

TWR Lighting, Inc.

4300 WINDFERN RD. #100 HOUSTON TX 77041-8943

VOICE (713) 973-6905 FAX (713) 973-9352

WEB: www.twrlighting.com

IMPORTANT!!!

PLEASE TAKE THE TIME TO FILL OUT THIS FORM COMPLETELY. FILE IT IN A SAFE PLACE. IN THE EVENT YOU EXPERIENCE PROBLEMS WITH OR HAVE QUESTIONS CONCERNING YOUR CONTROLLER, THE FOLLOWING INFORMATION IS NECESSARY TO OBTAIN PROPER SERVICE AND PARTS.

MODEL # AA1-MDF

SERIAL # _____

PURCHASE DATE _____

PURCHASED FROM _____

AA1-MDF CONTROLLER

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AA1-MDF CONTROLLER

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AA1-MDF CONTROLLER

1. GENERAL INFORMATION

The TWR Model AA1-MDF Controller is for A1 lighting of towers 151' to 350' AGL (above ground level). One (1) beacon should be placed at the top of the structure. One (1) set of three (3) obstruction lights should be placed at the mid-point with respect to the overall tower height.

The flash rate of the beacon is 30 per minute. The sidelights burn steady.

A by-pass switch (SW1) allows the controller to be turned on during daylight hours without covering the photocell. This is particularly helpful since the controller can be mounted indoors while the photocell is outdoors. SW1 can be operated by turning "on" the toggle switch mounted on the panel of the controller.

The beacon requires two (2) 620 watt or two (2) 700 watt, 120V bulbs. TWR recommends that you use only these bulbs. Do not try to use 130V bulbs. Each sidelight requires one (1) 116 watt, 120V bulb (620PS40P, 700PS40P, and 116A21TS).

The photocell is the three (3) blades, twist to lock, type.

Power supplied to the controller shall be 120V AC, 50/60 Hz.

The controller housing is rated at NEMA 4X. It is suitable for indoor or outdoor mounting.

AA1-MDF CONTROLLER

2.0 INSTALLATION INSTRUCTIONS

2.1 MOUNTING THE CONTROL CABINET

(Refer to Drawing 213-R)

The power supply control cabinet can be located at the base of the structure or in an equipment building. Mounting footprints are shown on Drawing 213-R. Power wiring to the control cabinet should be in accordance with local methods and electrical codes.

2.1.1 If the control cabinet is mounted inside an equipment building, the photocell should be mounted vertically on ½" conduit outside the building above the eaves facing north. Wiring from the photocell socket to the control cabinet should consist of one (1) each, red, black, and white wires. The white wire is connected to the socket terminal marked "COM," the black wire is connected to the socket terminal marked "B," and the red wire is connected to the socket terminal marked "R." These socket connections are made by using .25" quick connect terminals, which must be crimped to the wires. As above, the photocell should be positioned so that it does not "see" ambient light, which would prevent it from switching to the nightmode.

2.1.2 If the control cabinet is mounted outside an equipment building, the photocell should be mounted vertically on ½" conduit so the photocell is above the control cabinet. Care must be taken to assure that the photocell does not "see" any ambient light that would prevent it from switching into the nightmode. The photocell wiring is the same as in 1.1.1.

2.1.3 The wiring from the photocell, the service breaker, the red incandescent beacon, and the sidelights should enter the control cabinet through the watertight connectors in the bottom of the cabinet. Inside the cabinet, the connections will be made on the terminal strips and circuit breakers located at the bottom of the chassis. These connections are made as follows:

AA1-MDF CONTROLLER

2.2 EXTERNAL PHOTOCELL WIRING

(Refer to Drawing 213-R)

- 2.2.1 Connect the BLACK wire from the photocell to terminal block TB2 marked "L."
- 2.2.2 Connect the RED wire from the photocell to terminal block TB2 marked "SSR."
- 2.2.3 Connect the WHITE wire from the photocell to terminal block TB2 marked "N."

2.3 POWER WIRING

(Refer to Drawing 214-R)

- 2.3.1 Power wiring to the control cabinet should be in accordance with local methods and National Electrical Codes (NEC).
- 2.3.2 Circuit breaker needs to be rated at 20 amps.
- 2.3.3 Connect incoming 120V AC line to terminal block TB1 marked "L."
- 2.3.4 Connect the neutral wire(s) to one (1) of the terminal blocks on TB1 marked "N."
- 2.3.5 Connect the AC ground to the aluminum mounting plate.

2.4 RED BEACON and SIDELIGHT WIRING

(Refer to Drawings 213-R, and 260-11 through 260-14)

Install wiring between the controller to the beacon utilizing either strobe cable or conduit method. Refer to Drawings 213-R, and 260-11 through 260-14, for installation of light kits. Following these requirements, installing light kits will require lifting of the cable by the supplied cable grip or conduit to affix to the tower. Always work safely and adhere to all OSHA Safety Guidelines when lifting, wiring, or working on the structure or tower itself. It is the installer's responsibility to install the lighting kit in a safe manner. Installers can request from OSHA their requirements 29CFT 1926.21, and 29CFR 1926.105 to ensure compliance to regulations.

NOTE: On occasion, a set of custom lighting kit drawings may be specifically requested by a customer and installed in this manual. In cases such as this, the drawings will proceed the manual if a conflict occurs.

AA1-MDF CONTROLLER

- 2.4.1** Connect the BLACK wire from the beacon to the circuit breaker marked "B."
- 2.4.2** Connect the RED wires from the sidelight group to the circuit breaker marked "S."
- 2.4.3** Connect the NEUTRAL wire(s) to one of the terminal blocks on TB1 marked "N."

AA1-MDF CONTROLLER

3.0 THEORY OF OPERATION

3.1 POWER SUPPLY

120V AC enters the controller from the circuit breaker panel. Line sits at the PRD, waiting to be switched. When the 102FAA photocell is activated, line energizes the coil of the PRD. This also can be accomplished by using the photocell by-pass switch (SW1).

3.2 SIDELIGHTS

Line LD is sent directly to the circuit breaker marked "S."

3.3 BEACON

Line LDB is sent to the Motor Driven Flasher, which is the primary flasher for the beacon that provides control voltage. The output of the Motor Driven Flasher is sent to the circuit breaker marked "B."

AA1-MDF CONTROLLER

4.0 MAINTENANCE

4.1 RED OBSTRUCTION LIGHTING

The only required maintenance needed to be performed is replacement of the lamps in the L-864 and L-810 fixtures. Lamps should be replaced after being operated for not more than 75% of the rated life or immediately upon failure as per Federal Advisory Circular 70/7460-1J. By following these instructions, maximum safety and performance can be achieved.

TOOLS REQUIRED: NONE

4.2 L-864 LAMP REPLACEMENT

4.2.1 Loosen the one (1) wing nut on the latch pin so that it can recline.

4.2.2 Open the lens and tilt it back.

4.2.3 To remove each lamp, depress down while rotating the lamp counter-clockwise 90°.

4.2.4 Install the new lamps by depressing down while rotating the lamp clockwise 90°.

4.2.5 Close the lens and let the latch pin drop in the recessed slot.

4.2.6 Tighten the wing nut snug, then ¼ turn more.

4.3 LAMP REPLACEMENT

4.3.1 Unclasp the two (2) latches and let the bail recline back.

4.3.2 Lift the lens up and over the lamp, letting the lens hang from the safety cable.

4.3.3 Unscrew the lamp counter-clockwise and remove.

4.3.4 Install the new lamp by screwing the lamp clockwise.

4.3.5 Reinstall the lens, making sure it is seated properly on the base.

4.3.6 Reclasp the two (2) latches.

AA1-MDF CONTROLLER

4.4 L-864 CONTROLLER

No scheduled maintenance is required. Perform on an “as needed” basis only.

4.5 PHOTOCELL

The photocell is a sealed unit. No maintenance is needed or required other than replacement as necessary.

AA1-MDF CONTROLLER

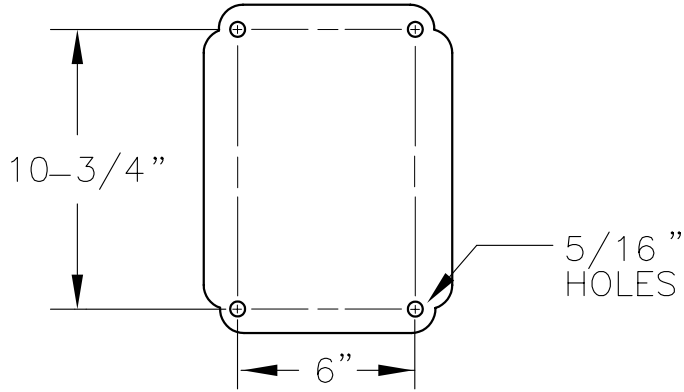
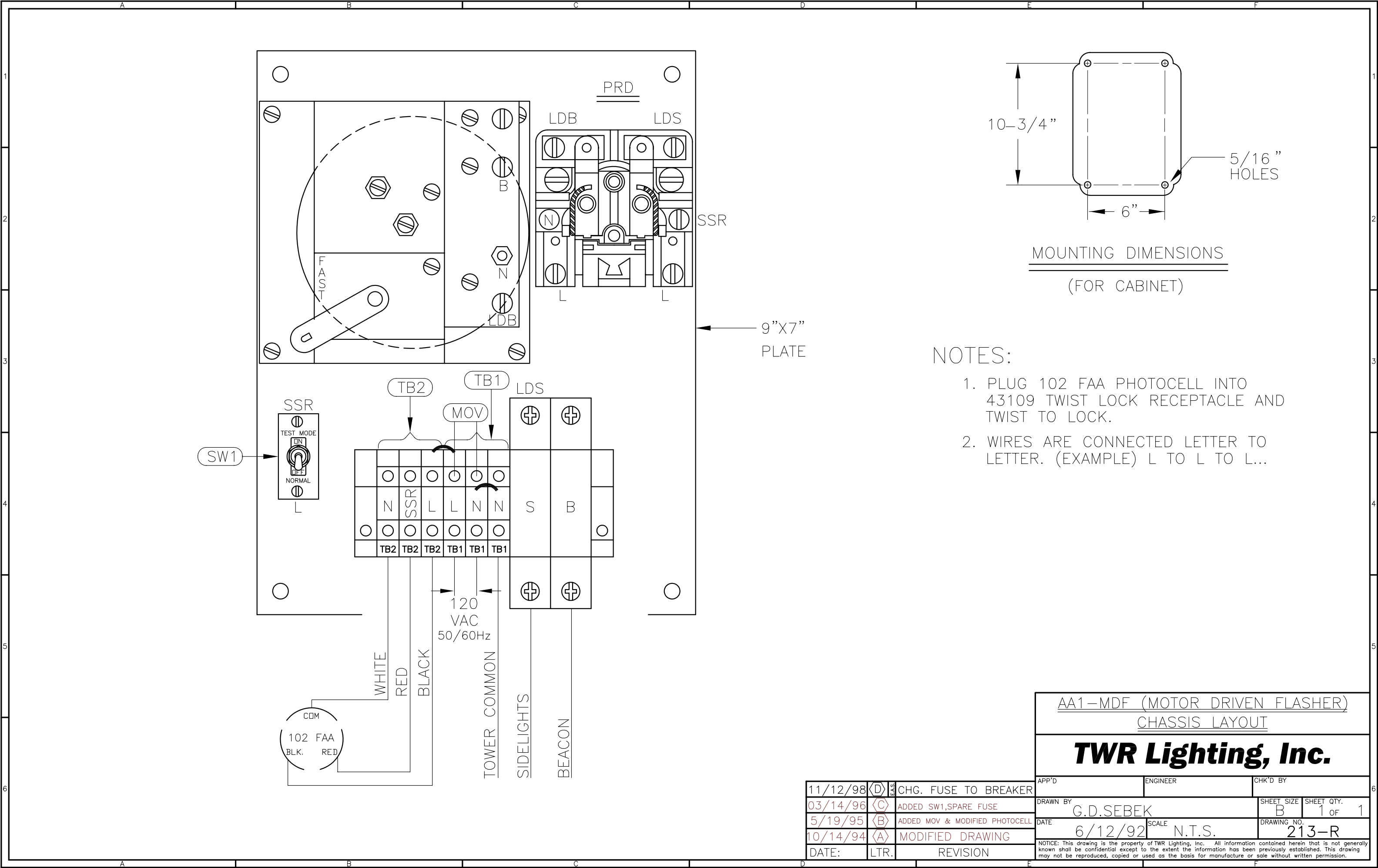
5.0 MAJOR COMPONENTS PARTS LIST

