

REQUEST FOR QUOTATION	TROY SCHOOL DISTRICT 1140 RANKIN, TROY, MICHIGAN 48083 248-823-4052 FAX: 248-823-4077	REQUISITION
No. 9646		
DUE DATE 12-9-09 NO LATER THAN 3 p.m.		DATE 11-23-09

REQUEST FOR QUOTE - NOT AN ORDER

THIS FORM MUST BE UTILIZED WHEN RESPONDING TO THIS REQUEST
 BID ENVELOPE ENCLOSED

THE RFQ NUMBER MUST APPEAR ON ALL QUOTATIONS AND RELATED CORRESPONDENCE, THIS IS NOT AN ORDER

Quantity	DESCRIPTION	UNIT PRICE	AMOUNT
	<p>Please supply us with your bid to furnish the Troy School District with Wide Area Fiber Network Relocation & Maintenance.</p> <p style="text-align: center;">Copies of the bid are available at:</p> <p style="text-align: center;">www.troy.k12.mi.us/purchasing/items_out_for_bid.htm (left column)</p> <p style="text-align: center;">Bid recaps will be available at:</p> <p style="text-align: center;">www.troy.k12.mi.us/purchasing/items_out_for_bid.htm (right column)</p> <p style="text-align: center;"><u>FACSIMILE BID IS NOT ACCEPTABLE</u></p> <p>Bids will not be accepted if submitted after the deadline specified (local time) in the advertisement to bid or in the information to bidders. The late submission of a bid makes the bid nonrepsonsive and is a material defect which shall not be waived by the Board of Education. Delays in the mail will not be considered. All Late bids in the mail will be returned to the bidder unopened.</p> <p>Proposal for the submission of alternatives by vendors will be accepted and reviewed. However, if any substitution or departure is not clearly noted and described, it will be understood that the bid intends to exactly meet the specifications.</p> <p>The Board of Education shall be the sole judge as to whether the proposed goods are "equal" or "approved". Quotations must be mailed or delivered to the Purchasing Office, 1140 Rankin, Troy, MI 48083 no later than 3 p.m. on the date shown above. Michigan State Sales and Use Taxes and Federal Excise Taxes do not apply unless otherwise indicated. Exemption certificates will be furnished when necessary. This request imposes no obligations on the buyer. The Board of Education reserves the right to accept or reject any or all bids or to split awards by items or to accept bids, which will best serve the Board of Education.</p>		

THIS AREA MUST BE FILLED IN

DELIVERY TIME	PRICES FIRM FOR	NAME OF COMPANY	TELEPHONE NO.
TERMS		NO. & STREET	FAX #
FOB DELIVERED	ALL DELIVERY CHARGES MUST BE INCLUDED IN PRICES SHOWN	CITY, STATE & ZIP CODE	E-MAIL
CONTACT PERSON (PLEASE PRINT)		SIGNATURE	DATE

Note: All bidders are specifically reminded that a completed Affidavit of Bidder (Familial Disclosure) MUST be completed and submitted with the bid response. Failure to include a completed copy will be grounds for disqualification of bid. The Affidavit of Bidder is required to be notarized for construction bids only. All others only require completion and signature.

AFFIDAVIT OF BIDDER

The undersigned, the owner or authorized officer of _____ (the "Bidder), pursuant to the familial disclosure requirement provided in the _____ (the "School District") advertisement for construction bids, hereby represent and warrant except as provided below, that no familial relationships exist between the over(s) or any employee of _____ and any member of the Board of Education of the School District or the Superintendent of the School District.

List any Familial Relationships:

BIDDER:

By: _____

Its: _____

STATE OF MICHIGAN)
)ss.
COUNTY OF _____)

This instrument was acknowledged before me on the _____ day of _____, 2009, by _____.

,Notary Public

_____ County, Michigan

My Commission Expires: _____

Acting in the County of: _____

SECTION I

PROJECT SUMMARY & TIMETABLE

1.0 GENERAL

- A. Troy School District (the "Owner") is soliciting proposals until **3:00 P.M., December 9, 2009** for the purchase of:

1. Wide Area Fiber Network (WAFN) Relocation & Maintenance.

- B. All questions and correspondence concerning this Request for Bid ("RFB") should be submitted to Wright & Hunter. Address all correspondence and questions to:

Scott Brune
Wright & Hunter, Inc.
2126 Kristin Drive
Troy, MI 48084
Phone: 248-594-5850
Fax: 248-594-5851
Email: sbrune@wrighthunter.com

- C. Sealed bids will be received at the Owner's office up until the time noted above.
- D. The Owner reserves the right to accept or reject any and all proposals, or any part of any proposal, without penalty. The Owner may award a contract to a single prime contractor for all elements for the entire project or may award any of the elements separately.
- E. Contractors must submit a single proposal for all of the elements described in this section. No proposal may be withdrawn after the scheduled closing time for the receipt of proposals for at least ninety (90) days.
- F. The formal proposals to be received will be evaluated by several criteria including but not limited to cost, concurrence with technical specifications and requirements, with priority on a timely installation schedule.

1.1 INTRODUCTION

- A. The intent of this RFB is to secure under contract, all labor, materials, equipment and services of every kind necessary for the proper installation and maintenance of the WAFN in accordance with the technical specifications included in this RFB.
- B. This RFB solicits proposals for the WAFN Relocation & Maintenance to meet the current and projected needs of the Owner.

1.2 STATEMENT OF PURPOSE

- A. This RFB solicits proposals for the following major elements as detailed in the specifications section.

1. Provide, install, and relocate the WAFN fiber optic cabling to accommodate the widening of Wattles and Rochester Road.

1.3 TIMETABLE

- A. The anticipated timetable of key dates for this RFB are as follows:

RFB Available for Contractors	November 18, 2009
Pre-Bid Conference Meeting	November 24, 2009 at 1:30 PM
Contractor Questions Due	November 30, 2009 by 5:00 PM
Answers to Questions Posted on Website	December 3, 2009 by 2:00 PM
Bids Due	December 9, 2009 at 3:00 PM
Award to Contractor	December 14, 2009
Start Installation	December 2009
Complete Installation	December 2009 / January 2010

1.4 PRE-BID CONFERENCE MEETING

- A. There will be a pre-bid conference meeting on **November 24, 2009 at 1:30 PM**. The meeting will be held at the Troy School District, Services Building at 4420 Livernois Rd, Conference Room B, Troy, MI 48098.

1.5 FAMILIAL RELATIONSHIP DISCLOSURE STATEMENT

- A. As required by Public Act 232 of 2004, all bids shall be accompanied by a sworn and notarized statement disclosing any familial relationship that exists between the owner or any employee of the bidder and any member of the Troy School District board, or the superintendent of the school district.
- B. The Owner will NOT accept a bid that does not include this sworn and notarized disclosure statement at the time of the bid opening.

SECTION II

**CONTRACTOR INFORMATION
&
PROPOSAL PROCEDURES**

CONTRACTOR INFORMATION

2.0 CONTRACTOR RESPONSIBILITY

- A. At the time of the bid opening, each contractor shall have examined the premises and sites so as to compare them with the contract drawings and specifications.
- B. Failure or omission of any contractor to examine any form, instrument or document shall in no way relieve any contractor from any obligation with respect to their proposal. No allowances or extra payment will be made to a contractor for failure to comply with the provisions of this section, or by reason of error or oversight on the part of the contractor.
- C. It is understood, and the contractor hereby agrees, that it shall be solely responsible for all equipment and/or services that it proposes. Notwithstanding the details presented in these specifications, it is the responsibility of the contractor to verify the completeness of the equipment required and its suitability to meet the intent of this proposal. Each system proposed shall be for a complete turnkey system.
- D. The Owner reserves the right to withdraw this RFB at any time or to reject any or all proposals submitted in response to this RFB, without penalty. The Owner further reserves the right to select a single contractor as a prime for the entire project or for only portions of it. The Owner also reserves the right to accept or reject any part of any proposal and to accept or reject any or all proposals without penalty. The Owner will be the sole judge of its needs and of the best elements of a proposal to meet those needs. The Owner's decision is final.
- E. Proposals containing terms and conditions different from this section of the RFB may be rejected.

2.1 CONTRACT LIABILITY

- A. The contractor will be required to assume responsibility for all contractual activities offered in this proposal whether or not the contractor performs them. Further, the Owner will consider the contractor to be the sole point-of-contact with regard to contractual matters, including payment of any or all charges resulting from the anticipated contract. If any part of the work or component of the proposed configuration is to be subcontracted, responses to this RFB must include a list of subcontractors, including firm name and address, contact person, complete description of work to be subcontracted or component to be provided and descriptive information concerning subcontractor's organizational abilities.
- B. The Owner reserves the right to approve subcontractors for this project and to require the contractor to replace subcontractors found to be unacceptable. The contractor is totally responsible for adherence by the subcontractor to all provisions of the contract. All contract

clauses between the Owner and the contractor shall also apply to any contract between the selected contractor and subcontractor(s).

