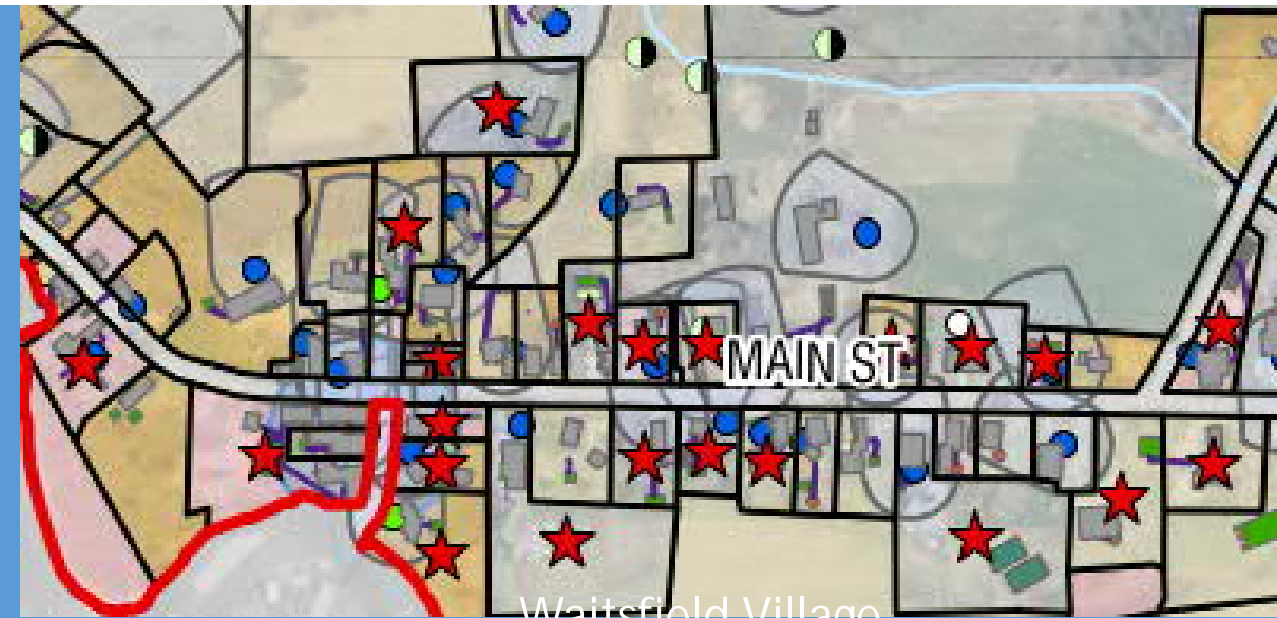


# Town of Waitsfield

## Village Wastewater Study

90% Feasibility Study Report

Presented by: Jonathan Ashley, PE, DuBois & King, Inc.  
December 5, 2022



Waitsfield Village



Irasville

# Alternatives Considered

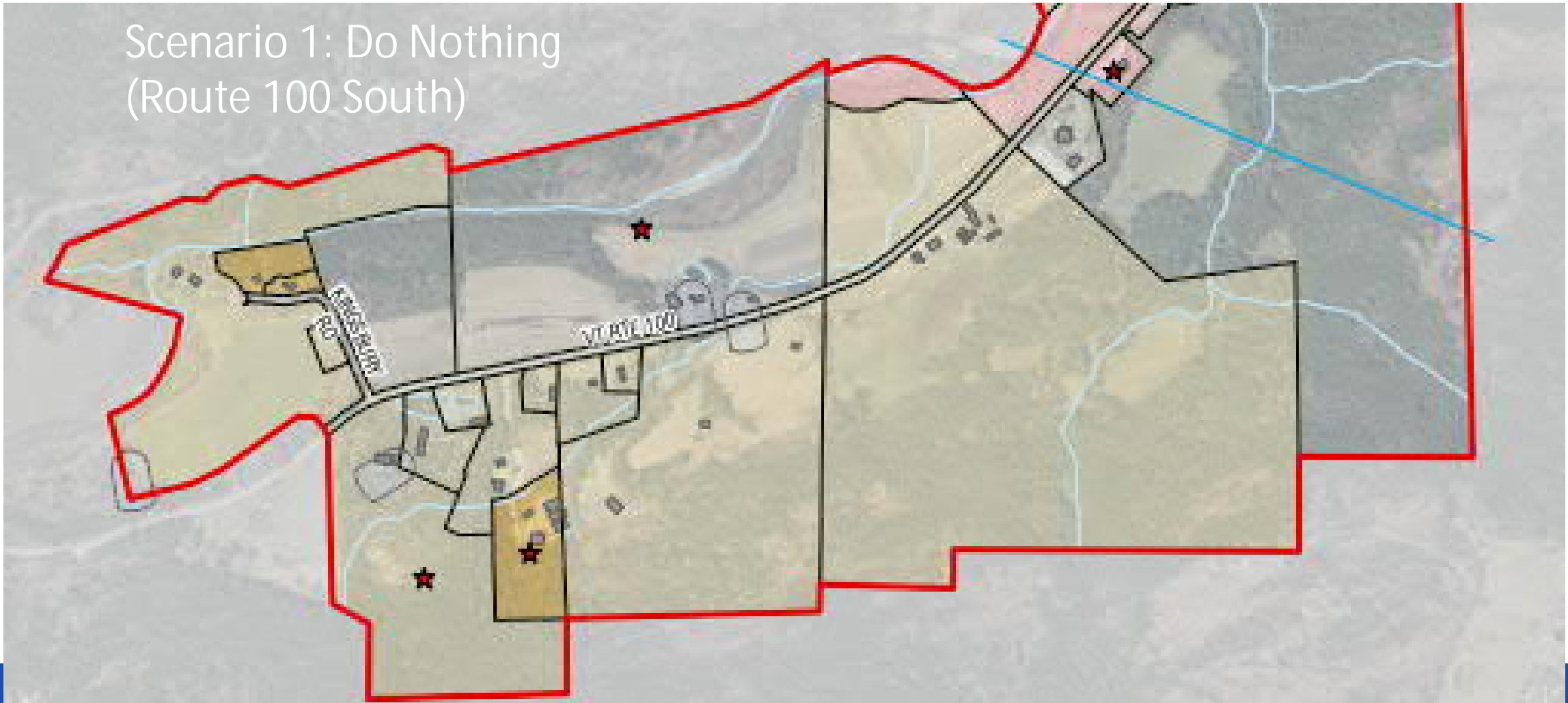
## 1. Do Nothing Alternative

Do not construct a community wastewater system in Waitsfield. Management of wastewater would continue to be the responsibility of individual landowners and limit the potential for infill and development of affordable housing within the village zoning districts.

