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ADDISON NATURAL GAS PROJECT – Phase 2
Middlebury Community Meeting

February 27, 2013

Middlebury VFW Post 7823

Agenda

- Vermont Gas
- Natural Gas Economics
- Review of the Addison Natural Gas Project
- Discuss the route selection process
- **Introduce Multi-Town Working Group**
  - **Define a pipeline route**
    - **Forms the basis for our permit applications**
  - **Invite Middlebury's participation**
- Schedule next steps

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Overview of Vermont Gas

Vermont's only natural gas utility, currently serving 45,000 customers in Franklin and Chittenden Counties

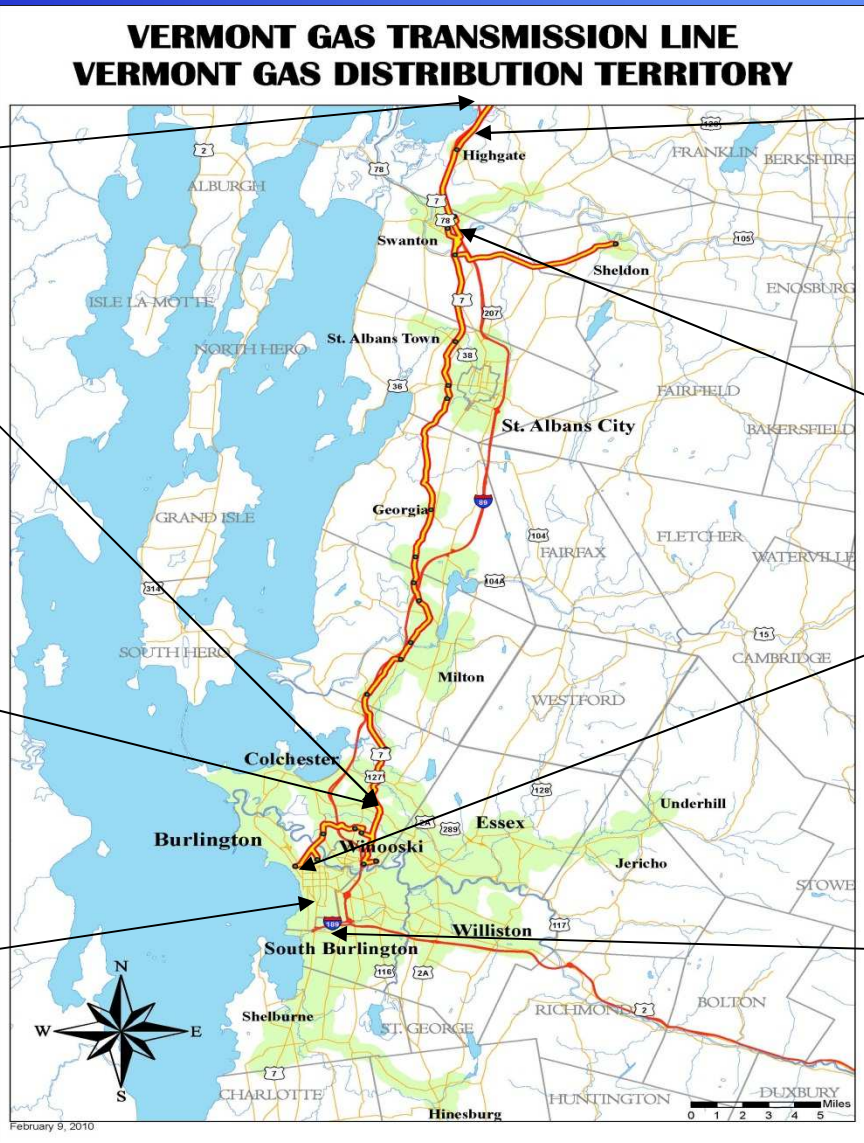
Established in 1965 after a state initiative to bring an alternative energy source to Vermont to support economic development

Regulated by the VT PSB

Holds the franchise for all of Vermont

Committed to safely bringing the economic and environmental benefits of natural gas to more Vermonters

Vermont Gas' Facilities



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Transmission Line – Chittenden & Franklin Counties

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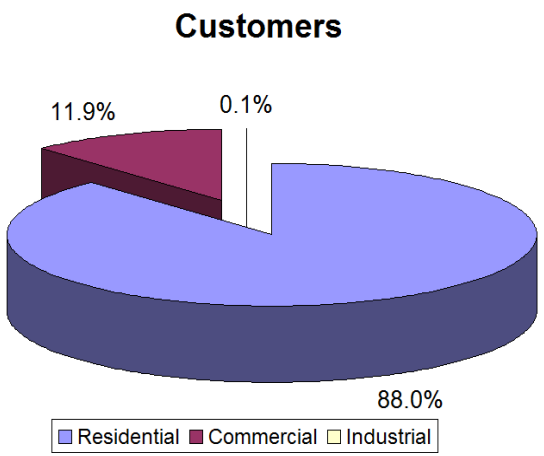
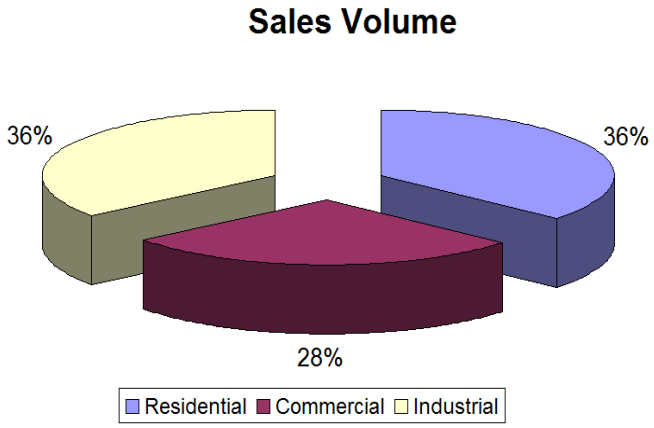
Vermont Gas Provides Natural Gas Service to 45,000 customers in Northwestern Vermont





