



Louisville, KY

*Prepared by:
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Fiber Construction Engineer--Kentucky
October 27, 2015*

» CUSTOMER DRIVEN. TO THE LAST MILE.

Fibertech is the Premier Metropolitan Bandwidth Provider in Mid-Size Cities

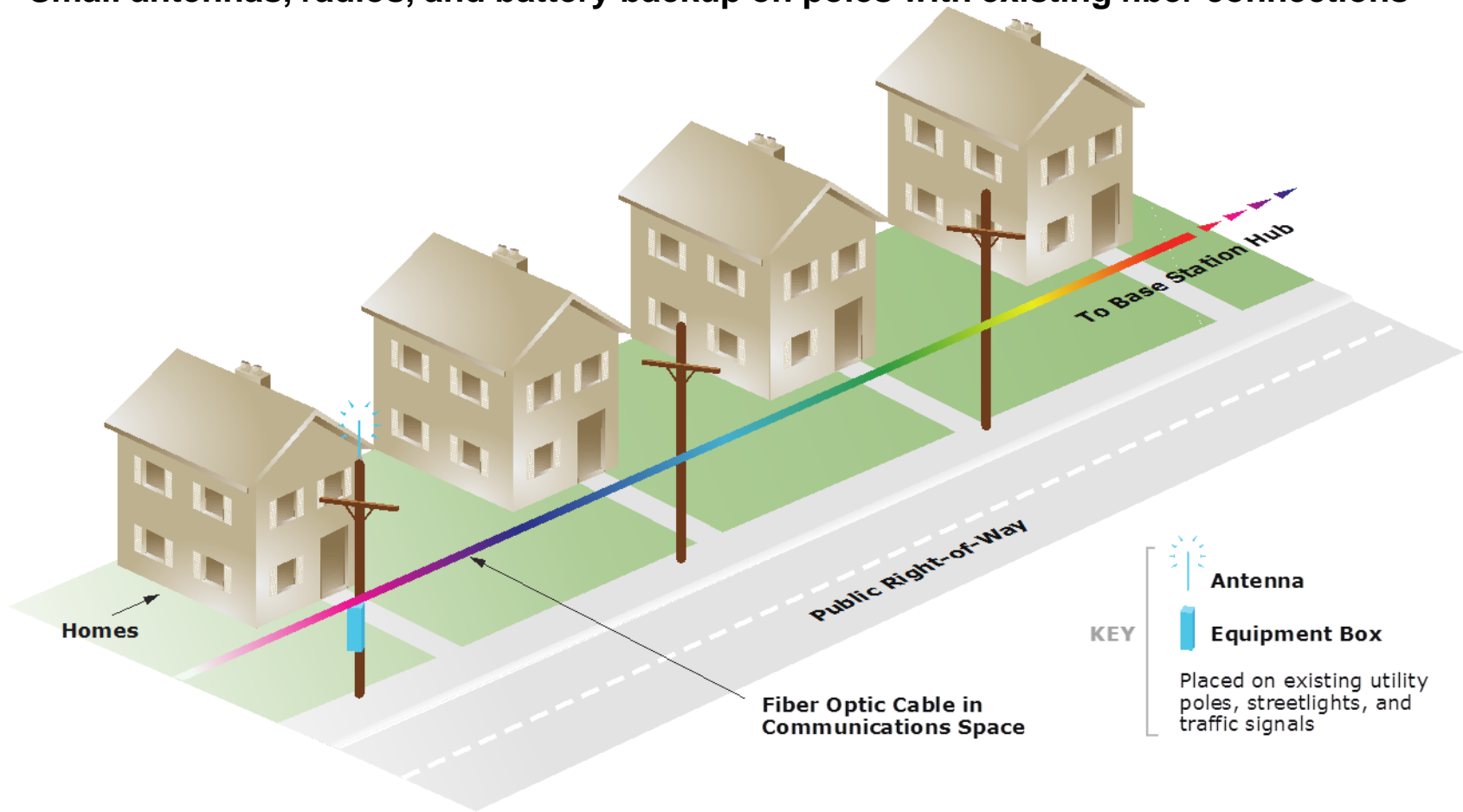
CONNECTIVITY: All of Fibertech's solutions are delivered on end-to-end fiber optics seamlessly connecting locations. These directly routed services mean greater availability and flexibility compared to other carriers. We own our entire 30-market footprint, ensuring faster provisioning times and award-winning implementation processes.

SMALL CELLS: When small cell locations are attached to high speed fiber, it greatly increases mobile broadband speeds. Each location also provides enhanced 911 services that keep working in a power outage.

- » Founded in 2000
- » 31 Metropolitan-Area Networks Throughout the Northeast, Mid-Atlantic, Mid-West and Carolina
- » 12,000+ Metro Route Miles & 1,000,000+ Fiber Miles
- » 8,100+ On-net buildings and thousands of cell towers
- » 900+ Employees
- » Winner of multiple awards in every category of performance

Fiber Based Network

- » Fiber optic connectivity is necessary for high speed backhaul
- » Small antennas, radios, and battery backup on poles with existing fiber connections



