



City of Belle Isle
 Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32811
 Tel 407-581-8161 * Fax 407-581-0313 * www.universalengineering.com

PERMIT CARD - PLEASE POST AT JOB SITE

THIS DOCUMENT BECOMES YOUR PERMIT WHEN PROPERLY VALIDATED

Per FBC 105 3.3: An enforcing authority may not issue a building permit for any building construction, erection, alteration, modification, repair or addition unless the permit either includes on its face or there is attached to the permit the following statement: "NOTICE: In addition to the requirements of this permit, there may be additional restrictions applicable to this property that may be found in the public records of this county, and there may be additional permits required from other governmental entities such as water management districts, state agencies, or federal agencies". The issuance of this permit does not grant permission to violate any applicable City, Orange County, State of Florida and/or Federal codes and/or ordinances. Separate permits are required for Signs, Roofing, Electrical, Gas, Plumbing and Mechanical services. This permit becomes VOID if the work authorized is not commenced within 6 months, or is suspended or abandoned for a period of 6 months after commencement. WORK SHALL BE CONSIDERED SUSPENDED IF AN APPROVED INSPECTION HAS NOT BEEN MADE WITHIN A 6 MONTH PERIOD. PERMISSION IS GRANTED TO DO THE FOLLOWING WORK ACCORDING TO THE CONDITIONS HEREON AND THE APPROVED PLANS AND SPECIFICATIONS, SUBJECT TO COMPLIANCE WITH THE ORDINANCES OF THE CITY OF BELLE ISLE, FLORIDA.

<p>Scope of Work: MECHANICAL: one 4-ton change out</p> <p>Comments: None</p> <p>Project Information Address: 1924 Hoffner Avenue, Belle Isle, FL 32809 Parcel ID: 18-23-30-3648-00-240 Property Owner: Van Dyke, Keith Phone Number: 321 628 8001</p> <p>***** Company Name: Del-Air Heating, A/C & Refrigeration Inc Contractor Name: Del Russo, Robert License Number: CAC032448 Address: 531 Codisco Way, Sanford, FL 32771 Phone Number: 407-333-2662</p>	<p align="center">Permit Number: 2015-08-043</p> <p>Date of Application: 08/20/2015 Date Permit Issued: 08/21/2015</p> <p>WARNING TO OWNER: "YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOU PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT." ON THE JOB INSPECTION(S) MUST BE MADE BEFORE PROCEEDING WITH SUBSEQUENT WORK. THIS CARD MUST BE DISPLAYED OUTSIDE AND BE PROTECTED FROM THE WEATHER WHILE BEING VISIBLE FROM THE STREET UNTIL THE FINAL INSPECTIONS HAVE BEEN APPROVED.</p>
---	---

BUILDING FEATURES

<p>IMPACT FEES</p> <p>School \$ Traffic \$</p> <p>ZONING FEES</p> <p>Zoning Fee \$</p> <p>UNIVERSAL ENG - BUILDING FEES</p> <p>Cert of Occ \$ Demo \$ Building \$ Fence \$ Driveway \$ Shed \$ Window(s) \$ Door(s) \$ PrePower \$ Electrical \$ Temp Pole \$ Plumbing \$ Mechanical \$91.50 Gas \$ Roofing \$ Boat Dock \$ Screen Encl \$ Swimming Pool \$ Sign \$</p> <p>SURCHARGE FEES</p> <p>Surcharge Fee \$2.00 Surcharge Fee \$2.00</p> <p align="center">TOTAL FEES \$95.50</p> <p>Date Paid 8/24/15 CC or Check # Visa 5294 Amount Paid \$95.50</p> <p>The person accepting this permit shall conform to the terms of the application on file and construction shall conform to the requirements of the Florida Building Code (FS 553).</p>	<p align="center">BUILDING INSPECTOR USE ONLY</p> <p>IF APPLICABLE: Have Zoning Approval Conditions Been Met? YES NO Have Stormwater Approval Conditions Been Met? YES NO Silt fencing in place? YES NO Turbidity Barrier in place? YES NO</p> <p>BUILDING 1st _____ (Footing/Foundation) Survey specific foundation plan must be onsite before slab pour. Approved Plan on Site? _____ 2nd _____ (Slab) 3rd _____ (Lintel)(Wall Reinforcing on Masonry Building) 4th _____ (Exterior Framing)(Roof/Wall Sheathing) 5th _____ (Framing) (To be made after Plumbing/ Mechanical/ Electrical Rough-Ins & Windows/Doors Installed) 6th _____ (Insulation to be Made After Roof Installed) 7th _____ (Drywall) 8th _____ (Sidewalk/Driveway) 9th _____ (Other) 10th _____ (Final - After MEP and Other Applicable Finals)</p> <p>ROOFING 1st ROOFING Deck Nailing/Dry-in/Flashing _____ 2nd ROOFING Covering In-Progress _____ 3rd ROOFING Covering Final _____</p> <p>PLUMBING (Pool-Piping, Solar, Irrigation, Water Treatment Equip, Etc...) 1st _____ (Underground) 2nd _____ (Sewer) 3rd _____ (Rough-In/Tub Set) 4th _____ (Final)</p> <p>CHECK APPROPRIATE BOX <input type="checkbox"/> GAS ___ Natural ___ LP <input type="checkbox"/> MECHANICAL <input type="checkbox"/> ELECTRICAL <input type="checkbox"/> LOW VOLTAGE 1st _____ (Rough-In) 2nd _____ (Final)</p>
--	--

Inspection requests are to be emailed to BI@scheduling@UniversalEngineering.com; a confirmation email will be sent back to you upon scheduling. Next-Day Inspection requests must be made by 1pm. Please include the following in your request: Permit #, project address, type of inspection, date of the requested inspection, a contact name & a contact phone number. AM or PM may be requested but cannot be guaranteed.

For a copy of your permit, or to check inspection results, please visit <https://universalengineering.sharefile.com/ff094edc4-832d-44bd-9809-ecf32f9e2e63>
 login ID = cobi@universalengineering.com password = universal113

CITY OF BELLE ISLE
Permit Application Review Sheet

Permit Number	2015-08-043
Property Owner	Van Duke, Keith
Address	1924 Hoffman Ave
Nature of Improvement	Mechanical one 4-ton change out
Received Application	8-21-15
Sent for Stormwater Review	/
Stormwater Approved	/
Sent for Zoning Review	/
Zoning Approved	/
Applied for Variance	
Variance Approved	
Sent to BO for Review	8-21-15
Building Official Approved	See via email
1.	Susan 8-21-15 WO # 56066 - emailed to Jay
2.	Susan 8-21-15 emailed it's ready
3.	JAH. 8/24/15 Received Payment; Updated log/Vision;
4.	" " Emailed Permit; Scanned for Shorefile.
5.	
6.	
7.	
8.	
9.	
10.	
11.	
12.	

Susan Manchester

From: John Connell
Sent: Friday, August 21, 2015 8:58 AM
To: Susan Manchester
Cc: BIDReviews
Subject: RE: 1924 Hoffner Ave - app for mechanical permit 2015-08-043 attached for review

Approved

From: Susan Manchester
Sent: Friday, August 21, 2015 8:41 AM
To: John Connell
Cc: BIDReviews
Subject: 1924 Hoffner Ave - app for mechanical permit 2015-08-043 attached for review

Info needed is on the cover sheet.

Thanks,

Susan



City of Belle Isle

Universal Engineering Sciences 3532 Maggie Blvd., Orlando, FL 32804
Tel 407-581-8161 * Fax 407-581-0313 * www.universalsciencesengineering.com



APPLICATION FOR MECHANICAL PERMIT

WARNING TO OWNER: YOUR FAILURE TO RECORD A NOTICE OF COMMENCEMENT MAY RESULT IN YOUR PAYING TWICE FOR IMPROVEMENTS TO YOUR PROPERTY. A NOTICE OF COMMENCEMENT MUST BE RECORDED AND POSTED ON THE JOB SITE BEFORE THE FIRST INSPECTION. IF YOU INTEND TO OBTAIN FINANCING, CONSULT WITH YOUR LENDER OR AN ATTORNEY BEFORE RECORDING YOUR NOTICE OF COMMENCEMENT.

DATE OF APPLICATION: 8/20/15 PERMIT NUMBER: 2015-08-043

PLEASE PRINT. The undersigned hereby applies for a permit to make installations as indicated below:

Project Address 1924 Hoffman Ave Belle Isle FL 32809 32812
Property Owner Vesta van Dyke Phone 321-428-8001
Property Owner's Mailing Address 1924 Hoffman Ave City Belle Isle
State FL Zip Code 32809 Parcel Id Number: 18233004000240

To obtain this information, please visit <http://www.ocpafi.org/Searches/ParcelSearch.aspx>

Class of Building: Old New Type of Building: Residential Commercial Other
Type of Work: New Alteration Addition Repair

- REQUIRED: certified Tie Down Engineering documentation (can be found at www.floridabuilding.org)
- REQUIRED: if adding A/C to new space, provide Energy Calculations & Equipment Sizing Calculations
- REQUIRED: if replacing unit with no duct work, Duct Certification as per FB 101.4.7.1, must be posted on unit

Please indicate the nature of work by completing the information below:

Air Conditioning: # of Units 1 Tons Per Unit 4.0 Total Tons 4.0 Estimated Cost \$ 6590
Type of System: Water to Air Chiller Split System Package Heat Pump
Heating: # of Units KWS Per Unit 5 Total KWS 44500 BTU's 44500 Estimated Cost \$ _____
Oil Electric Boiler Gas (A) Estimated Cost Fee \$ _____

Fees for items below are based on valuation of all units, equipment, materials and labor supplied by owner or contractor.

