Mobile Home Permit Worksheet

Application Number: _____ Date: _____

Installer: Robert Puckett License # IH1025336

Address of home being installed: TBD SW Central Ter. Ft. White FL, 32038

Manufacturer: Nobility Length x width: 52'x32'

NOTE: ***if home is a single wide fill out one half of the blocking plan***
if home is a triple or quad wide sketch in remainder of home

I understand Lateral Arm Systems cannot be used on any home (new or used) where the sidewall ties exceed 5 ft 4 in.

Installer's initials: RP

New Home ☒ Used Home ☐

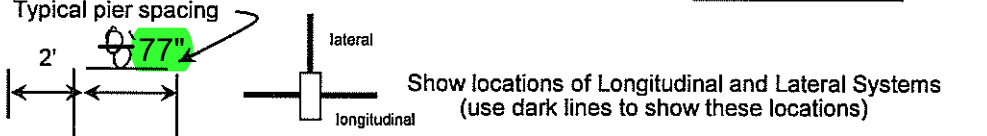
Home installed to the Manufacturer's Installation Manual ☐
Home is installed in accordance with Rule 15-C

Single wide ☐ Wind Zone II ☐ Wind Zone III ☐

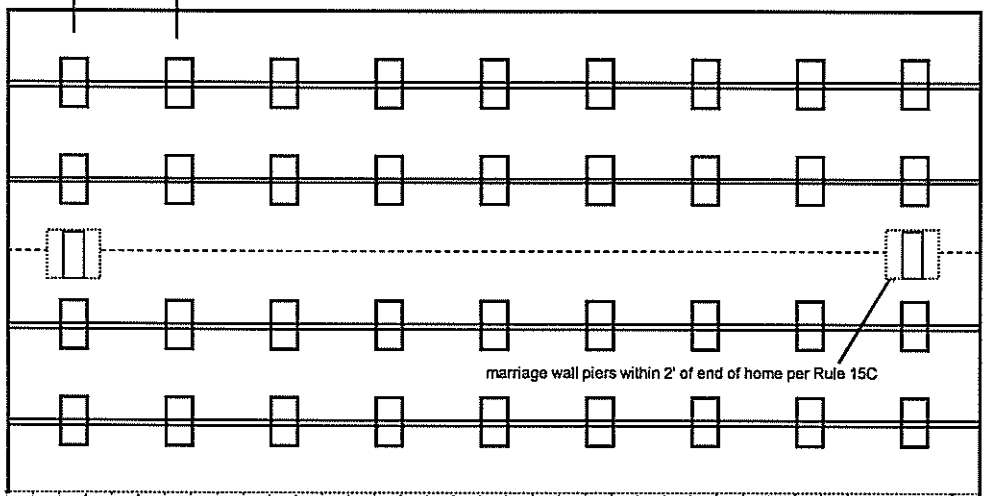
Double wide ☒ Installation Decal # TBD

Triple/Quad ☐ Serial # N1-10200 AB

Typical pier spacing



Show locations of Longitudinal and Lateral Systems (use dark lines to show these locations)



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State of Florida

Anthony Nolan
08/24/2021

PIER SPACING TABLE FOR USED HOMES

Load bearing capacity	Footer size (sq in)	16" x 16" (256)	18 1/2" x 18 1/2" (342)	20" x 20" (400)	22" x 22" (484)*	24" X 24" (576)*	26" x 26" (676)
1000 psf		3'	4'	5'	6'	7'	8'
1500 psf		4' 6"	6'	7'	8'	8'	8'
2000 psf		6'	8'	8'	8'	8'	8'
2500 psf		7' 6"	8'	8'	8'	8'	8'
3000 psf		8'	8'	8'	8'	8'	8'
3500 psf		8'	8'	8'	8'	8'	8'

* interpolated from Rule 15C-1 pier spacing table.

PIER PAD SIZES

I-beam pier pad size: 17" x 25"

Perimeter pier pad size: 16" x 16"

Other pier pad sizes (required by the mfg.): _____

Draw the approximate locations of marriage wall openings 4 foot or greater. Use this symbol to show the piers.

List all marriage wall openings greater than 4 foot and their pier pad sizes below.

Opening	Pier pad size
15' - 33'	17" x 25"

POPULAR PAD SIZES

Pad Size	Sq In
16 x 16	256
16 x 18	288
18.5 x 18.5	342
16 x 22.5	360
17 x 22	374
13 1/4 x 26 1/4	348
20 x 20	400
17 3/16 x 25 3/16	441
17 1/2 x 25 1/2	446
24 x 24	576
26 x 26	676

ANCHORS

4 ft X 5 ft _____

FRAME TIES

within 2' of end of home spaced at 5' 4" oc N/A

TIEDOWN COMPONENTS

Longitudinal Stabilizing Device (LSD)
Manufacturer _____

Longitudinal Stabilizing Device w/ Lateral Arms
Manufacturer Oliver Technologies

OTHER TIES

	Number
Sidewall	8
Longitudinal	
Marriage wall	4
Shearwall	2

Mobile Home Permit Worksheet

Application Number: _____ **Date:** _____

POCKET PENETROMETER TEST

The pocket penetrometer tests are rounded down to 1500 psf
or check here to declare 1000 lb. soil _____ without testing.

x 1500 x 1500 x 1500

POCKET PENETROMETER TESTING METHOD

1. Test the perimeter of the home at 6 locations.
2. Take the reading at the depth of the footer.
3. Using 500 lb. increments, take the lowest reading and round down to that increment.

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x 1500 x 1500 x 1500

TORQUE PROBE TEST

The results of the torque probe test is 176 inch pounds or check here if you are declaring 5' anchors without testing _____. A test showing 275 inch pounds or less will require 5 foot anchors.

Note: A state approved lateral arm system is being used and 4 ft. anchors are allowed at the sidewall locations. I understand 5 ft anchors are required at all centerline tie points where the torque test reading is 275 or less and where the mobile home manufacturer may requires anchors with 4000 lb holding capacity.

RP Installer's initials

ALL TESTS MUST BE PERFORMED BY A LICENSED INSTALLER

Installer Name Robert Puckett

Date Tested _____

Electrical

Connect electrical conductors between multi-wide units, but not to the main power source. This includes the bonding wire between mult-wide units. Pg. SU-48

Plumbing

Connect all sewer drains to an existing sewer tap or septic tank. Pg. SU-47

Connect all potable water supply piping to an existing water meter, water tap, or other independent water supply systems. Pg. SU-48

Site Preparation

Debris and organic material removed YES
Water drainage: Natural _____ Swale _____ Pad X Other _____.

Fastening multi wide units

Floor:	Type Fastener: #10	Length: 4"	Spacing: 10"
Walls:	Type Fastener: _____	Length: _____	Spacing: _____
Roof:	Type Fastener: #10	Length: 4"	Spacing: 8"

For used homes a min. 30 gauge, 8" wide, galvanized metal strip will be centered over the peak of the roof and fastened with galv. roofing nails at 2" on center on both sides of the centerline.

Gasket (weatherproofing requirement)

I understand a properly installed gasket is a requirement of all new and used homes and that condensation, mold, meldew and buckled marriage walls are a result of a poorly installed or no gasket being installed. I understand a strip of tape will not serve as a gasket.

Installer's initials RP

Type gasket factory installed
Pg. SU-19

Installed:
Between Floors Yes X
Between Walls Yes X
Bottom of ridgebeam Yes X

Weatherproofing

The bottomboard will be repaired and/or taped. Yes X. Pg. SU-98
Siding on units is installed to manufacturer's specifications. Yes X
Fireplace chimney installed so as not to allow intrusion of rain water. Yes ____

Miscellaneous

Skirting to be installed. Yes X No _____
Dryer vent installed outside of skirting. Yes X N/A _____
Range downflow vent installed outside of skirting. Yes _____ N/A X
Drain lines supported at 4 foot intervals. Yes X
Electrical crossovers protected. Yes X
Other : _____

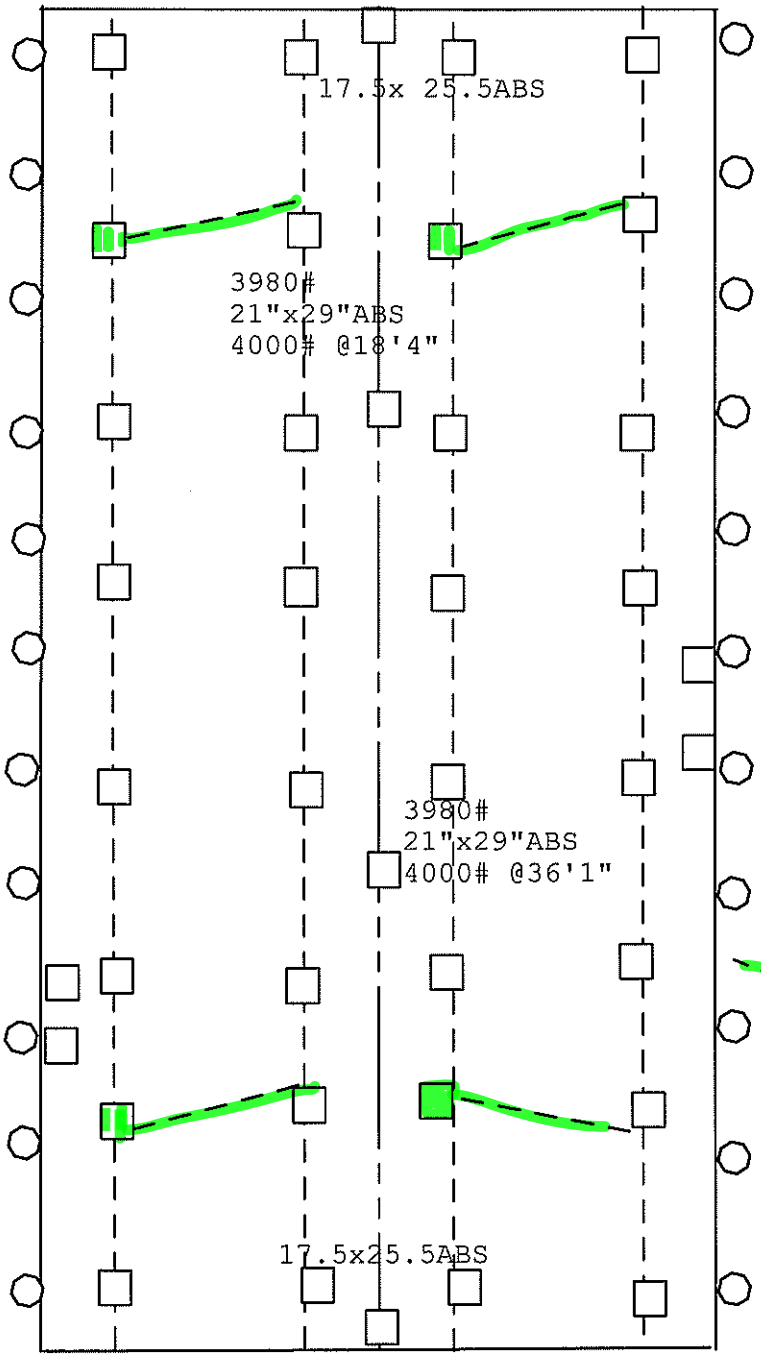
Installer verifies all information given with this permit worksheet is accurate and true based on the manufacturer's installation instructions and or Rule 15C-1 & 2