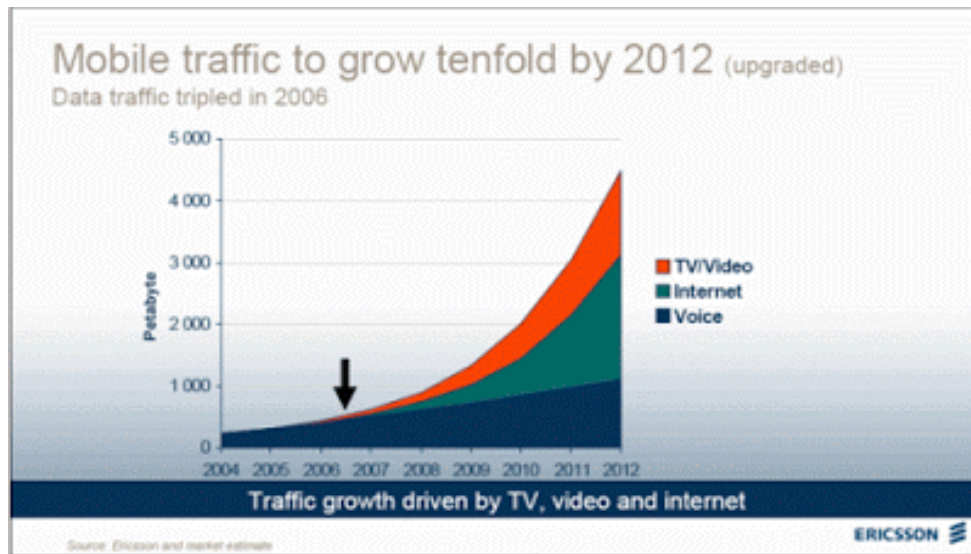
Small Cell Hotspot Overview

“In the next decade, wireless technology will change our lives, helping people to be more productive and healthy, and reducing highway deaths, water use, pollution, and traffic jams. To achieve these benefits, networks are going to have to become a lot denser.” –AGL Magazine, April 29, 2015

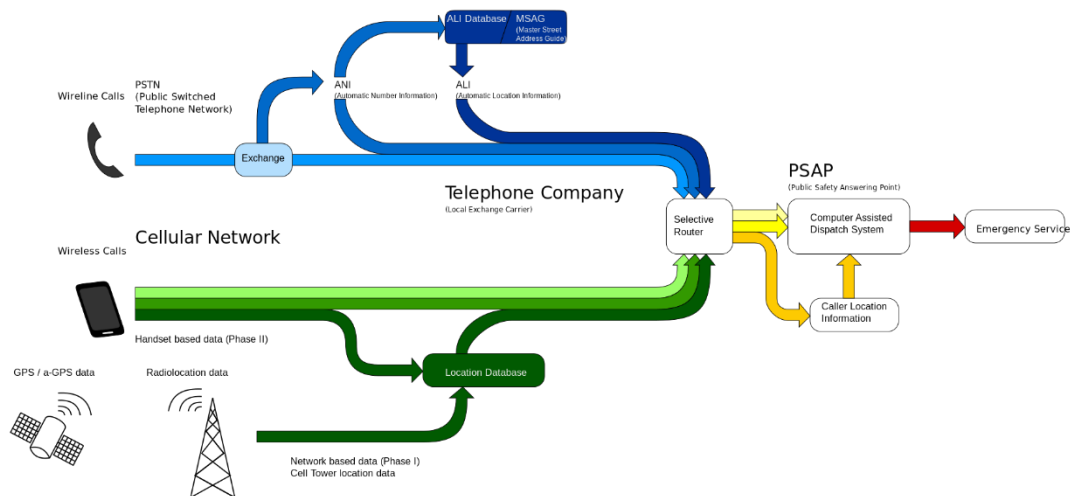
Type	Max Users	Radius (miles)
Macro Cell	500	2.500
Microcell	200	0.800
oDAS	75	0.333
Small Cell	32	0.094
Wi-Fi	50	0.057
FemtoCell	6	0.008

Why is this Necessary?

1. As you can see in the first graph to the right, through 2012, mobile bandwidth was projected to grow very rapidly. These projections proved to be conservative and the growth rate is continuing to increase. Our solution allows better service, higher download and upload speeds, and a better overall customer experience. Fibertech, along with Mobile Bandwidth providers are working very hard to provide the best level of service available for a rapidly increasing demand.



2. The second image on the right shows how the Enhanced 911 service works with mobile devices. Our solution allows for better service, greater reliability, and gives the E911 operator a much better location for mobile users in the event of an emergency.



1. Existing coverage maps are juxtaposed against existing usage maps to determine the area of greatest need, from that need, a proposed site is selected.
2. The proposed site is assessed for viability and neighbor impact
3. The proposed site location in the right-of-way is finalized and sent to the engineers for final approval. At this time the proposed site is staked and the adjacent houses are notified by a door hanger
4. Two weeks after the door hangers, and once in receipt of approvals, construction begins
5. Fiber optic cable and power service are installed to the pole
6. The equipment is installed on the pole
7. The site is tested, certified, and comes online

This process takes about a year from inception to completion. If contacted by homeowners, Fibertech is happy to meet with the home owners or HOA and work towards a mutually beneficial solution.

