

OFFICE OF THE SULLIVAN COUNTY PURCHASING AGENT

3411 HIGHWAY 126 – SUITE 201
BLOUNTVILLE, TN 37617-0569

PHONE 423/323-6400

FAX 423/323-7249

REQUEST FOR PROPOSAL

MUST INCLUDE RFP# ON OUTSIDE OF ENVELOPE

RFP Name / Number GREENHOUSE INSTALLATION / #SHS/001(KD)
Due Date / Time Tuesday, August 11, 2015 / 2:00 p.m.
Mandatory Pre-bid / Time Tuesday, August 4, 2015 / 10:00 a.m.
Bid Location / Mail Address Sullivan County Purchasing Department, Kristinia Davis, Purchasing Agent 3411 Hwy 126-Suite 201, Blountville, TN 37617
Bid Contact / Telephone Kristinia Davis (423) 323-6400; kris.davis@sullivancountyttn.gov
User Department SCHOOL

THIS REQUEST FOR PROPOSAL (RFP) MUST BE RETURNED IN A SEALED ENVELOPE VIA MAIL, COURIER OR IN PERSON. PHONE, FAX OR ELECTRONIC RESPONSES ARE NOT ACCEPTABLE! RESPONSES WILL BE ACCEPTED BY THE PURCHASING AGENT ONLY UNTIL THE DAY/TIME DESIGNATED ABOVE, AT WHICH TIME THEY WILL BE PUBLICLY OPENED. RESPONSES MUST CLEARLY IDENTIFY THE RFP # ON THE OUTSIDE OF THE ENVELOPE, BE PRESENTED IN ORIGINAL FORMAT, BE COMPLETED IN TOTALITY AND BEAR THE HANDWRITTEN SIGNATURE OF A DULY AUTHORIZED COMPANY REPRESENTATIVE. **LATE RESPONSES WILL NOT BE ACCEPTABLE!**

SUBMISSION OF THIS RFP VERIFIES VENDOR'S ACCEPTANCE OF THE RFPs LANGUAGE, REQUIREMENTS AND THE GENERAL PROCUREMENT TERMS AND CONDITIONS [FORM #GPTC1004-14].

NOTE: IF FORM #GPTC1004-14 IS OMITTED FROM THIS RFP SOLICITATION, WE HAVE THE APPROPRIATE SIGNED DOCUMENTS FROM YOUR COMPANY. IF FORM #GPTC1004-14 IS ENCLOSED WITH THIS RFP SOLICITATION, PLEASE SIGN AND RETURN THE APPROPRIATE PAGES WITH YOUR RFP REPOSE. By submission of this RFP/RFQ, the responding firm certifies compliance with Title VI and Title VII of the Civil Rights of 1964, as amended, and all regulations promulgated thereof.

ALL RFPs MUST BE OFFERED IN STRICT CONFORMANCE TO ALL LANGUAGE, REQUIREMENTS, TERMS AND CONDITIONS AND SPECIFICATIONS AS SOLICITED. FAILURE TO COMPLY WITH THE RFP PREREQUISITE WILL BE CAUSE TO DISQUALIFY SAME.

UNLESS OTHERWISE DESIGNATED, ALL PRICES OFFERED SHALL BE GUARANTEED FOR A MINIMUM OF SIXTY (60) DAYS FROM OPENING DATE. UNIT PRICES FOR GOODS/SERVICES SHALL BE QUOTED "**NET 30 DAYS**". **EACH LINE ITEM PRICE MUST INCLUDE ALL CHARGES, INCLUDING SHIPPING, HANDLING, FREIGHT OR ANY OTHER COSTS ASSOCIATED TO THE DELIVERY** TO THE DESIGNATED SULLIVAN COUNTY LOCATION. SULLIVAN COUNTY **WILL NOT ACCEPT** ADDITIONAL DELIVERY CHARGES AS A SEPARATE LINE ITEM. AWARDS MAY BE DETERMINED PER UNIT (LINE ITEM) AND/OR AS A TOTAL (WHOLE) AWARD; WHICHEVER IS IN THE BEST INTEREST OF SULLIVAN COUNTY. ALL GOODS PROVIDED TO SULLIVAN COUNTY SHALL BE FREE FROM DAMAGE/DEFECTS. GOODS DAMAGED IN TRANSIT BY COMMON CARRIER ARE THE SOLE RESPONSIBILITY OF THE VENDOR, INCLUDING ALL COMMUNICATIONS AND REPLACEMENT ARRANGEMENTS.

IF INFORMATION (SPECIFICATIONS, DATA SHEETS, ANALYSIS, DRAWINGS, ETC.) OR PRODUCT SAMPLES ARE REQUESTED IN THIS RFP, RESPONDING VENDOR MUST ENCLOSE/SUPPLY SAME. FAILURE TO COMPLY WILL BE CAUSE TO DISQUALIFY THE VENDOR FROM AWARD CONSIDERATION.

THE SULLIVAN COUNTY PURCHASING AGENT HAS THE RIGHT TO ACCEPT, REJECT, AWARD OR CANCEL ANY/ALL QUOTES AND TO WAIVE ANY INFORMALITIES OR IRREGULARITIES, IF SAME IS DEEMED IN THE BEST INTEREST OF SULLIVAN COUNTY. SULLIVAN COUNTY DOES NOT OBLIGATE ITSELF TO ACCEPT THE LOWEST AND/OR ANY QUOTE OFFERED.

Completion Time _____	TERMS: NET 30 DAYS
(NOTE: DELIVERY TIME (DAYS/WEEKS/MONTHS) MUST BE INDICATED ... ASAP IS NOT ACCEPTABLE)	

VENDOR: _____	REPRESENTATIVE: _____	PLEASE PRINT
PHONE: _____	FAX: _____	E-MAIL: _____
SIGNATURE: _____	DATE: _____	

RFP # SHS/001(KD)
DATE TO BE OPENED: 8/11/15

SOUTH HIGH SCHOOL
INSTALLATION OF GREENHOUSE

**PROJECT LOCATION: SULLIVAN COUNTY SOUTH HIGH SCHOOL, 1236
MORELAND DRIVE, KINGSPOET TN 37663**

FURNISH & PROVIDE ALL LABOR, EQUIPMENT, AND MATERIALS TO INSTALL OWNER FURNISHED STUPPY RAINBOW PLUS 30' X 60' GREENHOUSE AS PER INCLUDED DRAWING PACKAGE 3-4355M FROM STUPPY GREENHOUSE. ALL ITEMS IDENTIFIED AS "BY OTHERS" IN DRAWING PACKAGE DOES NOT APPLY TO THIS BID AND IS INCLUDED. SITE LOCATION AT SOUTH HIGH SCHOOL WILL BE IDENTIFIED AT THE PRE-BID MEETING. **ALL INTERESTED BIDDERS ARE TO MEET OUTSIDE AT THE BACK LEFT CORNER ADJACENT TO THE MECHANIC SHOP OF THE SCHOOL FOR MANDATORY PRE-BID ON TUESDAY, AUGUST 4TH 2015 @ 10:00 A.M..**

TOTAL COST _____

Successful vendor will be required to submit Company/Contractor Affidavit, Drug Free Workplace Affidavit, Background Check Compliance & Certificate of Liability Insurance prior to award of contract.

PRICE TO INCLUDE ALL CHARGES: LABOR, EQUIPMENT & MATERIALS FOR INSTALLATION, ETC.

