

MEETING DATE: 01/08/07

AGENDA ITEM: Consideration to Approve a Change Order to the
Contract with Utility Systems Science and Software for
the Sewer Emergency Notification System

ATTACHMENTS

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Phone (714) 542-1004 • Fax: (714) 542-1332

December 19, 2006

Dan Garcia
9770 Culver Boulevard
Culver City, CA 90232-0507

**Subject: CHANGE ORDER NUMBER 2
TO OUR EXISTING METERING CONTRACT**

1. FloDar Meter Install with maintenance for the duration of current contract @ Blackwelder
2. FloDar Meter Install @ Mesmer
3. Jackson – StreetSmart Conversion
4. CDMA Datacenter transition
5. Repair – of datacenter during Server Control Room AC Fail and Flood
6. Fiber Conversion for the operation Building ENS System
7. Alarming – SMS Alarming All meter sites
8. Reporting Additions and modifications
9. Pump Stations Emergency Inspections and Base Line
10. ENS Servers' Software/hardware Ongoing Maintenance
11. ENS Additions, Enhancements, and supervision

Dear Daniel,

US3 is glad to respond to your request for material pricing and services for this project. Within this document you will find the Material Proposal as well as services. I have included materials on the Items used within this proposal.

Please contact me if you would like to discuss the content of this proposal, or if you have changes you would like to make to our understanding of the scope of work.

If you have any questions or comments please contact me at (619) 546-4281. Please advise.

Respectfully submitted,

Tom Williams



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Flow Meter Qualifications

Flo-Dar Models 464 Radar-Based Velocity/Area Flowmeter

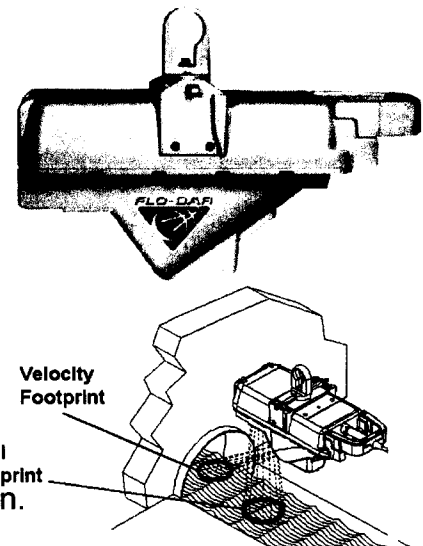
The Flo-Dar Open Channel Flowmeters provide a revolutionary approach to open channel flow monitoring. Combining digital Doppler radar velocity sensing with ultrasonic pulse echo level sensing Flo-Dar provides accurate open channel flow monitoring without the fouling problems associated with submerged sensors.

Perfect solution for Difficult Flow Conditions:

- Flows with High Solids Content
- High Temperature Flows
- Caustic Flows
- Large Man-Made Channels
- High Velocities
- Shallow Flows

Benefits

- Personnel have no contact with the flow during installation.
- Maintenance caused by sensor fouling is eliminated
- Field Replaceable/Interchangeable Sensors and Monitors



Here's How It Works

Flo-Dar transmits a digital Doppler radar beam that interacts with the fluid and reflects back signals at a different frequency than that which was transmitted. These reflected signals are compared with the transmitted frequency. The resulting frequency shift provides an accurate measure of the velocity and the direction of the flow. Level is detected by ultrasonic pulse echo. Flow is then calculated based on the Continuity Equation:

$Q = V \times A$, Where Q = Flow, V = Average Velocity and A = Area.

Accurate Flow Measurements

Flo-Dar provides the user with highly accurate flow measurements under a wide range of flows and site conditions.

- By measuring the velocity of the fluid from above, Flo-Dar eliminates accuracy problems inherent with submerged sensors including sensor disturbances, high solids content and distribution of reflectors.



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Flow Meter Specifications

Data Logger

- Data Storage 64K (16K cycles of velocity/level data)
- Local Terminal RS232C at 19.2K baud
- 4-20 mA Outputs (3) fully programmable, isolated outputs capable of sinking 650 ohm each.
- Power Requirements +12 VDC @ 220 mA with all three 4-20 mA outputs @ 20 mA
- Housing Material: Polystyrene (IP66)
Dimensions: 9" W x 7" H x 4" D (229 mm W x 178 mm H x 102 mm D)
- Temperature Operating Range 14° F to 122° F (-10° C to 50° C)
- Storage Range -4° F to 122° F (-20° C to 50° C)
- Data Retrieval through Flo-Ware for Windows software (sold separately) is the user on-site data management and report generation software for the Model 464. It is compatible with computers (desktop and portable) utilizing Windows 95/98/2000/Me/NT/XP. Flo-Ware for Windows software can retrieve data from both Flo-Tote and Flo-Dar Models 460 and 464.

Flo-Dar Sensor Specification for Model 464

- Enclosure Material: Polystyrene
- Dimensions: 6.9" W x 16.65" L x 11.7" D (17.5 cm x 42.3 cm x 29.7 cm) Weight: 10.5 lbs (4.8kg)
- **Temperature Operating Range: 14° F to 122° F (-10° C to 50° C)**
- Storage Range: -40° F to 140° F (-40° C to 60° C)
- Sensor Cable Material: Polyurethane jacketed Standard Length: 30' (9.14m), maximum 1000' (304.8 m) Disconnect able at both sensor and monitor
- Velocity Measurement Method: Radar Range: 0.75 to 20 ft/s (0.23 m/s to 6.10 m/s) Accuracy: ±0.5%; ±0.1 ft/s (±0.03 m/s)
- Level Measurement Method: Ultrasonic Operating Range: 0.25 to 60 in. (0.634 to 152.4 cm)
- Temperature Compensated Accuracy: ±0.25 in. (±0.64 cm) 1% Accuracy
- Surcharge Level Measurement - Method: Piezo-resistive pressure transducer
Maximum Range: 138 inches (3.5 meters)
- Flow Measurement - Based on Continuity Equation. Accuracy: ±5.0% of reading typical where flow is in a channel with uniform flow conditions and is not surcharged.

Certification

FCC Rules Part 15; Industry Canada RS 210 (No user license required.)

February 5, 2001

Flo-Dar Certified Intrinsically Safe

The revolutionary Flo-Dar family of products are now available with intrinsic safety certification for the US, Canada, and Europe.



