

Airfield Mat Systems, Inc  
7396 Skyline Drive  
Delray Beach  
Florida 33446  
www.airfieldmats.com



**ECHO Advisory**

an aviation improvement company

Steve J. Byers  
412.401.5025  
Stevei@airfieldmats.com

## 2019 Pricing effective January 1, 2019

### Large Mats with Anchors

	Price	Shipping
<b>FM-1-8</b> f.k.a. FM-1	<b>\$206.50</b>	Not Incl. Call
<b>FM-1-8wi</b> f.k.a. FM-2wi	<b>215.50</b>	Not Incl. Call
<b>FM-1-8wi-18</b> f.k.a. FM-1wi-18 f.k.a. FM-2wi-18	<b>228.00</b>	Not Incl. Call

### Strip Matting With Anchors

<b>SM-1*</b> *30ft lengths with 15 anchors	474	Not Incl. Call
<b>SM-2**</b> **60ft lengths with 30 anchors	946	Not Incl. Call

### MISC Parts

IN-12 12" insert	23
IN-18 18" insert	30
A-10 Straight Anchors (qty 10)	110

### Terms: NET30 upon approval

1.5% per month finance charge will be assessed after 90 days

**Shipping:** Not included. Ask for quote for specific quantities and to specific destinations.  
Call 412-401-5025 or email [steve@airfieldmats.com](mailto:steve@airfieldmats.com)

Prices subject to change due to volatile market conditions. Call to confirm and lock in pricing for 30 days.

**Lead Time: 2-4 weeks**

The Echo Advisory® Airfield Mat Systems aka. "LightSaver™ Mat" is protected by US. Patent 6,527,407 and Federal Case No. 03-61343-CIV-MORENO in the US District Court of Southern District of Florida.

Steve Byers, inventor and sole owner of Patent Number 6,527,407 requests purchaser verify suppliers licensing rights through personal contact at 412-401-5025.



2019

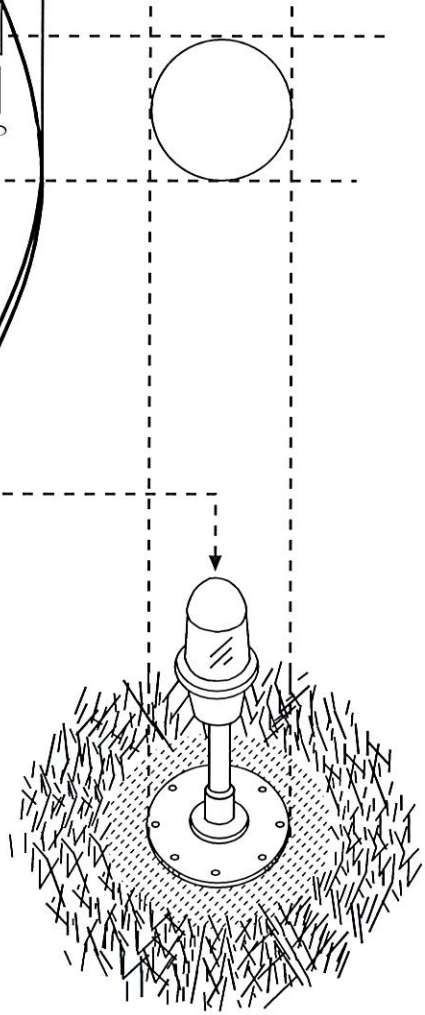
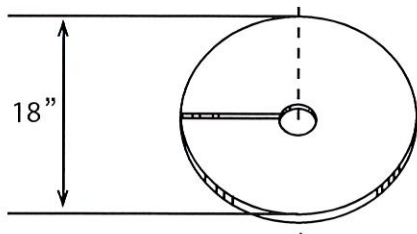
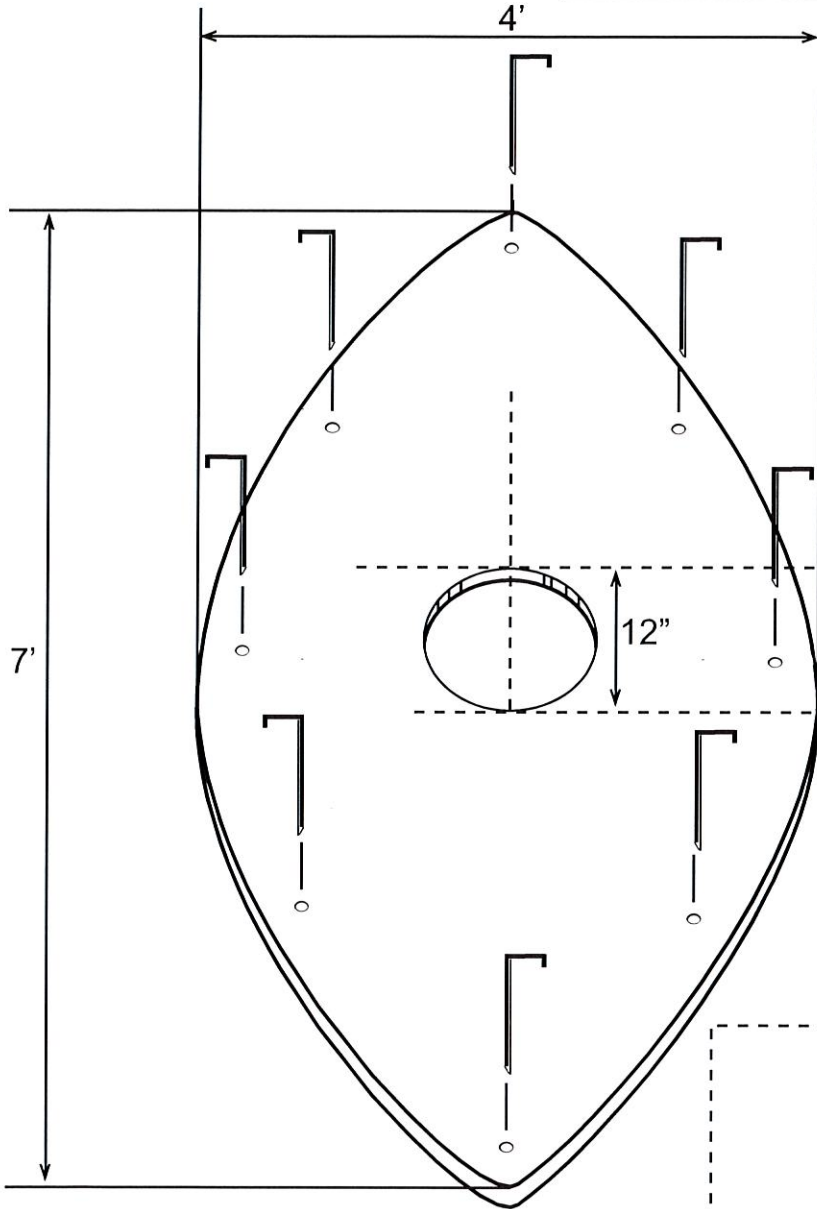
Mat Material Specifications:

1. Mats are a high Density Masticated Rubber Material
  - a. made of no less than 7 % polyurethane binders
  - b. and no more than 93% rubber grindings
2. Weight rubber mat about 32 lbs.
3. Anchors about 1.5 lbs each
4. Description by part number:

FM-1-8	<b>48"x84" Football Mats</b> For Base Can Mounted lights 12" center hole to fit precisely around 12" base can lid Includes 8 straight anchors Previous equivalent part numbers FM-1
FM-1-8wi	<b>48"x84" Football Mats with 12" insert</b> For Stake Mounted lights 8" center hole in main mat Insert wraps around stake - Required Includes 8 straight anchors Previous equivalent part numbers FM-2wi
FM-1-8wi-18	<b>48"x84" Football Mats with 18" insert</b> <b>Dual Application</b> For Base Can Mounted lights 12" center hole to fit precisely around 12" base can lid Insert of overlay the Base Can Lid - Optional For Stake Mounted light Insert wraps around stake – Required Includes 8 straight anchors Previous equivalent part numbers FM-1wi-18 & FM-2wi-18
SM-1	<b>25"x30' Strip Matting</b> For Edge Applications such as : Around Directional signs Along Buildings Along Fences Mat is cut and anchor holes cut by installer in the field Includes 15 straight anchors
SM-2	<b>25"x60' Strip Matting</b> For Edge Applications such as : Around Directional signs Along Buildings Along Fences Mat is cut and anchor holes cut by installer in the field Includes 30 straight anchors

