

**CITY OF EL PASO, TEXAS
AGENDA ITEM
DEPARTMENT HEAD'S SUMMARY FORM**

DEPARTMENT: Engineering

AGENDA DATE: November 5, 2009

CONTACT PERSON NAME AND PHONE NUMBER: Alan Shubert, City Engineer 541-4423

DISTRICT(S) AFFECTED: All Districts

SUBJECT:

That the City Manager be authorized to sign an Interlocal Agreement for services by and between the **CITY OF EL PASO** and **THE UNIVERSITY OF TEXAS AT EL PASO**, for the development of a geographic information system Fiber Optics Asset Management System within the City in the amount of NINETY FOUR THOUSAND FOUR HUNDRED FIFTEEN AND NO/100 DOLLARS (\$94,415.00) and that the City Manager be authorized to approve an extension of the term of the interlocal agreement and approve up to \$25,000.00 in additional services for a total of contract amount not to exceed ONE HUNDRED NINETEEN THOUSAND FOUR HUNDRED FIFTEEN AND NO/100 DOLLARS (\$119,415.00).

BACKGROUND / DISCUSSION:

The City of El Paso Engineering Department is proposing to enter into an interlocal agreement with **THE UNIVERSITY OF TEXAS AT EL PASO** to assist the City of El Paso in the gathering accurate relevant data pertaining to the location and quantity of the city owned/leased SM fiber optic facilities into a GIS layer. The Consultant will work with the IT, Engineering, Streets and GIS departments to gather data which will be used to develop an overlay to existing current GIS map datum specific to the fiber optic facilities. This information will be used to more accurately plan and manage the interconnection of new and existing facilities to the city owned/leased fiber facilities and as a tool for emergency restoration and maintenance.

PRIOR COUNCIL ACTION:

None

AMOUNT AND SOURCE OF FUNDING:

Funding is 2009 Reprogrammed COs

BOARD / COMMISSION ACTION:

Enter appropriate comments or N/A

*****REQUIRED AUTHORIZATION*****

DEPARTMENT HEAD:



(If Department Head Summary Form is initiated by Purchasing, client department should sign also)

Information copy to appropriate Deputy City Manager

RESOLUTION

BE IT RESOLVED CITY COUNCIL OF THE CITY OF EL PASO:

That the City Manager be authorized to sign an Interlocal Agreement for services by and between the **CITY OF EL PASO** and **THE UNIVERSITY OF TEXAS AT EL PASO**, for a the development of a geographic information system Fiber Optics Asset Management System within the City in the amount of NINETY FOUR THOUSAND FOUR HUNDRED FIFTEEN AND NO/100 DOLLARS (\$94,415.00) and that the City Manager be authorized to approve an extension of the term of the interlocal agreement and approve up to \$25,000.00 in additional services for a total of contract amount not to exceed ONE HUNDRED NINETEEN THOUSAND FOUR HUNDRED FIFTEEN AND NO/100 DOLLARS (\$119,415.00).

ADOPTED THIS _____ DAY OF _____ 2009.

CITY OF EL PASO:

John F. Cook, Mayor

ATTEST:

Richarda Duffy Momsen,
City Clerk

APPROVED AS TO FORM:

APPROVED AS TO CONTENT



Mark Shoosmith
Assistant City Attorney



R. Alan Shubert, P.E.
City Engineer

STATE OF TEXAS)
)
COUNTY OF EL PASO) **INTERLOCAL AGREEMENT**

This Agreement entered into this _____ day of _____, 2009, by and between the City of El Paso, a municipal corporation situated in El Paso County, Texas, hereinafter referred to as "CITY", and The University of Texas at El Paso, a Texas Institution of Higher Education, hereinafter referred to as "UTEP", pursuant to the Interlocal Cooperation Act, Art. 791.001, et seq., Texas Government Code.

WITNESSETH

The CITY and UTEP for the consideration and mutual promises as herein set forth agree as follows:

1. SCOPE OF SERVICES

UTEP agrees to provide services to develop a geographic information system (GIS) Fiber Optics Asset Management System within the City, as more specifically stated in the scope of services as set forth in Exhibit "A", made a part hereof by this reference for all purposes.

2. TERM

The term of this Agreement shall begin on the date entered above and shall end upon the expiration of nine months after the date entered above. The term of this agreement may be extended upon the written approval of both parties. The City Manager may authorize an extension of the term of this Agreement on behalf of the City provided that compensation, in addition to the compensation specified in section 3 of this agreement, for additional services during the extended term shall not exceed twenty-five thousand and No/100 dollars (\$25,000.00).