2.2. PROPOSAL MODIFICATIONS

- A. Any explanations or statements, which the contractor wishes to make, must be written on or attached to the proposal. Unless indicated, it is understood that the proposal is in strict accordance with all requirements and specifications. The Technology Designer and/or the Owner may request additional information to clarify the contractor's response, to verify responsiveness to mandatory specifications, or to facilitate the fair comparison of competing bid responses.
- B. Proposals shall be deemed final, conclusive and irrevocable. No proposal shall be subject to correction or amendment for any error or miscalculation unless unit prices for the additional or missing item(s) are included on the Bid Form. Submitted bids may be adjusted by unit prices up or down to ensure all bids submitted are compliant and compared fairly. Proposal prices shall provide for a complete turnkey system as specified. Installation shall include, but is not limited to, all labor required for a turnkey system.

2.3 DISCREPANCIES, OMISSIONS AND INTERPRETATIONS

- A. Contractors shall promptly notify Wright & Hunter (the "Technology Designer") of any ambiguities, inconsistencies or errors, which it may discover upon examination of the RFB, the Bid Form, Drawings, AIA documents, purchase orders generated by the Owner, any addenda to the aforementioned documents and all other documents pertaining to the Wide Area Fiber Network Relocation & Maintenance (the "Contract Documents") or of the site and local conditions. A contractor requesting clarification or interpretation of the bid documents shall make a written request no later than **November 30, 2009 at 5:00 P.M.** Fax or e-mail all questions to:

Scott Brune
Wright & Hunter, Inc.
2126 Kristin Drive
Troy, MI 48084
Phone: 248-594-5850
Fax: 248-594-5851
Email: sbrune@wrighthunter.com

- B. If prior to the date fixed for submission of proposals, a contractor fails to notify the Technology Designer of a known error in the RFB or of an error that reasonably should have been known to the contractor and if a contract is awarded to the contractor, the contractor shall not be entitled to additional compensation or time, by reason of the error or its later correction.
- C. All questions and answers will be shared with all contractors. Please provide name, telephone number and e-mail address of primary contractor contact person along with a fax number. Due to the tight time constraints of this project, contractors will initially be contacted by e-mail, fax or telephone when it becomes necessary to notify contractors of changes or to request clarifying information from contractors.

- D. In the event it becomes necessary to provide additional clarifying data or information, or to revise any part of this RFB, supplements or revisions will be provided to all known recipients of the initial RFB.
- E. Failure to acknowledge receipt of supplements or revisions, in accordance with the instructions contained in the supplement or revision, may result in proposals not being considered. Each contractor's proposal shall stipulate that it is predicated upon all the terms and conditions of the RFB and any supplements or revisions thereto.

2.4 WITHDRAWAL OF PROPOSALS

- A. Proposals may be withdrawn, modified and resubmitted at any time prior to the time set for the receipt of proposals. The contractor may not withdraw its proposal prices during the ninety (90) day period immediately following the proposal bid opening. All proposals and proposal prices shall be guaranteed for that period of time.
- B. When the selected contractor(s) (the "Contractor") receives the notice of award from the Owner within the above ninety (90) day period, it shall guarantee the prices through the interval required to execute the Contractor's Bond.

2.5 ACCEPTANCE OF PROPOSAL

- A. The contents of the successful Contractor's proposal shall become a contractual obligation if acquisition action ensues. Failure of the successful Contractor to accept these obligations in a contractual agreement may result in cancellation of the award and this RFB. The contents of the proposal, with agreed upon adjustments that may be necessary, shall be the elements from which a purchase order will be issued by the Owner. If the terms, conditions or assumptions included in the Contractor's proposal or response to this RFB differ from the Contract Documents, the terms and conditions of the Contract Documents takes precedence unless the modification or addition of terms and conditions are agreed upon in writing by both parties.

2.6 SYSTEM ACCEPTANCE

- A. Payment will be made only for services performed under the contract to the successful Contractor. The Owner will issue final payment following the Contractor's fulfillment of all obligations.

2.7 INSPECTION OF WORK AND ACCEPTANCE TESTS

- A. The Contractor shall at all times permit and facilitate inspection of the work by the Technology Designer and by public authorities having jurisdiction. The Technology Designer shall have the authority to stop the work if necessary to insure its proper execution. Tests will be performed and documented by the installing Contractor and turned over to the Owner as part of the "as-built" drawings at the time of completion. Deviations and/or corrections to the installation will be completed within ten (10) working days.

2.8 REQUIRED BONDS

- A. At the time bids are submitted, contractors are required to submit a ninety (90) day Bid Guarantee bond, certified check, cashier's check or money order in an amount not less than five (5) percent of the total dollar amount to be contracted.
- B. The successful Contractor will be required to furnish a Labor and Materials Bond valued at the full amount of the contract at the time the contract is awarded for all labor and materials to be contracted.
- C. The successful Contractor will be required to furnish a Performance Bond valued at the full amount of the contract at the time the contract is awarded.

2.9 INSURANCE

- A. The Contractor shall purchase and maintain insurance for protection from the claims set forth below which may arise out of or result from the Contractor's operations under the Contract, whether such operations be by the Contractor or Subcontractor, or by anyone directly employed by any of them:
 - 1. Claims under workers or workmen's compensation, disability benefits and other similar employee benefit acts;
 - 2. Claims for damages because of bodily injury, occupational sickness or disease, or death of the Contractor's employees;
 - 3. Claims for damages because of bodily injury, sickness or disease, or death of any person other than the Contractor's employees;
 - 4. Claims for damages insured by usual personal injury liability coverage, which are sustained by any person as a result of an offense directly, related to the employment of such person by the Contractor;
 - 5. Claims for damages, other than to the work itself, because of injury to or destruction of tangible property, including loss of use resulting therefrom; and
 - 6. Claims for damages because of bodily injury or death of any person or property damage arising out of the maintenance or use of any motor vehicle.
- B. The insurance required shall be written in the following minimum limits:
 - General Liability: \$5,000,000
Including personal injury and property damage
\$5,000,000 each aggregate
 - Automobile Liability: \$2,000,000
\$2,000,000 each aggregate

- Workers' Compensation:

As required by the State of Michigan

- Employers' Liability: \$2,000,000

\$2,000,000 each aggregate

Certificates shall name the Owner as additional insured.

2.10 QUANTITIES

- A. It is understood and agreed that the Owner reserves the right to either increase or decrease quantities and to buy additional services under the terms of any contract resulting from this bid.

2.11 PRICES

- A. Purchase prices shall remain firm throughout the period of time the contract award is valid.
- B. The Contractor must use the Bid Form included with this RFB. If additional pages are necessary they must be in the same format as the original.
- C. Prices will be valid for a period not less than one (1) year from the contract award or ninety (90) days from the final payment, whichever is later, from any contract resulting from this bid. Contractors shall include with bill of materials the percentage off list price for future calculations.
- D. Any rebates applied in response to this RFB must be applied to line item pricing, and not be included as one lump sum.

2.12 ALTERNATIVES

- A. All bid proposals must be based upon the specifications included in this RFB. In addition to a base bid proposal, the submission of voluntary alternatives is acceptable. The base bid must conform to the materials, labor and terminations established by the bid specifications in this document. The contractor must bid the base bid to be eligible to bid an alternative. Each contractor must identify in their response any deviations to the scope of work and any construction requirements not addressed.

2.13 CERTIFICATION OF INDEPENDENT PRICE DETERMINATION

- A. By submission of this proposal, the contractor certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that in connection with this procurement:
 1. The prices in this proposal have been arrived at independently, without consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other contractor or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this proposal have not been knowingly disclosed by any contractor and will not knowingly be disclosed by the contractor prior to procurement or prior to award in the case of a negotiated procurement, directly or indirectly, to any other contractor or to any competitor.
 3. No attempt has been made or will be made by the contractor to induce any other person or firm to submit or not to submit a proposal for the purpose of restricting competition.
- B. Each person signing this proposal certifies that:
1. He/she is the person in the contractor's organization responsible within that organization for the decision as to the prices being offered herein.
 2. He/she is not the person in the contractor's organization responsible within that organization for the decision as to the prices being offered herein, but that he/she has been authorized in writing to act as agent for the persons responsible for such decision.
- C. By submission of contractor's proposal to this project, the contractor certifies, and in the case of a joint proposal, each party thereto certifies as to its own organization, that in connection with this procurement: the that no relationship exists between the contractor and the procuring or contracting agency that interferes with fair competition or is in conflict of interest, and no relationship exists between the contractor and another person or organization that constitutes a conflict-of-interest that is adverse to the Owner.

2.14 PROPRIETARY INFORMATION

- A. This is a public bid. Information submitted in response to this RFB is subject to Freedom of Information Act requests and to be viewed by any interested party by request. Any bids identified in whole or in part as proprietary will be disqualified.
- B. Unless specifically excluded from this provision, all data, documentation and innovations resulting from contractual services will become the property of the Owner. Data contained in the proposal and all documentation provided as a result of these contractual services cannot be copyrighted and innovations developed as a result of these contractual services cannot be copyrighted or patented. Proposals must clearly specify any data, documentation, software, or other innovations that are proposed to be excluded from this provision and specifically provide, where applicable, for licensing of these materials to the Owner for the life of the system.

