

AMENDMENT NO. 1

CITY OF CHICO - CONTRACTUAL SERVICES AGREEMENT

AGREEMENT DATED SEPTEMBER 25, 2014

BETWEEN CITY OF CHICO

AND

TELSTAR INSTRUMENTS, INC.

Contractor

SCADA AND INSTRUMENTATION SUPPORT AND MAINTENANCE SERVICES

Project Title

850-670-5555

Budget Account Number

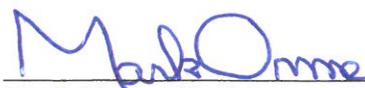
THIS CONTRACTUAL SERVICES AGREEMENT AMENDMENT (Amendment) is entered into on _____, 2016, by and between the City of Chico, a municipal corporation under the laws of the State of California, (City), and Telstar Instruments, Inc., a California corporation, (Contractor). On September 25, 2014, City and Contractor entered into "City of Chico - Contractual Services Agreement", (Agreement). The provisions of the Agreement are hereby amended as follows:

1. Exhibit B is hereby superseded and replaced by revised Pages B1-R1 through B4-R1 attached hereto and by this reference incorporated in the Agreement.
2. Exhibit C is hereby superseded and replaced by revised Pages C1-R1 attached hereto and by this reference incorporated into the Agreement.
3. All other provisions of the Agreement shall remain in full force and effect.

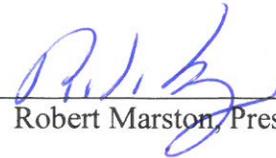
IN WITNESS WHEREOF, the parties have executed this Amendment on the date set forth above.

CITY:

CONTRACTOR:



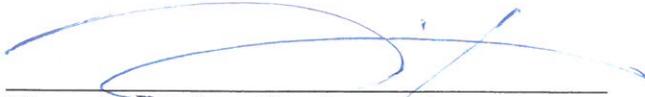
Mark Orme, City Manager*



By: Robert Marston, President

*Authorized pursuant to Section
3.08.060 of the Chico Municipal Code.

APPROVED AS TO FORM:



Vincent C. Ewing, City Attorney*

*Approved pursuant to The Charter of the
City of Chico § 906(D)

REVIEWED AS TO CONTENT:



Frank Fields, Administrative Services Director*

*Reviewed by Risk Management, Human
Resources, Finance and Information Systems.

APPROVED AS TO CONTENT:



Erik Gustafson, Public Works Director
Operations and Maintenance

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CITY OF CHICO - CONTRACTUAL SERVICES AGREEMENT

TELSTAR INSTRUMENTS, INC.

Contractor

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EXHIBIT B

SCOPE OF CONTRACTUAL SERVICES – BASIC

Scope of Contractual Services - Basic

The Contractor shall provide Supervisory Control and Data Acquisition (SCADA) and instrumentation support and maintenance services at the Water Pollution Control Plant (WPCP) as outlined in Section B, "SPECIFICATIONS." The WPCP SCADA system consists of: two (2) Operator Interface (OIS) personal computers; one (1) Historian personal computer; three (3) Client Node personal computers; Programmable Logic Controllers (PLCs) and Remote Telemetry Units (RTUs) for equipment operation and control; a fiber optic network for communication; and software graphics for operator interface with the PLCs. The system allows access to operate the WPCP from any of the Operator Interface Stations (OIS) with security level access capability. Most WPCP equipment is monitored and controlled at the OIS, and all critical equipment is monitored and controlled. The PLCs are supported by an uninterruptible power supply (UPS) to prevent loss of control data during a power outage. Attachment "1" to Exhibit "B" illustrates SCADA system architecture.

WPCP instrumentation consists of various equipment and telemetry that monitor flows, levels, residuals, and hazardous atmospheric conditions. The instrumentation equipment also consists of actuators that open, close, and position connected devices. The instrumentation equipment typically generates or receives 4-20 ma signals, but power sources vary in voltage from 24 volt DC to 460 volts AC.

Contractor shall provide all the necessary services to support and maintain a continuously reliable SCADA system and instrumentation. Support services to include computer software

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B1-R1

programming and maintenance, semi-annual and annual technical support, calibration and maintenance of SCADA hardware, RTUs, PLCs, and instrumentation.

