

Frontier Fios

In *Your* Community

What *exactly* is “Fiber-Optics”?

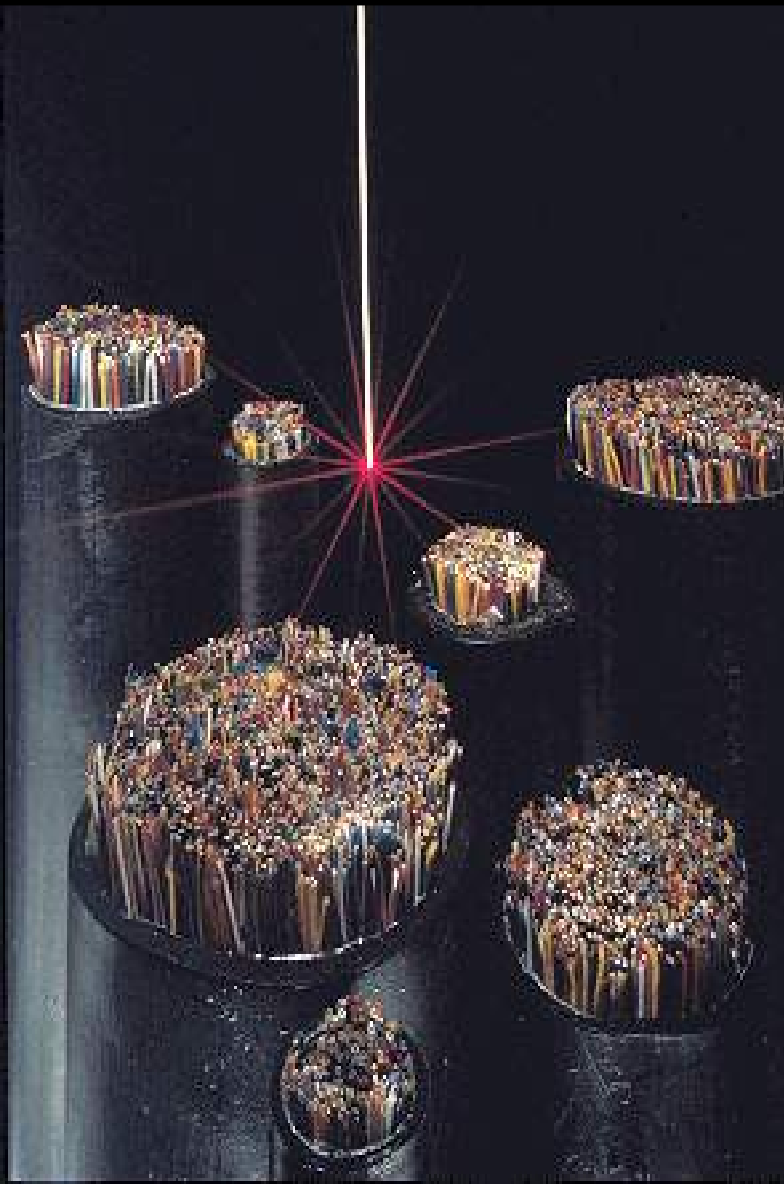
- Fiber-optics (optical fibers) are long, thin strands of very pure glass about the diameter of a human hair.
- Fiber-optic systems use laser-generated pulses of light to transmit voice, data and video signals at speeds and capacities far exceeding most of today’s copper and coaxial cable systems.



Any one of these copper cables could be replaced by one fiber-optic strand

Advanced Technology

- Fiber-optic cable is much smaller in diameter as compared to copper cable (taking up less space in the ground).
- One fiber can carry as much data as a 900 pair copper cable.



Key Advantages of Fiber-Optics

■ Fiber-optics are revolutionizing communications and entertainment because compared to conventional metal wire (copper wire and coaxial cable), optical fibers offer:

–Higher carrying capacity

- **Dial up = a straw** (14.4 to 56 kbps)
- **DSL/Cable Modem = a garden hose** (1.5 to 10 mbps - but shared among users)
- **Fiber = Niagara Falls** (1000mbps - and a dedicated line to your home)

–Light signals

- Fiber optic technology transmits data via pulses of light – the fastest method of transferring data available today.

