

HIGHWAY SHED CELLULAR BID OPENING DATE 12-30-14	TSI GLOBAL COMPANIES LLC	UNITED TECHNOLOGIES CORPORATION
	700 FOUNTAIN LAKES BLVD ST CHARLES MO 63301	7201 N LINDBERGH HAZELWOOD MO 63042
ESTIMATED PROPOSAL TOTAL	\$74,323.10	\$24,700.00
NOTARIZED WORK AFFIDAVIT COMPLETED	YES	YES
COPY OF INSURANCE PROVIDED	YES	YES
TAX RECEIPTS OR NOTARIZED LETTER STATING NO REAL OR PERSONAL PROPERTY OWNED IN JEFFERSON COUNTY	NO	YES
COOPERATIVE BID FORM (Y/N)	MAYBE	YES
COOPERATIVE CONTACT INFO:	YES	YES
COMPANY INFORMATION AND SIGNATURE	YES	YES
BID DEPOSIT REQUIRED	N/A	N/A
COMMENTS:	See Attachments for Price Breakdown Sheet. Did not Include Addendum #1.	See Attachments for Price Breakdown.



JEFFERSON COUNTY
DEPARTMENT OF ADMINISTRATIVE SERVICES
729 MAPLE ST / PO BOX 100
HILLSBORO MO 63050
WWW.JEFFCOMO.ORG

Request for Proposal: HIGHWAY SHED CELLULAR

Date Issued: 11-24-14

PROPOSALS SHALL BE ACCEPTED UNTIL: TUESDAY, DECEMBER 30, 2014, AT 2:00 P.M. LOCAL TIME.

**Specification
Contact:**

JASON JONAS
Department of Public Works
636-797-5369
jjonas@jeffcomo.org

**Contract
Contact:**

VICKIE PRATT
Department of Administrative Services
636-797-5380

**Mail (3) Three
Complete Copies
With Vendor And
Proposal
Information As
Shown In Sample:**

**Contract Term:
upon approval by
the County Council
and County
Executive**

**Vendor
Information:**

SAMPLE ENVELOPE

VENDOR NAME

VENDOR ADDRESS

CONTACT NUMBER

DEPARTMENT OF THE COUNTY CLERK

JEFFERSON COUNTY MISSOURI

729 MAPLE ST / PO BOX 100

HILLSBORO MO 63050-0100

SEALED PROPOSAL: (PROPOSAL NAME)

The undersigned certifies that he/she has the authority to bind this company in an agreement/contract to supply the commodity or service in accordance with all terms, conditions, and pricing specified. This Proposal, if accepted, will constitute an Agreement and Contract with Jefferson County, Missouri, upon approval of the County Council and County Executive. Prices are firm during this agreement term, unless agreed upon in writing by the County. The County has the option to renew this agreement at the same terms and conditions as the original agreement for one additional one-year term with the written consent of the successful bidder. Price increases for renewals are not authorized unless approved in writing by the County.

TSF GLOBAL COMPANIES, LLC SCOTT M. WILLIAMS
Company Name Authorized Agent (Print)
700 FOUNTAIN LAKES BLVD Scott M. Williams
Address Signature
ST. CHARLES, MO 63301 SR ACCOUNT MANAGER
City/State/Zip Code Title
636-425-1316 12/30/14 26-0316754
Telephone # Date Tax ID #
swilliams@tsf-global.com 636-425-1416
E-mail Fax #



Quote #: SW-14-118

Quote Date: 12/30/2014

TSI Point of Contact:

Scott M. Williams, RCDD/NTS
Phone: (636) 425-1316 Fax: (636) 425-1416
email: swilliams@tsi-global.com

Quotation Prepared for:

Jason Jonas
Jefferson County
729 Maple St / PO Box 100
Hillsboro, MO 63050

Highway Shed DAS System

Refer to attached Scope of Work Sheet(s) - Attachment A

Refer to attached Bill of Material / Project Report Sheet(s) - Attachment B

This quote is valid until 01/29/2015. After that date, this proposal is subject to price verification/adjustment.

