Agreement Relating to Stream-flow Gauging

This Agreement is entered into by and between the Board of County Commissioners of Johnson County, Kansas ("County") and the City of Overland Park, Kansas ("City") as of the first day of January 2011.

RECITALS

- A. The parties have entered into two separate agreements relating to stream-flow gauging, the first dated as of October 2, 1997 ("1997 Agreement"), and the second dated November 11, 1999 ("1999 Agreement"). The 1997 Agreement and the 1999 Agreement are collectively referred to as the "Agreements."
- B. The Agreements provide, *inter alia*, for the City to test, adjust, repair, and maintain numerous stream-flow gauging monitoring stations which are part of what is commonly known as the "ALERT" system.
- C. While the parties desire to continue their cooperative and successful endeavor reflected by the Agreements, in order to combine and simplify the billing and budgetary functions for each party, they have determined it to be in their best interests to terminate the two Agreements and enter into this single Agreement.

NOW THEREFORE, in consideration of the mutual promises herein contained, and for other good and valuable consideration, the receipt and sufficiency of which is acknowledged, the parties agree as follows.

AGREEMENT

- 1. <u>Prior Agreements Terminated</u>. The parties hereby terminate the 1997 Agreement and the 1999 Agreement which are hereby replaced and superseded by this Agreement.
- 2. <u>Final Payment</u>. The City shall bill the County for any services rendered under the Agreements prior to the termination of such Agreements, and the County shall make payment due the City under the terminated Agreements within 30 days of such billing.
- 3. <u>Future Services</u>. The City agrees to and shall perform the work items set forth on the attached Exhibit A, "Scope or Services," at the locations described in the attached Exhibit B

- "Alert System Summary." The parties acknowledge and agree that the County may, from time to time, propose to modify the Scope of Services whereupon the parties shall agree to an appropriate increase or decrease in the amount payable to the City under this Agreement.
- 4. <u>Payment</u>. The County agrees to pay the City based upon the unit prices set forth on the attached Exhibit B, Alert System Summary. The estimated initial annual cost for the work to be undertaken is \$113,350.00. Unless and until this Agreement is terminated, payment shall be made in advance on January first and on July first each year upon the satisfactory completion of the work to be performed during the prior six month period. The City shall provide the County with a detailed billing invoice at least 30 days prior to each payment date.
- 5. <u>Termination</u>. The parties intend that this Agreement shall continue from year to year, until either party elects to terminate the Agreement, such termination to be effective upon not less than 60 days prior notice. Upon termination of this Agreement, the City shall submit its final bill to the County for services provided prior to such termination and the County shall remit payment within 30 days.
- 6. <u>Modification of ALERT System by County</u>. The County agrees to notify the City before the County undertakes any modification, repair, or maintenance of the ALERT system. The County shall provide the City with adequate documentation of any work it undertakes on the ALERT system for the City's records.
- 7. Ownership of Data and Equipment. All data, drawings, materials, and information acquired and documents prepared under this Agreement or from the ALERT system shall belong to the County and the County assumes all liability for its use by the County. Upon termination of this Agreement, the City shall turn over to the County all such data, drawings, materials, information, and documents in the City's possession.

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8. <u>Effective Date</u>. The parties agree this Agreement shall be effective as of January 1, 2011 regardless of whether it was approved and executed before or after such date.

Board of County Commissioners of Johnson County, Kansas Ed Eilert, Chairman Attest: Stephen J. Powell, County Clerk	City of Overland Park, Kansas
Ed Eilert, Chairman	Carl Gerlach, Mayor
Attest:	Attest:
Stephen J. Powell, County Clerk	Marian Cook, City Clerk
Approved as to form:	Approved as to form:
Robert A. Ford	Tammy Owens
Assistant County Counselor	Senior Assistant City Attorney