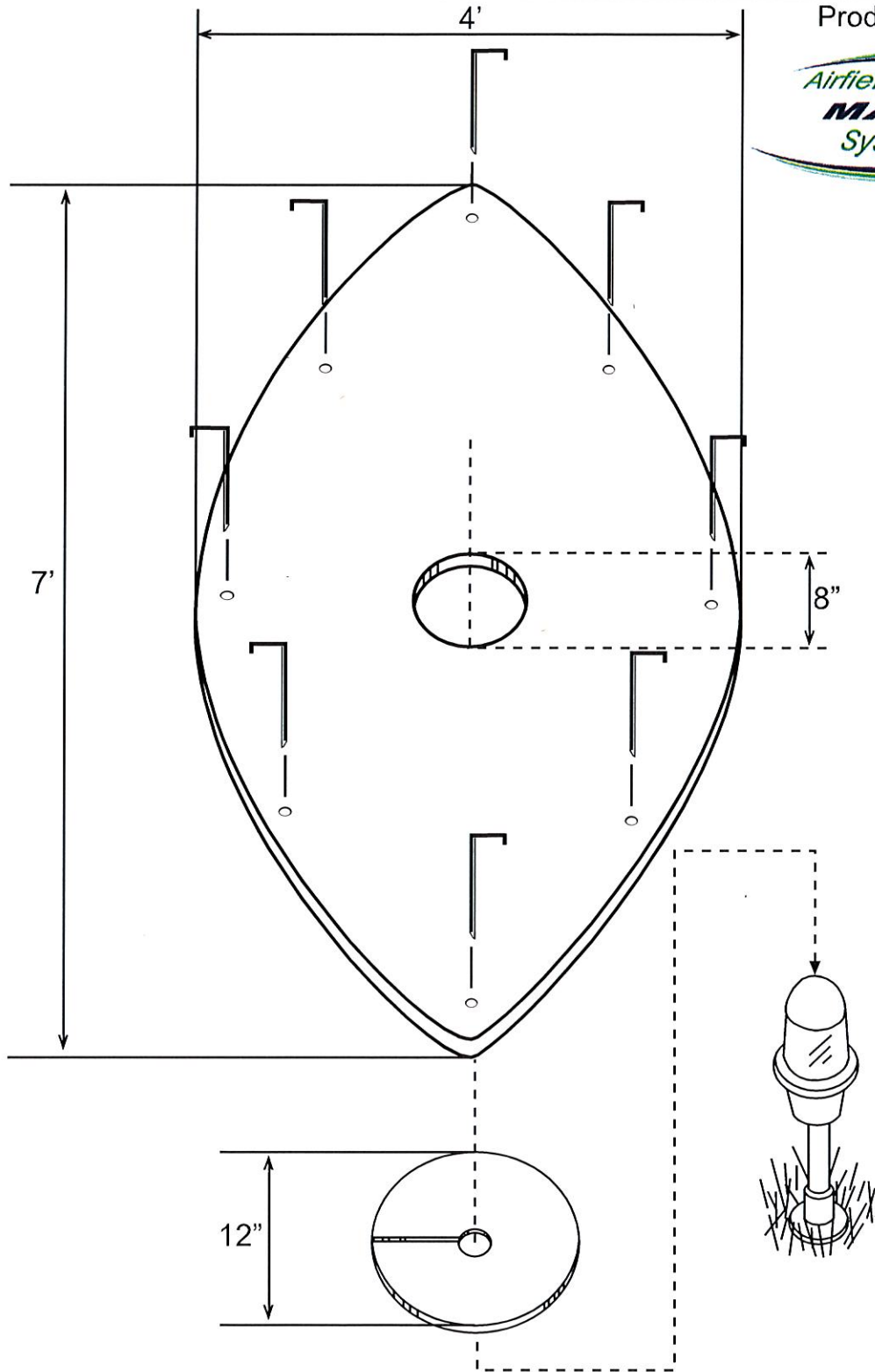
Football Mat for Can Mounted lights

Product Code: FM-1-8wi-18



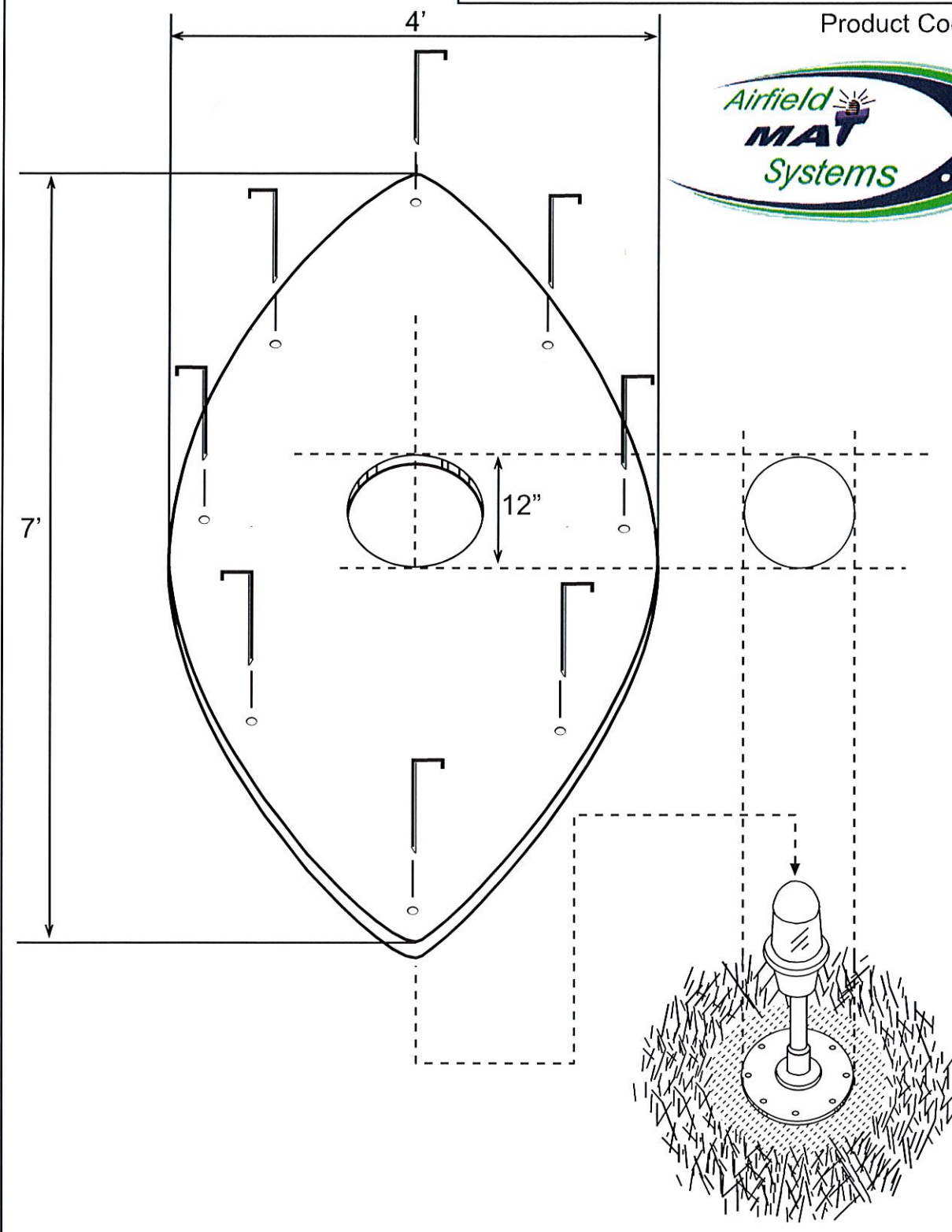
Football Mat with insert for Stake Mounted Light

Product Code: FM-1-8wi



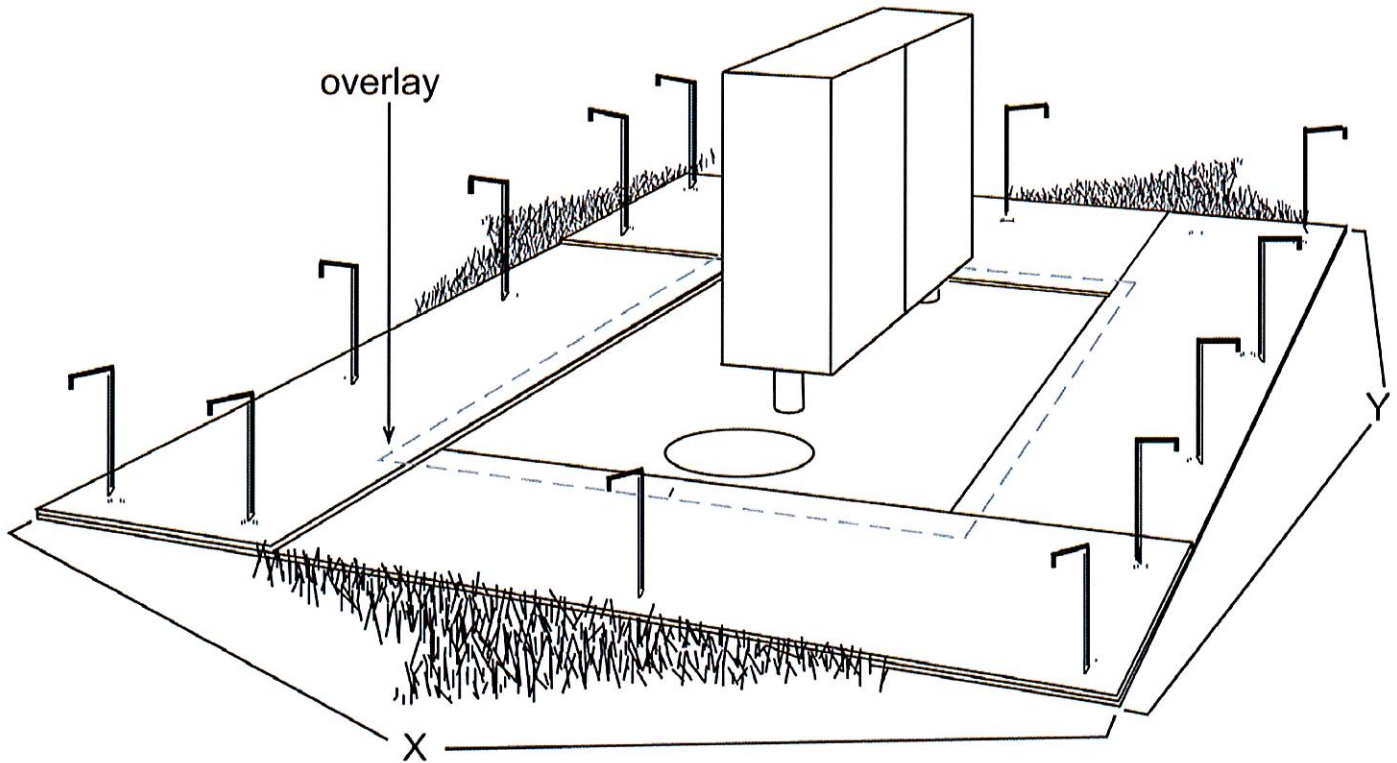
Football Mat for Can Mounted lights

Product Code: FM-1-8



Strip Mat

Product Code: SM-1  
SM-2



Length needed = perimeter extending 2 feet from base =  $2X + 2Y$

SM-1: 30ft Length - 15 Anchors

SM-2: 60ft Length - 30 Anchors



Airfield Mat Systems, Inc  
 7396 Skyline Drive  
 Delray Beach, FL 33446  
 www.airfieldmats.com

**ECHO Advisory**

an aviation improvement company

Steve J. Byers  
 412.401.5025  
 steve@airfieldmats.com

## AIRFIELD MATS

### MATERIALS

#### **Airfield Matting:**

The specifications in Tables 1 and 2 are those of the Echo Advisory™ Airfield Mats Systems.

**TABLE 1 – AIRFIELD LIGHT MATTING PROPERTIES**

PROPERTY	ASTM	SPEC-METRIC	SPEC-ENGLISH
<b>Tensile Strength</b> with grain, min. across grain, min.	D412 Die C	4.8 MPa 2.1 MPa	696.0 psi 304.5 psi
<b>Elongation (%)</b> with grain, min. across grain, min.	D412 Die C	15 40	15 40
<b>Hardness, Shore A</b>	D2240	75-85	75-85
<b>Tear Resistance</b> with grain, min. across grain, min.	D624 Die B	21 kN/m 44 kN/m	119.7 pli 250.8 pli
<b>Heat Aging</b> change in:	Tensile, % max. Elongation, % max. Hardness, Pts max. D573 70 hrs @ 70°C	+/-25 +/-25 + 10	SAME
<b>Ozone Resistance</b> Tear across grain, kN/m min.	80pphm 50hrs @ 38°C	19.0 kN/m	108.3pli
<b>Specific Gravity</b>		0.9-1.3	0.9-1.3
<b>Low Temperature Brittle</b> @-40°C	D-2137 Method A	non brittle in both directions	SAME
<b>Flammability</b>	Shall conform to current MVSS No.302, Flammability of Interior Materials.		



**Helicopter  
Pasture spraying**  
aerialsprayingmn.com

**Oklahoma Kansas**  
2,4D Weed control

**Airfield MAT Systems**

**Moneysaving SAFETY Solutions**

[MAIN](#)

[ABOUT US](#)

[PRODUCTS](#)

[CONTACT INFO](#)

[QUOTE](#)

[GALLERY](#)

[SAVINGS CALCULATOR](#)

**[HOW TO GET YOUR MATS](#)**  
**[How to Design Mats in to AIP Projects](#)**



**Anchor Format Update**  
**Savings Calculator**  
**DEMO ORDER OFFER!!!**  
**CLICK HERE!!!**

**Made in U.S.A.**



The Echo Advisory Airfield Mat System

## Size Matters

Our Mats are Actually Large Enough to effectively:

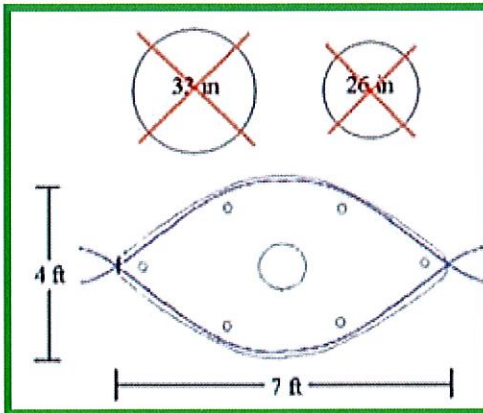
- Prevent Tall Grass around Lights
- Prevent Erosion
- Reduce Breakage

The Echo Advisory Anchoring System features:

- **Zero Profile Anchors**
- Allow Mowing Equipment Overlap
- Prevents Mats from Being Dislodged

Larger Echo Advisory elliptical mats accomplish what the smaller, popularly advertised mats do not. The Echo Advisory elliptical or football mats are 7 feet long and 4 feet wide; realistically complementing the mowing path around runway lights.

Mower equipment can overlap the edge of the mat, completely cutting all the vegetation around the light. There is no need to return to the light with a line trimmer or to spray an erosion causing herbicide.



Mower equipment can pass over the mat, cutting the grass without the use of line trimmers while staying a safe distance from lighting fixtures.

## Size Matters

**"The small rounds ones, they didn't impress me none. Tried to cut over them, had to orbit them, they didn't stay in place.... The football ones, the mower goes over them really nice, they will save me a lot of time and a lot of trouble."**

**-- Sparky, Airport Mgr., Benton County Airport, Camden Tennessee**



The Echo Advisory™ Airfield Mat Systems aka. "LightSaver™ Mat" is protected by US. Patent 8,527,407 and Federal Case No. 03-61343-CIV-MORENO in the US District Court of Southern District of Florida.

Steve Byers, inventor and sole owner of Patent Number 8,527,407 requests purchaser verify suppliers licensing rights through personal contact at 412-401-5025.