2.15 NONCOMPLIANCE

- A. Failure to include in the contractor's proposal all information requested in this RFB may be cause for rejection of the proposal. When responding to this RFB, please clearly state whether your firm complies with each section.

2.16 COST LIABILITY

- A. The Owner assumes no responsibility or liability for costs incurred by the contractor prior to the signing of any Contract resulting from this Request.

PROPOSAL PROCEDURES

2.17 SEALED BID RECEIPT

- A. PROPOSALS MUST BE RECEIVED AND TIME STAMPED AT THE TROY SCHOOL DISTRICT PURCHASING DEPARTMENT AT 1140 RANKIN RD, TROY, MICHIGAN 48083 ON OR BEFORE THE DUE DATE AND TIME SPECIFIED. CONTRACTORS ARE RESPONSIBLE FOR TIMELY RECEIPT OF THEIR PROPOSAL. PROPOSALS WHICH ARE RECEIVED AFTER THE SPECIFIED DUE DATE AND TIME WILL NOT BE CONSIDERED.
- B. The Owner is soliciting proposals until **3:00 P.M., December 9, 2009**. Sealed bids will be received at the Troy School District Purchasing Offices up to this time at which time they will be publicly opened and read aloud.
- C. The **original, plus three (3) copies** of the contractor's proposal must be delivered in sealed package(s). All packages shall be clearly labeled with the following information:
 1. Frank Lams
Purchasing Supervisor
Troy School District
1140 Rankin
Troy, Michigan 48083
Bid Response Enclosed for WAFN Relocation & Maintenance
 2. Contractor's Name and Address
 3. Project Title
 4. Proposal Due Date

2.18 BID PROPOSAL REQUIREMENTS

- A. Provide a complete bill of materials depicting quantities, model numbers and footage, catalog cuts, operating characteristics, physical characteristics, and equipment configuration for each of the systems.
- B. The information shall be assembled in three (3) ring binders complete with Table of Contents. All pages shall have page numbers, which shall be included in Table of Contents.
- C. The Table of Contents shall be as follows:
 1. Tab No. 1 Cover Letter
 2. Tab No. 2 Bid Proposal Form
 3. Tab No. 3 Voluntary Alternates
 4. Tab No. 4 Organizational Chart / Schedule / Manpower
 5. Tab No. 5 Wide Area Fiber Network

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- | | | | |
|----|-----------|--|-----|
| 6. | Tab No. 6 | Maintenance Agreements, Service Agreements
Warranties | and |
| 7. | Tab No. 7 | Company Profiles for Prime Contractors, Major Sub-contractors and
Major Suppliers | |
| 8. | Tab No. 8 | Miscellaneous (Optional) | |

D. Description of Contents:

1. Tab No. 1, Cover Letter, shall include an executive overview of the project and depict the contractor's complete understanding of the project.
2. Tab No. 2, Bid Proposal Form, shall include a completed bid proposal form and the bid bond as a requirement to submit a qualified bid, warranties, and service agreements.
3. Tab No. 3, Voluntary Alternates, is a section that is optional and made available to permit all bidders to submit alternates to the bid documents. These voluntary alternates shall clearly define the intent of the alternate, cost impact to implement the alternates, and a description of the deviation in functions and features between the alternates and the base bid documents. Include catalog cuts in this section for each alternate product required. The catalog cuts shall be keyed to the description of the alternate.
4. Tab No. 4, Organizational Chart, shall depict the prime contractor, the subcontractors, major suppliers, trainers, project managers, superintendents, executive staff of each firm, service staff, the names of the individuals occupying those positions, telephone numbers, facsimile numbers, and e-mail addresses of all individuals on the organizational chart.
 - a. The contractor shall provide a schedule that depicts major milestones required to achieve the completion dates previously specified. Typical milestone events are as follows:
 - 1) Delivery date and installation of the Wide Area Fiber Network Relocation.
 - 2) Completion date fiber installation to all poles.
 - 3) Provide an estimate of anticipated manpower required on this project to meet the specified completion dates.
5. Tab No. 5, Wide Area Fiber Network, shall include the following information:
 - a. Manufacturer's name.
 - b. Number of years providing similar infrastructure in schools.
 - c. Installation company's name.
 - d. Number of years installing similar infrastructure in schools.
 - e. Infrastructure configuration for all components.
 - f. Catalog cuts for all the cable and equipment, and any associated components.
 - g. Complete bill of material indicating quantities (include line item prices), take-off for the products being provided.

- h. Detailed drawings of each buildings termination, detail equipment, modules, and any other information required to understand the configuration. (Typicals will be accepted).
- 6. Tab Nos. 6, 7 and 8 are self-descriptive as to their intended content

SECTION III

CONTRACT REQUIREMENTS

3.0 GENERAL

- A. The Owner reserves the right to incorporate standard contract provisions in to any contract negotiated as a result of any proposal submitted in response to this RFB. As a minimum, all contracts must contain the following provisions:

3.1 LAWS AND PERMITS

- A. The Contractor shall comply with all federal, state and municipal laws, rules, regulations, ordinances, or orders governing or affecting in any way the work under this contract. Also the Contractor shall give all notices and obtain all permits necessary and required for this work and shall pay all costs and fees for the same. The Contractor must furnish copies of all approved inspection certificates and approvals from authorities having jurisdiction within thirty (30) days of completion and acceptance of work as evidenced by applicable acceptance documents.
- B. Where appropriate, all equipment and installation workmanship shall comply with specifications contained in Electronics Industries Association Standards and the National Electrical Code. As pertinent, all equipment shall be FCC-certified, FCC type accepted and/or UL listed. All work shall be conducted according to the standards of good engineering practice.

3.2 PROTECTION OF PERSONS AND OTHER STRUCTURES

- A. The Contractor agrees to exercise special precautions to avoid damage to facilities of the Owner and others. The Contractor hereby assumes responsibility for any and all damage to such facilities arising out of or caused by the conduct or property of the Contractor, whether by the negligence of the Contractor, its agents or employees. The Contractor shall make an immediate report to the Owner and the Technology Designer of any damage to the facilities or others. The Contractor hereby agrees to repair or replace at their own expense or to reimburse the Owner for expenses incurred by the Contractor in making necessary repairs and replacements.
- B. The Contractor shall assume all responsibility for bodily injury to persons, including death or damages sustained or claimed by its employees, the employees of the Owner, or by any other person, and also for damage to property, including property of the Contractor, the Owner or any other person; and also, for any interruptions to electric or community antenna television or other communications service which may occur or allegedly occur because of, or result from, or in any manner are connected with, or directly or indirectly, arise out of or are caused in whole or in part by the material provided or the work performed by the Contractor, its agents or employees under this agreement.
- C. The Contractor shall assume all responsibility for and shall indemnify and hold the Owner harmless from and against all losses, liabilities, claims, demands, payments, actions, legal proceedings, recoveries, costs, expenses, attorney fees, settlements, judgments, orders and

decrees of every nature and description brought or recovered against, or incurred by the Contractor, the Owner, or both of them, by reason of any such bodily injury to person, damage to property, or interruptions to service caused by the Contractor, its agents or employees. Notwithstanding the foregoing, the Contractor shall not be required to indemnify the Owner against liability for damages arising out of bodily injury to persons, damage to property, or interruptions to service caused by or resulting from the negligence of the Owner, its agents or employees.

3.3 SAFETY

- A. Each Contractor shall be responsible for its own safety and hazard program. Each program shall be in accordance with provisions of the Occupational Safety and Health Act (OSHA), Michigan OSHA (MIOSHA), the Environmental Protection Agency (EPA), and the Material Safety Data Sheets (MSDS). The Contractor shall maintain an effective safety program and conform to all federal and local safety codes. Upon written request by the Owner and/or the Project Manager, the Contractor shall provide the registered programs documenting safety and hazard programs.
- B. During projects in construction zones or if site conditions require, the Contractor and all of his/her staff, agents and/or subcontractors must wear Contractor provided hard hats anytime they are onsite. The Contractor shall assume sole responsibility and liability for hat usage of his/her staff, agents and/or subcontractors.

3.4 IMPLEMENTATION PLAN

- A. The successful Contractor must prepare and submit a final implementation plan and timeline as part of the final Contract Documents. During Contract Negotiations the Contractor and the Owner will mutually determine the critical dates that must be met. The Contractor will be required to adhere to, meet and maintain activities to the timeline schedule as planned. The Contractor will also be required to be flexible towards changes in the priorities of the timeline schedule during the entire project.

