

James A Marx, Jr. P.E.
High Mountain Road
Ringwood, NJ 07456
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E-mail: jamlight@bellatlantic.net

February 4, 2009

To: Building Department or Others:

RE: Engineer's Notice of Evaluation for AE Solar Collector System

Dear Sir:

As a Professional Engineering Consultant for Alternate Energy Technologies (AET), I have structurally evaluated the AE series Solar Collectors (40 square feet and smaller) and the mounting system. The design of AE series installation will withstand wind uplift forces of at least 51 psf and at this force level the collector and mounting design would meet most residential buildings and other low-height buildings throughout Florida.

The following conditions shall be met:

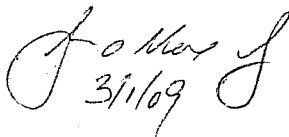
- 1) The solar project's building is enclosed and has a mean roof height not exceeding 30 feet and a roof slope not exceeding 30 degrees.
- 2) The location of Solar Collectors should be located if possible in the central 'Interior' roof area; however, they may be installed in the 'Edge' strips if necessary; but are not recommended to be installed in the 'Corner' area (see drawing AE-1, sheet 8 of 8).
- 3) Wind Exposure Category is 'B' or 'C'.

This information cannot be used for Solar Collectors sited with Exposure Category 'D', or for those buildings having a mean roof height greater than 30 feet and/or roof slopes greater than 45 degrees, or for conditions whereby the building does not meet the provisions Florida Building Code 1609.1.1 and ASCE 7-05 for which specified conditions of spatial form, height and other structure parameters that would impose design level forces in excess of 51 psf; unless it is reviewed and approved for use by a Professional Engineering Consultant for AET.

By this letter, I certify that this installation performed based upon AE-1 Sheets 1 to 8 will meet the loading requirements of the 2007 Florida Building Code. Installation work should be performed by a Florida Certified Solar Contractor.

Respectfully submitted,

James A. Marx, Jr. PE



Professional Engineer
FL Lic. No. 45024

cc: Billy Byrom, AET Solar

ALTERNATE ENERGY TECHNOLOGIES, LLC SOLAR COLLECTOR INSTALLATION DRAWINGS

INSTALLATION REQUIREMENTS

THESE INSTALLATION DRAWINGS DETAIL THE STRUCTURAL INSTALLATION REQUIREMENTS FOR THE AE-SERIES SOLAR WATER HEATING COLLECTORS MANUFACTURED BY ALTERNATE ENERGY TECHNOLOGIES ON RESIDENTIAL AND LIGHT COMMERCIAL BUILDINGS OF FRAMED CONSTRUCTION.

THE INSTALLATION REQUIRES HARDWARE PROVIDED BY THE SOLAR COLLECTOR MANUFACTURER AS INDICATED HEREIN TO BE UTILIZED TO ATTACH THE SOLAR COLLECTORS TO THE BUILDING IN ACCORDANCE WITH THESE DRAWINGS.

THE SOLAR COLLECTOR INSTALLATION AS DETAILED IN THESE DRAWINGS IS FOR THE INSTALLATION OF THE BELOW LISTED AE-SERIES SOLAR COLLECTORS ON RESIDENTIAL AND LIGHT COMMERCIAL BUILDINGS WITH FLAT OR SLOPED ROOFS SUBJECTED TO A MAXIMUM UPLIFT PRESSURE OF 51 POUNDS PER SQUARE FOOT (PSF).

INFORMATION ON THE WIND LOADS ON SOLAR COLLECTORS INSTALLED ON BUILDINGS WITH A MEAN ROOF HEIGHT OF 30 FEET LOCATED IN AT WIND SPEEDS FROM 100 TO 150 MPH IN EXPOSURE B OR C IS SHOWN ON SHEET AE-3 OF THESE DRAWINGS. COLLECTORS ON HIGHER BUILDINGS IN DIFFERENT EXPOSURES WOULD NEED TO BE DETERMINED ON A CASE BY CASE BASIS.

DESIGN WIND PRESSURE
MAXIMUM SUCTION UPLIFT: 51 PSF

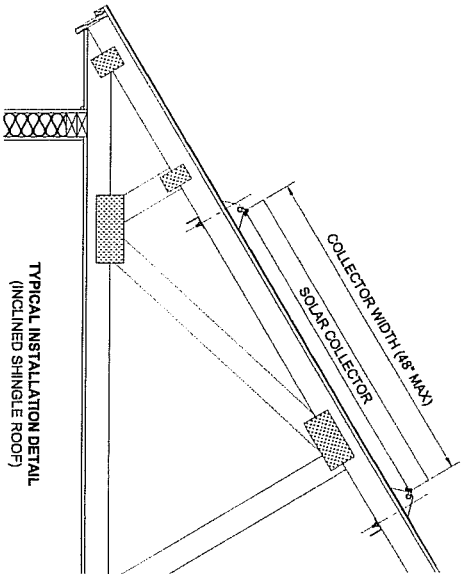
AE - SERIES COLLECTORS

MODEL	ABSORBER	WIDTH	LENGTH
AE-21	SELECTIVE	35.1875"	85.1875"
AE-24	SELECTIVE	35.1875"	97.1875"
AE-26	SELECTIVE	47.1875"	77.1875"
AE-28	SELECTIVE	47.1875"	85.1875"
AE-32	SELECTIVE	47.1875"	97.1875"
AE-40	SELECTIVE	47.1875"	121.1875"

