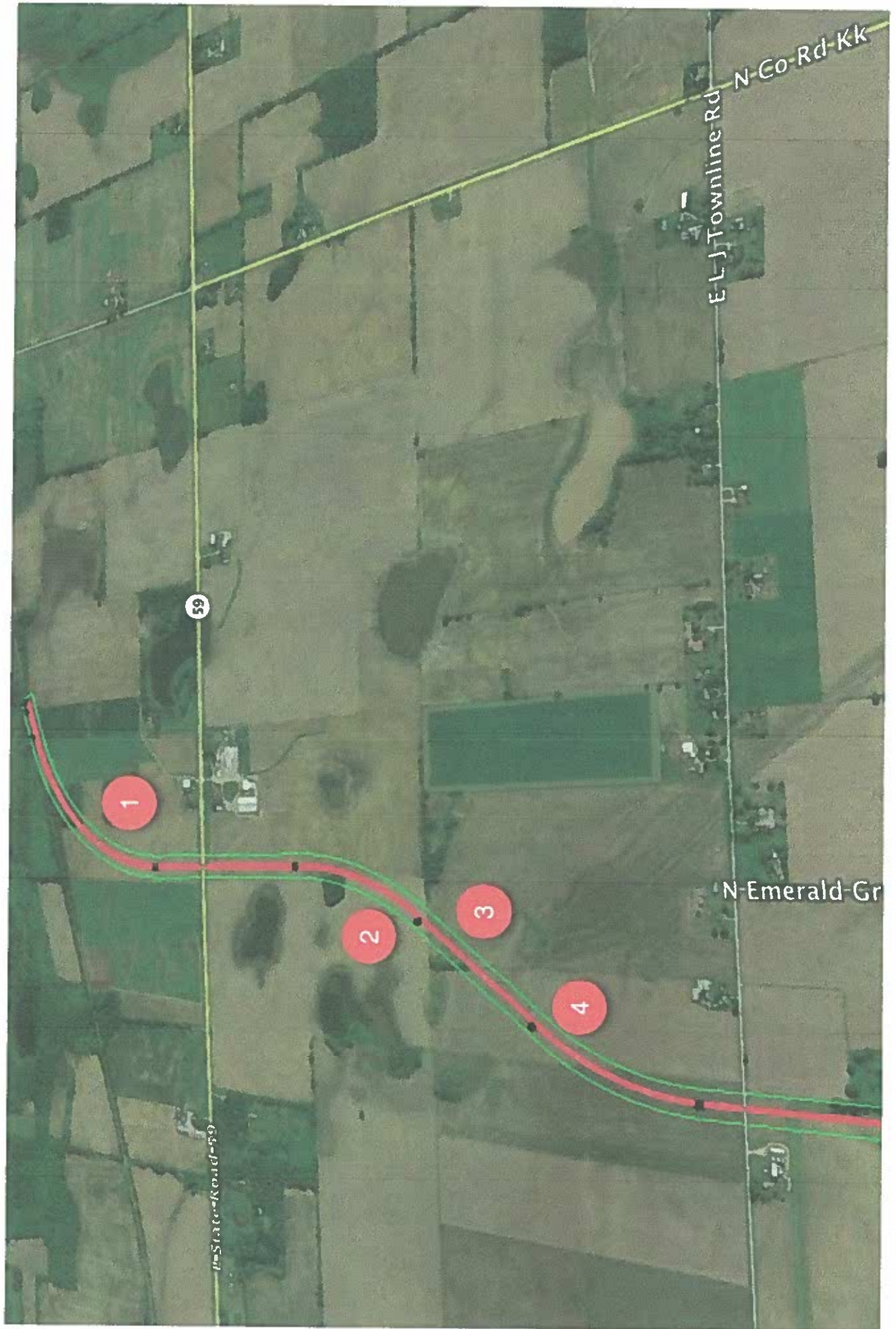


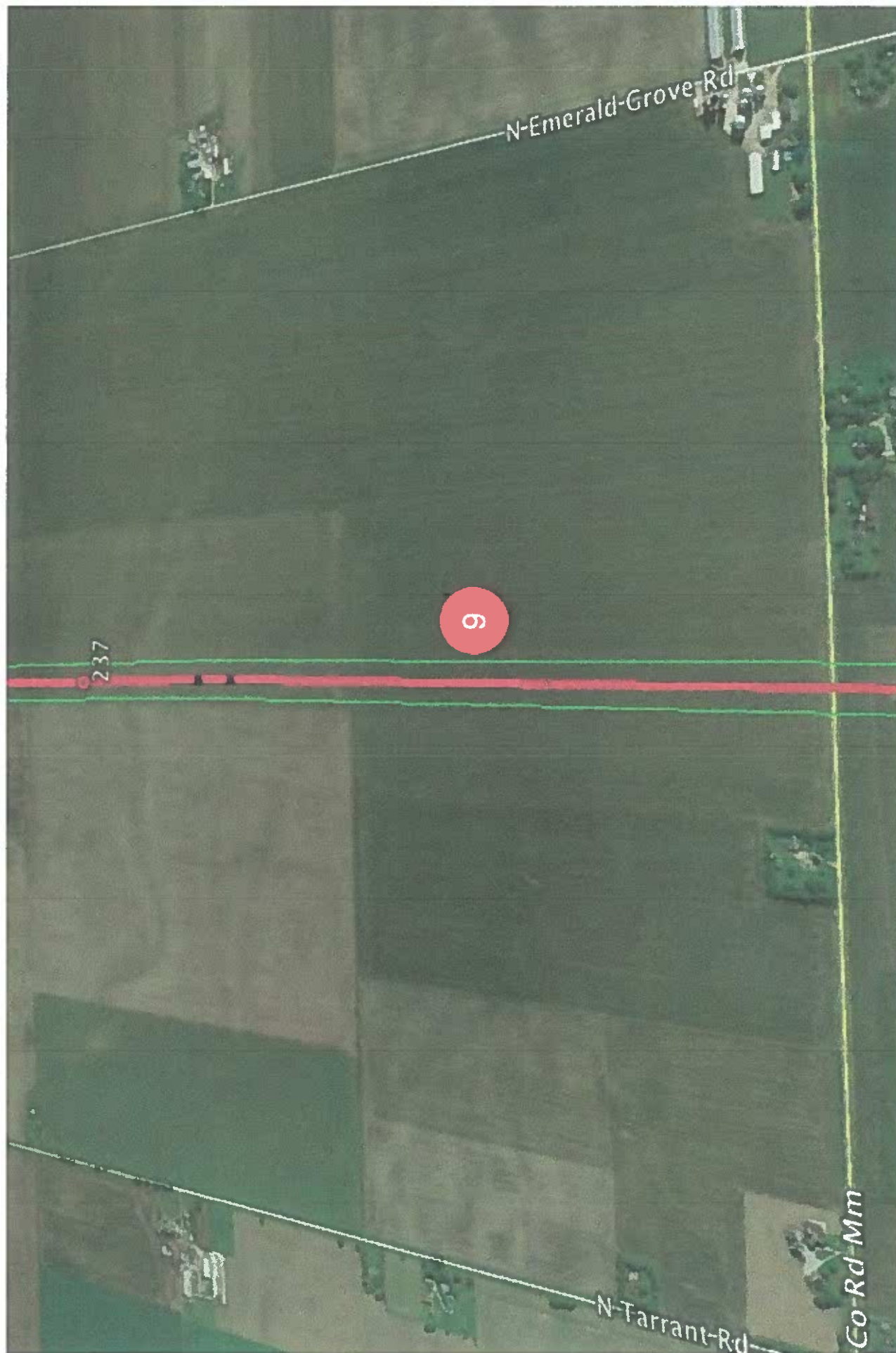
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APPENDIX 2

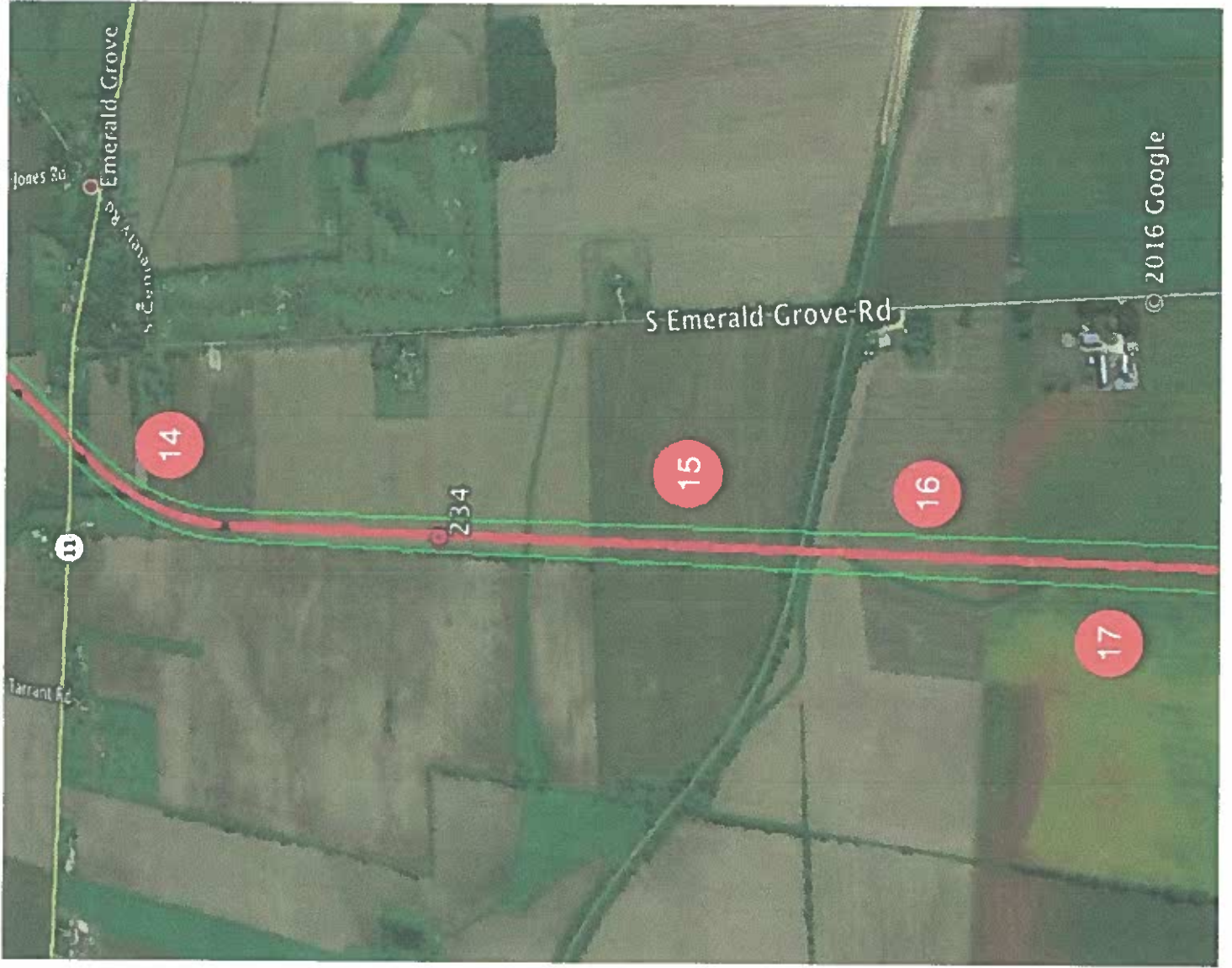
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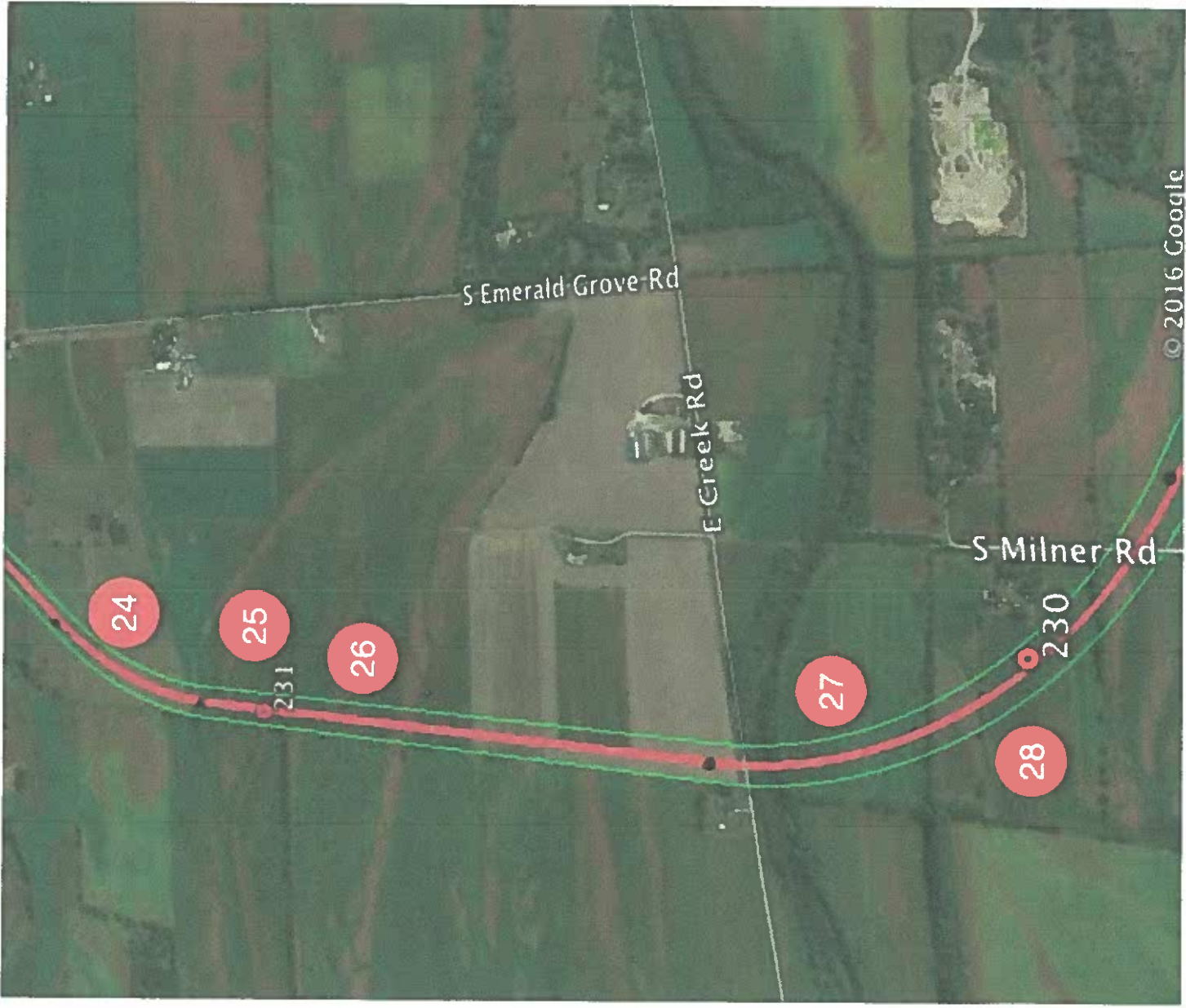