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STREETSMART ENERGY SYSTEM



MANHOLE COVER ANTENNA

Communicate from the manhole via Cellular,
VHF, UHF or Trunk

Avoid vandalism on above ground units

Maintain neighborhood beautification

Stores communications, instrumentation,
battery packs. Solar option available

Utility Systems, Science & Software, Inc.

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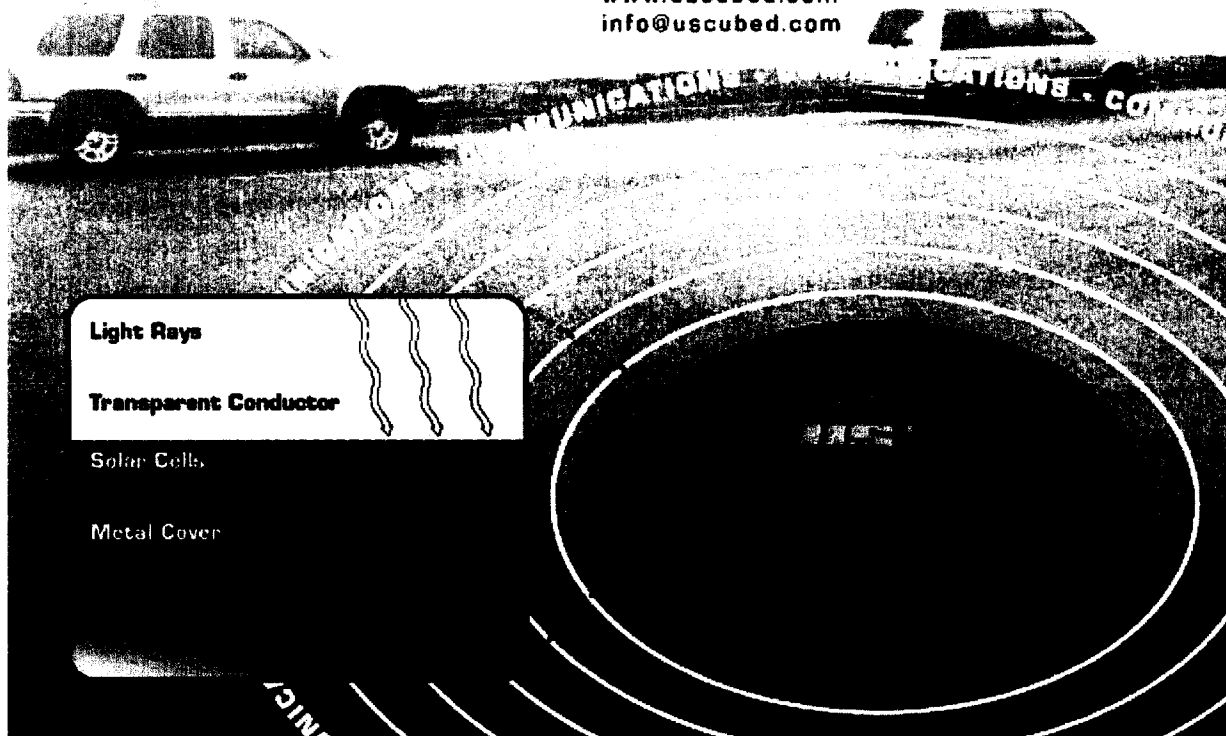
Fax 714-542-1332

www.uscubed.com

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DIT 10 20, HS 20
EN124 1994 load rating

Manhole Antenna Specification
VSWR at resonant points: 1.5:1 or less
Nominal Impedance: 50 Ohms
Gain: 3dBi
Radiation Pattern: Omnidirectional
Polarization: Vertical
Maximum Power Input: 50 Watts, typical





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Is Your Community *StreetSmart*?

US³ Introduces the *StreetSmart*
Manhole Cover and Assembly

Connects to the Side or Trunk

DOT H-20, HS-20
EN124:1994 load rating

- AVOID VANDALISM ON ABOVE GROUND UNITS.
- MAINTAIN NEIGHBORHOOD BEAUTIFICATION
- STORES COMMUNICATIONS, INSTRUMENTATION, BATTERY PACKS, SOLAR OPTION AVAILABLE.

Gain: 1000
Radiation Pattern: Omni-directional
Polarization: Vertical
Maximum Power Input: 50 Watts, typical

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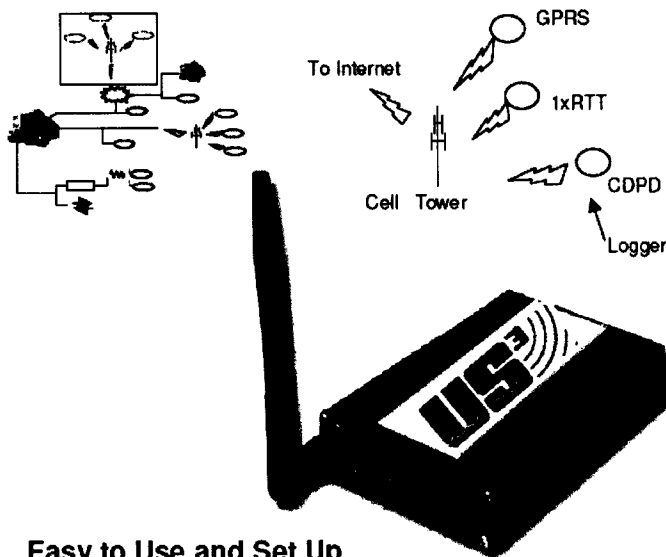
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CDMA wireless is a reliable, cost-effective, self-contained solution for remote meter reading and data communications applications. This rugged wireless data modem has long been the choice of companies and utilities looking to solve their wireless data needs. CDMA wireless is incredibly versatile and supports CDMA dual mode – both circuit switched and 1xRTT packet-switched services – as well as SMS and analog data transmissions. A GPS-enabled model is also available.

Easy to Use and Set Up

CDMA wireless has been designed with the end user in mind. A simple-to use configuration menu makes it easy to program the unit both locally and remotely – eliminating the need to travel hundreds of miles to a remote device. Seamless 1xRTT CDMA packet data sending and receiving is provided by the built-in TCP/IP stack. The unit is also smart enough to act like a PLC, providing 6 inputs and 6 outputs.

