

Petition for Declaratory Statement  
Before the Florida Building Commission

Monroe County Building Department  
Murray Nelson Government Center  
102050 Overseas Highway  
Key Largo Fl.33037

Clinton T. Arsenault  
Plans Examiner  
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**DS 2015-048**

Statute(s), Agency Rule(s), Agency Order(s) and/or Code Section(s) on which the Declaratory Statement is sought:

2010 Florida Building Code Residential  
Chapter 3 Sec. R 321

**Background:**

Monroe County Florida is located in the Florida Keys, a low lying chain of Islands on the southern tip of the Florida Peninsula. Due to Floodplain Management Regulations, there are many Single Family Residences elevated on columns which are locally referred to as "stilt homes". Some residents of these elevated structures have applied for permits to install mechanical devices referred to as "cargo lifts". These devices meet the definition of an Elevator in both the FBC Building and the ASME A 17.1 (the referenced standard in R321.1):

" A hoisting and lowering mechanism, equipped with a car and platform that moves in guide rails and serves two or more landings to transport material or passengers or both. " - (FBC 2010 Chptr.30)

"A hoisting and lowering mechanism equipped with a car that moves within guides and serves two or more landings and is classified by the following types . . . . "(ASME A17.1 – 2010 section goes on further to classify different types of elevators).

Section R 321.1 states that " Where provided, passenger elevators, limited-use/limited application elevators, or private residence elevators shall comply with ASME 17.1 (3 of approximately 23 classification types listed in that standard ) All 3 of these types of Elevators are intended to carry people.

Section R 321.2 states " Where provided, platform lifts shall comply with ASME a 18.1. A 18:1 states specifically that the standard is for" lifts intended for transportation of a mobility impaired person".

Each Elevator and Platform Lift referenced in R 321 is intended to carry a human being.

The "Cargo Lifts" previously referenced are marketed by local vendors as an inexpensive alternative to a Residential Elevator for a stilt home. They are attached to the outside of the home usually servicing elevated decks one or two stories above grade. The manufacturer's make no claim as to full compliance with any standard or approval by any outside agency. The device bears no stamps or markings other than a sign embossed on the car stating "No Live Cargo ". They do not fall cleanly into any of the classification types in the ASME A17.1 and clearly are not intended to meet A 18.1 as the embossed sign states " No Live Cargo ". These devices feature an open hoist way and do not follow the safety feature protocol of the different classification types in A17.1.

There are a number of submittals for "Cargo Lifts" to be installed at Single Family Residences pending in the Upper Keys. The installations are proposed by Licensed General Contractors. Attached are two examples of what is typical. One is the installation of a manufactured product from out of state and the other is both fabrication and installation by a local vendor.

The product from the out of state contractor is the Beach Butler. (Manufactured by Unifab of Snow Hill, NC). See Beach Butler Site Plan and Attachment Details with associated files from manufacturer (attached). This installation is proposed for a "stand alone" SFR on columns with the living area situated one story above grade as noted on the site plan. This lift would have two stops, one at grade and one at the level of the upper deck. It features an open hoist way. The existing guard rail at the upper level would be cut and a gate installed as noted in comments 18 and 19 Sheet S-1. The design claims compliance with no recognized standard concerning safety provisions

The second example is that of a Lift to be fabricated locally. It is also proposed to be installed on a "stand alone" SFR on columns with the living area one story above grade with two stops. This design by Neptune Boat Lifts and certified by Engineering Express has the flexibility of incorporating as many as four stops, conceivably getting "cargo" to a roof top deck of a stilt home 3 stories above grade. Guard rails are not addressed and it also features an open hoist way. As noted in disclaimers throughout the plan, safety provisions are by "others" and this lift is "not for pedestrians ". The submitted plan states: "Structural Certification is limited to the design of structural elements in accordance with the FBC". The design claims compliance with no recognized standard concerning safety provisions.

It should be noted in both instances the devices are referred to as "Cargo Lifts " for non-living cargo despite being produced by different manufacturers. The term "Cargo Lift" is not used in one of the many classifications of Elevator types in A 17.1 but the device itself has the characteristics of a material lift, a dumbwaiter, and a residential elevator. Once the device is installed, it can be used as all three.

Question

Due to the fact 2010 FBC Residential Sec. R321 specifically references only Elevators and lifts intended to carry people (passenger elevators, limited use/limited application elevators, private residence elevators, and platform lifts.) Is it the intent of the code to regulate ONLY the installation of Elevator and Platform lifts intended to carry people?

