

•••• **ECONOMIC DEVELOPMENT CONFERENCE SERIES** ••••

Chicago • November 5-7, 2013

Tinley Park, IL – 30 minutes from downtown Chicago

BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD MAGAZINE

The Chicago Southland Project & Other Illinois Fiber Projects

Presented By:

Partnership for a Connected Illinois

&

Broadband Communities

Today's Webinar Leaders

Jeffrey Reiman

- President, Broadband Communities

Clayton Black

- Regional eTeam Leader, Partnership for a Connected Illinois

Rusty Winchel

- Conference Leader - *“Economic Revival: The Chicago Southland Fiber Network Story”*
- Project Coordinator, Chicago Southland Fiber Network

Matthew Parks

- Conference Participant
- Senior Director of Network & Communications Services, Northern Illinois University

Zak Horn

- President, Metro Communications Company, Inc.



•••• ECONOMIC DEVELOPMENT CONFERENCE SERIES ••••

Chicago • November 5-7, 2013

Tinley Park, IL – 30 minutes from downtown Chicago

BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD
MAGAZINE

Chicago Southland Fiber Network

Presented by Rusty Winchel

A Unique Opportunity



Cook County

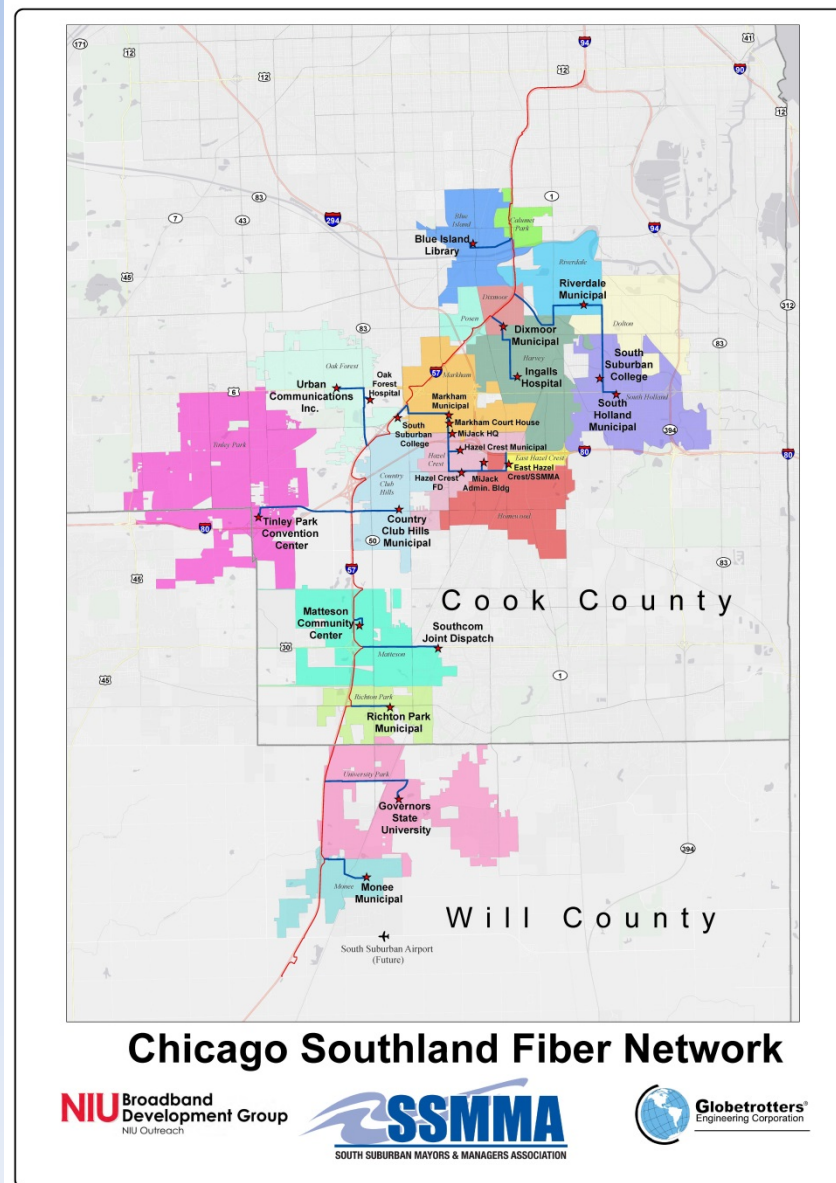


Illinois Office of the Governor



SSMMA

Chicago Southland Fiber Network



Chicago Southland Fiber Network

- State of Illinois “Jobs First” Grant is building:
 - 27 miles of I-57 Corridor fiber – Final testing completed 10/4/2013
 - 35 miles of fiber laterals serving Cook County sites and regional anchor locations
 - New fiber connectivity to 18 communities
 - Links to Chicago (Equinox Data Center) to facilitate commercial Internet and ICN services
 - Links to Toll Authority Fiber – Oak Brook, IMBCA

Chicago Southland Fiber Network

- The Result of:
 - Vision
 - Preparation
 - Opportunity
 - Execution



Chicago Southland Fiber Network

- State of Illinois Grant Leveraged
 - ICN BTOP fiber project including:
 - Engineering
 - Concurrent Construction Cost Savings
 - ROW and Construction Permit Coordination in I-57 ROW
 - Fiber links to Chicago ICN POP and commercial Internet access
 - Additional \$10 M in Cook County broadband and fiber network construction along the County's western corridor

Regional Impact

- Economic Development – Use Fiber Infrastructure to Attract New Business and Create Jobs
 - Expands on the CN Railroad Intermodal Terminal/
GreenTIMEZone Area
 - -2,000 New Jobs Over 5 Years
 - Areas of Greatest Need
 - Southern Cook County - High Unemployment
 - SSMMA Communities– Significant Economically Challenged Areas with Low Technology Adoption

“Broadband is a Key Catalyst of Economic Development”

~ PEW Research

Other Regional Impacts

- Support Anchor Institutions – Courthouses, Health Care, Public Safety, Municipalities
- Applications - Video Arraignment, Electronic Health Records, Health Information Exchange (HIEs), Video Surveillance, Online Training
- South Suburban Airport – Fiber/Broadband Connectivity Required, Supports Development of Surrounding Communities and Industrial Parks
- Illiana Project – Regional Transportation - Economic Development
- Leverages – State of Illinois and Federal Grants

Chicago Southland Fiber Network

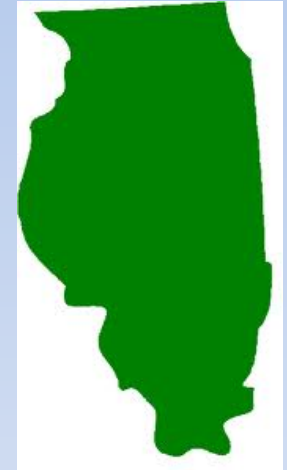
- Fiber makes a difference:
 - Economic Development
 - Most new site searches include fiber optic access requirement
 - Data Center searches require redundant fiber connectivity
 - Existing business and industry
 - Links between multiple sites in the region
 - High bandwidth links to Internet and centralized data center resources
 - Education
 - Extends ICN connectivity deeper into the community
 - Provides links between buildings in school districts
 - Healthcare
 - Provides high bandwidth connectivity to: teaching hospitals, HIEs, enhanced ICU services and Center for Disease Control (CDC)
 - Chicago Southland Fiber Network project - Makes fiber based broadband services available and affordable





