Current Issue:

Access to clean and affordable energy is essential to a healthy and thriving community. If reliance on the use of fossil fuels in New York continues, there would be harmful consequences to human health, the environment, and the economy. The potential for long-term consequences and the high cost of mitigation makes it imperative for government entities to adopt and implement effective strategies for transitioning to green energy sources. To move New York State towards adoption of these strategies, the New York State Climate Leadership and Community Protection Act (Climate Act) was passed in 2019. And just recently, Governor Hochul signed Executive Order 22 Leading by Example: Directing State Agencies to Adopt a Sustainability and Decarbonization Program issued on 9/20/2022

Your team is a consultant hired by the East Brook School District who has tasked you with developing a proposal to help the District meet the state renewable energy goals for their new Transportation Center using an off-site renewable energy system that meets Eligible Systems as defined by the NYSERDA Clean Energy Standard. This means 100% of the energy for the facility must be NY based renewable energy powered by 2030. Your plan should provide for clean energy generation, while protecting existing communities, businesses, neighbors, and natural resources. The District has expressed the desire for a solar photovoltaic installation that can be located within 5 miles of the new building.

Your task is to present to the School Board a proposal and it must include:

- what is needed to site the energy system within the preferred area and economically transmit the generated electricity to the building,
- the rationale used to select a suitable location and develop the needed energy generating capacity at the site,
- how the benefits for this project outweigh the costs,
- the direct environmental impacts (positive and negative),
- recommendations for avoiding, minimizing, or mitigating any significant adverse effects of the development upon protected natural resources, important community infrastructure, and nearby residents,
- a public outreach plan that will provide a list of recommendations for garnering broad local support for the proposed project.

Local landowners are cooperative and interested in selling or leasing land for the project, however most neighbors are against locating the project site near their properties. While there is support for expected economic benefits and job creation from the development of alternative energy projects, several different concerns have been raised by special interest groups, individual activists, and the town planning board. Of particular concern are the social and environmental impacts of these projects which may affect many existing communities and land uses – agricultural, residential, urban/commercial, and the surrounding natural ecosystems. The public will attend this meeting, and while developing green energy systems there is the need to address these concerns and obtain broad local support for the project. This project will need to gain approval from the School Board. Your team needs to prepare a strong plan to get approval. Your plan must include an outline of specific site requirements, impacts, and public input.

Your proposal to the School Board requires you to provide a presentation that will allow the District to decide whether to move forward with the project your team has formulated.

Site Selection Parameters:

- The project area is limited to a 5-mile radius surrounding the location for the new Building (See Map 1)
- System must generate at least 10 MW of power (10 MW of Solar - ~55 acres (5.5 acres per 1 MW with appropriate aspect)
- Assume neighbors are not "initially" cooperative and need to be convinced to support the project via an effective Outreach initiative.
- There is strong public resistance to locating the solar site on prime farmland as well as exceedingly high costs to purchase/lease these valuable lands. (See Map 2).
- Site topography and aspect will strongly influence an acceptable site. (see Map 3)
- Other factors to consider include ease of access for construction/maintenance (roads). (Map 4)

Assessing Benefits vs. Costs

- A viable project needs to show that the long-term benefits exceed the costs. Assuming a 30-year service life of the project use the Cost-benefit template to complete a comparison of the anticipated total benefits compared to the total costs to build and maintain the energy installation. (Fillable template attached)

Cost-Benefit Analysis Template

Costs				Benefits			
Cost Line Item	Cost Category	Value	Metric (intangible)	Benefit Line Item	Benefit Category	Value	Metric (intangible)
	Direct				Direct		
	Indirect				Indirect		
	Intangible				Intangible		
	Risk				Risk		

Assessing Environmental Impacts and Avoiding Adverse Effects

- You must avoid disturbance to onsite or nearby wetlands and surface waters (regardless of the presence of protected species) (See Maps 5, 6)
- The project area is known for the excellent quality of its wetlands, streams, and rivers that provide habitat for many rare and protected species. In a letter to your team the New York Department of Environmental Conservation has advised of the following protected species that you must assume to be present in the following habitats (See Map 7).
    - All Streams and Rivers – Green Floater mussel (*Lasmigona subviridis*)
    - Select Small Streams and Wetlands (including surrounding areas within ½ mile) – Blanding's Turtle (*Emydiodea blandingii*), Wood Turtle (*Glyptemys insculpta*)
    - Large Wetlands, Rivers, Large Water Bodies (including surrounding areas within ½ mile)– Bald Eagle (*Haliaeetus leucocephalus*)
    - Grass Pastures and Haylands (greater than 12 acres in size) – Bobolink (*Dolichonyx oryzivorus*), Eastern Meadowlark (*Sturnella magna*)
    - Woodlots and Forestlands (any size) – Indiana Bat (*Myotis sodalis*), Little Brown Bat (*Myotis lucifugus*)