- **Fibertech is constructing a network to serve a top wireless carrier customer in 7 areas in the City of Louisville.**
- **The network will have high speed fiber optic cable and appurtenant wireless small cells.**
- **Approximately 57 small cell locations have been selected in the surrounding Louisville area.**

» **Louisville Downs**

» 17 locations

» **Seneca Park**

» 10 locations

» **Brewery**

» 5 locations

» **Beuchel**

» 3 locations

» **Indian Trail**

» 7 locations

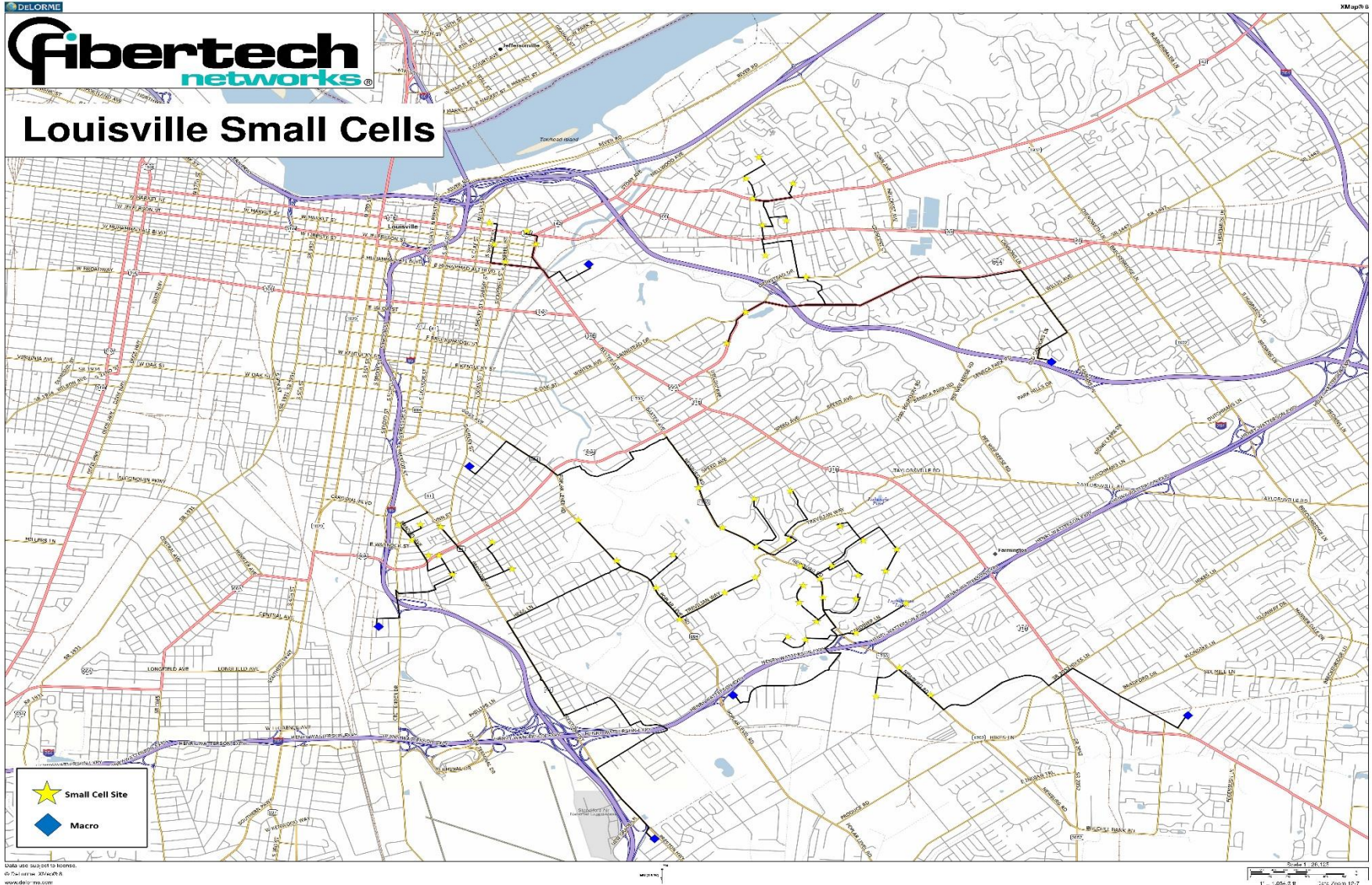