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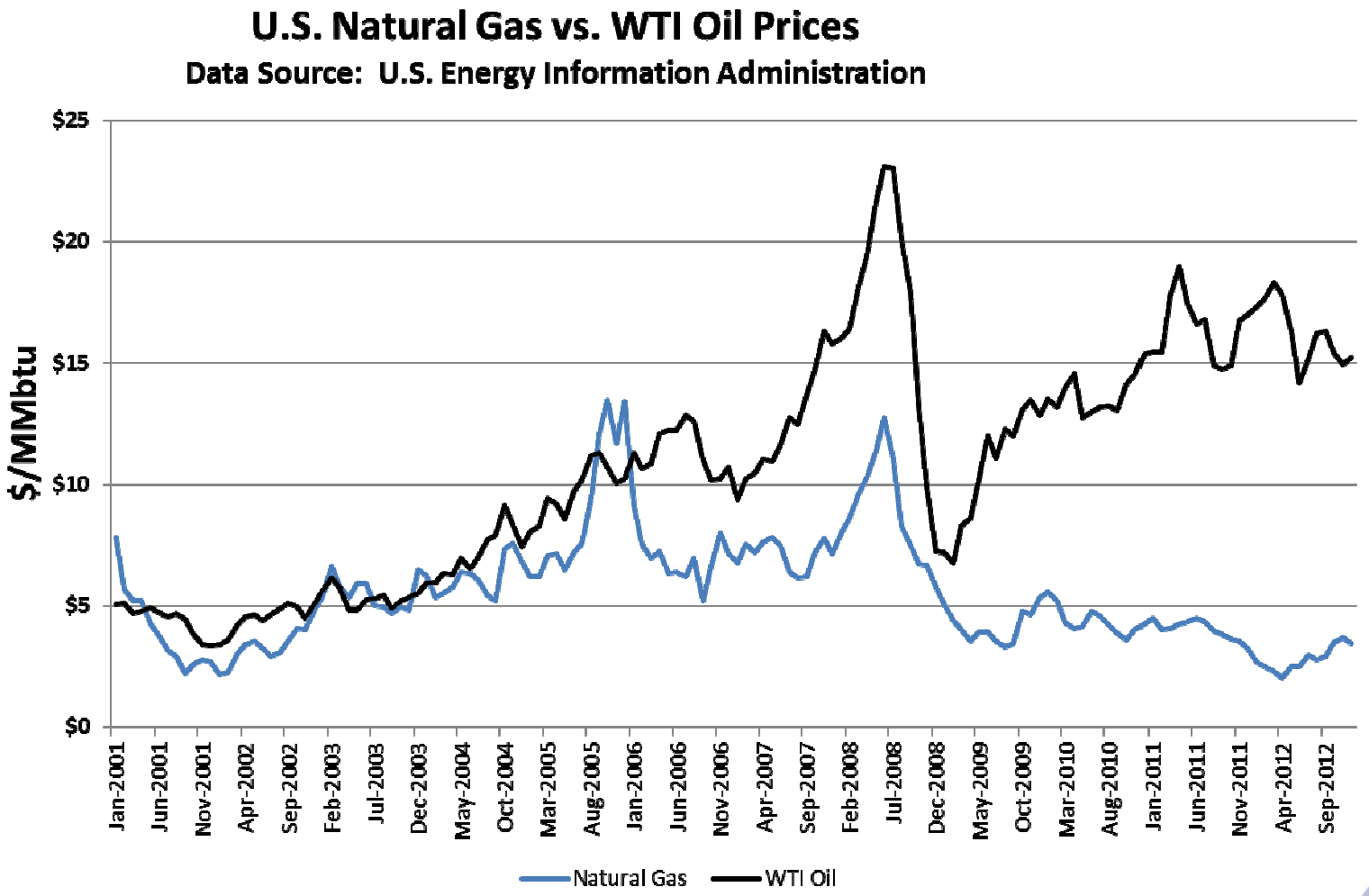
Natural gas prices are projected to remain relatively low, stable and very competitive well into the future