Ventilation:

(Number of) Grease Heat Hoods, Air Intakes Exhaust Fans Dryer Vents Estimated Cost \$ _____

Refrigeration:

Number of units _____ Estimated Cost \$ _____
Piping: Air Vacuum Steam Chill Water Estimated Cost \$ _____
Others: (Specify) none to no duct work Estimated Cost \$ _____

Was the space previously Air Conditioned? Yes No (B) Estimated Cost Fee \$ _____
I hereby certify that the above is true and correct to the best of my knowledge and make Application for Permit as outlined above, and if same is granted I agree to conform to all Florida Building Code Regulations and City Ordinances regulating same and in accordance with plans submitted. The issuance of this permit does not grant permission to violate any applicable Town and/or State of Florida codes and/or ordinances.

LICENSE HOLDER SIGNATURE [Signature] LICENSE # 00000000
LICENSE HOLDER NAME Universal Engineering Sciences COMPANY NAME Universal Engineering Sciences
Street Address 3532 Maggie Blvd State FL Zip Code 32804 Phone Number 407-581-8161
City Orlando Email Address sales@universalair.com

Building Official: [Signature] Date 8-21-15 Permit Fee \$ 61.-
Date 8-21-15 Date 8-21-15 Review Fee \$ 30.50
Verified Contractor's Licenses & Insurance are on file [Signature] Date 8-21-15 3% Florida Surcharge \$ 4.-
Total Permit Fee \$ 95.50

NOTE: The Building Permit Number is required if the Mechanical Installation is associated with any construction or alteration where a Building Permit has been issued. Building Permit Number _____

RECEIVED
BY: AUG 21 2015

DEL-AIR
HEATING - AIR CONDITIONING
REFRIGERATION, INC.

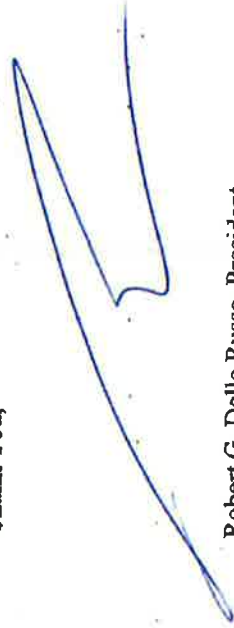
Date 8/20/15

City Of Belle Isle
Building Division

Dear Sir:

This letter is written to give authorization for E. C. D'Angelo to pull the mechanical permit for Del-Air Heating, Air Conditioning & Refrigeration, Inc. for 1674 Hoffman Rd

Thank You,



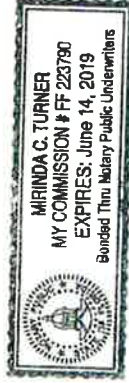
Robert G. Dello Russo, President

DEL-AIR HEATING, AIR CONDITIONING &
REFRIGERATION, INC.

RGDR/jd

Sworn to before me by Robert G. Dello Russo
on this 20 day of August, 2015

Mirinda C. Turner
NOTARY PUBLIC
MY COMMISSION EXPIRES 6/14/19



P.O. Box 520522
Longwood, FL 32752-0522
Phone (407)333-COOL (2665)
(407)831-COOL (2665)

SALES
SERVICE
INSTALLATION

[Searches](#)
[Sales Search](#)
[Results](#)
[Property Record Card](#)
[My Favorites](#)

1924 Hoffner Ave < 18-23-30-3648-00-240 >

Name(s) Van Dyke Keith C
 Physical Street Address 1924 Hoffner Ave
 Mailing Address On File 1924 Hoffner Ave
 1924 Hoffner Ave Orlando, FL 32809
 Belle Isle, FL 32809-3528 Property Use
 Incorrect Mailing Address? 0103 - Single Fam Class III
 Municipality Belle Isle

[Values, Exemptions and Taxes](#)
[Property Features](#)
[Sales Analysis](#)
[Location Info](#)

Property Description

C H HOFFNERS SUB F/37 LOT 24 & SWLY 26 FT OF LOT 25


Total Land Area 39,808 sqft (+/-) | 0.91 acres (+/-) GIS Calculated Notice

Land (includes working values)

Land Use Code	Zoning	Land Units	Unit Price	Land Value
0130 - Sfr - Lake Front	R-1-AA	1 LOT(S)	\$340,000.00	\$340,000

Page 1 of 1 (1 total records)

Buildings (includes working values)

Important Information		Structure	
	Model Code: 01 - Single Fam Residence	Actual Year Built:	1996
	Type Code: 0103 - Single Fam Class III	Beds:	5
	Building Value: \$449,323	Baths:	4.5
	Estimated New Cost: \$514,100	Floors:	2

Page 1 of 1 (1 total records)

Extra Features (includes working values)

Description	Date Built	Units
FPL2 - Average Fireplace	01/01/1996	1 Unit(s)
PT2 - Patio 2	01/01/1999	1 Unit(s)
BC2 - Boat Cover 2	01/01/1999	1 Unit(s)
BD2 - Boat Dock 2	01/01/1999	1 Unit(s)

WLDC - Wall Dec	01/01/1998	99 Unit(s)
SHNV - Shed No Value	01/01/1998	1 Unit(s)

Page 1 of 1 (6 total records)

This Data Printed on 08/11/2015 and System Data Last Refreshed on C

Site Notice • About Us • Contact Us • OCPAFL Home • Property Search • Exemp
 Orange County Property Appraiser • 200 S. Orange Avenue, Suite 1700 • Or
 Office Hours: 8:00 a.m. to 5:00 p.m. Monday - Friday • Phone: 407.8
Copyright © 2010 Orange County Property Appraiser. All rights reserved.



Certificate of Product Ratings

AHRI Certified Reference Number: 6938164

Date: 8/10/2015

Product: Split System: Heat Pump with Remote Outdoor Unit-Air-Source

Outdoor Unit Model Number: 25HBC548A**30

Indoor Unit Model Number: FV4CN(B,F)005L

Manufacturer: CARRIER AIR CONDITIONING

Trade/Brand name: CARRIER AIR CONDITIONING

Series name: COMFORT SERIES PURON HP

Manufacturer responsible for the rating of this system combination is CARRIER AIR CONDITIONING

Rated as follows in accordance with AHRI Standard 210/240-2008 for Unitary Air-Conditioning and Air-Source Heat Pump Equipment and subject to verification of rating accuracy by AHRI-sponsored, independent, third party testing:

Cooling Capacity (Btuh):	46500
EER Rating (Cooling):	12.50
SEER Rating (Cooling):	15.00
Heating Capacity(Btuh) @ 47 F:	44500
Region IV HSPF Rating (Heating):	8.00
Heating Capacity(Btuh) @ 17 F:	28400

* Ratings followed by an asterisk (*) indicate a voluntary rerate of previously published data, unless accompanied with a WAS, which indicates an involuntary rerate.

DISCLAIMER

AHRI does not endorse the product(s) listed on this Certificate and makes no representations, warranties or guarantees as to, and assumes no responsibility for, the product(s) listed on this Certificate. AHRI expressly disclaims all liability for damages of any kind arising out of the use or performance of the product(s), or the unauthorized alteration of data listed on this Certificate. Certified ratings are valid only for models and configurations listed in the directory at www.ahridirectory.org.

TERMS AND CONDITIONS

This Certificate and its contents are proprietary products of AHRI. This Certificate shall only be used for individual, personal and confidential reference purposes. The contents of this Certificate may not, in whole or in part, be reproduced, copied, disseminated, entered into a computer database; or otherwise utilized, in any form or manner or by any means, except for the user's individual, personal and confidential reference.

CERTIFICATE VERIFICATION

The information for the model cited on this certificate can be verified at www.ahridirectory.org, click on "Verify Certificate" link and enter the AHRI Certified Reference Number and the date on which the certificate was issued, which is listed above, and the Certificate No., which is listed at bottom right.