QUOTE TERMS:_____

SPECIFY START DATE OF PROJECT:_____

SPECIFY COMPLETION DATE OF PROJECT:_____

CONTACT PERSON:_____

PHONE NUMBER:_____

FAX NUMBER:_____

OFFICE OF THE SULLIVAN COUNTY PURCHASING AGENT

COMPANY/CONTRACTOR AFFIDAVIT FORM 00010

THE AFFIANT STATES TO SULLIVAN COUNTY, TENNESSEE:

I (WE) HEREBY CERTIFY THAT IF THE CONTRACT IS AWARDED TO OUR FIRM THAT NO MEMBER OR MEMBERS OF THE GOVERNING BODY, ELECTED OFFICIAL OR OFFICIALS, EMPLOYEE OR EMPLOYEES OF SAID SULLIVAN COUNTY, TENNESSEE, OR ANY PERSON REPRESENTING OR PURPORTING TO REPRESENT SULLIVAN COUNTY, TENNESSEE, OR ANY FAMILY MEMBER INCLUDING SPOUSE, PARENTS, CHILDREN OF SAID GROUP, HAS RECEIVED OR HAS BEEN PROMISED, DIRECTLY, OR INDIRECTLY, ANY FINANCIAL BENEFIT, BY WAY OF FEE, COMMISSION, FINDER'S FEES OR ANY OTHER FINANCIAL BENEFIT ON ACCOUNT OF THE ACT OF AWARDED AND/OR EXECUTING THE CONTRACT.

THE UNDERSIGNED HEREBY CERTIFIES THAT HE/SHE HAS FULL AUTHORITY TO BIND THE COMPANY AND THAT HE/SHE HAS PERSONALLY REVIEWED THE INFORMATION CONTAINED IN THIS REQUEST FOR PROPOSAL (RFP), INCLUDING ALL ATTACHMENTS, ENCLOSURES, APPENDICES, ETC AND DO HEREBY ATTEST TO THE ACCURACY OF ALL INFORMATION CONTAINED IN THIS RFP, INCLUDING ALL ATTACHMENTS, ENCLOSURES, EXHIBITS, ETC.

THE UNDERSIGNED ACKNOWLEDGES THAT ANY MISREPRESENTATION WILL RESULT IN IMMEDIATE DISQUALIFICATION FROM ANY CONTRACT CONSIDERATION.

THE UNDERSIGNED FURTHER RECOGNIZES THAT THE SULLIVAN COUNTY PURCHASING AGENT HAS THE RIGHT TO MAKE THE CONTRACT AWARD FOR ANY REASON CONSIDERED IN THE BEST INTEREST OF SULLIVAN COUNTY.

This certification shall be included with the bid document 00300. Failure of this properly executed document to be included with the bid shall render the bid as incomplete and void.