3.5 LIQUIDATED DAMAGES

- A. Time is of the essence in the Contract Documents between the Owner and the Contractor (the "Parties"), and all work and requirements called for in said documents shall be completed within the timeline agreed upon by the Parties as defined above in **Paragraph 3.4**. Failure by the Contractor to complete work within the timeline, unless extended by the Owner in the manner set forth in the Contract Documents, will cause the Owner to sustain damages.
- B. The Parties understand and agree that it is impracticable or extremely difficult to determine the actual amount of damages, which the Owner will sustain in the event of and by reason of any delay by the Contractor. Therefore, the Parties agree that the Contractor will pay the Owner liquidated damages in the sum of **\$ 1,000.00 for each calendar day** of each segment of the project that is delayed beyond the deadline on the timeline specified in the Contract Documents. The liquidated damages shall be deducted from any payments due to or to become due to the Contractor. Should the payments due and the retainage not be sufficient to cover the agreed liquidated damages, the Owner shall have the right to recover the balance from the Contractor or its sureties.

3.6 ADDITIONAL RESOURCE REQUIREMENTS

- A. In addition to any liquidated damages which may be assessed, if the Contractor fails to complete the project or a segment of the project within the time period agreed to in the Contract Documents, and if as a result, the Owner finds it necessary to incur any additional costs and/or expenses (for example, needing to hire additional contractors to complete work which is not being completed in a timely or satisfactory manner), the Contractor shall pay all those costs and expenses incurred by the Owner. These costs and expenses may include, but are not limited to, such items as additional hours spent by the Technology Designer, additional architectural fees and fees related to the acquisition of additional contractors to complete the job. These costs and expenses may be retained by the Owner from any payments otherwise due to the Contractor for work, which has not been completed within the terms of the Contract Documents. The Owner may only hire additional contractors if seven (7) day notice has been given to the Contractor and the Contractor has failed to act in accordance with the notice or has repudiated the contract. Failure by the Contractor to give adequate assurances when deadlines on the timeline have not been met will also result in the Owner's right to bring in other contractors to complete the contract or a segment of the contract, as well as the retention of liquidated damages.

3.7 CLEAN-UP AND MAINTENANCE

- A. During preparation and construction, the project area must be kept free from scrap and debris in accordance with established safety and health standards. Upon completion of work, each day and at the end of the project, the Contractor will be held responsible to clean up and remove debris from the site. Damage to any portion of equipment or existing structure is the responsibility of the Contractor and repairs must be completed before acceptance and final payment is issued.

3.8 PAYMENT FOR SERVICES

- A. The contractual agreement entered into as a result of this RFB will include the successful Contractor and the Owner as parties. The sole source of payment for services rendered in connection with each system installed shall be the Owner with said payment to be made directly to the successful Contractor according to the terms of the contract. The successful Contractor shall not sublet the resulting contract, in whole or in part, without the prior written consent of the Owner.
- B. For an outright purchase, progress payments will be based on a schedule acceptable to both parties. Progress payments will be tied to specific deliverables and milestone dates to be determined during final contract negotiations. Final payment will be made only after the successful completion of a performance testing period and the Owner's acceptance of the system has been reached. No later than two (2) weeks prior to the date of the first application for payment, the Contractor shall furnish the Owner with a breakdown of the contract amount setting forth the schedule of values of labor and materials of the various parts of the work on which this contract is based as detailed from the specifications or as further directed by the Owner. A meeting between the Technology Designer and the Contractor shall also be required before the first application for payment is submitted to set forth the procedure and format in which all applications are to be submitted.

-
- C. Final payment by the Owner to the Contractor shall be made within thirty (30) days upon completion and Owner acceptance of the system as installed.
 - D. Ten percent (10%) of the total contract amount will be withheld and will not be paid until after final acceptance, which includes submission and approval by the Owner and the Technology Designer of all work, testing results, documentation and as-built drawings (see Section 4.23 Owner's Right to Use).

3.9 CONTRACT PAYMENT SCHEDULE

- A. The Contractor shall pay all sales, consumers, use and other similar taxes required by law.
- B. The Technology Designer will verify invoices for accuracy. Once submitted and approved by the Technology Designer, the invoice will be paid directly by the Owner. Any questions regarding the payment process should be directed to Corey Greenfield at (248) 594-5850 or by e-mail at cgreenfield@wrighthunter.com. All invoices and requests for payment should be sent directly to the Technology Designer at the following address:

Wright & Hunter, Inc.
2126 Kristin Drive
Troy, MI 48084
Phone: 248-594-5850
Fax: 248-594-5851
Email: cgreenfield@wrighthunter.com

- C. Rates quoted in response to this request are firm for the duration of the proposed contract phase. No increases will be permitted. Any requests for modification to the original design and/or scope of work must be approved in writing by the Owner.
- D. Each Application for Payment shall be consistent with previous applications and payments as certified by the Technology Designer and paid for by the Owner.
 - 1. The Application for Payment at time of Substantial Completion and the final Application for Payment involve additional requirements.
- E. Payment Application Times: The date for each progress payment is the 15th day of each month. The period of construction Work covered by each Application for Payment is the period ending fifteen (15) days prior to the date for each progress payment and starting the day following the end of the preceding period.
- F. Payment Application Forms: Use AIA Document G 702 and Continuation Sheets G 703 as the form for Application for Payment.
- G. If the bid involves more than one project, each project shall have separate payment application forms. The Technology Designer will identify each project.
- H. Application Preparation: Complete every entry on the form, including notarization and execution by the person authorized to sign legal documents on behalf of the Contractor. Incomplete applications will be returned without action.
 - 1. Include amounts of Change Orders and Construction Change Directives issued prior to the last day of the construction period covered by the application.

- I. Transmittal: Submit three (3) executed copies of each Application for Payment to the Technology Designer. One copy shall include waivers of lien, proof of items stored, proof of insurance for stored items and similar attachments, when required.
- J. Waivers of Mechanics Lien: With each Application for Payment, submit waivers of mechanics lien from every entity who may lawfully be entitled to file a mechanics lien arising out of the Contract, and related to the Work covered by the payment.
- K. Application for Payment at Substantial Completion: Actions and submittals that shall proceed or coincide with this application include:
 - 1. As built drawings (should be received by the Technology Consultant once Contractor states the Project is complete – before punch list has been issued to the Contractor).
 - 2. Warranties (guarantees) and maintenance agreements.
 - 3. Test/adjust/balance reports.
 - 4. Maintenance instructions.
 - 5. Start-up performance reports.
 - 6. Final cleaning.
 - 7. Application for reduction of retainage, and consent of surety.
 - 8. Punch list of incomplete Work.
- L. Final Payment Application: Actions and submittals that shall precede or coincide with this application include:
 - 1. Completion of Project closeout requirements.
 - 2. Completion of items specified for completion after Substantial Completion.
 - 3. Transmittal of required Project construction records to the Owner.
 - 4. Proof that taxes, fees and similar obligations have been paid.
 - 5. Removal of surplus materials, rubbish and similar elements.

3.10 CONTRACTOR'S SWORN STATEMENT AND WAIVER OF LIEN

- A. The Contractor's sworn statement and waiver of lien shall be submitted with the invoice. The Contractor must state all subcontractors and status of payment for labor and materials to each. Payment will not be processed until these forms have been received.

3.11 INTERRUPTION OF OCCUPANCY

- A. The installation must not interrupt the normal activity of the Owner. All work which will cause disruption of the Owner's existing systems and services must be accomplished during time periods when it is least inconvenient to the Owner and completed in the shortest possible time frame (i.e. after normal school hours). The Owner is not responsible for any overtime and/or premium time not identified in the Contractor's base bid pricing response.
- B. Each Contractor is responsible to plan, coordinate and execute their work in such a manner that there will be no disruption of the Owner's operations. If an interruption of operations is unavoidable, the work will be scheduled with the Owner prior to beginning such work.

3.12 REJECTING DEFECTIVE WORK

- A. The Technology Designer will have the authority to disapprove or reject work, which is defective, unsatisfactory, faulty, does not conform to the requirements of the Contract Documents or does not meet the manufacturers' requirements. The Technology Designer will also have the authority to require special inspection or testing of the work whether or not the work is fabricated, installed or completed.

3.13 SPECIFICATION DEVIATION

- A. Commodities procured under these specifications shall not deviate from those originally contracted for without written approval from the Owner.
- B. The Owner has sole responsibility for the interpretation of all documents. Any claims and/or disputes associated with and/or arising from this RFB must be submitted in writing and directed to the Owner within thirty (30) days of dispute and/or claim.

3.14 EXECUTED CONTRACT TO CONSTITUTE ENTIRE AGREEMENT

- A. The contents of the Contract Documents of the successful Contractor shall be contractual obligations upon bid acceptance. Failure of the successful Contractor to accept these obligations in a contractual agreement may result in a cancellation of award and forfeiture of bid bond.
- B. The Owner reserves the right to negotiate provisions in addition to those stipulated in this RFB or proposed by the successful Contractor for the purpose of obtaining the best possible offer. If the Contractor should discover any provisions in the contract that are contrary to or inconsistent with the law, ordinance, order or decree, the Contractor shall immediately report it to the Owner in writing.