- Describe how you will avoid, minimize, or mitigate any potential adverse impacts to wetlands, surface waters, or resident populations/suitable habitats of the protected species that may be present at your chosen site.

Public Outreach

- How will you communicate the results of your site selection process, assessments of Benefits vs. Costs, and efforts to minimize adverse environmental impacts when engaging the local community that is not initially supportive of the project?
- Lay out a plan to inform the public and consider their concerns in the final project design.

Cost-Benefit Analysis Template

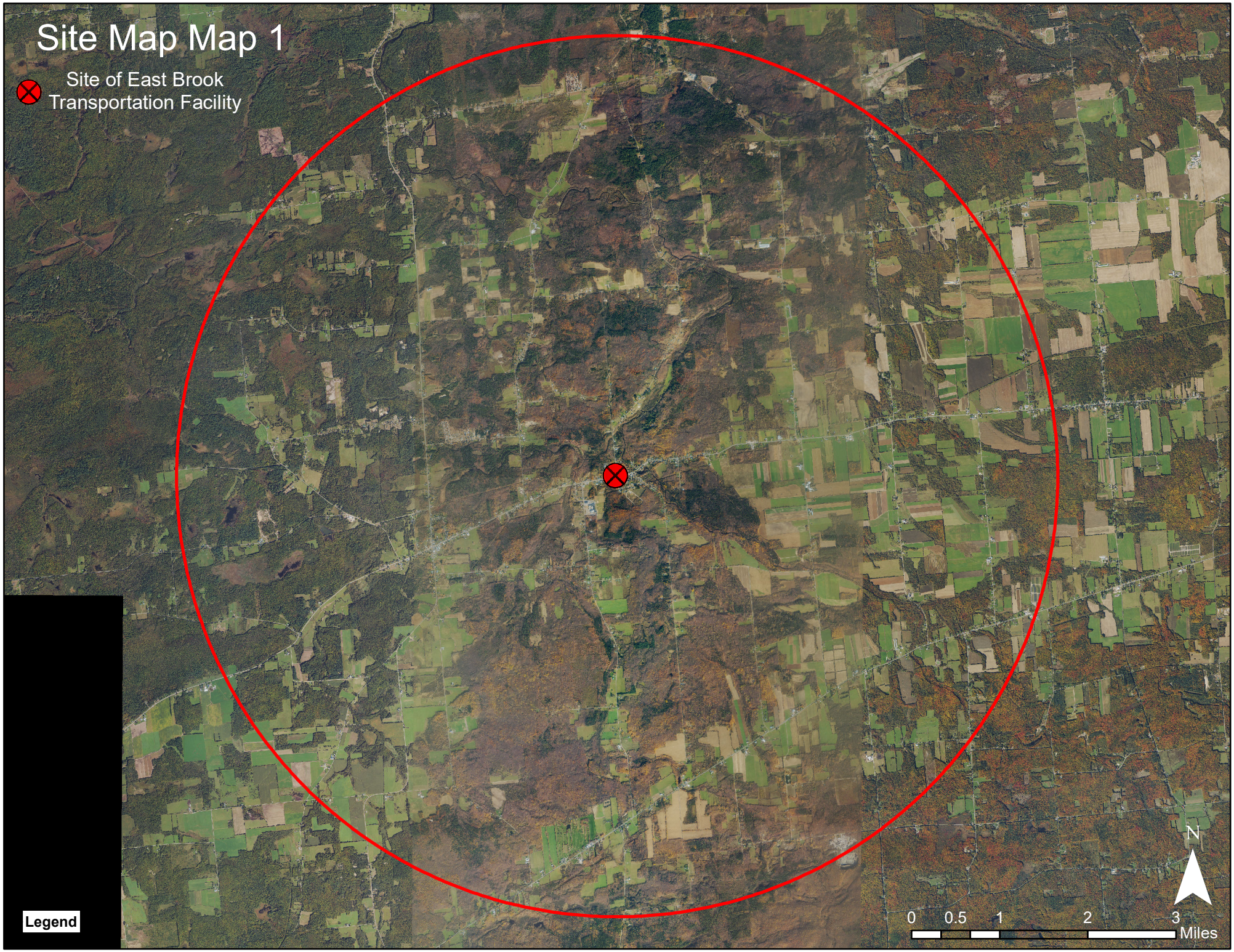
Costs					Benefits			
Cost Line Item	**Cost Category**	**Value**	**Metric (intangible)**		**Benefit Line Item**	**Benefit Category**	**Value**	**Metric (intangible)**
	Direct					Direct		
	Indirect					Indirect		
	Intangible					Intangible		
	Risk					Risk		
	Total Cost	0				Total Benefit	0	