–Less signal degradation

- The loss of signal in optical fiber is less than in metal wire. This means clearer phone conversations and TV reception.

–“Future Proof”

- Fiber has the capacity to meet tomorrow's voice and data demands whereas copper and coaxial cable will ultimately face capacity constraints.

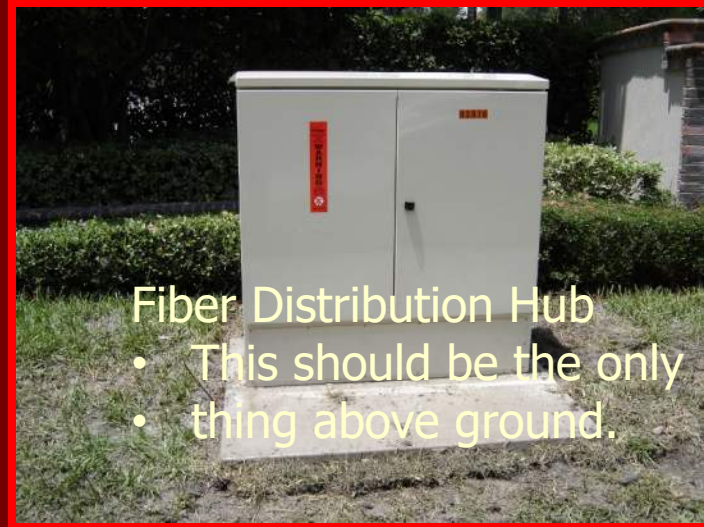
What is "FTTH"?

■ Fiber to the premises (**FTTH**) is a form of fiber-optic communication delivery in which an optical fiber is run directly onto the customers' premises.

■ This contrasts with other fiber-optic communication delivery strategies such as:

- Fiber to the node (**FTTN**)
- Fiber to the curb (**FTTC**)
- Hybrid fiber-coaxial (**HFC**)

■ While high-speed fiber-optic cables are more often used to provide the primary links, the "**last mile**" to each home still plays an important role in the quality of service you receive.



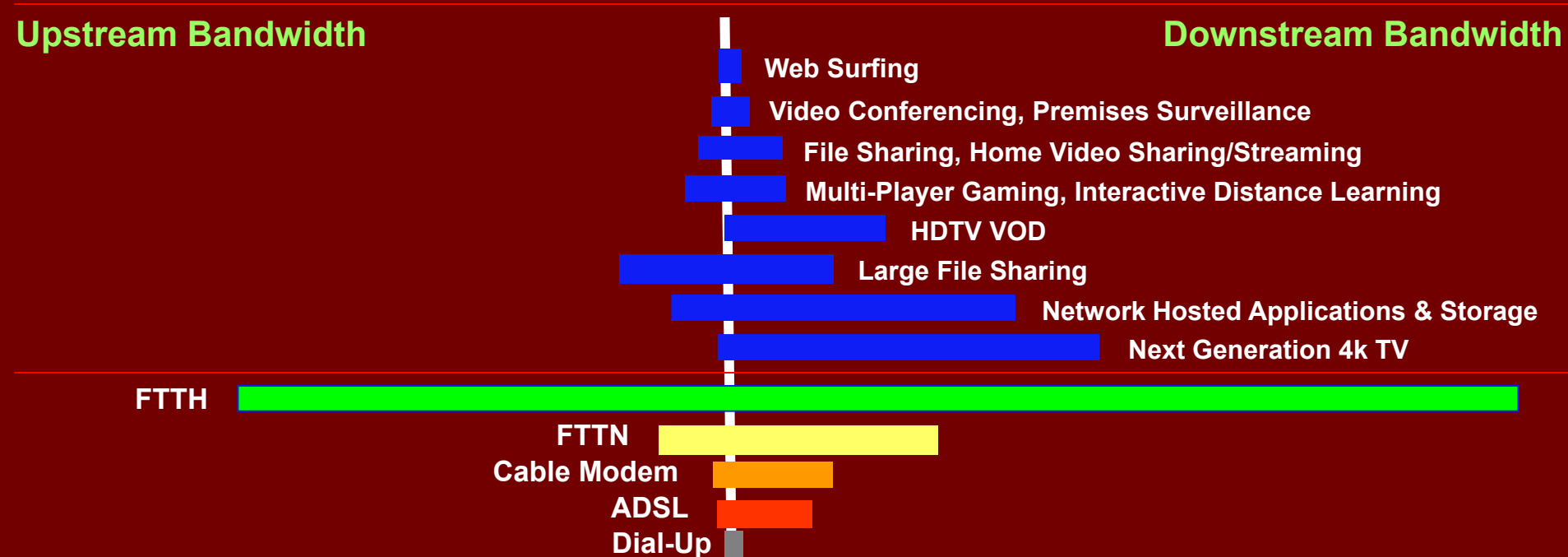
- Fiber Distribution Hub
- This should be the only
 - thing above ground.