COMPANY NAME _____

NAME (PRINT) _____ PHONE _____

TITLE _____ FAX _____

SIGNATURE _____ DATE _____

~~~~~

**( TO BE COMPLETED BY NOTARY )**

STATE OF: \_\_\_\_\_

COUNTY OF: \_\_\_\_\_

*Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing for the purposes therein contained.*

*Witness my hand and seal at office this day of \_\_\_\_\_, 20\_\_*

\_\_\_\_\_  
*Notary Public*

*My commission expires:* \_\_\_\_\_

DRUG-FREE WORKPLACE AFFIDAVIT

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

The undersigned, principal officer of \_\_\_\_\_, an employer of five (5) or more employees contracting with \_\_\_\_\_ County government to provide construction services, hereby states under oath as follows:

1. The undersigned is a principal officer of \_\_\_\_\_ (hereinafter referred to as the "Company"), and is duly authorized to execute this Affidavit on behalf of the Company.
2. The Company submits this Affidavit pursuant to T.C.A. § 50-9-113, which requires each employer with no less than five (5) employees receiving pay who contracts with the state or any local government to provide construction services to submit an affidavit stating that such employer has a drug-free workplace program that complies with Title 50, Chapter 9, of the *Tennessee Code Annotated*.
3. The Company is in compliance with T.C.A. § 50-9-113.

Further affiant saith not.

\_\_\_\_\_  
Principal Officer

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing affidavit for the purposes therein contained.

Witness my hand and seal at office this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_

\_\_\_\_\_  
Notary Public

My commission expires: \_\_\_\_\_

OFFICE OF THE SULLIVAN COUNTY PURCHASING AGENT

**BACKGROUND CHECK COMPLIANCE FORM**

Contractors shall comply with Public Chapter 587 of 2007, as codified in Tennessee Code Annotated 49-5-413, which requires all contractors to facilitate a criminal history records check conducted by the TBI and FBI for each employee prior to permitting the employee to have contact with students or enter school grounds when students are present.

Any person, corporation or other entity who enters or any employee of any person, corporation or entity who enters into or renews a contract with a local board of education or child care program on or after September 1, 2007, must:

- (1) Provide a fingerprint sample
