

**CITY OF PALMER
ACTION MEMORANDUM NO. 13-052**

Subject: Authorize the City Manager to Enter Into a Sole Source Agreement with Alaska Electric and Control in an Amount Not To Exceed \$25,384, to Retain the Services and Parts from Westcoast Sales and Marketing to Repair the Precision Approach Path Indicator (PAPI) and Runway End Identifier Lights (REIL) at the Palmer Municipal Airport

Agenda of: June 25, 2013

Council Action: Authorized _____

Approved for presentation by:

City Manager _____
City Attorney _____
City Clerk _____

Jouglas B. Griff
JR

Certification of Funds:

Total amount of funds listed in legislation:	\$ <u>25,384</u>
This legislation (✓):	
<input type="checkbox"/> Has no fiscal impact	
Creates:	
<input checked="" type="checkbox"/> A negative fiscal impact in the amount of:	\$ <u>25,384</u>
<input type="checkbox"/> A positive fiscal impact in the amount of:	\$ _____
<input type="checkbox"/> Funds are budgeted.	
Funds originally budgeted:	\$ _____
Difference in budgeted funds:	\$ _____
Funds are budgeted from this (these) line item(s):	
➤	\$ _____
➤	\$ _____
<input checked="" type="checkbox"/> Funds are not budgeted.	
Budget amendment required in the total amount of:	\$ <u>25,384</u>
Affected line item(s):	
➤ 03-01-10-6030	\$ <u>25,384</u>
➤	\$ _____
Unrestricted/undesignated fund balance (after budget modification)	\$ _____
Director of Finance signature certifying funds:	_____ <i>[Signature]</i>

Attachment(s):

- E-mail from Alaska Power and Control
- Westcoast Sales and Marketing Costs and Information

Summary statement: The Precision Approach Path Indicator (PAPI) lights were installed at the Palmer Municipal Airport in about 2006. Reportedly, the lights have been unreliable ever since.

In the summer of 2012, the FAA provided technicians to look at these lights. The lights were repaired but failed in a short time.

In the autumn, Public Works contacted the manufacturer of the PAPI lights, Westcoast Sales and Marketing, located in Auburn, Washington, to request a representative look at the PAPI lights and the Runway End Identifier Lights (REILs) at the Palmer Airport. The representative came to Alaska in November 2012, and visited a variety of airports using the PAPI and REIL lights. He came to Palmer on November 15, and spent time examining the lighting system at the airport to diagnose which lights were working and which were inoperable. He advised that they would have a technician in Alaska during the summer of 2013 to conduct any needed PAPI and REIL light repairs in state. Further, he advised that repairs in the winter were not feasible due to the inclement weather.

The primary electrical power for the PAPI and REIL lights enters the energy module housed in a small building near the Flight Service Station. From there, the power is stepped up from 480 volts to an estimated 5,000 volts. Power is then transmitted out to the runways (a total distance of several miles) to the various light locations. Once the power reaches the light locations it is stepped back down to 480 or 220 volts, depending on the fixture. The Westcoast representative expressed concern about the quality of the power at the Palmer Airport. He advised that the City needs to conduct a "power quality analysis" to determine if power surges or spikes are causing the delicate switches in the light systems to burn out.

Neither the administration nor the manufacturer knows of any technician in the state who is currently qualified to troubleshoot and repair the PAPI and REIL lighting systems. The administration recently contacted the Federal Aviation Administration to request repair of these lights, but their assistance was unavailable.

Westcoast provided a price quote which included estimated parts (\$7,011.65) and labor (\$7,763.16). City Public Works administration asked about the possibility of the Westcoast technician working alongside a local electrician to train the local electrician in repair of these highly specialized navigation lights. This would enable to City to obtain prompt, less costly repairs to these lighting systems in the future. Westcoast has been in contact with several electricians and has found one local electrician, Alaska Electric and Control, which has staff experienced in some airport lighting matters. Further, this local electrician would be willing to work with and be trained by technicians from Westcoast.

Rather than entering into a sole source agreement with Westcoast, the administration recommends the sole source agreement be with Alaska Electric and Control, which would retain the repair services and parts from Westcoast. An agreement with Alaska Electric and Control will provide a locally sourced warranty and is licensed by the State of Alaska. Alaska Electric and Control would serve as the local warranty representative in behalf of Westcoast for a fee equivalent to 10% of any warranty issue(s) as well as provide the replacement labor. It is in the best interest of the City to proceed in this fashion.