Summary

Petitioner respectfully believes the answer to the question outlined above is "NO". If the answer is "YES" then by default installing an ELEVATOR (see definitions) under a pseudonym and placing a sign on the car stating "no live cargo" would in effect exempt the installer/manufacturer from providing any of the safety features required by ASME A17.1 or A 18.1. Further, the potential for a fall from an unprotected stop, a crushing or pinch point injury, remains the same regardless of what the cargo is. The referenced device meets the definition of an elevator in both the code and referenced standard. ASME A17.1, (the referenced standard) offers many classifications of elevators with varying degrees of sophistication, intended uses, and safety provisions. This device should meet the standard of the classification which it most closely resembles. Section 553.775(1), Florida Statutes (2011), states: "It is the intent of the Legislature that the Florida Building Code be interpreted by building officials, local enforcement agencies, and the commission in a manner that protects the public safety, health and welfare at the most reasonable cost to the consumer by ensuring uniform interpretations throughout the state and by providing processes for resolving disputes regarding interpretations of the Florida Building Code which are just and expeditious", adherence to the referenced standard for all Elevators is the means by which the intent of the legislature will be carried out.

Respectfully submitted,

By: Clinton T. Arsenault 4/28/15

Clinton T. Arsenault

Plans Examiner

Monroe County Building Department

- Contractor to verify location of existing utilities prior to commencing work.
- Contractor to obtain all permits as necessary from all local federal agencies.
- Contractor to properly fence and secure area with barricades and signs.
- Any deviation and/or substitution from the information provided herein shall be submitted to the Engineer for approval prior to commencing work.
- All new materials and/or patchwork shall be provided to protect all materials and/or adjoining work where practical except as noted herein.
- Licensed contractor shall use all possible care to protect all materials, surfaces, and furnishings from damage during all construction.
- The licensed contractor to install and remove all shoring and bracing required for the proper execution of the work.
- All new work and/or materials shall conform to all requirements of the applicable code and administrative body having jurisdiction in each pertaining circumstance.
- Licensed contractor to verify location of existing utilities prior to commencing work.
- All elevations shown refer to national geodetic vertical datum of 1929.
- Contractor to form and pour new 6"0"x4"6" foundation for lift with 5000psi concrete using #5 rebar unless otherwise specified in Engineer's specifications and plans.
- Contractor to install new cargo lift on new foundation and existing building, per manufacturer's shop drawings.
- Contractor to install new, Tru Close TCA1W1-MK2 self-closing Lokk Latch LLAA self-locking latch at upper level lift loading platform.
- Reiling support post is to be installed at both sides of rail for attachment of hinges and latch.
- Cargo lift is to be used for non-living cargo only.