QUANTITY	PART NUMBER	DESCRIPTION
1	102FAA	Photocell
1	3002	Motor Driven Flasher
1	PRD7AGO	Mechanical Load Contactor (PRD)
1	VJ1008HWPL1	Enclosure
1	STJ01002	15 amp SPDT Switch (SW1)
1	MOV524V15	Metal Oxide Varistor (MOV)
2	5SX2120-8	20 amp Circuit Breaker (B and S)
2	8WA1808	End Stop
6	8WA1204	Terminal Blocks (TB1, TB2)
1	SSPIGTAIL	20' Pigtail

AA1-MDF CONTROLLER

6.0 SUGGESTED SPARE PARTS LIST

QUANTITY	PART NUMBER	DESCRIPTION
1	102FAA	Photocell
1	3002	Motor Driven Flasher
1	PRD7AGO	Load Contactor (PRD)



MOUNTING DIMENSIONS
(FOR CABINET)

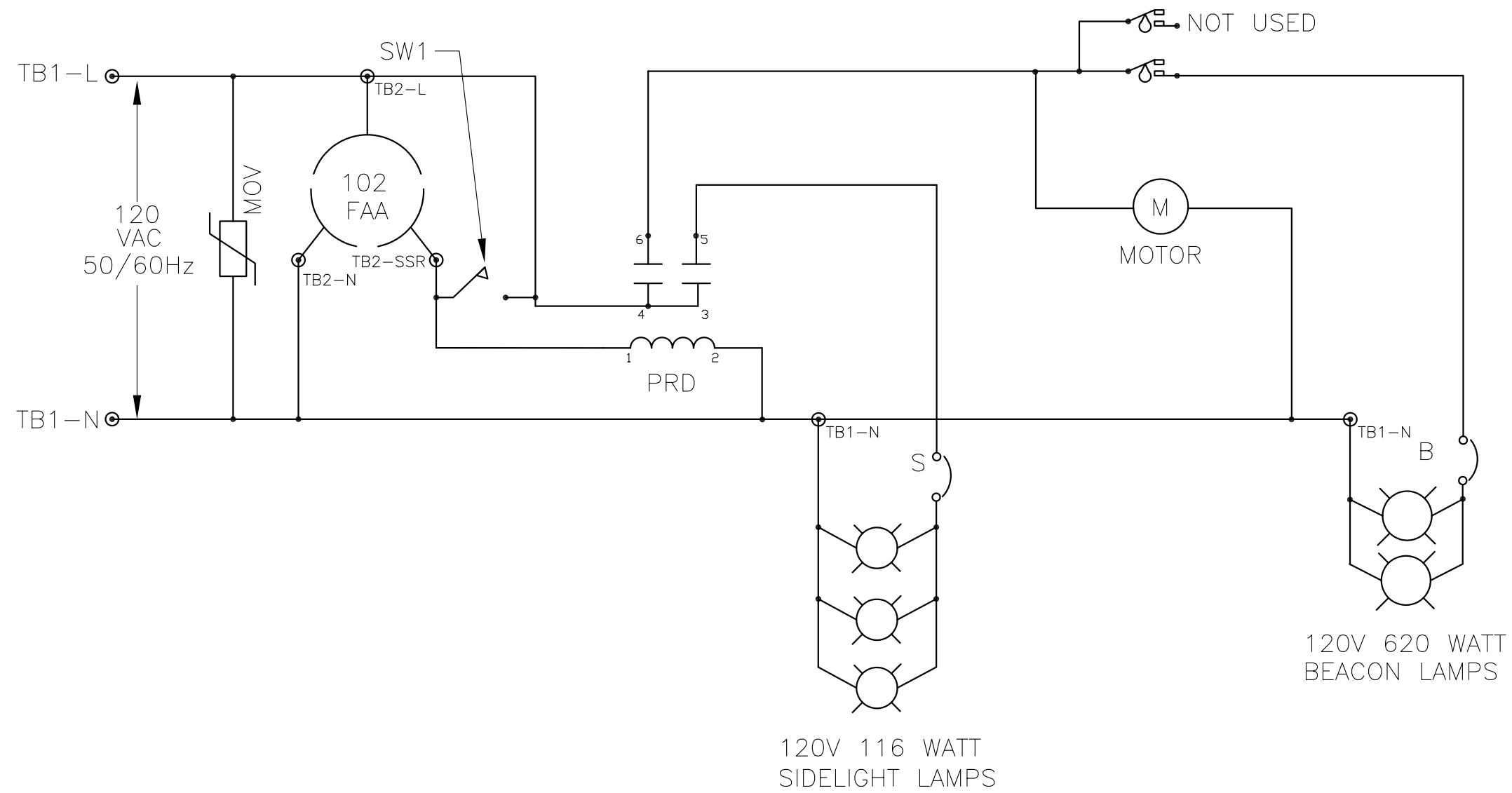
- NOTES:
- 1. PLUG 102 FAA PHOTOCELL INTO 43109 TWIST LOCK RECEPTACLE AND TWIST TO LOCK.
 - 2. WIRES ARE CONNECTED LETTER TO LETTER. (EXAMPLE) L TO L TO L...

AA1-MDF (MOTOR DRIVEN FLASHER)
CHASSIS LAYOUT

TWR Lighting, Inc.

11/12/98	(D)	1	CHG. FUSE TO BREAKER
03/14/96	(C)		ADDED SW1, SPARE FUSE
5/19/95	(B)		ADDED MOV & MODIFIED PHOTOCELL
10/14/94	(A)		MODIFIED DRAWING
DATE:	LTR.		REVISION

APP'D	ENGINEER	CHK'D BY
DRAWN BY	G.D.SEBEK	SHEET SIZE B SHEET QTY. 1 OF 1
DATE	6/12/92	SCALE N.T.S. DRAWING NO. 213-R
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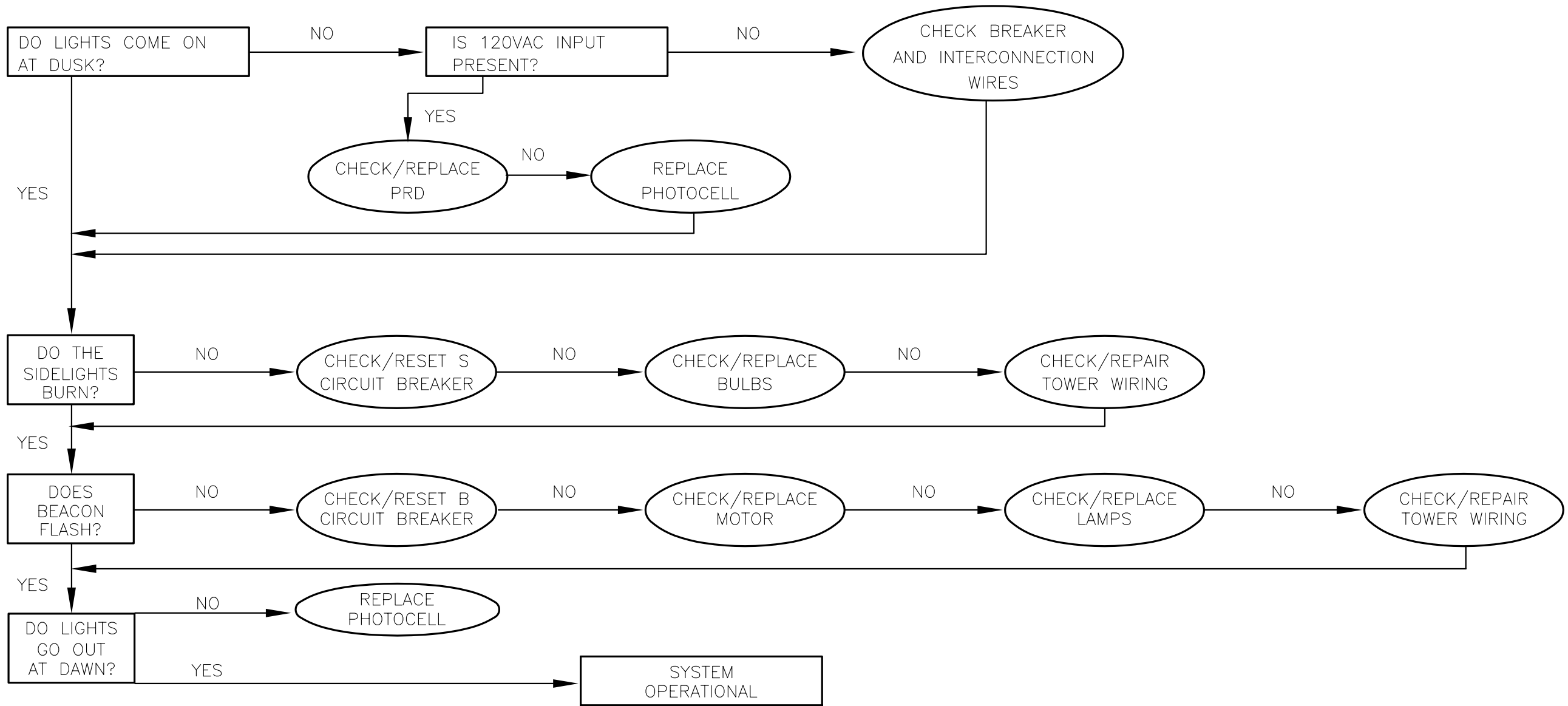
AA1-MDF (MOTOR DRIVEN FLASHER)
SCHEMATIC LAYOUT

TWR Lighting, Inc.