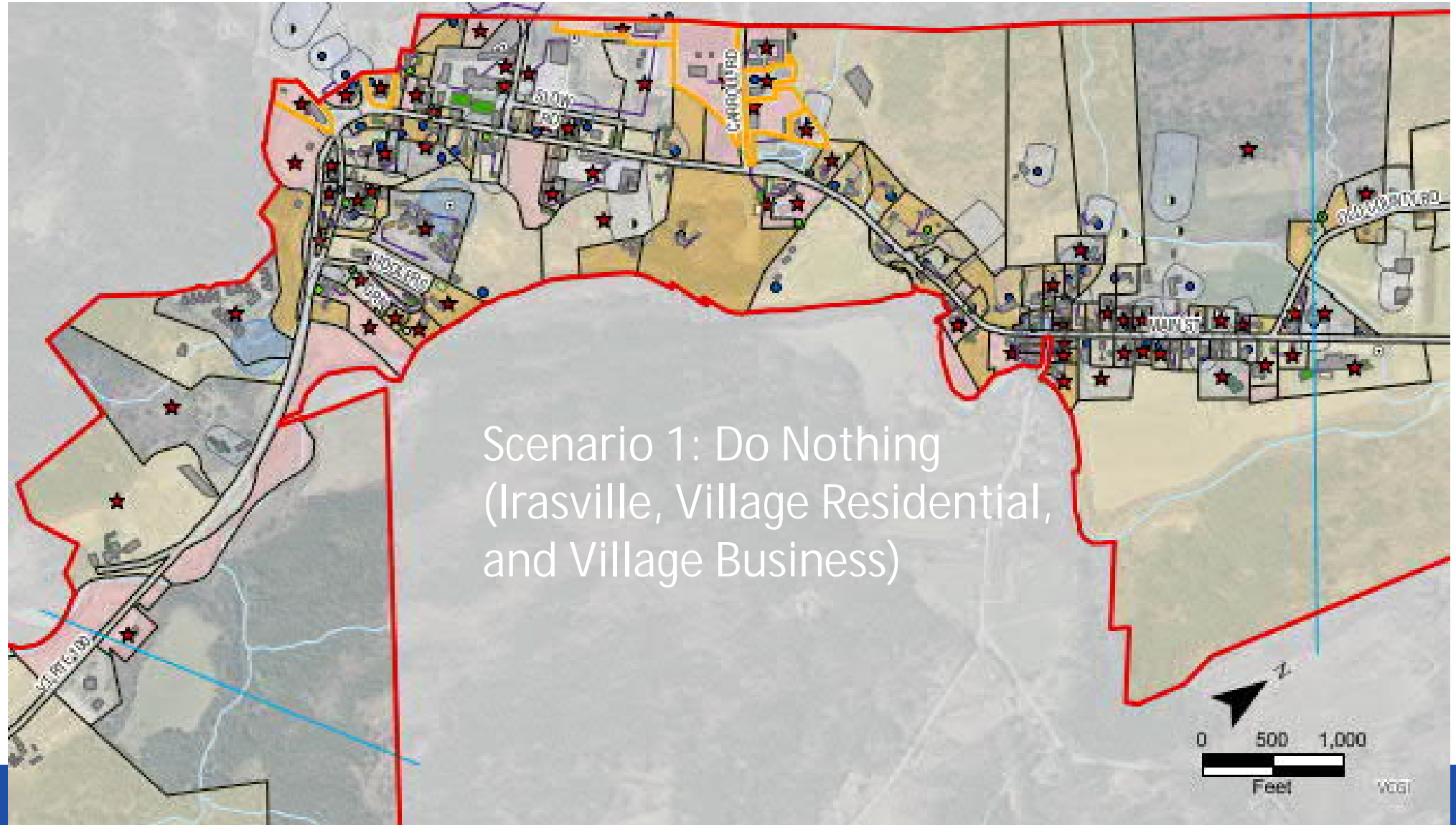
## 1A. Prioritize Flows from Area-Limited Lots and Parcels Without Fully Complying State-Permitted Septic Systems

This alternative would be implemented in combination with one of the wastewater alternatives below to reduce the size and cost of new wastewater treatment and disposal systems needed to accommodate some of the community's wastewater needs.

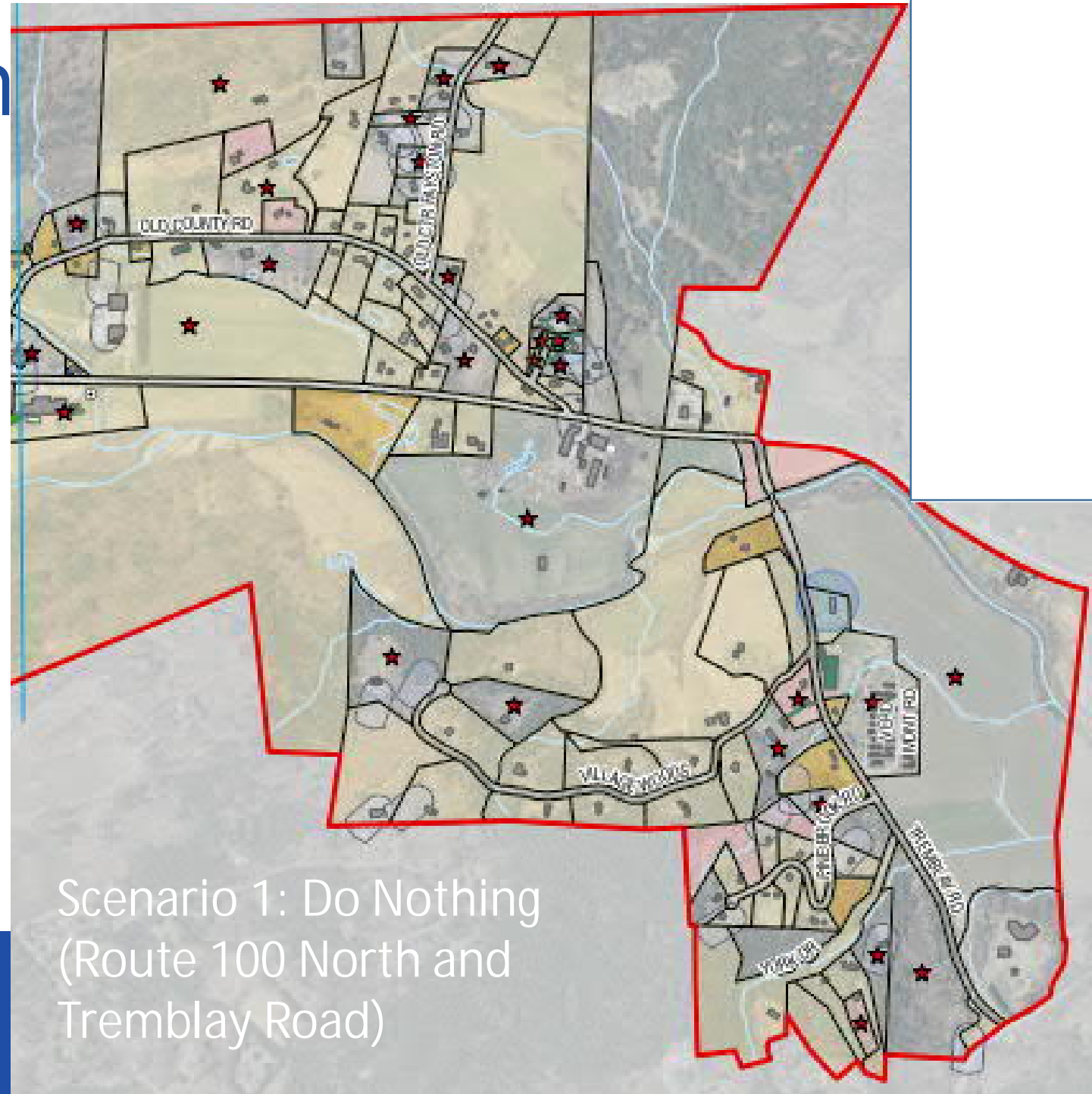
# Alternatives Evaluation



# Alternatives Evaluation



# Alternatives Evaluation



Scenario 1: Do Nothing  
(Route 100 North and  
Tremblay Road)

# Alternatives Considered

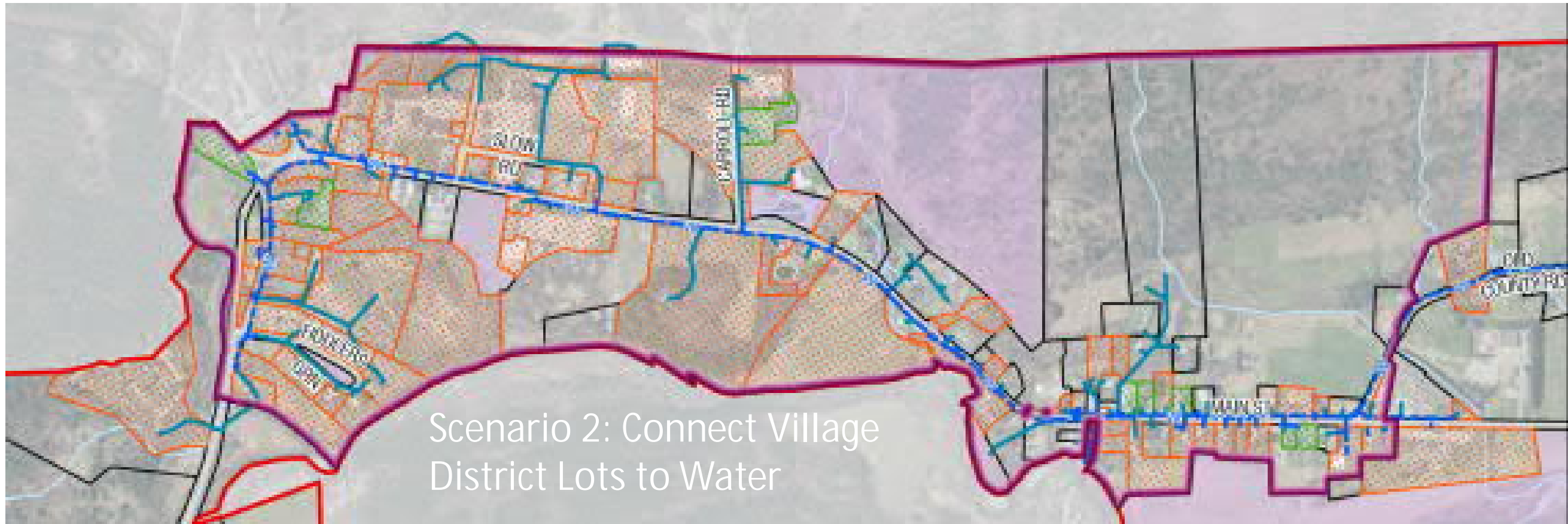
## 2. Connect Remaining Properties with Private Wells in the Irasville and Waitsfield Village Districts to the Water System

This alternative would remove the well isolation zones on existing lots within the villages, freeing up well-suited soils for in-ground wastewater disposal systems.