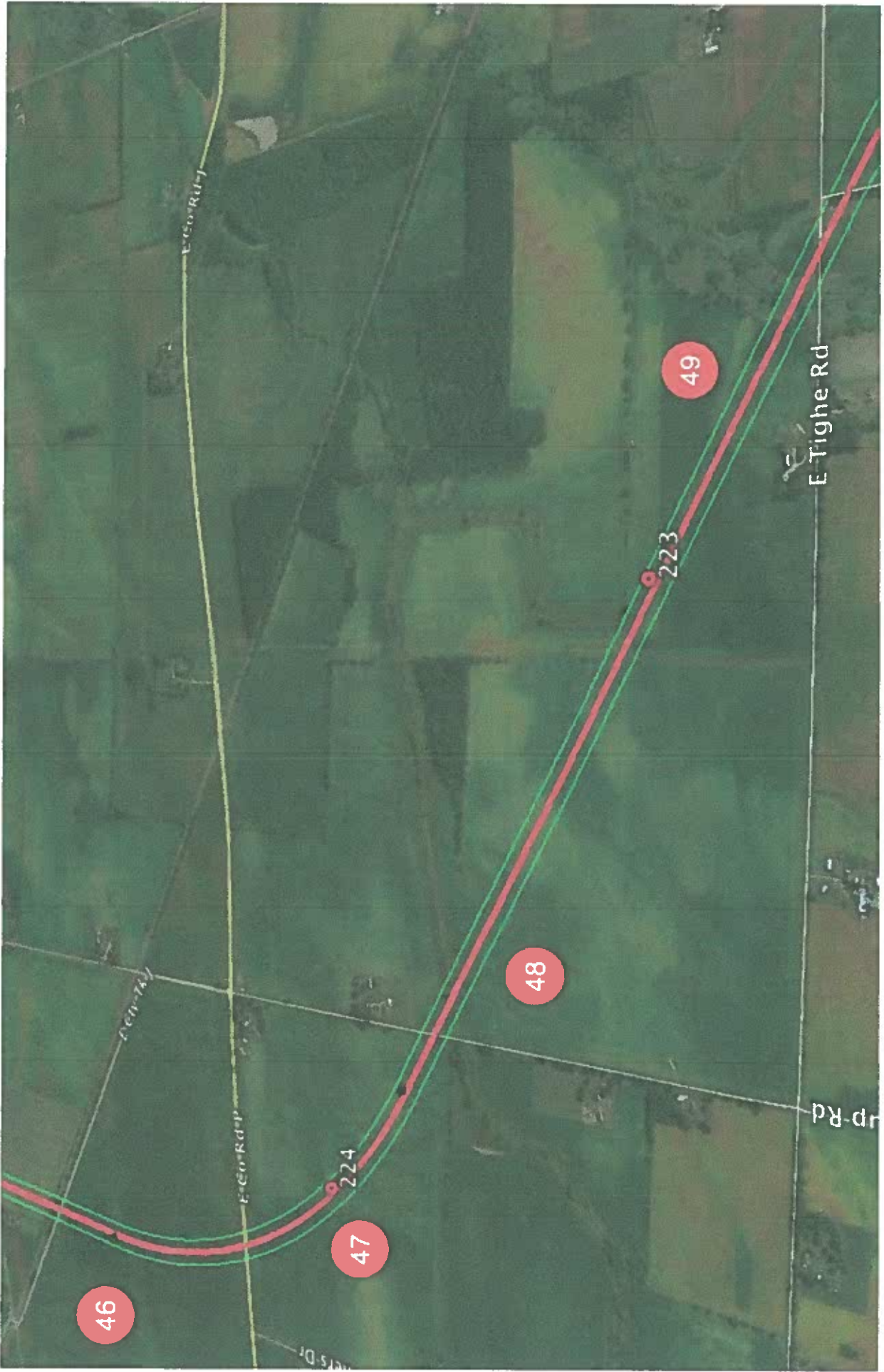






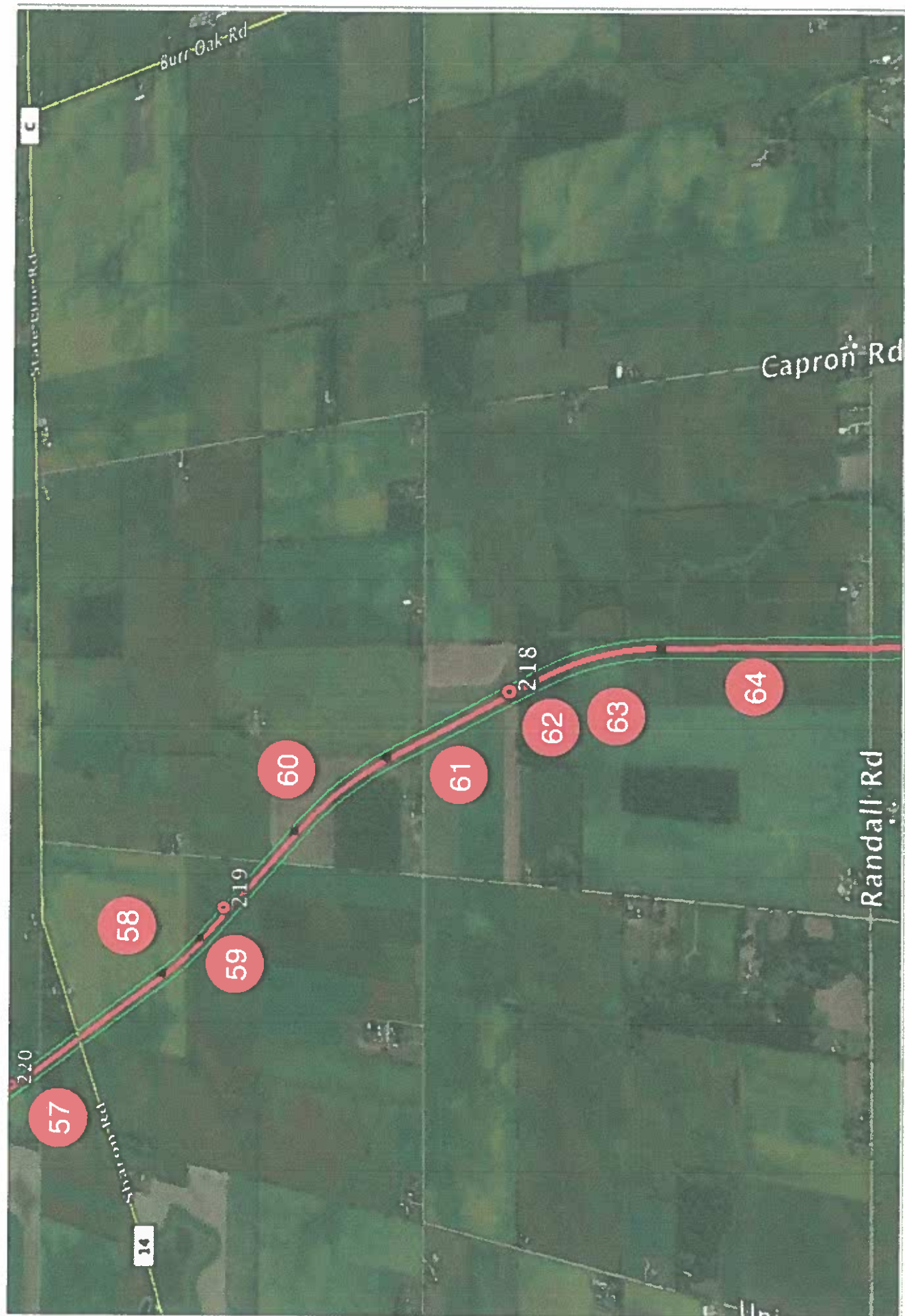


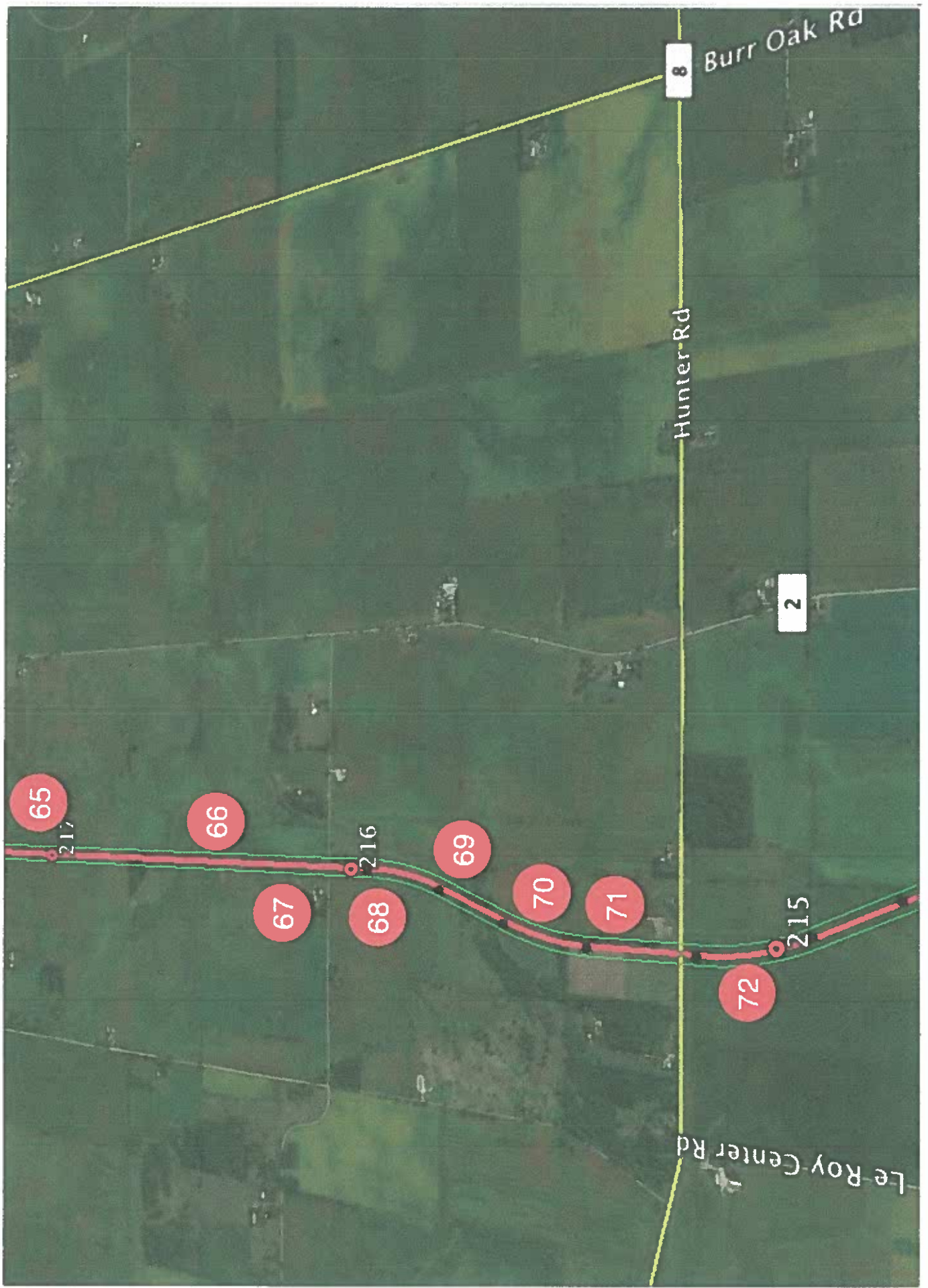


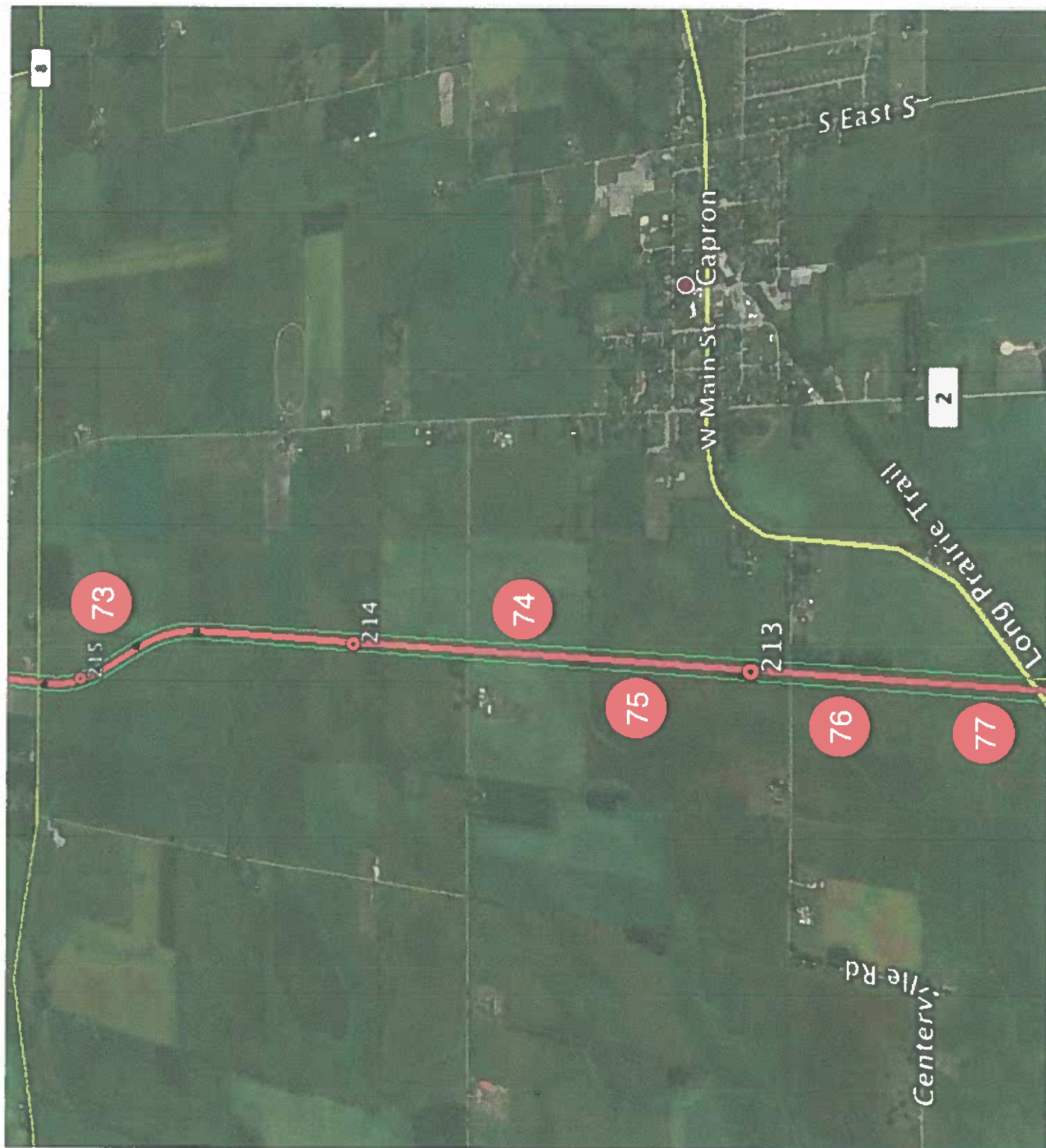








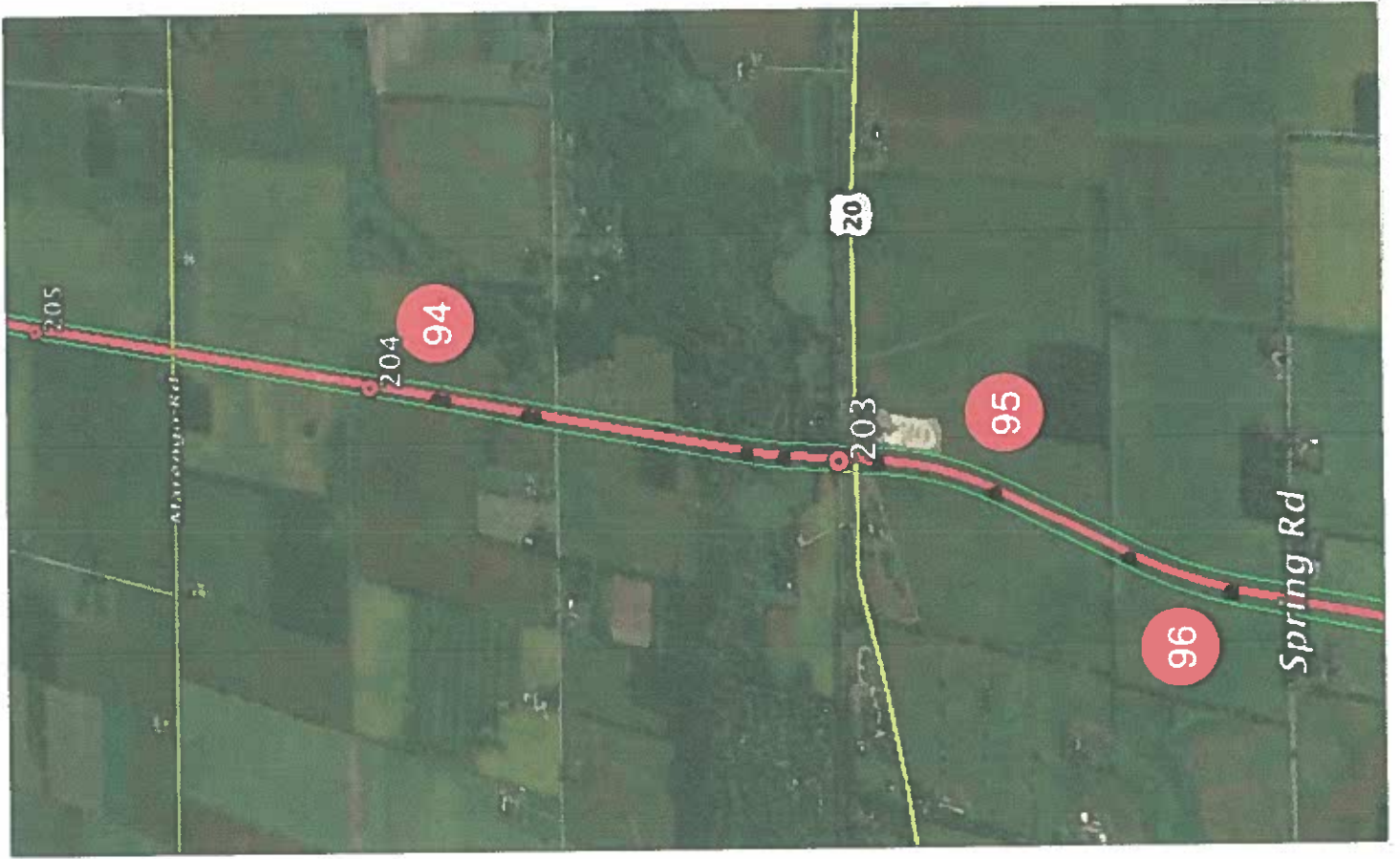


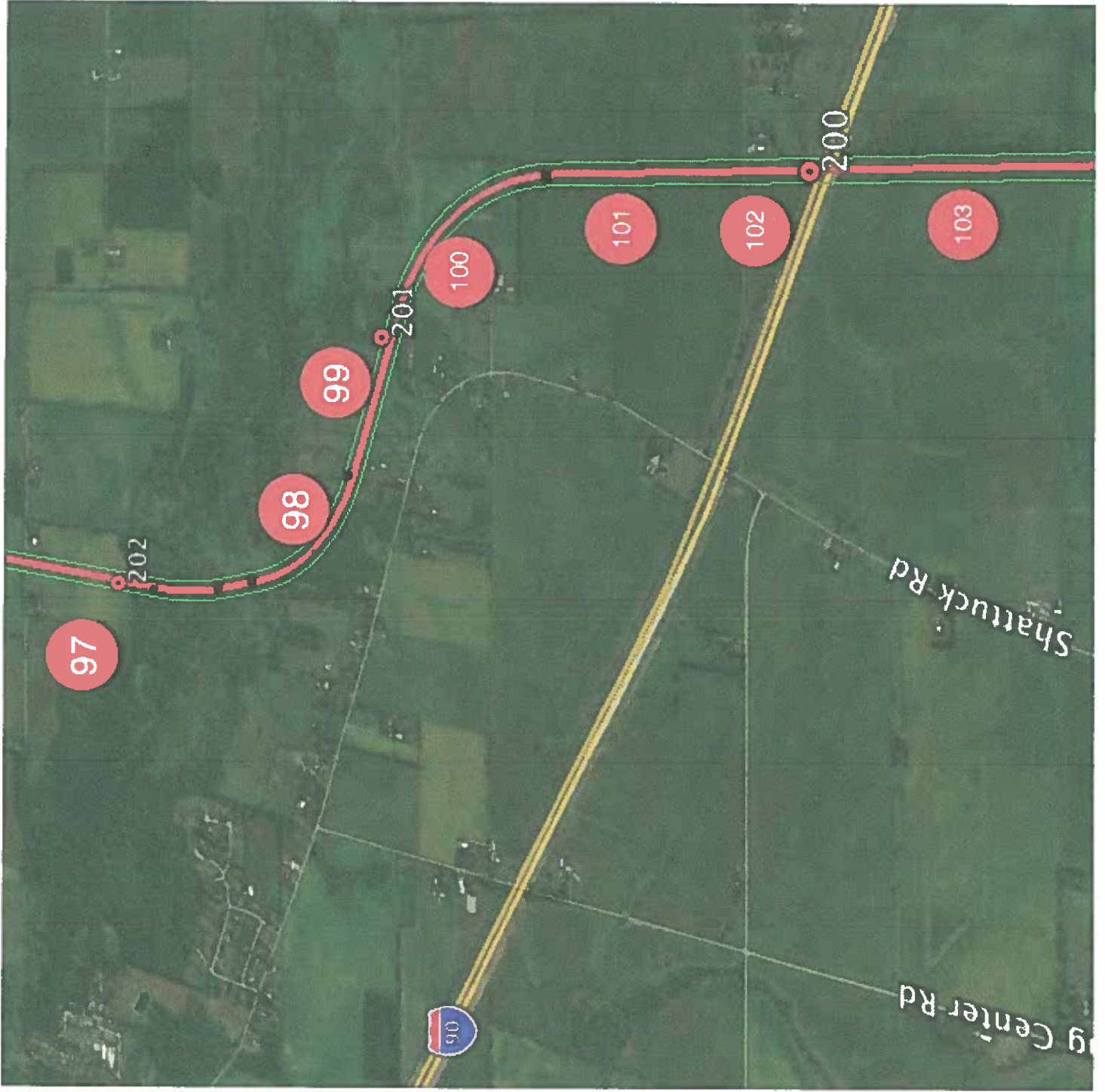


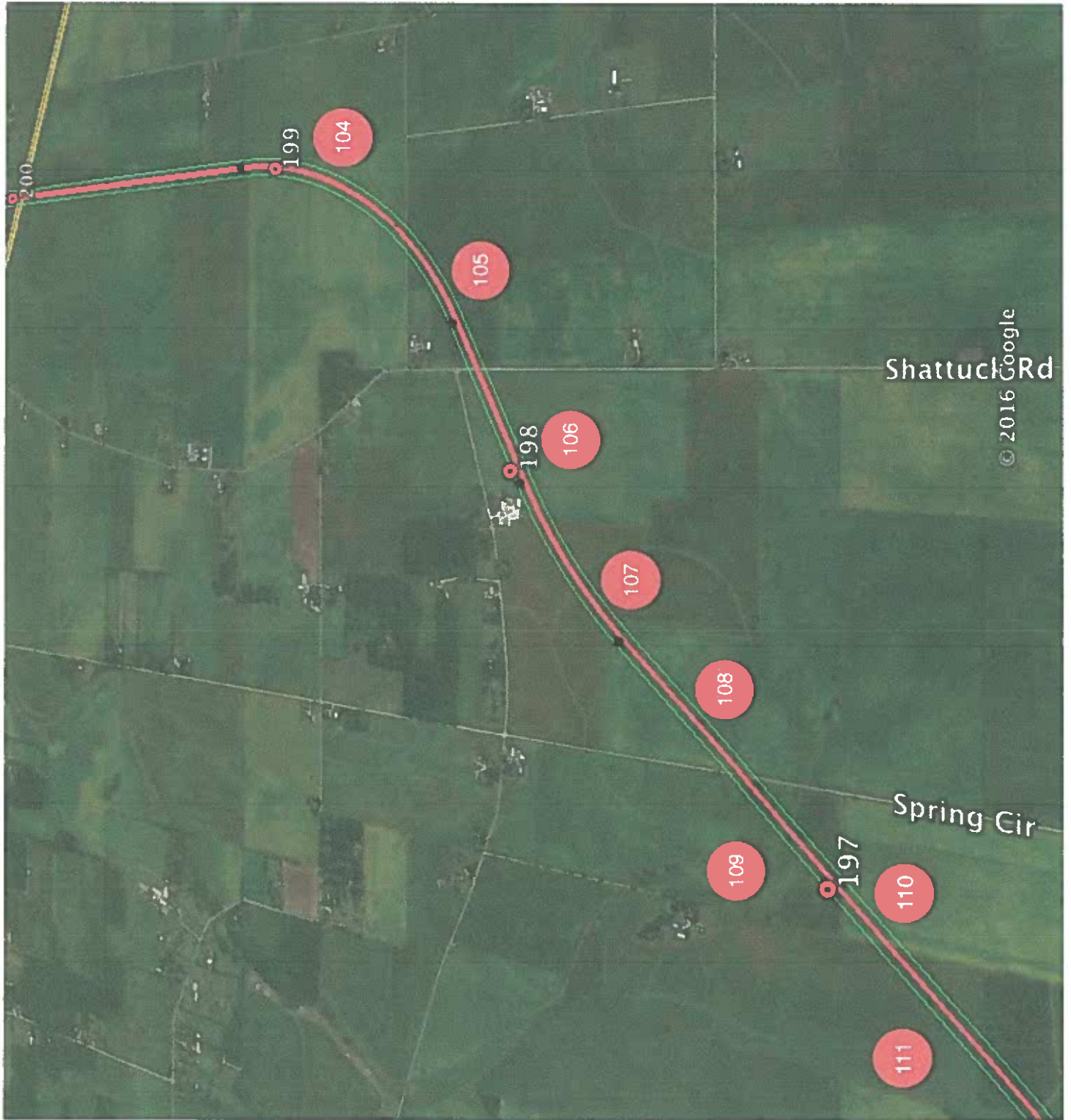










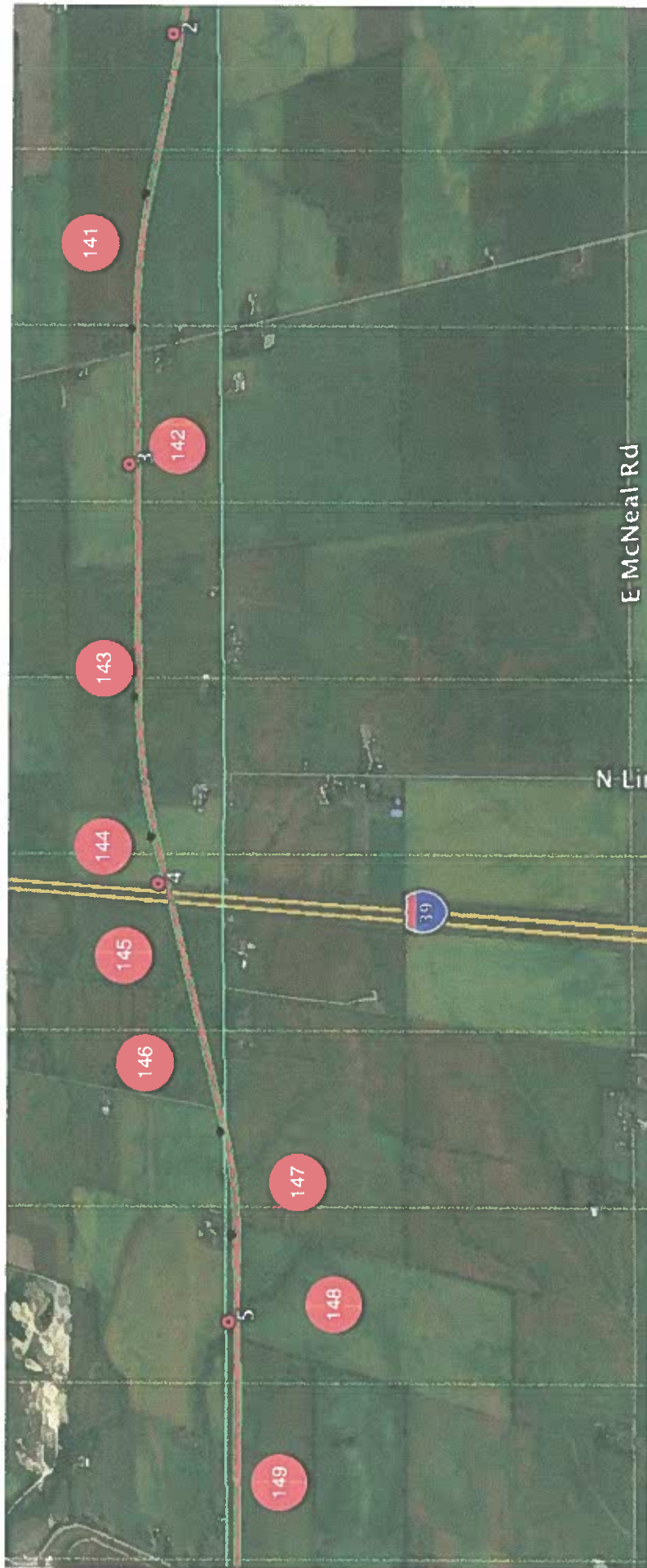






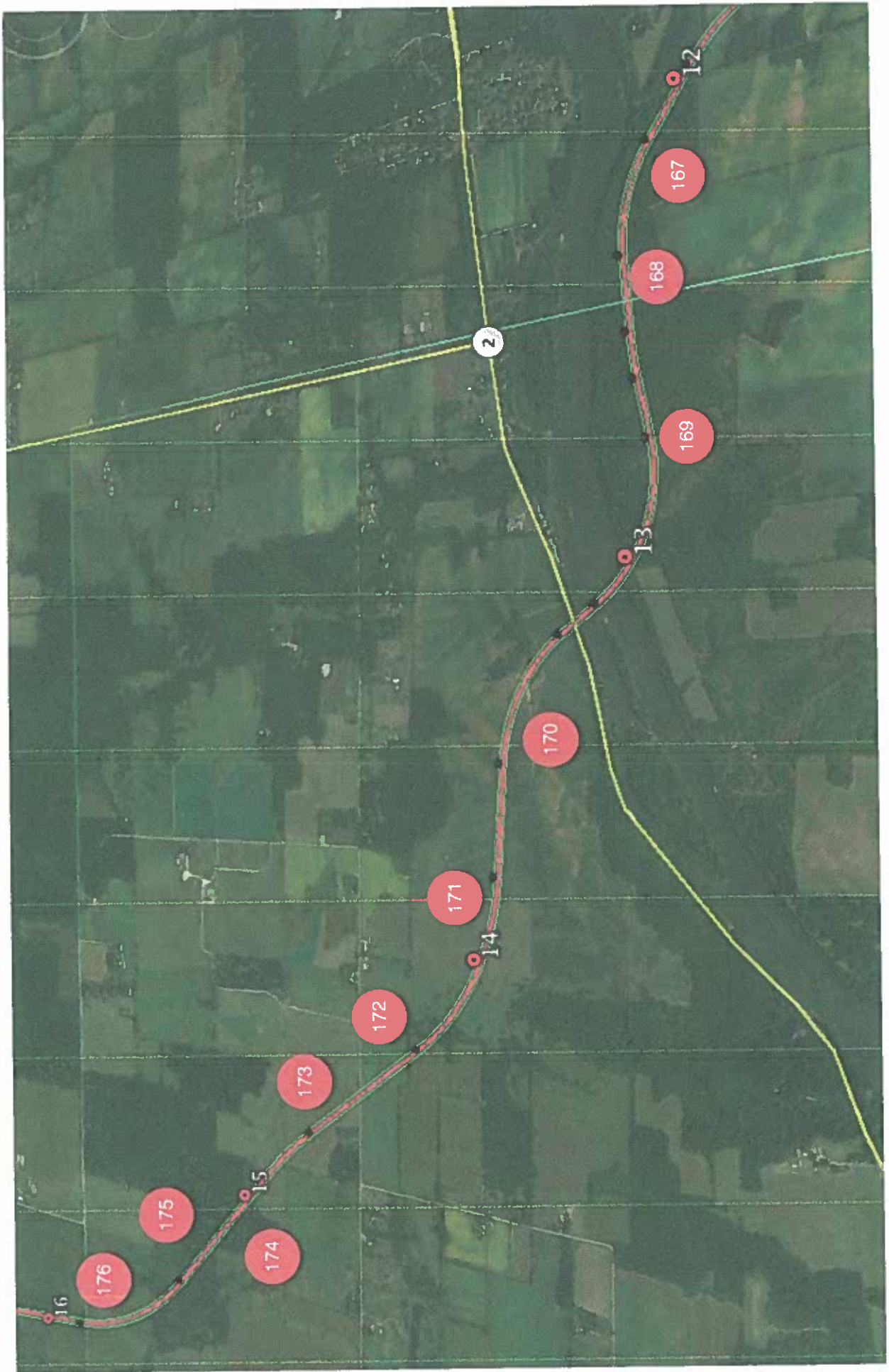


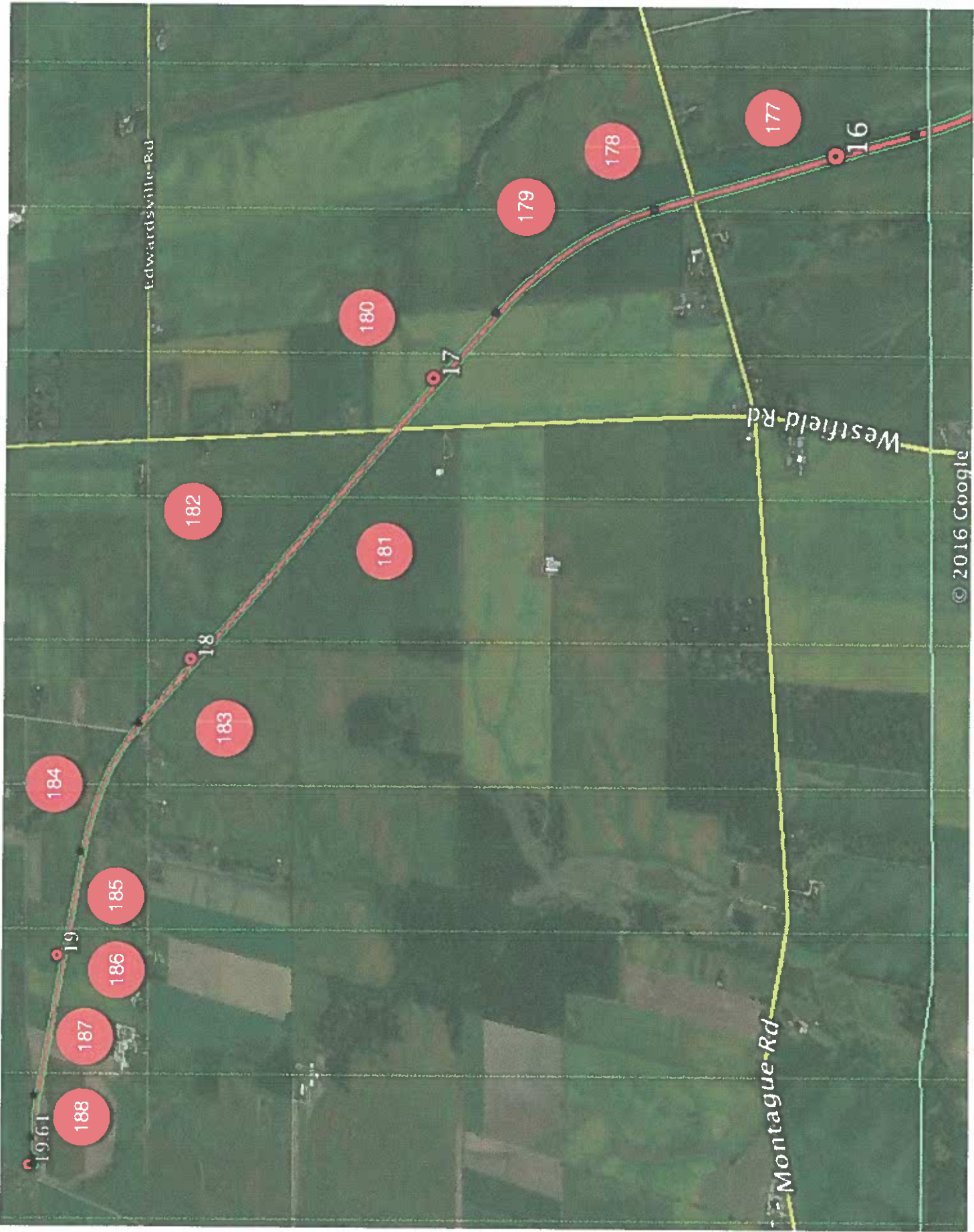




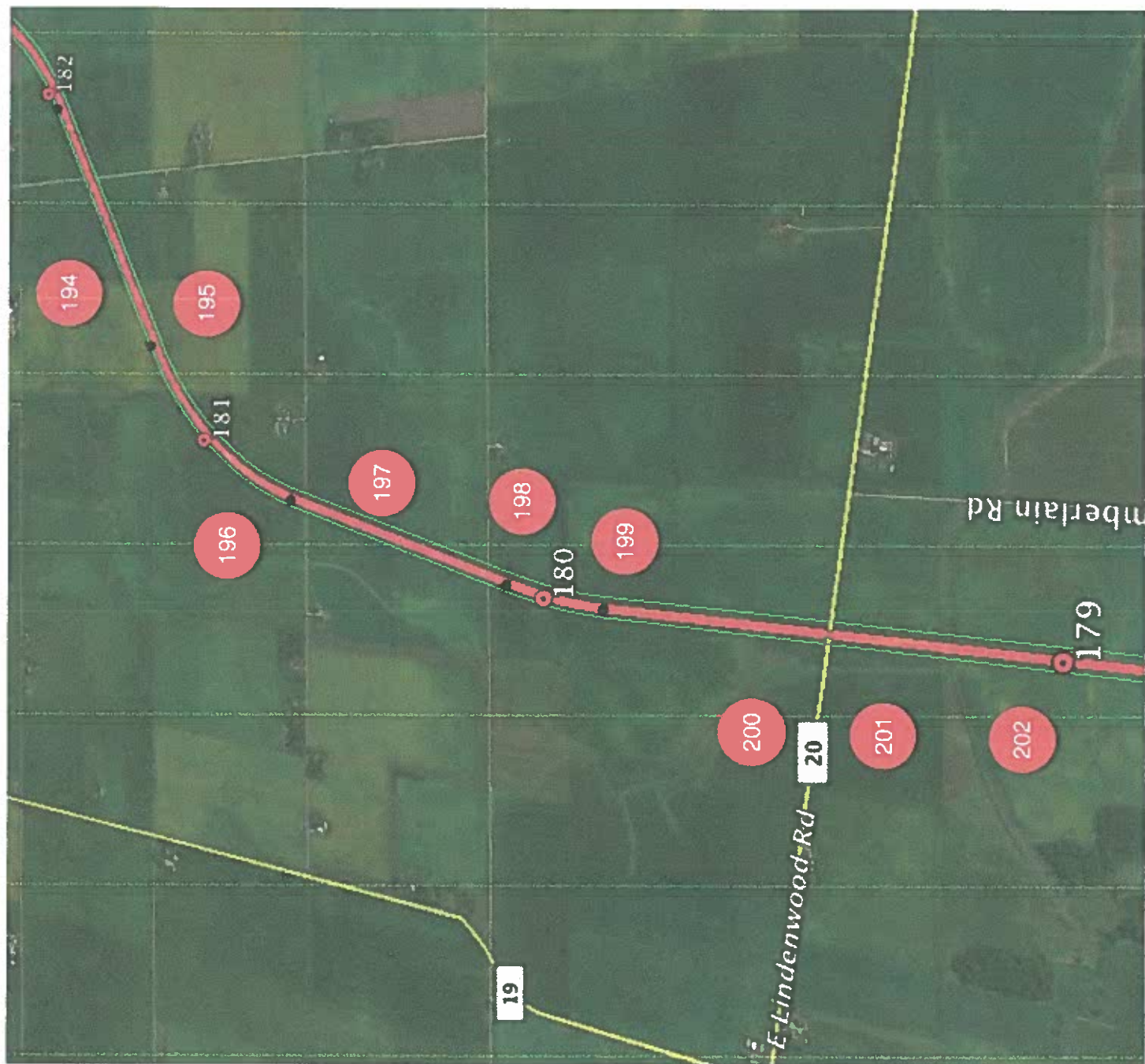




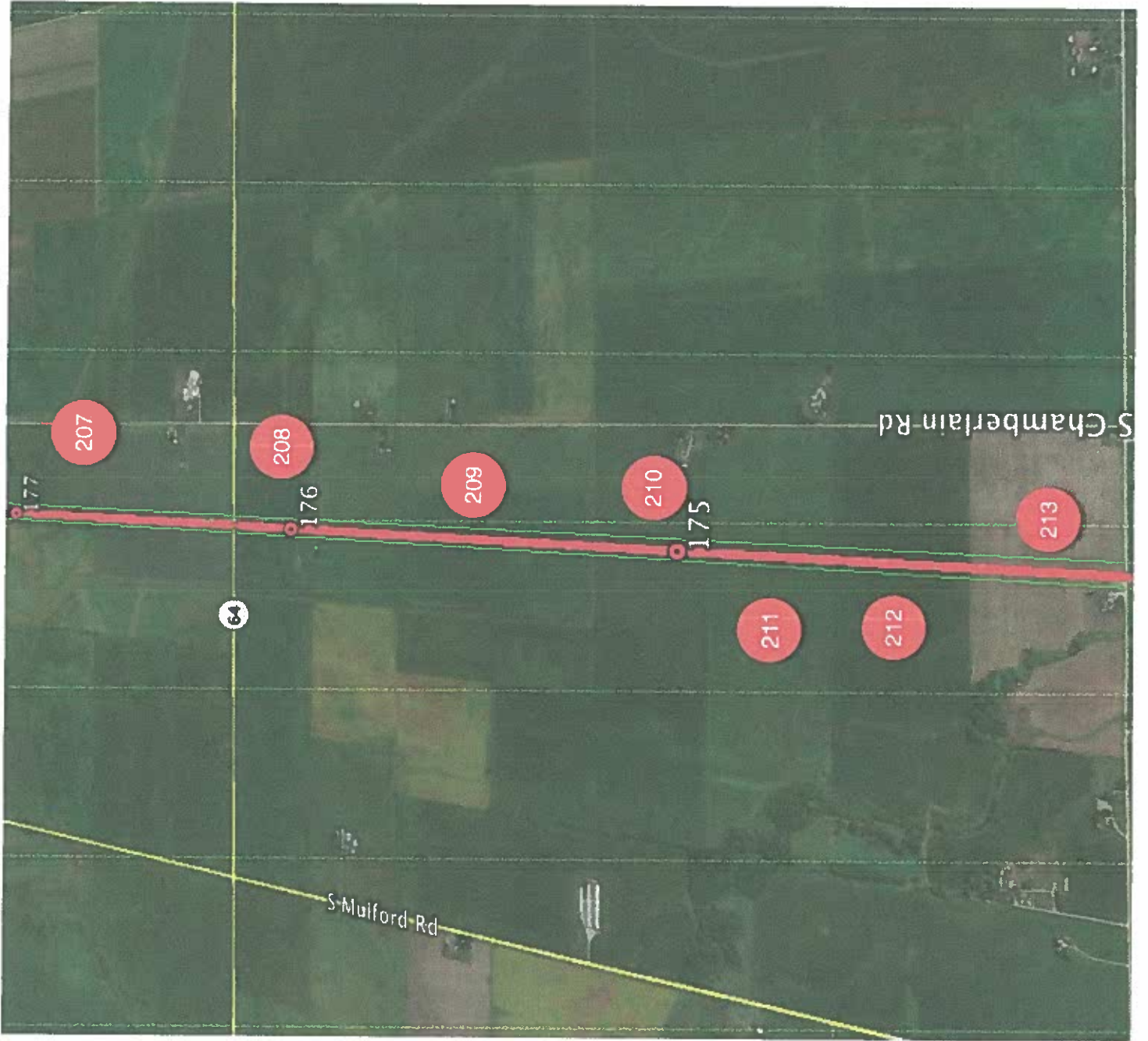




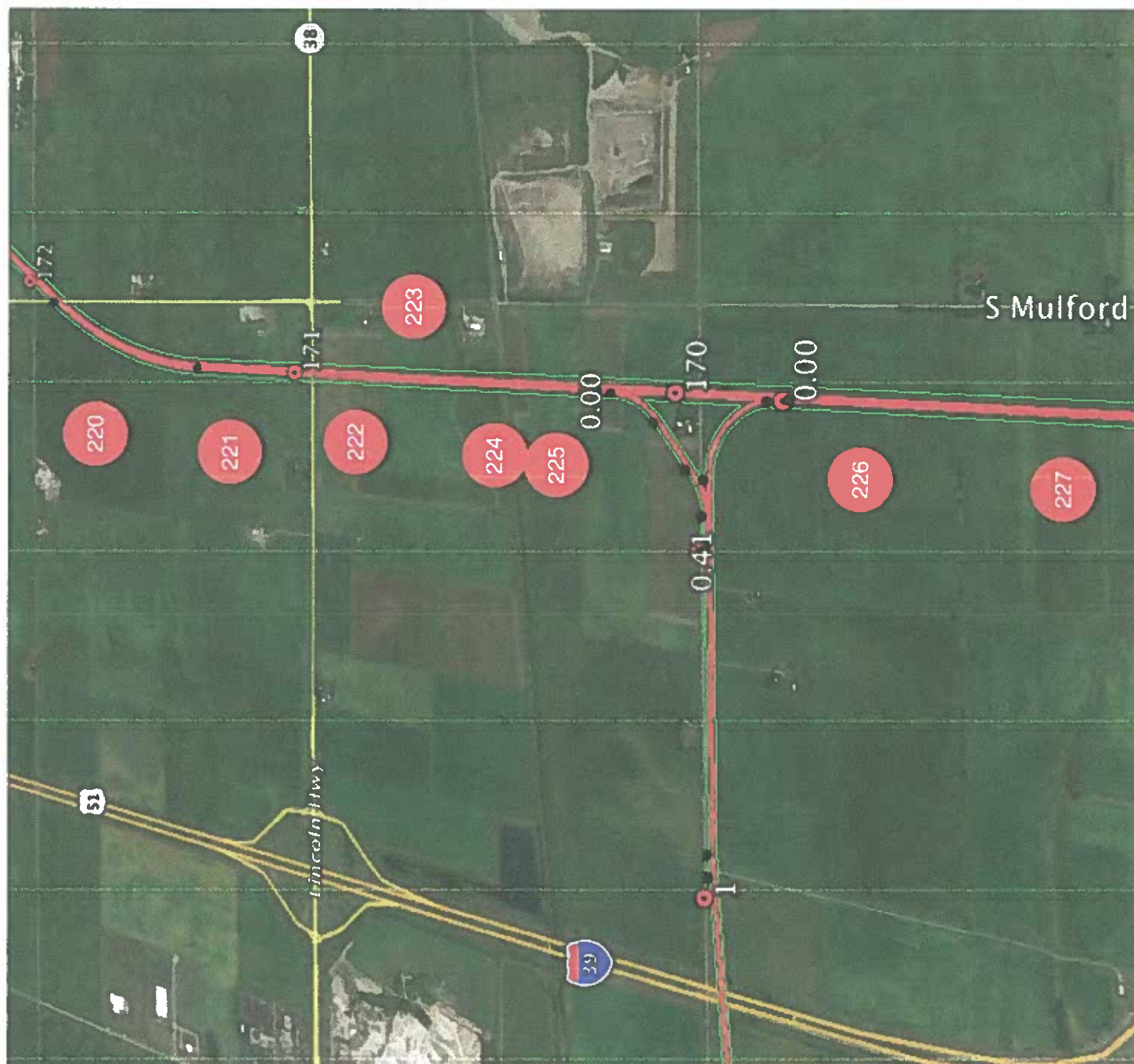




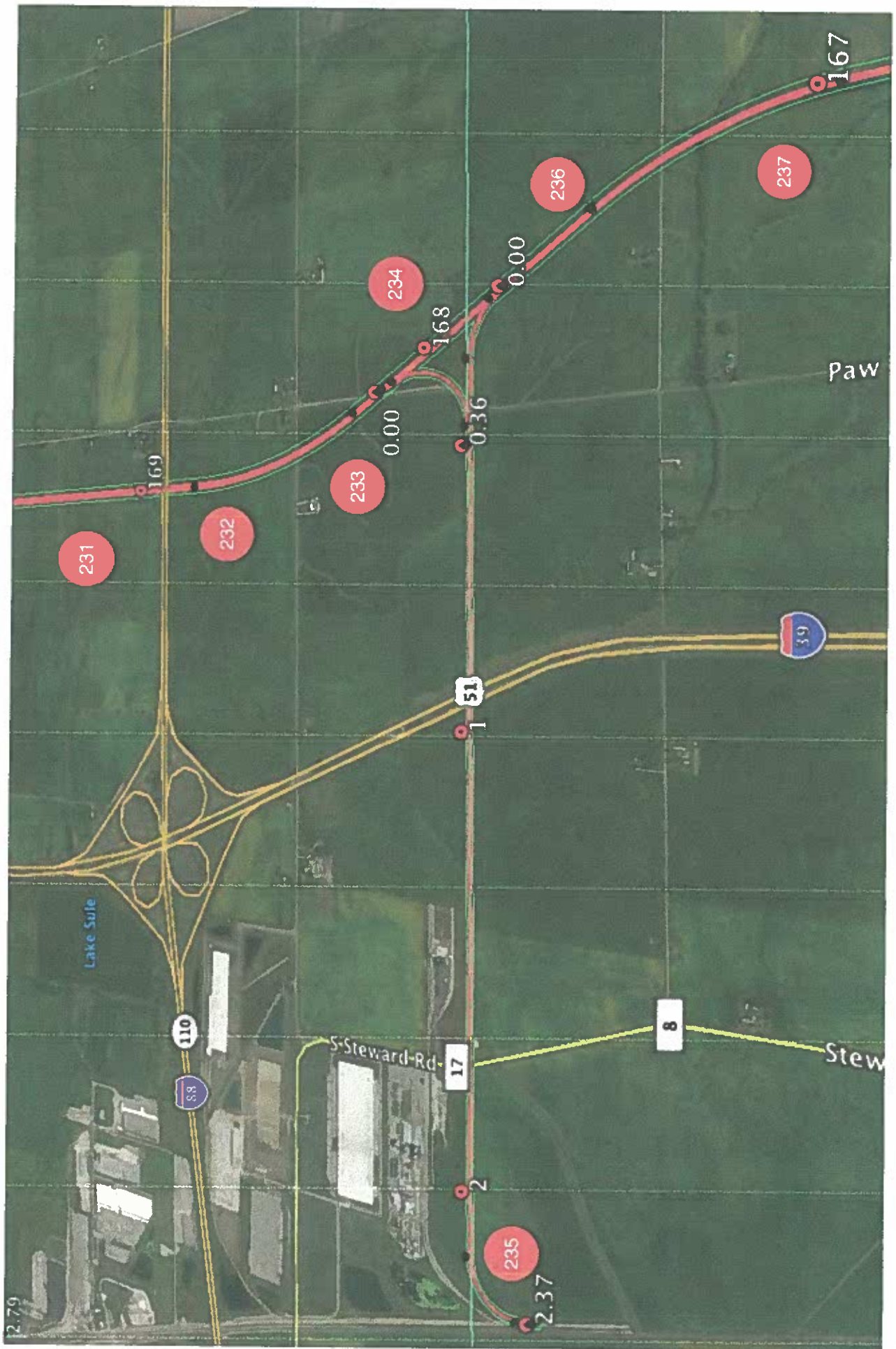








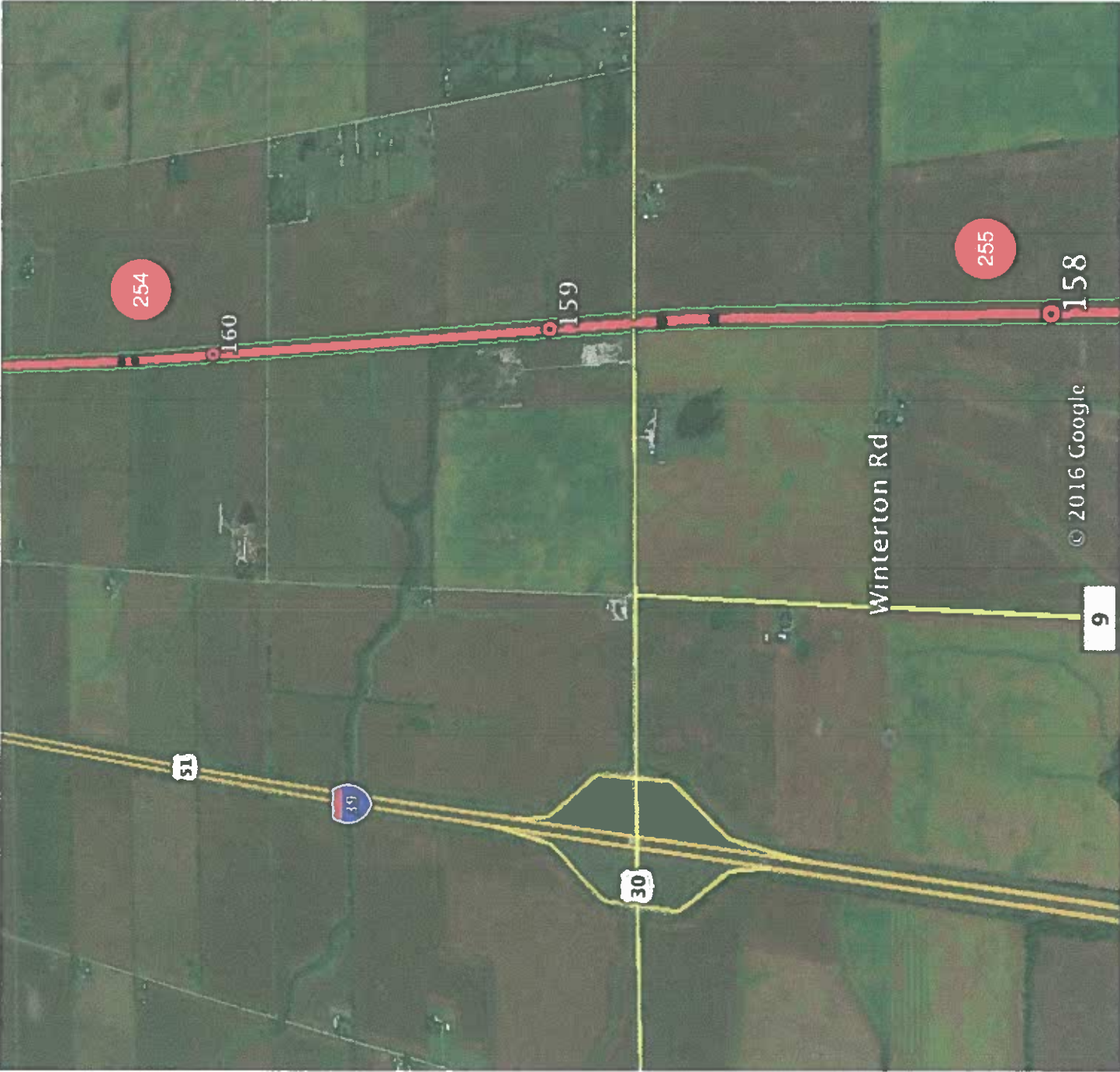




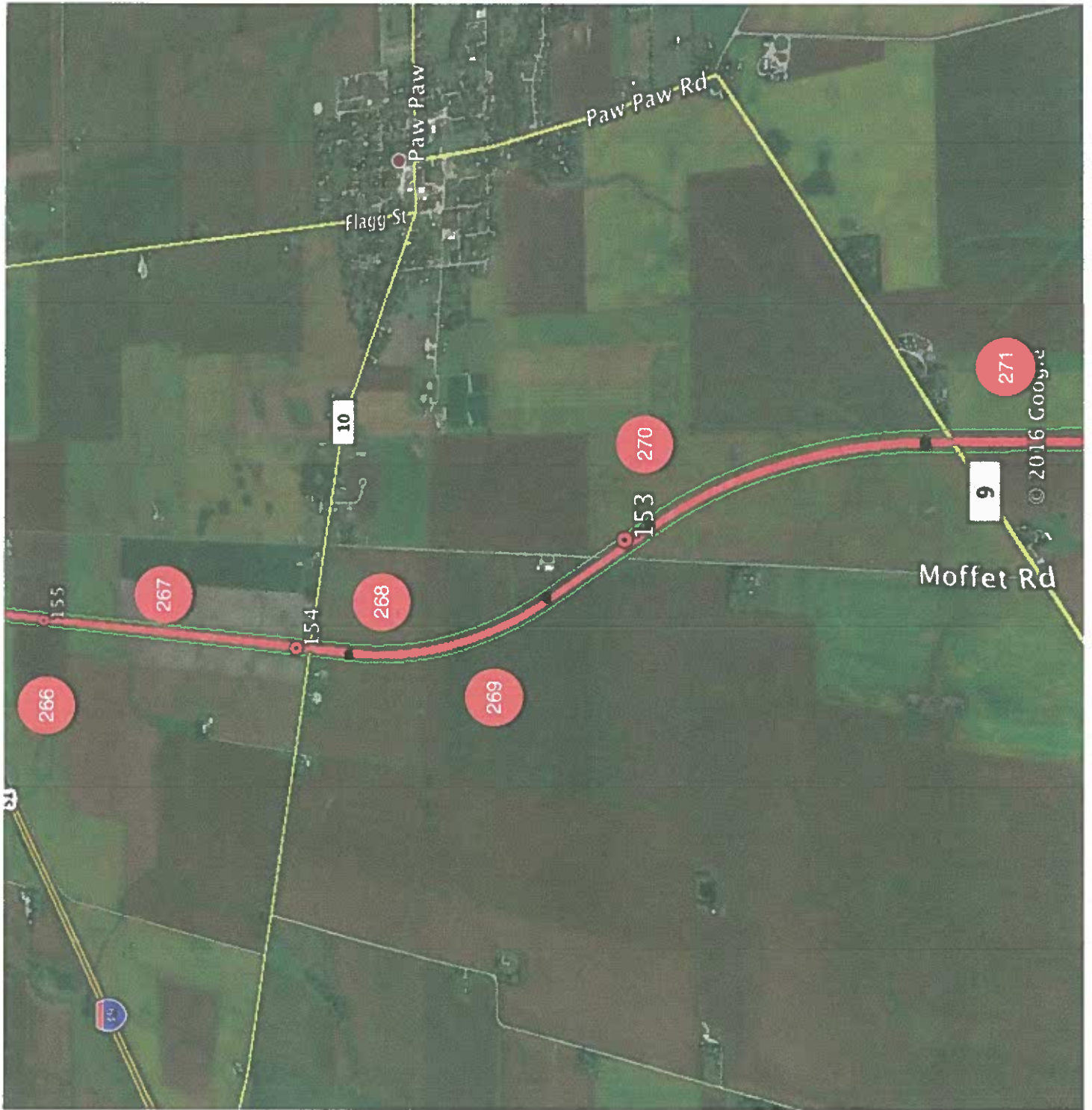






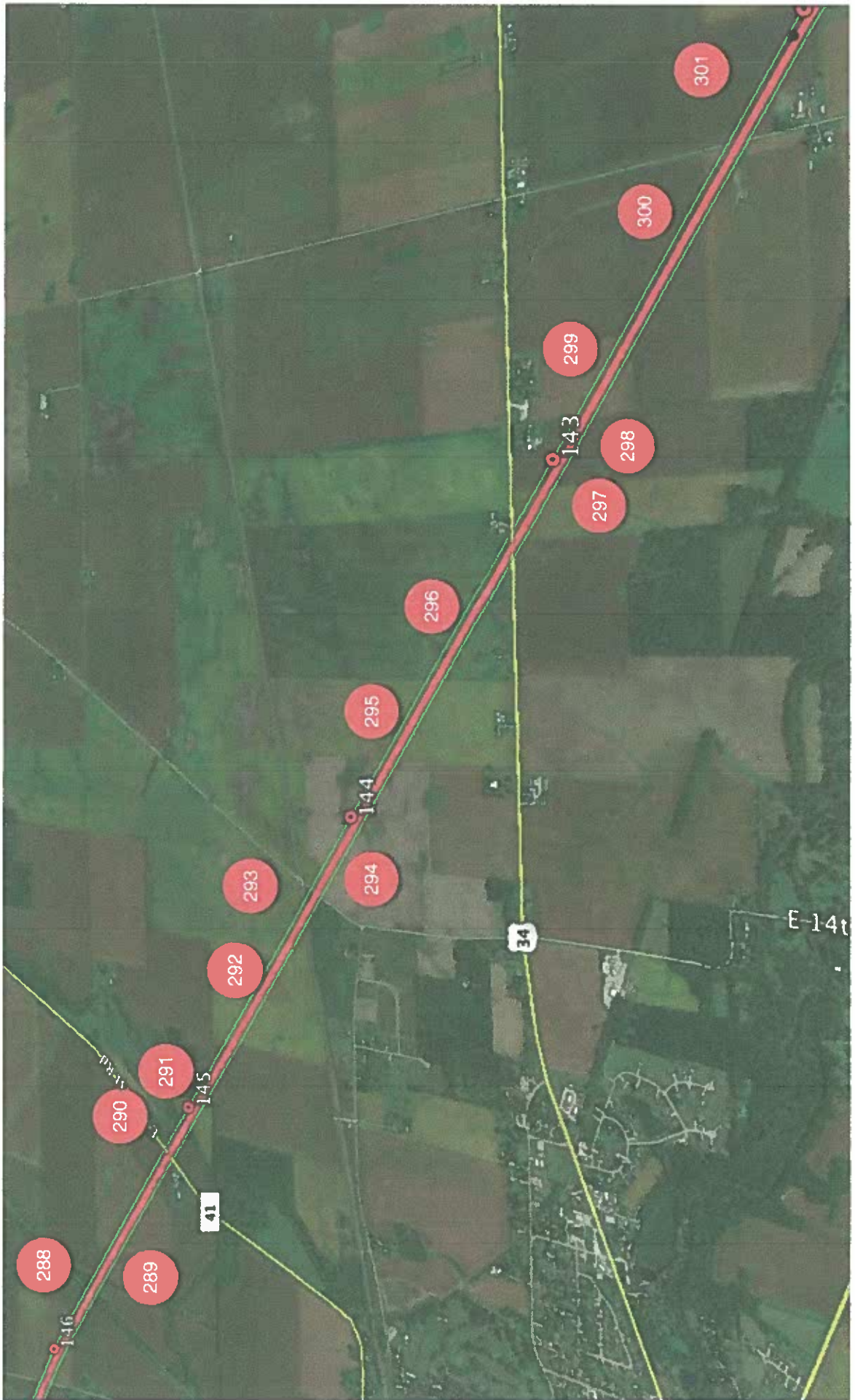


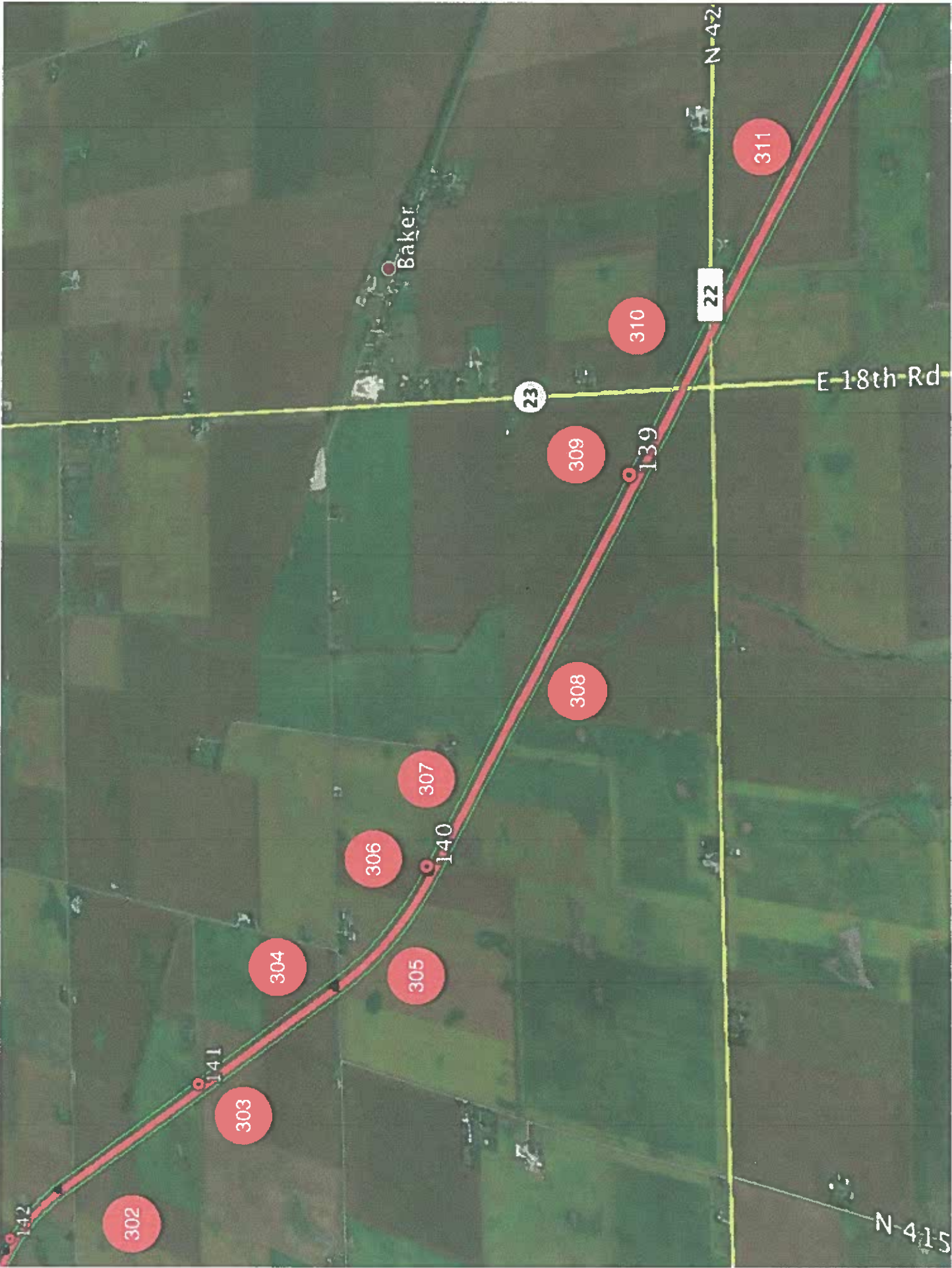


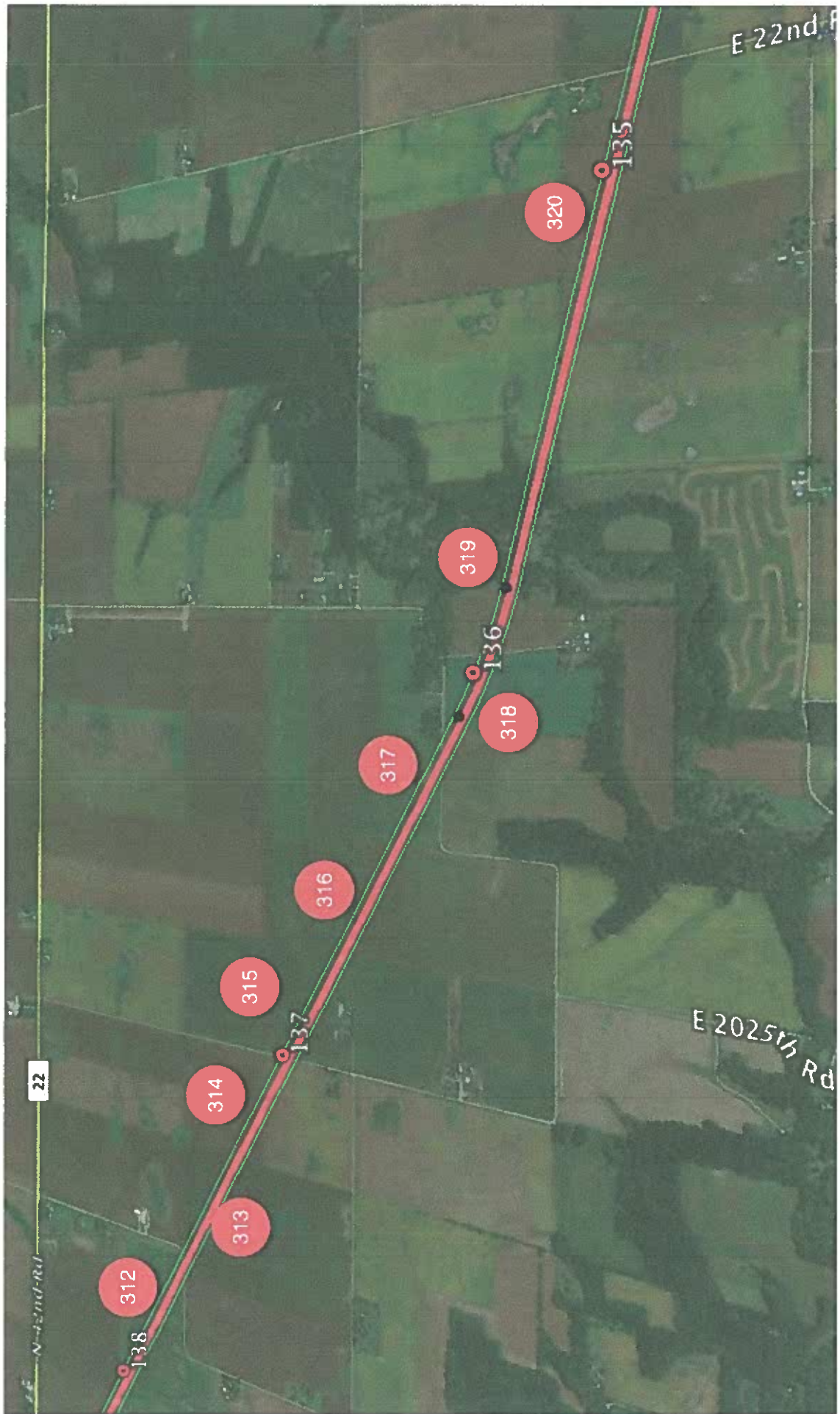


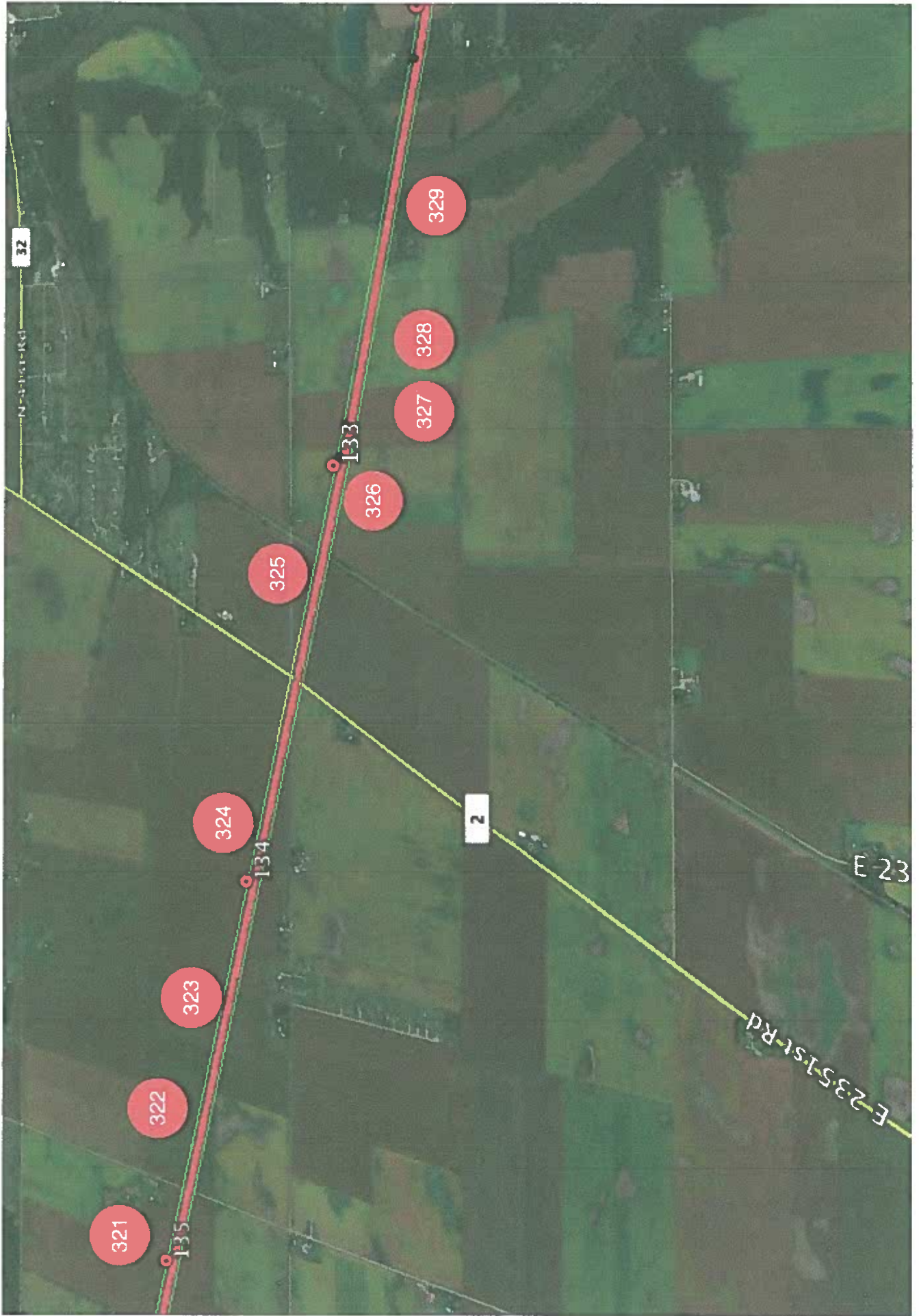


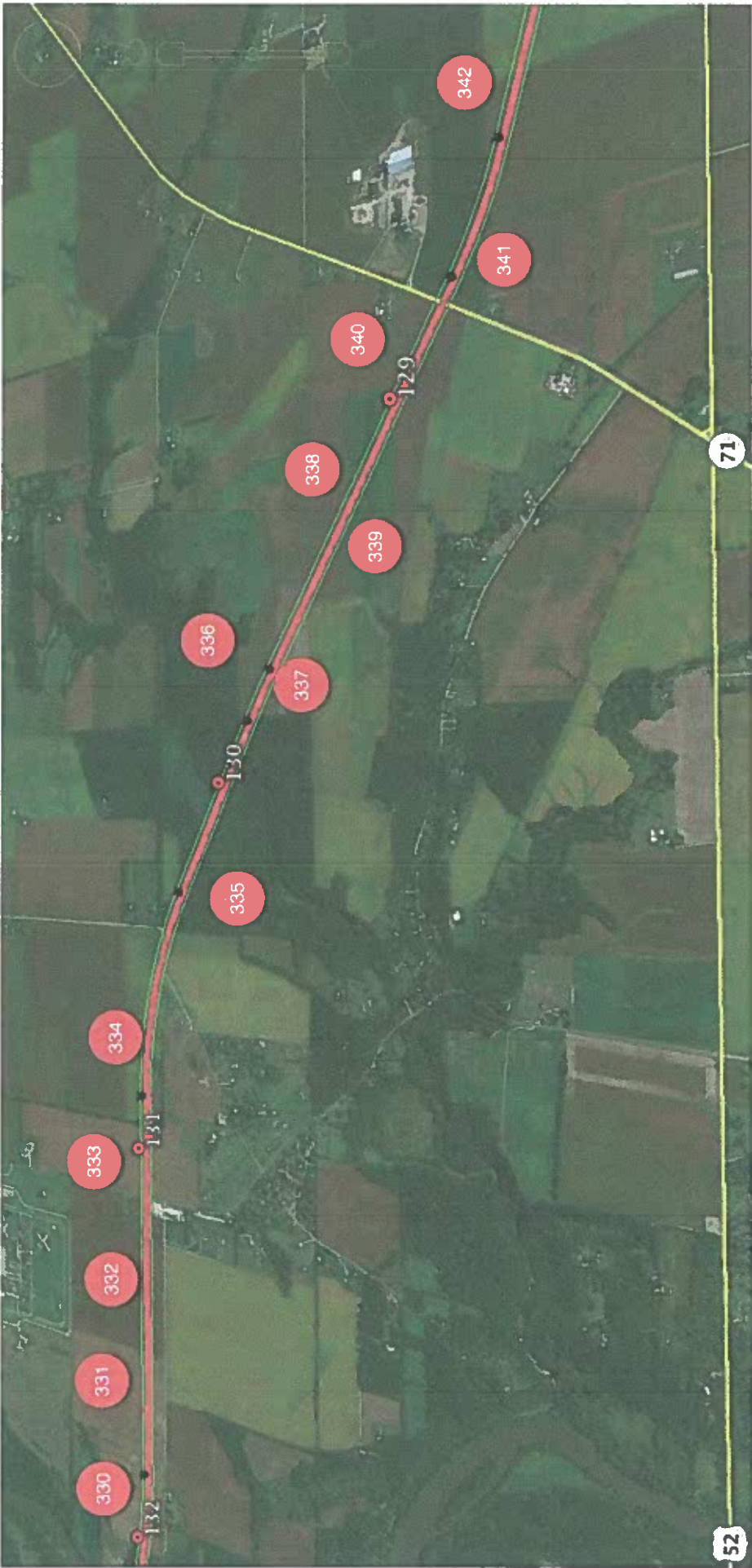


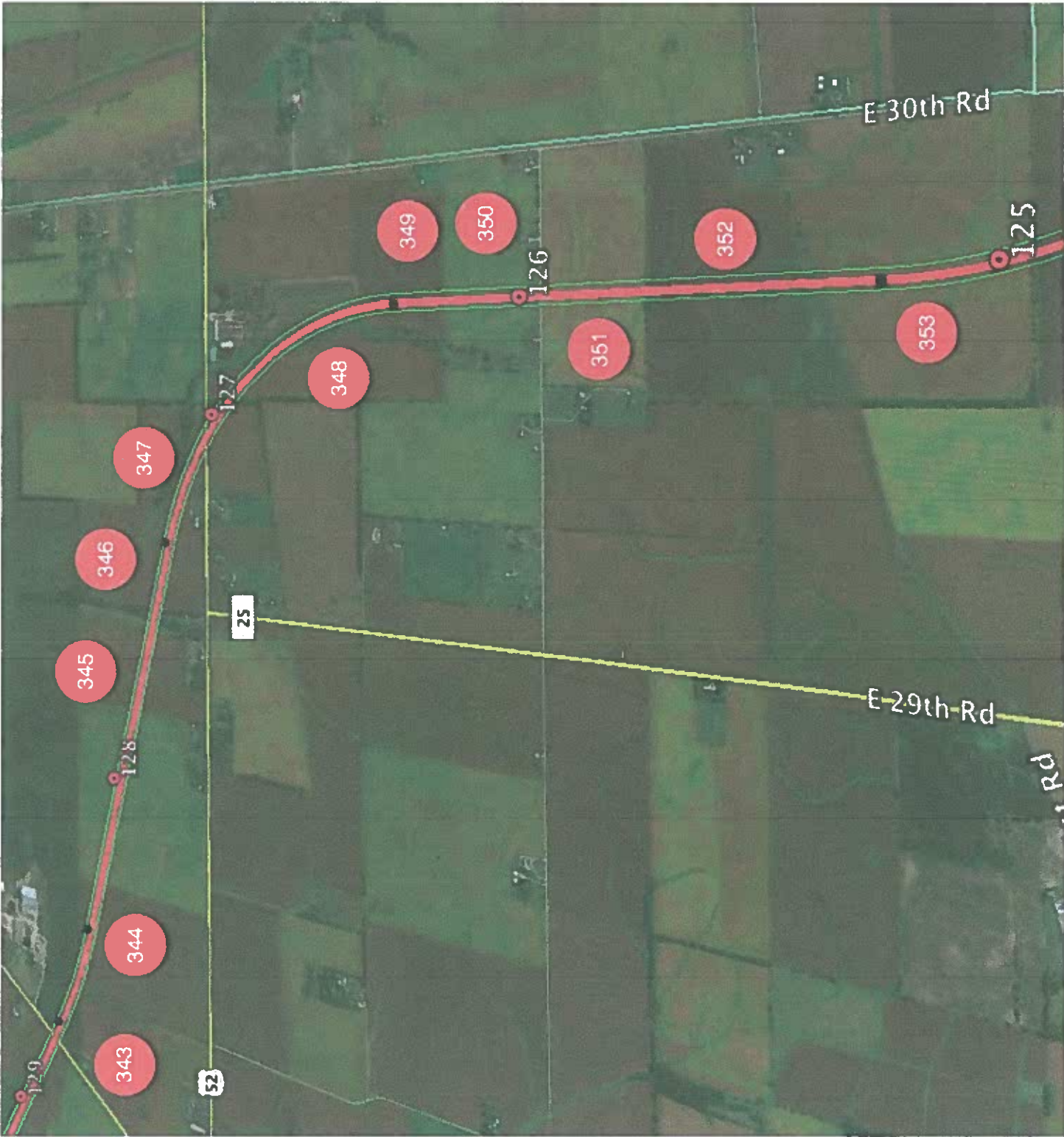




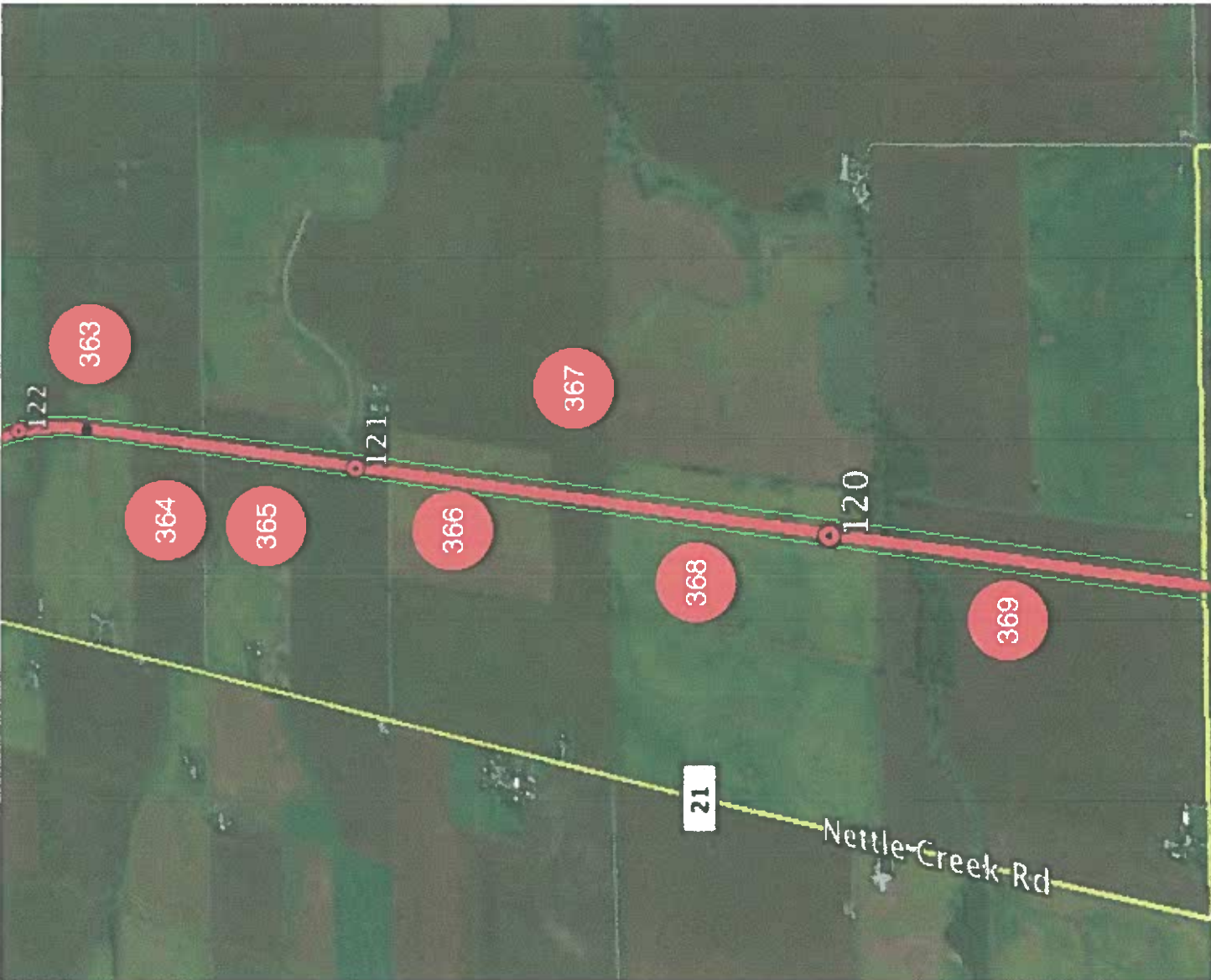




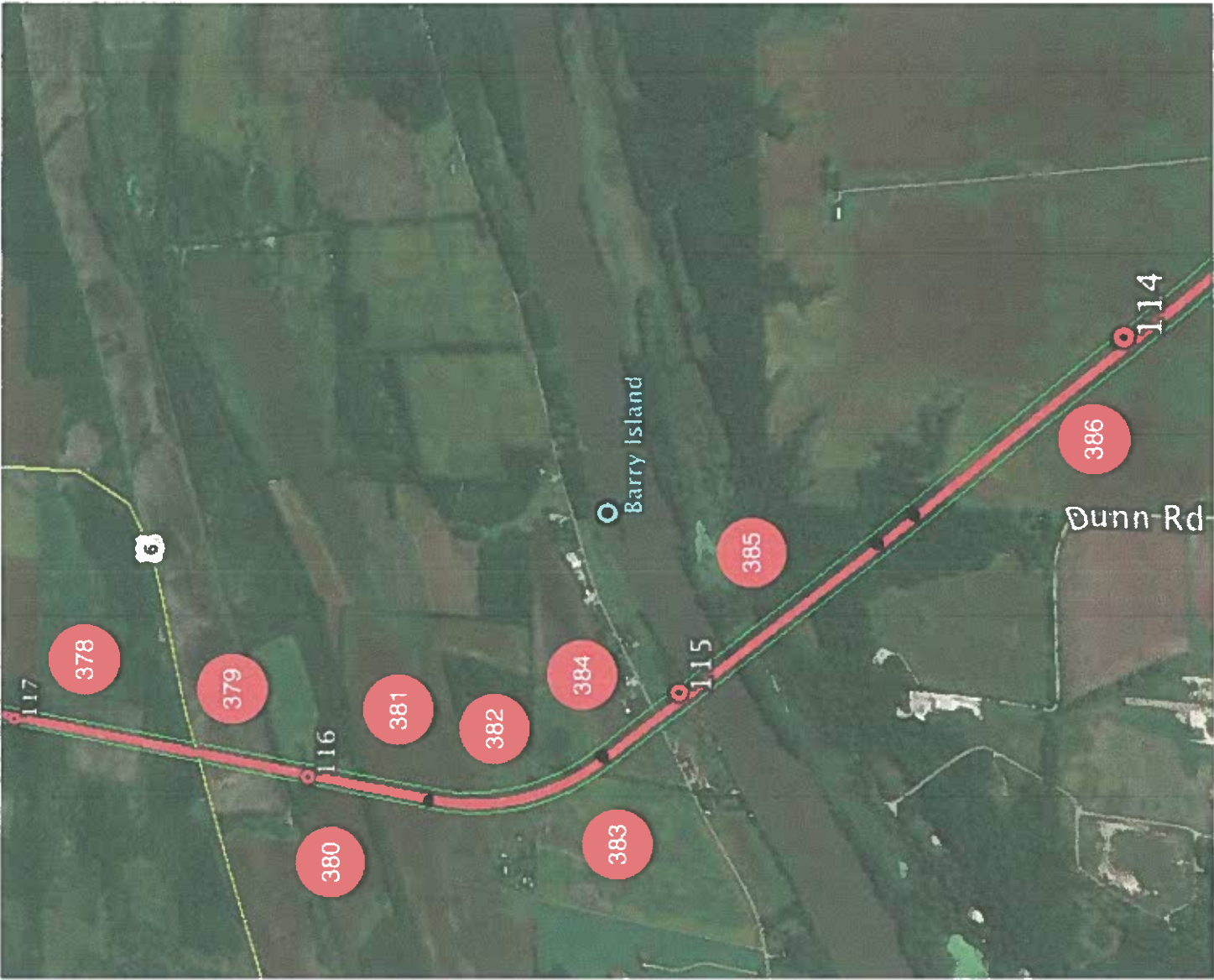


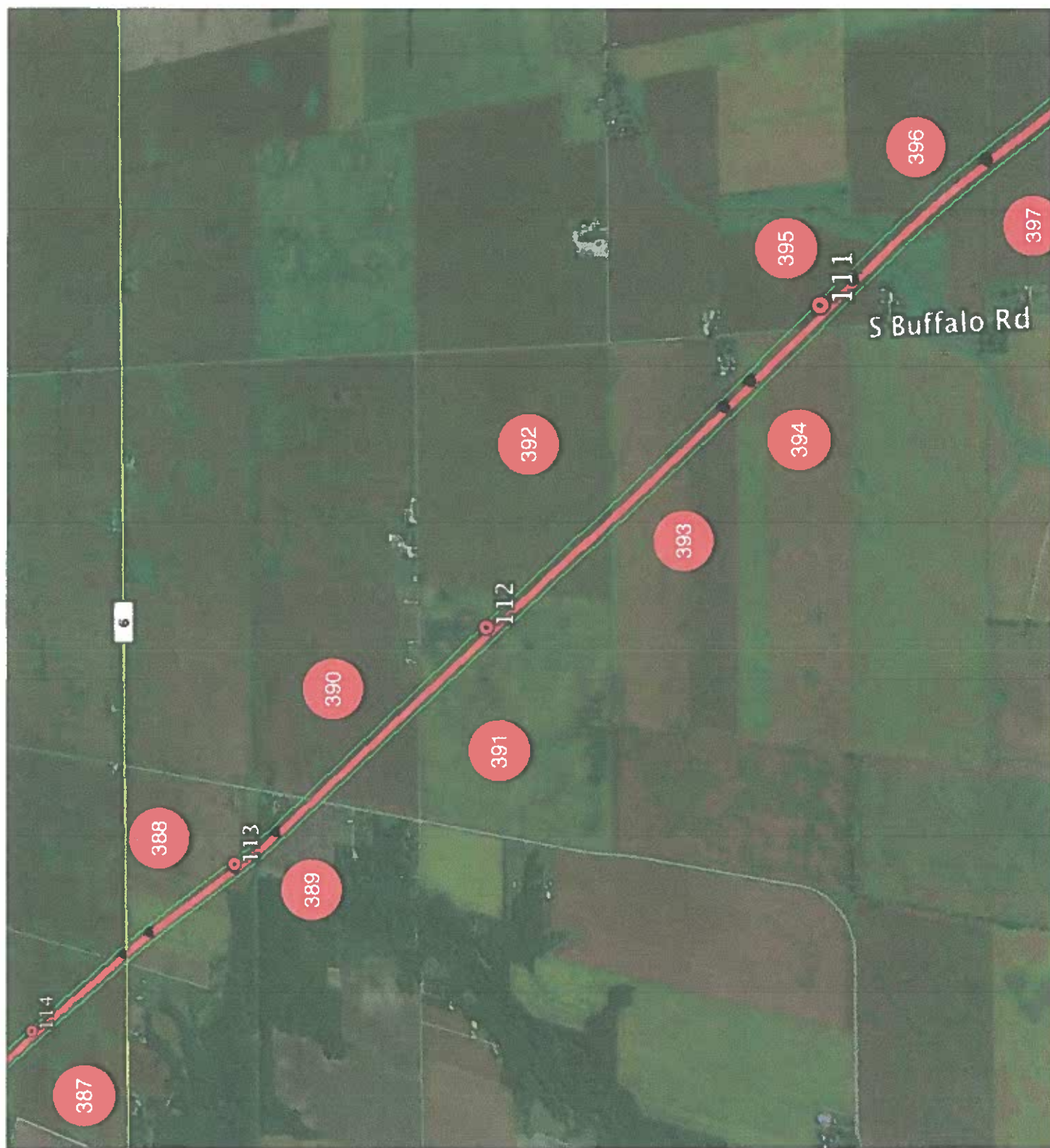




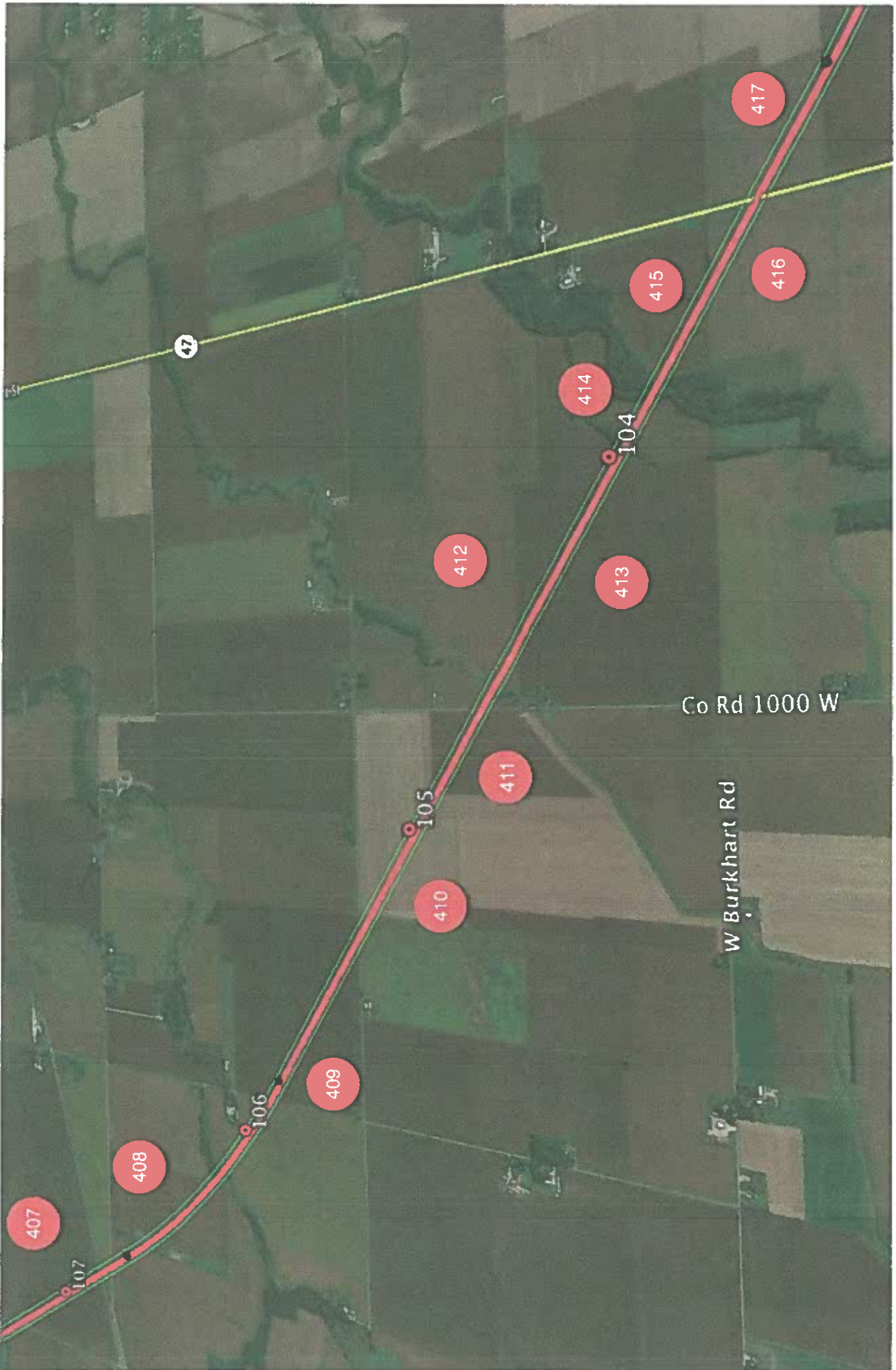














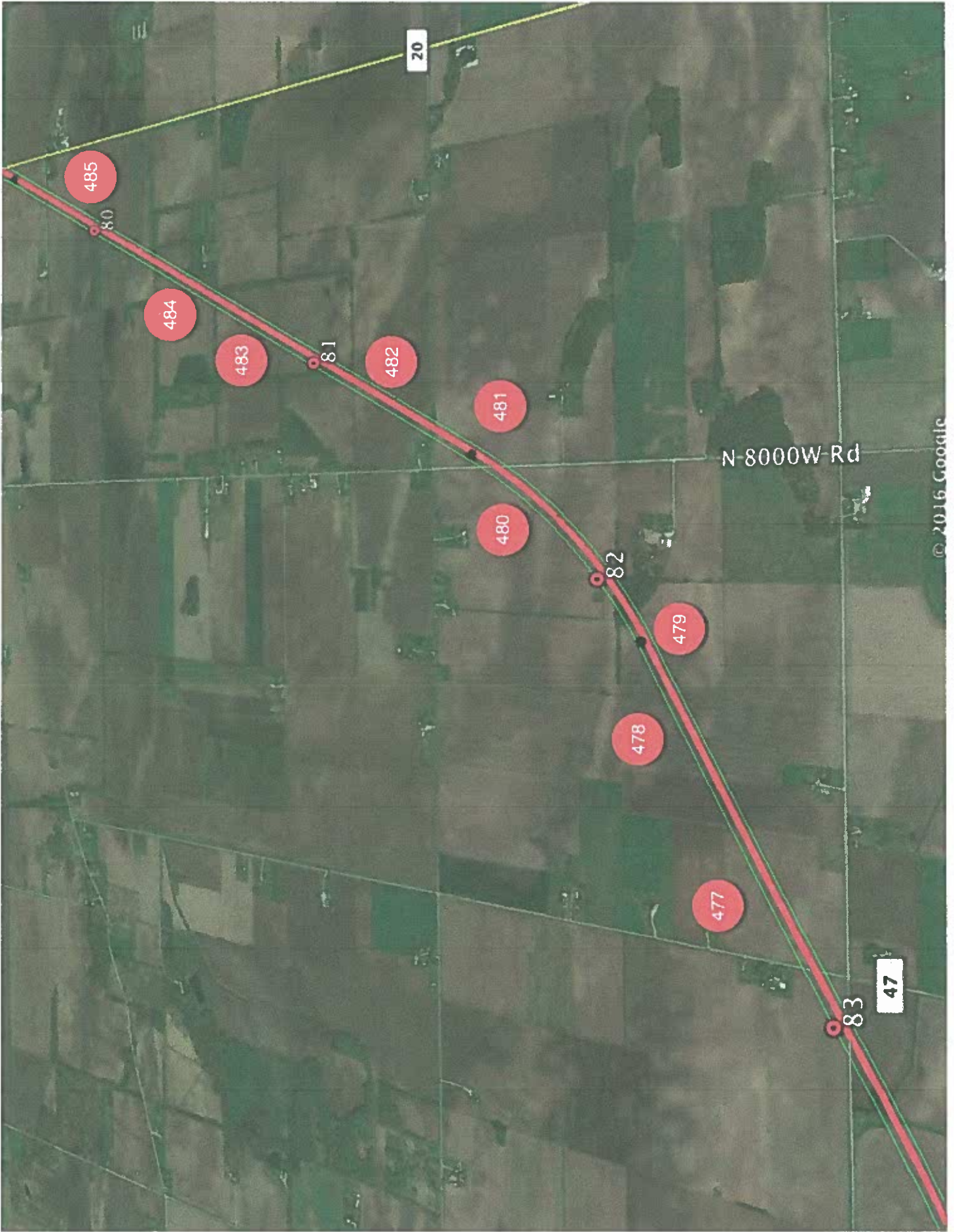


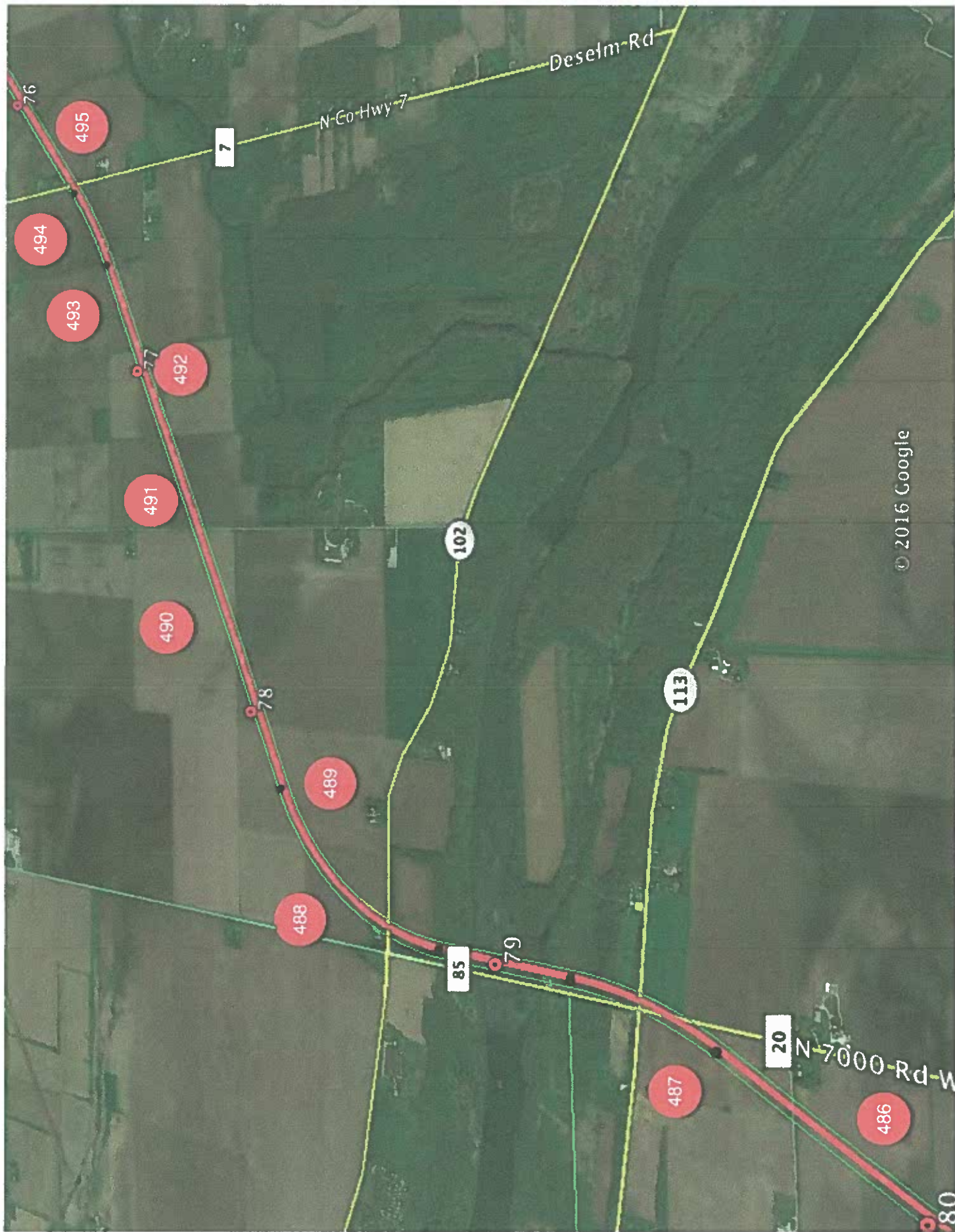


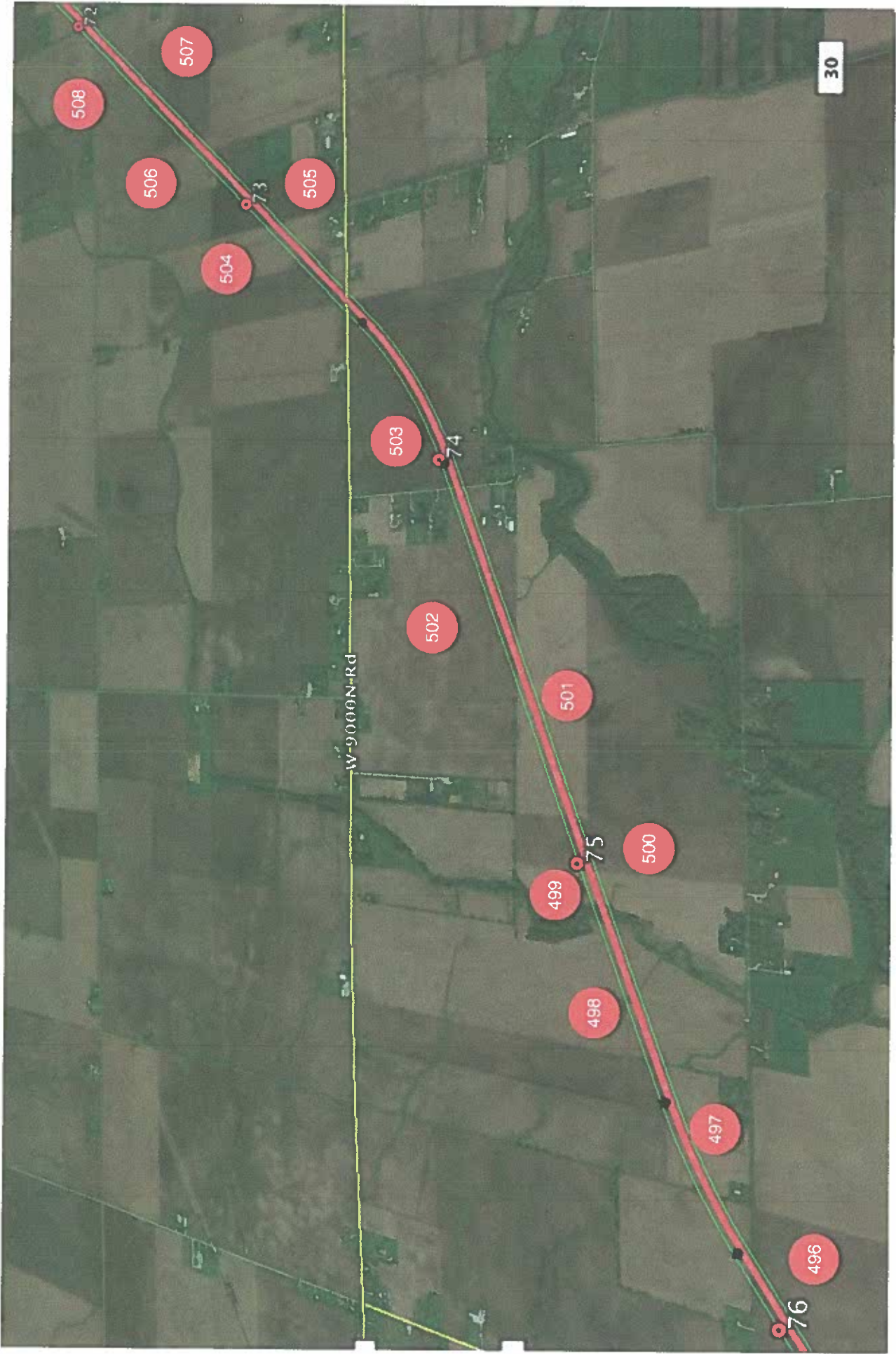












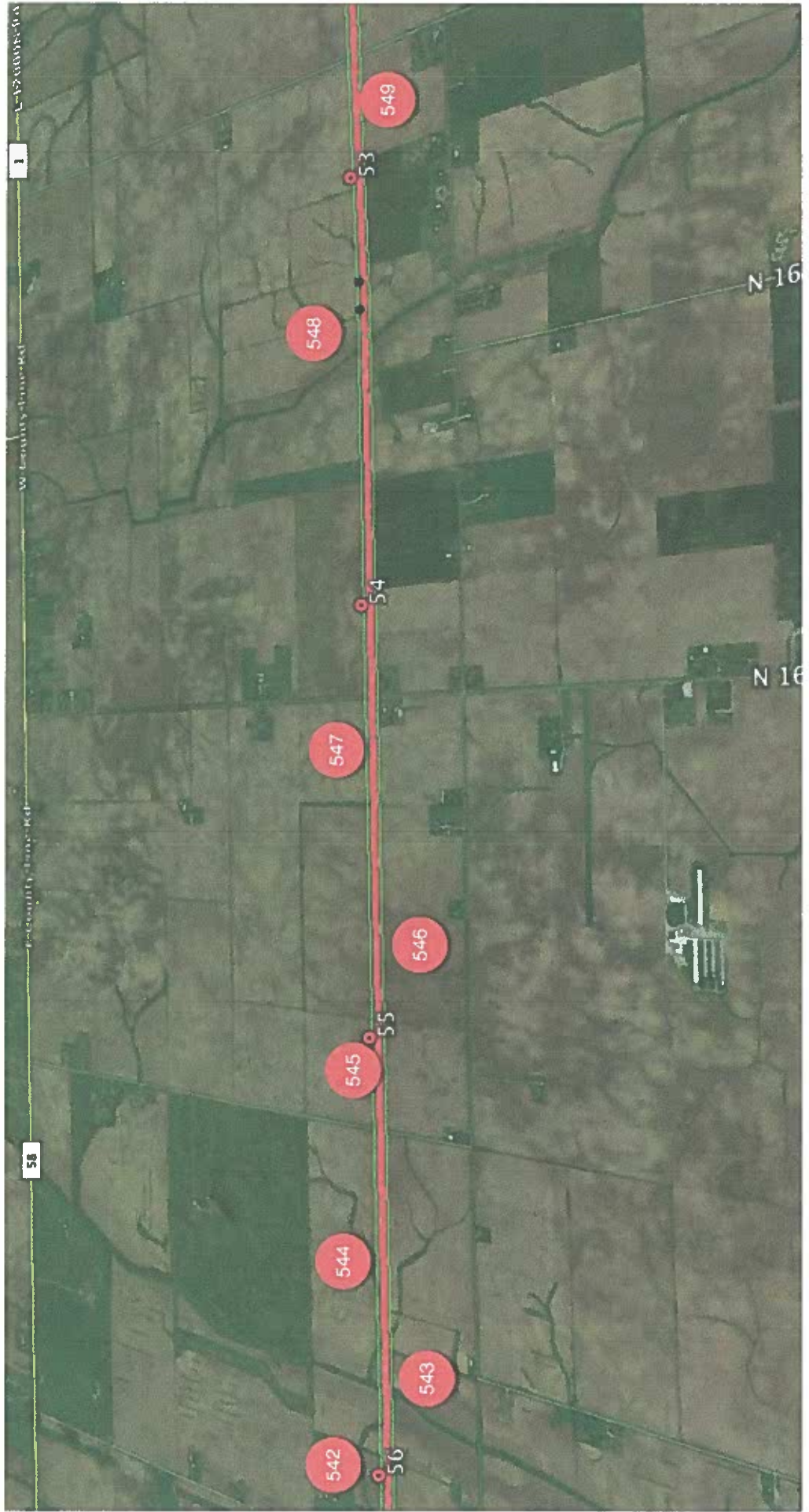


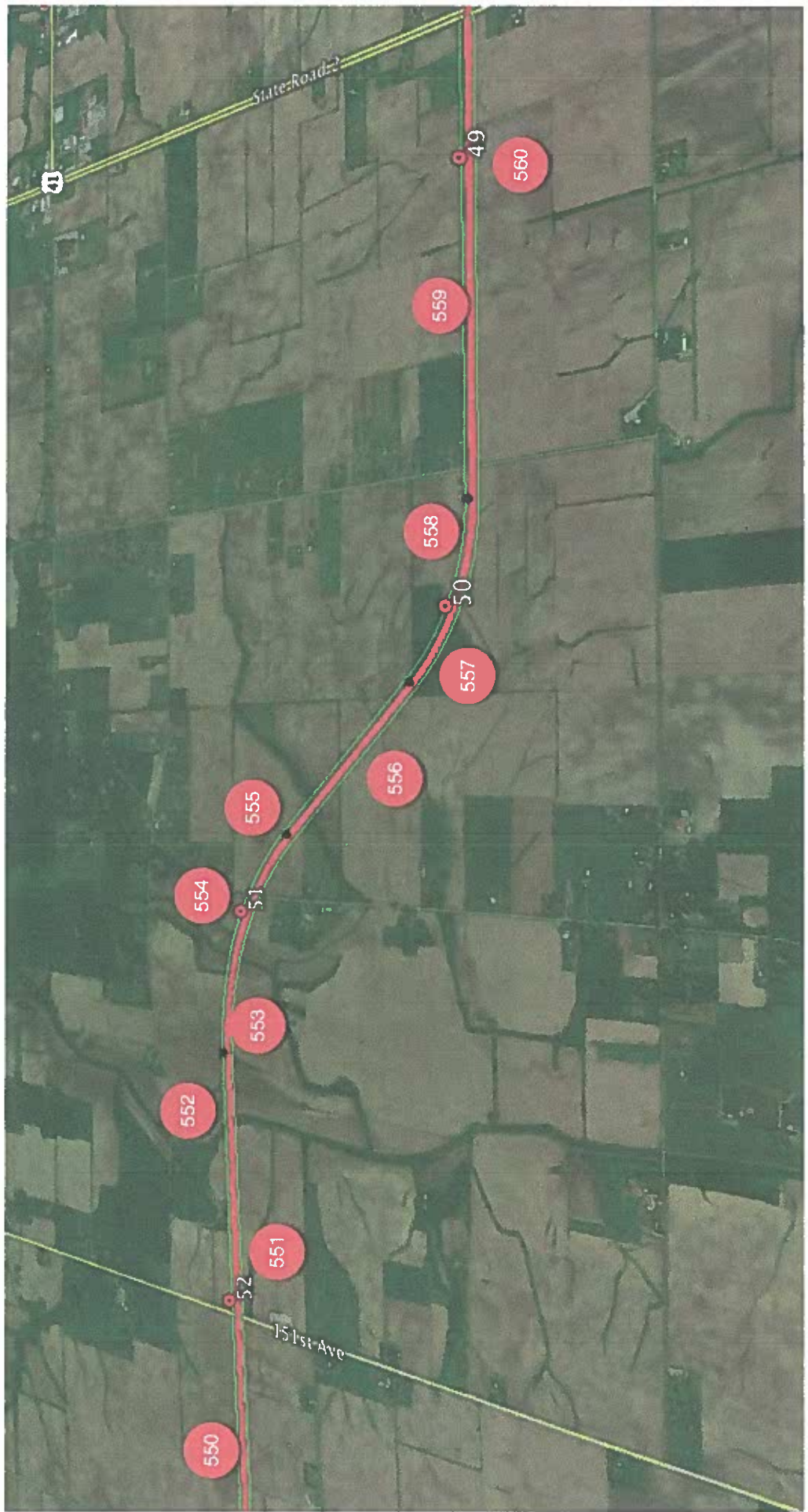


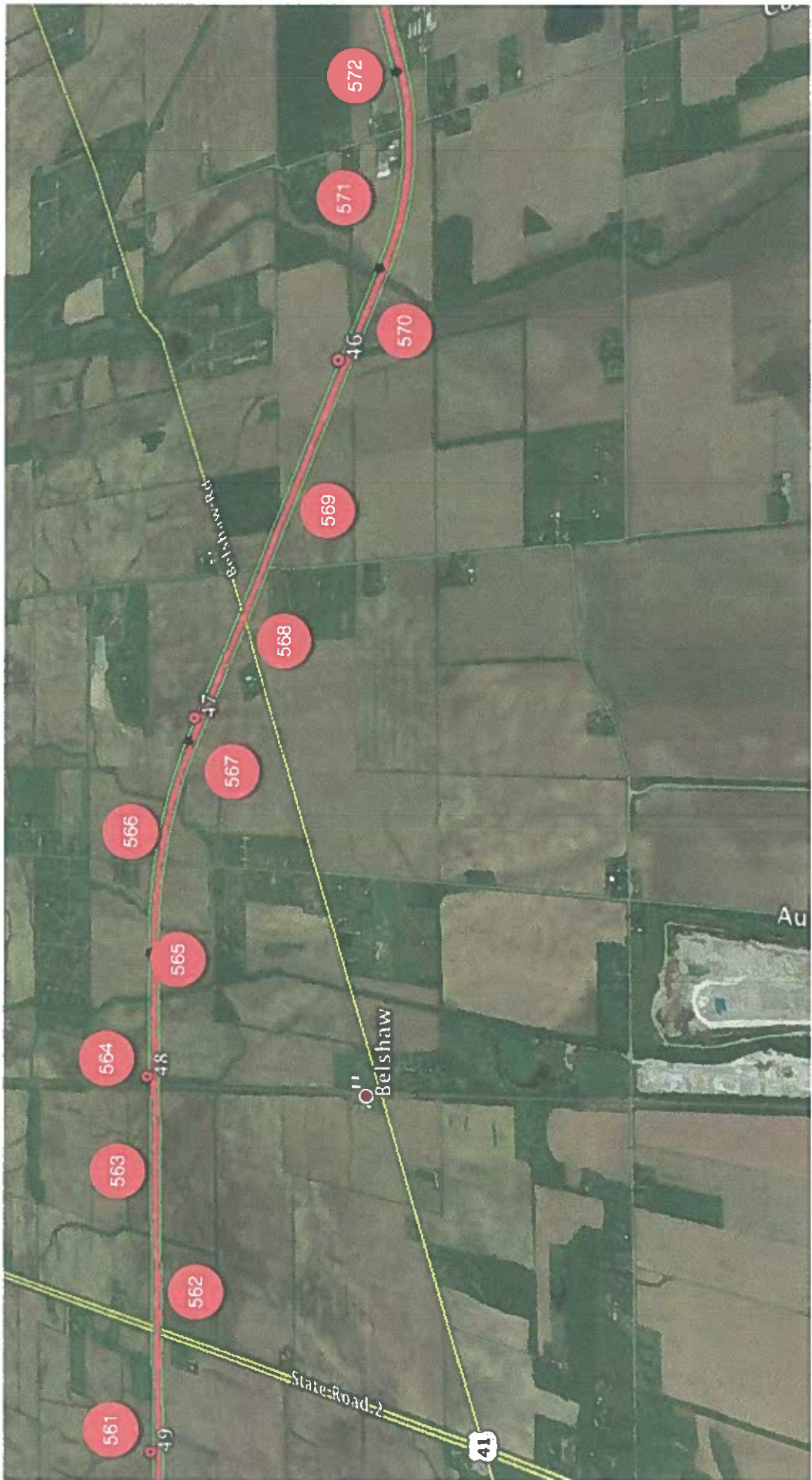


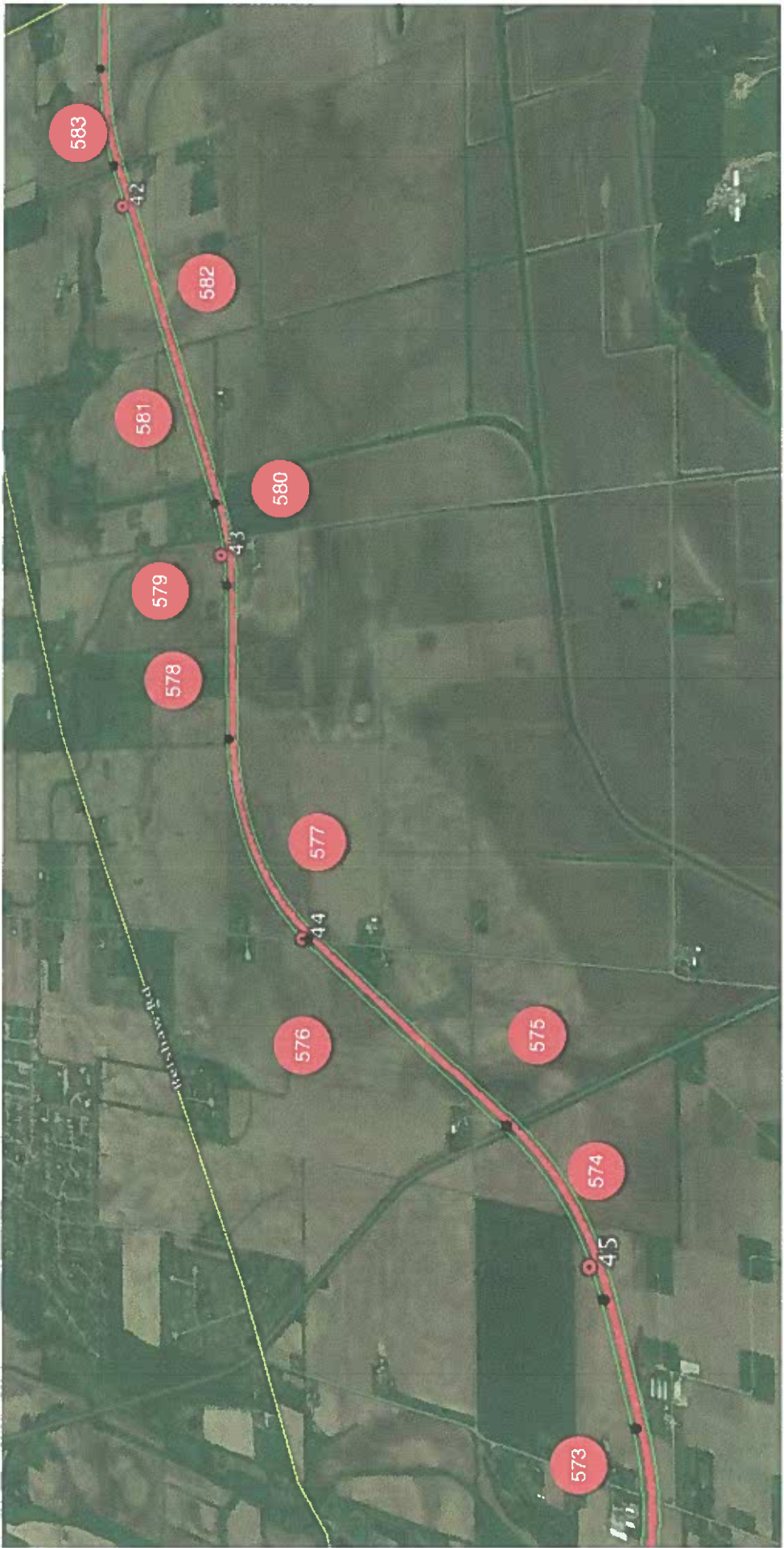








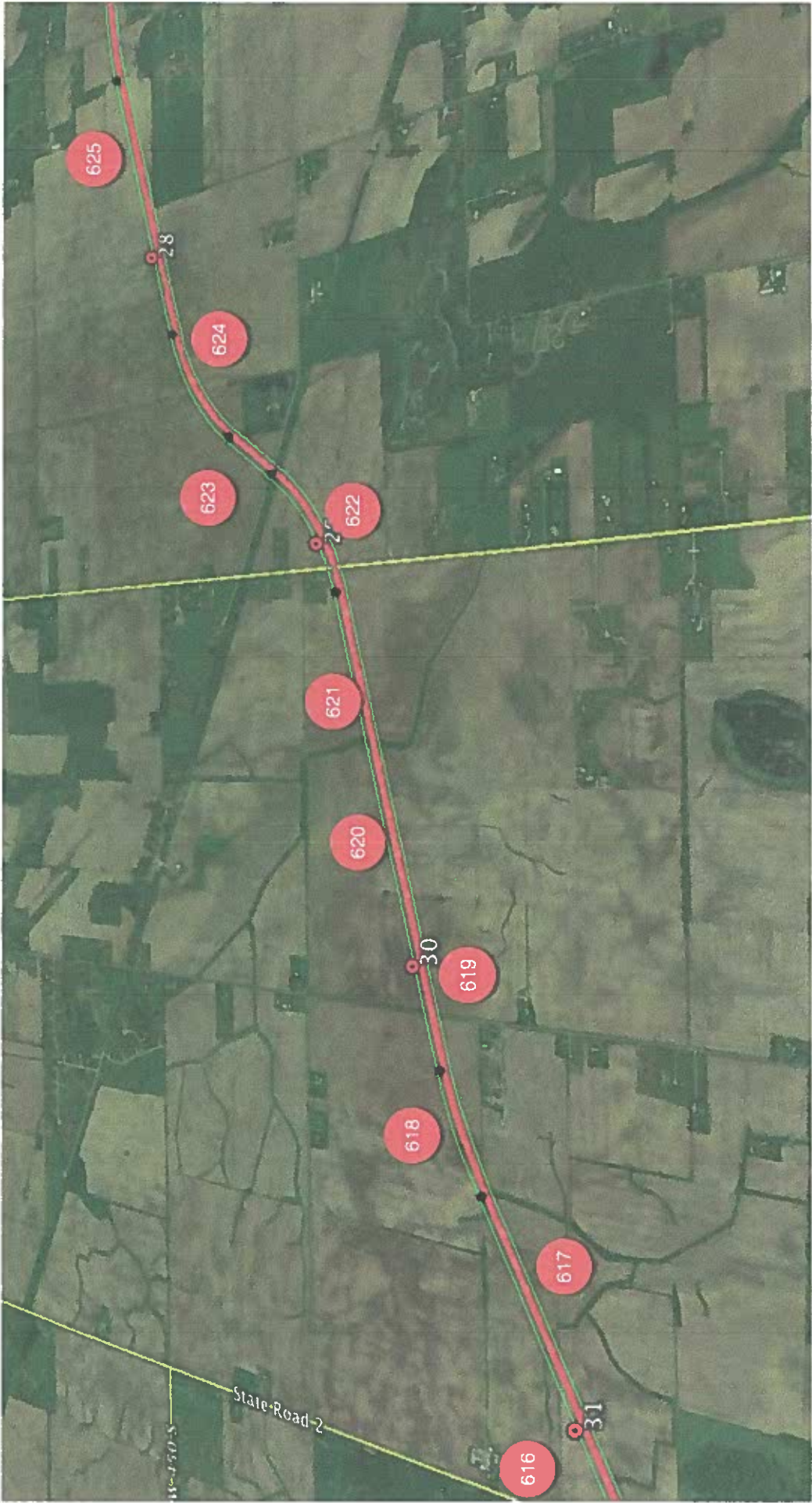






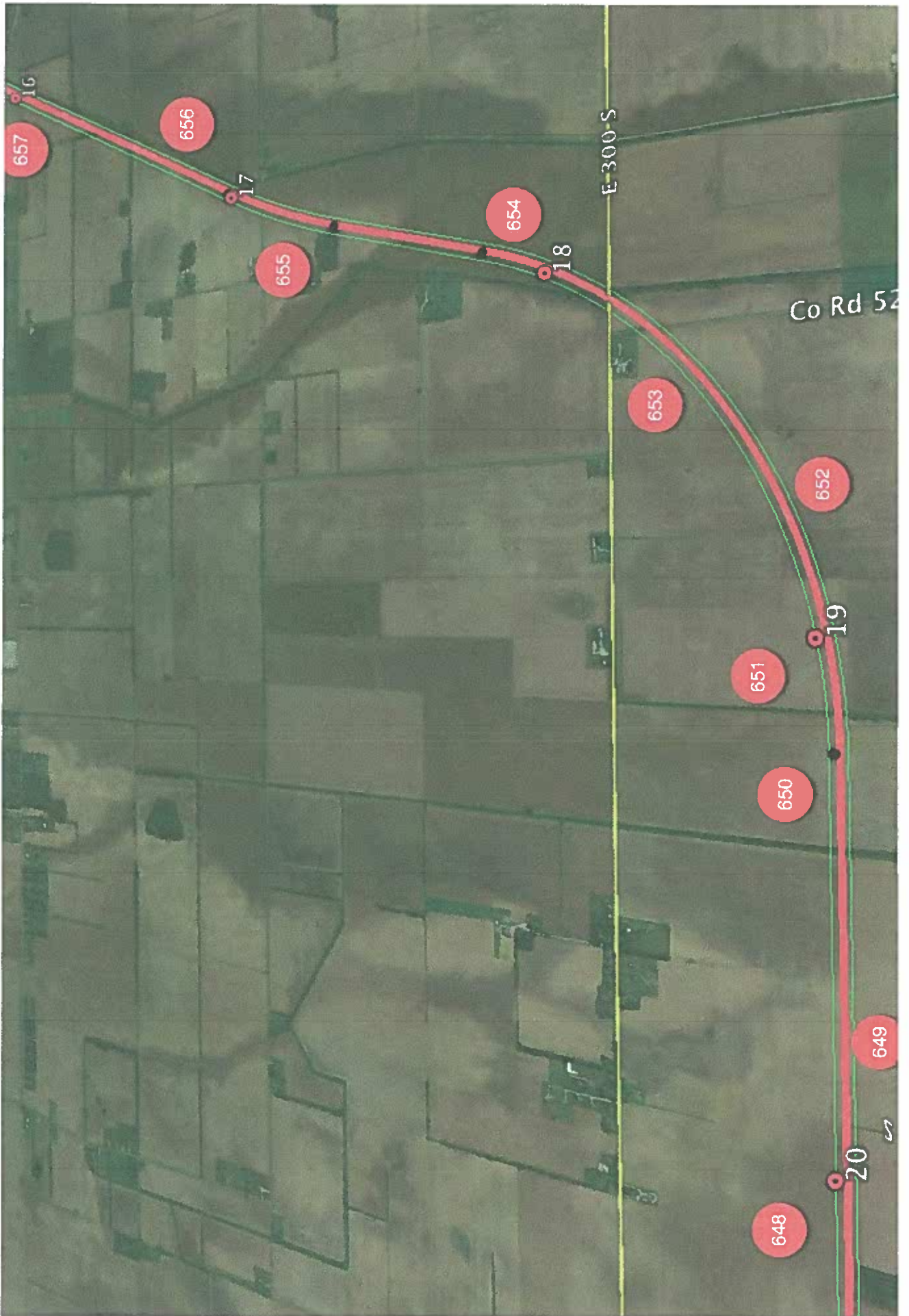












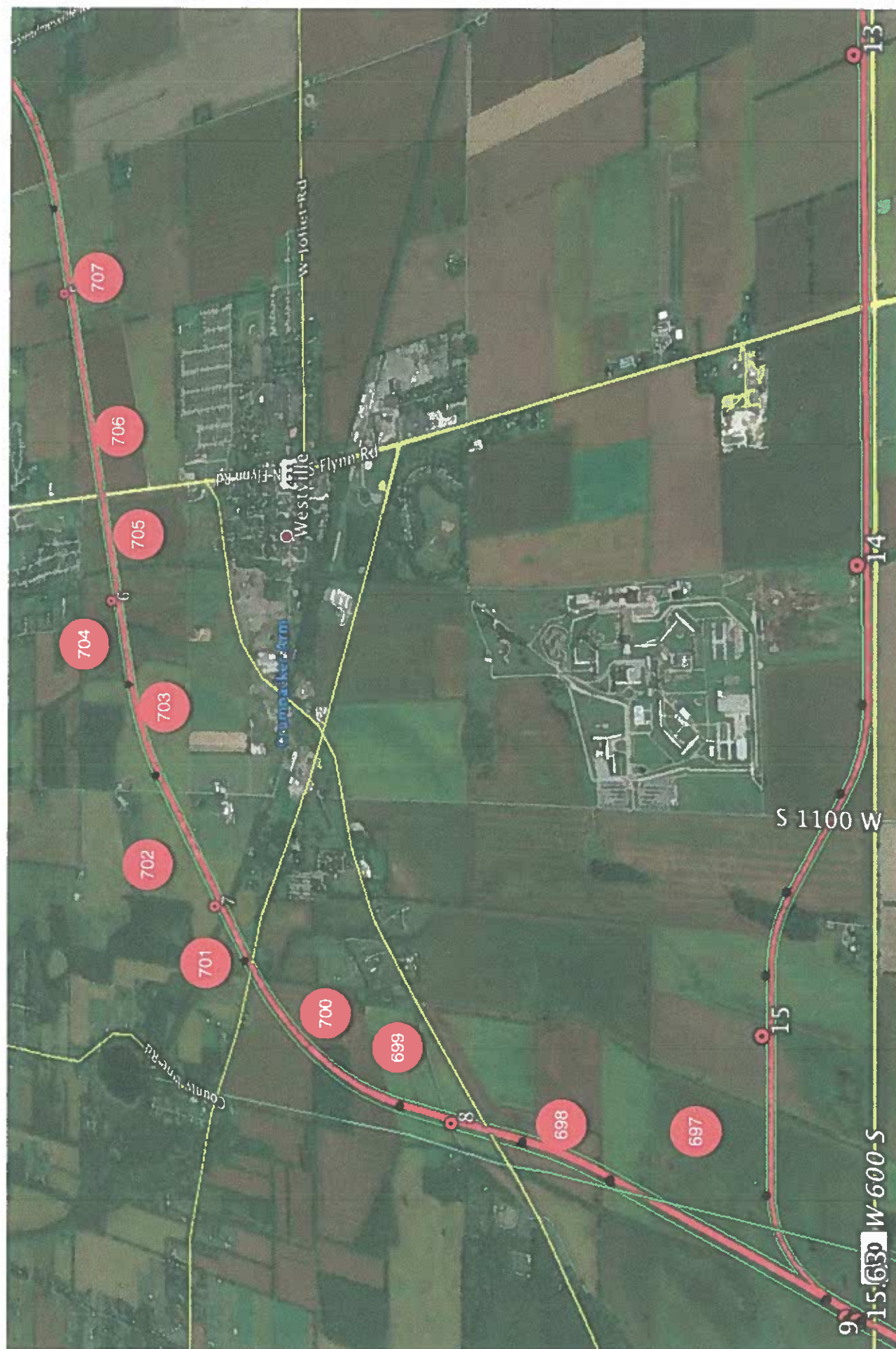


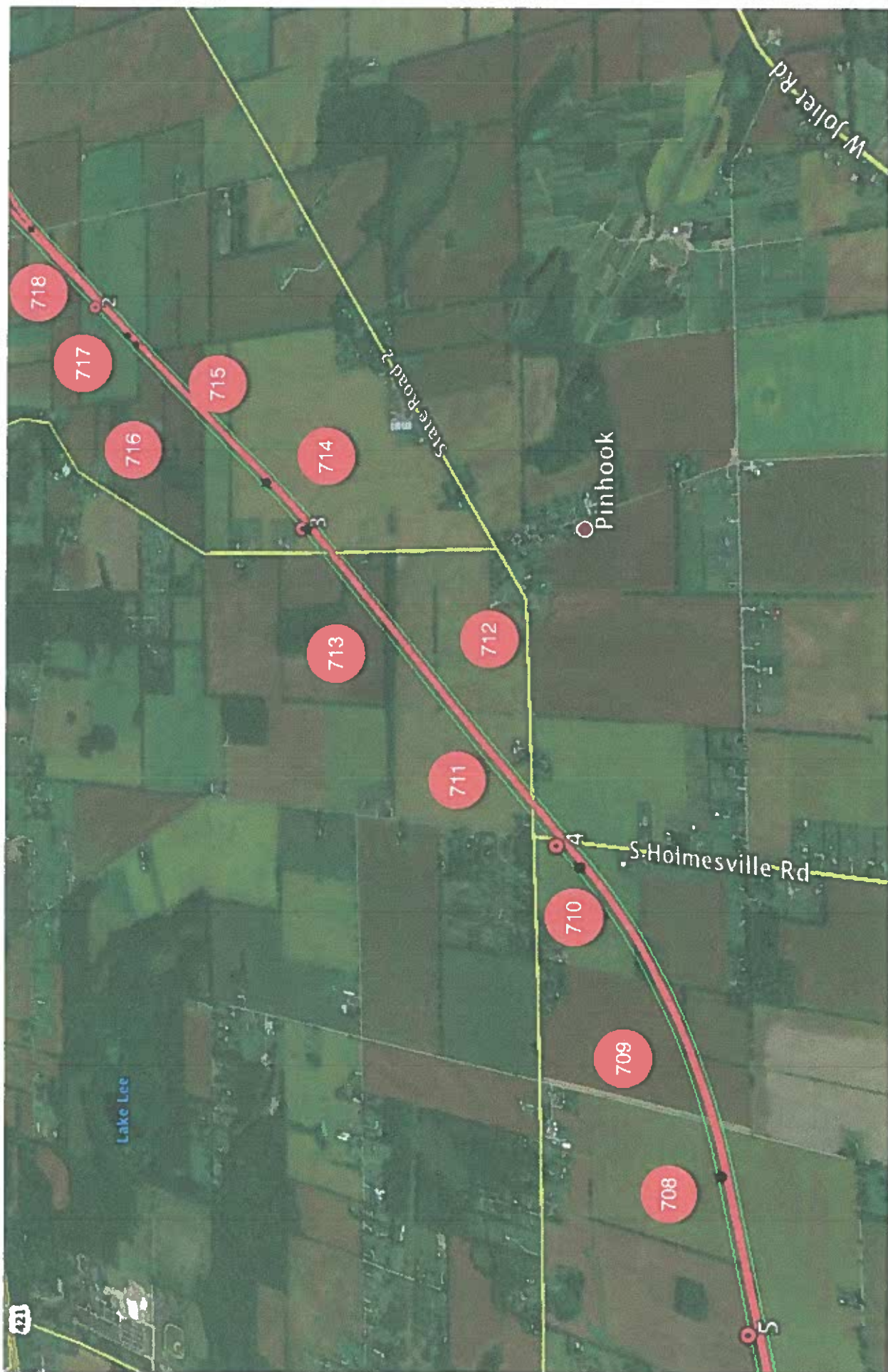


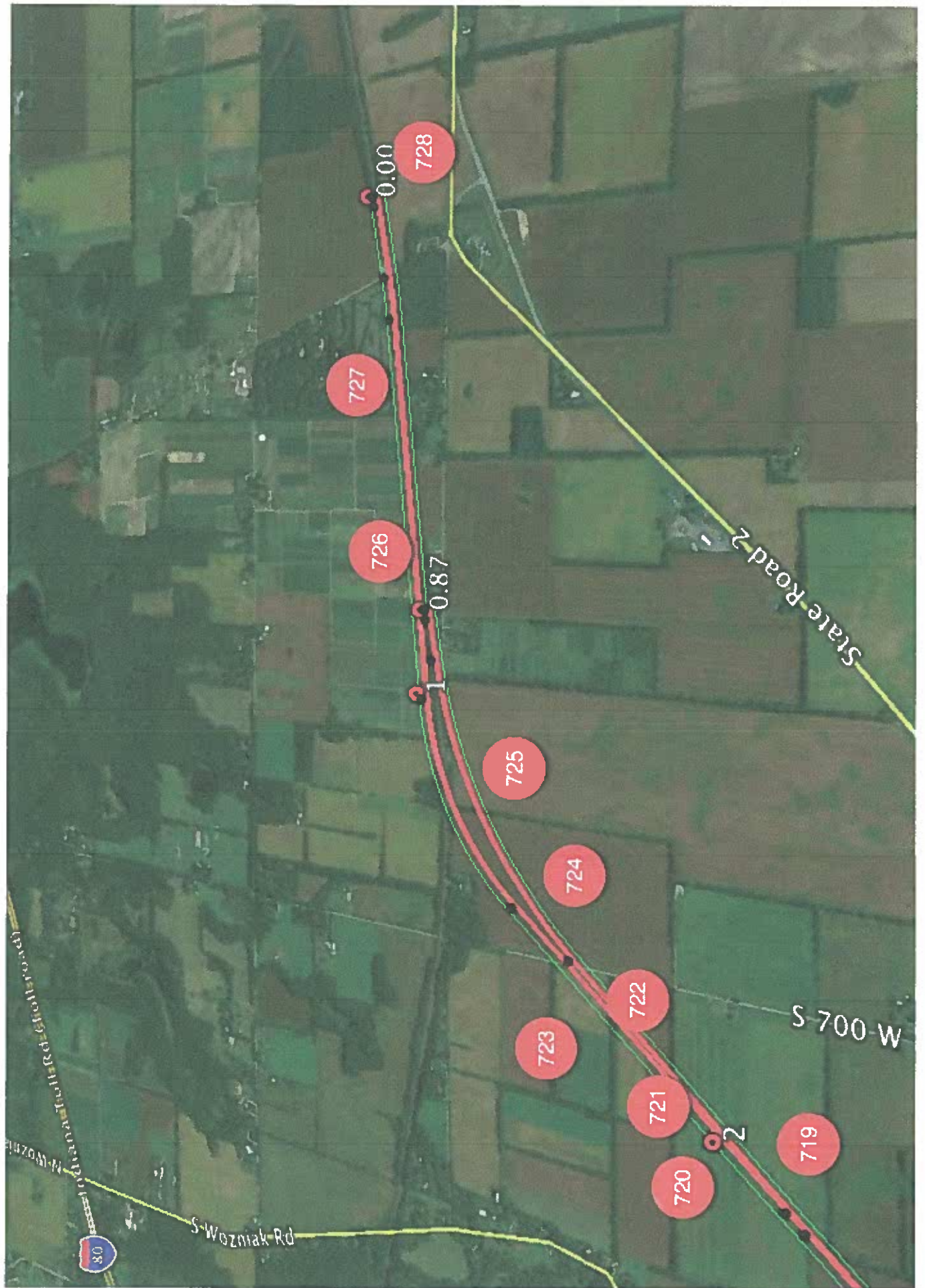












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APPENDIX 3

“HOW TRAINS CAN BE SILENT KILLERS”

Legally Sociable

PLEASANT MUSINGS ON SOCIOLOGY, MCMANSIONS, SUBURBS AND CITIES, LAW, AND MISCELLANEOUS ERRATA.

About

"How Trains Can Be Silent Killers"

Posted in [Sociology](#), [Transportation](#) - March 26, 2014 - 0 Comment

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Over 780 people were killed by trains last year in the United States and it is possible for them to sneak up quietly on people:

"Statistically, every 94 minutes something or someone is getting hit by a train in the United States," says David Rangel, deputy director of Modoc Railroad, a training school for future train engineers. Now, most of those incidents don't involve people—Rangel's statistic also includes the occasional abandoned shopping cart, wayward livestock, and other objects that somehow find their way onto the tracks. But, according to the Federal Railroad Administration (FRA), 784 people were killed in train-related accidents in 2013, the highest total in the last four years.

That accident rate comes down to a combination of factors, each increasing the likelihood of disasters. "Railcars are incredibly quiet," Rangel says. "[Tracks] are designed to achieve the lowest possible coefficient of friction...At age 62, I could push a train car down a track." Unlike a steam engine that would hammer the rails (a main reason why they were retired), modern railcars glide with low friction, and crushed rock underneath the tracks helps diminish impact. "You won't hear it or feel it," Rangel says.

The Doppler Effect, which explains how sound changes pitch based on an observer's location relative to the sound's origin (the reason sirens sound different as they approach you), plays a role. However, since they were in front of the train, where the pitch would be higher, they'd be more likely to hear the siren and doesn't explain why they didn't hear the train coming. Unsurprisingly, some train-collision victims often were wearing headphones or earbuds at the time. (These two were not wearing headphones.)

