

**bonfire**

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**Design, Build, Operate – Community Broadband Network**

*October 2024*

# Agenda

- **Who Is Bonfire?**
- **Project Overview**
- **Estimated Subscriber Rates**

# bonfire

INFRASTRUCTURE GROUP

**bonfire**  
engineering and construction

**bonfire**  
FIBER



Our Purpose

All Americans should have access to high-speed, affordable internet because it makes their lives better

2016

FOUNDED

FOUNDED

2021

Broadband

INDUSTRY

INDUSTRY

Public Owned Broadband

Engineering & Construction

SERVICES

SERVICES

Planning and Strategy  
Open Access Fiber Operations

# Our Proven Process

- 1. Comprehensive *Feasibility Planning***
- 2. Detailed *Design & Permitting***
- 3. Turnkey *Engineering Services***
- 4. Safety-First *Construction***
- 5. *Community Engagement***

*This approach means **low risk, streamlined execution, and high community value.** Our process is designed to reduce costs, prevent setbacks, and ensure that the community is connected as efficiently as possible*

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- Who Is Bonfire?
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# Los Alamos County – Community Broadband Network

## Project Overview

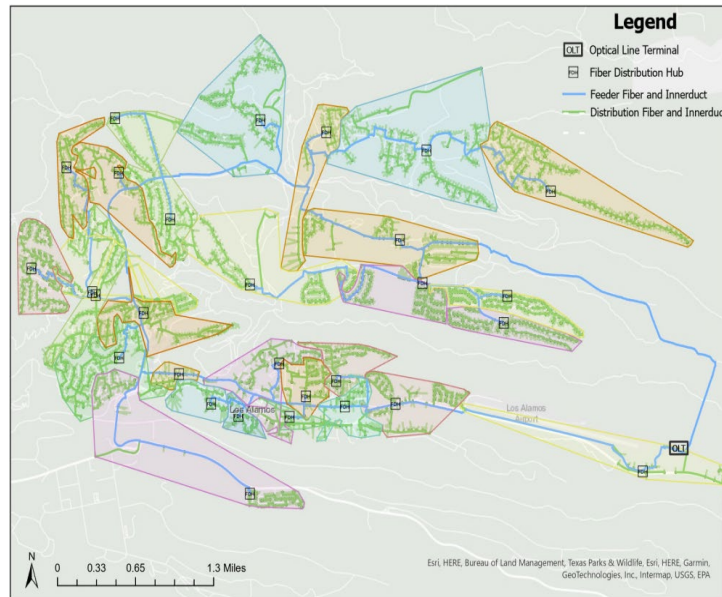
**Pop: 19.4k**

**HU: 9.7k**

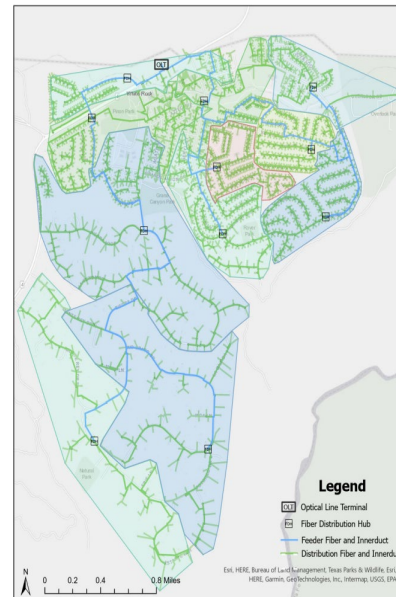
**Bus.: 0.3k**

Bonfire has been selected by Los Alamos County to design, build, and operate a state-of-the-art, County-wide fiber-to-the-home (FTTH) network. This Open Access Network will serve all 10,014 address locations, offering residents and businesses the freedom to choose from multiple internet service providers. In addition to the design and construction, Bonfire will oversee the ongoing operation, maintenance, and commercialization of the network. We are honored to partner with Los Alamos County on this significant project that will secure the County's digital future and enhance connectivity for the entire community.