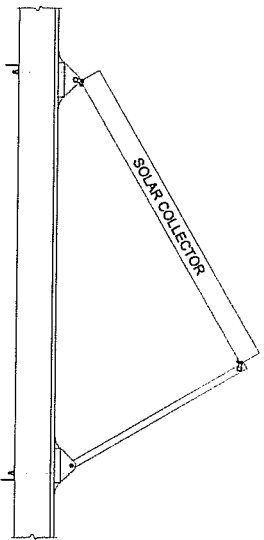
DOCUMENT INDEX

SHEET	ID	DESCRIPTION
1	AE CS	SOLAR COLLECTOR REQUIREMENTS SHEET INDEX
2	AE - 1	INSTALLATION DETAIL'S FLAT WOOD FRAME ROOF
3	AE - 1	INSTALLATION DETAIL'S SLOPED WOOD FRAME ROOF
4	AE - 1	INSTALLATION DETAIL FOR FLAT ROOF USING STANDOFF FRAME
5	AE - 1	MANUFACTURERS HARDWARE AET SERIES AE SOLAR COLLECTOR
6	AE - 1	ALTERNATE MOUNTING CONSIDERATIONS
7	AE - 1	WIND-SPEED LOAD INFORMATION

ADDITIONAL INFORMATION



TYPICAL INSTALLATION DETAIL
(INCLINED SHINGLE ROOF)



TYPICAL INSTALLATION DETAIL
(FLAT WOOD FRAME ROOF)

General Notes

James A. Marx, Jr.

James A. Marx, Jr.
3/1/19

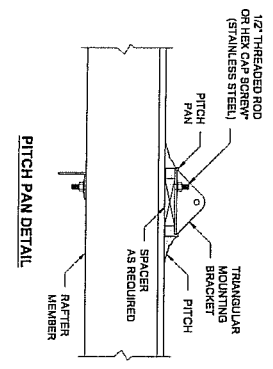
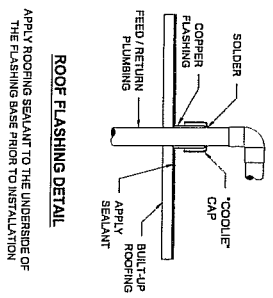
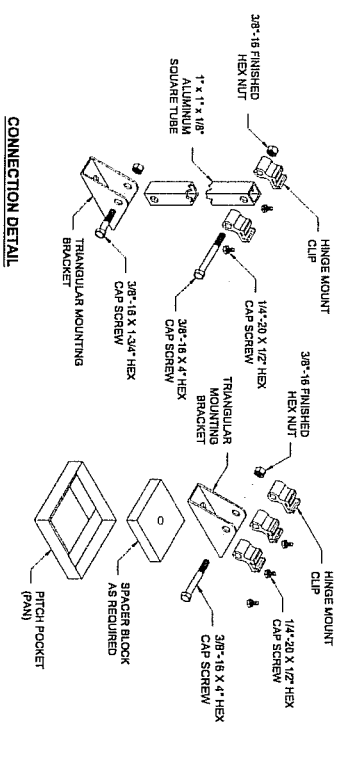
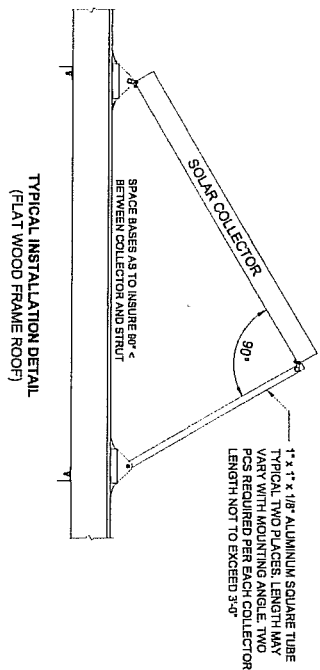
Professional Engineer
FL Lic. No. 45024

No.	Revision/Date	Date

ALTERNATE ENERGY TECHNOLOGIES, LLC
1857 NEULIS RD.
SUITE 4
JACKSONVILLE, FL 32254

Project	Sheet
02/08/2008	AE - 1
N.T.S.	SHEET 1 OF 8

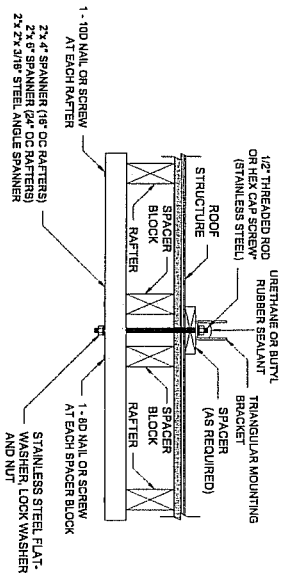
INSTALLATION DETAILS - FLAT WOOD FRAME ROOF



NOTES

- 1) THE SOLAR COLLECTOR INSTALLATION AS DETAILED IN THESE DRAWINGS IS FOR THE INSTALLATION OF ALTERNATE ENERGY TECHNOLOGIES AE-SERIES SOLAR COLLECTORS ON STRUCTURES SUBJECTED TO A MAXIMUM UPLIFT PRESSURE OF 51 POUNDS PER SQUARE FOOT (PSF).
- 2) THE DESIGN OF THIS INSTALLATION IS BASED ON REQUIREMENTS OF THE 2007 FLORIDA BUILDING CODE, ASCE 7 AND TESTING OF THE SOLAR COLLECTOR IN ACCORDANCE WITH PA 202 (FAS 202-94), ASTM E 930
- 3) THE INSTALLATION SHALL UTILIZE HARDWARE PROVIDED BY THE MANUFACTURER AS DETAILED IN THESE DRAWINGS.
- 4) ALL ALUMINUM STRUCTURAL MEMBERS TO BE 6061-T6. ALL STRUCTURAL STEEL MEMBERS TO BE LOW CARBON GALVANIZED STEEL, AND ALL HARDWARE (BOLTS, NUTS, ETC) TO BE STAINLESS STEEL.