Installation on an expedited basis will require a separate charge to cover short interval shipping and/or premium labor charges that are not reflected in this quotation.

Billing Policy shall be Net 30 or as mutually agreed upon between TSI and Jefferson County at Contract signing.

TOTAL MATERIAL =

TOTAL INSTALLATION (Labor) =

GRAND TOTAL (not including shipping or taxes) =

CUSTOMER APPROVAL / AUTHORIZATION

TSI Signature:

Date:

Customer Signature:

Date:

-- Proprietary Information --

Information Contained Herein is for the Authorized Parties Hereto and
Not for General Distribution Within or Outside of Their Respective Organizations.

Attachment A - Scope of Work

1.0 General / Project Overview

- 1.01 TSI shall furnish labor and miscellaneous material to install a DAS system per the RFP and design drawings. Please refer to Attachment B of this proposal for a complete list of material and pricing.
- 1.02 It has been assumed that all cabling associated with this project must be independently supported. J-hooks will be installed throughout to meet this requirement.
- 1.03 TSI shall fire stop all wall/floor penetrations that are created by TSI under this SOW. TSI will not assume responsibility for fire stopping existing wall/floor penetrations unless they were disturbed as a direct result of this SOW.
- 1.04 The roof penetration will be the responsibility of others. TSI will supply and install the roof antenna.
- 1.05 Raceway, conduit and installation of sleeves has not been included in this proposal. If these become a requirement, additional costs will apply.
- 1.06 Coax cabling will be sweep tested by TSI. PIM testing has not been included.
- 1.07 It has been assumed that the existing fiber between buildings can be utilized for this project. Single mode strands will have to be reterminated with SC/APC pigtauls for the DAS system.
- 1.08 As a certified MBE contractor, 100% of this project qualifies toward MBE diversity goals. Please see attached print out from the St. Louis Airport Authority database.

2.0 Project Management/Quality/Schedule

- 2.01 TSI shall provide qualified on-site installation supervision.
- 2.02 TSI's installation practices will be governed by EIA/TIA Telecommunications Building Wiring Standards, the BICSI Telecommunication Distribution Methods Manual and local building codes.
- 2.03 All work shall be done in accordance with the respective drawings, written specifications, supplemental information, industry standards, trade practice, and applicable regulatory agencies.
- 2.04 All work shall be performed by competent personnel and executed in a neat and workmanlike manner providing a thorough and complete installation.
- 2.05 TSI's normal work schedule for this project shall be Monday - Friday, 7:00am - 4:30pm. Work beyond this schedule requires written approval via a Change Order.

3.0 Warranty

- 3.01 TSI warrants that: (i) For a period of 1 year following completion of the Project, Services provided will have been performed in a workmanlike manner and (ii) Any material provided will be free from defects for a period of 1 year days following completion of the project.
- 3.02 All manufacturers' warranties that extend past the TSI standard warranty period will be passed through to Client. Warranty issues outside the TSI standard warranty period must be negotiated direct between Client and the Manufacturer.

4.0 Labeling Specifications

- 4.01 All labeling will be performed as directed.

5.0 Changes to the Scope of Work

- 5.01 TSI will not perform any verbally-requested change orders. Any work not specifically outlined within this Scope of Work is deemed to be Out of Scope and subject to the Change Order process. TSI has endeavored to provide accurate counts of equipment, cabling, etc. based on the information provided by the customer.

6.0 Project Documentation & Testing

- 6.01 TSI shall keep a complete set of drawings at all times and will record the progress of installation and markup as they occur.
- 6.02 Red-line information will be provided for drawing updates. All drawings and documentation will be the responsibility of others.