**CONCRETE NOTES**

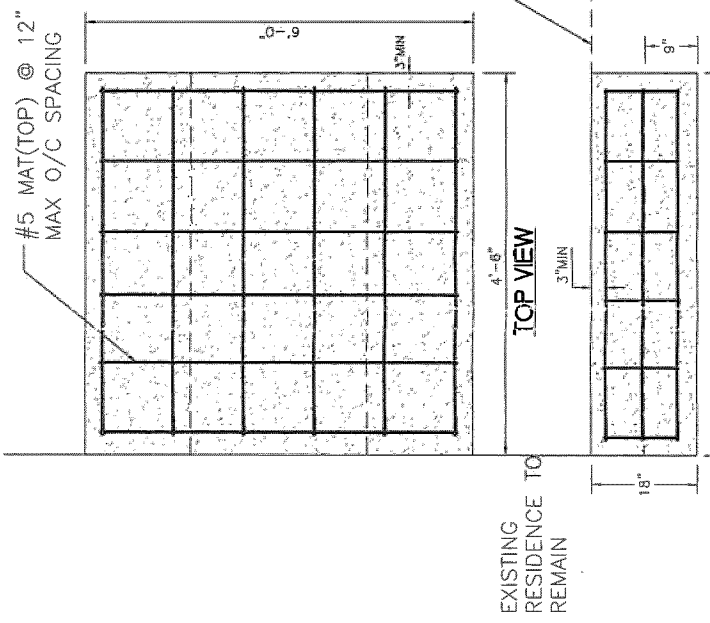
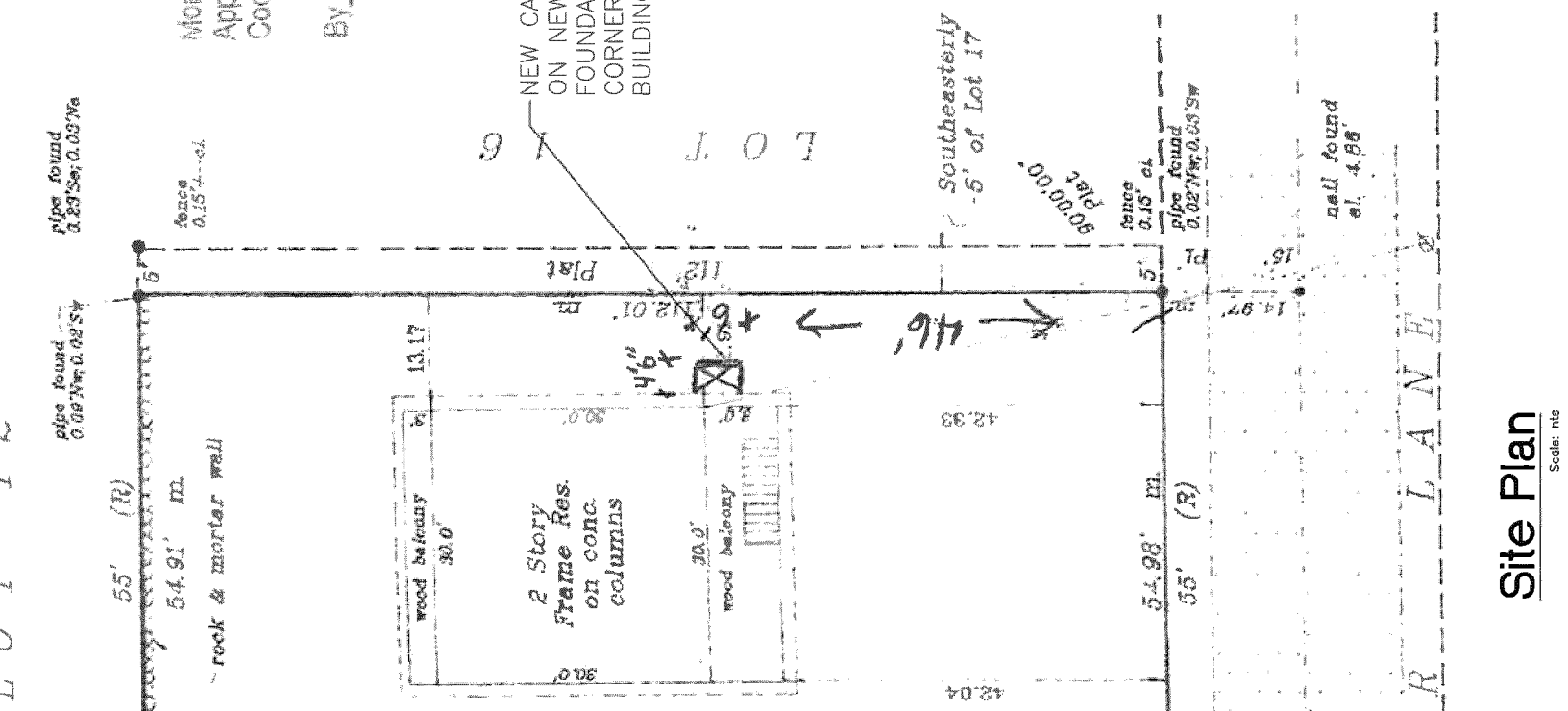
- Concrete shall conform to ACI 318 (latest edition) and shall be weight, sulfate resistant, with a design strength of 5000 psi with a maximum water-cementitious materials ratio, by weight, of 0.40.
- Owner shall employ and pay for testing services from an independent testing laboratory for concrete sampling and testing in accordance with ASTM.
- Licensed contractor is responsible for the adequacy of formwork and for safe practice in their use and removal.
- Concrete cover shall be 3" unless otherwise noted on approved drawings.
- Reinforcing steel shall be in conformance with the latest version of A615 Grade 60 specifications. All reinforcement shall be placed in accordance with ACI 315 and ACI Manual of Standard Practice for Reinforcing Steel Detailing. Splices in reinforcing bars shall not be less than 48 bar diameters in length and shall be staggered in the same direction. Continuity shall be provided at corners and shall be by bending the longitudinal steel around the corner 48 bar diameters. For repair of defective, cracked, or loose concrete, the area shall be removed and the rebar must be cleaned by sandblasting, coated with a rust inhibitor, and repaired with at least three inches of epoxy/concrete mix concrete with sulfate-resistant cement cover.

Montrose County Planning Dept.  
Approved as per Montrose County Code, see permit conditions.