DESIGN WIND PRESSURE
MAXIMUM SUCTION UPLIFT: 51 PSF



1. ALL MOUNTING HARDWARE (SCREWS, NUTS AND BOLTS) SHALL BE STAINLESS STEEL UNLESS NOTED OTHERWISE.
 2. SPACER BLOCKS SHALL BE INSTALLED WITHIN 1" OF THE THRU-BOLT.
 3. WHEN THRU-BOLTS IS WITHIN 2" OF A RAFTER, ONLY ONE SPACER BLOCK WILL BE REQUIRED ON THE OPPOSITE SIDE OF THE BOLT, AWAY FROM THE RAFTER.
 4. TWO SPACER BLOCKS ARE REQUIRED WHEN THE BOLTS MORE THAN 2" FROM THE RAFTER.
 5. WHEN THE MOUNTING PROVISIONS OF ADJACENT COLLECTORS ARE INSTALLED SIDE BY SIDE AND THE THRU-BOLTS ARE 1 1/2" OR MORE APART, IT WILL BE NECESSARY TO HAVE AT LEAST ONE SPACER BLOCK (OR RAFTER) BETWEEN BOLTS.
 6. SEALANTS ARE REQUIRED BETWEEN MOUNTING BLOCK AND SHINGLES/SHEAHING. BOLT HOLES SHALL BE SEALED TO PREVENT MOISTURE PENETRATION.
 7. STEEL ANGLE SPANNER (2" X 2" X 3/16") MAY BE SUBSTITUTED FOR WOOD SPANNER.
- * HEX CAP SCREW LENGTH VARIES WITH ROOF CONSTRUCTION AND SPANNER DESIG.

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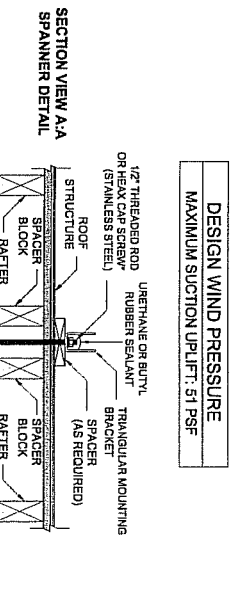
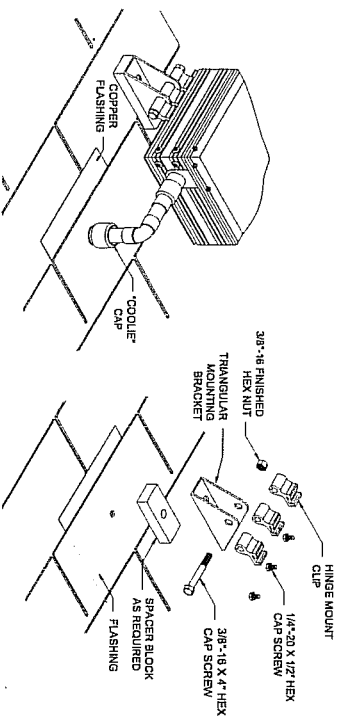
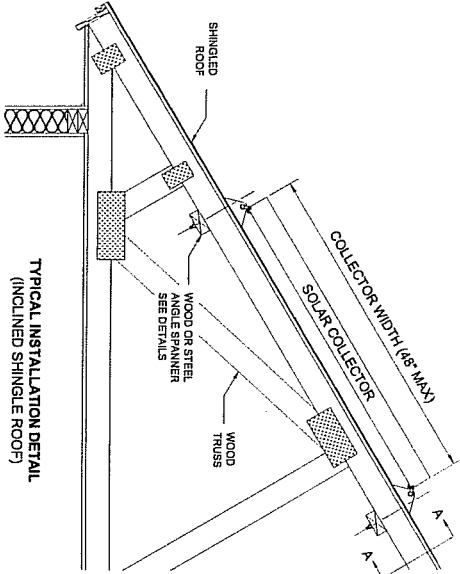
ALTERNATE ENERGY TECHNOLOGIES, LLC
1087 N. BELUS RD
SUITE 1
JACKSONVILLE, FL 32254

DATE	02/06/2006	SHEET	AE - 1
SCALE	N.T.S.	TOTAL SHEETS	7 OF 8

INSTALLATION DETAILS - SLOPED WOOD FRAME ROOF

NOTES

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- 3) THE INSTALLATION SHALL UTILIZE HARDWARE PROVIDED BY THE MANUFACTURER AS DETAILED IN THESE DRAWINGS.
- 4) ALL ALUMINUM STRUCTURAL MEMBERS TO BE 6061-T6. ALL STRUCTURAL STEEL MEMBERS TO BE LOW CARBON GALVANIZED STEEL, AND ALL HARDWARE (BOLTS, NUTS, ETC) TO BE STAINLESS STEEL.