- (2) Submit to a criminal history records check to be conducted by the TBI and FBI.

TO BE COMPLETED BY RESPONDING CONTRACTOR

COMPANY or INDIVIDUALS (NAME) \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE \_\_\_\_\_ FAX \_\_\_\_\_ LICENSE NUMBER/S \_\_\_\_\_

I agree to abide by Chapter 587 of 2007, as codified in Tennessee Code Annotated 49-5-413 and certify that I am authorized to sign. The undersigned further agrees if bid/contract is accepted, to furnish any/all Background Check Information on himself and all of his employees as required by law and/or at the request from the Office of the Sullivan County Purchasing Agent. I hereby agree to release all criminal history and other required information to Sullivan County, TBI and FBI in accordance with Tennessee law and further certify that all information supplied by me is true and accurate. I agree to release and hold harmless the above mentioned governmental entities for the use of this information related to the purposes mandated under Tennessee law. I further certify that I have obtained acceptable criminal history information on all current employees and will obtain said information on all future employees associated with the performance of work defined in the bid/contract, pursuant to TCA and that neither I nor any employee of the Company is prohibited from direct contact with school children for the reasons enumerated in TCA 49-5-401 et seq.

SIGNATURE \_\_\_\_\_ TITLE \_\_\_\_\_

PRINTED NAME \_\_\_\_\_ DATE \_\_\_\_\_

TO BE COMPLETED BY NOTARY

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_

Before me personally appeared \_\_\_\_\_, with whom I am personally acquainted (or proved to me on the basis of satisfactory evidence), and who acknowledged that such person executed the foregoing for the purposes therein contained.

Witness my hand and seal at office this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

\_\_\_\_\_

Notary Public

My commission expires: \_\_\_\_\_

**JOB:**  
**SULLIVAN COUNTY SCHOOLS**

**KINGSPORT, TN 37663**

|           |           |         |
|-----------|-----------|---------|
| SIZE      | SIDEWALL  | SPACING |
| 30' x 60' | 8'        | 6' o.c. |
| PROJECT   | DATE      | STYLE   |
| 9139      | 6-11-2015 | RB+DIA  |

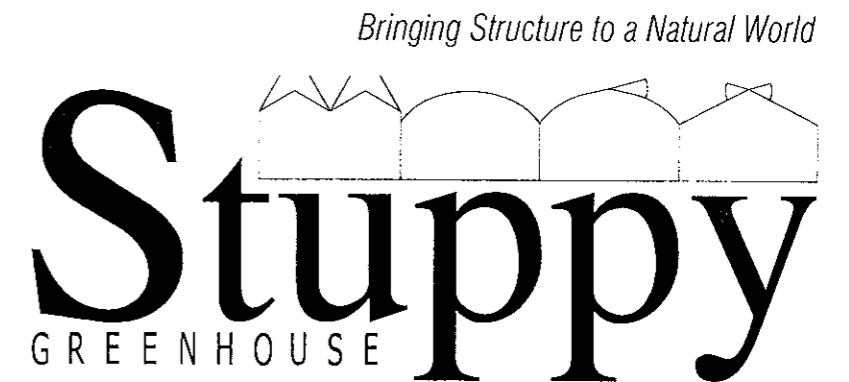
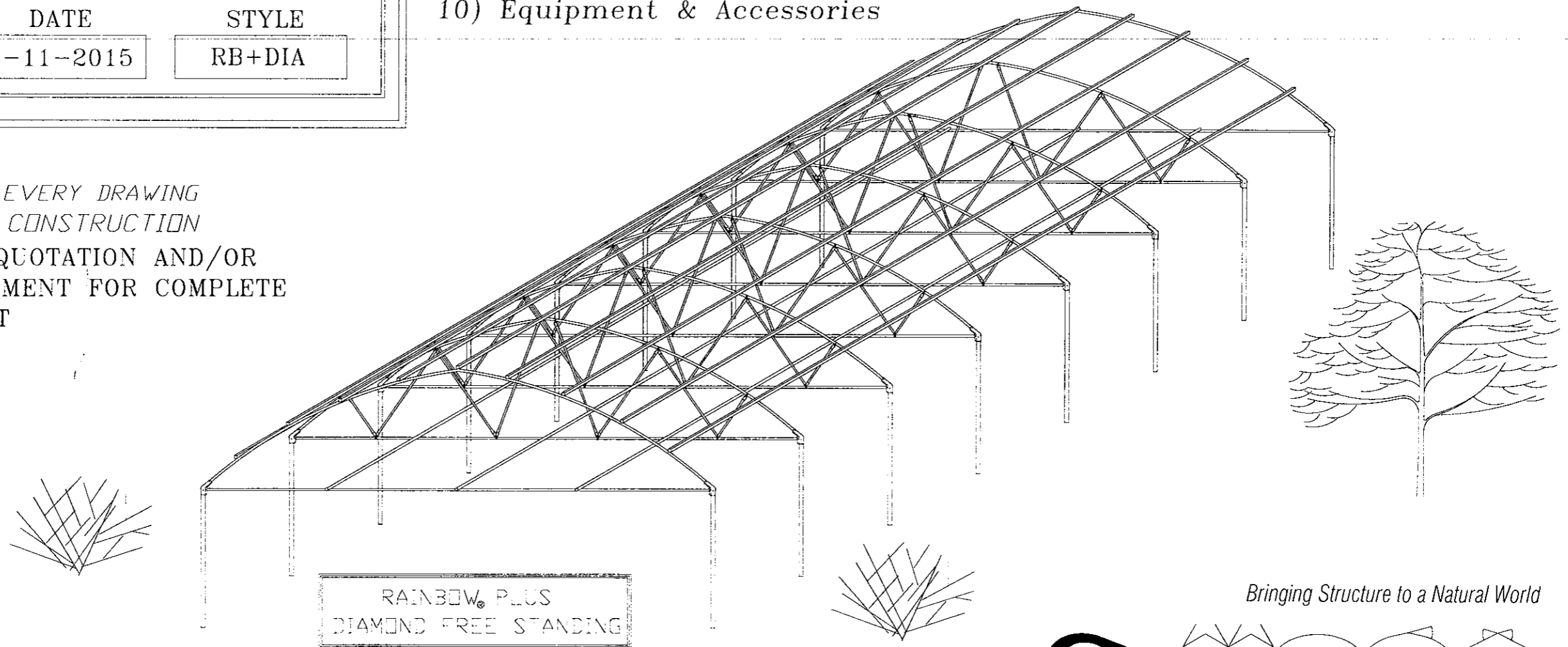
## CONSTRUCTION SEQUENCE

- 1) Site Preparation
- 2) Column Layout & Installation
- 3) Truss Assembly & Installation