Installer Signature _____ Date 5/18/21

1/8"=1' 32'x52' 52M3H18

Nobility homes

Set-up instruction
Manufactures manual



1500# soil
176 torq

=17"x25"ABS pads on 77" o.c.on main I-beams

=16"x16"ABS pads for doors and shearwall piers will be clearly marked on home

4' anchor on 5'4" oc

longitudinal anchors will be the Oliver Tech.
4 systems total for house

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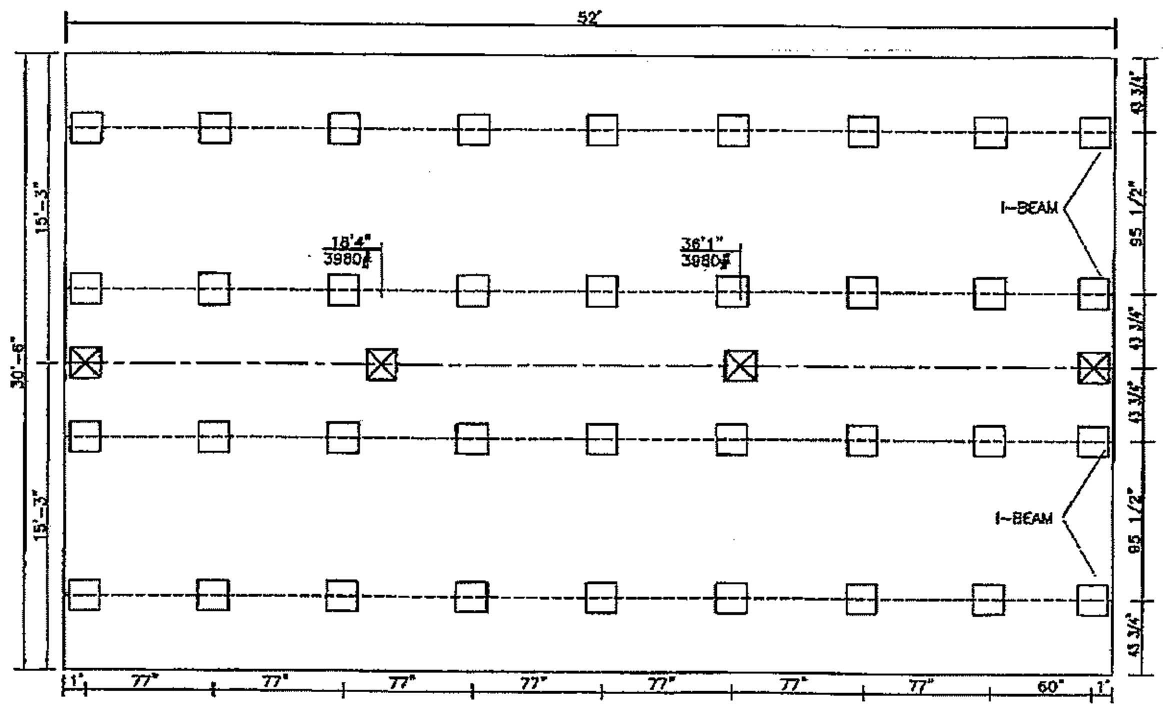
State of Florida

OK



NOTES:
(1. COLUMN SUPPORT PIERS MAY BE WITHIN 5" OF OPENINGS GREATER THAN 48".
(2. ADDITIONAL PIERS ARE REQUIRED AT EACH SIDE OF EXTERIOR DOOR OPENINGS.
(3. THIS IS A TYPICAL DRAWING FOR THIS MODEL. SPACING MAY BE DIFFERENT IF MAX. SPACING IS NOT EXCEEDED.

☒ COLUMN SUPPORT PIERS

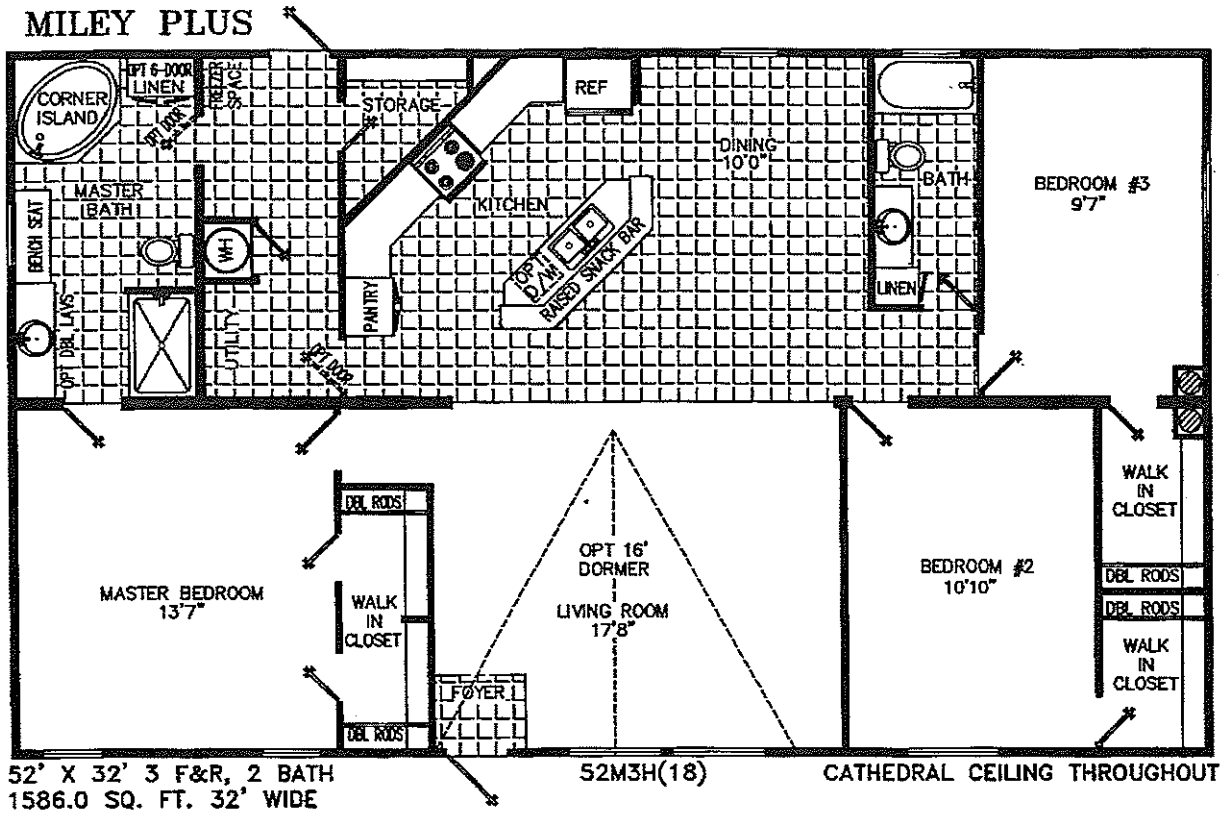
☐ 17 1/2" X 25 1/2" BASE PAD

SPACING FOR 1500 PSF SOIL WITH 17 1/2" X 25 1/2" BASE PAD
MAXIMUM SPACING FOR THE I-BEAM PIERS IS 77"

NOBILITY HOMES, INC.	1 / 2 / 3 / 4 — REVISIONS DWG by: RITENOUR DATE 9-27-17 SCALE	Miley Plus PRINT NUMBER 52M3H(18)

Prestige Home Centers

MILEY PLUS



52' X 32' 3 F&R, 2 BATH
1586.0 SQ. FT. 32' WIDE

52M3H(18)

CATHEDRAL CEILING THROUGHOUT

NOBILITY HOMES INC.
nobilityhomes.com

Homes Designed, Built & Serviced By NOBILITY HOMES

MANUFACTURED IN ACCORDANCE WITH STANDARDS DEVELOPED AND ENFORCED BY HUD. DUE TO OUR CONTINUING PROGRAM OF PRODUCT IMPROVEMENT, PRICES AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE. SOME ITEMS SUCH AS TIRES, RIMS, AXLES AND HITCHES MAY HAVE BEEN RECYCLED AFTER INSPECTION FOR SAFETY AND APPRARANCE. ALL DIMENSIONS ARE NOMINAL.