3. COMPENSATION AND METHOD OF PAYMENT

The total cost of the contract shall not exceed NINETY FOUR THOUSAND FOUR HUNDRED FIFTEEN AND NO/100 DOLLARS (\$94,415.00). UTEP agrees that at no time shall it make a claim against the City for more than the rate provided under the terms of this Agreement. Payment for each task shall be made on a monthly basis. The Owner shall make payments upon presentation of UTEP's detailed Invoice and accompanying Summary and Progress Report and the Owner's written approval.

4. CERTIFICATION

The CITY hereby certifies that the services to be provided by UTEP are necessary and essential activities that are properly within the statutory functions and programs of the respective state and local entities.

5. APPLICABLE LAWS

UTEP shall perform all services under this Agreement in accordance with all applicable local, state, and federal laws and regulations.

6. INDEPENDENT CONTRACTOR

Nothing contained herein shall be construed as creating the relationship of employer and employee between the CITY and UTEP.

7. ASSIGNMENT

The services to be provided under this Agreement are specific to UTEP and shall not be assigned or delegated without the prior written consent of the CITY.

8. TERMINATION

A. Either party may terminate this Agreement if the other is in default upon five (5) days written notice to the other party provided that the other party shall be given a reasonable time to cure said default. The CITY or UTEP may terminate this Agreement for any cause upon thirty (30) days written notice to the other party.

B. Termination shall be without prejudice to any obligation by one party to the other, which shall have accrued and be owing prior thereto.

C. Upon termination, UTEP shall return any materials belonging to the CITY, such as all drawings, plans, records, and other materials, which are currently in UTEP's possession.

D. The City Manager has the authority to exercise the termination provisions of this Agreement on behalf of the City.

9. NOTICES

All notices, communications and reports under this Agreement shall be hand-delivered or mailed, certified, return receipt requested, to the respective parties at the respective addresses shown below, unless and until either party is otherwise notified in writing by the other party:

CITY: City Engineer
2 Civic Center Plaza
El Paso, Texas 79901

UTEP: Carlos M. Chang, Ph.D., P.E.
Assistant Professor
Department of Civil Engineering
University of Texas at El Paso
500 W. University
El Paso, Texas 79968

10. WAIVER

Action or inaction by either party regarding any default, breach or condition precedent shall not be construed as a waiver of any other default, breach or condition precedent or any other right hereunder.

11. DISCRIMINATION

A. Discrimination Prohibited: No person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or handicap, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under, any programs or activity funded in whole or in part with funds made available to UTEP pursuant to the terms of this Agreement, or any written amendment hereto.

B. Specific Discriminatory Actions prohibited: UTEP may not utilize criteria or methods of administration which have the effect of subjecting individuals to discrimination on the basis of race, creed, color, sex national origin, age or disability, or having the effect of defeating or substantially impairing accomplishment of the objectives of the programs funded pursuant to this Agreement or any written amendment hereto with respect to individuals of a particular race, color, national origin, creed, sex, age or disability.

12. NO VERBAL AGREEMENT

This Agreement contains all commitments and agreements of the parties hereto, and no verbal or other written commitment shall have any force or effect if not contained herein.

13. VENUE

The parties hereto agree that this Agreement shall be enforceable in El Paso, Texas, and if legal action is necessary to enforce it, exclusive venue shall lie in El Paso County, Texas.

14. CONTRACT INTERPRETATION

In interpreting the various provisions of this Agreement in a court of law, any court having jurisdiction shall apply the laws of the State of Texas to interpret the terms and provisions in this Agreement.

15. SEVERABILITY

If any provision of this Agreement is found by a court of competent jurisdiction to be illegal, invalid, or unenforceable, the remainder of this Agreement will not be affected and in lieu of each provision which is found to be illegal, invalid or unenforceable, there will be added as part of this Agreement a provision which preserves the intention of the unenforceable provision, but which complies with the law.

16. CAPTIONS

The captions to the various paragraphs of this Agreement are for informational purposes only and shall not alter the substance of the terms and conditions of this Agreement.

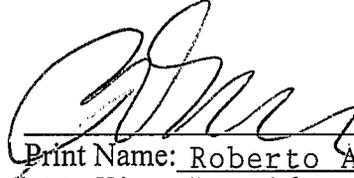
17. BINDING AGREEMENT. The individual signing this agreement acknowledges that he is authorized to do so and said individual further warrants that he is authorized to commit and bind UTEP to the terms and conditions of this agreement.

IN WITNESS WHEREOF, the parties have executed this Agreement in the City of El Paso to be effective on the date and year first above written.