©2014 Air-Conditioning, Heating, and Refrigeration Institute



AIR-CONDITIONING, HEATING,
& REFRIGERATION INSTITUTE

we make life better™

130837291994943962

CERTIFICATE NO.:



DEL-AIR


(888)-831-2665

Heating · Air Conditioning
Appliances · Electrical

24 Hours - 7 Days a Week

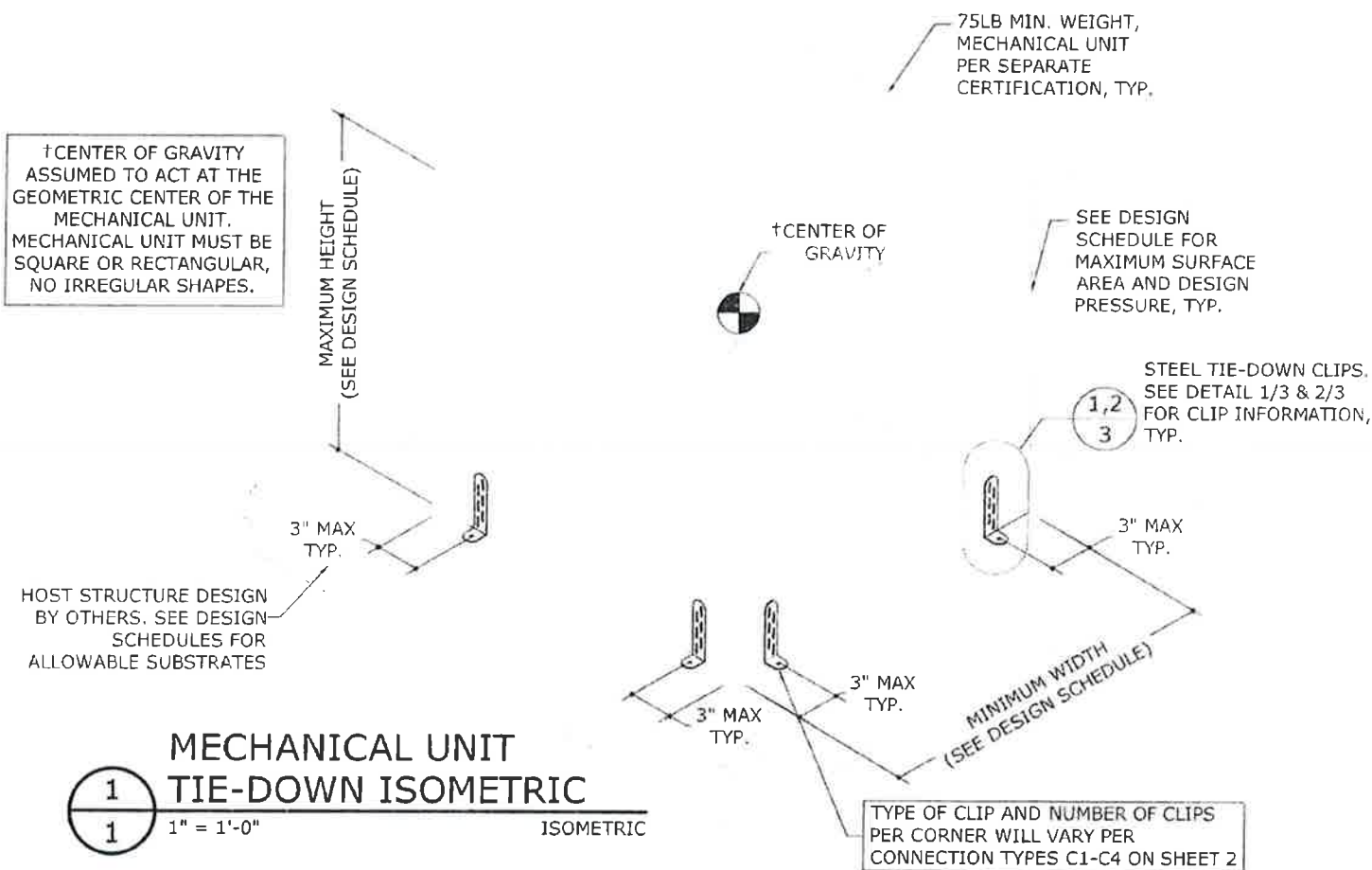
State Cert CAC032448

WWW.DELAIR.COM

Sales Agreement			
KEITH VANDYKE	321-438-8001	8/11/2015	MARK UNDERWOOD
1924 HOFFNER AVE.	Cell	Email	Cell 407-421-4236
ORLANDO	FL 32809		WWW.DELAIR.COM
Description		Size	SEER RATING
Carrier Comfort 15 Puron® HP		4 TON	15.0
Carrier Limited Factory Warranty: 10 years all functional parts 1 year on labor.			
For the sum set forth we agree to install and service the following Del-Air comfort system as per the specifications outlined including the equipment and materials listed on proposal. Materials not listed are not included.			
Terms and Conditions		Total Including Permit \$	6,590
Check or Cash			
Homeowners are responsible to stay home for one (1) full day for the Building Department Inspection. Del-Air gives no guarantee for any existing conditions such as, but not limited to, pre-existing Electrical, Ductwork, Mechanical Equipment & House Structure			
Florida's Lien Law			
<p>ACCORDING TO FLORIDA'S CONSTRUCTION LIEN LAW (SECTIONS 713.001 - 713.37, FLORIDA STATUTES), THOSE WHO WORK ON YOUR PROPERTY OR PROVIDE MATERIALS AND ARE NOT PAID IN FULL HAVE THE RIGHT TO ENFORCE THEIR CLAIM FOR PAYMENT AGAINST YOUR PROPERTY. IF YOUR CONTRACTOR OR A SUBCONTRACTOR FAILS TO PAY SUBCONTRACTORS, SUB-SUBCONTRACTORS, OR MATERIAL SUPPLIERS, THE PEOPLE WHO ARE OWED MONEY MAY LOOK TO YOUR PROPERTY FOR PAYMENT, EVEN IF YOU ALREADY PAID YOUR CONTRACTOR IN FULL. IF YOU FAIL TO PAY YOUR CONTRACTOR, YOUR CONTRACTOR MAY ALSO HAVE A LIEN ON YOUR PROPERTY. THIS MEANS IF A LIEN IS FILED, YOUR PROPERTY COULD BE SOLD AGAINST YOUR WILL TO PAY FOR LABOR, MATERIALS, OR OTHER SERVICES THAT YOUR CONTRACTOR OR A SUBCONTRACTOR MAY HAVE FAILED TO PAY. TO PROTECT YOURSELF, YOU SHOULD STIPULATE IN THIS CONTRACT THAT BEFORE ANY PAYMENT IS MADE, YOUR CONTRACTOR IS REQUIRED TO PROVIDE YOU WITH A WRITTEN RELEASE OF LIEN FROM ANY PERSON OR COMPANY THAT HAS PROVIDED TO YOU A "NOTICE TO OWNER." FLORIDA'S CONSTRUCTION LIEN LAW IS COMPLEX, AND IT IS RECOMMENDED THAT YOU CONSULT AN ATTORNEY.</p>			
Add Additional Notes Here			
X		8/11/2015	I have the authority to order the work outlined above.
	KEITH VANDYKE		
	MARK UNDERWOOD	8/11/2015	In the event payment is not made promptly in accordance with agreed terms, it shall be seller's option to charge a service charge not exceeding two (2) percent per month. The first service charge will be due 15 days from the date of the billing of our amount due on the job. In the event of collection by an attorney, all attorney fees, court costs, and other legal fees shall be borne by the buyer; in the event of non-payment, purchaser agrees to allow seller on premises to remove equipment installed. This sales agreement shall be binding upon the heirs, successors, and/or assigns of the party hereto.
It is understood that the title of all products and equipment covered by the contract remains solely in the seller until the entire purchase price has been paid in full and the manner of installation ar/or attachment to any equipment and/or any portion of the building structure in which the installation is made shall not in any manner jeopardize the seller's title.			
Proposal is no longer valid after.			9/10/2015
Page 2 of 2			

BMP INTERNATIONAL, INC.

MECHANICAL UNIT STEEL TIE-DOWN CLIP: AT GRADE & ROOF-TOP MOUNTED APPLICATIONS



MECHANICAL UNIT
TIE-DOWN ISOMETRIC
ISOMETRIC
1" = 1'-0"

TIE-DOWN CLIP DIRECTIVE EXAMPLE

(THE FOLLOWING EXAMPLE ILLUSTRATES THE PROCEDURE USED TO DETERMINE THE MAXIMUM ALLOWABLE ROOF-TOP INSTALLATION HEIGHT, H, FOR ANY GIVEN MECHANICAL UNIT THAT CONFORMS TO THE DIMENSION RESTRICTIONS AND DESIGN CRITERIA LISTED HEREIN. SEE SHEETS 4-5 FOR DESIGN SCHEDULES.)

MECHANICAL UNIT CRITERIA:

CONSIDER THE INSTALLATION OF (1) MECHANICAL UNIT WITH THE FOLLOWING CRITERIA=

- $V_{ult}=170$ MPH, EXPOSURE 'B'
- 48" TALL x 48" DEEP x 48" WIDE, 100 LB (WEIGHT AS VERIFIED BY OTHERS)
- INSTALLED TO 3000 PSI MIN CONCRETE WITH (1)-2" CLIP AT EACH CORNER OF UNIT (TOTAL OF (4) CLIPS)

PROCEDURE:

PROCEDURE STEP	RESULT
1 DETERMINE THE CONNECTION TYPE BASED ON THE DIAGRAMS ON SHEET 2	CONNECTION TYPE 3
2 DETERMINE WHICH DESIGN SCHEDULE TABLE TO USE	THIS INSTALLATION IS INTENDED FOR A $V_{ult}=170$ MPH, EXPOSURE 'B'. THIS DESIGN CRITERIA CORRESPONDS TO TABLE 5
3 DETERMINE LARGEST FACE AREA OF MECHANICAL UNIT TO BE INSTALLED	48"x48"=16FT ²
4 CHECK MAXIMUM UNIT HEIGHT RESTRICTION	THIS UNIT HEIGHT OF 48" IS EQUAL TO THE MAXIMUM ALLOWABLE HEIGHT OF 48". NOTE: THIS PRODUCT APPROVAL ALLOWS THE UNIT TO BE INSTALLED ON TOP OF AN A/C STAND THAT IS A MAXIMUM 30" TALL. IF AN A/C STAND IS UTILIZED, CHECK TO SEE THAT THE STAND DOES NOT EXCEED 30" IN HEIGHT
5 CHECK MINIMUM UNIT WIDTH RESTRICTION	UNIT WIDTH IS 48" WHICH IS GREATER THAN THE MINIMUM ALLOWABLE WIDTH OF 24"
6 DETERMINE THE ALLOWABLE ROOF-TOP HEIGHT OF THE INSTALLATION	THIS UNIT MAY BE INSTALLED AT ROOF HEIGHTS LESS THAN OR EQUAL TO 15 FT. ADDITIONALLY, THIS UNIT MAY BE INSTALLED ON ROOF-TOP HEIGHTS GREATER THAN 60FT AND LESS THAN 100 FT. SEE (*) ON TABLE 5 FOR THE NUMERICAL VALUES OF THIS DESIGN EXAMPLE