Terrain can also add to the danger. If a locomotive passes through a corridor lined with trees, those trees act like sound baffles in a recording studio, Rangel says, suppressing the noise. The average railcar traveling at 50 mph measures in decibels between at "loud voice" and a "shout," according to the FRA. The horn itself, though, can be even louder than sirens on an ambulance.

When you think about it, it is surprising how open train tracks are to the general public. The average city or suburban dweller could probably get to a railroad line easily and walk around. This also includes a large number of [at-grade crossings](#), a particular problem in the Chicago region with lots of freight traffic and lots of people. But, the goal of railroad lines is not to minimize accidents but rather to transport goods and people as efficiently as possible.

h/t Instapundit

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APPENDIX 4

**“IL HOUSE PASSES BILL TO DOUBLE FINES
FOR DRIVING AROUND RAILROAD GATES”**

gates do not
guarantee safety

Next on Patch » Glamorous Suburban Homes For Sale
(<http://patch.com/illinois/lagrange/glamorous-suburban-homes-sale-39>)

IL House Passes Bill to Double Fines for Driving Around Railroad Gates

The bill has been sent to Gov. Rauner's desk for a signature.



La Grange, IL

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By MORGAN SEARLES (Patch Staff) - (<http://patch.com/users/morgan-searles044f517cd38a6a1f24d3b0f7b3945ace85c81692fa18b9330e94570c77131e38>) June 6, 2016 11:53 am ET

Submitted by Metra (<http://www.metrarail.com>).

Springfield, IL - The Illinois House has passed an amendment to the Illinois Vehicle Code that increases the penalties for drivers who try to cross railroad tracks after the signals are activated and gates are down.

The bill will now move to Gov. Rauner's desk for his signature.

The legislation doubles the fines from \$250 to \$500 for a first offense and from \$500 to \$1,000 for a second or subsequent offense.

Last year, Illinois ranked second in the nation in highway-rail fatalities, with nearly 25 percent of vehicle/train collisions occurring at crossings with active warning devices, including lights, gates and bells, according to Illinois Operation Lifesaver. If this legislation becomes law, Illinois will have some of the strictest penalties in the nation for these types of vehicular offenses.

"Drivers who think they can beat a train on the tracks often suffer dangerous and deadly consequences," said bill sponsor Sen. Karen McConnaughay (R-33rd District). "I hope these increased fines will help make drivers think twice before deciding to take their chances and put their lives at risk at railroad crossings."

"These incidents are entirely avoidable," said bill sponsor Rep. Michael W. Tryon (R-66th District). "With the second largest rail system in the nation, we must do all we can to help discourage and prevent injuries and fatalities on railroad tracks."

The legislation was initiated by Metra this spring as part of a larger initiative to help promote rail safety awareness and eliminate preventable injuries and deaths at highway-rail grade crossings. The House passed Senate Bill 2806 today with 113-0 vote. The bill was approved by the Senate on April 21.

More from Across Patch

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- DC Eagle 'Freedom' Has Flown the Coop [VIDEO]
(<http://patch.com/illinois/>)

"Our message is simple: when the gates are down, stay off the tracks or you will pay the price through these increased fines or worse," said Don Orseno, Metra's Executive Director/CEO.