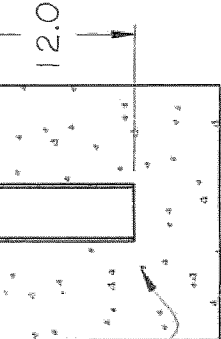
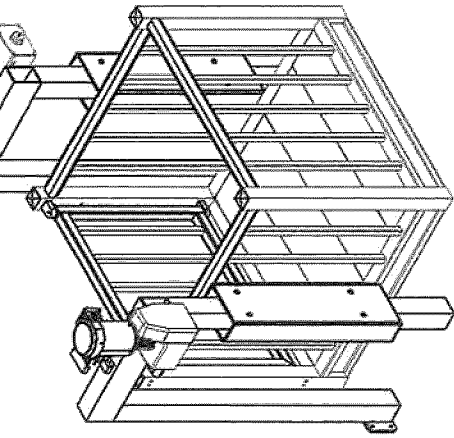
By MC Date 08/27/2018

NEW CARGO LIFT INSTALLED ON NEW CONCRETE FOUNDATION @ SOUTHEAST CORNER OF EXISTING BUILDING

Building Approved  
Submitted to the Planning Dept. on 08/27/2018

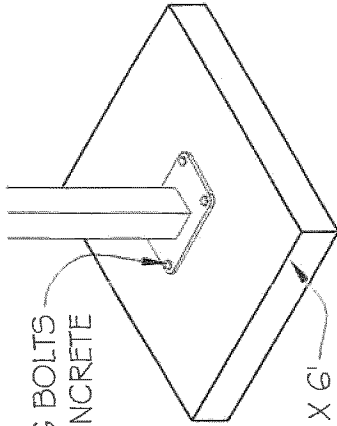


BUILDING APPROVED TO FLORIDA BUILDING CODE



18" X 18" X 18" CONCRETE FOOTING

**MAST CONNECTION CONCRETE DETAIL**



1/2" LAG BOLTS INTO CONCRETE

5" X 5' X 6' CONCRETE PAD

**MAST CONNECTION PLATE DETAIL**

MAST CONNECTION FASTENED BOLTS PER SIDE W/ WASHERS AND NUTS M SIZE TO BE (2)2X8\*\*

FLORIDA APPROVED SUBJECT TO N.E.C.C. FLORIDA BUILDING CODE

Note: This structure will withstand wind loads associated with wind speeds up to 180 MPH calculated per F.B.C. 2010 and ASCE 7-02. Cargo shall not be store on lift during high wind events

NOTE:  
1. ALL OTHER BOLTS NOT SPECIFICALLY NUMBERED ARE 1/2" SS BOLTS WITH WASHERS AND NUTS.  
2. PROVIDE 6 MIL POLYETHYLENE BARRIER BETWEEN THE MAST AND CONCRETE FOOTING.

01	02	03	04	05	06	07
STRINGER MOUNT PLATE	CABLE	GEAR DRIVE	CAGE WELDMENT	6061 AL. EXTRUSION WELDMENT	250:1 RATIO	55 SINGLE-JUL
50" X 6.0" X 7.0" ALUMINUM PLATE	1/4" DIA. 55 SINGLE-JUL					

**STRUCTURAL ENGINEERING REVIEW**

THE GRAVITY AND WIND LOADS FOR THIS STRUCTURE HAVE BEEN CALCULATED AND THE EXISTING COMPONENTS AND CLADDING OF THIS DESIGN DO COMPLY WITH THE FLORIDA BUILDING CODE 2010

Oscar M. Bermudez, P.E. Date: Reg. Florida No. 55141

*[Signature]* 12-18-12

B&B Engineers  
706 S. 7th Street  
Ft. Pierce, Florida 34950

28580

# ATTENTION NOTES

CARGO LIFT. SUCH CARGO LIFT IS TO BE PROVIDED BY ATLANTIC NEPTUNE BOAT LIFTS,

NOT FOR "LIVE HUMANS"

5) MAX.  
FIVE FEET (35') - BASE TO TOP.  
PER MINUTE.  
EXISTING STRUCTURE.

TEN SQUARE FEET (10 SQ.FT.)  
FROM STRUCTURE TO COLUMN

BUILDING CODE 2010 BUILDING" HEREAFTER  
LIMITED TO THE FOLLOWING CHAPTERS:  
SECTIONS 1601-1608, 1609 (WIND ONLY)

SECTIONS 1806-1809  
909

2001 THROUGH 2002.2.1  
ELEVATION SYSTEMS: SECTIONS 3001

AND STRUCTURES: SECTION 3401.1  
10 SQ. FT. (CLEAR DISTANCE BETWEEN

POUNDS  
WEIGHT - VARIES  
PER FBC  
ENGINEERS "ASCE 7-10 MINIMUM DESIGN  
OTHER STRUCTURES" AND LIMITED TO  
GROUND SIGN".

SPEED V<sub>ult</sub> 170 M.P.H.