EXHIBIT A

SCOPE OF SERVICES JOHNSON COUNTY ALERT GAUGING SYSTEM OPERATION AND MAINTENANCE

- A. General: CITY shall provide all services necessary for the operation and maintenance of the ALERT gauges and equipment identified in Exhibit B. All technical work associated with this Agreement will be performed by a qualified electronics specialist. Major repairs or replacement of major electronic components are not part of this Scope of Services. Appropriate records shall be maintained by CITY of all activities performed. COUNTY shall be provided with copies of all such records. The following briefly identifies the work items with more detailed explanations of each work item contained in the following paragraphs.
 - 1. Beginning-of-Season Radio Maintenance, Electronic Testing, Field Hardware Maintenance, and Radio Licensing
 - 2. Scheduled Routine Inspections and Data Analysis
 - 3. Unscheduled Service Calls
 - 4. End-of-Season Field Equipment Maintenance
 - 5. Spare Transmitters, Spare Sensors and Maintenance Equipment
 - 6. Repair and Replacement of Equipment
 - 7. Field Verification of Water Levels

B. Specific Description of Work Items:

- 1. <u>Beginning-of-Season Radio Maintenance, Electronic Testing, Field Hardware</u> Maintenance, and Radio Licensing
 - a. CITY shall perform all preliminary equipment preparation necessary to assure complete operation of each gauging station. This work will include battery charging or replacement, desiccant charging or replacement, calibration checks and other electronic adjustments as needed.
 - b. CITY shall inspect and test all equipment pertinent to remote gauging station operation including radio transmitters, antennas, cables, connectors, tipping buckets, pressure transducers, ultrasonic sensors, shaft encoders, weather sensors and batteries. Pressure tests will be performed on all accessible PTs. Transmitted data will be recorded and compared with calibration tables. Defective PTs or signal conditioning boards will be repaired or replaced as needed using available spare parts. Calibration adjustments will be made as needed. CITY will prepare a punch list of any deficiencies observed and recommend additional equipment and services not included in this Scope of Services.
 - c. CITY shall install, replace, or maintain equipment at remote gauging stations as required. This work will include leveling and calibrating tipping buckets; painting standpipes, weather housings and other parts subject to corrosion; physical securing

of site including antenna mounts, clamps, cables, conduits and sensors; general cleaning of site including funnel, screen and pressure transducer orifices; replacement or repair of defective pressure transducers and signal conditioning boards; and any other items deemed necessary to meet the terms of existing license agreements or varying field conditions. Specific activities performed will be site dependent. Station IDs, RF turn-on times, analog event and time mode switches, and other station configuration programming will be set per specifications approved by COUNTY and as required to assure proper repeater operation. Serial numbers will be recorded. Test transmissions will be performed to check that gauge transmitters are operating according to factory specifications and the repeaters are receiving and re-transmitting the signal. Wattmeter readings will be taken and recorded. Minor adjustments and field calibrations will be made as needed.

- d. CITY shall test all electronics packages and perform minor adjustments as needed in accordance with manufacturer's RF specifications and Federal Communications Commission (FCC) requirements.
- e. CITY shall complete minor adjustments and testing of all repeater stations. CITY shall maintain all power supplies including solar panels, voltage regulators and batteries
- f. City shall inspect and test all equipment pertinent to remote flasher sites.
- g. Beginning-of-season maintenance services described herein shall be completed by April 15.

2. <u>Scheduled Routine Inspections and Data Analysis</u>

- a. CITY shall conduct a physical inspection of all remote gauging stations. The mechanical functions of each site will be tested to assure proper operation. Minor mechanical and calibration adjustments will be made as needed. Minor parts such as cables, connectors, mounting hardware and batteries will be replaced as needed.
- b. CITY shall remove top section of each ALERT rain gauge standpipe assembly to clean the screen, funnel and tipping bucket. This work will include leveling tipping buckets; painting of standpipes and other appurtenances to protect against corrosion and vandalism; physical securing of site including antenna mounts, clamps, cables, conduits, and sensors; general cleaning of site; inspecting antennas and connecting cables; and any other items deemed necessary to meet the terms of existing license agreements or varying field conditions. Test transmissions will be performed to assure that gauge reports are being received by ALERT base stations. Pressure transducer (PT) orifices and protective housings will be checked and maintained free of mud and debris. Specific activities performed will be site dependent.
- c. CITY shall conduct general inspection of repeater sites and test batteries to assure proper performance. Solar panels shall be cleaned and voltage regulators adjusted as needed. Suspected problems shall be reported immediately to COUNTY.
- d. Routine inspections performed herein shall be completed on an approximate 45 day incremental schedule from the beginning of flood season installation (April 15). Routine inspection of precipitation only gauges, as listed in Exhibit B, will occur at 90-day intervals, unless known site problems warrant a 45-day inspection cycle. Scheduled routine inspections will occur within a time period beginning 10 days prior to and ending 10 days following calendar dates June 1, July 15, and September 1.