Regional Collaborative Partnership

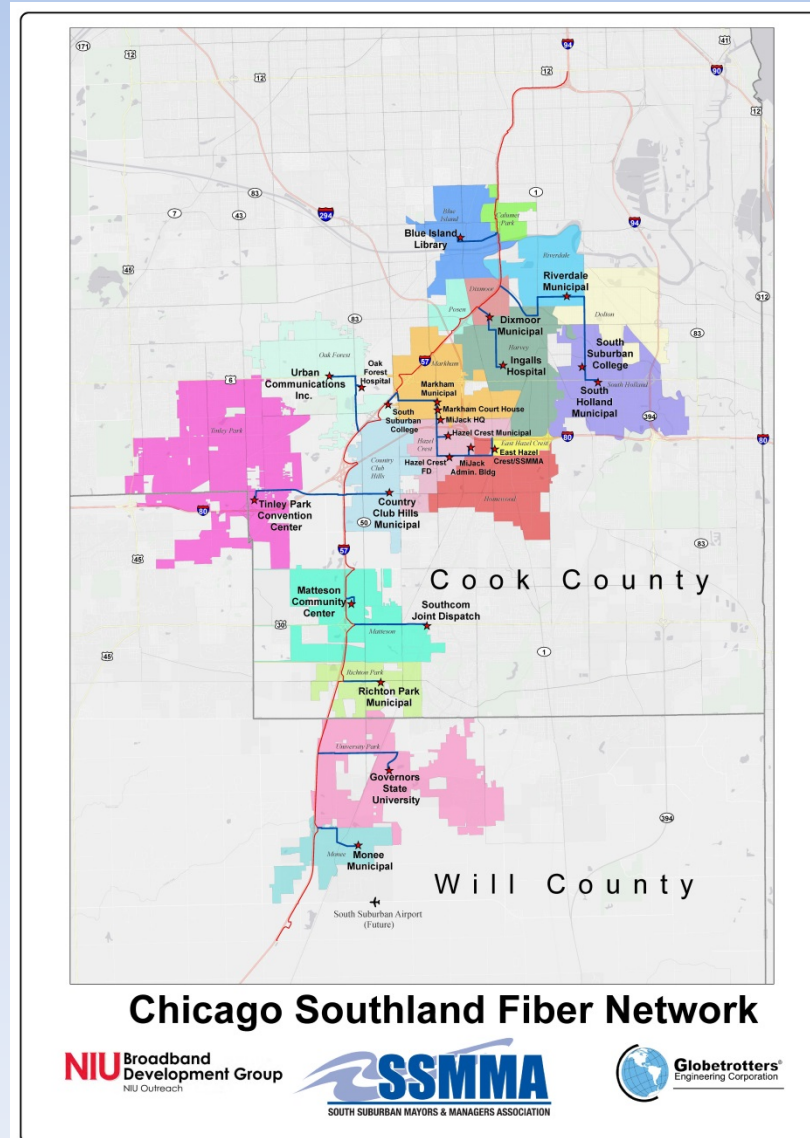
- **Illinois Office of the Governor**
- **Cook County**
- **SSMMA**
- **Illinois Century Network (ICN)**
- **Illinois Department of Transportation (IDOT)**



Chicago Southland Fiber Network

- ❖ The Opportunity – Future Phases will require additional investment to bring the promise of broadband to all regional:
 - ❖ Schools
 - ❖ Community Colleges
 - ❖ Hospitals, Clinics and other Healthcare Facilities
 - ❖ Municipal Government
 - ❖ Public Safety Organizations
 - ❖ Business, Industry and Economic Development Opportunities

Chicago Southland Fiber Network



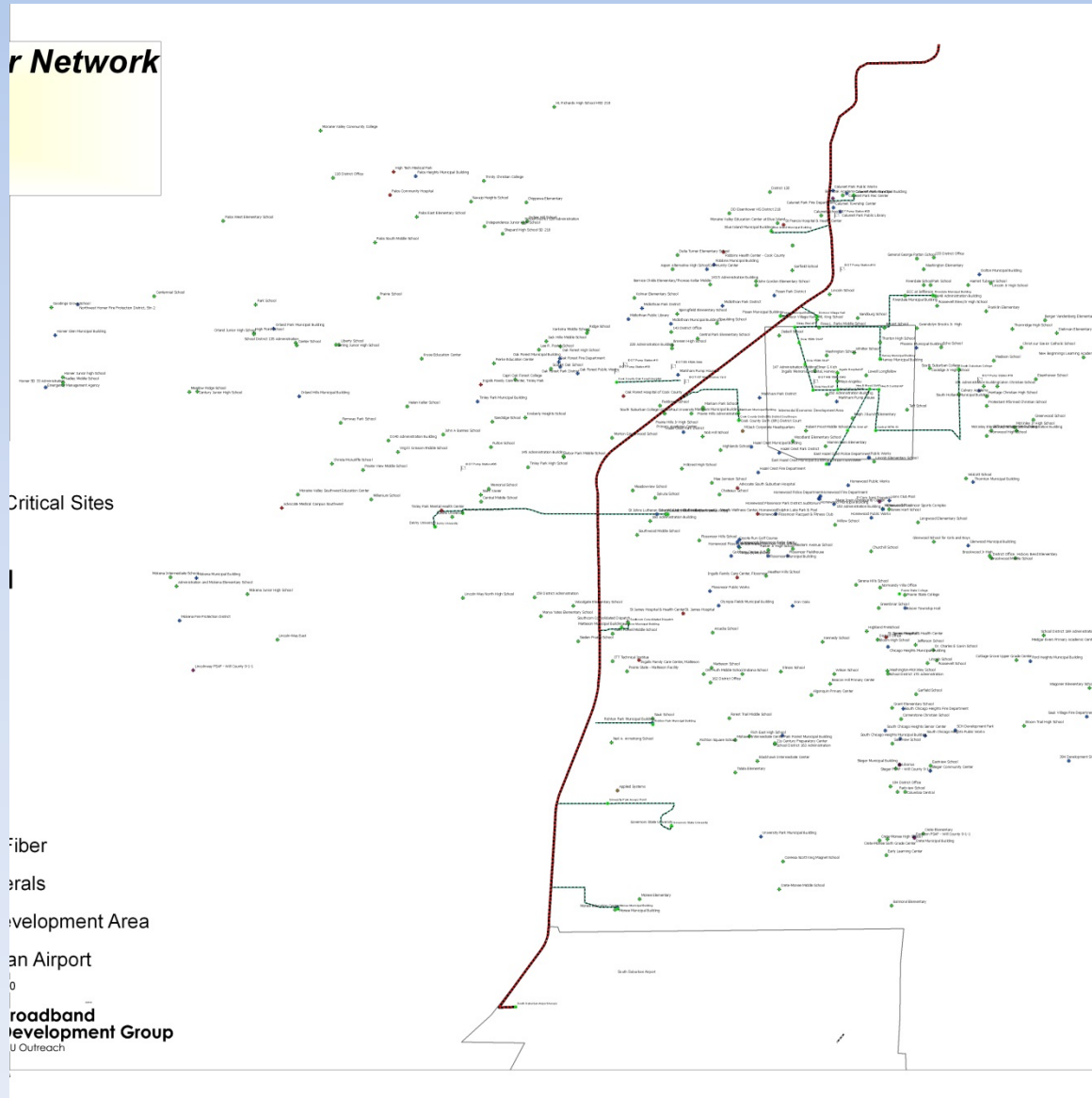
Chicago Southland Fiber Network

NIU Broadband Development Group
NIU Outreach

SSMMA
SOUTH SUBURBAN MAYORS & MANAGERS ASSOCIATION

Globetrotters[®]
Engineering Corporation

Chicago Southland Fiber Network



Chicago Southland Fiber Network

“Like electricity a century ago, broadband is a *foundation for economic growth*, job creation, global competitiveness and a better way of life. It is enabling entire new industries and unlocking vast new possibilities for existing ones. It is changing how we educate children, deliver health care, manage energy, ensure public safety, engage government, and access, organize and disseminate knowledge.”

