



Waterloo Telecommunications Utility
Fiber Partnership Proposal

October 10, 2006

Discussion Draft

FIBER PARTNERSHIP PROPSAL

BACKGROUND

TEAM Consulting Partners, representing a group of Waterloo businesses, educational and not-for-profit organizations, is interested in developing a partnership with the Waterloo Telecommunications Utility. This partnership's purpose would be to develop and operate an "Open Access Fiberoptics Network" in the city of Waterloo, IA.

The benefits of an open access network include:

- Converts City Right of Ways to Tangible Asset,
- Asset Can/Will Reduce Communications Costs to City,
- Will Promote Economic Development,
- Promotes Private Competition/Innovative Services.

OBJECTIVES

- Provide World-Class Service to Public Users
- Provide World-Class Service to Business Users
- Provide Wholesale Service to Carriers/Service Providers
- Encourage Competition and Innovation

DEVELOPMENT STRATEGY

- STEP 1: Develop the Private/Public Partnership
- STEP 2: Construct an "Open Access" Fiber Network. This will be done through an RFP/negotiation process with the city's telecom carriers.
- STEP 3: Construct switching locations ("POP's) and carrier interconnects to serve all network users and carriers.

1) OPEN ACCESS FIBEROPTICS NETWORK

a) WHY FIBEROPTICS?

- i) Suitable for High Speed Backbone
- ii) Long Lived Asset
- iii) Leverages Existing City Competency (Locates, Staff/Equipment)

b) RIGHT OF WAYS

- i) Fundamental Asset of City of Waterloo
- ii) Existing Agreements (Qwest, Mediacom, McLeodUSA)
- iii) Mediacom, McLeodUSA Fiber Available for City Use

c) CONSTRUCTION OF CITYWIDE NETWORK

- i) Backbone Network
 - (1) Existing Fiber Provide Inadequate Coverage
 - (2) Remaining Coverage Requires Capital
 - (a) New Fiber
 - (b) POP's/Interconnects
 - (c) Optronics/Equipment
- ii) Distribution Network
 - (1) Carrier Provided
 - (2) Customer-Funded Option (IRU)
- iii) Management Required (O&M, Net Mgmt)
- iv) Resolution of Competition Issue

d) FIBER OPERATIONS & MAINTENANCE (O&M)

- i) Locates (City of Waterloo)
- ii) Splices & Maintenance (RFP)
 - (1) Cedar Falls Utilities
 - (2) Carrier/Other

e) NETWORK MANAGEMENT

- i) TEAM Technologies (Operational Responsibility)

f) ACCEPTABLE USE (Open Access)

- i) Public (City/County/State/Emergency)
- ii) Carriers (IRU's &/or Lit Fiber)
- iii) Private (IRU's &/or Lit Fiber)

2) PARTNERSHIP OVERVIEW

a) STRUCTURE

- i) Capital Partnership
- ii) 28E Agreement w/ City Utility
- iii) Board Consists of WTU/Initial Member Designees
- iv) New Members May be Added (Carriers/New Builds)
- v) Charter to include Risk Management

b) ROLES & RESPONSIBILITIES

- i) FIBER CONTRACTOR
 - (1) Installs & Tests Fiber
 - (2) May Provide O&M
- ii) DARK FIBER SUPPLIER (City/Partnership)
 - (1) May be Fiber Contractor
 - (2) Holds Title to Fiber
 - (3) Grants Fiber IRU (No Optronics)
 - (4) Maintains Fiber (Locates, Splices, Maintenance)
- iii) LIT FIBER SUPPLIER (Option)
 - (1) Installs/Owns Optronics (Layer 1)
 - (2) Provides Ethernet Service (Layer 2)
- iv) SERVICE PROVIDERS
 - (1) Carriers (Legacy/Tariffed)
 - (2) Internet Service Providers (Wired, Wireless)
 - (3) Application Service Providers (VoIP, Video, DR, etal)

c) FUNDING (Private/Public Partnership)

- i) City Contributes Right-of-Way & Conduit Access
- ii) Build-Out Funded by Initial Users
- iii) Construction by Fiber Contractor
- iv) Title to City Utility/IRU to Initial Users
- v) Subsequent IRU's Repay Capital to Initial Users
 - (1) Reinvestment Option
 - (2) Cash/Service Credit

- vi) Risk Management
 - (1) Purchase Option (w/ Right-of-Way Agreement)
 - (2) Other Considerations
- vii) Benefits to Funding Strategy:
 - (1) No Need for Bonding/Referendum
 - (2) No Risk to Taxpayers
 - (3) Provides Services to Public Users (\$0-<\$)

3) POINTS OF PRESENCE (POP'S) / EXPANSION OPTIONS

a) POINTS OF PRESENCE (SWITCHING LOCATIONS)

- i) Equipment Colocation Facilities
 - (1) Existing
 - (a) TEAM Prairie Lakes Data Center
 - (b) Cedar Falls Utilities
 - (c) Waterloo Downtown East (Blacks)
 - (2) Proposed
 - (a) Waterloo Downtown West (TechWorks)
 - (b) Waterloo South (Tower Park)
 - (3) Requirements
 - (a) Security (Access Control, Surveillance)
 - (b) Conditioned Space (Carrier Racks, Cabinets)
 - (c) Power (UPS)
 - (d) HVAC (Air Conditioning)
- ii) Carrier Interconnects
 - (1) Customer Provided Loop
 - (a) POP Demarc Location
 - (2) Carrier Provided Loop
 - (a) Carrier Provided Loop
 - (i) Customer Demarc Location
 - (3) Carrier X-Connects
 - (a) Carrier to Carrier Traffic

b) EXPANSION OPTIONS

- i) Fiber Contributions/Swaps
- ii) New Construction/New Members
- iii) Requires Board Approval