J&H Homes

Columbia County Building Department
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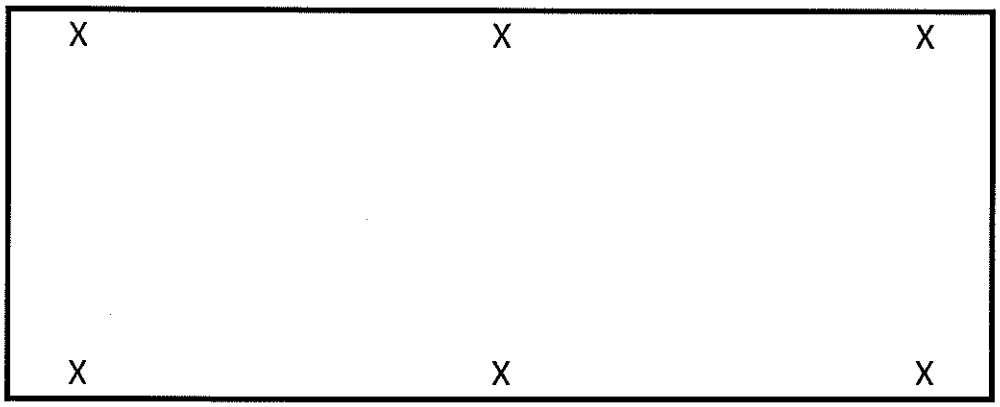
PENETROMETER & TORQUE TEST

1500LBS X 176 IN LBS	1500LBS X 176 IN LBS	1500LBS X 176 IN LBS



1500LBS X 176 IN LBS	1500LBS X 176 IN LBS	1500LBS X 176 IN LBS

ALL SIDEWALL ANCHORS WILL BE 4' UNLESS MANUFACTURER'S SPECIFICATIONS STATE OTHERWISE
ALL MATELINE AND SHEARWALL ANCHORS WILL BE 5' UNLESS MANUFACTURER'S SPECIFICATIONS STATE OTHERWISE

TEST THE PERIMETER OF THE HOME AT SIX (6) LOCATIONS

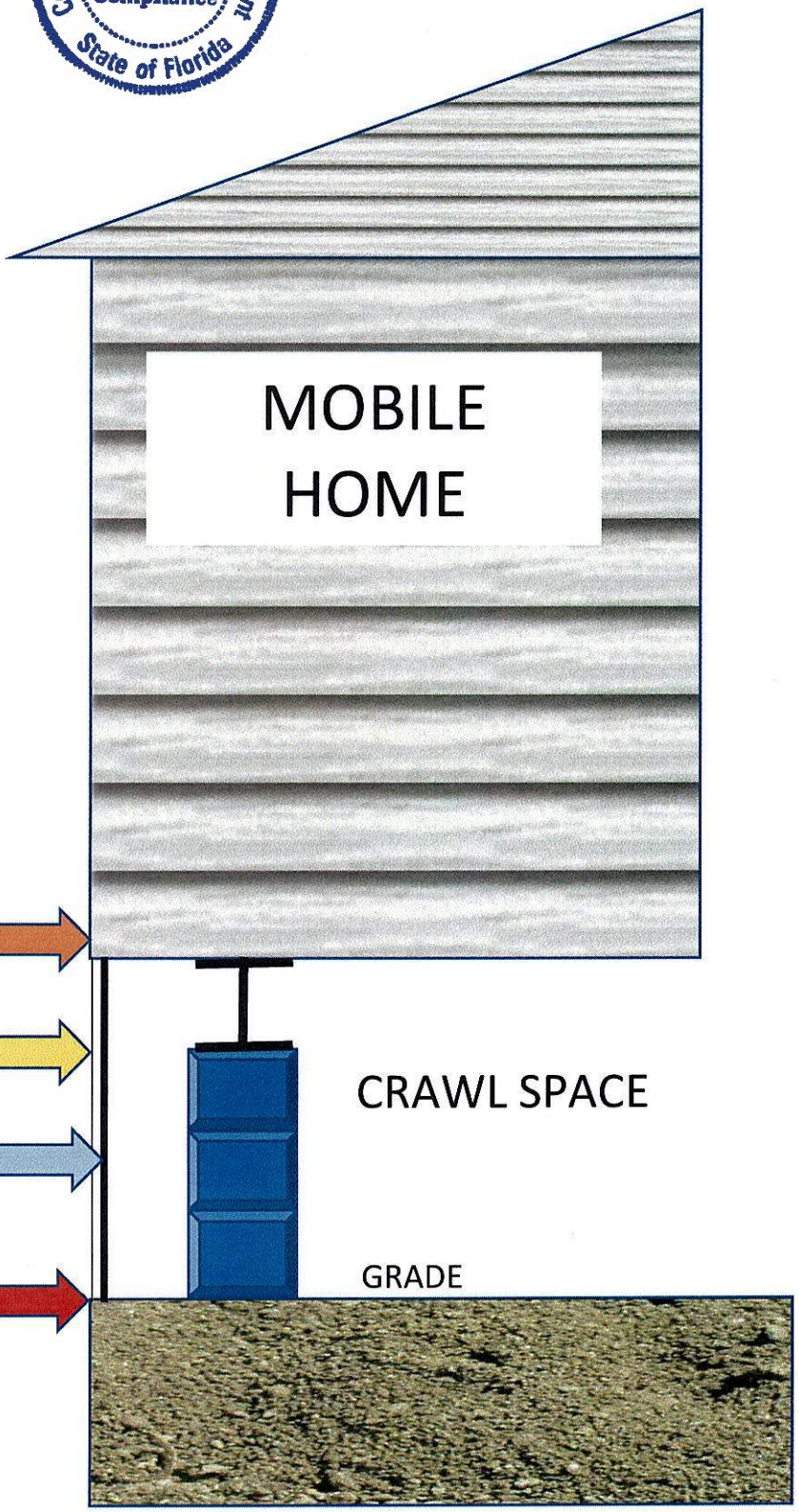
TAKE THE READING AT THE DEPTH OF THE FOOTER

USING 500LBS INCREMENT, TAKE THE LOWEST READING AND ROUND DOWN TO THAT INCREMENT

ROBERT PUCKETT
ROBERT PUCKETT
OWNER
IH/1025336

J&H Homes

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida



LAP TO GROUND INSTALLATION

FASTEN TOP FRONT RAIL W/ 1" GALV. NAILS OR 3/4" #8 SCREWS 16" OC

GEORGIA-PACIFIC COMPASS 8" X 150" VINYL PANEL

2"X4"(METAL) BRACE SPACED 3'OC

FASTEN BOTTOM RAIL W/ 3/4 " #8 SCREWS 16" OC 7' GAL. NAILS. 16 OC

NOTE:
AN ACCESS PANEL 18"X24" MIN WILL BE PROVIDED TO ACCESS CRAWL SPACE. THE ACCESS PANEL WILL BE FASTENED W/ 1" LONG PHILLIPS HEAD SCREWS. ANY HOME WICH IS MORE THAN 36" ABOVE FINISH GRADE WILL HAVE VERTICAL 48" OC WIND STAYS

TYPICAL SECTION

1/2= 1'0

A SAFER
FLORIDA
HIGHWAY SAFETY AND MOTOR VEHICLES

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

Terry L. Rhodes
Executive Director

2900 Apalachee Parkway
Tallahassee, Florida 32399-0500
www.flhsmv.gov

MEMORANDUM

TO: All Steel Telescoping Lateral Arm Manufacturers

FROM: Wayne Jordan, Operations Services Manager, Manufactured Housing Section
Florida Department of High Safety and Motor Vehicles

DATE: August 6, 2018

SUBJECT: Elimination of Requirement for Supplemental Frame Ties and Stabilizer Plates at All Steel Telescoping Lateral Arm Locations

---

The Department has reviewed some concerns expressed by several of the steel telescoping lateral arm manufacturers regarding the Department's requirement to install supplemental frame ties and stabilizer plates on the steel telescoping lateral arm systems.

In an abundance of caution, the Department required supplemental frame ties /stabilizer plates at each lateral arm location in June of 2002. After researching data from storm reports, the Department has found no evidence of the need for these supplemental frame ties/stabilizer plates. With this information in mind, the Department will discontinue the requirement for the supplemental frame ties/stabilizer plates at each lateral arm location.

Manufacturers who wish to change their installation instructions to remove this requirement, must resubmit their last engineering report showing the whole house test without the use of supplemental frame ties/stabilizer plates. Upon receipt and review of the engineering report, the Department will remove the requirement for supplemental frame ties/stabilizer plates. Each manufacturer will be notified within two weeks of receipt of the engineering report. These reports must be sent to my attention at **5701 East Hillsborough Ave, Suite 2228, Tampa, Florida 33610**.

If the need arises in the future, the Department may impose additional requirements to the steel telescoping lateral arm systems with a change to Florida Administrative Code Rule 15C-1.

State of Florida
DEPARTMENT OF HIGHWAY SAFETY AND MOTOR VEHICLES
TALLAHASSEE, FLORIDA 32399-0500

FRED O. DICKINSON, III
Executive Director

March 20, 2002

Mr. Bert A. Moore, Financial Manager
Manufactured Housing Foundation Systems
Oliver Technologies, Inc.
Post Office Box 9 (467 Swan Avenue)
Hohenwald, Tennessee 38462

Dear Mr. Moore:

We wish to acknowledge receipt of your specifications and test results certifying that your Longitudinal Stabilizing and Lateral Bracing System, 1101 V, listed below complies with the specifications and regulations set by the Department of Highway Safety and Motor Vehicles, Rules 15C-1.0105, 15C-1.0107 and 15C-1.0108, Florida Administrative Code.

Installation instructions must be available at the installation site.

