City of Milpitas

Purchase Order Requisition

Date Requested	Requesting Department	Requestor	Extension	Fiscal Year
09/08/2020	Engineering	Kan Xu	x3253	FY 2020/21

Contract Name/ Description
Mapping signalized intersections, interconnections between signals, and fiber throughout the City.

Vendor Number	Vendor Name	Vendor Email	Vendor Telephone
14766	Psomas	cgooch@psomas.com	909-260-6611

Vendor Address
P.O. Box 51463
Los Angeles, CA 90051-5763

Ship to Address

Item	Quantity	Unit of Measure	Description	Account Number: Fund- Function- Expenditure/ CP/ PG/ GT	Unit Price	Extended Price
1	1	EA	Mapping signalized intersections, interconnections between signals, and fiber throughout the City.	CP3427-2-4237	92,303.00	92,303.00
						0.00
						0.00
						0.00
						0.00
						0.00
						0.00

Notes

Applicable Terms and Conditions
Contract

Sub Total:		92,303.00
Tax:		
Freight:		
Total:		92,303.00

	APPROVAL SIGNATURE	APPROVAL DATE		REVIEWER INITIALS	REVIEW DATE
Department Head	DocuSigned by: Steve Erikson 2278381D96134D7...	Sep-14-2020	CAO	DS SB DS	
Finance Director	DocuSigned by: D9F94EEB50844F3...	Sep-14-2020	Insurance	DS	
City Manager	DocuSigned by: Ashwini Kantak 0CF42D4A9C804E4...	Sep-20-2020	Budget		

Terms of the Contract
(must be completed)

Solicitation process required? ☐ YES ☑ NO If conducted, total number of Proposals/ Bids received: Release Date:

		Start Date:	End Date:	Extend to Date:
Initial Not-to-Exceed Contract Amount	154,025.00	07/01/2019	10/01/2020	10/01/2021
Previous Amendments' Contract Amount (if any)				
Current Amendment Contract Amount (if any)	92,303.00			
Total Contract Amount with Amendments	246,328.00			

Did the Contract/ Amendment go to Council for Approval? ☑ YES ☐ NO

If yes, on what date? 06/02/2020

For Accounting Use Only

Signature Approval:	Commodity Code:	Agreement Dated:	If Depreciable, Use PO #: (EQ)
X	091800	Amendment No. 1	
CIP Budget Check:	**Ship to Code:**	**Batch # :**	**Insurance Expires:**
X	A100		
Acct. Code Check:	**PO Entered on:**	**PO # :**	**PO Entered by:**
X	DS 10/13/20	FY20450	Jessica Wutzke

Revsied: 8 / 3 / 2020

AP Received: JW

AMENDMENT NO. 2
TO PROFESSIONAL SERVICES AGREEMENT
BETWEEN THE CITY OF MILPITAS
AND PSOMAS

This Amendment No. 2 is entered into this 1st day of October 2020, by and between the City of Milpitas, a municipal corporation of the State of California (hereafter referred to as "City") and Psomas, a California Corporation (hereafter referred to as "Consultant"). City and Consultant maybe individually referred to herein as "Party" or jointly as the "Parties."

RECITALS:

WHEREAS, the Parties entered into a Professional Services Agreement on July 1, 2019, for GIS data verification and update services for the maximum compensation amount of $154,025, and with a term period of July 1, 2019, through April 1, 2020(the "Agreement"); and

WHEREAS, on April 1, 2020, the Parties entered into Amendment No. 1 to the Agreement to extend the expiration date of the Agreement by six months to allow the Consultant additional time to complete the verification, evaluation, and update of City utility information in the City's GIS system, and to make ministerial changes to the Agreement; and

WHEREAS, the Parties now desire to amend the Agreement to further extend the expiration date of the Agreement by one additional year to allow Consultant to perform mapping signalized intersections, interconnections between signals, and fiber throughout the City, and to increase the maximum compensation amount by $92,303.00 to allow for these further services.

NOW THEREFORE, in consideration of the mutual covenants and conditions herein contained, the Parties agree to amend the Agreement as follows:

1. Section 1, entitled "Services," is hereby amended to read as follows:

"Consultant shall provide the City with the services described in the Scope of Services as **Exhibits A and A1**, attached hereto and incorporated herein."

2. Section 2, entitled "Compensation," the first line of subsection b. is hereby amended to read as follows:

"In no event shall the total amount paid for services rendered by Consultant under this Agreement exceed the sum of Two Hundred Forty-Six Thousand Three Hundred Twenty-Eight Dollars and Zero Cents ($246,328)."

3. Section 5, entitled "Time of Performance," is hereby amended to read as follows:

"The term of this Agreement shall be from July 1, 2019, to October 1, 2021, unless earlier terminated as provided herein. Consultant shall complete the services within the term of this Agreement and shall meet any other established schedules and deadlines."