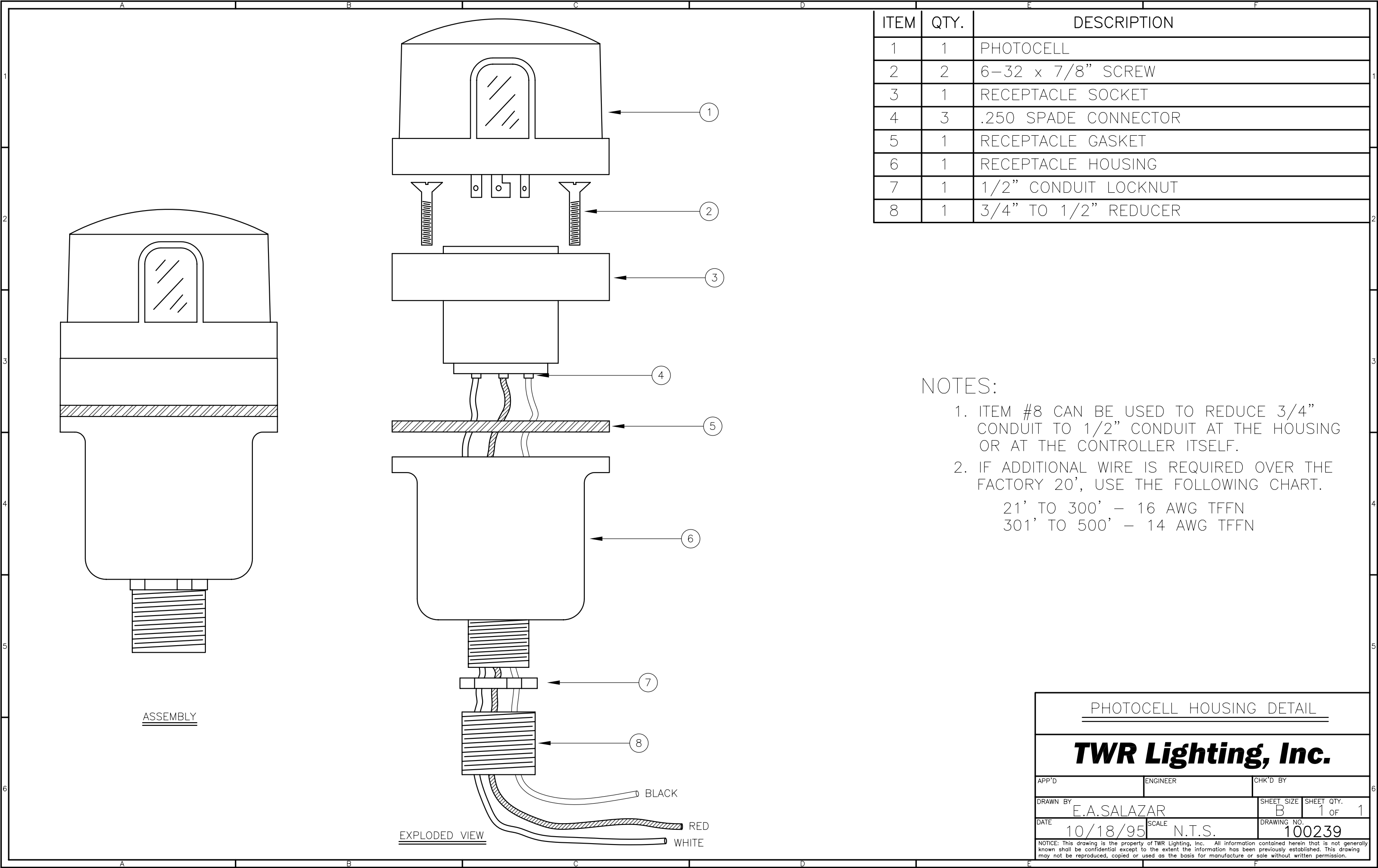
APP'D	ENGINEER	CHK'D BY
DRAWN BY E.A.SALAZAR		SHEET SIZE B
DATE 6/12/95	SCALE N.T.S.	SHEET QTY. 1 OF 1
DRAWING NO. 213-S		

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11/12/98	(C)	3	CHG. FUSE TO BREAKER
03/14/96	(B)		ADDED SW1
5/19/95	(A)		MODIFY DRAWING
DATE:	LTR.		REVISION



TROUBLESHOOTING FLOW CHART			
AA1-MDF DWG #213-R			
TWR Lighting, Inc.			
APP'D	ENGINEER	CHK'D BY	
DRAWN BY E.A.SALAZAR		SHEET SIZE B	SHEET QTY. 1 OF 1
DATE 11/11/98	SCALE N.T.S.	DRAWING NO. 213-F	
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ITEM	QTY.	DESCRIPTION
1	1	PHOTOCELL
2	2	6-32 x 7/8" SCREW
3	1	RECEPTACLE SOCKET
4	3	.250 SPADE CONNECTOR
5	1	RECEPTACLE GASKET
6	1	RECEPTACLE HOUSING
7	1	1/2" CONDUIT LOCKNUT
8	1	3/4" TO 1/2" REDUCER

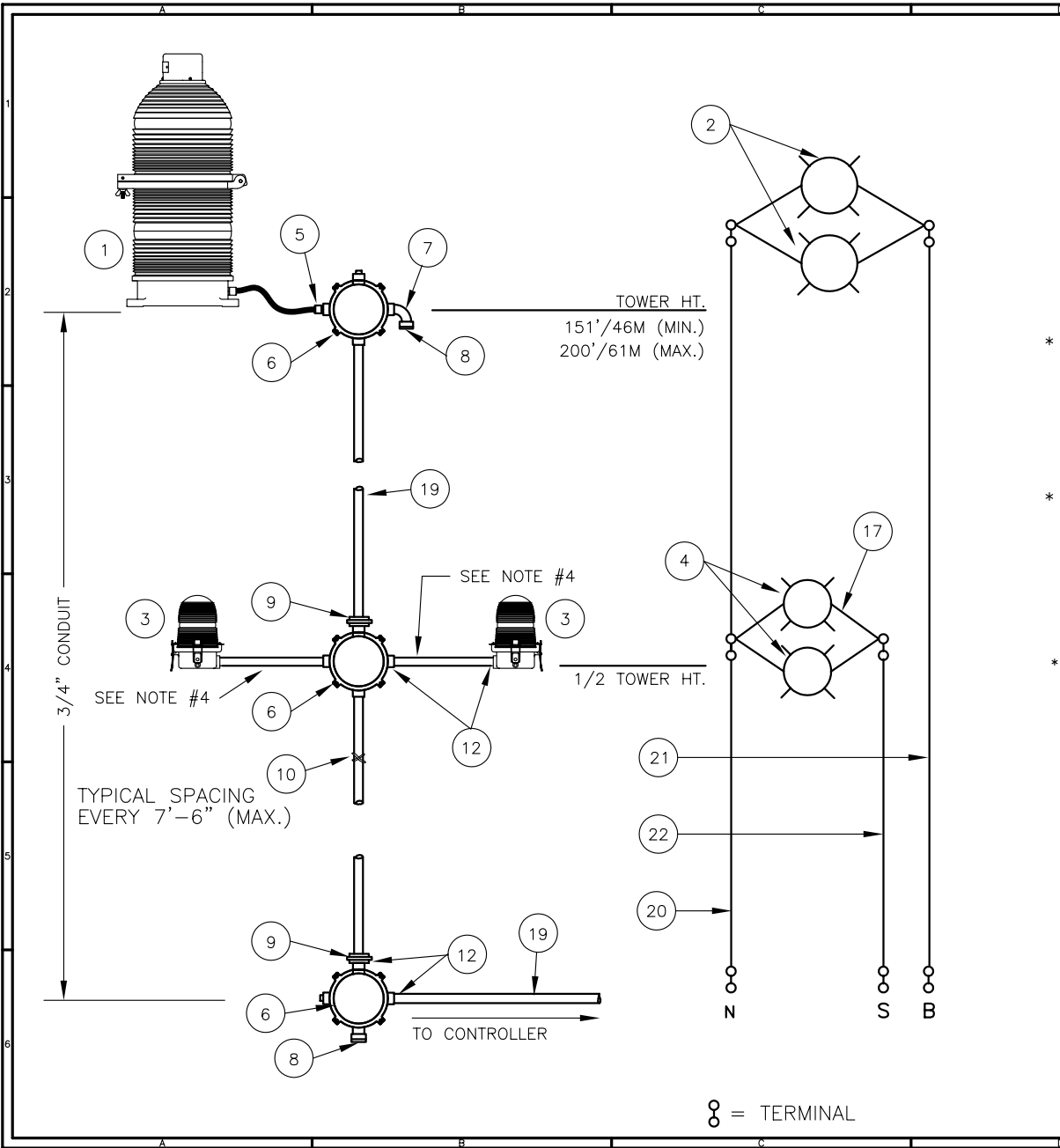
- NOTES:
- 1. ITEM #8 CAN BE USED TO REDUCE 3/4" CONDUIT TO 1/2" CONDUIT AT THE HOUSING OR AT THE CONTROLLER ITSELF.
 - 2. IF ADDITIONAL WIRE IS REQUIRED OVER THE FACTORY 20', USE THE FOLLOWING CHART.
21' TO 300' - 16 AWG TFFN
301' TO 500' - 14 AWG TFFN

PHOTOCELL HOUSING DETAIL

TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY E.A.SALAZAR		SHEET SIZE B
DATE 10/18/95		SHEET QTY. 1 OF 1
SCALE N.T.S.		DRAWING NO. 100239

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BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	BEACON	300 MM BEACON RED
2	2	620PS40P	620 WATT 120 VOLT LAMP
3	2	OL1	3/4" OBSTRUCTION LIGHT
4	2	116A21TS	116 WATT 120 VOLT LAMP
5	1	CGB295SA	3/4" CORD CONNECTOR
6	3	JB5	3/4" JUNCTION BOX
7	2	EL3490	3/4" 90° SHORT ELBOW
8	2	5012902	3/4" BREATHER
9	3	UNY205	3/4" UNION
10	1	SS10012	WRAPLOCK
* 11	1	PIPDOP	4 oz. PIPE DOPE
12	10	A314	3/4" CONDUIT LOCKNUTS
13	6	CPLG34	3/4" GALVANIZED COUPLING
14	2	N34T3	3/4" x 3" NIPPLE
15	3	N34T12	3/4" x 12" NIPPLE
16	3	N34T24	3/4" x 24" NIPPLE
17	2	SLPIGTAIL6	SIDELIGHT PIGTAIL 6 FEET
* 18	1	AA1	CONTROLLER

ITEM NUMBERS #19-#22 ARE NOT INCLUDED IN THE KIT BUT, ARE AVAILABLE UPON REQUEST AND REQUIRED FOR INSTALLATION.