The City would retain Alaska Electric and Control in an amount not to exceed \$25,384 which includes the above listed costs proposed by Westcoast, the fees for a power cost analysis, and the fees for their electrician to work with Westcoast in the repair of the PAPI and REIL lights at the Palmer Airport. This includes a 10% contingency.

3.21.230 Governmental and proprietary procurements.

- A. The purchasing officer may contract, without the use of the competitive source selection procedures of this chapter, for the following supplies, services, professional services or construction:
1. For contracts, including reimbursable agreements, with federal, state or local units of government or utility provider where the city has a financial responsibility or beneficial interest in entering into an agreement.
 2. For contracts issued pursuant to any federal, state, or local government contract where the city is an authorized user, or where the resulting contractor agrees to extend the same terms, conditions, and pricing to the city as those awarded under the original contract, all in accordance with PMC 3.21.240. Such agreements shall be limited to those contracts where the award is issued pursuant to a formally advertised solicitation.
 3. For contracts where the purchasing officer determines in writing that the city's requirements reasonably limit the source for the supplies, services, professional service or construction to one person.

Administration recommendation: Approve action memorandum 13-052.

Jonathan C. Owen

From: Kurt M. [Kurt@alaskaelectric.net]
Sent: Monday, June 17, 2013 4:05 PM
To: Jonathan C. Owen
Subject: Airport REIL/PAPI diagnostics REV 1

From: Kurt M.
Sent: Monday, June 17, 2013 3:55 PM
To: 'jcowen@palmerpolice.com'
Subject: Airport REIL/PAPI diagnostics

Hello John,

We'd like suggest three phases for the repair of the lighting system.

- 1) The first consideration must be the quality of the power from source to point of use. There will be diagnostic equipment required and at least one Electrician and service truck. This work would be performed a week or so before the Supplier's Technician arrives. The estimated fee for this would be no more than \$4500.
- 2) Once the quality of the power supply is verified, we would have a Journeyman Electrician working with the Westcoast Representative. Our labor rate is \$95/hour, 40 hours = \$3800 maximum.
- 3) We would suggest that there be an ongoing contingency for maintenance and service. This could be either scheduled or on call as needed.
- 4) Alaska Electric & Control would be willing to be the local Warranty Representative on behalf of Westcoast for a fee equivalent of 10% of any warranty issue(s) as well as providing the replacement labor.

Kurt MacKenzie

Project Manager

Alaska Electric & Control
9761 W Margin Way
Wasilla, AK 99623
(907) 354-5878 Cell
(907) 892-4001 Office
kurt@alaskaelectric.net

WSM TECH SERVICES

2222 West Valley Hwy. N., Ste 140; Auburn, Wa. 98001
Phone : (800) 275 - 6649 / Alt. Phone : (253) 833 - 6434
Fax : (253) 833 - 6605 / Alt. Fax : (253) 833 - 6825

E-Mail : rlafferty@wsminc.biz ; Web Site : www.adb-airfield.com



FACSIMILE TRANSMITTAL SHEET

<u>TO:</u> GREG WICKHAM	<u>FROM:</u> Rick Lafferty
<u>COMPANY:</u> PALMER MUNICIPAL	<u>DATE:</u> 6/18/2013
<u>PHONE NUMBER:</u> 907-761-1356	<u>TOTAL NO. OF PAGES INCLUDING COVER:</u> Page 1 of 2
<u>FAX NUMBER:</u>	<u>RE:</u> PAPIS / REILS STATEMENT OF WORK

Urgent **For Review** Please Comment Please Reply

MR. GREG WICKHAM

WSM TECH SERVICES IS PLEASED TO PROPOSE THE FOLLOWING WORK SCOPE, IN REGARDS TO THE TROUBLESHOOTING AND REPAIR OF THE PRECISION APPROACH PATH INDICATOR (PAPI) AND L849 RUNWAY END IDENTIFIER LIGHTS (REIL) SYSTEMS AT THE PALMER MUNICIPAL AIRPORT. PLEASE SEE THE ATTACHED PRODUCT LITERATURE ON BOTH SYSTEMS, FOR BACK-UP TECHNICAL INFORMATION.

THE SYSTEMS WERE INSTALLED IN 2006, UNDER THE "REHABILITATE TAXIWAY B PAVEMENT AND REPLACE AIRPORT LIGHTING AND NAV-AIDS PROJECT". THE INSTALLING ELECTRICAL CONTRACTOR WAS CENTRAL CONTRUCTION / ANCHORAGE, ALASKA.