THE CITY OF EL PASO

Joyce A. Wilson
City Manager

UNIVERSITY OF TEXAS AT EL PASO



Print Name: Roberto A. Osegueda
Title Vice President for Research

APPROVED AS TO FORM:



Mark Shoesmith
Assistant City Attorney

APPROVED AS TO CONTENT:



R. Alan Shubert, P.E.
City Engineer

Development of a GIS Fiber Optics Asset Management System

The City of El Paso
Engineering Department

Prepared by:

Carlos M. Chang, Ph.D., P.E.
Assistant Professor
Department of Civil Engineering
University of Texas at El Paso

Raed K. Aldouri, Ph.D.
Assistant Professor
Regional Geospatial Service Center, Director
University of Texas at El Paso

October 15th, 2009

Background

The primary objective of this project is to develop a GIS Fiber Optics Asset Management System (GFOAMS) for the City of El Paso. An initial effort was conducted through the project "GIS-Infrastructure Management System" (GIS-IMS) performed by UTEP for the City of El Paso from May 2007 to June 2009. As a result of the GIS-IMS project, existing data for fiber conduits were placed into a GIS layer, but it's not complete by any means. The fiber conduits GIS layer was developed based on records from a pilot project. Field inspections were not conducted since the major focus of the GIS-IMS project was storm water drainage assets. As a result of the GIS-IMS project, the need for conducting field surveys to verify and update current information for fiber optics was considered a priority to manage these assets efficiently. The major challenge in this project is to locate fiber optic conduits on the field and identify their routes. The development of the GFOAMS, as described in this proposal, will allow the City of El Paso to make more effective decisions based on reliable information provided by a GIS user's friendly practical tool.

The proposed project will consist of the following four tasks:

- Task 1. Review Existing Records to Extract Data for the Fiber Optics Network
- Task 2. Perform a Field Survey to Verify and Collect Data for the Fiber Optics Network
- Task 3. Integrate Fiber Optics Data into a GIS Layer
- Task 4. Development of a GIS Fiber Optics Asset Management System (GFOAMS)

Due to the extent of the Fiber Optics Network in the City of El Paso, we are proposing that the project will prioritize the areas where field surveys are needed. The entire process described in the work plan will be performed for these areas and then expanded as requested through the other areas in the City of El Paso. Priorities to perform field surveys will be defined by the City of El Paso. We are considering nine months for the development of the GIS Fiber Optics Asset Management including data collection and field surveys for the areas selected in coordination with the City of El Paso. The extent of the field surveys to be conducted is tied to the resources considered in the budget.

Work Plan

Task 1. Review Existing Records to Extract Data for the Fiber Optics Network

There is a partial fiber optics conduit system inventory at the City of El Paso. Existing information from this inventory and current maps will be reviewed to extract data to populate the GIS Fiber Optics Network. In addition, other resources may be available for this project that the city can request from companies that had previous contracts with the city. With the assistance of technical staff from the City of El Paso, we will identify areas where field verification is needed or new data should be collected. This information will be used to prepare a plan for conducting field surveys that will allow verifying existing information and collecting new data.

Task 2. Perform a Field Survey to Verify and Collect Data for the Fiber Optics Network

In coordination with the City of El Paso, a work schedule will be prepared to perform field surveys to verify existing information and collect new data for the fiber optics network. The field surveys will be conducted for selected areas, based on priorities and according to the needs of the City of El Paso. We will require assistance from personnel from the City of El Paso to access the locations and conduct the inspections. Elements for the fiber optics network will be located using a global positioning system (GPS) and photos will be taken. Periodical meetings will be arranged to report work progress on data collection, receive feedback on data already collected, and plan future inspections. The extension of the field survey depends on the resources available for this project and the facility to get access to the fiber optic conduits on the field.

Task 3. Integrate Fiber Optics Data into a GIS Layer

Data collected in Task 2 will be integrated into a GIS layer. We will initially use El Paso's GIS Fiber Optics Infrastructure Management System (FOIMS) developed by UTEP in June 2009 for the City of El Paso. The FOIMS was a pilot project which includes basic information about fiber optics assets such as junctions, fiber points, copper points, conduit runs, city streets, and city zones. The data layer structure will be reviewed to analyze if there is a need to add new data fields. Feedback from the City of El Paso will be needed to ensure that all crucial data is being registered and also that the GIS layer meets the technical requirements of the overall IT systems. A meeting will be scheduled at the early stage of this task to show preliminary information collected in Tasks 1 and 2.