3. Unscheduled Service Calls

Upon notification by COUNTY, or determination of potential problems from the data analysis described in Paragraph B.2.d. of this Scope of Services, CITY shall make unscheduled service calls necessary to assure full system operation during the flood season. CITY will respond to COUNTY request for service or other problem confirmation within three (3) working days of notification or confirmation of a remote sensor or transmitter failure, and within forty eight (48) hours of notification or confirmation of repeater failure. In the event of minor part failure, CITY shall effect immediate field repairs and provide appropriate minor replacement parts. In the event of a major part failure, CITY shall install available spare parts and return failed units to the lab or factory for repair. Major repairs or replacement of major electronic components shall be approved by COUNTY prior to such action.

4. End-of-Season Field Equipment Maintenance

- a. CITY shall perform all preliminary equipment preparation necessary to assure complete operation of each gauging station. This work will include battery charging or replacement, desiccant charging or replacement, calibration checks and other electronic adjustments as needed.
- b. CITY shall inspect and test all equipment pertinent to remote gauging station operation including radio transmitters, antennas, cables, connectors, tipping buckets, pressure transducers, ultrasonic sensors, shaft encoders, weather sensors and batteries. CITY will prepare a punch list of any deficiencies observed and recommend additional equipment and services not included in this Scope of Services.
- c. CITY shall install, replace, or maintain equipment at remote gauging stations as required. This work will include leveling and calibrating tipping buckets; painting standpipes, weather housings and other parts subject to corrosion; physical securing of site including antenna mounts, clamps, cables, conduits and sensors; general cleaning of site including funnel, screen and pressure transducer orifices; replacement or repair of defective pressure transducers and signal conditioning boards; and any other items deemed necessary to meet the terms of existing license agreements or varying field conditions. Specific activities performed will be site dependent. Station IDs, RF turn-on times, analog event and time mode switches, and other station configuration programming will be set per specifications approved by COUNTY and as required to assure proper repeater operation. Serial numbers will be recorded. Test transmissions will be performed to check that gauge transmitters are operating according to factory specifications and the repeaters are receiving and re-transmitting the signal. Wattmeter readings will be taken and recorded. Minor adjustments and field calibrations will be made as needed.
- d. CITY shall service all repeater batteries and solar panels and conduct general site inspection and testing. All repeaters shall be maintained in working condition for continuous year-round operations.
- e. City shall inspect and test all equipment pertinent to remote flasher sites.
- f. End-of-season maintenance services described herein will be performed between October 1 and November 1.

5. Spare Transmitters, Spare Sensors and Maintenance Equipment

- a. CITY shall be responsible for the maintenance, storage and use of all COUNTY-owned electronics packages, radio transmitters and receivers, sensors, battery chargers, battery dischargers, remote station testers, spare parts and all other system maintenance equipment provided by COUNTY.
- b. Appropriate care shall be taken in the use of all COUNTY-owned equipment and such use shall be limited to ALERT system maintenance activities conducted in accordance with this Agreement.
- c. All COUNTY-owned equipment shall be available for inspection by COUNTY in accordance with Paragraph B.4.d. of this Scope of Services.
- d. COUNTY shall provide CITY with a current inventory of all spare parts and maintenance equipment. CITY shall maintain a separate inventory of equipment and assist COUNTY with reconciling differences. CITY shall notify COUNTY when spare equipment is placed in-service and when inventoried equipment is discarded or otherwise determined to be inoperable.
- e. CITY shall have no responsibility to provide casualty insurance coverage for COUNTY-owned equipment located at gauging station sites. However, CITY shall bear the risk of any and all loss or damage of equipment or property, which are the subject matter of this Agreement, during the course of transporting equipment and maintaining facilities.