Self-contained Solution for Remote Meter Reading and Data Communications

Distinctive Features

- Complete network approvals (approved by all major carriers)
- Acts like a PLC with 6 inputs/outputs controlled via DRiP
- Easy trouble-shooting via configuration menu
- 4 sleep windows for power-saving in solar applications
- Internal signal-strength meter
- Switches from CDMA to analog mode automatically (requires optional analog modem)
- FCC and Canada certified RF
- Easy set up includes customer support
- Customer support provided by wireless data experts

Typical Applications

Automatic Meter Reading (AMR), Remote Point of Sale (POS), Wireless Telemetry, SCADA, Video Monitoring, Traffic Sensor Monitoring, Alarm & Equipment Monitoring, Automatic Teller Machines (ATM), Short Message Service (SMS), Automatic Vehicle Location (AVL)

Standard Features

- Packet-switched data (1xRTT CDMA)
- Circuit-switched data (IS-95)
- SMS via AT-Commands over CDMA
- Dynamic IP management
- TCP/IP stack
- PPP/TCP/UDP/MIP/DMU/PAD
- Remote updates to PRL
- Simple modem configuration – remotely or locally
- 3 input triggers for cry-out alarms via SMS
- Optional analog modem (300bps to 33.6bps)
- Optional RS-485 for multi-drop applications



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General Specifications

Standards:	Packet-switched data (CDMA 1xRTT), Short Message Service (SMS), circuit-switched data (IS-95), analog data
Power Requirements:	10-48VDC @ 1.2A (unregulated)
On-Board Backup:	3.6V 200MA (CR2032) Lithium Cell
Serial I/O:	RS-232 Async (optional terminal block for RS-232)
Control I/O:	12 pos. IDC header, 6 inputs/6 outputs (send cry-out alarms via SMS to your cell phone)
Command Protocol:	AT command set and DataRemote, Inc (DRiP) configuration menu
LED Indicators:	Power ON, Signal Status, TXD, RXD, DCD, DTR, AUX
CDMA Modem:	MSM-5105 (1xRTT; IS-95A/B - MDR verified)
Optional:	AMPS modem (Conexant chipset 300bps to 33.6bps)
Vocoder:	8 Kbps CELP, 13 Kbps QCELP, 8 Kbps EVRC

RF Specifications	800 MHz	1900 MHz (CDMA)
Interface Standards:	AMPS: ANSI/TIA/EIA-553 CDMA: TIA/EIA, IS-95A/B	J-STD-008
Operating Frequencies:	TX: 824-849 MHz RX: 869-894 MHz	TX: 1850-1910 MHz RX: 1930-1990 MHz
RF Power:	AMPS: 600mW (EIRP Nom.) CDMA: 600mW (EIRP Nom.)	400mW (EIRP Nom.)
Maximum TX Power:	AMPS: +26.7dBm Min. CDMA: +23dBm Min.	+23dBm Min.
Receiver Sensitivity:	AMPS: >116dBm @ 12dB Sinad CDMA: >-104dBm @ 0.5% FER	>104 dBm @ .05% FER
Frequency Stability:	< ± 2.5 PPM	< ± 2.5 PPM
Antenna Interface:	50 ohm, TNC	50 ohm, TNC
Current:	Normal current draw = 53ma in Idle Mode (can vary from network to network)	

Physical Specifications

Size:	6.3"L X 4"W X 1.2" H
Weight:	23.0 Oz.

Environmental Specifications

Temperature:	Operating: -30 C to +60 C (-22° to 140°)
Storage:	-40 C to +70 C (-40° to 146°)
Humidity:	0-95% (non-condensing) 95° F (35° C)



Optional NEMA-4x Enclosure for Harsh Conditions



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1. FloDar Meter Install with maintenance for the duration of current contract @ Blackwelder

Install Meter with StreetSmart Solutions and communications plus support for the duration of current Metering Contract.

Item	QTY	Description	Extended
		Meter Install	
1	1	Preliminary Engineering	\$ 3,000.00
2	1	Install	\$ 2,040.00
4	1	Bracket	\$ 175.00
5	1	MISC Parts and Traffic Equipment	\$ 200.00
6	1	StreetSmart Enclosure / Lid	\$ 675.00
7	1	StreetSmart Battery	\$ 400.00
8	1	StreetSmart Assembly	\$ 1,000.00
9	1	StreetSmart Comm	\$ 1,800.00
10	1	Flodar Sensor	\$ 5,650.00
11	1	Flodar Logger With US3 Modifications	\$ 4,500.00
12	1	2 years Maintenance	\$ 6,000.00
13	1	Comm 2 Years	\$ 768.00
		Total	\$26,208.00

2. FloDar Meter Install @ Mesmer

Install FloDar Sensor at the Mesmer Station outside of Station Utilizing the StreetSmart Solutions.

Item	QTY	Description	Extended
		Meter Install	
1	1	Install	\$ 2,040.00
2	1	Bracket	\$ 175.00
4	1	StreetSmart Enclosure / Lid	\$ 675.00
5	1	StreetSmart Battery	\$ 400.00
6	1	StreetSmart Assmebly	\$ 1,000.00
7	1	StreetSmart Comm	\$ 1,800.00
8	1	Flodar Sensor	\$ 5,650.00
9	1	Flodar Logger With US3 Modifications	\$ 4,500.00
		Total	\$16,240.00

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3. Jackson – StreetSmart Conversion

In order to complete an existing installation for Culver City without trenching US3 is recommending the StreetSmart Solutions and will convert an existing installation into a StreetSmart Installation.

Item	QTY	Description	Extended
Meter Install			
1	1	StreetSmart Enclosure / Lid	\$ 675.00
2	1	StreetSmart Battery	\$ 400.00
3	1	StreetSmart Assmebly	\$ 1,000.00
4	1	StreetSmart Comm	\$ 1,800.00
Total			\$3,875.00

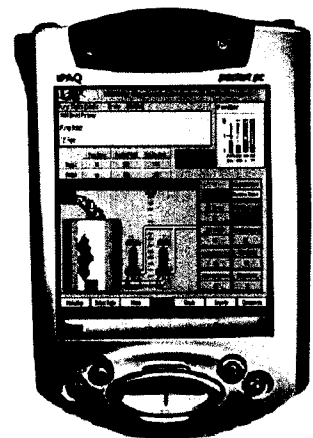
4. CDMA Datacenter transition

Purchase, Install, Monitor and Usage cost involved with Telemetry and PDA's per year

SkyMonitor by USCubed provides the user with Supervisory Control and Data Acquisition (SCADA) information for the entire system, in a wireless environment. The information may or may not necessarily be related to the SCADA system. SkyMonitor has the capability to send information (setpoints, control commands, etc) to any device on the system. In addition, SkyMonitor will provide all normal computer functions (email, word, reports, etc), among other features that *UCubed* already provides at the Master Station.