## High-Level Designs\*



**Los Alamos**

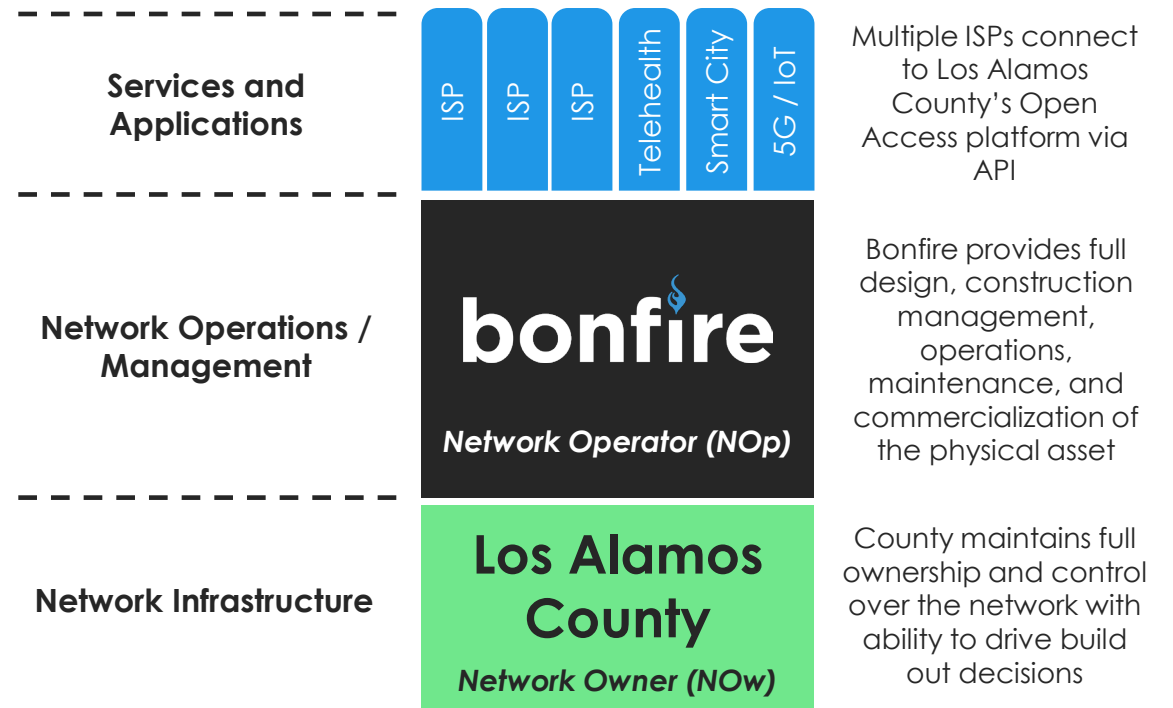


**White Rock**

## Project Scope

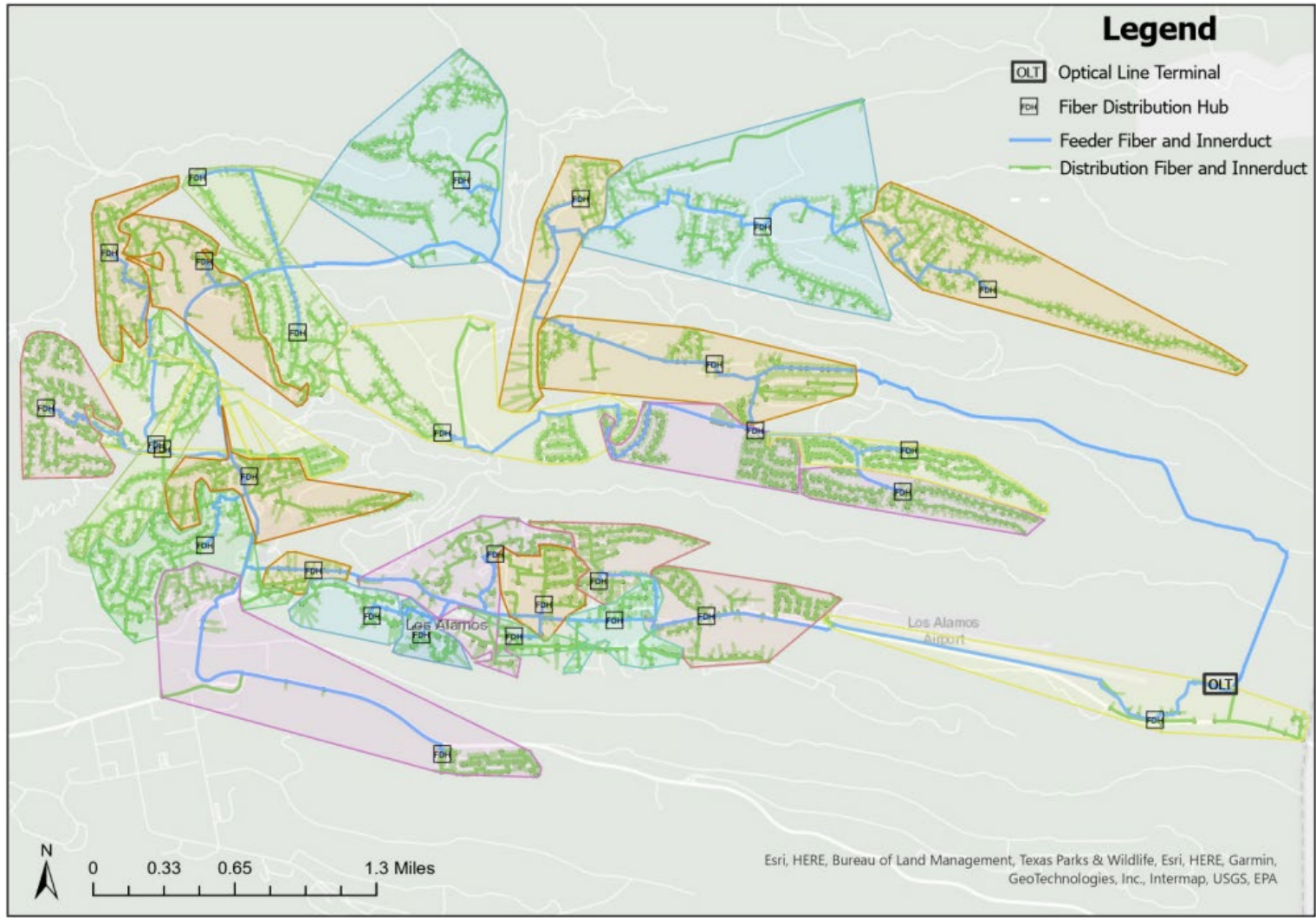
Total Passings	10,014	Design/Build Total	\$29,355,323.68
Passing Build	100%	Project Contingency	\$5,622,676.32
Drop Build	60%	Total Not to Exceed Amount	\$35,000,000