6. Repair and Replacement of Equipment

- a. CITY shall repair or replace failed equipment such as site antennas, cables, connectors, signal conditioning boards, tipping buckets, housings, mountings, batteries and other items valued at less than \$100.
- b. CITY shall provide minor repairs including cleaning; adjustments; calibration; tuning; and replacement of miscellaneous hardware parts on equipment such as transmitters, repeaters, pressure transducers and sensors as part of the regular preventive maintenance services.
- c. CITY shall analyze failed equipment and make recommendations to the COUNTY concerning replacement or repair of major components, supplier options, and estimated costs. The COUNTY is responsible for the costs of repair or replacement of such equipment. On approval by COUNTY, CITY shall oversee repairs, including the return of equipment to factory and testing of equipment after repair. CITY may, at its discretion, provide the COUNTY with quotations for the repair of equipment by CITY as one option.

7. Field Verification of Water Levels

Upon request by COUNTY, CITY shall, as promptly as possible and within 10 days, inspect designated sites to establish current and recent past high water levels with respect to established local benchmarks. CITY shall prepare and submit reports correlating field measurements with ALERT data, assess sensor accuracy, and make recommendations concerning corrective measures. Field verification fees will be negotiated with CITY when appropriate and CITY's compensation shall be adjusted in accordance with provisions of this Agreement.