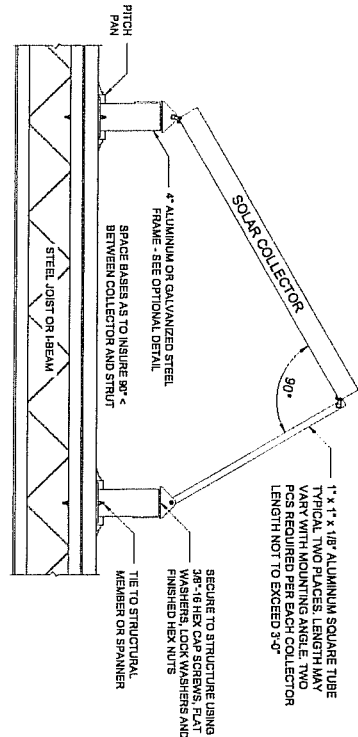


DESIGN WIND PRESSURE
 MAXIMUM SUCTION UPLIFT: 51 PSF

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- * HEX CAP SCREW LENGTH VARIES WITH ROOF CONSTRUCTION AND SPANNER DESIGN.

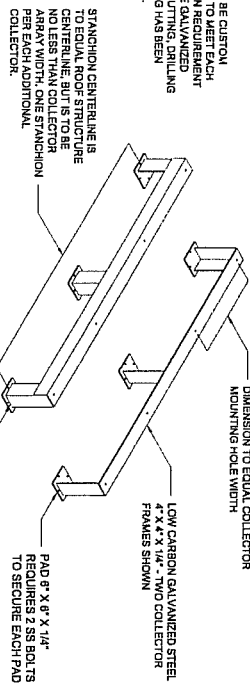
General Notes James A. Marx, Jr. Professional Engineer FL Lic. No. 45024 3/1/09		Project Name and Address ALTERNATE ENERGY TECHNOLOGIES, LLC 1057 N. ELLIS RD SUITE 4 JACKSONVILLE, FL 32254	Date 02/06/2006 Title N.T.S.	Sheet AE - 1 SHEET 3 OF 8
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INSTALLATION DETAILS - FLAT ROOF USING STANDOFF FRAME

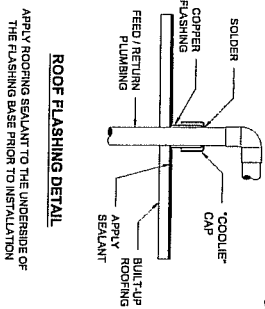


TYPICAL INSTALLATION DETAIL
(CONCRETE OR METAL FRAME ROOF)

NOTE:
FRAME IS TO BE CUSTOM
FABRICATED TO MEET EACH
MANUFACTURER'S REQUIREMENTS
AND IS TO BE GALVANIZED
AFTER ALL CUTTING, DRILLING
AND WELDING HAS BEEN
PERFORMED.



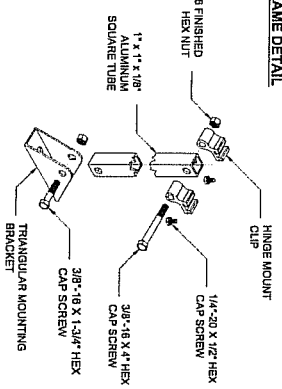
OPTIONAL STANDOFF FRAME DETAIL



ROOF FLASHING DETAIL

APPLY ROOFING SEALANT TO THE UNDERSIDE OF THE FLASHING BASE PRIOR TO INSTALLATION

MANUFACTURERS HARDWARE FOR TILED MOUNT ON FLAT ROOFS. USE PITCH PAN

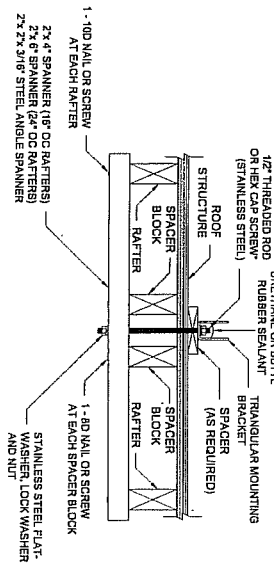


CONNECTION DETAIL

NOTES

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- 3) THE INSTALLATION SHALL UTILIZE HARDWARE PROVIDED BY THE MANUFACTURER AS DETAILED IN THESE DRAWING.
- 4) ALL ALUMINUM STRUCTURAL MEMBERS TO BE 6061-T6. ALL STRUCTURAL STEEL MEMBERS TO BE LOW CARBON GALVANIZED STEEL, AND ALL HARDWARE (BOLTS, NUTS, ETC) TO BE STAINLESS STEEL.

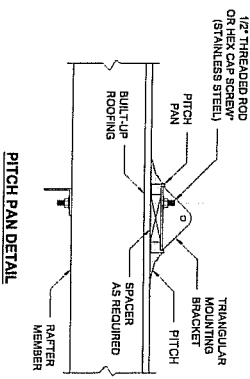
DESIGN WIND PRESSURE
MAXIMUM SUCTION UPLIFT: 51 PSF



SPANNER DETAIL

THIS DETAIL FOR LIMITED APPLICATION AS A FUNCTION OF STRUCTURE. THIS DETAIL INTENDED FOR LIGHT COMMERCIAL AND RESIDENTIAL INSTALLATIONS WITH ROOF SUPPORT STRUCTURE IN 16' OR 24' CENTERS. OTHER SPACINGS AND STRUCTURES WILL REQUIRE SITE SPECIFIC ANALYSIS.

* HEX CAP SCREW LENGTH VARIES WITH ROOF CONSTRUCTION AND SPANNER DESIG.



