



ADDENDUM No. 1  
6033 Traffic Signal Controller Cabinets

**SPECIFICATIONS AND CONTRACT DOCUMENTS**

Description of Bid: 6033 Traffic Signal Controller Cabinets

OPENING DATE: 3:00 P.M. (Our Clock) March 6, 2007

To all prospective bidders under the specifications and contract documents described above, the following changes are hereby made.

**CHANGE:**

**Replace Bid Schedule with Addendum 1 Bid Schedule-attached**

Please contact John D. Stephen, CPPO, CPPB, Senior Buyer at (970) 221-6777 with any questions regarding this addendum.

**RECEIPT OF THIS ADDENDUM MUST BE ACKNOWLEDGED BY A WRITTEN STATEMENT ENCLOSED WITH THE BID/QUOTE STATING THAT THIS ADDENDUM HAS BEEN RECEIVED.**

Addendum 1 Bid Schedule

6033 Traffic Signal Controller Cabinets

**BID SCHEDULE**

City of Fort Collins Traffic Engineering Department

1. Model 336S controller cabinets meeting the requirements in the attached specifications

336S controller cabinets \$ \_\_\_\_\_ ea. X 2 = Total \$ \_\_\_\_\_

2. Model 332 controller cabinets meeting the requirements in the attached specifications

332 controller cabinets \$ \_\_\_\_\_ ea. X 3 = Total \$ \_\_\_\_\_

3. Model 333SD controller cabinets meeting the requirements in the attached specifications

333SD controller cabinets \$ \_\_\_\_\_ ea. X6 = Total \$ \_\_\_\_\_

Grand Total \$ \_\_\_\_\_

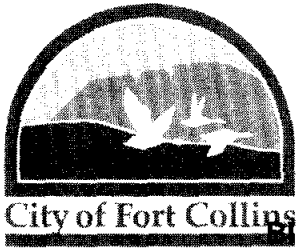
FIRM NAME: \_\_\_\_\_  
(Are you a corporation, DBA, Partnership, LLC, or PC)

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

TELEPHONE # \_\_\_\_\_ FAX # \_\_\_\_\_

E-Mail Address \_\_\_\_\_

BY: \_\_\_\_\_ / \_\_\_\_\_  
Signature Printed



**CITY OF FORT COLLINS  
INVITATION TO BID**

**BID 6033 Traffic Signal Controller Cabinets**

**BID OPENING: 3:00 p.m. (our clock), March 6, 2007**

Sealed bids will be received and publicly opened at the office of the Director of Purchasing and Risk Management, PO Box 580, 215 North Mason St., 2nd floor, Fort Collins, Colorado 80522, at the time and date noted on the bid proposal and/or contract documents. If delivered, they are to be sent to 215 North Mason Street, 2<sup>nd</sup> Floor, Fort Collins, Colorado 80524. If mailed, the address is P.O. Box 580, Fort Collins, 80522-0580.

**Bids must be received at the Purchasing Office prior to 3:00 p.m. (our clock), March 6, 2007.**

For technical questions, please contact Dan Holland, Traffic Operations Supervisor at 970-221-6816.

For purchasing questions, please call John Stephen, CPPO, CPPB, Senior Buyer at 970-221-6777 or by e-mail [jstephen@fcgov.com](mailto:jstephen@fcgov.com).

**A copy of the Bid may be obtained as follows:**

1. Download the Bid from the Purchasing Webpage, Current Bids page, at: <https://secure2.fcgov.com/bsol/login.jsp>.
2. Come by Purchasing at 215 North Mason St., 2nd floor, Fort Collins, and request a copy of the Bid.

**Special Instructions**

All bids must be properly signed by an authorized representative of the company with the legal capacity to bind the company to the agreement. Bids may be withdrawn up to the date and hour set for closing. Once bids have been accepted by the City and closing has occurred, failure to enter into contract or honor the purchase order will be cause for removal of supplier's name from the City of Fort Collins' bidders list for a period of twelve months from the date of the opening. The City may also pursue any remedies available at law or in equity. Bid prices must be held firm for a period of forty-five (45) days after bid openings.

Submission of a bid is deemed as acceptance of all terms, conditions and specifications contained in the City's specifications initially provided to the bidder. Any proposed modification must be accepted in writing by the City prior to award of the bid.

Only bids properly received by the Purchasing Office will be accepted. All bids should be clearly identified by the bid number and bid name contained in the bid proposal.

No proposal will be accepted from, or any purchase order awarded, to any person, firm or corporation in default on any obligation to the City.

Bids must be furnished exclusive of any federal excise tax, wherever applicable.

Bidders must be properly licensed and secure necessary permits wherever applicable.

Bidders not responding to this bid will be removed from our automated vendor listing for the subject commodities.

The City may elect where applicable, to award bids on an individual item/group basis or on a total bid basis, whichever is most beneficial to the City. The City reserves the right to accept or reject any and all bids, and to waive any irregularities or informalities.

Sales prohibited/conflict of interest: no officer, employee, or member of City Council, shall have a financial interest in the sale to the City of any real or personal property, equipment, material, supplies or services where such officer or employee exercises directly or indirectly any decision-making authority concerning such sale or any supervisory authority over the services to be rendered.

This rule also applies to subcontracts with the City. Soliciting or accepting any gift, gratuity, favor, entertainment, kickback or any items of monetary value from any person who has or is seeking to do business with the City of Fort Collins is prohibited.

Freight terms: unless otherwise noted, all freight is F.O.B. Destination, Freight Prepaid. All freight charges must be included in prices submitted on proposal.