» **Fairgrounds**

» 9 locations

» **Eastern Parkway**

» 6 locations

Overview of the City of Louisville



City of Louisville Small Cell Overview

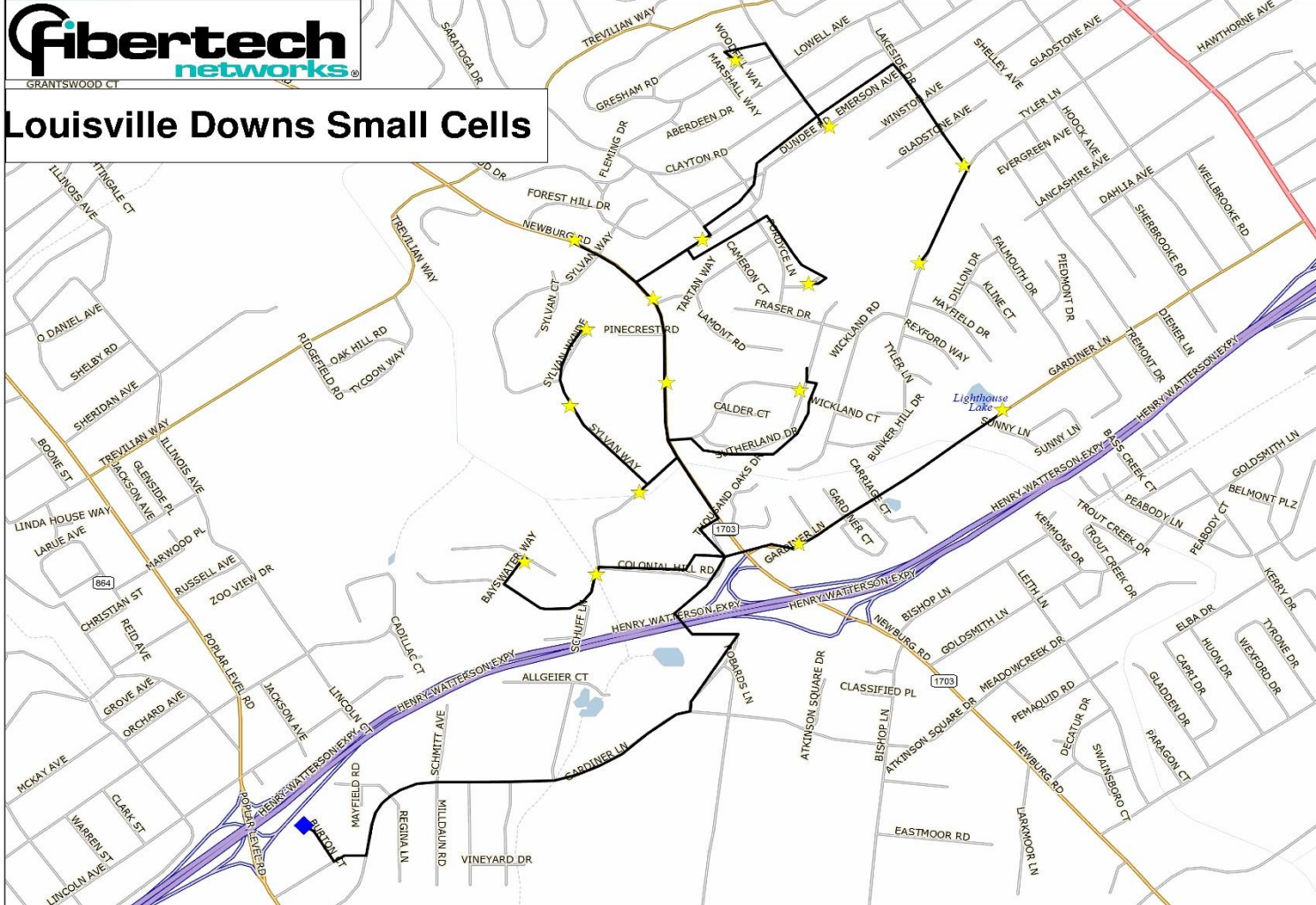
Louisville Downs: 17 locations

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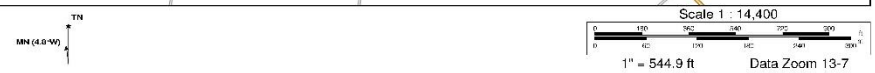
Louisville Downs Small Cells



Identification Key:

-  Indicates small cell
-  Indicates fiber route
-  Indicates Macro location

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City of Louisville Small Cell Overview