Contractor shall comply with all applicable Federal OSHA and Cal-OSHA regulations for confined space entry, including 20 CFR 1910.146 (OSHA confined space regulation) and Title 8 of the California Code of Regulations, Sections 5156, 5157, and 5158. The Contractor shall submit to the City of Chico prior to the start of the work, copies of its Confined Space Entry Program and Entry Permits, addressing operation, rescue procedures, surveillance procedures, and training as required by state regulations. After the work is completed, the contractor is to provide the City copies of closed Entry Permits for City's records.

A. QUALIFICATIONS

Contractor shall maintain the following during the contract term:

1. Certifications for two (2) or more Applications Programmers, Software Engineers, or employees with relevant titles who may be assigned to the WPCP who have had SCADA training in Wonderware In-Touch version 10.0 as an Application Developer and System Integrator.
2. Certifications for two (2) or more Applications Programmers, Software Engineers, or employees with relevant titles who may be assigned to the WPCP who have had SCADA training in Rockwell Automation RS Logix 5000 Level 1, 2, and 3.
3. License for one (1) or more employee(s) who is a "California Licensed Professional Engineer" in Control Systems Engineering.
4. Certifications for two (2) or more employees who may be assigned to the WPCP to perform instrumentation maintenance and calibration services as an Instrumentation Technician, Maintenance Technician, Field Service Engineer, or relevant titles who have completed the International Society of Automation (ISA) Certified Control Systems Technician program (CCST) or City approved equivalent certification program.
5. A fully staffed and equipped service facility within 250 miles of the WPCP. The service facility is to be staffed with personnel and equipment available to maintain, calibrate, test, and repair various instrumentation, programmable logic controllers (PLC), remote telemetry units (RTU), personal computer (PC), software, and other electronic or electrical control equipment that cannot be successfully serviced in the field.
6. The capability to remotely log in by computer to the WPCP SCADA control network through the City's Virtual Private Network (VPN) connection. Programming services may be completed remotely through the VPN, excluding a

minimum of one (1) day, annual site visit by an Applications Programmer, Software Engineer, or employee with a relevant title.

7. Confined Space training for two (2) or more employees who may be assigned to the WPCP to perform work that may be necessary to access instrumentation and/or sensors in Confined Spaces.

B. SPECIFICATIONS

Contractor shall provide the following services:

1. SCADA Hardware Technical Support

- a. 24 hour trouble call service/365 days per year.
- b. Twenty-four (24) hour Emergency Response Time upon notification.
- c. Preventative Maintenance: Annual computer hardware maintenance to include: ensuring hard drive memory does not reach capacity; cleaning; system diagnostics; error checking on servers and client nodes for critical errors; file maintenance; and fixed disk de-fragmentation.
- d. Maintain SCADA system programming back-up on compatible media for disaster recovery.
- e. Test SCADA system Uninterruptible Power Supply (UPS) units for proper operation and battery life for all hard drives, servers, historian, all client node OIS's, and all PLC's.
- f. Eight (8) hour scheduled site visit minimum of one (1) per year by an Application Programmer to perform 1.a. through 1.e. above.
- g. Emergency site visits minimum of one (1) per year, eight (8) hours, by an Applications Programmer.
- h. Hardware repairs (cost plus percentage markup).

2. SCADA Software Technical Support

~~Sixteen (16) hours of an Application Programmer for initial site visit to become familiar with the software programming and to backup all software programs prior to any programming changes. Forty (40) Eighty-eight (88) hours of an Application Programmer for the following tasks.~~

- a. ~~Forty (40) hours of an Application Programmer for SCADA Application Program Software Telephonic/Dial-Up (VPN) Support.~~
- b. ~~Eight (8) hours Database Software Support including installation of updates and upgrades.~~
- c. ~~Eight (8) hours PLC Programming Software Support including installation of updates and upgrades.~~
- d. ~~Eight (8) hours Communications Server and PLC Driver Software Support including installation of updates and upgrades.~~
- e. ~~Eight (8) hours Operating System Software Support including installation of updates and upgrades.~~

a. **RTU / PLC Maintenance and Support**

- a. Preventative Maintenance: Service intervals every six (6) months (two per year). Maintenance to include cleaning, diagnostics, and operational verifications.
- b. Emergency Site visits- minimum of one (1) per year, eight (8) hours, by an Instrumentation Technician.
- c. Hardware repairs (cost plus percentage markup).