## 2A. Extend Municipal Water to South in Parallel with Sewer Collection System Buildout

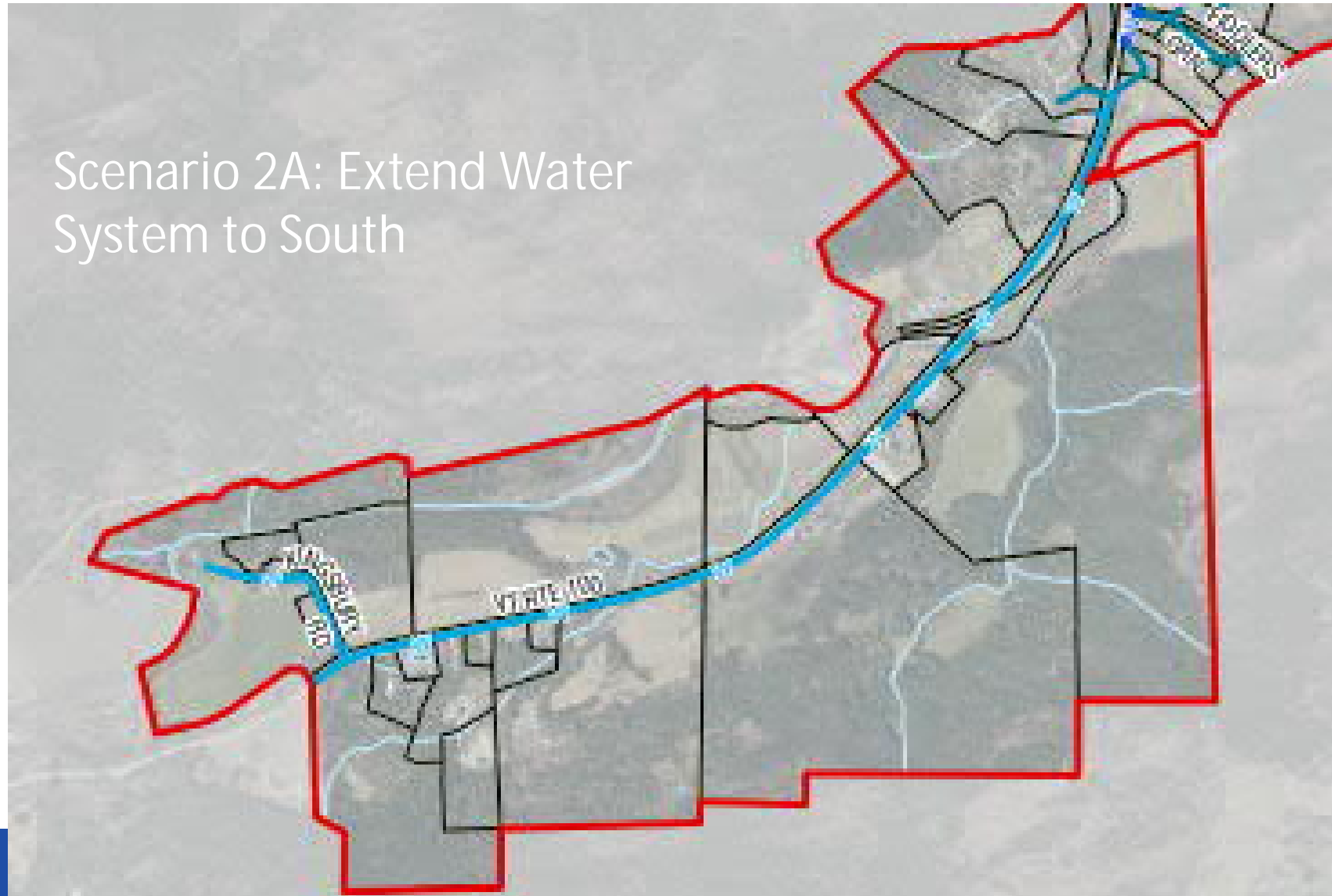
The existing municipal water system could be extended to the south from the current southerly limit near the Eagles Resort to serve the southern part of the study area and eliminate well shields overshadowing suitable soils in the southern part of the study area.

# Alternatives Evaluation



# Alternatives Evaluation

Scenario 2A: Extend Water System to South





# Alternatives Considered

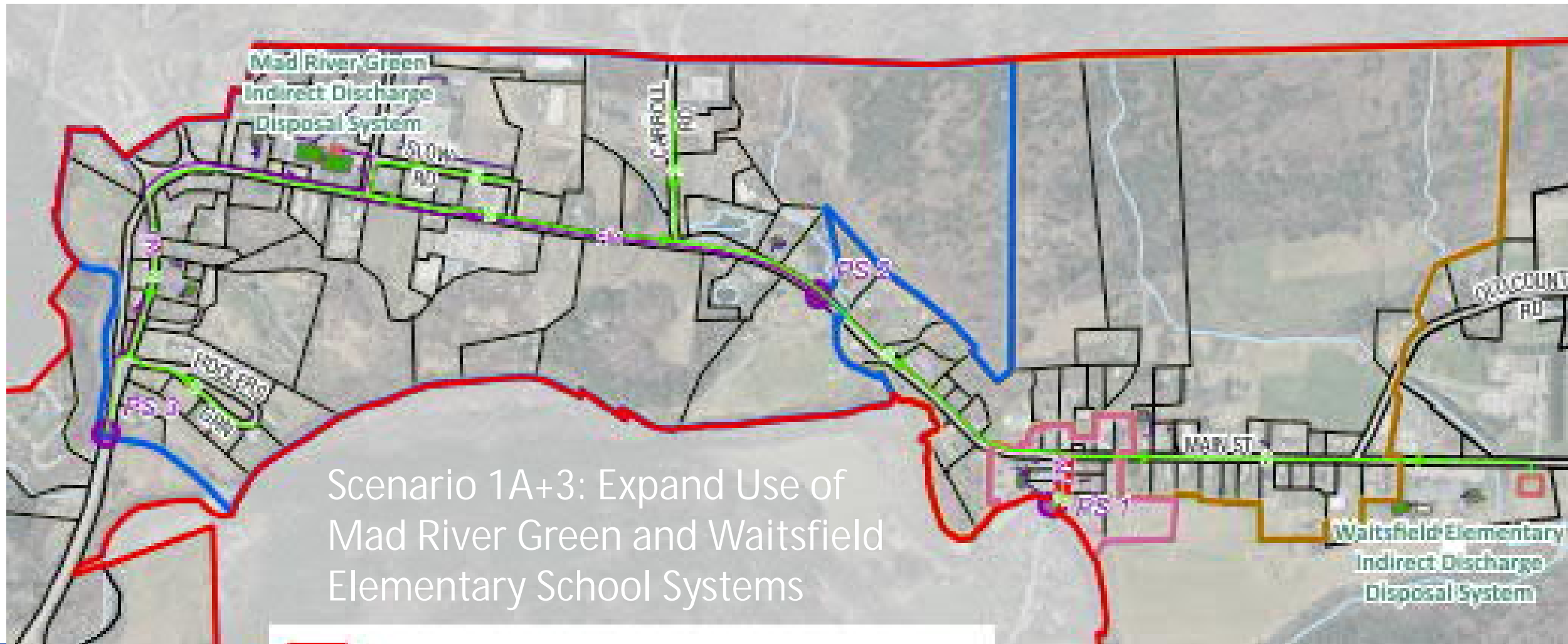
## 3. Provide Increased Disposal Capacity at Existing Wastewater Leachfields in Well-Suited Soils Within the Study Area

Existing capacities could be increased by expanding leachfields and adding advanced pre-treatment systems at Mad River Green and Waitsfield Elementary School.