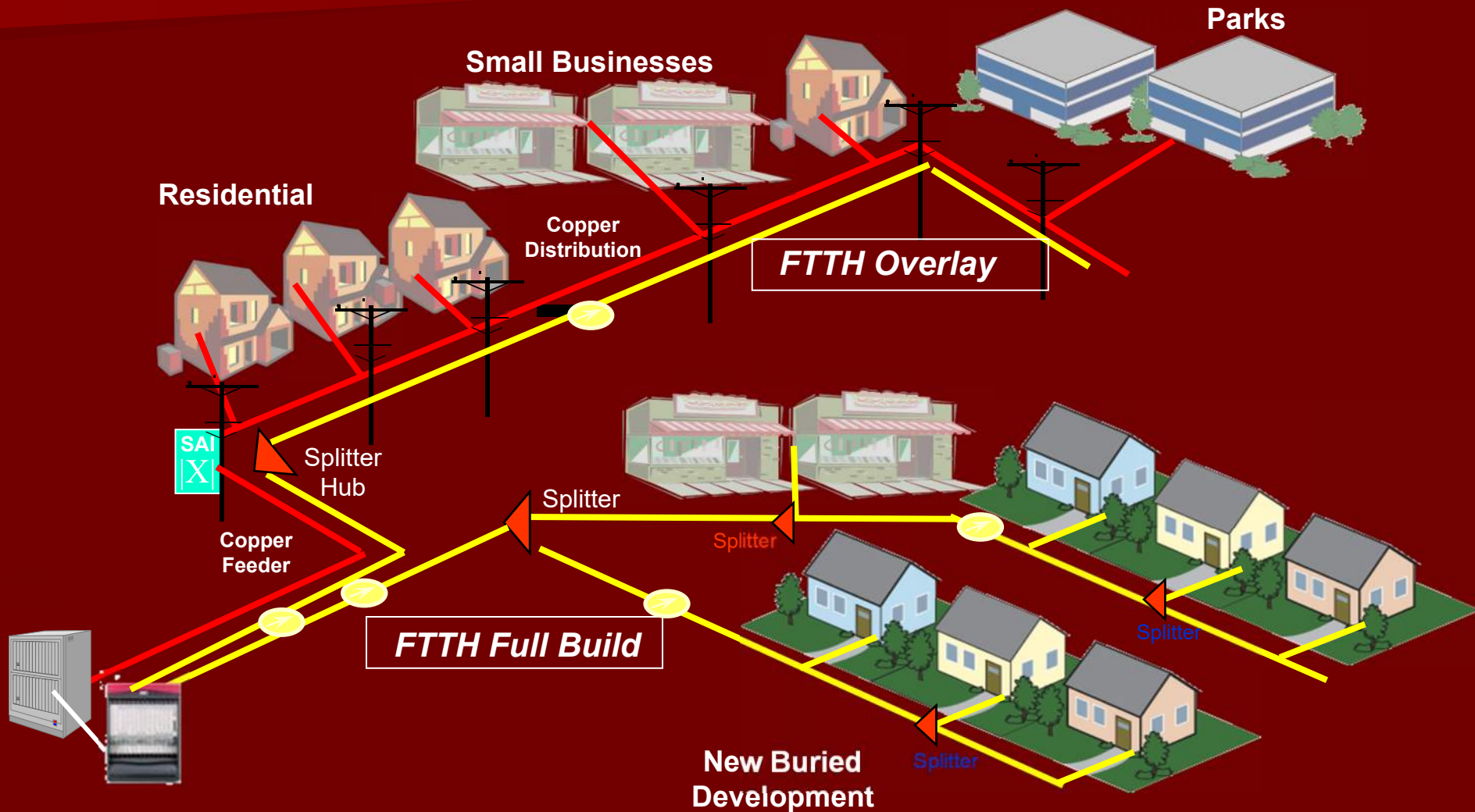
FTTP delivers unparalleled bandwidth

Today's applications are continuing to drive demand for increased bandwidth:

- Photo sharing
- Media streaming
- Music & video download
- Video Messaging
- Gaming
- Online security



FTTH Full Build and Overlay Architectures



What does it look like in my yard?