PITCH PAN DETAIL

General Notes

James A. Marx, Jr.

James A. Marx, Jr.
3/11/09

Professional Engineer
FL Lic. No. 45024

No.	Revision/Date	Desc.

ALTERNATE ENERGY TECHNOLOGIES, LLC
1857 N BELUS RD
SUITE 4
JACKSONVILLE, FL 32254

Project No.	02 / 08 / 2006	Sheet	AE - 1
Date	N.T.S.	Scale	SHEET 4 OF 8

FIGURE 1. COLLECTOR ATTACHMENT
(SECTION VIEW A-A)

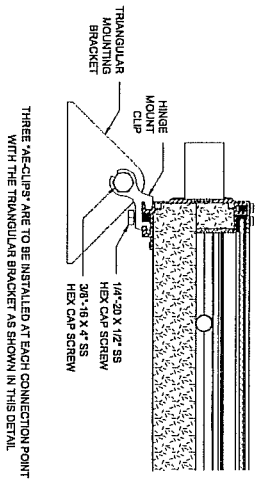


FIGURE 2. ATTACHMENT HARDWARE

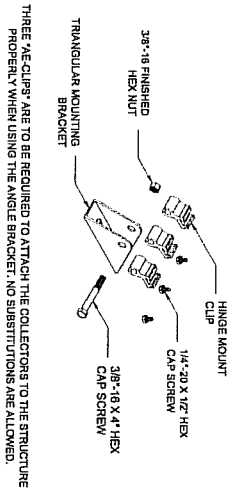
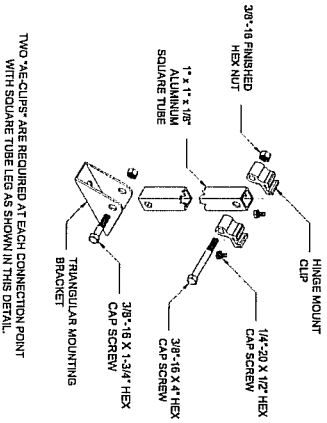


FIGURE 3. TILT KIT HARDWARE



NOTES:

THESE FIGURES SHOW THE HARDWARE PROVIDED BY THE MANUFACTURER THAT HAS UNDERGONE TESTING AND SHALL BE USED TO ATTACH THE SOLAR COLLECTORS TO THE STRUCTURE PROPERLY. NO SUBSTITUTIONS SHALL BE PERMITTED.

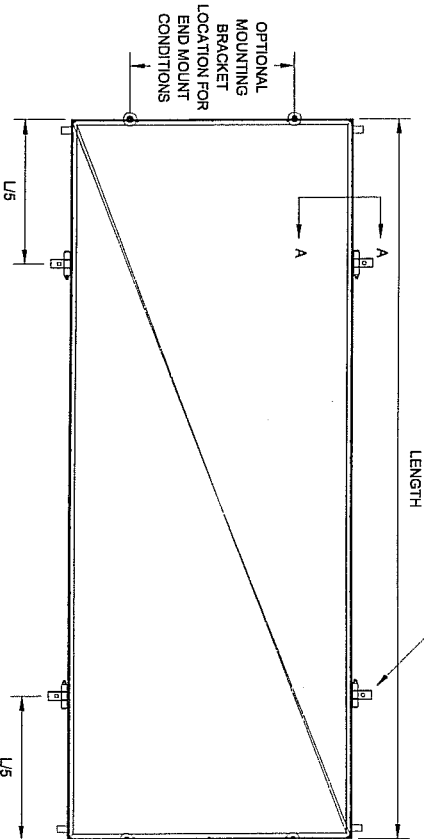
THE COLLECTOR ATTACHMENT SHALL BE AS INDICATED IN THE MANUFACTURERS INSTALLATION INSTRUCTIONS AND THESE DRAWINGS.

THE 'AE' CLIPS THAT ARE ATTACHED TO THE SOLAR COLLECTOR SHALL BE WITHIN 1/2 INCH OF THE INDICATED DISTANCE (L/5) LISTED BELOW.

THE COLLECTORS TO BE INSTALLED IN ACCORDANCE WITH THESE DRAWINGS INCLUDE THE FOLLOWING AET MODELS:

- AE-40, LENGTH 121-3/16, WIDTH 47-3/16
- AE-32, LENGTH 97-3/16, WIDTH 47-3/16
- AE-28, LENGTH 85-3/16, WIDTH 47-3/16
- AE-26, LENGTH 77-3/16, WIDTH 47-3/16
- AE-24, LENGTH 97-3/16, WIDTH 35-3/16
- AE-21, LENGTH 85-3/16, WIDTH 35-3/16

STANDARD MOUNT
HARDWARE
SHOWN



THE COLLECTOR ATTACHMENT HARDWARE (AE-CLIPS) SHALL BE MOUNTED ON THE LONG SIDES OF THE SOLAR COLLECTORS AND SHALL BE CONNECTED IN THE LOCATIONS SHOWN IN THE ABOVE DIAGRAM FOR ALL MODELS.

THE LOCATION OF THE CLIPS AT EACH CONNECTION POINT SHALL BE PLACED AT SPECIFIC POINTS ON ALL MODELS AS A FUNCTION OF THE COLLECTOR LENGTH. THE CENTER OF THE CONNECTION POINT FOR THE CLIPS SHALL BE LOCATED AT A DISTANCE OF ONE FIFTH THE LENGTH OF THE COLLECTOR (L/5) AS INDICATED ABOVE.