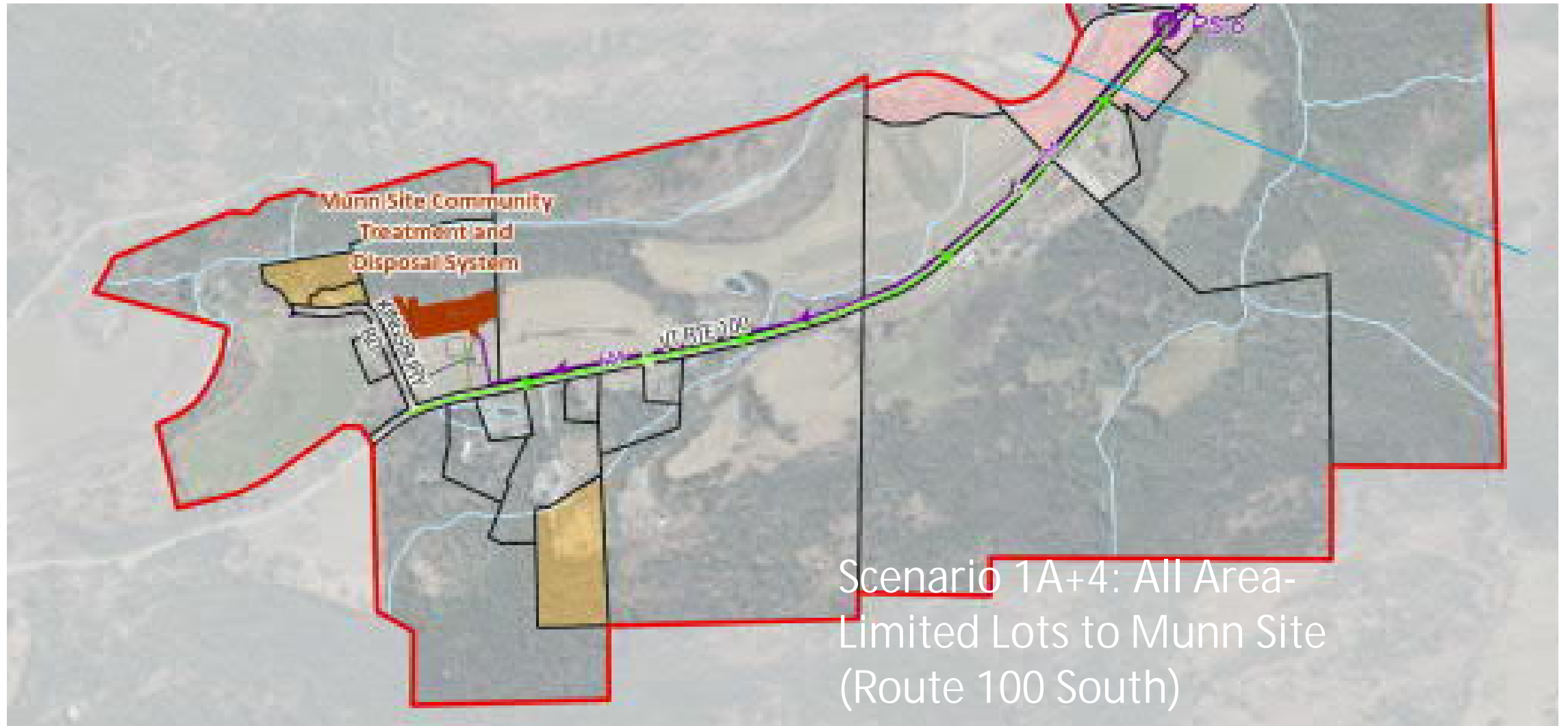
## 4. Develop Community Wastewater Systems on One or More Different Sites

Leachfields and treatment systems with the potential for substantial wastewater disposal capacity could be developed on the Munn site.