PHONE: 412-401-5025  
info@echoadvice.com

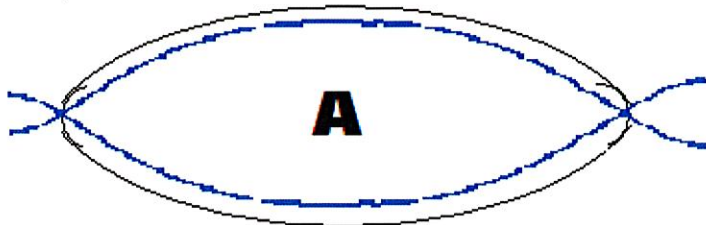
© 2008 Airfield Mat Systems Inc.

# Optimal Mat Performance

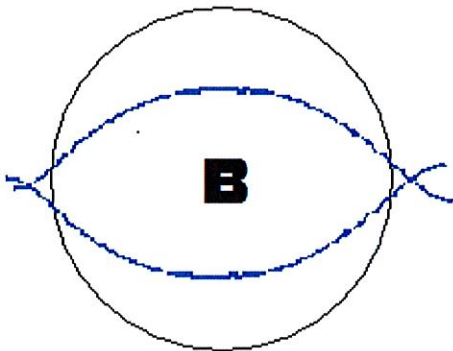
Reviewing the mowing path taken by the mowing vehicles it can be concluded the football mat the most optimal design.

**A = Recommended**  
**B&C = Less Desirable**

Mowers weave around the perimeter of a light as they proceed along a directional path down the runway or taxiway. The blue line depicts the path of a mower decks edge as it passes by a light

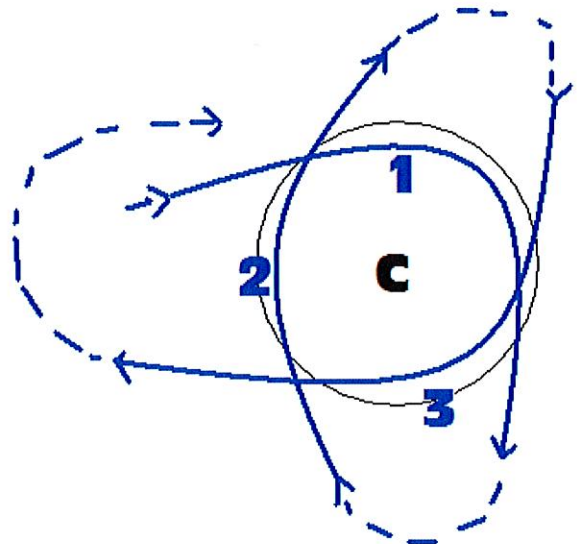


The football or elongated shaped mat complements this mowing path giving the mower perimeter a length of 7 feet and a width of 4 feet around the light.



The same path reduced to match a round mat shows that a mower decks perimeter utilizes a much smaller ratio of the mat. In the case of a 4ft diameter mat the mats effectiveness of the mowing perimeter is reduced from 7 to 4 feet length-wise and 4 to 2 feet in width. In the case of smaller mats such as a 26 inch mat the effectiveness of the mat is reduced to inches not feet.

Mower operators often find themselves taking a more frustrating approach to round mats resulting in a pattern called orbiting. This often results in mower wheels taking sharp turns on the mat and the mower is more likely to buckle or dislodge the mat.



It is recommended that Airfield Mats are installed as pictured here



# Airfield Mat Systems



## TOOLS & ACCESSORIES - 8.2

### PRODUCT APPLICATION

The Airfield Mat System is used to protect runway and taxiway lights and can be used to:

- Keep mowing equipment further from the light to help prevent accidental breakage.
- Alleviate the need to use manual line trimming to keep the grass managed around the lights.
- Prevent the need to spray poison (i.e., "Agent Orange") around the lights that kills the grass and then leads to erosion.

### FEATURES

- Saves Labor Costs. Countless man-hours are accrued during the tedious task of line-trimming airfield lights to ensure visibility. Mowing equipment can overlap the mat, eliminating the need for grass trimming, thus saving time, money, and labor.
- Prevents Health and Safety Hazards. The light saver system eliminates the need to spread toxic chemicals, reducing the time a ground crew will need to be performing hazardous tasks in potentially dangerous locations.
- Prevents Costly Equipment Breakage. During routine grounds maintenance using large and imprecise mowing equipment, crews often report broken lights and posts. Using the Airfield Mat allows the mower to cruise past each light with a wider contingency space.
- Environmentally Friendly. Some airports use weed and grass-killers to control growth around airfield lights. The Airfield Mat eliminates the use of such chemicals, protecting ground water and wildlife and eliminating airfield crew exposure.
- Quick and Easy Installation. Airfield Mats are secured to the earth with Airfield Mat Systems recessed Ground Anchoring System. The anchors can be quickly and easily installed by one person. These durable anchors will hold the mat securely even in the most adverse weather conditions, and prevent displacement from prop-wash or jet-blast.
- Long Lasting Zero Profile. The low profile Anchors are made of steel while the Airfield Mats are made from durable synthetic rubber compounds. Both materials have proven resistance to nature's elements. The Airfield Mat System can be installed and forgotten, while the benefits continue year after year.

### ORDERING INFORMATION

<u>Description</u>	<u>Part Number</u>
48"x84" Football Mat. For base can mounted lights, 12" center hole to fit precisely around 12" base can lid. Includes 8 anchors.	FM-1-8
48"x84" Football Mat with 18" insert. Dual application. For base can mounted lights, 12" center hole to fit precisely around 12" base can lid. Insert of overlay the base can lid – optional. For stake mounted lights, insert wraps around stake – required. Includes 8 anchors.	FM-1-8wi-18
48"x84" Football Mat with 12" insert. For stake mounted lights, insert wraps around stake – required. Includes 8 anchors.	FM-1-8wi
25"x30' Strip Matting. For edge applications such as: around directional signs, along buildings, or along fences. Mat is cut and anchor holes cut by installer in the field. Includes 10 anchors.	SM-1
25"x60' Strip Matting. For edge applications such as: around directional signs, along buildings, or along fences. Mat is cut and anchor holes cut by installer in the field. Includes 20 anchors.	SM-2

*Manufactured by Airfield Mat Systems, Inc.*

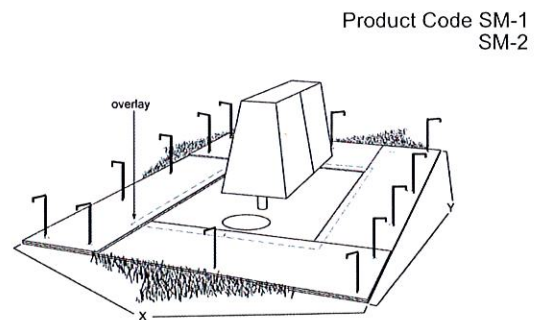
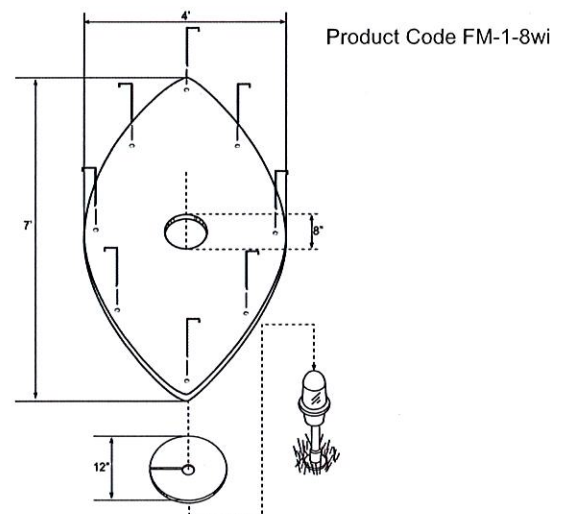
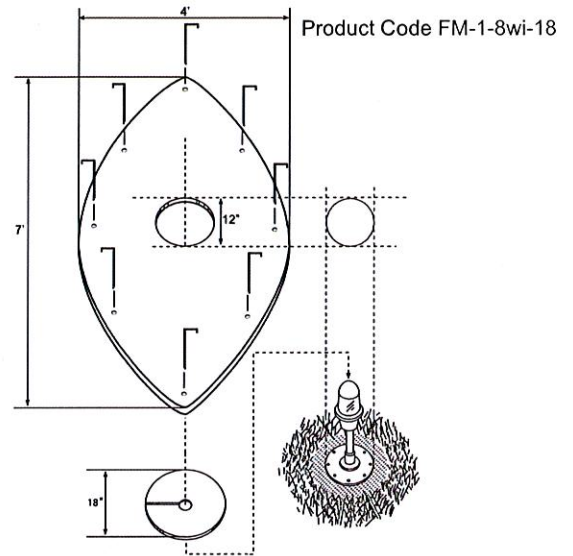
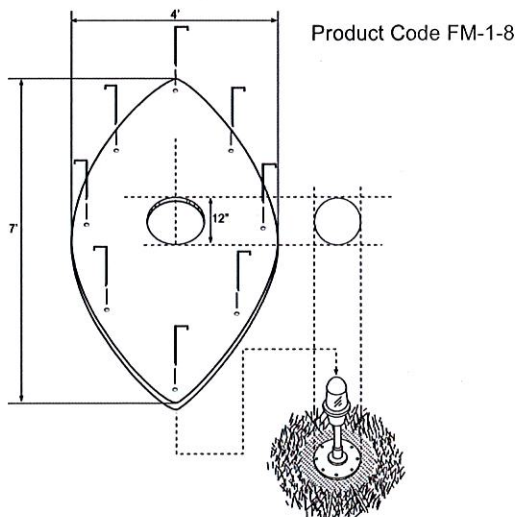
## RENEWAL PARTS

Description	Part Number
12" Insert	IN-12
18" Insert	IN-18
Anchors (quantity 10)	A-10

## MATERIAL SPECIFICATIONS

- Mat is made of no less than 7% polyurethane binders and not more than 93% rubber grindings.
- 11.5" long staple stake steel anchor:
  - Each anchor is designed to anchor the mat flush to the ground with an 11.5" shaft, a 4" horizontal bar, and a 2" down pin.
  - Each anchor penetrates the mat with the long shaft and the 2" pin penetrates directly into the ground where it reaches over the edge of the mat.
- Weight of the rubber mat is ~40 lbs.
- Weight of an anchor is ~1.5 lbs (~13 lbs for all 8).

## INSTALLATION DIAGRAMS

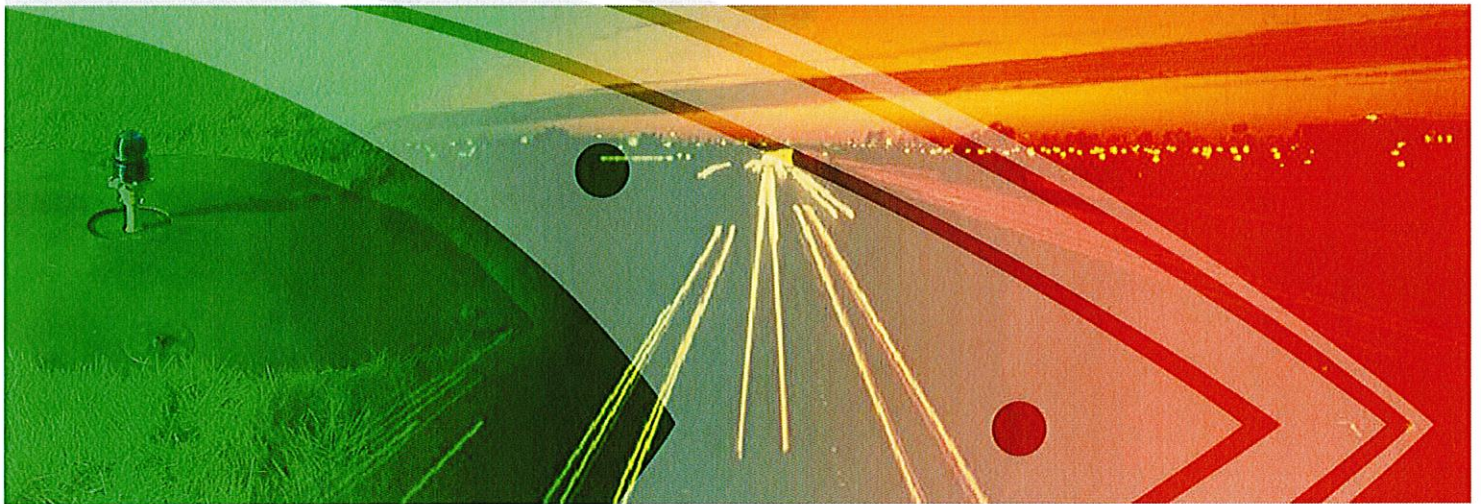


6830 NW 16th Terrace • Ft. Lauderdale, FL 33309 USA  
Phone: 1.954.975.2100 • Fax: 1.954.979.3313  
E-mail: DMEairfieldSALES@astronics.com • www.astronics.com