Data for Field Maintenance Personnel

Field personnel are able to be quickly and automatically be updated with acquired information from the RTU and/or the Central Computer, allowing personnel instant access to system wide information and control capability.





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SkyMonitor includes:

- Unlimited access to your SCADA System,
- No roaming charges,
- Highest level of security (128 bit data encryption)
- UCubed Application Software and system access drivers
- Up to 5 simultaneous users (System is provided with ten SkyMonitor Units and extensive training.

At the heart of SkyMonitor is a unique, event-driven kernel that provides real-time, information readily available throughout the organizations facility and/or domain.

The following table shows some of the benefits organizations will realize from the features SkyMonitor system provides.

Direct interface with TCP/IP, MODBUS, DB/2 (SQL), ASCII, etc. among dozens of file formats on multiple communication platforms.	High-speed infrastructure allows organizations to transmit and receive specific information in a timely fashion.
RF infrastructure in place today in most cities, counties in North and South America	Information can be acquired today, over the air.
Flexible host capabilities	Supports advanced data applications
Easy expandability	Allows organizations to expand the system easily and economically

Table 1. System Features and Benefits. *Using the most advanced technology available, the SkyMonitor system will position organizations for future system expansion and transition to using technologies of the future.*

Database Inquiry

The database is easily accessed through the SkyMonitor wireless data communications system. Information can be obtained in a fraction of the time it takes to verbally request the information from a dispatcher (say over a radio). Dispatchers are freed from this time-consuming task.

High Data Throughput

The SkyMonitor wireless data communications system architecture includes new infrastructure products with the highest message throughput available. The advanced



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protocol delivers an over-the-air data rate with a unique error correction capability that maximizes the amount of information transmitted across cell channels.

Connectivity

The SkyMonitor wireless data communications system offers host connectivity options based on TCP/IP and other industry standard protocols. With a single physical Ethernet connection, up to twenty independent TCP/IP host sessions are supported.

Versatility

The SkyMonitor wireless data communications system can be expanded as the needs of the organizations change. In this case, the SkyMonitor system can be integrated with VHF, UHF, 800 Trunk, 900 Trunk, 900 MAS, 900 Spread-Spectrum and Satellite, simultaneously.

Reliability

Like all USCubed products, the wireless data communications system products are designed and built to highest-quality standards. When a problem does occur, system alarms and diagnostics are available to help isolate problems. Modular design, based on field replacement units allow easy servicing so operation can be quickly restored.

Information Over the Internet/Intranet

Instant Access to Information

SkyMonitor takes advantage of open Internet technology to manage and intelligently distribute information and applications, providing instantaneous access to real-time utility data. This data can be easily integrated with other organizations information, such as inventory, production schedules, orders' status, analysis, human resources and so on. This way, users can view different information through one common interface.

Available on All Platforms

Users can access online information with any standard browser- including Netscape Navigator and Microsoft's Explorer - no additional software is required. And because the Java-enabled browsers are readily available on all popular platforms, including Windows, Macintosh and UNIX, users can access SkyMonitor from their favorite operating system, preserving their existing investments in software and hardware.

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Easy-to-Learn, Use and Maintain

SkyMonitor can be easily used by operators, managers and engineers who access the Internet in their daily work. This familiarity saves the valuable time and money required for training. Further, with SkyMonitor, users don't have to worry about upgrading software or backing up files. Because all data and software are managed on the SkyMonitor server, users can focus on productivity rather than on maintenance issues.

Secure Data

SkyMonitor takes full advantage of the tight security features provided by the Web server, enabling control on the user access according to IP address or selected Web pages. In addition, SkyMonitor offers security features for controlling the contents of each page according to users' authorization.

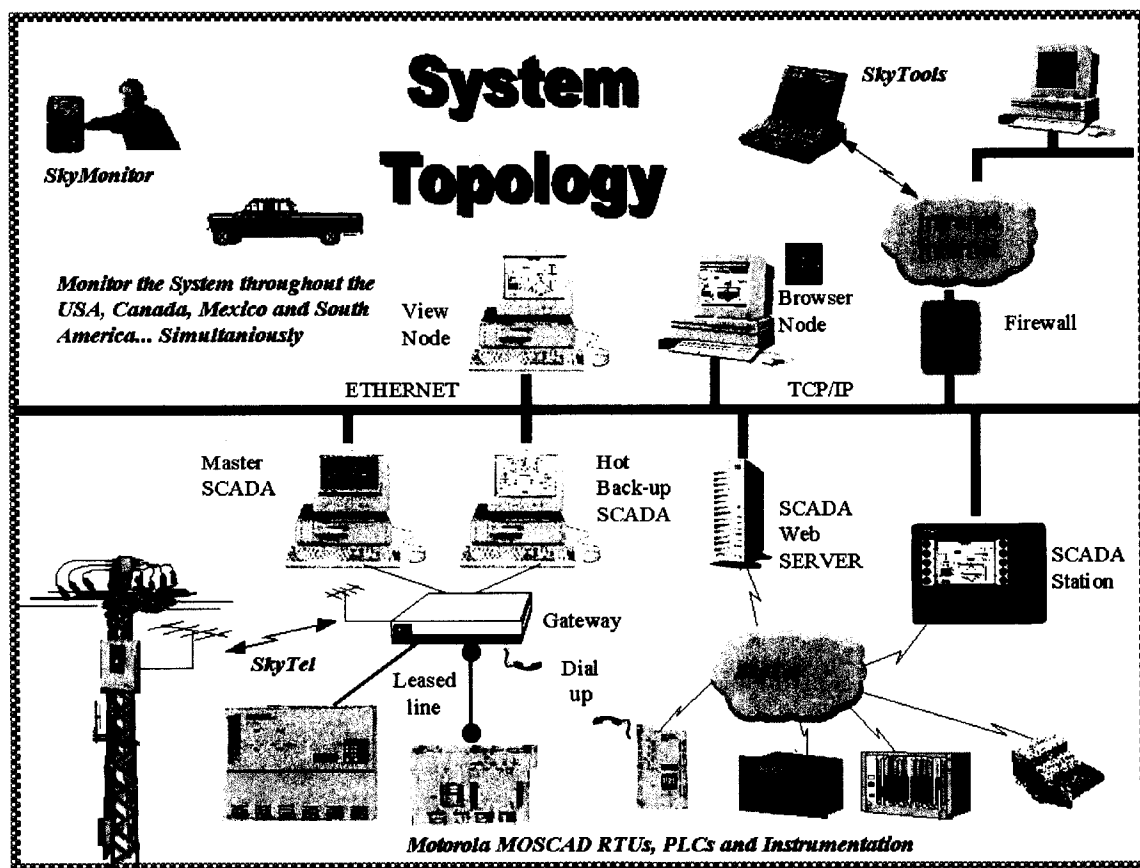


Figure 1: SkyMonitor can be mixed with Local Area Networks, Wireline and other Radio Based Solutions.