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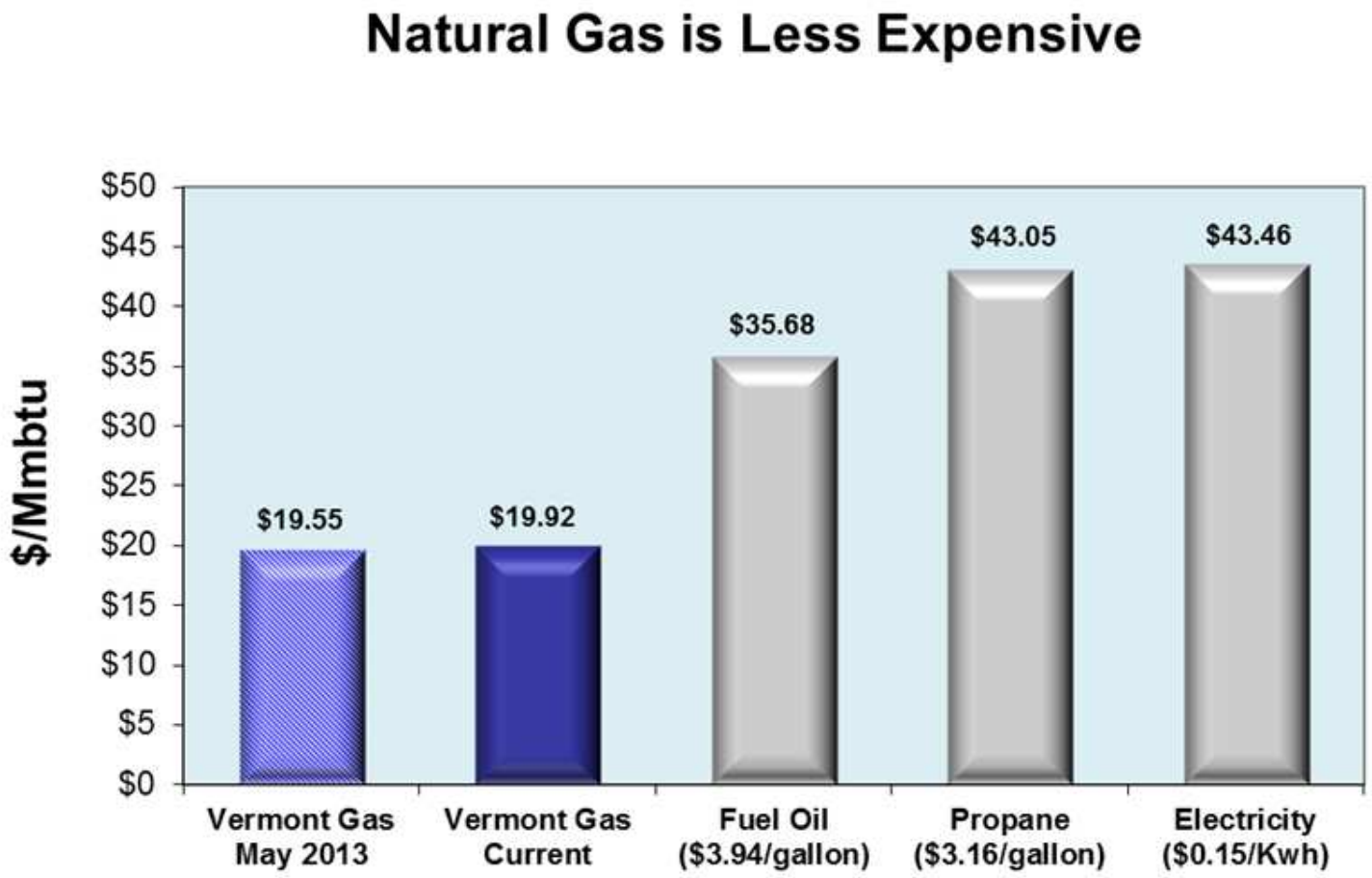
Natural Gas Prices Are Very Competitive

Natural gas costs 44% less than heating oil, 54% less than propane



Data Source: Vermont Department of Public Service February 2013

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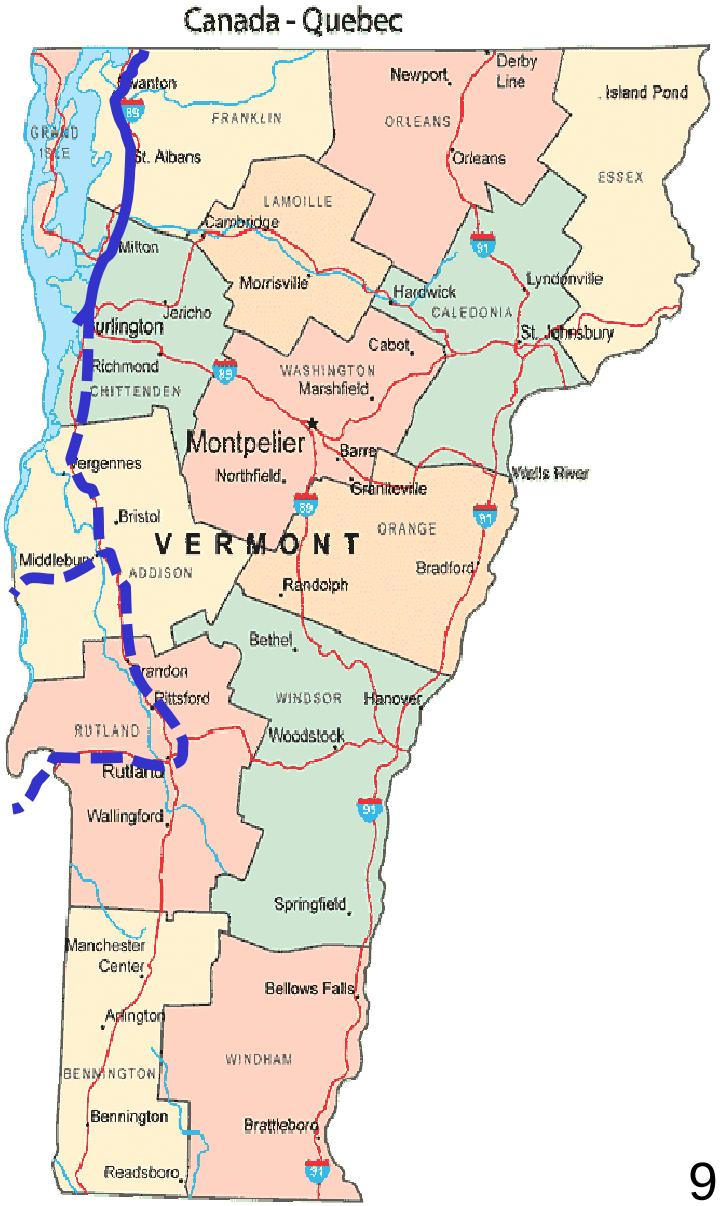
Long Term Expansion Opportunities



Long Term Expansion Concept:

- Extend natural gas service to new communities in Vermont and Interconnect to U.S. system

Challenges:

- The rural nature of the state limits infrastructure development
- Small markets and large investments make major expansions economically challenging

Solution:

- Expansion requires a long term commitment, creative thinking and broad public and private support

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Addison Natural Gas Project: Evolution

Pre-Ticonderoga

- **Strategy – Addison County Expansion**
  - First step in long term plan to serve Rutland
  - How far and fast to expand beyond Addison dependent on funds and markets available
- **Original Plan**
  - Transmission to Vergennes - 2014
  - Serve Middlebury & Vergennes - 2015
  - Rutland 25+ years out
- **Approached by International Paper in March 2012**
  - Long-term agreement reached in October 2012