- 4) Roof Purlin Installation
- 5) Bottom Purlin Installation
- 6) Sidewall Diagonal & Roof Cable Bracing
- 7) Sidewall Girt Framing
- 8) Endwall Construction
- 9) Aluminum Extrusion Installation
- 10) Equipment & Accessories

- NOTES:
1. NUMBER OF ROOF PURLIN WILL VARY DEPENDING ON HOUSE WIDTH AND LOADING. REFER TO TRUSS PROFILE FOR CORRECT NUMBER AND LOCATION OF ROOF PURLIN.
  2. BOW ASSEMBLIES LOCATED AT EACH END OF THE GREENHOUSE DO NOT HAVE TRUSS WEBBING.

CAREFULLY REVIEW EVERY DRAWING  
 BEFORE STARTING CONSTRUCTION

NOTE: SEE SALES QUOTATION AND/OR  
 ACKNOWLEDGEMENT FOR COMPLETE  
 MATERIAL LIST



5/16" - 18 x 3/4" GD5 HEX BOLT

1. SECURES PIPE STRAPS TO ALUMINUM EXTRUSIONS

#1339

5/16" - 18 x 1" GR5 HEX BOLT

1. SECURES HBM TO L-CONNECTOR OR Y-YOKE

#1340

5/16" - 18 x 1 1/4" GR5 HEX BOLT

1. ALL PLACES THAT USE BANDS AS ATTACHING MEMBERS

#1341

5/16" - 18 x 1 1/2" GR5 HEX BOLT

1. POLY/FIBER AND DOUBLE BOLT LEAVE

#1342

5/16" - 18 x 2" GD5 HEX BOLT

1. OPTIONAL 166 HBM CONNECTIONS

#13425

5/16" - 18 x 2 1/2" GR5 HEX BOLT

1. METAL UPRIGHTS TO VERTICAL PIPE CONNECTOR  
2. BOW TO L-CONN. & Y-YOKE

#1343

5/16" - 18 x 1 3/4" GR5 HEX BOLT

1. INSTALLS ENDWALL HBM TO L-CONNECTOR OR Y-YOKE w/ 1 1/8" x 3/8" HBM SPACER

#13421

5/16" - 18 x 4" ALL THREAD

1. ATTACHES 1.315 O.D. PURLIN TO BOTTOM HBM

#Z0004

5/16" - 18 x 3 3/4" GR5 HEX BOLT

1. PURLIN TO 2" ALUMINUM PURLIN BLOCK  
2. #5239 & #5240 HEATER STAND INSTALLATION

#13451

1/4" - 20 x 2 1/4" GD5 HEX BOLT, 5/16" x 1 1/4" O.D. WASHER, 1/4" - 20 TENSIL LOCKNUT

1. MOUNTS POLYLOCK TO WOOD BASE

#1280 #1305 #1303

3/8" - 16 x 4" GR5 HEX BOLT

1. SECURES 2.875 O.D. COLUMNS TO Y-YOKE OR L-CONNECTOR

#1348

5/16" x 4 1/2" ROUND HEAD BOLT

1. FASTENS BOW HALVES TOGETHER.  
2. PURLIN ATTACHMENT AT RIDGE.

#13453

#12 x 1" TEC w/ 5/8" WASHER

1. CORRUGATED GLAZING APPLICATIONS  
2. MISCELLANEOUS USE.

#1231

5/16" LOCKNUT

#1346

3/8" LOCKNUT

#1349

2" ALUMINUM PURLIN BLOCK (HALF SIZE)

1. USED TO ATTACH PURLIN RUNS TO BOWS

#10235

1.90 PIPE STRAP

#15312

2.875 PIPE STRAP

#15342

5/16" - 18 x 3/4" GR2 CARRIAGE BOLT

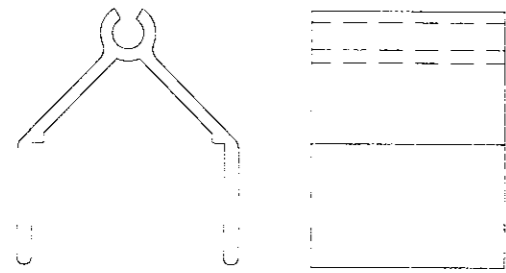
1. SECURES POLYLOCK GUTTER TO BOWS  
2. SPLICE TO GUTTER

#1338

RAINBOW+  
PARTS SHEET PAGE 1 OF 2

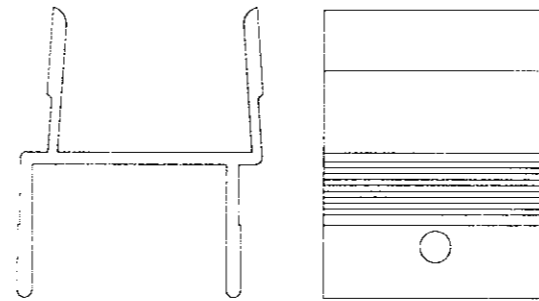
STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                        |          |