OVER THE PAST 2 YEARS WE HAVE HAD NUMEROUS TROUBLESHOOTING SESSIONS OVER THE PHONE WITH YOUR MAINTENANCE PERSONNEL. ADDITIONALY, ON NOVEMBER 15NOV12, WE CONDUCTED AN ON SITE EVALUATION OF EACH SYSTEM AND THE LIGHTING VAULT BUILDING.

RUNWAY 34 L849E REIL – THE SYSTEM INSTALLED IS A FLASH TECHNOLOGY FTS 412. THE SYSTEM CONSISTS OF A MASTER AND SLAVE UNIT, LOCATED ON EITHER SIDE OF THE RUNWAY END. THE MASTER UNIT APPEARS TO BE RECEIVING THE PROPER VOLTAGE AND IS FLASHING. THE SLAVE UNIT IS NOT FLASHING, RENDERING THE SYSTEM INOPERABLE. OUR TROUBLESHOOTING PROCEDURES WILL FOLLOW THE RECOMMENDED STEPS BY THE MANUFACTURER.

RUNWAY 34 L880A PAPI – THE SYSTEM INSTALLED IS A SIEMENS AIRFIELD PART # 44A4733-1222. THE SYSTEM CONSISTS OF 4 LIGHT BOXES AND A MASTER CONTROLLER, LOCATED ON THE PILOT APPROACH SIDE OF THE RUNWAY. THE MASTER CONTROLLER APPEARS TO BE RECEIVING THE PROPER VOLTAGE, HOWEVER THE MAIN POWER CONTACTOR IS NOT ENGAGING, RENDERING THE SYSTEM INOPERABLE. OUR TROUBLESHOOTING PROCEDURES WILL FOLLOW THE RECOMMENDED STEPS BY THE MANUFACTURER.

RUNWAY 16 L849E REIL – THE SYSTEM INSTALLED IS A FLASH TECHNOLOGY FTS 412. THE MASTER UNIT APPEARS TO BE RECEIVING THE PROPER VOLTAGE, HOWEVER IS NOT INITIATING EITHER MASTER OR SLAVE FLASHER SYNCHRONIZATION. OUR TROUBLESHOOTING PROCEDURES WILL FOLLOW THE RECOMMENDED STEPS BY THE MANUFACTURER.

RUNWAY 27 L881A PAPI – THE SYSTEM INSTALLED IS A SIEMENS AIRFIELD PART# 44A4733-2222. THE SYSTEM CONSISTS OF 2 LIGHT BOXES AND A MASTER CONTROLLER, LOCATED ON THE PILOT APPROACH SIDE OF THE RUNWAY. THE MASTER CONTROLLER APPEARS TO BE RECEIVING THE PROPER VOLTAGE. HOWEVER THE MAIN POWER CONTACTOR IS NOT ENGAGING, RENDERING THE SYSTEM INOPERABLE. OUR TROUBLESHOOTING PROCEDURE WILL FOLLOW THE RECOMMENDED STEPS BY THE MANUFACTURER.

REPAIR SPARE PARTS - AS PART OF OUR TROUBLESHOOTING AND REPAIR EFFORT, WE WILL PURCHASE MANUFACTURERS REPAIR SPARE PARTS AND BRING THEM WITH US. THESE SPARE PARTS WILL BE INVOICED AS A SEPARATE ITEM. ANY PARTS NOT USED, CAN BE RETURNED AND CREDITED TOWARDS THE ORIGINAL INVOICE. THE AIRPORT WILL ALSO HAVE THE OPTION OF KEEPING ANY UNUSED SPARES PARTS.

RECOMMENDATIONS:

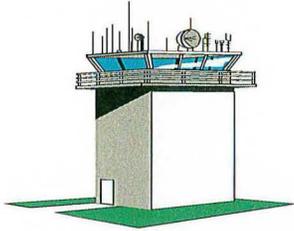
- THE PAPI AND REIL SYSTEMS INSTALLED ARE STANDARD PRODUCTS AND ARE TYPICALLY VERY RELIABLE SYSTEMS, THAT REQUIRE MINIMAL MAINTENANCE. THIS HAS NOT BEEN THE CASE AT PALMER AIRPORT. BASED ON THIS HISTORY, WE WOULD RECOMMEND A COMPLETE POWER QUALITY ANALYSIS BE CONDUCTED, BY A LOCAL ELECTRICAL CONTRACTOR. POWER SHOULD BE ANALYZED AT THE INCOMING SERVICE TO THE LIGHTING VAULT AND OUTGOING CIRCUITS TO THE INDIVIDUAL SYSTEMS. THIS ANALYSIS SHOULD BE COMPLETED PRIOR TO OUR TECHNICIAN'S ARRIVAL.
- IN ORDER TO COMPLY WITH STATE, LOCAL AND NATIONAL ELECTRICAL CODES, WSM TECH SERVICE WILL REQUIRE THE ASSISTANCE OF THE LOCAL ELECTRICAL CONTRACTOR DURING OUR SITE VISIT. THE CONTRACTOR SHOULD PROVIDE A JOURNEYMAN ELECTRICIAN AND A WORK TRUCK FOR EQUIPMENT ACCESS AND TRANSPORTATION TO A WORK BENCH TEST AREA.
- AFTER THE COMPLETION OF OUR REPAIR EFFORTS, WE WILL SUPPLY THE PALMER AIRPORT WITH A COMPLETE LIST OF RECOMMENDED SPARES PARTS, FOR FUTURE USE.
- A PALMER AIRPORT DESIGNATED MAINTENANCE PERSONNEL SHOULD BE PRESENT DURING THE TROUBLESHOOTING AND REPAIR PROCESS. WE WILL CONDUCT HANDS-ON EQUIPMENT MAINTENANCE TRAINING DURING THIS PROCESS.

WE HAVE RESERVED THE WEEK OF JULY 29TH FOR OUR TECH SERVICE TRIP TO PALMER AIRPORT. IN ORDER TO MAKE THIS SCHEDULE, WE WILL NEED A FORMAL WORK ORDER BY 12JULY13, OR SOONER, EITHER FROM THE CITY OF PALMER OR THE LOCAL CONTRACTOR. IF YOU HAVE ANY QUESTIONS REGARDING THIS PROPOSAL, PLEASE CONTACT ME AT YOUR EARLIEST CONVIENENCE.

Sincerely,

Rick Lafferty
Manufacturer's Representative
ADB (Siemens) Airfield Solutions
WA. GC #WESTCSM893M1

- End



Westcoast Sales & Marketing, Inc.

GORDON WINBURN
 2222 West Valley Hwy. North
 Suite 140
 Auburn, Wa. 98001
Phone: (800) 275 - 6649
Alt Phone : (253) 833 - 6434
Fax : (253) 833 - 6825
 WCL # WESTCSM893M1
E-mail : gwinburn@wsminc.biz

Quotation Version # : 1

To :	GREG WICKHAM\SCOTT SANDERSON \ CITY of PALMER (907-863-0721)
In Regards To :	REIL & PAPI TROUBLESHOOT and REPAIR
Quotation Date :	1/15/13
Total Price of Quotation :	\$7,763.16
Quote Expires :	90 DAYS
Freight Charges :	N/A
Availability :	N/A

Quantity	Part Number	Item Description	Unit Of Sale	Price Per Unit Of Issue	Total Price For This Item
1.00		TECH SERVICE SITE VISIT, TO INCLUDE	Ea.	\$7,763.1600	\$7,763.16
		TROUBLESHOOT AND REPAIR OF PAPI'S AND REILS	Ea.		\$0.00
		RD TRIP AIRFARE, CAR RENTAL, LODGING AND MEALS	Ea.		\$0.00
		TOOLS AND EQUIPMENT USED FOR REPAIR	Ea.		\$0.00
		THIS PRICE IS BASED ON 40HRS LABOR AT \$95.00 PER HOUR AND	Ea.		\$0.00
		SUBJECT TO CHANGE DEPENDING ON ACTUAL HOURS WORKED.	Ea.		\$0.00
			Ea.		\$0.00
		LOCAL ELECTRICIAN IS REQUIRED AND EXCLUDED FROM THIS QUOTE	Ea.		\$0.00
		ANY PARTS NEEDED FOR REPAIR OF PAPI'S AND REILS ARE ALSO EXCLUDED	Ea.		\$0.00
			Ea.		\$0.00
			Ea.		\$0.00
		TROUBLESHOOTING WILL INCLUDE THE FOLLOWING:	Ea.		\$0.00
		R1W 34 REILS--MASTER IS FLASHING BUT SLAVE IS NOT FLASHING BUT	Ea.		\$0.00
		HAS POWER AND THE LED BOARD IS LIT UP	Ea.		\$0.00
		R1W 34 PAPI--POWER TO MASTER IS OK BUT CONTACTOR IS NOT ENGAGING	Ea.		\$0.00
		R1W 27 PAPI--POWER TO MASTER BUT CONTACTOR NOT ENGAGING	Ea.		\$0.00
		R1W 16 REILS--MASTER NOT WORKING	Ea.		\$0.00