DESIGN NOTES:

THIS PRODUCT HAS BEEN DESIGNED IN ACCORDANCE WITH ASCE 7-10 AND THE FLORIDA BUILDING CODE FOR USE WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE INDICATED IN THE ACCOMPANYING DESIGN SCHEDULES. THE DESIGN CRITERIA USED TO CALCULATE THE ALLOWABLE ROOF-TOP HEIGHTS CONSIDERS ASCE 7-10 SECTION 29.5.1 FOR ROOF TOP HEIGHTS (H) ≤60 FT AND SECTION 29.5 FOR ROOF TOP HEIGHTS (H)>60 FT & SECTION 29.4.1 FOR INSTALLATIONS AT GRADE. $(G_C)_{laterm}=3.10$ WITHIN THE HVHZ, $(G_C)_{laterm}=1.90$ OUTSIDE THE HVHZ, $(G_C)_{upper}=1.5$ FOR ALL LOCATIONS (CONCURRENT). ALL OTHER DESIGN VARIABLES ARE IN ACCORDANCE WITH ASCE 7-10 CHAPTERS 26 & 29. THE HEIGHTS LISTED IN THE DESIGN SCHEDULES REPRESENT THE ALLOWABLE HEIGHT OF THE BUILDING. THIS PRODUCT APPROVAL ALLOWS FOR EACH UNIT TO BE INSTALLED ON A MAXIMUM 30" TALL A/C STAND (CERTIFICATION BY OTHERS) ON TOP OF THE HEIGHTS LISTED IN THE DESIGN SCHEDULES.

GENERAL NOTES:

1. THIS PRODUCT HAS BEEN DESIGNED AND SHALL BE FABRICATED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FLORIDA BUILDING CODE & ASCE 7-10. THIS PRODUCT MAY BE USED WITHIN AND OUTSIDE THE HIGH VELOCITY HURRICANE ZONE.
2. NO 33-1/3% INCREASE IN ALLOWABLE STRESS HAS BEEN USED IN THE DESIGN OF THIS SYSTEM.
3. DESIGN IS BASED ON CLIENT PROVIDED PRODUCT AND DIE SHEETS FROM TEST REPORTS #TEL 01970387A, #TEL 01970387B BY TESTING EVALUATION LABORATORIES, INC.. NO SUBSTITUTIONS WITHOUT WRITTEN APPROVAL BY THIS ENGINEER SHALL BE PERMITTED.
4. MAXIMUM & MINIMUM DIMENSIONS AND MINIMUM WEIGHT OF MECHANICAL UNIT SHALL CONFORM TO SPECIFICATIONS STATED HEREIN. ALL MECHANICAL SPECIFICATIONS (CLEAR SPACE, TONNAGE, ETC.) SHALL BE AS PER MANUFACTURER RECOMMENDATIONS AND ARE THE EXPRESS RESPONSIBILITY OF THE CONTRACTOR.
5. FASTENERS TO BE #12 X 3/4" OR GREATER SAE GRADE 5 UNLESS NOTED OTHERWISE. TAPCONS REFERRED TO HEREIN SHALL BE ITW BUILDDEX BRAND, CARBON STEEL ONLY, INSTALLED TO 3000 PSI MIN CONCRETE. SEE ANCHOR SCHEDULE FOR ANCHOR REQUIREMENTS. ALL FASTENERS SHALL HAVE APPROPRIATE CORROSION PROTECTION TO PREVENT ELECTROLYSIS.
6. ALL STEEL CLIPS SHALL BE ASTM A283 STEEL (GRADE D) WITH $F_y=33$ KSI OR BETTER. ALL STEEL MEMBERS SHALL BE PROTECTED AGAINST CORROSION WITH AN APPROVED COAT OF PAINT, ENAMEL OR OTHER APPROVED PROTECTION. G90-RATED COATING REQUIRED FOR ALL COASTAL INSTALLATIONS.
7. ALL CONCRETE SPECIFIED HEREIN IS NOT PART OF THIS CERTIFICATION. AS A MINIMUM, ALL CONCRETE SHALL BE STRUCTURAL CONCRETE 4" MIN. THICK AND SHALL HAVE MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI, UNLESS NOTED OTHERWISE.
8. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALL MEMBERS FROM DISSIMILAR MATERIALS TO PREVENT ELECTROLYSIS.
9. ELECTRICAL GROUND, WHEN REQUIRED, TO BE DESIGNED & INSTALLED BY OTHERS.
10. THE ADEQUACY OF ANY EXISTING STRUCTURE TO WITHSTAND SUPERIMPOSED LOADS SHALL BE VERIFIED BY THE ONSITE DESIGN PROFESSIONAL AND IS NOT INCLUDED IN THIS CERTIFICATION. EXCEPT AS EXPRESSLY PROVIDED HEREIN, NO ADDITIONAL CERTIFICATIONS OR AFFIRMATIONS ARE INTENDED.
11. THE SYSTEM DETAILED HEREIN IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SPECIFIC SITE. FOR SITE CONDITIONS DIFFERENT FROM THE CONDITIONS DETAILED HEREIN, A LICENSED ENGINEER OR REGISTERED ARCHITECT SHALL PREPARE SITE SPECIFIC DOCUMENTS FOR USE IN CONJUNCTION WITH THIS DOCUMENT.
12. WATER-TIGHTNESS OF EXISTING HOST SUBSTRATE SHALL BE THE FULL RESPONSIBILITY OF THE INSTALLING CONTRACTOR. CONTRACTOR SHALL ENSURE THAT ANY REMOVED OR ALTERED WATERPROOFING MEMBRANE IS RESTORED AFTER FABRICATION AND INSTALLATION OF STRUCTURE PROPOSED HEREIN. THIS ENGINEER SHALL NOT BE RESPONSIBLE FOR ANY WATERPROOFING OR LEAKAGE ISSUES WHICH MAY OCCUR AS WATER-TIGHTNESS SHALL BE THE FULL RESPONSIBILITY OF THE INSTALLING CONTRACTOR.
13. FOR AN EXPLANATION OF EXPOSURE CATEGORIES THAT ACCOMPANY THE V_{ult} WIND SPEEDS USED IN THIS APPROVAL, SEE SECTION 26.7.3 OF ASCE 7-10.

FRANK L. BENNARDO, P.E.
PEB000000000000

04/17/2015

EX ENGINEERING, INC. 46549

160 SW 12th Avenue #106

DEERFIELD BEACH, FL 33442

PH: (954) 354-0660 FAX: (954) 354-0443

WWW.ENGINEERINGEXPRESS.COM

CERT OF AUTH #14239.1

A FRANK L. BENNARDO, P.E., INCORPORATION

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

FBC 5TH EDITION (2014) PRODUCT APPROVAL FL#14239.1

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

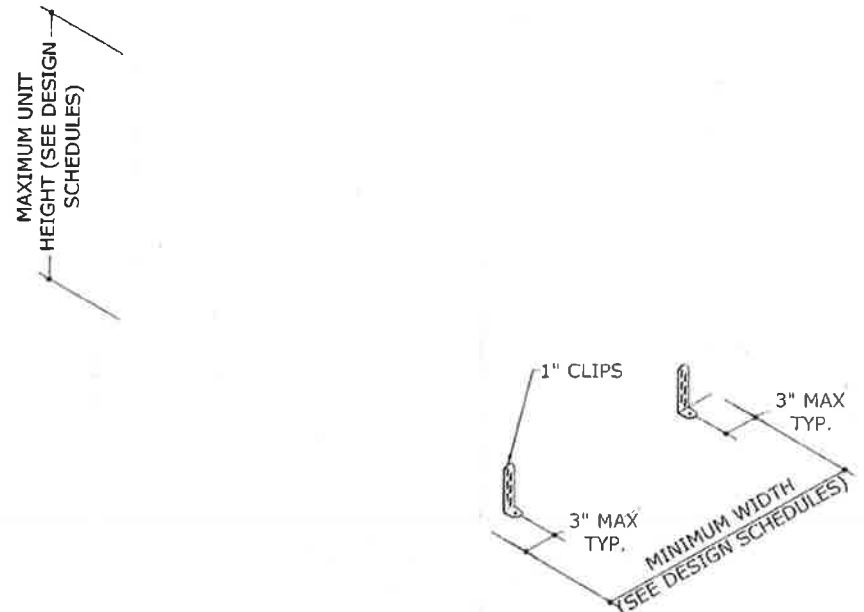
MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