Attachment A - Scope of Work

Customer Acknowledgement

I have read, understand and agree the above Scope of Work accurately represents my expectations regarding this Structured Cabling System quotation

Jason Jonas

Date

-- Proprietary Information --

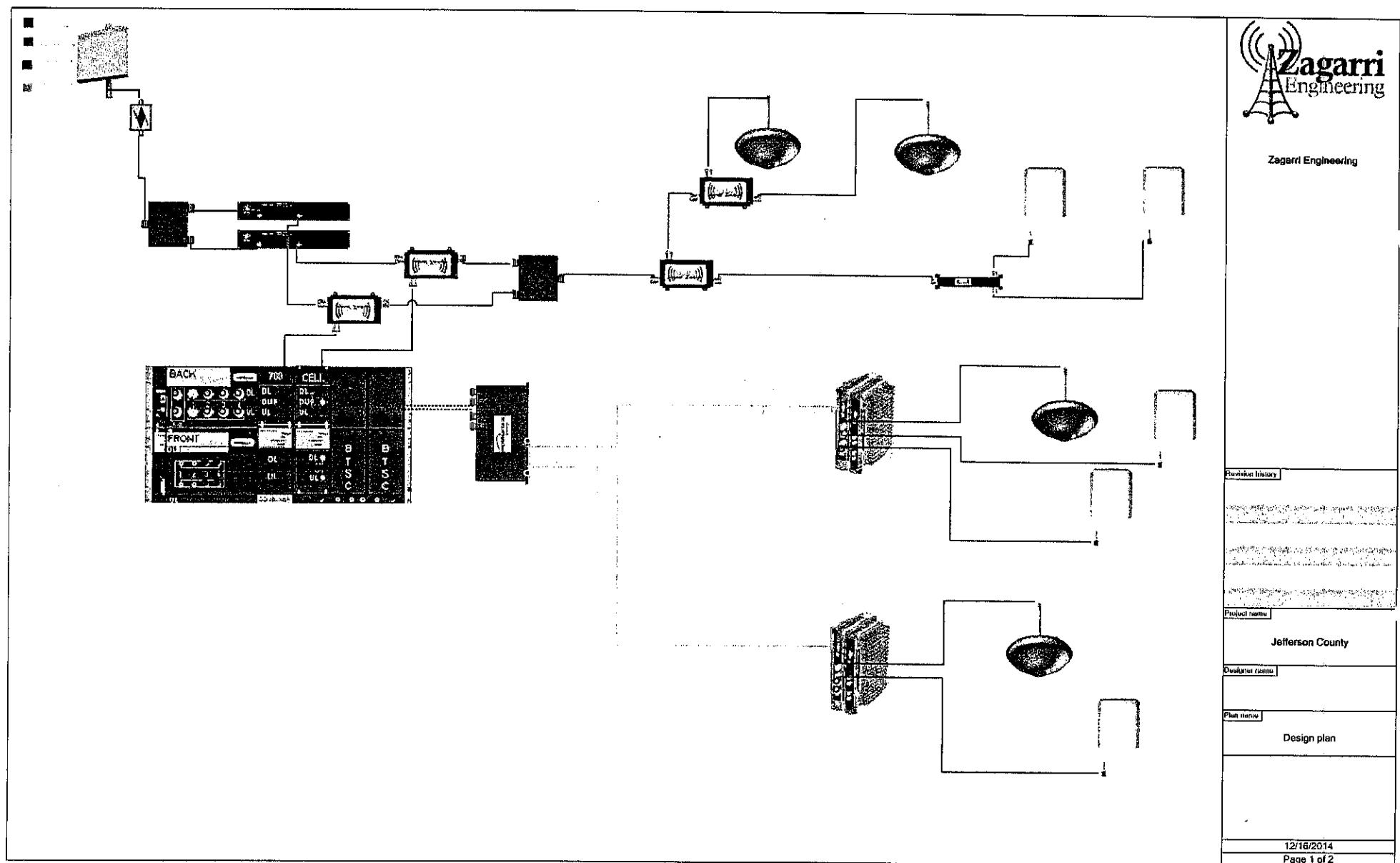
Information Contained Herein is for the Authorized Parties Hereto and
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Attachment B - Bill of Materials / Project Report