MODEL #	DESCRIPTION
1101 V	Longitudinal Stabilizing and Lateral Bracing System

NOTE: This system is for replacement of longitudinal anchors. This system can only be used with sidewall anchor spacing of 5'4". Maximum strut angle 45°.

If you have any questions, please advise at (407) 623-1340.

Sincerely,

Phil Bergelt, Program Manager
Bureau of Mobile Home and
Recreational Vehicle Construction
Division of Motor Vehicles

PRB:srb

State of Florida
DEPARTMENT OF
HIGHWAY SAFETY AND MOTOR VEHICLES

ELECTRA THEODORIDES-BUSTLE
Executive Director

April 26, 2007

Columbia County Building Department
Plans Reviewed for Code Compliance
State of Florida

Mr. John Lower
Oliver Technologies, Inc.
P. O. Box 9
Hohenwald, Tennessee 38462

Dear Mr. Lower:

We wish to acknowledge receipt of your specifications and test results, certifying your mobile home Transverse and Longitudinal System – Wet Set and Dry Set Concrete Brackets, listed below, complies with the specifications and regulations set by the Department of Highway Safety and Motor Vehicles, Rules 15C-1.0105 and 15C-1.0107, Florida Administrative Code.

Based on the information submitted to this bureau, the following products are listed for sale and use in Florida when instructions are provided at the jobsite.

MODEL #	DESCRIPTION
1101CVW	Concrete full system wet bracket
1101CVD	Concrete full system dry set bracket
1101-W-CPCA	Concrete longitudinal system wet set bracket
1101-D-CPCA	Concrete longitudinal system dry set bracket
1101-W-TACA	Concrete transverse system wet set bracket
1101-D-TACA	Concrete transverse system dry set bracket

If you have any questions, please advise at (407) 445-7408

Sincerely

Phil Bergelt, Program Manager
Bureau of Mobile Home and
Recreational Vehicle Construction
Division of Motor Vehicles

PB/cb

OLIVER Technologies, Inc.
467 Swan Ave • Hohenwald, TN 38462 • (800) 284-7437 • www.olivertechnologies.com • Fax (931) 796-8811

OLIVER TECHNOLOGIES, INC.
INSTALLATION INSTRUCTIONS FOR FLORIDA
MODEL 1101 "V" SERIES ALL STEEL FOUNDATION SYSTEM PAN & CONCRETE (revision 5/18)

PATENT# 6634150 & OTHER PATENT PENDING

OLIVER Technologies, Inc.

467 Swan Ave • Hohenwald, TN 38462 • (800) 284-7437 • www.olivertechnologies.com • Fax (931) 796-8811

OLIVER TECHNOLOGIES, INC.
FLORIDA INSTALLATION INSTRUCTIONS FOR THE
MODEL 1101 "V" SERIES ALL STEEL FOUNDATION SYSTEM

MODEL 1101"V" (Steps 1-14)
LONGITUDINAL ONLY: Follow Steps 1-9
LATERAL ONLY: Follow Steps 1-3 and Steps 10-14
FOR CONCRETE APPLICATIONS: Follow Steps 15-18

ENGINEERS STAMP

Columbia County Building Department — Plans Reviewed for Code Compliance — State of Florida

ENGINEERS STAMP

1. **SPECIAL CIRCUMSTANCES:** If the following conditions occur - ***STOP! Contact Oliver Technologies at 1-800-284-7437 :***
   a) Pier height exceeds 48"
   b) length of home exceeds 76'
   c) Roof eaves exceed 16"
   d) Sidewall height exceed 96"
   e) Location is within 1500 feet of coast

INSTALLATION OF GROUND PAN

2. Remove weeds and debris in an approximate two foot square to expose firm soil for each ground pan (C) .
3. Place ground pan (C) directly below chassis I-beam. Press or drive pan firmly into soil until flush or below soil then install pier per manufacturer's instructions or per Florida Regs.
   SPECIAL NOTE: The longitudinal "V" brace system may also serve as a pier under the home and should be loaded as any other pier. It is recommended that after leveling piers, and one-third inch (1/3") before home is lowered completely on to piers, complete steps 4 through 9 below then remove jacks.

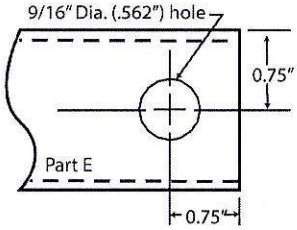
INSTALLATION OF LONGITUDINAL "V" BRACE SYSTEM (Model 1101 L "V")

NOTE: WHEN INSTALLING THE LONGITUDINAL SYSTEM ONLY, A MINIMUM OF 2 SYSTEMS PER FLOOR SECTION IS REQUIRED. SOIL TEST PROBE SHOULD BE USED TO DETERMINE CORRECT TYPE OF ANCHOR PER SOIL CLASSIFICATION. IF PROBE TEST READINGS ARE BETWEEN 175 & 275 A 5 FOOT ANCHOR MUST BE USED. IF PROBE TEST READINGS ARE BETWEEN 276 & 350 A 4 FOOT ANCHOR MAY BE USED. USE GROUND ANCHORS WITH DIAGONAL TIES AND STABILIZER PLATES EVERY 5'4" . VERTICAL TIES ARE ALSO REQUIRED ON HOMES SUPPLIED WITH VERTICAL TIE CONNECTION POINTS (PER FLORIDA REG.).

4. Choose one of the approved longitudinal tube installations; either Diagram A or B. Then select the correct square tube (E) length from the diagram for appropriate pier height at support location or cut and drill 1.5" square tube to achieve appropriate length.

PIER HEIGHT (40° Min. - 45° Max.)	1.25" Tube Length	1.50" Tube Length
7 3/4" to 25"	22"	18"
24 3/4" to 32 1 /4"	32"	18"
33" to 41"	44"	18"
40" to 48"	54"	18"

Diagram A



PIER HEIGHT (40° Min. - 60° Max.)	1.50" Tube Length
14" to 18"	20"
18" to 25"	28"
24" to 35"	39"
30" to 40"	44"
36" to 48"	54"

Diagram B

5. Install (2) of the 1.50" square tubes (E) into the "U" bracket (J), insert carriage bolt and leave nut loose for final adjustment.
6. Place I-beam connector (F) loosely on the bottom flange of the I-beam.
7. (For Diagram A installation) Slide the selected 1.25" tube (E) into a 1.50" tube (E) and attach to I-beam connectors (F) and fasten loosely with bolt and nut. (For Diagram B installation) Attach the selected 1.5" tubes (E) to the I-beam connectors (F) and fasten loosely with bolts and nuts.
8. Repeat steps 6 through 7 to create the "V" pattern of the square tubes loosely in place.
9. Using standard hand tools tighten all nuts and bolts. (For Diagram A installation only, secure 1.25" and 1 .50" tubes using four(4) 1 /4"-14 x 3/4" self-tapping screws in pre-drilled holes.)

INSTALLATION OF LATERAL TELESCOPING TRANSVERSE ARM SYSTEM (Model 1101 T "V")

THE MODEL 1101 "V" (LONGITUDINAL & LATERAL PROTECTION) ELIMINATES THE NEED FOR STABILIZER PLATES & FRAME TIES.
NOTE: THE USE OF THIS SYSTEM REQUIRES VERTICAL TIES SPACED AT 5'4".
FOUR FOOT (4') GROUND ANCHOR MAY BE USED EXCEPT WHERE THE HOME MANUFACTURER SPECIFIES DIFFERENT.

10. Install remaining vertical tie-down straps and 4' ground anchors per home manufacturer's instructions. NOTE: Centerline anchors to be sized according to soil torque condition. Any manufacturer's specifications for sidewall anchor loads in excess of 4,000 lbs. require a 5' anchor per Florida Code.
11. Select the correct square tube brace (H) length for set-up lateral transverse at support location. The lengths come in either 60" or 72" lengths. (With the 1.50" tube as the bottom tube, and the 1.25" tube as the inserted tube.)
12. Install the 1.50 transverse brace (H) to the ground pan connector (D) with bolt and nut.
13. Slide 1.25" transverse brace into the 1.50" brace and attach to adjacent I-beam connector (I) with bolt and nut.
14. Secure 1.50" transverse arm to 1.25" transverse arm using four (4) 1 /4" - 14 x 3/4" self-tapping screws in pre-drilled holes.

PATENT# 6634150 & OTHER PATENT PENDING

Revision 08/23/18

OLIVER Technologies, Inc.
467 Swan Ave • Hohenwald, TN 38462 • (800) 284-7437 • www.olivertechnologies.com • Fax (931) 796-8811

INSTALLATION USING CONCRETE RUNNER/ FOOTER

15. A concrete runner, footer or slab may be used in place of the steel ground pan.
    a) The concrete shall be minimum 2500 psi mix
    b) A concrete runner may be either longitudinal or transverse, and must be a minimum of 8" deep with a minimum width of 16 inches longitudinally or 18 inches transverse to allow proper distance between the concrete bolt and the edge of the concrete (see below).
    c) Footers must have minimum surface area of 441 sq. in. (I.e. 21" square), and must be a minimum of 8" deep.
    d) If a full slab is used, the depth must be a 4" minimum . Special inspection of the system bracket installation is not required. Footers must allow for at least 4" from the concrete bolt to the edge of the concrete.

NOTE: The bottom of all footings, pads, slabs and runners must be per local jurisdiction.