CATEGORY: C  
QUALITY FACTOR: Kd 0.85  
FACTOR: Kzt 1.0

MECHANICAL ENGINEERS "ASME A17.1  
FOR ELEVATORS AND ESCALATORS -  
TO THE FOLLOWING CHAPTER/SECTION  
... CAR ENCLOSURES  
ATFORM

20% OF CARGO LIMIT CAPACITY

FORCE: 10% OF CARGO LIMIT CAPACITY  
T FORCE: 25% OF CARGO LIMIT CAPACITY

GRADE/SLAB/BOTTOM  
SUPPORT: GRADE/WELL COMPACTED SOIL

PROVIDED BY EXISTING STRUCTURE - SEE

## 5. MATERIALS:

### 5.1. ALUMINUM:

5.1.1. MATERIAL: ASTM 6061 T6

5.1.2. ALL WELDS ARE 1/4" MINIMUM FULL FILLET WELD USING MAXAL 4043 6/64 ALLOY - UNLESS OTHERWISE NOTED. ALL WELDING MUST CONFORM TO "205 ALUMINUM DESIGN MANUAL" AS INSPECTED AND VERIFIED BY OTHERS.

5.1.3. THE CONTRACTOR IS RESPONSIBLE TO INSULATE ALUMINUM MEMBERS FROM DISSIMILAR METALS TO PREVENT ELECTROLYSIS.

5.1.4. ALUMINUM MEMBERS IN CONTACT WITH CONCRETE AND WOOD SHALL BE PROTECTED BY "KOPPERS BITUMINOUS PAINT" OR POLYETHYLENE TAPE UHMW (ULTRA HIGH MOLECULAR WEIGHT) 1.7 mils (0.30 mm) MIN. TOTAL THICKNESS IN ACCORDANCE WITH FBC.

### 5.2. FASTENERS:

5.2.1. WEDGE ANCHORS SHALL BE HILTI KWIK BOLT II OR ENGINEER APPROVED EQUIVALENT. EMBEDMENT DEPTHS SPECIFIED HEREIN ARE DEPTHS INTO SOLID CONCRETE SUBSTRATE AND DO NOT INCLUDE THICKNESS OF STUCCO OR OTHER FINISHES.

5.2.2. EPOXY ANCHORS SHALL BE INSTALLED WITH THE "HILTI HIT-RE 500 SYSTEM" - SUPPLIED AND INSTALLED FOR STATED CAPACITIES IN ACCORDANCE WITH "HILTI PRODUCT TECHNICAL GUIDE - VOLUME 2, 2011 EDITION, UTILIZING 3/4" DIA. HILTI HAS ROD SET IN HIT-RE 500 EPOXY ADHESIVE, 3-3/8" EMBED. INTO CONCRETE (f'c=3,000 PSI), 7" MIN. EDGE DISTANCE"; OR ENGINEER APPROVED EQUIVALENT. THE CONTRACTOR SHALL HAVE SUCH CATALOG ON THE JOB SITE.

5.2.3. BOLTS SHALL BE STAINLESS STEEL & MEET THE REQUIREMENTS OF ASTM A304 WITH HARDENED WASHERS AND HEX NUTS.

5.3. CONCRETE:

5.3.1. SHALL BE f'c = 4,000 PSI WITH A MAXIMUM WATER CEMENT RATIO OF 0.4

5.4. REINFORCING STEEL:

5.4.1. SHALL BE DEFORMED BARS CONFORMING TO ASTM A615, S1 GRADE 60

### 6. GENERAL CONDITIONS:

ACCEPTANCE: USE OF THIS DOCUMENT CONSTITUTES ACCEPTANCE OF THE PROPOSED SYSTEM LAYOUT, COMPONENTS SELECTED, AND INSTALLATION.

POSSIBLE DISCREPANCIES: IN ADDITION TO THE REQUIREMENTS OF THE GENERAL CONDITIONS, THE CONTRACTOR SHALL VISIT THE SITE, CAREFULLY STUDY AND COMPARE THE CONTRACT DOCUMENTS AND SHALL AT ONCE REPORT TO THE ENGINEER ANY ERROR, INCONSISTENCY OR OMISSION HE MAY DISCOVER. SUCH REPORT SHALL BE A WRITTEN NOTIFICATION DEFINING THE ITEM IN QUESTION, POSSIBLE OR DESIRED SOLUTION, AND POSSIBLE DAMAGE. SUCH REPORT SHALL ALLOW SUFFICIENT TIME FOR THE ENGINEER TO RESPOND TO THE NOTIFICATION IN WRITING.

EXISTING DIMENSIONS AND DETAILS: ENGINEERING EXPRESS HAS NOT VISITED THIS JOBSITE. INFORMATION CONTAINED HEREIN IS BASED ON CONTRACTOR SUPPLIED DATA AND MEASUREMENTS. THE CONTRACTOR SHALL VERIFY ALL FIELD DIMENSIONS PRIOR TO MANUFACTURE AND INSTALLATION; AND SHALL VERIFY THAT ALL PROPOSED DIMENSIONS AND FIELD CONDITIONS AGREE WITH THIS PROPOSED PLAN.