19	-	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30'/9M)
20	-	8THHNWHT	#8 THHN WHT. WIRE (TOWER HT.+40'/12M)
21	-	8THHNBK	#8 THHN BLK. WIRE (TOWER HT.+40'/12M)
22	-	12THHNRED	#12 THHN RED WIRE (1/2 TWR HT.+40'/12M)

* = ITEMS NOT SHOWN

NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
- 4) ITEMS #14-#16 TO BE USED IN VARIOUS COMBINATIONS FOR OL1 RUN. EXTRA NIPPLES TO BE CUT TO FIT IF FACE WIDTH IS LARGER THAN 6".
- 5) USE ITEM #13 TO COUPLE CONDUIT NIPPLES. APPROPRIATE OL1 EXTENSION IS 12".

LK1A1 TOWER LIGHTING KIT W/NO BOOST
(TOWERS 151'/46M TO 200'/61M)

TWR Lighting, Inc.

APP'D

ENGINEER

CHK'D BY

DRAWN BY
E.A.SALAZAR

SHEET SIZE
B

SHEET QTY.
1 OF 1

DATE
1/5/93

SCALE
N.T.S.

DRAWING NO.
260-11

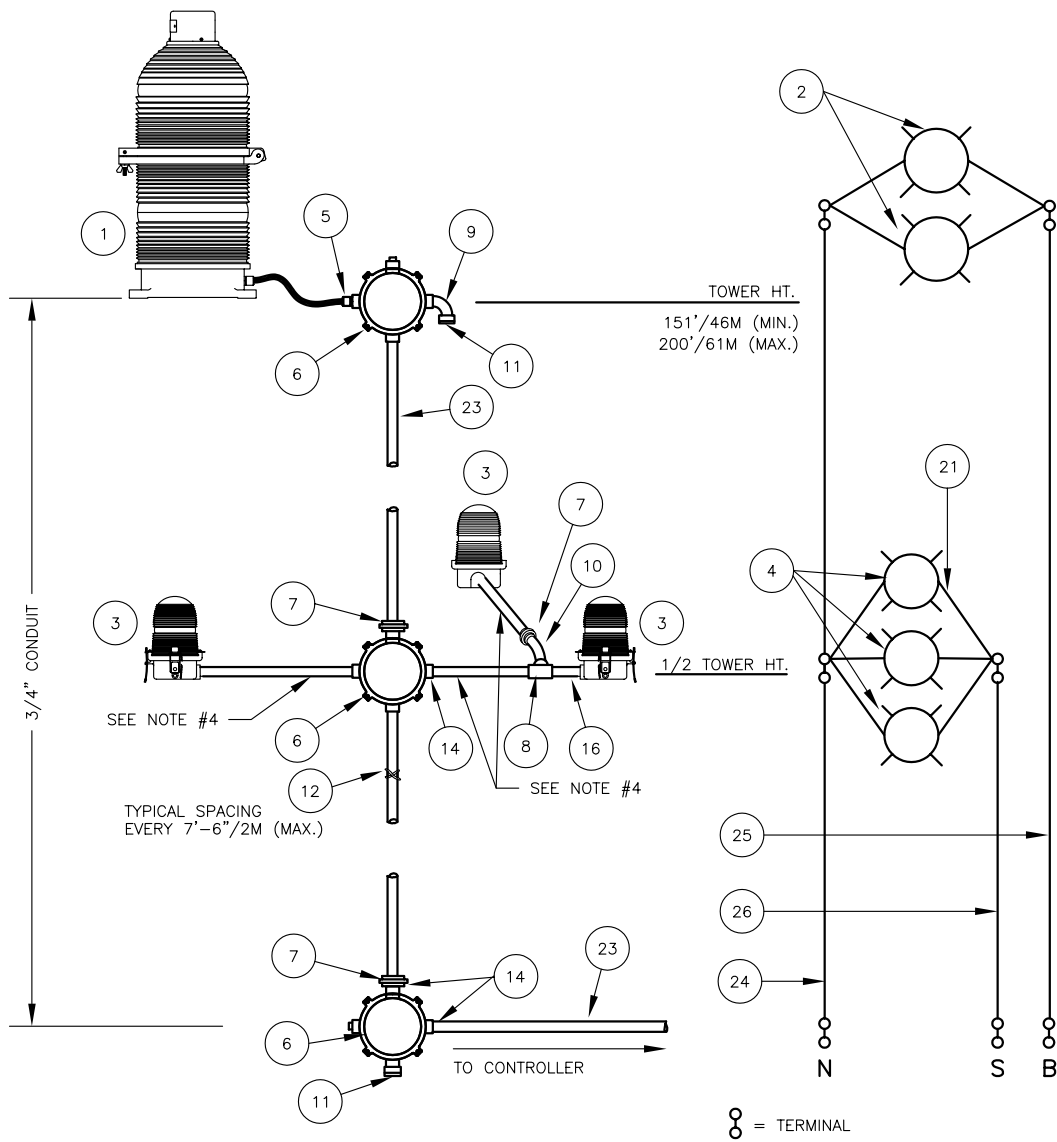
01/09/01

DATE

LTR.

REVISION

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BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	BEACON	300 MM BEACON RED
2	2	620PS40P	620 WATT 120 VOLT LAMP
3	3	OL1	3/4" OBSTRUCTION LIGHT
4	3	116A21TS	116 WATT 120 VOLT LAMP
5	1	CGB295SA	3/4" CORD CONNECTOR
6	3	JB5	3/4" JUNCTION BOX
7	4	UNY205	3/4" UNION
8	2	T27CG	3/4" CONDULET W/COVER AND GASKET
9	2	EL3490	3/4" 90° SHORT ELBOW
10	1	EL3430	3/4" 30° ELBOW
11	2	5012902	3/4" BREATHER
12	1	SS10012	WRAPLOCK
* 13	1	PIPDOP	4 oz. PIPE DOPE
14	12	A314	3/4" CONDUIT LOCKNUTS
* 15	8	CPIG34	3/4" GALVANIZED COUPLING
16	4	N34T3	3/4" x 3" NIPPLE
17	3	N34T6	3/4" x 6" NIPPLE
18	3	N34T12	3/4" x 12" NIPPLE
19	3	N34T24	3/4" x 24" NIPPLE
20	2	N34T36	3/4" x 36" NIPPLE
21	3	SLPIGTAIL25	25' SIDELIGHT PIGTAIL
* 22	1	AA1	AA1 CONTROLLER

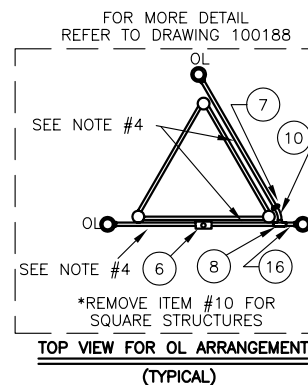
ITEM NUMBERS #23-#26 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

23	-	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30'/9M)
24	-	8THHNWHT	#8 THHN WHT. WIRE (TOWER HT.+40'/12M)
25	-	8THHNBK	#8 THHN BLK. WIRE (TOWER HT.+40'/12M)
26	-	12THHNRD	#12 THHN RED WIRE (1/2 TWR HT.+40'/12M)

* = ITEMS NOT SHOWN

NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
- 4) ITEMS #16-#20 TO BE USED IN VARIOUS COMBINATIONS FOR OL1 RUN. EXTRA NIPPLES TO BE CUT TO FIT IF FACE WIDTH IS LARGER THAN 6".
- 5) USE ITEM #15 TO COUPLE CONDUIT NIPPLES. APPROPRIATE OL1 EXTENSION IS 12".