4. Instrumentation Management

- a. At six (6) month intervals, instrumentation calibrations and verification. Calibration services include solutions necessary to verify and recalibrate instrumentation to factory specifications for items as listed on Attachment ~~2-1 through 2-8~~ 2 to Exhibit "B."
- b. Each unit of testing/calibration equipment used shall have a certified calibration report traceable to the National Institute of Standards and Technology (NIST), and issued within 12 months of the units used for testing. Test instruments shall have an accuracy of at least 0.05%. Calibration reports for the testing/calibration equipment shall be submitted to the City at each instrumentation calibration event.
- c. Instruments listed on Attachment ~~2-1 through 2-8~~ shall be tested/calibrated at minimum of three (3) points, 0%, 50%, and 100%, spread over the full scale range of the instrument. Calibration certification forms (~~see Attachment "3" to Exhibit "B"~~) or approved equivalent are to be used and submitted to the City for each instrument calibrated. Calibration stickers or tags are to be placed on all instruments showing date calibrated and Instrumentation Technician's name.
- d. Emergency Site visits- minimum of one (1) per year, eight (8) hours, by an Instrumentation Technician.
- e. Instrumentation Repairs (material cost plus percentage markup).

5. As Needed Additional Services

- a. Provide as needed additional services which may include programming changes to PLC and SCADA system as requested by the City, troubleshooting and repair of SCADA network or problematic equipment and instruments, design, installation, and/or recommendations for expansion or enhancement of the SCADA or instrumentation system.

EXHIBIT B, ATTACHMENT 1
EQUIPMENT TO BE SERVICED

Chico Water Pollution Control Plant

Index	Location	Tag No.	Loop Description	Instrument Type
1	Aeration Tank No. 4	V- AIT-185	Aeration Tank No. 4	DO
2	Aeration Tank No. 4	V AIT-186	Aeration Tank No. 4	DO
3	Aeration Tank No. 3	V AIT-187	Aeration Tank No. 3	DO
4	Aeration Tank No. 3	V AIT-188	Aeration Tank No. 3B Disolved Oxygen	DO
5	Chlorine Contact Basin No. 3	V- FIT-372	Effluent Flow Basin 4	Ultrasonic
6	Chlorine Contact Basin No. 4	V- FIT-373	Effluent Flow Basin 3	Ultrasonic
7	Aeration Tanks No. 3 4	V- FIT-172	Blower Aeration Tank #4 & #5 Air	Thermal Mass
8	Aeration Tank No. 4	V- FIT-174		Thermal Mass
9	Aeration Tank No. 3	V- FIT-176	Blower Aeration Tank #3 Air	Thermal Mass
10	Aeration Tank No. 5	V- FE/FIT-191	Blower Aeration Tank #5 Air	Thermal Mass
11	Aeration Tank No. 6	V- FE/FIT-192	Blower Aeration Tank #6 Air	Thermal Mass