**ASTRONICS**  
DME CORPORATION

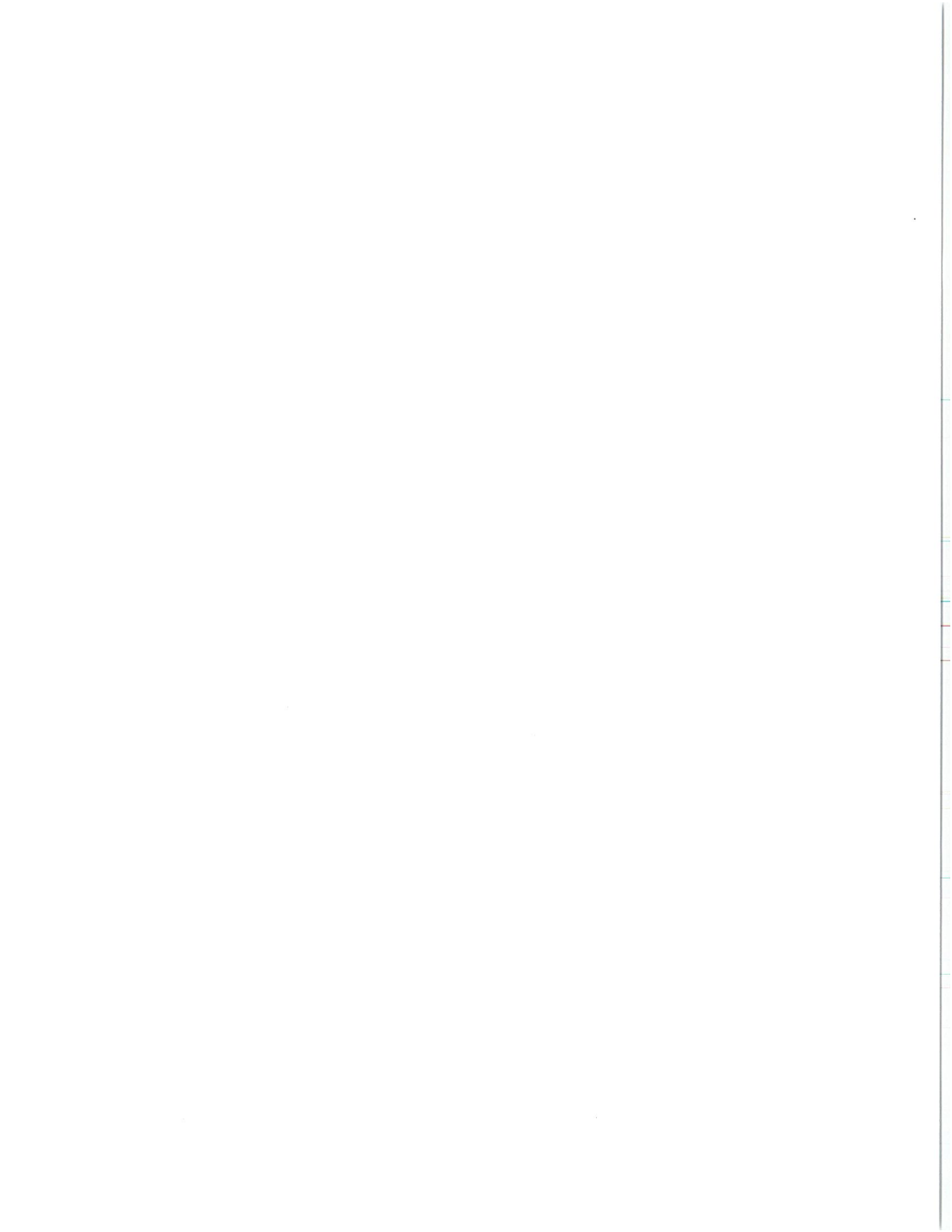
an aviation **improvement** company

**ECHO**Advisory



*Creating and distributing **innovative** products, with an **emphasis** on time and cost savings.*





# Bulletin

Service Bulletin for airfield lights installed in water washout areas and shoulders.  
This is a product update for customers who experience  
excessive erosion around lights.

In Order to prevent the problem of erosion around lights as pictured here



It is recommended that Airfield Mats are installed as pictured here



Contact your Authorized Echo Advisory sales representative to order some today



# Bulletin

Service Bulletin for airfield lights installed in grassy shoulders.  
This is a product update for customers who experience  
excessive vegetation growth around lights.

In Order to prevent the problem of high grass around lights as pictured here



It is recommended that Airfield Mats are installed as pictured here



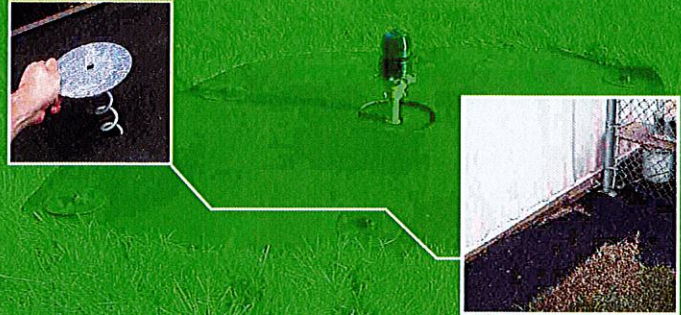
Contact your Authorized Echo Advisory sales representative to order some today



## The Mat

12mm thick made from recycled rubber with polyurethane binders. The mats anchor to the ground with **galvanized steel anchors**. Lawn mower equipment can pass over the mat cutting all the grass without the use of line trimmers while still staying a safe distance from the light.

Patent No. 6,527,407



## True Mowing Efficiency

The patented anchoring system and elongated "football" shape was designed to allow maintenance crews with larger mowers to mow in a line, from light-to-light and make only one pass on each side of the light. The *Football Mat* is 4 feet wide by 7 feet long. The *Football Mat* uses 6 ground anchors to secure it in place. Mowers can move in a more natural mowing arc around airfield lights, expediting the mowing process even further. The *Airfield Mats* are large enough to prevent lights from disappearing into the tall grass letting the mowing crew better visually identify the light location preventing "accidental breakage". ***Other smaller mats do not accomplish this same efficiency and often still require line-trimming to complete the job.***

When lighting, sign and fencing projects are bid under the Airport Improvement Programs(AIP) this **Airfield Mat System** qualifies as part of the funded project. Plan on protecting your airport's investment with the time and cost savings of the **Airfield Mat system**.

Call Echo Advisory Services, LLC for product information and support. Call our national distribution partners for pricing and availability

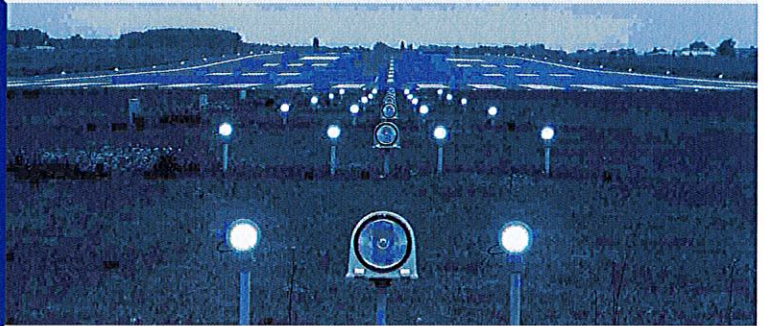
Distributed by:



## Protect Your Investment

This patented product was designed to reduce the damage caused by mower equipment impact to airfield lighting signs and other objects. During routine grounds maintenance using larger and imprecise mowing equipment, crews often report broken lights and posts. The Airfield Mat allows the mower to cruise past each light with a wider contingency space.

Patent No. 6,527,407



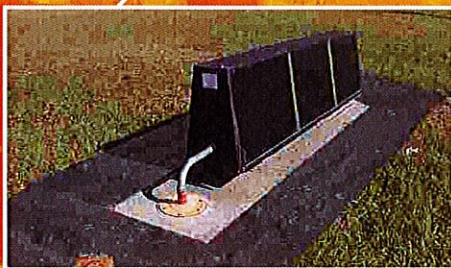
## Reduce Your Cost

The **Airfield Mat System** eliminates the constant attention and extra labor dedicated to controlling vegetation in hard to reach areas. Vegetation control around airport post lighting, directional signs, wind socks, fences and buildings calls for special attention. The **Airfield Mat System** is a cost effective solution that *reduces the labor to trim vegetation*, prevents erosion around the base of light or sign fixtures, and replaces the need for the use of environmentally damaging chemicals and poisons.

Countless man hours accrue during the tedious task of line-trimming grass that mowers can't reach. With the **Airfield Mat System**, mowing equipment can overlap the mat, *eliminating the need for grass trimming* and ensuring visibility around lights and signs.

Some airports use weed and grass-killers to control growth around airfield lights and signs. The **Airfield Mat System** *eliminates the use of such chemicals*, protecting ground water and wildlife and eliminating airfield crew exposure.

- Saves Money
- Protects Airfield Lights
- Saves Labor Time
- Reduces Health Risks
- Environmentally Friendly
- Installs Quickly and Easily
- Long Lasting Durability



# Bulletin

Service Bulletin for airfield lights susceptible to mower impact.  
This is a product update for customers who experience  
excessive light and sign breakage around the airfield.

In Order to prevent the problem of light and sign breakage as pictured here



It is recommended that Airfield Mats are installed as pictured here



Contact your Authorized Echo Advisory sales representative to order some today

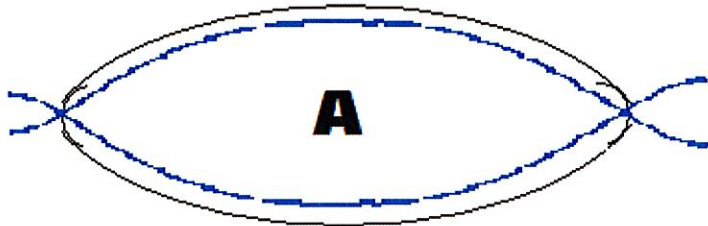
# Optimal Mat Performance

Reviewing the mowing path taken by the mowing vehicles it can be concluded the football mat the most optimal design.

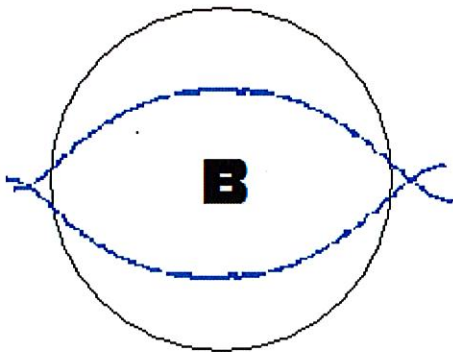
**A = Recommended**

**B&C = Less Desirable**

Mowers weave around the perimeter of a light as they proceed along a directional path down the runway or taxiway. The blue line depicts the path of a mower decks edge as it passes by a light

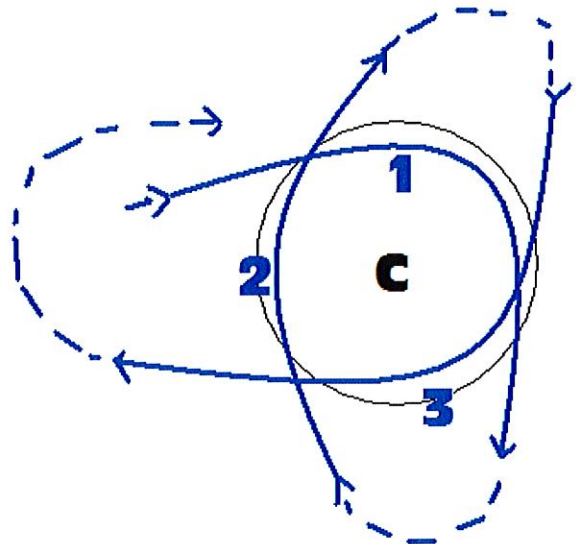


The football or elongated shaped mat complements this mowing path giving the mower perimeter a length of 7 feet and a width of 4 feet around the light.