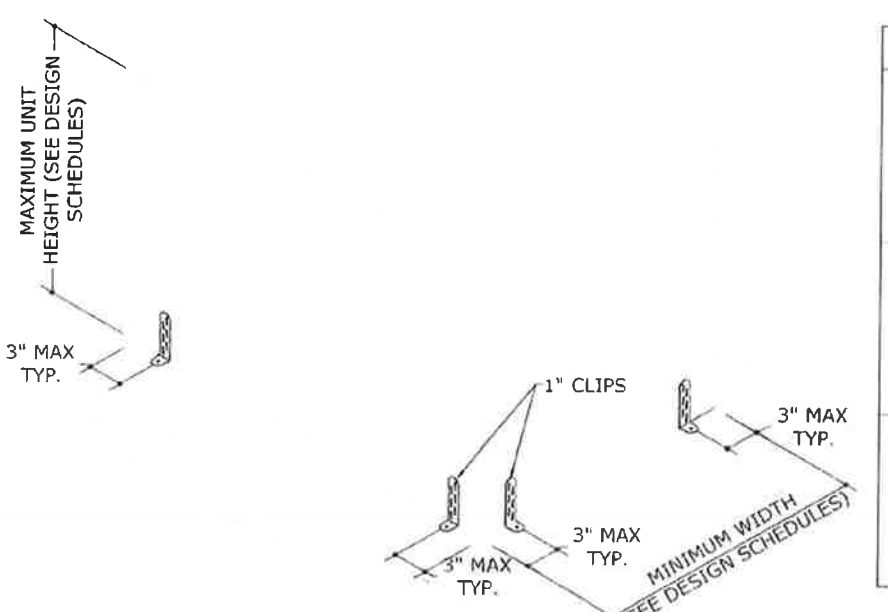
MECHANICAL UNIT STEEL TIE-DOWN CLIPS

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

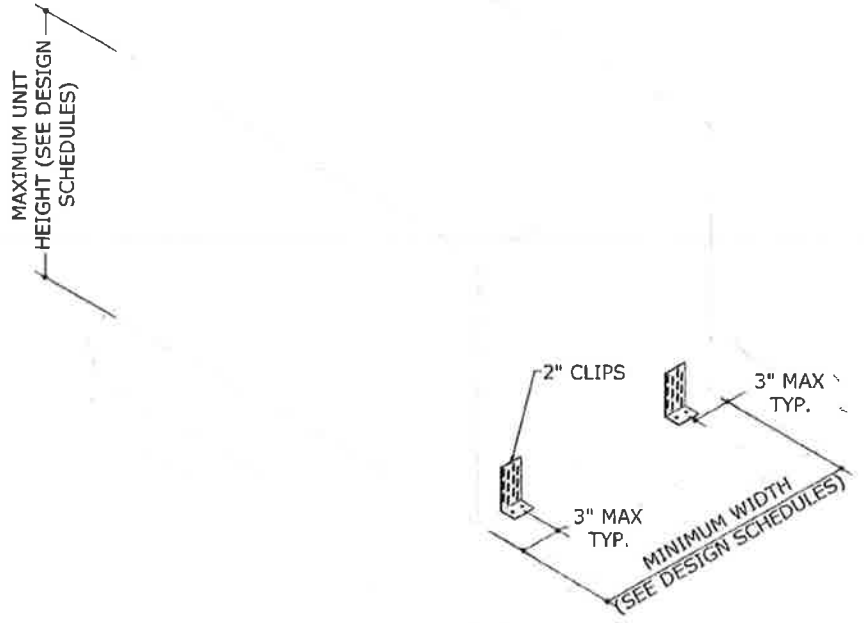
RECORDED
AUG 21 2015



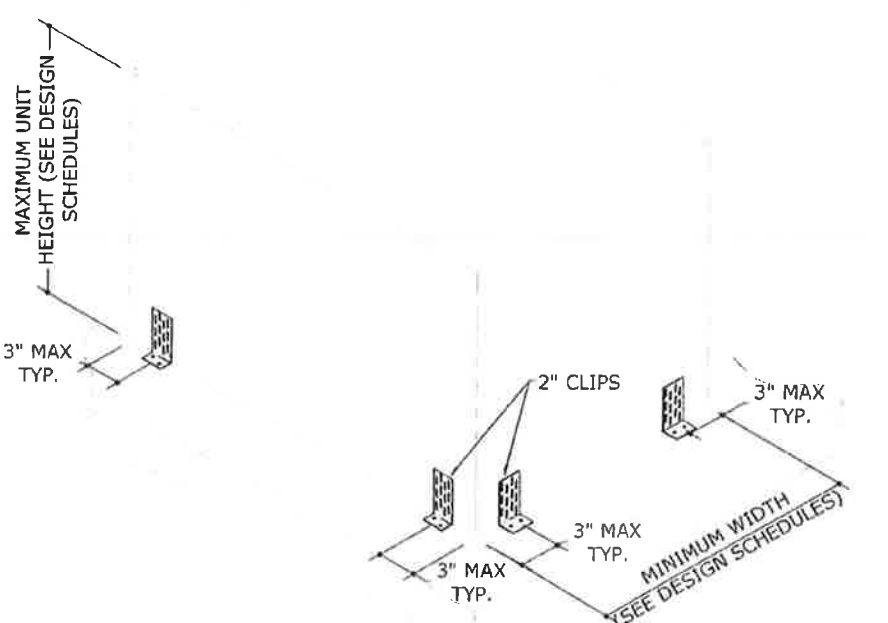
C1 CONNECTION TYPE C1
 1" CLIP - UTILIZE (1) AT EACH CORNER FOR A TOTAL OF (4) PER UNIT



C2 CONNECTION TYPE C2
 1" CLIP - UTILIZE (2) AT EACH CORNER FOR A TOTAL OF (8) PER UNIT



C3 CONNECTION TYPE C3
 2" CLIPS - UTILIZE (1) AT EACH CORNER FOR A TOTAL OF (4) PER UNIT



C4 CONNECTION TYPE C4
 2" CLIPS - UTILIZE (2) AT EACH CORNER FOR A TOTAL OF (8) PER UNIT

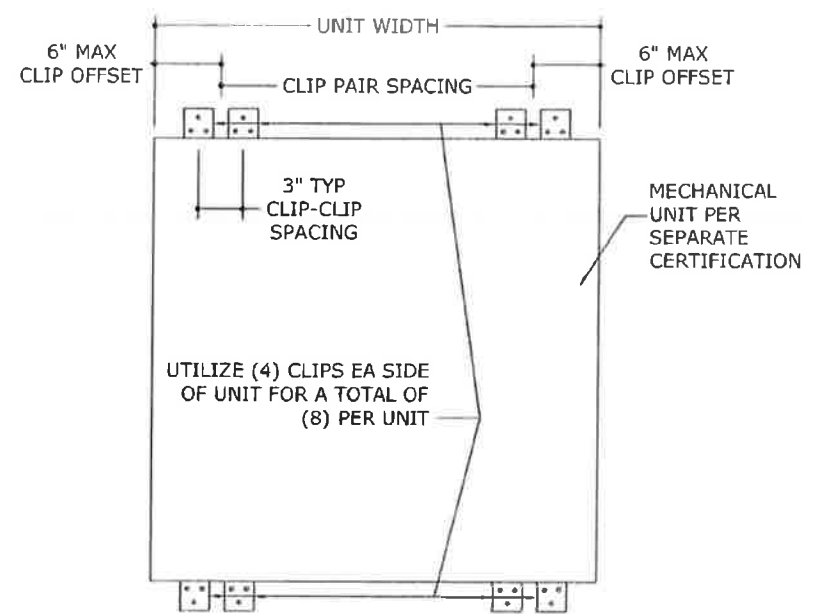
ANCHOR SCHEDULE:
1" CLIPS

SUBSTRATE	DESCRIPTION
CONCRETE: (4" THICK MIN, 3000 PSI MIN.)	(1)-5/16"Ø CARBON STEEL ITW BULDEX TAPCON, 2¼" FULL EMBED TO CONCRETE, 3½" MIN. EDGE DISTANCE, 3¾" MIN. SPACING TO ANY ADJACENT ANCHOR.
ALUMINUM: (0.125" MIN. THICK, 6061-T6 MIN. ALUMINUM)	(1)-#14 SAE GRADE 5 SHEET METAL SCREW TO ALUMINUM, PROVIDE (5) PITCHES MIN. PAST THREAD PLANE
STEEL: (0.125" MIN. THICK, 33 KSI MIN. STEEL)	(1)-#14 SAE GRADE 5 SHEET METAL SCREW TO STEEL, PROVIDE (5) PITCHES MIN. PAST THREAD PLANE

2" CLIPS

SUBSTRATE	DESCRIPTION
CONCRETE: (4" THICK MIN, 3000 PSI MIN.)	(1)-5/16"Ø CARBON STEEL ITW BULDEX TAPCON, 2¼" FULL EMBED TO CONCRETE, 3½" MIN. EDGE DISTANCE, 3¾" MIN. SPACING TO ANY ADJACENT ANCHOR.
ALUMINUM: (0.125" MIN. THICK, 6061-T6 MIN. ALUMINUM)	(2)-#14 SAE GRADE 5 SHEET METAL SCREWS TO ALUMINUM, PROVIDE (5) PITCHES MIN. PAST THREAD PLANE
STEEL: (0.125" MIN. THICK, 33 KSI MIN. STEEL)	(2)-#14 SAE GRADE 5 SHEET METAL SCREWS TO STEEL, PROVIDE (5) PITCHES MIN. PAST THREAD PLANE

1. EMBEDMENT AND EDGE DISTANCE EXCLUDES FINISHES, IF APPLICABLE.
2. ENSURE MINIMUM EDGE DISTANCE AS NOTED IN ANCHOR SCHEDULE.
3. SEE DETAILS ON SHEET 3 FOR ANCHORS ATTACHING TO MECHANICAL UNIT.