3.15 CONTRACT SUSPENSION, TERMINATION AND CANCELLATION

- A. The Owner may cancel the contract effective as a result of this RFB in whole or in part as follows:

1. By mutual agreement of the contracting parties. Upon such termination, the Owner's liability shall be limited to the reasonable value of services performed and deemed acceptable by the Owner upon the date of such mutual agreement.
2. If the Owner deems that such termination is in its best interest. In the event that the Owner gives notice to terminate pursuant to this subsection, such notice shall be given no less than thirty (30) days prior to the date on which the termination becomes effective. Upon such termination, the Owner's liability shall be limited to the reasonable value of services performed and deemed acceptable by the Owner as of the effective date of the termination.
3. For cause, which shall include failure or unwillingness of the Contractor to comply with the approved program, including attached conditions; with applicable state statutes; or with such directives as may become generally applicable at the time.
4. Due to lack of appropriation of necessary funding, cancellation due to lack of appropriation shall be without penalty. Upon such cancellation, the Owner's liability shall be limited to the reasonable value of services performed and deemed acceptable by the Owner as of the effective date of cancellation.

- B. The contract effective as a result of this RFB may be modified in whole or in part by the Owner at any time upon no less than ten (10) working days written notice to the Contractor. In the event of such modification by the Owner, the Contractor has ten (10) working days in which to accept or reject the modifications. Rejection by the Contractor may be the basis of contract suspension, termination or cancellation.
- C. No cancellation will affect any expenditures or legally binding commitments made prior to receiving notice of the cancellation, suspension or termination provided such expenditures or commitments were made in good faith and not in anticipation of cancellation and are otherwise allowable.
- D. In the event of cancellation prior to the full term of the contract, where the contract provides for purchase rather than lease, the Contractor shall arrange to provide the Owner with all work documents, computer programs and files used/developed by the Contractor during the period the contract was effective. The title to such programs and materials as well as any equipment and materials supplied while the contract is in effect, shall rest with the Owner.

3.16 DELAYS AND EXTENSIONS OF TIME

- A. If the Contractor is delayed at any time in the progress of the work by any act or neglect of the Owner, an employee of the Owner, any separate Contractor employed by the Owner, changes ordered in the work, acts of God or the public enemy, acts of the government in either its sovereign or contractual capacity, labor disputes, fires, floods epidemics, quarantine restrictions, unusual delays in transportation, adverse weather conditions not reasonably anticipated, unavoidable casualties, regulated telephone company delays, any cause beyond the Contractor's control, delay authorized by the Owner pending litigation or any other cause which the Owner and the Contractor determine may justify the delay, then the contract time shall be extended by change order for such reasonable time as the Owner and the Contractor may determine.
- B. If, in the opinion of the Technology Designer, the progress of the work falls behind the current project schedule due to the control, management, direction, acts or omissions of the

Contractor, its agents or employees, the Contractor shall take whatever remedial action as directed, including, but not limited to the following:

- Increase staff and labor force
- Work overtime
- Add or change subcontractors
- Utilize more expensive materials/methods
- Reschedule

- C. Costs of any remedial action, which are caused by the control, management direction, acts or omissions of the Contractor, its agents or employees, shall not be assigned to the Owner and no increase in contract price will be authorized. In addition, the Contractor shall be liable for any liquidated damages due to late completion.

3.17 DELIVERY OF EQUIPMENT AND/OR MATERIALS

- A. Delivery shall be destination, set in place, ready for use unless otherwise specified, with packing and debris removed by the Contractor. The Contractor shall receive and accept its equipment and/or materials from the transportation company or carrier and shall provide all handling, carrying, etc., to the final location for each piece of equipment and/or materials in the building. Crating materials and other trash resulting from the installation shall be removed from the premises daily. Excelsior and similar hazardous trash shall be removed immediately upon unpacking. No accumulation of trash shall be permitted.
- B. The Contractor must have a representative at the job site during all unloading and placing of equipment. This service shall be included in the unit cost of the item on which the Contractor is proposing. The Owner shall hold this representative operationally responsible for the services indicated and he/she shall have such capability and be given such responsibility by the Contractor that he/she can act on the Contractor's behalf in any situation, which may arise on the site of delivery. The Contractor's representative shall use some method, approved by the Owner, to show the item has been inspected and whether it has been "Approved" or if repairs or replacement is necessary. This shall be done prior to the Owner's final inspection.
- C. Contractors are cautioned to check their manufacturing and shipping schedules carefully before fixing their proposed delivery schedule. If, for any reason, any items of equipment should arrive prior to the building being ready to receive them, the successful Contractor shall make its own arrangements for temporary storage arrangements at no cost to the Owner. No on site storage will be available and all staging should be complete before delivery and installation of the equipment.
- D. Contractors doing work are to cooperate fully and coordinate the work of all other Contractors to expedite the proper and timely completion of the furnishing projects.
- E. In making delivery and installation, the Contractor must repair, at its own expense, any damage done to any of the buildings, equipment or property that are a part of this project that occur as a result of the control, management, direction, acts or omissions of the Contractor, its agents or employees and hold the Owner harmless from any other claims or property damage and/or personal injury.

3.18 SUBCONTRACTING AND ASSIGNMENT

- A. The Contractor shall be responsible to the Owner for the acts and omissions of all its employees and all subcontractors, their agents and employees and all other persons performing any of the work under a contract with the Contractor.
- B. This Contract, with all its rights and duties, and any part thereof, shall not be deleted, subcontracted or assigned to another Contractor without prior written permission of the Owner.

3.19 RECORD KEEPING AND RECORD RETENTION

- A. The Contractor shall establish and maintain adequate records of all expenditures incurred under the contract. All records shall be kept in accordance with general accepted accounting procedures. All procedures shall be in accordance with Federal, State, and local ordinances.
- B. The Owner shall have the right to audit, review, examine, copy, and transcribe pertinent records or documents relating to any contract resulting from this RFB held by the Contractor. The Contractor shall retain all documents applicable to the contract for a period of not less than three (3) years after final payment has been made.

3.20 RISK OF LOSS OR DAMAGE

- A. The Owner shall be relieved from all risks of loss or damage to materials or equipment during the period of transportation, installation, and during the entire time the equipment is in possession of the Contractor, unless and until such time as unencumbered title for the equipment is vested in the Owner and the materials or equipment is in the exclusive possession of the Owner.
- B. Should the materials or equipment be lost or damaged under such circumstances where the Owner is relieved from the risk of loss or damage, the Contractor shall immediately cause the damaged materials or equipment to be repaired or replaced at no cost to the Owner.
- C. In such event, any payments for the lost or damaged equipment shall be suspended from the time loss or damage occurs until such time as the lost or damaged materials or equipment is repaired or replaced and accepted by the Owner.
- D. It is understood, and the Contractor hereby agrees, that the Contractor shall be solely responsible for all equipment and/or services that the Contractor proposes. Notwithstanding the details presented in these specifications, it is the responsibility of the Contractor to verify the completeness of the equipment required and its suitability to meet the intent of this proposal. Any additional equipment required for installation shall be provided by the Contractor; it is understood that complete operating systems are required.

SECTION IV

WIDE AREA FIBER NETWORK RELOCATION & MAINTENANCE

PART 1 - GENERAL

4.1 SUMMARY

- A. These specifications, in conjunction with the drawings, establish the requirements necessary to achieve the intended performance and function of a WAFN Relocation & Maintenance.
- B. The Contractor shall provide the services necessary to engineer, furnish, install and to provide maintenance support for the WAFN Relocation conforming to acceptable industry standards. All work shall be completed in accordance with the drawings and specifications, and as required to leave the WAFN complete and in satisfactory operating condition, excluding those items listed under "Work by Others."
- C. The Contractor shall verify dimensions and conditions prior to installation, and perform installation in accordance with these specifications, Manufacturers recommendations and the latest edition or revision of all applicable codes and standards.
- D. The WAFN Relocation & Maintenance includes providing and integrating the following principal systems:
 - 1. Inter-Building Single-mode Fiber
 - 2. Splice Enclosures
 - 3. Annual Maintenance Contract
- E. The Owner reserves the right to reject any or all bids and to select the bid that is considered to serve "THE BEST INTEREST OF OWNER".
- F. The intent is to provide the WAFN for the transmission of voice, data and video applications to and between the buildings.
- G. The system shall include all required fiber, cables, supports, enclosures, splices, connectors, engineering, developmental charges, cable tests, and accessories as specifies herein for a complete and functional system.
- H. The Contractor shall provide all labor, materials, equipment, and incidentals necessary and required for completion of the work.
- I. All fiber strands shall be fully tested in compliance with these specifications.

4.2 CONFLICT BETWEEN DRAWINGS AND SPECIFICATIONS

- A. It is intended that the Contractor furnishing any materials or labor necessary for the completion of these specifications shall furnish them in compliance with these specifications. Where conflict exists with other specifications concerning such materials and labor, these

specifications take precedence unless otherwise approved in writing by the Technology Designer.

- B. Drawings pertaining to these specifications shall be considered as a part of said specification and shall be a part of the Contract Documents.

