



**FUNDING SOURCE:**

<u>SOURCE</u>	<u>PROJECT NUM</u>	<u>SITE #</u>	<u>MCC ESTIMATE</u>
Reserve Maintenance Fund	<u>2000000068</u>	<u>#3000091</u>	<u>\$850,000.00</u>

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<b>Awarded To:</b> <u>CONBUILD L.L.C.</u>	<b>SBE-Con. Exp Date:</b>	<b>Paid Amt:</b> <u>\$0.00</u>
<b>Collusion Affidavit Received:</b> <u>Y</u>	<b>Date Collusion Affidavit Received:</b> <u>6/4/2020</u>	
<b>Date Dept Awarded:</b> <u>6/23/2020</u>	<b>Date Award Letter:</b> <u>7/7/2020</u>	<b>PO Approval Date:</b> <u>9/8/2020</u>
<b>Base Amt:</b> <u>\$654,695.00</u>	<b>Cont Amt:</b> <u>\$65,469.50</u>	<b>Ded Amt:</b> <u>\$60,000.00</u>
		<b>Award Amt:</b> <u>\$780,164.50</u>
<b>Insurance:</b>	<b>ISD Reviewed:</b>	<b>Date Approved:</b>
<b>P &amp; P Bond:</b>	<b>Risk Approved:</b>	<b>Date Approved:</b> <u>8/2/2020</u>
		<b>GL Ins Exp Dt:</b> <u>10/10/2020</u>
		<b>WC Ins Exp Dt:</b> <u>1/1/2021</u>
		<b>AL Ins Exp Dt:</b> <u>11/16/2020</u>

**Scope of Work:** (Contractor must obtain and submit all permits prior to performing any work.)

The Scope of Work includes, but is not limited to, providing all labor, equipment and materials required to replace 2 Security Booths and 1 Restroom Booth at the Southwest Gate & Replace 2 Security Booths and 1 Restroom Booth at the Central Base Gate in accordance with the drawings and specifications. The 4 Security Booths and 2 Restroom Booths will be provided by the Miami-Dade Aviation Department (MDAD).

Work at the Southwest Gate & Central Base Gate can NOT be performed simultaneously. Only one location can be under construction at a time.

CONTRACTOR shall review all documents, specifications, and scope of work provided by MDAD for work to be completed. Please refer to the Plans & Technical Specifications for further description of the scope of work.

The following comments apply to the Plans:

1) Sheet G002: Replace General Note #42 with the following:

The project site is located within an area where the existing soils are suspected to be contaminated. All of the removed soil shall be stockpiled and MDAD Environmental will sample prior to reuse. If the excavated soil is confirmed to be contaminated, it shall be disposed of in accordance with P-160 and RER-DERM requirements. If required, replacement soils shall be provided by the contractor from an MDAD and DERM approved state. The costs of this disposal and replacement soils will be paid from an allowance account.

2) Sheet S002: In Qualifications of the Special Inspector Note #2, replace "seven (4) years" with "seven (7) years".

3) Sheet S002: Delete Contractor Requirements Note #4.

4) Sheet S002: In Requirements of the Owner Note #1, delete "the geotechnical report and materials test reports".

5) Sheet S002: In Requirements of the Owner Note #3, replace "is retained" with "is retained by the contractor".

6) Sheet S002: In Foundations Note #1A, replace "retained by the owner" with "retained by the contractor".

7) Sheet S002: In Foundations Note #1B, replace "retained by the owner" with "retained by the contractor".

8) Sheet E101: Key Notes #4 mentions "Black Box Network services shall remove all equipment, fiber, and copper backbone cabling." Black Box will be paid directly from MDAD for this work.

9) Sheet E101: Key Notes #5 mentions "Matrix Systems shall remove equipment and data cabling associated with Matrix System." Matrix will be paid directly from MDAD for this work.

10) Sheet E201 of Central Base Gate: Key Notes #6 mentions "Coordinate with gate manufacturer for proper installation of new boom arm, testing, and re-certifying gate operation after arm installation." Gate manufacturer info: Delta Scientific, Model AG812, 661-575-1100.

11) Sheet E401: Key Notes #6 mentions "Black Box Network cabinet shall be provided and installed by Black Box Network Services." Black Box will be paid directly from MDAD for this work.

12) Sheet E401: Key Notes #7 mentions "Matrix remote distribution panel shall be provided and installed by Matrix Systems." Matrix will be paid directly from MDAD for this work.

13) Sheet E401: Guard Booth Control Panel Note #2 mentions "Matrix card reader and audio alarm shall be provided and installed by Matrix Systems." Matrix will be paid directly from MDAD for this work.

Contractors must agree to perform all work in accordance with the scopes of work established by MDAD, the MCC 7040 contract's terms and conditions, all required permits and inspections and all applicable federal, state and local laws, codes and regulations. Any minor variation in the scope of work that is necessary to complete the intended work shall be considered incidental and will not warrant additional compensation. Any major variation encountered in the scope of work that is necessary to complete the intended work will be additional work and will be compensated through a contingency allowance account, dedicated allowance account, or change order. However such major variation shall be completed without delay. Contractor shall use an adequate number of qualified workers who are thoroughly trained in the techniques

required to properly complete the work specified. Contractor will own or have access to the equipment necessary and to meet all safety, insurance, and technical requirements of the owner and local, county, state, and federal regulating authorities. The grand total bid price shall be reflected on the RPQ Bid Form – Attachment 5A.

**LICENSE:**

Note: Pursuant to the requirements of Section 10-3 of the Code of Miami-Dade County, selected Contractors must possess a valid, current, and active State of Florida and/or Miami-Dade County contractor's license issued by the County's Construction Trades Qualifying Board and which is consistent with the requirements of their respective trade and the scope of work.

**RESPONSIBLE WAGES:**

Prospective bidders are notified that Responsible Wages and Benefits requirements apply to this Request for Price Quotation (RPQ), therefore all labor rates shall not be less than those contained in the Wage and Benefits Schedule in effect as of January 1st of the year the work is performed. Prospective bidders are responsible for taking into consideration all applicable Ordinances and/or Regulations in force at the time of the bid, such as Responsible Wages, that may affect unit prices.

**BID BOND AND PERFORMANCE & PAYMENT BOND:**

Prospective bidders shall submit a Bid Bond at the time of Bid submission. Bidders may use the Surety Company standard bid bond. Alternatively, a certified or cashier's check will be acceptable in lieu of the bid bond.

The Performance & Payment (P&P) bond must be submitted, using the contract specified form, within ten (10) working days from receipt of the Recommendation for Award (RFA) or time extension approved by the MDAD project manager. The P&P bond shall be required for the full contract amount. P&P Bond shall be submitted once the low "responsive and responsible" bidder is determined and the Recommendation for Award is issued.

**MDAD ENVIRONMENTAL POLICY:**

Compliance with the Aviation Department (MDAD)'s Environmental Policy, ISO 14000 certification and Commissioning requirements will be strictly enforced by the MDAD PM. These requirements will be discussed during the mandatory pre-bid meeting. The awarded bidder shall comply with all requirements listed on the project plans, specifications and/or distributed separately following the mandatory pre-bid meeting.

**SAFETY:**

The awarded contractor is responsible for the safety and security of the job site. Any vandalism, theft, etc. which occurs during the construction time is the responsibility of the contractor. No monetary compensation shall be granted if any of the above occurs. If Contractor opts to hire an independent Security Company, such company is to be properly bonded and insured. Contractors shall provide an established safety program and implementation policy. Contractors' safety programs shall be reviewed and approved by MDAD post-bid submittal and work orders shall not be issued to any contractor until their safety program is approved by MDAD.

**LIQUIDATED DAMAGES:**

If the awarded contractor shall neglect, fail, or refuse to complete the work within the time specified for Substantial Completion in the Notice to Proceed (NTP), then the contractor hereby agrees, as part of the consideration for the awarding of this Contract, to pay to the Owner, as liquidated damages and not as a penalty, the sum of \$300.00 per day for each calendar day beyond the dates set forth in the NTP and/or Work Order(s). The said amount is fixed and agreed on by and between the Contractor and the Owner because of the impracticability and extreme difficulty of ascertaining the true value of the damages which the Owner will sustain by failure of the Contractor to complete the Work on time, such as loss of revenue, service charges, interest charges, delays caused to other construction activities of Owner by failure to perform this Contract, and other damages, some of which are indefinite and not susceptible of easy proof. Said amount is agreed to be a reasonable estimate of the amount of damages which the Owner will sustain and said amount shall be deducted from any monies due or that may become due to the contractor, and if said monies are insufficient to cover said damages, then the Contractor shall pay the amount of the difference. Substantial completion does not relieve the contractor of completing the project in its entirety, nor does it obligate the owner to pay the entire contract price. Final acceptance is achieved when a Certificate of Completion (i.e., if required), acceptable warranties, final payrolls, final releases or acceptable Consent of Surety and documentation required in the contract documents has been submitted for approval to the MDAD project manager.

**SECURITY REQUIREMENTS:**

Valid MDAD identification (ID) badges with a U.S. Customs Seal will be required as well as vehicle decals to enter airside. The selected contractor and their employees must comply with all MDAD security requirements including background checks, security badges, specialized aviation-related insurance requirements, etc. MDAD may, at its sole discretion,

consider making these security-related expenses reimbursable.

Upon the award, the awarded contractor will have up to sixty (60) calendar days to provide a copy of the security badges with the Customs Seal to MDAD/MPEC Division. If the Contractor fails to secure and provide a copy of the required Badges with the Customs Seal after thirty (30) calendar days following the issuance of the NTP, Contractor may be terminated for default as established in Section 1 of the General Terms and Conditions, Article 1.20 (Termination for Default) of the MCC 7040 contract.

#### UTILITY CLEARANCES & SHUTDOWNS:

The awarded contractor shall be responsible for obtaining all utility clearances and coordinating all utility shutdowns at least 14 working days before initiating any work. Damage to existing equipment, utilities, MDAD or its business partners' property, etc. will be repaired and/or replaced at the contractor's expense. MDAD forms and procedures to obtain utility clearances and/or coordinate shutdowns will be distributed following the mandatory pre-bid meeting.

#### REQUEST FOR INFORMATION:

All requests for information (RFIs) shall comply with the Cone of Silence, Administrative Order 3-27 and shall be directed in writing to the MDAD project manager with a copy to the Clerk of the Board (clerkbcc@miamidade.gov). The deadline to submit RFIs is no later than five (5) working days before the bid opening date and time specified on the RPQ and Invitation to Bid. MDAD will issue all changes and/or clarifications to the RPQ in writing via an Addendum. Verbal statements made by the County or the Owner's Representative that are not contained in the RPQ or Addendum are not binding on the County and do not form any basis for a bidder's response to a RPQ.

#### MINIMUM QUALIFICATIONS AND EXPERIENCE:

The selected SBE-Construction contractor must possess:

1. Contractors must be certified SBE-Construction and registered to participate in the MCC 7040 Plan with ISD's Procurement Management Division;
2. Contractors must hold a valid license required to perform work in the following trade: General Contractor License.
3. Contractors must have a minimum of 5 years' experience performing work in their specific trade. In the event a new firm is established by executives, supervisors and other senior field staff (key employees) that would have met these minimum experience requirements with a prior firm, MDAD reserves the right to qualify the new firm, based on MDAD's sole determination and evaluation of the knowledge and prior experience of these key employees employed by the new firm.
4. Contractors must be able to demonstrate that their firm or its key employees, as described above, have experience performing their respective trade within the company's noted history. Specifically contractors must submit proof that their respective firms have been regularly and successfully engaged in work related to their specific trade for a minimum of one (1) year. These requirements shall be based on projects completed prior to the submission date. Contact information for projects and/or firms submitted as proof of experience shall be provided by prospective contractors as part of their bid package. MDAD will confirm the listed experience by calling the firms' owners or representatives. Should such evidence not be satisfactory to MDAD, whose decision shall be final, the submission will be considered non-responsive. The qualifying proof with names and phone numbers shall be submitted in a sealed envelope at the time of bid.
5. Contractors must have a minimum average total score of 3.0 in their Contractor Performance Evaluations in ISD's Capital Improvements Information System (CIIS). In the event a new firm has been created that does not have evaluations in the CIIS, the firm that previously employed the key employees of the new firm must have had a minimum average total score of 3.0 in the CIIS Contractor Performance Evaluation Module or the new firm must provide, to MDAD's satisfaction, documentation that the new firm has performed satisfactorily on similar projects within their respective trade. Further, any incidence of project delays in a contractor performance evaluation must be justified to the satisfaction of MDAD.

#### INDEMNIFICATION & INSURANCE:

Contractor is required to have proper insurance to cover ongoing work on the job site. The Contractor shall furnish certificates of insurance and insurance policies to the Owner prior to commencing any operations under this Contract. Certificates and policies shall clearly indicate that the Contractor has obtained insurance, as required for strict compliance with this specification. Compliance with the foregoing requirements shall not relieve the Contractor from liability under any other portion of this Contract. The Contractor shall be responsible for assuring that the insurance certificates required in conjunction with this section remain in force for the duration of the agreement. See attached for indemnification and insurance requirements.

#### CERTIFICATE OF ASSURANCE:

Bidders must submit a completed Certificate of Assurance (COA) along with the Bid Submittal Package identifying the Small Business Enterprise (SBE) measure. By submitting a completed COA the bidder acknowledges the Small Business Enterprise (SBE) measures applied to the project and agrees to submit, upon notification by SBD or the Miami-Dade

County Business Management Workforce System (BMWS), a Utilization Plan via BMWS listing all certified SBE contractor(s) to be utilized to satisfy the measures on the Project, indicating the percentage of work and the description of the work to be performed (pursuant to the firm's certification), within the specified time frame, before the Utilization Plan may be submitted to SBD for approval. Bidders can confirm a SBE-CON certification via BMWS at <http://mdcsbd.gob2g.com/>.

Place the completed COA(s) on top of the bid package so that it can be readily identified by the Department during the bid opening.

#### MANDATORY PRE-BID MEETING CONFERENCE CALL AND SITE VISIT:

Since a conference call does not require a physical presence, social distancing practices for COVID-19 are being adhered to. Bidders are still required/responsible for participating in the MANDATORY conference call. Failure to participate in the MANDATORY conference call shall result in the corresponding contractor/company being considered non-responsive. Contractors are extremely encouraged to call 5 minutes before the scheduled meeting time for a roll call. Late arrivals to the conference call shall result in the contractor/company being considered non-responsive.

The conference call will be recorded.

The dial-in instructions for the conference call are described below:

- Dial in: 305-876-8333
- Meeting ID: 5762555
- Passcode/Pin: 5869

The agenda for the pre-bid conference call meeting will be sent to you via email to be used during the meeting. Make sure you receive it, if not, please check your junk email or contact our office.

Bidders are responsible for attending the mandatory pre-bid meeting conference call and site visit.

#### BID BOX:

The bid box is located in the hallway between Conference Rooms B-205 and B-209 in MIA Bldg. 3030, B-Wing, 2nd Floor. If the time clock adjacent to the bid box is unable to stamp the bid envelope due to its thickness, please see Ms. Silvia Perez, Mr. Ultimo De Oliveira or any MDAD representative at MIA Building 3030 to have bid envelopes signed, dated and timed prior to dropping them in the box.

#### BID SUBMITTAL:

All quantities provided with the bid documents are estimated quantities based on the project scope of work. It is the bidder's responsibility to confirm any and all estimated quantities or amounts reflected on the bid documents to generate a "responsive and responsible" bid. Errors, omissions and/or discrepancies in quantities shall be brought-up to the attention of the MDAD team via the request for information (RFI) process during the bidding phase. Failure to confirm estimated quantities shall not constitute grounds for subsequent change orders. Bidders are responsible for all costs related to permitting, preparation of required shop drawings, special inspections, preparation of as-built drawings, close-out documentation and/or any engineering certificates required.

Contingency Allowance Account: for unforeseen conditions, construction changes, for additional work or materials not covered by other proposal items and for quantity adjustments, if ordered by the MDAD PM.

This account item is for all labor, materials, equipment and service necessary for modification or extra work required to complete the Project because of unforeseeable conditions, unforeseeable conflicts between existing elements of work and the proposed work; for minor changes required to resolve any unforeseeable conditions, Revised Regulations, Technological and Products Development, Operational Changes, Schedule Requirements, Program Interface, Emergencies and other miscellaneous costs; all if ordered by the MDAD PM. The Contingency Allowance Account is ten percent of the subtotal of all quantities provided on the Bid Form.

Payment to the CONTRACTOR under this item will only be made for work ordered in writing by the MDAD. Any portion of this fund remaining after all authorized payments have been made will be withheld from Contract Payments, and will remain with the County. If one account has been depleted and funds are available in the other accounts the MDAD PM may use some of the available funds to complete the Project.

Dedicated Allowance Account: for other unforeseen conditions (permitting, plan revisions, existing utility relocations, utility company service fees), construction changes and for quantity adjustments. The Dedicated Allowance Account is fixed at \$60,000.00. Any portion of this fund remaining after all authorized payments have been made will be withheld from Contract Payments, and will remain with the County. If one account has been depleted and funds are available in the other accounts the MDAD PM may use some of the available funds to complete the Project.

Bid Documents shall be distributed following the MANDATORY Pre-Bid Meeting (see date and time above). Potential bidders are hereby notified that some of the documents that will be distributed following the mandatory pre-bid meeting possibly contain sensitive security information (SSI). Accordingly, please comply with the standards for access, dissemination, handling & safeguarding of SSI in accordance with 49 CFR Part 1520, any applicable amendments and/or supplementary guidance(s) issued by the Department of Homeland Security. Bid Documents must be submitted in a sealed envelope. The bidder's name, address, the project name and the RPQ number must be indicated on the outside of the envelope. The sealed envelope shall include, at a minimum, the following documents:

1. Bid price using Bid Form
2. Attachment 5A.
3. Experience information and qualifications.
4. Bid guarantee in the form of a bid bond, certified check, or cashier's check. Failure to include a bid bond/ guarantee shall render the bid non-responsive.
5. Fully executed Fair Wage and Collusion Affidavit.
6. Any and all applicable Addenda documents (fully executed and dated) issued during the bidding phase.
7. Internal Services Department (ISD) Division of Small Business Development's (SBD) Certificate of Assurance (COA) Form.

All potential bidders are hereby notified that failure to submit the completed Bid Form and Attachment 5A reflecting the bid amount and bidder information, COA, and/or the bid bond/guarantee will not constitute a curable deficiency and shall render the bid "non-responsive." Failure to include the Fair Wage and/or Collusion affidavits, Addendum or other similar forms due with the bid shall be considered curable deficiencies. Bidders will be allowed to cure these deficiencies within deadlines established by MDAD staff.

Recommendation for Award is contingent to availability of proper funding.

#### CONSTRUCTION PROGRESS SCHEDULE:

The contractor, within seven days of the Recommendation for Award or time extension granted by the MDAD PM, shall submit a "Construction Progress Schedule" and the final "Schedule of Values" as follows:

The Construction Progress Schedule shall be in a bar chart format with separate bars for each trade, activity and operation on each building, structure and improvement. Include all trades required for completion of project in activities of schedule. Identify the first workday of each week. Provide electronic copy of schedule or submit via E-mail to the MDAD PM. Updated schedules shall be provided with each application for payment. Updated schedules must reflect all changes since previous submittal. Failure to submit updated schedule may be cause for withholding payment to contractor. Activities detailed within construction schedule shall correlate with all items listed within Schedules of Values. OWNER will review and return schedule (approved or rejected) to Contractor. Construction may not begin until OWNER has reviewed and approved in writing of Contractor proposed schedule.

#### DAILY LOG:

CONTRACTOR shall maintain a daily log (report) of activity at job-site. Reports will be submitted to the MDAD project manager upon request. Daily reports shall be submitted to the Construction Supervisor at the stipulated progress meeting(s). FAILURE TO SUBMIT DAILY REPORTS AS STIPULATED ABOVE MAY RESULT IN PAYMENT DELAYS.

Contractor will be responsible for all his work until accepted by the MDAD. Any damage to any newly completed or in progress work will be the sole responsibility of the contractor to fix at no additional cost to the owner. No time extension will be granted for any delays related to such damages. All existing finishes and areas disturbed by CONTRACTOR will be repaired and or replaced to original condition as directed by OWNER.

#### PROGRESS MEETINGS:

The MDAD project manager will schedule and host progress meetings throughout the duration of the project. The contractor shall attend each meeting with major subcontractors, contractor's project manager, and job superintendent and supplier representatives. Attendants noted above shall cooperate with the MDAD PM to ensure that meetings are held on a timely manner. One of the progress meetings may be designated as a monthly payment requisition review meeting.

#### PERMITS:

CONTRACTOR is responsible for obtaining all applicable permits and paying all related fees needed to begin and complete all phases of work within the plans. It shall be the contractor's responsibility to ensure that all required regulatory or proprietary permits are obtained prior to commencement of work. Copies of all permits shall be submitted to MDAD PM prior to commencing work. CONTRACTOR is responsible for obtaining all permits and inspections required to complete project. The CONTRACTOR, prior to final requisition for payment, shall obtain and submit a Certificate of Completion and/or Certificate of Occupancy (i.e., if applicable) to the MDAD PM.

CONTRACTOR shall provide all construction administration services and related costs required for all permits and

preparation of all required shop drawings, review, field inspections, as-built, change order review, and close out documents, engineering certificates as required

#### SHOP DRAWINGS AND SAMPLES:

The contractor shall submit two (2) copies of all Shop Drawings, catalog cut-sheets and samples (submittals) required. Samples (as applicable) shall provide full range of manufacturer's standard colors, textures, and patterns for selection. All color and finish selections must be submitted by the contractor in a single submittal, properly labeled and identified.

The contractor shall maintain a set of construction drawings on site reflecting all changes, revisions, approved RFIs and/or directives applicable to the changes/modifications. All changes, revisions and/or modifications shall be clearly marked in red on the said drawings before requesting pencil draft walkthrough inspections for processing of payment requisitions. The marked set of drawings shall be readily available at the project site upon request by the MDAD project manager and/or its authorized representative(s).

#### AS-BUILTS:

CONTRACTOR shall provide THREE (3) HARD COPIES and/or THREE (3) CAD COPIES on CD of SIGNED and SEALED as-built drawings at completion of work. Use the latest version of CAD compiled format. X-REF files are not acceptable. Final requisition for payment will not be processed without submittal and acceptance of as-built drawings. CONTRACTOR shall maintain updated Red line as-built at the jobsite for review as part of the Monthly Requisition review meeting. All projects must have an As-Built completed, received, reviewed and approved by the Miami-Dade Aviation Department prior to authorizing final payment to the consultant or contractor. As-Built shall be Signed and Sealed by a Professional Land Surveyor or Professional Engineer.

**Design Drawings Included:** Y

**Shop Drawings Included:** N

**Specifications Included:** Y

**Project Qualifier:** Ana Finol, P.E.

**Phone No:** 305-876-8310

**Email:** AFinol@miami-airport.com

#### Comments:

*In accordance with Miami-Dade County Implementing Order 3-9, Accounts Receivable Adjustments, if money is owed by the Contractor to the County, whether under this Contract or for any other purpose, the County reserves the right to retain such amount from payment due by County to the Contractor under this Contract. Such retained amount shall be applied to the amount owed by the Contractor to the County. The Contractor shall have no further claim to such retained amounts which shall be deemed full accord and satisfaction of the amount due by the County to the Contractor for the applicable payment due herein.*

*Pursuant to Section 2-8.10 of the Code of Miami-Dade County, this Contract is subject to a user access fee under the County's User Access Program (UAP) in the amount of two percent (2%). All construction services provided under this contract are subject to the 2% UAP. This fee applies to all Contract usage whether by County Departments or by any other governmental, quasi-governmental or not-for-profit entity. From every payment made to the Contractor under this contract (including the payment of retainage), the County will deduct the two percent (2%) UAP fee provided in the ordinance and the Contractor will accept such reduced amount as full compensation for any and all deliverables under the contract. The County shall retain the 2% UAP for use by the County to help defray the cost of its procurement program. Contractor participation in this pay request reduction portion of the UAP is mandatory.*

*Provided, however, UAP shall not be applicable for total contract values, inclusive of contingency and allowance accounts, of less than five hundred thousand dollars (\$500,000.00).*

#### COMMUNITY WORKFORCE PROGRAM

*Prior to entering into a contract and according to the Miami-Dade County Code §2-1701 and amended by Ordinance 13-66, the successful bidder on a construction contract subject to a Community Workforce Program (CWP) goal, must submit to Small Business Development (SBD) through the contracting officer a workforce plan outlining how the CWP goal will be met. Additional information is available at the County's website at <http://www.miamidade.gov/business/contract-requirements.asp#0>.*

*Contractor must submit a Workforce Plan to the Miami-Dade County Internal Services Department, Small Business Development Division within fifteen (15) days of notification of award of the contract. The County will not enter into the contract until it receives the contractor's Workforce Plan and deems the Plan acceptable. The Workforce Plan forms may be obtained on the County's website at <http://www.miamidade.gov/business/contract-requirements.asp#0>.*

PUBLIC RECORDS AND CONTRACTS FOR SERVICES PERFORMED ON BEHALF OF MIAMI-DADE COUNTY:

The Contractor shall comply with the Public Records Laws of the State of Florida, including but not limited to, (1) keeping and maintaining all public records that ordinarily and necessarily would be required by Miami-Dade County (County) in order to perform the service; (2) providing the public with access to public records on the same terms and conditions that the County would provide the records and at a cost that does not exceed the cost provided in Chapter 119, F.S., or as otherwise provided by law; (3) ensuring that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law; and (4) meeting all requirements for retaining public records and transferring, at no cost, to the County all public records in possession of the Contractor upon termination of the contract and destroying any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements upon such transfer. In addition, all records stored electronically must be provided to the County in a format that is compatible with the information technology systems of the County. Failure to meet any of these provisions or to comply with Florida's Public Records Laws as applicable shall be a material breach of the agreement and shall be enforced in accordance with the terms of the agreement.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT (305) 375-5773; [ISD-VSS@MIAMIDADE.GOV](mailto:ISD-VSS@MIAMIDADE.GOV); 111 NW 1 STREET, SUITE 1300, MIAMI, FLORIDA 33128

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## RPQ ADDENDUM

Addendum No.:	1	Date:	5/26/2020
Project No.:	10204256	Project Title:	Southwest and Central Base Security Booth Replacement
RPQ No.:	10204256	RPQ Due Date:	<b>6/4/2020</b>
Project Location:	MIA Southwest and Central Base Security Booths	Project Manager:	A. Portal

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- **Change Bid Due Date from Thursday, May 28, 2020 to Thursday, June 4, 2020.**

This Addendum also serves to respond to the Request for Information (RFI) submitted by the following Contractors:

Joaquin Esquivia of Conbuild, LLC, received on 5/22/2020, 2:44PM.

- Q.1 Confirm this project requires Automobile Liability Insurance covering all owned, non-owned and hired vehicles, in an amount not less than \$5,000,000 combined single limit.
- A.1 Yes, as shown in the Indemnification and Insurance requirements following the Invitation to Bid, this project requires Automobile Liability Insurance covering all owned, non-owned and hired vehicles, in an amount not less than \$5,000,000 combined single limit.
- Q.2 Will the Miami-Dade Aviation Department (MDAD) reimburse the cost of the liability insurance for the Airport requirements?
- A.2 As shown in the Pre-bid/Proposal Conference Agenda, Insurance requirements are non-reimbursable and if not specifically mentioned in the pay items listed in the Bid Form shall be considered as incidental to one or more of the pay items, and no claim for additional compensation will be allowed, and it shall be assumed that the cost therefore is included in the prices for the various items in the Contract.

Q.3 Will MDAD reimburse the cost of ID badges?

A.3 The following items are reimbursable:

- Actual cost of MDAD identification (ID) badges with a customs Seal
- The Custom Border Protection (CBP) Seal /bond.
- Actual cost of fingerprints.
- The AOA driving training.
- The vehicle Decal necessary to drive in AOA.

All other costs are not reimbursable and if not specifically mentioned in the pay items listed in the Bid Form shall be considered as incidental to one or more of the pay items, and no claim for additional compensation will be allowed, and it shall be assumed that the cost therefore is included in the prices for the various items in the Contract.

Q.4 Please clarify to what extent will the security and badges requirement be reimbursed to contractor, does include labor time costs for fingerprint, SIDA Class and orientations classes?

A.4 Refer to A.3 above.

Q.5 Will contractor be required to have CBP Custom seals badges for any portion of the work?

A.5 Since the work is on both landside and airside, the employees from the awarded contractor as well as its subcontractors (if applicable) shall obtain MDAD identification badges including the CBP seal and comply with all MDAD security requirements, background checks, security badges, etc.

Q.6 Will MDAD reimburse the costs for the CBP custom bond?

A.6 Refer to A.3 above.

Q.7 Are contractors required to have portable toilets on airside? If so, which locations?

A.7 At both the Southwest and Central Base security booths, portable toilets will be required for as long as the restroom booths are unavailable.

Q.8 What are the locations for the dumpster, provide designated area?

A.8 Locations for the dumpster will be discussed and determined at the pre-construction meeting prior to commencement of the project.

- Q.9 Does contractor and subcontractors need to upload the certified payrolls on a weekly basis in the BMWS-LCP Tracker system?
- A.9 A prime and any subcontractors performing work on a project that has a wage requirement needs to enter one month's payrolls in the system by the 10th of the following month. So, May's payrolls will be due in LCP Tracker by June 10th. A payroll record is one week of hours worked by the employees.
- Q.10 Will this contract be subject to Inspector General IG fee deduction on each payment? if so, please clarify the percentage amount to be deducted.
- A.10 This project is subject to Inspector General (IG) fees and it will be deducted from each progress payment at a rate of one quarter of one percent by the Finance Department. For more information, refer to:  
<http://www.miamidadeig.org/index2.html>
- Q.11 Please confirm that the 2% UAP deduction is applicable for this project for each payment application.
- A.11 As described in Section 2-8.10 of the Code of Miami-Dade County, "The following contracts shall be exempt from the UAP: Miscellaneous Construction Contract Program contracts with a total contract value of less than five hundred thousand dollars (\$500,000.00), ...". Since the total contract value of this project is greater than \$500,000.00, the 2% UAP deduction applies to each payment application.
- Q.12 Please confirm the contractor warranty period required for this project.
- A.12 As stated in the Surety Performance and Payment Bond, "If no specific periods of warranty are stated in the Contract for any particular item of work, material or equipment, the warranty shall be deemed to be a period of one (1) year from the date of final acceptance by the County".
- Q.13 What is the status of the permit set of drawings? Are they approved by Building Department?
- A.13 As shown in Attachment #21, Permit Info, the permit set of drawings have been dry-run approved by the Building Department.
- Q.14 Will MDAD reimburse contractor the time to process permits and plans revisions?
- A.14 The cost for time to process permits and plan revisions is not reimbursable and if not specifically mentioned in the pay items listed in the Bid Form shall be considered as incidental to one or more of the pay items, and no claim for additional compensation will be allowed, and it shall be assumed that the cost therefore is included in the prices for the various items in the Contract.

- Q.15 Will there be MDAD Building Department inspections or only inspections by independent inspector? Clarify who will perform inspections in the execution of this project.
- A.15 As described in Sheet S002 of the Plans, the contractor shall retain a qualified special inspector and verify with the Building Department if Building Department inspections will be necessary as well.
- Q.16 What are the working hours for this project?
- A.16 Working hours will be discussed and determined at the pre-construction meeting prior to commencement of the project.
- Q.17 The full contract amount for the P&P bond means to include the base bid plus contingency allowance account and plus the dedicated allowance account correct?
- A.17 Yes, the full contract amount for the Performance & Payment (P&P) bond includes the base bid, plus the contingency allowance account, plus the dedicated allowance account.
- Q.18 Confirm that prevailing wages are highway and not building construction.
- A.18 Yes, as shown in the Invitation to Bid, the Prevailing Wage Rate required is Highway Construction.
- Q.19 Sheet G.002 items 29, 30,31 requires dewatering mandated by MDAD. Please provide more information for this procedure, will dewatering be required by MDAD in this project?
- A.19 Dewatering should not be necessary for this project, but Items 29, 30, & 31 should be followed, if necessary.
- Q.20 The special inspector is also a testing company or testing for concrete and soil is by MDAD?
- A.20 As described in Sheet S002 & modified in the Scope of Work notes in the Invitation to Bid, in addition to a qualified special inspector, the contractor shall retain an approved qualified testing agency as well as a geotechnical consultant which will confirm that the specified foundation preparation is performed.
- As described in the Scope of Work notes in the Invitation to Bid, “All of the removed soil shall be stockpiled and MDAD Environmental will sample prior to use”.
- Q.21 Is the contractor required to have a storage and office trailer on site at each booth location?
- A.21 As described in the Scope of Work notes in the Invitation to Bid, the office trailer requirements described in Contractor Requirements Note #4 in Sheet S002 have been deleted.

- Q.22 Please clarify, will Miami Dade building department perform building inspection in this project, or is all with special inspector?
- A.22 Refer to A.15 above.
- Q.23 Who is responsible to pay for testing fees?
- A.23 Contractor is responsible for paying all testing fees.
- Q.24 Does the Booth come with the sanitary pipe lines pre-installed? Or contractor to install and patch walls?
- A.24 The booth does not come with sanitary pipe lines pre-installed, but patching walls should not be necessary. The waste for the toilet would be under the floor mounted toilet and the waste for the sink typically goes to the vent pipe that runs up in the corner and through the roof and back to connect under the slab to the toilet waste. Please refer to attached booth plans for more information.
- Q.25 Does the booth come with the pipe waterlines pre-installed? Or contractor to install and patch walls?
- A.25 The booth does not come with pipe waterlines pre-installed, but patching walls should not be necessary. The fresh-water feed typically comes up at the toilet where it is tee'd off with another cold water feed running to the sink/water heater. This feed would be inside the building and would be secured to the interior walls. Please refer to attached booth plans for more information.
- Q.26 Does the booth come with the electrical and communication pipes pre-installed? Or contractor to install and patch walls?
- A.26 The booth does not come with electrical and communication pipes pre-installed, but patching walls should not be necessary. An electrical service feed will need to be installed to connect to the load center. The load center is mounted on the exterior of the booth. The existing electrical equipment installed in the booth are pre-wired to the load center. Please refer to attached booth plans for more information.

Q.27 What is the weight for each booth?

A.27 Each Security Booth weighs approximately 5,000 pounds.

Each Restroom booth weighs approximately 3,000 pounds.

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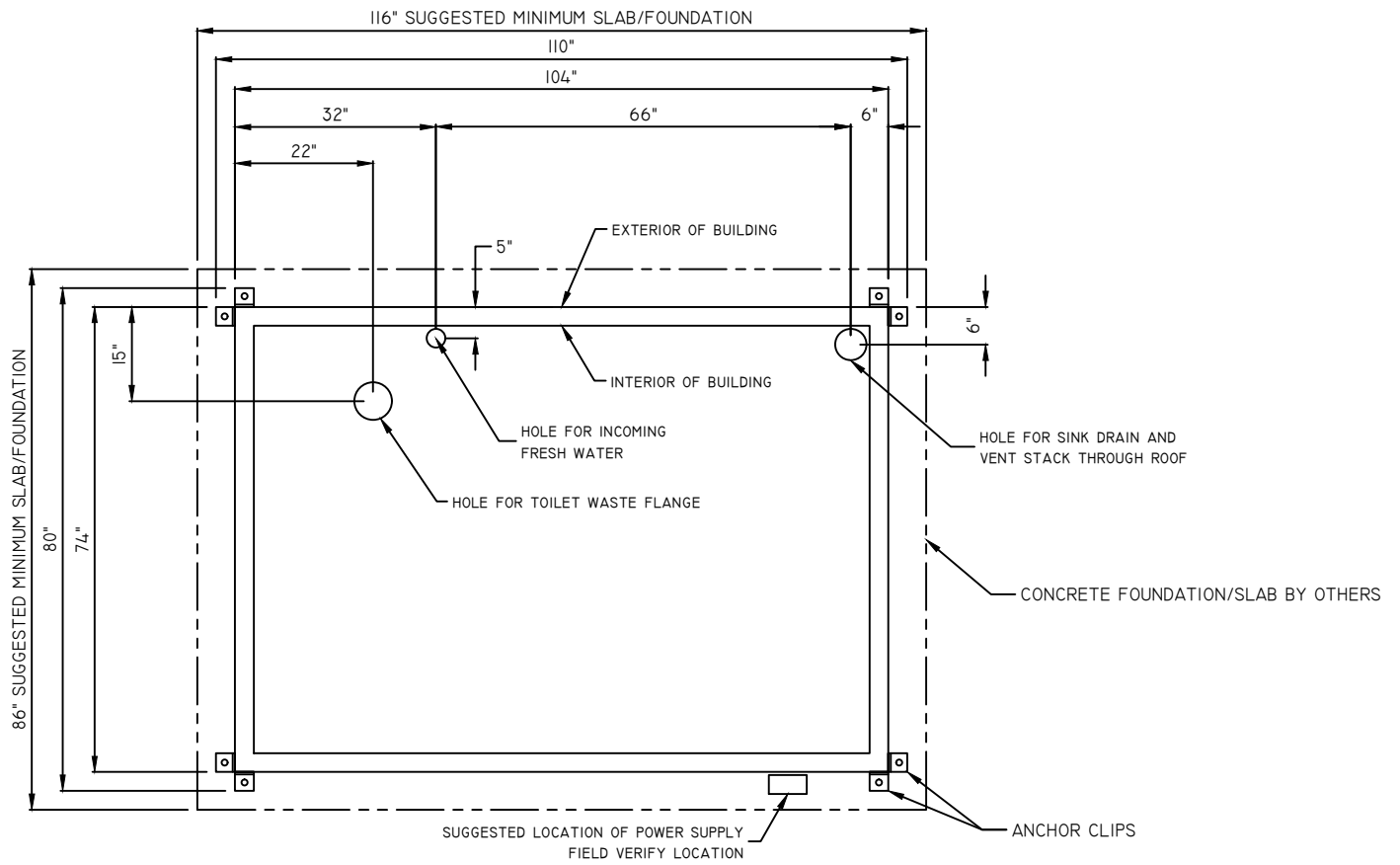
All else remains the same. This document must be signed and returned as part of your RPQ response. Failure to return this document signed may result in your RPQ response being rejected as non-responsive.

Name of Contractor: \_\_\_\_\_

Name of Individual Authorized to Sign: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_



## FOOTPRINT

SUGGESTED LOCATIONS OF FIELD INSTALLED PLUMBING AND ELECTRICAL STUB-UPS. ALL LOCATIONS TO BE FIELD VERIFIED AND COORDINATED WITH SITE CONDITIONS.

**T. R. ARNOLD & ASSOCIATES, INC.**

*an employee owned company*

*third party inspection agency*

700 E. BEARDSLEY AVENUE • P.O. BOX 1081 • ELKHART, IN 46515  
(574) 264-0745 • FAX: (574) 264-0740 • www.trarnold.com

March 22, 2016

Mr. Jim Richmond  
Florida Department of Business & Professional Regulation  
Manufactured Buildings Program  
1940 North Monroe Street, Suite 90A  
Tallahassee, FL 32399-0772

RE: Mardan Fabrication  
Approvals: MFI-6288-RR

Dear. Mr. Richmond:

Enclosed please find one (1) set of documents for the above noted model. TRA hereby certifies that it has examined the building plan and other documents submitted by the manufacturer for certification and found them to be in compliance with the following codes:

2014 FLORIDA BUILDING CODE  
2014 FLORIDA MECHANICAL CODE  
2014 FLORIDA PLUMBING CODE  
2011 NATIONAL ELECTRICAL CODE  
2014 FLORIDA FUEL GAS CODE  
2014 FLORIDA ENERGY CONSERVATION CODE

If you have any questions concerning this submission, please feel free to contact this office at any time. Additionally, a hard copy of these plans with the required engineer's seal is on file at T.R. Arnold & Associates, Inc.

Sincerely,  
T.R. ARNOLD & ASSOCIATES, INC.

Daren Lehman  
Director of Technical Services

DL/jz

cc: Dennis Eisenhardt  
File 6240; work order #16-1011

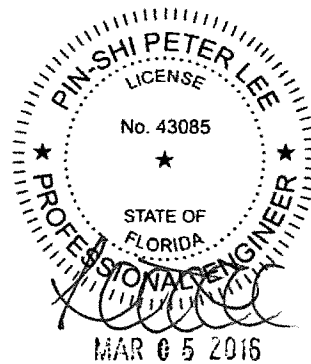


Peter Lee, P.E., M.S.  
23329 Century Drive  
Elkhart, IN 46514

## Mardan Fabrication

### Structural Analysis for V15-090-4 6288-RR

Contents	Pages
Design Loads	1 -- 3
RT 2 x 3x 1/8 6063-T52	4 -- 10
Roof Framing	11
RT 3 x 3 x .25 6063-T6	12 -- 18
#12 screw capacities	19
Exterior Wall Framing	20
RT 3 x 3 x .125 6063-T6	21 -- 27
Main Wind Force Resisting System	28 -- 29
Sliding, Uplifting, and Overturning	30 -- 31



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Building dimensions: 6' 2" (W) x 8' 8"(L) x 9' 9" (H)  
Exterior wall height: 111 in  
Roof vertical projection: 3 in  
Roof slope: 1.2 °  
Roof overhang: 0 in  
Mean roof height: 9.75 ft

Roof live load: Lr= 30 psf (ASCE Table 4-1)

Floor live load: L= 50 psf

Ground snow load: Pg= 0 psf (ASCE Figure 7-1)

Risk category: II (ASCE Table 1.5-1)

Wind load: 175 mph exposure C (ASCE Figure 26.5-1A) Assuming Kzt=1.0

Earthquake load: Ss= 0.041 g with site class B (ASCE figure 22-1)

S<sub>1</sub>= 0.020 g with site class B (ASCE figure 22-2)

Site class: D

Roof dead load: 5 psf ( 4 psf for uplift)

Exterior wall dead load: 5 psf

Floor dead load: 5 psf ( 4 psf for uplift)

Steel frame: 0 psf

Design references:

ASCE/SEI 7-10

ANSI/AF & PA NDS-2012

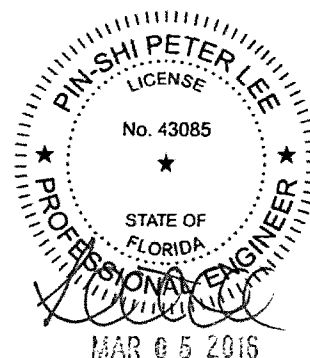
ANSI/AF & PA SDPWS-2008

AISC Steel Construction Manual 13th edition

AISI NASPEC 2007

AISI Manual 2008 Edition

Aluminum Design Manual 2010





Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

**Earthquake Load**

Sms=	0.066 g (ASCE 11.4-1)	where	Fa= 1.6
Sds=	0.044 g (ASCE 11.4-3)		

Sm <sub>1</sub> =	0.048 g (ASCE 11.4-2)	where	Fv= 2.4
Sd <sub>1</sub> =	0.032 g (ASCE 11.4-4)		

Seismic Design Category: A

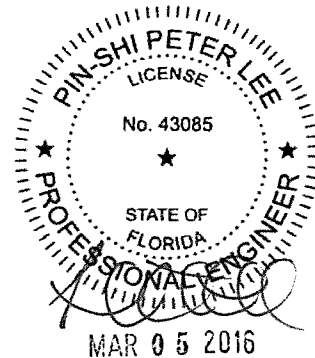
Cs=	0.012 ≤ (ASCE 12.8-2)	where	R= 3.5	(ASCE Table 12.2-1)
			le= 1.0	(ASCE Table 1.5-2)
Ta=	0.173126	where	Ct= 0.028	(ASCE Table 12.8-2)
			x= 0.8	(ASCE Table 12.8-2)
			hn= 9.75	
T=	0.294314	where	Cu= 1.7	(ASCE Table 12.8-1)

Cs=	0.031 (ASCE 12.8-3)	for T < TL=	8
-----	---------------------	-------------	---

Dead Load:

Roof:	Dr=	267 lbs		
Wall:	Dw=	1373 lbs		
Floor:	Df=	267 lbs		
St. frame:	Dst=	0 lbs		
Snow load:	S=	0 lbs	Building weight=	1908 lbs

Base shear= 24 lbs (ASCE 12.8-1)



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Aluminum Shape RT 2 x 3 x 1/8

Alloy-Temper: 6063-T52

Mechanical properties: (ADM Table A.3.4)

$F_{tu} =$	22 ksi	$F_{ty} =$	16 ksi	$F_{cy} =$	16 ksi
$F_{su} =$	13 ksi	$E =$	10100 ksi	$F_{sy} =$	9.6 ksi

Shape: (ADM Table 23)

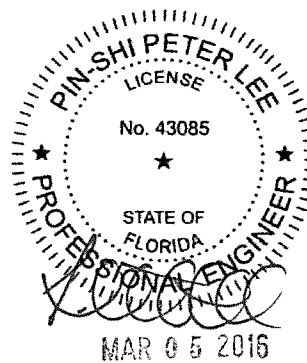
$A =$	1.19 in <sup>2</sup>				
$I_x =$	1.470 in <sup>4</sup>	$S_x =$	0.978 in <sup>3</sup>	$r_x =$	1.111 in
$I_y =$	0.772 in <sup>4</sup>	$S_y =$	0.770 in <sup>3</sup>	$r_y =$	0.805 in

Buckling constants: (ADM Table B.4.2)

$B_c =$	17.34924 ksi	$D_c =$	0.071905 ksi	$C_c =$	98.924607
$B_p =$	19.52206 ksi	$D_p =$	0.085828 ksi	$C_p =$	93.257071
$B_{br} =$	28.30949 ksi	$D_{br} =$	0.183562 ksi	$C_{br} =$	102.81531
$B_s =$	11.79785 ksi	$D_s =$	0.040322 ksi	$C_s =$	119.96183

Post buckling constants: (ADM Table B.4.3)

In compression:	$k_1 = 0.35$	$k_2 = 2.27$
In flexure:	$k_1 = 0.50$	$k_2 = 2.04$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Element in uniform compression:

$$\begin{aligned} b/t &= 22 \\ F_c &= F_{co} \quad (\text{ADM B.5-3}) \end{aligned}$$

Flat element supported on both edges:

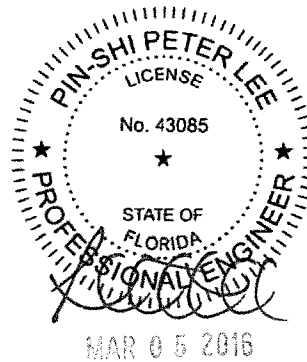
$$\begin{aligned} \text{Yielding:} \quad S_1 &= 25.64771 \\ b/t &\leq S_1 \quad \text{YES} \\ F_c &= 16 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 49.75606 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} \text{Post buckling:} \quad S_2 &= 49.75606 \\ b/t &> S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_c = 16 \text{ ksi}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Element in flexure:

$$\begin{aligned} b/t &= 14 \\ F_b &= F_{bo} \quad (\text{ADM B.5-12}) \end{aligned}$$

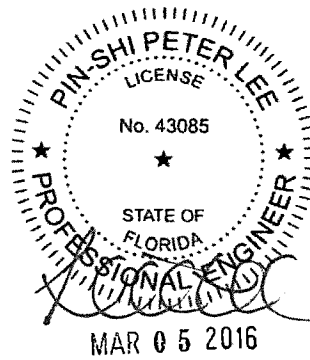
Flat element supported on both edges

$$\begin{aligned} \text{Yielding:} \quad S_1 &= 62.9382 \\ b/t &\leq S_1 \quad \text{YES} \\ F_b &= 20.8 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 83.04313 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_b = 20.8 \text{ ksi}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Axial Tension:

$$P_a = P_n / \Omega_t \quad \text{where} \quad \begin{array}{ll} \Omega_t = 1.95 & \text{for rupture} \\ \Omega_t = 1.65 & \text{for yielding} \end{array}$$

$$A_e = A_g = 1.19 \text{ in}^2$$

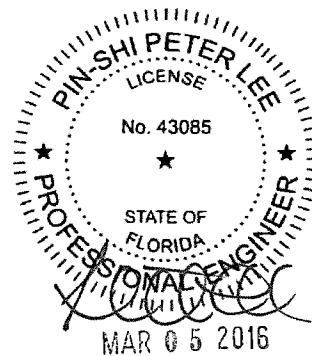
Yielding:

$$\begin{array}{ll} P_n = & 19.04 \text{ kips} \quad (\text{ADM D.2-1}) \\ P_a = & 11.539 \text{ kips} \\ & = 11539 \text{ lbs} \end{array}$$

Rupture:

$$\begin{array}{ll} P_n = & 26.18 \text{ kips} \quad (\text{ADM D.2-3}) \\ k_t = & 1.0 \quad (\text{ADM Table A.3.3}) \\ P_a = & 13.426 \text{ kips} \\ & = 13426 \text{ lbs} \end{array}$$

$$P_a = 11539 \text{ lbs}$$





Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Axial Compression:

$$P_a = P_n / \Omega_c \quad \text{where} \quad \Omega_c = 1.65$$

$$S_2 = 98.92461 \quad (\text{ADM E.3-4})$$

$$KL = 68 \text{ in}$$

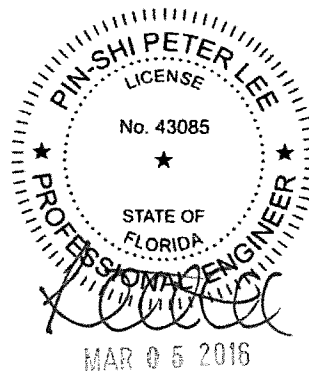
$$KL / r = 61.1820 \leq S_2 \quad \text{YES}$$

$$F_c = 11.007 \text{ ksi} \quad (\text{ADM E.3-2, E.3-3})$$

$$P_n = 13.099 \text{ kips}$$

$$P_a = 7.939 \text{ kips}$$

$$= 7939 \text{ lbs}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Flexure:

$$M_a = M_n / \Omega_b \quad \text{where} \quad \Omega_b = 1.65$$

$$L_{bx} = 18 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{xe} = r_x$$

$$S_2 = 118.7095$$

$$L_{bx} / (r_{ye} * C_b^{1/2}) = 22.34793 \leq S_2 \quad \text{YES}$$

$$F_{bx} = 16.010 \text{ ksi} \quad (\text{ADM F.2.1})$$

$$M_{nx} = 15.658 \text{ kip-in}$$

$$M_{ax} = 9.490 \text{ kip-in}$$

$$= 9490 \text{ lb-in}$$

$$L_{by} = 68 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{ye} = r_y$$

$$S_2 = 118.7095$$

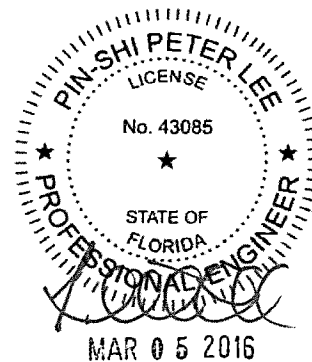
$$L_{by} / (r_{xe} * C_b^{1/2}) = 61.18201 \leq S_2 \quad \text{YES}$$

$$F_{by} = 13.683 \text{ ksi} \quad (\text{F.2.1})$$

$$M_{ny} = 10.536 \text{ kip-in}$$

$$M_{ay} = 6.385 \text{ kip-in}$$

$$= 6385 \text{ lb-in}$$



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3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Shear:

$$V_a = V_n / \Omega_v \quad \text{where} \quad \Omega_v = 1.65$$

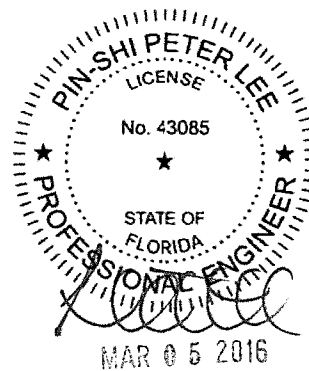
$$S_1 = 43.60584 \quad S_2 = 95.96946$$

$$b/t = 22 \leq S_1 \quad \text{Yes}$$

$$F_s = F_{sy} = 9.6 \text{ ksi} \quad A_w = 0.75 \text{ in}^2$$

$$V_n = 7.2 \text{ kips} \quad (\text{ADM G.2-1})$$

$$V_a = 4.364 \text{ kips} \\ = 4364 \text{ lbs}$$



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3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Roof Framing RT 2 x 3 x 1/8

Load tributary width      20 " o.c.      Span:      5.67 ft

Fy=      16 ksi      Fu=      22 ksi      E=      1.01E+07

Beam Properties :

Sex=      0.978 in<sup>3</sup>      I<sub>ex</sub>=      1.47 in<sup>4</sup>  
V<sub>nx</sub>=      7200 lbs      Ω<sub>v</sub>= 1.65  
V<sub>nx</sub>/Ω<sub>v</sub>=      4364 lbs

Flexural Strength:

M<sub>nx</sub>=      15658 lb-in      Ω<sub>b</sub>= 1.65  
M<sub>nx</sub>/Ω<sub>b</sub>=      9490 lb-in

D+S:      Not significant

D+Lr:

w=      4.8611 pli  
w live=      4.1667 pli

M=      2813 lb-in      ≤M<sub>n</sub>/Ω<sub>b</sub>      OK  
V=      165 lbs      ≤V<sub>n</sub>/Ω<sub>v</sub>      OK  
Δ=      0.08 in      <ℓ/240 =      0.284 in      OK

0.6D+0.6W (Zone 3):

w=      13.7304 pli  
w live=      14.0637 pli

M=      7946 lb-in      ≤M<sub>n</sub>/Ω<sub>b</sub>      OK  
V=      467 lbs      ≤V<sub>n</sub>/Ω<sub>v</sub>      OK  
Δ=      0.26 in      <ℓ/240 =      0.284 in      OK



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Aluminum Shape RT 3 x 3 x .250

Alloy-Temper: 6063-T6

Mechanical properties: (ADM Table A.3.4)

$F_{tu} =$	30 ksi	$F_{ty} =$	25 ksi	$F_{cy} =$	25 ksi
$F_{su} =$	19 ksi	$E =$	10100 ksi	$F_{sy} =$	15 ksi

Shape: (ADM Table 23)

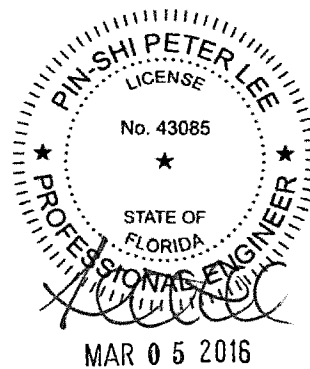
$A =$	2.75 in <sup>2</sup>				
$I_x =$	3.490 in <sup>4</sup>	$S_x =$	2.330 in <sup>3</sup>	$r_x =$	1.127 in
$I_y =$	3.490 in <sup>4</sup>	$S_y =$	2.330 in <sup>3</sup>	$r_y =$	1.127 in

Buckling constants: (ADM Table B.4.2)

$B_c =$	27.63523 ksi	$D_c =$	0.144555 ksi	$C_c =$	78.381395
$B_p =$	31.38591 ksi	$D_p =$	0.174961 ksi	$C_p =$	73.549067
$B_{br} =$	46.11561 ksi	$D_{br} =$	0.381643 ksi	$C_{br} =$	80.556359
$B_s =$	18.98497 ksi	$D_s =$	0.08231 ksi	$C_s =$	94.566995

Post buckling constants: (ADM Table B.4.3)

In compression:	$k_1 = 0.35$	$k_2 = 2.27$
In flexure:	$k_1 = 0.50$	$k_2 = 2.04$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Element in uniform compression:

$$\begin{aligned} b/t &= 10 \\ F_c &= F_{co} \quad (\text{ADM B.5-3}) \end{aligned}$$

Flat element supported on both edges:

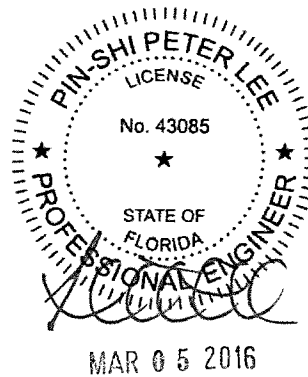
$$\begin{aligned} \text{Yielding:} \quad S_1 &= 22.8119 \\ b/t &\leq S_1 \quad \text{YES} \\ F_c &= 25 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 39.24112 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} \text{Post buckling:} \quad S_2 &= 39.24112 \\ b/t &> S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_c = 25 \text{ ksi}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Element in flexure:

$$\begin{aligned} b/t &= 10 \\ F_b &= F_{bo} \quad (\text{ADM B.5-12}) \end{aligned}$$

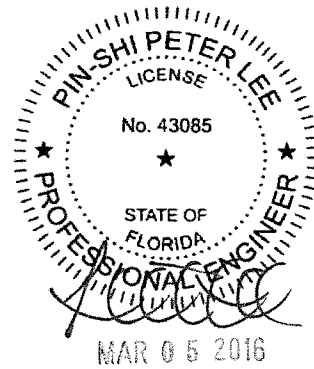
Flat element supported on both edges

$$\begin{aligned} \text{Yielding:} \quad S_1 &= 54.8867 \\ b/t &\leq S_1 \quad \text{YES} \\ F_b &= 32.5 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 65.06475 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_b = 32.5 \text{ ksi}$$



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**Structural Analysis for V15-090-4 6288-RR**

Axial Tension:

$$P_a = P_n / \Omega_t \quad \text{where} \quad \begin{array}{ll} \Omega_t = 1.95 & \text{for rupture} \\ \Omega_t = 1.65 & \text{for yielding} \end{array}$$

$$A_e = A_g = 2.75 \text{ in}^2$$

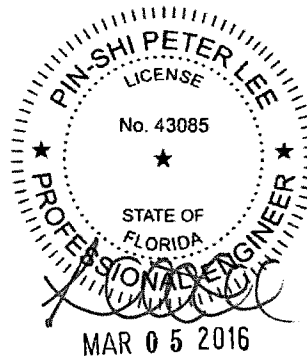
Yielding:

$$\begin{array}{ll} P_n = & 68.75 \text{ kips} \quad (\text{ADM D.2-1}) \\ P_a = & 41.667 \text{ kips} \\ & = 41667 \text{ lbs} \end{array}$$

Rupture:

$$\begin{array}{ll} P_n = & 82.5 \text{ kips} \quad (\text{ADM D.2-3}) \\ k_t = & 1.0 \quad (\text{ADM Table A.3.3}) \\ P_a = & 42.308 \text{ kips} \\ & = 42308 \text{ lbs} \end{array}$$

$$P_a = 41667 \text{ lbs}$$





Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Axial Compression:

$$P_a = P_n / \Omega_c \quad \text{where} \quad \Omega_c = 1.65$$

$$S_2 = 78.3814 \quad (\text{ADM E.3-4})$$

$$KL = 111 \text{ in}$$

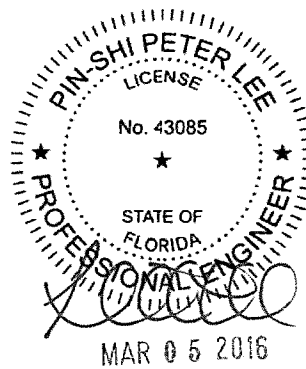
$$KL/r = 98.5318 \leq S_2 \quad \text{NO}$$

$$F_c = 8.727 \text{ ksi} \quad (\text{ADM E.3-2, E.3-3})$$

$$P_n = 24.000 \text{ kips}$$

$$P_a = 14.546 \text{ kips}$$

$$= 14546 \text{ lbs}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Flexure:

$$M_a = M_n / \Omega_b \quad \text{where} \quad \Omega_b = 1.65$$

$$L_{bx} = 45 \text{ in}$$

$$\text{Let} \quad C_b = 1.0 \quad \text{and} \quad r_{xe} = r_x$$

$$S_2 = 94.05767$$

$$L_{bx} / (r_{ye} * C_b^{1/2}) = 39.94534 \leq S_2 \quad \text{YES}$$

$$F_{bx} = 22.823 \text{ ksi} \quad (\text{ADM F.2.1})$$

$$M_{nx} = 53.178 \text{ kip-in}$$

$$M_{ax} = 32.229 \text{ kip-in}$$

$$= 32229 \text{ lb-in}$$

$$L_{by} = 102 \text{ in}$$

$$\text{Let} \quad C_b = 1.0 \quad \text{and} \quad r_{ye} = r_y$$

$$S_2 = 94.05767$$

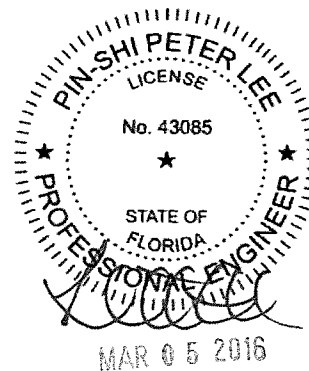
$$L_{by} / (r_{xe} * C_b^{1/2}) = 90.54278 \leq S_2 \quad \text{YES}$$

$$F_{by} = 16.728 \text{ ksi} \quad (\text{F.2.1})$$

$$M_{ny} = 38.977 \text{ kip-in}$$

$$M_{ay} = 23.622 \text{ kip-in}$$

$$= 23622 \text{ lb-in}$$



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Shear:

$$V_a = V_n / \Omega_v \quad \text{where} \quad \Omega_v = 1.65$$

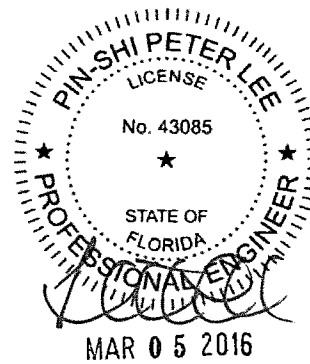
$$S_1 = 38.73119 \quad S_2 = 75.6536$$

$$b/t = 10 \leq S_1 \quad \text{Yes}$$

$$F_s = F_{sy} = 15 \text{ ksi} \quad A_w = 1.5 \text{ in}^2$$

$$V_n = 22.5 \text{ kips} \quad (\text{ADM G.2-1})$$

$$V_a = 13.636 \text{ kips} \\ = 13636 \text{ lbs}$$



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3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Screw: #12 x 1"      D = 0.216 in       $\Omega = 3.0$

$t_1 =$	0.125 in	$t_2 =$	0.25 in
F $t_{y1} =$	16000 psi	F $t_{y2} =$	25000 psi
F $t_{u1} =$	22000 psi	F $t_{u2} =$	30000 psi

Screw Pull-Out:

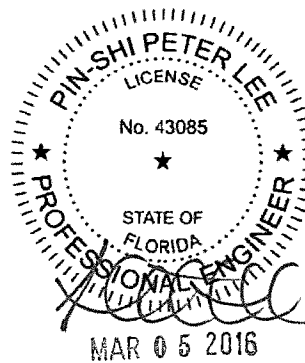
Rn =	1620 lbs	(ADM J.5-1)
Rn / $\Omega =$	540 lbs	

Screw Bearing:

Rn =	1188 lbs	(ADM J.5-12)
Rn / $\Omega =$	396.0 lbs	

Screw Tilting:

Rn =	7320 lbs	(ADM J.5-13)
Rn / $\Omega =$	2440.0 lbs	



Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Exterior Wall Framing

RT 3 x 3 x .250 6063-T6

Tributary width: 38 "

Length: 111 in

Fy= 25 ksi      Fu= 30 ksi      E= 1.01E+07

Beam Properties :

Sex= 2.330 in<sup>3</sup>      Iex= 3.490 in<sup>4</sup>  
Vnx= 22500 lbs      Ωv= 1.65  
Vnx/Ωv= 13636 lbs

Flexural Strength:

Mnx= 53178 lb-in      Ωb= 1.65  
Mnx/Ωb= 32229 lb-in

Axial Strength:

Pn= 24000 lbs      Ωc= 1.65  
Pn/Ωc= 14546 lbs

D+S: Not significant

D+Lr:

P= 342 lbs      ≤ Pn/Ωc      OK

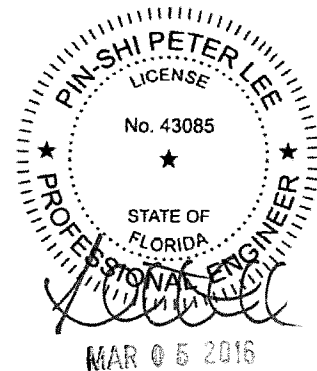
D+0.6W (Zone 5, lateral load):

p= 49 lbs      ≤ Pn/Ωc      OK  
Ωc P/Pn= 0.003      ≤ 0.15      YES  
w= 13.2145 pli  
M= 20352 lb-in      ≤ Mnx/Ωb      OK

(ΩcP/Pn)+(ΩbMx/Mnx)+(ΩbMy/Mny)= 0.635 <1      OK

V= 733 lbs      ≤ Vnx/Ωv      OK

Four(4) #12 screws each end for shear.



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**Structural Analysis for V15-090-4 6288-RR**

Aluminum Shape RT 3 x 3 x .125

Alloy-Temper: 6063-T6

Mechanical properties: (ADM Table A.3.4)

$F_{tu} =$	30 ksi	$F_{ty} =$	25 ksi	$F_{cy} =$	25 ksi
$F_{su} =$	19 ksi	$E =$	10100 ksi	$F_{sy} =$	15 ksi

Shape: (ADM Table 23)

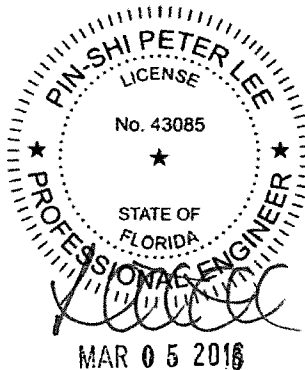
$A =$	1.44 in <sup>2</sup>				
$I_x =$	1.980 in <sup>4</sup>	$S_x =$	1.320 in <sup>3</sup>	$r_x =$	1.173 in
$I_y =$	1.980 in <sup>4</sup>	$S_y =$	1.320 in <sup>3</sup>	$r_y =$	1.173 in

Buckling constants: (ADM Table B.4.2)

$B_c =$	27.63523 ksi	$D_c =$	0.144555 ksi	$C_c =$	78.381395
$B_p =$	31.38591 ksi	$D_p =$	0.174961 ksi	$C_p =$	73.549067
$B_{br} =$	46.11561 ksi	$D_{br} =$	0.381643 ksi	$C_{br} =$	80.556359
$B_s =$	18.98497 ksi	$D_s =$	0.08231 ksi	$C_s =$	94.566995

Post buckling constants: (ADM Table B.4.3)

In compression:	$k_1 =$	0.35	$k_2 =$	2.27
In flexure:	$k_1 =$	0.50	$k_2 =$	2.04



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**Structural Analysis for V15-090-4 6288-RR**

Element in uniform compression:

$$\begin{aligned} b/t &= 22 \\ F_c &= F_{co} \quad (\text{ADM B.5-3}) \end{aligned}$$

Flat element supported on both edges:

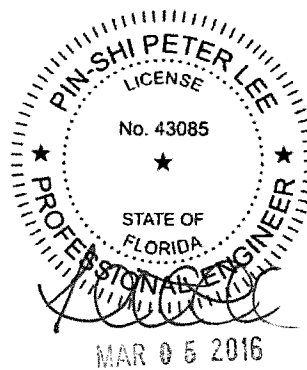
$$\begin{aligned} \text{Yielding:} \quad S_1 &= 22.8119 \\ b/t &\leq S_1 \quad \text{YES} \\ F_c &= 25 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 39.24112 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} \text{Post buckling:} \quad S_2 &= 39.24112 \\ b/t &> S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_c = 25 \text{ ksi}$$



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3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Element in flexure:

$$\begin{aligned} b/t &= 22 \\ F_b &= F_{bo} \quad (\text{ADM B.5-12}) \end{aligned}$$

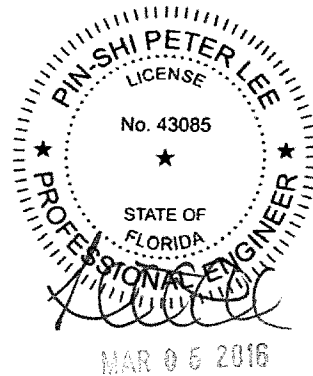
Flat element supported on both edges

$$\begin{aligned} \text{Yielding:} \quad S_1 &= 54.8867 \\ b/t &\leq S_1 \quad \text{YES} \\ F_b &= 32.5 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 65.06475 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_b &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_b = 32.5 \text{ ksi}$$





Mardan Fabrication

3/4/2016

**Structural Analysis for V15-090-4 6288-RR**

Axial Tension:

$$P_a = P_n / \Omega_t \quad \text{where} \quad \begin{array}{ll} \Omega_t = 1.95 & \text{for rupture} \\ \Omega_t = 1.65 & \text{for yielding} \end{array}$$

$$A_e = A_g = 1.44 \text{ in}^2$$

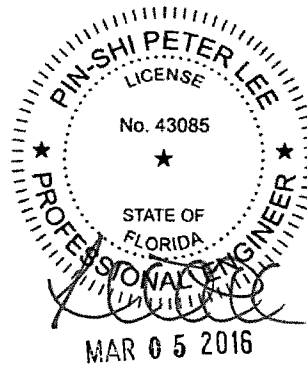
Yielding:

$$\begin{array}{ll} P_n = & 36 \text{ kips} \quad (\text{ADM D.2-1}) \\ P_a = & 21.818 \text{ kips} \\ & = 21818 \text{ lbs} \end{array}$$

Rupture:

$$\begin{array}{ll} P_n = & 43.2 \text{ kips} \quad (\text{ADM D.2-3}) \\ k_t = & 1.0 \quad (\text{ADM Table A.3.3}) \\ P_a = & 22.154 \text{ kips} \\ & = 22154 \text{ lbs} \end{array}$$

$$P_a = 21818 \text{ lbs}$$



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**Structural Analysis for V15-090-4 6288-RR**

Axial Compression:

$$P_a = P_n / \Omega_c \quad \text{where} \quad \Omega_c = 1.65$$

$$S_2 = 78.3814 \quad (\text{ADM E.3-4})$$

$$KL = 45 \text{ in}$$

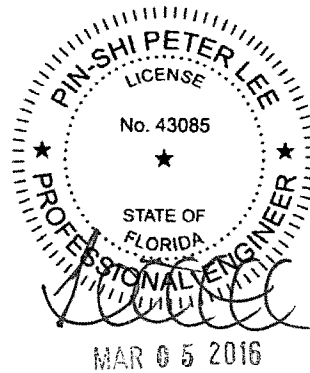
$$KL/r = 38.3761 \leq S_2 \quad \text{YES}$$

$$F_c = 18.775 \text{ ksi} \quad (\text{ADM E.3-2, E.3-3})$$

$$P_n = 27.035 \text{ kips}$$

$$P_a = 16.385 \text{ kips}$$

$$= 16385 \text{ lbs}$$



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**Structural Analysis for V15-090-4 6288-RR**

Flexure:

$$M_a = M_n / \Omega_b \quad \text{where} \quad \Omega_b = 1.65$$

$$L_{bx} = 45 \text{ in}$$

$$\text{Let} \quad C_b = 1.0 \quad \text{and} \quad r_{xe} = r_x$$

$$S_2 = 94.05767$$

$$L_{bx} / (r_{ye} * C_b^{1/2}) = 38.37613 \leq S_2 \quad \text{YES}$$

$$F_{bx} = 23.012 \text{ ksi} \quad (\text{ADM F.2.1})$$

$$M_{nx} = 30.376 \text{ kip-in}$$

$$M_{ax} = 18.410 \text{ kip-in}$$

$$= 18410 \text{ lb-in}$$

$$L_{by} = 45 \text{ in}$$

$$\text{Let} \quad C_b = 1.0 \quad \text{and} \quad r_{ye} = r_y$$

$$S_2 = 94.05767$$

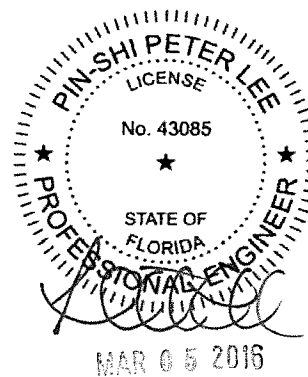
$$L_{by} / (r_{xe} * C_b^{1/2}) = 38.37613 \leq S_2 \quad \text{YES}$$

$$F_{by} = 23.012 \text{ ksi} \quad (\text{F.2.1})$$

$$M_{ny} = 30.376 \text{ kip-in}$$

$$M_{ay} = 18.410 \text{ kip-in}$$

$$= 18410 \text{ lb-in}$$



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**Structural Analysis for V15-090-4 6288-RR**

Shear:

$$V_a = V_n / \Omega_v \quad \text{where} \quad \Omega_v = 1.65$$

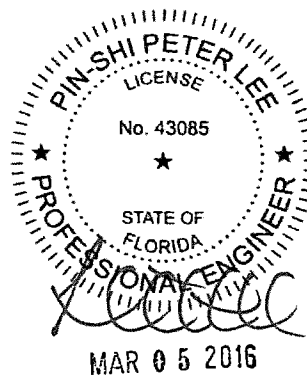
$$S_1 = 38.73119 \quad S_2 = 75.6536$$

$$b/t = 22 \leq S_1 \quad \text{Yes}$$

$$F_s = F_{sy} = 15 \text{ ksi} \quad A_w = 0.75 \text{ in}^2$$

$$V_n = 11.25 \text{ kips} \quad (\text{ADM G.2-1})$$

$$V_a = 6.818 \text{ kips} \\ = 6818 \text{ lbs}$$



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**Structural Analysis for V15-090-4 6288-RR**

**Main Wind Force Resisting System**

Vertical wall frames are resisting the lateral shear loads

Wind direction: Perpendicular to the length of the building

Wall length =	8.67 ft	End zone length =	4.335 ft
Stud length =	111 in		
Roof heel =	0 in		
Roof ridge =	0 in		
Shear S =	709 lbs		
Min. shear=	192 lbs	(ASCE 28.6.4)	

Wind direction: Parallel to the length of the building

Wall length =	6.17 ft	End zone length =	3.085 ft
Stud length =	111 in		
Roof heel =	0 in		
Roof ridge =	0 in		
Shear S =	504 lbs		
Min. shear=	137 lbs	(ASCE 28.6.4)	



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**Structural Analysis for V15-090-4 6288-RR**

Seismic Load at Ceiling Line:

$$Fr = 12 \text{ lbs} \quad (\text{ASCE 12.14-12})$$

Load in plan S-N direction:

Both east and west walls are solid walls.

One(1) RT 3 x 3 x .125 6063-T6 in each corner to resist tension/compression load.

Max. load on top of each wall= 709 lbs

$$\begin{aligned} T = C &= 1063 \text{ lbs} &< Pa \\ V &= 354 \text{ lbs} &< Va \end{aligned}$$

Load in plan E-W direction:

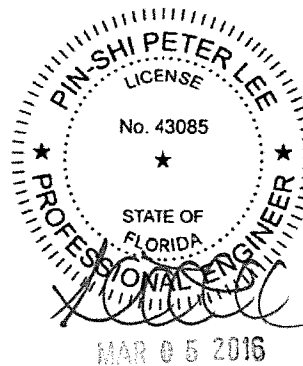
Both south and north walls are solid walls. South wall has two segments.

The RT 3 x 3 x .125 / RT 3 x 3 x .250 resist tension/compression load.

Max. load on top of each wall= 504 lbs

South wall with two segments controls.

$$\begin{aligned} T = C &= 823 \text{ lb-in} &< Pa \\ V &= 252 \text{ lbs} &< Va \end{aligned}$$



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**Structural Analysis for V15-090-4 6288-RR**

Sliding, Uplifting, and Overturning

Tie-Downs:

The building is anchored to the concrete pad with eight(8) 1/2 " expansion bolt.  
A min. 3" embedment in the min. 3000 psi concrete.  
(Power-Stud of Powers Fasteners)

Allowable tension load per bolt= 1655 lbs  
allowable shear load per bolt= 1665 lbs

Floor depth = 3 in

Sliding :

Wind/seismic load perpendicular to the length of the building,

Total sliding load = 2912 lbs  
Shear load in each anchor= 364 lbs OK

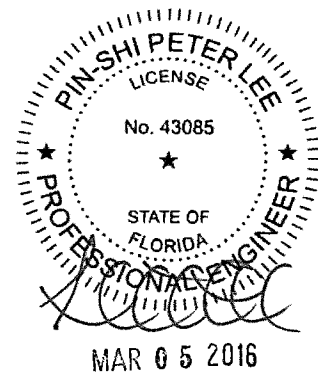
Wind/seismic load parallel to the length of the building,

Total sliding load = 2072 lbs  
Shear load in each anchor= 259 lbs OK

Uplifting :

Uplift load= 42.45648 psf  
60% building weight= 7.8 psf

Total uplift= 1854 lbs  
Tension load in each anchor= 232 lbs OK



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**Structural Analysis for V15-090-4 6288-RR**

Overturning :

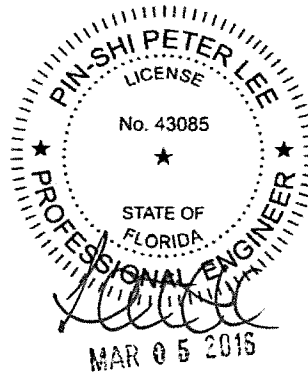
Wind/seismic load perpendicular to the length of the building,

Overturning moment = 230217 lb-in  
Resistance lever arm = 74 in  
Tension load in each anchor= 778 lbs OK

Wind/seismic load parallel to the length of the building,

Overturning moment = 211422 lb-in  
Resistance lever arm = 104 in  
Tension load in each anchor= 508 lbs OK

$(N_u/N_n)^{5/3} + (V_u/V_n)^{5/3} = 0.363 \leq 1$  OK





**EnergyGauge Summit® v5.10  
INPUT DATA REPORT**

**Project Information**

**Project Name:** MFI-6288-RR

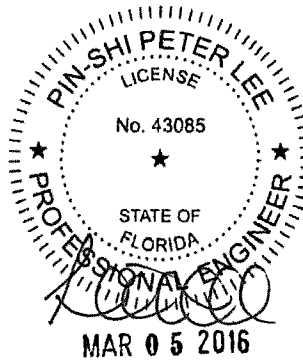
**Project Title:** Aviation Department

**Address:** 4331 NW 22nd Street

**State:** FL

**Zip:** 33122

**Owner:**



**Orientation:** North

**Building Type:** Office

**Building Classification:** New Finished building

**No. of Stories:** 1

**GrossArea:** 53 SF

**Zones**

No	Acronym	Description	Type	Area [sf]	Multiplier	Total Area [sf]	
1	Pr0Zo1	Zone 1	CONDITIONED	53.4	1	53.4	<input type="checkbox"/>

**Spaces**

No	Acronym	Description	Type	Depth [ft]	Width [ft]	Height [ft]	Multiplier	Total Area [sf]	Total Volume [cf]
----	---------	-------------	------	------------	------------	-------------	------------	-----------------	-------------------

<b>In Zone:</b> Pr0Zo1	1 Pr0Zo1Sp1	Zo0Sp1	Office - Open Plan	8.67	6.17	8.50	1	53.4	454.3	<input type="checkbox"/>
------------------------	-------------	--------	--------------------	------	------	------	---	------	-------	--------------------------

### Lighting

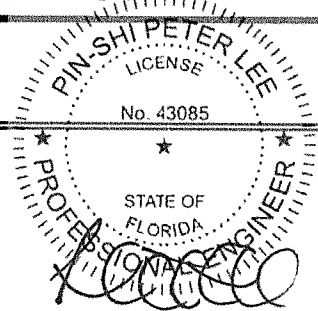
No	Type	Category	No. of Luminaires	Watts per Luminaire	Power [W]	Control Type	No. of Ctrl pts
<b>In Zone:</b> Pr0Zo1	<b>In Space:</b> Pr0Zo1Sp1						
1	Suspended Fluorescent	General Lighting	1	28	28	Manual On/Off	1

### Walls

No	Description	Type	Width H (Effec)		Multi	Area	Direction	Conductance	Heat	Dens.	R-Value
			[ft]	[ft]	plier	[sf]		[Btu/hr. sf. F]	Capacity	[lb/cf]	[h.sf.F/Btu]
									[Btu/sf.F]		
<b>In Zone:</b>	<b>Pr0Zo1</b>										
1	Wall A	Mardan Wall Panel	8.67	9.75	1	84.5	North	0.0541			18.5
2	Wall B	Mardan Wall Panel	6.17	9.75	1	60.2	North	0.0541			18.5
3	Wall C	Mardan Wall Panel	8.67	9.75	1	84.5	North	0.0541			18.5
4	Wall D	Mardan Wall Panel	6.17	9.75	1	60.2	North	0.0541			18.5

### Windows

No	Description	Type	Shaded	U	SHGC	Vis.Tra	W	H (Effec)	Multi	Total Area
				[Btu/hr sf F]			[ft]	[ft]	plier	[sf]
<b>In Zone:</b>	<b>In Wall:</b>									



### Doors

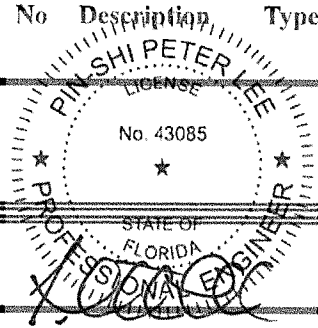
No	Description	Type	Shaded?	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Dens. [lb/cf]	Heat Cap. [Btu/sf. F]	R-Value [h.sf.F/Btu]	
<b>In Zone: Pr0Zo1</b>												
<b>In Wall: Wall A</b>												
1	Pr0Zo1WalDr1	Aluminum door, 1.25 in. polystyrene	No	3.00	6.67	1	20.0	0.1919	43.67	0.53	5.21	<input type="checkbox"/>

### Roofs

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Tilt [deg]	Cond. [Btu/hr. Sf. F]	Heat Cap [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
<b>In Zone: Pr0Zo1</b>												
1	Pr0Zo1Rfl	4" Thick Roof Panel	6.17	8.67	1	53.5	0.00	0.0600	0.65	15.73	16.7	<input type="checkbox"/>

### Skylights

No	Description	Type	U [Btu/hr sf F]	SHGC	Vis.Trans	W [ft]	H (Effec) [ft]	Multiplier	Area [Sf]	Total Area [Sf]		
<b>In Zone: In Roof:</b>												
											<input type="checkbox"/>	



### Floors

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Heat Cap. [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]		
<b>In Zone: Pr0Zo1</b>												
1	Pr0Zo1Fl1	Non-Insulated Base	6.17	8.67	1	53.5	0.2967	34.24	114.55	3.37	<input type="checkbox"/>	

## Systems

<b>AZ61H12D</b>	<b>System 1</b>	<b>Through the wall AirConditioner Single Package</b>	<b>No. Of Units 1</b>
<b>Component</b>	<b>Category</b>	<b>Capacity</b>	<b>Efficiency</b>
1	Cooling System	11800.00	12.10
2	Heating System	10600.00	12.63
3	Air Handling System -Supply	370.00	0.80

## Plant

<b>Equipment</b>	<b>Category</b>	<b>Size</b>	<b>Inst.No</b>	<b>Eff.</b>	<b>IPLV</b>
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## Water Heaters

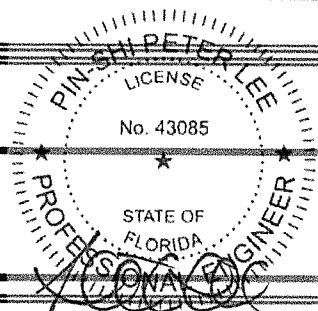
<b>W-Heater Description</b>	<b>CapacityCap.Unit</b>	<b>I/P Rt.</b>	<b>Efficiency</b>	<b>Loss</b>
-----------------------------	-------------------------	----------------	-------------------	-------------

## Ext-Lighting

<b>Description</b>	<b>Category</b>	<b>No. of Luminaires</b>	<b>Watts per Luminaire</b>	<b>Area/Len/No. of units [sf/ft/No]</b>	<b>Control Type</b>	<b>Wattage [W]</b>
--------------------	-----------------	------------------------------	--------------------------------	---	---------------------	------------------------

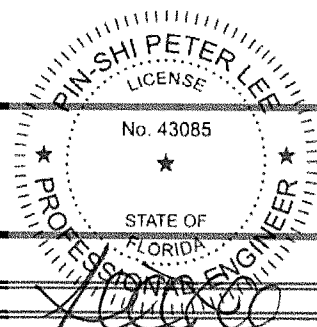
## Piping

<b>No</b>	<b>Type</b>	<b>Operating Temperature [F]</b>	<b>Insulation Conductivity [ Btu-in/h.sf.F]</b>	<b>Nomonal pipe Diameter [in]</b>	<b>Insulation Thickness [in]</b>	<b>Is Runout?</b>
-----------	-------------	--	---	---	--	-------------------



	<input type="checkbox"/>
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### Fenestration Used

Name	Glass Type	No. of Panes	Glass Conductance [Btu/h.sf.F]	SHGC	VLT
					

### Materials Used

Mat No	Acronym	Description	Only R-Value Used	RValue [h.sf.F/Btu]	Thickness [ft]	Conductivity [Btu/h.ft.F]	Density [lb/cf]	SpecificHeat [Btu/lb.F]	
264	Matl264	ALUMINUM, 1/16 IN	No	0.0002	0.0050	26.0000	480.00	0.1000	<input type="checkbox"/>
214	Matl214	POLYSTYRENE, EXP., 1-1/4IN,	No	5.2100	0.1042	0.0200	1.80	0.2900	<input type="checkbox"/>
265	Matl265	Soil, 1 ft	No	2.0000	1.0000	0.5000	100.00	0.2000	<input type="checkbox"/>
48	Matl48	6 in. Heavyweight concrete	No	0.5000	0.5000	1.0000	140.00	0.2000	<input type="checkbox"/>
77	Matl77	AIR LAYER, 3/4IN TO 4IN, HORIZ. ROOFS	Yes	0.8700					<input type="checkbox"/>
1003	ApLbMat1003	POLYSTYRENE, EXP., 4IN,	No	16.6650	0.3333	0.0200	1.80	0.2900	<input type="checkbox"/>

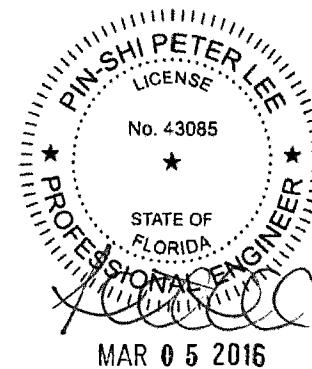
### Constructs Used

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1002	Aluminum door, 1.25 in. polystyrene	No	No	0.19	0.53	43.67	5.2	<input type="checkbox"/>

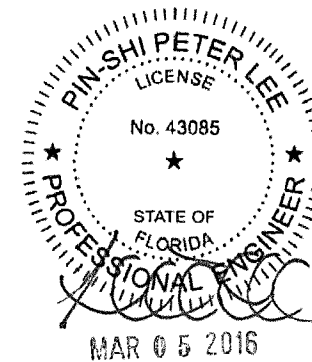
  

Layer	Material No.	Material	Thickness [ft]	Framing Factor	
1	264	ALUMINUM, 1/16 IN	0.0050	0.000	<input type="checkbox"/>

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1002	Aluminum door, 1.25 in. polystyrene	No	No	0.19	0.53	43.67	5.2	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	2	214	POLYSTYRENE, EXP., 1-1/4IN,	0.1042	0.000			<input type="checkbox"/>
	3	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1060	Mardan Wall Panel	No	Yes	0.05			18.5	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	1	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
	2	72	AIR LAYER, 3/4IN OR LESS, VERT. WALLS		0.000			<input type="checkbox"/>
	3	1001	Thermax TSX-8500 Insualtion	0.2083	0.000			<input type="checkbox"/>
	4	72	AIR LAYER, 3/4IN OR LESS, VERT. WALLS		0.000			<input type="checkbox"/>
	5	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>



No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1061	Non-Insulated Base	No	No	0.30	34.24	114.55	3.4	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	1	265	Soil, 1 ft	1.0000	0.000			<input type="checkbox"/>
	2	48	6 in. Heavyweight concrete	0.5000	0.000			<input type="checkbox"/>
	3	77	AIR LAYER, 3/4IN TO 4IN, HORIZ. ROOFS		0.000			<input type="checkbox"/>
	4	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1064	4" Thick Roof Panel	No	No	0.06	0.65	15.73	16.7	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	1	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
	2	1003	POLYSTRENE, EXP., 4IN,	0.3333	0.000			<input type="checkbox"/>
	3	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>



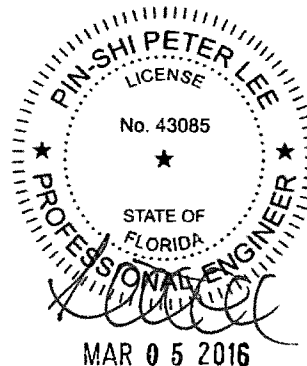
# Florida Building Code, Fifth Edition (2014) - Energy Conservation

EnergyGauge Summit® Fla/Com-2015, Effective Date: June 30, 2015  
IECC 2012 - Total Building Performance Compliance Option

## Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- This Checklist
- An Input report generated from the software just after completing compliance calculations without any further changes
- The full compliance report generated by the software that contains the project summary, compliance summary, certifications and detailed component compliance reports
- Boxes appropriately checked in the Miscellaneous report generated by the software at the end of the compliance report



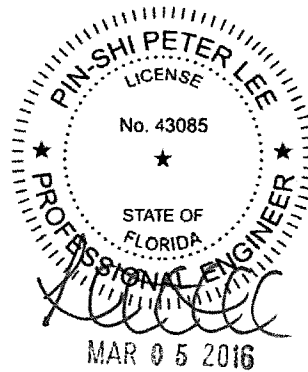


## PROJECT SUMMARY

<b>Short Desc:</b> MFI-6288-RR	<b>Description:</b> Aviation Department
<b>Owner:</b>	
<b>Address1:</b> 4331 NW 22nd Street	<b>City:</b> Miami
<b>Address2:</b>	<b>State:</b> FL
	<b>Zip:</b> 33122
<b>Type:</b> Office	<b>Class:</b> New Finished building
<b>Jurisdiction:</b> MIAMI-DADE COUNTY, MIAMI-DADE COUNTY, FL (231000)	
<b>Conditioned Area:</b> 53 SF	<b>Conditioned &amp; UnConditioned Area:</b> 53 SF
<b>No of Stories:</b> 1	<b>Area entered from Plans:</b> 53 SF
<b>Permit No:</b> 0	<b>Max Tonnage:</b> 1
	<b>If different, write in:</b> _____

## Compliance Summary

Component	Design	Criteria	Result
Gross Energy Cost (in \$)	42.0	46.0	<b>PASSED</b>
LIGHTING CONTROLS			<b>PASSES</b>
EXTERNAL LIGHTING			<b>No Entry</b>
HVAC SYSTEM			<b>PASSES</b>
PLANT			<b>No Entry</b>
WATER HEATING SYSTEMS			<b>No Entry</b>
PIPING SYSTEMS			<b>No Entry</b>
Met all required compliance from Check List?			<b>Yes/No/NA</b>



### IMPORTANT MESSAGE

Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report

## CERTIFICATIONS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code

Prepared By: \_\_\_\_\_

Building Official: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: \_\_\_\_\_

Date: \_\_\_\_\_

If Required by Florida law, I hereby certify (\*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: \_\_\_\_\_

Reg No: \_\_\_\_\_

Electrical Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

Lighting Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

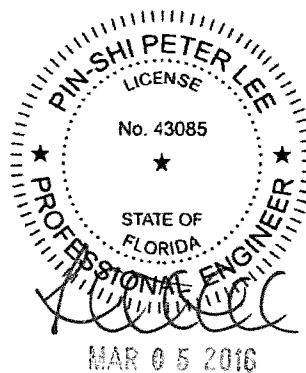
Mechanical Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

Plumbing Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

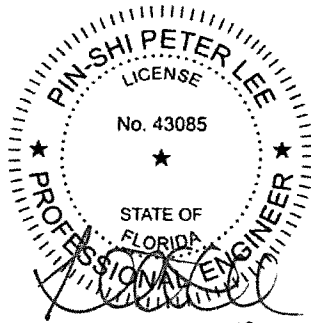
(\*) Signature is required where Florida Law requires design to be performed by registered design professionals. Typed names and registration numbers may be used where all relevant information is contained on signed/sealed plans.



Project: MFI-6288-RR  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

**Building End Uses**

	1) Proposed	2) Baseline
<b>Total</b>	<b>2.70</b>	<b>3.50</b>
	<b>\$42</b>	<b>\$54</b>
ELECTRICITY(MBtu/kWh/\$)	2.70	3.50
	795	1014
	<b>\$42</b>	<b>\$54</b>
AREA LIGHTS	0.30	0.60
	86	164
	<b>\$5</b>	<b>\$9</b>
MISC EQUIPMT	0.80	0.80
	235	235
	<b>\$13</b>	<b>\$13</b>
SPACE COOL	0.90	1.10
	267	321
	<b>\$14</b>	<b>\$17</b>
SPACE HEAT	0.00	0.00
	5	6
	<b>\$0</b>	<b>\$0</b>
VENT FANS	0.70	1.00
	202	288
	<b>\$11</b>	<b>\$15</b>



Credits Applied: None

Passing Criteria = 46

Design (including any credits) = 42

Passing requires Proposed Building cost to be at most 85% of Baseline cost. This Proposed Building is at 78.1%

**PASSES**

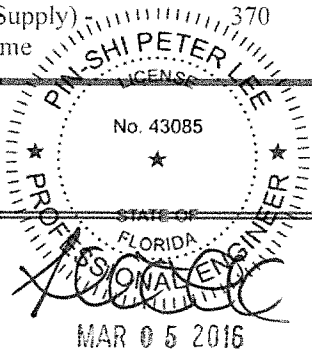
External Lighting Compliance						
Description	Category	Tradable?	Allowance (W/Unit)	Area or Length or No. of Units (Sqft or ft)	ELPA (W)	CLP (W)
						None

Project: MFI-6288-RR  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

Lighting Controls Compliance						
Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compliance
Pr0Zo1Sp1	16	Office - Open Plan	53	1	1	PASSES
						PASSES

Project: MFI-6288-RR  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

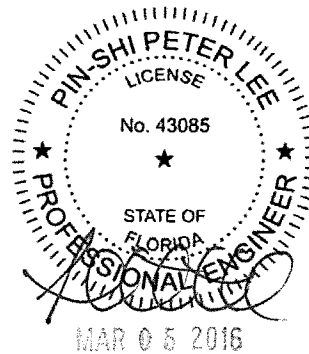
System Report Compliance							
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Compliance
AZ61H12D	System 1						
				Through the wall AirConditioner Single Package			No. of Units 1
Cooling System	Air Conditioners Thru the Wall A/C < 30,000 Btu/h Single Package	11800	12.10	12.00			PASSES
Heating System	Heat Pumps Thru the Wall HP (Heating Mode) < 30,000 Btu/h Single Pkg	10600	12.63	7.40			PASSES
Air Handling System -Supply	Air Handler (Supply) - Constant Volume	370	0.80	0.82			PASSES
						PASSES	



Plant Compliance								
Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance
								None

Water Heater Compliance								
Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance	
								None

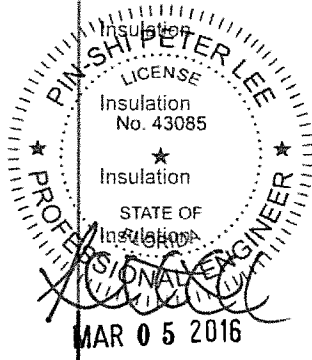
Piping System Compliance								
Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance	
								None



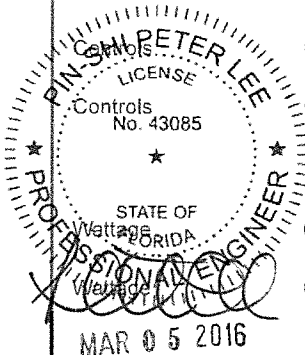
# Mandatory Requirements (as applicable)

Mandatory requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted with permission

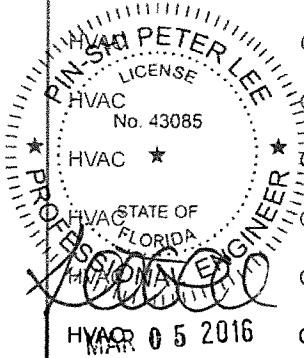
Topic	Section	Component	Description	Yes	N/A	Ex
<b>To be checked during Construction</b>						
Air Leakage	C402.4.1,C402.4.2	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.3,C402.4.4	Envelope	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.7	Envelope	Vestibules are installed on all building entrances. Doors have self-closing devices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.1.1	Envelope	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.6	Envelope	Weatherseals installed on all loading dock cargo doors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.8	Envelope	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products rated in accordance with NFRC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products are certified as to performance labels or certificates provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C402.2.7	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Below-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Slab edge insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.6	Envelope	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C403.2.7,C408.2.8,C	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.4.2.1	Envelope	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1.1	Envelope	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75, 3-year-aged solar reflectance index >= 64.0, initial year solar reflectance >= 0.70 and thermal emittance >= 0.75, or initial year solar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Above-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Floor insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Insulation	C303.2.1	Envelope	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.4	Exterior Lighting	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6	Exterior Lighting	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6.2	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.1	Interior Lighting	Automatic controls to shut off all building lighting installed in all buildings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.1	Interior Lighting	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.2	Interior Lighting	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Daylight zones provided with individual controls that control the lights independent of general area lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.2	Interior Lighting	Occupancy sensors installed in required spaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Primary sidelighted areas are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.3	Interior Lighting	Fluorescent luminaires within odd numbered lamp configurations that are with 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.4	Interior Lighting	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.2.3	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.5.2	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.5	Mechanical	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.3	Mechanical	HVAC equipment efficiency verified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.5.1	Envelope	Stair and elevator shaft vents have motorized dampers that automatically close.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.5.2	Envelope	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.5.1	Mechanical	Demand control ventilation provided for spaces >500 ft <sup>2</sup> and >25 people/1000 ft <sup>2</sup> occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

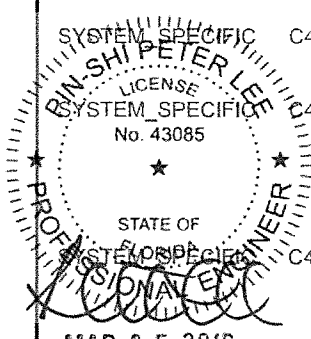


HVAC	C403.2.8.1	Mechanical	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.8	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	Ducts and plenums sealed based on static pressure and location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C408.2.2.1	Mechanical	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.6	Mechanical	Exhaust air energy recovery on systems meeting Table C403.2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.11	Mechanical	Unenclosed spaces that are heated use only radiant heat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Temperature controls installed on service water heating systems (110 °F for dwelling units and lavatories in public restrooms and 90 °F for other occupancies.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.4	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Heat traps installed on non-circulating storage water tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only as per Footnote b to Table C403.2.3(3).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan $\geq$ 7.5 hp are driven by mechanical or electrical variable speed drive, or driven by vane-axial with variable speed blades, or operate with motor demand $\leq$ 30% design kW at 50% design flow - calculations required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.8	Mechanical	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.7.1.3	Mechanical	Ductwork operating $>$ 3 in. water column requires air leakage testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.3.1.1	Mechanical	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.4.1	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.1.4	Mechanical	Economizer operation will not increase heating energy use during normal operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5	Mechanical	Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

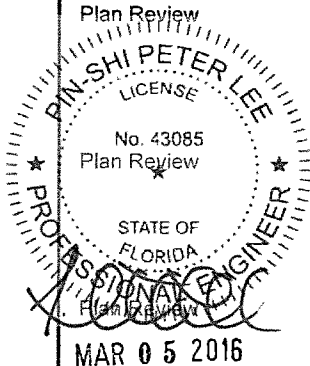




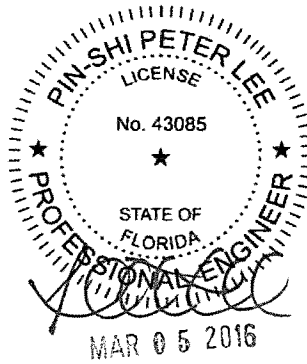
SYSTEM_SPECIFIC	C403.4.3.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband $\geq 15$ °F, allow operation in one mode for at least 4 hrs before changeover, and have rest controls to limit heating and cooling supply temperature to $\leq 30$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.1	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C408.2.2.2	Mechanical	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.2	Mechanical	HVAC fan motors not larger than allowable limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan motors $\geq 7.5$ hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.1	Mechanical	VAV fans have static pressure sensors positioned so setpoint $\leq 1/3$ total design pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.2	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5.4	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Hydronic systems greater than 300,000 Btu/h designed for variable fluid flow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.5	Mechanical	Reduce flow in pumping systems $> 10$ hp to multiple chillers or boilers when others are shut down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Temperature reset by representative building loads in pumping systems for chiller and boiler systems $> 300,000$ Btu/h.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.3	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system $> 10$ hp is off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.4	Mechanical	Fan systems with motors $\geq 7.5$ hp associated with heat rejection equipment to have capability to operate at $2/3$ of full-speed and auto speed controls to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.6	Mechanical	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject $> 6$ MMBtu, SHW load $\geq 1$ MMBtu.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.7	Mechanical	Hot gas bypass limited to: $\leq 240$ kBtu/h – 50% $> 240$ kBtu/h – 25%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Service water heating equipment meets efficiency requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.2	Mechanical	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.3.3	Mechanical	Systems include optimum start controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.1.1	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Public lavatory faucet water temperature $\leq 110$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	All piping in circulating system insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	First 8 ft of outlet piping is insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

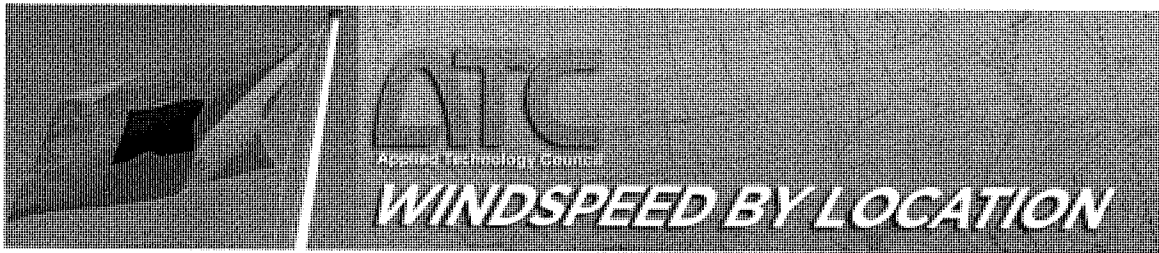


SYSTEM_SPECIFIC	C404.5	Mechanical	All heat traced or externally heated piping insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.6	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.3	Mechanical	Vapor retardant pool covers are provided for heated pools and permanently installed spas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.2	Mechanical	Time switches are installed on all pool heaters and pumps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity $\geq$ 1100 gpm meets minimum efficiency requirement: $\geq$ 38.2 gpm/hp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing	C408.2.3.2	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mandatory Additional	C406	Project	Efficient HVAC performance, efficient lighting system, or on-site supply of renewable energy consistent with what is shown the approved plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.8	Project	Bottom surface of floor structures incorporating radiant heating insulated to $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked during Plan Review</b>						
Plan Review	C103.2	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Interior Lighting	Information provided should Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Information provided should Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering st	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C406	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C402.3.2.2	Envelope	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value $>$ 90 percent unless designed to exclude direct sunlight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked Post Construction Prior to Issuance of Certificate of Occupancy</b>						
Post Construction	C408.3	Exterior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Interior Lighting	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



Post Construction	C303.3,C408.2.5.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.3	Interior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C303.3,C408.2.5.2	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.1	Mechanical	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.4	Mechanical	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.4	Mechanical	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.1	Mechanical	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.3	Mechanical	Economizers have been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>





[ASCE 7 Windspeed](#)  
 [ASCE 7 Ground Snow Load](#)  
 [Related Resources](#)  
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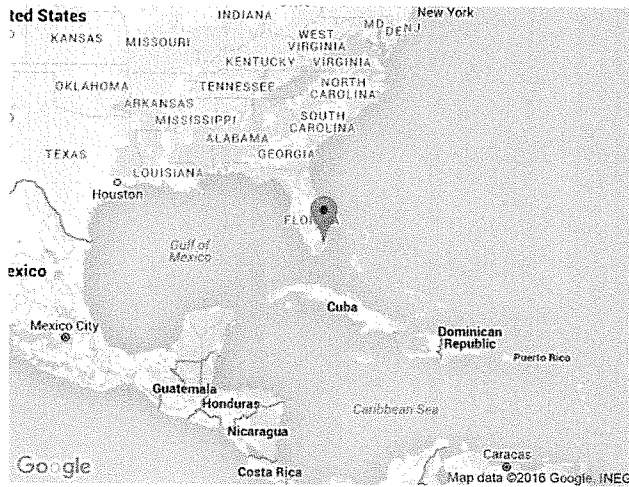
## Search Results

**Query Date:** Sat Mar 12 2016  
**Latitude:** 25.8036  
**Longitude:** -80.3185

**ASCE 7-10 Windspeeds**  
 (3-sec peak gust in mph\*):


**Risk Category I:** 154  
**Risk Category II:** 166  
**Risk Category III-IV:** 178  
**MRI\*\* 10-Year:** 89  
**MRI\*\* 25-Year:** 112  
**MRI\*\* 50-Year:** 127  
**MRI\*\* 100-Year:** 138

**ASCE 7-05 Windspeed:**  
 141 (3-sec peak gust in mph)  
**ASCE 7-93 Windspeed:**  
 110 (fastest mile in mph)



\*Miles per hour  
 \*\*Mean Recurrence Interval

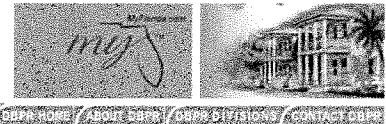
Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.

 [Print your results](#)

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[Product Approval Menu](#) > [Product or Application Search](#) > [Application List](#) > [Application Detail](#)



FL #	FL7561-R3
Application Type	Revision
Code Version	2014
Application Status	Approved
Comments	
Archived	<input type="checkbox"/>
Product Manufacturer	Elite Aluminum Corporation
Address/Phone/Email	4650 Lyons Technology Parkway Coconut Creek, FL 33073 (954) 949-3200 dk@dokimengineering.net
Authorized Signature	Do Kim dk@dokimengineering.net
Technical Representative	Dan Cooke
Address/Phone/Email	1801 NW 64th Street Ft. Lauderdale, FL 33309 (954) 491-3700 elitealum@aol.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Products Introduced as a Result of New Technology
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input checked="" type="checkbox"/> Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Do Kim, P.E.
Florida License	PE-49497
Quality Assurance Entity	Quality Auditing-Institute Ltd.
Quality Assurance Contract Expiration Date	11/30/2020
Validated By	James L. Buckner, P.E. at CBUCK Engineering <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received
Certificate of Independence	<a href="#">FL7561_R3_COI_Cert of Independence.pdf</a>
Referenced Standard and Year (of Standard)	
Equivalence of Product Standards Certified By	
Sections from the Code	1709.2

Product Approval Method Method 2 Option B

Date Submitted 04/30/2015  
 Date Validated 05/01/2015  
 Date Pending FBC Approval 05/10/2015  
 Date Approved 06/23/2015

**Summary of Products**

FL #	Model, Number or Name	Description
7561.1	Aluminum/Aluminum Composite Panels	3"/4"/6"x0.024"x1lb EPS Composite Panel, 3"/4"/6"x0.032x1lb EPS Composite Panel, 3"/4"/6"x0.024"x2lb EPS Composite Panel, 3"/4"/6"x0.030"x2lb EPS Composite Panel,
<b>Limits of Use</b> <b>Approved for use in HVHZ:</b> Yes <b>Approved for use outside HVHZ:</b> Yes <b>Impact Resistant:</b> No <b>Design Pressure:</b> +80/-80 <b>Other:</b> In HVHZ, not to be used in structures considered living areas per FBC Section 1616 unless impact protection is provided. See installation drawing for nominal allowable design pressures and spans.		<b>Installation Instructions</b> <a href="#">FL7561_R3_II_Elite_FL7561-R3_2014_FBC_Installation_Dwg.pdf</a> Verified By: Do Kim, P.E. PE 49497 Created by Independent Third Party: Yes <b>Evaluation Reports</b> <a href="#">FL7561_R3_AE_Elite_Alum_FL7561-R3_2014_FBC_Evaluation.pdf</a> Created by Independent Third Party: Yes

[Back](#) [Next](#)

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**Product Approval Accepts:**





DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

**NOTICE OF ACCEPTANCE (NOA)**

**Tremco, Inc.**  
**3735 Green Road**  
**Beachwood, OH 44212**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: Solargard® Elastomeric 6083 Maintenance Coating System**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA# 08-0827.24 and consists of pages 1 through 9.  
The submitted documentation was reviewed by Alex Tigera.



NOA No.: 13-1022.10  
Expiration Date: 12/11/18  
Approval Date: 03/06/14  
Page 1 of 9

**ROOFING COMPONENT APPROVAL**

**Category:** Roofing  
**Sub-Category:** Cement-Adhesive-Coatings  
**Materials:** Elastomeric

**SCOPE:**

This approves “Solargard® Elastomeric 6083 Maintenance Coating System” as a maintenance roof coating as manufactured by Tremco, Inc., as described in this Notice of Acceptance, designed to comply with the Florida Building Code.

**PRODUCT DESCRIPTION**

<u>Manufactured by Applicant</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Solargard® Elastomeric 6083 Maintenance Coating <i>(Manuf. Loc. #1)</i>	1, 5 or 53 gal.	TAS 114	Liquid-applied, elastomeric roofing material.
Solargard Rust Primer WB <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Quick drying, asbestos free, water-based primer for smooth or granular surface asphalt and modified bitumen roofs.
Solargard Seam Sealer <i>(Manuf. Loc. #2)</i>	2 or 5 gal.	Proprietary	White, single component, high solids moisture curing, polyurethane sealer used for waterproofing a variety of roofing substrates.
Solargard Acrylic Sealer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	High solids, acrylic elastomeric sealer used on a variety of roofing and wall substrates.
Tremprime WB <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Water-based primer used for smooth or granular surface asphalt and modified bitumen roofs.
Solargard Masonry Primer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Acrylic Primer bonds to brick, stone, concrete, plaster, stucco and other cementitious surfaces.
SP Primer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Water-based, acrylic primer used on various base surfaces.

**MANUFACTURING LOCATION**

1. Medina, OH
2. Cleveland, OH





**EVIDENCE SUBMITTED**

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Momentum Technologies, Inc.	EX08G4A	ASTM D6083	09/08/04
Trinity ERD	R10940.08.08	Adhesion Performance PA 114, Appendix H	08/07/08

**BUILDING PERMIT REQUIREMENTS:**

Application for building permit shall be accompanied by copies of the following:

1. This Notice of Acceptance.
2. Any other documents required by the Building Official or the Applicable Building Code in order to properly evaluate the installation of this system.

**PHYSICAL PROPERTIES OF COMPONENTS**

**Trade name:** Solargard® Elastomeric 6083 Maintenance Coating  
**Thickness:** See Systems Approvals below.  
**Specifications:** ASTM D 6083  
**Description:** Coating system used for waterproofing and weatherproofing roofs.  
**Container Size:** 1, 5, or 53 gallons. Note all cautions on container label.  
**Systems Approvals:** Methods of application and quantities shall comply with specific Roof Assembly, Product Control Notice of Acceptance.