## Bonfire Open Access Model

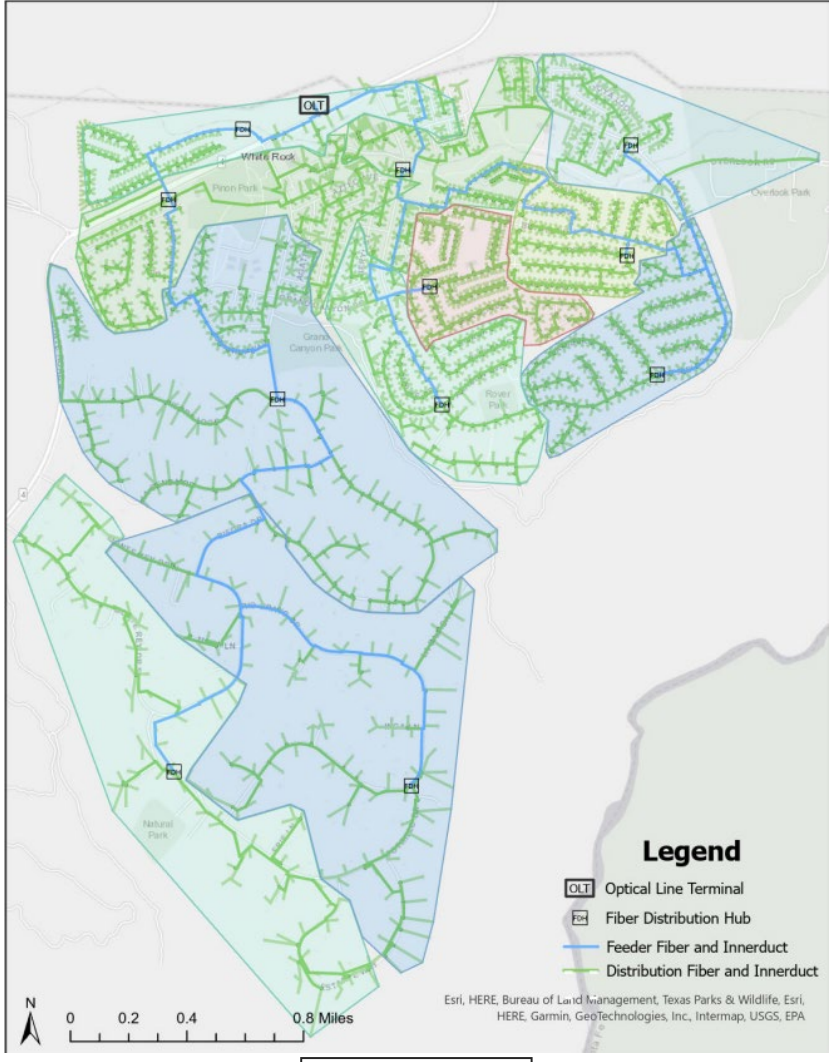


\*See next slide for zoomed in detail

# High-Level Network Design



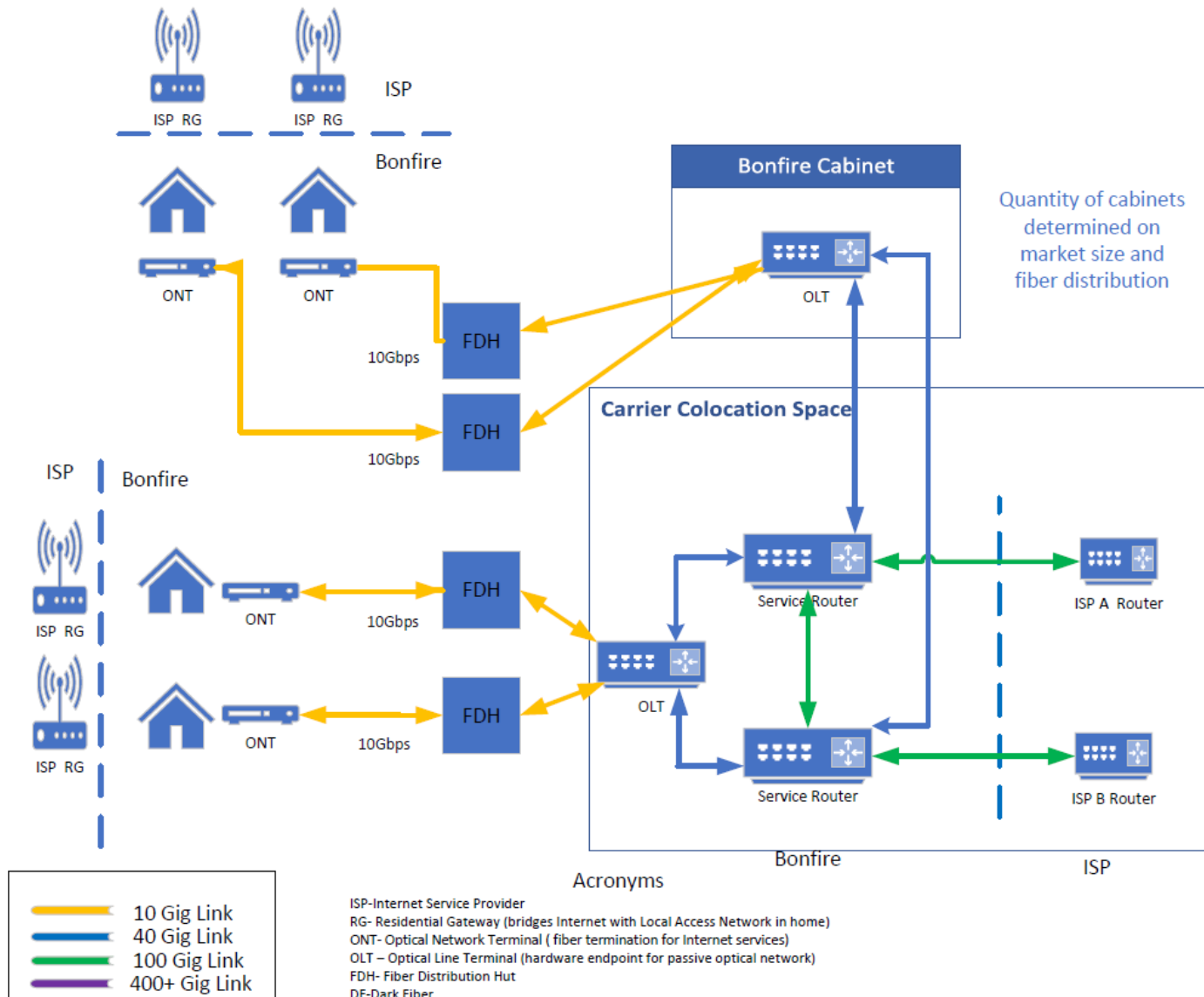
Los Alamos



White Rock



# High-Level Network Diagram





# Engineering Timeline

Bonfire - Engineering Timeline		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24
<b>High-Level Design</b>																									
	HLD Review/Finalize	X																							
	Prep for LLD process	X	X																						
	Handoff to LLD Eng Team		X	X																					
<b>Permit Discovery</b>																									
	Full Review of Permitting Requirements	X	X																						
	Application Submittal			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Eng/PM Updates			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Field Verification</b>																									
	Deploy OSP Resources to the Field			X																					
	Capture Data via GNSS Equipment			X	X																				
	Field Verify all UG/Aerial Placement			X	X	X																			
	Transfer Data to Design Team for Final Prints					X	X																		
<b>Final LLD Prints/Material Procurement</b>																									
	Creation of Print Packages via Bonfire Schema for permitting, construction, and splicing			X	X	X	X	X																	
	Final BOM Creation for Material Ordering					X	X	X																	
	Material Procurement				X				X									X							
	Material Management				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
<b>Project Management</b>																									
	Scheduling, Meeting Coordination, Production Tracking, Milestone Updates			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