Discounts: any discounts allowed for prompt payment, etc., must be reflected in bid figures and not entered as separate pricing on the proposal form.

Purchasing restrictions: your authorized signature of this bid assures your firm's compliance with the City's purchasing restrictions. A copy of the resolutions is available for review in the Purchasing Office or the City Clerk's Office. Request Resolution 91-121 for cement restrictions.

Collusive or sham bids: any bid deemed to be collusive or a sham bid will be rejected and reported to authorities as such. Your authorized signature of this bid assures that such bid is genuine and is not a collusive or sham bid.

Bid results: for information regarding results for individual bids send a self-addressed, self-stamped envelope and a bid tally will be mailed to you. Bid results will be posted in our office 7 days after the bid opening.

James B. O'Neill II, CPPO, FNIGP  
Director of Purchasing and Risk Management

CITY OF FORT COLLINS  
BID PROPOSAL

BID # 6033

**TRAFFIC SIGNAL CONTROLLER CABINETS**

**BID OPENING: March 6, 2007 3:00 p.m. (our clock)**

**WE HEREBY ENTER OUR BID FOR THE CITY OF FORT COLLINS' REQUIREMENTS TRAFFIC SIGNAL CONTROLLER CABINETS PER THE BID INVITATION AND ANY REFERENCED SPECIFICATIONS:**

The City of Fort Collins is requesting bids to furnish to the City Model 336S, Model 332 and Model 333SD controller cabinets per the attached specifications. All bids shall be F.O.B. City of Fort Collins Traffic Department.

For technical questions, please contact Dan Holland, Traffic Operations Supervisor at 970-221-6816.

For purchasing questions, please call John Stephen, CPPO, CPPB, Senior Buyer at 970-221-6777 or by e-mail [jstephen@fcgov.com](mailto:jstephen@fcgov.com).

This is a one year agreement but, at the option of the City, the Agreement may be extended for additional one year periods not to exceed four (4) additional one year periods. Pricing changes shall be negotiated by and agreed to by both parties and may use the Denver - Boulder CPI-U as published by the Colorado State Planning and Budget Office as a guide. Written notice of renewal shall be provided to the Service Provider and mailed no later than 90 days prior to contract end. Awarded contractor must sign the attached Service Agreement and provide insurance per Exhibit "B".

**BID SCHEDULE**

City of Fort Collins Traffic Engineering Department

- 1. Model 336S controller cabinets meeting the requirements in the attached specifications

336S controller cabinets \$ \_\_\_\_\_ ea. X 2 = Total \$ \_\_\_\_\_

- 2. Model 332 controller cabinets meeting the requirements in the attached specifications

332 controller cabinets \$ \_\_\_\_\_ ea. X 3 = Total \$ \_\_\_\_\_

- 2. Model 336SD controller cabinets meeting the requirements in the attached specifications

336SD controller cabinets \$ \_\_\_\_\_ ea. X6 = Total \$ \_\_\_\_\_

Grand Total \$ \_\_\_\_\_

FIRM NAME: \_\_\_\_\_  
(Are you a corporation, DBA, Partnership, LLC, or PC)

ADDRESS: \_\_\_\_\_  
\_\_\_\_\_

TELEPHONE # \_\_\_\_\_ FAX # \_\_\_\_\_

E-Mail Address \_\_\_\_\_

BY: \_\_\_\_\_ / \_\_\_\_\_  
Signature Printed

## 333SD – ITS Type 3 Traffic Signal Cabinet

**Controller Cabinets:** The controller cabinet shall be a Model 333SD-ITS type 3. The 333SD-ITS type 3 cabinet shall include a base extension assembly. Each cabinet shall be natural aluminum with anchor bolts in accordance with the FHWA-IP-78-16 specification. The input files shall meet the requirements of the split input file below.

<b>Quantity</b>	<b>Item</b>
2 ea	Internal (front/back) fluorescent lamps
4 ea	Model 430 Transfer Relays
2 ea	Model 204 2-Circuit Flasher (cube type, 25 AMP output)
12 ea	Model 200 Model SSS-87I/O Load Switch (cube type)
3 ea	Model 242 DC Isolators
1 ea	Model 2010 Signal Monitor
1 ea	New York 330 Pull-out Drawer Assembly
2 ea	Fan Panel Assemblies
1 ea	Transient Voltage Surge Suppression System (SHA-1210)
2 ea	Split Input Files w/ Lead Edged Plastic Card Guides
1 ea	Output File ( <b>No Phoenix Connectors</b> )
1 ea	C11S harness wired per Caltrans (see attached sheet)
1 ea	Auxiliary Detector Termination Panel Assembly
1 ea	Red Monitor Kit Assembly
1 ea	Traffic UPS (see Specifications below)
2 ea	Cabinet Lifting Plates (Mounted on the Sides of the Cabinet)
1 ea	Power Strip/With 8 Rear Plugs/4 Standard/4 Transformer Spaced Rack Mount 19X1/3/4X2/3/4 Surge Current Amps 13,000 Cabinet Dimensions: 54" X 43" X 26" Cabinet shall have four (4) doors and Corbin #2 Locks & Keys.

The left side of the 333SD-ITS cabinet assembly shall have shelves assembled to the EIA rack assembly to house additional equipment such as, but not limited to, Video Detection, Standby Uninterrupted Power Supply and Communication Equipment.