LONGITUDINAL: (Model 1101 LC "V")

16. When using Part# 1101-W-CPCA (wetset) simply install the bracket in runner/footer **OR** When installing in cured concrete use Part# 101-D-CPCA (dryset}. The 1101 (dryset) CA bracket is attached to the concrete using (2) 5/8"x3" concrete wedge bolts (Simpson part # S162300H 5/8" X 3" or Powers equivalent). Place the CA bracket in desired location. Mark bolt hole locations, then using a 5/8" diameter masonry bit, drill a hole to a minimum depth of 3". Make sure all dust and concrete is blown out of the holes. Place wedge bolts into drilled holes, then place 1101 (dry set) CA bracket onto wedge bolts and start wedge bolt nuts. Take a hammer and lightly drive the wedge bolts down by hitting the nut (making sure not to hit the top of threads on bolt). The sleeve of concrete wedge bolt needs to be at or below the top of concrete. Complete by tightening nuts.

LATERAL: (Model 1101 TC "V")

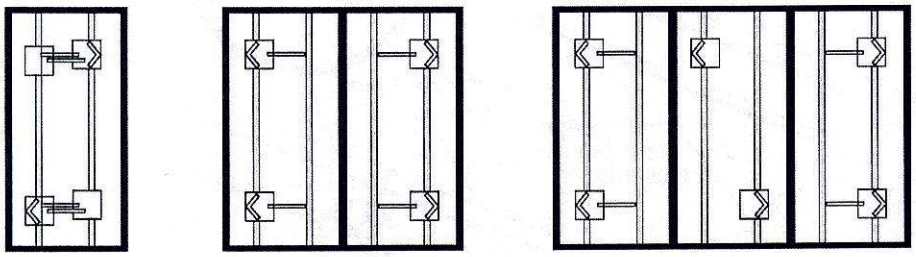
17. For wet set (part # 1101-W-TACA) installation simply install the anchor bolt into runner/footer. For dry set installation (part # 1101-D-TACA) mark bolt hole locations, then using a 5/8" diam. masonry bit. drill a hole to a minimum depth of 3". Make sure all dust and concrete is blown out of the hole. Place wedge bolts (Simpson part #S162300H 5/8" X 3" or Powers equivalent) into (D) concrete dry transverse connector and into drilled hole. If needed, take a hammer and lightly drive the wedge bolts down by hitting the nut (making sure not to hit the top of threads on bolt), then remove the nut. The sleeve of concrete wedge bolt needs to be at or below the top of concrete.
18. When using part# 1101 CVW (wetset) or 1101 CVD (dryset), install per steps 17 & 18.

Notes:

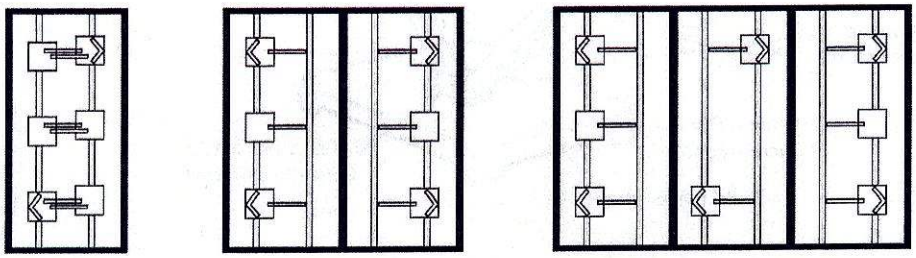
1. **LENGTH OF HOUSE IS THE ACTUAL BOX SIZE**
2. **= LOCATION OF TRANSVERSE BRACING ONLY**
3. **= LOCATION OF LONGITUDINAL BRACING ONLY**
4. **= TRANSVERSE AND LONGITUDINAL LOCATIONS**

Columbia County Building Department — Plans Reviewed for Code Compliance — State of Florida

ALL WIDTHS AND LENGTHS UP TO 52'

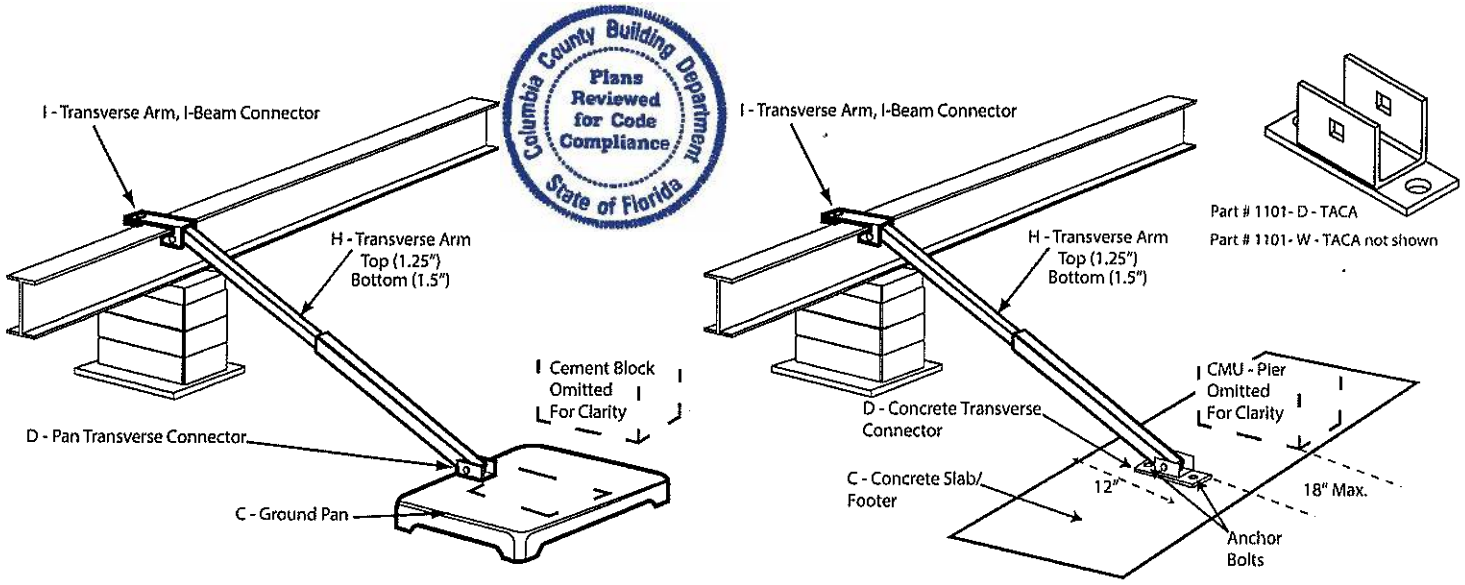


ALL WIDTHS AND LENGTHS OVER 52' TO 80"



HOMES WITH 5/12 ROOF PITCH REQUIRE: PER FLORIDA REGULATIONS
6 systems for home lengths up to 52' and 8 systems for homes over 52' and up 80'.

PATENT# 6634150 & OTHER PATENT PENDING



Columbia County Building Department
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State of Florida

Model # 1101 T "V"

Model # 1101 TC "V"

Florida approved 4' ground anchors may be used in all locations except where home manufacturers specifications for sidewall straps are in excess of 4,000 lbs. These locations require a 5' anchor. Per Florida code.

C = GROUND PAN / CONCRETE FOOTER OR RUNNER

D = GROUND PAN / CONCRETE U BRACKETS TRANSVERSE CONNECTOR (connects with grade 5 - 1/2" x 2" 1/2" carriage bolt and nut)

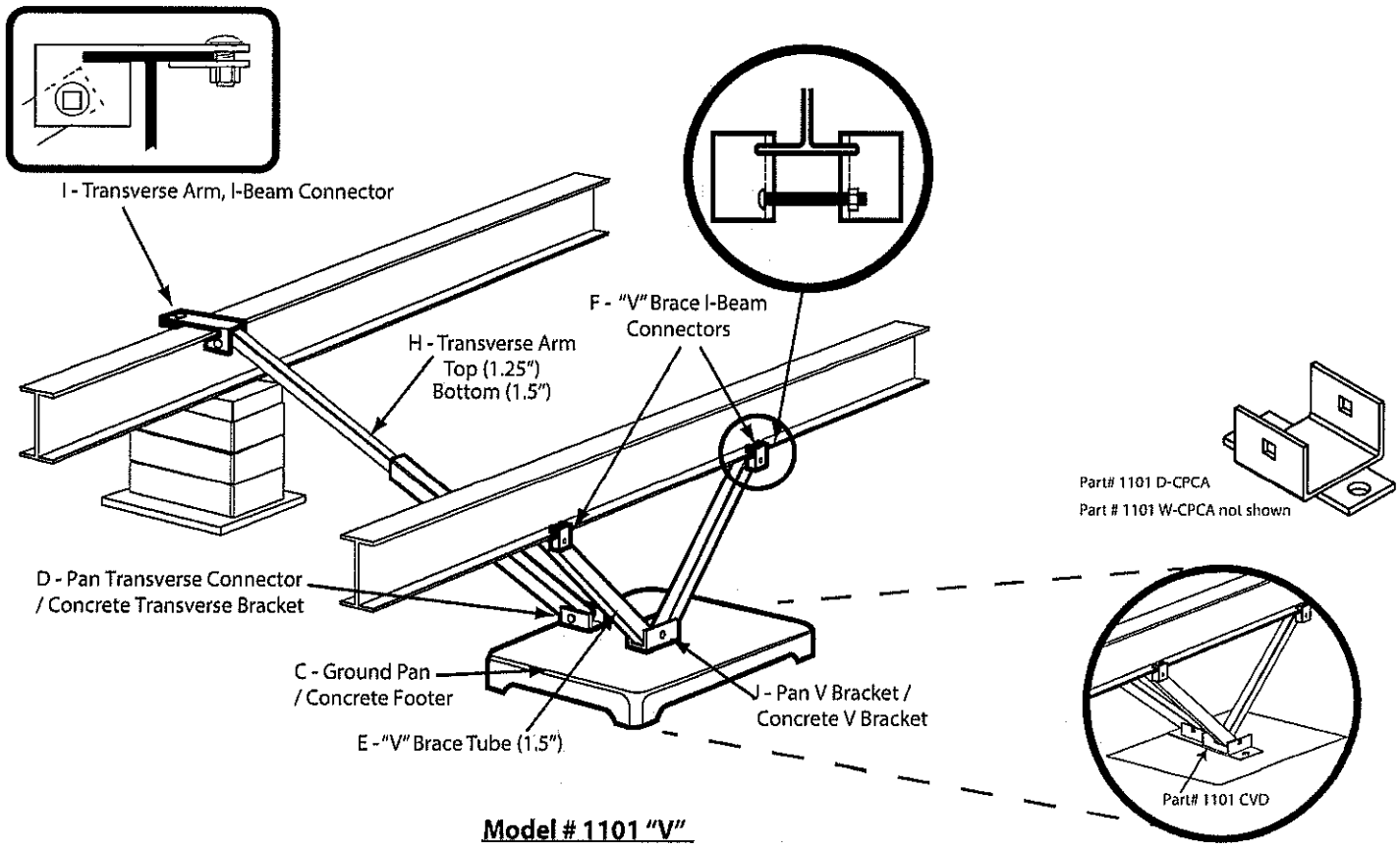
E = TELESCOPING V BRACE TUBE ASSEMBLY (1.5" TUBE BOTTOM AND 1.25" TUBE INSERT) OR 1.5" TUBE