Description	Manufacturer	Manufacturer Part Number	Qty	Units	Unit Price	Extended Price
Highway Shed DAS System						
Materials						
Modular Digital 700LTE Dual band, Repeater with software tuneable passbands	Cellular Specialties	CSI-DSP85-250-L7/U7C	1	each		
Modular Digital Cellular Repeater with software tuneable passbands	Cellular Specialties	CSI-DSP85-250-C	1	each		
Tri band-Cell/PCS/LTE RHU, 4 ports,enhanced out power, SMF only	Mobile Access	1000-C85P19L70-A	2	each		
Base 4 Unit supporting 4 Remote Hub Units, SMF only	Mobile Access	WB-B4U	1	each		
Radio Interface Module supporting 1-4 conditioners	Mobile Access	RIU-4	1	each		
BTS Conditioner for 700Mhz LTE	Mobile Access	RIU-8TSC-700LTE	1	each		
BDA Conditioner for Cellular	Mobile Access	RIU-BDAC-CELL	1	each		
RIU-4 cable kit, includes 4 QMA-N cables for BU connection	Mobile Access	AK-RIU4-BU-CABLES	1	each		
Local AC/DC Converter 100W	Mobile Access	LPS-48V-100W	4	each		
SC 450, TCP/IP Network Mgmt. System	Mobile Access	SC-450	1	each		
CSI Clearlink Low PIM ceiling mount Omni 698-960 Mhz/ 1710-2700 Mhz, 2dBi, N(F)	Cellular Specialties	CLS-CL-O/698-2.7K/N	4	each		
CSI Clearlink Low PIM directional panel 698-960 Mhz/ 1710-2700 Mhz, 7dBi, N(F)	Cellular Specialties	CLS-CL-D/698-2.7K/N	5	each		
Jaybeam wideband panel antenna, 698-2170Mhz, 9/11dB gain, N connector	Amphenol	ATL-DCS43PA05F10	1	each		
RFS 1/2" Plenum Coaxial Cable	RFS Cellwave	CBW-ICA12-50JPL	1800	feet		
RFS 1/2" Outdoor Coaxial Cable	RFS Cellwave	CBW-LCF12-50J	150	feet		
RFS 1/2" Connector N Male	RFS Cellwave	CBW-NM-LCF12-D01	28	each		
1/2" clip on coaxial cable ground kit	Signal Inside	SII-SI-GK12	1	each		
2-way Wilkinson splitter 698-2700 Mhz, -153dBc PIM, N(F)	Signal Inside	WPS-2-N-LP	2	each		
Directional Coupler, 698-2700MHz, 4.8 dB coupling loss (3:1), -153dBc PIM, N(F)	Signal Inside	DC-4.8-N	6	each		
Cell/PCS Crossband Combiner, 2 ports, 700-793 / 824-894MHz, N(F) connectors	MicroLabFXR	MLB-BK-71N	2	feet		
RF Dummy Load, DC - 3Ghz, Max RF power 2W, N(M) connector	Signal Inside	TL-2W-MN	1	each		
LMR400 coax jumper cable, 4ft long with N(M) to N(M) connectors	Hutton	HCA-L400-NMNM48S	1	each		
RG142 Plenum 3' jumper N(M) N(M)	Signal Inside	SIG-S142-NMNM-36S	12	each		
Rugged Splice Box	Supplied By	Others	3	each		
12s SM-SC/APC Fiber Adapter Panels	Supplied By	Others	3	each		
Fusion Splice Trays	Supplied By	Others	8	each		
SM SC/APC Fiber Jumpers	Supplied By	Others	3	each		
Fiber Optic Acceptance Testing	Supplied By	Others	4	each		
4' X 4' X 3/4" Painted Backboard	TSI	TSI	2	each		
J-Hook (2") W/ Beam Clamp	Erico	CAT32 BC	150	each		
Plenum Velcro, Black (75 ft. roll)	FALCON	G-75-MRL-BK	1	each		
Firestop Allowance	TSI	TSI	1	ls		
#6 Green Ground Wire	American	THHN 6STR GRN	150	feet		
#6 AWG Grounding Lug	Burndy	L70	12	each		
Miscellaneous Material	TSI	TSI	1	ls		
Low Voltage Permit	TSI	TSI	1	ls		
Material Handling	TSI	TSI	1	ls		
Floor Cores/s Wall Sleeves (Estimated)	TSI	TSI	1	each		
Lift Rental	TSI	TSI	1	ls		
DAS Equipment	Ziggari	Engineering	1	each		
Antennas	Ziggari	Engineering	1	each		
Cable	Ziggari	Engineering	1	each		
Jumpers	Ziggari	Engineering	1	each		
Couplers	Ziggari	Engineering	1	each		
Roof Mount	Ziggari	Engineering	1	each		
Zeus NMS Install	Ziggari	Engineering	1	each		
Zeus NMS Annual	Ziggari	Engineering	1	each		
Engineering	Ziggari	Engineering	1	each		
Materials Sub-total						\$57,437.10
Labor						
Labor to Install per SOW			1	ls		
Closet Build-Out / Dress Cables			2	each		
Coax Sweep Testing			20	each		
Labeling & Documentation			1	ls		
Project Management			1	ls		
Project Management			1	each		
Labor Sub-total						\$16,886.00
Grand Total						\$74,323.10