L-880 & L-881 Precision Approach Path Indicator (PAPI)



Compliance with Standards

- FAA:** L-880 & L-881 AC 150/5345-28 (Current Edition)
ETL Certified
- ICAO:** Annex 14, Vol. 1, para. 5.3.5.23 to 5.3.5.45
- NATO:** STANAG 3316

Uses

A PAPI system uses either 2-light channel or 3-light channel units, which offer the pilot information to carry out the approach procedure with the utmost accuracy and safety.

The L-880 PAPI system consists of four light units located at the side of the runway adjacent to the origin of the glide path. The nominal glide slope angle is midway between the angular settings of the central pair of the four units. If an aircraft is on the correct approach path, the pilot will see two red and two white light indicators. If the aircraft approach is too high, an increased number of white light indicators will be seen. If the approach is too low, the pilot will note an increased number of red light indicators.

The L-881 PAPI system is identical to the L-880, except only two light units (instead of four) are used. The nominal glide slope is midway between the angular settings of the two units, and when the pilot is on or close to the correct approach path, the unit nearest the runway will be seen as red and the other unit as white.

The Style A system is for use with either a 220 or 240V AC input voltage. The Style B system is for use on 6.6 or 20A series circuits. A tilt switch assembly is provided on each PAPI unit to de-energize the system in the case that the optical pattern of any light unit is raised between 0.5° and 1.0° or lowered between 0.25° and 0.5° with respect to the setting angle of the unit.

Features

- The use of two lenses in tandem in each light channel makes a sharp transition from white to red (never exceeding three minutes of arc over the full beam width)
- ICAO chromaticity conformity is maintained over the whole width of the red beam
- For Style A systems, a photoelectric control on the master control cabinet automatically provides full intensity during the day and a reduced intensity (5% or 20% of full intensity) at night. A circuit breaker is provided to permit de-energization of the input power for field maintenance.
- Available in 2-lamp or 3-lamp configurations

44A4733-1222 / 2222

Ordering Code Style A **44A4733-XXXX**

Style

- 1 = L-880 (4 Box)
- 2 = L-881 (2 Box)

Interlock Options

- 1 = With Interlock Relay
- 2 = Without Interlock Relay

Lamp

- 1 = 3 Lamp Optical Box
- 2 = 2 Lamp Optical Box (ETL Certified)

Legs

- 1 = Three Legs
- 2 = Four Legs

Ordering Code Style B

44A5860-2XXX

Power

- 2 = Style B (Current Powered)

Style

- 1 = L-880 (4 Box)
- 2 = L-881 (2 Box)

Lamp

- 1 = 2-Lamp Optical Box (ETL Certified)
- 2 = 3-Lamp Optical Box

Legs

- 1 = Three Legs
- 2 = Four Legs

Notes

Each PAPI system requires a digital aiming device kit, which is ordered separately.

- Interlock Relay Option provides ON/OFF control through current sensing of the runway series circuit during nighttime operations. During daytime, the PAPI is activated at the 100% step.
- Reference NTSB Cert Alert No. 02-08 dated Dec. 12, 2002 regarding prevention of the possibility of dew or frost forming on the light unit optics: At airports where PAPI units are activated when needed and thus are not operated continuously, change airport lighting circuitry to ensure PAPIs are preset to operate continuously on a low power setting, either 5 percent or 20 percent of full intensity as necessary for local site conditions.

