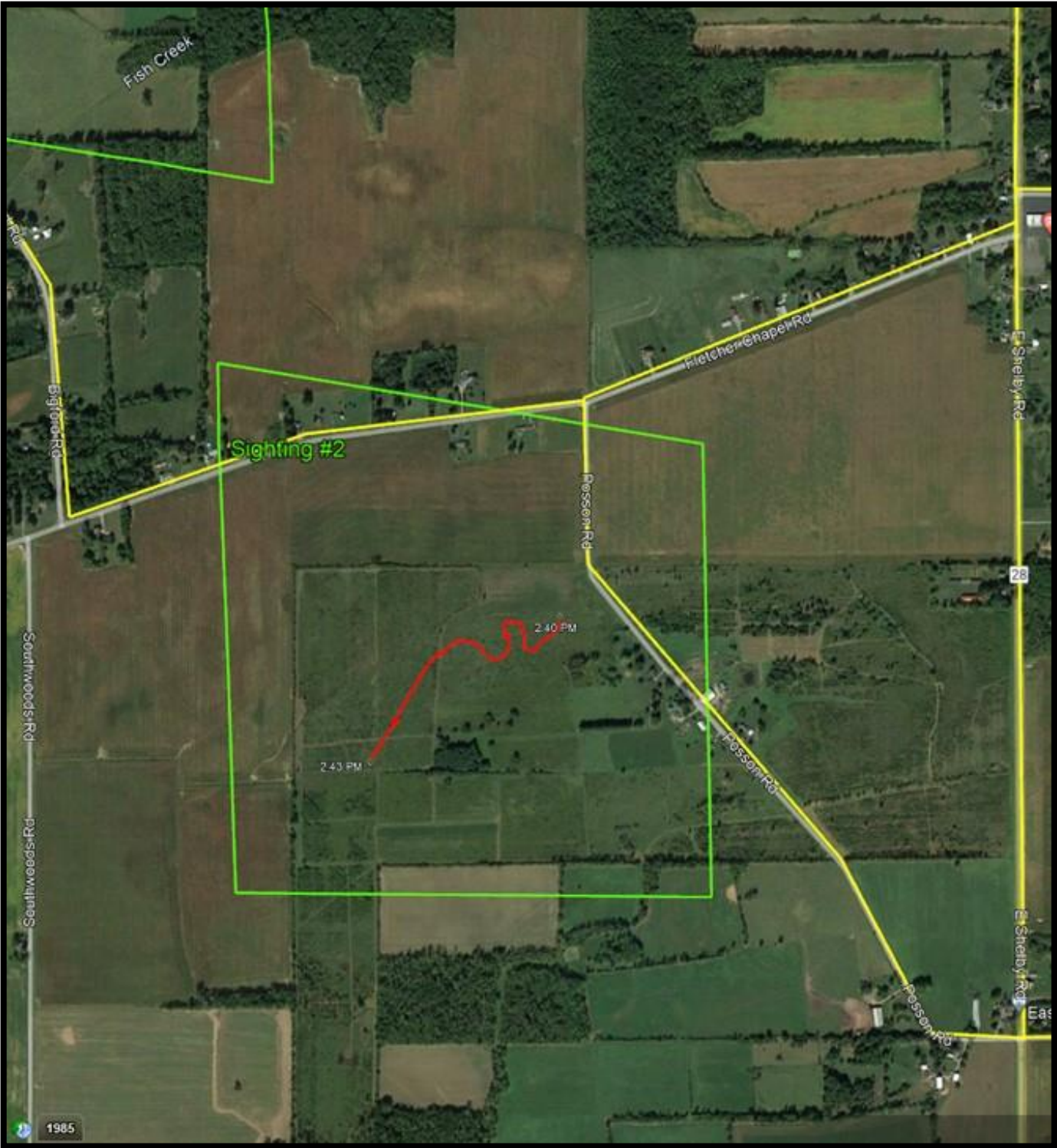


**MAP 2: SIGHTING LOCATION #1 MAP**

[Google Earth](#)

Shelby Crushed Stone – Mitigation Site  
Town of Barre, Orleans County, New York





**MAP 2: SIGHTING LOCATION #2 MAP**

[Google Earth](#)

Shelby Crushed Stone – Mitigation Site  
Town of Barre, Orleans County, New York

# **SHELBY CRUSHED STONE**

APPENDIX D – REFERENCES

## **INFORMATIONAL REFERENCES USED BY EARTH DIMENSIONS INC.**

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# **SHELBY CRUSHED STONE**

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