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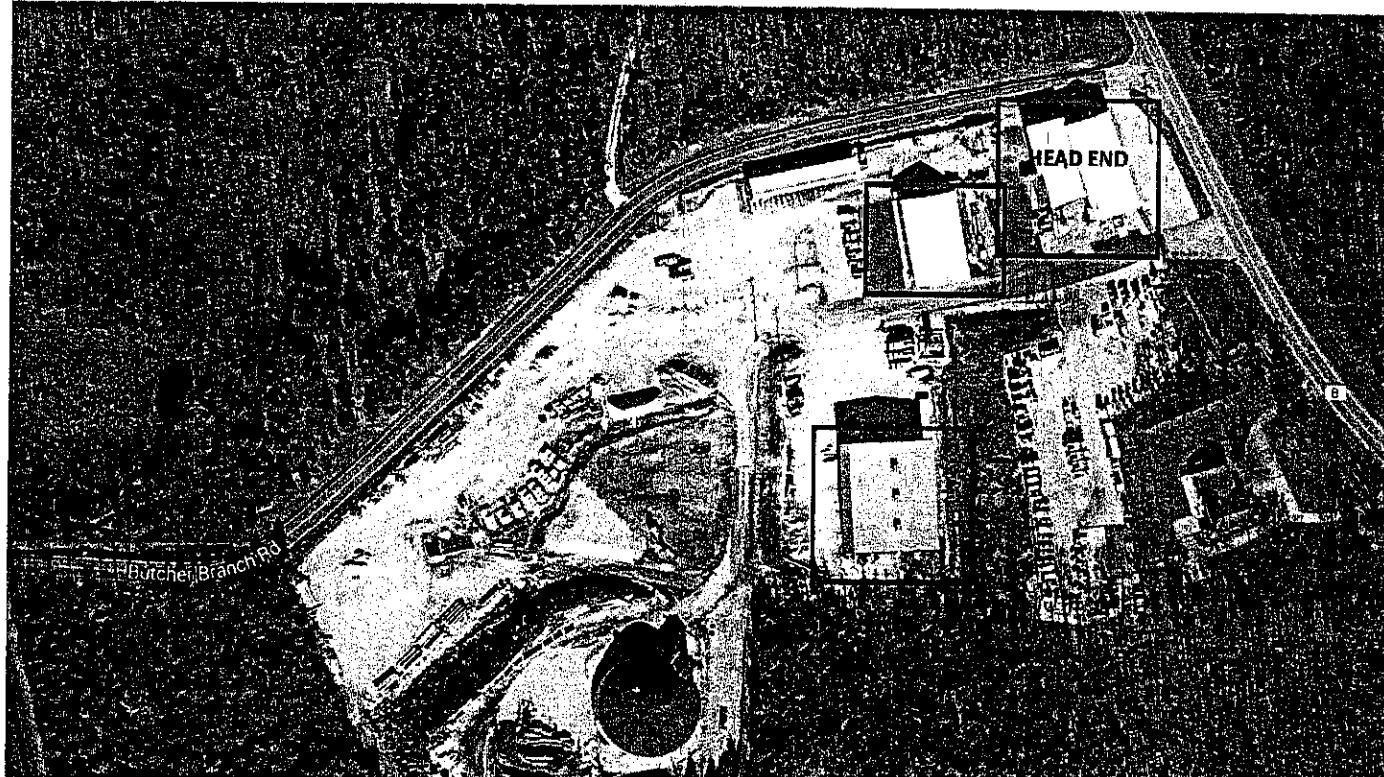