F = "V" BRACE I-BEAM CONNECTOR ASSEMBLY

H = TELESCOPING TRANSVERSE ARM ASSEMBLY

I = TRANSVERSE ARM I-BEAM CONNECTOR (connects with grade 5 - 1/2" x 2" 1/2" carriage bolt and nut)

J = V PAN BRACKET (connects with grade 5 - 1/2" x 2" 1/2" carriage bolt and nut)



Model # 1101 "V"

Model # 1101 C "V"

OLIVER Technologies, Inc.

467 Swan Ave • Hohenwald, TN 38462 • (800) 284-7437 • www.olivertechnologies.com • Fax (931) 796-8811

Installation Instructions for 1100 "V" Series All Steel Foundation System

SPECIAL CIRCUMSTANCES: ***If following conditions occur*** **- STOP!** Contact Oliver Technologies at 1-800-284-7437 for further instructions:
a) Pier (system) height exceeds 48" **b)** Roof eaves exceed 16" **c)** Roof pitch greater than 7/12 **d)** Location is within 1500 feet of coastline
e) Soil conditions less than 4B **f)** Thick and wide I Beam attachments are available.

INSTALLATION OF GROUND PAN FOR DIRT SET (IV)

1) Remove weeds and debris in an approximate three foot square to expose firm, level undisturbed soil or controlled fill for each ground pan. The 1100 V Pan is equivalent to a 21 x 21 footing. Top of ground pan (C) must be installed at ground level or per local jurisdiction.
2) Place center ground pan (C) directly below chassis I-beam. Press or drive pan completely into soil until flush with or below soil.

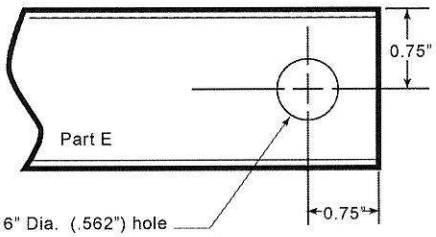
SPECIAL NOTE: The longitudinal "V" brace system serves as a pier under the home and should be loaded as any other pier. It is recommended that after leveling piers, and one-half inch (1/2") before home is lowered completely onto piers, complete items 3 through 7 below.

INSTALLATION OF LONGITUDINAL "V" BRACE SYSTEM

3) Select the correct square tube brace (E) length for set-up (pier) height at support location.

PIER HEIGHT (Approx. 40-60 degrees Max.)	1.5" Tube Length
14" to 18"	20"
18" to 25"	28"
24" to 35"	39"
30" to 40"	44"
36" to 48"	54"

PIER HEIGHT = the dimension from the top of the pan to the bottom of the I-Beam



4) Install both of the 1.5" square tubes (E) into the "V" bracket (J), insert carriage bolt and leave nut loose for final adjustment.
5) Place I-beam connector (F) loosely on the bottom flange of the I-beam.
6) Attach the selected 1.5" tubes (E) to the I-beam connectors (F) and fasten loosely with bolts and nuts. NOTE: The ground pan must be level in both directions to ensure the angle markings on the center point connector are correct from the horizontal plane of the pan. The angle is not to exceed 60 degrees and not less than 40 degrees. The "V" bracket (J) is stamped with the angles to verify correct degree. Use proper length tube or cut and drill tube to achieve proper length. (The tube may be cut using any appropriate steel cutting method such as steel saw, cutting torch, etc. New holes must be drilled to the dimension and at the location as shown for part (E).
7) Using standard hand tools, tighten all nuts and bolts. When connecting the brace tube to the model 1100-10-P I-beam connector bracket, tighten at least one and a half to two full turns past hand tight.

INSTALLATION OF (LATERAL) TELESCOPING TRANSVERSE ARM SYSTEM (1100 ITV)

8) Select the correct transverse arm (H). The 60" sections are standard. The 72" sections are used on frame widths greater than 99.5".
9) Install the 1.5" transverse brace (H) to the ground pan connector (D) with the bolt and nut.
10) Slide 1.25" transverse brace into the 1.5" brace and attach to adjacent I-beam connector (I) with bolt and nut.
11) Secure 1.5" transverse arm to 1.25" transverse arm using four (4) 1/4" - 14 x 3/4" self-tapping screws in pre-drilled pilot holes.

INSTALLATION USING CONCRETE (ICV)

The concrete footer, runner or slab may be of any shape, that has a minimum of 2900 cu. in., with a minimum depth of 3.5" (dry set) or 6" (wet set), at each system location. The surface of the footing shall be large enough to support the pier load and allow at least 4" from the concrete bolt to the edge of the concrete (ie. 22"x22"x6" footer). The concrete shall be a minimum of 2500 psi mix (pre-blended sacked concrete mix is acceptable). Special inspection of footing is not required. If the 1100 ITC transverse system, (D (W or D) bracket only) is to be installed without the use of the 1100 ILC (V) longitudinal system (J (W or D) bracket), it MUST be installed within 18" of pier.

NOTE: The bottom of all footings, pads, slabs and runners must be per local jurisdiction.

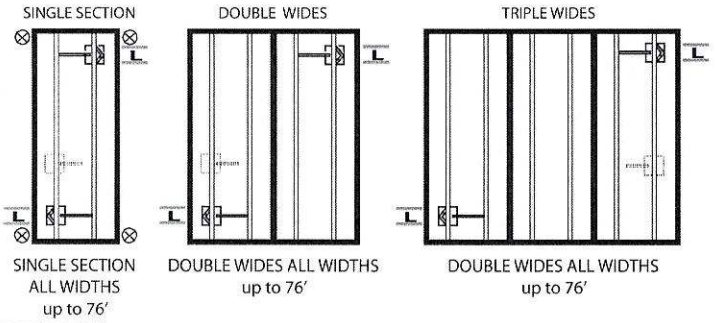
LONGITUDINAL (V)

When using the 1100 wet set J(W) bracket, simply install the bracket in runner/footer OR when installing in cured concrete, use the 1100 dry set J(D) bracket. The 1100 dry set J(D) bracket is attached to the concrete using (2) 1/2" X 3" concrete wedge bolts. Place the bracket in desired location. Mark bolt hole locations, then using a 1/2" masonry bit, drill a hole to a minimum depth of 3". Be sure all dust is blown out of the holes. Place wedge bolts into drilled holes, then place 1100 J(D) bracket onto wedge bolts and start wedge bolt nuts. Take a hammer and lightly drive the wedge bolts down by hitting the nut (Do not hit the top of threads on bolt). Complete by tightening the nuts.

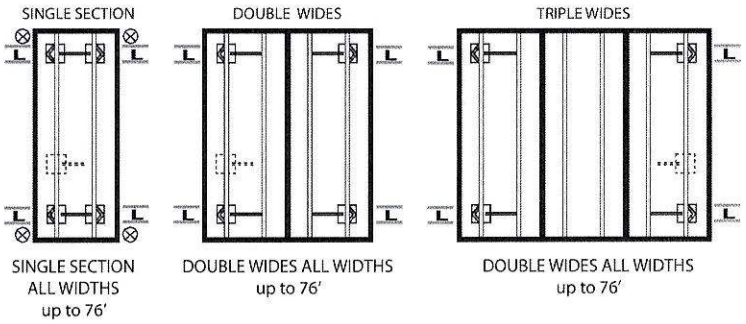
LATERAL (Transverse Arm)

For wet set installation set the transverse connector bracket D(W) into runner/footer at desired location. For dry set installations, the transverse connector bracket D(D) is attached to the concrete using (2) 1/2" X 3" concrete wedge bolts. Mark bolt hole locations, then using a 1/2" masonry bit, drill a hole to a minimum depth of 3". Be sure all dust is blown out of the holes. Place wedge bolts into drilled holes,then place transverse connector bracket J(D) bracket onto wedge bolts and start wedge bolt nuts. Take a hammer and lightly drive the wedge bolts down by hitting the nut (Do not hit the top of threads on bolt.) Complete by tightening the nuts.

REQUIRED NUMBER AND LOCATION OF MODEL 1100 "V" SERIES BRACES FOR 4/12 & 5/12



REQUIRED NUMBER AND LOCATION OF MODEL 1100 "V" SERIES BRACES FOR 6/12 & 7/12



LEGEND:

(Length of house is actual box size)

1. - L - Approximate location of the system (See note H)
2. - ⊗ - Location of ASF Model 1100 "V" (Lateral and Longitudinal Bracing) or 1100 T (Lateral only)
3. - ⊡ - Location of additional ASF Model 1100 T "V" System (Lateral only) for homes exceeding 76' in length or with roof pitch between 4.37/12 (20 degrees) and 5/12, the additional system is to be installed at approximately the midpoint of the house and may be installed at either exterior beam.
4. - ⊗ - Installation of single wide homes require two (2) anchors per side located not more than ten (10) feet from each end (with a minimum of 3150 load rating)
5. - ⊡ - Location of additional ASF Model 1100 T "V" System (Lateral only) for homes exceeding 76' in length, sidewall height exceeding 96" or with roof pitch between 6/12 & 7/12 the additional system is to be installed at approximately the midpoint of the house and may be installed at either exterior beam.