Digital Aiming Device Kit

L-880 or L-881 _____ 44A6031

Features (Continued)

- Easy to use digital aiming device
- Lenses protected from sandblast by a hardened front glass shield
- Long-life tungsten halogen lamps are 200W PK30d with a rated life of 1,000 hours at 6.6A
- Interlock Relay Option available for Style A
- Only one PAPI box assembly is used on either a Style A or Style B system, minimizing spare part requirements
- An unique PC board inside the PAPI box indicates if it is tilted or not, minimizing troubleshooting time
- Available in 3-leg or 4-leg configuration
- Reduced cabling between PAPI boxes
- Reduced maintenance. The unit is fully gasketed and remains clean inside. Lamp and filter replacement does not require any tools.
- Condensation water is drained away through wire gauze covered drain holes
- No water can accumulate on the cover, so reflections that could constitute a false optical signal are eliminated
- Corrosion-resistant aluminum, stainless steel hardware, and optical glass are used in the assembly

Features (Continued)

- Fixture uses a black light box with an international orange cover and stainless steel hardware
- Meets both Class I and II temperature ranges:
 - Class I system operates down to -35°C
 - Class II system operates down to -55°C

Electrical Supply

Style A

	Input Voltage 220-240V AC ±10% (VA max.) ¹
L-880 (4-box) 2-lamps/optical box	1,800
L-880 (4-box) 3-lamps/optical box	2,700
L-881 (2-box) 2-lamps/optical box	1,650
L-881 (2-box) 3-lamps/optical box	1,650

Style B

Two Lamp – 6.6A through one 500W isolation transformer

L-880 (4-Box) – Total CCR Load²: 1960VA maximum

L-881 (2-Box) – Total CCR Load²: 980VA maximum

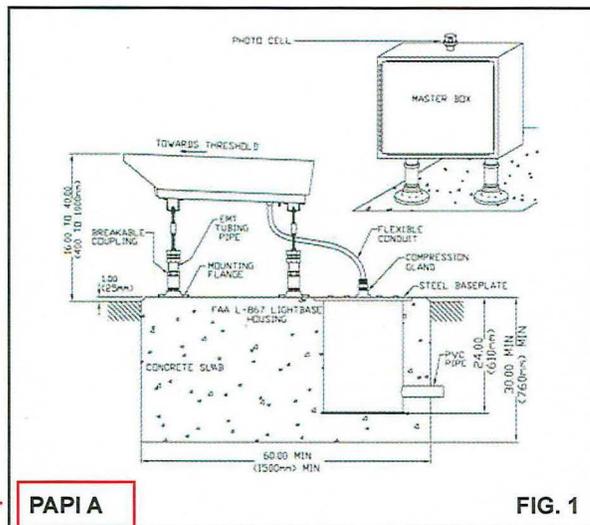
Three Lamp – 6.6A through one 500W and one 200W isolation transformer