- The drop terminal distribution is utilized for the installation of fiber into 4 or 8 homes for network access.
- 99% of the network is underground (good for Florida weather conditions)

What equipment will I need in-home?

Optical Network Terminal (ONT)



The
Light
Source

Battery Backup Unit



Continuous
Power
When it's
Needed



State-of-the-art
Equipment

Wireless Broadband Router

ONT Power Supply Unit



So then, what is FiOS?



- Frontier Fios (*pronounced FYE-ose*) is the name of Frontier's new suite of fiber-optic services available over the FTTP network.
- Includes:
 - **TV**
 - **Internet**
 - **Phone**
- "Frontier Fios is to Internet access what the BMW is to the automobile market. It's best-in-class."



FiOS Community Benefits

- Differentiates your community from the others by providing your residents with state-of-the-art technology – right to their door!
- Improves perceived value of your homes
- More bandwidth = more HD channels and faster Internet speeds
- Increases reliability
- Equips your home/community to handle the massive capacity next generation communication and entertainment services will require – for years to come!

EXISTING FIOS PRICING

Lead Acquisition Offers

Qualifier: New customer with no active billing in last 30 days, or Voice only adding Fiber internet, or Existing Copper upgrading to Fiber.

		0 Data Caps** and No Annual Commitment! All speeds shown below are Mbps Actual speeds may vary.	Price per month*	Yr 2 (starting month 13)	
Fiber	<ul style="list-style-type: none"> • Work or school at home • Facetime & Skype • Stream hi-def video & music • Game with multiple devices 	 Fios & Vantage Internet 1-yr Price Guarantee	Gig Service (incl. BB Surcharge, Wi-Fi Router Service Fee - free for 12mo.)	74.99	74.99 + \$10 Router Service Fee
			500/500 , (200/200 when 500 isn't available)	39.99	49.99
			100/100 HDNO, MDU 50/10 or 30/5	39.99	49.99
			50/50, MDU 15/5 or 10/2, Fiberhouse 50/10	29.99	39.99
			MDU 20/10 or 20/5	34.99	44.99
	 Unlimited Calling VoIP	Unlimited Nationwide, Canada & Mexico calling VoIP Admin Fee applies \$3.99/mo	10.00		

***Prices do not include fees, taxes or installation. Full disclosure of all fees is required!**

Fees and Taxes

Wi-Fi Router Service Fee	10.00/mo.	Equipment Delivery 1x (if applicable)	9.99
VoIP Admin Fee	3.99/mo.	Dish Activation 1x (if applicable)	34.99
Fiber Broadband Surcharge	3.99/mo	Taxes	By Market

Installation	FiOS or Vantage Fiber	Copper or Vantage Copper		
		Premium	Preferred	Frontier Internet
Self-Install (system shows when available)	No Charge	Not eligible	Not eligible	No Charge
Safe Install BB	\$75 (39 NY)	\$40	\$75	\$75
Safe Install Voice and BB (VoIP, DPU, FE)	\$75	No Charge	\$40	\$75
Safe Install BB and DISH	\$75 + 34.99	34.99	\$40 + 34.99	\$40 + 34.99
Safe Install Voice, BB and Dish (DPU/FE)	\$75 + 34.99	34.99	34.99	\$40 + 34.99

Engineering and Marketing Contacts

- **ENGINEERING**

- April Kahler
- Engineering Manager Tampa
- 813-997-0405 cell
- April.Kahler@ftr.com

- David Butler
- OSP Engineer Tampa
- 727-735-4646 cell
- David.butler1@ftr.com

- **EVENT SCHEDULING/RESIDENTIAL SALES**

- **David Cutcher**
- Channel Manager | Alternate Channel Sales
- Frontier Communications
- M) 813-486-6186
- David.cutcher@ftr.com