"In addition to the potential and tragic loss of life, collisions that occur at our railroad crossings can impact thousands of Metra customers, who can be delayed for hours at a time, and can also delay motorists."

Illinois has the second-largest rail system of any state with more than 7,300 miles of railroad track and 10,363 public highway-rail crossings. In 2015, Illinois also had the third-highest number of rail crossing collisions (140, behind Texas and

-eagle-freedom-has-flown-
the-coop-video)

California), the second-highest number of rail crossing fatalities (24, behind California) and the third-highest number of rail crossing injuries (79, behind Texas and North Carolina), according to the Federal Railroad Administration.

Two hundred and forty-four people died in highway-rail crashes nationwide in 2015. A pedestrian or vehicle-train collision occurs every 3 hours on average nationwide.

In March, Metra announced plans to conduct Operation Lifesaver Safety Blitzes at 45 train stations across its six-county service area in 2016 as part of its ongoing efforts to raise awareness of the importance of safe behavior around its trains and tracks.

Metra also promotes safety through its annual Safety Poster and Essay Contest for the region's schoolchildren and by conducting nearly 1,000 free Operation Lifesaver presentations annually to schools, community groups, school bus drivers, professional truck drivers, emergency responders and other organizations throughout the region.

Operation Lifesaver is a national organization that works to educate and promote safe behavior near the tracks by offering free rail safety education programs. The organization's work is co-sponsored by local, state and federal government agencies, highway safety organizations and America's railroads.

More from La Grange Patch (/illinois/lagrange)



Western Springs Police Reports: Bike Theft, Driving Without License

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APPENDIX 5

FRA REPORT

AUGUST 2006

**Impact of Blocked Highway/Rail Grade Crossings
On Emergency Response Services**

Federal Railroad Administration

August 2006

Report on the Impact of Blocked Highway-Railroad Grade Crossings on Emergency Response Services

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I. Executive Summary

As directed by Congress in the Safe, Accountable, Flexible, Efficient Transportation Equity Act; a Legacy for Users of 2005 (SAFETEA-LU), the Federal Railroad Administration (FRA) has prepared a report regarding the impacts of blocked highway-railroad grade crossings on emergency response providers.¹ In this report, FRA has identified the principal causes of blocked grade crossings.

While every minute can be precious in an emergency, crossings blocked for extended periods of time are a much greater problem than simply having to wait while a train passes through a crossing. A variety of railroad operational issues, described in this report, can lead to trains stopping in a position that blocks a crossing. Given the growth in both rail and highway traffic, it is likely that the problem of blocked crossings will increase in the future.