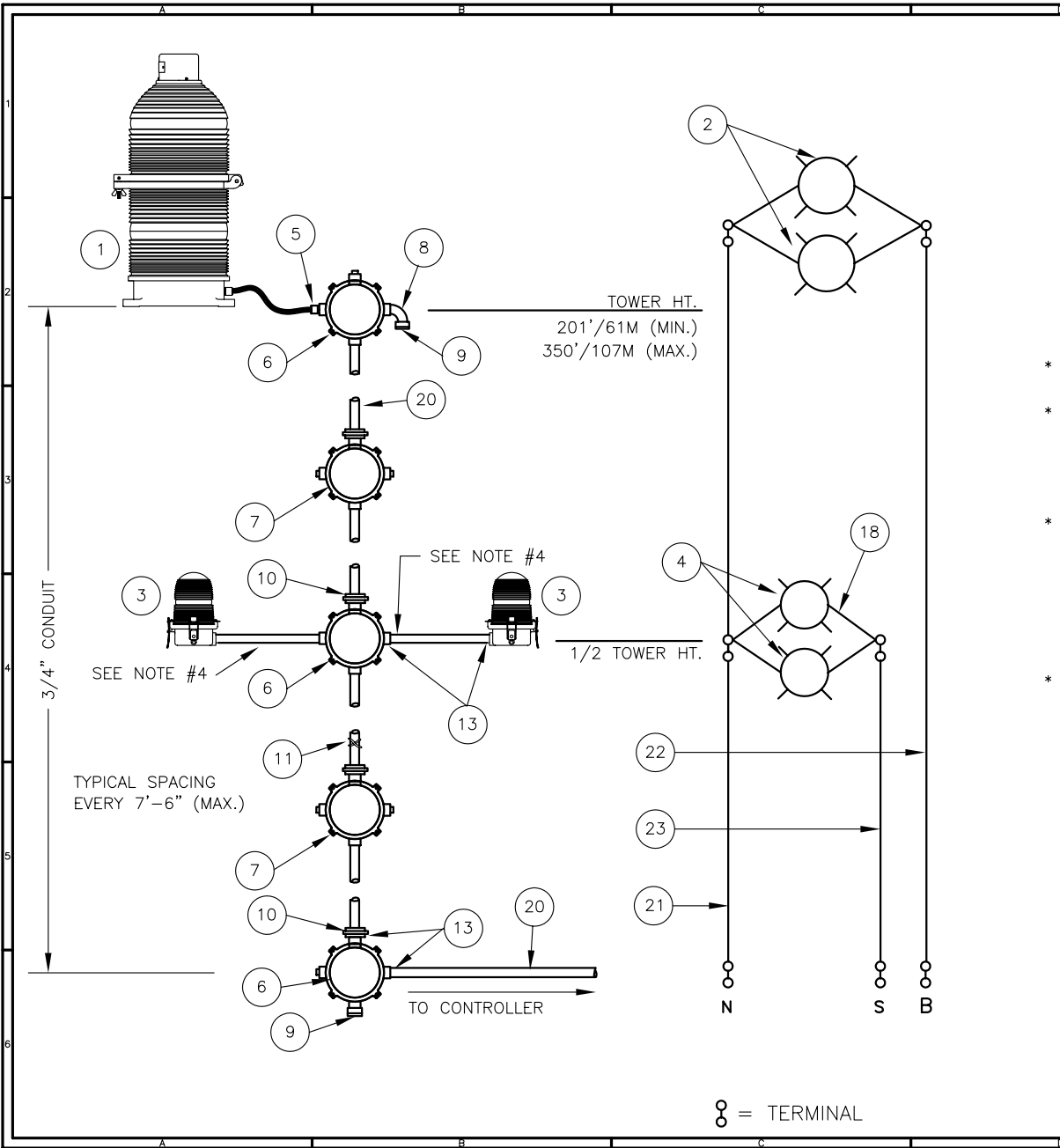


LK3A1 TOWER LIGHTING KIT W/NO BOOST
(TOWERS 151'/46M TO 200'/61M)

TWR Lighting, Inc.

04/24/96 (D)	REVISE B.O.M.	APP'D	ENGINEER	CHK'D BY
03/19/96 (C)	UPDATED B.O.M.	DRAWN BY	G.D.SFBEK	SHEET SIZE B
9/9/94 (B)	REWORK KIT PARTS	DATE	3/5/94	SHEET QTY. 1 OF 1
3/8/94 (A)	ADDED MATERIALS	SCALE	N.T.S.	DRAWING NO. 260-13
DATE:	LTR.	REVISION		

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BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	BEACON	300 MM BEACON RED
2	2	620PS40P	620 WATT 120 VOLT LAMP
3	2	OL1	3/4" OBSTRUCTION LIGHT
4	2	116A21TS	116 WATT 120 VOLT LAMP
5	1	CGB295SA	3/4" CORD CONNECTOR
6	3	JB5	3/4" JUNCTION BOX
7	2	JB0	3/4" STRAIN RELIEF BOX
8	2	EL3490	3/4" 90° SHORT ELBOW
9	2	5012902	3/4" BREATHER
10	5	UNY205	3/4" UNION
11	1	SS10012	WRAPLOCK
12	1	PIPDOP	4 oz. PIPE DOPE
13	14	A314	3/4" CONDUIT LOCKNUTS
14	6	CPLG34	3/4" GALVANIZED COUPLING
15	2	N34T3	3/4" x 3" NIPPLE
16	3	N34T12	3/4" x 12" NIPPLE
17	3	N34T24	3/4" x 24" NIPPLE
18	2	SLPIGTAIL6	SIDELIGHT PIGTAIL 6 FEET
19	1	AA1	AA1 CONTROLLER

ITEM NUMBERS #20-#23 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

20	-	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30'/9M)
21	-	6THHNWHT	#6 THHN WHT. WIRE (TOWER HT.+40'/12M)
22	-	6THHNBK	#6 THHN BLK. WIRE (TOWER HT.+40'/12M)
23	-	12THHNRED	#12 THHN RED WIRE (1/2 TWR HT.+40'/12M)

* = ITEMS NOT SHOWN

NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
- 4) ITEMS #15-#17 TO BE USED IN VARIOUS COMBINATIONS FOR OL1 RUN. EXTRA NIPPLES TO BE CUT TO FIT IF FACE WIDTH IS LARGER THAN 6'.
- 5) USE ITEM #14 TO COUPLE CONDUIT NIPPLES. APPROPRIATE OL1 EXTENSION IS 12".

LK2A1 TOWER LIGHTING KIT W/NO BOOST
(TOWERS 201'/61M TO 350'/107M)

TWR Lighting, Inc.

APP'DENGINEERCHK'D BY

DRAWN BYE.A.SALAZAR

DATE1/5/93SCALEN.T.S.

SHEET SIZEB

SHEET QTY.1 OF 1

DRAWING NO.260-12

04/25/96(C) UPDATED B.O.M.'S

9/9/94(B) REWORK KIT PARTS

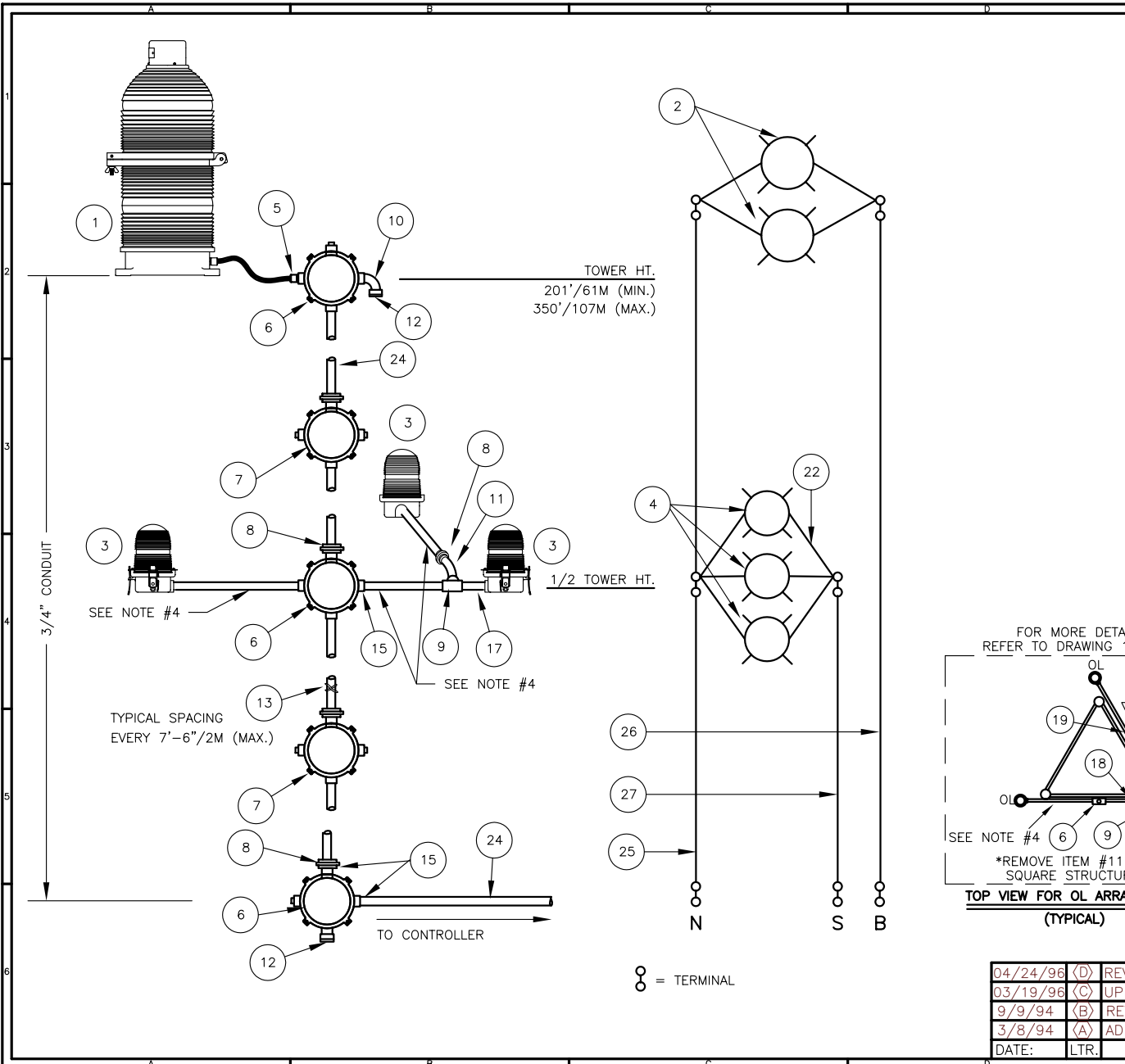
2/25/94(A) ADDED MATERIALS

DATE:

LTR.

REVISION

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BILL OF MATERIALS

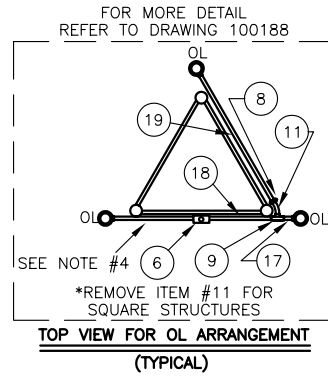
ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	BEACON	300 MM BEACON RED
2	2	620PS40P	620 WATT 120 VOLT LAMP
3	3	OL1	3/4" OBSTRUCTION LIGHT
4	3	116A21TS	116 WATT 120 VOLT LAMP
5	1	CGB295SA	3/4" CORD CONNECTOR
6	3	JB5	3/4" JUNCTION BOX
7	2	JB0	3/4" STRAIN RELIEF BOX
8	6	UNY205	3/4" UNION
9	2	T27CG	3/4" CONDULET W/COVER AND GASKET
10	2	EL3490	3/4" 90° SHORT ELBOW
11	1	EL3430	3/4" 30° ELBOW
12	2	5012902	3/4" BREATHER
13	1	SS10012	WRAPLOCK
14	1	PIPDOP	4 oz. PIPE DOPE
15	16	A314	3/4" CONDUIT LOCKNUTS
16	8	CPLG34	3/4" GALVANIZED COUPLING
17	4	N34T3	3/4" x 3" NIPPLE
18	3	N34T6	3/4" x 6" NIPPLE
19	3	N34T12	3/4" x 12" NIPPLE
20	3	N34T24	3/4" x 24" NIPPLE
21	2	N34T36	3/4" x 36" NIPPLE
22	3	SLPIGTAIL25	25' SIDELIGHT PIGTAIL
23	1	AA1	AA1 CONTROLLER
24	-	CONDUIT34	3/4" CONDUIT (TOWER HT. + 30'/9M)
25	-	6THHNWHT	#6 THHN WHT. WIRE (TOWER HT.+40'/12M)
26	-	6THHNBK	#6 THHN BLK. WIRE (TOWER HT.+40'/12M)
27	-	12THHNRED	#12 THHN RED WIRE (1/2 TWR HT.+40'/12M)

ITEM NUMBERS #24-#27 ARE NOT INCLUDED IN THE KIT BUT ARE AVAILABLE UPON REQUEST, AND REQUIRED FOR INSTALLATION.