12	Aeration Tank No. 5	V- AEIAIT-195A	Aeration Tank No. 5A Disolved Oxygen	DO
13	Aeration Tank No. 5	V- AEIAIT-195B	Aeration Tank No. 5B Disolved Oxygen	DO
14	Aeration Tank No. 5	V- AE/AIT-197	Aeration Tank No. 5	MLSS
15	Aeration Tank No. 6	V- AEIAIT-196A	Aeration Tank No. 6A Disolved Oxygen	DO
16	Aeration Tank No. 6	V- AEIAIT -196B	Aeration Tank No. 6B Disolved Oxygen	DO
17	Aeration Tank No. 6	V- AEIAIT-198	Aeration Tank No. 6	MLSS
18	Aeration Tank No. 4	V- AE/AIT-190	Aeration Tank No. 4	MLSS
19	Areartion Tank No. 3	V- AE/AIT-189	Areartion Tank No. 3	MLSS
20	Chlorine Contact Basin No. 3, 4	Z- AIT-374	Chlorine Contact Basin No. 3, 4	CL2
21	Outfall Box	Z- AIT-385	Outfall Chlorine Residual	CL2
22	Outfall Box	Z AIT-386	Outfall Chlorine	CL2
23	Chlorine Contact Basin No. 3, 4	Z AIT-395	Flash Mix Chlorine Residual	CL2
24	Chlorine Contact Basin No. 2	Z- LIT-376	Chlorine Contact Basin No. 2 Level	Ultrasonic
25	Outfall Box	Z- LIT-384	Outfall Flow	Ultrasonic
26	Daft No.2	Z- LIT-453	DAFT Bubbler Panel	Bubbler
27	Boiler Building	D- AIT-713	Boiler #1 Room	Infrared
28	Digester Area	D- FIT-501	Digester Flow	4 in. Magmetermeter
29	Digester No. 1	D- FIT-513	Digester #1 Gas Flow	Thermal Mass
30	Digester No. 2	D- FIT-514	Digester #2 Gas Flow	Thermal Mass
31	Digester Control Building	D- LIT-151	Primary Effluent Lift Station	Diff-press.
32	Digester	D - FE/FIT-521	TWAS DAFT Flow	4 in. Magmetermeter
33	Digester No. 4	D- LSHH-526	Headworks Level	Float
34	Digester No. 4	D- LSH-526	Headworks Level	Float
35	Digester No. 4	D- LSM-526	Headworks Level	Float
36	Digester No. 4	D- LSL-526	Headworks Level	Float
37	Digester No. 4	D- FE/FIT-545	Digester #4 Gas Flow	Thermal Mass
38	Cogeneration Ancillary Sys.	D- FE/FIT-790	Cogeneration System	Venturi
39	Boiler No. 2 Room	D-AE/AIT-1173	Boiler No. 2 Room	Infrared
40	Primary Effluent Lift Station	P- LSH4-47		Float
41	Primary Effluent Lift Station	P- LSH3-47		Float
42	Primary Effluent Lift Station	P- LSH2-47		Float
43	Primary Effluent Lift Station	P- LSH1-47		Float
44	Primary Clarifier No. 3 Pump Basement	P- FIT-41	Primary Clarifier No. 3 Flow	4 in. Magmetermeter
45	Primary Clarifier No. 3 Pump Basement	P-AIT-712	Primary Clarifier No. 3 Pump Basement	Infrared
46	Primary Effluent Electrical Building	P- FIT-48	Confined Space	Thermal Mass
47	Primary Effluent Lift Station	P-LIT-42	Primary Effluent Lift Station	Ultrasonic
48	RAS Pump Station No. 2	0- FIT-225		10 in. Magmeter
49	RAS Pump Station No. 2	0- FIT-226		10 in. Magmeter
50	RAS Pump Station No. 2	0- FIT-230		3 in. Magmeter
51	RAS Pump Station No. 2	0- FEIFIT-239	RAS #9 Flow	10 in. Magmeter
52	WAS Pump Station No.3	O-AIT-232	WAS Pump Station No.3	