4.3 RELATED WORK PROVIDED BY OTHERS

- A. WAFN network switching equipment
- B. DTE Pole placement

4.4 REQUIREMENTS OF REGULATORY AGENCIES

- A. All components and installations shall bear an Underwriters' Laboratories (UL) listing and shall conform with the latest edition or revision of the following codes and standards:
 - 1. ANSI - American National Standards Institute
 - 2. ASTM - American Society for Testing and Materials
 - 3. EIA - Electronics Industries Association
 - 4. FCC - Federal Communications Commission
 - 5. ICEA - Insulated Cable Engineers Association
 - 6. IEEE - Institute of Electrical and Electronics Engineers
 - 7. ISO - International Organization for Standardization
 - 8. NEC - National Electrical Code
 - 9. NEMA - National Electrical Manufacturer's Association
 - 10. NFPA - National Fire Protection Association.
 - 11. TIA - Telecommunications Industry Association
 - 12. UL - Underwriters Laboratories, Inc.
 - 13. BICSI - Building Industry Consulting Services International
- B. The code or standard establishing the more stringent requirements shall be followed where areas of conflict occur between codes and standards or between codes and standards and the drawings and specifications.

4.5 INSTALLER QUALIFICATIONS

- A. The installation of the WAFN Relocation & Maintenance shall be performed by fully qualified personnel having had experience on installations of this type. The Contractor shall be able to certify that the personnel have had no less than five (5) years of continuous experience in this area and have made installations similar to this and of this size or larger.

4.6 SUBMITTALS

- A. Pre-Construction Drawings
 - 1. Drawings shall be provided clearly depicting any proposed modification to the project drawings. Any modifications shall be highlighted on the shop drawings.
- B. The Contractor shall furnish samples of all material to be used in the construction of the WAFN Relocation & Maintenance.
- C. The Contractor shall provide copies of Manufacturer's specification sheets for all materials and components bid. The Owner reserves the right to reject any component that does not meet this specification completely.

4.7 EXISTING CONDITIONS

- A. The Contractor shall visit the site prior to submitting a bid. No subsequent allowance will be made due to failure to observe and verify conditions, which may affect the work. The Contractor shall report to the Technology Designer any discrepancies between these specifications and existing conditions and similarly report obvious omissions.

4.8 JOB CONDITIONS

- A. The Contractor shall keep the job adequately staffed at all times. Unless illness, loss of personnel or other reasonable circumstances beyond its control, the Contractor shall maintain the same individual in charge throughout the contract.
- B. The Contractor shall cooperate with all appropriate parties in order to achieve well-coordinated progress with the overall construction completion schedule and satisfactory final results.
- C. The Contractor shall watch for conflicts with work of other contractors on the job and execute, without claim for extra payment, moderate moves or changes as are necessary to accommodate other equipment or to preserve symmetry and an aesthetically pleasing appearance.
- D. All trash and refuse generated in the Owner's buildings shall be removed by the Contractor at the completion of each work day or more frequently as needed. The disposal shall be at the Contractor's expense.
- E. Restoration and Repair

1. The Contractor shall be responsible for all repair of broken or disturbed utilities, reconstruction of damaged or destroyed equipment and materials of the Owner related to construction of the proposed WAFN Relocation & Maintenance.
 2. The Contractor shall be responsible for restoration of all grounds disturbed while installing the WAFN Relocation & Maintenance.
- F. The Contractor will be responsible for supplying its own secure areas for all storage requirements, which are part of the implementation. The Contractor shall be responsible for providing security and insurance for materials and equipment stored or installed during all phases of installation and until the systems are certified complete by the Contractor and accepted by the Owner.

4.9 QUALITY ASSURANCE

- A. All materials shall be new, shall conform to current applicable industry standards, NEMA Standards, and shall be Underwriter's Laboratories Standards listed and labeled unless otherwise indicated. Defective or damaged materials shall be replaced or repaired prior to final acceptance, in a manner, which meets the approval of the Owner and the Technology Designer at no additional cost to the Owner. All equipment and material shall comply with the latest standard for EIA/TIA, IEEE, NEMS, NEC, UL, REA, IPCEA, BOCA, ANSI and ASTM. The National Electric Code shall be used for minimum requirements only and not as design criteria.
- B. The Contractor shall comply with federal, state and local regulations and applicable union regulations.

4.10 PERMITS, SURVEYS AND MAKE READY

- A. The Contractor shall procure and pay for all necessary right-of-way permits, licenses, and inspections, and observe any requirements stipulated therein as required by the applicable city, township, county and the State of Michigan. The Contractor shall conform with appropriate trades and all local regulations and codes.
- B. The Owner has submitted the proposed routes to Detroit Edison and AT&T for approval.
- C. Pole make-ready costs have been determined and the Owner has authorized the work and made payment to Detroit Edison and AT&T.
- D. If the Contractor elects to change routes, the cost for utility surveys and any make-ready cost will be the responsibility of the Contractor.

PART 2 PRODUCTS

4.11 GENERAL

- A. The following sections specifically list the acceptable material types and items for this project. Where quantities are not noted, they may be obtained from the drawings. In the event of a

discrepancy between the specifications and the drawings, the greater quantity or better quality shall be furnished.

- B. All miscellaneous equipment required for a complete, professional installation shall be included in the base bid. No allowances for any additional equipment, hardware, cabling, or miscellaneous will be considered unless specifically excluded from the base bid.

4.12 MANUFACTURERS

A. Fiber Optic Cable

- 1. Products made by the following manufacturers, provided they comply with the requirements of the Contract Documents, will be among those considered acceptable:
 - a. Corning
 - b. Commscope
 - c. Draka

B. Fiber Splice Hardware

- 1. Products made by the following manufacturers, provided they comply with the requirements of the Contract Documents, will be among those considered acceptable:
 - a. Corning
 - b. Raychem
 - c. Commscope
 - d. ADC

4.13 SINGLEMODE OUTDOOR LOOSE TUBE FIBER CABLE

A. General

- 1. The cable shall meet all requirements stated in REA-PE-90 as well as those stated within these specifications. The cable shall be an accepted product of the United States Department of Agriculture Rural Electrification Administration as meeting the requirements of REA-PE-90.
- 2. The cable shall be new, unused, and of current design and manufacture.

B. Fiber Characteristics

- 1. Fibers in the cable must be usable fibers and meet required specifications.
- 2. Optical fibers shall be sufficiently free of surface imperfections and inclusions to meet the optical, mechanical, and environmental requirements of these specifications.

C. The single-mode fiber utilized in the cable specified herein shall conform to the following specifications:

- 1. Typical Core Diameter: 8.3 μm

2. Cladding Diameter: 125.0 +/- 1.0 μm
 3. Core-to-Cladding Offset: < 1.0 μm
 4. Coating Diameter: 250 +/- 15 μm
 5. Attenuation: .35 dB/km @ 1310 nm, .25 dB/km @ 1550 nm
- D. The coating shall be mechanically or chemically strippable without damaging the fiber.
- E. Specifications for Outdoor Cables
1. Optical fibers shall be placed inside a loose buffer tube.
 2. Each buffer tube shall contain up to 12 fibers.
 3. The fibers shall not adhere to the inside of the buffer tube.
 4. Each fiber shall be distinguishable from others by means of color. These colors shall meet TIA-598-C, "Optical Fiber Cable Color Coding".
 5. Buffer tubes containing fibers shall also be color-coded with distinct and recognizable colors. These colors shall meet TIA-598-C, "Optical Fiber Cable Color Coding".
 6. In buffer tubes containing multiple fibers, the colors shall be stable during temperature cycling and not subject to fading or smearing onto each other or into the gel filling material. Colors shall not cause fibers to stick together.
 7. The central anti-buckling member shall consist of a glass reinforced plastic rod. The purpose of the central member is to prevent buckling of the cable.
 8. The cable core interstices shall be filled with a water-blocking compound.
 9. Binders shall be applied with sufficient tension to secure the buffer tubes to the central member without crushing the buffer tubes.
 10. The cable shall contain at least one (1) ripcord under the sheath for easy sheath removal.
 11. Tensile strength shall be provided by high tensile strength aramid yarns and/or fiberglass.
 12. The high tensile strength aramid yarns/fiberglass shall be helically stranded evenly around the cable core.
 13. All dielectric cables shall be sheathed with medium density polyethylene. The polyethylene shall contain carbon black to provide ultraviolet light protection and shall not promote the growth of fungus.
 14. The jacket or sheath shall be free of holes, splits, and blisters.
 15. The cable jacket shall contain no metal elements and shall be of a consistent thickness.

16. The jacket or sheath shall be marked with the manufacturer's name, the words "Optical Cable", year of manufacture, and sequential meter marks. The markings shall be repeated every one (1) meter.
17. The maximum pulling tension shall be 2700 N (600 lbs) during installation (short term) and 890 N (200 lbs.) long term installed.
18. The shipping, storage, and operating temperature range of the cable shall be -40°C to +70°C. The installation temperature range of the cable shall be -30°C to +70°C.

F. Quality Assurance Provisions

1. All optical fibers shall be 100% attenuation tested. The attenuation of each fiber shall be provided with each cable reel.