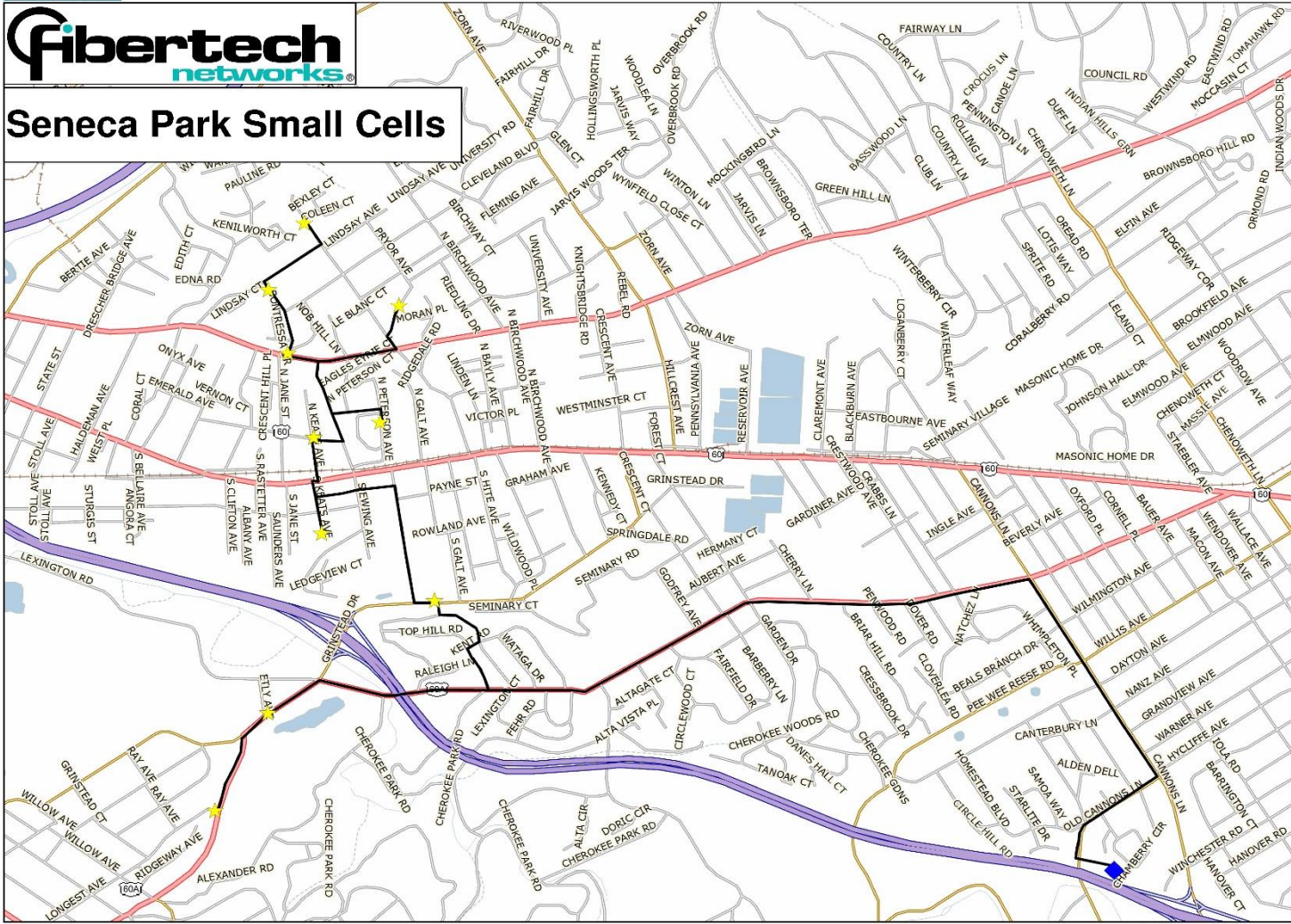
Seneca Park: 10 Locations

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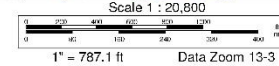
Seneca Park Small Cells



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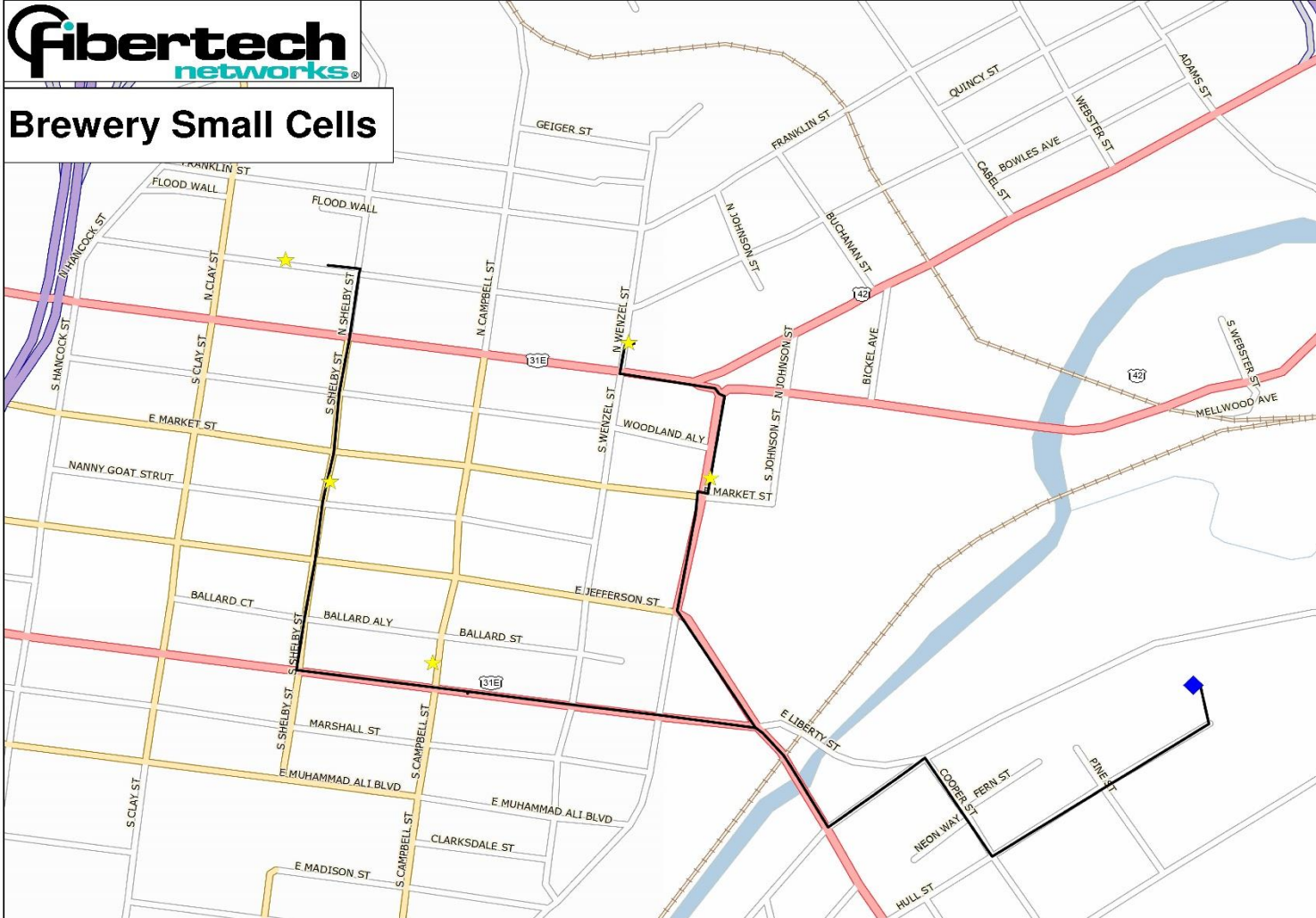
Brewery: 5 Locations

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Brewery Small Cells



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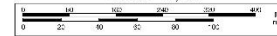
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Scale 1 : 6,400