All cabinets shall have a power coating base TCI WHW+EEL SILVER #9811-0110 Polyester TGIC Power Coating and top coating shall be TCI ANTI GRAFFITI Power paint applied 2.4 mils.

All cabinets shall have a protective shield over the Circuit Breakers to prevent them from being accidentally turned off. The shield shall be mounted in such a way that the switches are still readily visible to the technician and can be turned on or off.

### **OUTPUT FILE:**

The output file shall have eight "flash programming jumper blocks," one for each of the eight phases.

### **INPUT FILES:**

The input files shall be split (44 Pin) and shall be contain Upper & Lower Lead Edged Plastic Card Guides.

## Traffic UPS:

The 333SD-ITS shall have a UPS as specified below rack mounted in the left cabinet.

### 1.0 Operation

- A. The Traffic UPS shall be capable of producing – simultaneously -- fully regenerated, conditioned and true sine wave, standby and continuous AC outputs.
- B. Suggested operating mode for respective outputs during power failure: Continuous output provided for signal controllers and modems; Standby output provided for signals in flash mode operation (optional delay timer available for short-term battery run under full cycling operation).
- C. Up to the maximum rating, the Traffic UPS shall be capable of running any combination of signal heads, whether Incandescent, LED or Neon, by any manufacturer, regardless of power factor, without overdriving the poorer power factor LED heads which may cause early degradation, low luminosity or early signal failure.
- D. Upon loss of utility power the Traffic UPS shall insert battery power into the system via a supplied Power Interface Module (PIM). In case of UPS failure and/or battery depletion, the PIM will ensure that the UPS will drop out and, upon return of utility power, the traffic control system will default to normal operating mode.
- E. The Power Interface Module shall enable removal and replacement of the Traffic UPS without shutting down the traffic control system (i.e. "hot swap" capability). Connectors shall be equipped with a "safety interlock" feature.
- F. For 170 or "California" style cabinets, upon loss of power the Traffic UPS shall actuate the existing Flash Transfer Relays (FTRs) and Mercury Contactor (MC) to force the traffic control system into Flash Mode operation.
- G. Existing Flasher Modules and Flash Transfer Relays shall be utilized.
- H. To facilitate emergency crews and police activities, the Traffic UPS shall be compatible with police panel functions (i.e. "Signals OFF" switch must kill power to the field wiring even when on UPS/Battery power).
- I. The Traffic UPS shall not duplicate or take over flash operation or flash transfer relay functions.
- J. The Traffic UPS shall be capable of providing continuous, fully conditioned, regulated, sinusoidal (AC) power to selected devices such as signal controllers, modems, communications hubs, NTCIP adapters and video equipment.

### 2.0 Description

The Traffic UPS shall consist of three major components, the Electronics Module, the Power Interface Module, and the Battery System.

#### 2.0.1 The Electronics Module shall consist of the following:

- A. True sine wave, high frequency inverter utilizing IGBT technology,
  - B. 3-stage, temperature compensated, battery charger,
  - C. For connection from the Electronics Module to the Power Interface Module and Battery System, dedicated harnesses shall be provided with quick-release, keyed, circular connectors and braided nylon sleeving over all conductors,
  - D. local and remote control of UPS functions,
  - E. local and remote communications capabilities,
  - F. and be capable of accepting an NTCIP-ready adapter or a Spread Spectrum Radio modem.
- G. Separate Power Interface Module (PIM) for inserting power safely and reliably.



- 2.1 Mounting/ Configuration
  - 2.1.1 NEMA Style: mounting method shall be shelf-mount or wall-mount.
  - 2.1.2 170 Style: mounting method shall be 19" rack-mount. Shelf angles or rails, typically supplied by others, are available as optional accessories.
  - 2.1.3 External: A separate, stand-alone, pad-mounted, outdoor (NEMA 3R) enclosure shall be available should there be inadequate room in the signal cabinet or should the consulting/traffic engineer prefer independent, external mounting.

## 2.2 Battery System

- 2.2.1 The battery shall be comprised of extreme temperature, deep cycle, AGM/VRLA (Absorbed Glass Mat/ Valve Regulated Lead Acid) batteries that have been field proven and tested by the U.S. military.
- 2.2.2 The battery system shall consist of one or more strings (typically 4 or 6 batteries per string) of extreme temperature, deep cycle, AGM/VRLA (Absorbed Glass Mat/ Valve Regulated Lead Acid) batteries such as Clary Outpost™ batteries or equivalent.
- 2.2.3 Batteries shall be certified to operate at extreme temperatures from -40°C to +74°C.
- 2.2.4 The batteries shall be provided with appropriate interconnect wiring and a corrosion-resistant mounting trays and/or brackets appropriate for the cabinet into which they will be installed.
- 2.2.5 The interconnect cable shall be protected with abrasion-resistant nylon sheathing.
- 2.2.6 The interconnect cable shall connect to the base module via a quick-release circular connector.
- 2.2.7 For purposes of safety and proper operation, the circular battery connector shall have interlocking pins to prevent turn-on if batteries are not connected, and to shut off the UPS should the batteries be disconnected.
- 2.2.8 Battery construction shall include heavy-duty, inter-cell connections for low-impedance between cells, and heavy-duty plates to withstand shock and vibration.
- 2.2.9 The top cover shall use tongue and groove construction and shall be epoxied to the battery case for maximum strength and durability.
- 2.2.10 An optional lifting handle shall be available on most battery models.