5 ALTERNATE (8) CLIP DETAIL
3 N.T.S. PLAN VIEW

THIS DETAIL MAY BE USED AS AN ALTERNATE GEOMETRIC
 PATTERN FOR ALL CONNECTION TYPES THAT UTILIZE (2)
 CLIPS AT EACH CORNER FOR A TOTAL OF (8) CLIPS PER
 UNIT.

FRANK L. BENNARDO, P.E.
04121520-100

FRANK L. BENNARDO

No. 46549

ENGINEERING EXPRESS

160 SW 12th AVENUE, SUITE 1100
 DEERFIELD BEACH, FL 33442
 Ph: (954) 354-0660 FAX: (954) 354-0088
 WWW.ENGINEERINGEXPRESS.COM

CERT. OF AUTH. #15-2378

A. FRANK L. BENNARDO, P.E., INC. IN FLORIDA

BMP INTERNATIONAL, INC.

4710 28TH STREET NORTH
 ST. PETERSBURG, FL 33471
 PH: (727) 577-1613

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

REMARKS
 DRWN: CHKO
 DATE: 12-11-11
 TSB: FLB
 TSB: TSB
 CSL: TSB
 CSL: TSB
 RWV: RWV
 RWV: RWV
 CSL: CSL
 CSL: CSL
 REV FOR ISSUE (11-BMP-0001)
 REV FOR UNITS
 REV FOR FBC 5TH (2014)

THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN PERMISSION OF FRANK L. BENNARDO, P.E. ALL RIGHTS RESERVED. NO PART OF THIS DOCUMENT ARE NOT PERMITTED AND VIOLATE OUR CERTIFICATION.

COPYRIGHT FRANK L. BENNARDO P.E.

15-2378

SCALE: N.T.S.

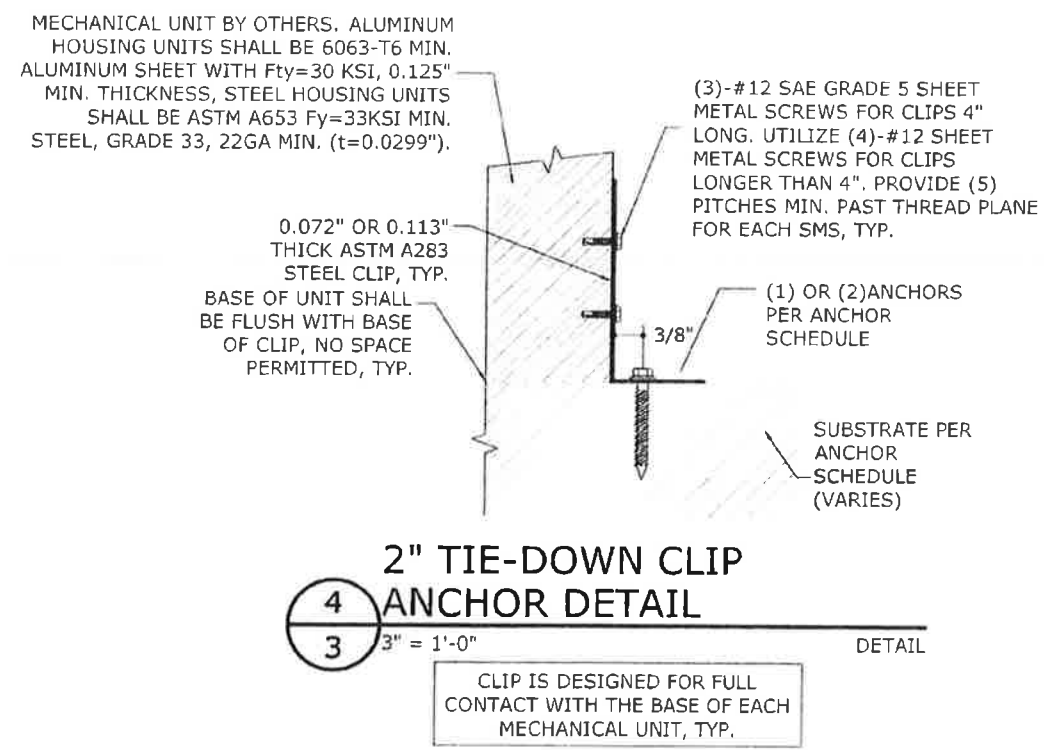
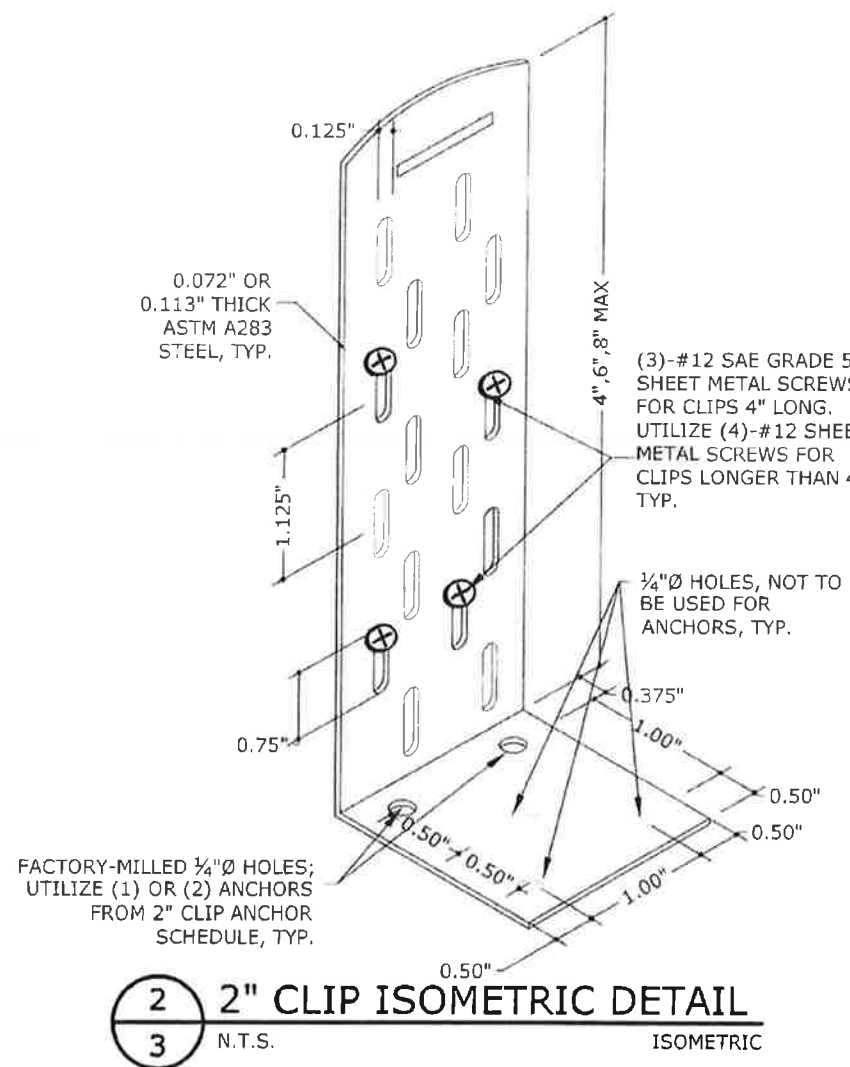
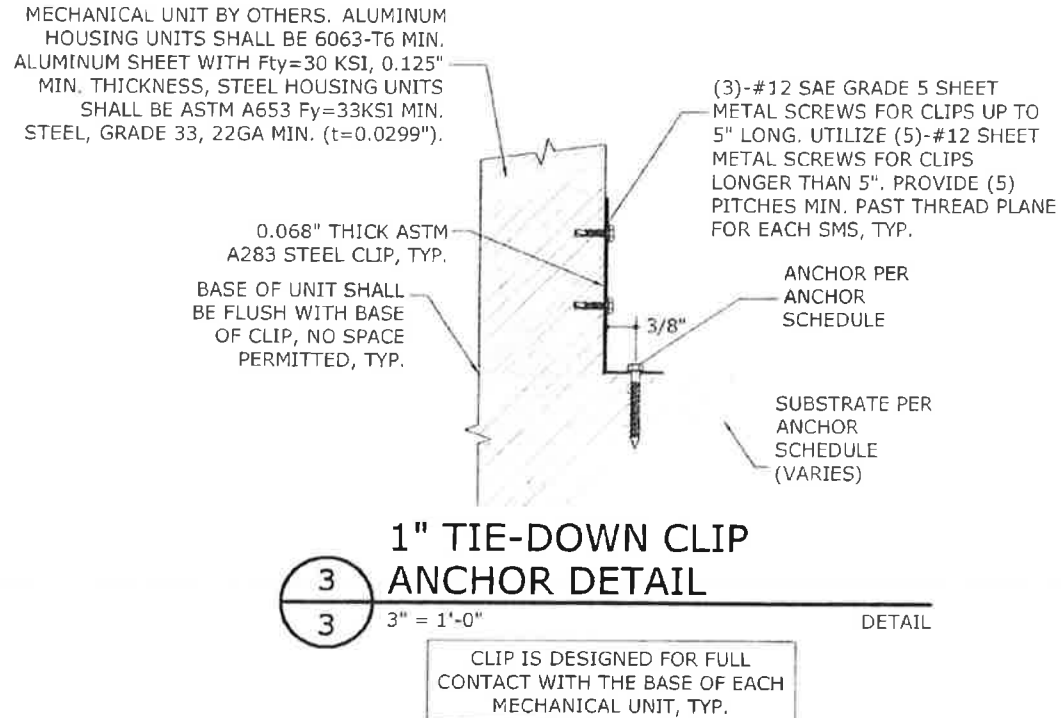
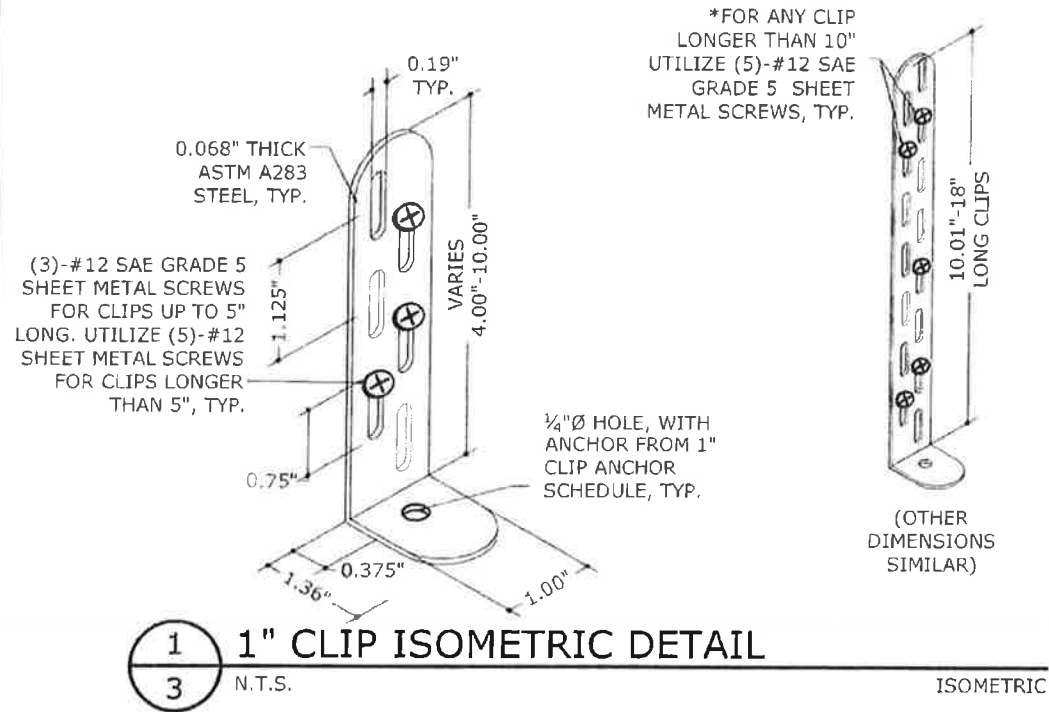
PAGE DESCRIPTION:

2

OF 5

FBC 5TH EDITION (2014) PRODUCT APPROVAL FL#14239.1

04/17/2015 - 3:56pm chen V:\Projects\15-2378 Air Handler Tie-down Clips - FSA - Update FL 14239 for 2014 Florida Bldg C-Project\Wp15-2378b Air Handler Tie-down Clips - FSA - Update FL 14239 for 2014 Florida Bldg C-Project.dwg



FRANK L. BENNARDO, P.E.

FRANK L. BENNARDO, P.E.

No. 46549

ENGINEERING EXPRESS, INC.

160 SW 12th AVENUE, SUITE 1906
 DEERFIELD BEACH, FL 33442
 PH: (954) 354-0660 FAX: (954) 354-0443
 WWW.ENGINEERINGEXPRESS.COM

CERT. OF AUTH. #8885
 A. FRANK L. BENNARDO, P.E., INC. INDIANAPOLIS, IN

BMP INTERNATIONAL, INC.
 4710 28TH STREET NORTH
 ST. PETERSBURG, FL 33471
 PH: (727) 577-1613
 MECHANICAL UNIT STEEL TIE-DOWN CLIPS
 FBC 5TH EDITION (2014) PRODUCT APPROVAL FL# 14239.1

REMARKS	DRWN	CHKD	DATE
INIT ISSUE (11-BMP-0001)	TSB	FLB	12-11-11
REV FOR UNITS	CSL	TSB	02-15-13
REV FOR FBC 5TH (2014)	RWN	CSL	04-06-15

THIS DOCUMENT IS THE PROPERTY OF FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, WITHOUT THE WRITTEN CONSENT OF FRANK L. BENNARDO, P.E. ALL INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE. ANY UNAUTHORIZED REPRODUCTION OR DISTRIBUTION OF THIS DOCUMENT ARE NOT PERMITTED AND WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.

COPYRIGHT FRANK L. BENNARDO P.E.

15-2378

SCALE: N.T.S.

PAGE DESCRIPTION:

3

V:\Projects\15-2378 Air Handler Tie-down Clips - FSA - Update FL14239 for 2014 Florida Bldg C-Project.dwg
04/17/2015 - 3:55pm chen

TABLE 1: Vult=175 MPH, EXPOSURE C

(FOR USE WITH A RISK CATEGORY II STRUCTURE IN THE HIGH VELOCITY HURRICANE ZONE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	N/A	AT GRADE	AT GRADE	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	AT GRADE	AT GRADE	H ≤ 60 FT
4 FT ²	48" MAX	24" MIN	AT GRADE	H ≤ 200 FT	H ≤ 30 FT	H ≤ 200 FT
6 FT ²			AT GRADE	H ≤ 40 FT	AT GRADE	H ≤ 200 FT
9 FT ²			N/A	AT GRADE	AT GRADE	H ≤ 160 FT
12 FT ²			N/A	AT GRADE	AT GRADE	H ≤ 40 FT
16 FT ²			N/A	AT GRADE	N/A	AT GRADE
20 FT ²			N/A	AT GRADE	N/A	AT GRADE
25 FT ²	60" MAX	48" MIN	N/A	AT GRADE	N/A	AT GRADE
30 FT ²			N/A	N/A	N/A	AT GRADE
36 FT ²			N/A	N/A	N/A	AT GRADE

*THIS TABLE IS PERMISSIBLE TO BE USED WITHIN THE HVHZ WHICH CONTAINS BROWARD AND MIAMI-DADE COUNTIES. CHECK WITH LOCAL AUTHORITY HAVING JURISDICTION FOR THE APPLICABILITY OF THIS TABLE WITHIN CERTAIN FLORIDA COUNTIES.

TABLE 2 : Vult=175 MPH, EXPOSURE D

(FOR USE WITH A RISK CATEGORY II STRUCTURE IN THE HIGH VELOCITY HURRICANE ZONE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	N/A	AT GRADE	AT GRADE	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	AT GRADE	N/A	H ≤ 30 FT
4 FT ²	48" MAX	24" MIN	AT GRADE	H ≤ 200 FT	AT GRADE	H ≤ 200 FT
6 FT ²			N/A	H ≤ 15 FT	AT GRADE	H ≤ 200 FT
9 FT ²			N/A	AT GRADE	AT GRADE	H ≤ 80 FT
12 FT ²			N/A	AT GRADE	N/A	AT GRADE
16 FT ²			N/A	AT GRADE	N/A	AT GRADE
20 FT ²			N/A	AT GRADE	N/A	AT GRADE
25 FT ²	60" MAX	48" MIN	N/A	N/A	N/A	AT GRADE
30 FT ²			N/A	N/A	N/A	AT GRADE
36 FT ²			N/A	N/A	N/A	AT GRADE

*THIS TABLE IS PERMISSIBLE TO BE USED WITHIN THE HVHZ WHICH CONTAINS BROWARD AND MIAMI-DADE COUNTIES. CHECK WITH LOCAL AUTHORITY HAVING JURISDICTION FOR THE APPLICABILITY OF THIS TABLE WITHIN CERTAIN FLORIDA COUNTIES.

TABLE 3 : Vult=170 MPH, EXPOSURE C

(FOR USE WITH A RISK CATEGORY II STRUCTURE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	N/A	H ≤ 200 FT	AT GRADE 60 FT < H ≤ 160 FT	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	H ≤ 15 FT 60 FT < H ≤ 200 FT	AT GRADE	H ≤ 200 FT
4 FT ²	48" MAX	24" MIN	AT GRADE 60 FT < H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
6 FT ²			AT GRADE	H ≤ 200 FT	H ≤ 40 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
9 FT ²			N/A	H ≤ 200 FT	AT GRADE 60 FT < H ≤ 80 FT	H ≤ 200 FT
12 FT ²			N/A	AT GRADE 60 FT < H ≤ 200 FT	N/A	H ≤ 200 FT
16 FT ²			N/A	AT GRADE	N/A	H ≤ 200 FT
20 FT ²			N/A	AT GRADE	N/A	H ≤ 200 FT
25 FT ²	60" MAX	48" MIN	N/A	N/A	N/A	H ≤ 30 FT 60 FT < H ≤ 200 FT
30 FT ²			N/A	N/A	N/A	AT GRADE 60 FT < H ≤ 180 FT
36 FT ²			N/A	N/A	N/A	AT GRADE

*AS AN EXAMPLE, THIS TABLE IS PERMISSIBLE TO BE USED WITHIN PALM BEACH COUNTY. CHECK WITH LOCAL AUTHORITY HAVING JURISDICTION FOR THE APPLICABILITY OF THIS TABLE WITHIN CERTAIN FLORIDA COUNTIES.