Railroads and communities around the country, working together, have crafted a number of solutions to the problem. These remedies range from grade separations, which solve the problem completely, to cooperative agreements with the railroads to notify emergency response personnel when a crossing is or may be blocked. Grade separations are expensive and generally are undertaken to address traffic problems caused by blocked crossings, although the advantages for emergency response are a factor in justifying such investments. Monitoring railroad operations, either with radars and cameras at crossings or through contact with the railroad, is much cheaper. When dispatchers are aware that a crossing is or will be blocked by a train, they can route emergency responders to alternative routes. Additionally, railroads have altered their operations in ways that reduce blockages, although often these changes increase railroad costs.

Communities are the best judges of the severity of the problem of blocked crossings. Working with the railroads, they can identify the most cost-effective solution. The existence of relatively inexpensive remedies should allow most communities to take the necessary steps to mitigate the problem.

Railroads must play a key role. They should actively work with communities to identify problems and propose possible remedies. Although railroads have only limited staffs available to work on community issues, this report found numerous examples of active railroad and community cooperation that resulted in projects or procedures to reduce the impact of blocked crossings.

II. Introduction

Section 9004 of SAFETEA-LU, "Report Regarding Impact on Public Safety of Train Travel in Communities without Grade Separation," requires the Secretary of the U.S.

¹ For the purpose of this report, highway-railroad grade crossing refers to any vehicular crossing of railroad tracks, including state and federal highways, county roads and city streets as well as private grade crossings.

Department of Transportation (DOT) to conduct a study of the impacts of blocked highway-railroad grade crossings on emergency response providers - ambulance, fire, and police services. The Federal Railroad Administration (FRA) has conducted this study for the Secretary, gathering information from State and local government officials, emergency responders, and the railroads.

This report describes the sources of the blocked highway-railroad grade crossing problem and reports on possible solutions. The report presents a number of case studies of communities that have experienced blocked grade crossings and solutions that have either been implemented or are in the process of being developed.

In the preparation of this report, FRA has received assistance from a number of entities, including our DOT partners, the National Highway Traffic Safety Administration (NHTSA) and the Federal Highway Administration (FHWA): a variety of state and local governments and several railroads. We thank them all for their assistance.

III. Methodology

There is no uniform national data collected on blocked crossings or on emergency responder delays. While some individual communities collect information on these subjects, there is no way to extrapolate these experiences into a national picture of delays. Therefore, the approach chosen was to contact those who had knowledge or experience in the area and build on that to create a report that explored the issue on the basis of those who actually dealt with it.

First, FRA sought to better understand the problem as seen by the emergency response community. Working with NHTSA, FRA sent a joint letter to state emergency response directors, soliciting input on their perception of the problem. This led to additional contacts in the emergency medical services (EMS) community, including mention of the study on various EMS-related websites. As a result, FRA received a large number of responses from police, fire, and rescue personnel throughout the country. Their experiences and concerns led to a better appreciation of what they faced and where those problems were most severe.