FCC - National Broadband Plan

•••• ECONOMIC DEVELOPMENT CONFERENCE SERIES ••••

Chicago • November 5-7, 2013

Tinley Park, IL – 30 minutes from downtown Chicago

BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD
MAGAZINE

Northern Illinois University

Broadband Projects Update

Presented By: Matthew Parks

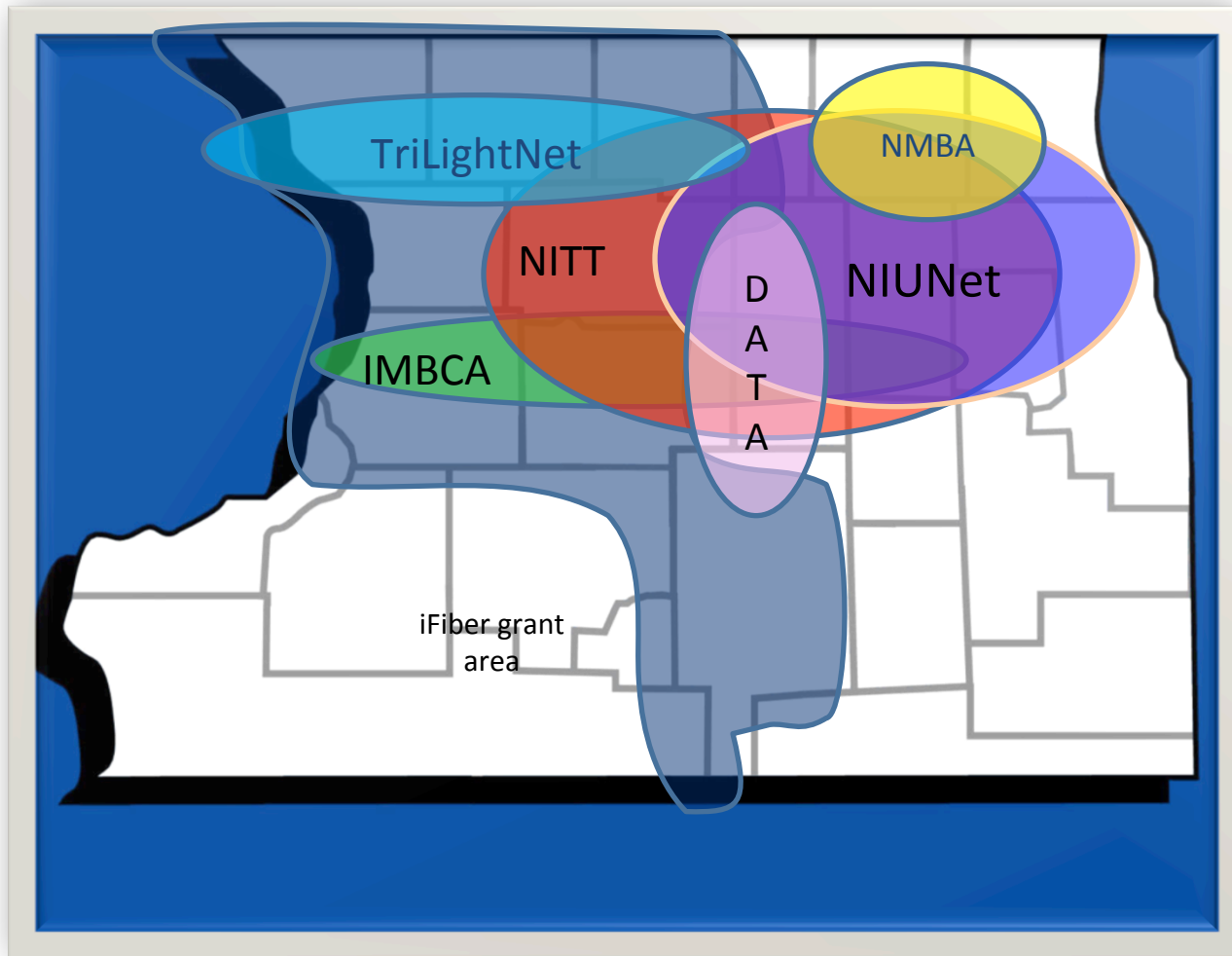
Senior Director – ITS Network & Communications Svcs

Northern Illinois University

Project Director, IBOP-NW (iFiber)



Broadband Initiatives in Illinois



NIUNet - Northern Illinois University Research and Education Network.

IMBCA – Illinois Municipal Broadband Communications Association for Economic Development.

NITT – Northern Illinois Technology Triangle for Economic Development.

TriLightNet – A medical network for HIE development and healthcare.

NMBA – Northwest Municipal Broadband Authority – A municipal and education network.

DATA – DeKalb Advancement of Technology Authority – A BTOP funded grant for DeKalb County.

iFiber – The Illinois Broadband Opportunities Partnership – A nine county BTOP funded grant awarded to Northern Illinois University.

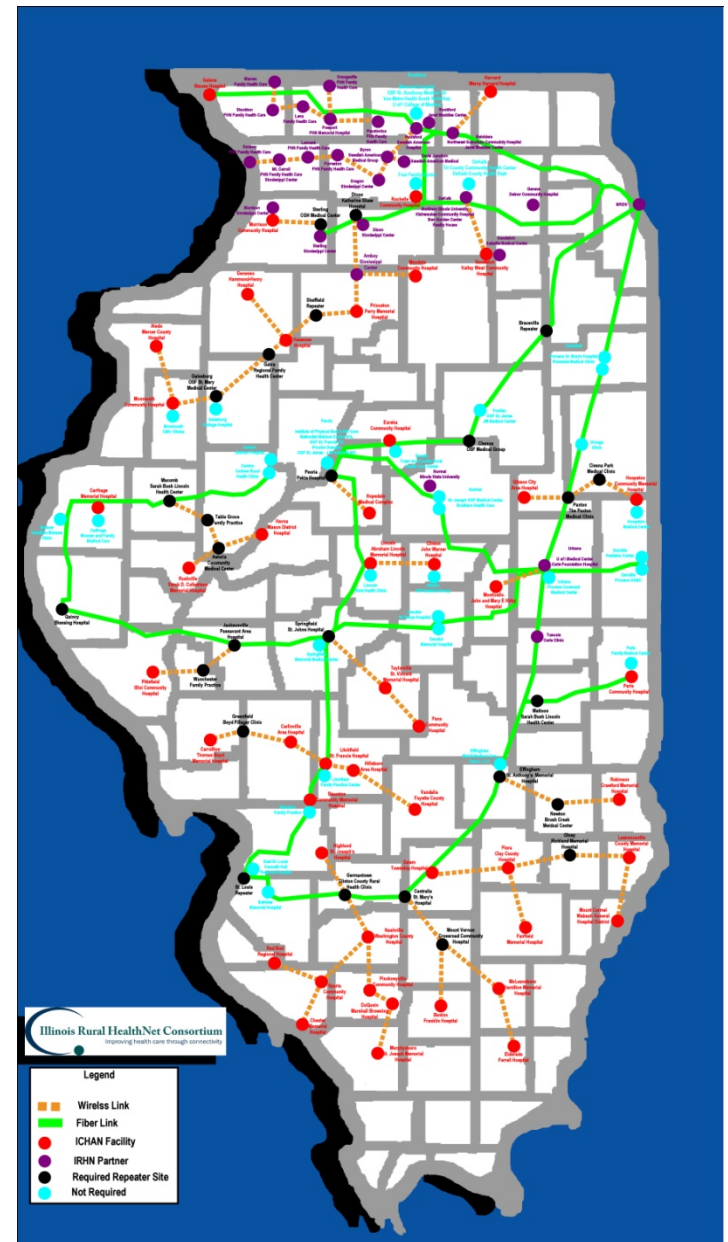


Illinois Rural HealthNet (IRHN)