NOTE:

a) Installation of the longitudinal system eliminates the need for the longitudinal anchors.
b) Installation of the transverse system eliminates the need for all anchors, diagonal frame ties and stabilization plates except when noted. (Legend #5 & note C)
c) All other home manufacturer's instructions for installation of stabilizing devices must be followed, including installation of vertical tie-down anchors, and mating line column, shear wall or center-line tie-down anchors. NOTE WIND ZONE II: ALL VERTICAL ANCHORS (NOT TO EXCEED 8' SPACING) MUST BE INSTALLED PER MANUFACTURER's INSTALLATION INSTRUCTIONS!
d) If the home manufacturer's installation instructions are not available, the home must be installed in accordance with any state promulgated rules or as required by the authority having jurisdiction.
e) If bolts, nuts and tech screws are lost, they may be replaced as long as they meet or exceed the specs for OTI ASFS hardware.
f) When the length of home exceeds 76', sidewall height exceeds 96" or the roof pitch is between 4.37/12 (20 degrees) and 5/12, add 1 transverse system (see location diagrams above) 6/12: a total of 4 Transverse & 3 Longitudinal systems are needed & 7/12: a total of 5 Transverse & 3 Longitudinal systems are needed. (Longitudinal portion only required when longitudinal bracing is required by home manufacturer).
g) An alternative method using the 1100 CVD anchors (dry set) or 1100 CVW (wet set) may be used on a footing size of 16" diameter X 24" depth. These brackets are designed for lateral and longitudinal protection.
h) It is recommended that the systems be installed at the 2nd pier in from each end of the house. However, they may be installed at any location at least 2 feet, but not more than ¼ the house length, in from the ends of the home.

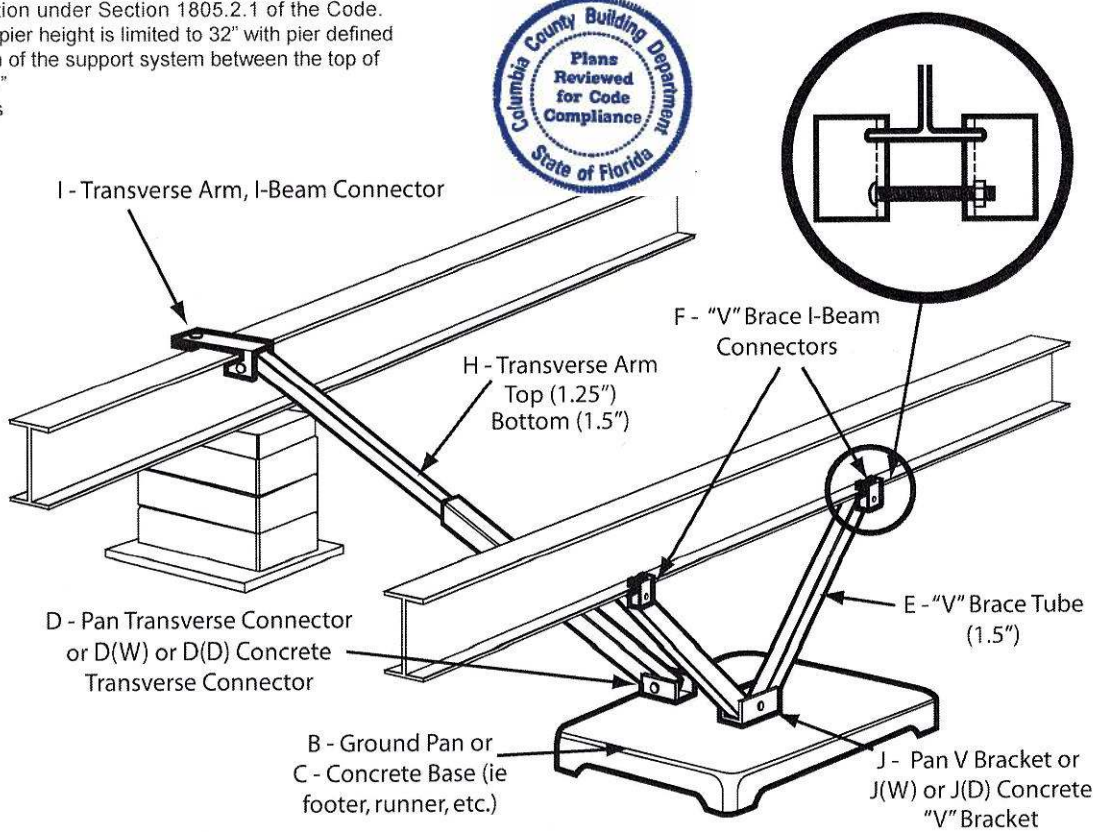
STATE OF MICHIGAN ONLY: As required by Section 1805.2 of the 200 Michigan Building Code, the depth of the footer shall be a minimum depth of 42 inches below grade, except that the authority having jurisdiction may approve a lesser depth based on known prevailing soil and weather conditions, or as provided by the exception under Section 1805.2.1 of the Code.

STATE OF ALABAMA ONLY: Maximum pier height is limited to 32" with pier defined in the Alabama Regulation as "that portion of the support system between the top of the footing and the bottom of the pier cap." The State of Alabama limits the use of this system to H.U.D labeled homes.

STATE OF NORTH CAROLINA ONLY: Tubing must be galvanized and, when the manufacturer's installation instructions are not available, vertical wall tie-downs must be installed not to exceed 8-feet on center. (Wind Zone II)

STATE OF IDAHO ONLY: Concrete must be a minimum of 8" in depth.

Columbia County Building Department — Plans Reviewed for Code Compliance — State of Florida



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OLIVER Technologies Inc.

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For use on all Mobile and Manufactured Homes, including HUD approved Homes and Modular Building
Patent #5503500 and other patents pending

GENERAL INSTRUCTIONS:

1. All pads are to be installed flat side down, ribbed side up.
2. The ground under the pads should be leveled as smooth as possible with all vegetation and debris removed. Pads to be placed on evenly compacted soil, at or below the frost-line or otherwise protected from the effects of frost. Refer to NCSBCS/ANSI A225.1
3. Pier & pad spacing will be determined by the manufactured homes' written set-up instructions or any local or state codes.
4. Center blocks on ABS pad and complete pier.
5. The open cells between the ribbing on the upper side of the pads may be filled with soil or sand after installation to prevent any accumulation of stagnant water in the pads.
6. A pocket penetrometer may be used to determine the unconfined compressive strength of the soil. If no soil testing equipment is available – use an assumed soil value of 1000 lbs. / square foot.

NOTES:

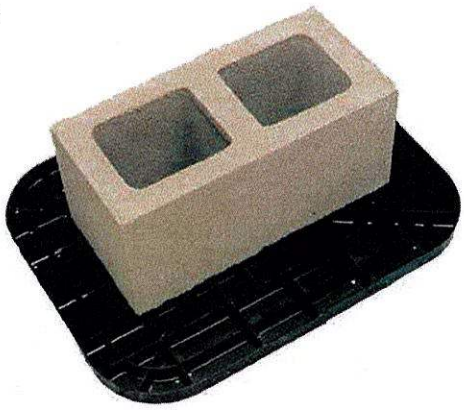
1. All pad sizes shown are nominal dimensions and may vary up to 1/8".
2. The maximum deflection in a single pad is 5/8" measured from the highest point to the lowest point of the top face. (NOTE: Actual test results were less than 5/8")
3. Pad loads are the same when using single stack or double stack blocks.
4. The maximum load at any intermediate soil value may be interpolated between the next lower and next higher soil values given in the table below.
5. Any ABS pad configuration may be used to replace a home manufacturer's recommended concrete or wood base pad.
6. Steel Piers: All pads are tested with steel piers on 1000 PSF soil density unless otherwise noted. If required, attach with 2" #12 x ½" hex tech screws. Minimum Pier Base 7 1/4". Multi-Pad configurations require a minimum 9 1/4" pier base.
7. Available pads tested on 2000 PSF soil capacity using steel piers are: ID #1055-14, 1055-9, 1055-7 and 1055-13.
8. If soil capacities exceed 3000 psf, use the 3000 psf soil values from the table.
9. Any pad may be stacked directly on top of an identical pad. The second pad should also be installed flat side down. Such a configuration provides the same allowable load capacity as the single pad.