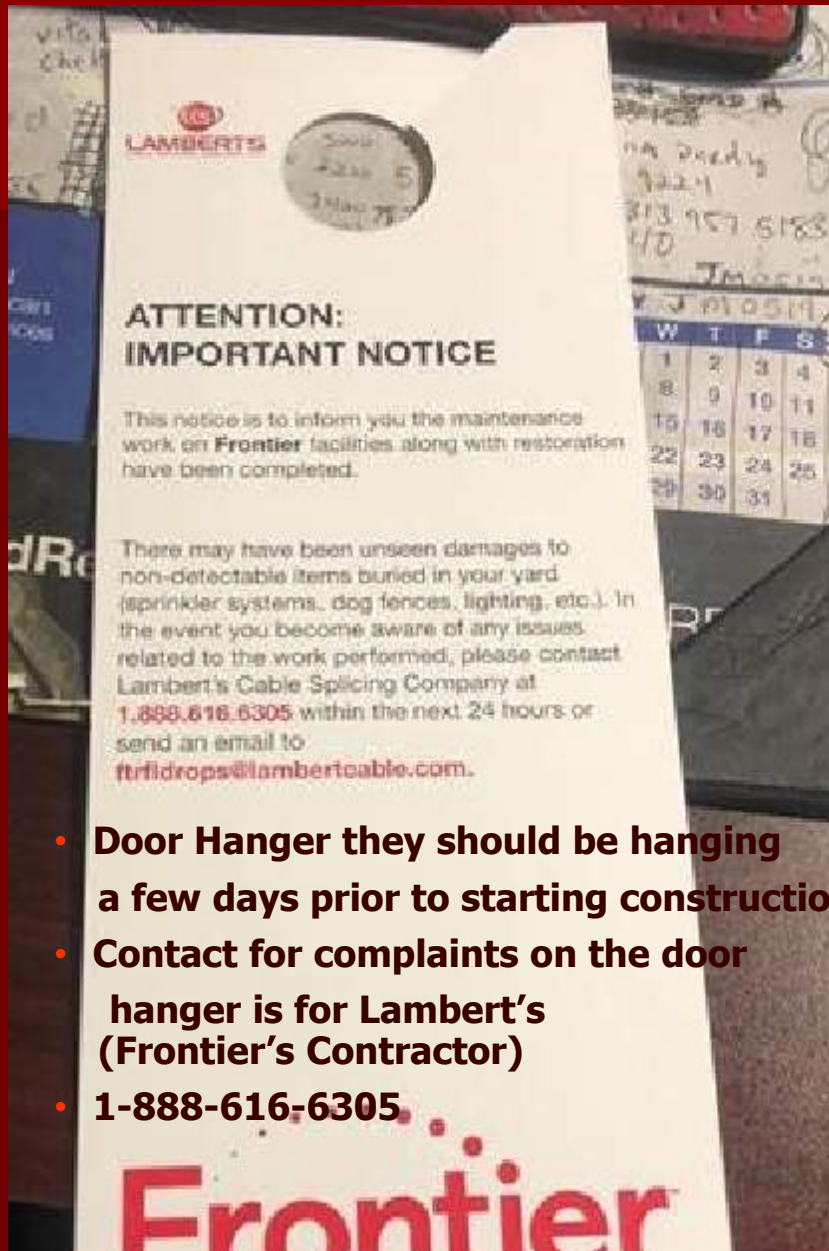
- **BULK AGREEMENTS**

- Vin Lipinski
- **Senior Manager, National Business Development, Community Connections**
- Frontier Communications
- C: 203-722-9238
- vin.lipinski@ftr.com

Frontier Restoration Language

- **Subject to applicable law or regulation,** it is understood that Frontier owns all Facilities that it installs. All work performed by Frontier shall be performed in a good and workmanlike manner and any damage to the property caused thereby shall be corrected by Frontier. Frontier shall hold harmless and indemnify Licensor from physical injury to Licensor's Property, its employees or the public which may occur at any time through the negligence of Frontier.
- See next page for construction contacts and who to call if the cleanup and restoration not completed to your satisfaction.