## 3.0 Electrical Specifications

3.1	Input Specification	
	Nominal Input Voltage	120 VAC, Single Phase
	Input Voltage Range	85 VAC to 140 VAC
	Input Frequency	50 or 60 Hz (+/- 5%)
	Input Configuration	3 Wire (Hot, Neutral & Ground)
	Input Current (Max. draw)	7.2 amps, Power-Factor Corrected
	Input Protection	Input Fuse (12 amps)
3.2	Output Specification	
	Nominal Output Voltage	120 VAC, Single Phase
	Power Rating	1 kVA (1000VA/700W)
	Output Voltage Regulation	+/- 2% for 100% step load change and from High battery to Low battery condition
	Output Frequency	50 or 60 Hz (+/- 5%)
	Output Configuration	Keyed, circular connectors and duplex receptacle
	Output Wave Form	True Sinewave
	Overload capability	110% for 10 minutes 200% for ½ second

Fault clearing	Current limit and automatic shutdown
Short circuit protection	Current limit and automatic shutdown
Efficiency	85% at full load
Load Power Factor	.7 lagging through unity to .7 leading

#### 4.0 Physical Specifications, UPS Electronics Module

##### 4.1 Dimensions:

- Rack-mount: Width = 19", Depth = 12", Height = 3.5" (2U)
- Shelf-mount: Width = 19", Depth = 12", Height = 3.5"
- Wall-mount/Unistrut Rail mount: Width = 6.9", Depth = 9.5", Height = 16"
- Separate Power-Interface Module = Width = 6", Depth = 2.8", Height = 9"

##### 4.2 Weight: UPS: 20 lbs., Shipping weight: 25 lbs.

#### 5.0 Environmental Specifications

- 5.1 The UPS shall meet or exceed NEMA temperature standards from -40°C to +74°C.
- 5.2 The UPS shall be certified and field proven to meet or exceed NEMA temperature standards. A certificate of compliance shall be made available upon request.

#### 6.0 Battery Specifications

- 6.1 The battery system shall be certified and field proven to meet or exceed NEMA temperature standards from -40°C to +74°C.
- 6.2 Ampere-Hour ratings (see table 1)
- 6.3 Hydrogen gas emissions: must meet Mil-Spec #MIL-B-8565J
- 6.4 Dimensions: (see table 1)
- 6.5 Weights: (see table 1)

**Table 1.**

	Volts/ A-hrs.	Estimated Runtime (assumes 77°F / 25°C, to 1.75 volts per cell).			Unit Weight	Overall Dimensions Per Battery Inches(cm.)		
		200 Watts	400 Watts	800 Watts	Lbs. (Kg.)	Length L	Width W	Height H
	12 VDC/ 16 A-h	3.5 Hrs.	1.73 Hrs.	52 Min.	14.7 (6.7)	7.27 (18.46)	3.11 (7.89)	6.67 (16.93)
	12 VDC/ 31 A-h	8.8 Hrs.	3.8 Hrs.	1.8 Hrs.	23 (10.5)	7.68 (19.51)	5.15 (13.08)	7.22 (18.34)
	12 VDC/ 39 A-h	11.3 Hrs.	5.5 Hrs.	2.3 Hrs.	29 (13.2)	7.68 (19.51)	5.15 (13.08)	8.50 (21.59)
	12 VDC/ 48 A-h	13.7 Hrs.	6.7 Hrs.	2.9 Hrs.	32 (14.5)	9.41 (23.90)	5.22 (13.26)	9.35 (23.75)

\*OP72X battery sets include **six (6)** batteries per set. Wired in series, each set provides 72 VDC.

#### 7.0 Communications, Controls & Diagnostics

- 7.1 Alarm Function Monitoring: The traffic UPS shall come standard with a DB-9F connector with open collectors (40 V @ 20 mA) indicating:
  - 7.1.1 Loss of Utility Power,
  - 7.1.2 Inverter Failure, and

7.1.3 Low Battery.

7.2 An RS232 Interface shall be provided via a DB-9F connector allowing full, interactive, remote computer monitoring and control of the UPS functions.

7.3 Front Panel controls: Power ON, Cold (DC) Start, Alarm Silence, Battery Test, Bypass Breaker, and DC/Battery Breaker.

8.0 Reliability

8.1 Calculated MTBF is 100,000 hours based on component ratings.

8.2 When Bypass and Power Interface Module are included, system MTBF increases to 150,000 hours.

9.0 Options

9.1 Battery Tray to hold six (6) OP72A batteries, up to four (4) OP72B or OP72C batteries, and up to three (3) OP72D batteries. Tray is 19" wide for use in 170 type cabinets and mounts on standard RETMA rails.

9.2 Swing-out Battery Box, mounts on right rail inside back door of 170 type cabinets. Box is designed to hold six (6) OP72A batteries, up to four (4) OP72B or OP72C batteries, and up to three (3) OP72D batteries.

9.3 Adjustable Delay-timer to provide up to 10 hours of full cycling while on battery before switching to flash mode (only available where 100% low-power/LED signals and ped heads are used). Batteries must be sized properly to fully utilize this feature.

9.4 Service pedestal-mounting option.

9.5 One-shot ground pulse to trigger External Start upon return of AC power.

9.6 Dial-out modem for wireless or land line communication

9.7 Enhanced battery charger provides accelerated charging capacity (contact factory for details and proper application).

10.0 Serviceability & Maintainability

10.1 MTTR (Mean-Time-To-Replace or Repair)

10.1.1 Electronics: 15 minutes or less

10.1.2 Battery System: 15 minutes or less

11.0 Warranty

Standard warranty terms cover entire Traffic UPS including battery. Terms are one-year parts and labor with labor F.O.B. factory.