JEFFERSON COUNTY

HIGHWAY SHED CELLULAR



Zagarri Engineering



TARGET STRUCTURES with Interbuilding fiber available

Revision history
Project name
Jefferson County
Designator name
Plan name
Site Layout
12/16/2014
Page 2 of 2



**JEFFERSON COUNTY
DEPARTMENT OF ADMINISTRATIVE SERVICES
729 MAPLE ST / PO BOX 100
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United Technologies Corporation

Joe Niknejadi

Company Name

Authorized Agent (Print)

7201 N. Lindbergh

Signature

Address

Hazelwood, MO 63042

CEO

Title

314-731-4422

12-22-14

43-1662378

Telephone #

Date

Tax ID #

nniknejadi@utc-usa.com

314-736-5775

E-mail

Fax #

MANAGEMENT SUMMARY

Having carefully reviewed Jefferson County's Highway Shed Buildings' Cellular signal reception requirements, the following technologically advanced bidirectional cellular wireless repeater network.

SCOPE

United Technologies Corporation is pleased to provide contract services for cellular project site survey, RF signal measurements, spectrum snapshots for various frequency bands, create an engineering design, and installation of wireless equipment, based on the following criteria:

Enhance Wireless Cellular Reception

- Wireless Service – Licensed Spectrum Cellular
- SureCall/Wilson Repeater
- Downlink – CELL/PCS/LTE
- Design dBm – 90 dB or Better

Assign a highly experienced wireless engineer for the project.

Responsibilities of the designer will include:

- Using the 'Floor Plans' provided by the Department, deliver a fully integrated Repeater, **Continent Upon adequate outdoor signal strength (-80 dBm or better).**
- Site survey services.
- Design services.
- Supervise installation/labor.
- Project management services.
- Commissioning services.
- Wireless data analysis and testing.
- RF equipment sources
- Commission the system based on manufacturer's specifications.
- Verify RF coverage requirements are met.
- Measure signal quality and strength using appropriate wireless devices.

PROJECT COST

Total cost for project is \$ 24,700.00

Terms and Conditions

Proposed system cost includes:

- All non-plenum rated cabling
- All installations – electrical wiring
- All Permits
- All equipment
- One year on-site warranty for equipment, 90-days for cabling

Proposed system cost Does not include

- Cutting, core or masonry drilling
- Patching, paint finish work
- Building UPS, power generator, or other backup power system

Note: Provisioning for all equipment power requirements is the responsibility of the County.

Installation

In addition to all requirements as set forth by the RFP, system delivered would have components as described below.