Post-Ticonderoga

- **Strategy remained essentially the same**
- **Addison County is still the first step towards the long-term goal to serve Rutland**
  - New market supports faster expansion
- **New Plan**
  - Transmission to Middlebury - 2014
  - Serve Middlebury & Vergennes - 2015
  - Ticonderoga Mill - 2015
  - Bristol, New Haven, Monkton - 2016
  - Other communities - 2017, 2018
  - Rutland 15 years earlier

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Ticonderoga Paper Mill Service: Benefits

- **Environmental**
  - Displaces heavy fuel oil burned at the Mill significantly lowering it's fuel costs
  - Helps reduce regional greenhouse gas emissions
- **Economic**
  - Improves the economic vitality of the Mill and the region supporting over 1,200 jobs
  - Extends Vermont's natural gas pipeline network 17 miles closer to Rutland – at no cost to Vermont ratepayers

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2 Phase Project

- **Transmission Mainline Pipeline:** About 42 miles of 12-inch transmission mainline in Chittenden and Addison counties

- 3 - 5 Gate Stations

- **Distribution Mainline:** Approx. 4.8 miles of distribution pipeline

- **Local Distribution Networks:** Small diameter distribution pipeline networks

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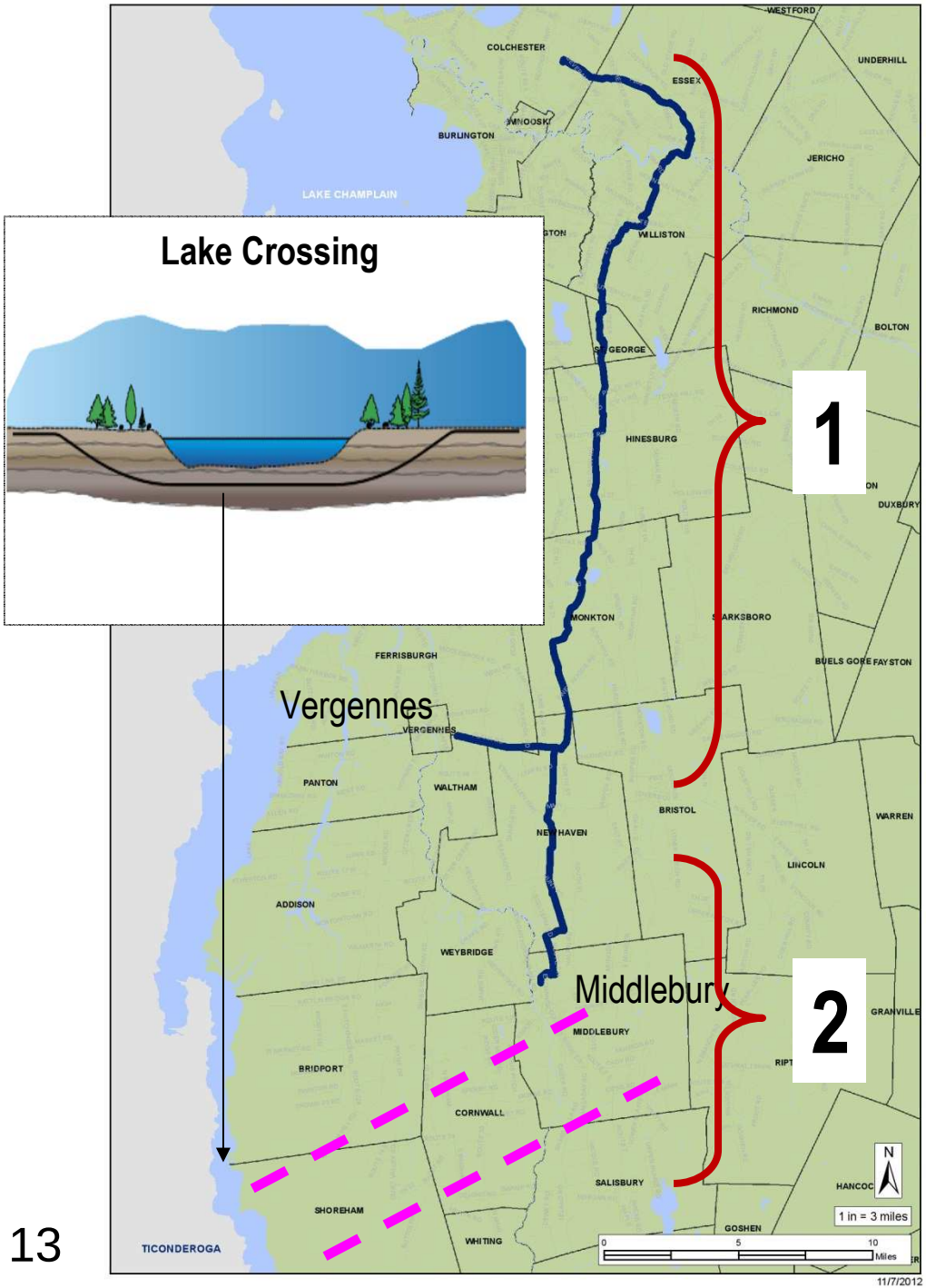
➢ **Ticonderoga Paper Mill:** 10” transmission line; route to be determined; looping north



Phase 2 Project Description

- **Natural Gas Transmission Line**
  - Extension ≈ 10 miles south towards Brandon and Rutland
  - Lateral ≈ 14 miles to IP via Middlebury, Cornwall & Shoreham
  - Crossing = ½ mile length of pipe beneath Lake Champlain
- **Phase II Customers**
  - IP Ticonderoga
  - Conditionally
    - Cornwall and Shoreham – 2017, route dependent
    - Subject to Service Criteria Guidelines
- **Pipeline Characteristics**
  - Approximately 24 miles long of 10” and 12” diameter welded steel
  - Buried in a trench, 3’ to 5’ deep
  - Cathodically protected, designed to last > 100 years