PAD SIZE	ID NO.	PAD AREA	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
Oval 16" x 18.5"	1055-23	288 sq. in.	2000 lbs.	3000 lbs.	4000 lbs.	5000 lbs.	6000 lbs.
Oval 17" x 22"	1055-16	360 sq. in.	2500 lbs.	3750 lbs.	5000 lbs.	6250 lbs.	7500 lbs.
Oval 17.5" x 22.5"	1055-21	384 sq. in.	2667 lbs.	4000 lbs.	5334 lbs.	6667 lbs.	8000 lbs. *
Oval 17.5" x 25.5"	1055-17	432 sq. in.	3000 lbs.	4500 lbs.	6000 lbs.	7500 lbs.	9000 lbs. *
Oval 21" x 29"	1055-22	576 sq. in.	4000 lbs.	6000 lbs.	8000 lbs. *	10000 lbs. *	12000 lbs. *
Oval 23.25" x 31.25"	1055-20	675 sq. in.	4688 lbs.	7032 lbs.	9376 lbs. *	11720 lbs. *	14064 lbs. *

PAD SIZE	ID NO.	PAD AREA	1000 PSF	1500 PSF	2000 PSF	2500 PSF	3000 PSF
Square 16" x 16"	1055-14	256 sq. in.	1778 lbs.	2664 lbs.	3556 lbs.	4445 lbs.	5333 lbs.
Square 18.5" x 18.5"	1055-9	342 sq. in.	2375 lbs.	3550 lbs.	4750 lbs.	5935 lbs.	7100 lbs.
Square 20" x 20"	1055-7	400 sq. in.	2750 lbs.	4125 lbs.	5500 lbs.	6875 lbs.	8250 lbs. *
Square 24" x 24"	1055-13	576 sq. in.	4000 lbs.	6000 lbs.	8000 lbs. *	8000 lbs. *	8000 lbs. *
Square 24" x 24"	1055-26	576 sq. in.	4000 lbs.	6000 lbs.	8000 lbs. *	10000 lbs. *	12000 lbs. *

*** Indicates that Piers are required to be double blocked.**
EXAMPLE: 16' x 80' section (Alabama only)

PAD SIZE	1000 PSF	2000 PSF
Oval 16" x 18.5"	3'0"	6'0"
Oval 17" x 22"	3'9"	7'6"
Oval 17.5" x 22.5"	4'0"	8'0"
Oval 17.5" x 25.5"	4'5"	8'0"
Oval 21" x 29"	6'0"	8'0"



ENGINEER APPROVAL

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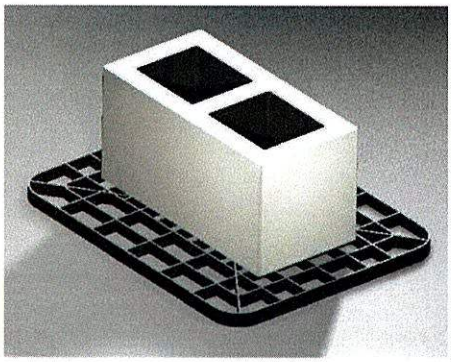
Multi-Pad Configurations

ABS Pad Types		
Oval 16" x 18.5" Pad	2.00 Square Feet	ID # 1055-23
Oval 32" x 18.5" Pad Configuration (03)	4.00 Square Feet	
Oval 17" x 22" Pad	2.50 Square Feet	ID # 1055-16
Oval 34" x 22" Pad Configuration (03)	5.00 Square Feet	
Oval 17.5" x 25.5" Pad	3.00 Square Feet	ID # 1055-17
Oval 35" x 25.5" Pad Configuration (03)	6.00 Square Feet	

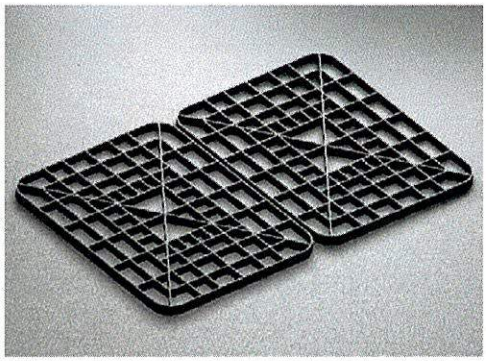
	8" Cell Block	Soil Bearing Value	Maximum Load
32" x 18.5" Pad Configuration	Single Stack	1000 lbs. / sq. ft.	4000 lbs.
	Double Stack	2000 lbs. / sq. ft.	8000 lbs. *
34" x 22" Pad Configuration	Single Stack	1000 lbs. / sq. ft.	5000 lbs.
	Double Stack	2000 lbs. / sq. ft.	10000 lbs. *
35" 25.5" Pad Configuration	Single Stack	1000 lbs. / sq. ft.	6000 lbs.
	Double Stack	2000 lbs. / sq. ft.	12000 lbs. *

***Concrete blocks are only rated at 8000 pounds, 8001 pounds and higher must be double stacked.**

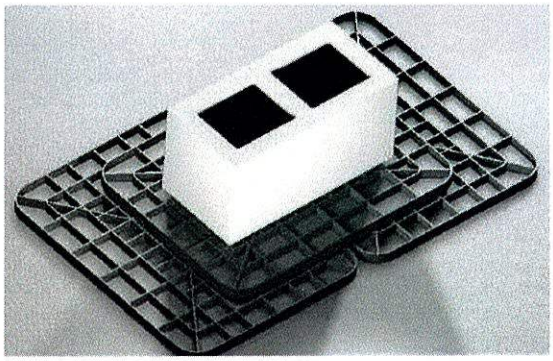
PAD ASSEMBLY



STEP 1 - 17" x 22" ABS Pad



STEP 2 - (2) 17" x 22" ABS PADS (34" x 22" Configuration)



STEP 3 - Complete Assembly 34" x 22" Multi-pad Configuration

NOTES:

1. General instructions (on reverse) apply to all multi – pad configurations.
2. The 32" x 18.5" pad configuration is formed by using (3) 16" x 18.5" ABS Pads. Place (2) 16" x 18.5" side by side, and place (1) 16" x 18.5" on top, laid in the opposite direction to the bottom pads.
3. The 34" x 22" pad configuration is formed by using (3) 17" x 22" ABS Pads. Place (2)17" x 22" pads side by side, and (1) 17" x 22" pad on top. The top pad is laid in the oppsite direction as the bottom pads.
4. The 35" x 25.5" pad configuration is formed by using (3) 17.5" x 25.5" ABS Pads. Place (2) 17.5" x 25.5" pads side by side, and (1) 17.5" x 25.5" pad on top. The top pad is laid in the opposite direction to the bottom pads.

STATE SPECIFIC NOTES:

TEXAS: 17.5" x 22.5" ID #1055-21 and 23.25" x 31.25" ID #1055-20 may not be installed in the State of Texas. ID#1055-26 may not be used in conjunction with metal piers.

CALIFORNIA: Use an assumed value of 1000 lb/sq. ft. unless engineering and calculations are provided.

ALABAMA : For the State of Alabama all ABS pads shall not have more than 3/8" deflection. See chart on page one for details on correct installation in Alabama. The 23.25" x 31.25" ID#1055-20 may not be installed in the State of Alabama.

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2017

Florida Building Code

Residential Section

R311 and R312

STAIR DETAIL

R311.7.2 Headroom

R311.7.5.1 Riser Height

R311.7.5.2 Tread Depth

R311.7.8 Handrails

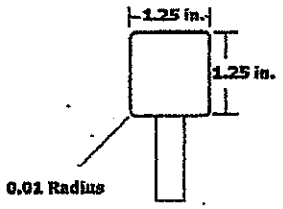
R311.7.8.2 Continuity

R311.7.8.3 Handrail Grip Size

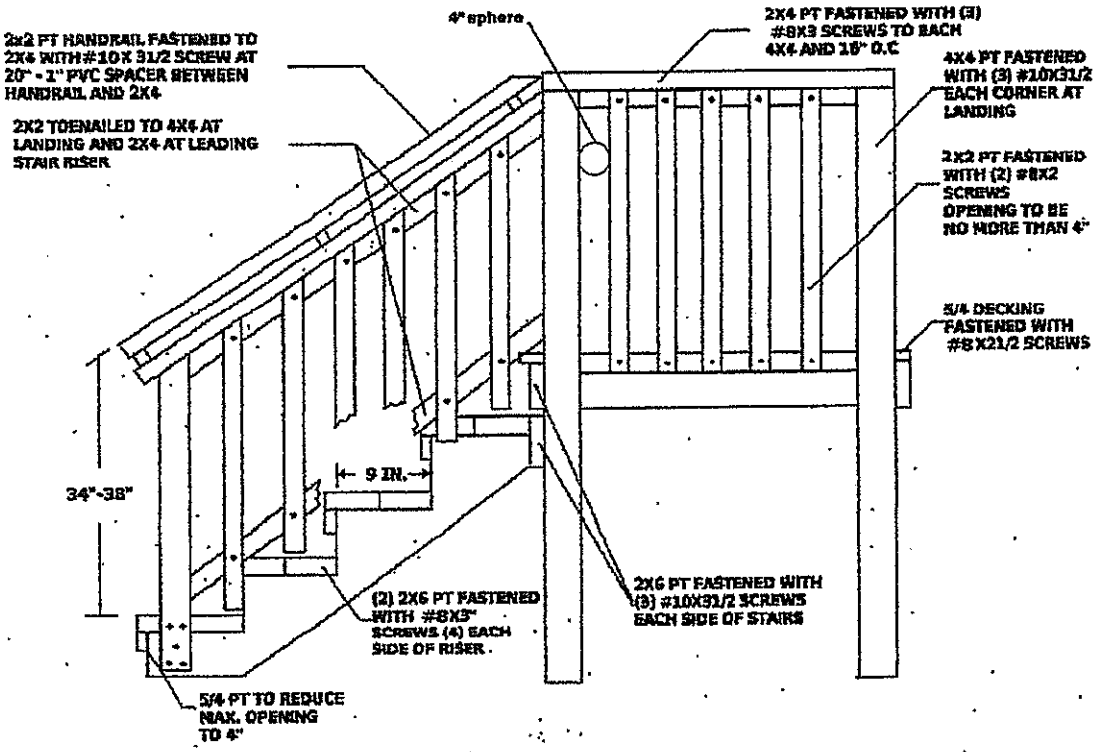
R312.1.2 Guards

R312.1.3 Guard Opening Limits

Noncircular Handrail



Handrail that is not circular must have a perimeter of 4 IN. Min. and 6.25 IN. Max. with a cross section dimension of 2.25 inches



STEP HAS A LANDING MEASUREMENT OF 40" X 40"

RISER HEIGHT IS 7 3/4" max.