4.14 SPLICE ENCLOSURES

A. Outdoor Enclosures

1. Enclosure must provide for moisture-tight sealing.
2. Enclosure must be re-enterable for system expansion and repair.
3. Splice trays must provide strain-relief so no stress is placed on finished splices within trays.
4. Splice trays will have organizers designed for the use of RTV.

PART 3 - EXECUTION

4.15 SITE REQUIREMENT

- A. The Contractor shall provide and install single mode fiber as indicated on the drawings.

4.16 TIMELINE

- A. The timeline for this project is preliminary and is dependent on several third parties including, but not limited to, DTE, AT&T, and Comcast. The Contractor shall be accommodating and available with the schedule. The project schedule will be confirmed with the Contractor after the contract award.
1. All fiber will be spliced by **December 28, 2009**.
 2. Fiber cable testing will be complete by **January 6, 2010**.
 3. WAFN Relocation installation complete by **January 6, 2010**.

4.17 INSTALLATION

A. General:

1. All work materials shall be removed at the end of the work day and the work area left in the same condition as found.
2. The Contractor shall have a minimum of five (5) years of experience in WAFN installation.
3. The Contractor shall maintain a fully equipped service organization capable of furnishing inspection, service and repair to the network, including replacement parts.
4. Work in classroom areas and corridors shall be performed during recesses or after normal school hours or during periods in which the building is not occupied by students (i.e. holiday breaks, parent/teacher conferences, half days, etc.). Adherence to a schedule of working hours, which is agreeable with the Owner, will be required.
5. The individual fibers shall be color coded for identification. The optical fiber color-coding shall be in accordance with TIA-598-C, "Optical Fiber Cable Color Coding".
6. All cables must be routed and managed for a neat and professional appearance. All work must be installed in a neat and workman like manner.
7. The Contractor shall assure that at the completion of cable installation, cables are free from twists, kinks, sharp bends, cuts, gouges or any other physical damage that might cause alterations to the optical characteristics of the cables.
8. All fiber optic cable splices will be fusion spliced.
9. All work to be done with extreme caution.
10. All work to be performed in strict accordance with the applicable codes or requirements of any regulating governmental agency, or the right-of-way grantor.

B. Aerial Construction

1. All outside fiber optic cable shall be loose buffer tube, 12 fibers per tube, filled, dielectric/central member/non-armored and PE (polyethylene) outer sheath.
2. Fiber optic cable shall be double lashed to 6.6M suspension strand.
3. Lashing wire shall follow lay of strand wire under grip.
4. The Contractor shall place tags with the following wording at all splice locations: "TROY SCHOOL DISTRICT" Fiber Optic Cable." **Tags shall be Blue in color.**
5. The Contractor shall place tags with the following wording on all poles: "TROY SCHOOL DISTRICT Fiber Optic Cable." **Tags shall be Blue in color.**
6. Bond strand to all transformer poles. **IN ACCORDANCE WITH NESC AND DTE GUIDELINES.**

7. Bond and ground strand to all light and camera poles when within twelve (12) inches. **IN ACCORDANCE WITH NESC AND DTE GUIDELINES.**
8. Bond strand to all Multi-Grounded Neutrals. **IN ACCORDANCE WITH NESC AND DTE GUIDELINES.**
9. The Contractor shall exercise extreme caution when working around electrical wires.
10. All fiber splices will be housed in splice trays inside weatherproof enclosures. The Contractor shall use splice trays with organizers designed for use of RTV.
11. All splices must be well organized and protected.
12. The minimum bend radius requirement must not be violated. Splice trays must be large enough to handle worst case bending.
13. Splice trays must provide strain relief for buffer tubes.
14. The Contractor shall provide fifty feet (50') of cable slack at each splice location, unless otherwise noted
15. The Contractor shall use non-metallic, sno-shoe type fiber optic storage device for excess cable slack.
16. The Contractor shall not exceed the manufacturer specifications concerning minimum bending radius.
17. The minimum bending radius of fiber optic cable under tension will not exceed twenty (20) times the cable diameter.

4.18 FIBER OPTIC TESTING

- A. Testing and documentation shall be done on all fibers with connectors. The Contractor shall provide the calibration date of the unit used to perform the measurements to the Owner prior to beginning the test. That date must be within twelve (12) months of the test (or less if recommended by the manufacturer). Fiber loss shall be checked from connector to connector on all single mode fibers.
- B. All Fiber Optic Cable shall be tested using an Optical Time Domain Reflectometer (OTDR). Documentation for each test shall be provided to Owner. The signature trace of each cable must include the attenuation per kilometer and total length of each strand. Acceptance tests for all fiber strands shall include attenuation, attenuation uniformity, and continuity, testing shall be performed at 1310nm and 1550nm wavelengths. Corrective action shall be taken by the Contractor in the design of the system to insure all loss budgets are maintained.
- C. The OTDR test results will determine the following:
 1. The overall length of each segment.
 2. Proper fiber splicing.
 3. Continuity in the fiber.

4. Total segment attenuation.
 5. Irregularities in the fiber.
 6. Loss for each strand at 1310 nm and 1550 nm.
- D. On the reel testing is required prior to installation. Each fiber strand will be tested with an OTDR at 1310nm to identify point discontinuities. Hard copy results are to be provided to the Owner.
- E. Fusion Splice Testing: optical fiber splice shall not exceed a maximum optical attenuation of 0.3dB when tested in accordance with ANSI/EIA/TIA 455-59.
- F. Connector Testing: optical connectors shall not exceed a maximum optical attenuation of 0.75dB per mated connection when tested in accordance with ANSI/EIA/TIA 455-59.
- G. Any cable or component that does not meet the required operational tests or fails to meet installation standards as specified shall be repaired or replaced by the Contractor as directed by the Owner and at no expense to the Owner.
- H. **PRE-TEST THE FIBER CABLE FROM THE SERVICES BUILDING TO THE RESPECTIVE SCHOOLS, AND COMPARE THE OTDR TEST RESULTS WITH THE RELOCATED FIBER POST-TESTS.**
1. Athens High School
 2. Barnard Elementary
 3. Hill Elementary
- I. All pre- and post-installation testing shall be coordinated with the Owner's staff on dates and times acceptable to the Owner.

4.19 DRAWINGS AND DOCUMENTATION

- A. Fully detailed documentation and record drawings of installation layout and performance shall be submitted for review within thirty (30) days of completion of work and shall include as a minimum:
- B. As-Built Documentation
1. After construction of the WAFN Relocation, but prior to system acceptance, the Contractor shall submit as-built documentation for the as-installed plant. Scale drawings for as-built documentation must be produced for each media installed. Drawings shall be provided using AutoCAD format release fourteen (14) or above. The following is the minimum detail required:
 - a. Outside plant construction documentation detailing site maps, route maps, splice locations and a plan and profile of all manholes/conduits and handholds. Also include manhole details (i.e. butterfly type), cell assignments and building entrance diagrams.

- b. Drawings shall indicate equipment racks, equipment rack elevations, cable labeling schemes, patch panel labeling scheme, cable routes and the location of ancillary items such as splice enclosures.
- C. Final drawings shall be submitted in appropriate size to drawing detail. Two (2) hard copies and three (3) soft copies (CD or DVD) will be required in AutoCAD for all cabling drawings. Drawings should provide enough detail to allow troubleshooting and maintenance. Hand drawings are not acceptable.
- D. All drawings and the information contained therein shall become the sole property of the Owner.

4.20 WARRANTY

- A. The Contractor shall warrant all equipment, components and installation comprising the WAFN Relocation & Maintenance described in these specifications, and furnished by the Contractor under the Contract Documents for a minimum period of **two (2) years** following the Owner's acceptance of the system. The Owner or the Technology Designer shall formally acknowledge such acceptance date or dates. The Contractor's warranty shall commence on the day following such acceptance and shall conclude two (2) years later. By accepting this obligation, the Contractor warrants that the system shall be in and remain in good working order, is installed in a workmanlike manner and is compliant with the specifications. During the warranty period the Contractor shall correct all deficiencies in materials, components or workmanship discovered by the Owner, and shall correct any failures in performance of the systems as described in these specifications, and any change orders agreed between the Owner and the Contractor.
- B. The Contractor shall fulfill such warranty obligations by taking all necessary action to correct, repair or replace the non-performing or improperly installed equipment and components, at no cost to the Owner, so as to restore the WAFN to the level of performance and /or quality set forth in these specifications. Restoration or repair shall be deemed accepted by the Owner based upon inspection by the Owner's representative, completion of acceptance tests as defined herein on the affected portion of the system, or other appropriate approval process acceptable to the Owner. All changes and/or repairs made by the Contractor in fulfillment of the warranty obligation shall be documented in accordance with the standards for documentation contained in these specifications.
- C. Additional warranty provisions shall apply to all types of cables installed in the WAFN. These cables shall be warranted to perform in accordance with the specifications contained herein for a period of five (5) years from the date of acceptance. The Owner will accept warranty from the manufacturer of the cable in place of the Contractor's warranty for this additional warranty, provided that such manufacturer's warranty covers both replacement of cable and all installation of such replacement within the system, at no cost to the Owner.
- D. If the Contractor shall fail to provide its best efforts to perform warranty obligations in a timely manner, the Owner, at its sole discretion, will secure the necessary services from other suppliers selected by the Owner, and the Contractor shall reimburse the Owner for the cost of such services.