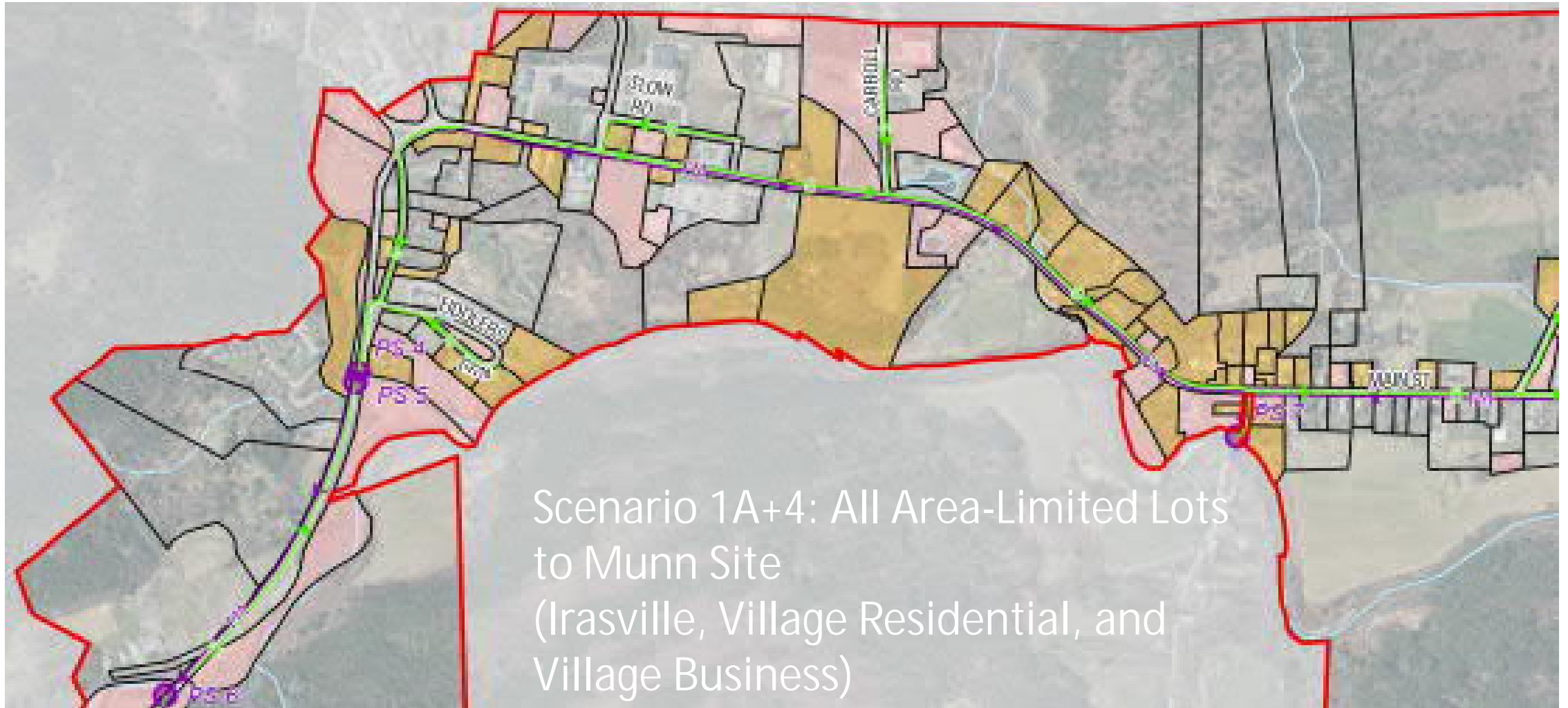
# Alternatives Evaluation



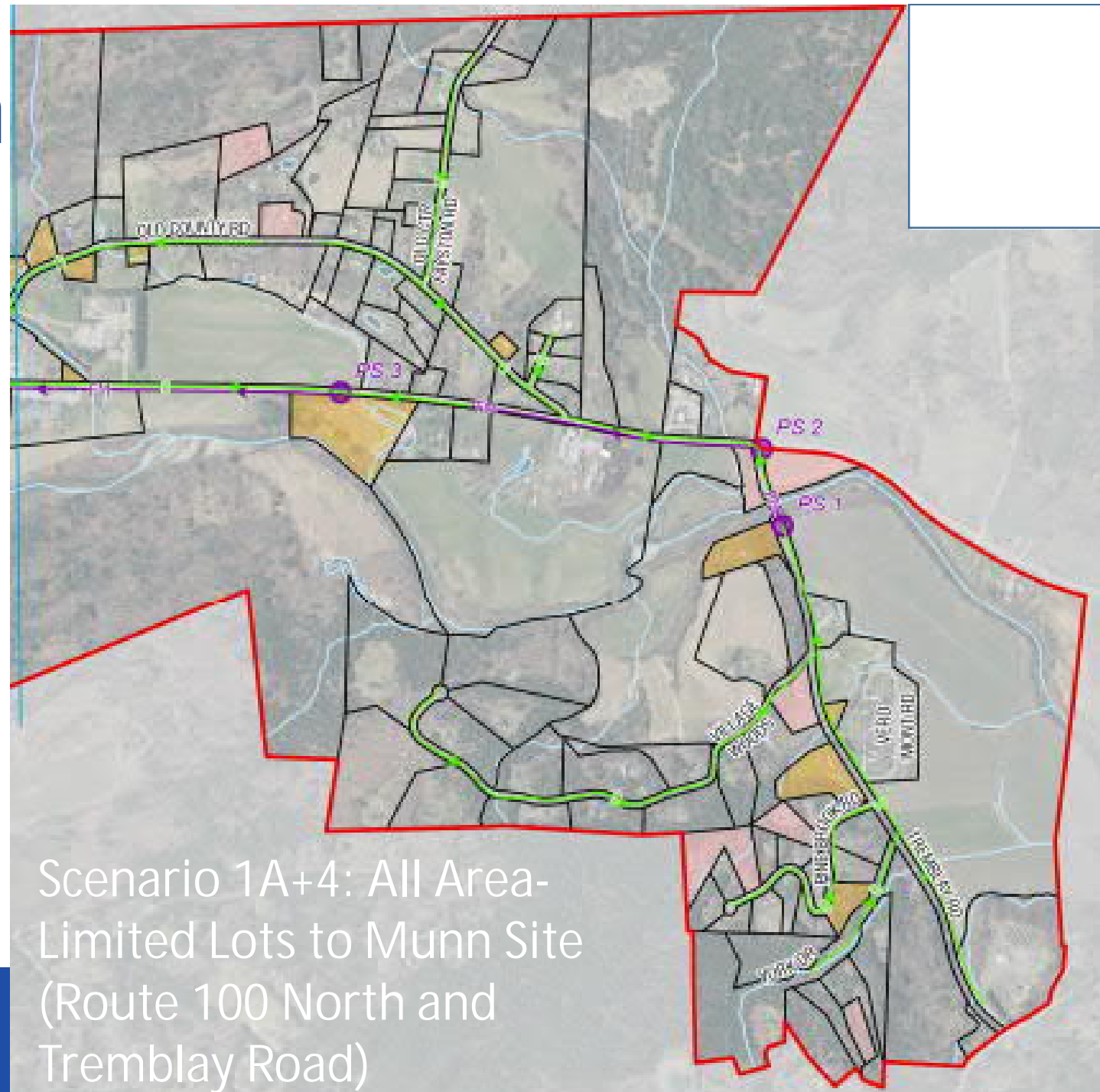
# Alternatives Evaluation



# Alternatives Evaluation

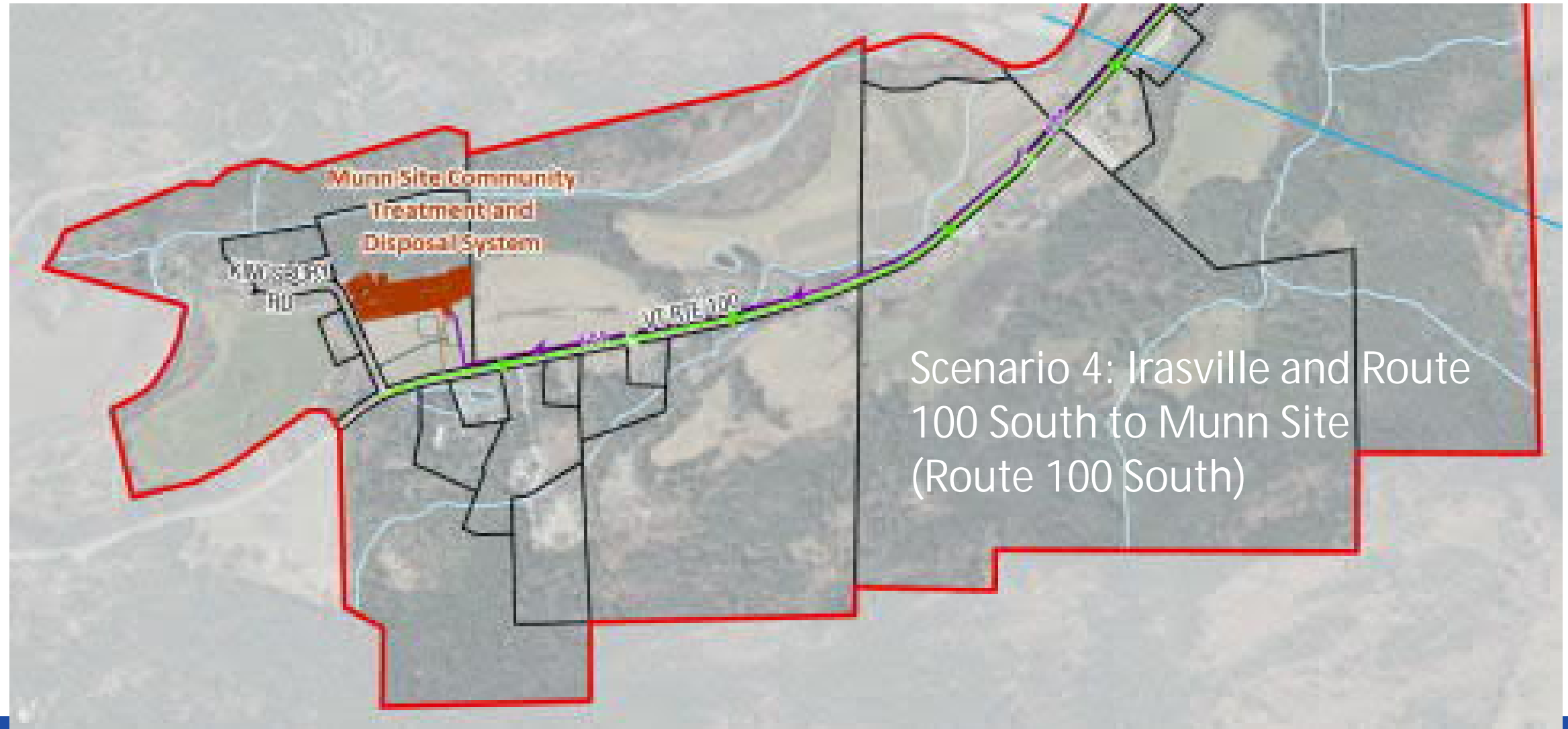


# Alternatives Evaluation

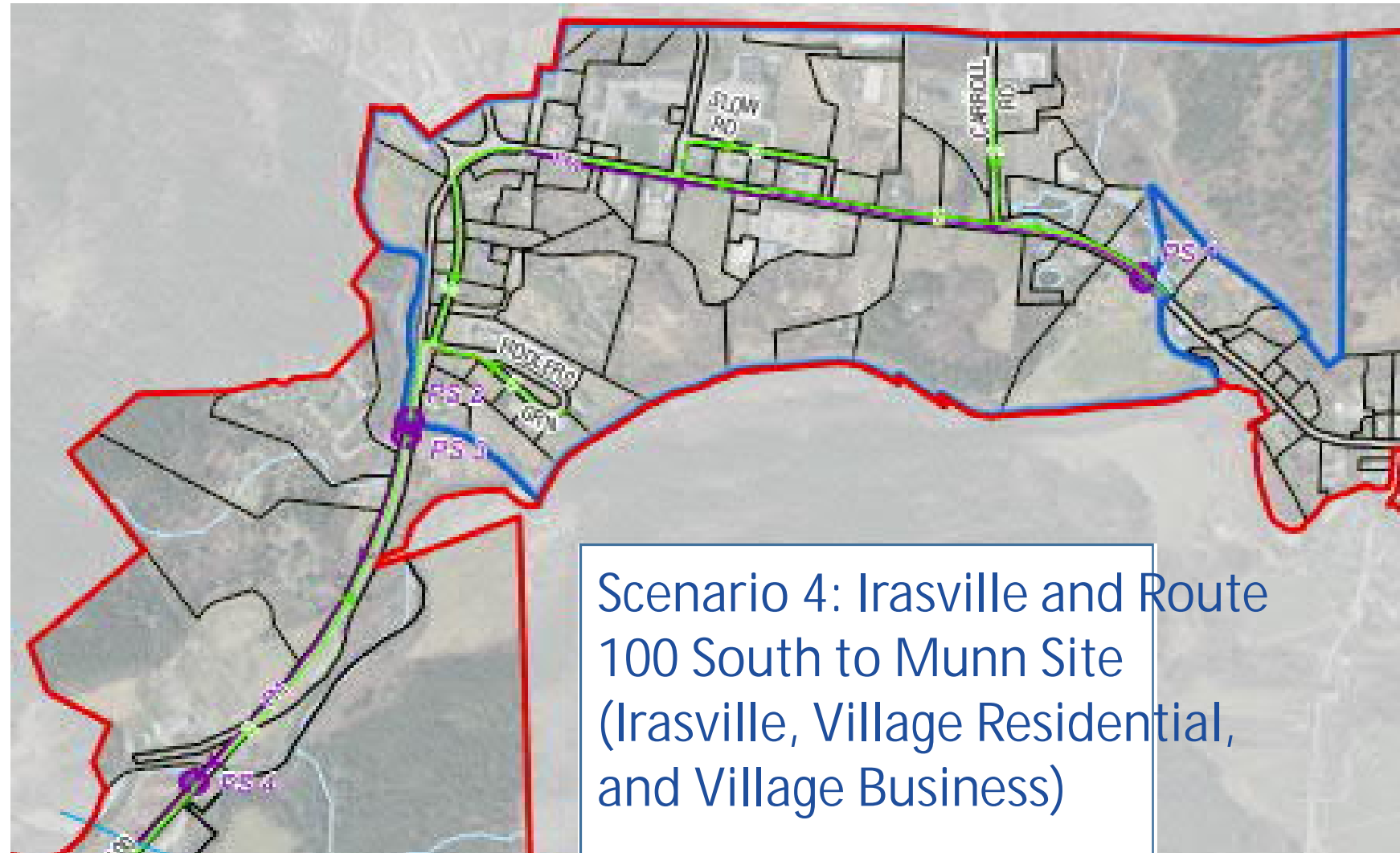


Scenario 1A+4: All Area-Limited Lots to Munn Site (Route 100 North and Tremblay Road)

# Alternatives Evaluation



# Alternatives Evaluation



# Alternatives Considered

## 5A. Clustered