* = ITEMS NOT SHOWN

NOTES:

- 1) CONDUIT SIZE BASED ON USING TYPE THHN WIRE.
- 2) USE RIGID GALVANIZED STEEL CONDUIT.
- 3) BREATHERS ALLOW FOR CIRCULATION OF AIR TO PREVENT CONDENSATION.
- 4) ITEMS #17-#21 TO BE USED IN VARIOUS COMBINATIONS FOR OL1 RUN. EXTRA NIPPLES TO BE CUT TO FIT IF FACE WIDTH IS LARGER THAN 6'.
- 5) USE ITEM #16 TO COUPLE CONDUIT NIPPLES. APPROPRIATE OL1 EXTENSION IS 12".



(NO BOOST)

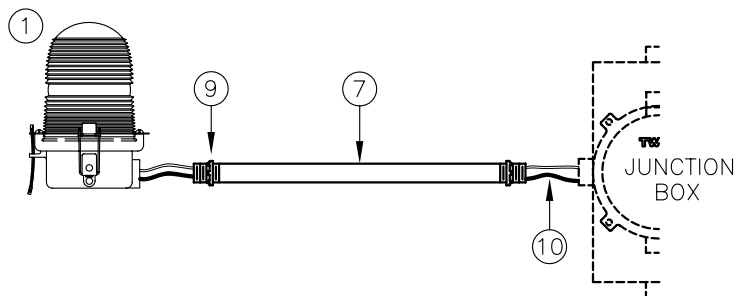
LK4A1 TOWER LIGHTING KIT W/3 OL-1
(TOWERS 201'/61M TO 350'/107M)

TWR Lighting, Inc.

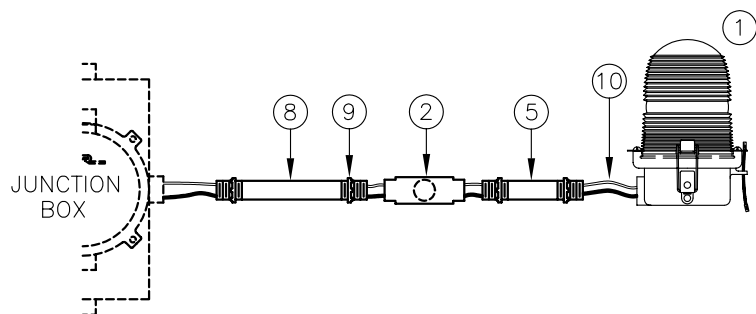
APP'D	ENGINEER	CHK'D BY
DRAWN BY	G.D.SFBEK	SHEET SIZE B
DATE	3/5/94	SCALE N.T.S.
DRAWING NO.	260-14	SHEET QTY. 1 OF 1

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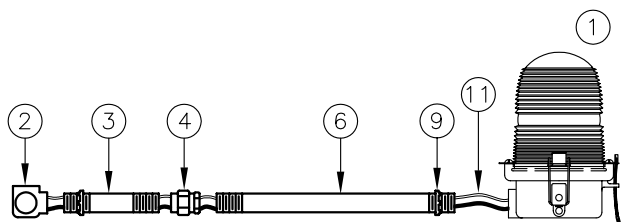
04/24/96	(D)	REVISE B.O.M.
03/19/96	(C)	UPDATED B.O.M.
9/9/94	(B)	REWORK KIT PARTS
3/8/94	(A)	ADDED MATERIALS
DATE:	LTR.	REVISION



VIEW A



VIEW B



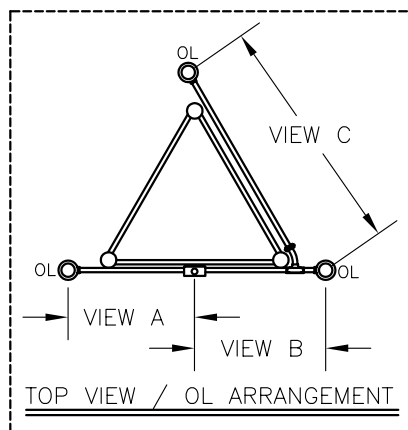
VIEW C

BILL OF MATERIALS

ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	3	OL1	3/4" OBSTRUCTION LIGHT
2	1	T27	3/4" CONDULET W/COVER AND GASKET
3	1	EL3430	3/4" 30° ELBOW
4	1	UNY205	3/4" UNION
5	1	N34T3	3/4" x 3" NIPPLE
6	1	---	3/4" NIPPLE = (FACE + 6")
7	1	---	3/4" NIPPLE = (FACE ÷ 2 + 36)
8	1	---	3/4" NIPPLE = (FACE ÷ 2)
9	5	A314	3/4" CONDUIT LOCKNUTS
10	2	---	#14 RED & WHT. WIRE (FACE - 2 + 36")
11	1	---	#14 RED & WHT. WIRE (FACE x 1.5 + 24")

NOTES:

1. THIS DRAWING IS A TYPICAL INSTALLATION DETAIL FOR 3 OL-1 PER LEVEL SYSTEM.
2. IN VIEW C ITEM NUMBER 3 MAY BE OMITTED WHEN ARRANGING FOUR LEG TOWERS.
3. LENGTHS FOR SIDELIGHT RUNS MAY BE ACHIEVED BY MULTIPLE PIECES OF ITEM NUMBERS 6-8.
4. ITEMS 10 & 11 MAY COME IN BULK LENGTHS.



3-OL-1 LIGHT LEVEL DETAIL (EACH)

TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY E.A.SALAZAR	DATE 06/06/96	SHEET SIZE B
SCALE N.T.S.	REVISION 1	SHEET QTY. 1 OF 1

6/06/96	(A)	ADDED NOTES (GDS)
DATE:	LTR.	REVISION

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TWR Lighting, Inc.

FAA Approved L-810

Single Obstruction Light Side Hub

OL1

FM10018_RC.DWG

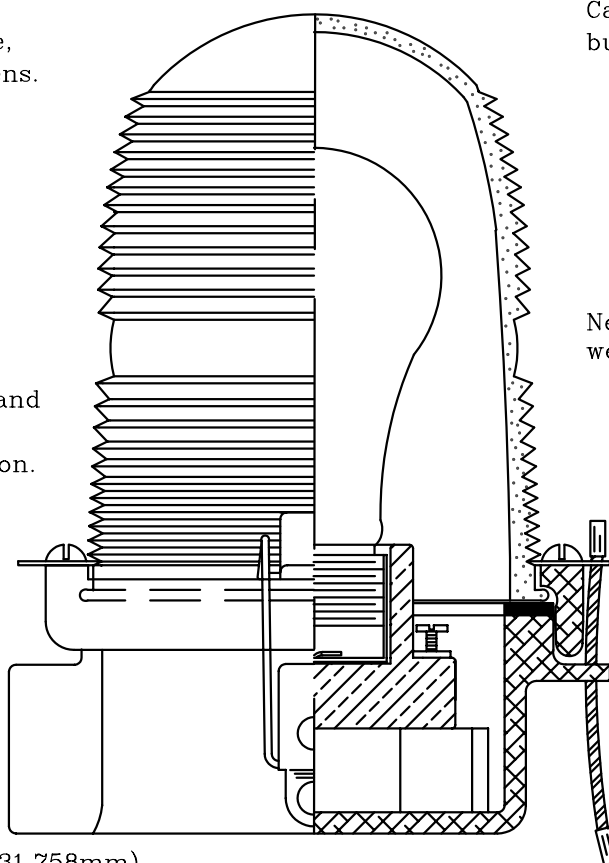
For use as an obstruction light on towers, building, bridges, cooling towers.
Meets or exceeds all FAA specs as found in AC 150/5345-43 Type L-810.

Our most popular light. The side hub allows for a straight run of conduit from the junction box for hook up.

High temperature, ultra pure
FAA approved Aviation red, blue,
yellow, or clear glass fresnel lens.

Copper free aluminum casting and
all stainless steel latches and
hardware for corrosion protection.

Specify conduit size
3/4", 1", 1-1/4" NPT
(19.055mm), (25.407mm), (31.758mm)



Can be used steady
burning or flashing.

Neoprene gasket for
weatherproofing.

High quality porcelain
receptacle.

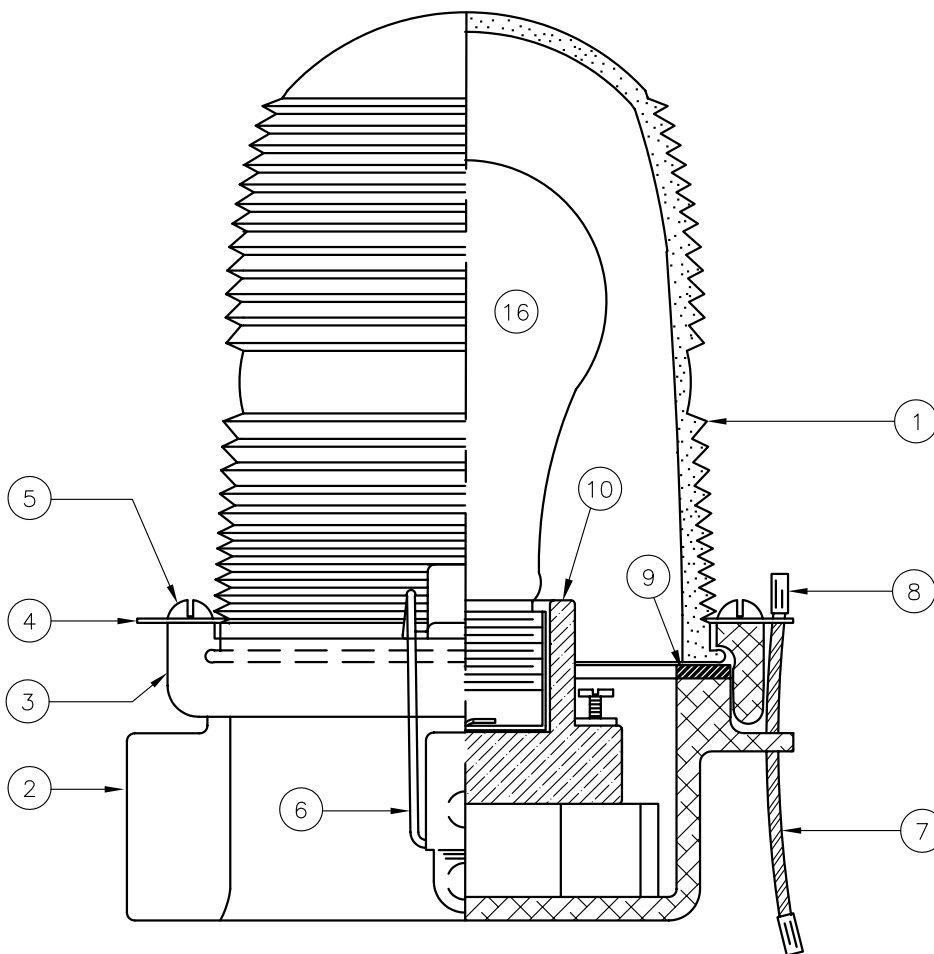
Stainless steel
safety cable.