Connecting over 75 Healthcare Facilities in Illinois

\$22M Grant awarded to create the IRHN modeling NIUNet.

Used primarily for Health Information Exchange (HIE), Telemedicine and Telehealth.



Dekalb Advancement of Technology Authority (DATA)



- Dekalb County is the grant recipient
 - Grant is for \$14.8M
 - Connects to over 70 CAIs
- Partnership between...
 - Dekalb County Gov't
 - Northern Illinois University
 - Dekalb Fiber Optic
- Spans throughout DeKalb County
- **130-Mile Project Connecting over 70 CAIs is COMPLETE!**

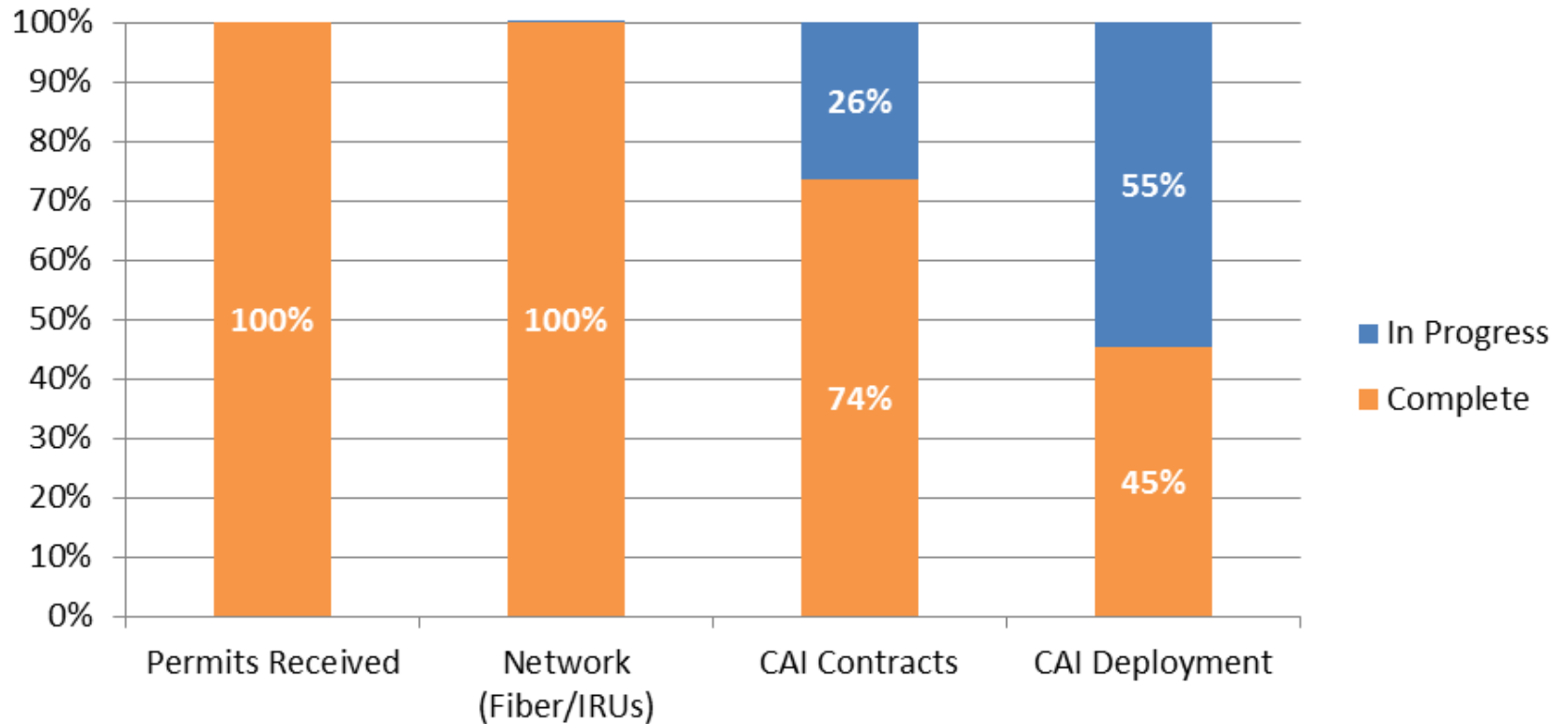
IBOP-NW



- Northern Illinois University is the grant recipient
 - Grant is for \$68.5M
 - Connects to 500 CAIs
- There are three sub-recipients of the grant
 - LaSalle County
 - Rockford Greater Area
 - Blackhawk Hills RC&D
- Network will include 915 miles of fiber
- Spans across 9 counties:
 - JoDaviess, Stephenson, Winnebago, Boone, Carroll, Lee, Whiteside, Ogle and LaSalle