Task 4. Development of a GIS Fiber Optics Asset Management System (GFOAMS)

The current FOIMS developed by UTEP will be enhanced with a revised data structure and tools as identified from Task 3. Tools to facilitate access to the data inventory and visualize the fiber optics conduit network for developing of master plans will be incorporated into the system. Information

regarding systems implemented by other cities to manage fiber optics will also be reviewed to gather ideas for the GFOAMS being developed in this project for the City of El Paso. Meetings with practitioners from the City of El Paso will be scheduled to ensure that the final product will meet their needs and to facilitate its implementation. A User's Guide will be provided.

If data is available about the locations of the conduits, then it will be included in the GIS layer, otherwise determining where the conduits run through underground can just be estimated at the junction boxes. A possible test pilot can be recommended using GPR (Ground Penetrating Radar) to determine the location of the conduits underground.

Schedule of Project Activities

We are considering nine months to complete the tasks described in this proposal.

Original Schedule		Revision Date: 10/15/2009								
Revised Schedule										
Work Completed		Duration in Months								
		1	2	3	4	5	6	7	8	9
Research Activity										
Task 1: Review Existing Records to Extract Data for the Fiber Optics Network										
Task 2: Perform a Field Surveys to Verify and Collect Data for the Fiber Optics Network										
Task 3: Integrate Fiber Optics Data into GIS Layer										
Task 4: Development of a GIS Fiber Optics Asset Management System (GFOAMS)										

Note: Development of tasks 3 and 4 depend on work progress on Tasks 1 and 2.

Budget

The budget is in the US\$ 100,000 range including direct and indirect costs. A detailed budget will be provided with the formal proposal.

UNIVERSITY OF TEXAS AT EL PASO

BUDGET SUMMARY

PRINCIPAL INVESTIGATOR: Carlos M Chang Albitres
CO-PRINCIPAL INVESTIGATOR: Raed K Aldouri
PERIOD: From 12/1/2009 to 8/31/2010
TITLE: Development of a GIS Fiber Optics Asset Management System
AGENCY: CITY OF EL PASO

	Year 1	Total
A SALARIES AND WAGES - SENIOR PERSONNEL		
1 Carlos M Chang Albitres (Yrs1-1)1.5summos@100.0%	12,017	12,017
2 Soheil Nazarian (Yrs1-1)0.5summos@50.0%	3,852	3,852
3 Raed K Aldouri (Yrs1-1)1.0summos@100.0%	7,175	7,175
SUBTOTAL	23,044	23,044
B OTHER PERSONNEL		
1 Post Doctoral	-	-
2 Other Professional	-	-
3 Graduate Students (Yrs1-1)2-9.0mos@50.0%	23,175	23,175
4 Undergraduate Students (Yrs1-1)4-36.0wks@19.0hrs	22,545	22,545
5 Secretarial/Clerical (Yrs1-1)8.5mos@10.0%	1,796	1,796
6 Other Personnel	-	-
TOTAL - SALARIES AND WAGES	70,560	70,560
C FRINGE BENEFITS		
1 FACULTY AND STAFF	6,275	6,275
2 STUDENTS	4,967	4,967
TOTAL FRINGE BENEFITS	11,242	11,242
D TOTAL - SALARIES AND WAGES/FRINGE BENEFITS	81,802	81,802
E EQUIPMENT		
1	-	-
TOTAL - EQUIPMENT	-	-
F TRAVEL		
1 DOMESTIC	3,030	3,030
2 FOREIGN	-	-
TOTAL - TRAVEL	3,030	3,030
G PARTICIPANT SUPPORT COSTS		
1 STIPENDS	-	-
2 TRAVEL	-	-
3 SUBSISTENCE	-	-
4 TUITION AND FEES	-	-
TOTAL - PARTICIPANT COST	-	-
H OTHER DIRECT COSTS		
1 MATERIALS AND SUPPLIES	500	500
2 PUBLICATION COSTS	500	500
3 CONSULTANTS	-	-
4 COMPUTER SERVICES	-	-
5 SUBCONTRACTS	-	-
6 OTHER COSTS	-	-
TOTAL - OTHER DIRECT COSTS	1,000	1,000
I TOTAL DIRECT COSTS	85,832	85,832
J INDIRECT COSTS 10.0% Modified total direct cost	8,583	8,583
K TOTAL ESTIMATED COSTS	94,415	94,415

All personnel transactions required to fulfill the provisions of this proposal will be made in accord with, and will be governed by, the appropriate University Personnel Policies and Regulations. All salary increases will conform to University policies, subject to the availability of funds. No officer, member, or employee of the University and no other public officials for the governing body of the locality or localities in which the project is situated or being carried out who exercise any functions or responsibilities in the review or approval of the undertaking or carrying out of this project, shall participate in any decision relating to this project which affects his personal interest or have any personal or pecuniary interest, direct or indirect, in this project or the proceeds thereof.