Additionally, the FRA's regional grade crossing managers, who deal daily with grade crossing safety concerns, were asked to provide any experiences and contacts they might have with regard to emergency response issues.² They provided valuable information on specific crossing concerns in a number of areas as well as identifying locations we might use for case studies.

State DOTs were contacted both to learn of problems and solutions as well as to get their views. They provided valuable contacts and information on the issue, including how state rail programs were working to eliminate or avoid such problems.

² FRA has regional grade crossing managers in each of its 8 regions. See Appendix II for their names and contact information.

Finally, FRA contacted the Class I railroads to learn of their view of the issue, and, in particular, how they were addressing blocked crossings. They provided much valuable information on their operations and on solutions they had identified.

Using the contacts developed, FRA followed up to learn more about what was the cause of blocked crossings and what solutions might be appropriate. The results of these efforts are summarized in the case studies in Appendix I.

The FRA then identified solutions proposed or implemented in various communities. Each community is best situated to evaluate how severely it views the situation and what efforts it is prepared to make, in cooperation with the railroads, to mitigate the problem. This report gives an idea of the wide range of solutions to be considered.

IV. Scope of the Problem

There are over 241,000 highway-railroad grade crossings in the U.S., 146,000 public and the rest private.³ Highway-railroad crossings are blocked when trains travel over or stop on track crossed by a highway. Trains may block crossings for only a limited time for a short passenger train traveling at a fairly high speed, or for hours after a grade crossing accident or a mechanical problem with a train. Blocked crossings are a problem for all highway users, but they can be a particularly serious problem for emergency responders. Emergency responders (emergency medical services, fire and police) need to reach their destinations as quickly as possible. An ambulance racing to a heart attack victim or an automobile accident may be delayed only a few minutes by a passing train, but even a few minutes is a very long time in an emergency. A fire engine forced to take another route because of a stopped train may arrive at a fire too late to prevent significant damage or even deaths or injuries. Delayed police response can lessen the chance to apprehend a criminal or prevent a more serious crime.

The problem is not simply trains moving through a grade crossing. Many areas reported problems with trains that stopped while blocking a crossing, sometimes for hours. There are a number of reasons for trains to block crossings and these factors also determine the length of time the crossing is blocked.

While there are no aggregate statistics on delays at crossings, blocked crossings have become a more contentious issue in recent years. This may be partly due to the expectation that emergency response will be quicker and therefore delays are less acceptable. But there are several national trends that may be leading to greater problems with blocked crossings.

³ These numbers are approximate, based on reports by state DOTs to FRA and other sources. In some cases, a railroad line may be abandoned, but the crossing is still counted. In other cases, a highway crossing may be closed, but still counted. New crossings, both public and private, are added all the time, making it difficult to have an exact number.