## APPROVED MAINTENANCE COATING APPLICATION:

- Substrate:** Coated Metal
- Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. Check for adhesion and compatibility of any remaining, tightly adhered, existing coating with Solargard. All surface preparation, and repairs, shall be in compliance with the Solargard's published application instructions and current Miami-Dade Notice of Acceptance.
- Primer:** Solargard Rust Primer WB at approximately 200 ft<sup>2</sup>/gal
- Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.
- Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1 gal./100 ft<sup>2</sup> (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed. On metal roofs with irregular panel and rib design, multiply feet by 1.15 to calculate actual surface area to be coated.
- Top Coat:** Finish Coat as described above in the "Foundation Coating" section is to be applied at 1 gal./100 ft<sup>2</sup>
- 
- Substrate:** Galvanized Metal
- Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard's published application instructions and current Miami-Dade Notice of Acceptance.
- Primer:** Solargard Rust Primer WB at approximately 200 ft<sup>2</sup>/gal
- Surface Treatment:** New galvanized panels must be weathered a minimum of six months or treated with a phosphoric acid wash to remove factory oil film. The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.
- Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1 gal./100 sq. ft. (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed. On metal roofs with irregular panel and rib design, multiply feet by 1.15 to calculate actual surface area to be coated.
- Top Coat:** Finish Coat as described above in the "Foundation Coating" section is to be applied at 1 gal./100 ft<sup>2</sup>



**Substrate:** Concrete

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer or Solargard Masonry Primer at the rate of 200ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1-1/2 gal./100 sq. ft. (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** Smooth BUR

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200 – 400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats over a prepared, and primed, roof at the rate of 1 ½ gal./100 ft<sup>2</sup> (24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 3 gal. /100 ft<sup>2</sup>.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>



**Substrate:** Smooth Modified Bitumen

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200 – 400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats over a prepared, and primed, roof at the rate of 1 ½ gal./100 ft<sup>2</sup> (24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 3 gal. /100 ft<sup>2</sup>.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** PVC

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>



**Substrate:** TPO

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** EPDM

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>



**Substrate:** Granule Surfaced Modified Bitumen

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200–400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** Existing acrylic (water-based) coatings

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** If required by project, *Solargard Rust Primer WB* at approximately 200 ft<sup>2</sup>/gal or *SP Primer* at a rate of 200-300 ft<sup>2</sup>/gal, or *Tremprime WB Primer* at a rate of 200-400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>



**LIMITATIONS:**

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire rating of this product.
2. All products shall be applied in strict compliance with Manufacturer's published application instructions.
3. Tremco products shall not be applied in inclement weather conditions.
4. Tremco shall not be covered with stone chips, screeds, tiles or soil.
5. Tremco shall not be applied over existing gravel surfaces.
6. Approved primer is required on all unprotected iron and steel and previously painted surfaces.
7. The products listed herein are components of roof assemblies and are approved for use with roof assemblies that list any of the products listed herein as part of their roof assemblies Notice of Acceptance.
8. All products listed herein shall have an unannounced follow-up quality control program from an approved listing agency. Follow up test results shall be made available to Product Control upon request.
9. All approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below..



10. Change in materials, use, or manufacture of any of the products listed herein shall be cause for termination of this Notice of Acceptance
11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.
12. The use of a reinforcing fabric in a maintenance coating is only to enhance the coatings ability to deliver efficient and long term performance through the protection of the underlying roof system and in this particular use does not become a roof system itself.

**END OF THIS ACCEPTANCE**





**MIAMI-DADE COUNTY**  
 BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT (BNC)  
 BOARD AND CODE ADMINISTRATION DIVISION

**MIAMI-DADE COUNTY**  
**PRODUCT CONTROL SECTION**  
 11805 SW 26 Street, Room 208  
 Miami, Florida 33175-2474  
 T (786) 315-2590 F (786) 315-2599

**NOTICE OF ACCEPTANCE (NOA)**

[www.miamidade.gov/building](http://www.miamidade.gov/building)

**Reliable Products**

1300 Enterprise Rd. (P.O. Box 580)  
 Geneva, AL 36340

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County BNC - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BNC reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Model AEL-42D-7060 Aluminum Louver**

**APPROVAL DOCUMENT:** Drawing No. 03S358-1N to 3N, titled "Dade County Universal Louver for PTAC Application", sheets 1 through 3 of 3, prepared by Reliable Products, dated 12/23/03, with last revision dated 09/01/05, signed and sealed by Edward P. Hutson, P.E., bearing the Miami-Dade County Product Control renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA **renews NOA # 05-0412.01** and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



*Handwritten signature and date: 09/12/11*

NOA No. 11-0726.03  
 Expiration Date: September 22, 2016  
 Approval Date: September 22, 2011  
 Page 1



Reliable Products

**NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED**

**A. DRAWINGS**

1. Drawing No. 03S358-1N to 3N, titled "Dade County Universal Louver for PTAC Application", sheets 1 through 3 of 3, prepared by Reliable Products, dated 12/23/03, with last revision dated 09/01/05, signed and sealed by Edward P. Hutson, Jr., P.E.

**B. TESTS "Submitted under NOA # 05-0412.01"**

1. Test report on Large Missile Impact Test per TAS 201, Test, Cyclic Wind Pressure Test per TAS 203, Test and Uniform Static Air Pressure Test per TAS 202 of "AEL-420-7060 Aluminum Louvers", prepared by Fenestration Testing Laboratory, Inc, laboratory No 4439, dated 01/07/05, signed and sealed by E. J. Largaespada, P.E.
2. Clarification letter issued by Fenestration Testing Laboratory, Inc, on 09/08/05, signed by R. Robleto.
3. Test report on Tensile Test per ASTM B5577 of Aluminum Flat Reduced Section, prepared by Fenestration Testing Laboratory, Inc on 03/14/05, signed and sealed by E. J. Largaespada, P.E.

**C. CALCULATIONS "Submitted under NOA # 05-0412.01"**

1. Anchor Calculations prepared by Ruskin Engineering, pages 1 to 8, signed and sealed by Edward P. Hutson, Jr., P.E. on 07/01/05.

**D. QUALITY ASSURANCE**

1. Miami-Dade Building and Neighborhood Compliance Department (BNC)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to FBC 2007, issued by Ruskin Architectural Products, dated 07/20/11, signed and sealed by Daniel J. Rau, P.E.

**"Submitted under NOA # 05-0412.01"**

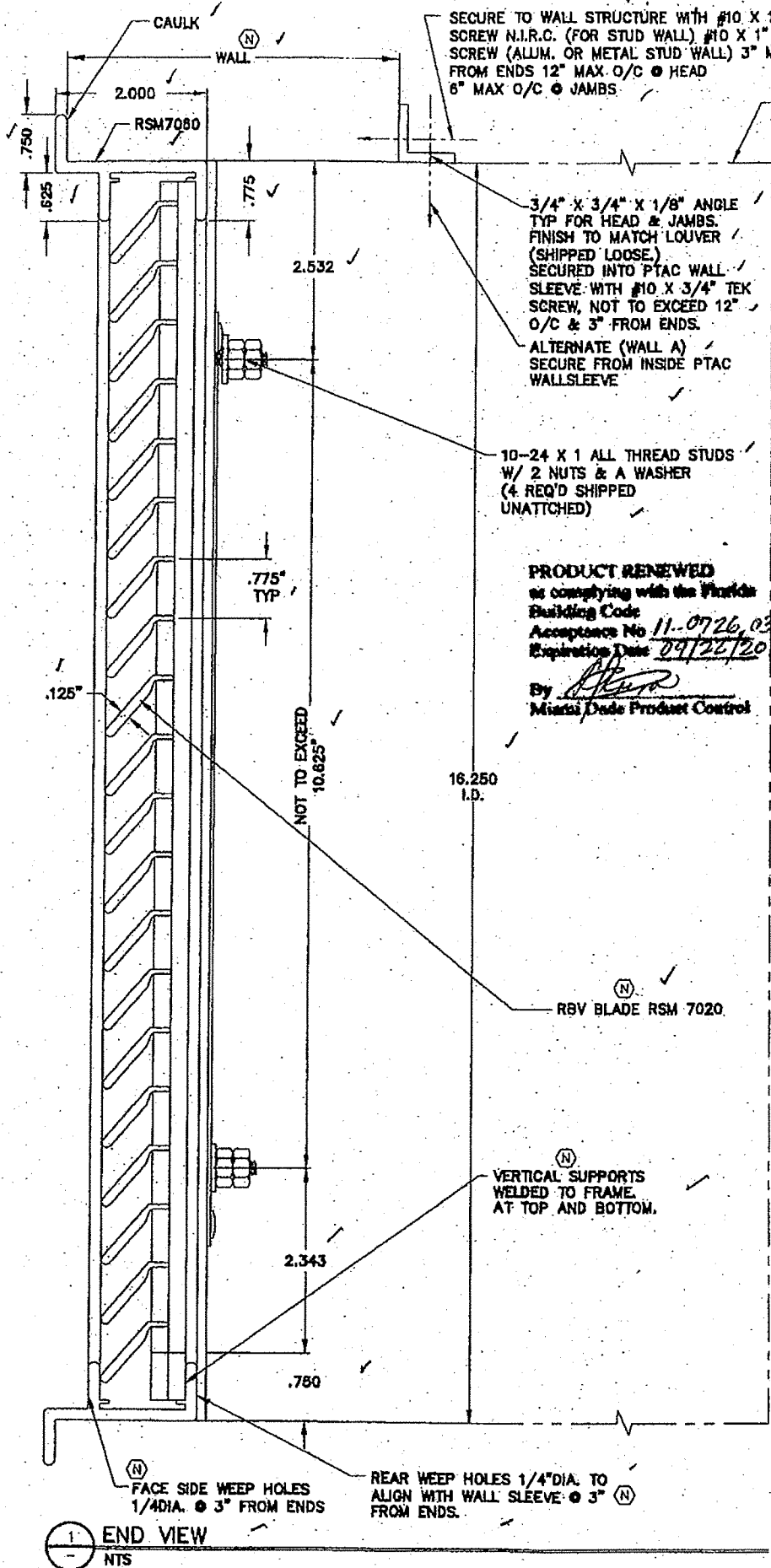
2. Test compliance letter issued by Fenestration Testing Laboratory Inc, on 09/27/05, signed by E. J. Largaespada, P.E.
3. No interest letter issued by Norton & Schmidt on 08/01/05, signed and sealed by Edward P. Hutson, Jr., PE.



09/12/11

Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 11-0726.03

Expiration Date: September 22, 2016  
Approval Date: September 22, 2011



SECURE TO WALL STRUCTURE WITH #10 X 1.5" WOOD SCREW N.I.R.C. (FOR STUD WALL) #10 X 1" TEK SCREW (ALUM. OR METAL STUD WALL) 3" MAX FROM ENDS 12" MAX O/C @ HEAD 6" MAX O/C @ JAMBS.

42" X 16" X 13 3/4" WALL SLEEVE MATERIAL .049" OR 20 GA. THICKNESS N.I.R.C.

3/4" X 3/4" X 1/8" ANGLE TYP FOR HEAD & JAMBS. FINISH TO MATCH LOUVER (SHIPPED LOOSE.) SECURED INTO PTAC WALL SLEEVE WITH #10 X 3/4" TEK SCREW, NOT TO EXCEED 12" O/C & 3" FROM ENDS. ALTERNATE (WALL A) SECURE FROM INSIDE PTAC WALLSLEEVE.

10-24 X 1 ALL THREAD STUDS W/ 2 NUTS & A WASHER (4 REQ'D SHIPPED UNATTACHED)

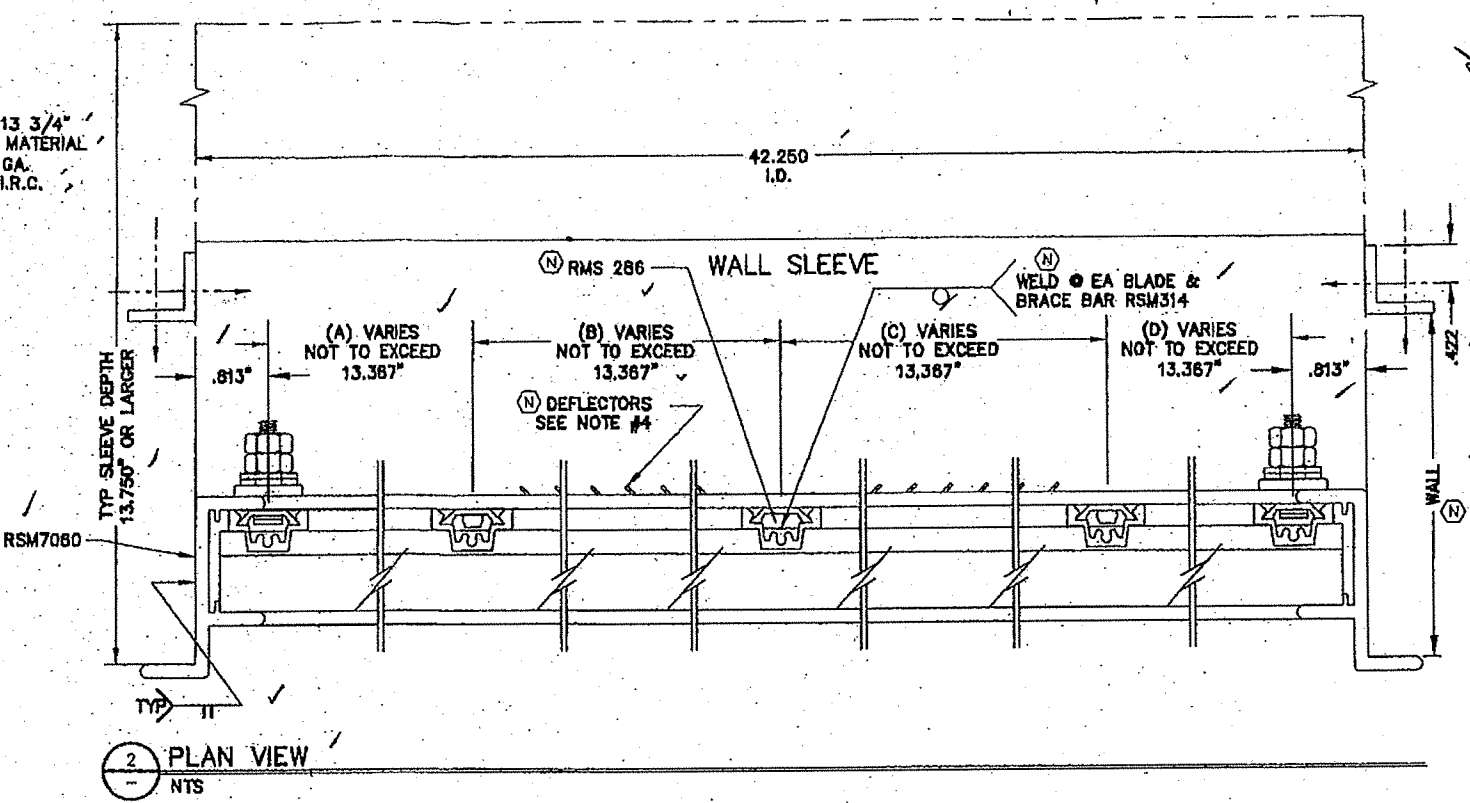
PRODUCT RENEWED as complying with the Florida Building Code Acceptance No 11-0726, 03 Expiration Date 09/22/2016 By *[Signature]* Miami Dade Product Control

VERTICAL SUPPORTS WELDED TO FRAME AT TOP AND BOTTOM.

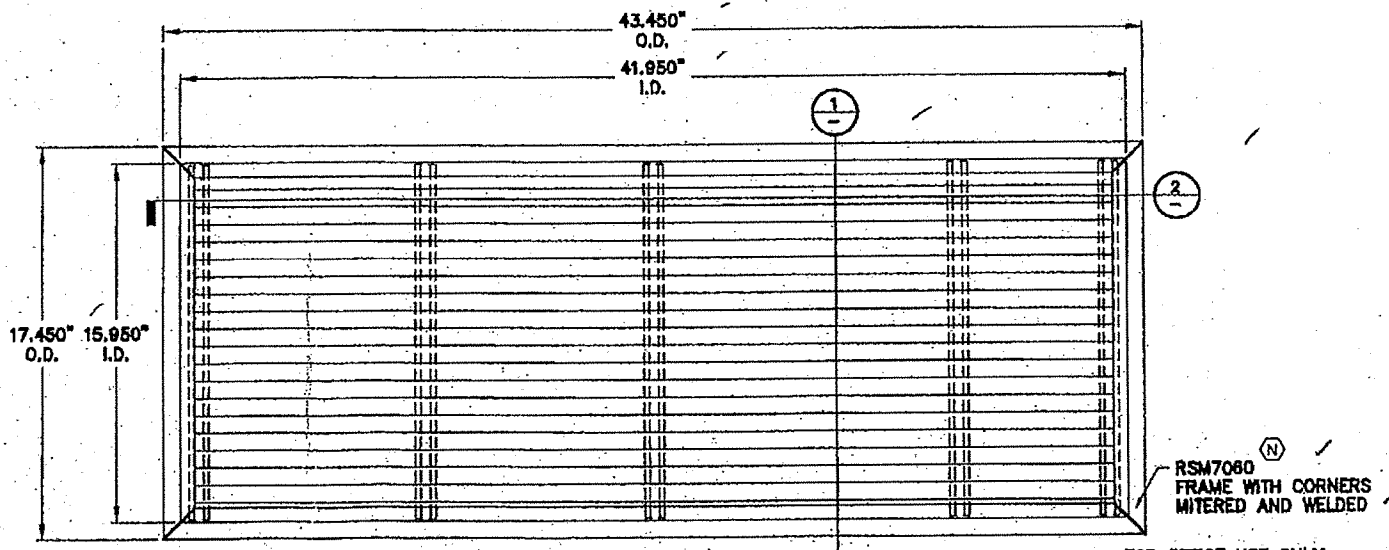
FACE SIDE WEEP HOLES 1/4" DIA. @ 3" FROM ENDS

REAR WEEP HOLES 1/4" DIA TO ALIGN WITH WALL SLEEVE @ 3" FROM ENDS.

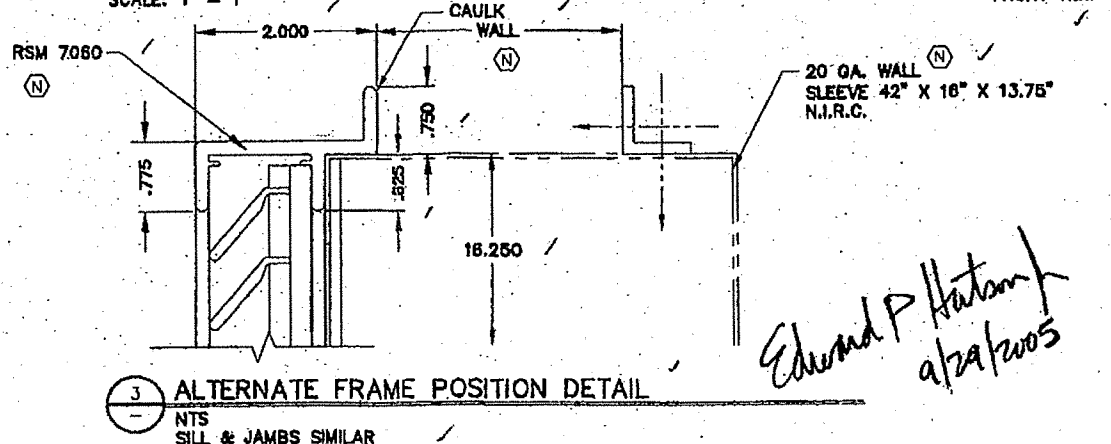
1 END VIEW NTS



2 PLAN VIEW NTS



ASSEMBLY "A" SCALE: 1" = 1"



3 ALTERNATE FRAME POSITION DETAIL NTS SILL & JAMBS SIMILAR

*Edward P. Hutson Jr*  
1/29/2005

Approved as complying with the Florida Building Code Date 02/16/03 By *[Signature]* Miami Dade Product Control Division

ENGINEER OF RECORD: EDWARD PAUL HUTSON JR. ENGINEERING DISCIPLINE: STRUCTURAL ENGINEER REGISTRATION #: STATE OF FLORIDA # 0052339

REV.	DATE	DESCRIPTION
9/1/03	WS	R.C.
12/15/04	WS	T.R.K.
08/31/04	WS	GR
08/05/04	WS	GR
06/14/04	CS	GR
05/12/04	CS	GR
04/26/04	NS	NNM
03/30/04	NS	NNM
02/09/04	NS	NNM
02/26/04	NS	NNM
02/09/04	NS	NNM
	DWN	CHK'D BY
	DATE	

**RELIABLE**

PRODUCTS  
1300 Enterprise Road ARCH/MECH LOUVERS  
Owens, Alabama 38340 REGISTERS  
PHONE (334) 684-3821 GRILLES  
FAX (334) 684-3120 DIFFUSERS

I THE UNDERSIGNED AM THE RESPONSIBLE INDIVIDUAL FOR VERIFYING CONDITIONS AND ROUGH OPENING MEASUREMENTS OF THIS CONTRACT.  
BY MY SIGNATURE BELOW I DENOTE THAT I HAVE VERIFIED ALL FIELD CONDITIONS AND GUARANTEE THE ROUGH OPENING SIZES AND AUTHORIZE THE FABRICATION OF THE COMPONENTS CONTAINED IN ALL THE DOCUMENTS RELATIVE TO THIS PURCHASE ORDER.

NAME \_\_\_\_\_  
AUTHORIZED SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
NAME OF ORGANIZATION \_\_\_\_\_  
CUSTOMER NAME \_\_\_\_\_

JOB NAME  
DADE COUNTY UNIVERSAL LOUVER FOR PTAC APPLICATION

PO# DADE CO TEST PROP# N/A  
FINISH MILL  
SHEET TITLE

AEL-42D-7080  
AEL-42 W/ FRM/LVR & ANGLE

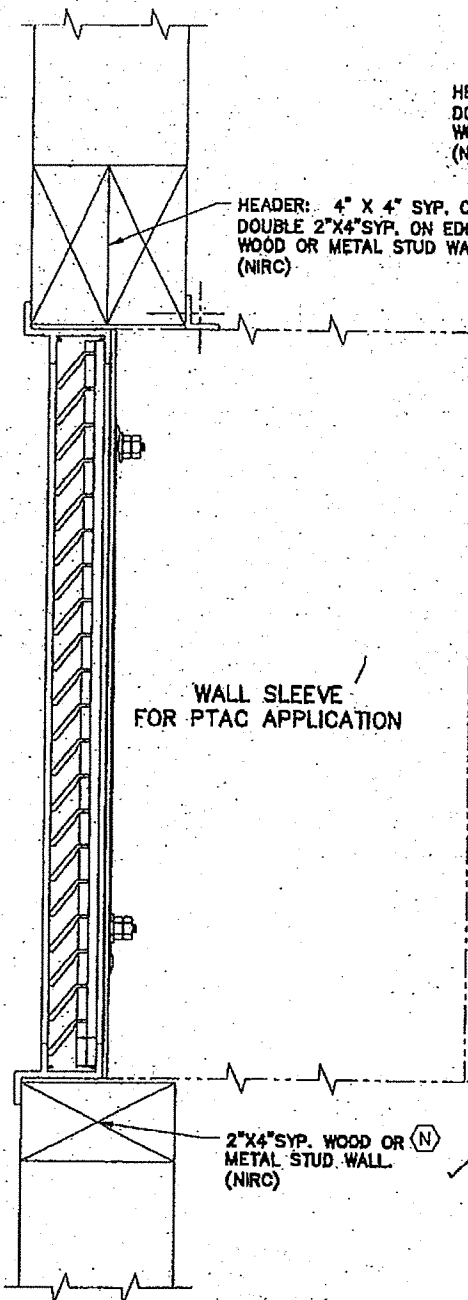
DRAWN BY JULIE DAVIS DATE 12/23/03

REVIEWED BY WENDELL SIMMONS DATE 12/23/03

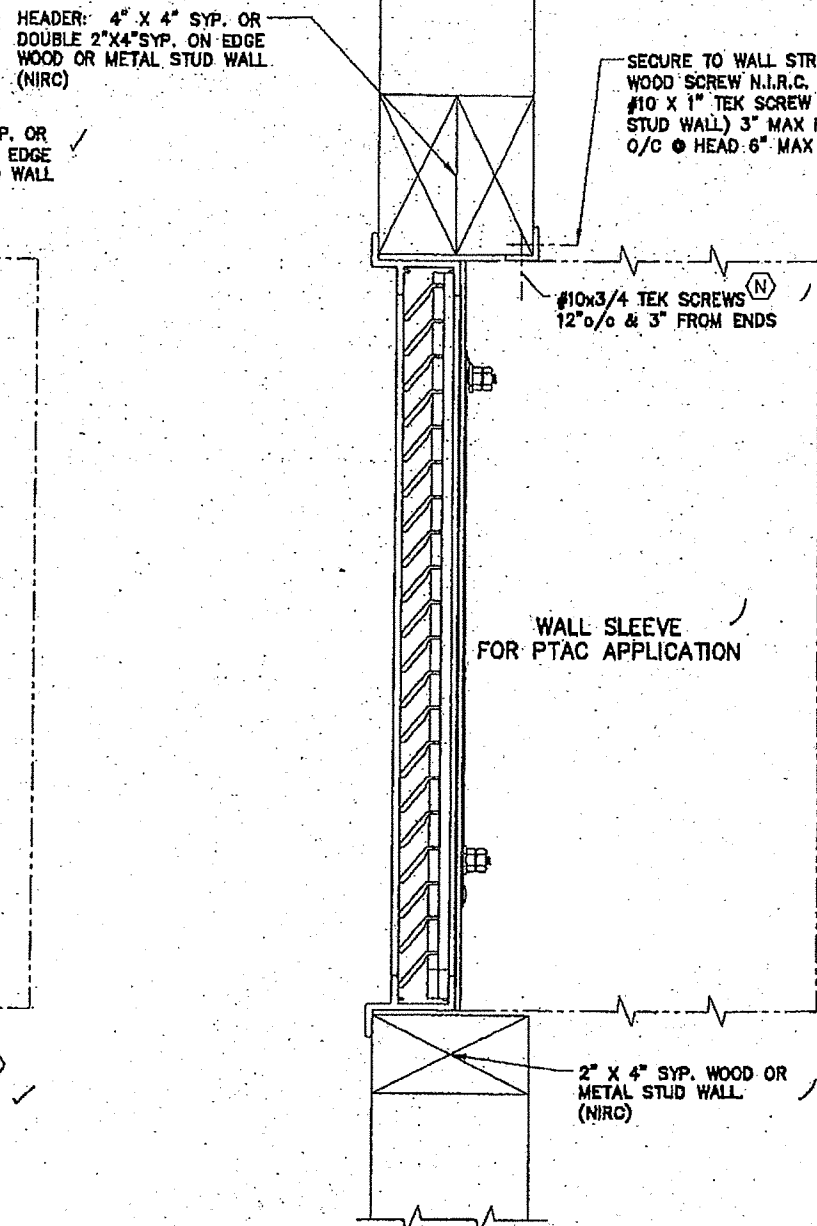
MANUFACTURING REVIEW DATE

ENGINEER REVIEW DATE

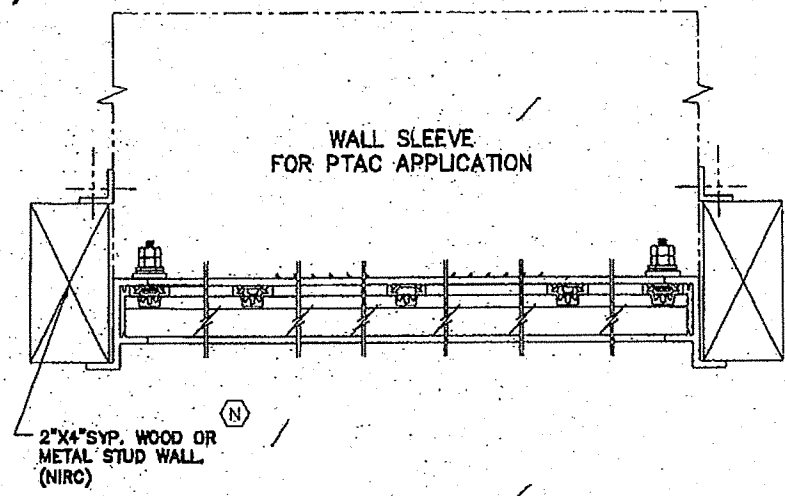
CUSTOMER REP. JIMMY HICKS REVIEW DATE  
DRAWING NUMBER 03S358-1N SHEET 1 OF 3



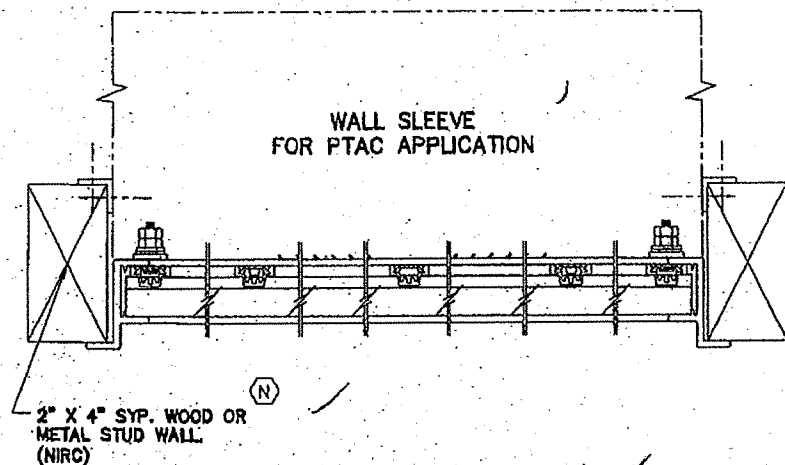
1 INSTALLATION END VIEW  
NTS



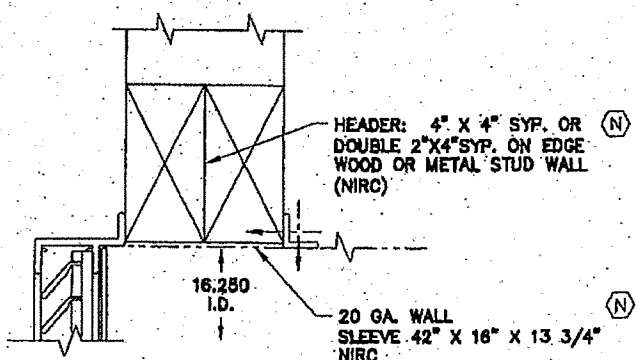
2 INSTALLATION END VIEW (ALT.)  
NTS



3 INSTALLATION SECTION DETAIL  
NTS



4 INSTALLATION SECTION DETAIL (ALT.)  
NTS



5 INSTALLATION ALTERNATE FRAME POSITION DETAIL  
NTS  
SILL & JAMBS SIMILAR

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 11-0726.03  
Expiration Date 02/22/2016  
By: *[Signature]*  
Miami Dade Product Control

*Edward P. Hutson Jr.*  
12/29/2005

FOR OFFICE USE ONLY  
Approved as complying with the  
Florida Building Code  
Date: 02/16/05  
P.S. No. 0570412.01  
Miami Dade Product Control  
Division

ENGINEER OF RECORD:	ENGINEER	REVIEW	DATE
EDWARD PAUL HUTSON JR.			
ENGINEERING DISCIPLINE:	CUSTOMER REP.	REVIEW	DATE
STRUCTURAL ENGINEER	JIMMY HICKS		
REGISTRATION #:	DRAWING NUMBER	SHEET	OF
STATE OF FLORIDA # 0052339	03S358-2N	2	3

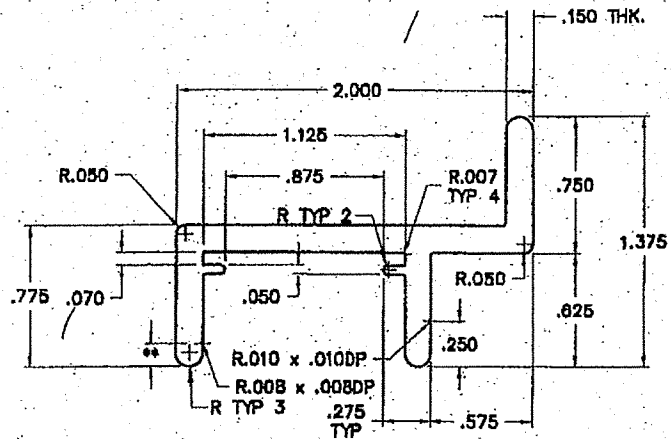
REV.	DATE	BY	DESCRIPTION
9/01/05		WS	
12/10/04		T.R.K.	
06/31/04		CR	ADDED ALTERNATE FRAME POSITION, CORRECTED BARFLE
08/05/04		CR	MOVED WELD SYM. TO PLAN VIEW, CHANGE DIM. END VIEW
06/14/04		CS	REV. NOTES ADDED MATERIAL THICKNESS DIM
05/12/04		CR	REV. STUD I.D. MOUNTING SCREW I.D. FOR METAL OR WOOD STUD
04/26/04		NNH	REV. FRAME REMOVED WINDOW WALL TREATMENT, ADDED FRAME DETAILS ON SHEET 3
03/30/04		NNH	REV. DIRECTION OF FRAME MOUNTING TO W/ SAME DIRECTION OF FRAMES ON SHEET 1 & 2
03/04/04		NNH	REV. NOTES & ADDED MOUNTING DIRECTIONS ON VIEWS ON SHEET 1
02/26/04		NNH	ADDED NOTES & REV. NOTES & DETAILS
02/16/04		NNH	REMOVED SHEET 2B, REVISED DETAILS AND ADDED PTAC CABINET
		DWN	CHK'D
		BY	DATE

**RELIABLE**  
PRODUCTS  
1300 Enterprise Road ARCH/MECH LOUVERS  
Geneva, Alabama 36340 REGISTERED  
PHONE (334) 684-3821 GRILLES  
FAX (334) 684-3120 DIFFUSERS

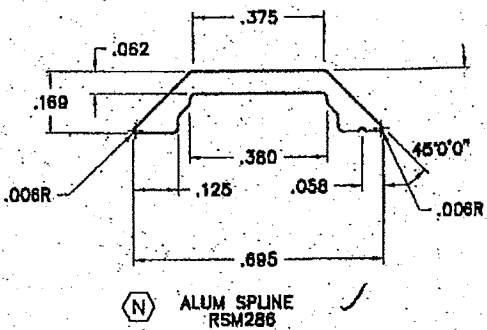
I, THE UNDERSIGNED, AM THE RESPONSIBLE INDIVIDUAL FOR VERIFYING CONDITIONS AND ROUGH OPENING MEASUREMENTS OF THIS CONTRACT.  
BY MY SIGNATURE BELOW I DENOTE THAT I HAVE VERIFIED ALL FIELD CONDITIONS AND GUARANTEE THE ROUGH OPENING SIZES, AND AUTHORIZE THE FABRICATION OF THE COMPONENTS CONTAINED IN ALL THE DOCUMENTS RELATIVE TO THIS PURCHASE ORDER.

NAME \_\_\_\_\_  
AUTHORIZED SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
NAME OF ORGANIZATION \_\_\_\_\_  
CUSTOMER NAME \_\_\_\_\_

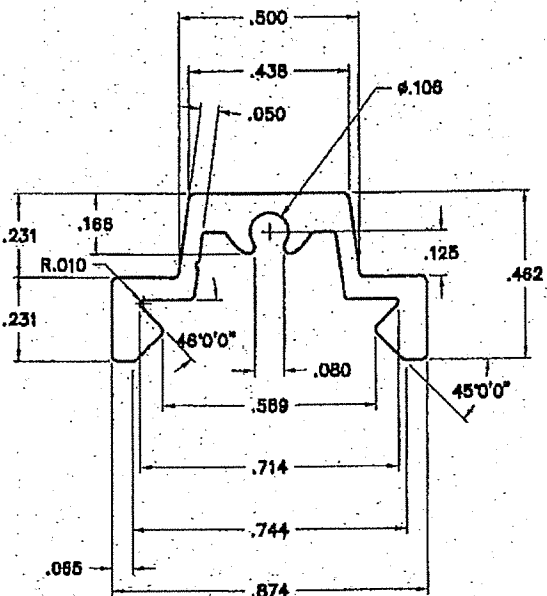
JOB NAME		DADE COUNTY UNIVERSAL LOUVER FOR PTAC APPLICATION	
PO#	PROP#		
DADE CO TEST	N/A		
FINISH MILL			
SHEET TITLE		AEL-42D-7060 TYPICAL WALL APPLICATION	
DRAWN BY	DATE		
JULIE DAVIS	12/23/03		
REVIEWED BY	DATE		
WENDELL SIMMONS	12/23/03		
MANUFACTURING	REVIEW	DATE	
ENGINEER OF RECORD:	ENGINEER	REVIEW	DATE
EDWARD PAUL HUTSON JR.			
ENGINEERING DISCIPLINE:	CUSTOMER REP.	REVIEW	DATE
STRUCTURAL ENGINEER	JIMMY HICKS		
REGISTRATION #:	DRAWING NUMBER	SHEET	OF
STATE OF FLORIDA # 0052339	03S358-2N	2	3



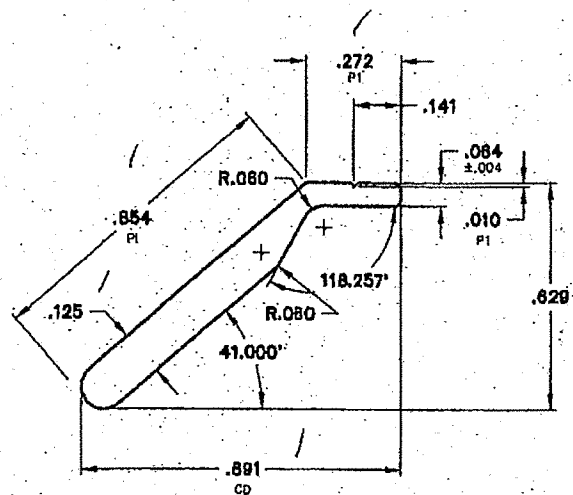
3  
1  
N FRAME DETAIL -7060  
NTS  
SAMPLE PARTS  
BUILD DIE & ORDER (10 PCS)  
ALUM. AEL FRAME RSM7060



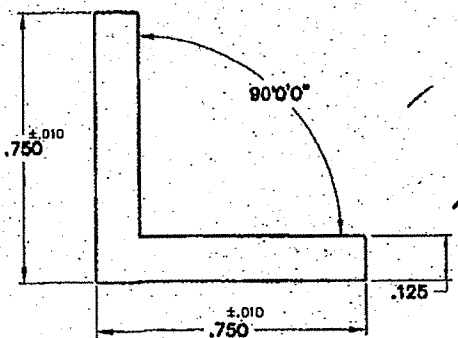
N ALUM SPLINE  
RSM286



N ALUM BRACE BAR  
RSM314



N ALUM RBV BLADE  
RSM7020



ALUMINUM ANGLE  
A1185

MK. QTY.	DESCRIPTION	HFA #	DWG #
1	43.450' x 17.450 AEL-42D-7060		04S358
2	RSM7060-192-AE 43.450 FRAME LENGTH	124832	RSM7060
2	RSM7060-192-AE 17.450 FRAME LENGTH	124832	RSM7060
20	RSM7020-192-AE 41.888 BLADE LENGTH	124114	RSM7020
5	RSM314-192-AE PUNCHED .775 16.938 BRACE BAR LENGTH	131957	RSM314
5	RSM286-192-AE 16.938 BRACE BAR SPLINE	130785	RSM286
2	A-1185-192-AE 16.250 ANGLE LENGTH	131380	A-1185
1	A-1185-192-AE 16.250 ANGLE LENGTH	131380	A-1185
2	RSM-91-192-VE 16.250 MOUNTING BAR	137382	RSM91
2	GE DEFLECTOR BAFFLE	430730	430730
4	10-24 x 1 ALL THREADED STUD	430287	430287
8	10-24 HEX NUTS	430170	430170
6	#10 FL CUT SS 18-8 WASHER	430167	430167
4	PRESTINCERT	430023	430023
11	#10 X 3/4" HEX WHD ZINC TEK SCREW	431155	431155
11	#12 X 1" HEX WHD ZINC TEK SCREW	430941	430941
4	AK42H RIVET	430140	430140

- NOTE:
- 1) THESE LOUVERS ARE TO BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVERS IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT COMPONENTS, OR SUPPLIES.
  - 2) ALL COMPONENTS ARE ALUMINUM ALLOY 6063T5
  - 3) DESIGNATED PRESSURE RATING ± 140 P.S.F. LARGE & SMALL MISSILE IMPACT RESISTANCE
  - 4) DEFLECTORS ARE TO DIRECT INTAKES & EXHAUST FOR P.T.A.C. INSTALLED IN WINDOW SLEEVE BEYOND. THEY HAVE NO EFFECT ON STRUCTURAL INTEGRITY OF THE LOUVER DESIGN.

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No 11-0726.03  
Expiration Date 07/22/2016  
By *[Signature]*  
Miami/Dade Product Control

FOR OFFICE USE ONLY

Approved as complying with the  
Florida Building Code  
Date: 02/16/06  
By: 05/04/01  
Miami/Dade Product Control  
Division: *[Signature]*

ENGINEER OF RECORD:  
EDWARD PAUL HUTSON JR.  
ENGINEERING DISCIPLINE:  
STRUCTURAL ENGINEER  
REGISTRATION #:  
STATE OF FLORIDA # 0052339

REV.	DATE	DESCRIPTION
N		
M		
L		
K		
J		
H		
G		
F		
E		
D		
C		
B		
A		

REVISIONS:

- 08/1/05: REVISED NOTES & ADDED DETAILS
- 07/11/05: ADDED BOX
- 08/31/04: MOVED WELD SYM. TO PLAN VIEW, CHANGE DIM. END VIEW
- 08/31/04: MODEL NAME CHANGE
- 08/05/04: REV. NOTES ADDED MATERIAL THICKNESS DIM
- 06/14/04: REV. FRAME TO RSM7060A
- 05/12/04: REV. STUD ID. MOUNTING SCREW ID. FOR METAL DE WOOD STUD
- 04/26/04: REV. FRAME, REMOVED WINDOW WALL TREATMENT, ADDED FRAME DETAILS ON SHEET 3.
- 03/30/04: REV. DIRECTION OF FRAME TO MOUNT IN TO W/ SAME DIRECTION OF FRAMES ON SHEET 1 & 2
- 03/04/04: REV. NOTES & ADDED MOUNTING DIRECTIONS ON VIEWS ON SHEET 1
- 02/26/04: ADDED NOTES & REV. NOTES & DETAILS
- 02/16/04: REMOVED SHEET 2B, REVISED DETAILS AND ADDED PTAC CABINET

**RELIABLE PRODUCTS**

1300 Enterprise Road  
Geneva, Alabama 36340  
PHONE (334) 684-3821  
FAX (334) 684-3120

ARCH/MECH LOUVERS  
REGISTERS  
GRILLES  
DIFFUSERS

I, THE UNDERSIGNED AM THE RESPONSIBLE INDIVIDUAL FOR VERIFYING CONDITIONS AND ROUGH OPENING MEASUREMENTS OF THIS CONTRACT.

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NAME: \_\_\_\_\_  
AUTHORIZED SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_  
NAME OF ORGANIZATION: \_\_\_\_\_  
CUSTOMER NAME: \_\_\_\_\_

JOB NAME: **DADE COUNTY UNIVERSAL LOUVER FOR PTAC APPLICATION**

PO#: \_\_\_\_\_ PROP#: \_\_\_\_\_  
DADE CO TEST: \_\_\_\_\_ N/A

FINISH: MILL  
SHEET TITLE: **AEL-42D-7060 WINDOW WALL APPLICATION**

DRAWN BY: **JULIE DAVIS** DATE: 12/23/03  
REVIEWED BY: **WENDELL SIMMONS** DATE: 12/23/03  
MANUFACTURING: \_\_\_\_\_ REVIEW: \_\_\_\_\_ DATE: \_\_\_\_\_  
ENGINEER: \_\_\_\_\_ REVIEW: \_\_\_\_\_ DATE: \_\_\_\_\_  
CUSTOMER REP: **JIMMY HICKS** REVIEW: \_\_\_\_\_ DATE: \_\_\_\_\_  
DRAWING NUMBER: **03S358-3N** SHEET: **3** OF: **3**

*Edward P. Hutson Jr.*  
9/29/2005

PROJECT LOCATION		
Aviation Department 4331 NW 22nd. Street, Miami, FL 33122		
		County: Miami-Dade

APPLICABLE MAJOR CODES		
CATEGORY	CODE	YEAR
BUILDING	FLORIDA BUILDING CODE	2014
ENERGY	FLORIDA BUILDING CODE - ENERGY CONSERVATION	2014
MECHANICAL	FLORIDA STATE MECHANICAL CODE	2014
PLUMBING	FLORIDA STATE PLUMBING CODE	2014
FUEL GAS	FLORIDA STATE FUEL GAS CODE	2014
ELECTRICAL	NATIONAL ELECTRICAL CODE	2011

INDUSTRIALIZED BUILDING DATA	
MODEL	MFI-6288-RR
Actual Building Size	6'-2" X 8'-8"
Estimated Weight	See Data Plate
Building Square Footage	53
Occupant Load	100 SQ. FT./OCCUPANT = 1
Occupancy Type	B
Construction Type	V-B
Electric Class	120/208 Volt, 1 Phase

DESIGN LOADS	
Floor Design Live Load	50 PSF
Roof Design Live Load	30 PSF
Design Wind Speed & Exposure	Vult=175 MPH - Vasd=139, Exposure: C
Wind Importance Factor	1.0
Risk Category	II
Internal Pressure Coefficients	+0.18, -0.18
Components and Cladding	+40 Windward, -54 Leeward

This unit meets the requirements of the (2014) Florida Building Code, 5th Edition mandatory as of June 30, 2015.

These plans comply with rule 61G20-3.006 (Product Approval).

A set of plans with the engineers seal is on file in the third party agency's office as directed by DBPR.

This building is not designed to be located in a Wind-borne Debris Region or High velocity Hurricane Zone.

This building is designed to be located in a Wind-borne Debris Region.

Located within 1 mile of the coastal mean water line where the ultimate design wind speed  $V_{ult}$  is 130 MPH or greater; or in areas where the ultimate design wind speed  $V_{ult}$  is 140 MPH or greater.

This building is designed to meet all High Velocity Hurricane Zone requirements.

Located in Miami-Dade or Broward Counties.

ONLY ONE BOX MAY BE CHECKED AND ONLY CHECKED BOX IS APPLICABLE.

Florida evaluation reports for the windows, doors, mechanical covers and roofing materials have been received, reviewed, and accepted as approved for use in Florida.

It is maintained in the Manufacturer's Quality Assurance Manual.

A copy of the Florida Evaluation Reports and Installation Instructions may be obtained upon request from Mardan.

The Data Plate, State Insignia/Label, and Third Party Inspection Insignia shall be located on an interior wall panel, near to or adjacent to the electrical load center.

Exterior Panels and Roof aluminum sheet thickness shall meet or exceed requirements of Section 20 of the Florida Building Code. Aluminum sheet shall not be less than 0.032 Inch in thickness.

All dimensions shown shall have a tolerance of +/- 1/4".

SITE WORK
SITE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND/OR INSTALLING THE FOLLOWING ITEMS IN ACCORDANCE WITH THE APPLICABLE CODES LISTED ON THIS SHEET.
<ol style="list-style-type: none"> <li>EGRESS LIGHTING FIXTURE</li> <li>ACCESSIBLE ACCESS TO BUILDING</li> <li>ANCHORS</li> <li>FOUNDATION</li> <li>RISER, METERING DEVICE(S), WIRING CONNECTION TO LOAD CENTER</li> <li>PLUMBING FIXTURES AND ALL PLUMBING RELATED CONNECTIONS (See Sheet SD-4 for additional plumbing information)</li> </ol>

**GENERAL NOTES**

EXIT DOORS TO REMAIN OPEN ABLE DURING BUSINESS HOURS FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE.

NATURAL VENTILATION IS PROVIDED BY OPERABLE WINDOWS AND/OR DOORS.

REQUIRED; WATER FOUNTAIN, SERVICE SINK, AND BATHROOM FACILITIES WILL BE PROVIDED ON SITE IN AN ADJACENT BUILDING, SUBJECT TO LOCAL INSPECTION. FACILITIES MUST BE ADEQUATE TO ACCOMMODATE BOTH ADJACENT BUILDING AND THIS BUILDINGS OCCUPANT LOAD. THIS FACILITY MUST BE LOCATED WITHIN 500 FEET OF THIS STRUCTURE.

THIS BUILDING SHALL BE LOCATED AS TO PROVIDE A 10 FOOT SEPARATION DISTANCE FROM THE PROPERTY LINE OR HALF THE DISTANCE TO ANY OTHER STRUCTURE.

THE FOUNDATION/SLAB DESIGN IS REQUIRED TO BE DESIGNED BY A PROFESSIONAL ENGINEER.

FIRE EXTINGUISHER WILL BE PROVIDED ON-SITE. SUBJECT TO LOCAL INSPECTION.

THIS BUILDING SHALL BE INSTALLED ABOVE FLOOD HAZARD ELEVATION.

ALL ITEMS THAT ARE CLOUDED ARE FIELD INSTALLED.

Fasteners used in the construction of this model may be made from aluminum, stainless steel or be made of steel and double cadmium plated, hot dipped galvanized or electro-galvanized (zinc plated).

Rivets are made of aluminum or Stainless Steel.

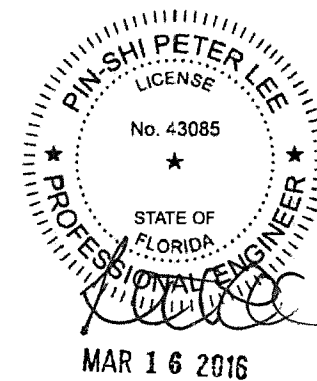
Machine Screws, Bolts, Washers, and Nuts shall be made stainless steel or shall be electro-galvanized (zinc plated) steel.

Screws and Self Drilling Screws shall be made stainless steel or shall be electro-galvanized (zinc plated) steel.

Product	Approval Number	Expires
Ceiling Panels	FL - #7561	
Roof Coating System	NOA - #13-1022.10	12/11/2018
Impact Resistant Louver	NOA - #11-0726.03	09/22/2016

BUILDING ENVELOPE INFORMATION:	
<u>ROOF:</u>	
ACTUAL INSULATION	R-VALUE: 16.7
<u>WALL:</u>	
ACTUAL INSULATION	R-VALUE: 18.5
<u>FLOOR:</u>	
ACTUAL INSULATION	R-VALUE: N/A
<u>DOOR(S)</u>	
	R-VALUE: 5.21
FENESTRATION INFORMATION:	
U-VALUE:	N/A
SHGC:	N/A

DRAWING SHEET INDEX	
SHEET	DESCRIPTION
CV-1	COVER SHEET AND DRAWING INDEX
CV-2	DATA PLATES
SD-1	PLAN VIEW, FOOTPRINT AND ELECTRICAL VIEW
SD-2	ELEVATIONS
SD-3	ANCHOR DETAIL AND SECTION
SD-4	INTERIOR ELEVATION OF REST ROOM EQUIPMENT
SD-5	CIRCUIT BREAKER SCHEDULE AND ELECTRICAL RISER
SD-6	FRAMING MEMBER LAYOUT AND SCHEDULE
SD-7	FRAMING CONNECTION DETAILS
SD-8	FRAMING CONNECTION DETAILS
SD-9	FRAMING CONNECTION DETAILS
SD-10	SWING DOOR DETAILS



MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER V15-090-4	DRAWN BY: DNE
SCALE: NTS		REVISION: 3-16-2016
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET CV-1	



**MANUFACTURER'S DATA PLATE**



Manufacturer Mardan Fabrication, Inc.  
 Address 41249 Irwin Drive  
 City, State, Zip Harrison Township, MI 48045

**FACTORY INSTALLED EQUIPMENT**

EQUIPMENT	MANUFACTURER	MODEL NO.
Heating	General Electric	AZ61H12D
Cooling	General Electric	AZ61H12D
Shipping Weight(s)	3,000 Pounds	
TRA Label No(s).	.	
State Insignia No(s).	.	

**LISTED INDUSTRIALIZED BUILDING**

Model	MFI-6288-RR			
Occupancy Classification	B	Const. Class	VB	
Manufacturer's Serial No(s)	.			
Date of Manufacture	Plan Approval No.			
Date Data Plate Attached	.			
Permissible Gas Types(s)	N/A			
Electrical Rating	120/208 Volt, Single Phase			
Test Voltage/Time	1080 Volts/1 Second			
Water Supply: Test Procedure	N/A			
Floor Design Live Load	50 PSF	Design Wind Speed and Exposure	175 MPH-Exp:C	
Ground Snow Load	0 PSF	Roof Design Live Load	30 PSF	
Exterior Wall Fire Rating	N/R	Seismic Design Category	A	
Winter Design Temp.: Inside	+70° F		Outside	+6° F
U: Ceiling	0.0600	Wall	0.054	Floor N/A

Follow precisely all instruction with this building. Foundations, Installation and Utility connections are subject to inspection by local authorities.

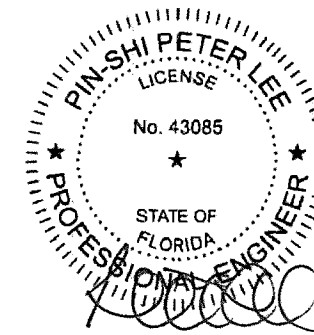


THIS MANUFACTURED STRUCTURE HAS BEEN CONSTRUCTED IN CONFORMANCE WITH THE FOLLOWING CODES:

- 2011 NATIONAL ELECTRICAL CODE®
- INTERNATIONAL BUILDING CODE
- INTERNATIONAL MECHANICAL CODE
- INTERNATIONAL PLUMBING CODE
- INTERNATIONAL ENERGY CONSERVATION CODE
- INTERNATIONAL RESIDENTIAL CODE
- INTERNATIONAL FUEL GAS CODE
- INTERNATIONAL FIRE CODE
- INTERNATIONAL BUILDING CODE
- UNIFORM BUILDING CODE
- UNIFORM PLUMBING CODE
- UNIFORM MECHANICAL CODE
- NATIONAL STANDARD PLUMBING CODE
- INTERNATIONAL BUILDING CODE
- FLORIDA BUILDING CODE - 5TH EDITION (2014) BUILDING
- FLORIDA BUILDING CODE - 5TH EDITION (2014) MECHANICAL
- FLORIDA BUILDING CODE - 5TH EDITION (2014) PLUMBING
- FLORIDA BUILDING CODE - 5TH EDITION (2014) ENERGY CONSERVATION
- FLORIDA BUILDING CODE - 5TH EDITION (2014) FUEL GAS
- FLORIDA BUILDING CODE - 5TH EDITION (2014) ACCESSIBILITY
- 
- 
- 

**FLORIDA DATA PLATE ADDENDUM**

Manufacturer Certification Number MFT10220  
 Date of Alteration N/A  
 Number of Modules 1  
 Design Occupant Load 1  
 Agency Plan Number MFI-6288-RR  
 Floor Dead Load 5 PSF  
 Roof Dead Load 5 PSF  
 Limitation of plan approval NONE  
 Is automatic sprinkler system required (if provided) N/A  
 Special stipulations and conditions of the building permit NONE



MAR 1 0 2016

FINISH SCHEDULE	
ITEM	DESCRIPTION
FLOOR	BLACK PVC FLEXI-TILE
CANOPY	WHITE
WALLS	WHITE
CEILING	WHITE
COUNTER	WHITE PLASTIC LAMINATE

MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER V15-090-4	DRAWN BY: DNE
SCALE: NTS	REVISION:	

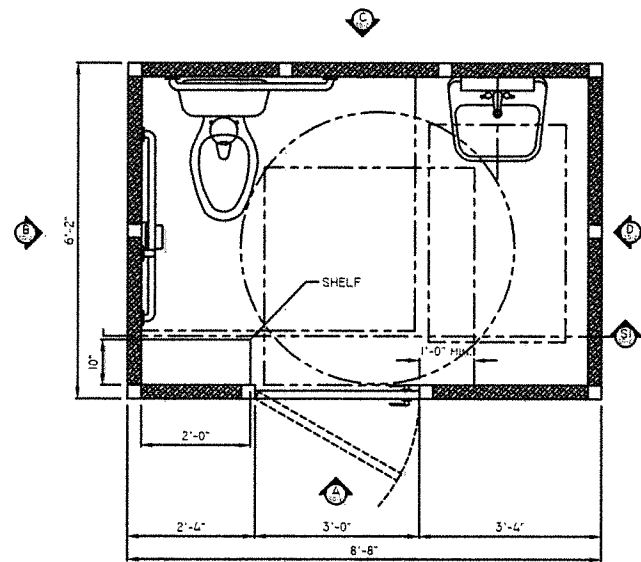
MIAMI-DADE AVIATION DEPARTMENT  
 MIAMI, FL



MARDAN FABRICATION, INC.  
 WWW.MARDANFAB.COM  
 800-882-5820

DRAWING SHEET  
 CV-2





**PLAN VIEW**

**DESIGN NOTES**

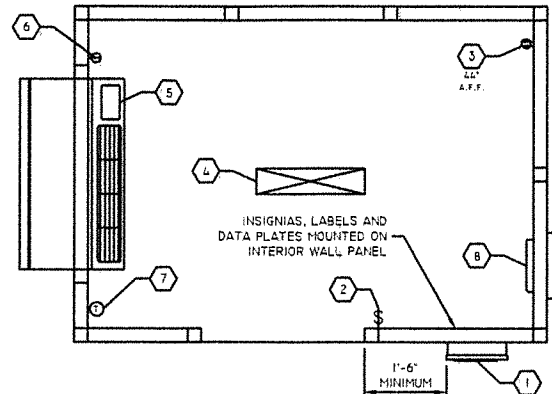
SWING ENTRY DOOR TO PROVIDE 32" CLEAR DOOR OPENING AND INCLUDES: LEVER HANDLE LOCKSET, HYDRAULIC CLOSER, AND WEATHER STRIPPING.