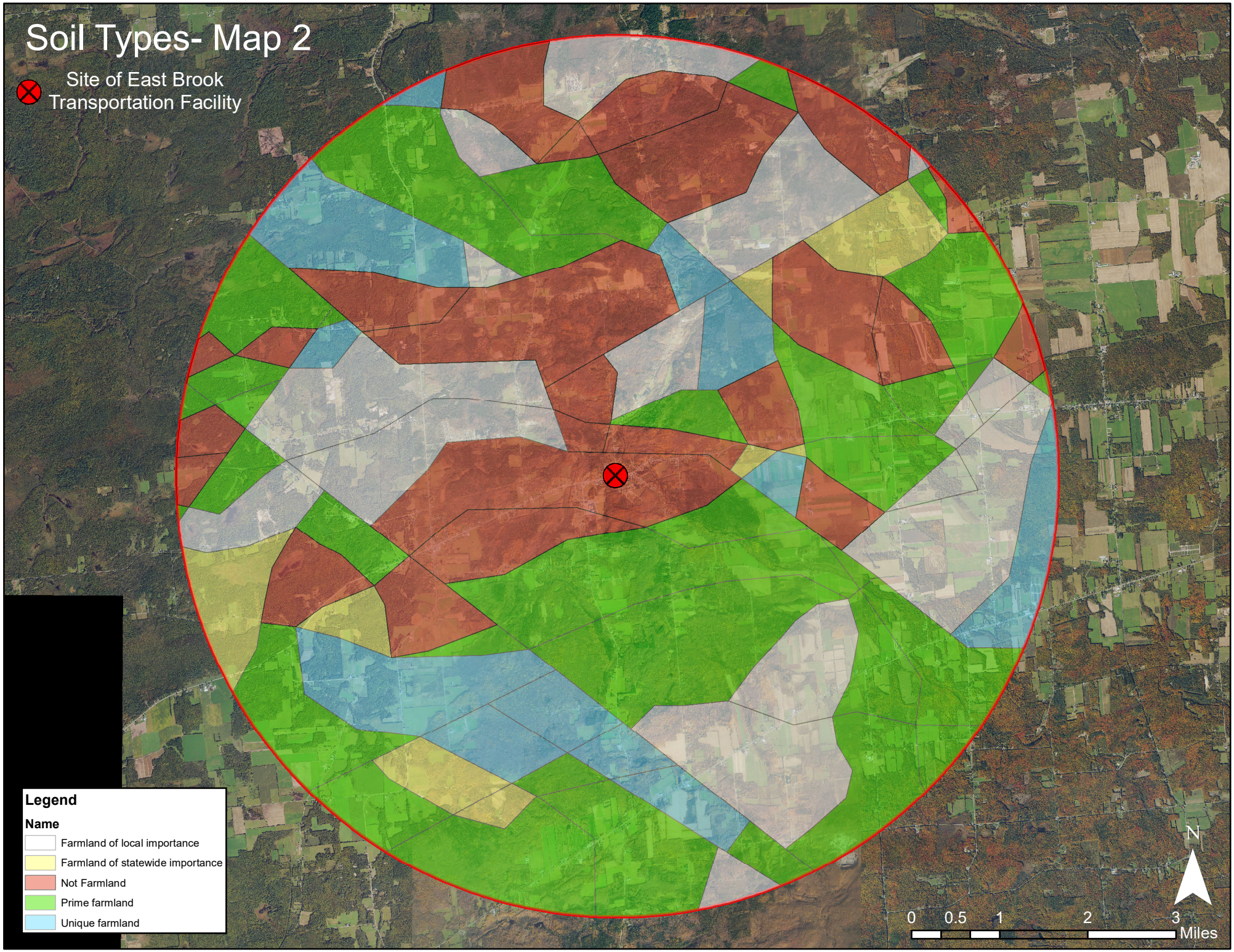
Cost-Benefit Analysis Template

Costs					Benefits			
Cost Line Item	Cost Category	Value	Metric (intangible)		Benefit Line Item	Benefit Category	Value	Metric (intangible)
	Direct					Direct		
	Indirect					Indirect		
	Intangible					Intangible		
	Risk					Risk		