RESPONSIBILITY: ENGINEERING EXPRESS SHALL NOT BE HELD RESPONSIBLE OR LIABLE IN ANY WAY FOR ERRONEOUS OR INACCURATE DATA OR MEASUREMENTS. ENGINEERING EXPRESS SHALL BE NOTIFIED AND GIVEN AN OPPORTUNITY TO RE-EVALUATE OUR WORK UPON DISCOVERY OF ANY INACCURATE INFORMATION.

EXISTING STRUCTURE: THE EXISTING STRUCTURE (THAT IS REQUIRED TO PROVIDE HORIZONTAL SUPPORT) AND ANY PART OR CONDITION THEREOF HAS NOT BEEN ANALYZED, EVALUATED OR TESTED BY THIS ENGINEER. NO STATEMENTS OR WARRANTIES CONCERNING SAME ARE MADE. APPROVAL SHALL BE IN WRITING.

CONSTRUCTION: CONSTRUCTION METHODS, METHODS, PROCEDURES, AND SEQUENCES ARE THE CONTRACTOR'S RESPONSIBILITY AND THE CONTRACTOR IS TO TAKE ALL THE NECESSARY MEASURES TO MAINTAIN AND PROTECT THE STRUCTURAL INTEGRITY OF ALL CONSTRUCTION AT ALL STAGES.

SHOWN ON THE DRAWINGS) SHALL BE MADE IN ANY STRUCTURE AND NO MODIFICATION OR ALTERATION SHALL BE MADE TO STRUCTURAL MEMBER OR CONNECTION WITHOUT THE WRITTEN APPROVAL OF THE DESIGN ENGINEER.

ERECTION: THE STRUCTURE IS DESIGNED TO FUNCTION AS A COMPLETE STRUCTURE. THE STRUCTURAL ENGINEER ASSUMES NO LIABILITY FOR STRUCTURE DURING ERECTION.

THE ERECTOR SHALL BE RESPONSIBLE FOR DESIGNING AND PROVIDING ALL TEMPORARY BRACING, SHORING, AND/OR SUPPORT THAT IS REQUIRED.

### TOLERANCES:

HOISTWAY: LEVEL ±1/8"

PULMB ±1/8"

SQUARE ±1/8"

BASE SUPPORT: LEVEL ±1/8"

PULMB ±1/8"

SQUARE ±1/8"

### SAFETY:

ALL SAFETY REQUIREMENTS SHALL BE PROVIDED AND VERIFIED BY THE CONTRACTOR.

### 8. CERTIFICATION:

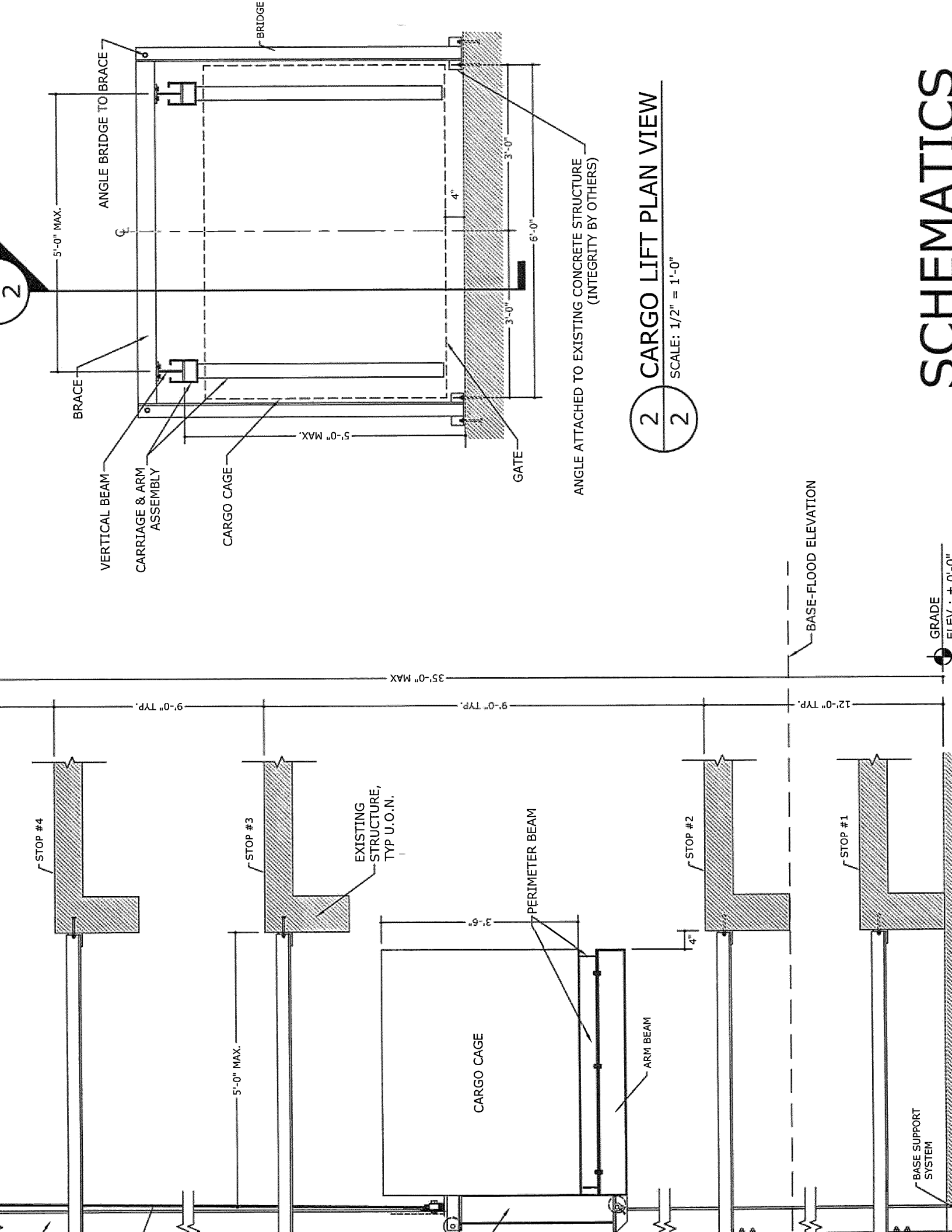
THESE PLANS ARE IN CONFORMANCE TO: THE STRUCTURAL REQUIREMENTS OF THE "FLORIDA BUILDING CODE 2010 BUILDING" AS DEFINED IN THE "DESIGN CRITERIA" ABOVE.