1" = 242.2 ft Data Zoom 15-0

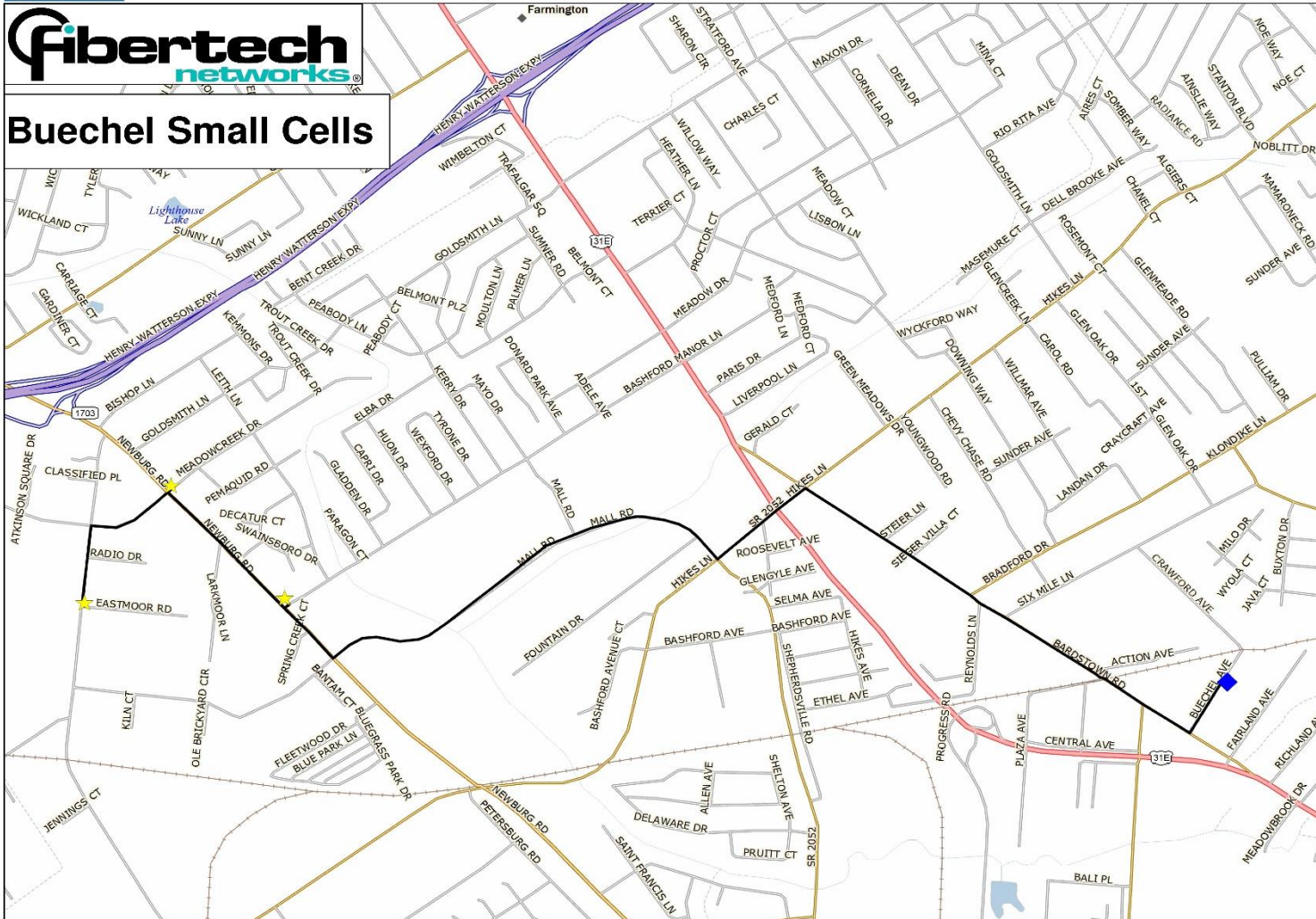
City of Louisville Small Cell Overview

Beuchel: 3 Locations




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Buechel Small Cells



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Scale 1 : 16,000
 1" = 605.5 ft Data Zoom 13-6