Community Wastewater Systems

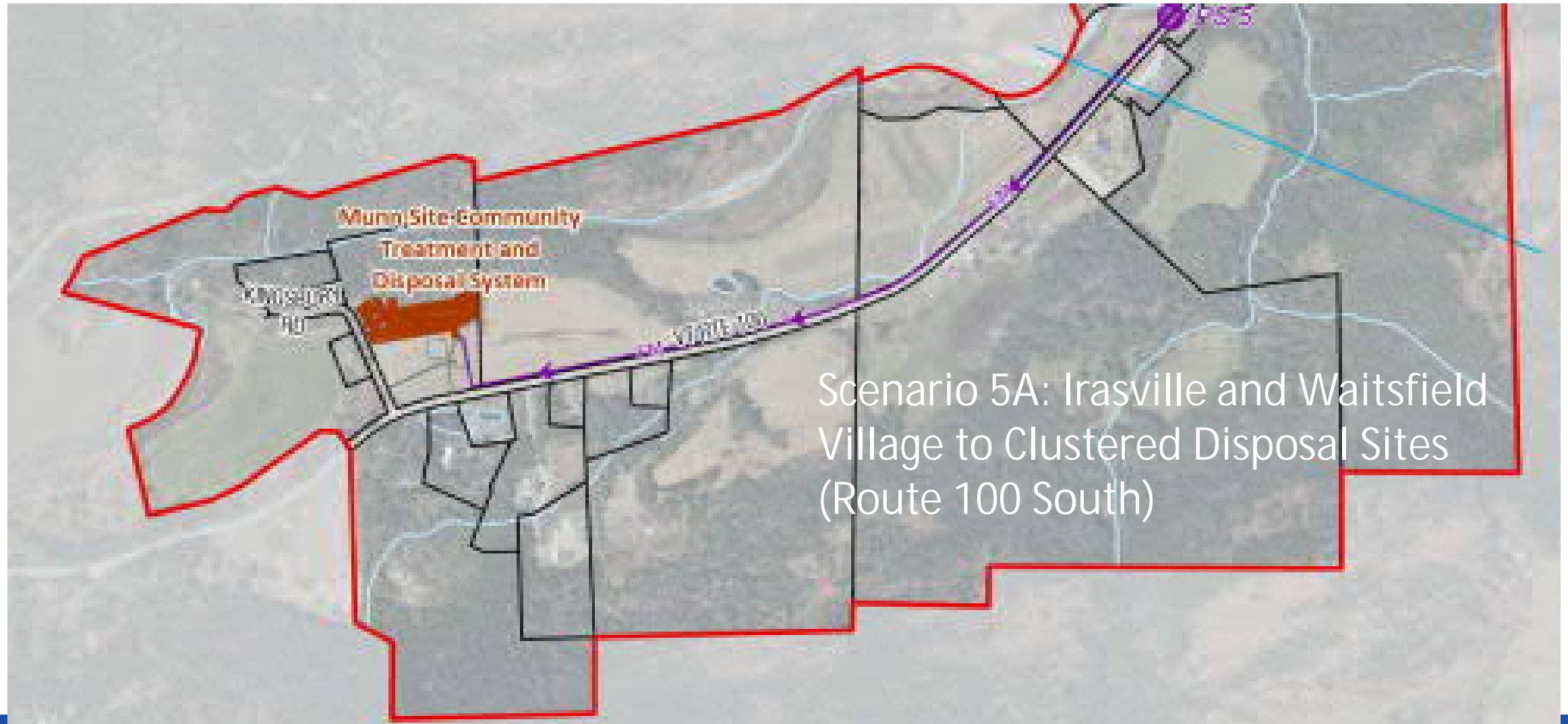
Develop the Munn Site treatment and disposal system and increase the capacity at Mad River Green and Waitsfield Elementary School by expanding leachfields and adding advanced treatment.

## 5B. Clustered Community Wastewater Systems

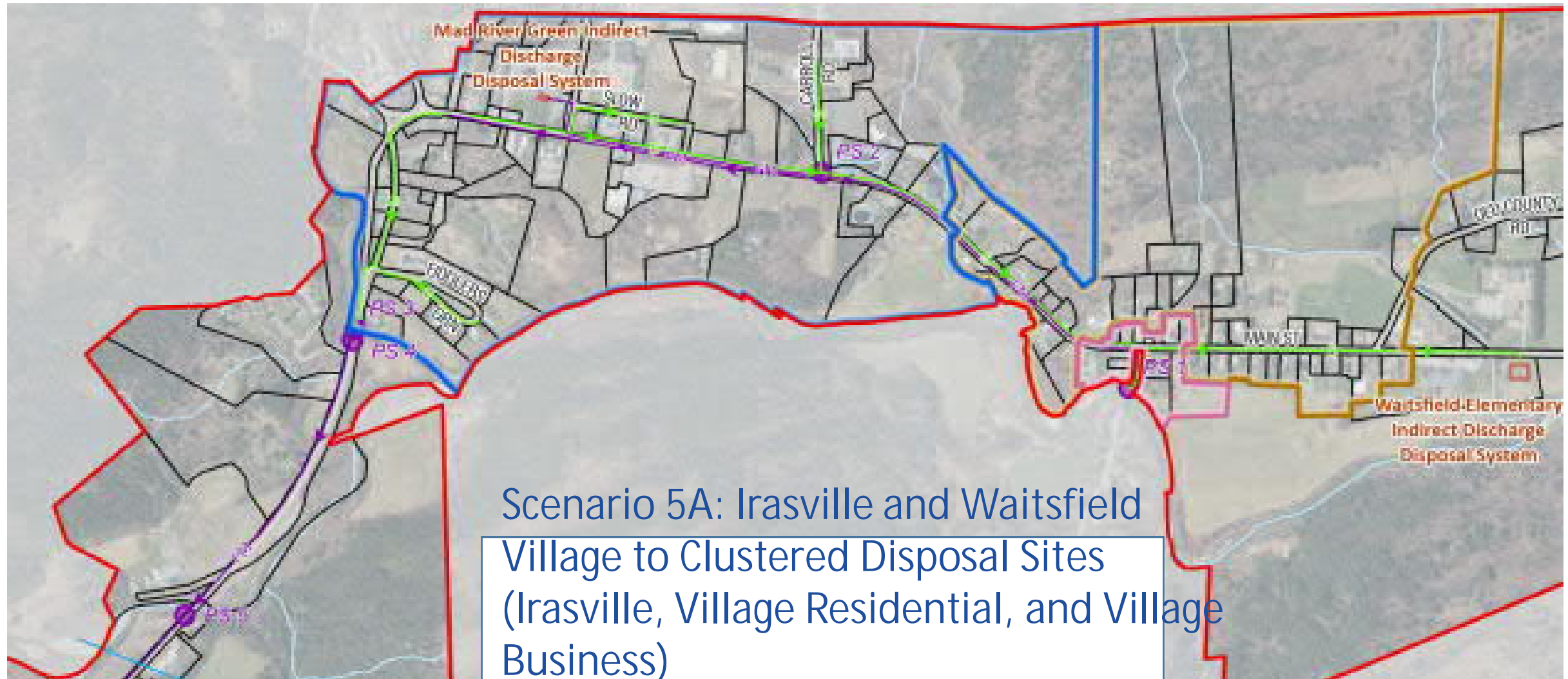
Develop the Munn Site treatment and disposal system and another new treatment and disposal facility in the north.