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Benefits & Tradeoffs

- **Project Benefits**
  - Reduced Operating Costs
    - Significant savings when compared to heating oil
  - Carbon Dioxide Reductions
    - Natural gas burns 25% cleaner than heating oil
  - Town Tax Revenues
    - Approximately $30k - $40k per mile of transmission line (based on 2% tax rate)
  - Regional Economic Development
    - Strengthens overall economy
- **Impacts**
  - Natural Resource
    - Tree removal and some temporary wetlands disturbance
  - Local Impacts
    - Temporary roadway construction
  - Property Values
    - Not materially impacted by transmission line

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Route Development Process

1. **Capacity to Serve Load**
   - Load demand drives pipeline sizing
2. **Constructability Survey**
   - Ledge, terrain, etc.
3. **Community Dialogue**
   - Local knowledge input
4. **Environmental & Archeological Studies**
   - Permitting and natural resource preservation
5. **Right-of-Way Alignment**
   - Route developed based on collected data
6. **Design Basis**
   - Additional modeling forms the basis for pipeline routing

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Routing – Constructability

- **Considerations**
  - Pipeline integrity
  - Cost
  - Wetlands
  - Ledge and rock
- **Mitigation Measures / Work Arounds**
  - Route refinements
  - Alternative construction techniques
    - — Directional drilling

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Routing – Natural Resource & Archeological

- **Considerations**
  - Farmland / Agricultural Soils
  - Deer Wintering Areas
  - Trees & Aesthetics
  - Wetlands / Stream Crossings
  - Rare, Threatened or Endangered Species
  - Habitats
- **Mitigation Measures / Work Arounds**
  - Avoid if possible, minimize impacts
  - Restoration
- **Farmlands**
  - Farming over buried pipeline largely unchanged

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Routing – Land Owner Access

- **Considerations**
  - Access to property for surveys and studies
  - Physical access allows for better decision-making
- **Mitigation Measures / Work Arounds**
  - If no access allowed then use desktop surveys
    - — May result in incomplete analyses
- **Easements**
  - Vermont Gas will negotiate with individual land owners and pay for easements to build on private land
  - Valuation of property is based on assessed and appraised values
  - We will work to compensate landowners fairly

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Local, State and Federal Permits

- **Permits Applied For Once Route Chosen**
  - Optimal route presents the best chance of permitting success
- **Federal**
  - U.S. Army Corps of Engineers, FERC
- **State**
  - Public Service Board – Certificate of Public Good
  - Agency of Natural Resources
  - Division of Historic Preservation
  - Section 1111 Roadway Construction Permit (State Hwy.)
  - NY Public Utilities Commission
- **Towns of Middlebury, Cornwall & Shoreham**
  - Local Construction Permits

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Route Alternatives

- **Several Possible Routes So Far**
  - No route chosen
- **Preliminary Analysis**
  - Based on desktop surveys and existing public information
  - Preliminary field work from mid-2012
  - Additional resident / community input to define optimal route
  - Each will have relative advantages and disadvantages
- **Two Segments to the Phase II Project**
  - Extension (From Middlebury South)
  - Lateral (West to Ticonderoga)

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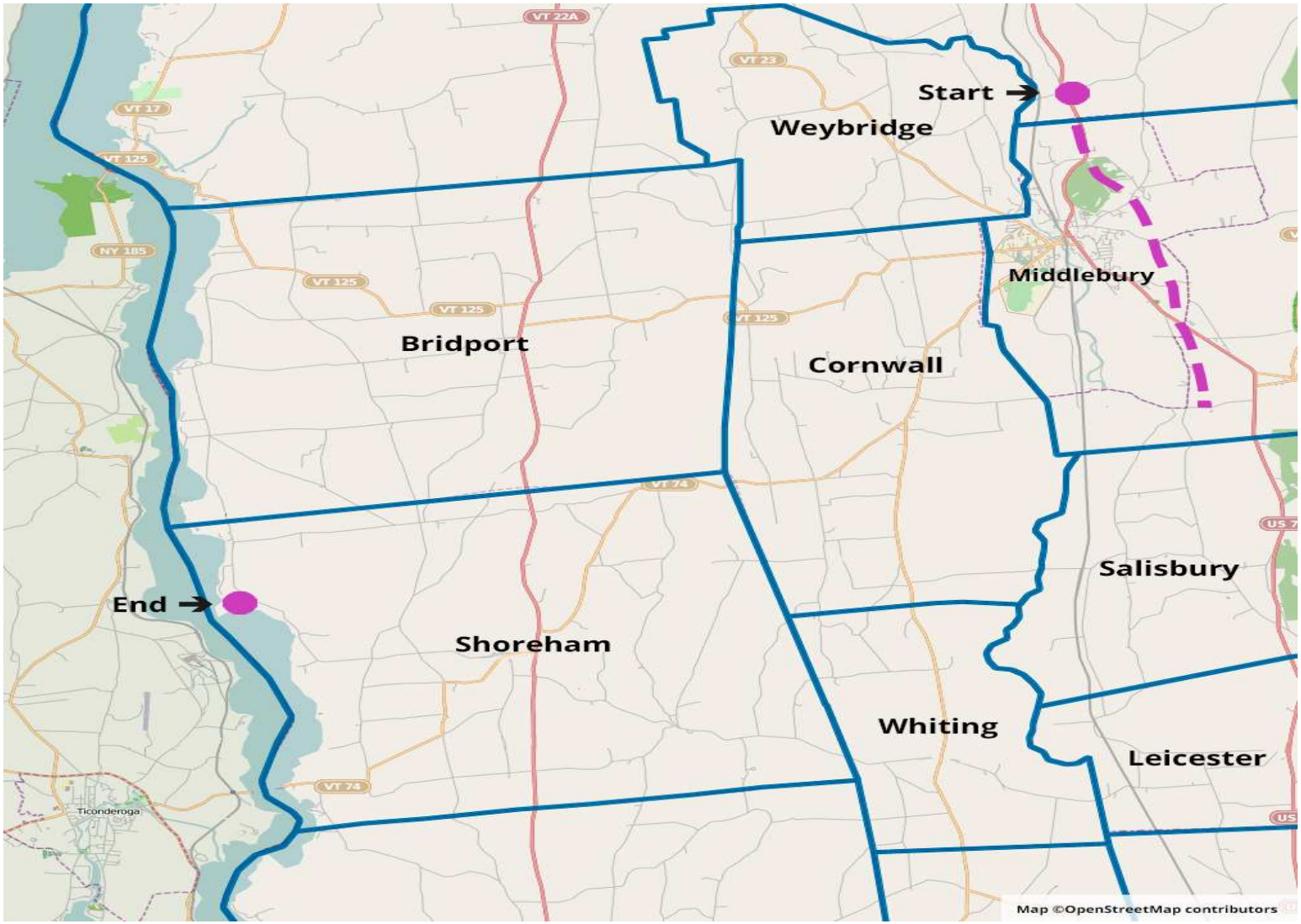
Possible Extension Corridor - Middlebury South