FACTORY SUPPLIED ITEMS SHIPPED LOOSE FOR INSTALLATION ON SITE BY OTHER IN COMPLIANCE WITH ANY AND ALL APPLICABLE CODES: WATER CLOSET, LAVATORY WITH FAUCET, COAT HOOK, TOILET PAPER DISPENSER, PAPER TOWEL DISPENSER AND SOAP DISPENSER.

FACTORY INSTALLED ITEMS INCLUDE: 10" DEEP X 24" WIDE STAINLESS STEEL SHELF, GRAB BARS.

WATER HEATER AND/OR HOT WATER SUPPLY IS PROVIDED AND INSTALLED BY OTHERS, NO FACTORY PROVISION PROVIDED OR WATER HEATING EQUIPMENT PROVIDED.

ALL PLUMBING PIPING AND INSTALLATION IS BY OTHERS AND IS SUBJECT TO SITE INSPECTION AND NOT PART OF THIS MODULAR BUILDINGS DESIGN.



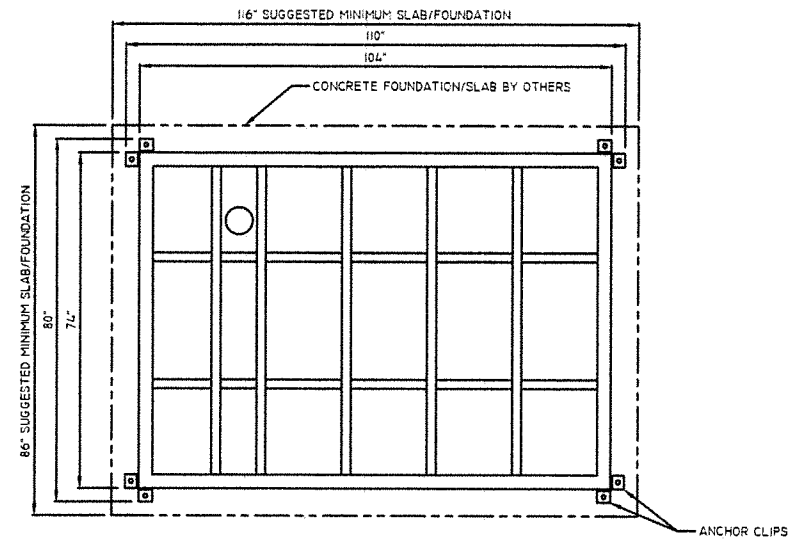
**ELECTRICAL PLAN**

**ELECTRICAL NOTES**

1. RAIN TIGHT 120/240 VOLT, SINGLE PHASE, 125 AMP RATED, 8-CIRCUIT LOAD CENTER.
2. SWITCH FOR INTERIOR LIGHT AND EXHAUST FAN.
3. GFCI 120 VOLT, DUPLEX RECEPTACLES.
4. CEILING SURFACE MOUNTED, FLUORESCENT LIGHT FIXTURE.
5. WALL MOUNTED HEAT PUMP UNIT (240 VOLT, 11,600 BTU COOL/10,600 BTU HEAT), WITH RELIABLE IMPACT RESISTANT LOUVER (NOA#11-0726-03)
6. 240 VOLT, 20 AMP SINGLE RECEPTACLE FOR HEAT PUMP UNIT.
7. WALL MOUNTED THERMOSTAT CONTROL FOR HEAT PUMP UNIT.
8. EXHAUST FAN (180 CFM) THROUGH WALL MOUNTED.

- ALL ELECTRICAL COMPONENTS TO BE U.L. LISTED.
- ALL WIRING PER N.E.C. STANDARD.
- ALL FACTORY INSTALLED WIRING TO BE #12 MINIMUM THHN ENCLOSED IN METALLIC RACEWAY.
- ALL BRANCH CIRCUITS HAVE GREEN GROUND CONDUCTOR.

NOTE ACTUAL LOCATION OF ELECTRICAL DEVICE MAY VARY DUE TO INSTALLATION CONSTRAINTS OR FOR PROPER PLACEMENT AS PER APPLICABLE CODES



**FOOTPRINT**

THIS UNIT MUST BE ANCHORED TO CONCRETE SLAB/FOUNDATION  
FAILURE TO SECURELY ANCHOR BOOTH MAY RESULT IN OVERTURNING OF UNIT AND SERIOUS INJURY OR DEATH TO OCCUPANT OR TO OTHERS.

DESIGN OF SLAB/FOUNDATION BY OTHERS. CONSULT A PROFESSIONAL ENGINEER FAMILIAR WITH APPLICABLE LOADS AND SITE CONDITIONS FOR THE LOCATION.

**GENERAL SITE INSTALLED ITEMS PROVIDED BY OTHERS**

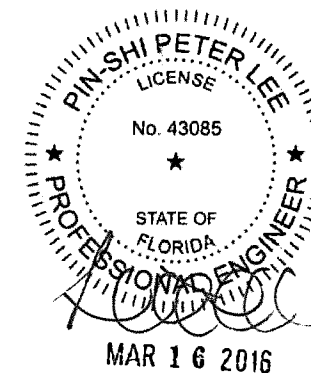
1. PROVIDE 120V/240V, SINGLE PHASE, 3-WIRE SERVICE WITH GROUND.
2. CONCRETE FOUNDATION/SLAB DESIGN BY OTHERS, SUGGESTED MINIMUM 6" DEEP, 3,000 PSI MINIMUM (28 DAY ACI 318). THE MINIMUM FOUNDATION/SLAB SHOULD BE AS DIMENSIONED ABOVE. THIS IS TO PROVIDE AN AMPLE CONCRETE BORDER ON EACH SIDE OF THE BUILDING AND TO PREVENT FRACTURING OF CONCRETE WHEN ANCHORING.
3. ADEQUATE SIZE DRILLED ANCHOR BOLTS. SUGGESTED SIZE: 1/2" WEDGE ANCHOR (3-1/2" MINIMUM EMBEDMENT INTO CONCRETE SLAB/FOUNDATION).
4. NO FACTORY INSTALLED WATER HEATING DEVICE, PLUMBING OR ELECTRICAL PROVISIONS FOR WATER HEATING DEVICE PROVIDED. WATER HEATING DEVICE IS NOT PART OF THIS PLAN REVIEW AND MAY BE SUBJECT TO LOCAL INSPECTION HAVING JURISDICTION.

**ACCESSIBILITY NOTES:**

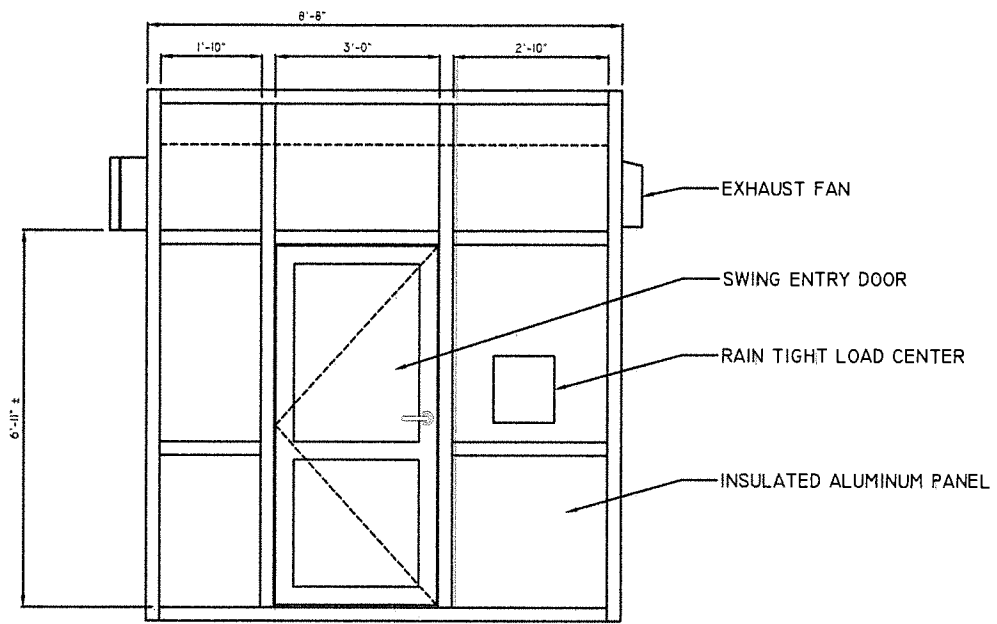
BOOTH MUST BE HANDICAP ACCESSIBLE RAMP OR FOUNDATION PROVIDE BY OTHERS.

THE FOUNDATION MAY BE RECESSED OR A 1/2 RAMP MUST BE PROVIDED SO THAT MAXIMUM CHANGE IN LEVEL FROM GRADE TO FINISH FLOOR DOES NOT EXCEED 1/4".

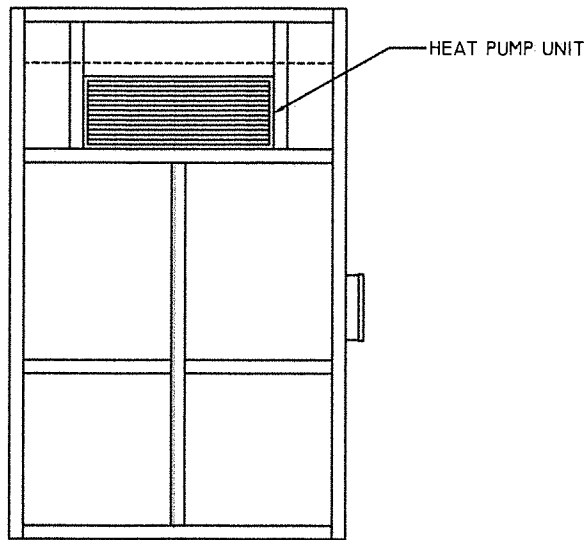
REVIEW IN CONJUNCTION WITH THE APPLICABLE ACCESSIBILITY CODE FOR MORE DETAILED INFORMATION AND REQUIREMENTS.



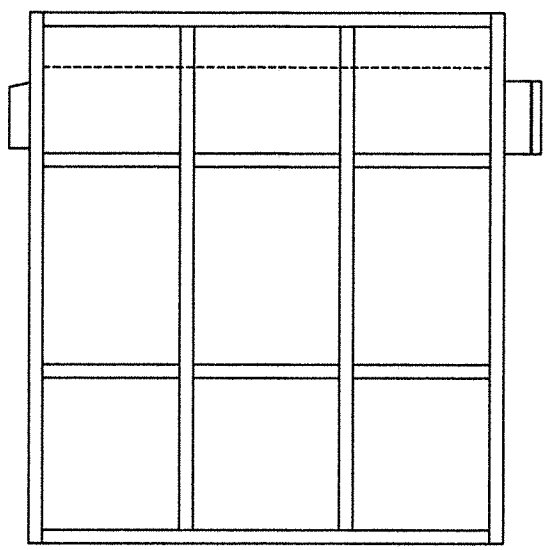
MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER VI5-090-4	DRAWN BY: DNE
SCALE: NTS	REVISION: 3-16-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI	MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-1



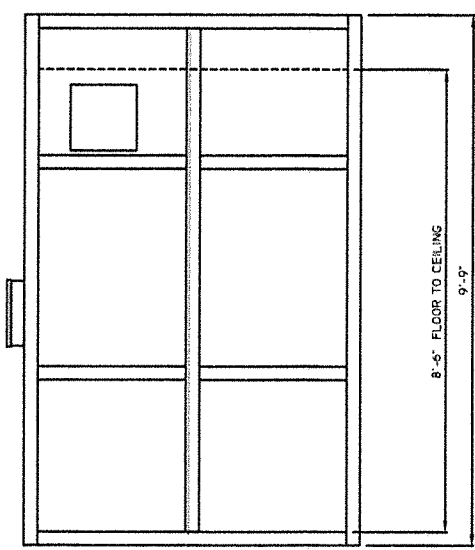
ELEVATION A



ELEVATION B



ELEVATION C



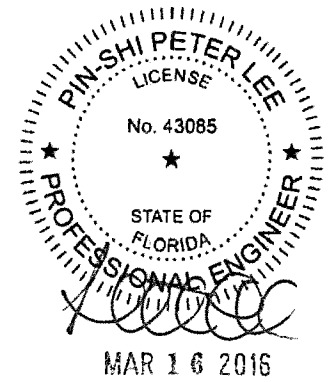
ELEVATION D

**GENERAL NOTES:**

- ALL HANDICAPPED ACCESSIBLE BOOTHS HAVE A MINIMUM 32" CLEAR DOOR OPENING
- ALL HANDICAPPED ACCESSIBLE BOOTHS HAVE A MINIMUM 60" DIAMETER TURNING CIRCLE, OR T-DESIGN WITH THE MIN. OF TOE CLEARANCE SPACE AS PERMITTED PER ADA GUIDELINES
- REQUIREMENTS FOR ACCESS TO RESTROOM FACILITIES IS DETERMINED BY THE OWNER AND LOCAL CODE, AND ARE NOT A PART OF THESE PLANS UNLESS OTHERWISE NOTED

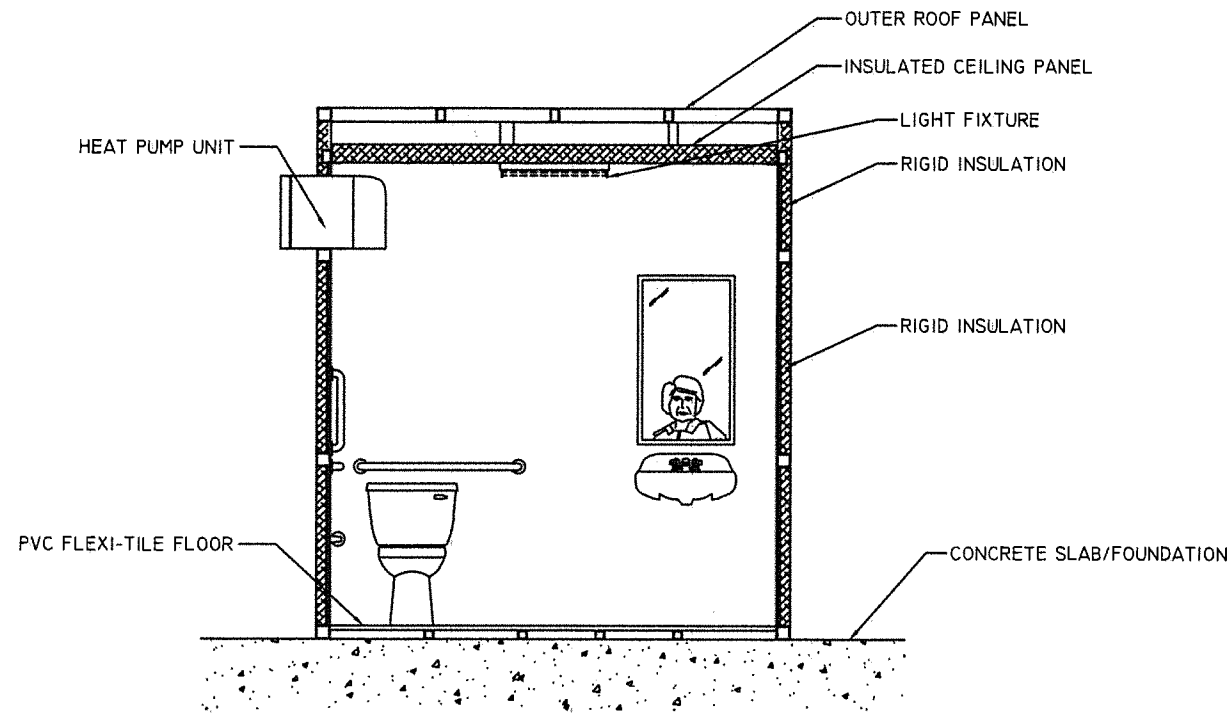
**PROJECT NOTES:**

- SITE INSTALLED ITEMS LIST:
  - A. COMPLETE FOUNDATION SYSTEM; SUPPORT/TIE-DOWN SUPPORT SYSTEM.
  - B. RAMPS, STAIRS, AND GENERAL ACCESS TO BUILDING, H.C. RAMPS, GUARD PROTECTIONS POSTS IF REQUIRED, ETC.
  - C. ELECTRIC SERVICE HOOK-UP TO THE BUILDING/ON-SITE DISCONNECT.
  - D. SEE GENERAL NOTES AND PLANS FOR ADDITIONAL REQUIREMENTS.
  - E. FIRE SUPPRESSION EQUIPMENT.
  - F. ELECTRONIC STRIKES, BALANCED MAGNETIC SWITCHES, AND EXIT PUSH BUTTONS.
  - G. ALL PLUMBING, PLUMBING FIXTURES, AND DEVICES
- DOORS SHALL BE OPERABLE FROM THE EGRESS SIDE WITHOUT USE OF A KEY, TOOL, SPECIAL KNOWLEDGE OR EFFORT. MANUALLY OPERATED FLUSH BOLTS OR SURFACE BOLTS SHALL NOT BE USED.
- OCCUPANT LOAD IS BASED ON 1 PERSON PER 100 SQUARE FEET OF FLOOR AREA.
- PROVISIONS FOR EXIT DISCHARGE LIGHTING (INCLUDING EMERGENCY) ARE THE RESPONSIBILITY OF THE BUILDING OWNER SUBJECT TO LOCAL JURISDICTION APPROVAL WHEN NOT SHOWN ON THE FLOOR PLAN.

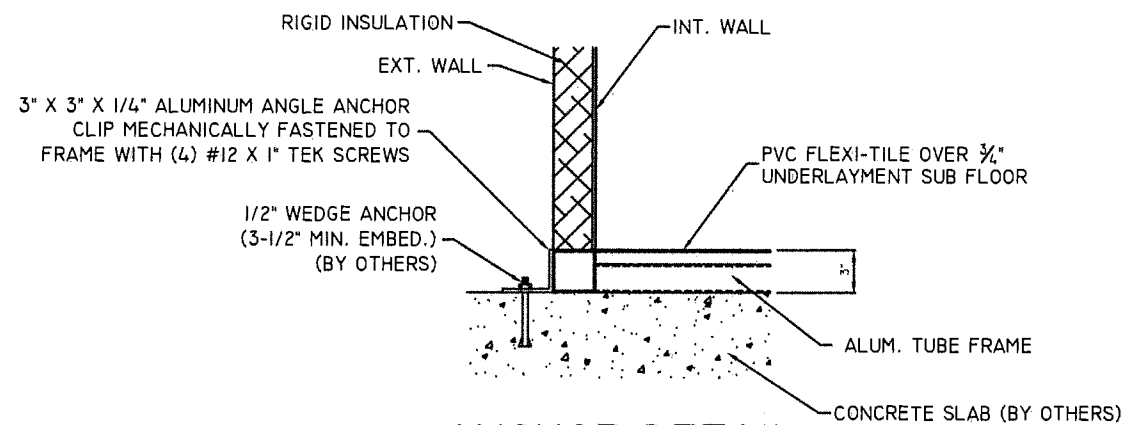


MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER V15-090-4	DRAWN BY: DNE
SCALE: NTS	REVISION:	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
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**SECTION SI**

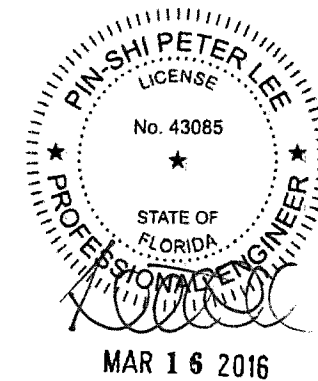



**ANCHOR DETAIL**

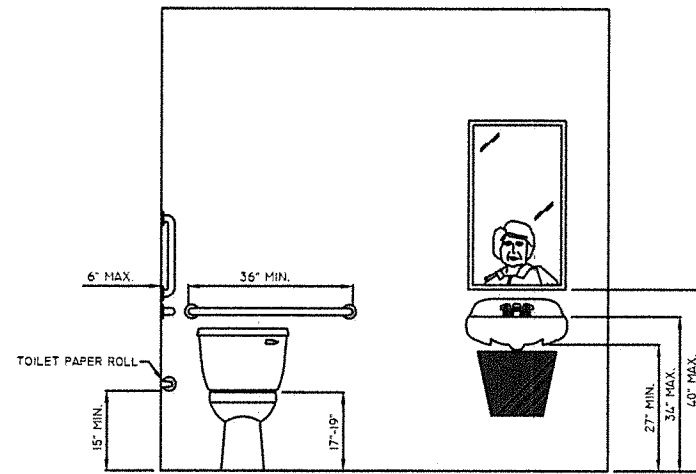
ANCHORS LOCATED PER PROJECT DRAWINGS.

**CONCRETE FOUNDATION/SLAB BY OTHERS**

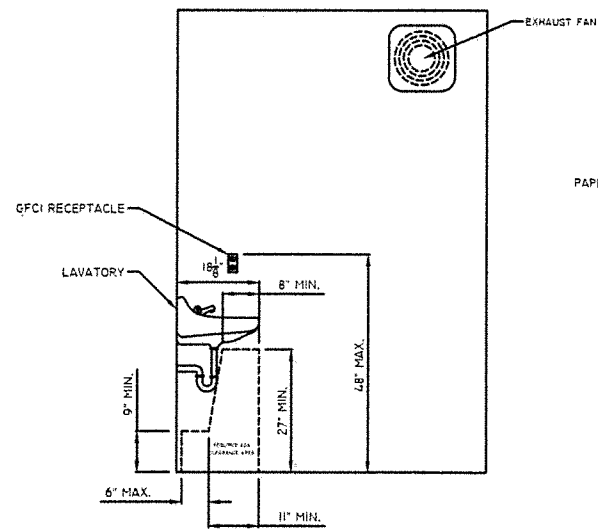
DESIGN IS BASED ON A MINIMUM 6" DEEP, 3,000 PSI MINIMUM (28 DAY ACI 318) REINFORCED. THE FOUNDATION/SLAB SHOULD BE A MINIMUM OF 12" WIDER THAN THE BUILDING FOOT PRINT DIMENSIONS. THIS IS TO PROVIDE A 6" CONCRETE BORDER ON EACH SIDE OF THE BUILDING.



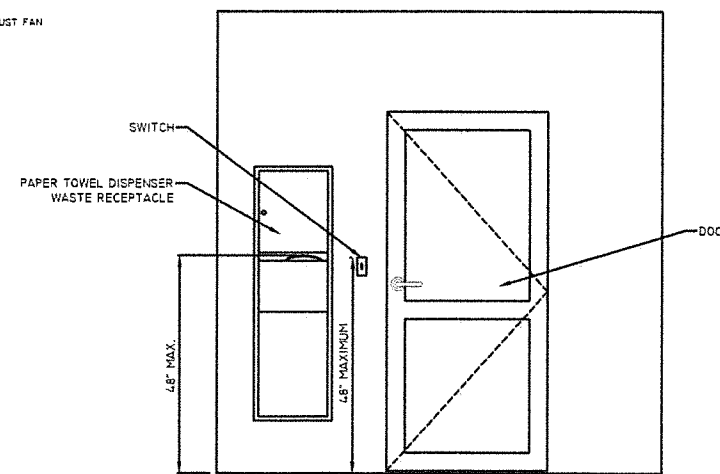
MODEL NUMBER MFI-6288-RR		APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER VI5-090-4	DRAWN BY: DNE	
SCALE: NTS		REVISION:	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL			
 MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820		DRAWING SHEET SD-3	



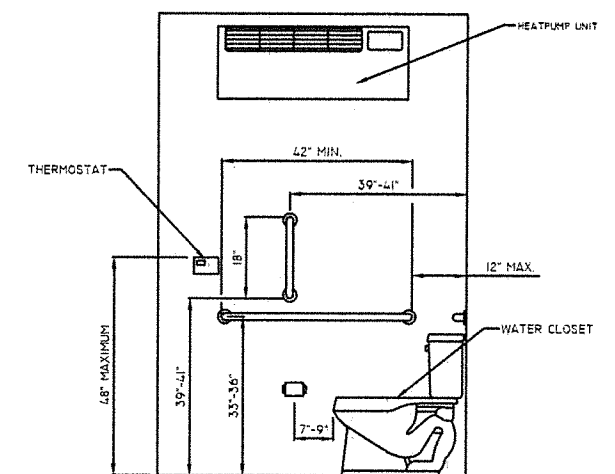
1-1 INTERIOR ELEVATION



1-2 INTERIOR ELEVATION



1-3 INTERIOR ELEVATION



1-4 INTERIOR ELEVATION

FACTORY SUPPLIED ITEMS SHIPPED LOOSE FOR INSTALLATION ON SITE BY OTHER IN COMPLIANCE WITH ANY AND ALL APPLICABLE CODES: WATER CLOSET, LAVATORY WITH FAUCET, COAT HOOK, TOILET PAPER DISPENSER, PAPER TOWEL DISPENSER AND SOAP DISPENSER.

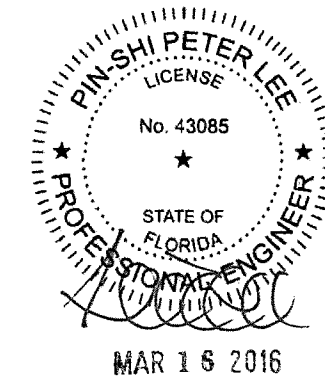
FACTORY INSTALLED ITEMS INCLUDE: 10" DEEP X 24" WIDE STAINLESS STEEL SHELF. GRAB BARS.

WATER HEATER AND/OR HOT WATER SUPPLY IS PROVIDED AND INSTALLED BY OTHERS. NO FACTORY PROVISION PROVIDED OR WATER HEATING EQUIPMENT PROVIDED.

ALL PLUMBING PIPING AND INSTALLATION OF ITEMS LISTED ABOVE ARE BY OTHERS AND IS SUBJECT TO SITE INSPECTION AND NOT PART OF THIS MODULAR BUILDINGS DESIGN.

### PLUMBING FIXTURE SCHEDULE

SUPPLIED BY	INSTALLED	DESCRIPTION	COLOR	MANUFACTURER	MODEL/PART NUMBER	REMARKS
MARDAN	ON-SITE	LAVATORY/SINK	WHITE	MANSFIELD	2018HBNS-4	22" X 18-1/8", 4" BACK-SPLASH, WALL MOUNTED & ADA COMPLIANT
MARDAN	ON-SITE	WATER CLOSET/TOILET	WHITE	MANSFIELD	137-160	ELONGATED BOWL, RIGHT HAND TRIP LEVER
MARDAN	ON-SITE	TOILET SEAT	BLACK	BEMIS	1955CT	HINGED, ELONGATED, NONABSORBENT, OPEN FRONT & ADA COMPLIANT



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PANEL SPECIFICATION:

SINGLE PHASE, FOUR WIRE, 120/208 VAC, 12 POLE (MINIMUM), RAIN TIGHT LOAD CENTER WITH MAIN LUG ONLY.  
ALL BRANCH CIRCUIT BREAKERS ARE PLUG-ON TYPE

REMARKS	PHASE (WATTS)		CONDUCTORS	LOAD DESCRIPTION	AMP	CKT #	CKT #	AMP	LOAD DESCRIPTION	CONDUCTORS	PHASE (WATTS)		REMARKS
	A	B									A	B	
	208	-	Two #12 + #12G	LIGHTING & EXHAUST FAN	20	1	2	20	ZONELINE HEATPUMP UNIT	Two #12 + #12G	1,650	-	2
1	-	180	Two #12 + #12G	GFCI RECEPTACLE	20	3	4				-	1,650	
	0	-		SPACE	-	5	6	-	SPACE		0	-	
	-	0		SPACE	-	7	8	-	SPACE		-	0	
	0	-		SPACE	-	9	10	-	SPACE		0	-	
	-	0		SPACE	-	11	12	-	SPACE		-	0	

SUB-TOTAL 208 180  
TOTAL 1,858 1,830

TOTAL 3,688 WATT LOAD  
TOTAL 17.73 AMP LOAD

MINIMUM FACTORY INSTALLED WIRE SIZES  
15 AMP CIRCUIT - #12 WITH GROUND  
20 AMP CIRCUIT - #12 WITH GROUND  
30 AMP CIRCUIT - #10 WITH GROUND

SUB-TOTAL 1,650 1,650

ALL FACTORY INSTALLED WIRING CONDUCTORS SHALL BE THHN STRANDED COPPER.

FACTORY INSTALLED BRANCH FEEDER WIRING SHALL BE ENCLOSED IN 1/2" MINIMUM ELECTRICAL METALLIC TUBING (EMT).

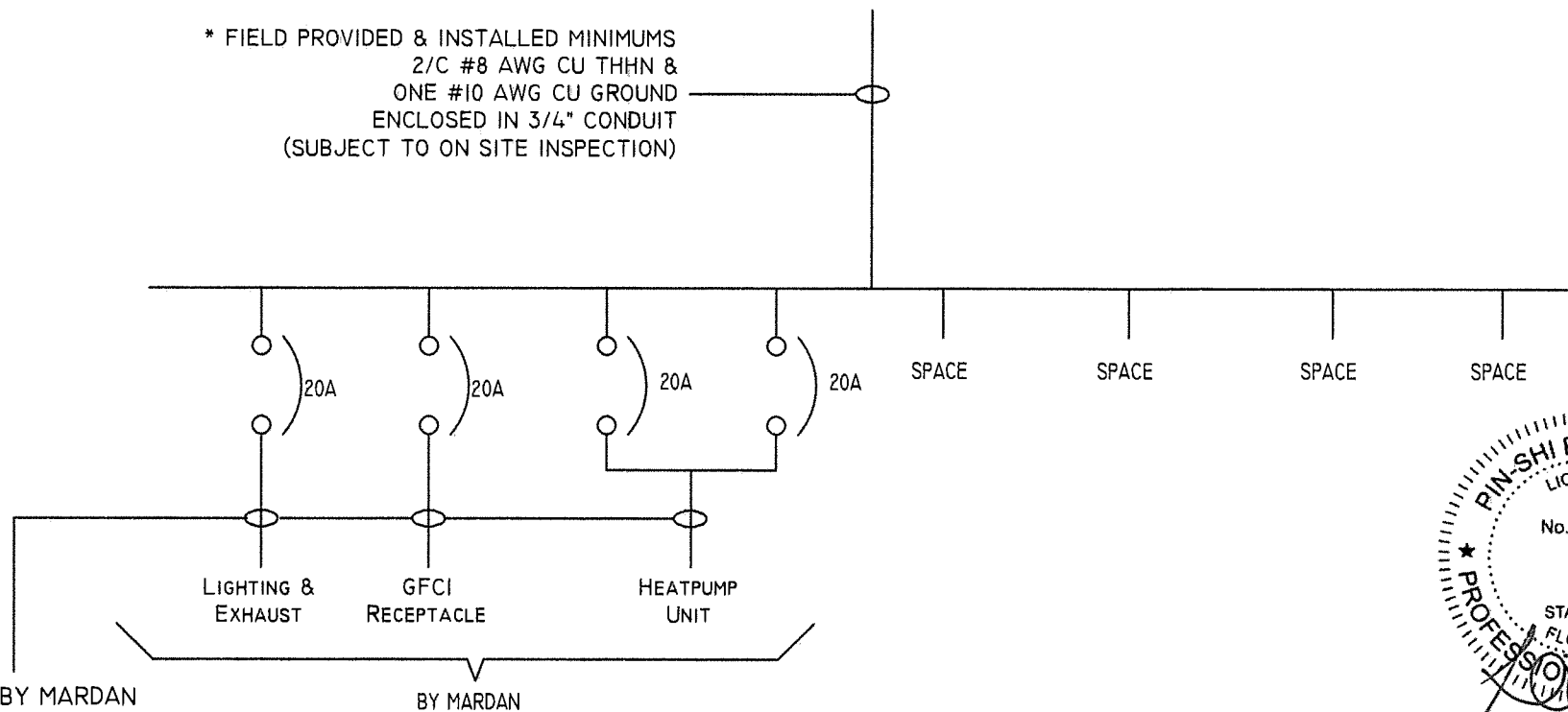
ALTERNATIVELY, 1/2" MINIMUM IMC/RIGID METAL CONDUIT, MC CABLE OR LIQUID TYPE METALLIC TUBING MAY BE USED. WHEN INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

- REMARKS 1. ASSUMING 180 WATTS FOR EACH OUTLET PER NEC ARTICLE 220.14 (1)  
2. UL LISTED AS HACR TYPE FOR USE WITH AIR CONDITIONING & HEATING

MAXIMUM NUMBER OF THHN CONDUCTORS OR FIXTURE WIRES IN EMT (BASED ON TABLE 1, CHAPTER 9)

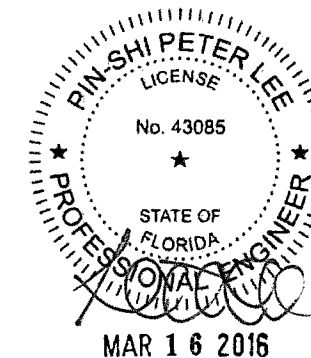
CONDUCTOR SIZE (AWG)	CONDUIT TRADE SIZE		
	1/2"	3/4"	1"
#12	9	16	26
#10	5	10	16
#8	3	6	9

\* FIELD PROVIDED & INSTALLED MINIMUMS  
2/C #8 AWG CU THHN &  
ONE #10 AWG CU GROUND  
ENCLOSED IN 3/4" CONDUIT  
(SUBJECT TO ON SITE INSPECTION)

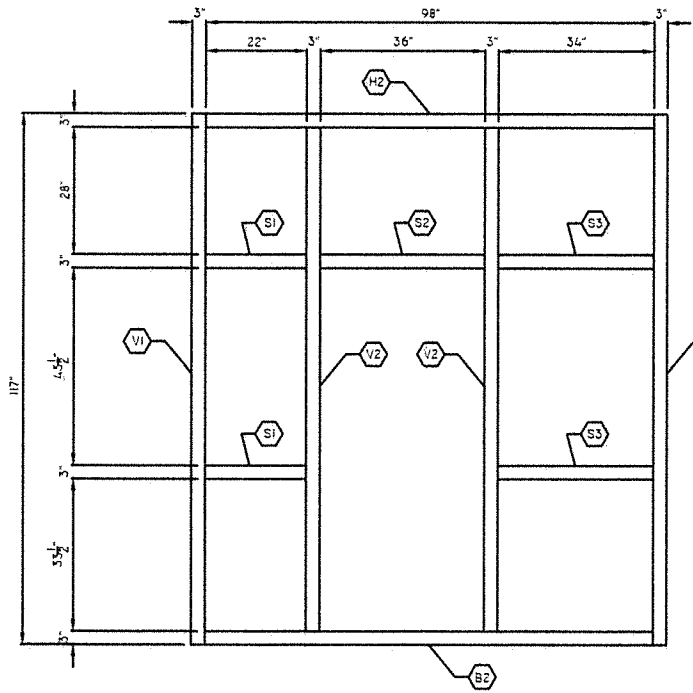


WIRING BY MARDAN  
REFER TO C.B. SCHEDULE FOR  
CONDUCTOR SIZING AND CIRCUIT  
PLACEMENT

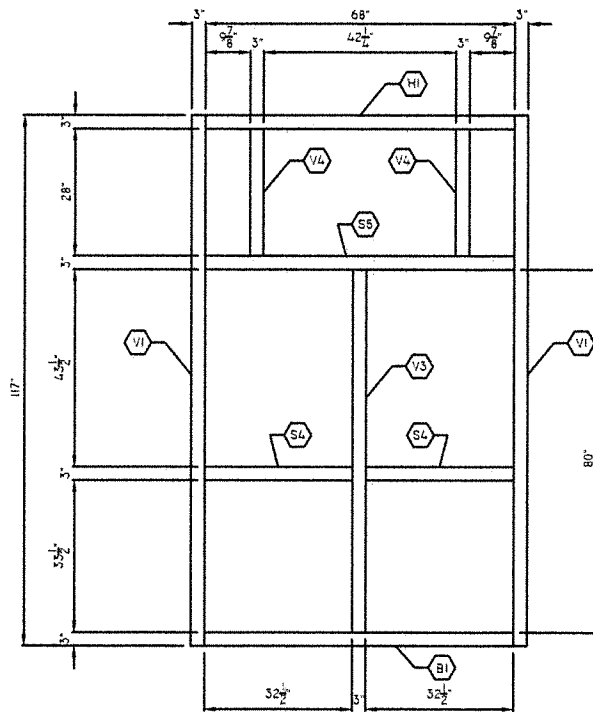
ELECTRICAL RISER DIAGRAM  
DISTRIBUTION PANEL (BY MARDAN)



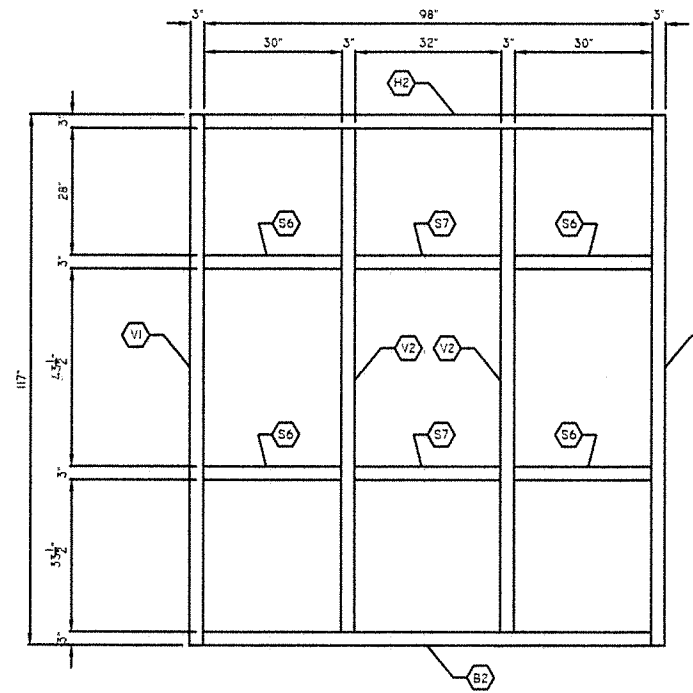
MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER V15-090-4	DRAWN BY: DNE
SCALE: NTS	REVISION:	
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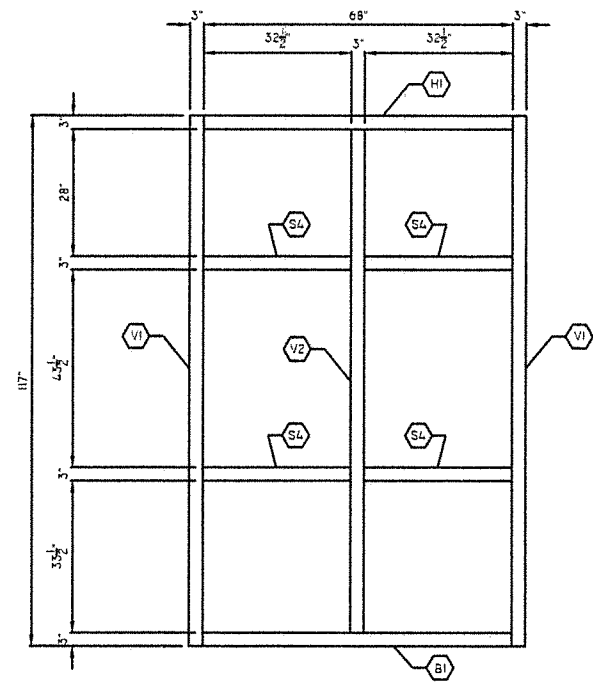
ELEVATION A



ELEVATION B

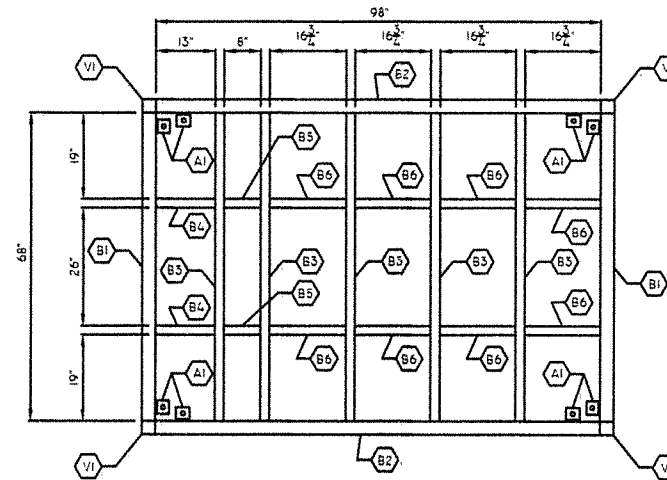


ELEVATION C

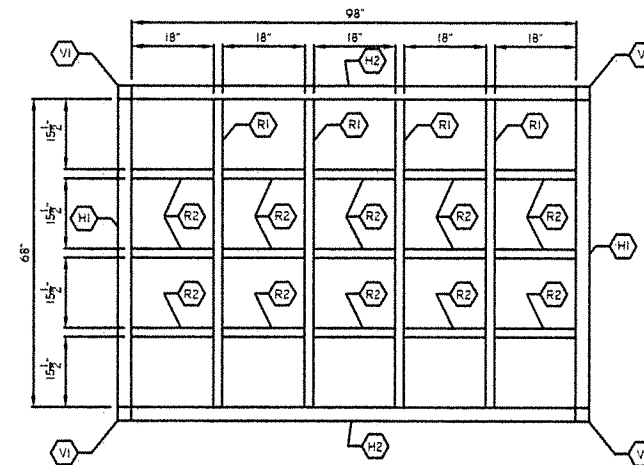


ELEVATION D

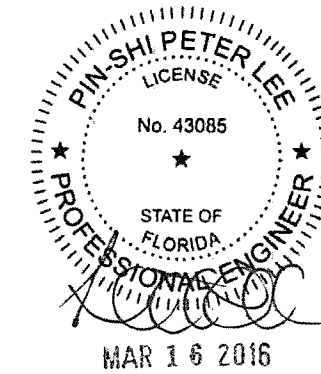
ALUMINUM FRAMING MEMBER MATERIAL				
MEMBER ID	COMMON NAME	MEMBER SIZE	MEMBER LENGTH	MATERIAL
A1	ANCHOR CLIP	3" x 3" x 1/4"	3"	6063-T6 ALUMINUM ANGLE
B1	BASE WIDTH TUBE	3" x 3" x 1/8"	68"	6063-T6 ALUMINUM TUBE
B2	BASE LENGTH TUBE	3" x 3" x 1/8"	98"	6063-T6 ALUMINUM TUBE
B3	BASE CROSS BRACE TUBE	2" x 2" x 1/8"	68"	6063-T52 ALUMINUM TUBE
B4	BASE BRACE TUBE	2" x 2" x 1/8"	13"	6063-T52 ALUMINUM TUBE
B5	BASE BRACE TUBE	2" x 2" x 1/8"	18"	6063-T52 ALUMINUM TUBE
B6	BASE BRACE TUBE	2" x 2" x 1/8"	16-3/4"	6063-T52 ALUMINUM TUBE
V1	CORNER VERTICAL TUBE	3" x 3" x 1/8"	117"	6063-T6 ALUMINUM TUBE
V2	FULL HEIGHT VERTICAL TUBE	3" x 3" x 1/4"	111"	6063-T6 ALUMINUM TUBE
V3	VERTICAL WALL TUBE	3" x 3" x 1/8"	80"	6063-T6 ALUMINUM TUBE
V4	VERTICAL SHORT TUBE	3" x 3" x 1/8"	28"	6063-T6 ALUMINUM TUBE
S1	SILL TUBE	3" x 3" x 1/8"	22"	6063-T6 ALUMINUM TUBE
S2	SILL TUBE	3" x 3" x 1/8"	36"	6063-T6 ALUMINUM TUBE
S3	SILL TUBE	3" x 3" x 1/8"	34"	6063-T6 ALUMINUM TUBE
S4	SILL TUBE	3" x 3" x 1/8"	32-1/2"	6063-T6 ALUMINUM TUBE
S5	SILL TUBE	3" x 3" x 1/8"	68"	6063-T6 ALUMINUM TUBE
S6	SILL TUBE	3" x 3" x 1/8"	30"	6063-T6 ALUMINUM TUBE
S7	SILL TUBE	3" x 3" x 1/8"	32"	6063-T6 ALUMINUM TUBE
H1	HEADER WIDTH TUBE	3" x 3" x 1/8"	68"	6063-T6 ALUMINUM TUBE
H2	HEADER LENGTH TUBE	3" x 3" x 1/8"	98"	6063-T6 ALUMINUM TUBE
R1	ROOF CROSS TUBE	3" x 2" x 1/8"	68"	6063-T52 ALUMINUM TUBE
R2	ROOF BRACE TUBE	3" x 2" x 1/8"	18"	6063-T52 ALUMINUM TUBE



BASE FRAMING

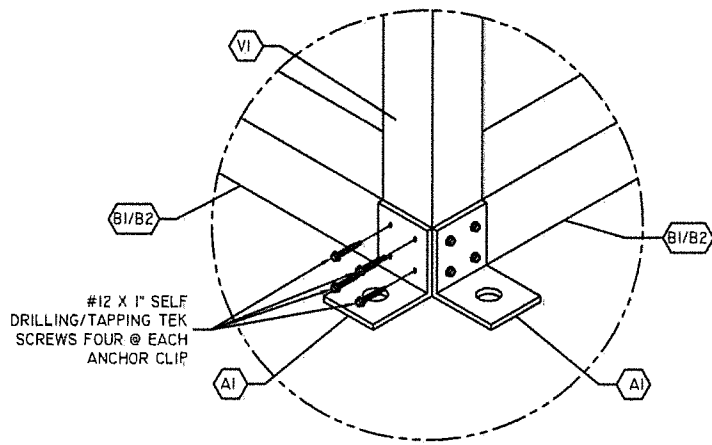


ROOF FRAMING

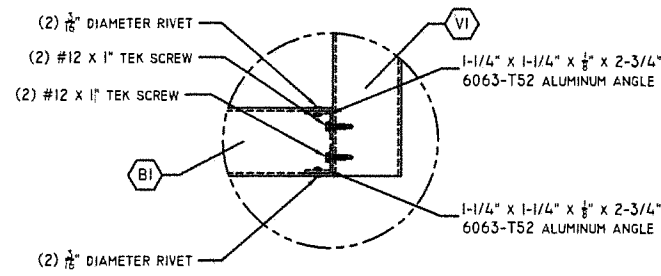


MODEL NUMBER MFI-6288-RR	APPROVED BY:	
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SCALE: NTS	REVISION:	
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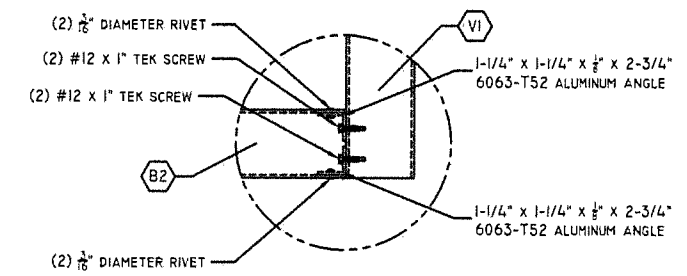
FRAMING MEMBERS TYPICAL CONNECTION INDEX			
MEMBER ID	MEMBER ID	DRAWING SHEET	DETAIL
A1	B1/B2	SD-6	SC-1
B1	V1	SD-6	SC-2
B2	V1	SD-6	SC-3
B3	B2	SD-6	SC-4
B4	B1/B3	SD-6	SC-5
V2	B1/B2	SD-6	SC-6
V3	B1	SD-6	SC-7
V4	S5	SD-6	SC-8
ALL "S" MEMBERS	V1/V2/V3	SD-6	SC-9
V3	S5	SD-7	SC-10
V1	H1	SD-7	SC-11
V1	H2	SD-7	SC-12
V2	H1/H2	SD-7	SC-13
V4	H1	SD-7	SC-14
R1/R2	H1/H2/R1	SD-7	SC-15
R1/R2	H1/H2/R1	SD-7	SC-16



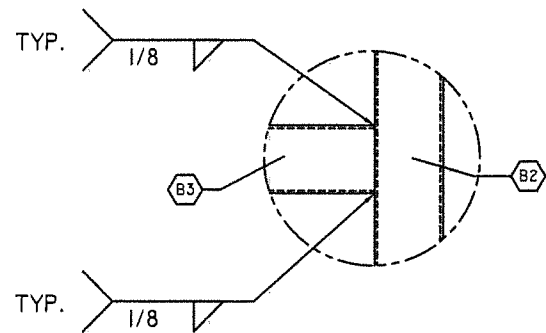
**DETAIL SC-1**  
A1 TO B2 CONNECTION SHALL BE THE SAME/SIMILAR METHOD



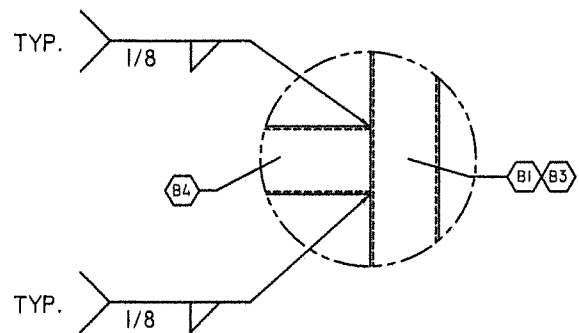
**DETAIL SC-2**



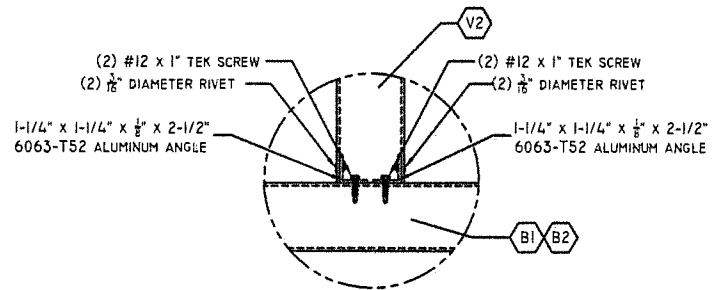
**DETAIL SC-3**



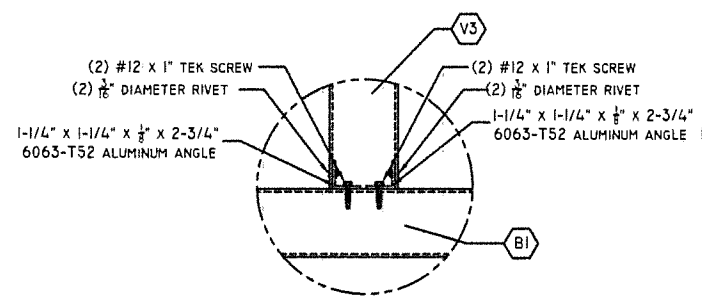
**DETAIL SC-4**



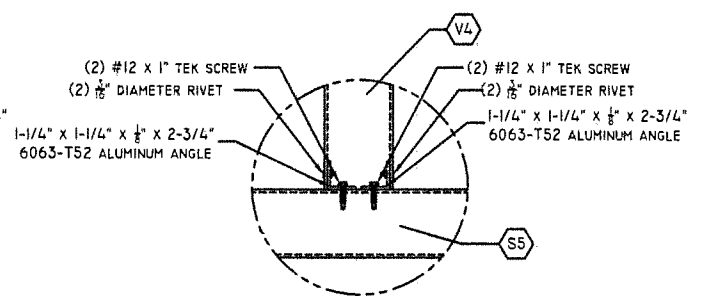
**DETAIL SC-5**



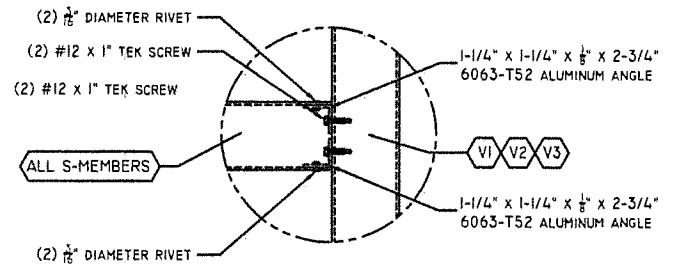
**DETAIL SC-6**



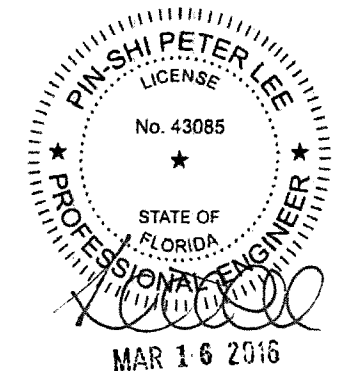
**DETAIL SC-7**



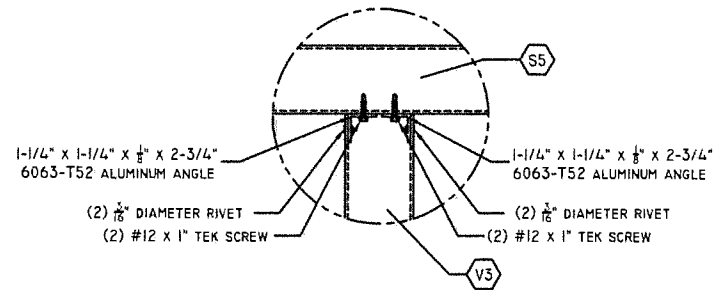
**DETAIL SC-8**



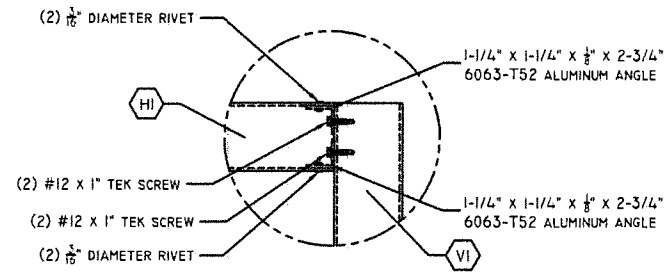
**DETAIL SC-9**



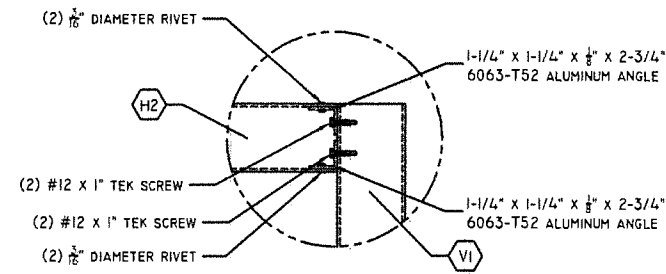
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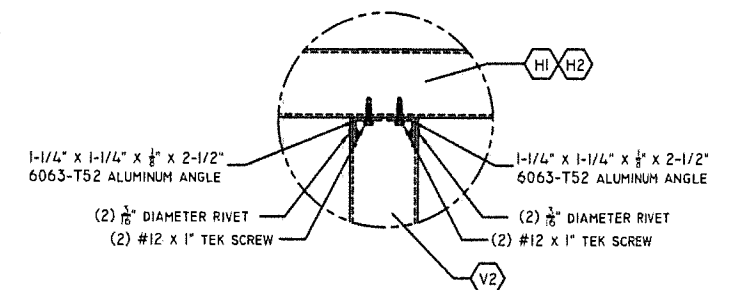
DETAIL SC-10