L-880 (4-Box) – Total CCR Load²: 3,160VA maximum

L-881 (2-Box) – Total CCR Load²: 1,580VA maximum

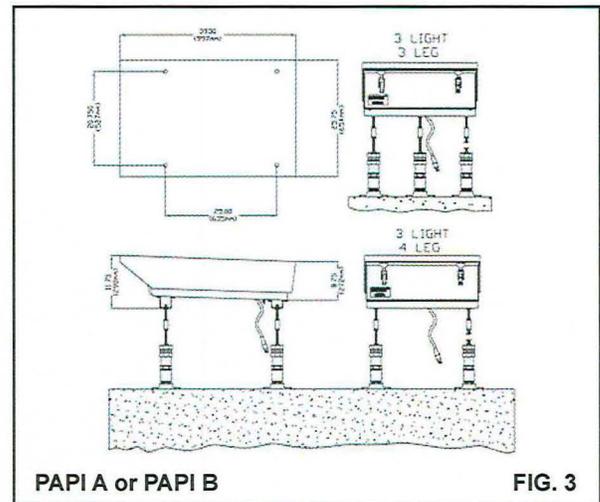
¹ As seen at input of PAPI Master

² Includes PAPI light units and isolation transformers



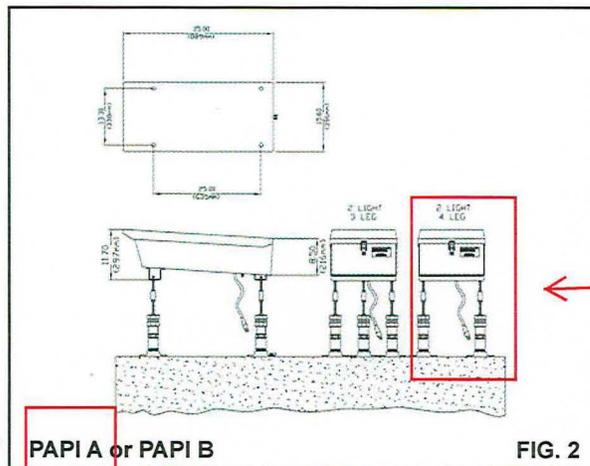
PAPI A

FIG. 1



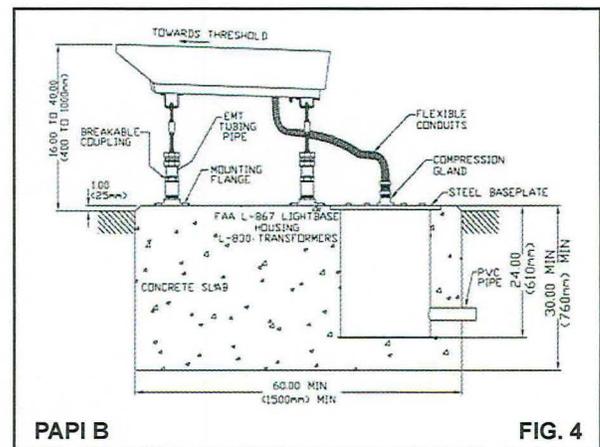
PAPI A or PAPI B

FIG. 3



PAPI A or PAPI B

FIG. 2



PAPI B

FIG. 4

Field Splice Kits*

Part No.	94A0235-3
Style	A – 4-box w/out interlock option 2 or 3 lamp
Qty.	Description
4	Frangible coupling
6	6-pin female plug
4	1-inch (2.54 cm) cable clamp
15	Field splice heat shrink kit 6 inches (15.2 cm) long
30	Butt splices for wire

Part No.	94A0235-4
Style	A – 2-box w/out interlock option 2 or 3 lamp
Qty.	Description
2	Frangible coupling
4	6-pin female plug
2	1-inch (2.54 cm) cable clamp
6	Field splice heat shrink kit 6 inches (15.2 cm) long
12	Butt splices for wire

Part No.	94A0235-1
Style	A – 4-box with interlock option 2 or 3 lamp
Qty.	Description
4	Frangible coupling
6	6-pin female plug
4	1-inch (2.54 cm) cable clamp
15	Field splice heat shrink kit 6 inches (15.2 cm) long
1	Connector secondary plug kit
30	Butt splices for wire

Part No.	94A0235-2
Style	A – 2-box with interlock option 2 or 3 lamp
Qty.	Description
2	Frangible coupling
4	6-pin female plug
2	1-inch (2.54 cm) cable clamp
6	Field splice heat shrink kit 6 inches (15.2 cm) long
1	Connector secondary plug kit
12	Butt splices for wire

Part No.	94A0255-1
Style	B – 2 lamp, 2- or 4-box
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-1
2	Butt splices
1	Heat shrink tubes

Part No.	94A0255-2
Style	B – 3 lamp, 2- or 4-box
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-2
2	Butt splices
1	Heat shrink tubes

Part No.	94A0255-4
Style	B – 3 lamp, 2- or 4-box, ICAO
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-4
2	Butt splices
1	Heat shrink tubes

The information contained in this document is subject to change without notice. ADB reserves the right to make changes and improvements to its products and assumes no responsibility for making these modifications on any equipment previously sold.

Field Splice Kits* (continued)

Part No.	94A0255-5
Style	B – 1 lamp, 2- or 4-box
Qty.	Description
1	Frangible coupling
1	Cable clamp
1	Wire harness, 44A5913-5
2	Butt splices
1	Heat shrink tubes

* One for each optical assembly. Included with PAPI System.

Spare Components

Description	Part No.
Filter, Red ²	63A1019
Filter, Red ²	1438.12.220
Frangible Coupling 2" EMT	44B0180
Frangible Coupling 2" Threaded One End	62A0711
Gasket, Optical Assembly (2-lamp unit)	63A0672
Gasket, Optical Assembly (3-lamp unit)	4071.41.550
Glass, Protective Shield (2-lamp unit)	63A0984
Glass, Protective Shield (3-lamp unit)	63A0671-1
Lamp, 200W, 6.6A, with female leads*	48A0077-1
Lamp driver/tilt sensing PCB (2-lamp and 3-lamp)	44A5857
LC Control Board, PAPI A Only	44A6546-3 ³
Leg Assembly	44C2362S
Master Box, 240V, 4 Box, PAPI A Only	44A4734-1210
Master Box, 240V, 2 Box, PAPI A Only	44A4734-2210
Optical Box, 2-Lamp (ETL Certified)	44A5861-1
Optical Box, 3-Lamp	44A5861-2
SCR Block, 95A, PAPI A Only	28A0011
Shorting Device PCB, 6.6A	44D4538
Spare Lamp Kit ¹	94A0337
Tilt Switch Assembly, PAPI A Only (w/o heater)	44A5863-2
Tilt Switch Assembly, PAPI A Only (with heater)	44A5863-1
Tilt Switch Assembly, PAPI B Only	44A5863

¹ For installations before May 2002. Spare Lamp Kit includes lamp and disconnects to convert power leads so lamp 48A0077-1 can be installed.