STRUCTURAL CERTIFICATION: IS LIMITED TO THE DESIGN OF STRUCTURAL ELEMENTS IN ACCORDANCE WITH THE FBC - SEE "DESIGN CRITERIA" ABOVE.

# FLORIDA

*Monroe Co. Building*  
APR 20

MONROE CO. BUILDING



2

2

**CARGO LIFT PLAN VIEW**

SCALE: 1/2" = 1'-0"

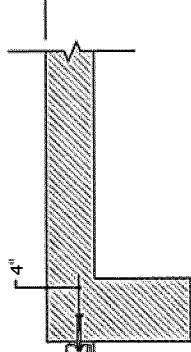
GRADE  
ELEV. + 0'-0"

BASE SUPPORT SYSTEM

**SCHEMATICS**

SLAZING WEIGHT: 190 LBS

TYPICAL REACTIONS AT  
LATERAL SUPPORTS:  
AXIAL = 35 LBS  
SHEAR HORIZONTAL = 636 LBS  
SHEAR VERTICAL = 55 LBS

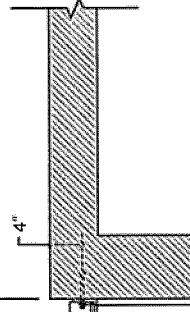


ALUMINUM  
RAILING/PLEXIGLASS UNDER  
SEPARATE DRAWINGS

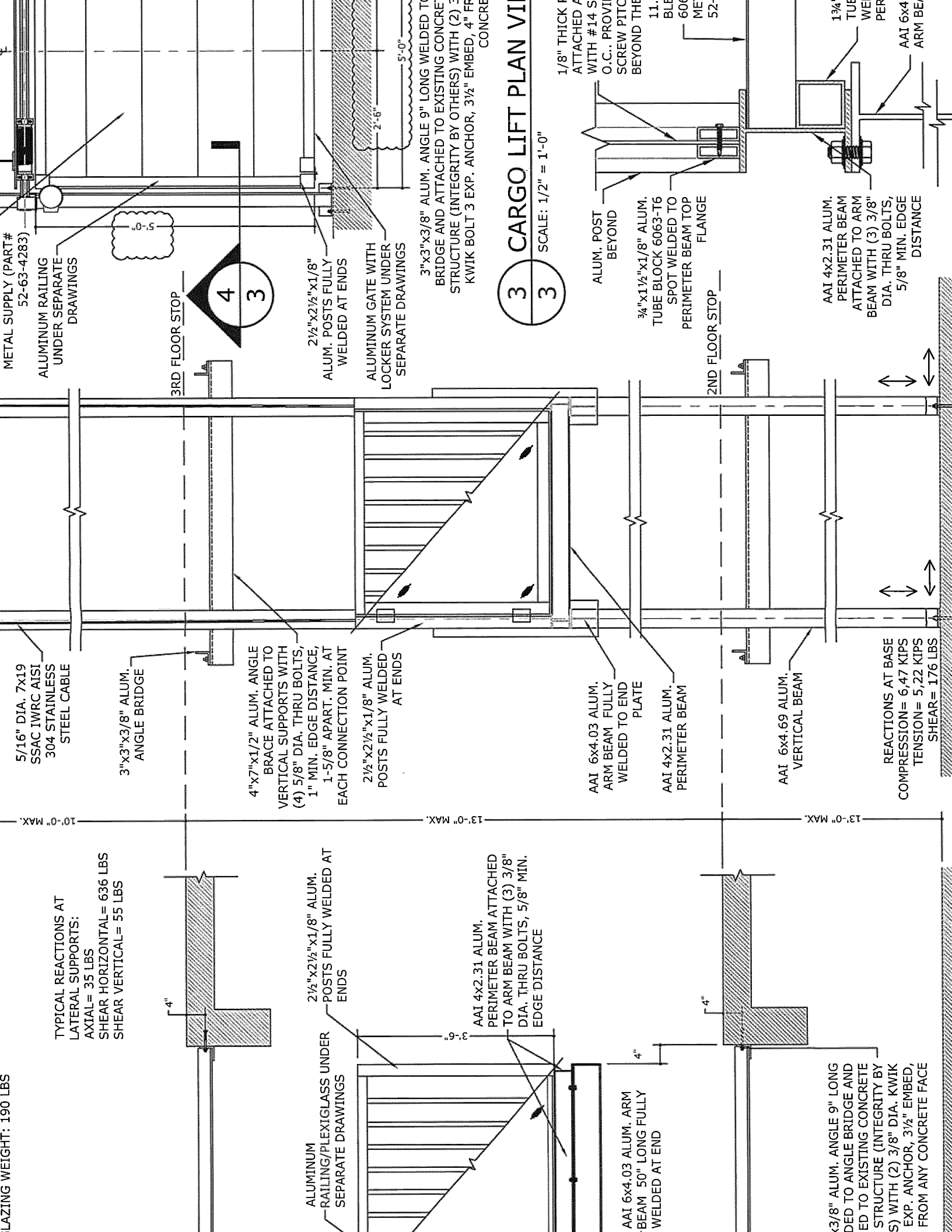
2 1/2"x2 1/2"x1/8" ALUM.  
POSTS FULLY WELDED AT  
ENDS

AAI 4x2.31 ALUM.  
PERIMETER BEAM ATTACHED  
TO ARM BEAM WITH (3) 3/8"  
DIA. THRU BOLTS, 5/8" MIN.  
EDGE DISTANCE

AAI 6x4.03 ALUM. ARM  
BEAM 50" LONG FULLY  
WELDED AT END



3/8" ALUM. ANGLE 9" LONG  
WELDED TO ANGLE BRIDGE AND  
EXISTING CONCRETE  
STRUCTURE (INTEGRITY BY  