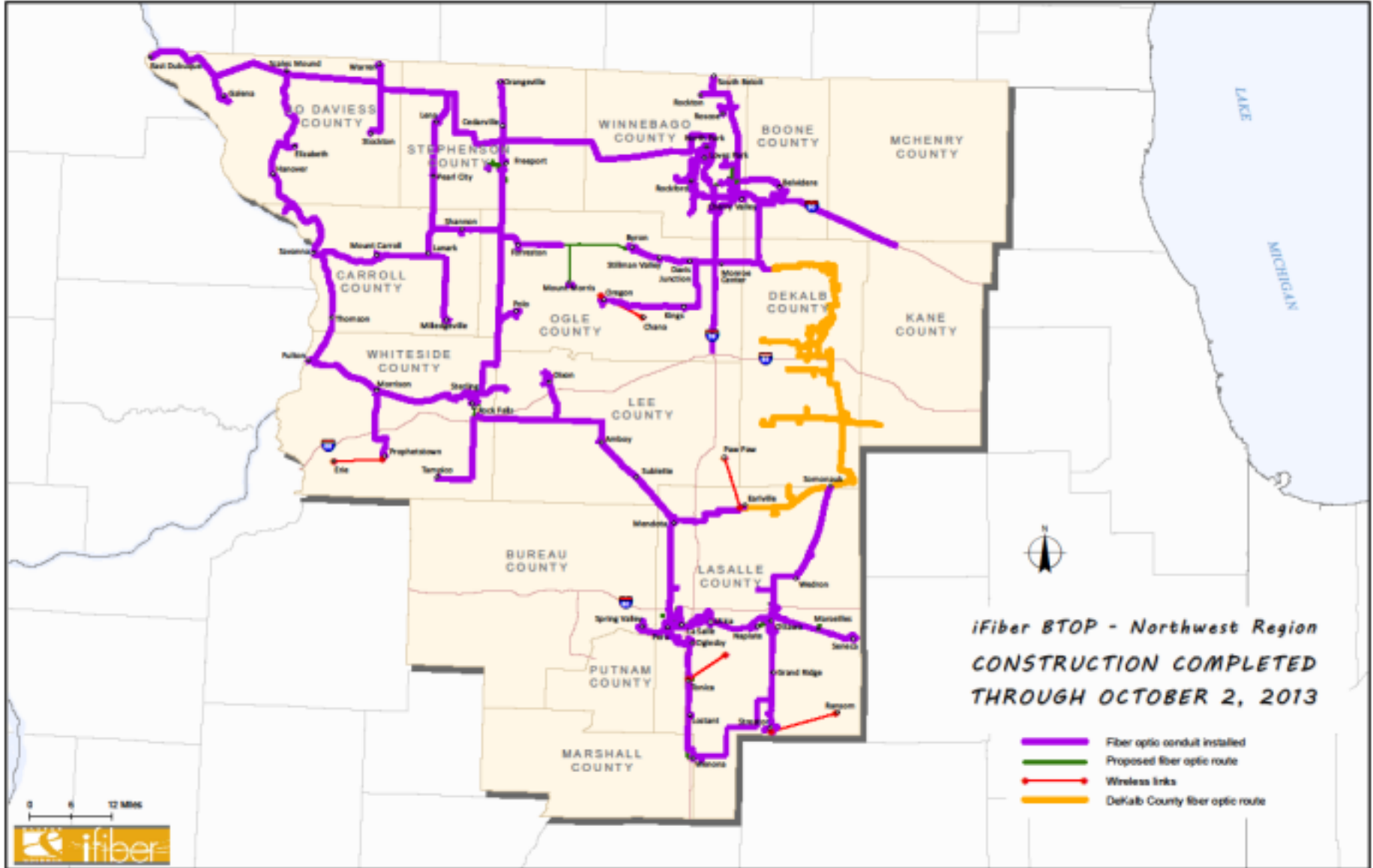


iFiber Progress Overall



Overall Progress

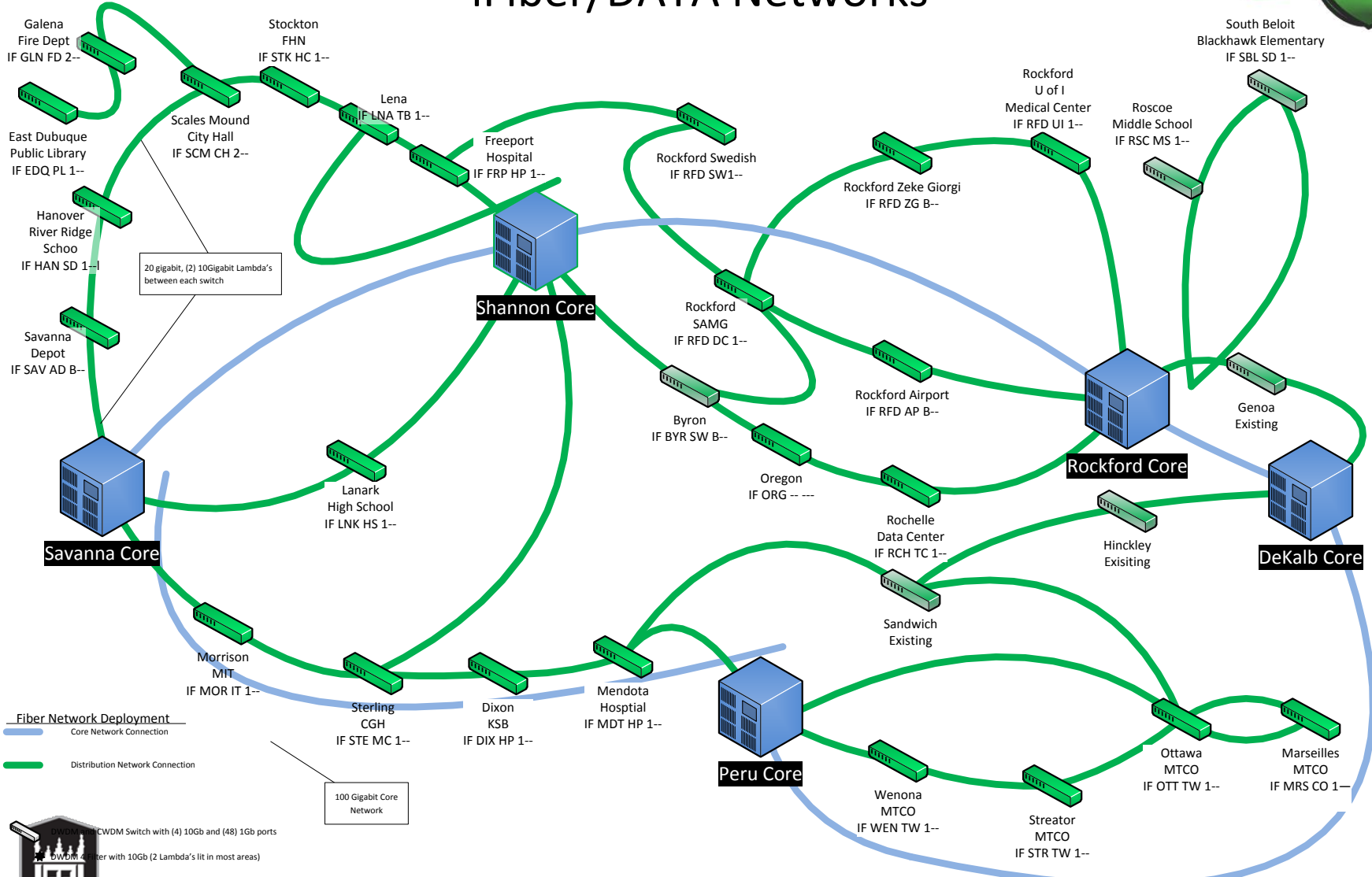
The Map





Illinois Fiber Resources Group

100 Gigabit Core iFiber/DATA Networks



Cost Avoidance

(Public Sector)

- **21st Century Speeds** - Multi-Gb access to Local schools, Municipals, E-911, County & Healthcare
- **Consolidation** – Ability to reduce hardware/software costs up to 50%.
- **Collaboration** - Ability to reduce costs by sharing/combining services or licensing by collaborating with other institutions.
- **Efficiency** - Reduction of phone costs (VOIP) and increasing capacity of coverage for phone services.
 - District 428 High School reduced from over \$2,000/Month to \$480/Month,
 - District 427 from over \$8,000/Month to \$2,000/Month
- **Innovation** - Ability to provide advanced educational courses from universities for P-20 programs providing more options, less travel and interruption of schedules.