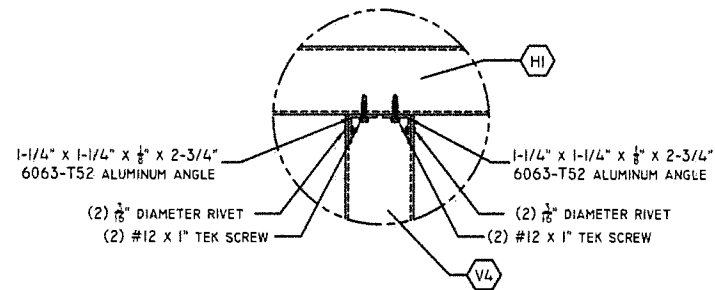
DETAIL SC-11



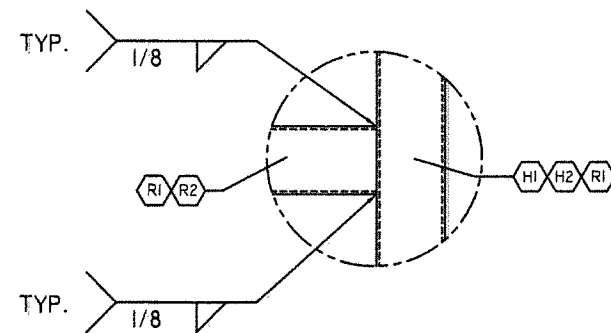
DETAIL SC-12



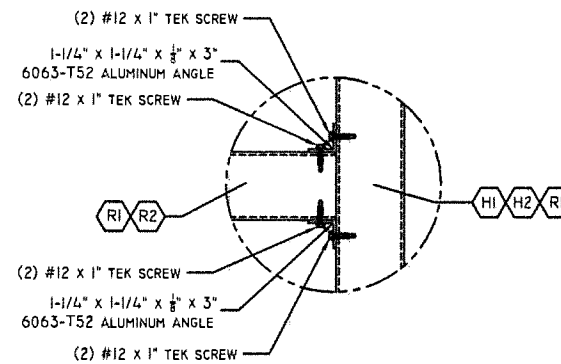
DETAIL SC-13



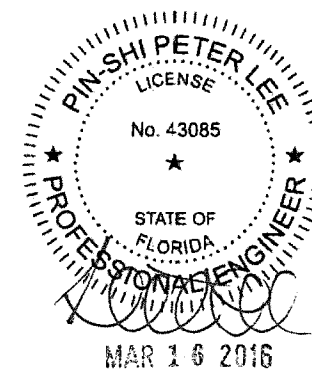
DETAIL SC-14



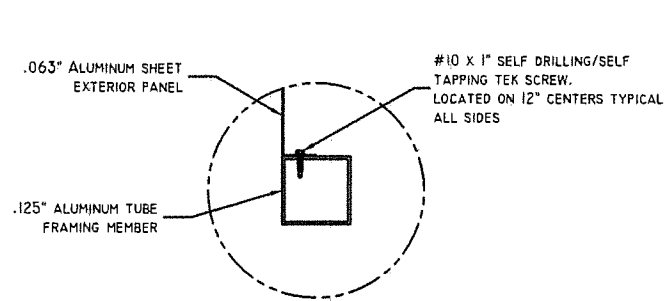
DETAIL SC-15



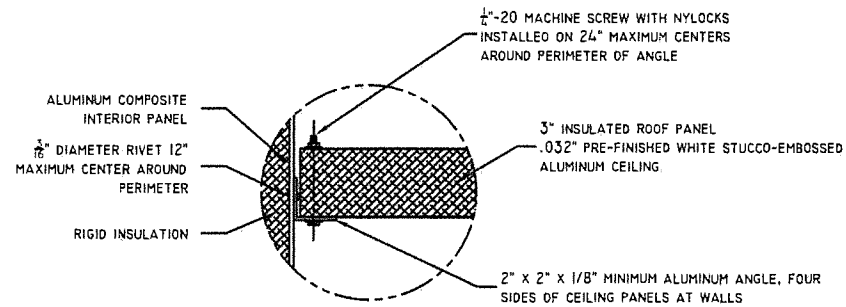
DETAIL SC-16  
ALTERNATE CONNECTION



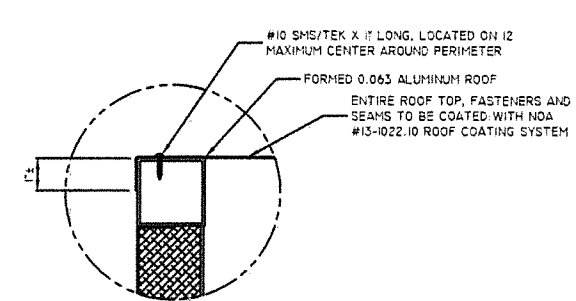
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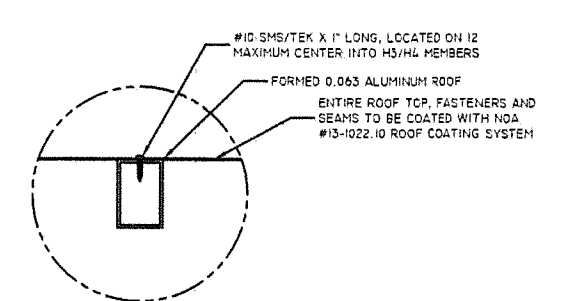
EXTERIOR PANEL TO TUBE FRAME



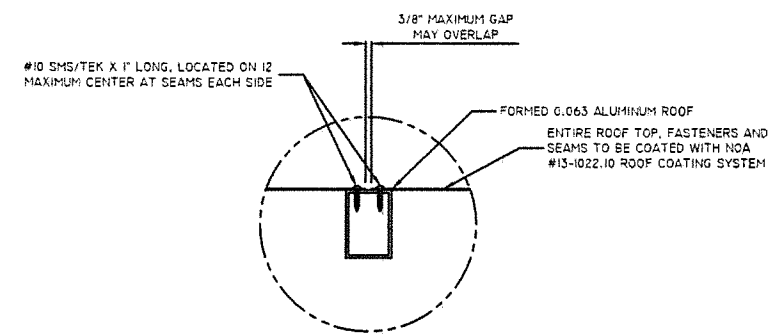
CEILING PANEL TO PERIMETER ALUMINUM ANGLE FRAME



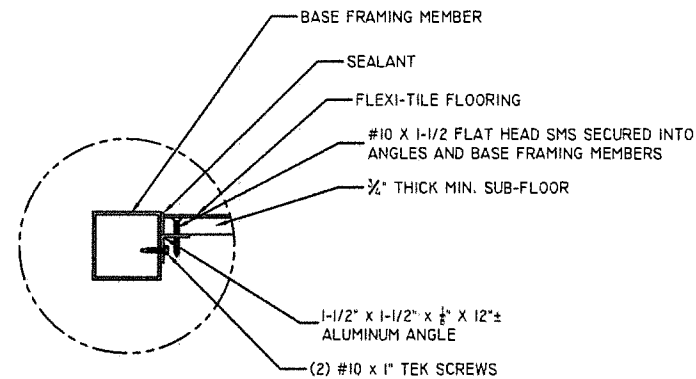
ROOF PANEL TO H1/H2 TUBE MEMBERS



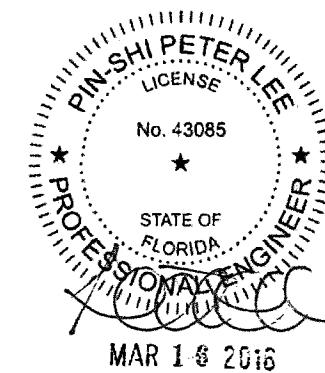
ROOF PANEL TO H3/H4 TUBE MEMBERS



ROOF PANEL AT SEAMS

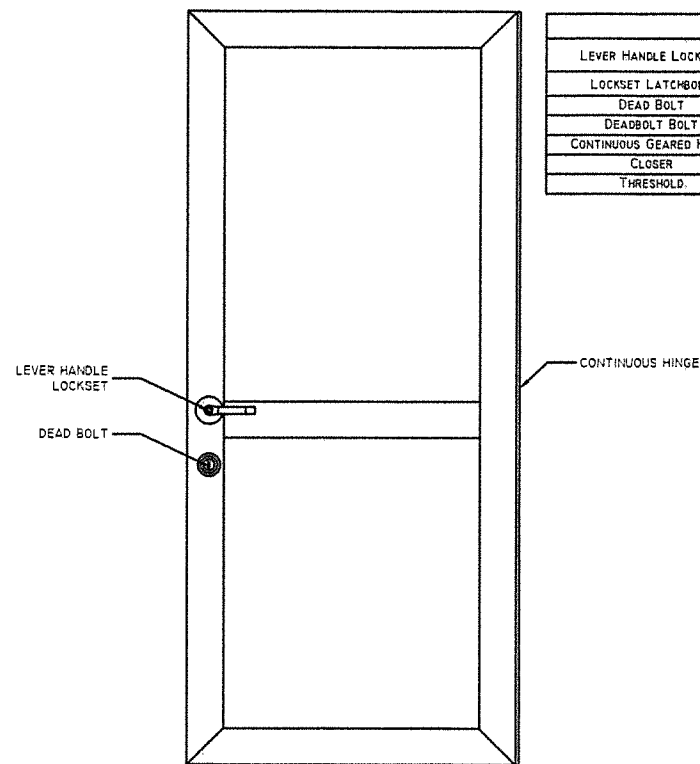


SUB-FLOOR CONNECTION DETAIL

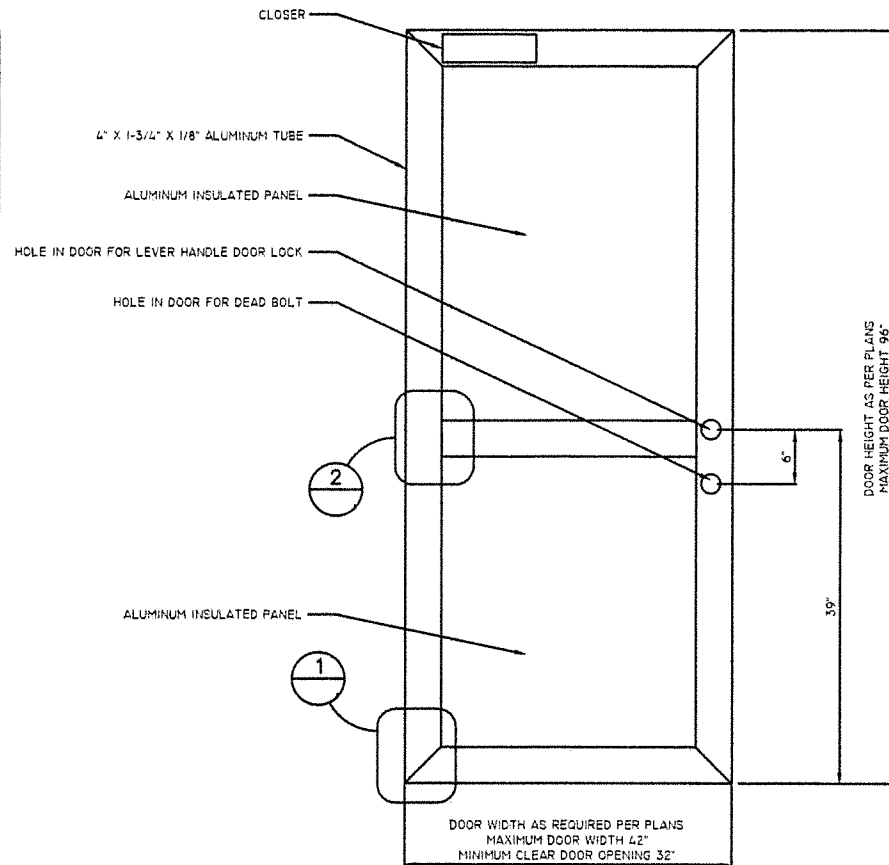


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SCALE: NTS	REVISION:	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-9	

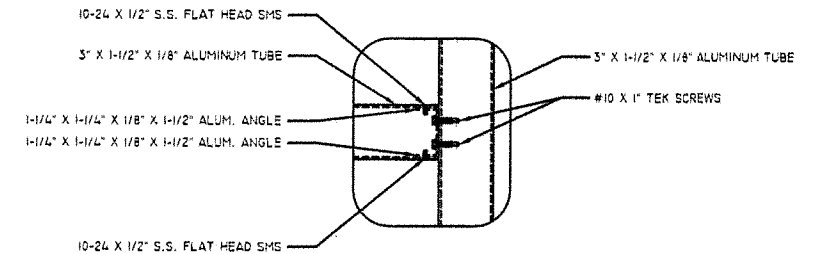
DOOR HARDWARE	
LEVER HANDLE LOCKSET	LSDA #LF2000 26D, ENTRANCE FUNCTION LEVER HANDLE LOCKSET
LOCKSET LATCHBOLT	LSDA #238DL26D 2-3/8" BACK SET LATCH
DEAD BOLT	SCHLAGE #B660P626C, SINGLE CYLINDER
DEADBOLT BOLT	SCHLAGE #12-630-626, 2-3/8" BACKSET, 1" THROW BOLT
CONTINUOUS GEARED HINGE	SELECT #SLIHL HD83 SDTF
CLOSER	LSDA #DC914BC-AL
THRESHOLD	NATIONAL GUARD PRODUCTS #424E



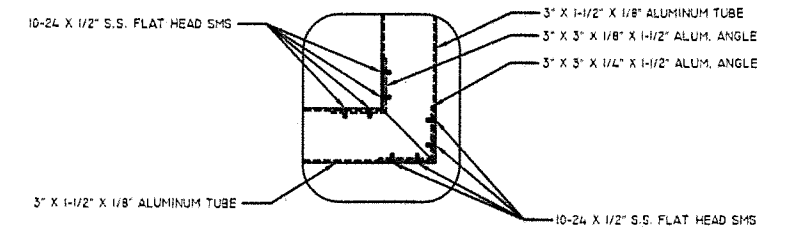
EXTERIOR VIEW OF SWING DOOR ASSEMBLY



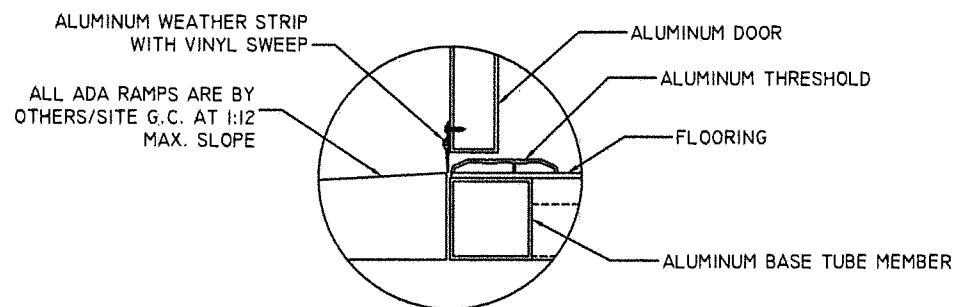
INTERIOR VIEW OF SWING DOOR ASSEMBLY



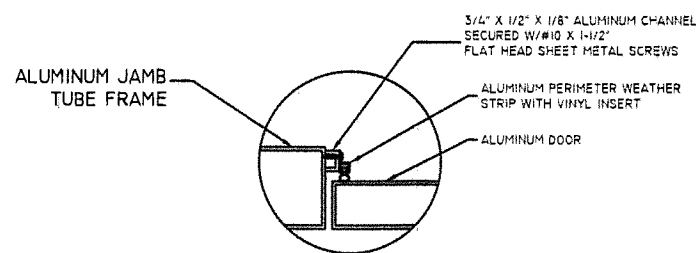
2 MIDPOINT CONNECTION DETAIL



1 CORNER CONNECTION DETAIL

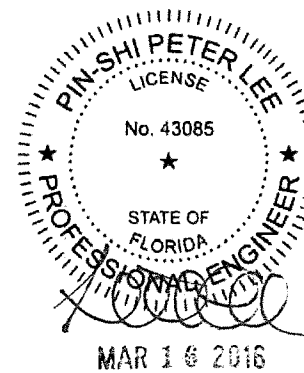


SWING DOOR/ FLOOR DETAIL FOR BOOTHS WITH RAISED FLOOR



SWING DOOR TOP & LATCH SIDE WEATHERSTRIP DETAIL

WEATHERSTRIPPING INSTALLED USING #8 X 1/2" SHEET METAL SCREWS ON 12" MAXIMUM CENTERS



MODEL NUMBER MFI-6288-RR	APPROVED BY:	
DATE: 2-18-2016	DRAWING NUMBER VI5-090-4	DRAWN BY: DNE
SCALE: NTS	REVISION:	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-10	

HANDING MAY VARY



**T. R. ARNOLD & ASSOCIATES, INC.**

*an employee owned company*

*third party inspection agency*

700 E. BEARDSLEY AVENUE • P.O. BOX 1081 • ELKHART, IN 46515  
(574) 264-0745 • FAX: (574) 264-0740 • www.trarnold.com

March 7, 2016

Mr. Jim Richmond  
Florida Department of Business & Professional Regulation  
Manufactured Buildings Program  
1940 North Monroe Street, Suite 90A  
Tallahassee, FL 32399-0772

RE: Mardan Fabrication, Inc.  
Approvals: MFI-60120-SL2; V15-073

Dear. Mr. Richmond:

Enclosed please find one (1) set of documents for the above noted model. TRA hereby certifies that it has examined the building plan and other documents submitted by the manufacturer for certification and found them to be in compliance with the following codes:

2014 FLORIDA BUILDING CODE  
2014 FLORIDA MECHANICAL CODE  
2014 FLORIDA PLUMBING CODE  
2011 NATIONAL ELECTRICAL CODE  
2014 FLORIDA ENERGY CONSERVATION CODE  
2014 FLORIDA FUEL GAS CODE

If you have any questions concerning this submission, please feel free to contact this office at any time. Additionally, a hard copy of these plans with the required engineer's seal is on file at T.R. Arnold & Associates, Inc.

Sincerely,  
T.R. ARNOLD & ASSOCIATES, INC.

Daren Lehman  
Director of Technical Services

DL/jz

cc: Dennis Eisenhardt  
File 6240; work order #16-0914

PROJECT LOCATION		
Aviation Department 4331 NW 22nd. Street, Miami, FL 33122		
		County: Miami-Dade

APPLICABLE MAJOR CODES		
CATEGORY	CODE	YEAR
BUILDING	FLORIDA BUILDING CODE	2014
ENERGY	FLORIDA BUILDING CODE - ENERGY CONSERVATION	2014
MECHANICAL	FLORIDA STATE MECHANICAL CODE	2014
PLUMBING	FLORIDA STATE PLUMBING CODE	2014
FUEL GAS	FLORIDA STATE FUEL GAS CODE	2014
ELECTRICAL	NATIONAL ELECTRICAL CODE	2011

INDUSTRIALIZED BUILDING DATA	
MODEL	MFI-60120-SL2
Actual Building Size	6'-0" X 12'-0"
Estimated Weight	See Data Plate
Building Square Footage	72
Occupant Load	100 SQ. FT./OCCUPANT = 1
Occupancy Type	B
Construction Type	V-B
Electric Class	120/208 Volt, 1 Phase

DESIGN LOADS	
Floor Design Live Load	50 PSF
Roof Design Live Load	30 PSF
Design Wind Speed & Exposure	Vult=175 MPH - Vasd=139, Exposure: C
Wind Importance Factor	1.0
Risk Category	II
Internal Pressure Coefficients	+0.18, -0.18
Components and Cladding	+40 Windward, -54 Leeward

This unit meets the requirements of the (2014) Florida Building Code, 5th Edition mandatory as of June 30, 2015.

These plans comply with rule 61G20-3.006 (Product Approval).

A set of plans with the engineers seal is on file in the third party agency's office as directed by DBPR.

This building is not designed to be located in a Wind-borne Debris Region or High velocity Hurricane Zone.

This building is designed to be located in a Wind-borne Debris Region.

Located within 1 mile of the costal mean water line where the ultimate design wind speed  $V_{ult}$  is 130 MPH or greater; or in areas where the ultimate design wind speed  $V_{ult}$  is 140 MPH or greater.

This building is designed to meet all High Velocity Hurricane Zone requirements.

Located in Miami-Dade or Broward Counties.

**ONLY ONE BOX MAY BE CHECKED AND ONLY CHECKED BOX IS APPLICABLE.**

Florida evaluation reports for the windows, doors, mechanical covers and roofing materials have been received, reviewed, and accepted as approved for use in Florida.

It is maintained in the Manufacturer's Quality Assurance Manual.

A copy of the Florida Evaluation Reports and Installation Instructions may be obtained upon request from Mardan.

The Data Plate, State Insignia/Label, and Third Party Inspection Insignia shall be located on an interior wall panel, near to or adjacent to the electrical load center.

Exterior Panels and Roof aluminum sheet thickness shall meet or exceed requirements of Section 20 of the Florida Building Code. Aluminum sheet shall not be less than 0.032 Inch in thickness.

All dimensions shown shall have a tolerance of +/- 1/4".

SITE WORK
SITE CONTRACTOR IS RESPONSIBLE FOR SUPPLYING AND/OR INSTALLING THE FOLLOWING ITEMS IN ACCORDANCE WITH THE APPLICABLE CODES LISTED ON THIS SHEET.
<ol style="list-style-type: none"> <li>EGRESS LIGHTING FIXTURE</li> <li>ACCESSIBLE ACCESS TO BUILDING</li> <li>ANCHORS</li> <li>FOUNDATION</li> <li>RISER, METERING DEVICE(S), WIRING CONNECTION TO LOAD CENTER</li> </ol>

GENERAL NOTES
EXIT DOORS TO REMAIN OPEN ABLE DURING BUSINESS HOURS FROM THE INSIDE WITHOUT THE USE OF A KEY OR ANY SPECIAL KNOWLEDGE.
NATURAL VENTILATION IS PROVIDED BY OPERABLE WINDOWS AND/OR DOORS.
REQUIRED; WATER FOUNTAIN, SERVICE SINK, AND BATHROOM FACILITIES WILL BE PROVIDED ON SITE IN AN ADJACENT BUILDING, SUBJECT TO LOCAL INSPECTION. FACILITIES MUST BE ADEQUATE TO ACCOMMODATE BOTH ADJACENT BUILDING AND THIS BUILDINGS OCCUPANT LOAD. THIS FACILITY MUST BE LOCATED WITHIN 500 FEET OF THIS STRUCTURE.
THIS BUILDING SHALL BE LOCATED AS TO PROVIDE A 10 FOOT SEPARATION DISTANCE FROM THE PROPERTY LINE OR HALF THE DISTANCE TO ANY OTHER STRUCTURE.
THE FOUNDATION/SLAB DESIGN IS REQUIRED TO BE DESIGNED BY A PROFESSIONAL ENGINEER.
FIRE EXTINGUISHER WILL BE PROVIDED ON-SITE. SUBJECT TO LOCAL INSPECTION.
THIS BUILDING SHALL BE INSTALLED ABOVE FLOOD HAZARD ELEVATION.
ALL ITEMS THAT ARE CLOUDED ARE FIELD INSTALLED.

GLAZING MAKE UP	
	Description
Exterior Lite	1/4" Tempered with Low-E #2
Air Space	1/2 Inch (Air Fill)
Interior Lite	
	Minimum 5/16" Laminata - 1/8" Clear - 0.075" StormGlass™ Interlayer - 1/8" Clear Maximum 9/16" Laminata - 1/4" Clear - 0.075" StormGlass™ Interlayer - 1/4" Clear

Fasteners used in the construction of this model may be made from aluminum, stainless steel or be made of steel and double cadmium plated, hot dipped galvanized or electro-galvanized (zinc plated).

Rivets are made of aluminum or Stainless Steel.

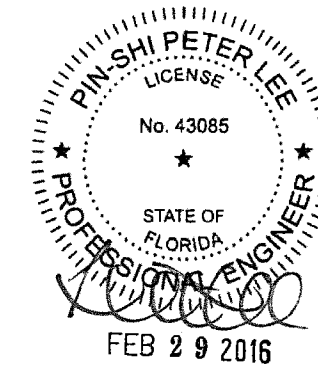
Machine Screws, Bolts, Washers, and Nuts shall be made stainless steel or shall be electro-galvanized (zinc plated) steel.

Screws and Self Drilling Screws shall be made stainless steel or shall be electro-galvanized (zinc plated) steel.

Components used in construction of this model that have State of Florida Product Approval and/or Miami-Dade Notice of Acceptance:		
Product	Approval Number	Expires
Ceiling Panels	FL - #7561	
Roof Coating System	NOA - #13-1022.10	12/11/2018
Impact Resistant Louver	NOA - #11-0726.03	09/22/2016

BUILDING ENVELOPE INFORMATION:	
ROOF:	
ACTUAL INSULATION	R-VALUE: 16.7
WALL:	
ACTUAL INSULATION	R-VALUE: 18.5
FLOOR:	
ACTUAL INSULATION	R-VALUE: N/A
DOOR(S)	
R-VALUE:	5.21
FENESTRATION INFORMATION:	
U-VALUE:	0.28
SHGC:	0.24

DRAWING SHEET INDEX	
SHEET	DESCRIPTION
CV-1	COVER SHEET AND DRAWING INDEX
CV-2	DATA PLATES
SD-1	PLAN VIEW, FOOTPRINT AND ELECTRICAL VIEW
SD-2	ELEVATIONS
SD-3	ANCHOR DETAIL, SECTION AND WINDOW DETAIL
SD-4	CIRCUIT BREAKER SCHEDULE AND ELECTRICAL RISER
SD-5	FRAMING MEMBER LAYOUT AND SCHEDULE
SD-6	FRAMING CONNECTION DETAILS
SD-7	FRAMING CONNECTION DETAILS
SD-8	SLIDING DOOR DETAILS



MODEL NUMBER	MFI-60120-SL2	APPROVED BY:	
DATE:	2-17-2016	DRAWING NUMBER	VI5-080-9
SCALE:	NTS	DRAWN BY:	DNE
		REVISION:	2-24-2016
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL			
MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820		DRAWING SHEET CV-1	

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MANUFACTURER'S DATA PLATE



Manufacturer Mardan Fabrication, Inc.
Address 41249 Irwin Drive
City, State, Zip Harrison Township, MI 48045

LISTED INDUSTRIALIZED BUILDING

Table with 3 columns: Model (MFI-60120-SL2), Occupancy Classification (B, Const. Class, VB), Manufacturer's Serial No(s), Date of Manufacture, Date Data Plate Attached, Permissible Gas Types(s) (N/A), Electrical Rating (120/208 Volt, Single Phase), Test Voltage/Time (1080 Volts/1 Second), Water Supply: Test Procedure (N/A), Floor Design Live Load (50 PSF, Design Wind Speed and Exposure, 175 MPH-Exp:C), Ground Snow Load (0 PSF, Roof Design Live Load, 30 PSF), Exterior Wall Fire Rating (N/R, Seismic Design Category, A), Winter Design Temp.: Inside (+70° F, Outside, +6° F), Ue: Ceiling (0.0600, Wall, 0.054, Floor, N/A)

FACTORY INSTALLED EQUIPMENT

Table with 3 columns: EQUIPMENT, MANUFACTURER, MODEL NO.
Heating: General Electric, AZ61H12D
Cooling: General Electric, AZ61H12D
Shipping Weight(s): 5,000 Pounds
TRA Label No(s):
State Insignia No(s):

Follow precisely all instruction with this building. Foundations, Installation and Utility connections are subject to inspection by local authorities.

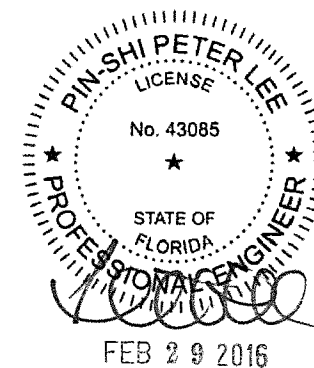


THIS MANUFACTURED STRUCTURE HAS BEEN CONSTRUCTED IN CONFORMANCE WITH THE FOLLOWING CODES:

- 2011 NATIONAL ELECTRICAL CODE
INTERNATIONAL BUILDING CODE
INTERNATIONAL MECHANICAL CODE
INTERNATIONAL PLUMBING CODE
INTERNATIONAL ENERGY CONSERVATION CODE
INTERNATIONAL RESIDENTIAL CODE
INTERNATIONAL FUEL GAS CODE
INTERNATIONAL FIRE CODE
INTERNATIONAL BUILDING CODE
UNIFORM BUILDING CODE
UNIFORM PLUMBING CODE
UNIFORM MECHANICAL CODE
NATIONAL STANDARD PLUMBING CODE
INTERNATIONAL BUILDING CODE
FLORIDA BUILDING CODE - 5TH EDITION (2014) BUILDING
FLORIDA BUILDING CODE - 5TH EDITION (2014) MECHANICAL
FLORIDA BUILDING CODE - 5TH EDITION (2014) PLUMBING
FLORIDA BUILDING CODE - 5TH EDITION (2014) ENERGY CONSERVATION
FLORIDA BUILDING CODE - 5TH EDITION (2014) FUEL GAS
FLORIDA BUILDING CODE - 5TH EDITION (2014) ACCESSIBILITY

FLORIDA DATA PLATE ADDENDUM

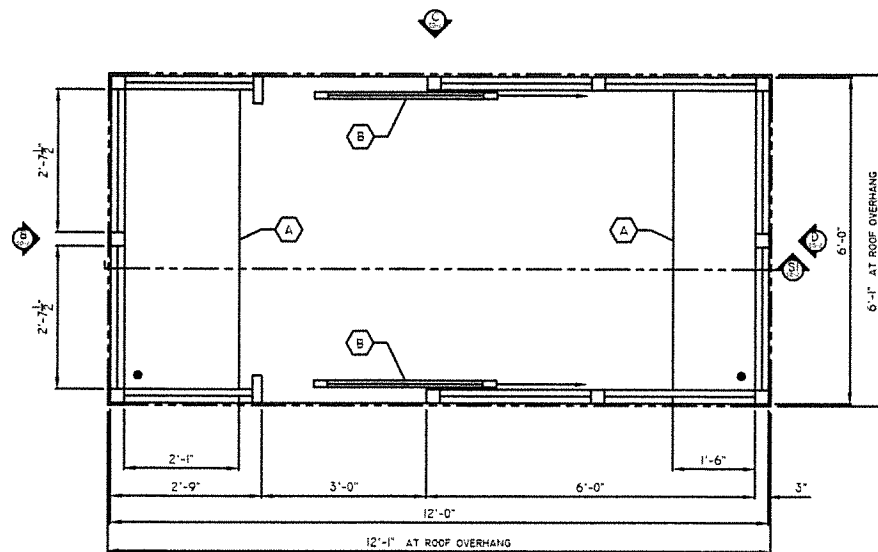
Manufacturer Certification Number MFT10220
Date of Alteration N/A
Number of Modules 1
Design Occupant Load 1
Agency Plan Number MFI-60120-SL2
Floor Dead Load 5 PSF
Roof Dead Load 5 PSF
Limitation of plan approval NONE
Is automatic sprinkler system required (if provided) N/A
Special stipulations and conditions of the building permit NONE



FINISH SCHEDULE table with 2 columns: ITEM, DESCRIPTION. Includes entries for FLOOR, CANTOPY, WALLS, CEILING, COUNTER, and SAFETY GLAZING.

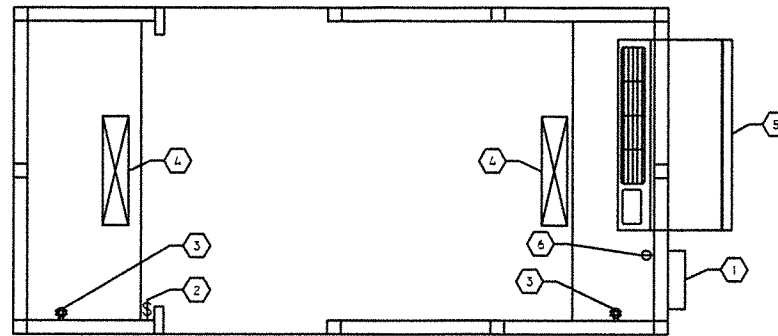
Table with 3 columns: MODEL NUMBER (MFI-60120-SL2), APPROVED BY, DATE (2-17-2016), DRAWING NUMBER (VI5-080-9), DRAWN BY (DNE), SCALE (NTS), REVISION (2-24-2016). Includes MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL.

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**PLAN VIEW  
EQUIPMENT**

- A. COUNTER WITH 2" GROMMET HOLE.
- B. SLIDING ENTRY DOOR, TOP SUSPENDED WITH BALL BEARING CARRIERS AND I-BEAM TRACK, HOOK BOLT LOCK, DOOR PULL AND FIXED GLASS WINDOW, UPPER HALF.

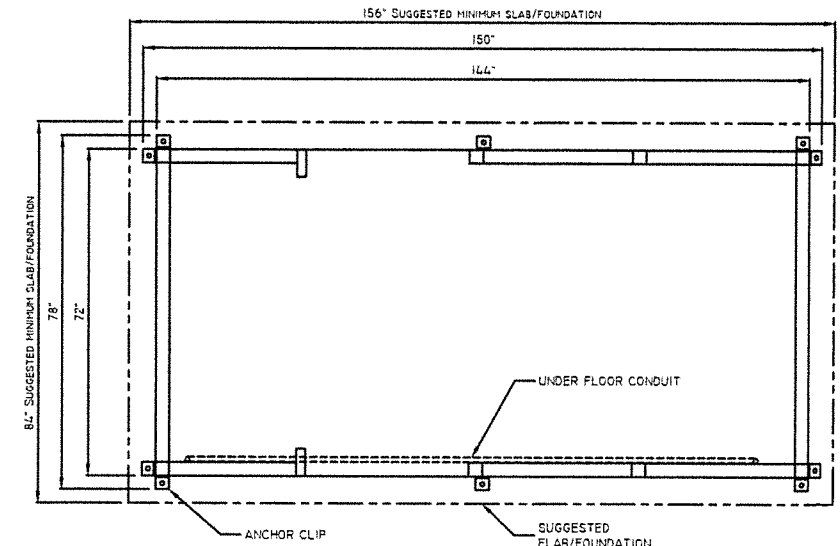


**ELECTRICAL PLAN**

**ELECTRICAL NOTES**

1. NEMA 3-R 120/208 VOLT, SINGLE PHASE, 125 AMP RATED, 8-CIRCUIT LOAD CENTER MAIN LUG ONLY.
  2. LIGHT SWITCH FOR INTERIOR LIGHTS.
  3. 120 VOLT, 20 AMP DOUBLE DUPLEX RECEPTACLES, TWO REQUIRED.
  4. CEILING SURFACE MOUNTED, 1 LAMP 14 WATT T-5, FLUORESCENT LIGHT FIXTURE.
  5. WALL MOUNTED HEAT PUMP UNIT WITH RELIABLE IMPACT RESISTANT LOUVER (NOA#11:0726.03)
  6. 208 VOLT, 20 AMP SINGLE RECEPTACLE FOR HEAT PUMP UNIT.
- ALL ELECTRICAL COMPONENTS TO BE U.L. LISTED.
  - ALL WIRING PER N.E.C. STANDARD.
  - ALL FACTORY INSTALLED WIRING TO BE #12 MINIMUM THHN ENCLOSED IN METALLIC RACEWAY.
  - ALL BRANCH CIRCUITS HAVE GREEN GROUND CONDUCTOR.

NOTE ACTUAL LOCATION OF ELECTRICAL DEVICE MAY VARY DUE TO INSTALLATION CONSTRAINTS OR FOR PROPER PLACEMENT AS PER APPLICABLE CODES



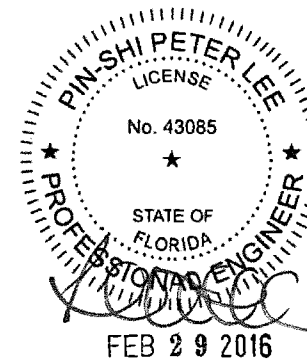
**FOOT PRINT**

THIS UNIT MUST BE ANCHORED TO CONCRETE SLAB/FOUNDATION  
FAILURE TO SECURELY ANCHOR BOOTH MAY RESULT IN OVERTURNING OF UNIT AND SERIOUS INJURY OR DEATH TO OCCUPANT OR TO OTHERS.

DESIGN OF SLAB/FOUNDATION BY OTHERS. CONSULT A PROFESSIONAL ENGINEER FAMILIAR WITH APPLICABLE LOADS AND SITE CONDITIONS FOR THE LOCATION.

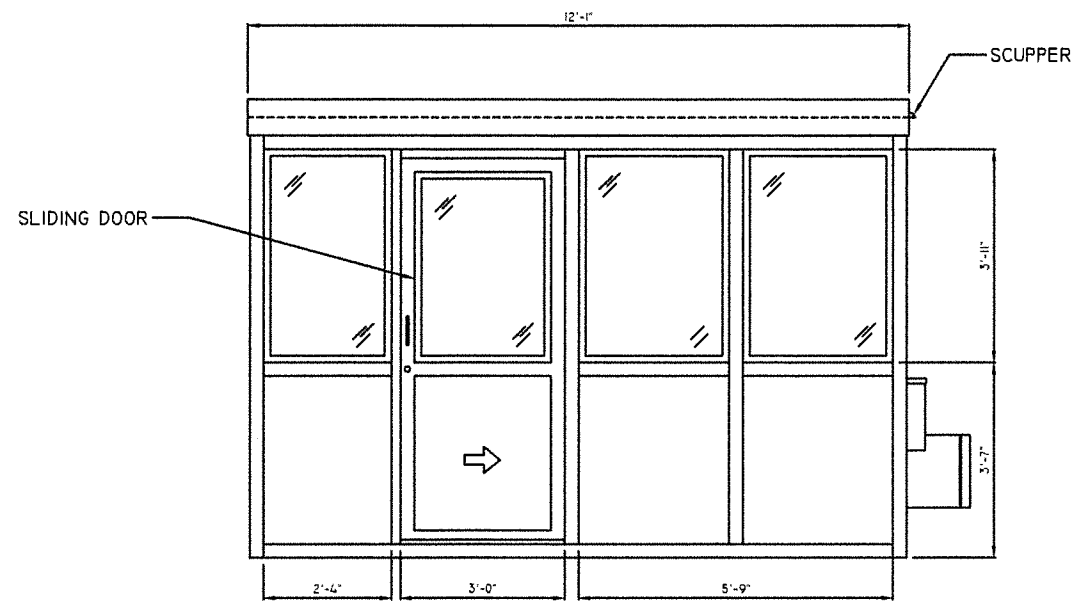
**GENERAL SITE INSTALLED ITEMS PROVIDED BY OTHERS**

1. PROVIDE 120V/240V, SINGLE PHASE, 3-WIRE SERVICE WITH GROUND.
2. CONCRETE FOUNDATION/SLAB DESIGN BY OTHERS, SUGGESTED MINIMUM 6" DEEP, 3,000 PSI MINIMUM (28 DAY ACI 318). THE MINIMUM FOUNDATION/SLAB SHOULD BE AS DIMENSIONED ABOVE. THIS IS TO PROVIDE AN AMPLE CONCRETE BORDER ON EACH SIDE OF THE BUILDING AND TO PREVENT FRACTURING OF CONCRETE WHEN ANCHORING.
3. ADEQUATE SIZE DRILLED ANCHOR BOLTS. SUGGESTED SIZE: 1/2" WEDGE ANCHOR (3-1/2" MINIMUM EMBEDMENT INTO CONCRETE SLAB/FOUNDATION).

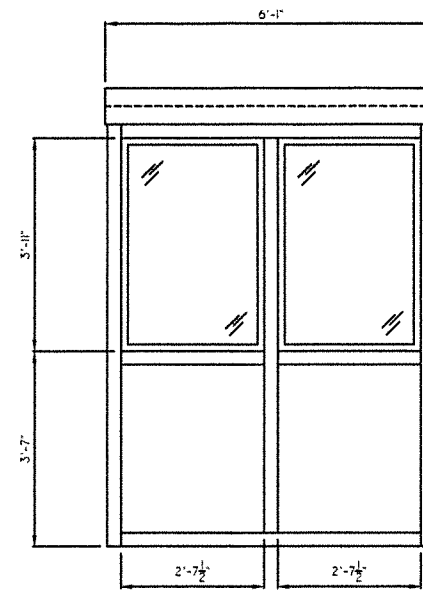


MODEL NUMBER MFI-60120-SL2		APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE	REVISION: 2-24-2016
SCALE: NTS			
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL			
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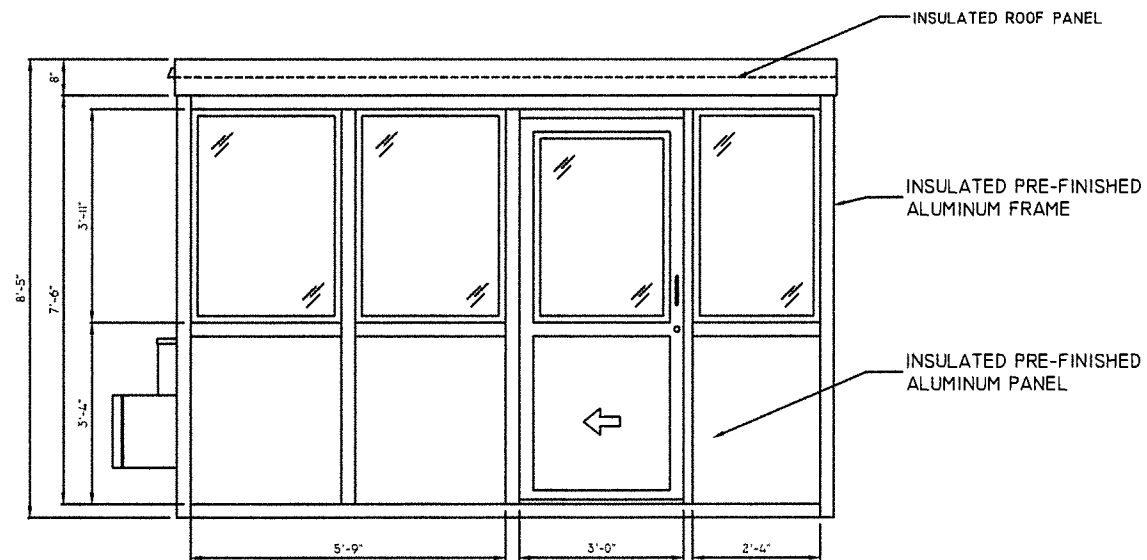
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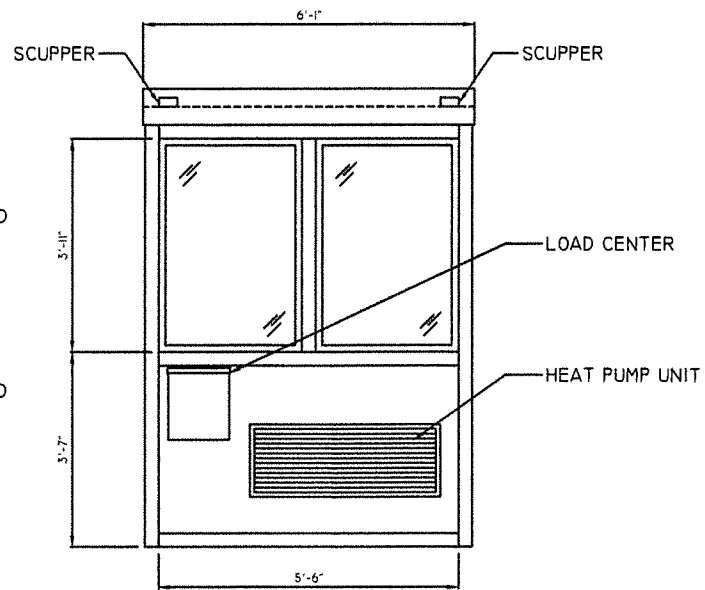
ELEVATION A



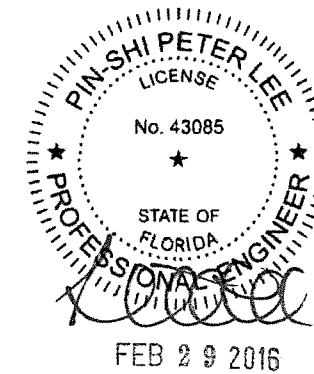
ELEVATION B



ELEVATION C



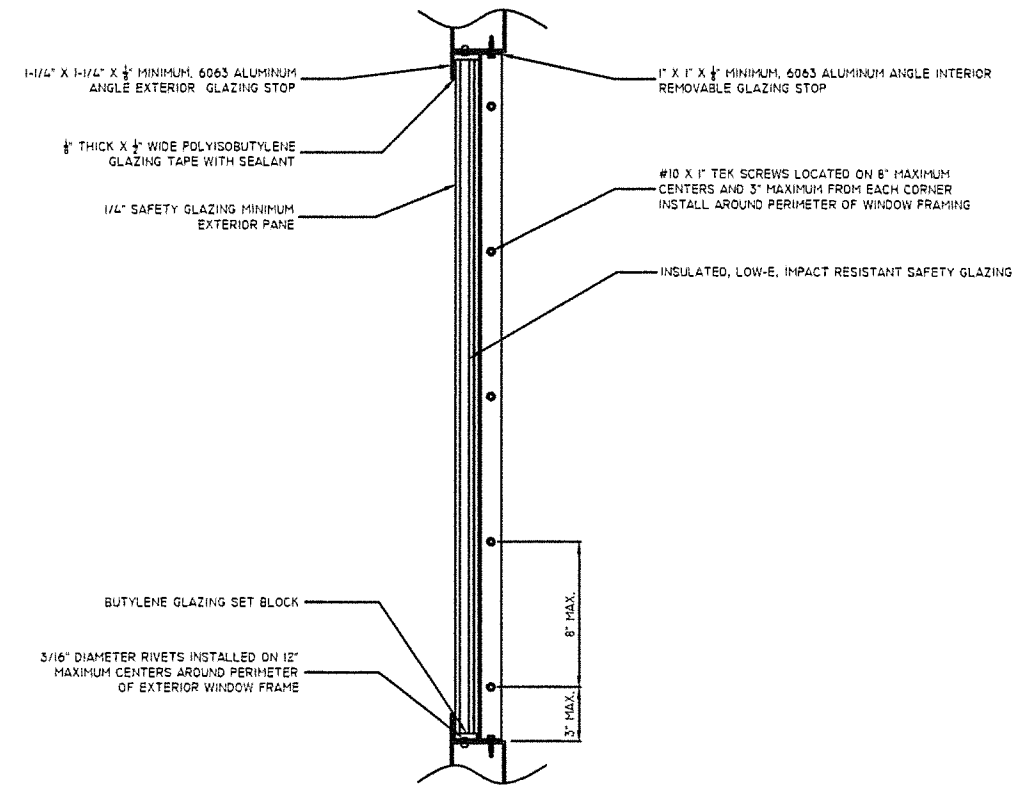
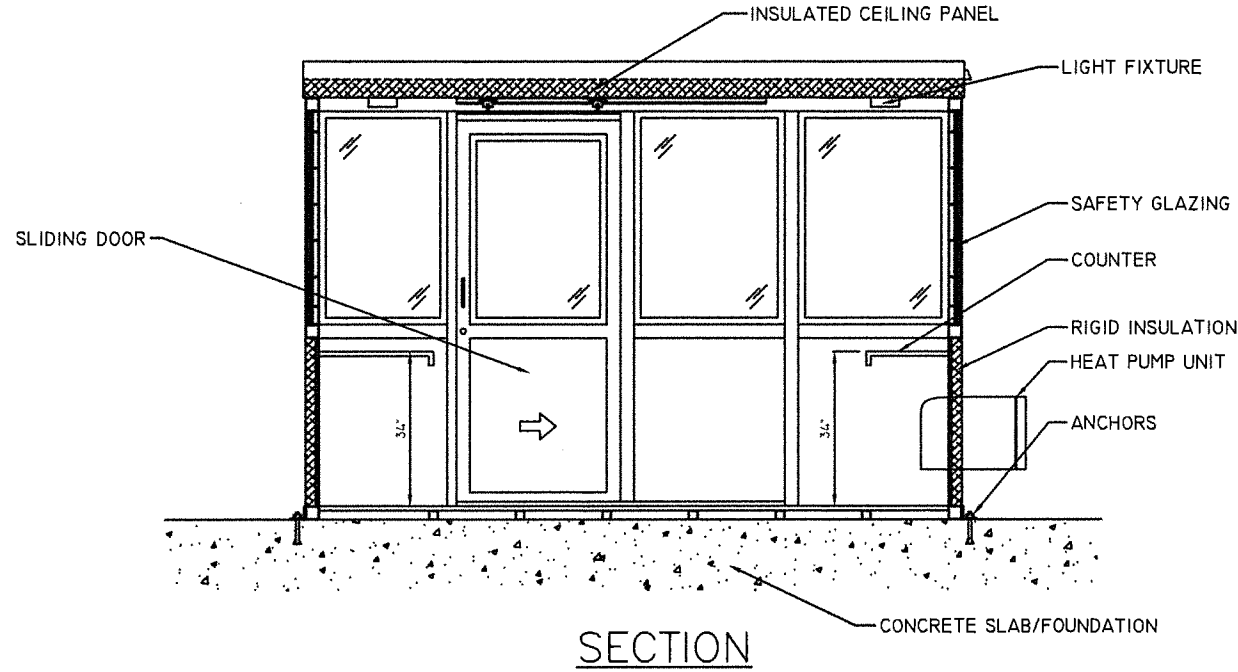
ELEVATION D



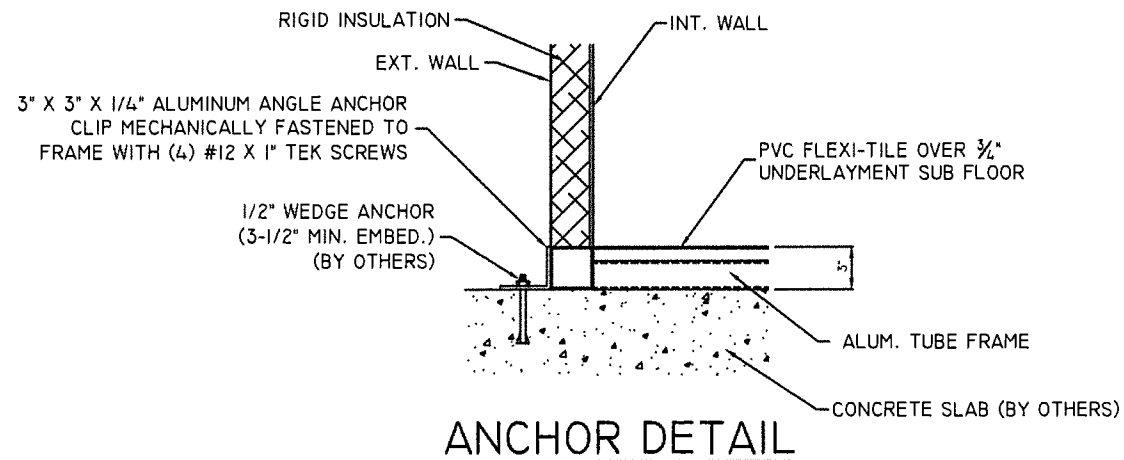
MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER V15-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		

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MFI	MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-2
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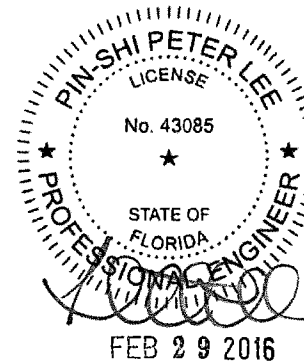
DOOR AND SLIDING WINDOW TO HAVE INTERIOR ANGLE REPLACED WITH 2-1/2" X 1/8" ALUMINUM BAR, SECURED INTO THE FACE OF THE FRAME USING #10 X 1" TEK SCREWS ON 8" MAXIMUM CENTERS



ANCHORS LOCATED PER PROJECT DRAWINGS.

**CONCRETE FOUNDATION/SLAB BY OTHERS**

DESIGN IS BASED ON A MINIMUM 6" DEEP, 3,000 PSI MINIMUM (28 DAY ACI 318) REINFORCED. THE FOUNDATION/SLAB SHOULD BE A MINIMUM OF 12" WIDER THAN THE BUILDING FOOT PRINT DIMENSIONS. THIS IS TO PROVIDE A 6" CONCRETE BORDER ON EACH SIDE OF THE BUILDING.



MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		

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MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-3
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PANEL SPECIFICATION:

SINGLE PHASE, FOUR WIRE, 120/208 VAC, 12 POLE (MINIMUM), RAIN TIGHT LOAD CENTER WITH MAIN LUG ONLY.  
ALL BRANCH CIRCUIT BREAKERS ARE PLUG-ON TYPE

REMARKS	PHASE (WATTS)		CONDUCTORS	LOAD DESCRIPTION	AMP	CKT #	CKT #	AMP	LOAD DESCRIPTION	CONDUCTORS	PHASE (WATTS)		REMARKS
	A	B									A	B	
1	748	-	Two #12 + #12G	LIGHTING & RECEPTACLES	20	1	2	20	ZONELINE HEATPUMP UNIT	Two #12 + #12G	1,650	-	2
1	-	0		SPACE	20	3	4				-	1,650	
	0	-		SPACE	20	5	6	-	SPACE		0	-	
	-	0		SPACE	-	7	8	-	SPACE		-	0	
	0	-		SPACE	-	9	10	-	SPACE		0	-	
	-	0		SPACE	-	11	12	-	SPACE		-	0	

SUB-TOTAL 748 0  
TOTAL 2,398 1,650

SUB-TOTAL 1,650 1,650

TOTAL 4,048 WATT LOAD  
TOTAL 19.46 AMP LOAD

MINIMUM FACTORY INSTALLED WIRE SIZES  
15 AMP CIRCUIT - #12 WITH GROUND  
20 AMP CIRCUIT - #12 WITH GROUND  
30 AMP CIRCUIT - #10 WITH GROUND

ALL FACTORY INSTALLED WIRING CONDUCTORS SHALL BE THHN STRANDED COPPER.