General Notes

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3/1/09

Professional Engineer
FL Lic. No. 45024

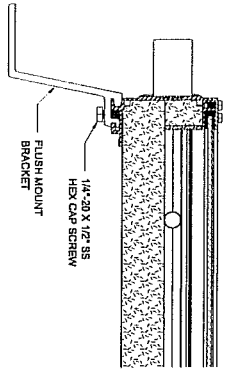
No.	Revision/Issue	Date

Prepared by: ALTERNATE ENERGY TECHNOLOGIES, LLC
1807 HILL STREET
JACKSONVILLE, FL 32254

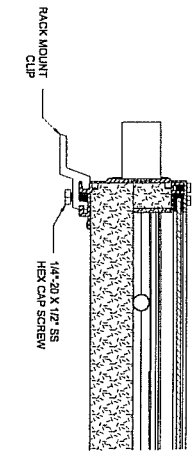
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Date	Issue	Sheet
02/08/2008		AE - 1
N.T.S.		SHEET 5 OF 9

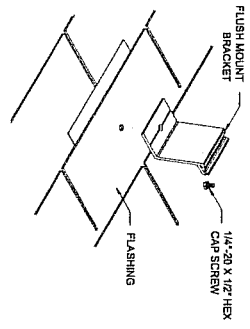
INSTALLATION DETAILS - ALTERNATE MOUNT HARDWARE



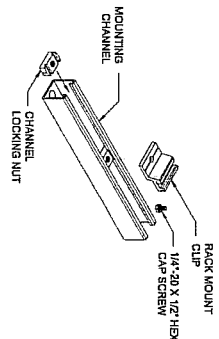
FLUSH MOUNTING HARDWARE
 FLUSH MOUNT HARDWARE IS INSTALLED AT EACH CONNECTION POINT AS SHOWN IN THIS DETAIL.



RACK MOUNTING HARDWARE
 RACK MOUNT HARDWARE IS INSTALLED AT EACH CONNECTION POINT AS SHOWN IN THIS DETAIL.



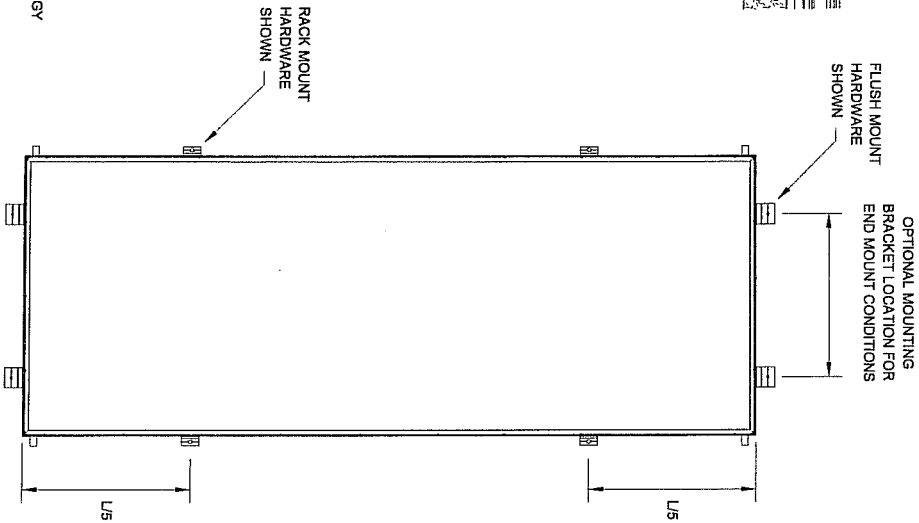
CONNECTION DETAIL
 USING MANUFACTURERS HARDWARE FOR RACK MOUNT ON SLOPING ROOFS



CONNECTION DETAIL
 USING MANUFACTURERS HARDWARE FOR RACK MOUNT ON TILE / SLATE ROOFS

NOTES

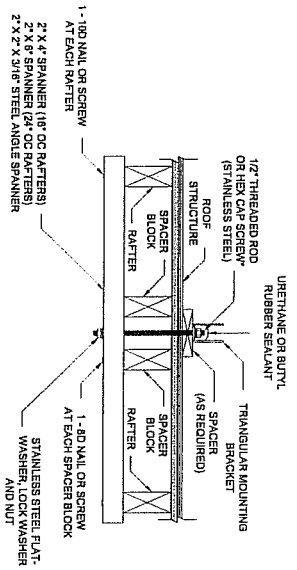
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DESIGN WIND PRESSURE
 MAXIMUM SUCTION UPLIFT: 51 PSF

<p style="text-align: right;">General Notes</p> <p style="text-align: center;">James A. Marx, Jr. <i>James A. Marx, Jr.</i> 3/1/09</p> <p style="text-align: center;">Professional Engineer FL Lic. No. 45024</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Project Name and Address</td> <td style="width: 50%;">Date</td> </tr> <tr> <td style="width: 50%;">Project No. and Title</td> <td style="width: 50%;">Scale</td> </tr> <tr> <td style="width: 50%;">Client Name</td> <td style="width: 50%;">Sheet No. of Total</td> </tr> <tr> <td style="width: 50%;">Contract No.</td> <td style="width: 50%;">Revision</td> </tr> <tr> <td style="width: 50%;">Drawing No.</td> <td style="width: 50%;">Date</td> </tr> </table> <p style="font-size: small;"> PROJECT NO. 07-06 / 2008 DATE N.T.S. SHEET 8 OF 8 </p>	Project Name and Address	Date	Project No. and Title	Scale	Client Name	Sheet No. of Total	Contract No.	Revision	Drawing No.	Date
Project Name and Address	Date										
Project No. and Title	Scale										
Client Name	Sheet No. of Total										
Contract No.	Revision										
Drawing No.	Date										

SPANNER MOUNTING



SPANNER BOLTS TO BE 1/2" DIAMETER, STAINLESS STEEL, WHERE HEX CAP SCREWS ARE USED IN PLACE OF THREADED ROD, THE SCREW LENGTH VARIES WITH THE ROOF CONSTRUCTION AND SPANNER MEMBER USED.