Innovation

- **1:1 iPad** - Communications between teacher and student has dramatically increased.
 - E-Mail/IM/Skype
 - Increase electronic text books as a resource that can be pushed out to the student.
- **Hosted Services** - Students can use applications and data storage online enabling them to have access anywhere anytime.
 - All services are over the network and not local any longer.
 - Savings to students by not having to purchase software suites to perform classroom assignments.
- **Online Educational Subscription** -
 - Reference sites/Technical Libraries/Online Tutoring/Literature and Poetry Sites
 - Online Newspapers
- **High-definition streaming media**



Public Safety

- DeKalb County ETSB transitioned entire BH system to fiber
 - Buried infrastructure
 - Increased speed
 - Lower maintenance/costs
- Interconnection with larger Regional PS networks
 - Backup function
- Facilities next-Gen 911
 - Collaboration with other PS entities



Success Stories

(Private Sector)

- Gigabit connectivity to rural businesses
 - Farms/Agri-Business
 - Photography/Videography/AV Design
- Healthcare (lit/dark service)
- Financial Institutions (lit/dark service)
- Wireless 3G/4G Coverage Expansion (dark fiber)
- Business Retention – Expand VPN to support growth
- Fiber Hub promotes NW Illinois for Data Centers
- Metro-E compliance puts NW Illinois “on the Map”





Thank You

Matthew Parks
Senior Director – ITS Network & Communications Svcs
Northern Illinois University
Project Director, IBOP-NW (iFiber)

mparks2@niu.edu

815-753-2720



•••• ECONOMIC DEVELOPMENT CONFERENCE SERIES ••••

Chicago • November 5-7, 2013

Tinley Park, IL – 30 minutes from downtown Chicago

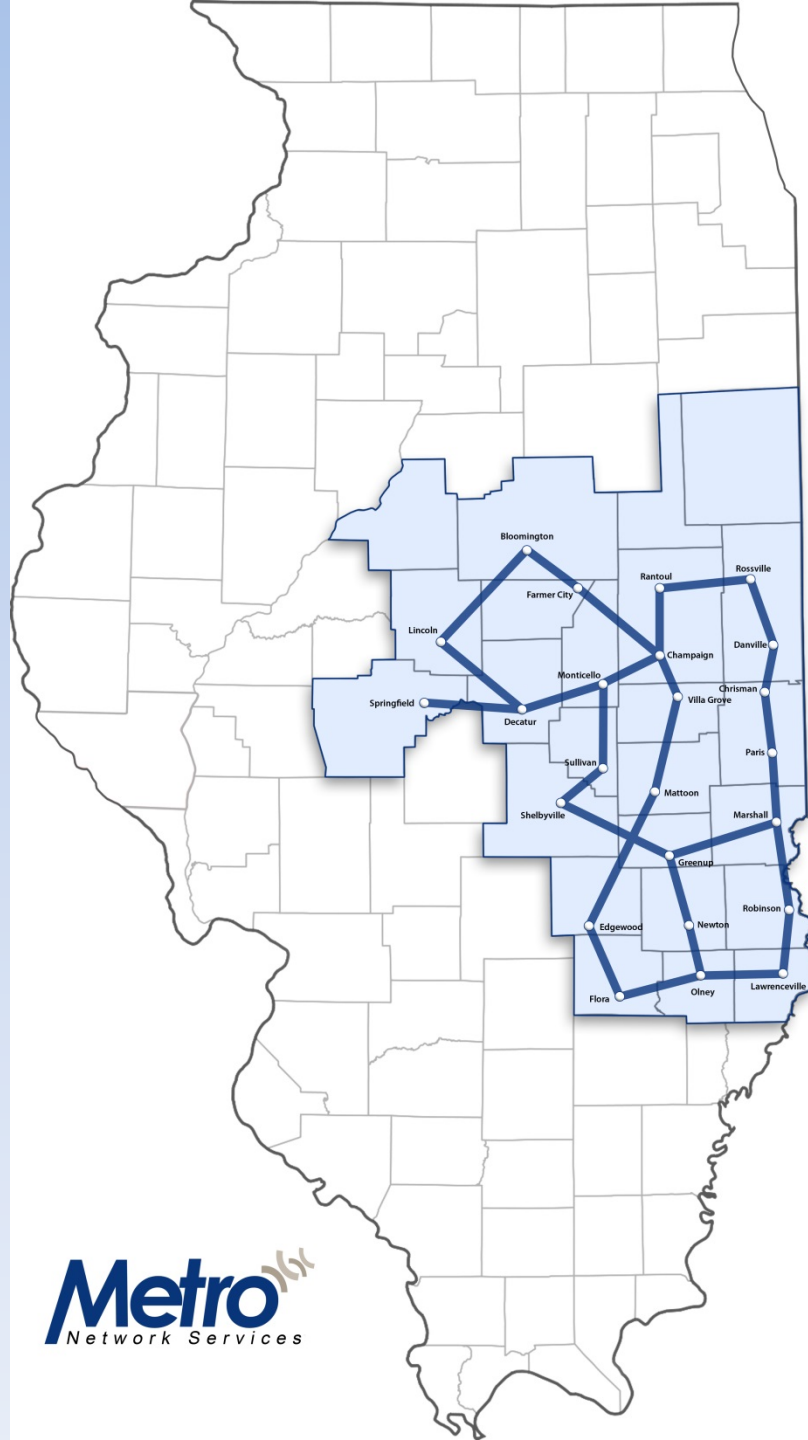
BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD MAGAZINE

Other Fiber Network Projects



Presented by: Zak Horn

President – Metro Communications Company, Inc.



Metro 
Network Services

Metro Communications - Background

- Established in 1993 by former Teleconnect employee, Ron Phelps
- Acquired in 2000 by Zak Horn
- Operates Genband IP/TDM/SS7 voice platform for wholesale tandem and termination
- 7 core (non-construction) employees – 23 project based construction staff
- Privately owned and financed

Network Information

- Total network: ~1,200 miles – 800 non IRU new construction built between 2011 - 2015
- 8 Native Ethernet rings protected using G.8032v2
- Cyan P-OPT Core – Accedian NIDs at the premise – Cisco and Adtran SONET
- DWDM to allow for growth and flexibility
- Chicago POPs at 427 S. LaSalle and 350 Cermack

Construction Methods

- 2 Vermeer P185 cable plows
- 8 Directional Drills, contract and owned
- In-house splicers
- 7 Contract construction firms
- Professionally engineered by Finley Engineering – 700+ miles engineered to date
- All armored 24 to 144 count cable placed in duct with access every 1 mile or more – urban paths include spare duct(s)
- GIS data is collected for the plant and provided to JUILE for one-call locates and future maintenance needs