|------------------------|----------|
| ITEM NUMBER            |          |
| REVISION #             |          |
| DRAWN<br>ALV           | CHK'D BY |
| DATE<br>09-01-1994     |          |
| INDEX NUMBER<br>B-0332 |          |



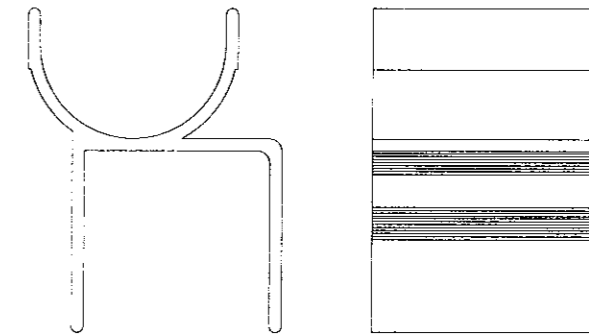
2" x 3" ADJUST ANGLE CONNECTOR  
(2" x 3" ENDWALLS ONLY)

P2315



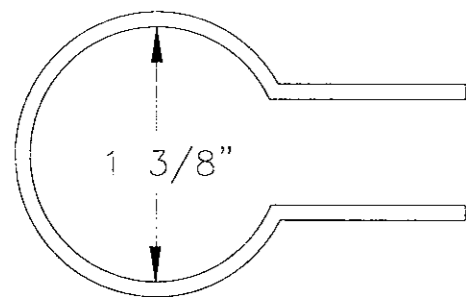
2" x 3" TOP CHORD/ENDWALL CONNECTOR  
(2" x 3" ENDWALLS ONLY)

P2316



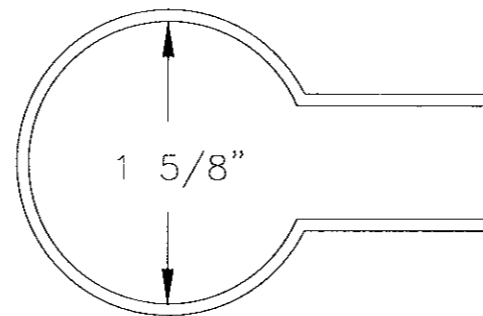
1.90 V. PIPE CONNECTOR R.P.  
(1.90 ENDWALLS ONLY)

#1019



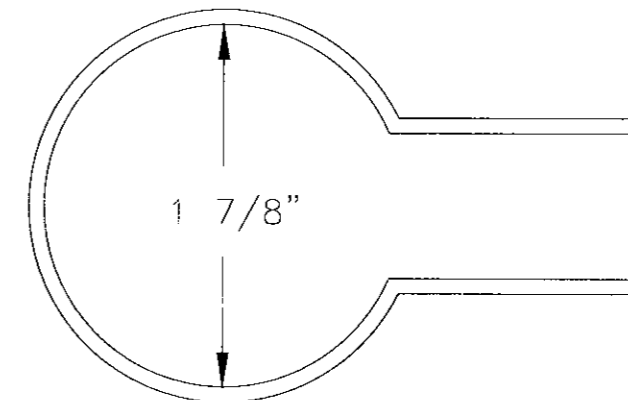
1.315 BRACE BAND  
(MSB-1)

#Z7753



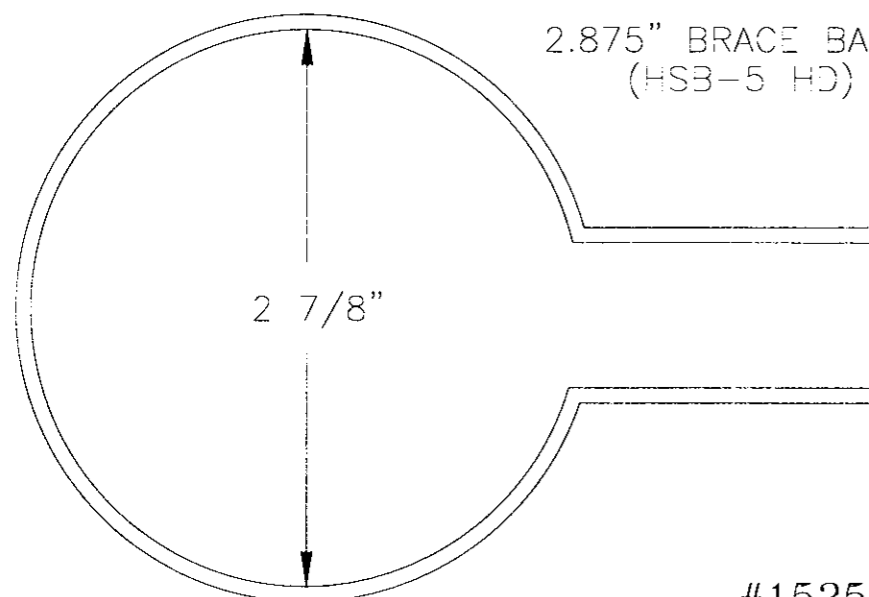
1.66 BRACE BAND  
(BEB-2)

#15263



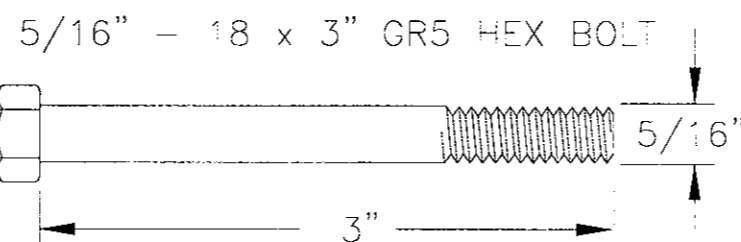
1.90" BRACE BAND  
(BEB-3)

#15262



2.875" BRACE BAND  
(HSB-5 HD)

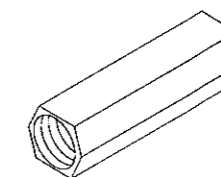
#15252



1. METAL UPRIGHTS TO 2" x 3"  
TOP CHORD/ENDWALL CONNECTOR

#1344

W/5/16" x 1 3/4" BOLT



1. CONNECTS HBM TO L-CONNECTOR  
OR Y-YOKE AT ENDWALLS ONLY.

#18165

#12 x 1" TEC 3 NO WASHER



1. ENDWALL FRAMING

#10342

RAINBOW+  
PARTS SHEET

PAGE 2 OF 2

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

ITEM NUMBER

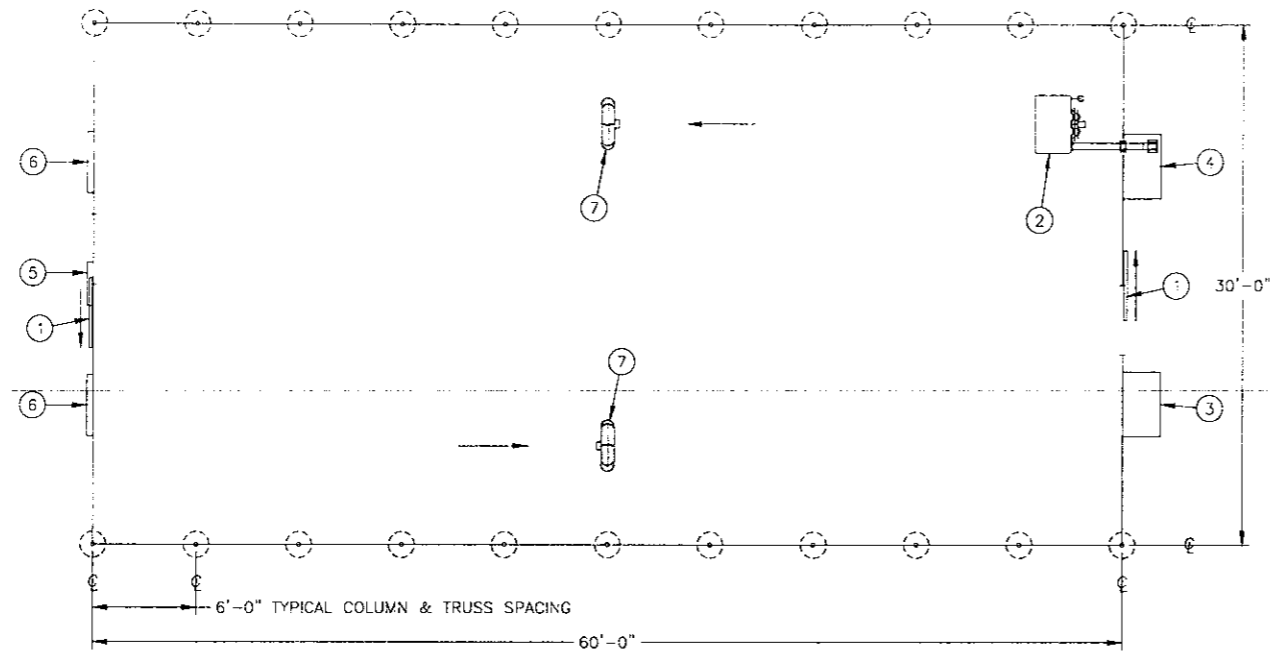
REVISION # 1  
04-03-1997

DRAWN ALV  
CHK'D BY

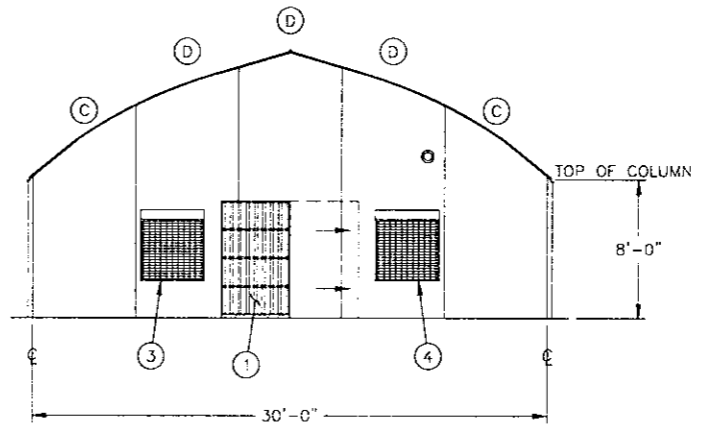
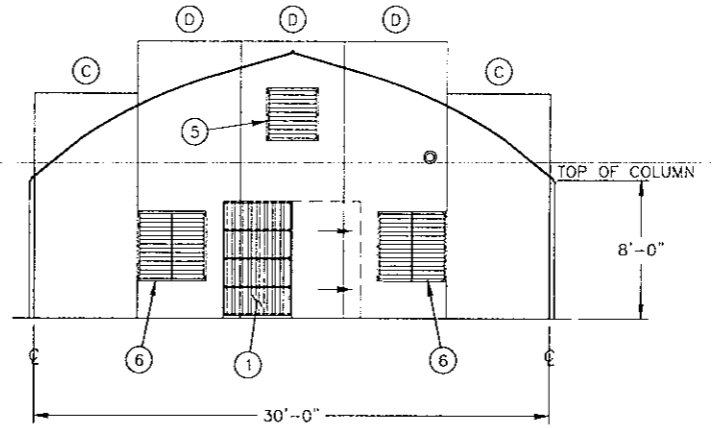
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INDEX NUMBER  
B-0332A

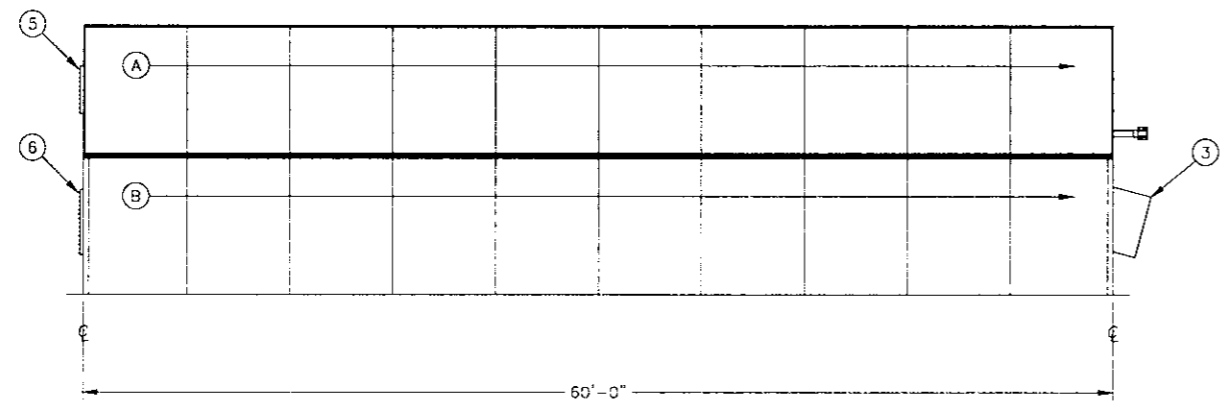




PLAN VIEW



ENDWALL ELEVATIONS



SIDEWALL ELEVATION  
(BOTH SIDES HAVE SAME PANEL PLACEMENT)

| ITEM # | MATERIAL LIST - PART DESCRIPTION                      | QTY |
|--------|-------------------------------------------------------|-----|
| 1      | 1968 4'W x 6'-9" SLIDING DOOR/PCSS COMPLT             | 2   |
| 2      | 5217 SEP230S HEATER LP 115V                           | 1   |
| 3      | 330202 NBF36K 115/230/1, 3/4HP, SWH, SHTR, REAR GUARD | 1   |
| 4      | 330213 NBF36K-2SP 115, 3/4 HP, SWH, SHTR, REAR GUARD  | 1   |
| 5      | 330613 SHUTTER 33" x 33" D SINGLE                     | 1   |
| 6      | 330615 SHUTTER 45" x 45" D DOUBLE                     | 2   |
| 7      | 32905 ACME HAF 20A4 FAN 1/15HP-1                      | 2   |

| ITEM # | MATERIAL LIST - PANEL DESCRIPTION   | QTY |
|--------|-------------------------------------|-----|
| A      | 230606 VEROLITE 8MM 71.25" x 17'-6" | 20  |