## 332 Traffic Signal Cabinets

**Controller Cabinets:** The controller cabinet shall be a Model 332. Each cabinet shall be natural aluminum with anchor bolts in accordance with the FHWA-IP-78-16 specification. The input files shall meet the requirements of the split input file below.

<b>Quantity</b>	<b>Item</b>
2 ea	Internal (front/back) fluorescent lamps
4 ea	Model 430 Transfer Relays
2 ea	Model 204 2-Circuit Flasher (cube type, 25 AMP output)
12 ea	Model 200 Model SSS-87I/O Load Switch (cube type)
3 ea	Model 242 DC Isolators
1 ea	Model 2010 Signal Monitor
1 ea	New York 330 Pull-out Drawer Assembly
1 ea	Fan Panel Assemblies
1 ea	Transient Voltage Surge Suppression System (SHA-1210)
2 ea	Split Input Files w/ Lead Edged Plastic Card Guides
1 ea	Output File ( <b>No Phoenix Connectors</b> )
1 ea	Red Monitor Kit Assembly
2 ea	Cabinet Lifting Plates (Mounted on the Sides of the Cabinet)
1 ea	C 11S Harness wired per Caltrans (see attached sheet)
1 ea	Auxiliary Detector Termination Panel Assembly
1 ea	Power Strip/With 8 Rear Plugs/4 Standard/4 Transformer

Spaced Rack Mount 19"X1 3/4"X2 3/4" Surge Current Amps 13.000

3 Point Door Lock System

Cabinet Dimensions: 66"H x 24"W x 30"D

Weight: 300 lbs.

Cabinet shall have two (2) doors and Corbin #2 Locks & Keys.

All cabinets shall have a power coating base TCI WHEEL SILVER #9811-0110 Polyester TGIC Power Coating and top coating shall be TCI ANTI GRAFFITI Power paint applied 2.4 mils.

All cabinets shall have a protective shield over the Circuit Breakers to prevent them from being accidentally turned off. The shield shall be mounted in such a way that the switches are still readily visible to the technician and can be turned on or off.

### **OUTPUT FILE:**

The output file shall have eight "flash programming jumper blocks," one for each of the eight phases.

### **INPUT FILES:**

The input files shall be split (44 Pin) and shall be contain Upper & Lower Lead Edged Plastic Card Guides.

## 336S Traffic Signal Cabinets

**Controller Cabinets:** The controller cabinet shall be a Model 336S. The 336S cabinet shall include a base extension assembly. Each cabinet shall be natural aluminum with anchor bolts in accordance with the FHWA-IP-78-16 specification. The input files shall meet the requirements of the split input file below.

<b>Quantity</b>	<b>Item</b>
2 ea	Internal (front/back) fluorescent lamps
4 ea	Model 430 Transfer Relays
2 ea	Model 204 2-Circuit Flasher (cube type, 25 AMP output)
12 ea	Model 200 Model SSS-87I/O Load Switch (cube type)
3 ea	Model 242 DC Isolators
1 ea	Model 2010 Signal Monitor
1 ea	New York 330 Pull-out Drawer Assembly
1 ea	Fan Panel Assemblies
1 ea	Transient Voltage Surge Suppression System (SHA-1210)
1 ea	Split Input Files w/ Lead Edged Plastic Card Guides
1 ea	Output File ( <b>No Phoenix Connectors</b> )
1 ea	Red Monitor Kit Assembly
2 ea	Cabinet Lifting Plates (Mounted on the Sides of the Cabinet)
1 ea	Auxiliary Detector Termination Panel Assembly
1 ea	C 11S Harness wired per Caltrans (see attached sheet)
1 ea	Power Strip/With 8 Rear Plugs/4 Standard/4 Transformer Spaced Rack Mount 19"X1 ¾ "X2 ¾" Surge Current Amps 13,000

Cabinet Dimensions: 46"H x 24" W x 22"D

Weight: 280 lbs:

Cabinet shall have two (2) doors and Corbin #2 Locks & Keys.

All cabinets shall have a power coating base TCI WHW+EEL SILVER #9811-0110 Polyester TGIC Power Coating and top coating shall be TCI ANTI GRAFFITI Power paint applied 2.4 mils.

All cabinets shall have a protective shield over the Circuit Breakers to prevent them from being accidentally turned off. The shield shall be mounted in such a way that the switches are still readily visible to the technician and can be turned on or off.

### **OUTPUT FILE:**

The output file shall have eight "flash programming jumper blocks," one for each of the eight phases.

### **INPUT FILES:**

The input files shall be split (44 Pin) and shall be contain Upper & Lower Lead Edged Plastic Card Guides.