EXHIBIT B, ATTACHMENT 1
EQUIPMENT TO BE SERVICED

Chico Water Pollution Control Plant

Index	Location	Tag No.	Loop Description	Instrument Type
53	DAFT No. 1	F- LSHH-427		Bubble
54	DAFT No.1	F-LSH-427		Bubble
55	DAFT No.1	F-LSL-427		Bubble
56	DAFT No.1	F-LSLL-427		Bubble
57	Centrifuge Building	N-FIT-608	Old Feed Flow	4 in. Magmeter
58	Sodium Hypochlorite Storage Tank No. 1	K- LIT-301	Hypo Tank 1	Magmeter Float
59	Sodium Hypochlorite Storage Tank No. 2	K- LIT-302	Hypo Tank 2	Magmeter Float
60	Sodium Bisulfite Storage Tank No. 1	K- LIT-341	SBS Tank 1	Magmeter Float
61	Sodium Bisulfite Storage Tank No. 2	K- LIT-342	SBS Tank 2	Magmeter Float
62	Caustic Soda Storage Tank No. 1	K- LIT-321		Magmeter Float
63	Caustic Soda Storage Tank No.2	K- LIT-322		Float Magmeter
64	Chemical Building	K - FEIFIT-310	Sodium Hypochlorite Flow	Magmeter
65	Chemical Building	K- FE/FIT-319	Sodium Hypochlorite Flow	Magmeter
66	3 Water Pump Station	E- PIT-404	3 Water Pump Station	Diaphragm
67	Ferric Chloride Facility	H - LSH-1103	Ferric Chloride Sump Low Level	Float
68	Ferric Chloride Facility	H- LSH-1108	Containment Basin High Level	Float
69	Ferric Chloride Facility	H- FEIFIT-1114	Ferric Chloride Flow	42008 in. Magmeter
70	Headworks	H- LDIT-1007	Headworks Flow	Ultrasonic
71	Headworks	H - LDIT-1008	Headworks Flow	Ultrasonic
72	Headworks	H- LE-1007A	Headworks Flow	Ultrasonic
73	Headworks	H- LE-1007B	Headworks Flow	Ultrasonic
74	Headworks	H- LE-1008A	Headworks Flow	Ultrasonic
75	Headworks	H- LE-1008B	Headworks Flow	Ultrasonic
76	Headworks	H - LSHH-1006A	Headworks Level	Float
77	Headworks	H - LSHH-1006B	Headworks Level	Float
78	Headworks	H- FE/FIT-1019	Headworks Flow	Ultrasonic
79	Headworks	H- LSHH-1031	Headworks Level	Float
80	Headworks	H - LSH-1031	Headworks Level	Float
81	Headworks	H- LSM-1031	Headworks Level	Float
82	Headworks	H- LSL-1031	Headworks Level	Float
83	Headworks	H- FE/FIT-1041	Headworks Flow	Ultrasonic
84	Drain Pump Station No. 2	H- FE/FIT-158	Plant Drain	10 Inch Magmetermeter
85	Headworks Pump Basement	H- AE/AIT-1163	Headworks Pump Basement	Infrared
86	Ferric Chloride Facility	H- LSL-1103	Ferric Chloride Sump Low Level	Float
87	Blower Building No. 1	U-ZIT-81		Position Actuator
88	Headworks	Y- AE/AIT-1005	Headworks PH	Electrode
89	Headworks	Y - TEITIT -1005	Headworks Temperature	Electrode
90	MSA LEL	AIT-714	DAFT #1 Basement LEL	Infrared
91	New Centrifuge Feed	FIT-631	Feed Flow	4 in. Magmeter
92	Cogeneration	PIT351	CoGen Pressure	
93	Cogen	TIT-761	Hot Water Loop Control Valve Temp	
94	Cogen Pipe gallery	TIT-766	Main Water Loop Temp	
95	Cogen Pipe gallery	TIT-771	Main Water Loop Temp	
96	Cogen Pipe gallery	TIT-762	Digester 1 Hot Water Loop Control Temp	
97	Cogen Pipe gallery	TIT-767	Digester 2 Hot Water Loop Control Temp	
98	Cogen Pipe gallery	TIT-772	Digester 4 Hot Water Loop Control Temp	
99	Cogen heat Exchangr	TIT-781	Cogen Retrun Water Temp	
100	Cogen heat Exchangr	TIT-786	Heter Exchanger Water Supply	
101	Blower Building #2	PIT-169	Aeration Header Pressure	
102		LIT-452	DAFT Bubbler Panel	
103	Blower #8	PIT-170	Turblex Discharge Pressure	

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Contractor

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EXHIBIT C

COMPENSATION

Compensation for the services outlined in this Agreement is as follows:

<u>ITEM</u>	<u>DESCRIPTION</u>	<u>COST</u>
1.	SCADA Hardware Technical Support	\$ <u>4,010.00</u>
2.	SCADA Software Technical Support	\$ <u>14,190.00</u>
3.	RTU / PLC Maintenance and Support	\$ <u>7,500.00</u>
4.	Instrumentation Management	\$ <u>36,876.00</u>
	<u>ANNUAL TOTAL</u>	<u>\$ 62,576.00</u>

AS NEEDED ADDITIONAL SERVICES - AT CITY REQUEST ONLY

1.	Percentage markup on parts for repairs	<u>10%</u>
2.	Standard hourly rate for additional services	
	SCADA Hardware Technical Support	\$ <u>143.00/hr</u>
	SCADA Software Technical Support	\$ <u>143.00/hr</u>
	RTU / PLC Maintenance and Support	\$ <u>143.00/hr</u>
	Instrumentation Management	\$ <u>118.00/hr</u>
3.	Overtime hourly rate for additional services	\$ <u>195.00/hr</u>
4.	Travel rate for additional services	\$ <u>.48 .54/mi</u>
5.	Travel rate for additional services (per diem - lodging/meals)	\$ <u>125.00/day</u>

Travel distance between Telstar Instruments and WPCP is 60 miles. Additional services billing will reflect travel distance. Overtime rate will apply between 5:00 p.m. and 8:00 a.m., and on Saturday, Sunday and holidays.