SPACER BLOCKS SHALL BE INSTALLED WITHIN 1" OF THE THRU-BOLT, WHEN THRU-BOLT IS WITHIN 2" OF A RAFTER, ONLY ONE SPACER BLOCK WILL BE REQUIRED ON THE OPPOSITE SIDE OF THE BOLT, AWAY FROM THE RAFTER. TWO SPACER BLOCKS ARE REQUIRED WHEN THE BOLT IS MORE THAN 2" FROM THE RAFTER.

WHEN THE MOUNTING PROVISIONS OF ADJACENT COLLECTORS ARE INSTALLED SIDE BY SIDE AND THE THRU-BOLTS ARE 1 1/2" OR MORE APART, IT WILL BE NECESSARY TO HAVE AT LEAST ONE SPACER BLOCK (OR RAFTER) BETWEEN BOLTS.

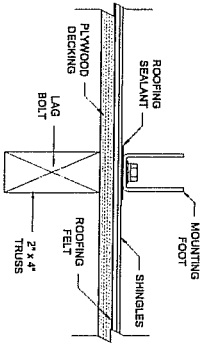
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DESIGN WIND PRESSURE
MAXIMUM SUCTION UPLIFT: 51 PSF

LAG BOLT MOUNTING



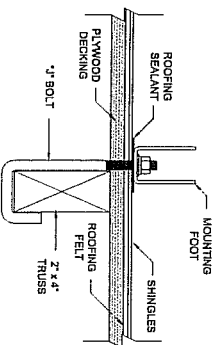
LAG BOLTS ARE TO BE 3/8" DIAMETER AND MUST PENETRATE THE RAFTER MEMBER A MINIMUM OF 3".

PILOT HOLES SHOULD BE DRILLED INTO THE CENTERLINE OF THE RAFTER AND SHOULD BE BETWEEN 50-75% OF THE BOLT DIAMETER.

APPLY A LIBERAL AMOUNT OF ROOF SEALANT OR A SEALANT PAD AROUND THE OPENING PRIOR TO SECURING THE MOUNTING BRACKET.

ALL CONNECTION HARDWARE (BOLTS & WASHERS) TO BE STAINLESS STEEL.

"J" BOLT MOUNTING



"J" BOLTS ARE TO BE 3/8" DIAMETER AND MUST POSITIONED DIRECTLY BESIDE THE RAFTER. HOLES SHOULD BE DRILLED SLIGHTLY LARGER THAN THE BOLT DIAMETER.

APPLY A LIBERAL AMOUNT OF ROOF SEALANT OR A SEALANT PAD AROUND THE OPENING PRIOR TO SECURING THE MOUNTING BRACKET.

SNUG THE "J" BOLT AGAINST THE RAFTER BEFORE TIGHTENING THE NUT. USE DOUBLE NUTS OR LOCK WASHERS TO SECURELY FASTEN THE MOUNTING BRACKET TO THE "J" BOLT.

ALL CONNECTION HARDWARE (BOLTS & WASHERS) TO BE STAINLESS STEEL.

General Notes

James A. Marx, Jr.

James A. Marx, Jr.
3/1/09

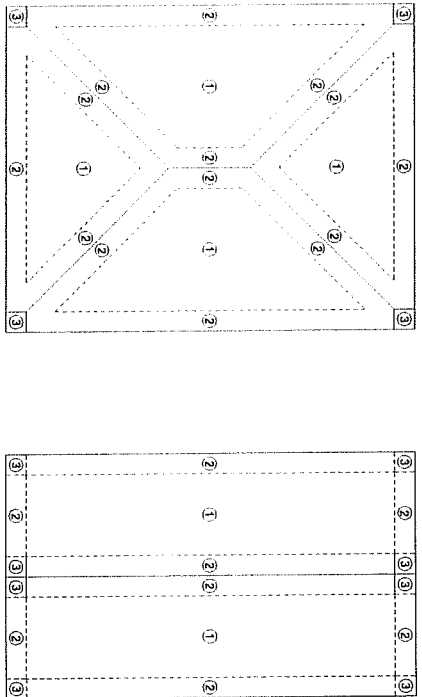
Professional Engineer
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No.	Revision/Issue	Date

ALTERNATE ENERGY TECHNOLOGIES, LLC
1187 N. BELLS RD
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DATE	02/09/2008	SHEET	AE - 1
DATE	N/A	SHEET	7 OF 8

WIND SPEED AND COMPONENTS + CLADDING LOAD



ROOF AREA FOR WIND LOAD DETERMINATION

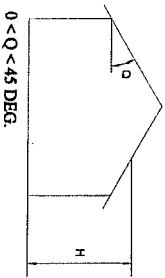
- ① AREA 1 CENTRAL ROOF AREA
- ② AREA 2 EDGE STRIPS OF ROOF (SEE NOTE BELOW)
- ③ AREA 3 CORNER AREAS OF ROOF (SEE NOTE BELOW)

THE MINIMUM WIND LOADS AT SPEEDS BETWEEN 100 AND 150 MPH, EXPOSURE B OR C IN TABLE 1 APPLY TO THE INSTALLATION OF SOLAR COLLECTOR WITH ROOF SLOPING NOT GREATER THAN 45 DEG. AT A MEAN ROOF HEIGHT NOT GREATER THAN 30 FEET INSTALLED IN ACCORDANCE WITH AET DRAWINGS SHEETS AE-1 TO AE-7.