The same path reduced to match a round mat shows that a mower decks perimeter utilizes a much smaller ratio of the mat. In the case of a 4ft diameter mat the mats effectiveness of the mowing perimeter is reduced from 7 to 4 feet length wise and 4 to 2 feet in width. In the case of smaller mats such as a 26 inch mat the effectiveness of the mat is reduced to inches not feet.

Mower operators often find themselves taking a more frustrating approach to round mats resulting in a pattern called orbiting. This often results in mower wheels taking sharp turns on the mat and the mower is more likely to buckle or dislodge the mat.



It is recommended that Airfield Mats are installed as pictured here







Echo Advisory Services, llc  
797 Broughton Road  
Bethel Park  
Pennsylvania 15102  
www.echoadvisory.com

**ECHO**Advisory

an aviation improvement company

Steve J. Byers  
412.401.5025  
Fax 412.291.1781  
steve@echoadvice.com

## The Airfield Mat System

### The Airfield Mat System:

This product was designed to eliminate the constant attention, which must be given to each post light on an airfield. Labor to trim vegetation, environment damaging chemicals and poisons and accidental breakage are virtually eliminated. Eliminates erosion around the base of the light fixture due to rain and wind. The mat is 4 feet in diameter and made from recycled rubber with polyurethane binders.

- Saves Money
- Protects Airfield Lights
- Saves Labor Time
- Reduces Health Risks
- Environmentally Friendly
- Installs Quickly and Easily
- Long Lasting Durability



### The Round Airfield Mat:

The Airfield Mat is designed to alleviate the need to trim the grass around the post lights on your air field. Lawn mower equipment can pass over the mat cutting all the grass with out the use of line trimmers while still staying a safe distance from the light..

Securely anchored to the ground, the mat does not allow grass to grow near the light.



A Four Wheel Steer Kubota taking action around the mat.



## The Football Airfield Mat:

The Football Airfield Mat: This product was designed to do the same job as the Round Mat, yet allow maintenance crews with larger mowers to mow in a line, from light-to-light and only make one pass on each side of the light. The Football Mat is 4 feet wide by 7 feet long and made of the same compound as the Round Mat. The Football Mat uses 6 ground anchors to secure it in place.

Mowers can move in a more natural mowing arc around airfield lights, expediting the mowing process even further, and probably sparing a few more lights in the process.



Even the most cumbersome field mowers can maintain a safe Maneuvering distance from the light while cutting all the grass



A Kubota Tractor Making a high speed pass traversing from from one light to another





Echo Advisory Services, llc  
797 Broughton Road  
Bethel Park  
Pennsylvania 15102  
www.echoadvisory.com

**ECHO**Advisory

an aviation improvement company

Steve J. Byers  
412.401.5025  
Fax 412.291.1781  
steve@echoadvice.com

## Benefits of the Airfield Mat System:

- Saves Money
- Protects Airfield Lights
  - Saves Labor Time
  - Reduces Health Risks
  - Environmentally Friendly
  - Installs Quickly and Easily
  - Long Lasting Durability



**Saves Labor Costs** Countless man-hours are accrued during the tedious task of line-trimming airfield lights to ensure visibility. With the, mowing equipment can overlap the mat the Airfield Mat System, *eliminating the need for grass trimming*, thus saving Time, Money, and Labor.

**Prevents Health and Safety Hazards** The light saver system eliminates the need to spread toxic chemicals, reducing the time a ground crew will need to be performing hazardous tasks in potentially dangerous locations.

**Prevents Costly Equipment Breakage** During routine grounds maintenance using large and imprecise mowing equipment, crews often report broken lights and posts. Using the Airfield Mat allows the mower to cruise past each light with a wider contingency space

**Environmentally Friendly** Some airports use weed and grass-killers to control growth around airfield lights. The Airfield Mat eliminates the use of such chemicals, protecting ground water and wildlife and eliminating airfield crew exposure.

**Wise Planning** These types of chemicals may be restricted by the EPA in the near future. Echo's System is a step towards being prepared for any such restrictions.

**Quick and Easy Installation** Airfield Mats are secured to the earth with Echo's recessed Ground Anchoring System. The anchors can be quickly and easily installed by one person either by hand, a ratchet, or with a cordless drill. These durable anchors will hold the mat securely even in the most adverse weather conditions, and prevent displacement from prop-wash or jet-blast.

**Long Lasting** Ground Anchors are galvanized steel while the Airfield Mats are made from a durable synthetic rubber compounds. Both materials have proven resistance to nature's elements.

The Airfield Mat System can be *installed and forgotten*, while the benefits continue year after year.

*Advice heard around the world* <sup>SM</sup>



Echo Advisory Services, llc  
 797 Broughton Road  
 Bethel Park  
 Pennsylvania 15102  
 www.echoadvisory.com

**ECHOAdvisory** an aviation improvement company

Steve J. Byers  
 412.401.5025  
 Fax 412.291.1781  
 steve@echoadvice.com

## Cost Savings Analysis

For a  
 75 light installation

COST PER YEAR				
	Per light		For 75 lights	
	No Mat	Airfield Mat Solution	No Mat	Airfield Mat Solution
Labor		No Annual Costs		No Annual Costs
Trimming*	26.25		1968.75	
Replacing broken lights***	4.17		312.75	
Materials				
Trimmer Costs+	1.75		131.25	
Poisons++	2.00		150.00	
Broken Lights+++	16.68		1251.00	
Liability Issues				
Workers on Runways to Trim	High risks with possible high costs			
Workers on Runways to repair lights				
<b>Total Costs PER YEAR</b>	<b>50.85</b>		<b>3813.75</b>	
<b>Total Costs TWO YEARS</b>	<b>101.70</b>		<b>7627.50</b>	
<b>Total Costs TEN YEARS</b>	<b>508.50</b>		<b>38,137.50</b>	

## TOTAL SAVINGS WITH AIRFIELD MAT SYSTEM; 10 YEARS PLUS

Ten Year Cost from above chart		\$38,137		
One time Cost of Mats (w/ freight estimate)		Approx 9,500		
One time Cost of installation (est. cost to contractor)		750		
<b>SAVINGS</b>		<b>\$27,887</b>		

\* 3 minutes per light to walk from light to light, figuring 35 times a year, figuring \$15 an hour for labor

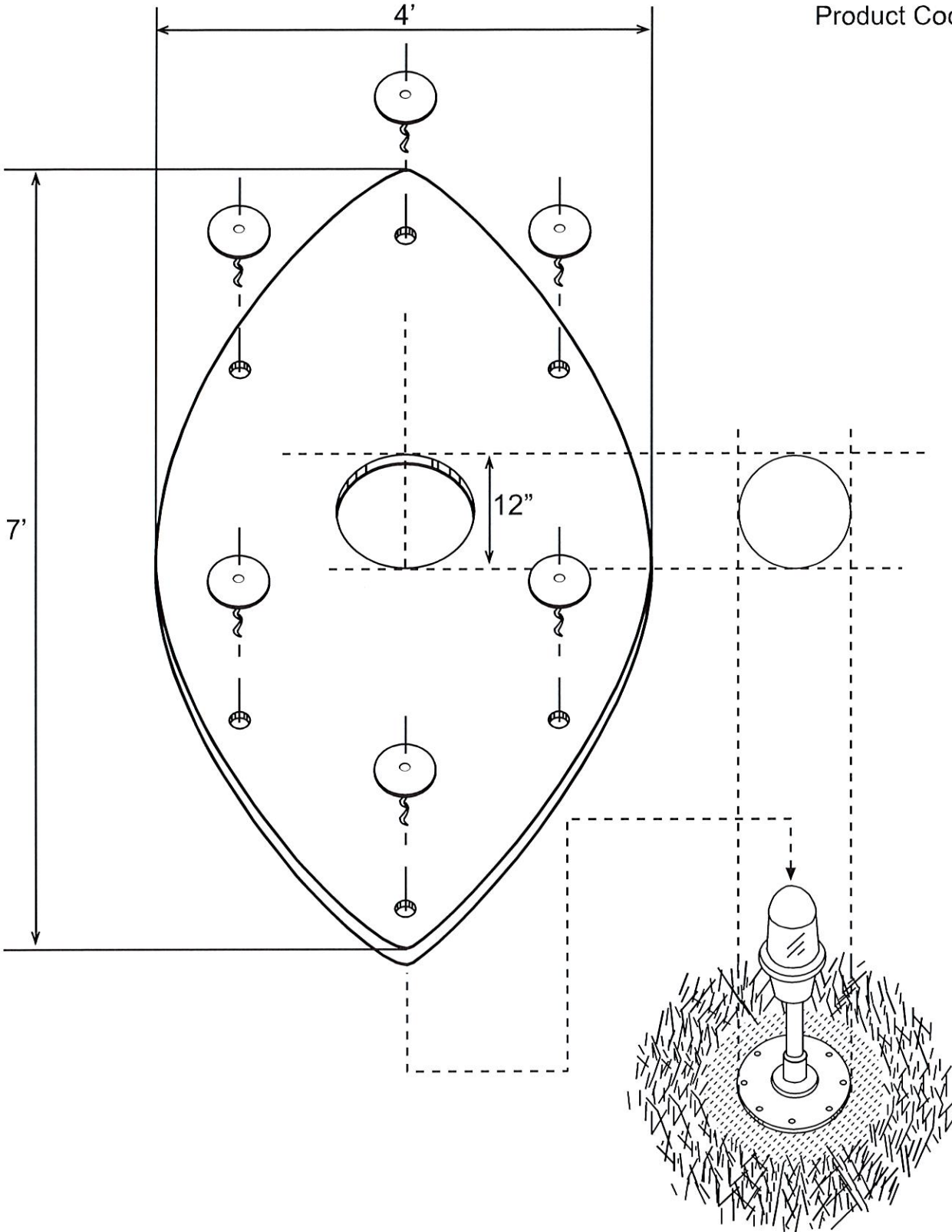
\*\* 3 minutes per light to walk or driving from light to light, figuring 5 times a year, figuring \$15 an hour for labor

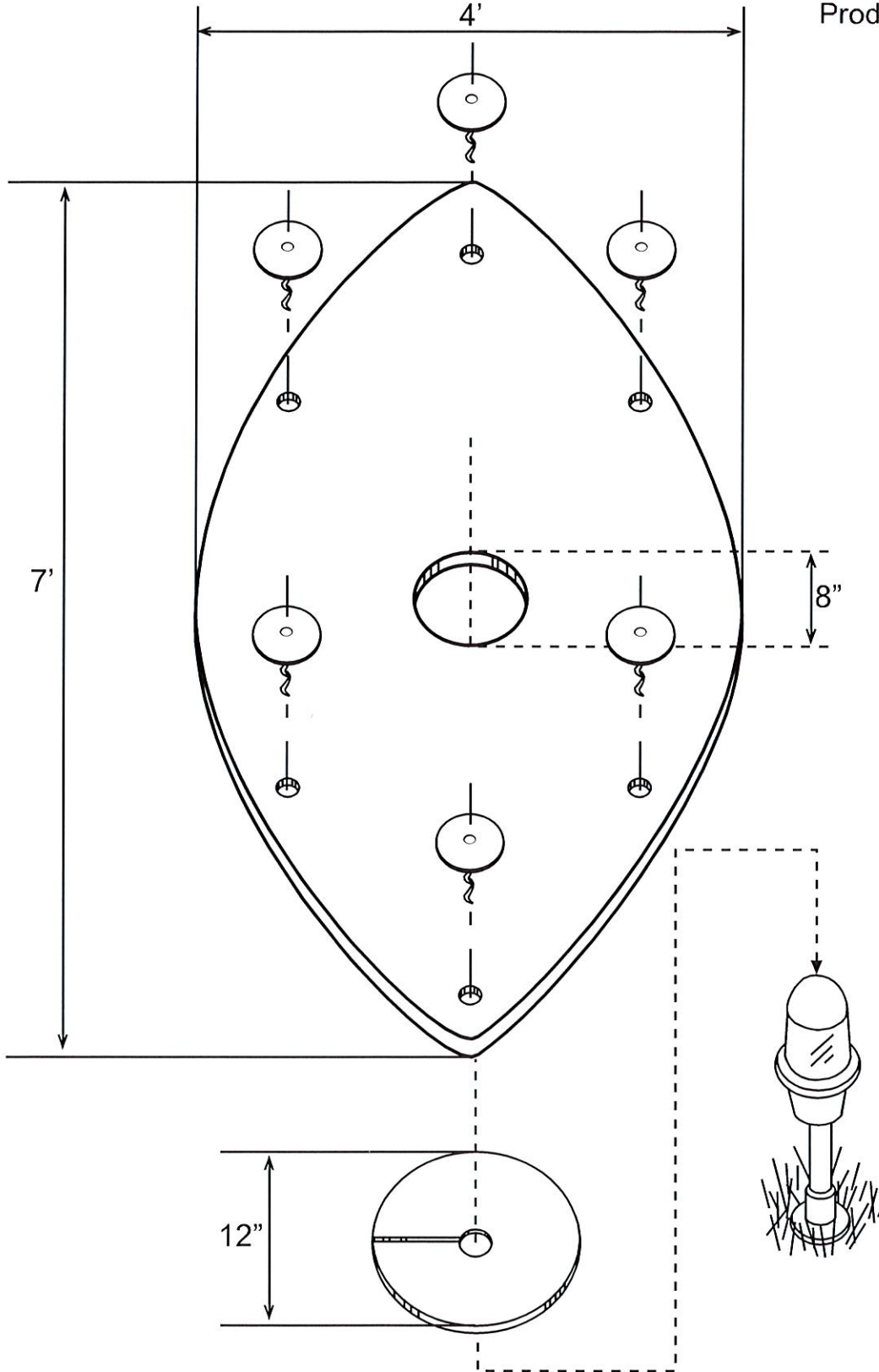
\*\*\* Mowing equipment inevitably attempts to minimize trimming need by getting too close to light. Figuring 1 light broken out of 300 passes with the mowing equipment. Figuring 50 mowing passes times per year. Figuring 45 minutes to repair light at \$25 per hour.