| B      | 230606 VEROLITE 8MM 71.25" x 8'-6"  | 20  |
| C      | 230606 VEROLITE 8MM 71.25" x 13'-0" | 4   |
| D      | 230606 VEROLITE 8MM 71.25" x 16'-0" | 6   |

NOTES: 1) CHECK WITH CUSTOMER FOR EXACT LOCATION OF DOORS AND ALL EQUIPMENT.  
 2) REFER TO ENDWALL FRAMING DRAWINGS FOR ASSEMBLY OF ENDWALLS.  
 3) IN THE EVENT OF UNINTENDED CONFLICT OF EQUIPMENT PLACEMENT & CODE STRUCTURE, WHEN APPLICABLE, PRIORITY WILL BE GIVEN TO CODE STRUCTURE.

Stuppy  
GREENHOUSE  
1212 Clay Street • PO Box 12456  
North Kansas City, MO 64116  
816.842.3071 • www.stuppy.com

SULLIVAN COUNTY SCHOOLS  
KINGSPORT, TN

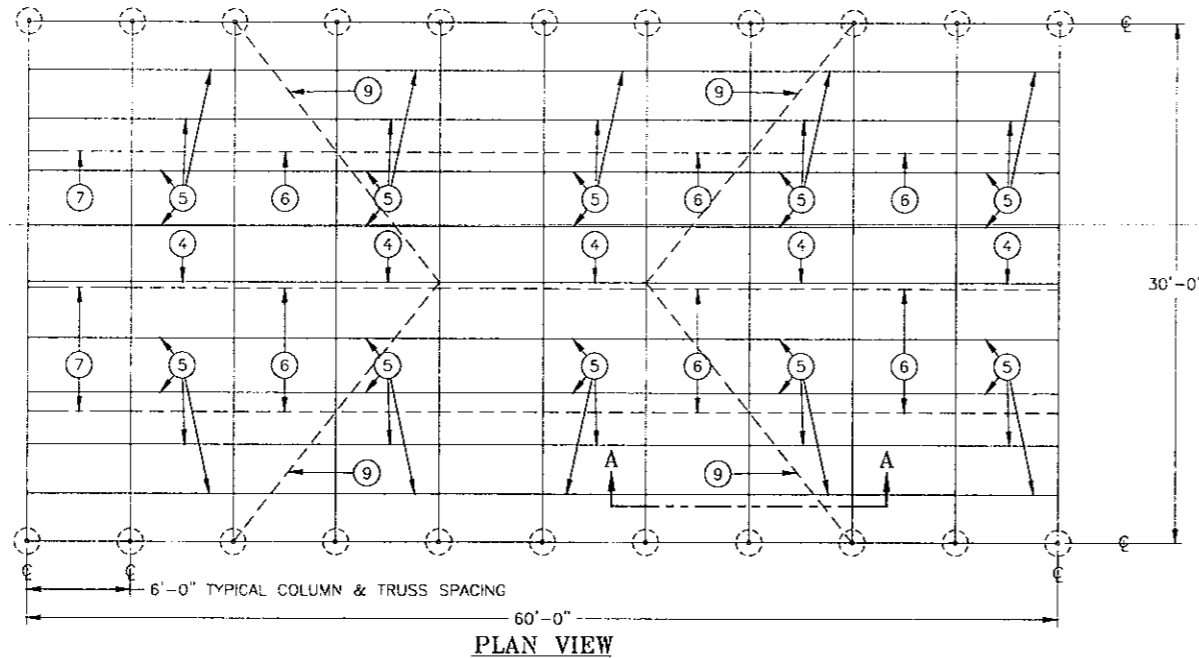
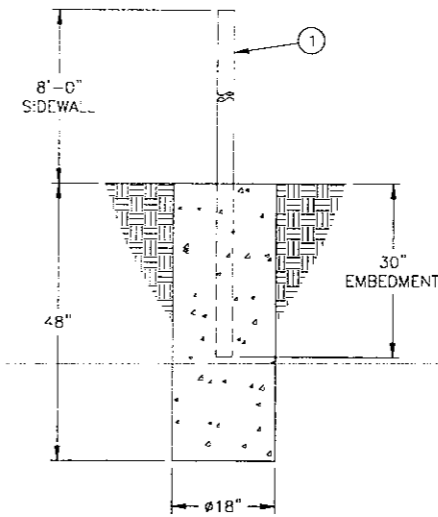
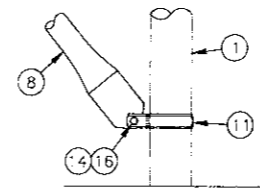
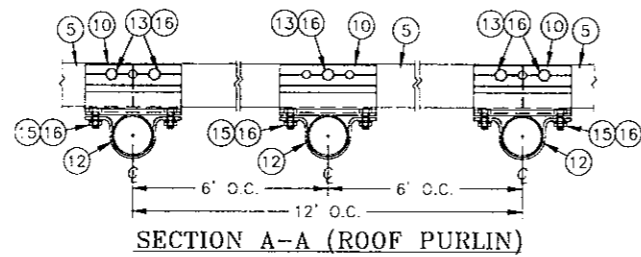
PROJECT # 9139

ISSUE DATE  
6/12/2015  
REVISIONS

DRAWN CHECKED  
BJA TNB

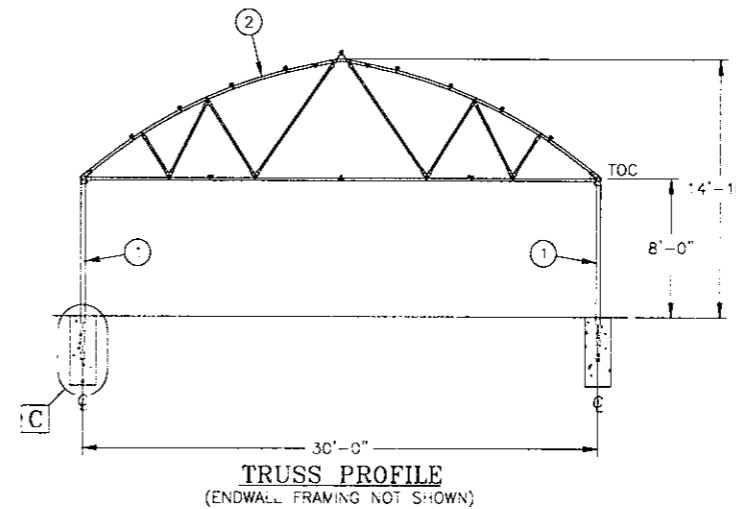
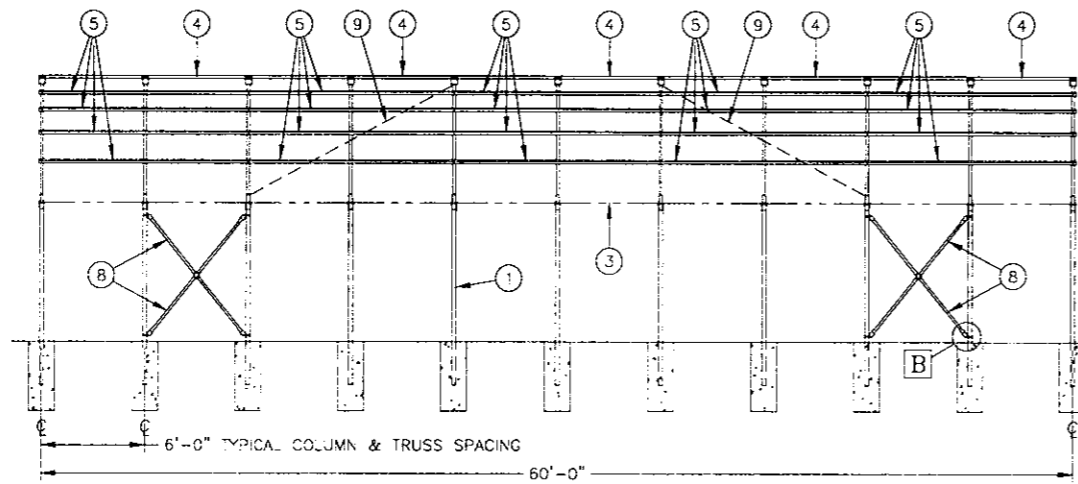
SHEET

C-12959  
EQUIPMENT LAYOUT



**C CONCRETE PIER FOOTING DETAIL**

Ø18" x 48" DEEP  
 MIN.  $f'_c$  OF CONCRETE AT 28 DAYS  $\geq$  2500 PSI  
 CLASS V SOIL (ASSUMED)  
 LATERAL BEARING PRESSURE = 100 PSF/FT (MINIMUM)  
 SOIL BEARING PRESSURE = 1500 PSF (MINIMUM)



**SIDEWALL ELEVATION**  
 (SIDEWALL GIRTS NOT SHOWN FOR CLARITY)

**TRUSS PROFILE**  
 (ENDWALL FRAMING NOT SHOWN)

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION     | #  | ITEM # | MATERIAL LIST - PART DESCRIPTION     |
|---|--------|--------------------------------------|----|--------|--------------------------------------|
| 1 | 15852  | 2.875-13GA x 126" RB- COLUMN         | 9  | 13842  | 1/8" 7x7 UTILITY CABLE               |
| 2 | ----   | 30" WIDE RAINBOW PLUS QUAD "V" TRUSS | 10 | 0667   | 2" x 2" PURLIN BKT 4.5"              |
| 3 | ----   | ALUMINUM EAVE                        | 11 | 15252  | 2.875 HVY DUTY BRACE BAND (2-7/8)    |
| 4 | 06923  | 2x2-15 RIDGE PURLIN 12' 6"OC         | 12 | 15312  | 1.90 PIPE STRAP 1" WIDE              |
| 5 | 1692   | 2x2-15 PURLIN 12' 6"OC               | 13 | 1343   | 5/16-18 2-1/2" HEX BOLT G5CD         |
| 6 | 1535   | 1.315-16 SW PURLIN 18'-6"OC          | 14 | 1341   | 5/16-18 1-1/4" HEX BOLT G5CD         |
| 7 | 15371  | 1.315-16 PURLIN 6'-6"OC              | 15 | 1339   | 5/16-18 3/4" HEX BOLT G5CD           |
| 8 | 991637 | 1.66-15 107" HH CC FP                | 16 | 1346   | 5/16-18 LOCKNUT HEX SERR FLANGE G2CD |