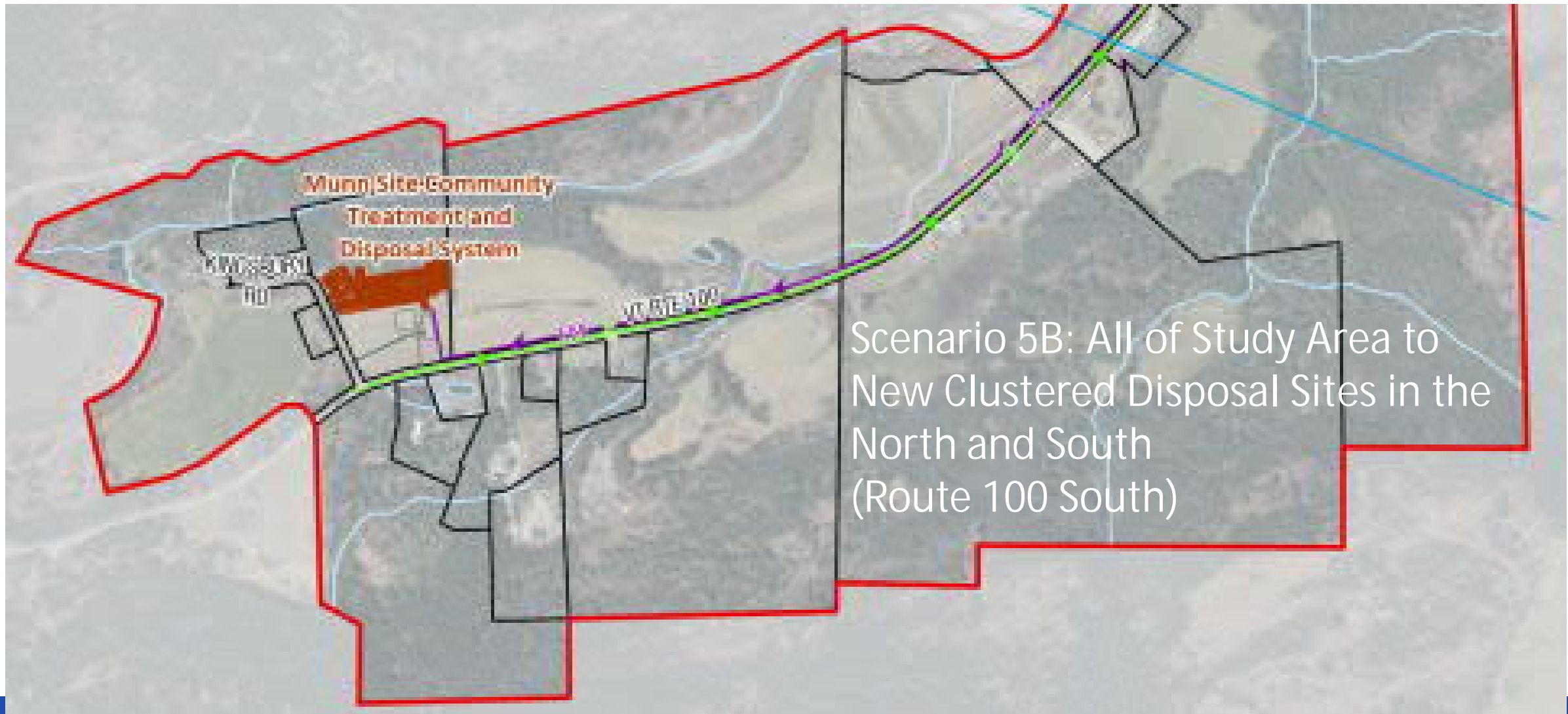
# Alternatives Evaluation



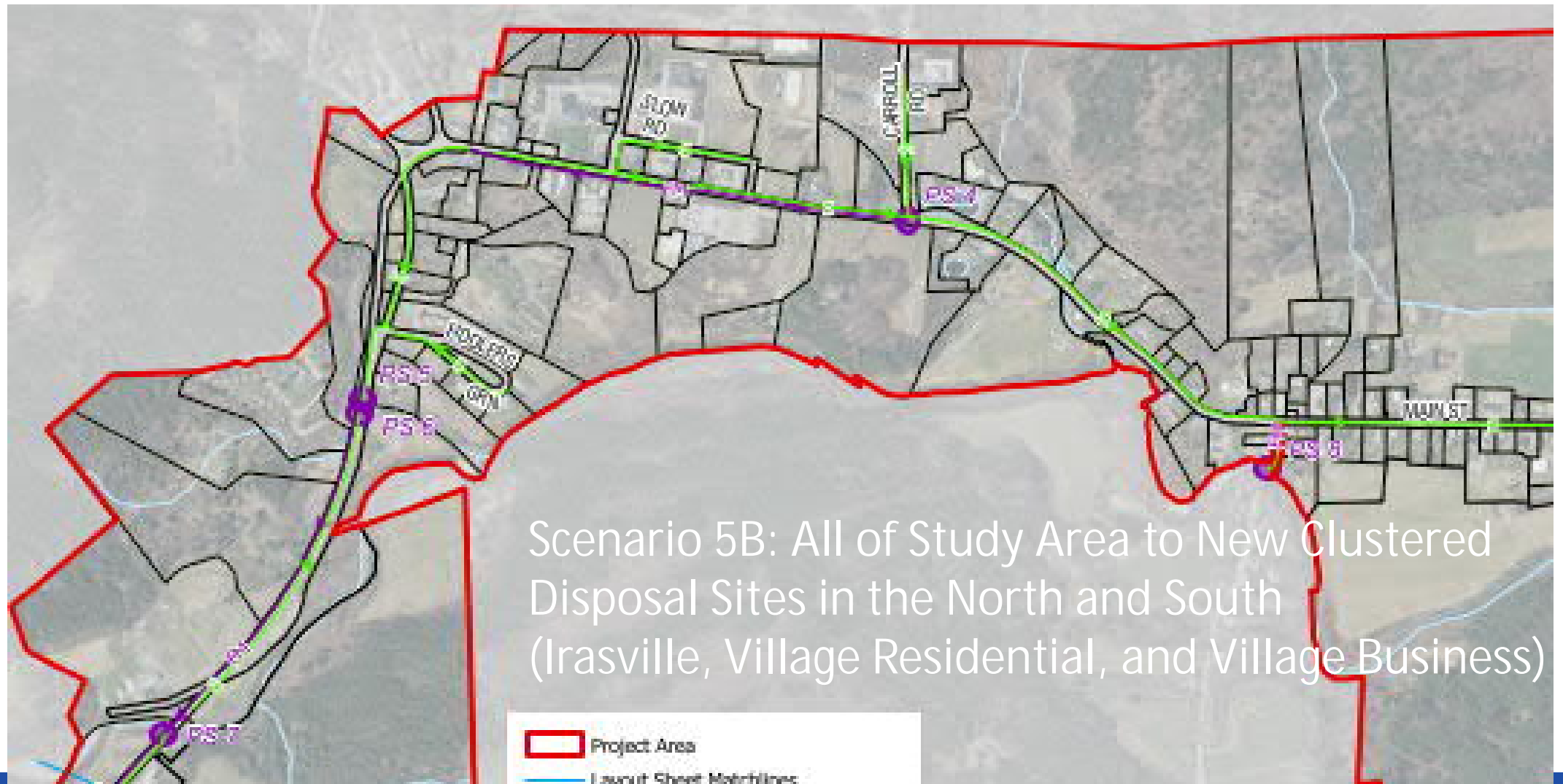
# Alternatives Evaluation



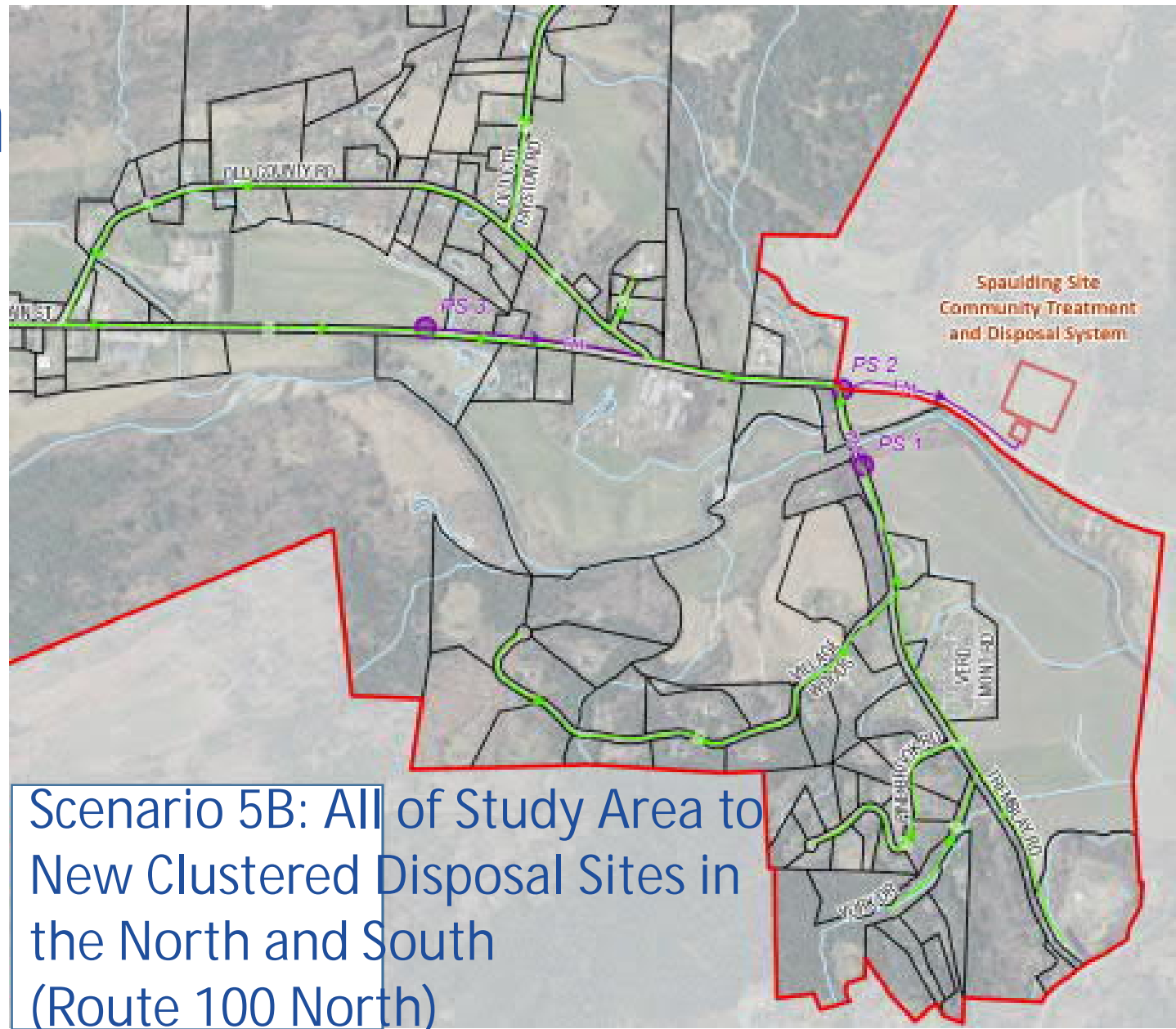
# Alternatives Evaluation



# Alternatives Evaluation



# Alternatives Evaluation



Scenario 5B: All of Study Area to New Clustered Disposal Sites in the North and South (Route 100 North)

# Alternatives Evaluation

## Project Costs Comparison

Scenario	Collection (or Distribution) OPCC	Treatment and Disposal OPCC	Engineering, Legal, Administrative, Land Acquisition	Total Project Capital Cost	Average Annual Operation Maintenance and Repair Costs	Estimated Users at Full Buildout (ERUs unless otherwise noted)
2	\$ 0.32 Mil.	N/A	\$ 42,800	\$ 0.36 Mil.	\$ 3,243	101.9
2A	\$ 1.66 Mil.	N/A	\$ 196,200	\$ 1.86 Mil.	\$5,559	25 parcels
1A+3	\$ 5.05 Mil.	\$ 1.13 Mil.	\$ 669,000	\$ 6.85 Mil.	\$ 90,574	119.0
1A+4	\$ 13.0 Mil.	\$ 2.75 Mil.	\$ 1,608,300	\$ 17.4 Mil.	\$ 95,968	416.7
4	\$ 5.78 Mil.	\$ 2.75 Mil.	\$ 905,100	\$ 9.44 Mil.	\$ 90,591	416.7
5A	\$ 7.31 Mil.	\$ 3.88 Mil.	\$ 1,203,900	\$ 12.4 Mil.	\$ 153,798	553.1
5B	\$ 13.4 Mil.	\$ 6.46 Mil.	\$ 1,999,500	\$ 21.9 Mil.	\$ 154,854	935.2

# Alternatives Evaluation

## Life Cycle Costs Comparison

Scenario	Total Net Present Value	Net Present Value per ERU
1 – Do Nothing	\$ 5.88 Mil.	\$ 16,936
2 – Village Water	\$ 0.42 Mil.	\$ 4,099
2A – Water Extension	\$ 1.78 Mil.	Not Calculated
1A+3 – Increase Existing Capacity in Irasville and Village	\$ 8.60 Mil.	\$ 72,291
1A+4 – All Area-Limited Lots to Munn Site	\$ 17.9 Mil.	\$ 42,995
4 – Irasville and Route 100 South to Munn Site	\$ 10.9 Mil.	\$ 26,274
5A – Irasville and Waitsfield Village to Munn Site, Mad River Green, and Waitsfield Elementary School	\$ 15.3 Mil.	\$ 27,620