² Filter 63A1019 is 6.07" in length and is installed in PAPIs shipped from ADB after January 2005. Filter 1438.12.220 is 6.61" in length and is installed in earlier models. All other dimensions are equal.

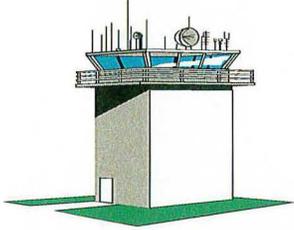
³ For PAPI As ordered before Fall 2007, the LC Control Board may have part no. 44D1475/3. This part is now obsolete. To order a retrofit kit, use part no. 94A0549 for both L-880 and L-881. An L-880 unit also requires part no. 94A0548 to replace the T1 transformer.

Precision Approach Path Indicators installed prior to June 1998 have some different spare parts and optional features. Please contact the ADB Sales Department for this information.

Packaging

	2-Lamp	3-Lamp
Net weight:	44 lb (20 kg)	90 lb (41 kg)
In cardboard box:	25.6 x 13 x 40.2 in 65 x 33 x 102 cm	35.8 x 15.6 x 39.8 in 91 x 39 x 101 cm
Gross weight:	46 lb (21 kg)	103 lb (47 kg)
L-880 Master Box:	20 x 24 x 8 in 50.8 x 61 x 20.3 cm	20 x 24 x 8 in 50.8 x 61 x 20.3 cm
Gross weight:	65 lb (29.5 kg)	65 lb (29.5 kg)
L-881 Master Box:	20 x 24 x 8 in 50.8 x 61 x 20.3 cm	20 x 24 x 8 in 50.8 x 61 x 20.3 cm
Gross weight:	25 lb (11.3 kg)	25 lb (11.3 kg)

Note: Quantity of anchoring legs or adjustable frangible legs affects packaging data.



Westcoast Sales & Marketing, Inc.

GORDON WINBURN
 2222 West Valley Hwy. North
 Suite 140
 Auburn, Wa. 98001
Phone : (800) 275 - 6649
Alt Phone : (253) 833 - 6434
Fax : (253) 833 - 6825
 WCL # WESTCSM893M1
E-mail : gwinburn@wsminc.biz

Quotation Version # : 1

To : CITY of PALMER
In Regards To : PAPI and REILS SPARE PARTS LIST
Quotation Date : 1/18/13
Total Price of Quotation : \$7,011.65
Quote Expires : 90DAYS
Freight Charges : PAID BY CUSTOMER
Availability : TBD

Quantity	Part Number	Item Description	Unit Of Sale	Price Per Unit Of Issue	Total Price For This Item
		ADB PAPI PARTS	Ea.		\$0.00
1.00	94A0548	PAPI A TX REPLACEMENT KIT	Ea.	\$704.3700	\$704.37
2.00	94A0549	PAPI A CONTROL BOARD wSTAND-OFFS, C.T. & ALN-138 PUBLICATION	Ea.	\$663.2400	\$1,326.48
2.00	44A4752	SNUBBER NETWORK & TIME DELAY	Ea.	\$90.0900	\$180.18
2.00	28A0011	SCR BLOCK: STT09M12M	Ea.	\$70.2900	\$140.58
			Ea.		\$0.00
		FLASH TECH REIL PARTS	Ea.		\$0.00
2.00	1403411	RC 101 NETWORK	Ea.	\$44.1700	\$88.34
4.00	8384329	WHITE FLASH TUBE	Ea.	\$491.6700	\$1,966.68
2.00	8435212	1K 2W RING LUGS RESISTOR	Ea.	\$30.4200	\$60.84
2.00	6720401	70 MFD CAP.	Ea.	\$69.5900	\$139.18
2.00	6731401	20 MFD 440V CAP.	Ea.	\$47.5000	\$95.00
2.00	2904413	TIMING AND TRIGGER BOARD	Ea.	\$1,155.0000	\$2,310.00
			Ea.		\$0.00
			Ea.		\$0.00
			Ea.		\$0.00
			Ea.		\$0.00