Total Cost 0

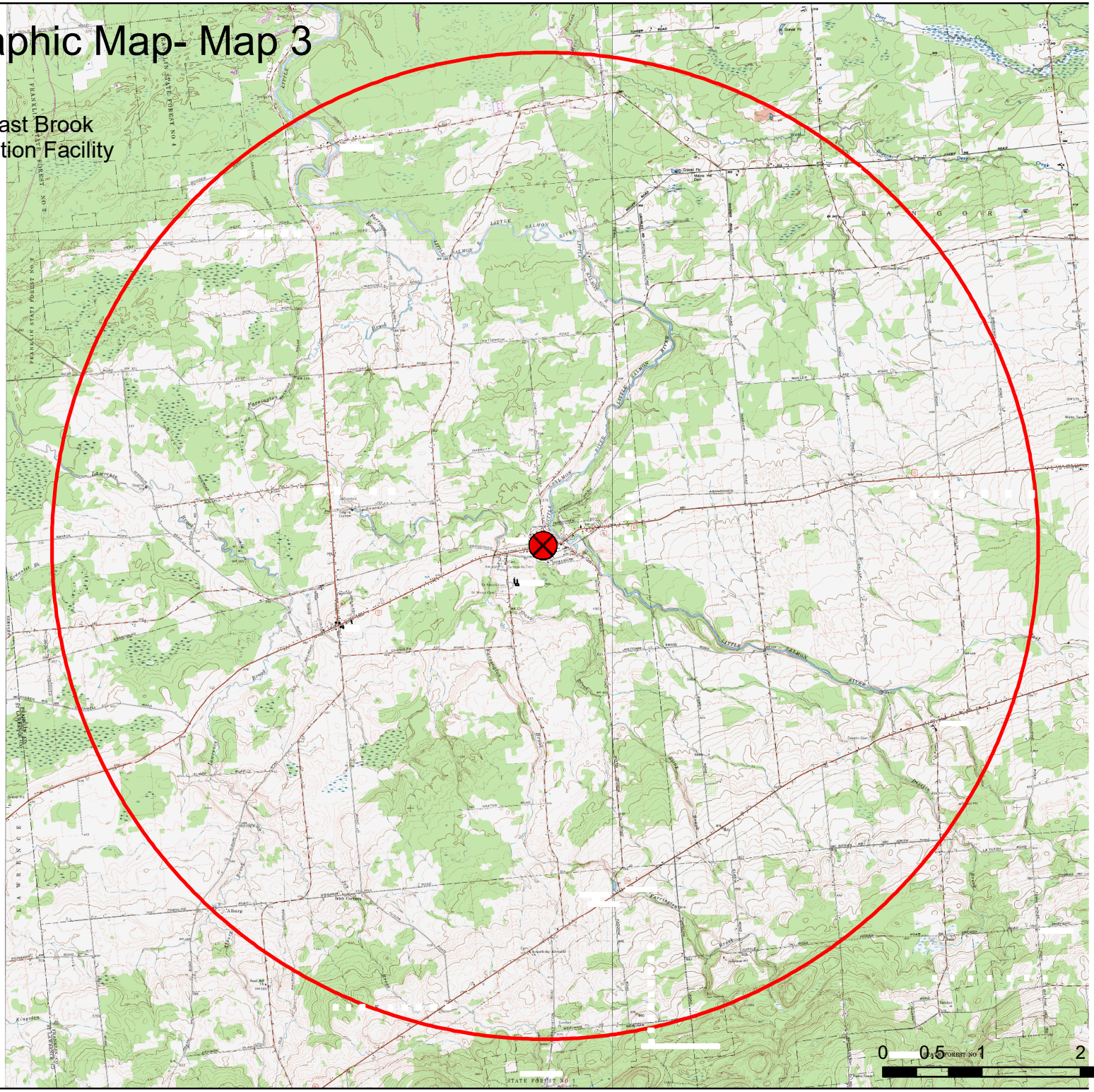
Total Benefit 0

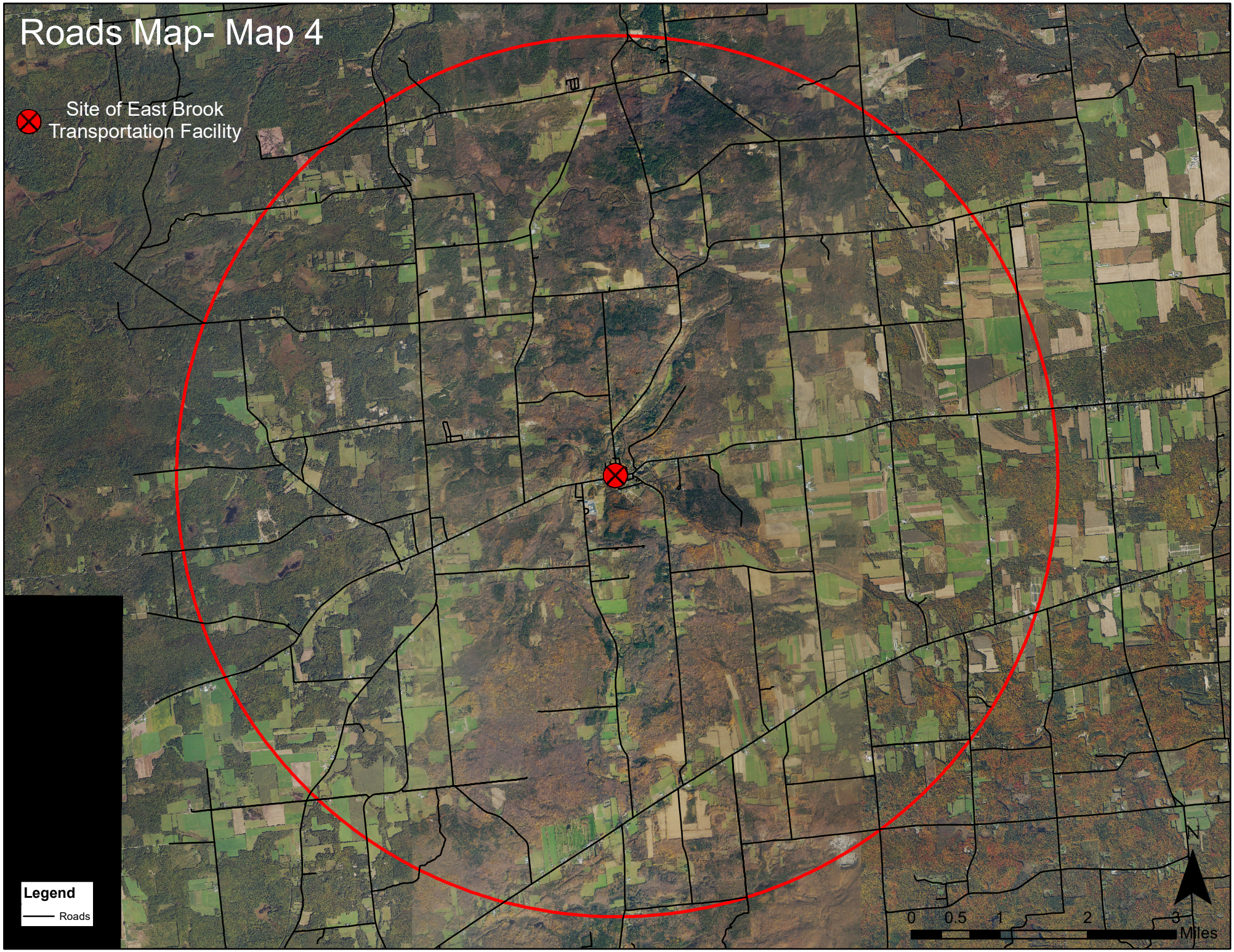

Site Map Map 1
Site of East Brook
Transportation Facility
Legend
N
0
0.5
1
2
3
Miles