Exhibit B ALERT SYSTEM SUMMARY

						ALLINIO	TSTEW SC	//VIIVI/AIX I								1
JOHNSON COUNTY FLOOD DETECTION NETWORK							EQUIPMENT TYPE									
Gage ID	Watershed	Sta ID	Station Name (Location) BRUSH CREEK	Station Type	Vendor	Alert Transmitter	Tipping Bucket	Water Level Sensor	Wind Speed Sensor	Wind Direction Sensor	Humidity Sensor	Air Temp Sensor	Barometric Pressure Sensor	High Water Flasher	Trans. Flasher Command	Annual Maintenance Cost
BC01	Brush Creek	5020	75 th & Nall	Weather & Stage	High Sierra	1	1	1	1	1	1	1	0	0	0	\$3,700.00
BR02	Brush Creek	5030	74 th St. @ Brush Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
SUBTOT	AL BRUSH CRE	EK				2	2	2	1	1	1	1	0	0	0	\$5,800.00
			BLUE RIVER (JOCO)													
BR01	Blue River	2210 5050	Kenneth Rd. @ Negro Creek Lee Blvd. @ Dykes Branch	Rain & Stage	High Sierra	1	1	1								\$2,100.00
BR02	Blue River		· · · · · · · · · · · · · · · · · · ·	Rain & Stage	High Sierra	2	2	2	0	0	0	0	0	0	0	\$2,100.00
SUBIUI	AL BLUE RIVER	(3000)	,	1		2	2	2	U	U	U	0	U	U	U	\$4,200.00
2010	D: D !! O . I	0440	BIG BULL CREEK	D : 0	11: 1 0:											04 400 00
RG10	Big Bull Creek	3440	191st & Dillie Rd.	Rain Gage	High Sierra	1	1		_	_	_	_	_	_	_	\$1,100.00
SUBTOT	AL BIG BULL CI	REEK				1	1	0	0	0	0	0	0	0	0	\$1,100.00
			CAPTAIN CREEK	+												
WRG03	Captain Creek	3420	159 th & Edgerton Rd.	Weather Station	High Sierra	1	1	-	1	1	1	1	1			\$2,700.00
RG09	Captain Creek Captain Creek	3420	Evening Star Rd.	Rain Gage	High Sierra High Sierra	1	1	-	1	- '	1	1	ı			\$2,700.00
	AL CAPTAIN CR			. ta Gage	g Olona	2	2	0	1	1	1	1	1	0	0	\$3,800.00
305101	AL OAL TAIN CR	LLI		1							'	1				ψ3,000.00
			CEDAR CREEK													
WRG02	Cedar Creek	3280	Desoto Streamway Park	Rain Gage	High Sierra	1	1									\$1,100.00
CC02	Cedar Creek	3230	119 th St. @ Cedar Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
CC03	Cedar Creek	3270	127 th @ Cedar Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
CAC01	Cedar Creek	3260	95 th St. @ Camp Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
LCC01	Cedar Creek	3250	119th Street @ Little Cedar Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
OLD01	Cedar Creek	3220	Olathe Lake Discharge	Rain & Stage	High Sierra	1	1	1								\$2,100.00
CC01	Cedar Creek	3240	K-10 @ Cedar Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
CC04	Cedar Creek	3460	Johnson County Transit Building	Weather Station	High Sierra	1	1		1	1	1	1	1			\$2,700.00
SUBTOT	AL CEDAR CRE	EK		1		8	8	6	1	1	1	1	1	0	0	\$16,400.00
			INDIAN CREEK													
IC02	Indian Creek	1140	143 rd St. @ Indian Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
IC02	Indian Creek	1150	Mission Rd. @ Indian Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
	AL INDIAN CREI			1 2. 2.2.32	1g	2	2	2	0	0	0	0	0	0	0	\$4,200.00
OOD! O!	AL MUDIAN ONE	Ī				1 -	_									\$4,200.00
			KILL CREEK													
RG07	Kill Creek	3360	Lexington & Sunshine	Rain Gage	High Sierra	1	1									\$1,100.00
KC01	Kill Creek	3340	95 th St. @ Kill Creek (E. of Lexington Ave.)	Rain & Stage	High Sierra	1	1	1								\$2,100.00
KC02A	Kill Creek	3330	127 th St. @ Kill Creek (E. of Lexington Ave.)	Rain & Stage	High Sierra	1	1	1								\$2,100.00
KC03	Kill Creek	3310	143 rd St. @ Kill Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
SC01	Kill Creek	3350	151 st St. @ Spoon Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
GLD01	Kill Creek	3300	Gardner Lake Discharge	Rain & Stage	High Sierra	1	1	1								\$2,100.00
RG08	Kill Creek	3450	New Century Airport	Rain Gage	High Sierra	1 7	7									\$1,100.00
SUBIUT	AL KILL CREEK					7	/	5	0	0	0	0	0	0	0	\$12,700.00
			LITTLE MILL CREEK	 												
LMC01	Little Mill Creek	3140	Tomahawk Creek Golf Course	Stage Gage	High Sierra	1		1								\$1,800.00
LMC03	Little Mill Creek	3130	Lackman @ Little Mill Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
LMC04	Little Mill Creek	3160	79 th St. @ Little Mill Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
	AL LITTLE MILL					3	2	3	0	0	0	0	0	0	0	\$6,000.00
			MILL CREEK													
RG01	Mill Creek	3180	67 th St & Caenen	Rain Gage	High Sierra	1	1									\$1,100.00
RG04	Mill Creek	3190	Johnson Drive & K-7	Weather Station	High Sierra	1	1		1	1	1	1				\$2,700.00
RG05	Mill Creek	3200	K-10 & K-7	Rain Gage	High Sierra	1	1								1	\$1,100.00
RG06	Mill Creek	3210 3170	Old 56 Hwy & Harrison (Olathe Police)	Rain Gage	High Sierra	1	1	1								\$1,100.00 \$2,100.00
			Woodland @ Clear Creek	Rain & Stage	High Sierra	1	1	1	1	 	ļ				1	
CLC01	Mill Creek		Shawnoo Mission Plays @ Mill Crash	Dain & Stoce	High Ciarra	1	4	4								\$2 100 00
MC01	Mill Creek	3120	Shawnee Mission Pkwy @ Mill Creek 87th Lane @ Mill Creek	Rain & Stage Rain & Stage	High Sierra High Sierra	1	1	1								\$2,100.00 \$2.100.00
			Shawnee Mission Pkwy @ Mill Creek 87th Lane @ Mill Creek Woodland @ Coon Creek	Rain & Stage Rain & Stage Rain & Stage	High Sierra High Sierra High Sierra	1 1 1	1 1 1	1 1 1								\$2,100.00 \$2,100.00 \$2,100.00

