Providing Microduct Distributed Split Fibre Solution in Shelter Valley Area
Project Problem Statement

A technology solution required to provide a high-resilience and high-performance solution to rural Ontario communities located in a valley making access to residential broadband or high-speed internet access difficult.
Selected Service Provider

Algonquin Fiber is committed to providing fast, reliable and affordable internet to rural communities using FTTH technology.

- Headquartered in Dwight, Ontario
- Consortium of strong technology partners
- Extensive experience in residential and commercial broadband deployment in Ontario
- Innovative approach to fibre installation and material cost reduction
- Great customer support and service
Township of Alnwick/Haldimand (Shelter Valley Road)

- Traverses HWY 401
- Steep & narrow valley
- Winding road in valley bottom with rolling hills
- Sparse houses
- Heavily treed
- Radio Shadow Challenges

Project Overview for Shelter Valley Area
Micro-Duct Optical Design

Project Overview for Shelter Valley Area

Micro-duct Distributed Split Fibre Solution
Technology Innovation

- Buried fibre eliminates need for pole access engineering and leasing costs
- Buried fibre eliminates radio shadow issues in deep narrow valley
- Higher reliability since fibre is not subject to freezing rain, falling trees, snow, or wind loads
- Innovative approach to fibre installation and material cost reduction
  - Smaller in size (lower cost)
  - Enables future proofing (unlimited future data capacity)
  - Blowing solution is cost effective (lower cost than pulling fibre through conduit)
  - Distributed split allows smaller fibre count per mini-ducts

Project Overview for Shelter Valley Area
Community Benefits of Project

- High-speed reliable and futureproof broadband internet services to underserved residents in a difficult terrain
- Multiple options for access to residents (50/50Mbps and 100/100 Mbps)
  - Choice of technology depending on speed of access desired
- This technology solution could be extended to the other nearby communities easily
  - Significantly reduced incremental cost per community
- Affordably priced to encourage service take up
- No data cap, no overages
Visualizing Proposed Internet Access Performance Improvements

Before

After