Adjunct Cell Network – The network to implement a robust system for communication of cellular services provided by the 4 major wireless operators: Verizon, AT&T, Sprint, and T-Mobile.

Regulations – Network will meet all state and federal regulations.

Intended Coverage Areas – Bidirectional cellular wireless repeaters to cover the Highway B building, Lower Shed building, and Sing Shop.

Equipment Used – Bidirectional amplifiers, Non-plenum coax cabling, Antennas, Splitters, Diplexers, and Accessories.

INSTALLATION AND SUPPORT

The following appropriate Staffing is required for all phases of installation and support:

Project Manager – Mr. Tony Moll will be the project manager.

Cabling/Installation

Three people will be given the assignment of site preparation, cabling, installation, and testing.

Warranty/Post Warranty Support

All hardware is warranted for a period of one year from final installation, and 90-days for all cabling. After the first year, on going licensed spectrum network maintenance can be provided as a part of REJIS maintenance program.

CERTIFICATE OF INSURANCE

Certificate of insurance is provided with this proposal.

MAINTENANCE

Maintenance Program

Comprehensive maintenance programs are available for installations and all hardware. After the warranty period, these maintenance programs may be used to protect against problems and unwanted down time.

Hardware/Software Warranty

All hardware carry one-year on-site warranty. This warranty covers all parts and labor. Additional charges apply if extended maintenance (24/7) is desired.

Hardware Maintenance

After year one, reasonably priced comprehensive maintenance program may be purchased.

On-Call Maintenance Service

On-call maintenance service may be used with time and material charges: \$95 per hour plus parts.

Maintenance Service

U.T.C. currently provides maintenance services for REJIS. All maintenance services are performed by UTC's trained and qualified maintenance personnel.

All maintenance calls are to be placed Monday through Friday, 7:00 AM to 7:00 PM:

314/731-4422, or Toll Free 800-436-0089

Extended maintenance, based on 24 hours per day/7 days per week (24/7 plan), service is available at 1.5 times normal rate. For greater cost savings, it is suggested to place only the main processor under Extended Service and the rest of the system under normal maintenance.

After hour's service through special phone No.

Normal response to maintenance calls for customers with "service Agreement" or Warranty coverage is 4 hours from the time the call is received.

Response time for "per call" basis customers is next business day.

AUTOMATED SERVICE CALL DISPATCH

All service calls are logged and archived within the automated service call dispatch system. For call tracking purposes, a service call "Log Number" will be issued to the calling party (and one will be obtained if caller is equipped to provide a number). After a call is received, a field engineering dispatch supervisor will obtain details of the reported malfunction. The call will then be dispatched to the nearest software or hardware field engineer (FE) via text or digital phone.

COMPANY PROFILE

United Technologies Corporation (UTC) is a Missouri company dedicated to serving its customers by providing state-of-the-art systems in information technology. The company is structured to provide "Total" services in information processing and related technologies to its customers. The corporation is organized with one goal in mind: Serving and supporting customers by offering excellence in needs evaluation, sales, systems development, installation, training, and hardware/software maintenance.

Products

UTC develops and markets specialized application software programs for a number of computer systems, with heavy emphasis on networking, communications and systems integration. Application programs include: Interactive Communications, Voice/Text Processing, Distribution, Accounting, Time Billing, Manufacturing and a wide range of services in cellular communications, Internet and Intranet related hardware and software. Hardware products include Internet access networking, network firewalls, special devices for multi-workstation Internet access through a single phone line, and Internet workstations. All website and webpage programs are custom designed and developed based on clients' specifications.

Software Development

Reporting to Vice President of Systems, the software development and support operation is comprised of two divisions:

Vice President Systems

Software Division

- . B. Keller
- V.P. Software Development
- . Software Installation
- . Training
- . Software Support

Systems Division

- . D. Latifi
- V.P. Systems
- . Systems Installation
- . Field Support
- . Needs Analysis

Systems/Support Structure

OTHER COMPANY DIVISIONS

Other corporate divisions are listed below.