5B – All of Study Area to Munn Site and a new Northern Site	\$ 23.6 Mil.	\$ 25,213

# Alternatives Evaluation

## Non-Monetary Factors Comparison

Criteria	Alternatives Scoring (Scale of 0 to 4, with 4 being most favorable)					
	1	1A+3 (with 2)	1A+4	4	5A	5B
1. Sustainability: Provide a replacement option for lots with aging leachfields and spatial limitations	0	2	3	2	3	4
2. Human health protection: Eliminate conflicts between well shields and leachfields	0	4	3	2	3	4
3. Water quality: Protect Mad River and wetlands	1	2	2	2	3	4
4. Smart growth/sustainability: Support residential and growth within planned growth area	0	1	2	3	3	4
Energy efficiency: Relative energy usage compared to other alternatives	3	3	2	2	2	1
Green infrastructure: Potential to incorporate green approaches	0	2	3	3	3	3
Permitting/easements: Simplicity of permitting and obtaining easements	2	3	3	4	2	2
Operation and management: Simplicity of operations and management of system	3	2	2	2	1	2
SCORING FOR FOUR HIGHEST PRIORITIES	1	9	10	9	12	16
OVERALL RELATIVE SCORE	8	22	21	21	20	24



# Recommended Approach

- Proceed with a Preliminary Engineering Report for planning and design of Scenario 5B and Scenario 2.
- The PER should include phasing of the buildout, starting with Scenario 4 and Scenario 2.
- Engage the landowners of the Mad River Green, Waitsfield Elementary School, and the Spaulding lot in discussions to seek permission for testing, assessment, and surveying of these potential treatment and disposal sites for potential inclusion in full buildout of Scenario 5B.
- Solicit community input from landowners in the study area regarding current and near future interest in connecting to a community wastewater system.
- Pursue funding opportunities to facilitate the affordability of constructing a new community wastewater system.

# Questions?