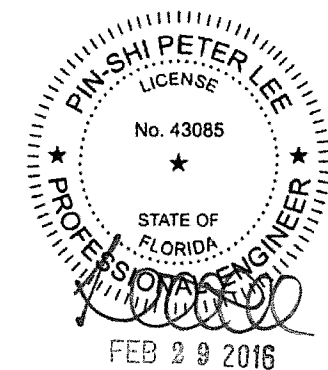
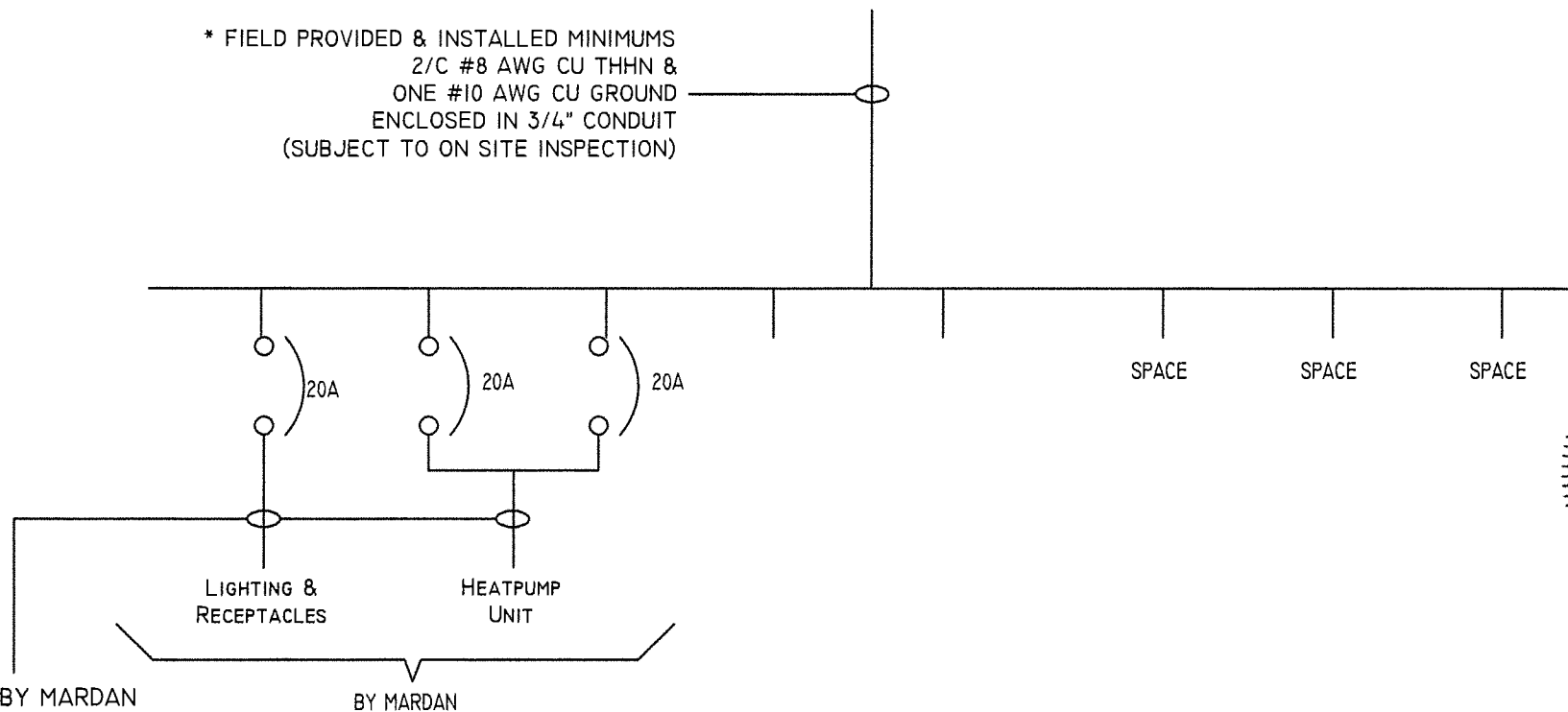
FACTORY INSTALLED BRANCH FEEDER WIRING SHALL BE ENCLOSED IN 1/2" MINIMUM ELECTRICAL METALLIC TUBING (EMT).

ALTERNATIVELY, 1/2" MINIMUM IMC/RIGID METAL CONDUIT, MC CABLE OR LIQUID TYPE METALLIC TUBING MAY BE USED. WHEN INSTALLED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

- REMARKS 1. ASSUMING 180 WATTS FOR EACH OUTLET PER NEC ARTICLE 220.14 (1)  
2. UL LISTED AS HACR TYPE FOR USE WITH AIR CONDITIONING & HEATING

MAXIMUM NUMBER OF THHN CONDUCTORS OR FIXTURE WIRES IN EMT (BASED ON TABLE 1, CHAPTER 9)			
CONDUCTOR SIZE (AWG)	CONDUIT TRADE SIZE		
	1/2"	3/4"	1"
#12	9	16	26
#10	5	10	16
#8	3	6	9

\* FIELD PROVIDED & INSTALLED MINIMUMS  
2/C #8 AWG CU THHN &  
ONE #10 AWG CU GROUND  
ENCLOSED IN 3/4" CONDUIT  
(SUBJECT TO ON SITE INSPECTION)



WIRING BY MARDAN  
REFER TO C.B. SCHEDULE FOR  
CONDUCTOR SIZING AND CIRCUIT  
PLACEMENT

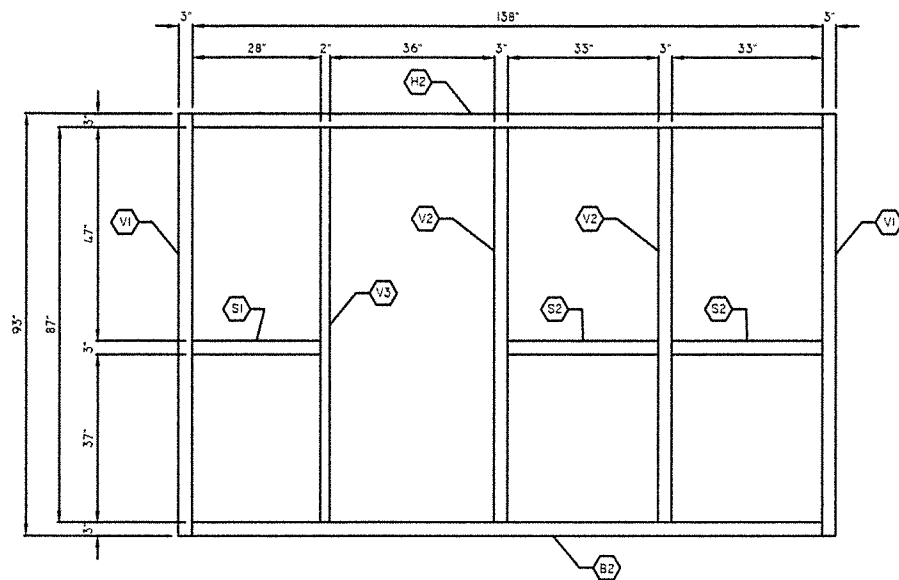
BY MARDAN

ELECTRICAL RISER DIAGRAM

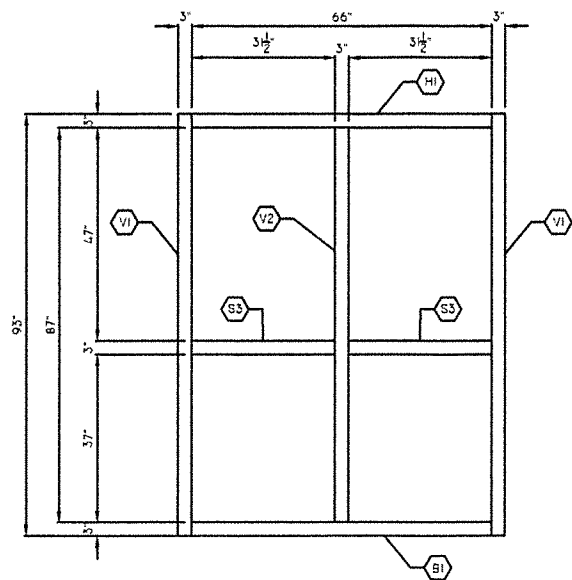
DISTRIBUTION PANEL (BY MARDAN)

MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-4	

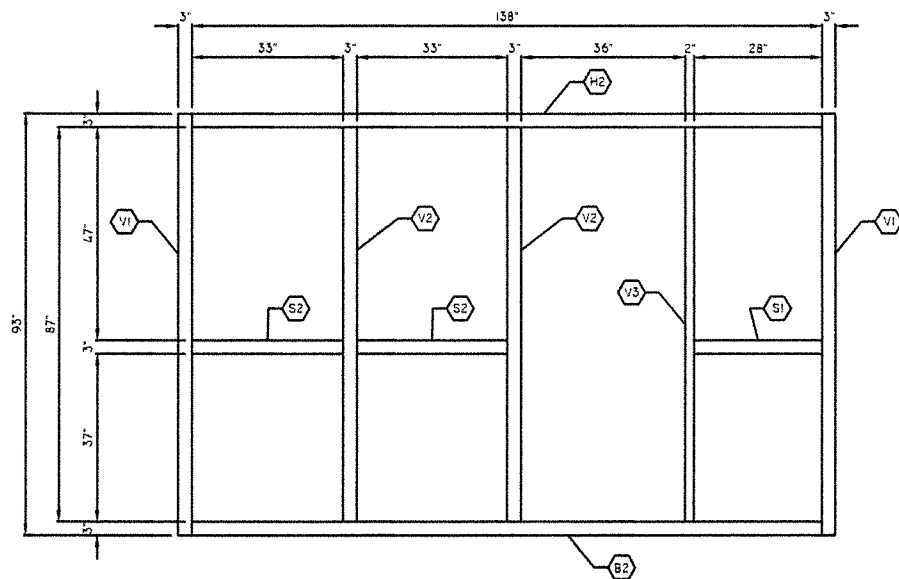
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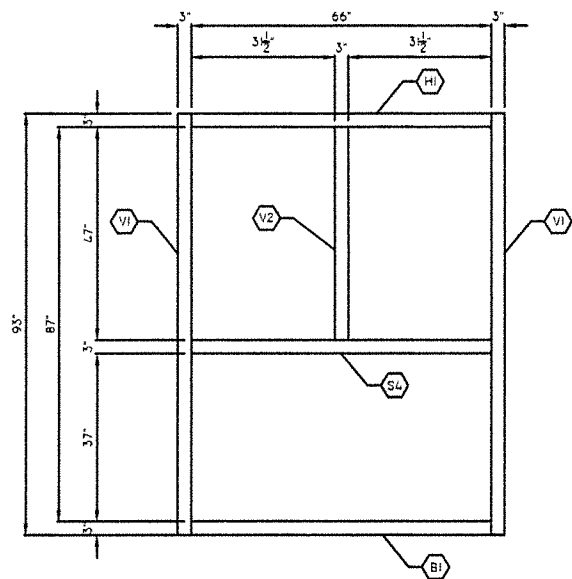
ELEVATION A



ELEVATION B

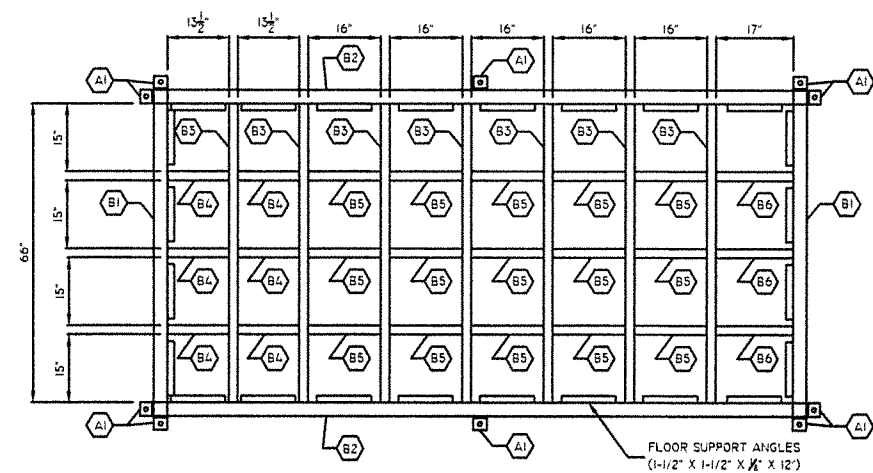


ELEVATION C

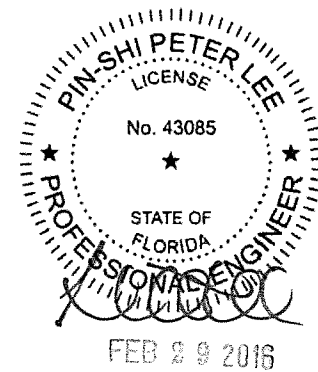


ELEVATION D

ALUMINUM FRAMING MEMBER MATERIAL				
MEMBER ID	COMMON NAME	MEMBER SIZE	MEMBER LENGTH	MATERIAL
A1	ANCHOR CLIP	3" x 3" x 1/4"	3"	6063-T6 ALUMINUM ANGLE
B1	BASE WIDTH TUBE	3" x 3" x 1/8"	66"	6063-T6 ALUMINUM TUBE
B2	BASE LENGTH TUBE	3" x 3" x 1/8"	158"	6063-T6 ALUMINUM TUBE
B3	BASE CROSS BRACE TUBE	3" x 2" x 1/8"	66"	6063-T52 ALUMINUM TUBE
B4	BASE BRACE TUBE	3" x 2" x 1/8"	13-1/2"	6063-T52 ALUMINUM TUBE
B5	BASE BRACE TUBE	3" x 2" x 1/8"	16"	6063-T52 ALUMINUM TUBE
B6	BASE BRACE TUBE	3" x 2" x 1/8"	17"	6063-T52 ALUMINUM TUBE
V1	CORNER VERTICAL TUBE	3" x 3" x 1/4"	93"	6063-T6 ALUMINUM TUBE
V2	FULL HEIGHT VERTICAL TUBE	3" x 3" x 1/8"	87"	6063-T6 ALUMINUM TUBE
V3	VERTICAL DOOR LATCH TUBE	6" x 2" x 1/8"	87"	6063-T6 ALUMINUM TUBE
S1	SILL TUBE	3" x 3" x 1/8"	28"	6063-T6 ALUMINUM TUBE
S2	SILL TUBE	3" x 3" x 1/8"	33"	6063-T6 ALUMINUM TUBE
S3	SILL TUBE	3" x 3" x 1/8"	31-1/2"	6063-T6 ALUMINUM TUBE
S4	SILL TUBE	3" x 3" x 1/8"	66"	6063-T6 ALUMINUM TUBE
H1	HEADER WIDTH TUBE	3" x 3" x 1/8"	66"	6063-T6 ALUMINUM TUBE
H2	HEADER LENGTH TUBE	3" x 3" x 1/8"	158"	6063-T6 ALUMINUM TUBE



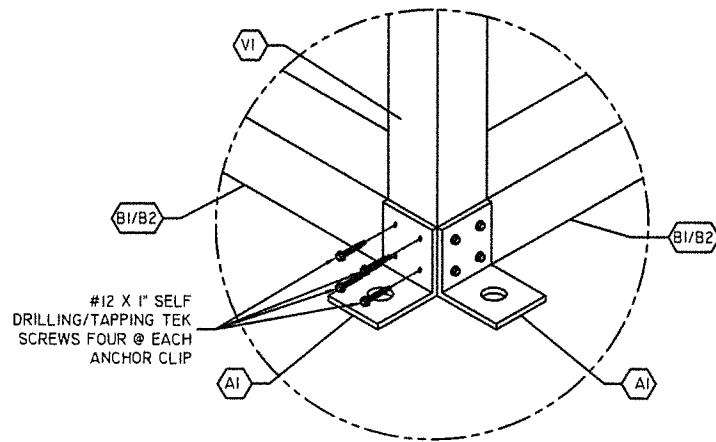
FRAMING MEMBERS TYPICAL CONNECTION INDEX			
MEMBER ID	MEMBER ID	DRAWING SHEET	DETAIL
A1	V1	SD-6	SC-1
B1	V1	SD-6	SC-2
B2	V1	SD-6	SC-3
B3/B4/B7	B2/B1	SD-6	SC-4
B4/B5/B6/B7	B1/B3	SD-6	SC-5
V2	B1/B2	SD-6	SC-6
V3	B2	SD-6	SC-7
S1/S2/S3/S4	V1/V2/V3	SD-6	SC-8
H1	V1	SD-6	SC-9
H2	V1	SD-7	SC-10
V2/V4	H1/H2	SD-7	SC-11
V3	H2	SD-7	SC-12
V4	S4	SD-7	SC-13



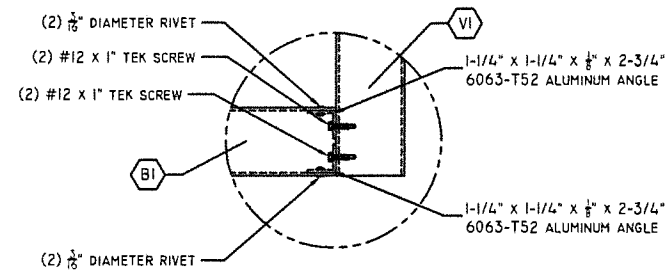
MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER V15-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-5	

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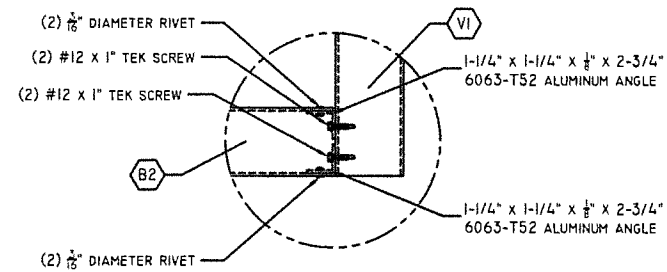




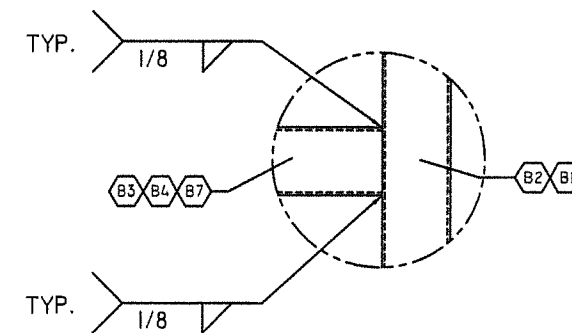
**DETAIL SC-1**  
AI TO B2 CONNECTION SHALL BE THE SAME/SIMILAR METHOD



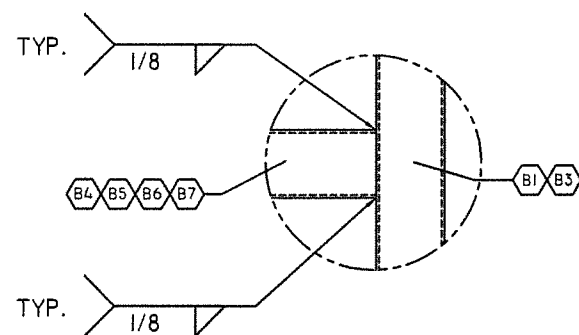
**DETAIL SC-2**



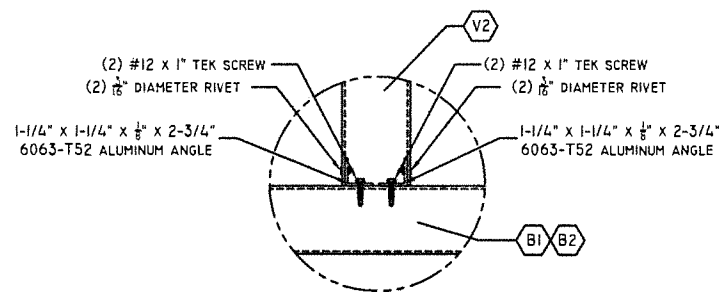
**DETAIL SC-3**



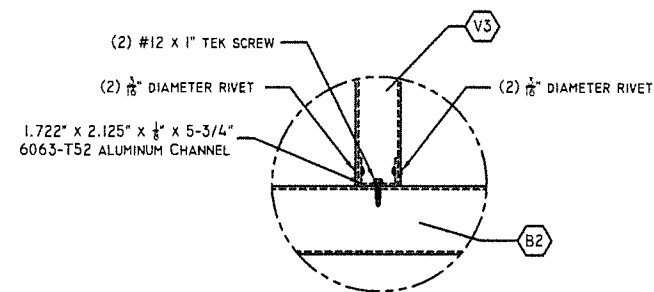
**DETAIL SC-4**



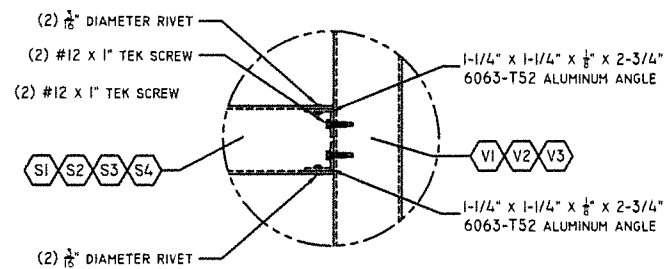
**DETAIL SC-5**



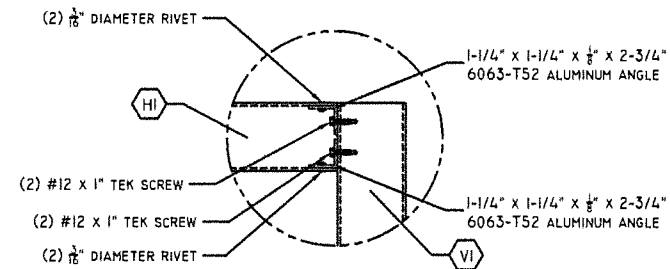
**DETAIL SC-6**



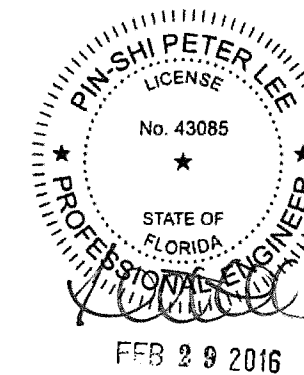
**DETAIL SC-7**



**DETAIL SC-8**

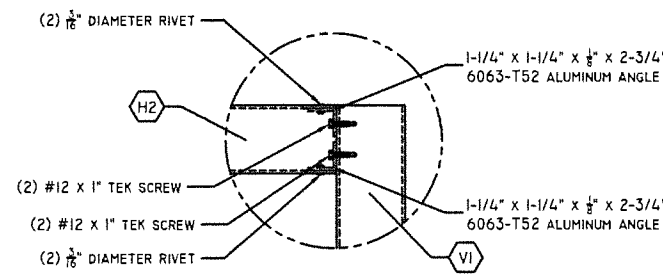


**DETAIL SC-9**

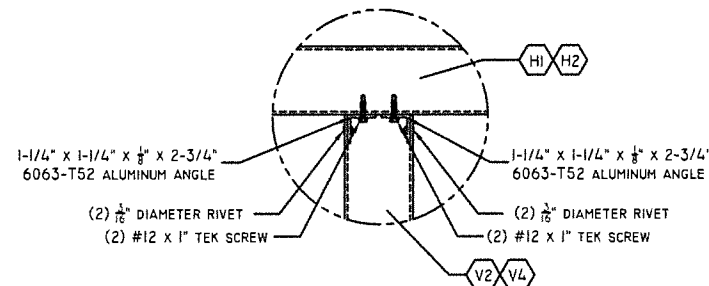


MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820		DRAWING SHEET SD-6

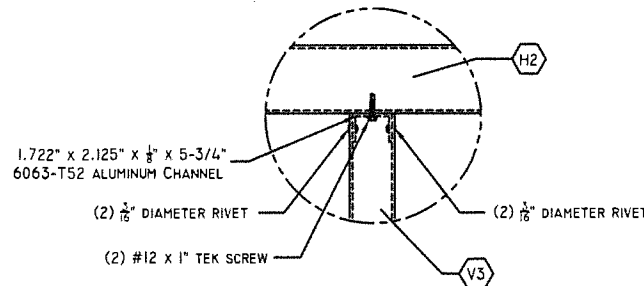
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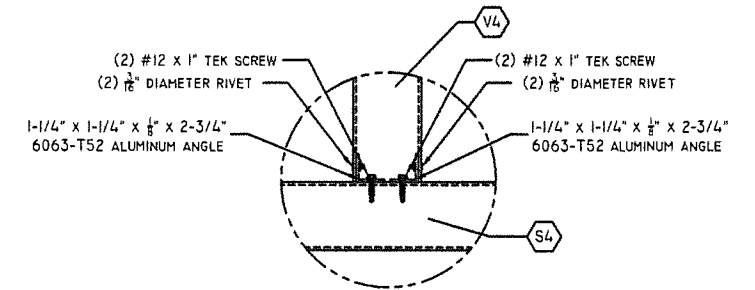
DETAIL SC-10



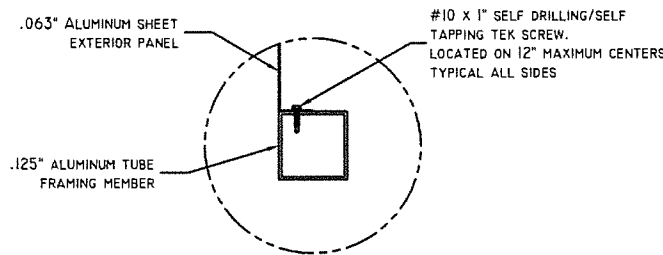
DETAIL SC-11



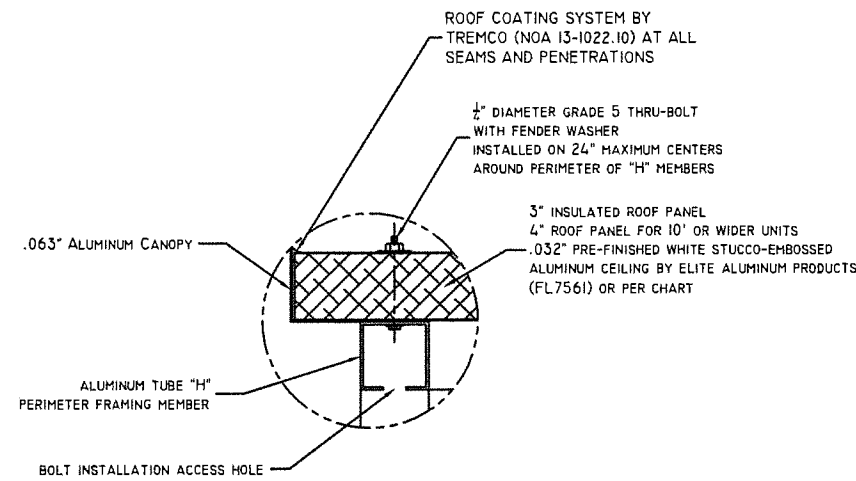
DETAIL SC-12



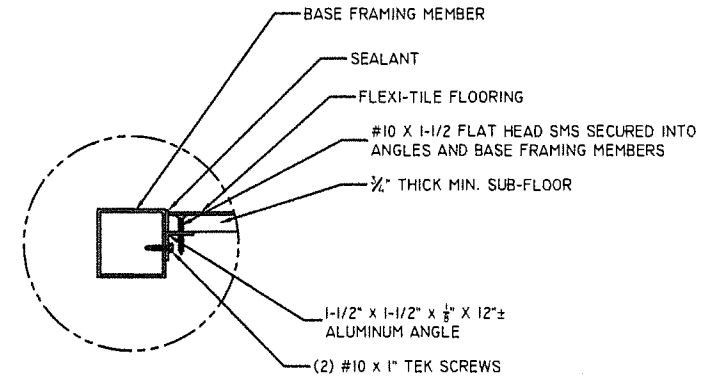
DETAIL SC-13



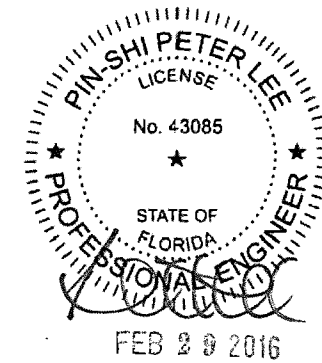
EXTERIOR PANEL TO TUBE FRAME



ROOF PANEL TO TUBE FRAME

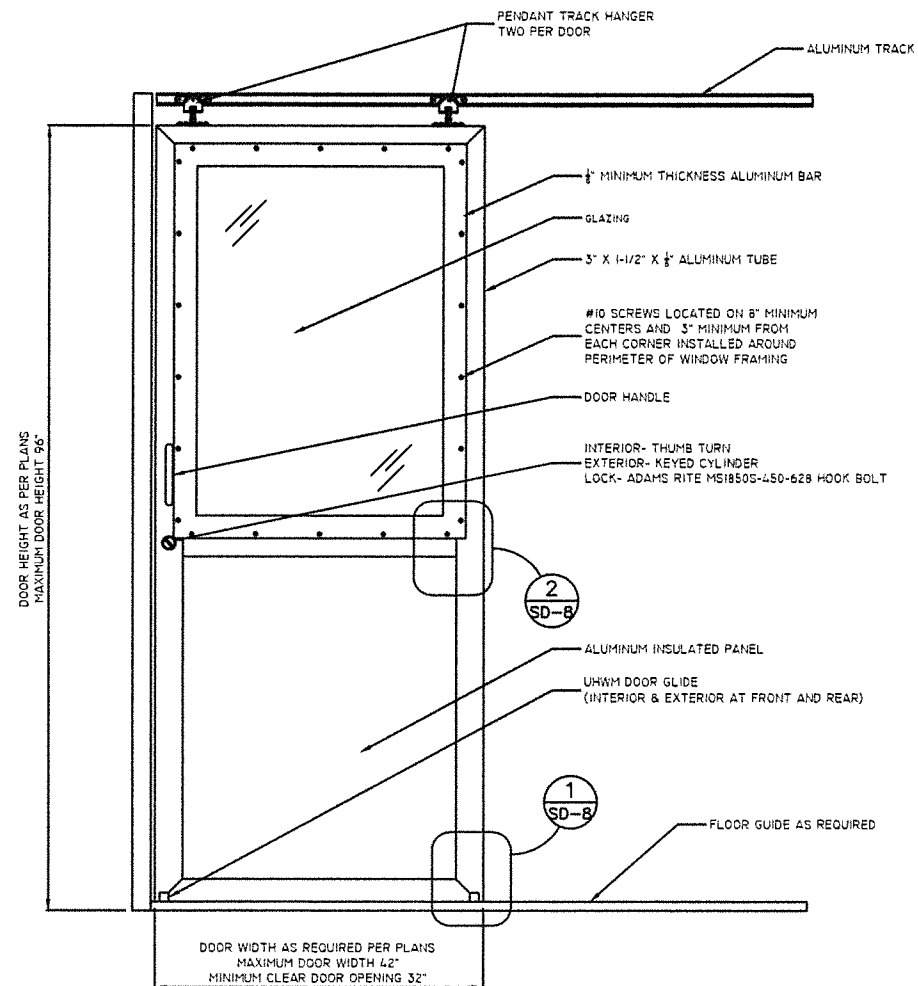


SUB-FLOOR CONNECTION DETAIL

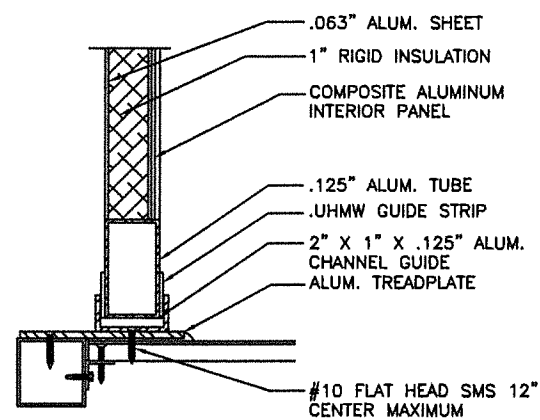


MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI	MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-7

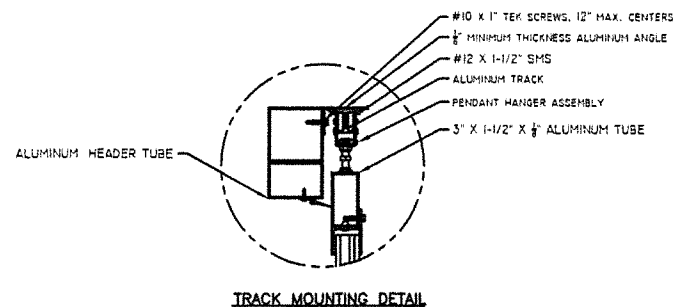
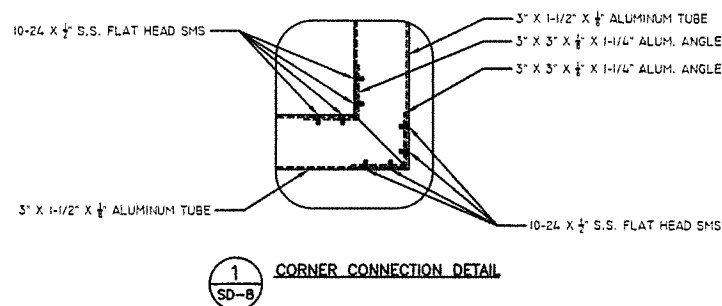
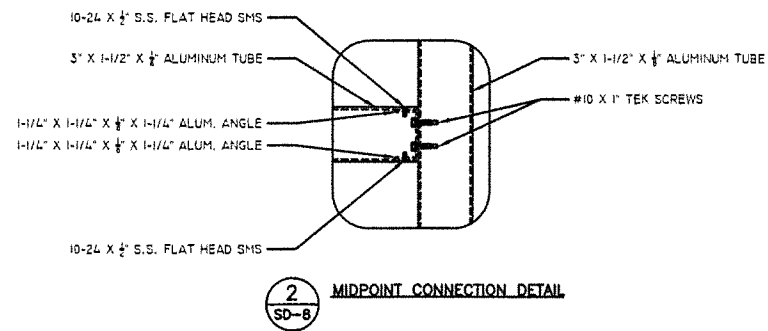
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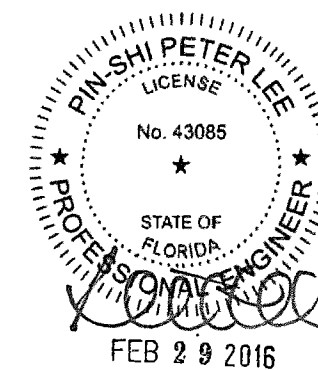
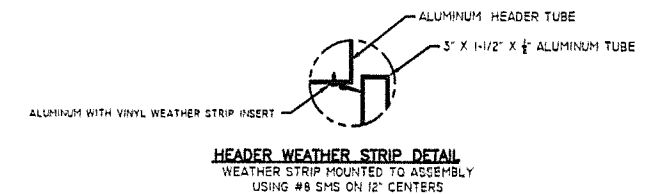
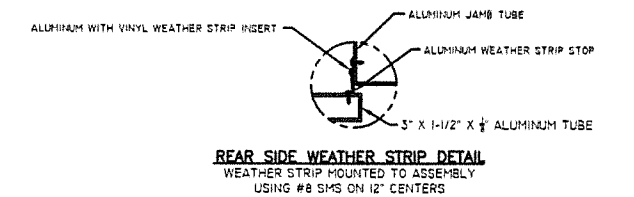
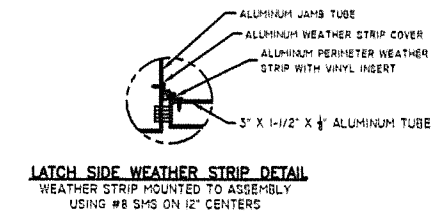
INTERIOR VIEW OF  
SLIDING DOOR ASSEMBLY



SLIDING DOOR/ FLOOR DETAIL  
FOR NON ADA BOOTHS WITH RAISED  
FLOOR



TRACK AND HANGER SYSTEM MAY VARY  
GRANT/HETTICH  
#1210 SERIES SYSTEM  
#1230 SERIES SYSTEM



MODEL NUMBER MFI-60120-SL2	APPROVED BY:	
DATE: 2-17-2016	DRAWING NUMBER VI5-080-9	DRAWN BY: DNE
SCALE: NTS	REVISION: 2-24-2016	
MIAMI-DADE AVIATION DEPARTMENT MIAMI, FL		
MFI	MARDAN FABRICATION, INC. WWW.MARDANFAB.COM 800-882-5820	DRAWING SHEET SD-8

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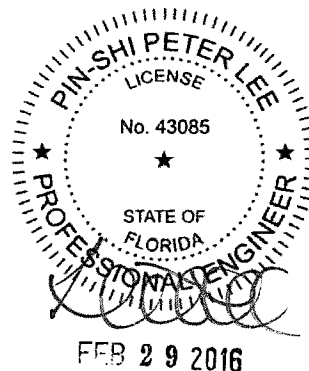
# Florida Building Code, Fifth Edition (2014) - Energy Conservation

EnergyGauge Summit® Fla/Com-2015, Effective Date: June 30, 2015  
IECC 2012 - Total Building Performance Compliance Option

## Check List

Applications for compliance with the Florida Building Code, Energy Conservation shall include:

- This Checklist
- An Input report generated from the software just after completing compliance calculations without any further changes
- The full compliance report generated by the software that contains the project summary, compliance summary, certifications and detailed component compliance reports
- Boxes appropriately checked in the Miscellaneous report generated by the software at the end of the compliance report

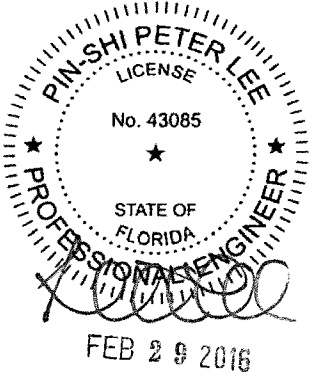


## PROJECT SUMMARY

<b>Short Desc:</b> MFI-60120-SL2 <b>Owner:</b> <b>Address1:</b> 4331 NW 22nd Street <b>Address2:</b>  <b>Type:</b> Office <b>Jurisdiction:</b> MIAMI-DADE COUNTY, MIAMI-DADE COUNTY, FL (231000) <b>Conditioned Area:</b> 72 SF <b>No of Stories:</b> 1 <b>Permit No:</b> 0	<b>Description:</b> Aviation Department  <b>City:</b> Miami <b>State:</b> FL <b>Zip:</b> 33122 <b>Class:</b> New Finished building  <b>Conditioned &amp; UnConditioned Area:</b> 72 SF <b>Area entered from Plans</b> 72 SF <b>Max Tonnage</b> 1 <b>If different, write in:</b> _____
--	---

## Compliance Summary

Component	Design	Criteria	Result
Gross Energy Cost (in \$)	77.0	83.0	<b>PASSED</b>
LIGHTING CONTROLS			<b>PASSES</b>
EXTERNAL LIGHTING			<b>No Entry</b>
HVAC SYSTEM			<b>PASSES</b>
PLANT			<b>No Entry</b>
WATER HEATING SYSTEMS			<b>No Entry</b>
PIPING SYSTEMS			<b>No Entry</b>
Met all required compliance from Check List?			<b>Yes/No/NA</b>



**IMPORTANT MESSAGE**  
 Info 5009 -- -- -- An input report of this design building must be submitted along with this Compliance Report

# CERTIFICATIONS

I hereby certify that the plans and specifications covered by this calculation are in compliance with the Florida Energy Code

Prepared By: \_\_\_\_\_

Building Official: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

I certify that this building is in compliance with the FLorida Energy Efficiency Code

Owner Agent: \_\_\_\_\_

Date: \_\_\_\_\_

If Required by Florida law, I hereby certify (\*) that the system design is in compliance with the Florida Energy Efficiency Code

Architect: \_\_\_\_\_

Reg No: \_\_\_\_\_

Electrical Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

Lighting Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

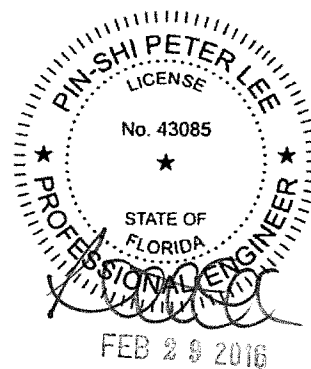
Mechanical Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

Plumbing Designer: \_\_\_\_\_

Reg No: \_\_\_\_\_

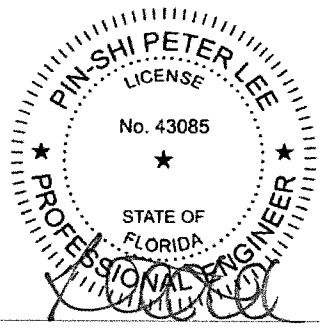
(\*) Signature is required where Florida Law requires design to be performed by registered design professionals. Typed names and registration numbers may be used where all relevant information is contained on signed/sealed plans.



Project: MFI-60120-SL2  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

### Building End Uses

	1) Proposed	2) Baseline
<b>Total</b>	<b>4.90</b>	<b>6.30</b>
	<b>\$77</b>	<b>\$97</b>
ELECTRICITY(MBtu/kWh/\$)	4.90	6.30
	1424	1800
	<b>\$77</b>	<b>\$97</b>
AREA LIGHTS	0.30	0.80
	86	221
	<b>\$5</b>	<b>\$12</b>
MISC EQUIPMT	1.10	1.10
	316	316
	<b>\$17</b>	<b>\$17</b>
SPACE COOL	1.90	2.20
	557	630
	<b>\$30</b>	<b>\$34</b>
SPACE HEAT	0.00	0.10
	9	18
	<b>\$0</b>	<b>\$1</b>
VENT FANS	1.60	2.10
	456	615
	<b>\$25</b>	<b>\$33</b>



FEB 29 2016

Credits Applied: None

Passing Criteria = 83

Design (including any credits) = 77

Passing requires Proposed Building cost to be at most 85% of Baseline cost. This Proposed Building is at 79%

<b>PASSES</b>
---------------

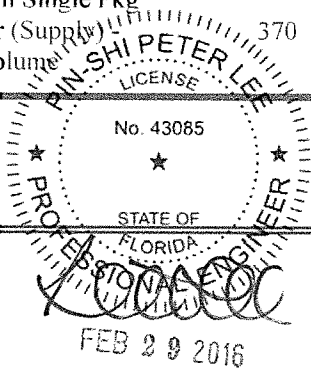
External Lighting Compliance						
Description	Category	Tradable?	Allowance (W/Unit)	Area or Length (Sqft or ft)	ELPA (W)	CLP (W)
						None

Project: MFI-60120-SL2  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

Lighting Controls Compliance						
Acronym	Ashrae ID	Description	Area (sq.ft)	Design CP	Min CP	Compliance
Pr0Zo1Sp1	16	Office - Open Plan	72	1	1	PASSES
						PASSES

Project: MFI-60120-SL2  
 Title: Aviation Department  
 Type: Office  
 (WEA File: Miami.tmy)

System Report Compliance							
Component	Category	Capacity	Design Eff	Eff Criteria	Design IPLV	IPLV Criteria	Compliance
AZ61H12D	System 1						
				Through the wall			No. of Units
				AirConditioner Single			1
				Package			
Cooling System	Air Conditioners Thru the Wall A/C < 30,000 Btu/h Single Package	11800	12.10	12.00			PASSES
Heating System	Heat Pumps Thru the Wall HP (Heating Mode) < 30,000 Btu/h Single Pkg	10600	12.63	7.40			PASSES
Air Handling System -Supply	Air Handler (Supply) Constant Volume	370	0.80	0.82			PASSES
						PASSES	

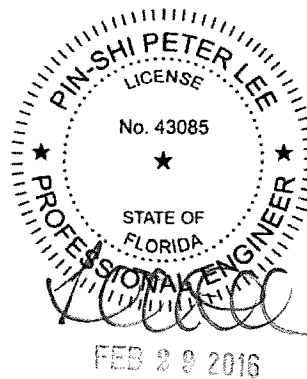




Plant Compliance								
Description	Installed No	Size	Design Eff	Min Eff	Design IPLV	Min IPLV	Category	Compliance
								None

Water Heater Compliance								
Description	Type	Category	Design Eff	Min Eff	Design Loss	Max Loss	Compliance	
								None

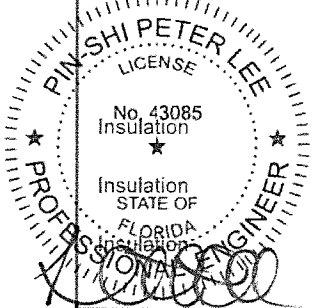
Piping System Compliance								
Category	Pipe Dia [inches]	Is Runout?	Operating Temp [F]	Ins Cond [Btu-in/hr .SF.F]	Ins Thick [in]	Req Ins Thick [in]	Compliance	
								None



# Mandatory Requirements (as applicable)

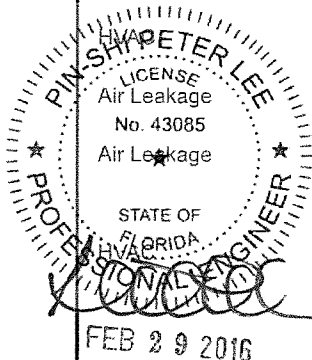
Mandatory requirements compiled by US Department of Energy and Pacific Northwest National Laboratory. Adopted with permission

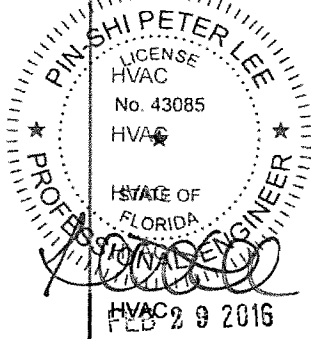
Topic	Section	Component	Description	Yes	N/A	Ex
<b>To be checked during Construction</b>						
Air Leakage	C402.4.1,C402.4.2	Envelope	The building envelope contains a continuous air barrier that is sealed in an approved manner and either constructed or tested in an approved manner. Air barrier penetrations are sealed in an approved manner.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.3,C402.4.4	Envelope	Factory-built fenestration and doors are labeled as meeting air leakage requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.7	Envelope	Vestibules are installed on all building entrances. Doors have self-closing devices.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.1.1	Envelope	All sources of air leakage in the building thermal envelope are sealed, caulked, gasketed, weather stripped or wrapped with moisture vapor-permeable wrapping material to minimize air leakage.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.6	Envelope	Weatherseals installed on all loading dock cargo doors.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Air Leakage	C402.4.8	Envelope	Recessed luminaires in thermal envelope to limit infiltration and be IC rated and labeled. Seal between interior finish and luminaire housing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products rated in accordance with NFRC.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C303.1.3	Envelope	Fenestration products are certified as to performance labels or certificates provided.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fenestration	C402.2.7	Envelope	U-factor of opaque doors associated with the building thermal envelope meets requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Below-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Slab edge insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.6	Envelope	Slab edge insulation depth/length. Slab insulation extending away from building is covered by pavement or >= 10 inches of soil.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C403.2.7,C408.2.8,C	Envelope	Exterior insulation protected against damage, sunlight, moisture, wind, landscaping and equipment maintenance activities.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.4.2.1	Envelope	Roof R-value. For some ceiling systems, verification may need to occur during Framing Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C303.2	Envelope	Roof insulation installed per manufacturer's instructions. Blown or poured loose-fill insulation is installed only where the roof slope is <=3 in 12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Skylight curbs are insulated to the level of roofs with insulation above deck or R-5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1.1	Envelope	High-albedo roofs satisfy one of the following: 3-year-aged solar reflectance >= 0.55 and thermal emittance >= 0.75, 3-year-aged solar reflectance index >= 64.0, initial year solar reflectance >= 0.70 and thermal emittance >= 0.75, or initial year solar	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C303.2	Envelope	Above-grade wall insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C303.2	Envelope	Floor insulation installed per manufacturer's instructions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C303.1	Envelope	Building envelope insulation is labeled with R-value or insulation certificate providing R-value and other relevant data.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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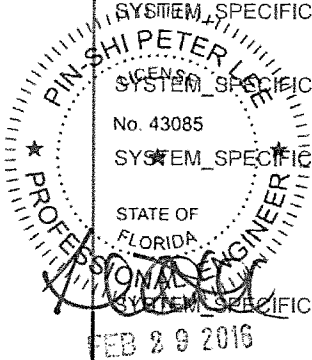
Insulation	C303.2.1	Envelope	Exterior insulation is protected from damage with a protective material. Verification for exposed foundation insulation may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.1	Envelope	Insulation intended to meet the roof insulation requirements cannot be installed on top of a suspended ceiling. Mark this requirement compliant if insulation is installed accordingly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.4	Exterior Lighting	Automatic lighting controls for exterior lighting installed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6	Exterior Lighting	Exterior grounds lighting over 100 W provides >60 lm/W unless on motion sensor or fixture is exempt from scope of code or from external LPD.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.6.2	Exterior Lighting	Exterior lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.1	Interior Lighting	Automatic controls to shut off all building lighting installed in all buildings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.1	Interior Lighting	Independent lighting controls installed per approved lighting plans and all manual controls readily accessible and visible to occupants.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.1.2	Interior Lighting	Lighting controls installed to uniformly reduce the lighting load by at least 50%.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Daylight zones provided with individual controls that control the lights independent of general area lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Sleeping units have at least one master switch at the main entry door that controls wired luminaires and switched receptacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.2	Interior Lighting	Occupancy sensors installed in required spaces.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Primary sidelighted areas are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.2.3	Interior Lighting	Enclosed spaces with daylight area under skylights and rooftop monitors are equipped with required lighting controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.2.3	Interior Lighting	Separate lighting control devices for specific uses installed per approved lighting plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Controls	C405.3	Interior Lighting	Fluorescent luminaires within odd numbered lamp configurations that are with 10 feet center to center (if recess mounted) or are within 1 foot edge to edge (if pendant or surface mounted) shall be tandem wired.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.4	Interior Lighting	Exit signs do not exceed 5 watts per face.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.2.3	Interior Lighting	Additional interior lighting power allowed for special functions per the approved lighting plans and is automatically controlled and separated from general lighting.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Wattage	C405.5.2	Interior Lighting	Interior installed lamp and fixture lighting power is consistent with what is shown on the approved lighting plans, demonstrating proposed watts are less than or equal to allowed watts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.5	Mechanical	Freeze protection and snow/ice melting system sensors for future connection to controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C403.2.3	Mechanical	HVAC equipment efficiency verified.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C402.4.5.1	Envelope	Stair and elevator shaft vents have motorized dampers that automatically close.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C402.4.5.2	Envelope	Outdoor air and exhaust systems have motorized dampers that automatically shut when not in use and meet maximum leakage rates. Check gravity dampers where allowed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	C403.2.5.1	Mechanical	Demand control ventilation provided for spaces >500 ft2 and >25 people/1000 ft2 occupant density and served by systems with air side economizer, auto modulating outside air damper control, or design airflow >3,000 cfm.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



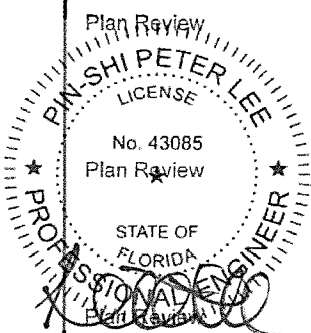


HVAC	C403.2.8.1	Mechanical	Piping Insulation exposed to weather is protected from damage (due to sun, moisture, wind, etc.).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	HVAC ducts and plenums insulated. Where ducts or plenums are installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.8	Mechanical	Thermally ineffective panel surfaces of sensible heating panels have insulation $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.7	Mechanical	Ducts and plenums sealed based on static pressure and location.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C408.2.2.1	Mechanical	Air outlets and zone terminal devices have means for air balancing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.6	Mechanical	Exhaust air energy recovery on systems meeting Table C403.2.6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.11	Mechanical	Unenclosed spaces that are heated use only radiant heat.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.1	Mechanical	Heating and cooling to each zone is controlled by a thermostat control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Thermostatic controls have a 5 °F deadband.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.2	Mechanical	Temperature controls have setpoint overlap restrictions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Each zone equipped with setback controls using automatic time clock or programmable control system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
HVAC	C403.2.4.3	Mechanical	Automatic Controls: Setback to 55°F (heat) and 85°F (cool); 7-day clock, 2-hour occupant override, 10-hour backup	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Temperature controls installed on service water heating systems (110 °F for dwelling units and lavatories in public restrooms and 90 °F for other occupancies.)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.4	Mechanical	Automatic time switches installed to automatically switch off the recirculating hot-water system or heat trace.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Heat traps installed on non-circulating storage water tanks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	PTAC and PTHP with sleeves 16 in. by 42 in. labeled for replacement only as per Footnote b to Table C403.2.3(3).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan $\geq$ 7.5 hp are driven by mechanical or electrical variable speed drive, or driven by vane-axial with variable speed blades, or operate with motor demand $\leq$ 30% design kW at 50% design flow - calculations required	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.8	Mechanical	HVAC piping insulation thickness. Where piping is installed in or under a slab, verification may need to occur during Foundation Inspection.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.7.1.3	Mechanical	Ductwork operating >3 in. water column requires air leakage testing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.3.1.1	Mechanical	Air economizers provided where required, meet the requirements for design capacity, control signal, ventilation controls, high-limit shut-off, integrated economizer control, and provide a means to relieve excess outside air during operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.3.1,C403.4.1	Mechanical	Water economizers provided where required, meet the requirements for design capacity, maximum pressure drop and integrated economizer control.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.1.4	Mechanical	Economizer operation will not increase heating energy use during normal operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5	Mechanical	Zone controls can limit simultaneous heating and cooling and sequence heating and cooling to each zone.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.1	Mechanical	Three-pipe hydronic systems using a common return for hot and chilled water are not used.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

SYSTEM_SPECIFIC	C403.4.3.2	Mechanical	Two-pipe hydronic systems using a common distribution system have controls to allow a deadband $\geq 15$ °F, allow operation in one mode for at least 4 hrs before changeover, and have rest controls to limit heating and cooling supply temperature to $\leq 30$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.1	Mechanical	Hydronic heat pump systems connected to a common water loop meet heat rejection and heat addition requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C408.2.2.2	Mechanical	HVAC hydronic heating and cooling coils have means to balance and have pressure test connections.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.1	Mechanical	HVAC fan systems at design conditions do not exceed allowable fan system motor nameplate hp or fan system bhp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.10.2	Mechanical	HVAC fan motors not larger than allowable limits.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2	Mechanical	VAV fan motors $\geq 7.5$ hp to be driven by variable speed drive, have a vane-axial fan with variable pitch blades, or have controls to limit fan motor demand.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.1	Mechanical	VAV fans have static pressure sensors positioned so setpoint $\leq 1/3$ total design pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.2.2	Mechanical	Reset static pressure setpoint for DDC controlled VAV boxes reporting to central controller based on the zones requiring the most pressure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.5.4	Mechanical	Multiple zone HVAC systems have supply air temperature reset controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Hydronic systems greater than 300,000 Btu/h designed for variable fluid flow.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.5	Mechanical	Reduce flow in pumping systems $> 10$ hp to multiple chillers or boilers when others are shut down.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.4	Mechanical	Temperature reset by representative building loads in pumping systems for chiller and boiler systems $> 300,000$ Btu/h.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.3.3.3	Mechanical	Two-position automatic valve interlocked to shut off water flow when hydronic heat pump with pumping system $> 10$ hp is off.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.4	Mechanical	Fan systems with motors $\geq 7.5$ hp associated with heat rejection equipment to have capability to operate at $2/3$ of full-speed and auto speed controls to control the leaving fluid temperature or condensing temp/pressure of heat rejection device.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.6	Mechanical	Condenser heat recovery system that can heat water to 85 °F or provide 60% of peak heat rejection is installed for preheating of service hot water in 24/7 facility, water cooled systems reject $> 6$ MMBtu, SHW load $\geq 1$ MMBtu.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.4.7	Mechanical	Hot gas bypass limited to: $\leq 240$ kBtu/h – 50% $> 240$ kBtu/h – 25%	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.2	Mechanical	Service water heating equipment meets efficiency requirements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.2	Mechanical	Heating and cooling to each zone is controlled by a thermostat control. Minimum one humidity control device per installed humidification/dehumidification system.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.3.3	Mechanical	Systems include optimum start controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.4.1.1	Mechanical	Heat pump controls prevent supplemental electric resistance heat from coming on when not needed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.3	Mechanical	Public lavatory faucet water temperature $\leq 110$ °F.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	All piping in circulating system insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.5	Mechanical	First 8 ft of outlet piping is insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