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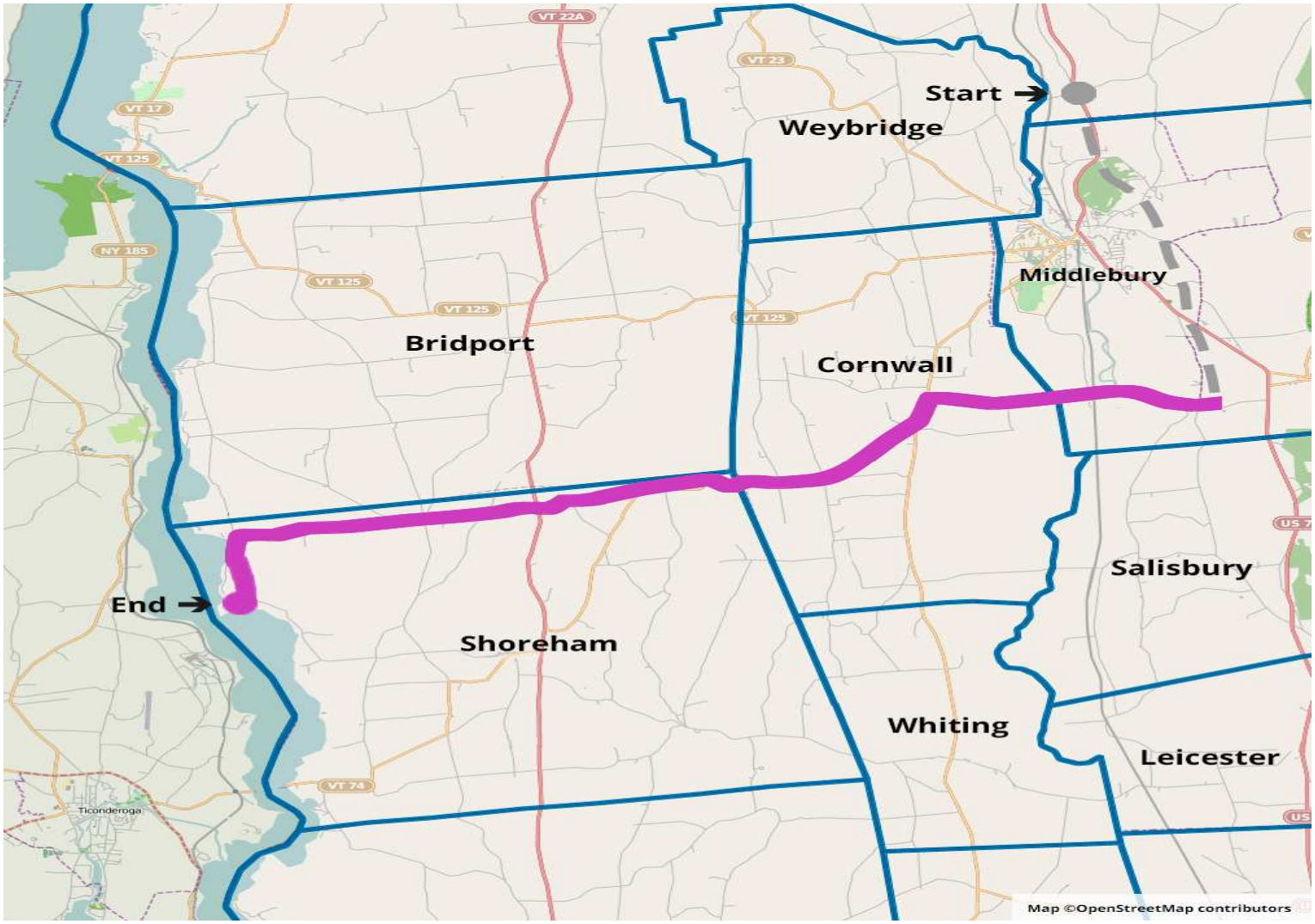
Lateral Option – A (Primarily Roadway)