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Item	QTY	Description	Extended
Meter Install			
1	11	PDA's @ \$80 Per Month Unlimited usage Access with Verizon	\$ 880.00
2	16	Street Smart Telemetry @ \$32 Limited Data Coverage	\$ 512.00
		Monthly Contract Coverage Cost	\$ 1312.00
		Yearly Contract Coverage Cost	\$ 15,744.00

5. Repair of datacenter during Server Control Room AC Fail and Flood and other support costs

Repair – of datacenter during Server Control Room AC Fail and Flood

Trouble Ticket Information from 2/24/2004

Today was definitely one for the books. Upon arrival at Culver I found that the DSL was down and that Mark had a trouble ticket open with DSL Extreme. Next issue to resolve was that SCADA Alarm was not picking up or dialing out. I also found that the US3COMM server is dead. On boot it starts to spin the SCSI drives up and about ten seconds into spin up, the server powers itself down. I feel that this is probably a motherboard issue. I spoke with David Leuck and Carlos Vega to inquire about who to contact for server warranty issues. They informed me that the NOC had lost both primary and backup cooling systems over the weekend and the server room was 130 degrees for at least four hours. They lost one server due to heat following the incident. I replaced the modem with the spare that was onsite. The new phone line is in and SCADA alarm is paging out on it and accepting incoming calls to the paging system. However, the pages that are received have an incorrect call back number. I also made a quick recommendation for a replacement server to Gabe. In this situation, I would recommend that if we are unable to have the existing server repaired, that we replace both servers. IT has said that we will need to replace them with Dell rack mount servers to stay within their current NOC plans. I would also recommend that we install new tape backup drives in the new servers. This will allow us to know that the entire system is covered under warranty for the next three years. I spoke with Gabe concerning this and he is in agreement. The weather over there is good. Gabe understood the issues that are going on and the recommendations that were made. He is keeping Ken up to date as to the current situations. Ken seemed in good spirits over the whole issue on his way home earlier this afternoon to enjoy a head start on the weekend. I told Gabe that you were scheduling Brian to come in and see if he can resolve the issues with SCADA alarm. The HP vendor returned Gabe's call concerning warranty issues on the server and they are recommending that the servers be replaced, since they are currently out of warranty. I also made a recommendation to Gabe that US3 be allowed to take some backups off premises for disaster recovery purposes. I will work on putting together a service agreement for Culver and recommendations as to replacement servers for the project.



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Trouble Shoot and test 2/27/2004 Server Failure Due to AC Fail	Hours	Rate	Cost
Onsite Effort	8	125	1000
Travel Time	1	45	45
Trouble Shoot and test 3/2/2004 Due to Computer room Flood	Hours	Rate	Cost
Onsite Effort	4	125	500
Travel Time	1	45	45
Server Checks once a week from March 2004 Approximately 05 hours per week X 24 Weeks	Hours	Rate	Cost
Off Site Support	12	85	1020
Travel Time	0	45	0
Canopy Issues - Trouble shot to a Culver network had a disabled port	Hours	Rate	Cost
Onsite Effort	5	125	625
Off Site Support	2	85	170
Travel Time	1	45	45
Operations ENS PC Not working. Found the Canopy Port to the PC unplugged. Called Carlos Vega in IT to Correct the issue.	Hours	Rate	Cost
Onsite Effort	3	125	375
Travel Time	1	45	45
Mesmer PLC Check for Pump Fail	Hours	Rate	Cost
Off Site Support	2	85	170
Travel Time	1	45	45
Lenawee Lightning Damage to Datalogger Feb 2004			1600
Total			\$ 5,685.00



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6. Fiber Conversion for the Public Services Building ENS System

Removing Canopy Network and connecting ENS Network to a more efficient Fiber Network.

Fiber Conversion	Hours	Rate	Cost
Onsite IT Effort	8	125	\$ 1,000.00
Off Site ENS Support Effort	4	125	\$ 500.00
Misc Parts			\$ 235.00
Total			\$ 1,735.00

7. Alarming – SMS Alarming All meter sites to monitor SSO (Sanitary Sewer Overflow)

Wire and configure all meter sites for SMS Alarming for High Depth Surcharge warning. This message will be sent to up to 3 locations. One location can be our POP 3 server which can disseminate the message to any number locations via SMS – Text to voice and Email. In this we will be able to contact the Culver first responders as needed for alarm conditions.

	SSO Monitoring	Hours	Rate	Cost
Culver	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Syds	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Short	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Dequ	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Delrey	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Green	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Slau	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Lena	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
Jack	Onsite Install Effort	4	125	\$ 500.00
	Parts and Cable			\$ 180.00
	Systems Configuration Costs	16	125	\$ 2,000.00
	Total			\$ 8,440.00



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8. Reporting Additions and modifications

Ongoing support for reporting to the City of Los Angeles, under the Amalgamated Agreement, including the creation of automation in the gathering of sewer flow data and report formatting.

Reporting Support	Hours	Rate	Cost
Onsite Effort	16	125	\$ 2,000.00
Off Site Reporting Support Effort	24	125	\$ 3,000.00
		Total	\$ 5,000.00

SEWAGE SPILL PREVENTION PROGRAM

All the remaining items, collectively, have the objective of preventing a sewage spill. The proposed activities, ENS additions, modifications, enhancements, and services will contribute towards the objective by assuring proper functional operations of the ENS system and components, as well as by providing a structured, frequent and periodic supervision by a combination of City staff and US3 consultants. They are the consequence of a review and analysis of the ENS system by City staff. The combination of all remaining items compose the **Sewage Spill Prevention Program**.