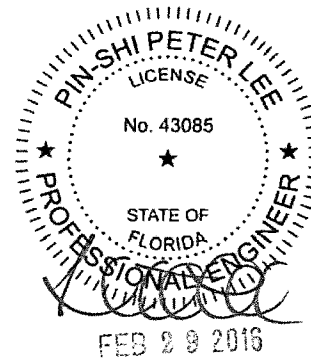


SYSTEM_SPECIFIC	C404.5	Mechanical	All heat traced or externally heated piping insulated	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.6	Mechanical	Controls are installed that limit the operation of a recirculation pump installed to maintain temperature of a storage tank.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.1	Mechanical	Pool heaters are equipped with on/off switch and no continuously burning pilot light.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.3	Mechanical	Vapor retardant pool covers are provided for heated pools and permanently installed spas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C404.7.2	Mechanical	Time switches are installed on all pool heaters and pumps.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
SYSTEM_SPECIFIC	C403.2.3	Mechanical	Centrifugal fan open-circuit cooling towers having combined rated capacity $\geq$ 1100 gpm meets minimum efficiency requirement: $\geq$ 38.2 gpm/hp.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Testing	C408.2.3.2	Mechanical	HVAC control systems have been tested to ensure proper operation, calibration and adjustment of controls.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mandatory Additional	C406	Project	Efficient HVAC performance, efficient lighting system, or on-site supply of renewable energy consistent with what is shown the approved plans.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insulation	C402.2.8	Project	Bottom surface of floor structures incorporating radiant heating insulated to $\geq$ R-3.5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked during Plan Review</b>						
Plan Review	C103.2	Envelope	Plans and/or specifications provide all information with which compliance can be determined for the building envelope and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Exterior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the exterior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Interior Lighting	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the interior lighting and electrical systems and equipment and document where exceptions to the standard are claimed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the mechanical systems and equipment and document where exceptions to the standard are claimed. Load calculations per acceptable engineering st	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C103.2	Mechanical	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the service water heating systems and equipment and document where exceptions to the standard are claimed. Hot water system sized per manufact	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C406	Project	Plans, specifications, and/or calculations provide all information with which compliance can be determined for the additional energy efficiency package options.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Plan Review	C402.3.2.2	Envelope	Skylights in office, storage, automotive service, manufacturing, non-refrigerated warehouse, retail store, and distribution/sorting area have a measured haze value $>$ 90 percent unless designed to exclude direct sunlight.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<b>To be checked Post Construction Prior to Issuance of Certificate of Occupancy</b>						
Post Construction	C408.3	Exterior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Interior Lighting	Furnished as-built drawings for electric power systems within 30 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



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Post Construction	C303.3,C408.2.5.2	Interior Lighting	Furnished O&M instructions for systems and equipment to the building owner or designated representative.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.3	Interior Lighting	Lighting systems have been tested to ensure proper calibration, adjustment, programming, and operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.1	Mechanical	Furnished HVAC as-built drawings submitted within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C303.3,C408.2.5.2	Mechanical	Furnished O&M manuals for HVAC systems within 90 days of system acceptance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.3	Mechanical	An air and/or hydronic system balancing report is provided for HVAC systems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.1	Mechanical	Commissioning plan developed by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.4	Mechanical	Preliminary commissioning report completed and certified by registered design professional or approved agency.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.5.4	Mechanical	Final commissioning report due to building owner within 90 days of receipt of certificate of occupancy.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.1	Mechanical	HVAC equipment has been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Post Construction	C408.2.3.3	Mechanical	Economizers have been tested to ensure proper operation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>



**EnergyGauge Summit® v5.10**  
**INPUT DATA REPORT**

**Project Information**

**Project Name:** MFI-60120-SL2

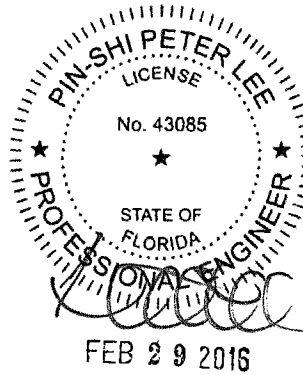
**Project Title:** Aviation Department

**Address:** 4331 NW 22nd Street

**State:** FL

**Zip:** 33122

**Owner:**



**Orientation:** North

**Building Type:** Office

**Building Classification:** New Finished building

**No. of Stories:** 1

**Gross Area:** 72 SF

**Zones**

No	Acronym	Description	Type	Area [sf]	Multiplier	Total Area [sf]	
1	Pr0Z01	Zone 1	CONDITIONED	72.0	1	72.0	<input type="checkbox"/>

**Spaces**

No	Acronym	Description	Type	Depth [ft]	Width [ft]	Height [ft]	Multiplier	Total Area [sf]	Total Volume [cf]
----	---------	-------------	------	------------	------------	-------------	------------	-----------------	-------------------



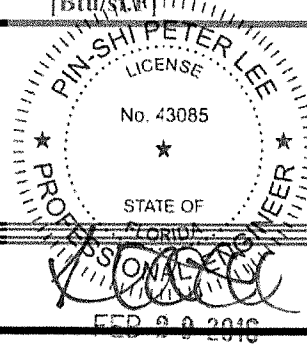
<b>In Zone: Pr0Zo1</b>										
1	Pr0Zo1Sp1	Zo0Sp1	Office - Open Plan	12.00	6.00	7.50	1	72.0	540.0	<input type="checkbox"/>

### Lighting

No	Type	Category	No. of Luminaires	Watts per Luminaire	Power [W]	Control Type	No. of Ctrl pts
<b>In Zone: Pr0Zo1</b>							
<b>In Space: Pr0Zo1Sp1</b>							
1	Suspended Fluorescent	General Lighting	2	14	28	Manual On/Off	1 <input type="checkbox"/>

### Walls

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Direction	Conductance [Btu/hr. sf. F]	Heat Capacity [Btu/sf.F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]
<b>In Zone: Pr0Zo1</b>											
1	Wall A	Mardan Wall Panel	12.00	7.50	1	90.0	North	0.0541			18.5 <input type="checkbox"/>
2	Wall B	Mardan Wall Panel	6.00	7.50	1	45.0	North	0.0541			18.5 <input type="checkbox"/>
3	Wall C	Mardan Wall Panel	12.00	7.50	1	90.0	North	0.0541			18.5 <input type="checkbox"/>
4	Wall D	Mardan Wall Panel	6.00	7.50	1	45.0	North	0.0541			18.5 <input type="checkbox"/>



### Windows

No	Description	Type	Shaded	U [Btu/hr sf F]	SHGC	Vis. Tra	W [ft]	H (Effec) [ft]	Multi plier	Total Area [sf]
<b>In Zone: Pr0Zo1</b>										
<b>In Wall: Wall A</b>										
1	Pr0Zo1Wa1Wi1	User Defined	No	0.2800	0.24	0.61	2.63	3.92	2	20.6 <input type="checkbox"/>
2	Pr0Zo1Wa1Wi2	User Defined	No	0.2800	0.24	0.61	2.50	3.67	1	9.2 <input type="checkbox"/>
3	Pr0Zo1Wa1Wi3	User Defined	No	0.2800	0.24	0.61	2.33	3.92	1	9.1 <input type="checkbox"/>
<b>In Wall: Wall B</b>										
1	Pr0Zo1Wa2Wi1	User Defined	No	0.2800	0.24	0.61	2.46	3.92	2	19.3 <input type="checkbox"/>
<b>In Wall: Wall C</b>										

	1	Pr0Zo1WalWi1	User Defined	No	0.2800	0.24	0.61	2.63	3.92	2	20.6	<input type="checkbox"/>
	2	Pr0Zo1WalWi2	User Defined	No	0.2800	0.24	0.61	2.50	3.67	1	9.2	<input type="checkbox"/>
	3	Pr0Zo1WalWi3	User Defined	No	0.2800	0.24	0.61	2.33	3.92	1	9.1	<input type="checkbox"/>
<b>In Wall: Wall D</b>												
	1	Pr0Zo1Wa2Wi1	User Defined	No	0.2800	0.24	0.61	2.46	3.92	2	19.3	<input type="checkbox"/>

### Doors

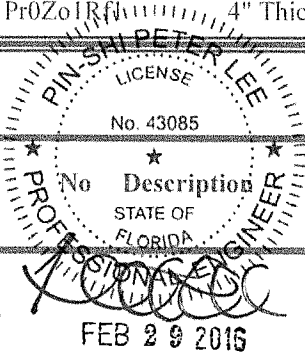
No	Description	Type	Shaded?	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Dens. [lb/cf]	Heat Cap. [Btu/sf. F]	R-Value [h.sf.F/Btu]	
<b>In Zone: Pr0Zo1</b>												
<b>In Wall: Wall A</b>												
1	Pr0Zo1WalDr1	Aluminum door, 1.25 in. polystyrene	No	3.00	7.00	1	21.0	0.1919	43.67	0.53	5.21	<input type="checkbox"/>
<b>In Wall: Wall C</b>												
1	Pr0Zo1WalDr1	Aluminum door, 1.25 in. polystyrene	No	3.00	7.00	1	21.0	0.1919	43.67	0.53	5.21	<input type="checkbox"/>

### Roofs

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Tilt [deg]	Cond. [Btu/hr. Sf. F]	Heat Cap [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
<b>In Zone: Pr0Zo1</b>												
1	Pr0Zo1Rf1	4" Thick Roof Panel	6.00	12.00	1	72.0	0.00	0.0600	0.65	15.73	16.7	<input type="checkbox"/>

### Skylights

No	Description	Type	U [Btu/hr sf F]	SHGC	Vis.Trans	W [ft]	H (Effec) [ft]	Multiplier	Area [Sf]	Total Area [Sf]	
<b>In Zone:</b>											
<b>In Roof:</b>											
											<input type="checkbox"/>

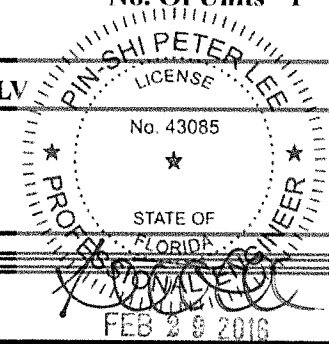


### Floors

No	Description	Type	Width [ft]	H (Effec) [ft]	Multi plier	Area [sf]	Cond. [Btu/hr. sf. F]	Heat Cap. [Btu/sf. F]	Dens. [lb/cf]	R-Value [h.sf.F/Btu]	
<b>In Zone: Pr0Zo1</b>											
1	Pr0Zo1F11	Non-Insualted Base	6.00	12.00	1	72.0	0.2967	34.24	114.55	3.37	<input type="checkbox"/>

### Systems

AZ61H12D		System 1	Through the wall AirConditioner Single Package				No. Of Units	1
Component	Category	Capacity	Efficiency	IPLV				
1	Cooling System	11800.00	12.10				<input type="checkbox"/>	
2	Heating System	10600.00	12.63				<input type="checkbox"/>	
3	Air Handling System -Supply	370.00	0.80				<input type="checkbox"/>	



### Plant

Equipment	Category	Size	Inst.No	Eff.	IPLV

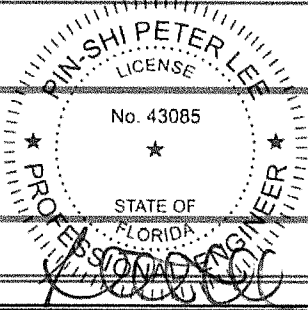
### Water Heaters

W-Heater Description	CapacityCap.Unit	I/P Rt.	Efficiency	Loss

### Ext-Lighting

Description	Category	No. of Luminaires	Watts per Luminaire	Area/Len/No. of units [sf/ft/No]	Control Type	Wattage [W]

<input type="checkbox"/>
--------------------------



### Piping

No	Type	Operating Temperature [F]	Insulation Conductivity [ Btu-in/h.sf.F]	Nomonal pipe Diameter [in]	Insulation Thickness [in]	Is Runout?
<input type="checkbox"/>						

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### Fenestration Used

Name	Glass Type	No. of Panes	Glass Conductance [Btu/h.sf.F]	SHGC	VLT	
I.R. Clear Insualted Low-E #2	User Defined	3	0.2800	0.2400	0.6100	<input type="checkbox"/>

### Materials Used

Mat No	Acronym	Description	Only R-Value Used	RValue [h.sf.F/Btu]	Thickness [ft]	Conductivity [Btu/h.ft.F]	Density [lb/cf]	SpecificHeat [Btu/lb.F]	
264	Matl264	ALUMINUM, 1/16 IN	No	0.0002	0.0050	26.0000	480.00	0.1000	<input type="checkbox"/>
214	Matl214	POLYSTYRENE, EXP., 1-1/4IN,	No	5.2100	0.1042	0.0200	1.80	0.2900	<input type="checkbox"/>
265	Matl265	Soil, 1 ft	No	2.0000	1.0000	0.5000	100.00	0.2000	<input type="checkbox"/>
48	Matl48	6 in. Heavyweight concrete	No	0.5000	0.5000	1.0000	140.00	0.2000	<input type="checkbox"/>
77	Matl77	AIR LAYER, 3/4IN TO 4IN, HORIZ. ROOFS	Yes	0.8700					<input type="checkbox"/>
1003	ApLbMat1003	POLYSTYRENE, EXP., 4IN,	No	16.6650	0.3333	0.0200	1.80	0.2900	<input type="checkbox"/>

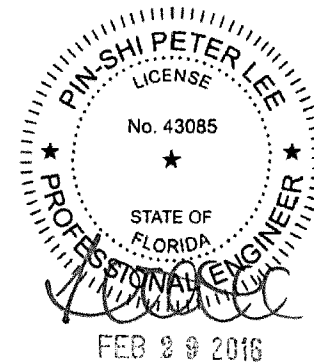
## Constructs Used

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	<input type="checkbox"/>
1002	Aluminum door, 1.25 in. polystyrene	No	No	0.19	0.53	43.67	5.2	<input type="checkbox"/>

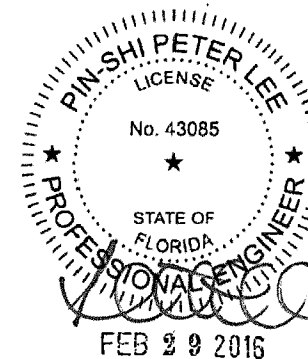
Layer	Material No.	Material	Thickness [ft]	Framing Factor	<input type="checkbox"/>
1	264	ALUMINUM, 1/16 IN	0.0050	0.000	<input type="checkbox"/>
2	214	POLYSTYRENE, EXP., 1-1/4IN,	0.1042	0.000	<input type="checkbox"/>
3	264	ALUMINUM, 1/16 IN	0.0050	0.000	<input type="checkbox"/>

No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	<input type="checkbox"/>
1060	Mardan Wall Panel	No	Yes	0.05			18.5	<input type="checkbox"/>

Layer	Material No.	Material	Thickness [ft]	Framing Factor	<input type="checkbox"/>
1	264	ALUMINUM, 1/16 IN	0.0050	0.000	<input type="checkbox"/>
2	72	AIR LAYER, 3/4IN OR LESS, VERT. WALLS		0.000	<input type="checkbox"/>
3	1001	Thermax TSX-8500 Insualtion	0.2083	0.000	<input type="checkbox"/>
4	72	AIR LAYER, 3/4IN OR LESS, VERT. WALLS		0.000	<input type="checkbox"/>
5	264	ALUMINUM, 1/16 IN	0.0050	0.000	<input type="checkbox"/>



No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1061	Non-Insulated Base	No	No	0.30	34.24	114.55	3.4	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	1	265	Soil, 1 ft	1.0000	0.000			<input type="checkbox"/>
	2	48	6 in. Heavyweight concrete	0.5000	0.000			<input type="checkbox"/>
	3	77	AIR LAYER, 3/4IN TO 4IN, HORIZ. ROOFS		0.000			<input type="checkbox"/>
	4	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
No	Name	Simple Construct	Massless Construct	Conductance [Btu/h.sf.F]	Heat Capacity [Btu/sf.F]	Density [lb/cf]	RValue [h.sf.F/Btu]	
1064	4" Thick Roof Panel	No	No	0.06	0.65	15.73	16.7	<input type="checkbox"/>
	<b>Layer</b>	<b>Material No.</b>	<b>Material</b>	<b>Thickness [ft]</b>	<b>Framing Factor</b>			
	1	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>
	2	1003	POLYSTRENE, EXP., 4IN,	0.3333	0.000			<input type="checkbox"/>
	3	264	ALUMINUM, 1/16 IN	0.0050	0.000			<input type="checkbox"/>

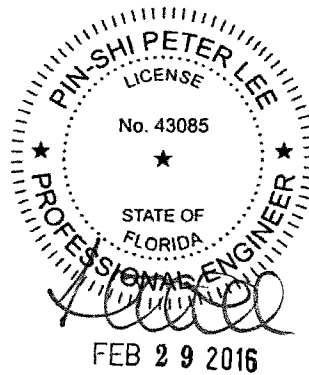


Peter Lee, P.E., M.S.  
23329 Century Drive  
Elkhart, IN 46514

## Mardan Fabrication

Structural Analysis for V15-080-9 60120-SL2

Contents	Pages
Design Loads	1 -- 3
RT 3 x 3 x .125 6063-T6	4 -- 10
#12 screw capacities	11
Exterior Wall Framing	12
RT 3 x 3 x .25 6063-T6	13 -- 19
Main Wind Force Resisting System	20 -- 21
Sliding, Uplifting, and Overturning	22 -- 23



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**Structural Analysis for V15-080-9 60120-SL2**

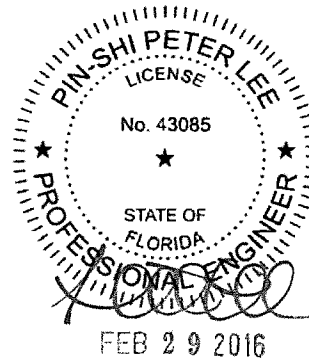
Building dimensions: 6' 0" (W) x 12' 0"(L) x 8' 5" (H)  
Exterior wall height: 90 in  
Roof vertical projection: 8 in  
Roof slope: 1.2 °  
Roof overhang: 0 in  
Mean roof height: 8.5 ft  
Roof live load: Lr= 30 psf (ASCE Table 4-1)  
Floor live load: L= 50 psf  
Ground snow load: Pg= 0 psf (ASCE Figure 7-1)

Risk category: II (ASCE Table 1.5-1)  
Wind load: 175 mph exposure C (ASCE Figure 26.5-1A) Assuming Kzt=1.0  
Earthquake load: Ss= 0.041 g with site class B (ASCE figure 22-1)  
Si= 0.020 g with site class B (ASCE figure 22-2)  
Site class: D

Roof dead load: 5 psf ( 4 psf for uplift)  
Exterior wall dead load: 5 psf  
Floor dead load: 5 psf ( 4 psf for uplift)  
Steel frame: 0 psf

Design references:

ASCE/SEI 7-10  
ANSI/AF & PA NDS-2012  
ANSI/AF & PA SDPWS-2008  
AISC Steel Construction Manual 13th edition  
AISI NASPEC 2007  
AISI Manual 2008 Edition  
Aluminum Design Manual 2010







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Structural Analysis for V15-080-9 60120-SL2

Earthquake Load

Sms= 0.066 g (ASCE 11.4-1) where Fa= 1.6  
Sds= 0.044 g (ASCE 11.4-3)

Sm1= 0.048 g (ASCE 11.4-2) where Fv= 2.4  
Sd1= 0.032 g (ASCE 11.4-4)

Seismic Design Category: A

Cs= 0.012 <== (ASCE 12.8-2) where R= 3.5 (ASCE Table 12.2-1)  
le= 1.0 (ASCE Table 1.5-2)

Ta= 0.155129 where Ct= 0.028 (ASCE Table 12.8-2)  
x= 0.8 (ASCE Table 12.8-2)

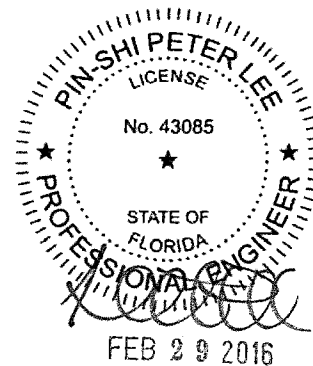
T= 0.263719 where hn= 8.5  
Cu= 1.7 (ASCE Table 12.8-1)

Cs= 0.035 (ASCE 12.8-3) for T<TL= 8

Dead Load:

Roof: Dr= 360 lbs  
Wall: Dw= 1350 lbs  
Floor: Df= 360 lbs  
St. frame: Dst= 0 lbs  
Snow load: S= 0 lbs      Building weight= 2070 lbs

Base shear= 26 lbs (ASCE 12.8-1)



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**Structural Analysis for V15-080-9 60120-SL2**

**Aluminum Shape RT 3 x 3 x .125**

Alloy-Temper: 6063-T6

Mechanical properties: (ADM Table A.3.4)

$F_{tu} =$	30 ksi	$F_{ty} =$	25 ksi	$F_{cy} =$	25 ksi
$F_{su} =$	19 ksi	$E =$	10100 ksi	$F_{sy} =$	15 ksi

Shape: (ADM Table 23)

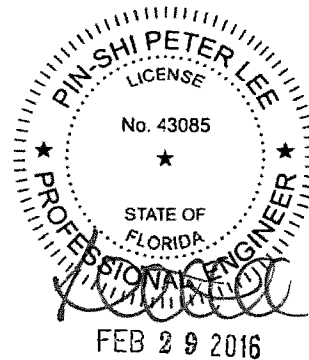
$A =$	1.44 in <sup>2</sup>				
$I_x =$	1.980 in <sup>4</sup>	$S_x =$	1.320 in <sup>3</sup>	$r_x =$	1.173 in
$I_y =$	1.980 in <sup>4</sup>	$S_y =$	1.320 in <sup>3</sup>	$r_y =$	1.173 in

Buckling constants: (ADM Table B.4.2)

$B_c =$	27.63523 ksi	$D_c =$	0.144555 ksi	$C_c =$	78.381395
$B_p =$	31.38591 ksi	$D_p =$	0.174961 ksi	$C_p =$	73.549067
$B_{br} =$	46.11561 ksi	$D_{br} =$	0.381643 ksi	$C_{br} =$	80.556359
$B_s =$	18.98497 ksi	$D_s =$	0.08231 ksi	$C_s =$	94.566995

Post buckling constants: (ADM Table B.4.3)

In compression:	$k_1 = 0.35$	$k_2 = 2.27$
In flexure:	$k_1 = 0.50$	$k_2 = 2.04$



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**Structural Analysis for V15-080-9 60120-SL2**

Element in uniform compression:

$$\begin{aligned} b/t &= 22 \\ F_c &= F_{co} \quad (\text{ADM B.5-3}) \end{aligned}$$

Flat element supported on both edges:

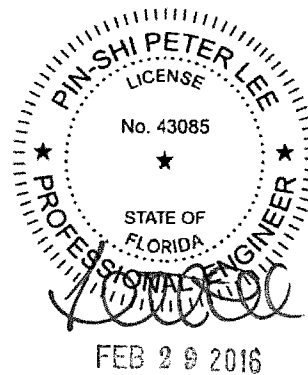
$$\begin{aligned} \text{Yielding:} \quad S_1 &= 22.8119 \\ b/t &\leq S_1 \quad \text{YES} \\ F_c &= 25 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 39.24112 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} \text{Post buckling:} \quad S_2 &= 39.24112 \\ b/t &> S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_c = 25 \text{ ksi}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Element in flexure:

$$\begin{aligned} b/t &= 22 \\ F_b &= F_{bo} \quad (\text{ADM B.5-12}) \end{aligned}$$

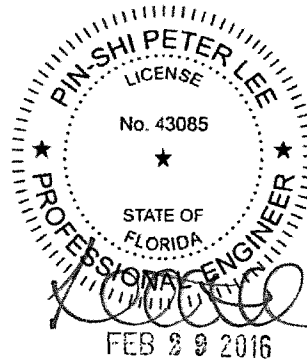
Flat element supported on both edges

Yielding:  $S_1 = 54.8867$   
 $b/t \leq S_1$  YES  
 $F_b = 32.5$  ksi

Buckling:  $S_2 = 65.06475$   
 $S_1 < b/t < S_2$  NO  
 $F_b = na$  ksi

$$\begin{aligned} b/t &\geq S_2 && \text{NO} \\ F_b &= na && \text{ksi} \end{aligned}$$

$$F_b = 32.5 \text{ ksi}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Axial Tension:

$$P_a = P_n / \Omega_t \quad \text{where} \quad \begin{array}{ll} \Omega_t = 1.95 & \text{for rupture} \\ \Omega_t = 1.65 & \text{for yielding} \end{array}$$

$$A_e = A_g = 1.44 \text{ in}^2$$

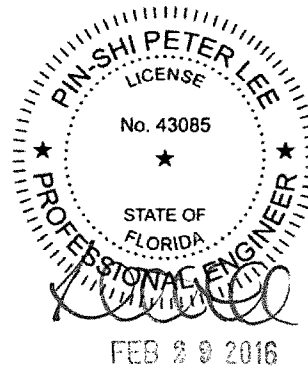
Yielding:

$$\begin{array}{ll} P_n = & 36 \text{ kips} \quad (\text{ADM D.2-1}) \\ P_a = & 21.818 \text{ kips} \\ & = 21818 \text{ lbs} \end{array}$$

Rupture:

$$\begin{array}{ll} P_n = & 43.2 \text{ kips} \quad (\text{ADM D.2-3}) \\ k_t = & 1.0 \quad (\text{ADM Table A.3.3}) \\ P_a = & 22.154 \text{ kips} \\ & = 22154 \text{ lbs} \end{array}$$

$$P_a = 21818 \text{ lbs}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Axial Compression:

$$P_a = P_n / \Omega_c \quad \text{where} \quad \Omega_c = 1.65$$

$$S_2 = 78.3814 \quad (\text{ADM E.3-4})$$

$$KL = 90 \text{ in}$$

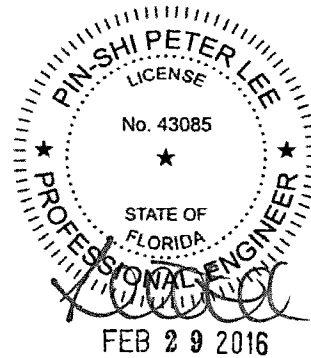
$$KL/r = 76.7523 \leq S_2 \quad \text{YES}$$

$$F_c = 14.059 \text{ ksi} \quad (\text{ADM E.3-2, E.3-3})$$

$$P_n = 20.245 \text{ kips}$$

$$P_a = 12.270 \text{ kips}$$

$$= 12270 \text{ lbs}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Flexure:

$$M_a = M_n / \Omega_b \quad \text{where} \quad \Omega_b = 1.65$$

$$L_{bx} = 45 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{xe} = r_x$$

$$S_2 = 94.05767$$

$$L_{bx} / (r_{ye} * C_b^{1/2}) = 38.37613 \leq S_2 \quad \text{YES}$$

$$F_{bx} = 23.012 \text{ ksi} \quad (\text{ADM F.2.1})$$

$$M_{nx} = 30.376 \text{ kip-in}$$

$$M_{ax} = 18.410 \text{ kip-in}$$

$$= 18410 \text{ lb-in}$$

$$L_{by} = 90 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{ye} = r_y$$

$$S_2 = 94.05767$$

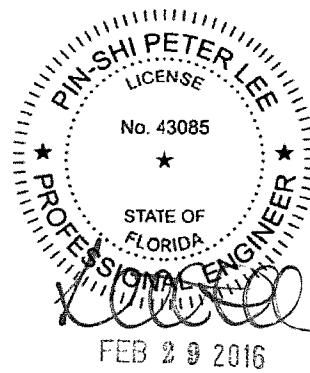
$$L_{by} / (r_{xe} * C_b^{1/2}) = 76.75226 \leq S_2 \quad \text{YES}$$

$$F_{by} = 18.389 \text{ ksi} \quad (\text{F.2.1})$$

$$M_{ny} = 24.274 \text{ kip-in}$$

$$M_{ay} = 14.712 \text{ kip-in}$$

$$= 14712 \text{ lb-in}$$





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**Structural Analysis for V15-080-9 60120-SL2**

Shear:

$$V_a = V_n / \Omega_v \quad \text{where} \quad \Omega_v = 1.65$$

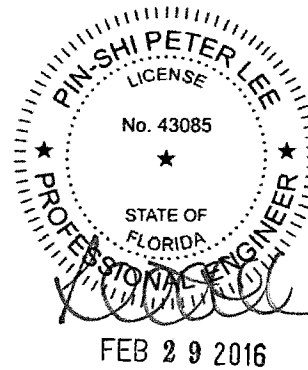
$$S_1 = 38.73119 \quad S_2 = 75.6536$$

$$b/t = 22 \leq S_1 \quad \text{Yes}$$

$$F_s = F_{sy} = 15 \text{ ksi} \quad A_w = 0.75 \text{ in}^2$$

$$V_n = 11.25 \text{ kips} \quad (\text{ADM G.2-1})$$

$$V_a = 6.818 \text{ kips} \\ = 6818 \text{ lbs}$$



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2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Screw: #12 x 1"                      D =        0.216 in                       $\Omega = 3.0$

$t_1 =$	0.125 in	$t_2 =$	0.125 in
F ty <sub>1</sub> =	16000 psi	F ty <sub>2</sub> =	25000 psi
F tu <sub>1</sub> =	22000 psi	F tu <sub>2</sub> =	30000 psi

Screw Pull-Out:

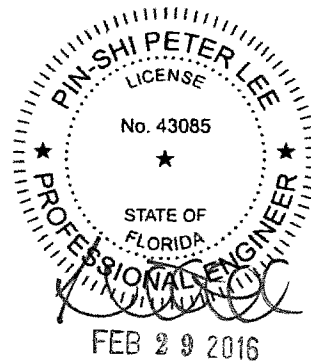
Rn =	810 lbs	(ADM J.5-1)
Rn / $\Omega$ =	270 lbs	

Screw Bearing:

Rn =	1188 lbs	(ADM J.5-12)
Rn / $\Omega$ =	396.0 lbs	

Screw Tilting:

Rn =	2588 lbs	(ADM J.5-13)
Rn / $\Omega$ =	862.7 lbs	



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2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Exterior Wall Framing

RT 3 x 3 x .125 6063-T6

Tributary width: 36 "

Length: 90 in

Fy= 25 ksi Fu= 30 ksi E= 1.01E+07

Beam Properties :

Sex= 1.320 in<sup>3</sup> Iex= 1.980 in<sup>4</sup>  
Vnx= 6818 lbs Ωv= 1.65  
Vnx/Ωv= 4132 lbs

Flexural Strength:

Mnx= 30376 lb-in Ωb= 1.65  
Mnx/Ωb= 18410 lb-in

Axial Strength:

Pn= 20245 lbs Ωc= 1.65  
Pn/Ωc= 12270 lbs

D+S: Not significant

D+Lr:

P= 315 lbs ≤ Pn/Ωc OK

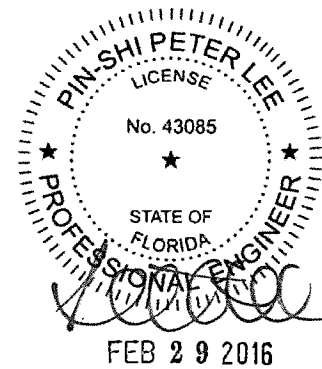
D+0.6W (Zone 5, lateral load):

p= 45 lbs ≤ Pn/Ωc OK  
Ωc P/Pn= 0.004 ≤ 0.15 YES  
w= 12.5190 pli  
M= 12675 lb-in ≤ Mnx/Ωb OK

(ΩcP/Pn)+(ΩbMx/Mnx)+(ΩbMy/Mny)= 0.692 <1 OK

V= 563 lbs ≤ Vnx/Ωv OK

Four(4) #12 screws each end for shear.



Mardan Fabrication

2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

**Aluminum Shape RT 3 x 3 x .25**

Alloy-Temper: 6063-T6

Mechanical properties: (ADM Table A.3.4)

$F_{tu} =$	30 ksi	$F_{ty} =$	25 ksi	$F_{cy} =$	25 ksi
$F_{su} =$	19 ksi	$E =$	10100 ksi	$F_{sy} =$	15 ksi

Shape: (ADM Table 23)

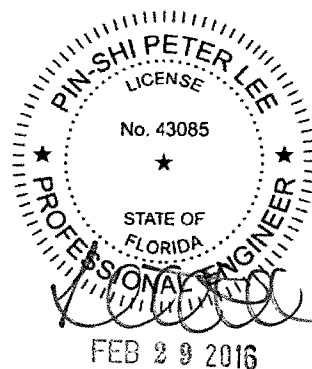
$A =$	2.75 in <sup>2</sup>				
$I_x =$	3.490 in <sup>4</sup>	$S_x =$	2.330 in <sup>3</sup>	$r_x =$	1.127 in
$I_y =$	3.490 in <sup>4</sup>	$S_y =$	2.330 in <sup>3</sup>	$r_y =$	1.127 in

Buckling constants: (ADM Table B.4.2)

$B_c =$	27.63523 ksi	$D_c =$	0.144555 ksi	$C_c =$	78.381395
$B_p =$	31.38591 ksi	$D_p =$	0.174961 ksi	$C_p =$	73.549067
$B_{br} =$	46.11561 ksi	$D_{br} =$	0.381643 ksi	$C_{br} =$	80.556359
$B_s =$	18.98497 ksi	$D_s =$	0.08231 ksi	$C_s =$	94.566995

Post buckling constants: (ADM Table B.4.3)

In compression:	$k_1 = 0.35$	$k_2 = 2.27$
In flexure:	$k_1 = 0.50$	$k_2 = 2.04$



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2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Element in uniform compression:

$$\begin{aligned} b/t &= 10 \\ F_c &= F_{co} \quad (\text{ADM B.5-3}) \end{aligned}$$

Flat element supported on both edges:

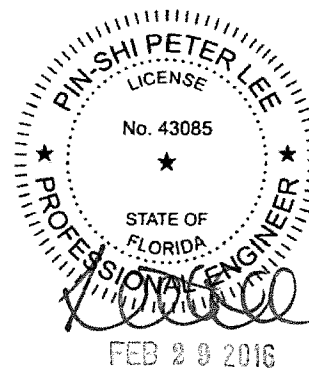
$$\begin{aligned} \text{Yielding:} \quad S_1 &= 22.8119 \\ b/t &\leq S_1 \quad \text{YES} \\ F_c &= 25 \text{ ksi} \end{aligned}$$

$$\begin{aligned} \text{Buckling:} \quad S_2 &= 39.24112 \\ S_1 &< b/t < S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} b/t &\geq S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$\begin{aligned} \text{Post buckling:} \quad S_2 &= 39.24112 \\ b/t &> S_2 \quad \text{NO} \\ F_c &= \text{na} \quad \text{ksi} \end{aligned}$$

$$F_c = 25 \text{ ksi}$$



Mardan Fabrication

2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Element in flexure:

$$\begin{aligned} b/t &= 10 \\ F_b &= F_{bo} \quad (\text{ADM B.5-12}) \end{aligned}$$

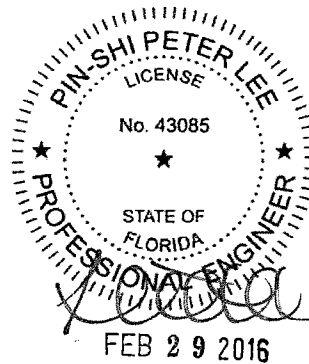
Flat element supported on both edges

Yielding:  $S_1 = 54.8867$   
 $b/t \leq S_1$  YES  
 $F_b = 32.5$  ksi

Buckling:  $S_2 = 65.06475$   
 $S_1 < b/t < S_2$  NO  
 $F_b = na$  ksi

$$\begin{aligned} b/t &\geq S_2 && \text{NO} \\ F_b &= na && \text{ksi} \end{aligned}$$

$$F_b = 32.5 \text{ ksi}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Axial Tension:

$$P_a = P_n / \Omega_t \quad \text{where} \quad \begin{array}{ll} \Omega_t = 1.95 & \text{for rupture} \\ \Omega_t = 1.65 & \text{for yielding} \end{array}$$

$$A_e = A_g = 2.75 \text{ in}^2$$

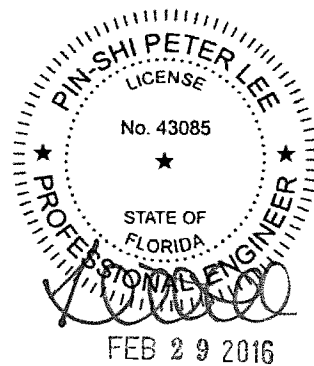
Yielding:

$$\begin{array}{ll} P_n = & 68.75 \text{ kips} \quad (\text{ADM D.2-1}) \\ P_a = & 41.667 \text{ kips} \\ & = 41667 \text{ lbs} \end{array}$$

Rupture:

$$\begin{array}{ll} P_n = & 82.5 \text{ kips} \quad (\text{ADM D.2-3}) \\ k_t = & 1.0 \quad (\text{ADM Table A.3.3}) \\ P_a = & 42.308 \text{ kips} \\ & = 42308 \text{ lbs} \end{array}$$

$$P_a = 41667 \text{ lbs}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Axial Compression:

$$P_a = P_n / \Omega_c \quad \text{where} \quad \Omega_c = 1.65$$

$$S_2 = 78.3814 \quad (\text{ADM E.3-4})$$

$$KL = 45 \text{ in}$$

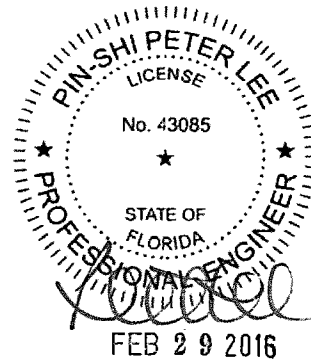
$$KL/r = 39.9453 \leq S_2 \quad \text{YES}$$

$$F_c = 18.582 \text{ ksi} \quad (\text{ADM E.3-2, E.3-3})$$

$$P_n = 51.100 \text{ kips}$$

$$P_a = 30.970 \text{ kips}$$

$$= 30970 \text{ lbs}$$





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**Structural Analysis for V15-080-9 60120-SL2**

Flexure:

$$M_a = M_n / \Omega_b \quad \text{where} \quad \Omega_b = 1.65$$

$$L_{bx} = 45 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{xe} = r_x$$

$$S_2 = 94.05767$$

$$L_{bx} / (r_{ye} * C_b^{(1/2)}) = 39.94534 \leq S_2 \quad \text{YES}$$

$$F_{bx} = 22.823 \text{ ksi} \quad (\text{ADM F.2.1})$$

$$M_{nx} = 53.178 \text{ kip-in}$$

$$M_{ax} = 32.229 \text{ kip-in}$$

$$= 32229 \text{ lb-in}$$

$$L_{by} = 45 \text{ in}$$

$$\text{Let } C_b = 1.0 \quad \text{and} \quad r_{ye} = r_y$$

$$S_2 = 94.05767$$

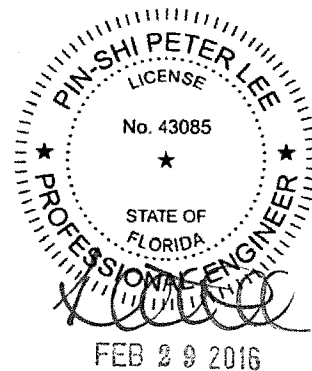
$$L_{by} / (r_{xe} * C_b^{(1/2)}) = 39.94534 \leq S_2 \quad \text{YES}$$

$$F_{by} = 22.823 \text{ ksi} \quad (\text{F.2.1})$$

$$M_{ny} = 53.178 \text{ kip-in}$$

$$M_{ay} = 32.229 \text{ kip-in}$$

$$= 32229 \text{ lb-in}$$



Mardan Fabrication

2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Shear:

$$V_a = V_n / \Omega_v \quad \text{where} \quad \Omega_v = 1.65$$

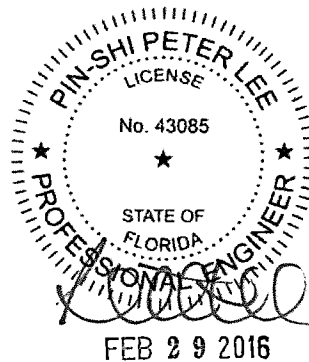
$$S_1 = 38.73119 \quad S_2 = 75.6536$$

$$b/t = 10 \leq S_1 \quad \text{Yes}$$

$$F_s = F_{sy} = 15 \text{ ksi} \quad A_w = 1.5 \text{ in}^2$$

$$V_n = 22.5 \text{ kips} \quad (\text{ADM G.2-1})$$

$$V_a = 13.636 \text{ kips} \\ = 13636 \text{ lbs}$$



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**Structural Analysis for V15-080-9 60120-SL2**

Main Wind Force Resisting System

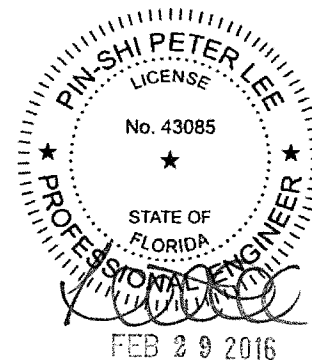
Vertical wall frames are resisting the lateral shear loads

Wind direction: Perpendicular to the length of the building

Wall length =	12 ft	End zone length =	6 ft
Stud length =	90 in		
Roof heel =	8 in		
Roof ridge =	0 in		
Shear S =	937 lbs		
Min. shear=	254 lbs	(ASCE 28.6.4)	

Wind direction: Parallel to the length of the building

Wall length =	6 ft	End zone length =	3 ft
Stud length =	90 in		
Roof heel =	8 in		
Roof ridge =	0 in		
Shear S =	468 lbs		
Min. shear=	127 lbs	(ASCE 28.6.4)	



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2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Seismic Load at Ceiling Line:

$$Fr = 13 \text{ lbs} \quad (\text{ASCE 12.14-12})$$

Load in plan S-N direction:

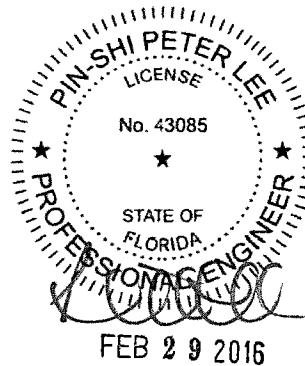
Two(2) RT 3 x 3 x .25 6063-T6 in each east and west walls resist load at ceiling.  
Max. load on top of each vertical= 468 lbs  
Verticals are supported at 45" from floor, rotation and translation free at top.

$$\begin{aligned} M &= 21081 \text{ lb-in} &< Mn/\Omega_b \\ V &= 468 \text{ lbs} &< Vn/\Omega_v \end{aligned}$$

Load in plan E-W direction:

Two(2) RT 3 x 3 x .25 6063-T6 verticals in each south and north walls resist load at ceiling.  
Max. load on top of each vertical= 234 lbs  
Verticals are supported at 45" from floor, rotation and translation free at top.

$$\begin{aligned} M &= 10541 \text{ lb-in} &< Mn_x/\Omega_b \\ V &= 234 \text{ lbs} &< Vn/\Omega_v \end{aligned}$$



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2/23/2016

**Structural Analysis for V15-080-9 60120-SL2**

Sliding, Uplifting, and Overturning

Tie-Downs:

The building is anchored to the concrete pad with ten(10) 1/2 " expansion bolt.  
A min. 3" embedment in the min. 3000 psi concrete.  
(Power-Stud of Powers Fasteners)

Allowable tension load per bolt= 1655 lbs  
allowable shear load per bolt= 1665 lbs

Floor depth = 3 in

Sliding :

Wind/seismic load perpendicular to the length of the building,

Total sliding load = 3571 lbs  
Shear load in each anchor= 357 lbs OK

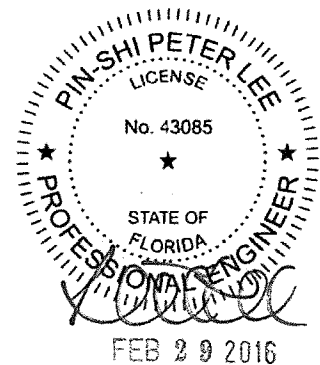
Wind/seismic load parallel to the length of the building,

Total sliding load = 1785 lbs  
Shear load in each anchor= 179 lbs OK

Uplifting :

Uplift load= 42.45648 psf  
60% building weight= 7.8 psf

Total uplift= 2495 lbs  
Tension load in each anchor= 250 lbs OK



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**Structural Analysis for V15-080-9 60120-SL2**

Overturning :

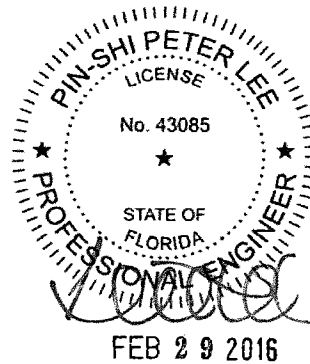
Wind/seismic load perpendicular to the length of the building,

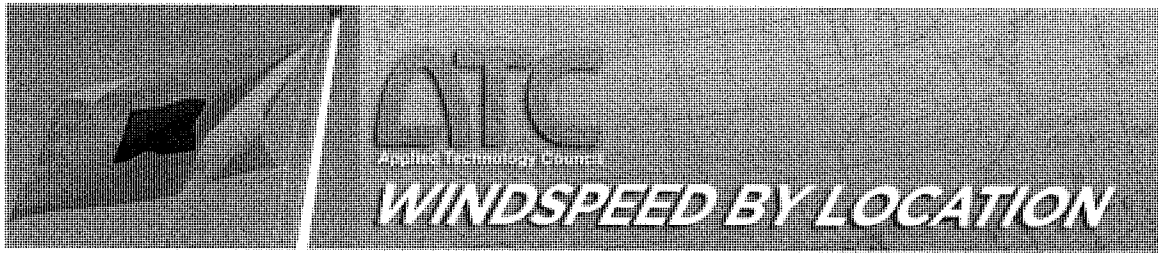
Overturning moment = 264100 lb-in  
Resistance lever arm = 72 in  
Tension load in each anchor= 734 lbs OK

Wind/seismic load parallel to the length of the building,

Overturning moment = 266795 lb-in  
Resistance lever arm = 144 in  
Tension load in each anchor= 463 lbs OK

$(N_u/N_n)^{5/3} + (V_u/V_n)^{5/3} = 0.335 \leq 1$  OK





[ASCE 7 Windspeed](#)  
 [ASCE 7 Ground Snow Load](#)  
 [Related Resources](#)  
 [Sponsors](#)  
 [About ATC](#)  
 [Contact](#)

## Search Results

**Query Date:** Fri Mar 04 2016  
**Latitude:** 25.5516  
**Longitude:** -80.6327

**ASCE 7-10 Windspeeds**  
**(3-sec peak gust in mph\*):**

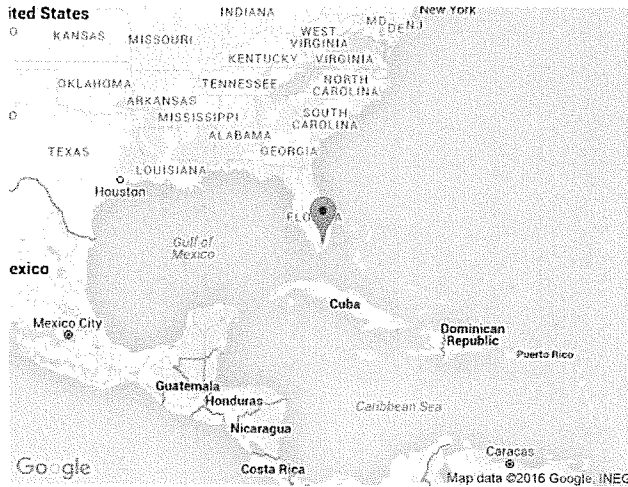
**Risk Category I:** 154  
**Risk Category II:** 165  
**Risk Category III-IV:** 175  
**MRI\*\* 10-Year:** 88  
**MRI\*\* 25-Year:** 111  
**MRI\*\* 50-Year:** 125  
**MRI\*\* 100-Year:** 138

**ASCE 7-05 Windspeed:**  
 138 (3-sec peak gust in mph)  
**ASCE 7-93 Windspeed:**  
 110 (fastest mile in mph)

\*Miles per hour  
 \*\*Mean Recurrence Interval

Users should consult with local building officials to determine if there are community-specific wind speed requirements that govern.

 [Print your results](#)



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**Product Approval**  
USER: Public User

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FL #	FL7561-R3
Application Type	Revision
Code Version	2014
Application Status	Approved
Comments	
Archived	<input type="checkbox"/>
Product Manufacturer	Elite Aluminum Corporation
Address/Phone/Email	4650 Lyons Technology Parkway Coconut Creek, FL 33073 (954) 949-3200 dk@dokimengineering.net
Authorized Signature	Do Kim dk@dokimengineering.net
Technical Representative	Dan Cooke
Address/Phone/Email	1801 NW 64th Street Ft. Lauderdale, FL 33309 (954) 491-3700 elitealum@aol.com
Quality Assurance Representative	
Address/Phone/Email	
Category	Roofing
Subcategory	Products Introduced as a Result of New Technology
Compliance Method	Evaluation Report from a Florida Registered Architect or a Licensed Florida Professional Engineer <input checked="" type="checkbox"/> Evaluation Report - Hardcopy Received
Florida Engineer or Architect Name who developed the Evaluation Report	Do Kim, P.E.
Florida License	PE-49497
Quality Assurance Entity	Quality Auditing-Institute Ltd.
Quality Assurance Contract Expiration Date	11/30/2020
Validated By	James L. Buckner, P.E. at CBUCK Engineering <input checked="" type="checkbox"/> Validation Checklist - Hardcopy Received
Certificate of Independence	<a href="#">FL7561_R3_COI_Cert of Independence.pdf</a>
Referenced Standard and Year (of Standard)	
Equivalence of Product Standards Certified By	
Sections from the Code	1709.2



Product Approval Method	Method 2 Option B
Date Submitted	04/30/2015
Date Validated	05/01/2015
Date Pending FBC Approval	05/10/2015
Date Approved	06/23/2015

**Summary of Products**

FL #	Model, Number or Name	Description
7561.1	Aluminum/Aluminum Composite Panels	3"/4"/6"x0.024"x1lb EPS Composite Panel, 3"/4"/6"x0.032x1lb EPS Composite Panel, 3"/4"/6"x0.024"x2lb EPS Composite Panel, 3"/4"/6"x0.030"x2lb EPS Composite Panel,
<b>Limits of Use</b> Approved for use in HVHZ: Yes Approved for use outside HVHZ: Yes Impact Resistant: No Design Pressure: +80/-80 Other: In HVHZ, not to be used in structures considered living areas per FBC Section 1616 unless impact protection is provided. See installation drawing for nominal allowable design pressures and spans.		<b>Installation Instructions</b> <a href="#">FL7561 R3 II Elite FL7561-R3 2014 FBC Installation Dwg.pdf</a> Verified By: Do Kim, P.E. PE 49497 Created by Independent Third Party: Yes <b>Evaluation Reports</b> <a href="#">FL7561 R3 AE Elite Alum FL7561-R3 2014 FBC Evaluation.pdf</a> Created by Independent Third Party: Yes

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Product Approval Accepts:





DEPARTMENT OF REGULATORY AND ECONOMIC RESOURCES (RER)  
BOARD AND CODE ADMINISTRATION DIVISION

MIAMI-DADE COUNTY  
PRODUCT CONTROL SECTION  
11805 SW 26 Street, Room 208  
Miami, Florida 33175-2474  
T (786) 315-2590 F (786) 315-2599  
[www.miamidade.gov/economy](http://www.miamidade.gov/economy)

**NOTICE OF ACCEPTANCE (NOA)**

**Tremco, Inc.**  
3735 Green Road  
Beachwood, OH 44212

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County RER - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. RER reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code including the High Velocity Hurricane Zone of the Florida Building Code.

**DESCRIPTION: Solargard® Elastomeric 6083 Maintenance Coating System**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews and revises NOA# 08-0827.24 and consists of pages 1 through 9. The submitted documentation was reviewed by Alex Tigera.



NOA No.: 13-1022.10  
Expiration Date: 12/11/18  
Approval Date: 03/06/14  
Page 1 of 9

## ROOFING COMPONENT APPROVAL

**Category:** Roofing  
**Sub-Category:** Cement-Adhesive-Coatings  
**Materials:** Elastomeric

### SCOPE:

This approves “Solargard® Elastomeric 6083 Maintenance Coating System” as a maintenance roof coating as manufactured by Tremco, Inc., as described in this Notice of Acceptance, designed to comply with the Florida Building Code.

### PRODUCT DESCRIPTION

<u>Manufactured by Applicant</u>	<u>Dimensions</u>	<u>Test Specifications</u>	<u>Product Description</u>
Solargard® Elastomeric 6083 Maintenance Coating <i>(Manuf. Loc. #1)</i>	1, 5 or 53 gal.	TAS 114	Liquid-applied, elastomeric roofing material.
Solargard Rust Primer WB <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Quick drying, asbestos free, water-based primer for smooth or granular surface asphalt and modified bitumen roofs.
Solargard Seam Sealer <i>(Manuf. Loc. #2)</i>	2 or 5 gal.	Proprietary	White, single component, high solids moisture curing, polyurethane sealer used for waterproofing a variety of roofing substrates.
Solargard Acrylic Sealer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	High solids, acrylic elastomeric sealer used on a variety of roofing and wall substrates.
Tremprime WB <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Water-based primer used for smooth or granular surface asphalt and modified bitumen roofs.
Solargard Masonry Primer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Acrylic Primer bonds to brick, stone, concrete, plaster, stucco and other cementitious surfaces.
SP Primer <i>(Manuf. Loc. #1)</i>	1 or 5 gal.	Proprietary	Water-based, acrylic primer used on various base surfaces.

### MANUFACTURING LOCATION

1. Medina, OH
2. Cleveland, OH



## EVIDENCE SUBMITTED

<u>Test Agency</u>	<u>Test Identifier</u>	<u>Test Name/Report</u>	<u>Date</u>
Momentum Technologies, Inc.	EX08G4A	ASTM D6083	09/08/04
Trinity ERD	R10940.08.08	Adhesion Performance PA 114, Appendix H	08/07/08

## BUILDING PERMIT REQUIREMENTS:

Application for building permit shall be accompanied by copies of the following:

1. This Notice of Acceptance.
2. Any other documents required by the Building Official or the Applicable Building Code in order to properly evaluate the installation of this system.

## PHYSICAL PROPERTIES OF COMPONENTS

<b>Trade name:</b>	Solargard® Elastomeric 6083 Maintenance Coating
<b>Thickness:</b>	See Systems Approvals below.
<b>Specifications:</b>	ASTM D 6083
<b>Description:</b>	Coating system used for waterproofing and weatherproofing roofs.
<b>Container Size:</b>	1, 5, or 53 gallons. Note all cautions on container label.
<b>Systems Approvals:</b>	Methods of application and quantities shall comply with specific Roof Assembly, Product Control Notice of Acceptance.