4.21 MAINTENANCE CONTRACT FOR TROY SCHOOLS DISTRICT WAFN

- A. The Contractor shall agree to offer to the Owner a Maintenance Contract for repair, replacement or modification of the system. The Owner may elect to enter into such contract, or make other arrangements at the Owner's sole discretion.
- B. The Contractor shall offer a Maintenance contract covering service twenty-four (24) hours a day, Monday through Sunday. The Owner will classify requests for maintenance services as major or minor, based on the likely impact on the Owner's ability to be able to continue substantial use of the network. The Contractor shall respond to major requests by dispatching maintenance personnel, with appropriate tools and components so they arrive within two (2) hours of receiving notification from the Owner. Response for minor requests shall be similar, but shall be within twenty-four (24) hours. These response standards shall apply during the warranty period and maintenance contract.
- C. The Contractor agrees that all maintenance requests shall be handled expeditiously in accordance with best commercial practice. The Contractor shall provide the Owner with an Escalation Plan for the resolution of all maintenance problems, which cannot be completed within eight (8) hours for major requests and twenty-four (24) hours for minor requests. All warranty services shall automatically be classified as major. The Contractor shall be responsible for notifying the Owner of the need for application of the Escalation Plan.
- D. The Contractor shall provide the Owner with a sample Maintenance Contract with the Rate Schedule, including Escalation Plan, with its response to this Bid.

4.22 CLOSEOUT

- A. Punch List
 - 1. The Contractor shall perform required remedial work, without claim for additional labor or other costs. Where required, the Contractor shall re-test and submit a revised Test Report.
 - 2. The Contractor shall notify the Technology Designer of completion of the Punch List.
 - 3. If after notification and inspection by the Technology Designer, the identified Punch List items have not been corrected the Contractor will be notified that remedial work is still required. Additional time spent by the Technology Designer, due to the failure of the Contractor to correct Punch List items and finish the project by the agreed upon completion date as set forth in the Contract Documents, will be charged to the Contractor at the rate of one hundred twenty-five dollars (\$125) per hour and deducted from the Contractors retainage.

4.23 OWNER'S RIGHT TO USE

- A. Acceptance of the Work of this Section will occur after completion of corrections and adjustments required by "Punch List" (as generated during on-site inspections and review of testing documentation).
- B. The Owner reserves the right to use equipment, material and services provided as part of work of this Section, prior to Acceptance, without incurring any obligation to accept any

equipment or completed systems until Punch List work is complete and the WAFN Relocation complies with the Contract Documents.

BID FORM

BID FOR: TROY SCHOOL DISTRICT

PROJECT: TROY SCHOOL DISTRICT
WIDE AREA FIBER NETWORK RELOCATION & MAINTENANCE
TROY, MICHIGAN

DATE:

CONTRACTOR'S NAME:

CONTRACTOR'S ADDRESS:

GENERAL:

Pursuant to and in compliance with the instructions in the Contract Documents, as defined in W&H Project No. 09-TSD-WAFN-01 in the Request for Bid, the undersigned proposes and agrees to furnish equipment, materials, and labor and perform all work necessary to complete the Wide Area Fiber Network Relocation & Maintenance ("WAFN") contract for TROY SCHOOL DISTRICT (the "Owner") in accordance with the plans and specifications prepared by Wright & Hunter, Inc. (the "Technology Designer") and agrees to accept payment as herein provided.

BASE BID

Lump sum bid for all WAFN Additions work specified and shown on the Drawings as indicated for base bid.

Dollars \$

Note: The amount shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

BONDS

The undersigned affirms that the cost of a Labor and Material Payment Bond and a Performance Bond are included in the base bid.

Amount included for Bonds

Dollars \$

BID FORMS

Note: The amount shall be shown in both words and figures. In case of a discrepancy, the amount shown in words shall govern.

ALTERNATES

The foregoing Base Bid may be increased or decreased by the amounts herein quoted for the Alternates specified below. The following alternate prices shall include all charges for labor, material and equipment, overhead and profit, taxes, insurance and incidental expenses.

All alternates must be priced. Failure to indicate alternate prices shall be cause for the Owner to consider the bid nonresponsive.

The Owner reserves the right to accept alternates in any order or combination and to determine the low contractor on the basis of the sum of the base bid and the alternates accepted.

A-1: Provide pricing to use double armored rodent proof fiber optic cable as an alternate to specified cable.

Add / Deduct / No Charge _____ \$

The following Voluntary Alternates are offered by the Contractor. The Contractor shall provide a complete description of each Voluntary Alternate and indicate the amount to be added to or deducted from the Base Bid should the Owner accept the Voluntary Alternate. Attach additional pages if required to explain each Voluntary Alternate.

VA-1: Voluntary Alternates:

Add / Deduct / No Charge _____ \$

VA-2: Voluntary Alternates:

Add / Deduct / No Charge _____ \$

MAINTENANCE CONTRACT

A. Warranty Period: Twenty-four (24) months from date of Substantial Completion.

B. Maintenance Service:

1. **Up Front Charges.** Charges to be billed to the District if your company were to be awarded the Maintenance Contract in order to assume responsibilities for the WAFN constructed by others. \$ _____

2. **Annual Charges.** Any and all costs billed to the District on an annual basis if the Maintenance Contract were awarded to your company. \$ _____

3. **Periodic Route Inspection.** Please indicate the charges you may bill to perform a periodic inspection of the entire WAFN to insure its integrity. This function should be 'in the best interest of the District'. Include in your price, the interval of inspection and costs associated. \$ _____

4. **Pole Transfers.** Include the total charges to perform a routine transfer of the fiber cable to a new pole placed by DTE or AT&T. Assume this work is completed during normal business hours. \$ _____

5. **Aerial Fiber Replacement.** In this scenario, provide pricing to replace a section of aerial fiber, 500 feet in length, 12 count fiber, splicing and testing operations, during normal business hours. Also, for an emergency call out.
Normal business hours. \$ _____
Emergency call out. \$ _____

6. **Buried Fiber Replacement.** Again, in this scenario, provide pricing to replace a section of buried fiber, 500 feet in length in a spare existing innerduct, 12 count fiber, splicing and testing operations, during normal business hours. Also, for an emergency call out.
Normal business hours. \$ _____
Emergency call out. \$ _____

7. **Buried Cable Location.** If your company provides a Cable Locate service please provide information regarding the procedures and associated costs required for Troy School District to become a member of the Miss Dig system and costs associated with reviewing dig tickets and stacking the fiber cable at potential risk. \$ _____

8. **Miss Dig Services.** Provide a list of services and associated fees for Miss Dig services. _____

Please include any and all breakdown based on type of work, hourly rate, and any other pertinent information. The Owner reserves the right to execute the above service contracts.

UNIT PRICES

The Contractor proposes unit prices in accordance with the following schedule. Said unit prices shall include charges for labor, material, equipment, testing, insurance, taxes, overhead and profit. **This (bill of materials) unit pricing is mandatory, failure to provide may cause bid to be non-compliant.**

Said unit prices shall be applicable to the pricing to, or deletion from the work indicated in the specifications. Unit prices may also be used to adjust a bid up or down for any additional or missing item(s) to ensure all Contractors are being evaluated on a comparable level.

UP-1: Provide labor, materials and equipment to install, twelve (12) Fiber, loose tube, Aerial Construction, per foot.

Add: _____ \$

Deduct: _____ \$

UP-2: Provide labor, materials and equipment to install, twenty-four (24) Fiber, loose tube, Aerial Construction, per foot.

Add: _____ \$

Deduct: _____ \$

UP-3: Provide labor, materials and equipment to Fusion Splice one strand of fiber.

Add: _____ \$

Deduct: _____ \$

UP-4: Provide labor, materials and equipment to Fusion Splice twelve (12) strands of fiber.

Add: _____ \$

Deduct: _____ \$

TAXES

The Contractor shall include in his/her proposal and shall pay all applicable Federal, State and local taxes of whatever character and description.

ADDENDA

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

Addendum No. _____ Dated _____ Addendum No. _____ Dated _____

WITHDRAWAL OF BIDS

The undersigned agrees that his/her proposal shall not be withdrawn for a period of ninety (90) days after the date set for receipt of proposal.

COMMENTS: _____

SIGNATURE

Signed and sealed this _____ day of _____, 2009.

Affix Corporate Seal

By: _____

(Individual, Partnership, Corporation)

(Authorized Signature of Contractor)

(Business Address)

(Telephone Number)

Instructions: Submit one (1) original bid response and three (3) copies to the TROY SCHOOL DISTRICT, and retain one (1) copy for your files.