9. Pump Stations Emergency Inspections and Base Line

US3 will check all alarm inputs for operation at all seven pump stations at a cost of \$6,800; this work is to be completed by April 30th, 2007. US3 will provide a report with a detailed list of failed components and suggested course of action for each. Included in this item is a preliminary approximate estimate, by US3, of \$30,000 for parts, if needed, as well as a cost of \$6,800 for the labor to repair/replace operational components, if needed. Of the combined \$36,800 for parts and labor, only that which is needed will be billed. Culver City will be given the opportunity to seek competitive bidding for any needed parts.

Pump Stations Emergency Inspections and Base Line	Hours	Rate	Cost
Onsite Effort	80	85	\$ 6,800.00
Parts will be Itemized as Found - Possible Component Costs			\$ 30,000.00
Repair Costs	80	85	\$ 6,800.00
		Total	\$ 43,600.00

10. ENS Servers' Software/Hardware Ongoing Maintenance

Under normal circumstances US3 believes that regular maintenance of the ENS servers will take approximately 20 hours per month. The typical degradation due to deferred maintenance will be prevented. Nevertheless, there may be situations where a failure is discovered by US3. In such a case, US3; will make the necessary repairs to bring the system back into full compliance, without any additional cost to the City. The City shall maintain current hardware warranty with DELL.

ENS Servers' Software/Hardware Ongoing Maintenance	Hours	Rate	Cost
20 hours a Month ----- for 12 Months Support Effort	240	125	\$ 30,000.00
		Total	\$ 30,000.00

For purposes of estimating level of effort, the following breakdown has been assumed, but it is not a projection of actual distribution of time.



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ENS Server Support Services Up to **10 hours per month**

In order to maintain the most recent security patches and vendor supplied updates, the Culver City ENS system requires a routine maintenance schedule. The following information sets out the proposed service schedule to be performed on a monthly contract basis.

1. Event logs reviewed three times a week for system errors, application errors, and logged security events.
2. Perform system updates on a weekly basis as provided by the vendors of the software installed on the system.
3. Review Antivirus logs to detect any possible compromises.
4. Review backup logs to ensure that backup routines are maintained.
5. Perform monthly restoration testing of backup system.
6. Perform hardware updates on a weekly basis as provided by the hardware vendors.

ENS and Engineering Support. Up to **10 Hours Per month**

1. Provide support for update modifications and trouble shooting as needed.
2. Review Intellution and associated software logs for system errors on a weekly basis to ensure proper performance.
3. Review SCADA Alarm (Paging Software) and associated software logs for system errors on a weekly basis to ensure proper performance.
4. Review the radio network on a Quarterly basis for performance related issues.
5. Assist technicians in the field with remote support of ENS Applications.
6. Assist City Technician with Electrical and Engineering Support.

Scheduled maintenance work will be performed remotely. In the event a system will need to be rebooted or taken out of service for any period of time to perform maintenance, designated City personnel will be notified and the outage will be coordinated with them. When hardware updates are made available, these will be performed onsite as required. The total monthly hours to perform this work is estimated to be 20 per month. Nevertheless, US3 is committed to the health and wellness of Culver City residents and employees, and will repair any major failure, beyond the 20 hours.



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11. ENS Additions, Enhancements, and Supervision

The proposed activities, ENS additions, modifications, enhancements, and services will contribute towards assuring proper functional operations of the ENS system and components, as well as by providing a structured, frequent and periodic supervision by a combination of City staff and US3 consultants. They are the consequence of a review and analysis of the ENS system by City staff.

Where testing is part of the task, if a repair or replacement is deemed necessary due to its failed testing, US3 will be responsible for correcting the detected need.

	ENS ADDITIONS, ENHANCEMENTS, & SUPERVISION	HRS	RATE	COST
11.1	Daily send a test message from each pump station to confirm that the communication path is functional to five selected individual on the first-responders list. ONE-TIME PROGRAMMING COST.	8	145	\$1,160
11.2	Daily generate a message from each server to confirm that the servers are functional and notify five selected individual on the first-responders list. ONE-TIME PROGRAMMING COST.	4	145	\$580
11.3	Quarterly, visually inspect all pump station wiring and labeling as compared to official documentation. Advise of changes and the consequences of changes since the prior inspection. Confirm differences found with proper ladder of authority written documentation.	16	145	\$2,320
11.4	Quarterly, test and confirm that all sensors and float switches, or similar "trigger" equipment, in the sewer main, wet well, dry well, manhole, and elsewhere, in all the pump station, are working appropriately.	8	145	\$1,160
11.5	Annually, in July, confirm the proper functioning of RTU's, modules, HMI, and other electronic components of the ENS in all the pump station control rooms.	8	145	\$1,160
11.6	Annually, in July, review all pumps and their efficiency against manufacturer rating and make appropriate recommendations, if any.	8	145	\$1,160
11.7	Create electrical schematics of all equipment and their connections and deliver hard copies and AutoCAD files. ONE-TIME ELECTRICAL ENGINEERING AND DRAFTING COST. NOT TO EXCEED.	120	145	\$17,400



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11.8	Develop and program a new alarm that utilizes "time stamp" information logged at "high wet well alarm" to project the time it will take for the wet well to overflow, under the assumption of constant flow. Where available, such as Braddock pump station, utilize the secondary manhole wet well level alarm for greater precision of the projection. Send the projected time to all individuals on the first-responders list. ONE-TIME ELECTRICAL ENGINEERING AND PROGRAMMING COST. NOT TO EXCEED.	80	145	\$11,600
11.9	Once a year in March, check and test every component that triggers an alarm, such as flow switches, water sensors, measurement sensors, and all others, for purposes of evaluating their conditions, the state of wiring, conduits, the wire landings at the block(s), the connections to the various modules by DI/O, AI/O, the PLC, RTU's, and radios. Make recommendations as appropriate. NOT TO EXCEED.	80	145	\$11,600
11.10	Set-up two alarm printers and one server-based computer log for all ENS alarms and print out the alarm occurrence, alarm status, and date and time stamp to the printers to be located in Engineering and in at the Public Services Building. ONE-TIME COST.	8	145	\$1,160

	ACTIVITY AT ENS SERVER ROOM AND ANCILLARY LOCATIONS	HRS	RATE	COST
11.11	Twice a year, in January and in July, visually inspect all connections, cables, and ENS-related hardware located anywhere in the second floor of City Hall. Make recommendations as appropriate.	4	145	\$580

	ACTIVITY AT CCPD	HRS	RATE	COST
11.12	Twice a year, in January and in July, visually inspect all connections, cables, and ENS-related hardware. Make recommendation as appropriate.	4	145	\$580