NOA No.: 13-1022.10  
Expiration Date: 12/11/18  
Approval Date: 03/06/14  
Page 3 of 9

## APPROVED MAINTENANCE COATING APPLICATION:

- Substrate:** Coated Metal
- Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. Check for adhesion and compatibility of any remaining, tightly adhered, existing coating with Solargard. All surface preparation, and repairs, shall be in compliance with the Solargard's published application instructions and current Miami-Dade Notice of Acceptance.
- Primer:** Solargard Rust Primer WB at approximately 200 ft<sup>2</sup>/gal
- Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.
- Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1 gal./100 ft<sup>2</sup> (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed. On metal roofs with irregular panel and rib design, multiply feet by 1.15 to calculate actual surface area to be coated.
- Top Coat:** Finish Coat as described above in the "Foundation Coating" section is to be applied at 1 gal./100 ft<sup>2</sup>
- 
- Substrate:** Galvanized Metal
- Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard's published application instructions and current Miami-Dade Notice of Acceptance.
- Primer:** Solargard Rust Primer WB at approximately 200 ft<sup>2</sup>/gal
- Surface Treatment:** New galvanized panels must be weathered a minimum of six months or treated with a phosphoric acid wash to remove factory oil film. The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.
- Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1 gal./100 sq. ft. (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed. On metal roofs with irregular panel and rib design, multiply feet by 1.15 to calculate actual surface area to be coated.
- Top Coat:** Finish Coat as described above in the "Foundation Coating" section is to be applied at 1 gal./100 ft<sup>2</sup>



**Substrate:** Concrete

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer or Solargard Masonry Primer at the rate of 200ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats at 1-1/2 gal./100 sq. ft. (16 wet mils) per coat. Wait 12-24 hours between coats. Apply the system in a Buff Base Coat and White (or selected color) Finish Coat. The coverage rates shown are intended as minimum application requirements. The surface dictates actual coverage needed.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** Smooth BUR

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200 – 400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats over a prepared, and primed, roof at the rate of 1 ½ gal./100 ft<sup>2</sup> (24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 3 gal. /100 ft<sup>2</sup>.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>



**Substrate:** Smooth Modified Bitumen

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200 – 400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Solargard® Elastomeric 6083 Maintenance Coating is to be applied in two coats over a prepared, and primed, roof at the rate of 1 ½ gal./100 ft<sup>2</sup> (24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 3 gal. /100 ft<sup>2</sup>.

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** PVC

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>



**Substrate:** TPO

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** EPDM

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** SP Primer at the rate of 200–300 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1 to 1-1/2 gal./100 ft<sup>2</sup>





**Substrate:** Granule Surfaced Modified Bitumen

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** Tremprime WB Primer at the rate of 200–400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>

**Substrate:** Existing acrylic (water-based) coatings

**Preparation:** The surface shall be clean, sound and dry prior to application of Solargard® Elastomeric 6083 Maintenance Coating. All surface preparation, and repairs, shall be in compliance with the Solargard’s published application instructions and current Miami-Dade Notice of Acceptance.

**Primer:** If required by project, *Solargard Rust Primer WB* at approximately 200 ft<sup>2</sup>/gal or *SP Primer* at a rate of 200-300 ft<sup>2</sup>/gal, or *Tremprime WB Primer* at a rate of 200-400 ft<sup>2</sup>/gal.

**Surface Treatment:** The base of all roof penetrations and curbs, i.e. stacks, vents, etc., must be sealed using Solargard Seam Sealer or Solargard Acrylic Sealer at the rate of 30 - 40 lineal ft./gal.

**Foundation Coating:** Apply Solargard® Elastomeric 6083 Maintenance Coating over prepared and primed roof at the rate of 1 to 1 ½ gal./100 sq. ft. (16-24 wet mils). Allow first coat to fully cure prior to the application of the second coat. The whole surface, when finished, should have Solargard® Elastomeric 6083 Maintenance Coating on it at a rate of 2 to 3 gal./100 sq. ft. (32-48 wet mils).

**Top Coat:** Finish Coat as described above in the “Foundation Coating” section is to be applied at 1-1/2 gal./100 ft<sup>2</sup>



**LIMITATIONS:**

1. Fire classification is not part of this acceptance, refer to a current Approved Roofing Materials Directory for fire rating of this product.
2. All products shall be applied in strict compliance with Manufacturer's published application instructions.
3. Tremco products shall not be applied in inclement weather conditions.
4. Tremco shall not be covered with stone chips, screeds, tiles or soil.
5. Tremco shall not be applied over existing gravel surfaces.
6. Approved primer is required on all unprotected iron and steel and previously painted surfaces.
7. The products listed herein are components of roof assemblies and are approved for use with roof assemblies that list any of the products listed herein as part of their roof assemblies Notice of Acceptance.
8. All products listed herein shall have an unannounced follow-up quality control program from an approved listing agency. Follow up test results shall be made available to Product Control upon request.
9. All approved products listed herein shall be labeled in compliance with TAS 121 and shall bear the imprint or identifiable marking of the manufacturer's name or logo and following statement: "Miami-Dade County Product Control Approved" or the Miami-Dade County Product Control Seal as shown below..



10. Change in materials, use, or manufacture of any of the products listed herein shall be cause for termination of this Notice of Acceptance
11. All products listed herein shall have a quality assurance audit in accordance with the Florida Building Code and Rule 61G20-3 of the Florida Administrative Code.
12. The use of a reinforcing fabric in a maintenance coating is only to enhance the coatings ability to deliver efficient and long term performance through the protection of the underlying roof system and in this particular use does not become a roof system itself.

**END OF THIS ACCEPTANCE**





**MIAMI-DADE COUNTY**  
**BUILDING AND NEIGHBORHOOD COMPLIANCE DEPARTMENT (BNC)**  
**BOARD AND CODE ADMINISTRATION DIVISION**

**MIAMI-DADE COUNTY**  
**PRODUCT CONTROL SECTION**  
 11805 SW 26 Street, Room 208  
 Miami, Florida 33175-2474  
 T (786) 315-2590 F (786) 315-2599

**NOTICE OF ACCEPTANCE (NOA)**

[www.miamidade.gov/building](http://www.miamidade.gov/building)

**Reliable Products**  
**1300 Enterprise Rd. (P.O. Box 580)**  
**Geneva, AL 36340**

**SCOPE:**

This NOA is being issued under the applicable rules and regulations governing the use of construction materials. The documentation submitted has been reviewed and accepted by Miami-Dade County BNC - Product Control Section to be used in Miami Dade County and other areas where allowed by the Authority Having Jurisdiction (AHJ).

This NOA shall not be valid after the expiration date stated below. The Miami-Dade County Product Control Section (In Miami Dade County) and/or the AHJ (in areas other than Miami Dade County) reserve the right to have this product or material tested for quality assurance purposes. If this product or material fails to perform in the accepted manner, the manufacturer will incur the expense of such testing and the AHJ may immediately revoke, modify, or suspend the use of such product or material within their jurisdiction. BNC reserves the right to revoke this acceptance, if it is determined by Miami-Dade County Product Control Section that this product or material fails to meet the requirements of the applicable building code.

This product is approved as described herein, and has been designed to comply with the Florida Building Code, including the High Velocity Hurricane Zone.

**DESCRIPTION: Model AEL-42D-7060 Aluminum Louver**

**APPROVAL DOCUMENT:** Drawing No. **03S358-1N to 3N**, titled "Dade County Universal Louver for PTAC Application", sheets 1 through 3 of 3, prepared by Reliable Products, dated 12/23/03, with last revision dated 09/01/05, signed and sealed by Edward P. Hutson, P.E., bearing the Miami-Dade County Product Control renewal stamp with the Notice of Acceptance number and expiration date by the Miami-Dade County Product Control Section.

**MISSILE IMPACT RATING: Large and Small Missile Impact Resistant**

**LABELING:** Each unit shall bear a permanent label with the manufacturer's name or logo, city, state and following statement: "Miami-Dade County Product Control Approved", unless otherwise noted herein.

**RENEWAL** of this NOA shall be considered after a renewal application has been filed and there has been no change in the applicable building code negatively affecting the performance of this product.

**TERMINATION** of this NOA will occur after the expiration date or if there has been a revision or change in the materials, use, and/or manufacture of the product or process. Misuse of this NOA as an endorsement of any product, for sales, advertising or any other purposes shall automatically terminate this NOA. Failure to comply with any section of this NOA shall be cause for termination and removal of NOA.

**ADVERTISEMENT:** The NOA number preceded by the words Miami-Dade County, Florida, and followed by the expiration date may be displayed in advertising literature. If any portion of the NOA is displayed, then it shall be done in its entirety.

**INSPECTION:** A copy of this entire NOA shall be provided to the user by the manufacturer or its distributors and shall be available for inspection at the job site at the request of the Building Official.

This NOA renews NOA # **05-0412.01** and consists of this page 1 and evidence page E-1, as well as approval document mentioned above.

The submitted documentation was reviewed by **Carlos M. Utrera, P.E.**



*[Handwritten Signature]*  
 09/12/11

NOA No. 11-0726.03  
 Expiration Date: September 22, 2016  
 Approval Date: September 22, 2011  
 Page 1

Reliable Products

NOTICE OF ACCEPTANCE: EVIDENCE SUBMITTED

**A. DRAWINGS**

1. Drawing No. **03S358-1N** to **3N**, titled "Dade County Universal Louver for PTAC Application", sheets 1 through 3 of 3, prepared by Reliable Products, dated 12/23/03, with last revision dated 09/01/05, signed and sealed by Edward P. Hutson, Jr., P.E.

**B. TESTS "Submitted under NOA # 05-0412.01"**

1. Test report on Large Missile Impact Test per TAS 201, Test, Cyclic Wind Pressure Test per TAS 203, Test and Uniform Static Air Pressure Test per TAS 202 of "AEL-420-7060 Aluminum Louvers", prepared by Fenestration Testing Laboratory, Inc, laboratory No **4439**, dated 01/07/05, signed and sealed by E. J. Largaespada, P.E.
2. Clarification letter issued by Fenestration Testing Laboratory, Inc, on 09/08/05, signed by R. Robleto.
3. Test report on Tensile Test per ASTM B5577 of Aluminum Flat Reduced Section, prepared by Fenestration Testing Laboratory, Inc on 03/14/05, signed and sealed by E. J. Largaespada, P.E.

**C. CALCULATIONS "Submitted under NOA # 05-0412.01"**

1. Anchor Calculations prepared by Ruskin Engineering, pages 1 to 8, signed and sealed by Edward P. Hutson, Jr., P.E. on 07/01/05.

**D. QUALITY ASSURANCE**

1. Miami-Dade Building and Neighborhood Compliance Department (BNC)

**E. MATERIAL CERTIFICATIONS**

1. None.

**F. STATEMENTS**

1. Statement letter of code conformance to FBC 2007, issued by Ruskin Architectural Products, dated 07/20/11, signed and sealed by Daniel J. Rau, P.E.

**"Submitted under NOA # 05-0412.01"**

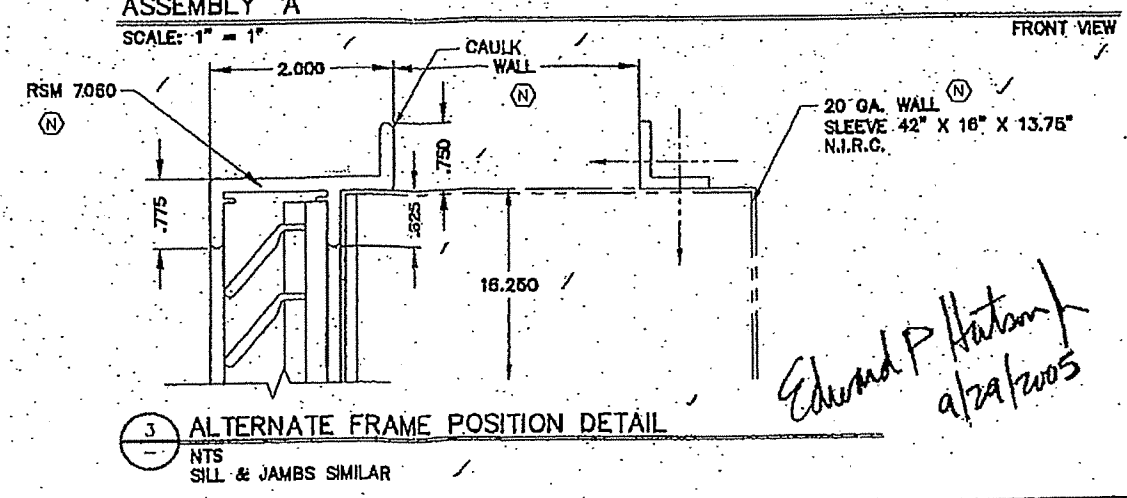
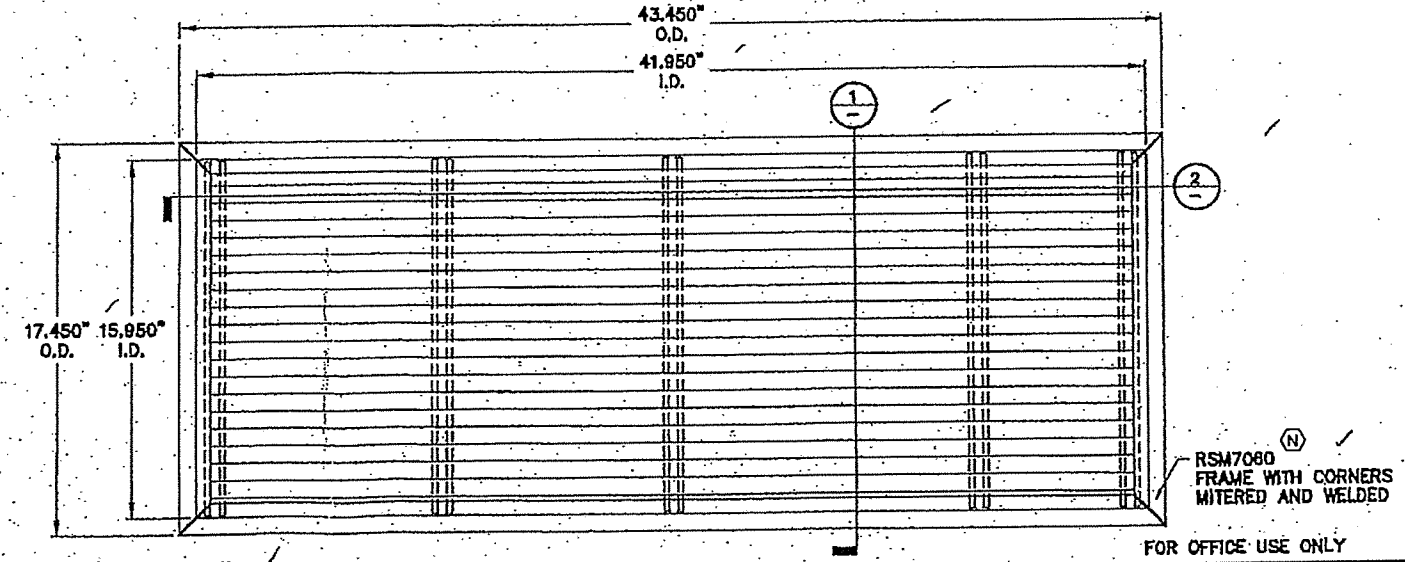
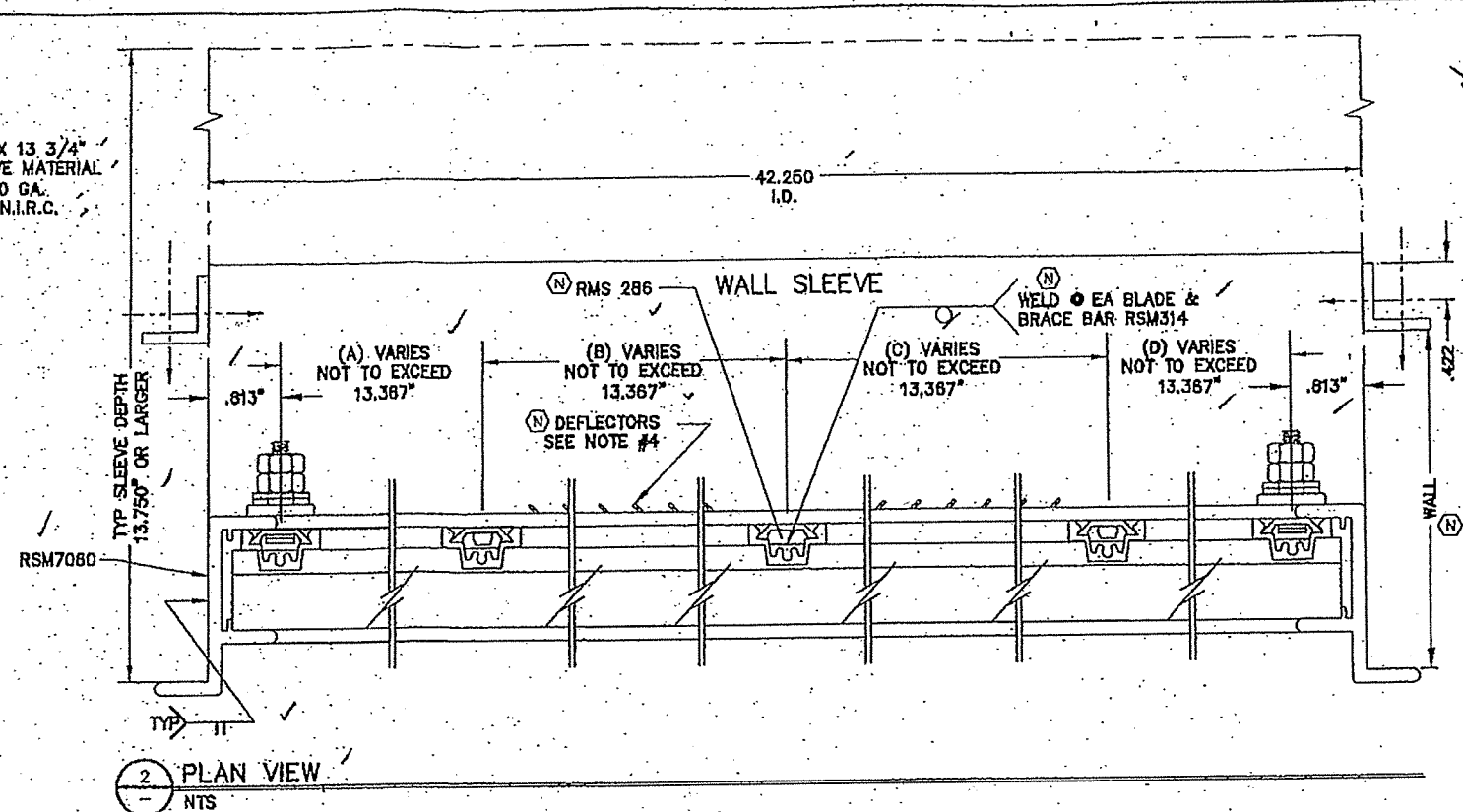
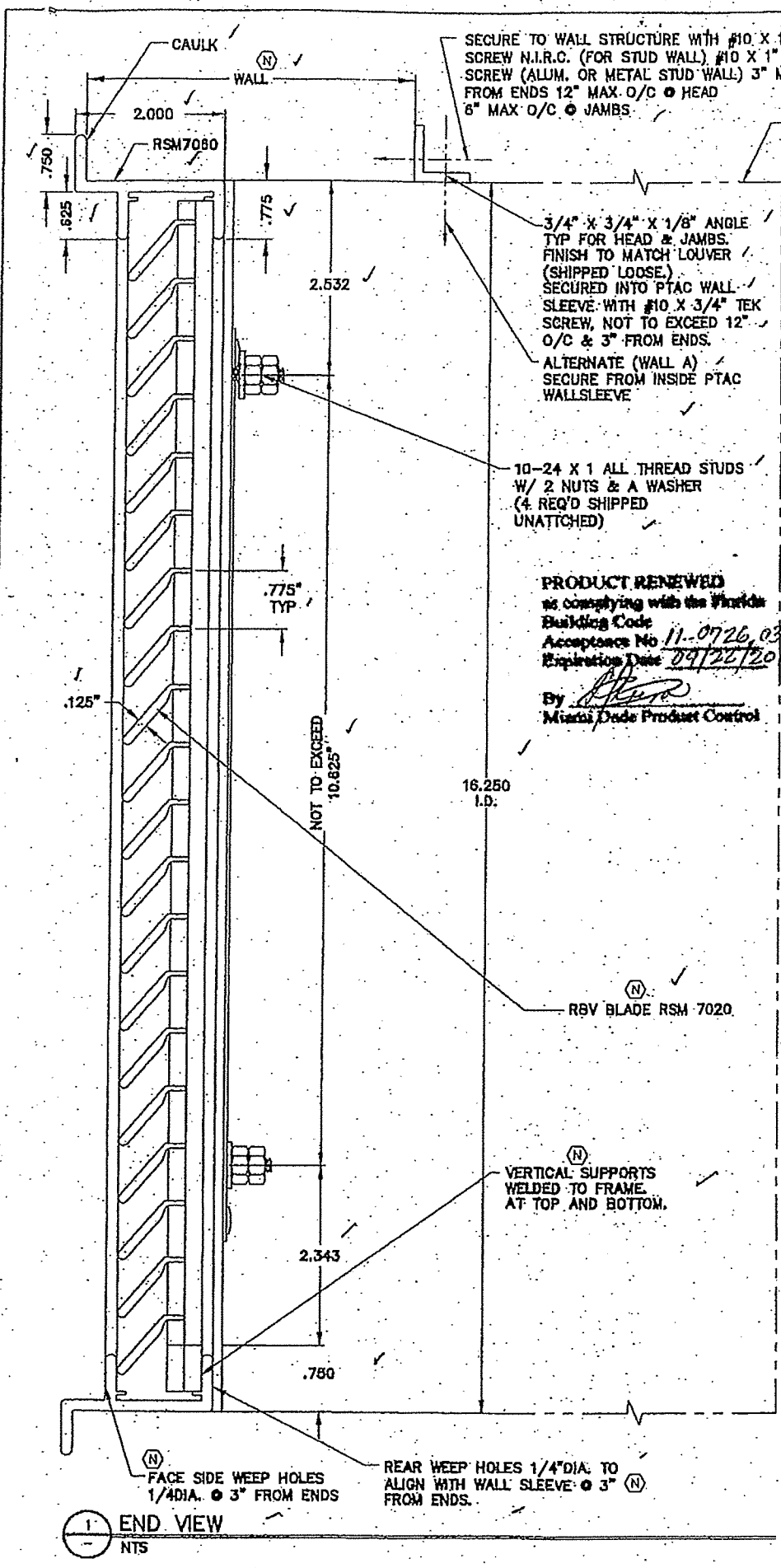
2. Test compliance letter issued by Fenestration Testing Laboratory Inc, on 09/27/05, signed by E. J. Largaespada, P.E.
3. No interest letter issued by Norton & Schmidt on 08/01/05, signed and sealed by Edward P. Hutson, Jr., PE.



09/12/11

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Carlos M. Utrera, P.E.  
Product Control Examiner  
NOA No. 11-0726.03  
Expiration Date: September 22, 2016  
Approval Date: September 22, 2011



FOR OFFICE USE ONLY

Approved as complying with the Florida Building Code  
 Date *02/16/06*  
 By *[Signature]*  
 Miami Dade Product Control

ENGINEER OF RECORD: EDWARD PAUL HUTSON JR.  
 ENGINEERING DISCIPLINE: STRUCTURAL ENGINEER  
 REGISTRATION #: STATE OF FLORIDA # 0052339

REV.	DATE	CHK'D BY	DESCRIPTION
9/1/05	WS	WS	ADDED ALTERNATE FRAME POSITION, CORRECTED BAFFLE
12/15/04	TAK	WS	MOVED WELD SYM. TO PLAN W/CH. CHANGE DIM. END VIEW
08/31/04	GR	WS	MODEL NAME CHANGE
08/05/04	CR	WS	REV. NOTES ADDED MATERIAL THICKNESS DIM.
05/14/04	CR	CS	REV. FRAME TO RSM7080A
05/12/04	GR	CS	REV. MOUNTING SCRY I.D. FOR METAL OR WOOD STUD
04/26/04	NN	WS	REV. FRAME, REMOVED WINDOW WALL TREATMENT, ADDED FRAME DETAIL ON SHEET 3
03/30/04	NN	WS	REV. DIRECTION OF FRAMES ON SHEET 1 & 2 W/ SAME DIRECTION OF FRAMES ON SHEET 1 & 2
03/04/04	NN	WS	REV. NOTES & ADDED MOUNTING DIRECTIONS ON VIEWS ON SHEET 1
02/26/04	NN	WS	ADDED NOTES & REV. NOTES & DETAILS
02/09/04	NN	WS	REMOVED SHEET 2B, REVISED DETAILS AND ADDED PTAC SLEEVE

**RELIABLE PRODUCTS**

1300 Enterprise Road ARCH/MECH LOUVERS  
 Geneva, Alabama 38340 REGISTERS  
 PHONE (334) 684-3821 GRILLES  
 FAX (334) 684-3120 DIFFUSERS

I THE UNDERSIGNED AM THE RESPONSIBLE INDIVIDUAL FOR VERIFYING CONDITIONS AND ROUGH OPENING MEASUREMENTS OF THIS CONTRACT.

BY MY SIGNATURE BELOW I DENOTE THAT I HAVE VERIFIED ALL FIELD CONDITIONS AND GUARANTEE THE ROUGH OPENING SIZES AND AUTHORIZE THE FABRICATION OF THE COMPONENTS CONTAINED IN ALL THE DOCUMENTS RELATIVE TO THIS PURCHASE ORDER.

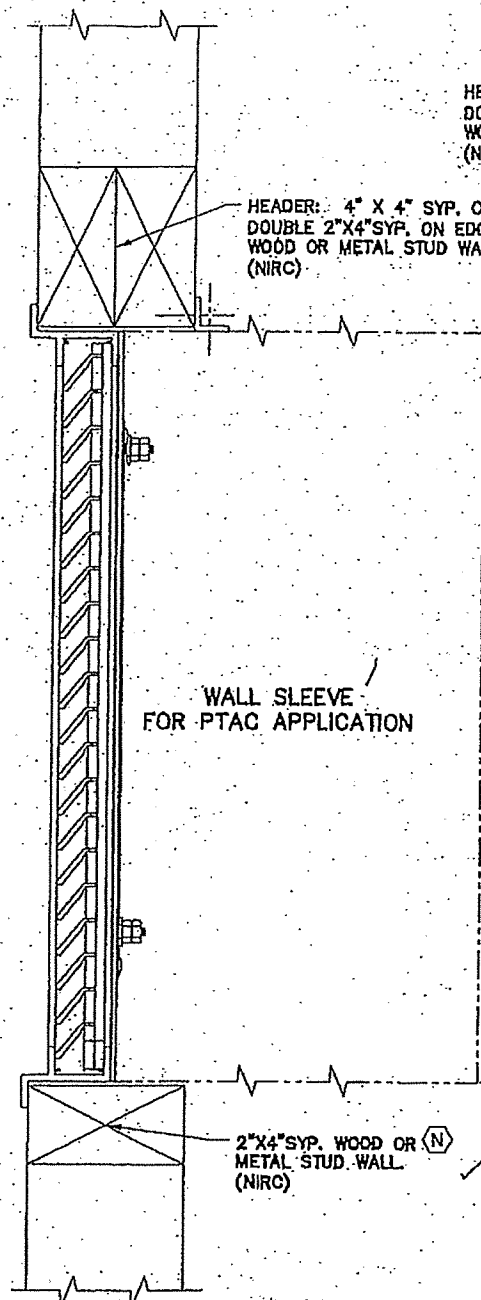
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AUTHORIZED SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_

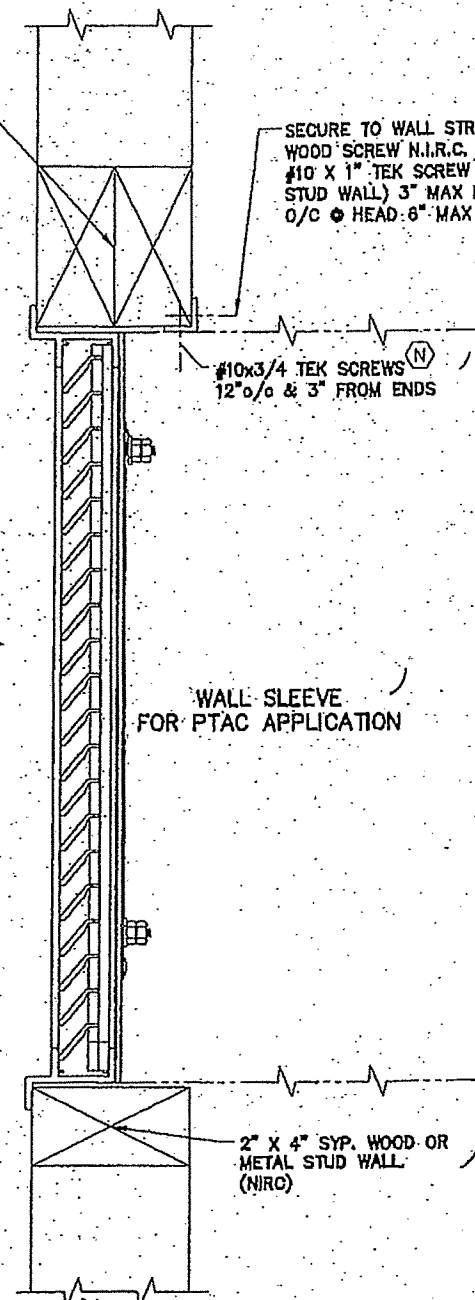
NAME OF ORGANIZATION \_\_\_\_\_

CUSTOMER NAME \_\_\_\_\_

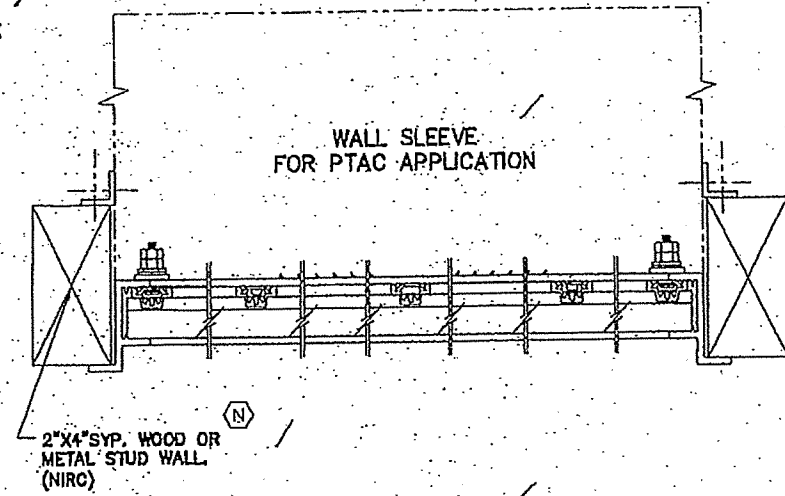
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FINISH	MILL	SHEET TITLE	AEL-42D-7060 AEL-42 W/ FRM/LVR & ANGLE
DATE	12/23/03	DATE	12/23/03
REVIEWED BY	WENDELL SIMMONS	DATE	12/23/03
MANUFACTURING	REVIEW	DATE	
ENGINEER	REVIEW	DATE	
CUSTOMER REP.	JIMMY HICKS	REVIEW	DATE
DRAWING NUMBER	03S358-1N	SHEET	1 OF 3



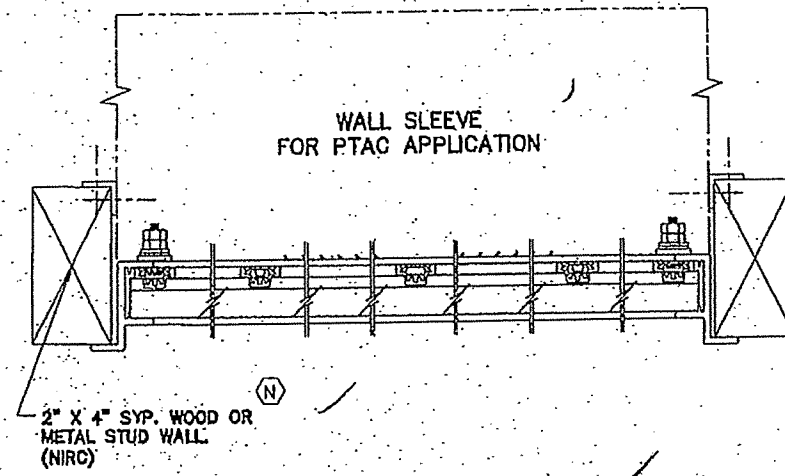
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1 NTS



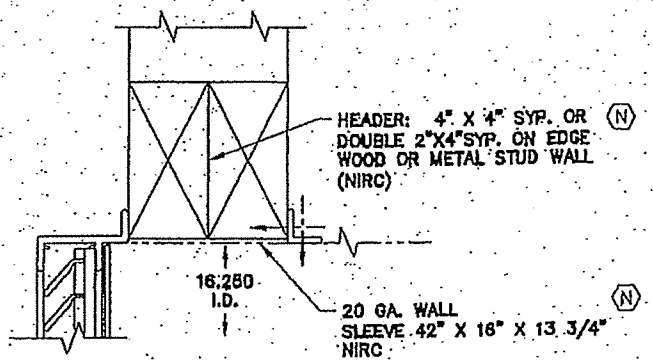
2 INSTALLATION END VIEW (ALT.)  
2 NTS



3 INSTALLATION SECTION DETAIL  
1 NTS



4 INSTALLATION SECTION DETAIL (ALT.)  
2 NTS



5 INSTALLATION ALTERNATE FRAME POSITION DETAIL  
NTS  
SILL & JAMBS SIMILAR

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No. 11-0726-03  
Expiration Date 07/22/2016  
By *[Signature]*  
Miami Dade Product Control

*Edward P. Hutson Jr.*  
12/29/2005

FOR OFFICE USE ONLY

APPROVED AS COMPLYING WITH THE Florida Building Code Date: 02/16/05 By: <i>[Signature]</i> Miami Dade Product Control Division: <i>[Signature]</i>	ENGINEER OF RECORD: EDWARD PAUL HUTSON JR. ENGINEERING DISCIPLINE: STRUCTURAL ENGINEER REGISTRATION #: STATE OF FLORIDA # 0052339
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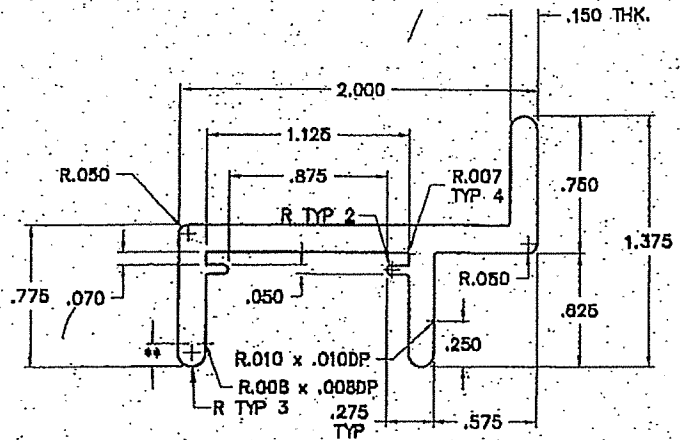
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12/10/04	WS	T.R.A.	WS	12/10/04
08/31/04	GR	GR	WS	08/31/04
08/05/04	CR	CR	WS	08/05/04
06/14/04	CR	CR	CS	06/14/04
05/12/04	CR	CR	CS	05/12/04
04/26/04	WS	N.H.	WS	04/26/04
03/30/04	WS	N.H.	WS	03/30/04
03/04/04	WS	N.H.	WS	03/04/04
02/25/04	WS	N.H.	WS	02/25/04
02/15/04	WS	N.H.	WS	02/15/04

**RELIABLE**  
PRODUCTS  
1300 Enterprise Road ARCH/MECH LOUVERS  
Geneva, Alabama 36340 REGISTERS  
PHONE (334) 684-3821 GRILLES  
FAX (334) 684-3120 DIFFUSERS

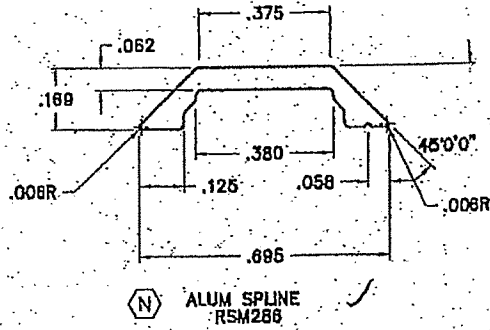
I THE UNDERSIGNED AM THE RESPONSIBLE INDIVIDUAL FOR VERIFYING CONDITIONS AND ROUGH OPENING MEASUREMENTS OF THIS CONTRACT.  
BY MY SIGNATURE BELOW I DENOTE THAT I HAVE VERIFIED ALL FIELD CONDITIONS AND GUARANTEE THE ROUGH OPENING SIZES AND AUTHORIZE THE FABRICATION OF THE COMPONENTS CONTAINED IN ALL THE DOCUMENTS RELATIVE TO THIS PURCHASE ORDER.

NAME \_\_\_\_\_  
AUTHORIZED SIGNATURE \_\_\_\_\_ DATE \_\_\_\_\_  
NAME OF ORGANIZATION \_\_\_\_\_  
CUSTOMER NAME \_\_\_\_\_

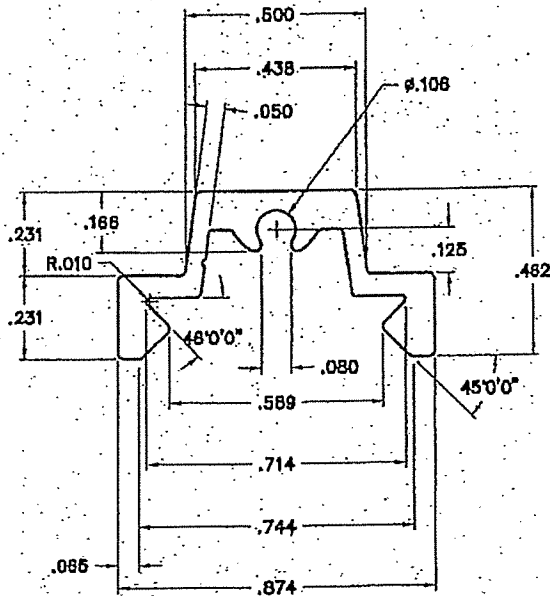
JOB NAME DADE COUNTY UNIVERSAL LOUVER FOR PTAC APPLICATION	
PO# DADE CO TEST	PROP# N/A
FINISH MILL	
SHEET TITLE AEL-42D-7060 TYPICAL WALL APPLICATION	
DRAWN BY JULIE DAVIS	DATE 12/23/03
REVIEWED BY WENDELL SIMMONS	DATE 12/23/03
MANUFACTURING	REVIEW
DATE	DATE
CUSTOMER REP. JIMMY HICKS	DATE
DRAWING NUMBER 03S358-2N	SHEET 2 OF 3



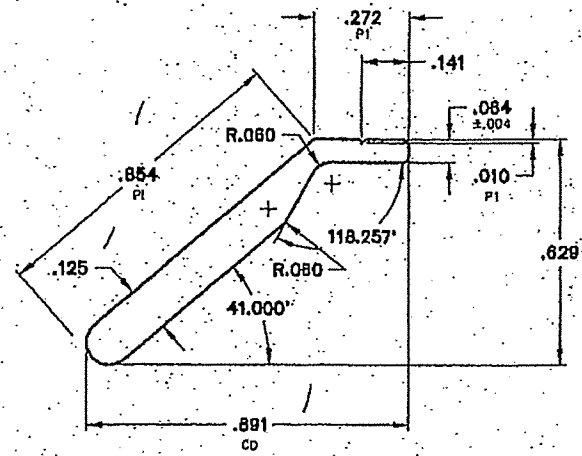
(N) 3 1 FRAME DETAIL -7060  
NTS  
SAMPLE PARTS  
BUILD DIE & ORDER (10 PCS)  
ALUM. AEL FRAME RSM7060



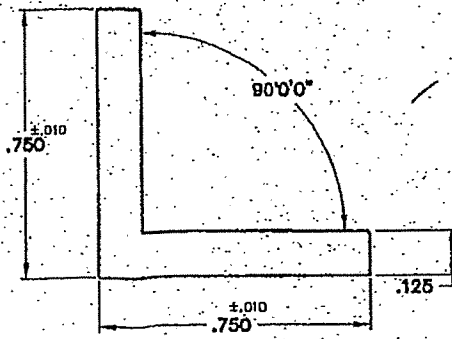
(N) ALUM SPLINE  
RSM288



(N) ALUM BRACE BAR  
RSM314



(N) ALUM RBV BLADE  
RSM7020



ALUMINUM ANGLE  
A1185

BILL OF MATERIALS

MK.	QTY.	DESCRIPTION	HFA #	DWG #
1		43.480' x 17.450' AEL-42D-7060		04S358
2		RSM7060-192-AE 43.480' FRAME LENGTH	124832	RSM7060
2		RSM7080-192-AE 17.480' FRAME LENGTH	124832	RSM7080
20		RSM7020-192-AE 41.888' BLADE LENGTH	124114	RSM7020
5		RSM314-192-AE PUNCHED .775' 15.938' BRACE BAR LENGTH	131937	RSM314
5		RSM288-192-AE 18.938' BRACE BAR SPLINE	130785	RSM288
2		A-1185-192-AE 18.250' ANGLE LENGTH	131380	A-1185
1		A-1185-192-AE 18.250' ANGLE LENGTH	131380	A-1185
2		RSM-91-192-VE 18.250' MOUNTING BAR	137382	RSM91
2		GE DEFLECTOR Baffle	430730	430730
4		10-24 x 1" ALL THREADED STUD	430287	430287
8		10-24 HEX NUTS	430170	430170
8		#10 FL. CUT SS 18-8 WASHER	430157	430157
4		PRESTINCERT	430023	430023
11		#10 X 3/4" HEX WHD ZINC TEK SCREW	431155	431155
11		#10 X 1" HEX WHD ZINC TEK SCREW	430941	430941
4		AK42H RIVET	430140	430140

- (N) NOTE:
- 1) THESE LOUVERS ARE TO BE INSTALLED IN A LOCATION WHERE THE ROOM BEHIND THE LOUVERS IS DESIGNED TO DRAIN WATER PENETRATING INTO THE ROOM AND THE ROOM WILL HOUSE WATER RESISTANT/WATER PROOF EQUIPMENT COMPONENTS, OR SUPPLIES.
  - 2) ALL COMPONENTS ARE ALUMINUM ALLOY 6063T5
  - 3) DESIGNATED PRESSURE RATING ± 140 P.S.F. LARGE & SMALL MISSILE IMPACT RESISTANCE
  - 4) DEFLECTORS ARE TO DIRECT INTAKES & EXHAUST FOR P.T.A.C. INSTALLED IN WINDOW SLEEVE BEYOND. THEY HAVE NO EFFECT ON STRUCTURAL INTEGRITY OF THE LOUVER DESIGN.

PRODUCT RENEWED  
as complying with the Florida  
Building Code  
Acceptance No 11-0726.03  
Expiration Date 07/24/2016  
By *[Signature]*  
Miami Dade Product Control

FOR OFFICE USE ONLY

Approved as complying with the Florida Building Code  
Date 02/16/06  
By *[Signature]*  
Miami Dade Product Control

ENGINEER OF RECORD: EDWARD PAUL HUTSON JR.  
ENGINEERING DISCIPLINE: STRUCTURAL ENGINEER  
REGISTRATION #: STATE OF FLORIDA # 0052339

REV.	DATE	DESCRIPTION
1	09/17/03	REVISED NOTES & ADDED DETAILS
2	09/17/03	ADDED BOM
3	09/21/04	MOVED WELD SYM. TO PLAN VIEW, CHANGE DIM. END VIEW
4	09/05/04	MODEL NAME CHANGE
5	06/14/04	REV. NOTES ADDED MATERIAL THICKNESS DIA
6	05/12/04	REV. FRAME TO RSM7060A
7	04/28/04	REV. STUD LD. MOUNTING SCREW LD. FOR METAL DE WOOD STUD
8	03/30/04	REV. FRAME REVISED WINDOW WALL TREATMENT ADDED DETAILS ON SHEET 3.
9	03/30/04	REV. DIRECTION OF FRAME TO MATCH IN TO
10	03/04/04	W/ SAME DIRECTION OF FRAMES ON SHEET 1 & 2
11	02/26/04	REV. NOTES & ADDED MOUNTING DIRECTIONS ON REVERSE OF SHEET 1
12	02/26/04	ADDED NOTES & REV. NOTES & DETAILS
13	02/16/04	REMOVED SHEET 2B, REVISED DETAILS AND ADDED P.T.A.C. CABINET



1300 Enterprise Road ARCH/MECH LOUVERS  
Genoa, Alabama 36340 REGISTERS  
PHONE (334) 684-3821 GRILLES  
FAX (334) 684-3120 DIFFUSERS

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NAME: \_\_\_\_\_

AUTHORIZED SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

NAME OF ORGANIZATION: \_\_\_\_\_

CUSTOMER NAME: \_\_\_\_\_

JOB NAME: DADE COUNTY UNIVERSAL LOUVER FOR FTAC APPLICATION

PO#: DADE CO TEST PROP#: N/A

FINISH: MILL

SHEET TITLE: AEL-42D-7060 WINDOW WALL APPLICATION

DRAWN BY: JULIE DAVIS DATE: 12/23/03

REVIEWED BY: WENDELL SIMMONS DATE: 12/23/03

MANUFACTURING	REVIEW	DATE

ENGINEER	REVIEW	DATE

CUSTOMER REP: JIMMY HICKS

DRAWING NUMBER: 03S358-3N SHEET 3 OF 3

*Edward P. Hutson Jr.*  
9/22/2005



## RPQ ADDENDUM

Addendum No.:	2	Date:	6/2/2020
Project No.:	10204256	Project Title:	Southwest and Central Base Security Booth Replacement
RPQ No.:	10204256	RPQ Due Date:	6/4/2020
Project Location:	MIA Southwest and Central Base Security Booths	Project Manager:	A. Portal

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This Addendum also serves to respond to the Request for Information (RFI) submitted by the following Contractors:

Javier Delgado of Delka Innovo Group, Inc., received on 5/26/2020, 12:29PM.

- Q.1 Please can you provide contact information (besides the webpage phone number and email) for Mardan Fabrication Inc.?
- A.1 Dennis Eisenhardt  
[dennis.e@mardanfab.com](mailto:dennis.e@mardanfab.com)  
(800) 882-5820
- Q.2 MAC 195 will Remove, generator, ATS, Panelboards, etc. all electrical related. Use PVC Coated GRS for underground. Indicate where.
- A.2 PVC Coated GRS or concrete encased schedule 40 PVC conduit can be used in all underground applications at the gates.
- Q.3 Manufacturer and Rating of current panelboard CP.
- A.3 The exact model of CP is unknown. Please see attached photo for reference.
- Q.4 Are Booth drawings available?
- A.4 Please see Plans & drawings provided in Addendum #1.
- Q.5 Key Note 2, Drawing E701; Is there more information regarding existing circuitry to and from panels to remove?
- A.5 As-built data is not available. The only information available is what is shown in the panelboard schedule. Contractor shall field verify actual circuits.



- Q.6 Sec 16055 & 56. Are the current coordination studies required from the contractor?
- A.6 Contractor to provide based on actual equipment provided in the project.
- Q.7 Sec 16055 & 56, The coordination study seems exaggerated given the actual loads to be connected. All that should be required is proper coordination with breaker upstream at CP.
- A.7 All systems provided should be coordinated.
- Q.8 What did the engineering company do? Aren't they supposed to be the consultants in charge of doing all this before selecting the protection devices?
- A.8 Since the exact models of new equipment are unknown during design, the contractor to provide based on actual equipment provided in the project.
- Q.9 Are there any meeting Minutes, or other information referring to the generator make, enclosure, engine, tank size Etc. (Tank 252 Gallons?)
- A.9 See Spec 16403 for the new generator. See attached photos for existing generator information.
- Q.10 Are the 10 Ohms resistance to ground per rod or per system?
- A.10 Per system.
- Q.11 All panels and Boxes to be 4X metal? and NOT 3R? Should be SS not Galvanized. Clarify Specs.
- A.11 Provide NEMA 4X SS.

Jaquin Esquivia of Conbuild, LLC, received on 5/29/2020, 9:19AM.

- Q.12 Clarify if the restroom booth requires water heaters? If so, provide specs.
- A.12 Water heaters are not required.
- Q.13 Confirm that MDAD supplied booth comes with the heat pump units and Exhaust Fans EF as per booth plans.
- A.13 The HVAC heat pump units and exhaust fans are already provided with the booth.
- Q.14 Confirm that booth does not required fire suppression system as per SD-2note E.
- A.14 Fire suppression is not required.

- Q.15 Sheet E-201 depict only one self-swipe pedestal #7, please confirm the number of self-swipe pedestal required at SW and Central base locations.
- A.15 There are two self-swipe pedestals total. One self-swipe pedestal is labeled #7 on Sheet E201 of the Central Base Plans and another is labeled #6 on Sheet E201 of the Southwest Base Plans.
- Q.16 Sheet E-201 depict only one boom arm #6, please confirm the number of boom arm required at SW and Central base locations.
- A.16 There is one boom arm total. The boom arm is labeled #6 on Sheet E201 of the Central Base Plans.
- Q.17 Provide model number for the self-swipe pedestals.
- A.17 See detail 5 on Sheet E501 of the Plans for pedestal specifications
- Q.18 Contract documents do not depict location for transformer as per spec 16461. Please provide location, provide size of the pad and rebar requirements for this transformer.
- A.18 Transformer is rack mounted. See Sheets E201 and E501 for more details.

Jaquin Esquivia of Conbuild, LLC, received on 5/29/2020, 11:44AM.

- Q.19 Could you please clarify the length (height) of “Self-swipe pedestals”.
- A.19 See detail 5 on Sheet E501 of the Plans.
- Q.20 What length of arm would you need for the AG812 unit? Would you like it to be aluminum or what material?
- A.20 Coordinate arm length with final placement of pedestal and bollards as shown in detail 5 on Sheet E501 of the Plans. See detail for material type.

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All else remains the same. This document must be signed and returned as part of your RPQ response. Failure to return this document signed may result in your RPQ response being rejected as non-responsive.

Name of Contractor: \_\_\_\_\_

Name of Individual Authorized to Sign: \_\_\_\_\_

Title: \_\_\_\_\_

Signature: \_\_\_\_\_



Carlos A. Gimenez, Mayor

Aviation  
Maintenance Department  
4200 NW 22 Street, Bldg 3030  
Miami, FL 33159  
305-876-8315

miamidade.gov

July 7, 2020

Joaquin Esquivia  
CONBUILD L.L.C.  
10274 NW 88th Terrace  
Doral, FL 33178

CERTIFIED MAIL No:  
TELEPHONE: (786) 613-1656

Re: Recommendation for Award for CICC 7040-0/07 Contract - RPQ NO: 10204256  
Southwest and Central Base Security Booth Replacement  
Miami International Airport

Dear Joaquin Esquivia:

In accordance with Sections 2-8.3 and 2-8.4 of the Code of Miami-Dade County and Implementing Order 3-21, this letter serves to notify you and all bidders on this solicitation that your firm has been recommended for award of the referenced Request for Price Quotation (RPQ) based on the bid submitted on Thursday, June 4, 2020. Pursuant to the referenced legislation, the three (3) day protest period shall commence upon the filing of this recommendation to award with the Clerk of the Board. This contract award will be effective only in accordance with the conditions of the solicitation, which requires execution by both parties of the Notice to Proceed (NTP).

The value of this award is \$780,164.50 and the UAP shall apply. This award amount includes the base bid amount of \$654,695.00 and a contingency amount of \$65,469.50 and a Dedicated amount of \$60,000.00. The contract term is 365 calendar days. The award is contingent upon the submission and approval of Insurance Certificates listing the required coverage for General Liability, Auto Liability (Owned, Non-owned and Hired Vehicles) and Workers Compensation as required by Florida Statute Chapter 440. Additional documents may be required as listed below:

Southwest and Central Base Security Booth Replacement

1. Copy of required licenses.
2. Fully executed and current Payment & Performance Bond Certificate.
3. ISO 14001: 2015 Awareness Self-Training Module certificates.
4. Certificates of insurance in accordance with the RPQ documents.
5. Residents First Training and Employment Program Responsible Contractor/Subcontractor Affidavit Form (RFTE 1)
6. Workforce plan including Form RFTE-2, RFTE-3, and executed Job Clearing Affidavit for approval in writing by the SBD.
7. Copy of your firm's Safety Plan.
8. The OSHA Form 300 containing a list of the company's work-related injury and illness data for the previous three years.
9. OSHA inspection data for the previous three years.

The preceding Documents are required as outlined within the RPQ project specification and the MCC 7040 Plan. They must be submitted to the Aviation within 10 business days of receipt of this letter. In the event additional insurance is required, it also must be submitted within 10 business days. Failure to submit the documents within the specified time frame, or an extension approved by the County, will result in the award being rescinded.

Subsequent to the review and approval of the referenced documents, you are required to obtain the necessary permits in the time frame stipulated in the RPQ. Upon obtaining the permit(s), copies must be submitted to the Project Manager prior to commencement of work. No work is to be performed without a permit (if applicable). Following receipt of the permit(s), the Project Manager may schedule a pre-construction conference and issue a Notice to Proceed authorizing the performance of the work.

**This letter shall also serve as a reminder that this contract is a Small Business Enterprise – Construction (SBE-Con) 100% set-aside. All construction work must be performed by contractors certified in accordance with Section 10-33.02 of the Code of Miami Dade County.** The scope of work must be performed in accordance with the contract terms and conditions, all permits and inspections and in accordance with all applicable Federal, State and local laws, codes and regulations. Should you have any questions please contact Adrian Portal, Project Manager, at 305-876-8315.

Sincerely,



FOR  
A. FINOL 7/7/20

Ana Finol, P.E.  
Division Director

CC: Ralph Cutie MDAD, Ana Finol MDAD, Juan Paan MDAD, Silvia Perez MDAD,  
Gary Hartfield ISD, Laurie Johnson ISD, Marcia Martin ISD, Yuleisy Hernandez MDAD,  
Olga Valverde COB, Adrian Portal MDAD, James P. Ferreira MDAD  
Conbuild, LLC, SK Quality Contractor, Inc. DBA SK Construction Co.,  
Construction Services International, Corp. DBA CSI Construction,  
Fleites Construction Group, Inc., Bofam Construction Company, Inc.,  
DBTech, Inc., Delka Innovo Group, Inc., Parsa Corporation



Carlos A. Gimenez, Mayor

Aviation

Maintenance Department  
4200 NW 22 Street, Bldg 3030  
Miami, FL 33159

September 9, 2020

Joaquin Esquivia  
CONBUILD L.L.C.  
10274 NW 88th Terrace  
Doral, FL 33178

CERTIFIED MAIL No:  
TELEPHONE: (786) 613-1656

Re: Notice To Proceed for MCC 7040 Plan - RPQ NO: 10204256  
Southwest and Central Base Security Booth Replacement  
Miami International Airport

Dear Joaquin Esquivia:

This letter will serve as your notification that you are to proceed with the work described in RPQ #10204256 starting Monday, October 5, 2020, and that all work must be completed on schedule in accordance with the contract documents. The time allotted for the contract is 365 consecutive calendar days which results in a scheduled completion date of Tuesday, October 5, 2021. **In the event the project is not completed by the scheduled completion date and a time extension has not been granted, your firm shall be subject to any liquidated and or stipulated damages as defined in the contract documents for this project.**

The ERP Finance System Purchase Order Number is 0000051905.

The complete execution of this notice to proceed shall constitute a contract for the work described in the Request for Price Quotation (RPQ) under the MCC 7040 Plan. **Failure to properly execute and return this document within ten (10) calendar days of the date of this letter may result in the County rescinding the award to your firm and awarding the subject project to the next lowest responsive and responsible bidder.**

The terms and conditions applicable to this contract are in the 7040 Contract and 7040 Amendment #1, dated 10/18/2002 and 3/1/2005 respectively, and the totality of the contract documents (including but not limited to the RPQ including any special provisions contained therein, drawings and specifications, addenda, and any contract modifications or change orders etc).

This letter will also serve as a reminder that all work must be performed in accordance with the contract documents and in accordance with all applicable Federal, State and local laws, codes and regulations. In accordance with the contract procedure, the Miami-Dade County Purchase Order Release Number is POAV2002443.

Should you have any questions regarding this notification, please contact Adrian Portal at 3058768315.

Sincerely,

Ana Finol, P.E.  
Division Director

CC: Ralph Cutie, MDAD; Sylvia Novela, MDAD; Juan Paan, MDAD;  
Yuleisy Hernandez, MDAD; Silvia Perez, MDAD; James P. Ferreira, MDAD;  
Adrian Portal, MDAD; Laurie Johnson, ISD; Marcia Martin, ISD; Dayron Perez, ISD;  
Olga Valverde, COB; Project File.