Exhibit B ALERT SYSTEM SUMMARY

Gage ID	Watershed	Sta ID	Station Name (Location)	Station Type	Vendor	Alert Transmitter	Tipping Bucket	Water Level Sensor	Wind Speed Sensor	Wind Direction Sensor	Humidity Sensor	Air Temp Sensor	Barometric Pressure Sensor	High Water Flasher	Trans. Flasher Command	Annual Maintenanc
	AL MILL CREEK		,			9	9	4	1	1	1	1	0	0	0	\$15.500.00
																\$10,000.00
			TURKEY CREEK													
TC01	Turkey Creek	3010	Johnson Dr. @ Turkey Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
TC08	Turkey Creek	3090	I-35 & Antioch @ Turkey Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
SUBTOT	AL TURKEY CR	EEK				2	2	2	0	0	0	0	0	0	0	\$4,200.00
																. ,
			ROCK CREEK													
RC01	Rock Creek	5010	Mission @ Rock Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
SUBTOT	AL ROCK CREE	K	_			1	1	1	0	0	0	0	0	0	0	\$2,100.00
			TELEMETRY SYSTEM													
R1	Repeater	9200	Johnson County Central Comms Tower	Repeater	High Sierra											\$1,600.00
			Spare Transmitters	5												\$800.00
SUBTOT	AL TELEMETRY			1	,	1				,			1			\$2,400.00
SUBT	OTAL JOCC	MAI	NTENANCE			39	38	27	4	4	4	4	2	0	0	\$78,400,00
						1			1	_	_	_				φ. c,
			MISSION HILLS SYSTEM													
BC03	Brush Creek	4900	Belinder & State Park Master (5801 Brookbank)	Flsh Command	High Sierra	1		1						1	1	\$2,300.00
BC04	Brush Creek	4930	Belinder 2 Flasher (5660 State Park Rd.)	High Water Flsh	High Sierra	,								1	•	\$750.00
BC05	Brush Creek	4935	Belinder 3 Flasher (5700 Belinder Ave.)	High Water Flsh	High Sierra									1		\$750.00
BC06	Brush Creek	4940	56 th & Mission Flasher (5551 Mission Dr.)	High Water Flsh	High Sierra									1		\$750.00
BC07	Brush Creek	4945	55 th & High Dr. Flasher (5502 High Dr.)	High Water Flsh	High Sierra									1		\$750.00
BC08	Brush Creek	4950	Dr.)	High Water Flsh	High Sierra									1		\$750.00
BC09	Brush Creek	4910	Fairway Master (5540 State Park Rd.)	Fish Command	High Sierra	1		1						1	1	\$2,300.00
BC10	Brush Creek	4920	66 th & Indian Lane Master (6629 Indian Ln.)	Fish Command	High Sierra	1		1						1	1	\$2,300.00
BC11	Brush Creek	4955	66 th & Mission Flasher (3815 W. 66th St)	High Water Flsh	High Sierra									1		\$750.00
BC12 BC13	Brush Creek Brush Creek	4960 4965	Wenonga Flasher (6405 Wenonga) 6350 Indian Lane Flasher (6350 Indian Ln.)	High Water Flsh High Water Flsh	High Sierra High Sierra									1		\$750.00 \$750.00
BC13 BC14	Brush Creek	4965	63rd & Indian Lane Flasher (6350 Indian Ln.)	High Water Fish	High Sierra									1		\$750.00
BC15	Brush Creek	4975	KCCC Flasher (5931 Mission Dr.)	High Water Fish	High Sierra									1		\$750.00
	AL MISSION HIL		process riadinal (occis mission 21.)	Tingii Watar Flair	Tingir Gioria	3	0	3	0	0	0	0	0	13	3	\$14,400.00
овтот	AL WISSION TIL	LJ		I	1	_ ,		,					ı	13		\$14,400.00
			BLUE RIVER (OVERLAND PARK)													
BR03	Blue River	1500	Olathe (15097 Ridgeview)	Rain	HydroLynx	1	1									\$1,100.00
BR04	Blue River	2030	199 th & Padbury	Weather	High Sierra	1	1		1	1	1	1	1			\$2,700.00
BR05	Blue River	2050	Bonita (175th St & U.S. 169 HWY)	Rain	HydroLynx	1	1									\$1,100.00
BR06	Blue River	2060	199 th & Ridgeview	Rain	High Sierra	1	1									\$1,100.00
BR07	Blue River	2070	Stillwell (19899 Newton)	Rain	High Sierra	1	1									\$1,100.00
BR08	Blue River	2080	191st & Mission	Rain	HydroLynx	1	1	1								\$1,100.00
BR09	Blue River Blue River	2140	Mission @ East Camp Branch	Rain & Stage Rain & Stage	High Sierra High Sierra	1	1	1			-					\$2,100.00 \$2,100.00
BR10 BR11	Blue River	2200 2220	Mission @ Negro Creek Lackman @ Wolf Creek	Rain & Stage	High Sierra	1	1	1								\$2,100.00
	AL BLUE RIVER			ram a stage	I HIGH OICHA	9	9	3	1	1	1	1	1	0	0	\$14,500.00
,55101	AL BLUE KIVER	(01)		1		9	9					,				φ1 4 ,300.00
			MERRIAM SYSTEM													
TC02	Turkey Creek	3020	69th St @ Turkey Creek	Fish Command	Campbell	1	1	1							1	\$2,300.00
TC03	Turkey Creek	3040	North Grandview Flasher (9014 W. 70th St)	High Water Flsh	High Sierra									1		\$750.00
TC04	Turkey Creek	3050	70 th Ter. Flasher (9100 W. 70th Ter)	High Water Flsh	High Sierra									1		\$750.00
TC05	Turkey Creek	3060	71 st St. Flasher (9008 W. 71st ST)	High Water Flsh	High Sierra									1		\$750.00
TC06	Turkey Creek	3070	71 st Terrace Flasher (9006 W. 71st Ter)	High Water Flsh	High Sierra				1					1		\$750.00
TC07	Turkey Creek	3080	South Grandview Flasher (9008 W. 71st Ter)	High Water Flsh	High Sierra					L				1		\$750.00
UBTOT	AL MERRIAM					1	1	1	0	0	0	<i>o</i>	<i>0</i>	5	1	\$6,050.00
SURT	OTAL ALL I	JAINT	ENANCE			52	48	34	5	5	5	5	3	18	4	\$113,350.00