4. The Consultant agrees to maintain and pay for all insurance policies as stated in Section 11, entitled "Insurance" of the Agreement. The Consultant shall provide the City with renewal certificates of the current policies upon the expiration of the current policies.

5. Except as amended by this Amendment No. 2, all provisions of the Agreement shall remain unchanged and in full force and effect. From and after the date of this Amendment No. 2, whenever the term "Agreement" appears in the Agreement, it shall mean the Agreement as amended by this Amendment No. 2.

6. The Parties hereto irrevocably stipulate and agree that they have each received adequate and independent consideration for the performance of the obligations they have undertaken pursuant to this Amendment No. 2.

7. If any provision of this Amendment No. 2 shall be held invalid or unenforceable by a court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision of this Amendment No. 2 unless elimination of such provision materially alters the rights and obligations set forth herein.

IN WITNESS WHEREOF, the Parties have entered into this Amendment No. 2 as of the 1st day of October 2020.

CITY OF MILPITAS

Approved By:

DocuSigned by:
Ashwini Kantak
9CF42D4A9C884E4...

Steven G. McHarris, City Manager

Sep-20-2020

Date

Approved As To Form:

DocuSigned by:
Christopher Diaz
3286B88D87EF4B3...

Christopher J. Diaz, City Attorney

Approved:

DocuSigned by:
D9F94EEB50844F3...

Walter C. Rossmann,
Risk Manager/Director of Finance

Approved As To Content:

DocuSigned by:
Steve Erikson
2278381D96134D7...

Steve Erickson,
City Engineer/Director of Engineering

PSOMAS

DocuSigned by:
Craig Gooch
CC1BA4ECAC29462...

Craig Gooch, Vice President

Sep-14-2020

Date

EXHIBIT A-1
Scope of Services

PSOMAS

Balancing the Natural and Built Environment

September 4, 2020

Kan Xu
1265 N. Milpitas Blvd.
Milpitas, CA 95035

Re: Estimate for Mapping Intersections, Signal Interconnects, and Fiber

Dear Kan:

Attached is a proposed scope of work for Psomas to perform mapping signalized intersections, interconnections between signals, and fiber throughout the City.

The proposal reflects our recent discussions about project objectives and approach. The project approach is to use design drawings or as-builts as the primary source for mapping. Where the sources are schematic, Psomas will obtain field GPS measurements of surface features (pull boxes and vaults) to improve positional representation. For missing plans, underground utility locate services will be used with GPS locating to map those assets.

Psomas has been working for VTA over the last four years in the vicinity and has access to primary control that will assure high accuracy surveying services.

Deliverables will be in an Esri Geodatabase structure defined at the project initiation phase.

Please let me know if you have questions or would like additional information.

Sincerely,

PSOMAS

Craig H. Gooch
Vice President

cc: Ron Long

1500 Iowa Avenue
Suite 210
Riverside, CA 92507-2179

Tel 951.787.8421
Fax 951.682.3379
www.Psomas.com

Background

Psomas is assisting the City with improving the GIS data quality for water, storm water, and sewer infrastructure elements. The project's primary goal is to increase the completeness and accuracy of these GIS layers to establish the system of record that will improve confidence in data driven decisions for managing these assets.

The City has requested Psomas to provide a services proposal to map assets representing street intersection assets and conductor locations within the intersections and between connected intersections. Additionally, the City fiberoptic conduit / cable locations will be mapped. This document is a proposal to perform these mapping services.

Psomas has extensive survey experience in the project area having supported VTA with horizontal and vertical control for the BART extension over the last four years. Using the VTA established control will result in GPS survey accuracy of 1/10th of a foot for horizontal and vertical measurements.

Project Objectives

- Map all signalized intersections with components including the following:
  - Advanced detection zone or loops
  - Bike detection zone
  - Video detection zone
  - Pedestal / Cabinets
  - Poles
  - Signal mast arm
  - Signal head and Luminary type
  - Pedestrian button
  - Pull box
  - Turn Arrow
  - Conduit
  - Fiber
  - Conductors
  - Grounding Rod

- Attributes or annotation will be added to show depth and offset from field features such as face of curb as they are annotated on the design drawings.

- Map Fiber Optic line locations
  - Conduit

- Pull box
- Vault
- Pedestal

Mapping Methodology

The following steps will be performed to perform the mapping with the goal of achieving high accuracy mapping balanced with the cost of data collection.