**CL5 PIN ASSIGNMENT**

PIN	FUNCTION		PIN	FUNCTION		PIN	FUNCTION		PIN	FUNCTION	
	NAME	PORT		NAME	PORT		NAME	PORT		NAME	PORT
1	DC GROUND		27	Q24	Q4-1	53	I14	I2-7	79	I44	I6-5
2	Q0	Q1-1	28	Q25	Q4-2	54	I15	I2-8	80	I45	I6-6
3	Q1	Q1-2	29	Q26	Q4-3	55	I16	I3-1	81	I46	I6-7
4	Q2	Q1-3	30	Q27	Q4-4	56	I17	I3-2	82	I47	I6-8
5	Q3	Q1-4	31	Q28	Q4-5	57	I18	I3-3	83	Q40	Q6-1
6	Q4	Q1-5	32	Q29	Q4-6	58	I19	I3-4	84	Q41	Q6-2
7	Q5	Q1-6	33	Q30	Q4-7	59	I20	I3-5	85	Q42	Q6-3
8	Q6	Q1-7	34	Q31	Q4-8	60	I21	I3-6	86	Q43	Q6-4
9	Q7	Q1-8	35	Q32	Q5-1	61	I22	I3-7	87	Q44	Q6-5
10	Q8	Q2-1	36	Q33	Q5-2	62	I23	I3-8	88	Q45	Q6-6
11	Q9	Q2-2	37	Q34	Q5-3	63	I28	I4-5	89	Q46	Q6-7
12	Q10	Q2-3	38	Q35	Q5-4	64	I29	I4-6	90	Q47	Q6-8
13	Q11	Q2-4	39	I0	I1-1	65	I30	I4-7	91	Q48	Q7-1
14	DC GROUND		40	I1	I1-2	66	I31	I4-8	92	DC GROUND	
15	Q12	Q2-5	41	I2	I1-3	67	I32	I5-1	93	Q49	Q7-2
16	Q13	Q2-6	42	I3	I1-4	68	I33	I5-2	94	Q50	Q7-3
17	Q14	Q2-7	43	I4	I1-5	69	I34	I5-3	95	Q51	Q7-4
18	Q15	Q2-8	44	I5	I1-6	70	I35	I5-4	96	Q52	Q7-5
19	Q16	Q3-1	45	I6	I1-7	71	I36	I5-5	97	Q33	Q7-6
20	Q17	Q3-2	46	I7	I1-8	72	I37	I5-6	98	Q54	Q7-7
21	Q18	Q3-3	47	I8	I2-1	73	I38	I5-7	99	Q55	Q7-8
22	Q19	Q3-4	48	I9	I2-2	74	I39	I5-8	100	Q36	Q5-5
23	Q20	Q3-5	49	I10	I2-3	75	I40	I6-1	101	Q37	Q5-6
24	Q21	Q3-6	50	I11	I2-4	76	I41	I6-2	102	Q38 DET RES	Q5-7
25	Q22	Q3-7	51	I12	I2-5	77	I42	I6-3	103	Q39 WJT	Q5-8
26	Q23	Q3-8	52	I13	I2-6	78	I43	I6-4	104	DC GROUND	

**C115 PIN ASSIGNMENT**

PIN	FUNCTION		PIN	FUNCTION		PIN	FUNCTION		PIN	FUNCTION	
	NAME	PORT		NAME	PORT		NAME	PORT		NAME	PORT
1	Q56	Q8-1	11	I25	I4-2	21	I54	I7-7	31	DC GROUND	
2	Q57	Q8-2	12	I26	I4-3	22	I55	I7-8	32	NA	- - -
3	Q58	Q8-3	13	I27	I4-4	23	I56	I8-1	33	NA	- - -
4	Q59	Q8-4	14	DC GROUND		24	I57	I8-2	34	NA	- - -
5	Q60	Q8-5	15	I48	I7-1	25	I58	I8-3	35	NA	- - -
6	Q61	Q8-6	16	I49	I7-2	26	I59	I8-4	36	NA	- - -
7	Q62	Q8-7	17	I50	I7-3	27	I60	I8-5	37	DC GROUND	
8	Q63	Q8-8	18	I51	I7-4	28	I61	I8-6			
9	DC GROUND		19	I52	I7-5	29	I62	I8-7			
10	I24	I4-1	20	I53	I7-6	30	I63	I8-8			

TITLE:	MODEL 2070-2A FIELD I/O MODULE C1 & C11 CONNECTORS	
NO SCALE	AUGUST 16, 2002	9-7-9

## SERVICES AGREEMENT

THIS AGREEMENT made and entered into the day and year set forth below by and between THE CITY OF FORT COLLINS, COLORADO, a Municipal Corporation, hereinafter referred to as the "City" and \_\_\_\_\_ hereinafter referred to as "Service Provider".

### WITNESSETH:

In consideration of the mutual covenants and obligations herein expressed, it is agreed by and between the parties hereto as follows:

1. Scope of Services. The Service Provider agrees to provide services in accordance with the scope of services attached hereto as Exhibit "A", consisting of ( ) page[s], and incorporated herein by this reference.

2. The Work Schedule. [Optional] The services to be performed pursuant to this Agreement shall be performed in accordance with the Work Schedule attached hereto as Exhibit "B", consisting of ( ) page[s], and incorporated herein by this reference.

3. Time of Commencement and Completion of Services. The services to be performed pursuant to this Agreement shall be initiated within ( ) days following execution of this Agreement. Services shall be completed no later than . Time is of the essence. Any extensions of the time limit set forth above must be agreed upon in a writing signed by the parties.

4. Contract Period. [Option 1] This Agreement shall commence upon the date of execution shown on the signature page of this Agreement and shall continue in full force and effect for one (1) year, unless sooner terminated as herein provided. In addition, at the option of the City, the Agreement may be extended for an additional period of one (1) year at the rates provided with written notice to the Professional mailed no later than ninety (90) days prior to contract end.

4. Contract Period. [Option 2] This Agreement shall commence 200 , and shall continue in full force and effect until 200 , unless sooner terminated as herein provided. In addition, at the option of the City, the Agreement may be extended for additional one year periods not to exceed ( ) additional one year periods. Pricing changes shall be

negotiated by and agreed to by both parties. The Denver - Boulder CPI-U as published by the Colorado State Planning and Budget Office will be used as a guide. Written notice of renewal shall be provided to the Service Provider and mailed no later than ninety (90) days prior to contract end.