TABLE 4 : Vult=170 MPH, EXPOSURE D

(FOR USE WITH A RISK CATEGORY II STRUCTURE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	N/A	H ≤ 200 FT	AT GRADE 60 FT < H ≤ 80 FT	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	AT GRADE 60 FT < H ≤ 200 FT	N/A	H ≤ 200 FT
4 FT ²	48" MAX	24" MIN	AT GRADE 60 FT < H ≤ 100 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
6 FT ²			N/A	H ≤ 200 FT	H ≤ 15 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
9 FT ²			N/A	H ≤ 15 FT 60 FT < H ≤ 200 FT	AT GRADE	H ≤ 200 FT
12 FT ²			N/A	AT GRADE 60 FT < H ≤ 120 FT	N/A	H ≤ 200 FT
16 FT ²			N/A	N/A	N/A	H ≤ 40 FT 60 FT < H ≤ 200 FT
20 FT ²			N/A	AT GRADE	N/A	H ≤ 40 FT 60 FT < H ≤ 200 FT
25 FT ²	60" MAX	48" MIN	N/A	N/A	N/A	AT GRADE 60 FT < H ≤ 200 FT
30 FT ²			N/A	N/A	N/A	AT GRADE 60 FT < H ≤ 100 FT
36 FT ²			N/A	N/A	N/A	AT GRADE

*AS AN EXAMPLE, THIS TABLE IS PERMISSIBLE TO BE USED WITHIN PALM BEACH COUNTY. CHECK WITH LOCAL AUTHORITY HAVING JURISDICTION FOR THE APPLICABILITY OF THIS TABLE WITHIN CERTAIN FLORIDA COUNTIES.

FRANK L. BENNARDO, P.E.
04/15/2015
No. 46549
PROF. SEAL
ENGINEERING
EXPERIENCE
160 SW 12th AVENUE, #1186
DEERFIELD BEACH, FL 33442
PH: (954) 354-0660 FAX: (954) 354-0443
WWW.ENGP.COM
CERT. OF AUTH. #9885
A FRANK L. BENNARDO, P.E., INC. INNOVATION

BMP INTERNATIONAL, INC.
4710 28TH STREET NORTH
ST. PETERSBURG, FL 33471
PH: (727) 577-1613
MECHANICAL UNIT STEEL TIE-DOWN CLIPS
FBC 5TH EDITION (2014) PRODUCT APPROVAL FL#14239.1

REMARKS	DRWN	CHKD	DATE
UNIT ISSUE (11-BMP-0001)	TSB	FLB	12-11-11
REV FOR UNITS	CSL	TSB	02-15-13
REV FOR FBC 5TH (2014)	IRWN	CSL	04-06-15

FOR THE DESIGNER'S USE ONLY: FRANK L. BENNARDO, P.E. AND SHALL NOT BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM. PERMISSION IS GRANTED TO REPRODUCE THIS DOCUMENT FOR THE PROJECT ONLY. ALL OTHER RIGHTS ARE RESERVED.

COPYRIGHT FRANK L. BENNARDO P.E.
15-2378
SCALE: N.T.S.
PAGE DESCRIPTION:

TABLE 5 : Vult=140 MPH, EXPOSURE B

(FOR USE WITH A RISK CATEGORY II STRUCTURE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	H ≤ 15 FT 60 FT < H ≤ 120 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	AT GRADE	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
4 FT ²	48" MAX	24" MIN	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
6 FT ²			H ≤ 40 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
9 FT ²			AT GRADE 60 FT < H ≤ 80 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
12 FT ²			AT GRADE	H ≤ 200 FT	H ≤ 40 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
* 16 FT ²			N/A	H ≤ 200 FT	H ≤ 15 FT 60 FT < H ≤ 100 FT	H ≤ 200 FT
20 FT ²	60" MAX	48" MIN	N/A	H ≤ 200 FT	H ≤ 15 FT 60 FT < H ≤ 180 FT	H ≤ 200 FT
25 FT ²			N/A	H ≤ 40 FT 60 FT < H ≤ 200 FT	AT GRADE 60 FT < H ≤ 80 FT	H ≤ 200 FT
30 FT ²			N/A	H ≤ 15 FT 60 FT < H ≤ 160 FT	AT GRADE	H ≤ 200 FT
36 FT ²			N/A	AT GRADE 60 FT < H ≤ 80 FT	AT GRADE	H ≤ 200 FT

TABLE 6 : Vult=140 MPH, EXPOSURE C

(FOR USE WITH A RISK CATEGORY II STRUCTURE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	AT GRADE	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	H ≤ 200 FT	H ≤ 15 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
4 FT ²	48" MAX	24" MIN	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
6 FT ²			AT GRADE 60 FT < H ≤ 180 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
9 FT ²			AT GRADE	H ≤ 200 FT	H ≤ 40 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
12 FT ²			N/A	H ≤ 200 FT	AT GRADE 60 FT < H ≤ 140 FT	H ≤ 200 FT
16 FT ²			N/A	H ≤ 15 FT 60 FT < H ≤ 200 FT	AT GRADE	H ≤ 200 FT
20 FT ²	60" MAX	48" MIN	N/A	H ≤ 30 FT 60 FT < H ≤ 200 FT	AT GRADE	H ≤ 200 FT
25 FT ²			N/A	AT GRADE 60 FT < H ≤ 140 FT	AT GRADE	H ≤ 200 FT
30 FT ²			N/A	AT GRADE	N/A	H ≤ 200 FT
36 FT ²			N/A	AT GRADE	N/A	H ≤ 30 FT 60 FT < H ≤ 200 FT

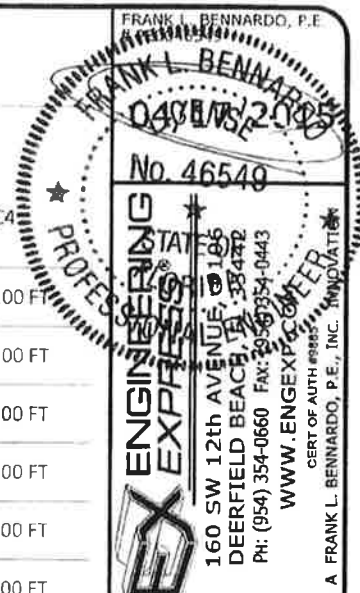
TABLE 7 : Vult=140 MPH, EXPOSURE D

(FOR USE WITH A RISK CATEGORY II STRUCTURE*)

MAXIMUM SURFACE AREA OF UNIT'S LARGEST FACE	UNIT HEIGHT	UNIT WIDTH	ALLOWABLE ROOF-TOP HEIGHT (H) TIE-DOWN CONFIGURATION TYPE			
			C1	C2	C3	C4
6 FT ²	24" MAX	12" MIN	N/A	H ≤ 200 FT	H ≤ 30 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
9 FT ²	32" MAX	15" MIN	N/A	H ≤ 200 FT	AT GRADE 60 FT < H ≤ 140 FT	H ≤ 200 FT
4 FT ²	48" MAX	24" MIN	H ≤ 40 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
6 FT ²			AT GRADE 60 FT < H ≤ 100 FT	H ≤ 200 FT	H ≤ 200 FT	H ≤ 200 FT
9 FT ²			N/A	H ≤ 200 FT	H ≤ 15 FT 60 FT < H ≤ 200 FT	H ≤ 200 FT
12 FT ²			N/A	H ≤ 40 FT 60 FT < H ≤ 200 FT	AT GRADE 60 FT < H ≤ 80 FT	H ≤ 200 FT
16 FT ²			N/A	AT GRADE 60 FT < H ≤ 200 FT	N/A	H ≤ 200 FT
20 FT ²	60" MAX	48" MIN	N/A	AT GRADE 60 FT < H ≤ 200 FT	AT GRADE	H ≤ 200 FT
25 FT ²			N/A	AT GRADE 60 FT < H ≤ 80 FT	N/A	H ≤ 200 FT
30 FT ²			N/A	N/A	N/A	H ≤ 40 FT 60 FT < H ≤ 200 FT
36 FT ²			N/A	N/A	N/A	AT GRADE 60 FT < H ≤ 200 FT

*AS AN EXAMPLE, THESE TABLES ARE PERMISSIBLE TO BE USED WITHIN BREVARD COUNTY. CHECK WITH LOCAL AUTHORITY HAVING JURISDICTION FOR THE APPLICABILITY OF THIS TABLE WITHIN CERTAIN FLORIDA COUNTIES.

FRANK L. BENNARDO, P.E.



BMP INTERNATIONAL, INC.
4710 28TH STREET NORTH
ST. PETERSBURG, FL 33471
PH: (727) 577-1613

MECHANICAL UNIT STEEL TIE-DOWN CLIPS

FBC 5TH EDITION (2014) PRODUCT APPROVAL FL#14239.1

REMARKS	DRWN	CHKD	DATE
UNIT ISSUE (11-BMP-0001)	TSB	FLB	12-11-11
REV FOR UNITS	CSL	TSB	02-15-13
REV FOR FBC 5TH (2014)	RWN	CSL	04-06-15

COPYRIGHT FRANK L. BENNARDO P.E.

15-2378

SCALE: N.T.S.

PAGE DESCRIPTION:

04/17/2015 - 3:56pm chen V:\Projects\15-2378 Air Handler Tie-down Clips - FSA - Update FL14239 for 2014 Florida Bldg C-Project.dwg V:\Projects\15-2378 Air Handler Tie-down Clips - FSA - Update FL14239 for 2014 Florida Bldg C-Project.dwg