Completed Construction Print



660

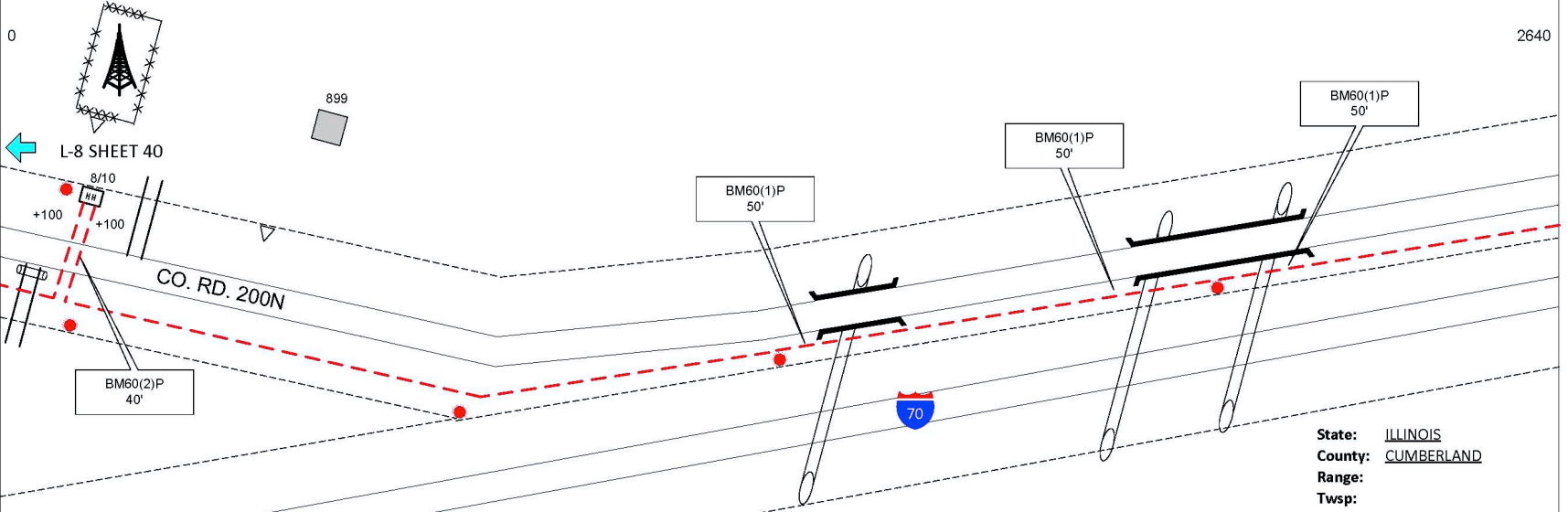
FIBER CABLE CONSTRUCTION

1320

1980



2640



State: ILLINOIS
 County: CUMBERLAND
 Range:
 Twsp:

TERM#	BD	BFO48I	BFOV(1)(1")	BHF(30x48x36)T	BM2	BM2B	BM53F	BM()DP	BM()P	BM72	HBFO(S)	HO-1	W()	W()		
10		1270	1170	1	1	1	4				1	48				
TOTAL		1270	1170	1	1	1	4	0	0	0	1	48	0	0	0	0

As Staked
Metro Communications Co.

Name: L-8 SHEET 41
 WO: 2011-02
 Exch: ALL
 Route: L-8
 ROW:

Staked By: MSF Date: 8/11
 Revised By: _____ Date: _____
 Plowed By: _____ Date: _____
 Tabbed By: _____ Date: _____

Drawing Not to Scale

Sheet	41	of	
-------	----	----	--

Approved Construction Permit



Illinois Department
of Transportation

Utility Permit

Public Improvement Yes No
IDOT Permit No. 5-31743
Utility Reference No. _____

I (We) MCC Network Services, LLC, PO Box 555
Name of Applicant Mailing Address

Sullivan IL 61951, hereinafter termed the Permittee.
City State & Zip

request permission and authority to occupy, and to do certain work herein described on, the right-of-way of the State highway

known as FA-57, Section 10-30, 10-30 (B, B-1, B-2)
from Station #257+92 ± AR to _____ in Champaign County.

The work is described in detail below and/or on the attached sketch or plans.

MCC proposes to bury 1 1.00" HPDE conduit just northeast of Peotum crossing under I-57. Work will be on CR400N crossing I-57 from east to west at Station #257+92. Proposed installation would be accomplished using directional boring. 48 count Commscope fiber will be placed in the duct upon completion.

This permit covers the operation and presence of specified equipment, material or facility on the right-of-way that may be related to the authorized work. A copy of this permit must be present when crews or equipment occupy highway right-of-way. Failure to comply may result in the cessation of all construction.

This permit is subject to conditions and restrictions of Part 530 of Title 92 of the Illinois Administrative Code, Accommodation of Utilities on Right-of-Way of the Illinois State Highway System. The removal, relocation or modification of facilities permitted to occupy the right-of-way is governed by Section 9-113 of the Illinois Highway Code, as amended by Public Act 92-0470. The Permittee agrees to comply with the requirements of these laws and with all terms and conditions established by this permit. This permit is subject to revocation by the Department on violation of the terms and conditions governing its use.

Zachary Horn 11/2/12
Signature of Agent for Permittee Date

Zachary Horn
Name of Permittee (Print or Type)

PO Box 555
Mailing Address

Sullivan IL 61951
City State Zip

The work authorized by this permit shall be completed by 2/1/2013 or within 120 days after the date of approval by the Department, otherwise the permit will be considered null and void.

Public Improvement Projects only: The anticipated letting date is _____

This permit allowing occupancy and work on state right-of-way is approved. The Utility Coordination Council established by the Department in the area covered by this permit is District 5, Paris, IL