No special tools required for maintenance.

General Specifications

Height 7.5 inches (19.055 cm)
Weight 3 lbs (13605.442g)
Power 120, 230, or 240 volts AC
Uses 116W, 120V or 240V bulbs
Bulbs sold separately

TWR Lighting, Inc.
4300 Windfern Rd. #100
Houston, Tx., 77041-8943
Phone: (713)973-6905
Fax: (713)973-9352
WEB SITE: <http://www.twrlighting.com>
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ITEM NO	QTY.	TWR PART NUMBER	DESCRIPTION
1	1	AP35222	RED SIDELIGHT GLASS
2	1	105C	SINGLE SIDELIGHT BODY
3	1	106C	LENS HOLDER RING
4	2	12V245	OL LENS CLIP
5	2	832X14PH	8-32 X 1/4" PH S.S. SLOT
6	2	HC255SS	SIDELIGHT LATCHES
7	1	7X7SS	1/16 7 X 7 S.S. WIRE
8	2	A1A	STAKON CRIMP
9	1	OLG	OL GASKET
10	1	19062	SIDELIGHT RECEPTACLE
* 11	4	18PRSS	1/8 POP RIVETS
* 12	1	A314	3/4" CONDUIT LOCKNUT
* 13	2	104G	WHITE TEFLON WASHER
* 14	2	832X34PH	8-32 X 3/4" S.S. RH SLOT
* 15	1	100327	OL-1 SERIAL NUMBER LABEL
~ 16	1	116A21TS	116W-120V LAMP (TYP.)

*=PART NOT SHOWN

~=PART SOLD SEPARATELY

NOTE:

1. FAA APPROVED LIGHT USES THE 116A21TS LAMP. OTHER LAMPS ARE AVAILABLE TO MEET YOUR APPLICATION.

OL1

3/4" OL-1 SIDE HUB
ASSEMBLY DETAIL (PART #OL1)

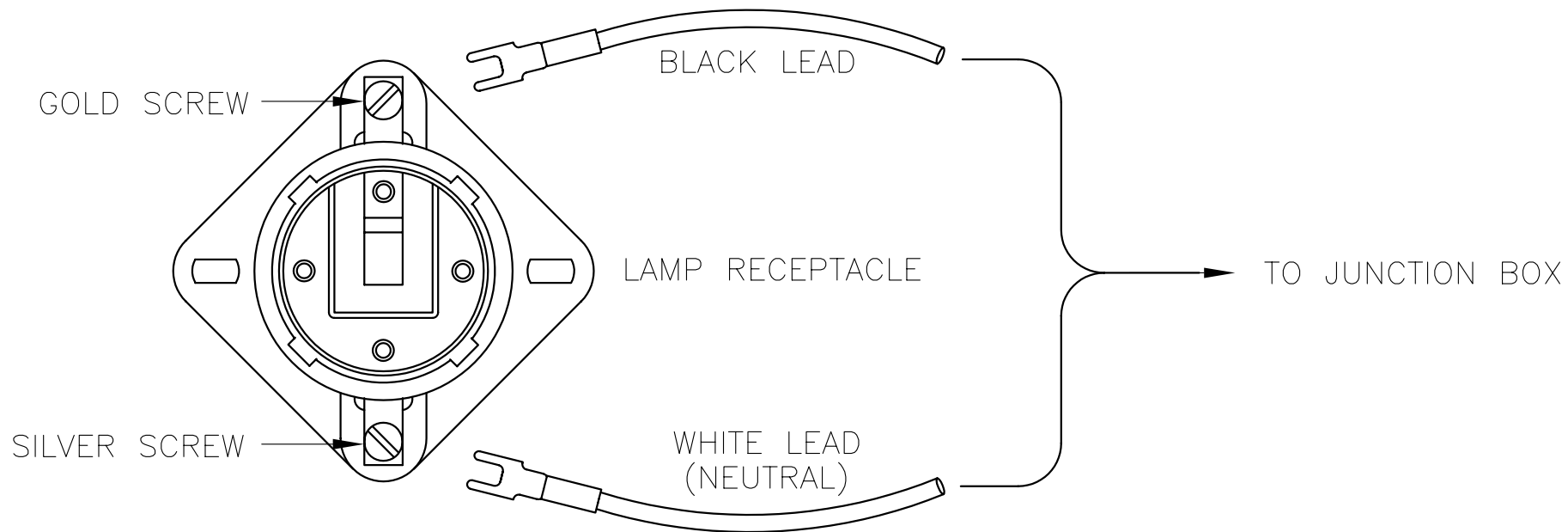
TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY	E.A.SALAZAR	SHEET SIZE
DATE	1/7/92	SCALE
		DRAWING NO.

05/13/02 (B) UPDATED B.O.M.

DATE: LTR. REVISION

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SIDELIGHT RECEPTACLE WIRING

TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY G.D.SEBEK	SHEET SIZE A	SHEET QTY. 1 OF 1
DATE 6/8/91	SCALE N.T.S.	DRAWING NO. 274-S

7/2/98		CDL	CHANGED LABEL
DATE:	LTR.		REVISION

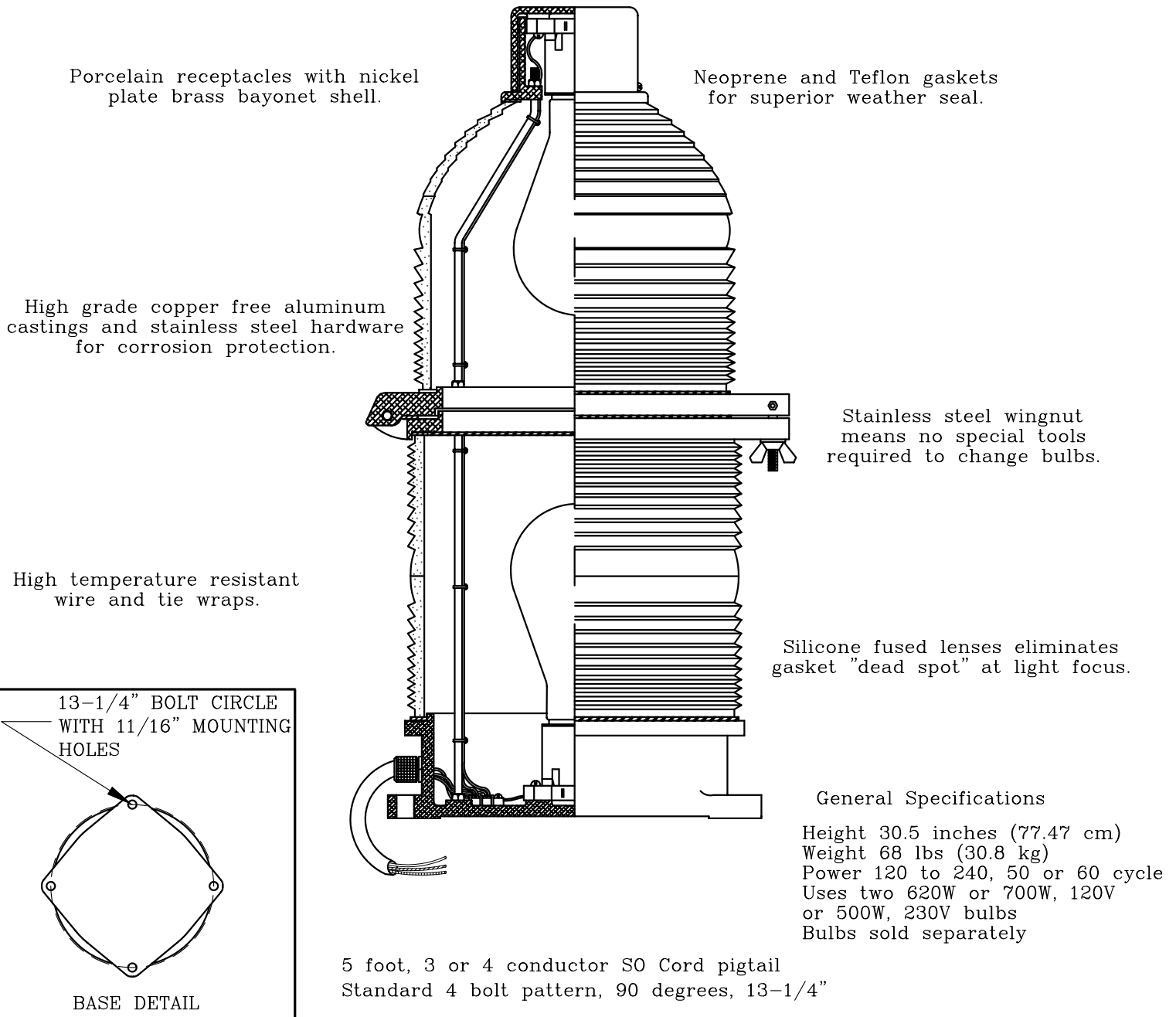
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TWR Lighting, Inc.