S) WITH (2) 3/8" DIA. KWIK  
EXP. ANCHOR, 3 1/2" EMBED,  
FROM ANY CONCRETE FACE



METAL SUPPLY (PART #  
52-63-4283)  
ALUMINUM RAILING  
UNDER SEPARATE  
DRAWINGS

3RD FLOOR STOP



2 1/2"x2 1/2"x1/8"  
ALUM. POSTS FULLY  
WELDED AT ENDS

ALUMINUM ANGLE WITH  
LOCKER SYSTEM UNDER  
SEPARATE DRAWINGS

3"x3"x3/8" ALUM. ANGLE 9" LONG WELDED TO  
BRIDGE AND ATTACHED TO EXISTING CONCRETE  
STRUCTURE (INTEGRITY BY OTHERS) WITH (2) 3/8"  
KWIK BOLT 3 EXP. ANCHOR, 3 1/2" EMBED, 4" FR  
CONCRETE

3 CARGO LIFT PLAN VII  
SCALE: 1/2" = 1'-0"

ALUM. POST  
BEYOND

3/4"x1 1/2"x1/8" ALUM.  
TUBE BLOCK 6063-T6  
SPOT WELDED TO  
PERIMETER BEAM TOP  
FLANGE

1/8" THICK F  
ATTACHED A  
WITH #14 S  
O.C. PROVI  
SCREW PITC  
BEYOND THE  
11.  
BLE  
6063-T6  
ME  
52-

AAI 4x2.31 ALUM.  
PERIMETER BEAM  
ATTACHED TO ARM  
BEAM WITH (3) 3/8"  
DIA. THRU BOLTS,  
5/8" MIN. EDGE  
DISTANCE

REACTIONS AT BASE  
COMPRESSION = 6,47 KIPS  
TENSION = 5,22 KIPS  
SHEAR = 176 LBS