[Signature] 11/20/12
Department of Transportation Date

Plowing



Plowing



Directional Drilling



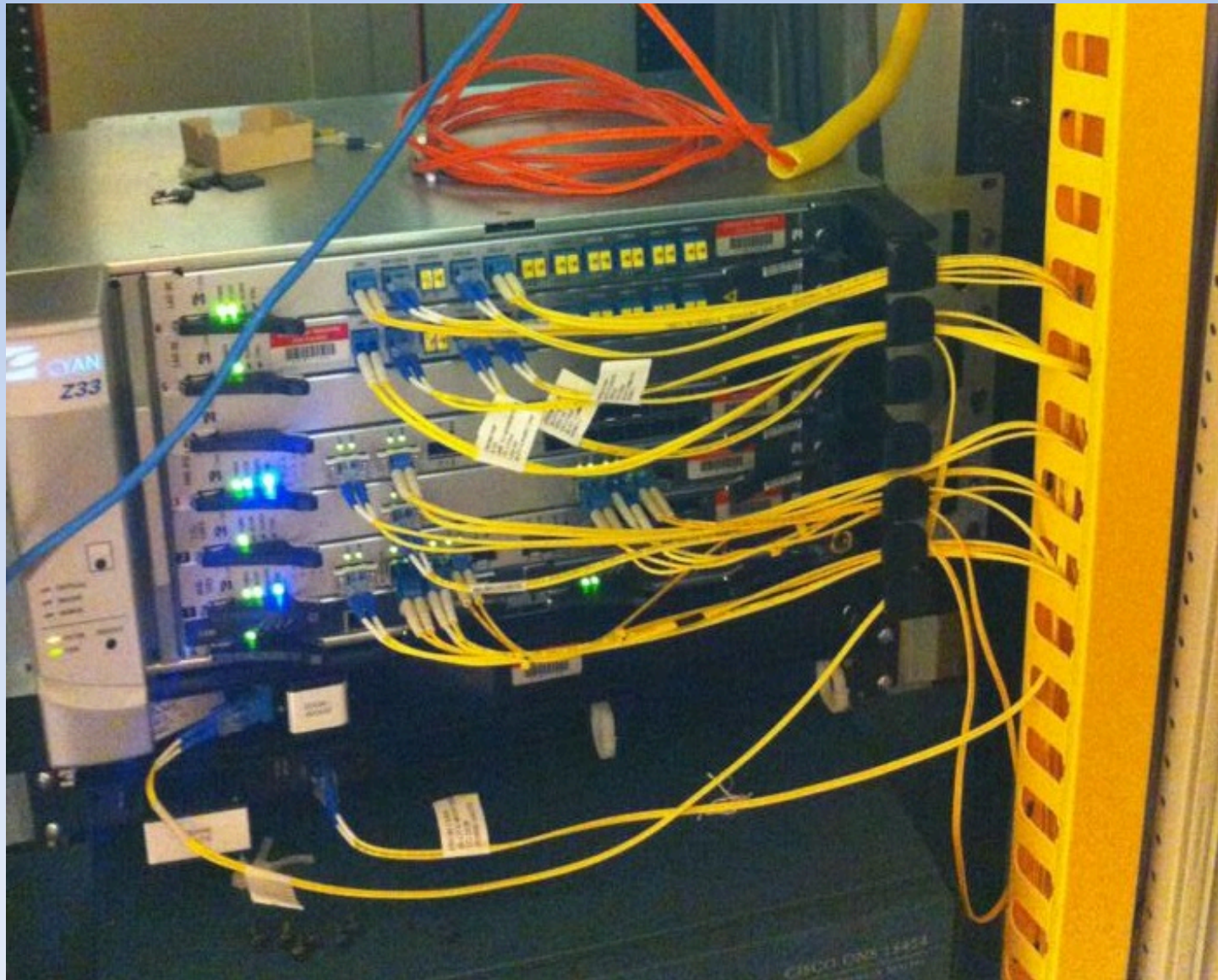
Cable Placement by Blowing



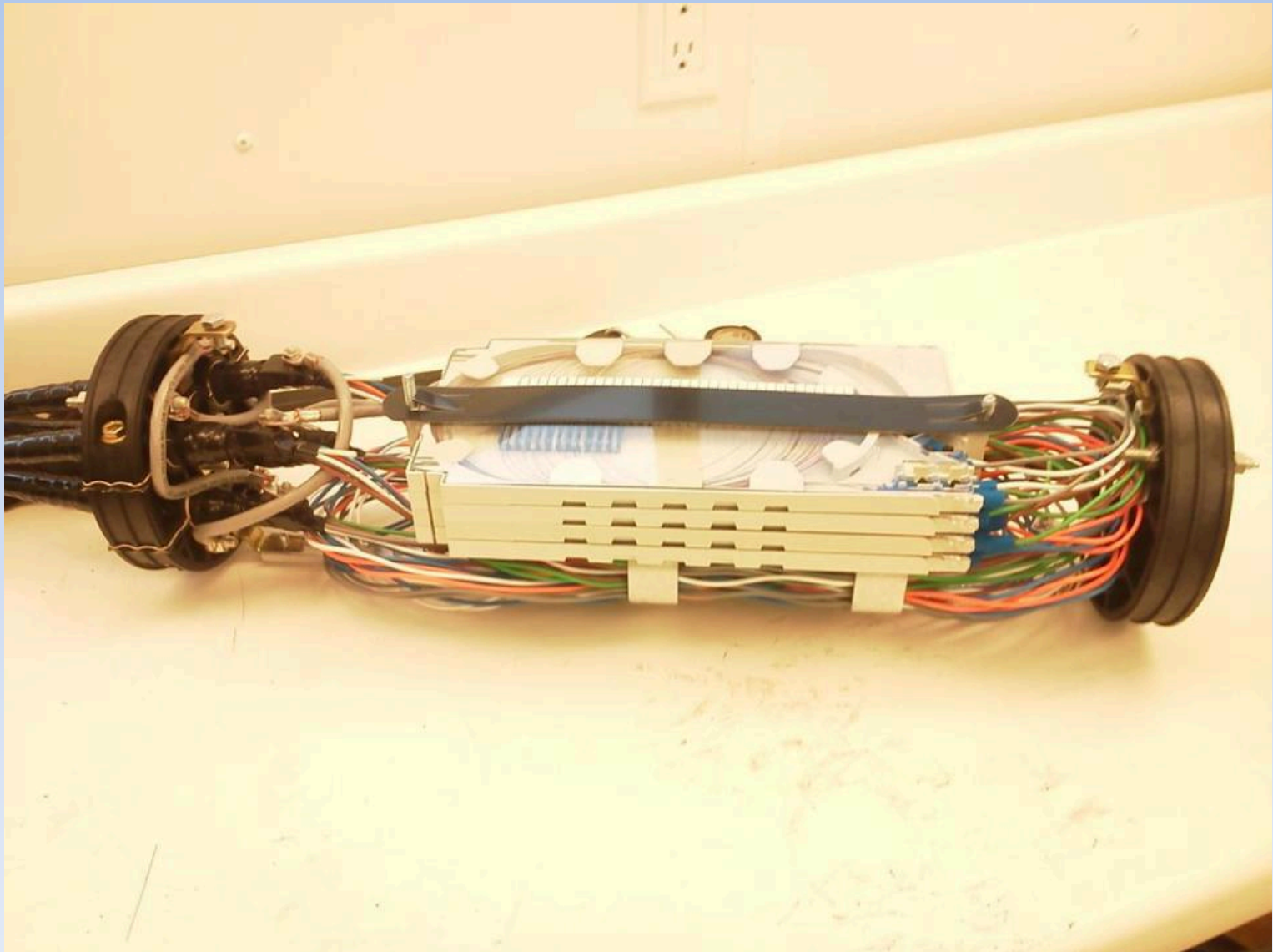
Premise Panel and NID Installation



Cyan Packet Optical Core



Splicing



GIS/JULIE/Turn-up/NMS/Etc.



Customer Segments

- Cellular Backhaul / Wholesale Lit Transport
- Education, Government, Healthcare
- Wavelengths and dark fiber leases
- Internal transport for legacy Metro voice services
- Future growth initiatives to support last mile retail services in select areas



Service Offerings

- Point to Point and Point to Multipoint Ethernet up to 10Gb
- TDM connectivity into a number of COs and MTSOs
- Dark fiber or wavelength leases
- IP transit via Chicago
- Connectivity to the State CMS network
- Custom network solutions
- Colocation – Decatur, Champaign, Sullivan, Springfield

5 Year Plan

- Incremental revenue and asset utilization (ROI)
- Legacy voice cost reduction and efficient network operation
- Continued network construction for the foreseeable future
- Customer focused carrier operated by capable, hard working individuals, bureaucracy free environment, low overhead

•••• **ECONOMIC DEVELOPMENT CONFERENCE SERIES** ••••

Chicago • November 5-7, 2013

Tinley Park, IL – 30 minutes from downtown Chicago

BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD **MAGAZINE**

QUESTIONS?

Why Should I Attend this Conference?

- Learn about the Chicago Southland Fiber Network from those that built it!
- Discover financing strategies and options and how to make the numbers work for your community.
- Your community wasn't selected for Google Fiber. Discover how to successfully replicate the Google model.
- Help your local businesses thrive with advanced broadband infrastructure.
- Build personal and business relationships across a wide range of industries, all focused on Economic Development.



How Do I Register?

- Visit www.bbcmag.com/chicago/
- Click “Register”
- Click “General Admission”
- Enter Discount Code ChicagoNow
- Discount Registration Rate Increases Next Week!



Where Can I Learn More?

- Visit www.bbcmag.com/chicago/ for:
 - Complete Agenda
 - Speakers List
 - Hotel and Venue Information
 - Registration
 - Sponsorship and Exhibitor Information



We'll See You in Chicago!

... **ECONOMIC DEVELOPMENT CONFERENCE SERIES** ...

Chicago • November 5-7, 2013

BroadbandCommunities
BUILDING A FIBER-CONNECTED WORLD MAGAZINE

Community Fiber Networks

Conference Site: Tinley Park Convention Center, Chicago Southlands – 30 Minutes From Downtown Chicago

CHICAGO
Economic Development
Conference Series
COMMUNITY FIBER NETWORKS
November 5 – 7, 2013
877-588-1649



Premier Sponsor:

CLEARFIELD

Diamond Sponsor:


Gold Sponsor:


Featured Sponsor:


www.bbcmag.com/chicago/

(702) 405-7004