FAA Approved L-864 300 mm BEACON

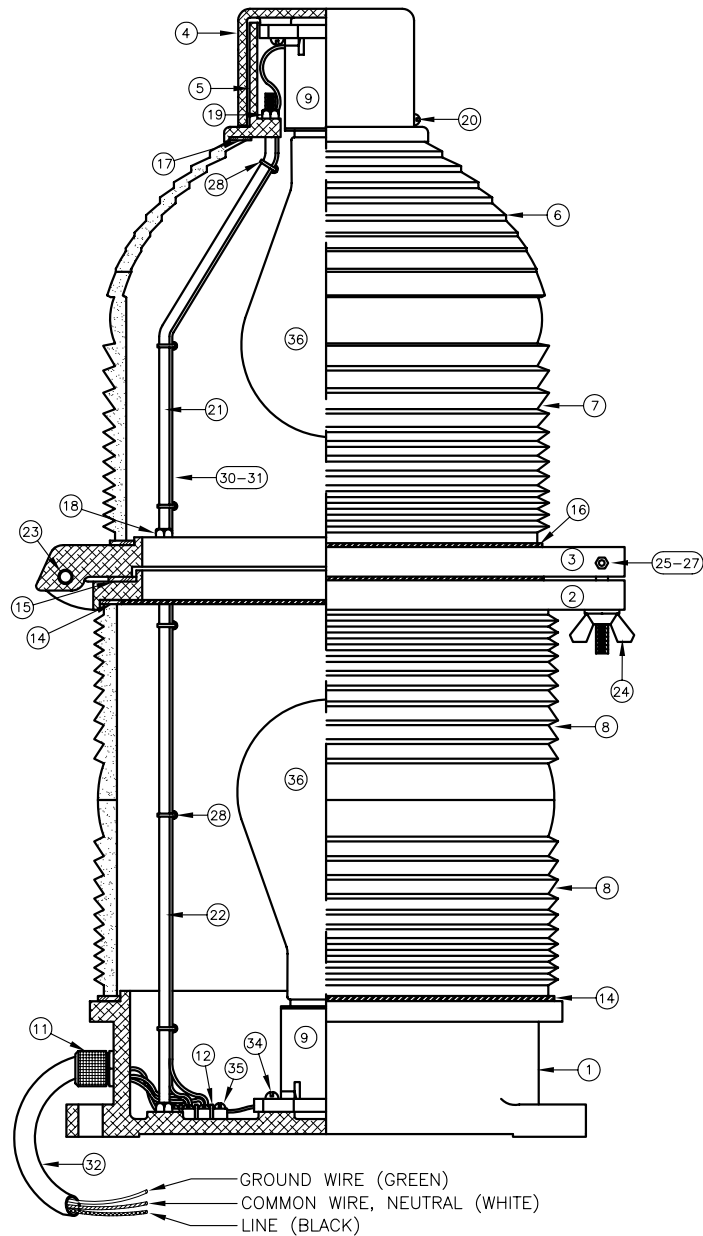
FM10017RB.DWG

Flashing 300 mm Code Red Beacon is used to light aviation obstructions taller than 150 feet AGL. ETL approved to meet or exceed all FAA specifications as found in AC 150/5345-43 Type L-864.



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WEB SITE: <http://www.twrlighting.com>
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ITEM NO.	QTY.	TWR PART NO.	DESCRIPTION
1	1	100C	BEACON BASE
2	1	101C	LOWER HINGE
3	1	102C	UPPER HINGE
4	1	103C	CANOPY CAP
5	1	104C	CANOPY FLANGE
6	1	AP3557	CAP LENS RED
7	1	AP3556	MIDDLE LENS RED
8	2	AP3555	BOTTOM LENS RED
9	2	23X546	BEACON LAMP RECEPTACLE
* 10	4	104G	WHITE TEFLON WASHER 5K MIN.
11	1	CGB295SA	CORD CONNECTOR 3/4 50 - 62
12	1	TERMBLK3	TERMINAL BLOCK 3-PART
13	1	832X38PH	8-32 X 3/8 SS PH SCREW
14	2	100G	GASKET, BEACON BASE
* 15	1	101G	GASKET, MIDDLE BEACON
16	1	102G	GASKET, TOP HINGE
17	1	103G	GASKET TEFLON, TOP
18	6	516NUT	5/16-18 HEX NUT
19	6	516NUTIN	5/16-18 NUT W/NYLON INSERT
20	3	1420X58RH	1/4-20 X 5/8" SS RH SCREW
21	3	BTRB	BEACON TIE RODS BENT
22	3	BTRS-1	BEACON TIE ROD STRAIGHT
23	1	BHP	BEACON HINGE PIN W/COTTER PIN
24	1	BLP	BEACON LATCH PIN
25	1	632X2RH	6-32 X 2 SS RH SCREW
26	1	632NUT	6-32 NUT HEX
27	1	632LW	6-32 LOCK WASHER
28	7	TY223M	HI-TEMP TY WRAPS
* 29	1	100328	BEACON SERIAL NUMBER LABEL
30	4	16HTWH	#16 HI-TEMP WHITE WIRE
31	4	16HTBL	#16 HI-TEMP BLACK WIRE
32	5	CS014/3	S.O. CORD 3 WIRE, #14
* 33	11	YAV14-H34F	(STAKON) BURNDY HEAVY DUTY
34	4	1032X1RH	10-32 X 1 SS RH SCREW
35	2	1032X38BH	10-32 x 3/8 BH
36	2	-	BEACON LAMP
37	1	1032X58PH	10-32 x 5/8 PH

* = ITEM NOT SHOWN
~ = PART SOLD SEPARATELY

300MM BEACON

300 MM BEACON
ASSEMBLY DETAIL (PART #BEACON)

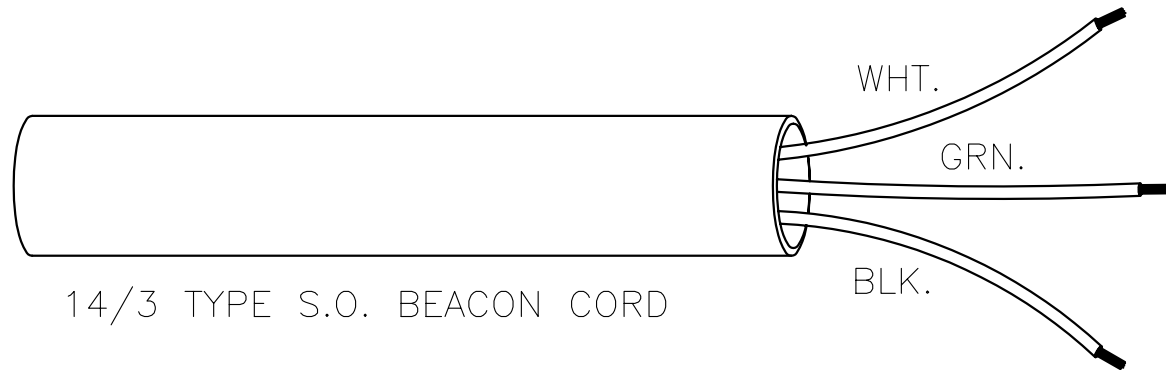
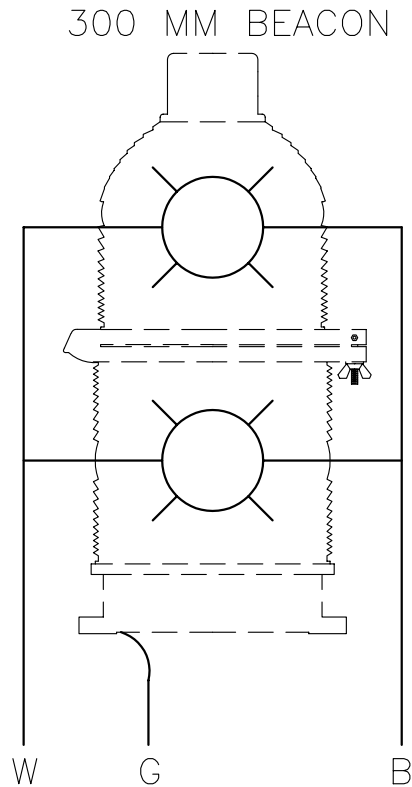
TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY	G.D.SFBEK	SHEET SIZE
DATE	6/3/91	SCALE
	N.T.S.	DRAWING NO.
		275-B

05/18/00(D) 4 UPDATED B.O.M.
DATE: LTR. REVISION

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- 1) WHITE WIRE IS NEUTRAL TO BOTH LAMPS.
- 2) BLACK WIRE IS LINE TO BOTH LAMPS.
- 3) GREEN WIRE IS EARTH GROUND.

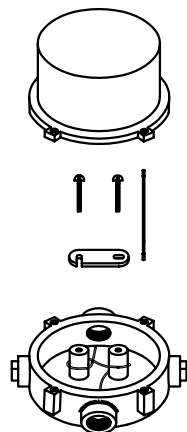
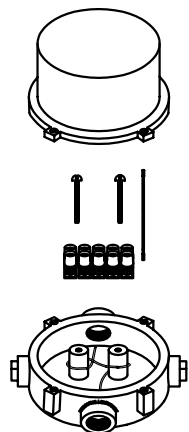


300 MM BEACON WIRE

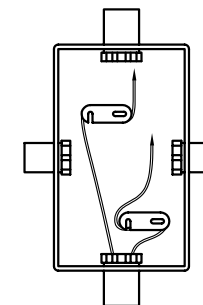
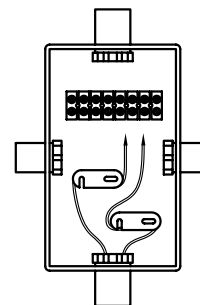
TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY	
DRAWN BY	G.D.SEBEK		SHEET SIZE
DATE	6/10/91	SCALE	N.T.S.
		DRAWING NO.	273-B

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JB-5 AND JB-O
3/4" JUNCTION BOX



JB-8 AND JB-8SR
1" JUNCTION BOX

NOTES:

- 1) DRAWING ILLUSTRATES METHOD OF STRAIN RELIEVING WIRE. USE THIS METHOD ON ALL JUNCTION BOXES.
- 2) THE NATIONAL ELECTRICAL CODE-ARTICLE 300-19-B3 REQUIRES CONDUCTORS IN A VERTICAL CONDUIT BE SUPPORTED TO RELIEVE STRAIN ON TERMINAL BLOCK CONNECTIONS.
- 3) SKETCH ILLUSTRATES METHOD OF STRAIN RELIEVING A SINGLE CONDUCTOR. SEVERAL CONDUCTORS MAY BE GROUPED TOGETHER.
- 4) CONDUCTORS MAY BE MIXED BUT SHOULD NOT TAKE UP MORE THAN 40% OF CONDUIT'S INSIDE AREA.

USING THIS JUNCTION BOX METHOD SPACING IS 100 FEET MAXIMUM.

AWG WIRE SIZE	MAX. NUMBER WIRES IN 3/4" CONDUIT	MAX. NUMBER WIRES IN 1" CONDUIT	WIRE AREA SQ. INCHES	WEIGHT PER 100 FEET
12 THHN	16	26	0.0117	2.50
10 THHN	10	17	0.0184	4.10
8 THHN	6	9	0.0373	6.70
6 THHN	4	7	0.0519	10.30
4 THHN	2	4	0.0845	16.20

JUNCTION AND STRAIN RELIEF BOXES

TWR Lighting, Inc.

APP'D	ENGINEER	CHK'D BY
DRAWN BY G.D.SEBEK		SHEET SIZE B
DATE 7/26/93	SCALE N.T.S.	SHEET QTY. 1 OF 1
		DRAWING NO. 100089

9/29/00 (A) 8 UPDATED NOTES

DATE: LTR. REVISION

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