City of Louisville Small Cell Overview

Indian Trail: 7 Locations

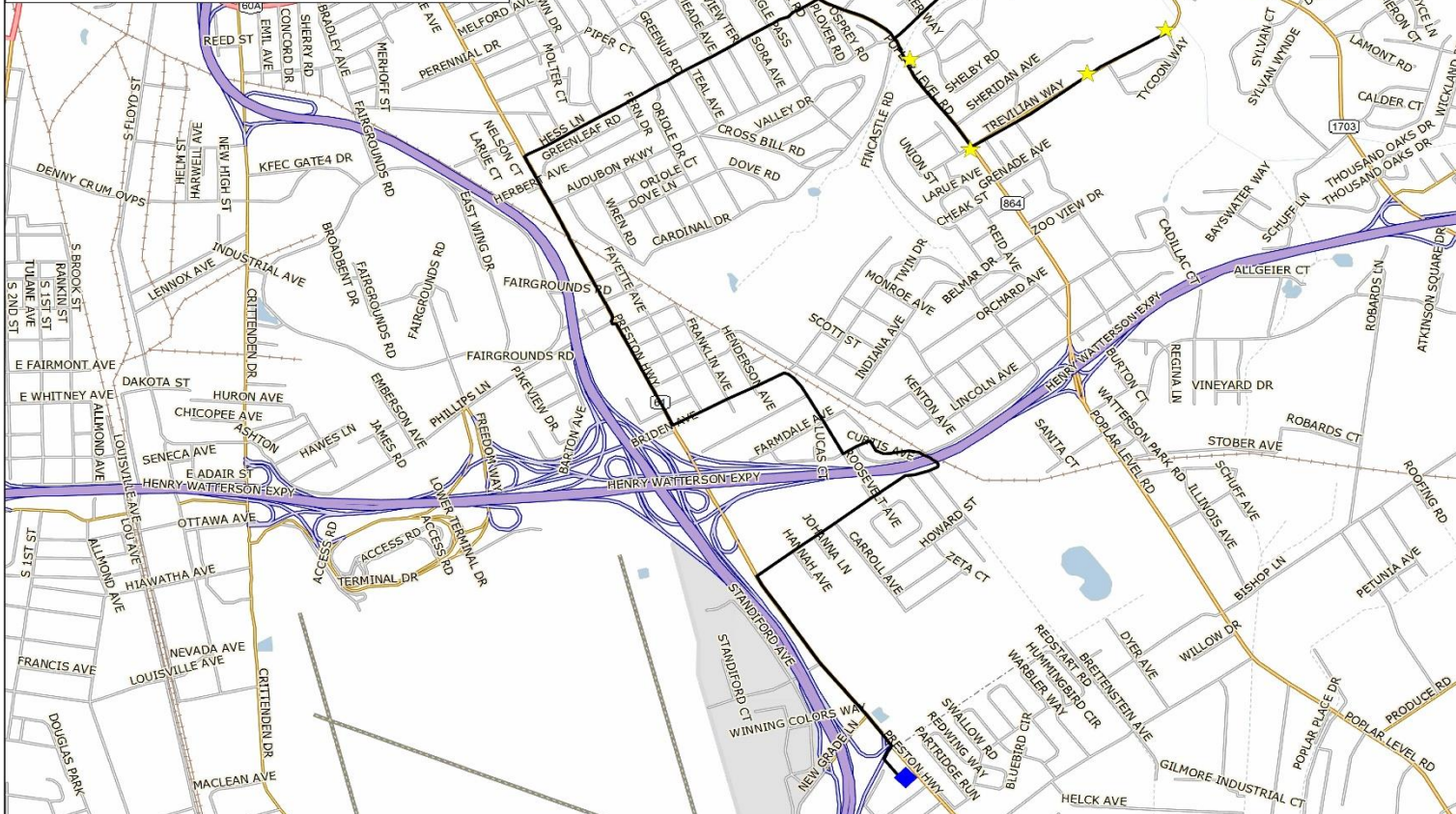


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Indian Trail Small Cell



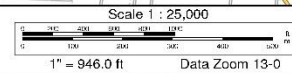
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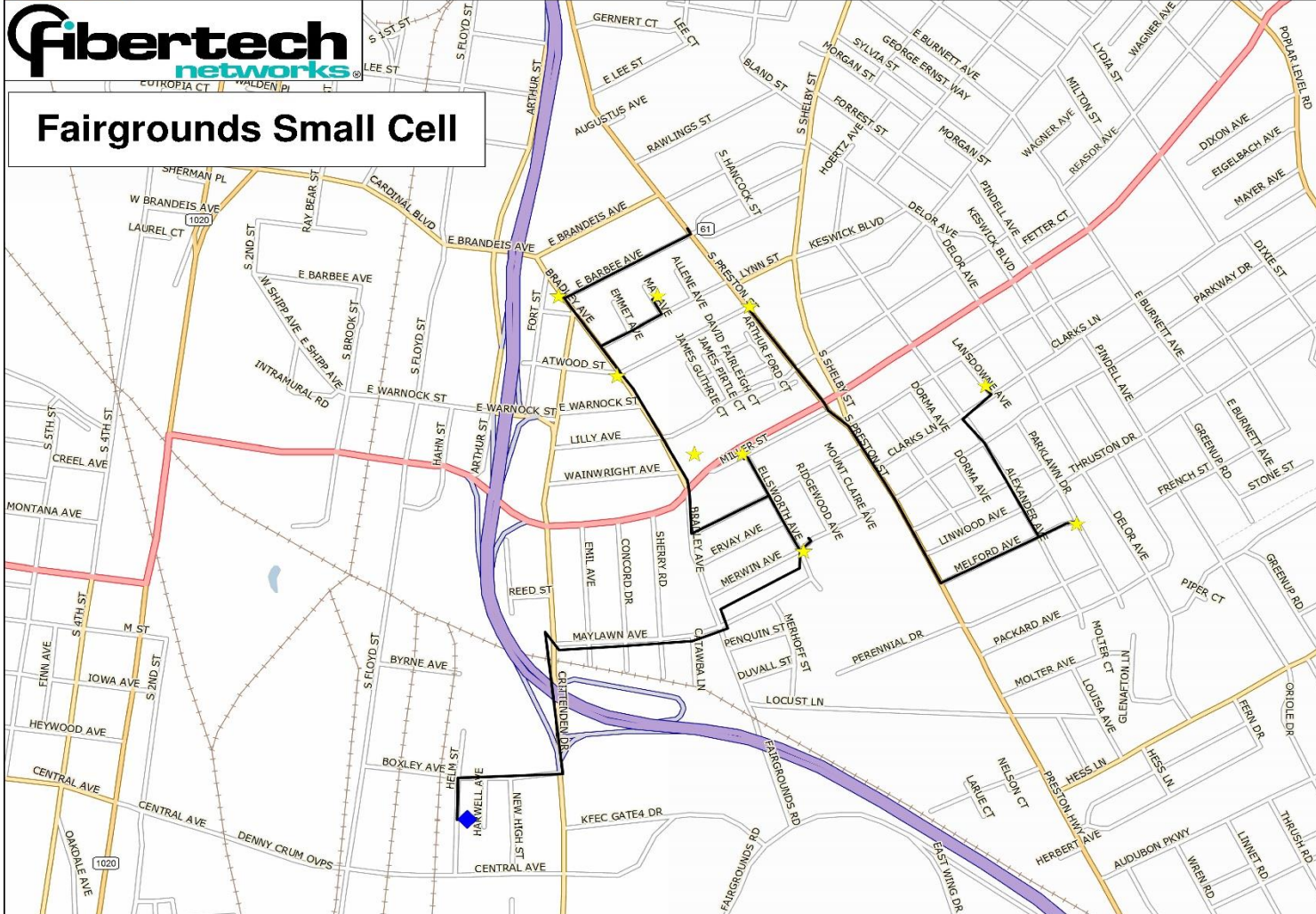
City of Louisville Small Cell Overview