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	ACTIVITY AT IT SERVER ROOM	HRS	RATE	COST
11.13	Twice a year, in January and in July, visually inspect all connections, cables, and ENS-related hardware. Make recommendation as appropriate.	4	145	\$580

	ACTIVITY AT PUBLIC SERVICES BLDG	HRS	RATE	COST
11.14	Twice a year, in January and in July, visually inspect all connections, cables, and ENS-related hardware. Make recommendation as appropriate.	4	145	\$580

	TESTING AND INSPECTION ACTIVITY	HRS	RATE	COST
11.15	Twice a year, in January and in July, visually inspect and digitally, manually, or by observation, test all connections, cables, and ENS-related hardware that are existent, or that may be install in the future by the City (or its contractors) or by US3, and are components of the ENS system, that have not been otherwise explicitly identified elsewhere in this document. Make recommendation as appropriate.	28	145	\$4,060

	DEVELOPMENT OF A COMPREHENSIVE MAINTENANCE PROCEDURE PROGRAM	HRS	RATE	COST
11.16	This checklist style itemized list will include the visual inspection, exercising, and testing of pump station mechanics, i.e., testing each pump components, motors, valves, connections, conduits, switches, pipes, gaskets, etc. Also, this check list will contain all the manufacturer, model, part number, serial number (if applicable), manufacturer contact information, location of the equipment, quantity of the equipment, date installed, and date last maintained. This checklist and equipment information is to be used by Culver City personnel for entry into their facilities maintenance application (MaintStar). This will facilitate Culver City staff's proper on-going maintenance and provide a mechanism for the City to follow a thorough and fixed procedure program to avoid deferred maintenance. Additionally, this will serve to pre-empt any problem arising from the smallest to the largest component.	80	145	\$11,600



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	AIRCONDITIONER ISOLATION OF ENS SERVER ROOM	HRS	RATE	COST
11.17	Make necessary modifications to the air conditioner system in the Second Floor of City Hall so that the ambient room temperature in the ENS Server Room, located in the Engineering Division, maintains cool air throughout the year. Currently, the room gets heated during the winter months, since it is not isolated from the City Hall A/C system. This work is to be done by City staff with contractor assistance as necessary. Parts and Labor. NOT TO EXCEED.			\$10,000

	INDEPENDENT ALARM COMPANY	HRS	RATE	COST
11.18	Hire an independent alarm company to install water sensors at strategic locations at every pump station, and monitor for alarms at surface or near-surface flow points. This alarm is for redundancy and it is to be independent of the ENS system. Upon trigger, this company would initiate person-to-person phone calls by sequentially calling a provided list of first-responder staff. This backup-alarm would be triggered only upon failure of the ENS system and is to be monitored 24 hours a day, 7 days a week. The estimated costs will be for water sensors and their installations, monthly telephone line service, and monthly monitoring that would occur at each of the seven pump stations. City staff will coordinate this effort.			\$1,500

	ENS SERVER ROOM TEMP ALARM	HRS	RATE	COST
11.19	Install and program RTU in Server Cabinet. Interface with the Current ENS System and SCADA Alarm Dialer Program			
	RTU / PLC	\$5000		\$5000
	RTU Code and Programing	4	145	\$580
	HMI and Scada Alarm Configuration	4	145	\$580
	Total			\$6160

11.20	TOTAL ITEM 11			\$76,240
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PROJECT TOTAL SUMMARY

Item	Description	Extended
1	FloDar Meter Install with maintenance for the duration of current contract @ Blackwelder	\$26,208.00
2	FloDar Meter Install @ Mesmer	\$16,240.00
3	Jackson – StreetSmart Conversion	\$3,875.00
4	CDMA Datacenter transition and PDA airtime Charges	Monthly \$ 1312.00 \$15,744.00
5	Repair – of datacenter during Server Control Room AC Fail and Flood	\$5,685.00
6	Fiber Conversion for the operation Building ENS System	\$1,735.00
7	Alarming – SMS Alarming All meter sites	\$8,440.00
8	Reporting Additions and modifications	\$5,000.00
	SUBTOTAL	\$82,927.00

SEWAGE SPILL PREVENTION PROGRAM

9	Pump Stations Emergency Inspections and Base Line	\$43,600.00
10	ENS Servers' Software/Hardware Ongoing Maintenance	\$30,000.00
11	ENS Additions, Enhancements, and Supervision	\$76,240.00
	SUBTOTAL	\$149,840.00
	TOTAL PROJECT	\$232,767.00

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Terms and Conditions:

Reporting

All reporting is to be done by person-to-person communication to the Project Manager, followed immediately by a digital report and hard copy to the Project Manager, the Engineering Services Manager, the Operations Maintenance Manager, the Public Works Director/City Engineer, Traffic Engineering Manager and Technical Services Manager.

Hardware/Software

Where not explicitly stated, hardware/software replacement and repairs will be pursued to resolution of any and all detected problems even beyond the indicated hours within this change order. When unexpected problems occur, those not preventable by the maintenance in this change order, resolution will be pursued after obtaining approval from the Project Manager to continue on a time and materials basis.

Documentation and Log of Maintenance

US3 will document and maintain a current running log, real-time, of any and all activity under this change order and will provide the Project Manager, upon execution of a task, with a copy of the log attached to the report. Such log is to be treated as part of the reporting, as above.

End-to-End service

US3 is committed to the success of the ENS system in Culver City, as its installer and contracted maintenance agent under this change order. US3 intends to address any and all issues relevant to the ENS system, as explicitly stated or implied (such as IP addressing, hardware configuration, etc.) in this change order. Additionally, US3 will service the ENS system end-to-end, as covered under this change order, or on a T&M basis, as agreed with Project Manager.

Service Warranty

USCubed warrants all services they provide under the scope of this proposal to be professional, accurate and compliant with all national and local codes.

Software Warranty

USCubed guarantees that all software developed by them to be free from errors. This does not include software supported by USCubed, developed by other vendors. However, for purposes



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of this proposal, all software developed by USCubed for other vendor's products shall be warranted by USCubed. For the purpose of this warranty, software error is understood to be a program's failure to perform a design function.

This warranty shall remain in force for the duration of the Software Services contract, as defined by this proposal.

Limits of Liability

Liability is as stipulated in the original contract and is unaltered by this change order. Appropriate Liability Insurance, Errors and Omissions Insurance, as well as an executed Special Endorsement form have been made a part of the original contract. USCubed will not accept liability for consequential damages.