A. Community Growth

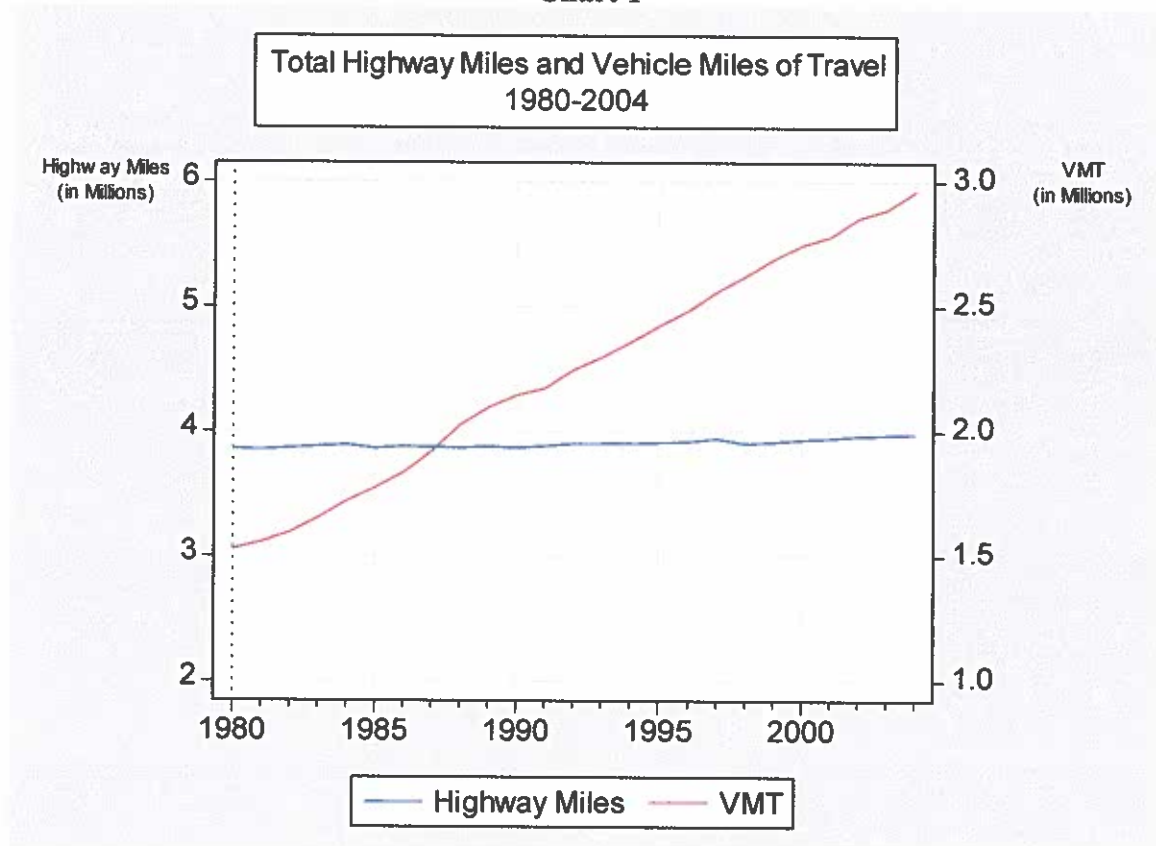
In many parts of the country, communities grew up around the railroad, which means the railroad often runs right through the middle of town. Grade separations in these towns are often resisted because of the density of development and the need to build ramps to any road bridge over the tracks. If these towns have emergency facilities only on one side of the railroad, the potential for blocked crossings will grow as the community grows, particularly if rail traffic is also growing.

As these towns spread out into suburbs, development leads to new roads and demands for additional grade crossings if there is no nearby grade-separated highway. This can result in new residential areas without direct grade separated access to emergency facilities.

B. Growth in Highway Traffic

Highway traffic has grown steadily. As Chart 1 indicates, the number of lane miles has grown much more slowly. This has led to increased traffic density on many of our roads and highways. With more highway traffic, blocked crossings inevitably lead to more delays for motorists. The ensuing congestion can further hamper emergency responders who are delayed by a train in a crossing. They must then make their way through the traffic resulting from blocked crossing.

Chart 1



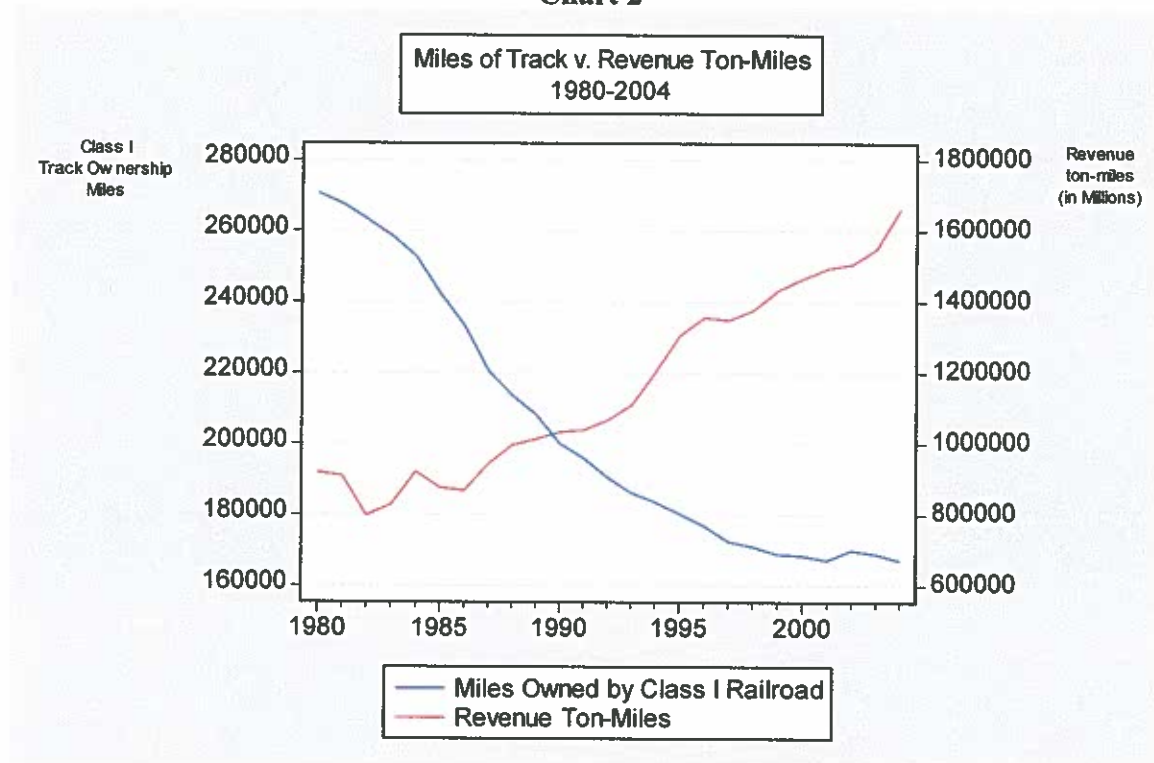
Source: Federal Highway Administration, Highway Statistics, 2004

C. Growth in Rail Traffic

Like highway traffic, rail traffic has continued to grow. In 1980, railroads in the United States originated 1.492 billion tons of freight traffic. By 2004, that figure grew to 1.844 billion tons.⁴ The growth in rail traffic reflects changes in rail regulation and the growth of demand for rail transportation. After years of decline, the rail industry was partially deregulated by the Staggers Act in 1980. The railroad industry then entered a period of consolidation and restructuring that led to a decrease in track miles, increased railroad merger activity, and significant productivity improvements

Between 1980 and 2004, despite traffic growth, railroad track miles decreased considerably (see Chart 2). The result is that density – cars or trains per day for each mile of highway or track - has steadily grown. Grade separations have alleviated conflicts in some areas, but more trains and more vehicles at most crossings inevitably lead to highway delays – delays that can also delay emergency response times.

Chart 2



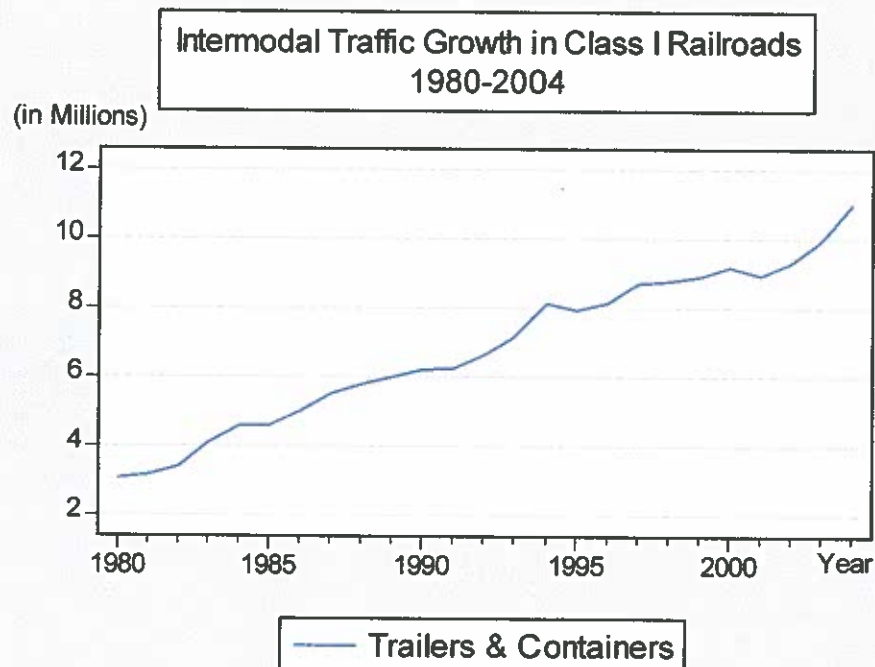
Source: Association of American Railroads, Railroad Facts, 2005 Edition, page 27, 45

The demand for rail services has meant more trains on those remaining miles. The increase in the number of trains on a line inevitably means more delays for highway users and emergency responders. Rail traffic growth has come primarily from two sources: intermodal freight and coal. The growth in intermodal freight traffic, particularly in

⁴ Association of American Railroads, Railroad Facts, 2005 Edition, page 28.

trains to and from the Ports of Los Angeles and Long Beach, has been phenomenal (see Chart 3). Coal traffic, the historic mainstay of the rail industry, has also been increasing rapidly. The relatively low price of coal for generating electricity, compared to natural gas and oil, has led many utilities to increase the use of coal where possible. Responding to legislation to reduce emissions, many utilities have switched to low-sulfur coal from the Powder River Basin in northeastern Wyoming and nearby areas. This coal is now being hauled to utilities in the south and east. These long hauls have increased traffic on a number of Midwestern rail lines.

Chart 3



Source: Association of American Railroads, Railroad Facts, 2005 Edition, page 26

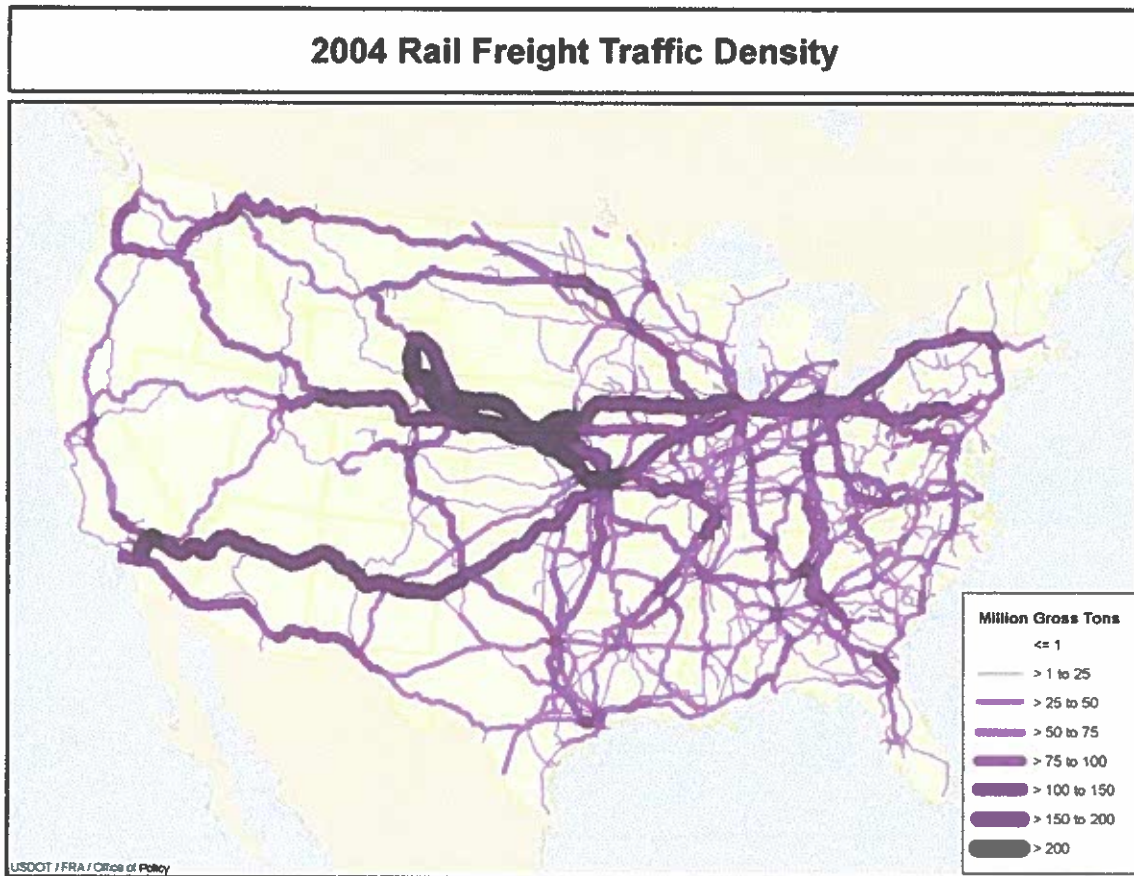
V. Causes of Blocked Crossings

A. Moving Trains

Many freight trains today are over one mile long. At twenty miles an hour, such a train would take 3 minutes to clear a crossing. If the crossing has gates, those gates would go down before the train arrived and would not rise until the train had passed, perhaps adding another minute or two. With growing rail traffic handled over fewer rail lines, blockages due to passing trains are becoming more frequent in certain areas. There are a number of rail corridors with over 100 trains a day, and some with over 150. If, as a rough estimate, a given crossing has four trains an hour, it is inevitable that at some point the gates lowered for a passing train will remain down as another train approaches from the opposite direction, so crossings of busy lines might see delays of 10 or more minutes per occurrence, depending on train speed.

Rail freight traffic density is shown in Map 1. Forecasts by the U.S. DOT and DRI-WEFA (see AASHTO Bottom Line Report, Table 6, Page 56) indicate that freight traffic overall is likely to increase 57% between 2000 and 2020 while rail traffic is forecast to grow by 44% in the same period, leading to even greater density.

Map 1



As of July, 2006, oil had reached a price of \$78 a barrel, an increase of about 300% from the \$25 a barrel it sold for in 2000. If oil prices remain at current (or higher) levels, coal traffic from the Powder River Basin and other areas will grow rapidly. Additionally, continued economic growth will likely generate rapid growth in intermodal traffic from the ports.

Increases in train traffic coupled with increases in highway traffic will lead to more congestion related to highway-railroad grade crossings. It may also lead to problems in providing emergency services unless steps are taken to mitigate these problems.

accidents with highway vehicles⁸. In many of these cases, it may be several hours before the train can resume its journey.

Congestion on a railroad line often means delays for individual trains, as they wait in sidings for other trains to pass or are stopped on the mainline until room is found for them in a receiving yard. These delays can cause the train crew to reach its service limit under the hours of service rules. Railroad procedures generally call for the dispatcher to direct such crews to a siding where they can halt the train and await a relief crew. Dispatchers often attempt to place trains where they will not unduly impede highway traffic, but the key consideration is that they not block the railroad's mainline and that they are placed in a location where a relief crew, coming by van, can easily reach them by road. Local officials interviewed in this study noted at least some cases where crews have stopped trains blocking important crossings when they reached their hours of service limit, resulting in extended crossing blockages.

Trains, like highway vehicles, can experience mechanical problems that require the train to halt. For example, there are "hot box" detectors along many lines that sense when a rail car's wheel bearings have become too hot. Rather than continue on and experience a potentially catastrophic accident, it becomes necessary to stop the train and "set out" the car with an overheated bearing. This requires the train to stop at a point where there is a siding or other track, and leave the car there. Because of the need to find a satisfactory point to drop off the car, the train may stop and switch at a point where it blocks a crossing for a considerably longer time than would be the case if the train were just passing through.

Finally, train accidents, including grade crossing accidents, can lead to unplanned delays that can be extensive, if the train involved in the accident blocks crossings.

Railroads are aware that an emergency train stop can block crossings. Some railroads have a standing policy of notifying local police and emergency responders when a train blocks crossings in certain communities. Others have a policy of "breaking" a train when it would otherwise block a crossing for an extended period. "Breaking" a train refers to uncoupling a train and pulling the front part of the train forward until an interval is opened at the grade crossing between the front and back parts of the train.

C. Summary

It was impossible to quantify the various delays and types of problems nationally. Therefore, FRA identified communities that have reported problems and examined their experiences. Based on these discussions and discussions with the railroads, FRA found that crossings are blocked for a number of reasons. Trains passing through a grade crossing do cause delays and interfere with emergency response. Trains that stop while blocking a crossing are a more significant problem. FRA identified a number of causes

⁸ Federal Hours of Service rules govern the time train crews can remain on duty. If a train is delayed and the crew reaches its hours of service limits, the crew is required to halt the train.

for trains to stop in crossings, sometimes causing lengthy delays. Stopped trains appear to cause more concern to the emergency response community than passing trains. While crossings blocked by passing trains cause stressful delays, they are neither as dangerous nor as frustrating as being totally unable to reach the scene of an emergency due to a stopped train.

VI. Impacts on Emergency Response

Delays in emergency situations can have tragic consequences. Emergency responders can be delayed by many things: availability of units, highway traffic, dispatching delays or errors and weather. Delays due to highway-railroad crossings are no different in effect than delays due to other causes. In evaluating the impact of delays, we must consider the cost in terms of deterioration in expected outcome for ambulance patients, worsening of fire damage from delayed fire truck response, and reduced likelihood for apprehension of suspects from delayed police response. Additionally, delays prove very stressful to emergency responders and victims, which also is a cost to be considered. Unfortunately, it is very difficult to convert a delay in response into a quantifiable impact.

The FRA has reviewed anecdotal reports of problems resulting from delays in emergency response due to blocked highway-railroad crossings. However, it is not possible to estimate the costs or impacts of such delays nationally or locally without much more detailed information from communities than is available. The impacts on communities from delayed response due to blocked crossings, while sometimes severe, are less than the impacts of traffic delays and congestion caused by blocked crossings. Another way to look at it would be to say that in places where blocked crossings are seen as a problem – to traffic, to safety and to emergency response – emergency response delays may help to justify a grade separation or other major expenditure, but such delays are unlikely, by themselves, to justify major remediation measures except in special cases.

VII. Possible Remediation Activities

Finding solutions to blocked crossings requires first identifying the reasons for blockage. As described in this section, there are a large number of actions which might be taken to eliminate or ameliorate problems from blocked crossings. A community concerned with blocked crossings may want to consider several of these possible solutions. In addressing a blocked crossing issue, a community should always strive to work closely with the railroad, since in many cases a solution based on changes by the railroad may be the most cost-effective.

A. Community Responses

Although there are no Federal regulations regarding blocked crossings in general, FRA safety regulations do address standing (idling) trains that unnecessarily activate grade-crossing warning systems. These rules prohibit standing trains, locomotives, or other rail equipment from activating the warning systems at grade crossings unless the operations are part of normal train or switching movements. Some states and communities have

attempted to address blocked crossings through legal action. The issue of a State's authority to legislate or regulate blocked crossings is highly contentious and still being defined in the courts.

The railroads have on occasion mounted "preemption" defenses, citing FRA regulations and other Federal requirements (e.g., the former Federal Railroad Safety Act of 1970 (49 U.S.C. 20106) and the Interstate Commerce Commission Termination Act) that they feel take precedence over State laws. For example, to clear a crossing in compliance with a State provision, a railroad might have to adjust either the speed or the length of its train, both of which are governed by Federal regulations. Likewise, a railroad might not be able to complete required air-brake testing at certain locations where doing so would block a crossing in violation of a State provision. Where there is a conflict between the State law and Federal safety requirements, the courts will find the State law to be preempted and, thus, unenforceable.

A better approach, both for the community and freight transportation, is to establish a cooperative relationship between the parties. If the railroad and emergency responders (or the community) establish a good relationship, some relatively simple operational changes in railroad activities can do much to resolve blocked crossing problems. If both sides understand the position of the other, it is likely that a solution that at least partially resolves the problem can be reached. If the only answer is a major, long-term project (such as the Alameda Corridor East, see case studies), railroad-community cooperation is also essential. Working together, understanding each other's position and constraints, is the mechanism by which a solution that is mutually acceptable can best be achieved.

While many blocked crossings are the result of "legacy" infrastructure and development, some problems are the result of poor planning. State and local governments should consider the possible impact on emergency services from new highway-railroad crossings and new housing or commercial developments. For example, a major yard on the NS north-south line between Atlanta and Washington, DC/Harrisburg, PA is located in Linwood, NC. As traffic has grown, arriving trains often must wait on the mainline before there is room to proceed into the receiving yard. There is a road that crosses just beyond the beginning of the yard that provides access to a peninsula on a lake. The peninsula is undeveloped and is currently lightly used for recreational purposes (mostly hunting and fishing). The access road is frequently blocked for extended periods of time by stopped trains. There is no other access to the peninsula. A developer is proposing to build several hundred houses on the lakefront of the peninsula. North Carolina Department of Transportation (NCDOT) raised the issue of access to the county authorities, pointing out the safety issues. The developer and the governments have attempted to work out a solution to improve access but at this point it appears the issue of what, if any, access improvements will be built and who will pay for them will be settled in court. The ultimate outcome is unclear at this point, but thanks to the cooperation of the highway planning and rail sections of NCDOT, this issue was raised and will be resolved before the houses are constructed and hundreds of families are put at risk from being cut off from emergency services.

If grade crossing blockages cannot be reduced or ameliorated by any of the approaches that follow, communities can take steps to reduce impacts on their own. For example, communities may construct additional emergency response facilities or station emergency units on opposite sides of a railroad line, so the line need not block responders. In many larger cities, numerous response facilities greatly reduce the problem of blocked crossings because of the wide range of responder locations that can be accessed. However, in smaller communities, with few facilities, the cost of opening another fire or police station may be prohibitive. The locations that indicated to us that they had emergency response problems we found them to be mostly smaller towns and rural areas.

B. Communication

Improving communication between railroads and emergency responders can be an effective and relatively inexpensive solution. Communication systems, some of which do not require railroad participation, can alert EMS personnel to possible crossing closures from approaching trains and allow them to choose alternative routes, if necessary. This approach can be particularly effective if dispatchers are able to route emergency vehicles to open crossings or grade separated crossings before the vehicles have committed to a route that is blocked by a train.

Communication can include connecting the emergency response dispatchers by phone or radio to railroad dispatchers, as has been done in some cases. One approach that has been used is to have the railroad dispatcher inform the local EMS dispatcher or personnel when they will be blocking a crossing.

If the blockage may be lengthy or opening the crossing is critical because of some emergency, arrangements can be made to have the railroad establish a protocol to “break” a train so that it will not block a crossing. Federal Railroad Administration regulations require an air brake test before the train can be moved after it is recoupled, which means that the conductor must walk around the train to check the connections. With trains often more than a mile long, this can take significant time during which the crossing must be blocked. Breaking a train adds to railroad costs by delaying the train and must result in the crossing being blocked for up to an hour while the train is reassembled, but in certain areas it is an approach to be considered. At least one major railroad interviewed for this study has a policy of breaking trains when a blockage of more than 45 minutes is expected over most of the territory in which it operates.

A more sophisticated approach is the use of sensors near the highway-railroad grade crossing that detect an approaching train. The information on speed and location is then used by a central computer to estimate train speed and predict when a train will block a crossing. Different types of sensors are in use, including Doppler radar and magnetometers. Some systems also notify motorists of expected blockages through active signs. Examples of systems that predict train blockages of crossings include

Pomona, CA and Sugarland, TX. See Appendix I for more details. Pomona is described in A. 2 Alameda Corridor East and Sugarland is covered in D. 1. Houston.

C. Training

An important part of establishing cooperation and communication is an understanding of the requirements of both railroad and emergency response operations. One way to facilitate this understanding is through training courses such as those presented by Operation Lifesaver.⁹ These courses help acquaint emergency response personnel with railroad operations and clarify procedures for contacting railroad personnel in case of emergencies.

Most public grade crossings with flashing lights or gates have a number posted that emergency responders can use to contact the railroad in case there are problems with the crossing. While the primary function of these numbers is to alert railroad personnel of malfunctions in the crossing protective device or to warn of stalled vehicles on the crossing, contact with the railroad can allow the emergency responders to request that a stopped train be “broken” to allow passage of the emergency vehicles. Although it usually takes some time to “break” the train, this may be the best alternative in cases where there are no alternative access routes to the site of the emergency.

D. Railroad Operational Changes

Routine railroad operations may leave crossings blocked and create problems for emergency responders. Generally, railroads establish their operations so as to minimize their costs and provide service to their customers. Nonetheless, railroads and their dispatchers are often aware of crossings that are routinely blocked in the course of railroad operations. In some cases, railroads can alter their operations to minimize these impacts.

In some cases, long trains can regularly block crossings during the change of rail crews. Crew change points are places on the railroad where a crew that has completed its work assignment turns the train over to a replacement crew. This process takes some time during which the train remains stopped. In some cases, there is little alternative in terms of selecting points for crew change where there is less likelihood of blocking a crossing. However, if crew change points are a problem for emergency response and general traffic, communities should consult with the railroad about possible options. At least one railroad interviewed for this study indicated that it had moved crew change points to avoid blocking crossings.

⁹ Operation Lifesaver (OLI) is a non-profit public education program established to end collisions, deaths and injuries at places where roadways cross train tracks, and on railroad rights-of-way. Sponsored cooperatively by federal, state, and local government agencies, highway safety organizations, and the nation’s railroads, OLI provides free safety presentations to increase public safety around railroad tracks. State Coordinators can be found at http://www.oli.org/contact/contact_state.

Serving rail customers requires a number of rail moves to pick up and deliver cars at the customer's siding. This process can lead to regularly blocked crossings. If this is a problem, it is possible the process can be altered to minimize the length of blockages. For example, the railroad can avoid placing cars on a crossing, perhaps leaving them further up the track. Several railroads have reported that they have altered switching patterns at customer locations in an effort to reduce the time a crossing is blocked.

Longer trains may block crossings that were established when trains were generally shorter. Railroads have been increasing train length because longer trains have a lower operating cost per car than shorter trains. However, in cases where these longer trains regularly block crossings when stopped in sidings, it may be possible to negotiate with the railroad on limiting train length. At least one railroad has reduced train length in one area to minimize blocked crossings, although it raises the railroad's cost. On the other hand, shorter trains also mean more frequent trains, which can also cause community problems.

E. Public Investments

1. Grade Separations

The "gold standard" for eliminating possible delays in emergency response due to blocked crossings is grade separation. Building a highway overpass or underpass eliminates any delays from blocked crossings. Unfortunately, grade separations are expensive, typically costing several million dollars. Moreover, in many cases they are inappropriate, since the ramps can block homes and businesses located adjacent to the tracks. In some cases, the geography of the crossing can also make construction very difficult.

In many cases a proposal to provide a grade separation also involves closing some nearby crossings. The FRA advocates a "corridor approach" to grade crossing issues, looking at the risks of an entire corridor and often resulting in recommendations to provide a grade separation or two, closing some crossings and improving crossing protection at others. A corridor approach is also required for the implementation of a "quiet zone" within which train horns do not sound at crossings.¹⁰ Closing crossings is often contentious and may

¹⁰ "Quiet Zones" are permitted under FRA's Final Train Horn Rule, which became effective on June 24, 2005. The rule implemented a 1994 law mandating the use of the locomotive horn (or "whistle") at all public highway-rail grade crossings with certain exceptions. The rule pre-empted applicable state laws and related railroad operating rules requiring locomotive horns be sounded, and it also superseded the previously issued Interim Final Rule. Under the rule, communities have the choice to consider silencing train horns at highway-rail grade crossings based on meeting safety needs. The Final Rule provides for six types of quiet zones, ensures the involvement of state agencies and railroads in the quiet zone development process, gives communities credit for pre-existing safety warning devices at grade crossings and addresses other issues including pedestrian crossings within a quiet zone.

The Final Rule on the Use of Locomotive Horns at Highway-Rail Grade Crossings is available at the U.S. Department of Transportation Docket Management System web site at <http://dms.dot.gov/>

engender political opposition to a proposal that involves a grade separation and the closing of crossings many residents may see as more convenient.