Fairgrounds: 9 Locations






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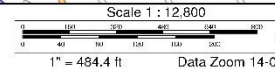
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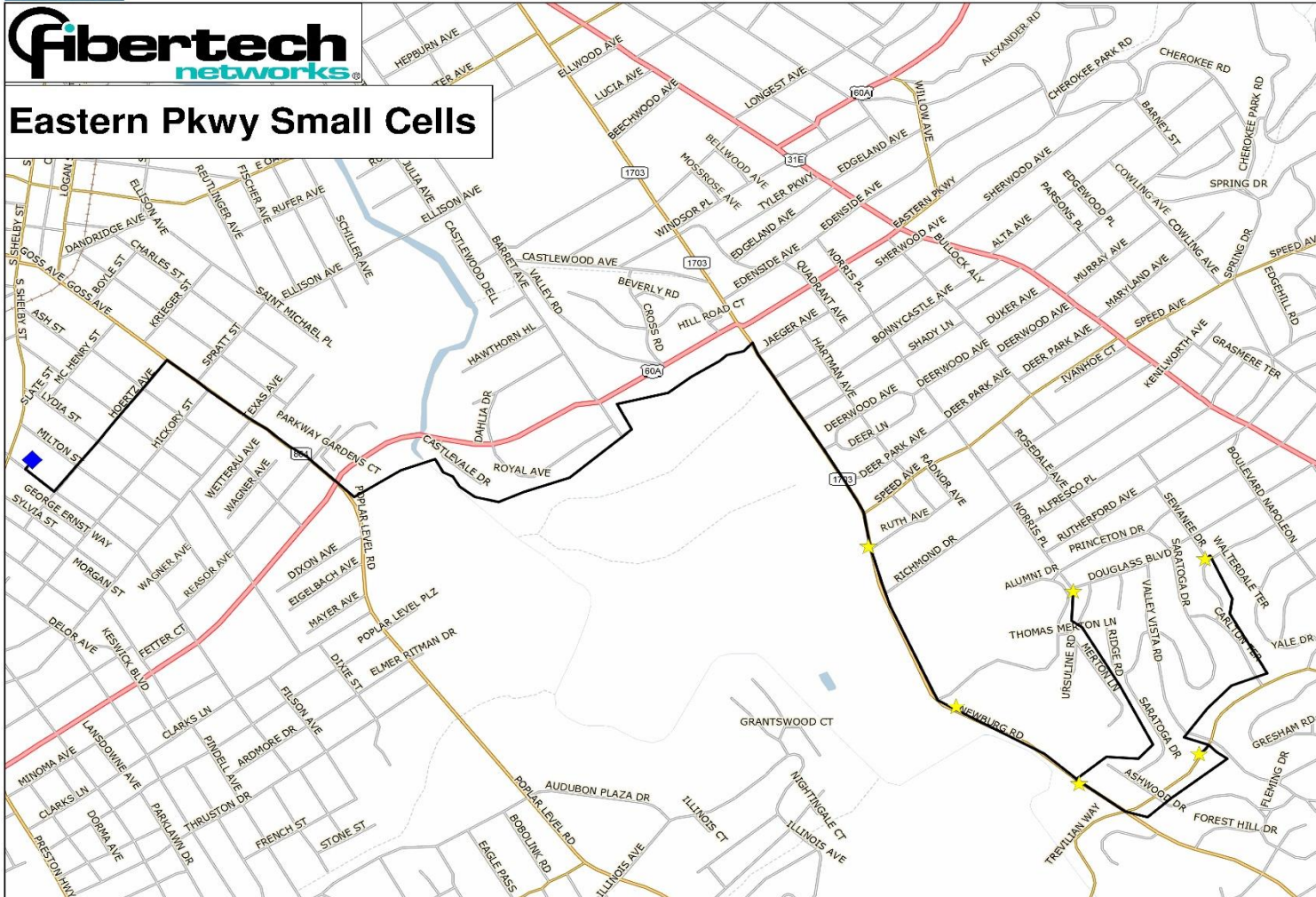
Eastern Parkway: 6 Locations

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Eastern Pkwy Small Cells



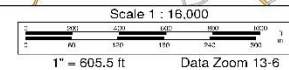
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METRO NETWORKS YOU CAN BUILD ON