				COST	SUMMARY			
						WAT ASSTS		
UNIT INSTALLATION COSTS UNIT ANNUAL MAINTENAI				147	TOTAL ANNUAL MAINTENA		Quantity	***
P	\$1,400	Base Station	\$1,000	Wx:	Weather station	\$2,700	4	\$10,800
S PS	\$2,150	Repeater Transmitter in field	\$1,600 \$800	P: S:	Rain gage	\$1,100	14	\$15,400
	\$2,350				Stage gage	\$1,800	1	\$1,800
PSF	\$2,500	Transmitter/Repeater spare	\$160	PS:	Combo rain & stage	\$2,100	28	\$58,800
Wx	\$2,800	Weather sensor suite	\$1,600	WxS:	Weather Station & stage	\$3,700	1	\$3,700
		Rain sensor	\$300	RP:	Repeater w/rain gage	N/A		
		Stage sensor	\$1,000	R:	Repeater w/o rain gage	\$1,600	1	\$1,600
		High Water Flasher	\$750	B:	Base Station	N/A		
		Transmitter/Flasher Cmd.	\$1,000	STX:	Spare Transmitter/Repeater	\$160	5	\$800
				PSF:	Rain, stage, Flasher Command	\$2,300	4	\$9,200
				HWF	High Water Flasher	\$750	15	\$11,250
				<u> </u>	SUBTOTAL MAINTENANCE			\$113,350
INSTALL	ATION COSTS = 0							
REPLAC	EMENT PARTS COSTS	= 0						
			WW. 4010E-011		(4/2 OF MAINTENANCE BLUG BERIO	D INIOTALL ATION AND DE		270
			INVOICE SUI	MMARY	(1/2 OF MAINTENANCE PLUS PERIO	D INSTALLATION AND RE	PLACEMENT CO	515)
				DATE	SUMMARY			
				NAIL	JOWINART			
	EMPLOYMENT CI	LASSIFICATION			HOURLY RATE			
	Supervisory Civil E	ngineer			\$44.03			
	Engineering System Specialist				\$39.91			
	Senior Engineering Technician				\$36.24			
	Survey Party (2 man)				\$83.14			
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	EQUIPMENT							
	Clobal Positioning	oning System Equipment			\$20/hr/unit			
	Global F UsitiOffing	Cystem Equipment			φ20/111/0111ξ			
	EXPENSES	<u> </u>						
	City Vehicle			1	\$0.30/mile			