5. Delay. If either party is prevented in whole or in part from performing its obligations by unforeseeable causes beyond its reasonable control and without its fault or negligence, then the party so prevented shall be excused from whatever performance is prevented by such cause. To the extent that the performance is actually prevented, the Service Provider must provide written notice to the City of such condition within fifteen (15) days from the onset of such condition.

6. Early Termination by City/Notice. Notwithstanding the time periods contained herein, the City may terminate this Agreement at any time without cause by providing written notice of termination to the Service Provider. Such notice shall be delivered at least fifteen (15) days prior to the termination date contained in said notice unless otherwise agreed in writing by the parties. All notices provided under this Agreement shall be effective when mailed, postage prepaid and sent to the following addresses:

City:

Service Provider:

City of Fort Collins  
Attn:  
PO Box 580  
Fort Collins, CO 80522

In the event of early termination by the City, the Service Provider shall be paid for services rendered to the date of termination, subject only to the satisfactory performance of the Service Provider's obligations under this Agreement. Such payment shall be the Service Provider's sole right and remedy for such termination.

7. Contract Sum. The City shall pay the Service provider for the performance of this Contract, subject to additions and deletions provided herein, the sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_).

[Option Cost Breakdown is attached Exhibit "C"]

8. City Representative. The City will designate, prior to commencement of the work, its



representative who shall make, within the scope of his or her authority, all necessary and proper decisions with reference to the services provided under this agreement. All requests concerning this agreement shall be directed to the City Representative.

9. Independent Service provider. The services to be performed by Service Provider are those of an independent service provider and not of an employee of the City of Fort Collins. The City shall not be responsible for withholding any portion of Service Provider's compensation hereunder for the payment of FICA, Workmen's Compensation or other taxes or benefits or for any other purpose.

10. Personal Services. It is understood that the City enters into the Agreement based on the special abilities of the Service Provider and that this Agreement shall be considered as an agreement for personal services. Accordingly, the Service Provider shall neither assign any responsibilities nor delegate any duties arising under the Agreement without the prior written consent of the City.

11. Acceptance Not Waiver. The City's approval or acceptance of, or payment for any of the services shall not be construed to operate as a waiver of any rights or benefits provided to the City under this Agreement or cause of action arising out of performance of this Agreement.

12. Warranty.

- a. Service Provider warrants that all work performed hereunder shall be performed with the highest degree of competence and care in accordance with accepted standards for work of a similar nature.
- b. All goods supplied to the City shall be of the grade and quality specified hereunder, or, if not specified, of the most suitable grade and quality of their respective kinds for their intended use.
- c. Service Provider warrants all goods, provided under this Agreement, except City-furnished goods, against defects and nonconformances in grade for a period beginning with the start of the work and ending twelve (12) months from and after final acceptance under the Agreement, regardless whether the same were furnished or performed by Service Provider or by any of its subcontractors of any tier. Upon receipt of written notice from City of any such defect or nonconformances, the affected good shall be replaced by Service Provider in a manner and at a time acceptable to City.

13. Default. Each and every term and condition hereof shall be deemed to be a material element of this Agreement. In the event either party should fail or refuse to perform according to the terms of this agreement, such party may be declared in default thereof.

14. Remedies. In the event a party has been declared in default, such defaulting party shall be allowed a period of ten (10) days within which to cure said default. In the event the default remains uncorrected, the party declaring default may elect to (a) terminate the Agreement and seek damages; (b) treat the Agreement as continuing and require specific performance; or (c) avail himself of any other remedy at law or equity. If the non-defaulting party commences legal or equitable actions against the defaulting party, the defaulting party shall be liable to the non-defaulting party for the non-defaulting party's reasonable attorney fees and costs incurred because of the default.

15. Binding Effect. This writing, together with the exhibits hereto, constitutes the entire agreement between the parties and shall be binding upon said parties, their officers, employees, agents and assigns and shall inure to the benefit of the respective survivors, heirs, personal representatives, successors and assigns of said parties.

16. Indemnity/Insurance. a. The Service Provider agrees to indemnify and save harmless the City, its officers, agents and employees against and from any and all actions, suits, claims, demands or liability of any character whatsoever brought or asserted for injuries to or death of any person or persons, or damages to property arising out of, result from or occurring in connection with the performance of any service hereunder.

b. The Service Provider shall take all necessary precautions in performing the work hereunder to prevent injury to persons and property.

c. Without limiting any of the Service Provider's obligations hereunder, the Service Provider shall provide and maintain insurance coverage naming the City as an additional insured under this Agreement of the type and with the limits specified within Exhibit , consisting of ( ) pages[s], attached hereto and incorporated herein by this reference. The Service Provider

before commencing services hereunder, shall deliver to the City's Director of Purchasing and Risk Management, P. O. Box 580, Fort Collins, Colorado 80522 one copy of a certificate evidencing the insurance coverage required from an insurance company acceptable to the City.

17. Entire Agreement. This Agreement, along with all Exhibits and other documents incorporated herein, shall constitute the entire Agreement of the parties. Covenants or representations not contained in this Agreement shall not be binding on the parties.

18. Law/Severability. The laws of the State of Colorado shall govern the construction interpretation, execution and enforcement of this Agreement. In the event any provision of this Agreement shall be held invalid or unenforceable by any court of competent jurisdiction, such holding shall not invalidate or render unenforceable any other provision of this Agreement.