+ 3 minutes per light figuring 35 times a year, Figuring a gas powered trimmer will last 350 hours and the trimmer would cost \$350 to replace.

++ Figuring \$200 of poison would cover 400 lights applications with 5 applications per year

+++ Mowing equipment inevitably attempts to minimize trimming need by getting too close to light. 1 light broken out of 300 passes with the mower equipment. Figuring 50 mowing passes times per year. Figuring \$75 in parts to repair light.

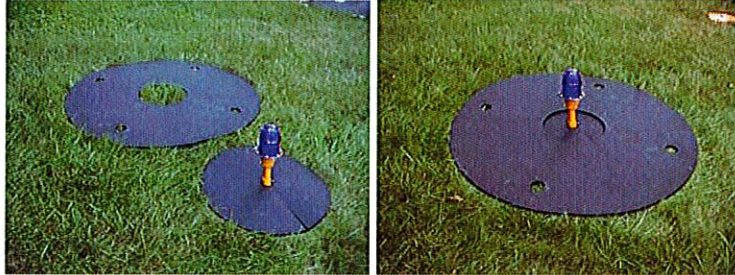




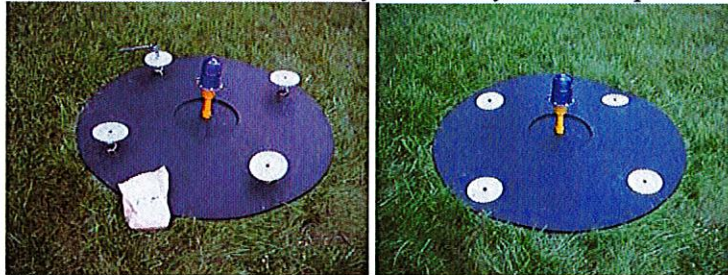
Place the collar around the stake light



Place the large mat ...**Round or Football**...over the collar



Anchor the Echo Advisory™ Mat System into place



Set the Anchors



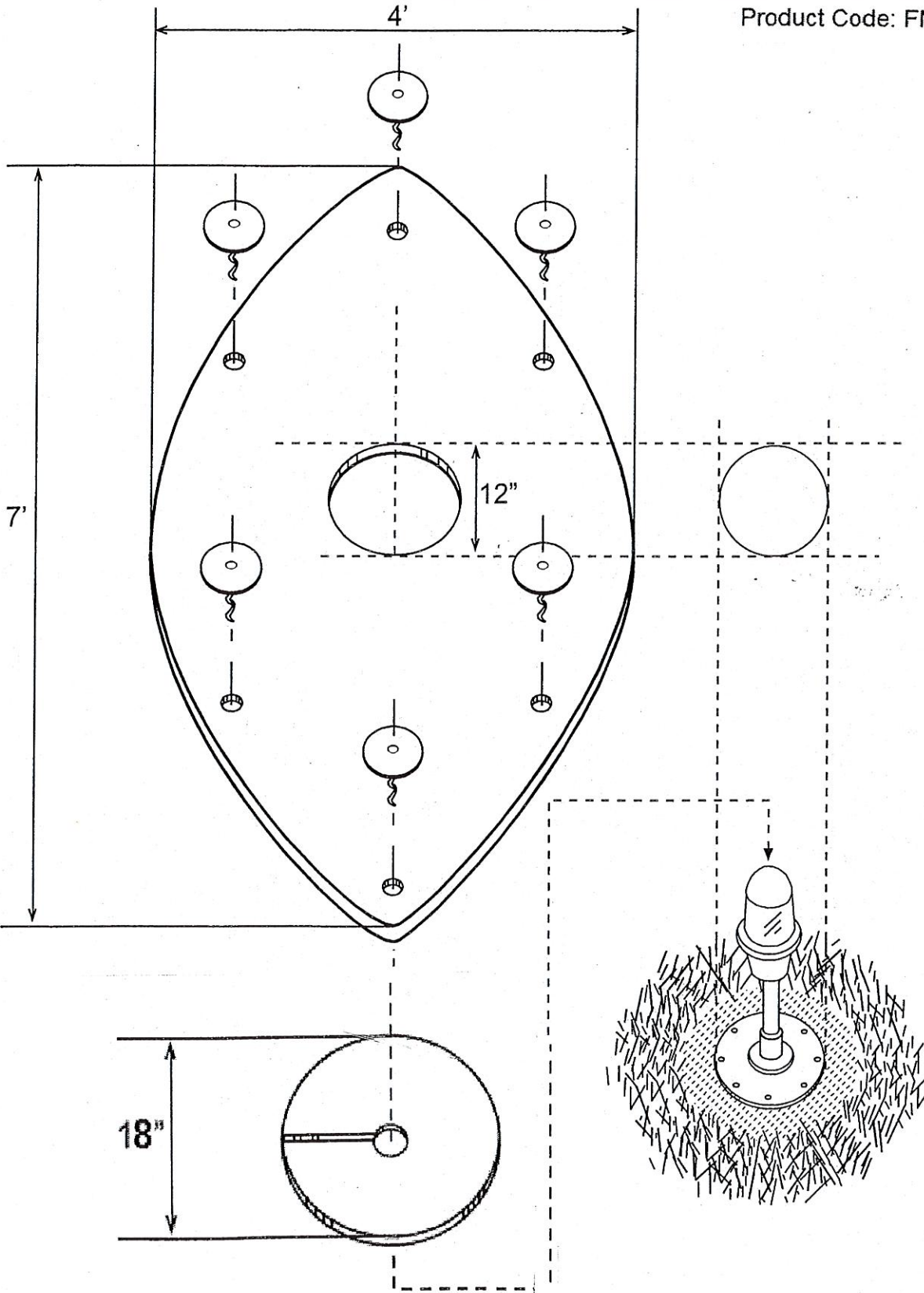
And the plugs

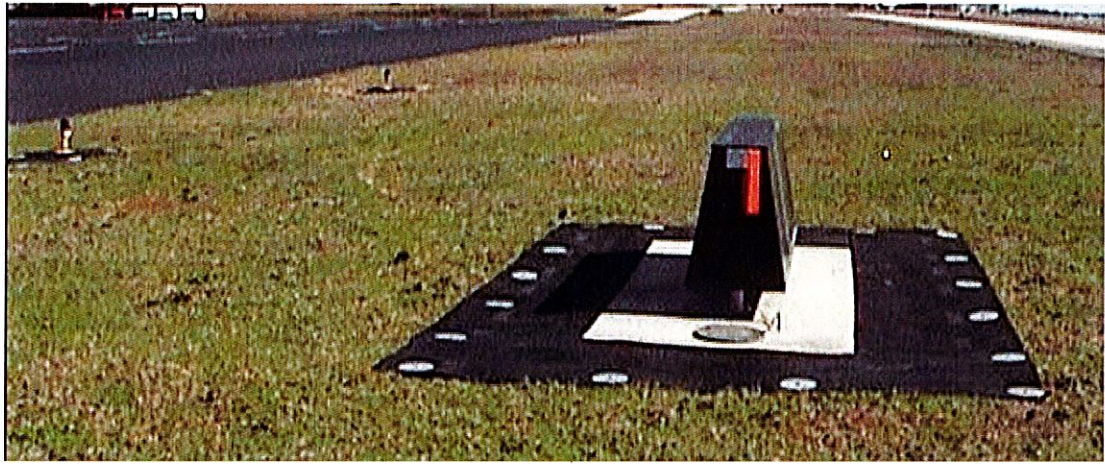
1. Set Anchor Plug into square hole.