THE WIDTH OR DIMENSION OF THE EDGE STRIPS (AREA 2) AND CORNER AREAS (AREA 3) IS 10% OF THE LEAST HORIZONTAL DIMENSION OR 40% OF THE EAVE HEIGHT, BUT NOT LESS THAN 3 FEET AS STATED IN ASCE 7.

SOLAR COLLECTORS SHOULD BE INSTALLED IN THE CENTRAL AREA OF THE ROOF WHENEVER POSSIBLE. THEY MAY BE INSTALLED IN THE CENTRAL AND EDGE AREAS IF NECESSARY. IT IS NOT RECOMMENDED THAT SOLAR COLLECTORS BE INSTALLED IN CORNER AREAS.

THIS INFORMATION CANNOT BE USED FOR AS SERIES SOLAR COLLECTORS SITED IN OTHER EXPOSURES OR ON BUILDINGS HAVING A MEAN ROOF HEIGHT GREATER THAN 30 FEET, (H > 30 FEET) OR WITH SLOPES GREATER THAN 45 DEG.



NOTES

THIS SHEET PROVIDES INFORMATION RELATED TO WIND SPEEDS AND THE ASSOCIATED MINIMUM LOADS ON THE ALTERNATE ENERGY TECHNOLOGIES SOLAR COLLECTOR INSTALLATION DRAWINGS (A/E 1, SHEETS 1 THRU 7).

THE DRAWING ARE INTENDED TO BE GENERIC IN NATURE AND COVER THE RANGE OF WINDS SPEEDS (100 TO 150 MPH) AND RESULTING PRESSURES (LOADS) ON SOLAR COLLECTORS INSTALLED ON LOW-RISE BUILDINGS THROUGHOUT THE STATE.

THESE DRAWINGS DETAIL THE STRUCTURAL REQUIREMENTS AND HARDWARE NECESSARY TO INSTALL THE 40 SQUARE FOOT (AND SMALLER) AE SERIES SOLAR COLLECTORS ON ROOFS OF BUILDINGS WITH HORIZONTAL OR SLOPED ROOFS IN ACCORDANCE WITH THE FLORIDA BUILDING CODE (FBC). THE DRAWINGS ARE EXPECTED TO BE USED PRIMARILY FOR RESIDENTIAL BUILDINGS WITH LOW-SPEED ROOFS AT ANGLES UP TO 45 DEG. HAVING A MEAN ROOF HEIGHT OF 30 FEET OR LESS.

THE DRAWINGS DETAIL AN INSTALLATION THAT WILL WITHSTAND WIND UPLIFT LOADS UP TO 51 POUNDS PER SQUARE FOOT (.51 PSF) AND IS EXPECTED TO MEET THE RANGE OF WIND LOADS ON MOST RESIDENTIAL BUILDINGS THROUGHOUT THE STATE. THE INTENT OF THESE DRAWINGS IS TO PROVIDE AN ATTACHMENT SYSTEM FOR ALL SOLAR COLLECTORS THAT WILL WITHSTAND A WIND LOAD OF .51 PSF REGARDLESS OF ITS LOCATION.

THE DRAWINGS DO NOT HOWEVER INDICATE SPECIFIC WIND SPEEDS BECAUSE OF THE VARIABILITY OF WIND SPEED WITH HEIGHT AND LOCATION (EXPOSURE CATEGORY) THROUGHOUT THE STATE. ALL INSTALLATIONS INSTALLED IN ACCORDANCE WITH THESE DRAWINGS WILL READILY WITHSTAND THE .51 PSF UPLIFT LOAD AS VERIFIED BY TESTING UNDER PA 202 AND ASTM E 330 AND ANALYSIS OF ALL HARDWARE USED IN THE INSTALLATION.

TABLE 1 - UPLIFT LOAD

WIND SPEED (MPH)	150	140	130	120	110
DESIGN AREA 1 (CENTER) EXP B	39.4	34.4	29.6	25.2	21.2
DESIGN AREA 2 (EDGE) EXP B	*	*	45.6	38.8	32.6
DESIGN AREA 1 (CENTER) EXP C	*	*	41.4	35.3	29.7
DESIGN AREA 2 (EDGE) EXP C	*	*	*	*	45.6

WIND LOADS AT DIFFERENT WIND SPEEDS FOR AET SOLAR COLLECTOR INSTALLED IN THE CENTER OR EDGE AREA OF A TYPICAL RESIDENTIAL BUILDING AS SHOWN AND DESCRIBED ON THIS SHEET

FOR TILTED COLLECTORS ON FLAT ROOFS USE UPLIFT LOAD FOR DESIGN AREA 2.
* SPECIFIC APPROVAL REQUIRED BY AET PROFESSIONAL ENGINEER

Sheet 8 of 8

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Date: 02/108/2006
N.T.S.
SHEET 8 OF 8
AE - 1