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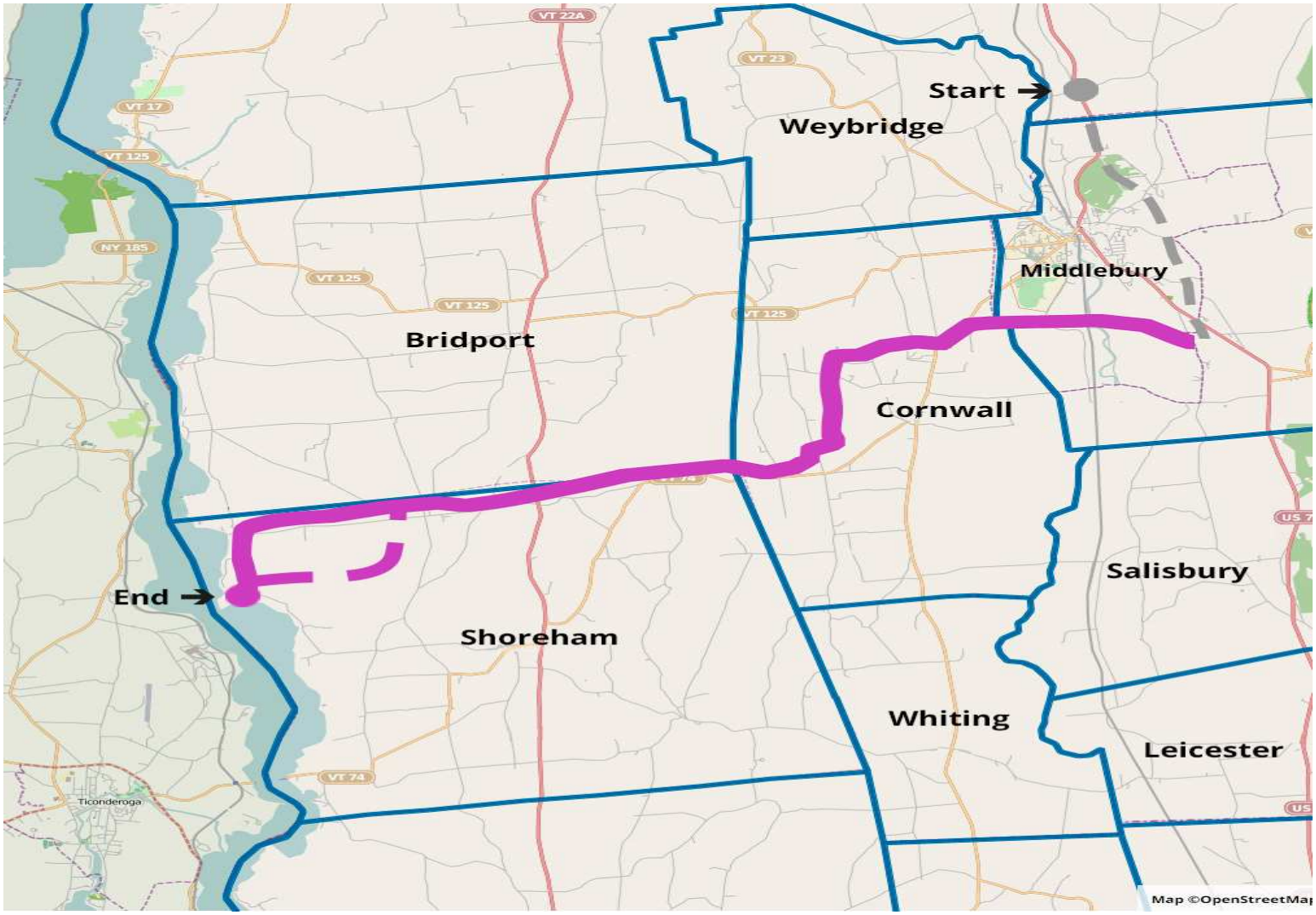
Lateral Option – B (Primarily Cross Country)



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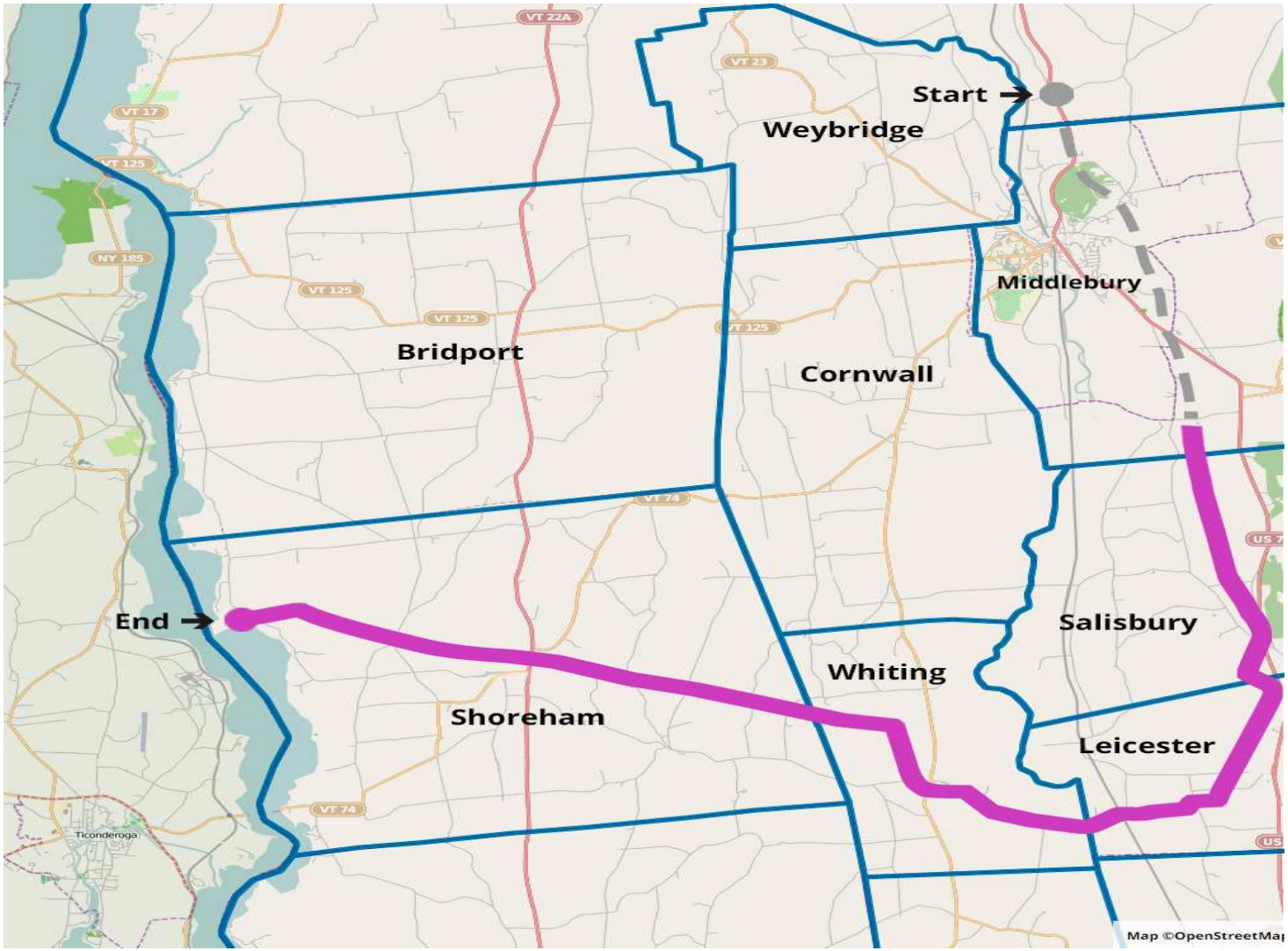
Lateral Option – C (Southern Route)