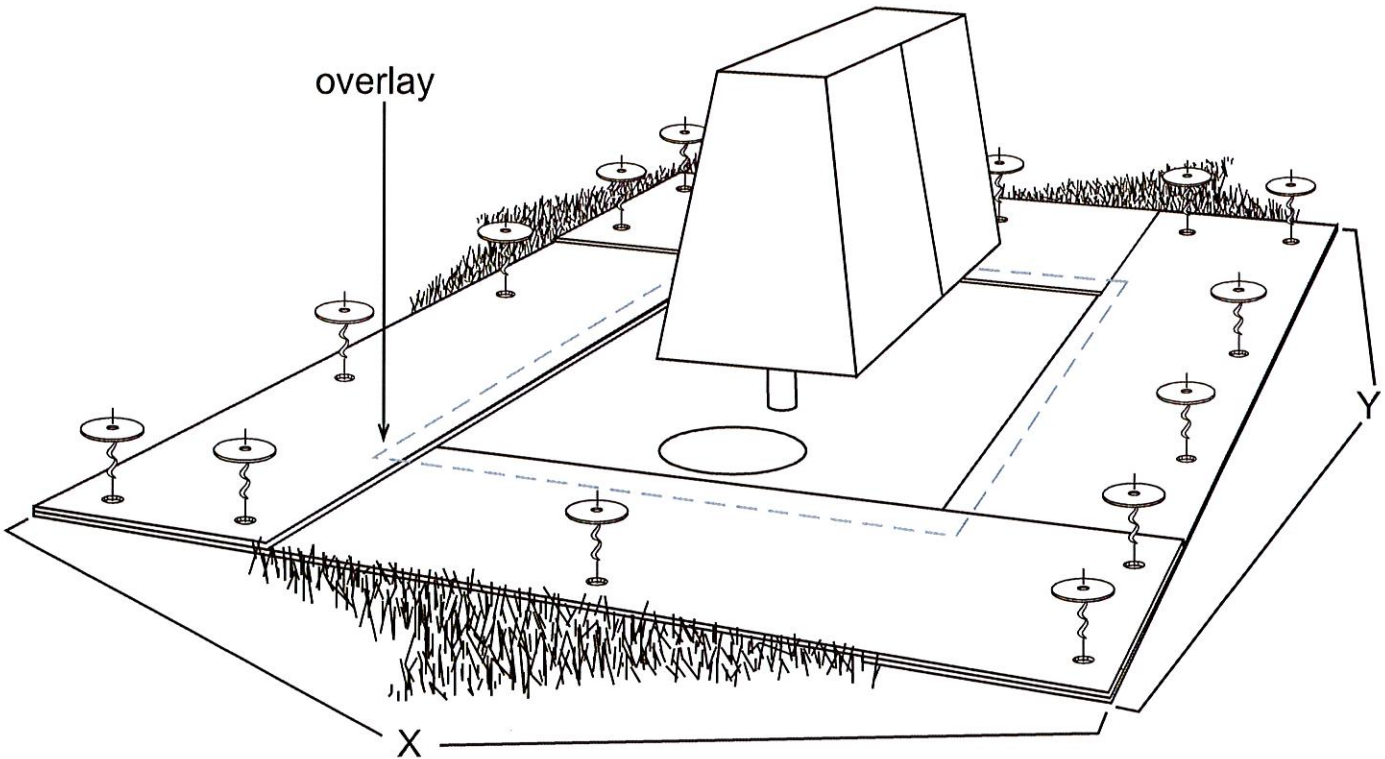


2. Tap Anchor Plug into place with hammer.









Length needed = perimeter extending 2 feet from base =  $2X + 2Y$

SM-1: 30ft Length - 10 Anchors

SM-2: 60ft Length - 20 Anchors



# Airports With Echo Advisory Mats

Boca Raton, Florida

Martin County, Pennsylvania

Union County, Mississippi

Tallahassee, Florida

State College, Pennsylvania

Dimondale, Michigan

Pompano, Florida

Trenton Mercer, New Jersey

Amarillo, Texas

Lakeland, Florida

Memphis, Tennessee

Booneville, Mississippi

St. Augustine, Florida

Ottumwa, Iowa

Mobile, Alabama

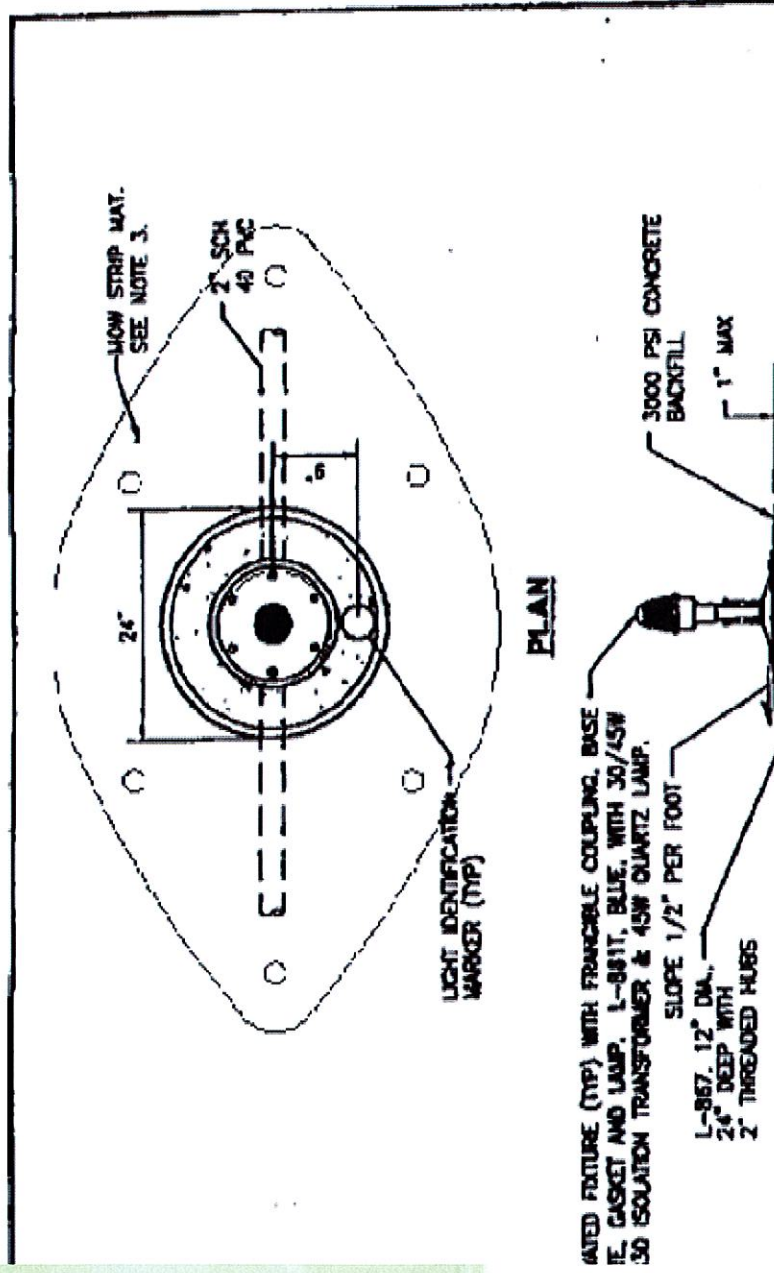
Titusville, Florida

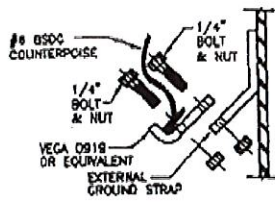
Mackinaw, Michigan

Newton, Iowa

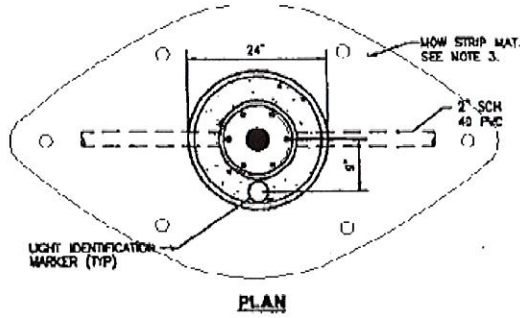
Escanaba, Michigan

# Engineering and Design



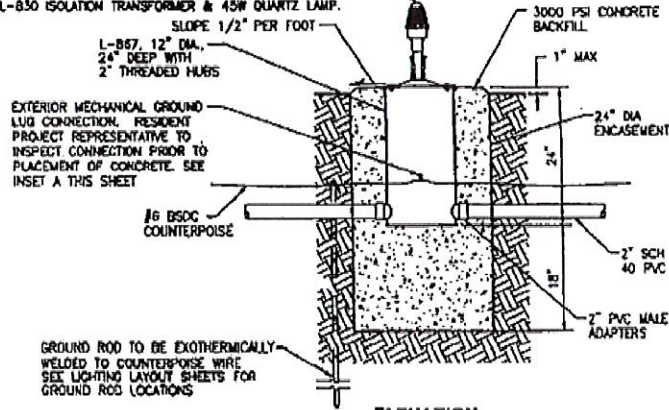


**7**  
E.05  
**INSET A**



**PLAN**

ELEVATED FIXTURE (TYP) WITH FRANGIBLE COUPLING, BASE PLATE, GASKET AND LAMP. L-881T, BLUE, WITH 30/45W L-830 ISOLATION TRANSFORMER & 45W QUARTZ LAMP.



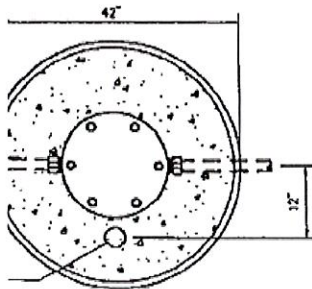
**ELEVATION**

GROUND ROD TO BE EXOTHERMICALLY WELDED TO COUNTERPOISE WIRE. SEE LIGHTING LAYOUT SHEETS FOR GROUND ROD LOCATIONS.

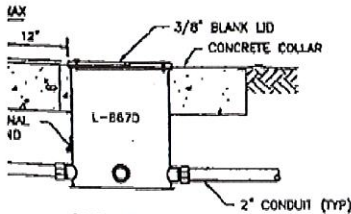
**NOTES:**

1. NUMBER AND ORIENTATION OF HUBS VARY. SEE LAYOUT SHEETS FOR CONFIGURATION.
2. CONTRACTOR SHALL PROVIDE AND INSTALL LIGHT FIXTURE ID MARKER AND STAMP FIXTURE ID NUMBER AS ASSIGNED TO EACH ELEVATED LIGHT FIXTURE BY THE ENGINEER.
3. TAXIWAY EDGE LIGHTS IN EARTH SHALL INCLUDE A MOW STRIP MAT, 4' DIA, WITH GROUND ANCHORS (LIGHTSAVER AIRFIELD MAT BY ECHO ADVISORY, LLC OR APPROVED EQUIVALENT).

**N**



**PLAN**

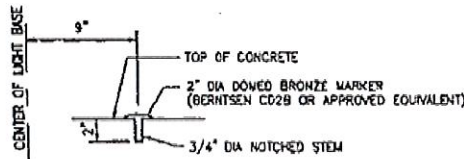


**ELEVATION**

ORIENTATION OF CONDUITS VARY. SEE PLAN SHEETS FOR DETAILS. IN SHEETS FOR GROUND ROD LOCATIONS. ALL PROVIDE A 2" DIA DOME BRONZE MARKER AT EACH AS SHOWN. MARKER SHALL BE STAMPED WITH CIRCUIT

**4**  
E.05  
**JUNCTION CAN**  
NOT TO SCALE

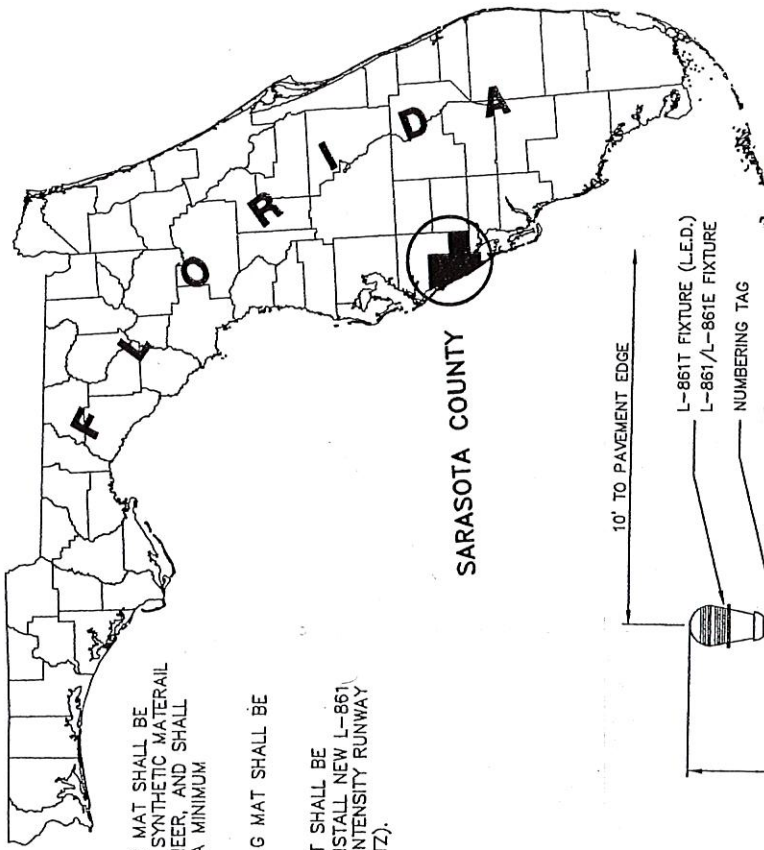
**6**  
E.05  
**ELEVATED EDGE LIGHT**  
NOT TO SCALE



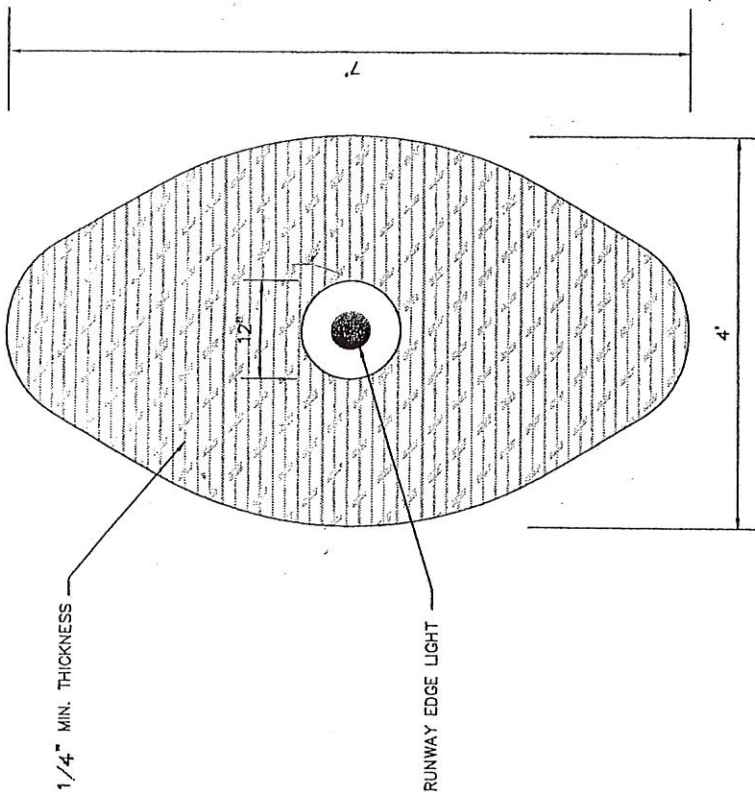
**NOTES:**

1. IDENTIFICATION SHALL BE STAMPED USING 1/4" FIGURES AND LETTERS UNIFORMLY SPACED ON THE BRONZE MARKER.
2. IDENTIFICATION MARKERS SHALL BE UNIFORMLY INSTALLED ADJACENT TO TAXIWAY AND RUNWAY ELEVATED EDGE LIGHTS. PREFERRED LOCATION IS ON A LINE PERPENDICULAR TO RUNWAY OR TAXIWAY CENTERLINE, INBOARD OF LIGHT FIXTURE.