### High-Level Design (Month 1-3)

- Updating feasibility design to hand off to low-level engineering

### Permit Discovery (Month 1-2)

- Detailed review of all permitting requirements
- Sets up low-level engineering team to create permittable prints

### Field Validation (Month 3-6)

- Bonfire engineering team deploys in-market team to gather data for final design

### Final Design (Month 3-7)

- As field data comes in, Bonfire begins creating permit-ready/construction-ready prints

### Material Procurement (Starting in Month 4)

- Pending final BOM totals, initial material orders can be placed



# Construction Timeline

Bonfire - Construction Timeline		Month 1	Month 2	Month 3	Month 4	Month 5	Month 6	Month 7	Month 8	Month 9	Month 10	Month 11	Month 12	Month 13	Month 14	Month 15	Month 16	Month 17	Month 18	Month 19	Month 20	Month 21	Month 22	Month 23	Month 24	Month 25	Month 26	Month 27	Month 28	Month 29	Month 30
Engineering Handoff	Eng/Con Review		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X
	Site Walk(s)		X	X	X	X							X	X							X	X							X	X	
Permitting	Approved Permits		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X								
	Traffic Control Plans		X		X		X		X		X		X		X		X		X		X		X		X		X		X		X
	PMI/County Updates	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Construction Activities	UG Placement			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Aerial Placement						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	HH Placement				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	FDH Placement					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Fiber Pull				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Splice/Test					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	QC/Inspection			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
As-Built/Project Closeouts	Close Permit				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	As-Built Data Collection					X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
	Finalize As-Built						X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

## Engineering Handoff (Month 2-30)

- Site walks and review with engineering team
- Value-added placement decisions based on FTTH construction expertise

## Permit Submission (Month 2-22)

- Tracking, managing, and executing on all project permits
- Always providing updates and visibility to County

## Construction (Month 3-30)

- Required make-ready work will allow UG work to start before aerial
- Includes all tasks associated with building, testing, and turning up the network (drops included)

## As-Built/Project Closeouts (Month 4-30)

- Closing out permits, collecting as-built data, and getting them back into network management system

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# Residential Cost Breakout

		Speed Tier						
		250 Mbps	1 Gbps	2 Gbps	5 Gbps	10 Gbps	25 Gbps	50 Gbps
<b>Network Operating Expenses</b>	Equipment Software	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20
	Colocation	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33
	Transport / Middle-mile	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
	Fiber Maintenance	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50
	Equipment Refresh	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91
<b>Business Operating Expenses</b>	Insurance	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45
	Bad Debt Reserve	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88
	Pole Attachment Fee	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09
	Network Operator Fee	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25
<b>Total Opex per Subscriber</b>		<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>
ISP Fee		\$14.00	\$23.00	\$32.00	\$38.00	\$43.00	\$48.00	\$53.00
<b>Total Price to Customer</b>		<b>\$41.99</b>	<b>\$50.99</b>	<b>\$59.99</b>	<b>\$65.99</b>	<b>\$70.99</b>	<b>\$75.99</b>	<b>\$80.99</b>

# Small/Medium Business Cost Breakout

		Speed Tier						
		250 Mbps	1 Gbps	2 Gbps	5 Gbps	10 Gbps	25 Gbps	50 Gbps
<b>Network Operating Expenses</b>	Equipment Software	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20	\$0.20
	Colocation	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33	\$0.33
	Transport / Middle-mile	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38	\$0.38
	Fiber Maintenance	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50	\$4.50
	Equipment Refresh	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91	\$2.91
<b>Business Operating Expenses</b>	Insurance	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45	\$0.45
	Bad Debt Reserve	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88	\$0.88
	Pole Attachment Fee	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09	\$1.09
	Network Operator Fee	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25	\$17.25
	<b>Total Opex per Subscriber</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>	<b>\$27.99</b>
	ISP Fee	\$42.00	\$75.00	\$96.00	\$123.00	\$140.00	\$158.00	\$168.00
<b>Total Price to Customer</b>		<b>\$69.99</b>	<b>\$102.99</b>	<b>\$123.99</b>	<b>\$150.99</b>	<b>\$167.99</b>	<b>\$185.99</b>	<b>\$195.99</b>



Thank You