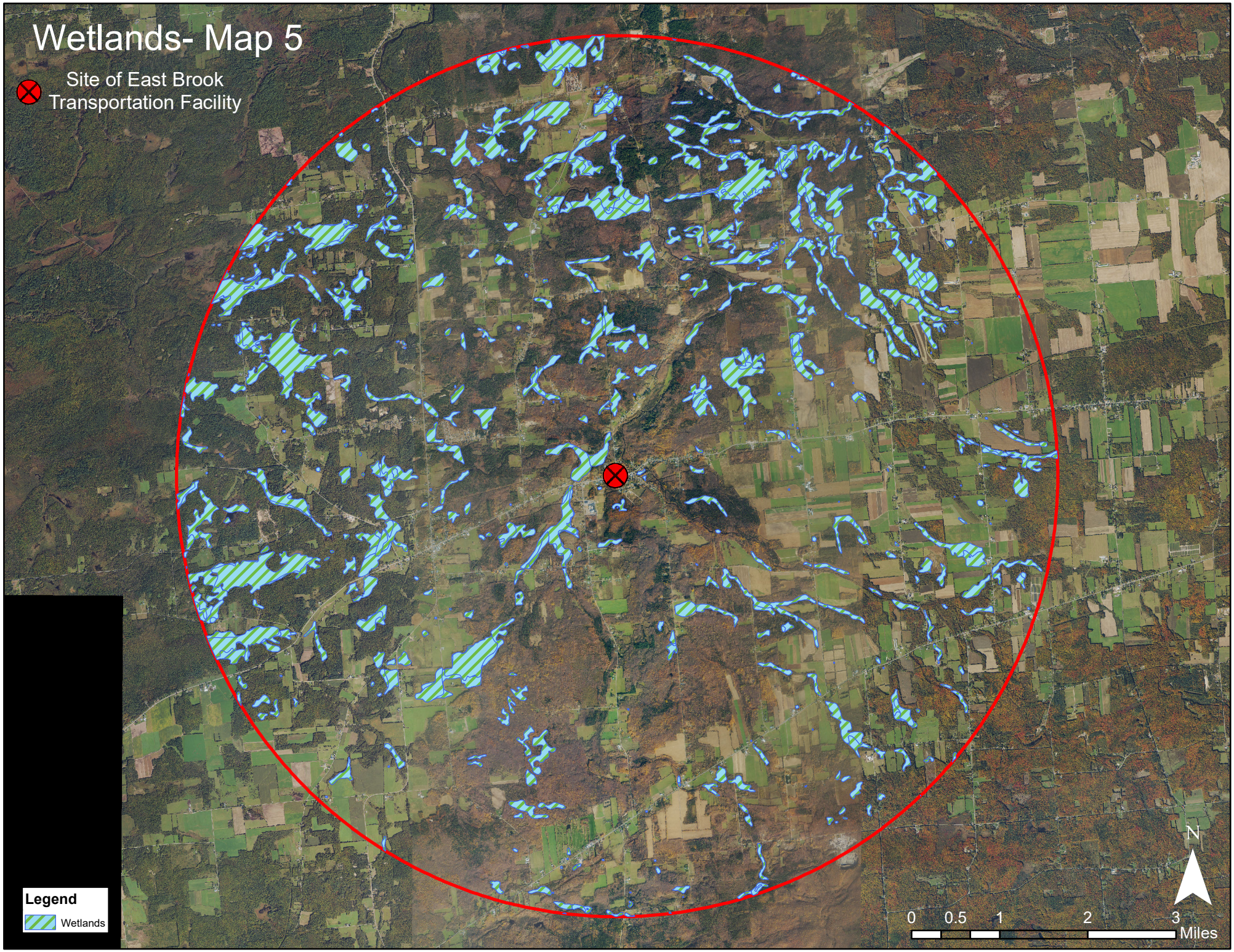

Soil Types- Map 2
Site of East Brook
Transportation Facility
Legend
Name
Farmland of local importance
Farmland of statewide importance
Not Farmland
Prime farmland
Unique farmland
N
0
0.5
1
2
3
Miles