Contacts for issues with construction cleanup



- **Door Hanger they should be hanging a few days prior to starting construction**
- **Contact for complaints on the door hanger is for Lambert's (Frontier's Contractor)**
- **1-888-616-6305**

- Lambert's Cable Splicing is Frontier's construction vendor
- Their manager over this area is:
- **Gerald Maynoldi**
- **Field Supervisor**
- **Cell : 727-432-5699**
- **Gerald.Maynoldi@lambertcable.com**

- Frontier's Construction Manager for this area is:
- **Albert Rivas**
- **Local Manger/ Inland Metro Construction**
- **M:813-431-2909**
- **Albert.x.rivas@frontier.com**

Note: Albert has volunteered to be the contact For you if you feel like something has not Been taken care of to your satisfaction when it comes to construction clean up. Best way to contact him is via email.

Average Timeline for construction

1. Engineering this can take up to 30 days pending on the permitting required.
2. Permitting- If permits are needed, they can take from 30-60 days to get approved. Some agencies are faster than others.
3. Material is ordered after the engineer completes the design. This can take up to 45 days to get in stock.
4. Construction can start on the digging and boring to place the conduit and handholes before the material is received. This is due to the fact we keep a lot of conduit in supply. This part of the process can take 2-4 weeks depending on the size of the subdivision.
 1. This is only started if we are working in a utility easement, or permits have been approved
 2. This is performed by Frontier's contractor, Lambert's Cable Splicing.
5. Once the conduit and handholes are in place, they restore the grass and any make sure everything is restored back to as good as it was before.
6. As soon as the fiber, terminals and Fiber distribution hubs come in from the manufacturer, they can pull the fiber and place the terminals and fiber distribution hubs.
 1. This will also be done by Frontier's contracting company, Lambert's Cable Splicing.
 2. Depending on when the material arrives, there could be a lag time between when they finish all the digging type work and when they come back to do this work.
 3. This typically takes about 2 weeks to accomplish based on how big the subdivision is. An averaged sized one can take 2 weeks.
7. Once all the material is placed the Frontier fiber splicers will come out to splice all the fiber optics cables, and terminals together.
 1. This can take 1-2 weeks depending on the size of the subdivision.
8. Once the fiber is spliced, engineering is notified, and the systems are all updated to accept fiber orders from customers. This can take 3 days.
9. Total time frame is 60-90 days for construction once permits are approved, and they can start.

Fiber Optics Trenching and Directional Boring



- The fiber will be placed in 1.25" orange conduit
- This can be hand trenched or directional bored in the neighborhood
- All trenching and boring will be done in the utility easements except for where we have to cross the road to get to the homes on the other side of the streets
- Conduit is placed at 30" deep paralleling the roads and 48" deep when we cross a road.
- All utilities are located by calling 811 for the Florida State Sunshine locating hotline
- The utilities locate their facilities using a spray paint that will wash away with rain after a month or so, and in the color designated for their utility. Red for electric, blue for water, green for sewer/storm, orange for communications, pink for reclaimed water.

2'X3' HANDHOLE USED FOR FIBER SPLICE



NOTE: THIS IS
WHERE THE FIBER
CABLE AND
TERMINAL TAILS
ARE SPLICED



Note: These Photos were
taken in a brand new
development that is under
construction. That is why
there is no grass.

17" X 30" HANDHOLE USED FOR FIBER TERMINAL



NOTE: THIS IS THE
HANDHOLE WE USE TO
PLACE THE TERMINAL
4, 6, 8, OR 12 PORT
DEPENDING
* 7.69 CUBIC FT OF
GRAVEL USED



NOTE: THIS IS A TYPICAL
4 PORT TERMINAL WE
CURRENTLY USE

Note: These Photos
were taken in a brand
new development that
is under
construction. That is
why there is no grass.

11" X11" HANDHOLE (FLOWER POT)



NOTE: THIS IS THE TYPICAL FLOWER POT HANDHOLE WE CURRENTLY USE TO RUN DROPS TO THE NEXT LOT DOWN FROM THE TERMINAL
*2.14 CUBIC FT GRAVEL USED

Note: These Photos were taken in a brand new development that is under construction. That is why there is no grass.