- Use design drawings and as-builts provided by the City for feature extraction, registered to the ortho imagery and parcels. Call out dimensions will be used to position assets based on well-defined features on the ortho imagery.
- Field locates will locate interconnect and fiber optic surface features (pull boxes, vaults) using GPS when the drawings provided by the City are schematic without dimensions or other means of accurately positioning the assets.
- Identify content gaps and area of unclear locations for field locating services. For the gap areas, Psomas will provide a service estimate for subsurface utility locating. The City will provide authorization before Psomas performs the locate services.
- Remaining gaps in asset locations will be submitted to the City for resolution.
- A pilot phase will be implemented to engage the City in review of the project deliverables and verify the process is resulting in the desired deliverables.

Scope of Work

Task 1. Project Initiation

Upon notice to proceed, Psomas and the City will participate in a project kickoff meeting to review the project objectives, the scope of work, decide on communication and coordination, and clarify roles and responsibilities. All relevant plans will be requested from the City and a SharePoint location agreed to for placing the documents.

Task 2. Intersection Mapping

There are approximately 72 signalized intersections within the City of Milpitas. Intersections will be mapped from as-built construction plans and placing them in geographic space to align with the existing aerial imagery and cadastral framework. All parts or components of the plans will be digitized using an Esri / experience-based schema developed with input and approval from the City. Controllers, cabinets, detectors, poles, cameras, fixtures, pull boxed, conduit loops etc. will be digitized and any annotation the city deems necessary for future GIS applications will be captured.

Each plan will be digitized as a discreet product and placed into the City's projection / cadastral basemap. Source documents / document URL will be included as attribute values for all plans.

Task 3 Interconnect Digitizing and Utility Locating.

Psomas surveyors will survey the location of pull boxes and vaults along the interconnect locations to establish control for mapping the schematic plans. Plan measurements with offset calls and depth indications will be used to place and attribute the cables / conduits controlled by the GPS locations.

Contingency Service

For areas where plans are unavailable, the City may authorize Psomas to perform utility locating and GPS measurements of surface markings from the locate process. Industry standard methods for utility location will be used to trace lines and mark the surface above the lines. Psomas will provide cost estimates for the lines or sections of the line that the locates are requested prior to performing the services. GPS survey of the markings will provide a GIS feature representing the line locations. This is a contingency items as it is unknown if or how much locating would need to be performed.

Project Deliverables

- Geodatabase target schema and mapping specifications
- Geodatabase containing assets
- GPS locations of vaults and pull boxes
- Task request for field locating services where other mapping methods are not viable
- Links to as-built drawings as attribute to GIS features
- Source quality attribution (from plan, GPS, orthophoto, etc.)

Assumptions

- All plans are available for intersections and interconnect locations.
- Plans may be a schematic representation of the asset locations.
- Areas missing plans will be mapped based on field asset locating or City subject matter experts drafting the locations on a basemap for use by Psomas in digitizing the assets.

- Approximately 13 miles of fiber and interconnects that require GPS surveying of pull boxes and vaults. Average distance between boxes is assumed to be 400 ft. and a production rate of 50 points per day.
- Daily survey field crew rate is $3,000 for a 10-hour day. The estimated average number of locations surveyed is 50 per day including office quality control and coordinate file delivery. Actual quantity of surveyed locations will depend on the distribution and density of locations.
- Daily utility locator crew rate is $2,200. First day on a work order has a mobilization fee of $200. The amount of utility locating if any is unknown until all plans are inventoried and any gaps identified. Once the gaps are identified, Psomas will provide a quote for the utility locate and associated mapping.

Project Schedule

The estimated duration for the mapping is 13 weeks with a total project duration of 16 weeks providing time for the City to provide plans and perform final data acceptance testing.

Key milestones include

- Project Kickoff (W1)
- Receipt of all plans (W2)
- Intersection mapping (W2-W11)
- Interconnect mapping (W8-W14)
- Final data QC and delivery. (W5–W16)

Estimated Fee

The service estimate includes fixed and variable costs. The fixed costs include the data modeling, intersection mapping, interconnect mapping, data quality review, delivery, and project management.

Variable costs include GPS surveying (estimated at 50 points per day, with a total of 170 GPS features).

Interconnect conductor / conduit locating is not knowable until the project is underway. A contingency is included below.

	Milpitas Interconnect Mapping		
Task No.	**Deliverables**	**Total Cost**	
Task 1	**Project Initiation**		
1.1	Project initiation and Database design	$	1,258
1.2	Source data collection (City to upload)	$	-
	Task 1 Total	**$**	**1,258**
Task 2	**Intersection Mapping**		
2.1	Mapping 72 intersections	$	47,784
	Task 2 Total	**$**	**47,784**
Task 3	**Interconnection Mapping**		
3.1	GPS Locating based on schematic plans	$	13,736
3.2	Mapping	$	9,525
	Task 3 Total	**$**	**23,261**
	Project Total	***$***	***72,303***
	Utility Locating Contingency	***$***	***20,000***
	Total with Contingency	***$***	***92,303***