Invoicing

USCubed should be considered fully compliant to the defined Solicitation. Any and all trenching will be the responsibility of the City of Culver City.

This proposal is a Budgetary Estimate of \$232,767.00 for the work as described within.

Invoicing will be as follows:

Invoice 1 will be 45% of Contract for Mobilization for Items 1,2,3,6,7 Plus total of Items 4,5.
\$46,853.10

Invoice 2 will be 45% of Contract for contract Completion for items 1,2,3,6,7
\$25,424.10

Invoice 3 Will be 10% of Contract 30 Days after Completion of items 1,2,3,6,7
\$5,649.80

Subsequent Invoices for Items 8, 9, 10, and 11 will be billed as hours are used or as parts are purchased.

Item 8 \$5,000.00
Item 9 \$43,600.00
Item 10 \$30,000.00
Item 11 \$76,240



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Classifications and Standard Rates

- | | |
|--|---|
| ☐ Instrumentation and Control Engineering
\$125
Design and instrument calibration in conformance with:
P&ID's, Loop Drawings, Valve Sizing, System Specification,
and Panel Design | ☐ Programmer
\$145
Extensive software application development
Experienced in DCS systems including
Honeywell, Westinghouse, Wonderware
and Foxboro
Software applications and development for
PLC's |
| ☐ Electrical Engineering
\$145
Power Distribution
Short Circuit Analysis
Elementary Drawings
Protection Relay Testing
Electrical Testing | ☐ Project Manager / Consultant
\$145
☐ Configuration of Applications
\$145
InTouch by Wonderware
Fix DMACS by Intellution
Factory Link by U.S. Data |

Any alteration or deviation from the specifications set forth in this proposal will be executed only upon written orders and may become an extra charge above the contracted price.

Stand-by time is not included in this proposal. Stand-by time is defined as time spent on site waiting for completion of the client's construction, installation, wiring and other delays beyond the control and not contracted to Utility Systems Science Software. Stand by time will be billed separately on a time and material basis at the rate of \$45.00 per hour. All other rates will be as per schedule in this document.

Any additional work will be billed on a time and material basis. T&M Work will be documented by daily customer approved time sheets. Our hourly rates for this type of work is \$125.00 per hour for engineering and programming, \$85.00 per hour for control panel design, CAD, fabrication and field wiring. These are regular time rates based on eight hours per day during weekdays.

The State of California mandates that an overtime hourly pay rate of 150% be paid an employee beyond 8 hours of work in one day and that double time hourly rate of 200% be paid an employee beyond 12 hours of work in one day. If the project or tasks require more than eight consecutive work hours in one day, prior written approval must be obtained from Project Manager, or if unavailable, from the Engineering Services Manager, or if unavailable, from the Public Works Director/City Engineer. If no one is available from this list, then the subject work is to be continued only in the case of an emergency that would endanger the health and safety of the residents, employees, or the ENS system.

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Overtime rates are billed at time-and-one-half for all time over eight hours per day. Saturdays are billed at time-and-one-half. Sundays will be billed at double time. Time spent in transit is \$45.00 per hour. Travel and cost of living expenses for on site work will be documented and billed at our cost plus 10%. None of these will be carried out without prior written approval as indicated above and through the indicated structure.

Payment terms are NET thirty (30) days.

On Time and Material Contracts with a not-to-exceed amount, USCubed will notify the Owner/Client upon reaching a predetermined value of the contract so that the Owner/Client can make a contract value adjustment based on the scope-of-work remaining

USCubed Standard Rates are revised on December 31 of each calendar year to reflect any increase in legislated or commercial rates for employee burdens, benefits, or business general and administrative.



CITY OF CULVER CITY
PUBLIC WORKS DEPARTMENT
CHANGE ORDER

SHEET 1 OF 1 SHEETS

CONTRACT CHANGE ORDER NO: 2

PURCHASE ORDER NO.: _____

PROJECT: Pump Station Improvements

PROJECT NO: P-521

TO: Utility Systems Science and Software Contractor

REQUESTED BY: Dan Garcia

Upon the approval of the City Engineer and acceptance by the Contractor, the Contractor is hereby directed to make the herein described changes from the plans and specifications or do the following described work not included in the plans and specifications on this contract.

DESCRIPTION

ADDITIONAL WORK

Bid Item and Description	Est. Qty	Unit	Unit Price	Ext Price
FloDar Meter Install w/Maint. @ Blackwelder	1	LUMP SUM	\$ 26,208.00	\$ 26,208.00
FloDar Meter Install @ Mesmer	1	LUMP SUM	\$ 16,240.00	\$ 16,240.00
Jackson - StreetSmart Conversion	1	LUMP SUM	\$ 3,875.00	\$ 3,875.00
CDMA Datacenter transition and Phone Charges	1	LUMP SUM	\$ 15,744.00	\$ 15,744.00
Repair of datcenter during Server Control Room AC fail & flood	1	LUMP SUM	\$ 5,685.00	\$ 5,685.00
Fiber Conversion for the Operation ENS System Bldg.	1	LUMP SUM	\$ 1,735.00	\$ 1,735.00
Alarming-SMS alarming all meter sites	1	LUMP SUM	\$ 8,440.00	\$ 8,440.00
Reporting additions and modifications	1	LUMP SUM	\$ 5,000.00	\$ 5,000.00
Pump Station Operational Inspections	1	LUMP SUM	\$ 43,600.00	\$ 43,600.00
Ongoing ENS Maintenance	1	LUMP SUM	\$ 30,000.00	\$ 30,000.00
ENS Additions, Enhancements, and Supervision	1	LUMP SUM	\$ 76,240.00	\$ 76,240.00

Contract Amount (Base bid) \$ 576,350.00

Amount of This Change Order \$ 232,767.00

Amount of Previous Change Orders \$ 44,083.00

Total Change Orders \$ 276,850.00

% Change Orders \$ 48.04

Modified Contract Amount \$ 853,200.00

Approved _____ Date 12/27/06

Public Works Director and City Engineer

I, the undersigned Contractor, or the authorized agent of the Contractor, have given careful consideration to the change(s) proposed and hereby agree to all of the above terms with no further negotiations.

Accepted, Date 12-27-2006 Contractor Utility Systems Science and Software

By Tom Williams Title Tom Williams, Principal

Copies: Contractor, City Treasurer, Project File, Project Manager, Public Works Inspector, Engineering Services Manager

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