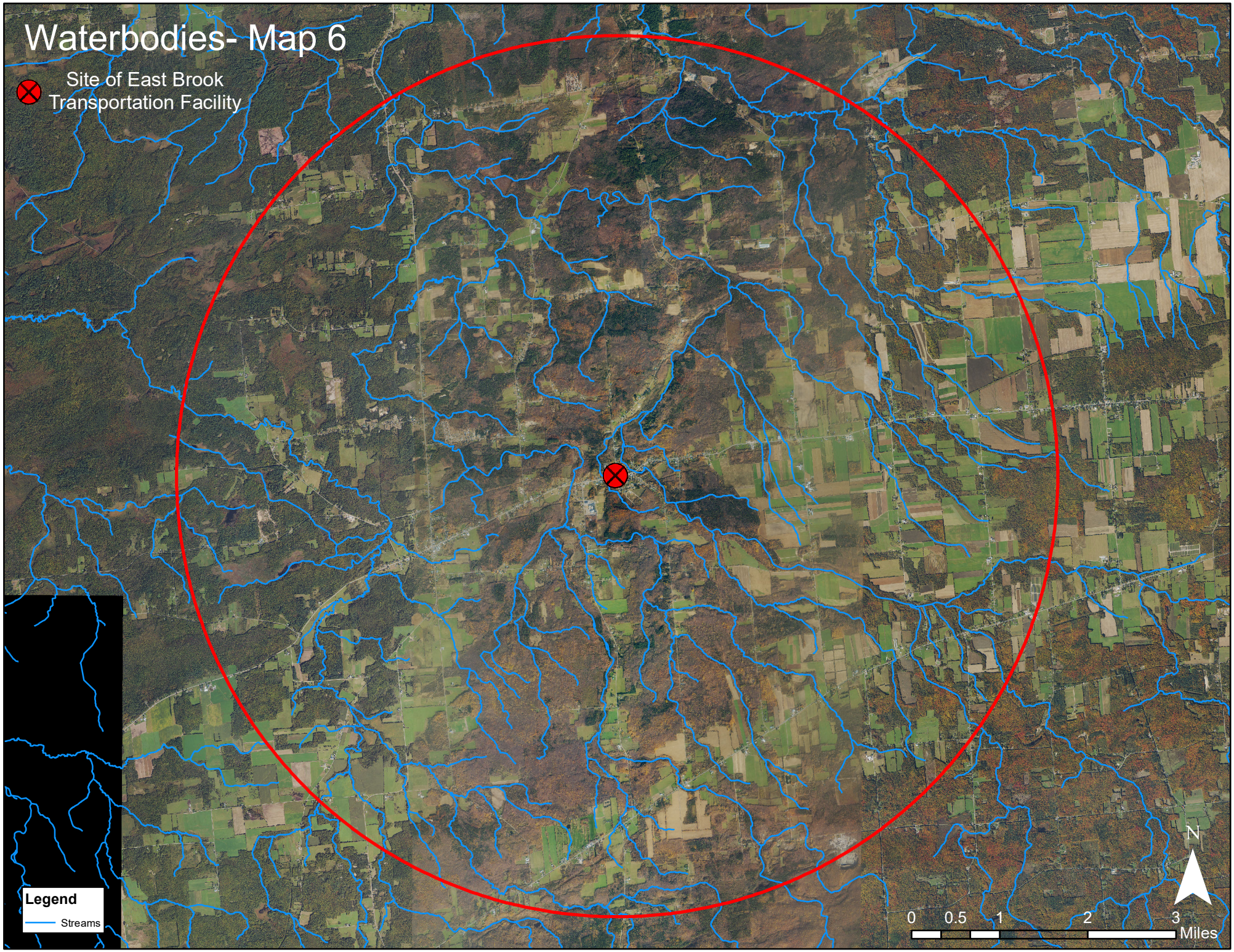
Topographic Map- Map 3

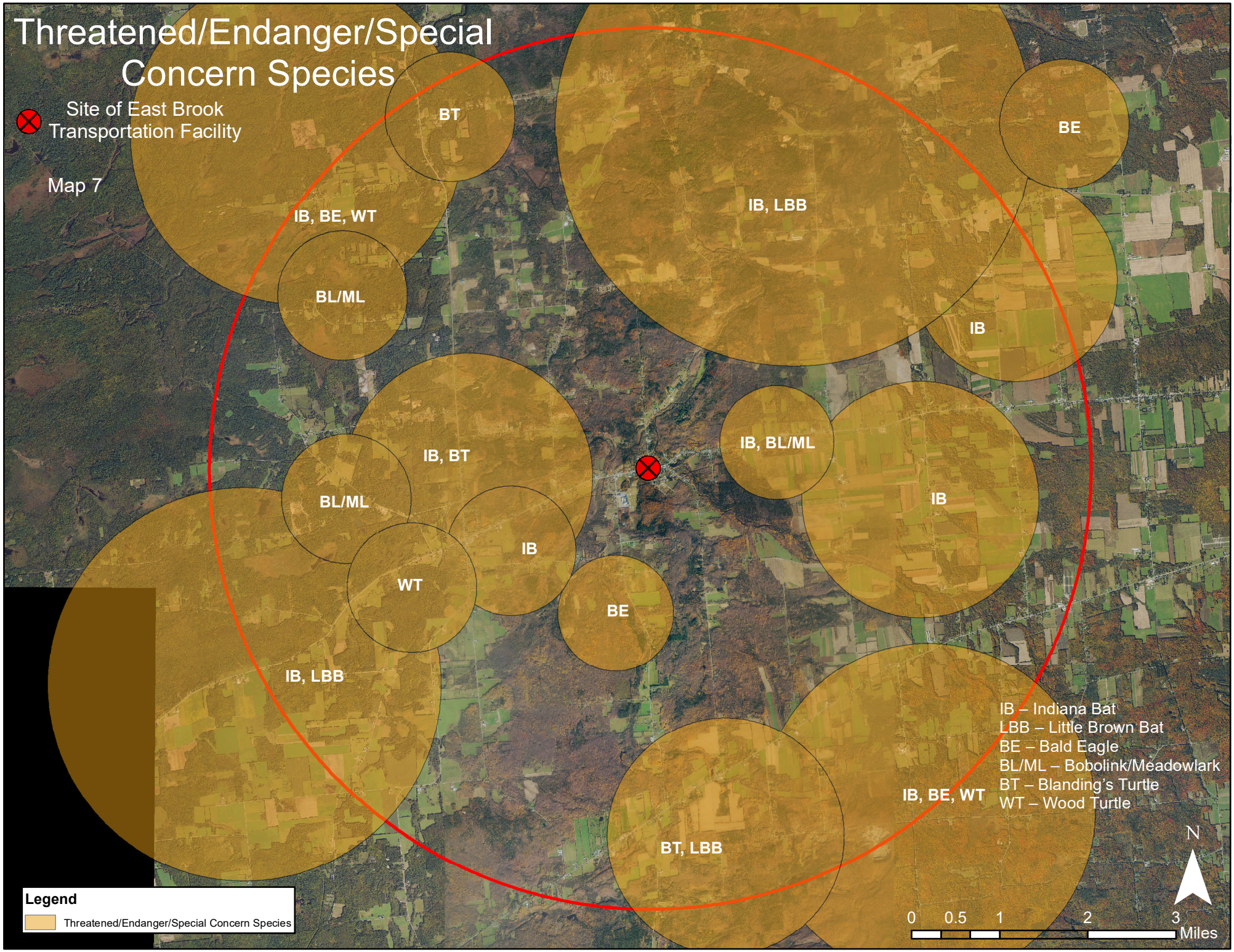
Site of East Brook Transportation Facility




Roads Map- Map 4
Site of East Brook
Transportation Facility
Legend
Roads
N
0
0.5
1
2
3
Miles


Wetlands- Map 5
Site of East Brook
Transportation Facility
Legend
Wetlands
N
0
0.5
1
2
3
Miles


Waterbodies- Map 6
Site of East Brook
Transportation Facility
Legend
Streams
N
0
0.5
1
2
3
Miles


Threatened/Endanger/Special Concern Species
Site of East Brook Transportation Facility
Map 7
BT
IB, BE, WT
BL/ML
IB, LBB
BE
IB
IB, BL/ML
IB, BT
BL/ML
IB
WT
IB
BE
IB, LBB
IB, BE, WT
BT, LBB
IB – Indiana Bat
LBB – Little Brown Bat
BE – Bald Eagle
BL/ML – Bobolink/Meadowlark
BT – Blanding's Turtle
WT – Wood Turtle
N
0 0.5 1 2 3
Miles
Legend
Threatened/Endanger/Special Concern Species