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Other Route Possibilities?

- **Discovered Through Route Selection Process**

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Proposed Route Selection Process

- **Multi-Stakeholder Working Group**
  - Shoreham, Cornwall and Middlebury Residents
  - Addison County Regional Planning Commission
  - VTrans, Middlebury College
  - Work with Vermont Gas and its consultants
- **Review Possible Route Options**
- **Short List Viable Routes**
  - More detailed review
  - Route refinement if possible
- **Finalize Route Selection**
- **Present Back to Towns**

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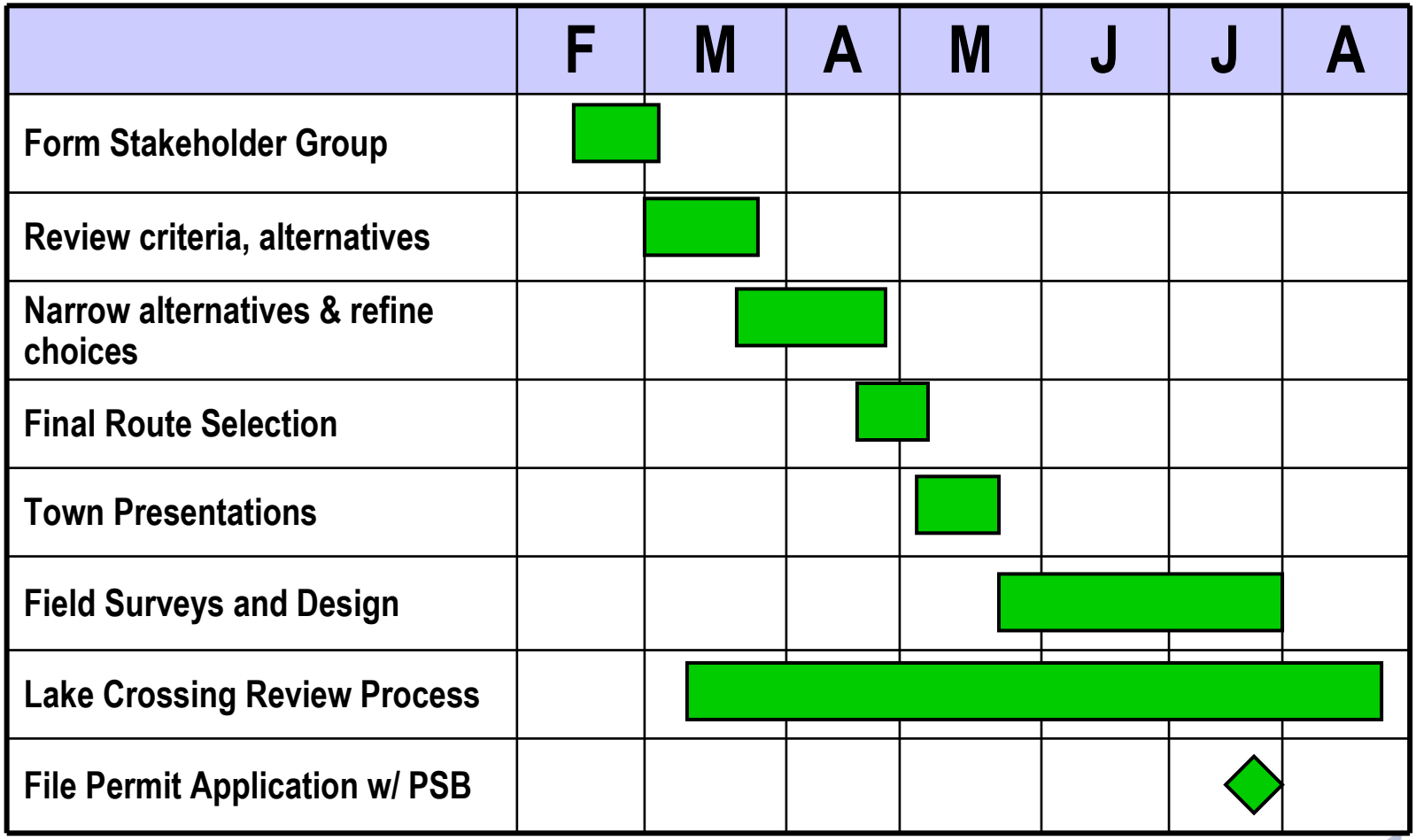
Proposed Process Schedule



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Questions? Comments?

Thank You

www.addisonnaturalgas.com

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