19. Prohibition Against Employing Illegal Aliens. This paragraph shall apply to all Contractors whose performance of work under this Agreement does not involve the delivery of a specific end product other than reports that are merely incidental to the performance of said work. Pursuant to Section 8-17.5-101, C.R.S., *et. seq.*, Contractor represents and agrees that:

A. As of the date of this Agreement:

1. Contractor does not knowingly employ or contract with an illegal alien; and
2. Contractor has participated or attempted to participate in the basic pilot employment verification program created in Public Law 208, 104th Congress, as amended, and expanded in Public Law 156, 108th Congress, as amended, administered by the United States Department of Homeland Security (the "Basic Pilot Program") in order to verify that Contractor does not employ any illegal aliens.

B. Contractor shall not knowingly employ or contract with an illegal alien to perform works under this Agreement or enter into a contract with a subcontractor that fails to certify to Contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Agreement.

C. Contractor shall continue to apply to participate in the Basic Pilot Program and shall in writing verify same every three (3) calendar months thereafter, until Contractor is accepted or the public contract for services has been completed, whichever is earlier. The requirements of this section shall not be required or effective if the Basic Pilot Program is discontinued.

D. Contractor is prohibited from using Basic Pilot Program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

E. If Contractor obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with an illegal alien, Contractor shall:

1. Notify such subcontractor and the City within three days that Contractor has actual knowledge that the subcontractor is employing or contracting with an illegal alien; and

2. Terminate the subcontract with the subcontractor if within three days of receiving the notice required pursuant to this section the subcontractor does not cease employing or contracting with the illegal alien; except that Contractor shall not terminate the contract with the subcontractor if during such three days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien.

F. Contractor shall comply with any reasonable request by the Colorado Department of Labor and Employment (the "Department") made in the course of an investigation that the Department undertakes or is undertaking pursuant to the authority established in Subsection 8-17.5-102 (5), C.R.S.

G. If Contractor violates any provision of this Agreement pertaining to the duties imposed by Subsection 8-17.5-102, C.R.S. the City may terminate this Agreement. If this Agreement is so terminated, Contractor shall be liable for actual and consequential damages to the City arising out of Contractor's violation of Subsection 8-17.5-102, C.R.S.

H. The City will notify the Office of the Secretary of State if Contractor violates this provision of this Agreement and the City terminates the Agreement for such breach.

20. Special Provisions. [Optional] Special provisions or conditions relating to the services to be performed pursuant to this Agreement are set forth in Exhibit \_\_\_\_\_, consisting of ( \_\_\_\_\_ ) page[s], attached hereto and incorporated herein by this reference.

CITY OF FORT COLLINS, COLORADO  
a municipal corporation

By: \_\_\_\_\_  
James B. O'Neill II, CPPO, FNIGP  
Director of Purchasing and Risk Management

Date: \_\_\_\_\_

ATTEST:

\_\_\_\_\_  
City Clerk

APPROVED AS TO FORM:

\_\_\_\_\_  
Assistant City Attorney

[Insert Corporation's name] or  
[Insert Partnership name] or  
[Insert individual's name]  
Doing business as \_\_\_\_ [insert name of business]  
By: \_\_\_\_\_

\_\_\_\_\_  
PRINT NAME

\_\_\_\_\_  
CORPORATE PRESIDENT OR VICE PRESIDENT

Date: \_\_\_\_\_  
(Corporate Seal)

ATTEST:  
\_\_\_\_\_  
CORPORATE

SECRETARY

## EXHIBIT B

### INSURANCE REQUIREMENTS

1. The Service Provider will provide, from insurance companies acceptable to the City, the insurance coverage designated hereinafter and pay all costs. Before commencing work under this bid, the Service Provider shall furnish the City with certificates of insurance showing the type, amount, class of operations covered, effective dates and date of expiration of policies, and containing substantially the following statement:

"The insurance evidenced by this Certificate will not be cancelled or materially altered, except after ten (10) days written notice has been received by the City of Fort Collins."

In case of the breach of any provision of the Insurance Requirements, the City, at its option, may take out and maintain, at the expense of the Service Provider, such insurance as the City may deem proper and may deduct the cost of such insurance from any monies which may be due or become due the Service Provider under this Agreement. The City, its officers, agents and employees shall be named as additional insureds on the Service Provider's general liability and automobile liability insurance policies for any claims arising out of work performed under this Agreement.

2. Insurance coverages shall be as follows:

A. **Workers' Compensation & Employer's Liability.** The Service Provider shall maintain during the life of this Agreement for all of the Service Provider's employees engaged in work performed under this agreement:

1. Workers' Compensation insurance with statutory limits as required by Colorado law.

2. Employer's Liability insurance with limits of \$100,000 per accident, \$500,000 disease aggregate, and \$100,000 disease each employee.

B. **Commercial General & Vehicle Liability.** The Service Provider shall maintain during the life of this Agreement such commercial general liability and automobile liability insurance as will provide coverage for damage claims of personal injury, including accidental death, as well as for claims for property damage, which may arise directly or indirectly from the performance of work under this Agreement. Coverage for property damage shall be on a "broad form" basis. The amount of insurance for each coverage, Commercial General and Vehicle, shall not be less than \$500,000 combined single limits for bodily injury and property damage.

In the event any work is performed by a subcontractor, the Service Provider shall be responsible for any liability directly or indirectly arising out of the work performed under this Agreement by a subcontractor, which liability is not covered by the subcontractor's insurance.