**5**  
E.05  
**IDENTIFICATION MARKER**  
NOT TO SCALE



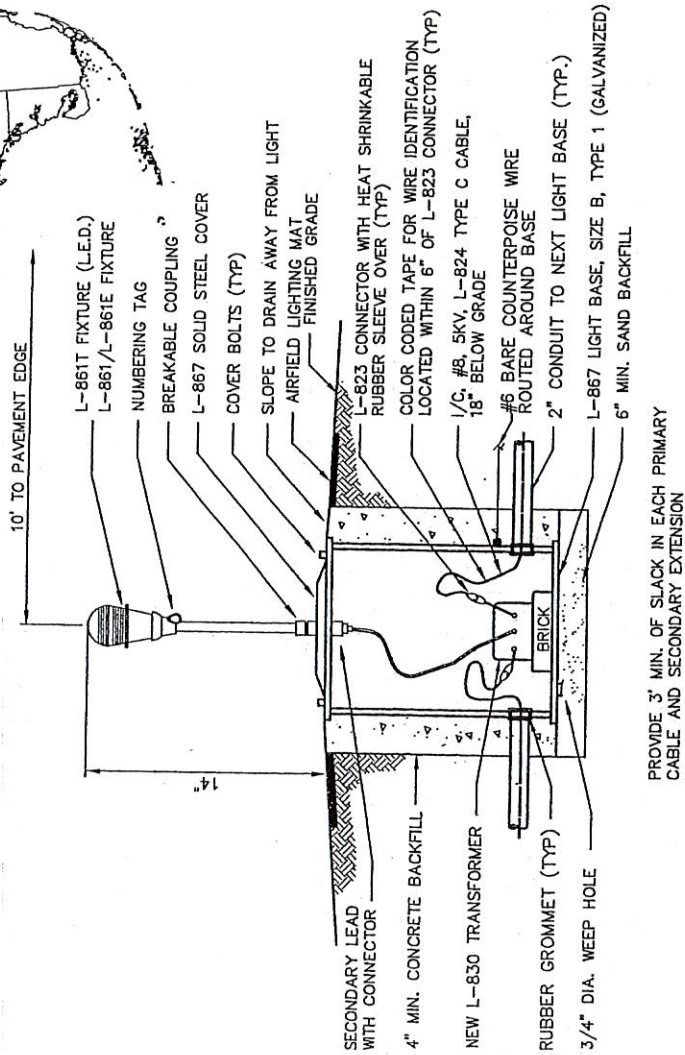
1. THE AIRFIELD LIGHTING MAT SHALL BE MADE FROM RUBBER OR SYNTHETIC MATERIAL APPROVED BY THE ENGINEER, AND SHALL HAVE A LIFE CYCLE OF A MINIMUM 10-YEARS.
2. THE AIRFIELD LIGHTING MAT SHALL BE ANCHORED IN-PLACE.
3. AIRFIELD LIGHTING MAT SHALL BE INCIDENTAL TO L-861 (INSTALL NEW L-861 BASE MOUNTED MEDIUM INTENSITY RUNWAY LIGHT (MIRL), 30W QUARTZ).



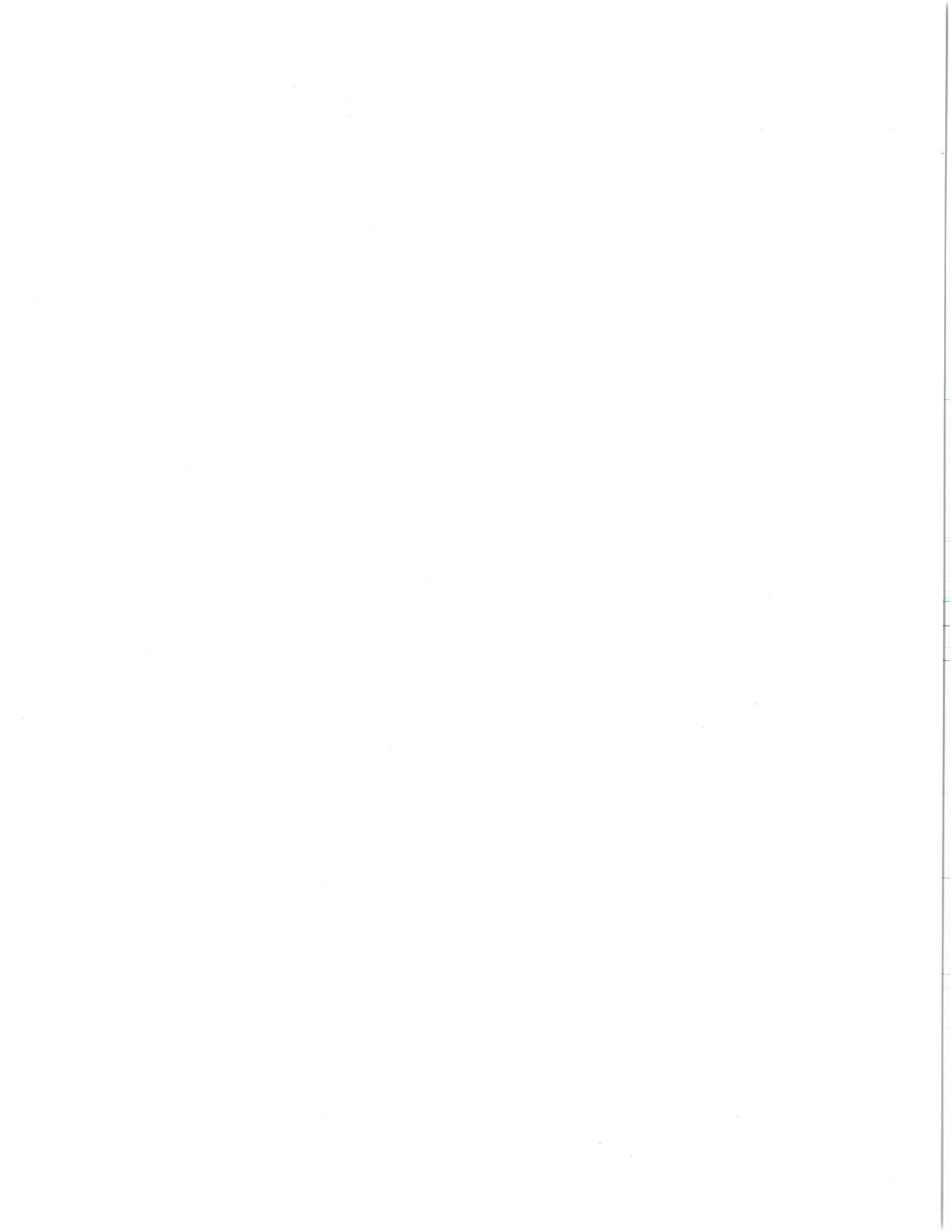
AIRFIELD LIGHTING MAT  
N.T.S.

**DRAFT**

**NOTE:**  
PROJECT IS REHABILITATION OF CURRENT RUNWAY 4-22. FOLLOWING REHABILITATION, RUNWAY WILL BE RE-MARKED AND DESIGNATED AS RUNWAY 5-23



RUNWAY/TAXIWAY EDGE LIGHT BASE MOUNTED  
RUNWAY THRESHOLD LIGHT BASE MOUNTED  
N.T.S.





Echo Advisory Services, llc  
797 Broughton Road  
Bethel Park  
Pennsylvania 15102  
www.echoadvisory.com

**ECHO**Advisory

an aviation improvement company

Steve J. Byers  
412.401.5025  
Fax 412.291.1781  
steve@echoadvice.com

Fall 2005

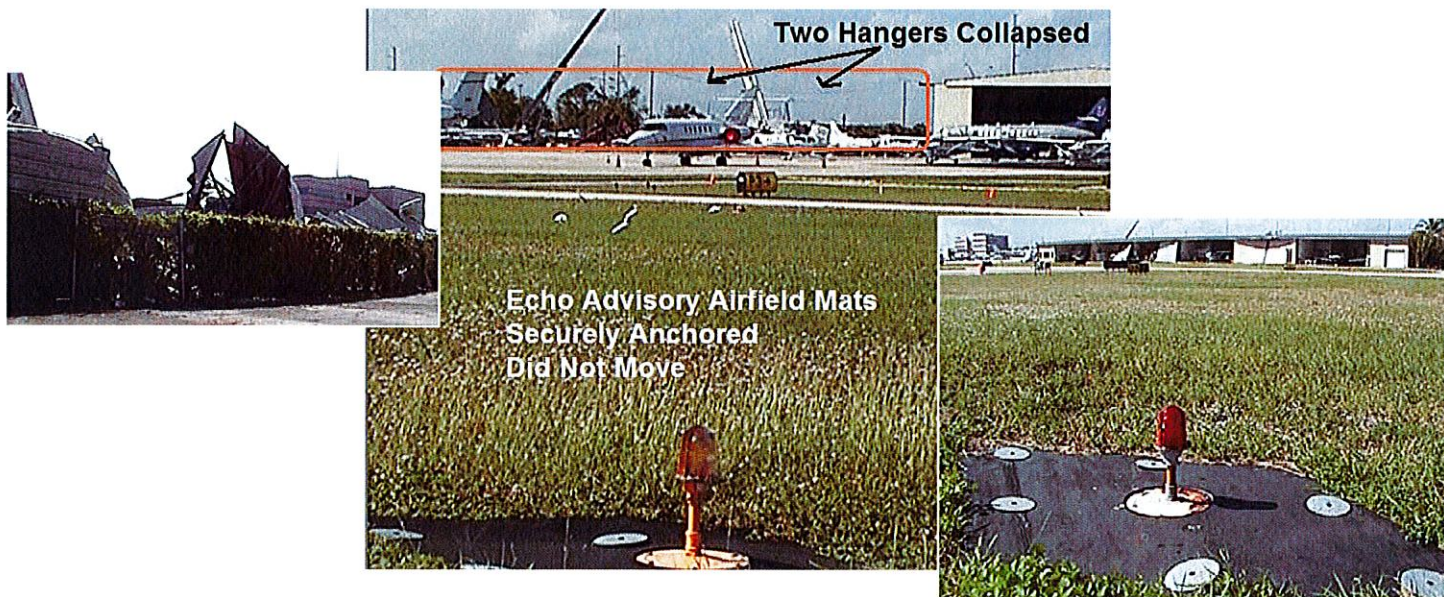
## Performance Results Report

In January of 2005 The Boca Raton Airport installed the Echo Advisory Airfield Mats on each of its runway lights. These mats are anchored by the Echo Advisory patented anchoring system.

On October 24, 2005, Hurricane Wilma presented the Boca Raton Airport with a direct hit and winds estimated at 120 miles per hour.

The Airport suffered extreme damage to countless aircraft and almost every structure on the airfield. Hanger doors were complete ripped off many of the T-Hangers. Two very large corporate hangers completely collapsed in the force of Hurricane Wilma winds.

Upon inspection of the airfield it was found that NONE of the Echo Advisory Airfield Mats were dislodged. The Anchoring system performed its duties and survived one of the worst tests nature has to offer.



The Echo Advisory® Airfield Mat Systems aka. "LightSaver™ Mat" is protected by US. Patent 6,527,407 and Federal Case No. 03-61343-CIV-MORENO in the US District Court of Southern District of Florida.

Steve Byers, inventor and sole owner of Patent Number 6,527,407 requests purchaser verify suppliers licensing rights through Echo Advisory at 412-401-5025