Grade separations are generally funded by the States' DOT and local communities. Railroads are generally not legally required to contribute. Railroads maintain the crossings and so enjoy a reduction in costs when crossings are eliminated. They also perceive a reduction in liability and risk from crossing accidents. However, these gains are minor in terms of the cost of a grade separation, so railroads are usually only a limited partner in separation projects.

SAFETEA-LU reauthorized the Federal highway program in 2005. While it made several changes, it did continue to provide funding for highway-railway crossing safety. This program, section 1401 of SAFETEA-LU (also known as "the section 130 program") provides \$220 million a year for crossing safety. These funds are divided among the States to address problems at thousands of crossings. Because there so many projects competing for limited funding, States have difficulty supporting multi-million dollar grade separations.

Federal Highway Trust funds can generally be used to provide partial funding of grade separations. Depending on the status of the road or highway, grade separations can be funded from accounts such as the National Highway System and the Surface Transportation Program, although the demand for these funds for "regular" highway construction tends to leave little available for grade separations.

2. Rail Relocations

Where grade crossing issues affect an entire corridor rather than a single crossing, relocating the rail line is often proposed as a solution. Railroad lines may be relocated either vertically or horizontally - that is to say a rail line may be moved up or down to separate it vertically from surface streets, or the line may be moved horizontally to a new right-of-way. Relocation is usually extremely expensive. However, it can produce significant benefits in terms of reducing negative community impacts and improving safety. There have been very few rail relocation projects in recent years. Among the projects that have been completed are the Lafayette Railroad Relocation project in Lafayette, IN, which eliminated 41 grade crossings by relocating the rail line out of downtown and the Union Pacific's construction of a 5.4 mile double-track bypass around Hastings, NE in 1994. Brownsville, TX recently completed a project begun in 1973 to relocate in-city rail yards and deactivate 79 of the city's 93 grade crossings. The project, which cost \$52 million, provided smoother rail operations and took the majority of traffic from the Port of Brownsville out of the downtown business district. Another recent rail relocation project is the "vertical relocation" (the construction of a railroad trench) of the Union Pacific Railroad in Reno, NV. (See Appendix I, A. 1..)

FINANCE DOCKET NO. 35952

APPENDIX 6

CREATE PROGRAM STATUS CHECK

FEBRUARY 20, 2015



February 20, 2015

CREATE Program Status Check

In January 2015, CMAP launched an interactive [mobility data visualization website \(http://www.cmap.illinois.gov/mobility/explore\)](http://www.cmap.illinois.gov/mobility/explore) that allows users to explore metropolitan Chicago's regional system of roads, transit, and freight, which are not being adequately maintained. Resources to upgrade these assets are more scarce and precious than ever. This is the third in a series of Policy Updates that highlights CMAP efforts to address the region's mobility needs for greater economic prosperity and quality of life. This piece focuses on the Chicago Region Environmental and Transportation Efficiency (CREATE) program.

The Chicago region is a key rail hub for the U.S., providing transportation options and access to markets for the region's businesses. The [CMAP Freight Drill Down report \(http://www.cmap.illinois.gov/economy/industry-clusters/freight\)](http://www.cmap.illinois.gov/economy/industry-clusters/freight) further describes the economic impacts of the region's freight system, along with the [CMAP Freight-Manufacturing Nexus report \(http://www.cmap.illinois.gov/documents/10180/27283/Freight-Manufacturing-Nexus-8-6-13-1.pdf/16f3459b-05af-4eac-af71-f9a8f18f7bc2\)](http://www.cmap.illinois.gov/documents/10180/27283/Freight-Manufacturing-Nexus-8-6-13-1.pdf/16f3459b-05af-4eac-af71-f9a8f18f7bc2) highlighting the unique connection between the freight system and local manufacturing industries. But the scale of rail activity in the region, coupled with older infrastructure, causes congestion and other quality-of-life impacts for many communities. The [CREATE \(http://createprogram.org/\)](http://createprogram.org/) program is designed to untangle the knot of rail infrastructure in northeastern Illinois. This Policy Update provides more background information on the CREATE program, including its project portfolio, implementation status, and performance impacts.

CREATE is a public-private partnership between freight railroads, the U.S. Department of Transportation (U.S. DOT), the Illinois Department of Transportation (IDOT), the City of Chicago, Metra, and Amtrak. First announced in 2003 after several years of study, the CREATE program today consists of 70 projects spanning a range of rail infrastructure improvements. These projects are organized into four corridors -- the Passenger Corridor, East-West Corridor, Beltway Corridor, and Western Avenue Corridor -- along with tower projects and highway-rail grade separation projects. The CREATE program also includes operational improvements and a local viaduct improvement program in Chicago.

Rationale for CREATE

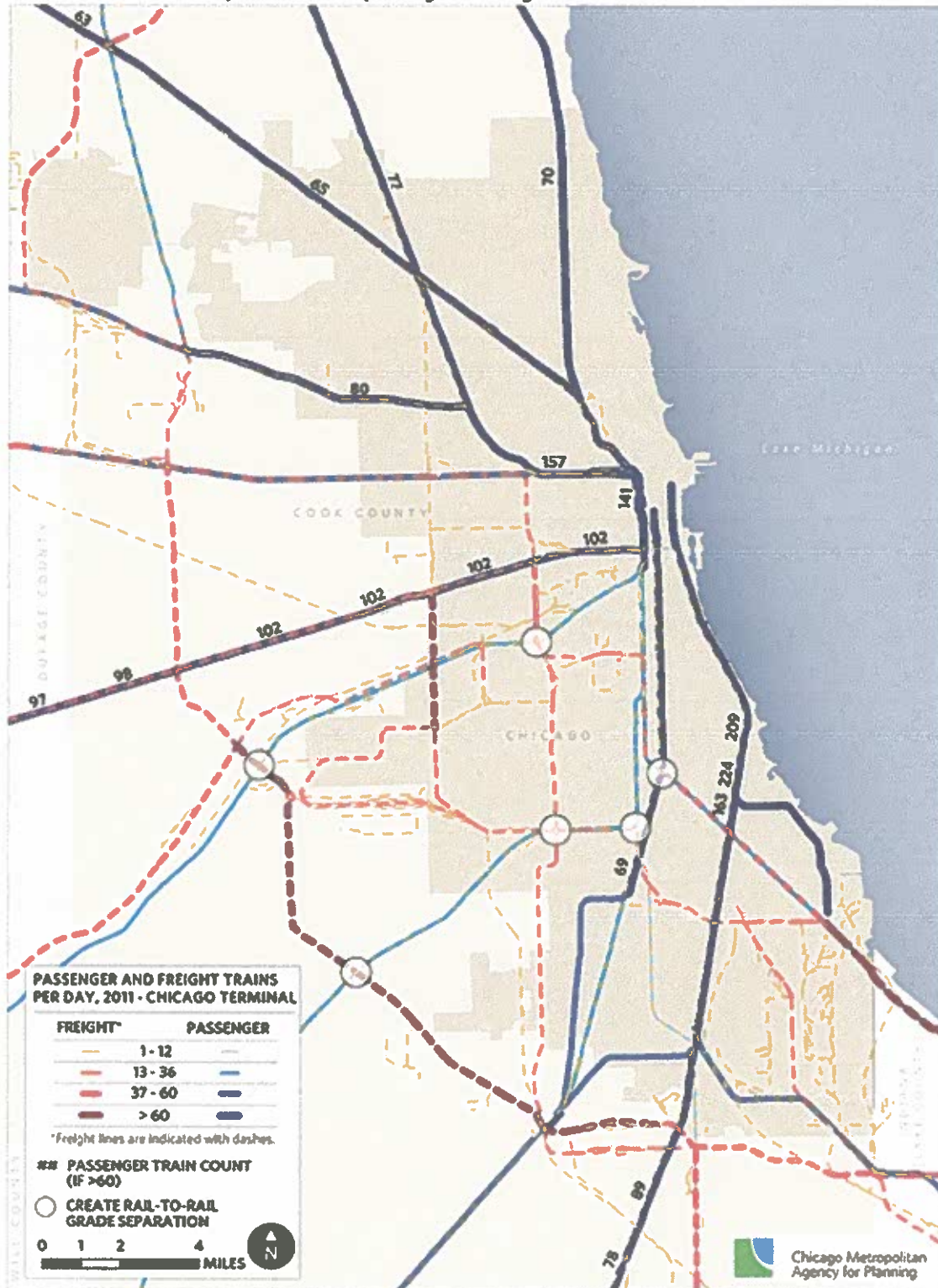
The Chicago area is the primary interchange between eastern and western railroads in North America. Some of the nation's busiest transcontinental rail lines terminate here, bringing high traffic volumes to the region. These "transcon" routes are tied together by smaller "belt" railroads within the region, allowing for transfers between the major railroads. Together with intermodal transfers to trucks (as tracked by CMAP's Regional Economic Indicators (<http://www.cmap.illinois.gov/economy/regional-economic-indicators/clusters>)), the region's freight infrastructure gives shippers access to major markets throughout North America. One goal of CREATE is to provide additional rail capacity to accommodate the heavy traffic volumes, as well as improve connections between rail lines.

Additionally, there is substantial conflict between freight and passenger rail in the Chicago region, particularly to the south and west of the city. Passenger trains tend to move from the edge of the region toward the center, while freight trains tend to move from the southeast to the west or northwest, across the passenger flows. Passenger rail is entitled to operational priority, but this reduces freight speeds at locations where passenger and freight lines cross or share tracks. In addition, unplanned interference with freight trains can reduce on-time performance for passenger services. Another goal of CREATE is to reduce these conflicts to the mutual benefit of freight and passenger operations.

Rail operations can affect the functioning of the highway system as well. Busy rail corridors can cause frequent delays for motorists at highway-rail grade crossings. These delays can be particularly long just outside rail yards, where freight trains

often back up waiting for access to crowded terminals. The projects in the CREATE program can address these issues by improving access to rail yards and, in some cases, separating highway-rail traffic at grade crossings.

Concentration of conflict points between passenger and freight rail services



Source: Chicago Metropolitan Agency for Planning analysis of National Transportation Database, 2011. Updated with information from Google Earth, personal communications, and Amtrak, Metra, and South Shore passenger train schedules. Prepared by Chicago Metropolitan Agency for Planning February, 2015.

Note: CN and MED services operate on separate tracks. Data Reflects 2011, before CSX operations on the Elston Subdivision commenced

Performance impacts

The CREATE projects completed to date have already made a significant impact on the performance of the transportation system. A recent study commissioned by the CREATE partners estimates a reduction from 48 hours to 32 hours for an intermodal or manifest train to pass through the terminal; the reduction is from 20 hours to less than 15 hours for unit trains. Intermodal trains carry containers or trailers, manifest trains carry a mix of railcars, and unit trains carry bulk commodities like coal or grain. The same study estimates CREATE's total economic impacts to date at \$28.3 billion, including benefits from reduced travel times, fuel savings, and safety improvements, among others. A recording (<https://www.youtube.com/watch?v=ReYXLOND-No>) of a presentation on the study's results is available.

CREATE's full benefits will be achieved when the program is complete, but each project has independent benefits. To illustrate, the Englewood Flyover (<http://createprogram.org/factsheets/P1.pdf>) opened to traffic in late 2014. This project provided a new railroad bridge to carry Metra's Rock Island District trains over a line used by Amtrak and freight rail. Doing so removed a point of conflict between nearly 80 Metra trains and about 60 freight and Amtrak trains, reducing delays for both passenger and freight users.

Another example, the 75th St. Corridor Improvement Project (<http://www.75thcip.org/>), is still under study and will provide benefits to freight and passenger rail networks. The project is a combination of four CREATE projects and is the most complex remaining component of the program. It will reconfigure a series of rail crossings on Chicago's south side and provide additional track capacity in the area, affecting (<http://createprogram.org/factsheets/EW2.pdf>) over 120 trains each day. The project will separate Metra's SouthWest Service from freight rail lines, reducing a point of conflict. Additionally, the SouthWest Service will be rerouted from Union Station to LaSalle Street Station, freeing up capacity for additional service at the region's busiest passenger rail station. These improvements to the SouthWest Service are included in GO TO 2040 as a fiscally constrained major capital project (<http://www.cmap.illinois.gov/documents/10180/332742/Update+Major+Capital+Projects+FINA-oc2d-4243-8d94-9232f4598566>).

Program Status

CMAP's interactive mobility visualization website

(<http://www.cmap.illinois.gov/mobility/explore#/topic/freight/create-projects>) tracks the status of the CREATE projects. As of February 2015, 22 projects have been completed, and an additional ten are under construction. Eighteen projects are in various design stages, and the remaining 20 projects will begin upon identification of funding resources. The Belt Corridor is almost completed, and much progress has also been made on the Western Avenue Corridor. Completing the Passenger Corridor projects and grade separations remains a high priority.

The CREATE program is estimated to cost over \$3.8 billion, of which about \$1.2 billion has been committed to date. The public sector has provided the majority of this funding, in particular U.S. DOT and IDOT. The federal government has contributed over \$330 million, the state government has contributed \$410 million, the private railroads have contributed \$234 million, and the remainder has come from various sources, including local government and pre-CREATE sources. Significant additional funding is needed for projects with direct benefits to the public via improved passenger rail service and reduced delay for motorists. As freight volumes pick up, in part facilitated by the implementation of CREATE, it will be important to fund publicly oriented projects, minimizing the impact of increased volumes.

Indeed, the region's rail network provides a mix of public benefits to commuters, consumers, and communities and private benefits to railroads and their clients. Further, the CREATE program provides benefits across multiple scales, from local communities to regional highway and transit users to national and global supply chains. CREATE's funding structure must strike a balance between public and private investment commensurate with the level of benefit received by each, also balancing federal, state, and local sources.

Looking Ahead

GO TO 2040 calls for the implementation of the CREATE program as a key step in promoting a more efficient regional freight network

(<http://www.cmap.illinois.gov/about/2040/regional-mobility/freight-system>). More

specifically, the plan calls on the region to build a larger national coalition to support the CREATE program and secure funding for its completion. A national effort would support Chicago's role as a hub of nation's rail network, with connections to six of the nation's seven Class I railroads. The region's confluence of rail, truck, and air infrastructure make it a critical shipping node for North American freight.

Today, the CREATE program needs more than \$2 billion in funding, nearly half of which would go to constructing the 75th Street Corridor Improvement Project.

CMAP's work in federal freight policy

(<http://www.cmap.illinois.gov/mobility/freight/policy>) emphasizes the importance of key nodes in the national freight system, and the need for federal funding commensurate with their impact. Additional federal funding is certainly critical, but other funding sources will be needed to bring the CREATE program to completion.

After more than a decade since its inception, many CREATE projects have been implemented. Rail operations within the region have improved. CREATE goes a long way toward assuring that the regional rail system has the capacity to handle passenger and freight traffic well into the future, as well as mitigate impacts on local communities.

Comment

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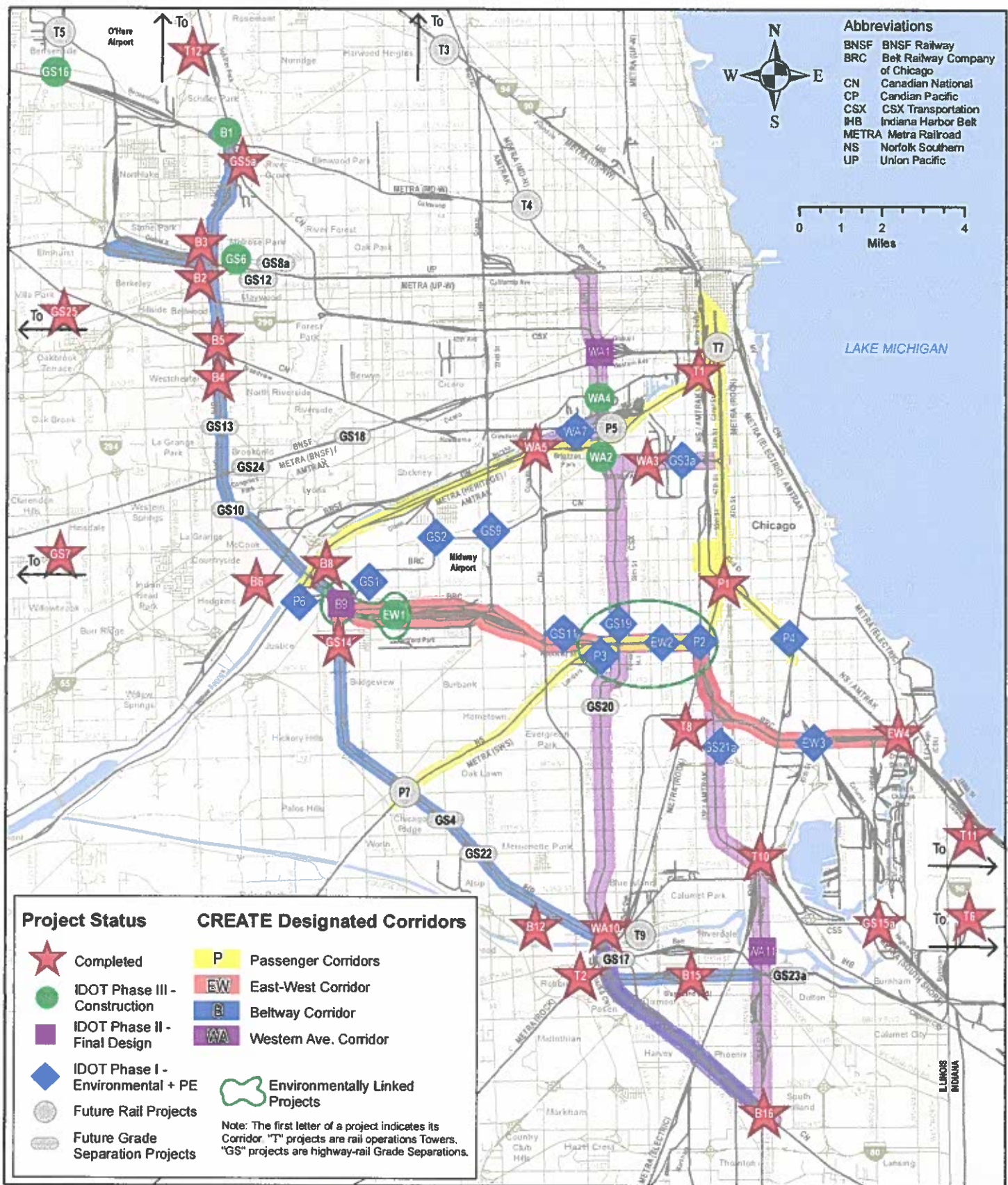
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Status of CREATE Projects (6/7/2016)



Note: Viaduct projects in the City of Chicago are not displayed.



CREATE Program - Overall Project Status Summary

Revised - 7-Jun-16

						Current Project Status - 7-Jun-16					Project Completion Date
	Proj. No.	Project Name	Municipality	Railroads Affected	Lead Entity	Initiation Pending Funding Availability	DOT Phase I - Environmental + PE	DOT Phase II - Final Design (PS&E)	DOT Phase III - Construction	Project Completed	
BELT CORRIDOR	B1	CP double & IHB connection	Franklin Park	Metra/CP/IHB/CN	Metra	-	-	-	X	-	Sep 2013
	B2	Proviso 3rd Main	Bellwood / Berkeley / Elmhurst / Melrose Park	IHB/UP/Metra	UP	-	-	-	-	X	Sep 2009
	B3	Melrose connection	Bellwood	IHB/UP	UP	-	-	-	-	X	May 2012
	B4*	TCS LaGrange to CP Hill	LaGrange / LaGrange Park / McCook	IHB	IHB (CSX)	-	-	-	-	X	May 2012
	B5*	TCS LaGrange to CP Hill	Bellwood / Broadview / Melrose Park	IHB/CN	IHB (CSX)	-	-	-	-	X	Dec 2009
	B6	McCook	McCook	CSX/BNSF/Amtrak/Metra	CSX	-	-	-	-	X	Mar 2009
	B8	TCS Argo to Canal	Bedford Park / Bridgeview / Summit	CSX/Amtrak/Metra	CSX	-	-	-	-	X	
	B9**	Argo	Chicago / Bedford Park / Bridgeview / Summit	BRC/CSX/Amtrak/Metra	CSX	-	-	X	-	-	
	B12	CP Francisco	Alsip / Blue Island	CSX	CSX	-	-	-	-	X	Jul 2011
E-W corridor	B15	TCS Blue Island	Blue Island / Dolton / Riverdale	IHB	IHB (CSX)	-	-	-	-	X	Sep 2012
	B16	Thomton Jct	South Holland	UP/CN	UP	-	-	-	-	X	Jun 2014
WESTERN AVE CORRIDOR	EW1**	Argo	Chicago / Bedford Park / Bridgeview / Summit	BRC/Amtrak/Metra	BRC (CSX)	-	-	-	X	-	
	EW2***	80th Street	Chicago	BRC/Metra/UP/NS	BRC (NS)	-	X	-	-	-	
	EW3	Pullman Jct	Chicago	BRC/NS	NS	-	X	-	-	-	
	EW4	CP 509	Chicago	BRC/NS/Amtrak	NS	-	-	-	-	X	Jul 2008
	WA1	Ogden Jct.	Chicago	CSX/NS/UP/Metra	UP	-	-	X	-	-	
	WA2	TCS Blue Island Sub	Chicago	CSX/Amtrak/Metra	CSX	-	-	-	X	-	↑ Jun 2016
	WA3	Ashland Ave. & C.J. Mains	Chicago	NS	NS	-	-	-	-	X	
	WA4	BNSF Horseshoe	Chicago	BNSF/CN/NS/CSX	BNSF	-	-	-	X	-	
PASSENGER CORRIDORS	WA5	Corwith Tower	Chicago	BNSF/CN/Amtrak/Metra	BNSF	-	-	-	-	X	Jun 2009
	WA7	Brighton Park	Chicago	NS/CSX/CN/Amtrak/Metra	NS	-	X	-	-	-	
	WA10	Blue Island Jct.	Blue Island	CN/CSX	CSX	-	-	-	-	X	Sep 2013
	WA11	Dolton Interlocking	Chicago / Dolton / Riverdale	IHB/CSX/UP/Amtrak	CSX	-	-	X	-	-	
TOWER PROJECTS	P1	63rd & State	Chicago	Metra/NS	Metra	-	-	-	-	X	May 2016
	P2***	74th Street	Chicago	BRC/Metra/NS	Metra	-	X	-	-	-	
	P3***	75th Street	Chicago	BRC/CSX/NS/Metra	Metra	-	X	-	-	-	
	P4	Grand Crossing	Chicago	NS/Amtrak	NS	-	X	-	-	-	
	P5	Brighton Park	Chicago	CN/Amtrak/Metra	Metra	X	-	-	-	-	
	P6	Canal	Summit	CN/Amtrak/Metra	Metra	-	X	-	-	-	
	P7	Chicago Ridge	Chicago Ridge	Metra/IHB	Metra	X	-	-	-	-	
GRADE SEPARATION PROJECTS	T1	21st Street	Chicago	Amtrak/Metra	Amtrak	-	-	-	-	X	Feb 2005
	T2	Blue Island Jct.	Blue Island	CN	CN	-	-	-	-	X	Aug 2014
	T3	Roundout	Lake Forest	CP/Metra/Amtrak	CP/Metra	X	-	-	-	-	
	T4	A-5	Chicago	CP/Metra/Amtrak	CP/Metra	X	-	-	-	-	
	T5	B-17	Bensenville	CP/Metra	CP/Metra	X	-	-	-	-	
	T6	Calumet Tower (IN)	Indiana / Chicago	IHB	IHB	-	-	-	-	X	Mar 2013
	T7	16th Street	Chicago	Metra/Amtrak	Metra	X	-	-	-	-	
	T8	Gresham	Chicago	Metra	Metra	-	-	-	-	X	Jan 2010
	T9	Blue Island	Blue Island	Metra	Metra	X	-	-	-	-	
	T10	Kensington	Chicago	Metra/NICTD/Amtrak	Metra	-	-	-	-	X	Jan 2010
	T11	Hick (IN)	Indiana / Chicago	NS/Amtrak	NS	-	-	-	-	X	Jul 2010
	T12	Deval	Des Plaines	UP/Metra	UP	-	-	-	-	X	May 2005
Other	GS1	63rd St / Harlem Ave	Chicago	BRC	IDOT	-	X	-	-	-	
	GS2	Central Ave / 54th St	Chicago	BRC	IDOT	-	X	-	-	-	
	GS3a	Morgan St / Pershing Road	Chicago	NS	CDOT	-	X	-	-	-	
	GS4	Central Ave	Chicago Ridge / Oak Lawn	IHB	IDOT	X	-	-	-	-	
	GS5a	Grand Ave	Franklin Park	IHB/CN/Metra	IDOT	-	-	-	-	X	Sep 2007
	GS6	25th Ave	Melrose Park / Bellwood	UP/Metra	IDOT/local	-	-	-	X	-	↑ Oct 2012
	GS7	Belmont Rd	Downers Grove	BNSF/Metra/Amtrak	Metra	-	-	-	-	X	
	GS8a	5th Ave	Maywood	UP/Metra	IDOT	X	-	-	-	-	
	GS9	Archer Ave / Kenton Ave	Chicago	BRC	CDOT	-	X	-	-	-	
	GS10	47th St / East Ave	LaGrange / McCook	IHB	IDOT	X	-	-	-	-	
	GS11	Columbus Ave / Maplewood Ave	Chicago	BRC	CDOT	-	X	-	-	-	
	GS12	1st Ave	Maywood	UP/Metra	IDOT	X	-	-	-	-	
	GS13	31st St	LaGrange Park	IHB	IDOT	X	-	-	-	-	
	GS14	71st St	Bridgeview	CSX	IDOT/local	-	-	-	-	X	Nov 2013
	GS15a	130th St / Torrence Ave	Chicago	NS/NICTD	CDOT	-	-	-	-	X	Jul 2015
	GS16	Irving Park Rd	Bensenville	CP	IDOT	-	-	-	X	-	↑
	GS17	Western Ave	Blue Island	CSX	IDOT	X	-	-	-	-	
	GS18	Harlem Ave	Berwyn / Riverside	BNSF/Metra/Amtrak	IDOT	X	-	-	-	-	
	GS19***	71st St / Bell Ave	Chicago	CSX	IDOT	-	X	-	-	-	
	GS20	87th St / Rockwell St	Chicago / Evergreen Park	CSX	CDOT	X	-	-	-	-	
	GS21a	95th St / Eggleston Ave	Chicago	UP/Amtrak	CDOT	-	X	-	-	-	
	GS22	115th St	Alsip	CSX	IDOT	X	-	-	-	-	
	GS23a	Cottage Grove	Dolton	IHB/CSX	IDOT	X	-	-	-	-	
	GS24	Maple Ave	Brookfield	BNSF/Metra	IDOT	X	-	-	-	-	
	GS25	Roosevelt Road	West Chicago	UP/Metra	IDOT	-	-	-	-	X	Jul 2015
	Other	Common Operational Picture	Chicago and suburbs (Chicago Terminal District)	All Railroads			-	-	-	-	X
Other	Viaduct Improvement Program	Chicago (various locations)	various	CDOT		-	-	-	X	-	↑
Other	Grade Crossing Safety Program	Suburbs (various locations)	various	IDOT/CDOT	X	-	-	-	-	-	
Total Projects						19	14	3	7	27	

* Projects B4 and B5 are linked for the purposes of environmental review and design/construction.

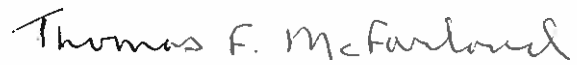
** Projects B9 and EW1 are linked for the purposes of environmental review and design/construction.

*** Projects P2, P3, EW2, and GS19 are linked for the purposes of environmental review and collectively known as the "75th Street Corridor Improvement Project".

† These projects are not yet complete but have secured a full funding commitment (from a combination of federal, state, local, and/or railroad sources) to advance through construction completion.

CERTIFICATE OF SERVICE

I hereby certify that on July 13, 2016, I served the foregoing document, Motion (1) For Adoption Of No-Build Alternative In The Environmental Impact Statement and (2) For A Recommendation To The Board That A Formal Construction Application Be Filed, (1) on the Attorney for GLBT, Jay Johnson, Esq., Venable, LLP, 575 Seventh Street, N.W., Washington, DC 20004; and (2) on the Office of Environmental Analysis of the Surface Transportation Board, Attention: Victoria Rutson, 395 E Street, S.W., Washington, DC 20423, both by UPS overnight mail.



Thomas F. McFarland



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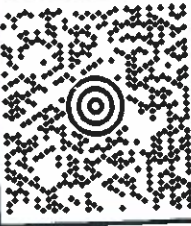
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