Major Divisions:

- Field Service – With a network of 1,740 field engineers provides maintenance services for “IT” throughout the world.
 - . Land based
 - . Mobile
 - . Marine
- Public Safety – Provides Public Safety/Homeland Security products and Enterprise Security (Robotics, Physical Asset, Data Level, Network Level).
- Consulting Services – Large scale consulting for development and implementation of e-Business, Customer Relationship Management, EAI, ERP (SAP, Oracle), and systems integration.

Major Customers:

- . Government Agencies
- . Police Departments
- . School Districts
- . AT&T
- . L3 Communications (all servers worldwide)
- . SBC (servers, 17 Eastern States)
- . Lucent
- . Boeing
- . Goldman Sachs
- . Wells Fargo
- . Major Banks
- . Land and Marine Based Casinos

PERSONNEL QUALIFICATIONS

United Technologies Corporation's design and development team has extensive knowledge of all facets of networking, systems integration, communications and the Internet and website software applications with extensive experience in development using Visual Basic, HTML, JAVA, Interactive Forms, Graphic Design, and E-Mail.

S. Pomeroy- Manager, Software Development

B.s., M.s., Ph.d, Physics – Computer systems and software design, twenty years related systems and software experience. Expertise in application software design, communications, networking optimization, operating systems, relational database, SQL, Visual Basic, Basic, COBOL, PASCAL, FORTRAN, C, HTML, JAVA and a variety of data base languages.

B. Keller- Systems Specialist/Support

B.S., Computer Science – Expertise in applications development and systems management in a variety of hardware and operating systems environments. Twelve years related experience in VAX/VMS, UNIX, Novell, Windows NT, HP/RTE/MPE OS/2, PC/MS-DOS, Networking, large scale voice and data communications, Interactive Voice Response, Text/Speech conversion, Voice Recognition, All-In-1, FORTRAN, C, TURBO C++, BASIC, 4GL, RDBMS (Oracle and System 1032), SQL, VAX DBMS, VAX/LSE, VAX/TPU, VAX/CMS, VAX/MMS, VAX/DCL, VAX/SMG, LaTeX, HP/Image DBMS, Reflection 2+, Postscript programming, PageMaker, HTML, JAVA. Strong scientific programming and database background with multiuser/multitask applications.

J. Pokorny- Design & Development

B.S., Computer Science – Expertise in large scale Windows NT networking, applications development and Cyberspace website design. Five years related experience in website design and domain maintenance. Serving with a group of top world wide web designers at Washington University, was involved with creation of web domain for the EPA's Air Quality Analysis Group.

D. Latifi- V.P., Field Engineering

B.S. Physics – Ten years related experience, electronic equipment, microprocessors, Novell, Windows, 3M, 10Net, Decision Data Products, ALR, Apple, IBM, Altos, CADO, DEC.

W. Simmons- Software Designer and Programmer

B.S., Computer Science – Fourteen years applications development related experience. Expertise, application program generation, assembly languages, RPG, C, COBOL, SQL, JAVA. Hardware, DEC, IBM, Wang, Altos.

J. Hupert- Field Support/Training

M.A. Urban Affairs, B.A. Psychology – Five years related technical experience, twenty two years training experience, electronic equipment, microprocessors, networks, Internet connectivity, operating systems software, OS/2, Windows, DOS, database programs and office productivity applications software.

Reference Client Sites

The following is a partial list of references for wireless services rendered by U.T.C.:

1-	East St. Louis School Dist.	IT Services Wireless Communications Surveillance	Mr. Y. Tanner Supervisor	618/646-3082
2-	City of Granite City Granite City Illinois	Total city security cameras	Mr. S. McKeal MIS Director	618/451-9760
3-	Tri-City Port Authority Granite City	Port security network	Mr. D. Wilmsmeyer Exc. Director	618/877-8444