**NOTES:**

- ALL STEEL FOR GREENHOUSE MEMBERS MEET REQUIREMENTS OF ASTM A1011M-02.
- MIN. YIELD STRENGTH OF STEEL MEMBERS SHALL BE 50 KSI UNLESS OTHERWISE NOTED.
- ALL BOLTS SHALL BE SAE GRADE 5 OR ASTM A325 UNLESS OTHERWISE NOTED.
- THIS GREENHOUSE HAS BEEN DESIGNED AS A CONTINUOUSLY HEATED STRUCTURE. THE INTERIOR TEMPERATURE MUST BE MAINTAINED AT A MINIMUM OF 50° MEASURED 3'-0" ABOVE THE FLOOR SURFACE. ROOF GLAZING SHALL HAVE A TOTAL THERMAL RESISTANCE FACTOR OF LESS THAN 2 (R<2). REFER TO TABLE 7-3, ASCE 7-05.

**Stuppy**  
 GREENHOUSE  
 1212 Cley Street • PO Box 12456  
 North Kansas City, MO 64116  
 816.842.3071 • www.stuppy.com

SULLIVAN COUNTY SCHOOLS  
 KINGSFORD, TN

PROJECT # 9139

ISSUE DATE  
 6/12/2015  
 REVISIONS

DRAWN CHECKED  
 BJA TNB  
 SHEET

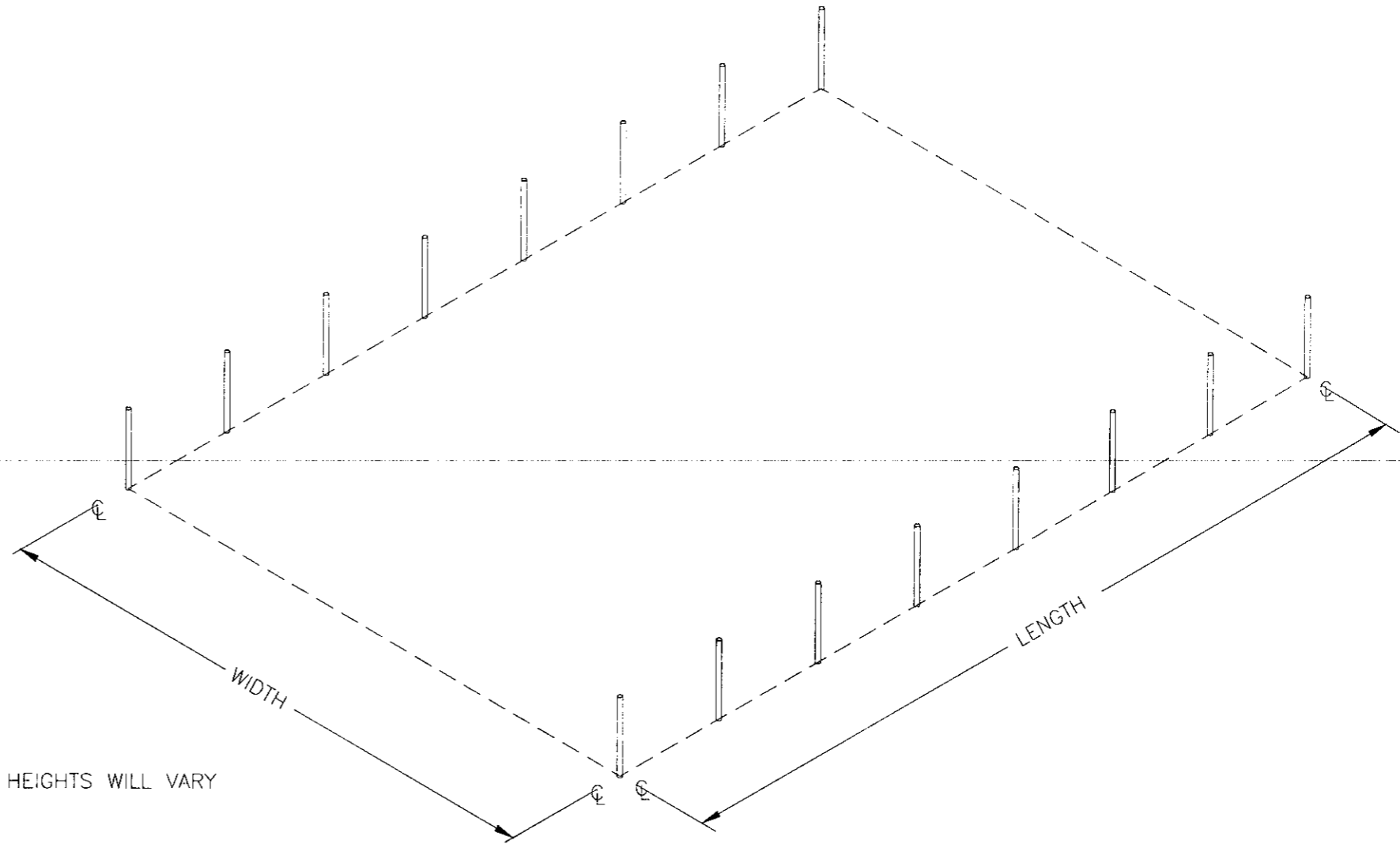
C-12957  
 CODE LAYOUT

# SITE PREPARATION

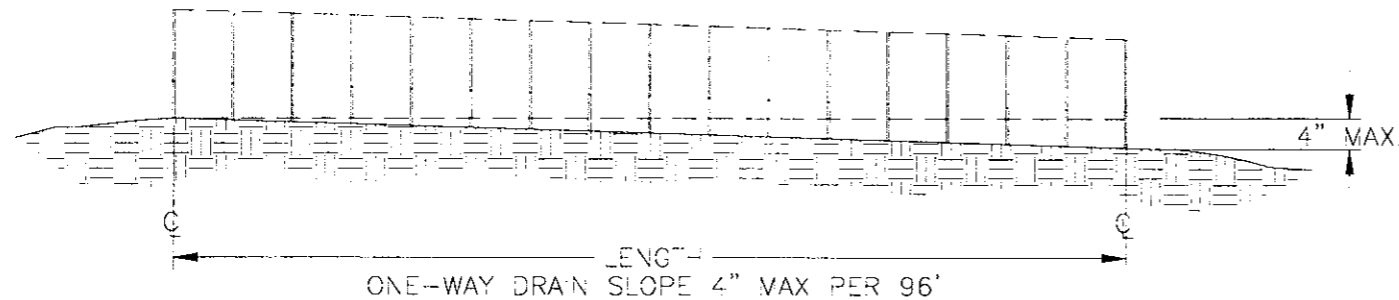
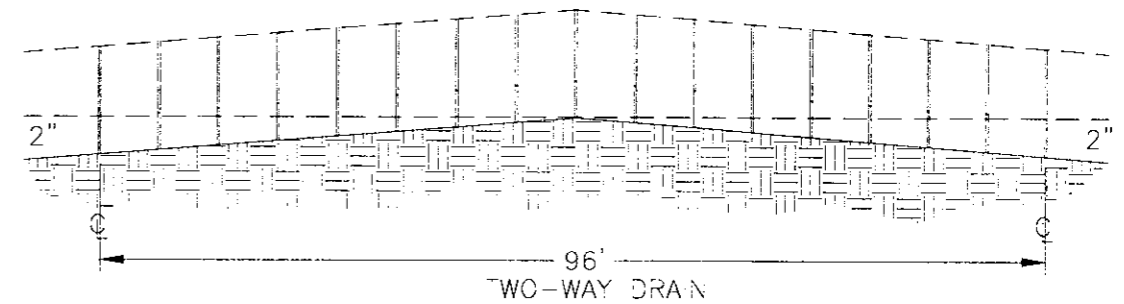
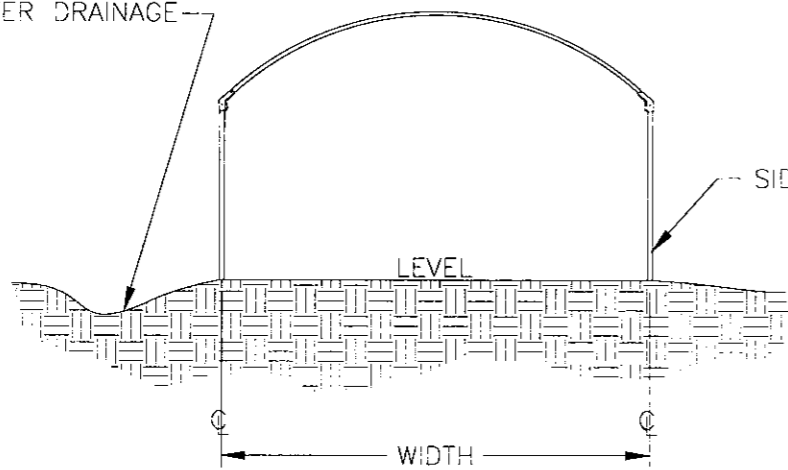
Carefully planning and preparing the building site will assure long life and efficient operation of your new greenhouse. Several considerations to take into account are:

- summer prevailing winds for ventilation
- crop movement and transportation
- electrical & gas needs
- water supply
- shadows from buildings or trees
- water drainage
- local building codes

Once the site is chosen, the ground needs to be checked for slope. It is preferable to have your site level, especially side-to-side (width). Rainbow+ may have a slope of up to 4" per 96' of length. A 4" drop in length drops 1/4" at each column spaced 6' apart. Time spent to prepare the greenhouse site now will save construction & expansion costs now and in years to come.



TROUGH FOR WATER DRAINAGE  
(IF NECESSARY)



**RB+ SITE PREPARATION  
FS MODEL GREENHOUSES**

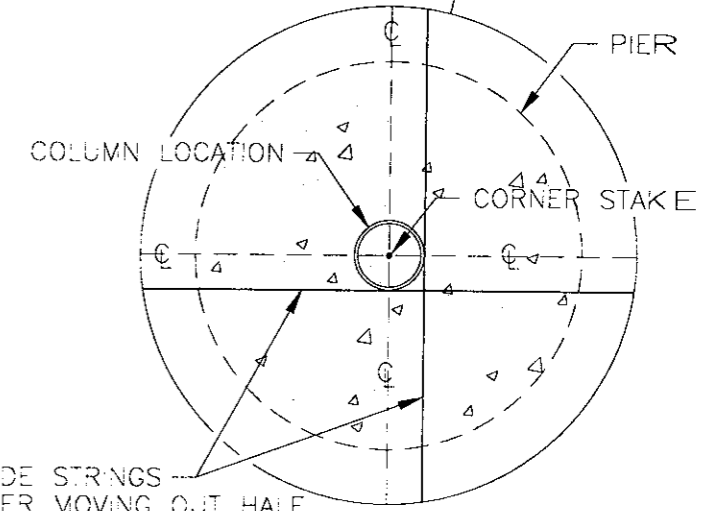
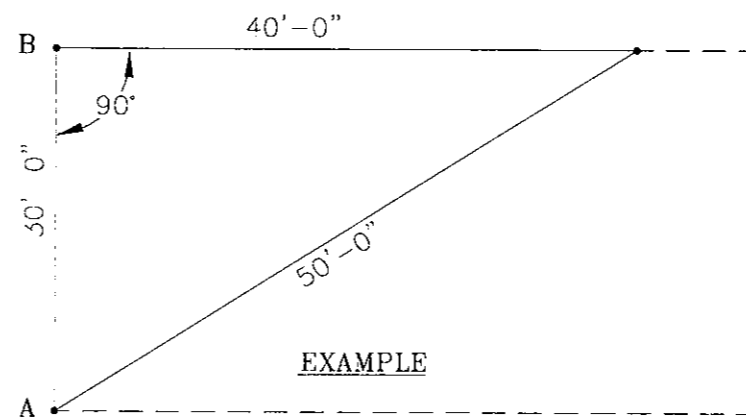
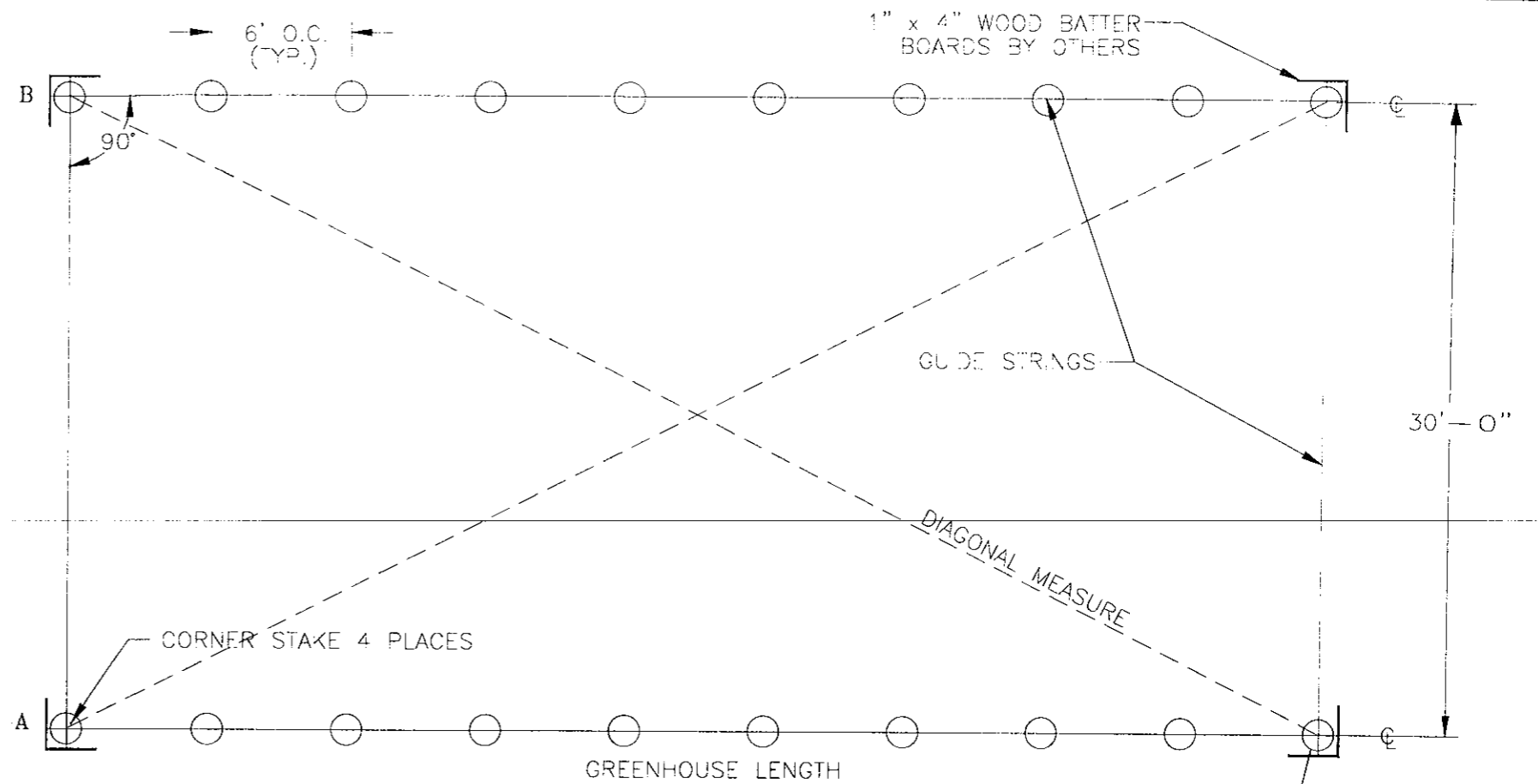
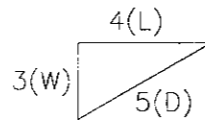
**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>B.J.A./T.H.R. | CHK'D BY<br>EEG |
| DATE<br>09-19-1996     |                 |
| INDEX NUMBER<br>B-3815 |                 |

# COLUMN PLOT AND LAYOUT

Locating the columns of the greenhouse is the most critical step in the construction of a greenhouse. Correct location and installation of the columns has a direct effect on the remaining construction of the greenhouse structure in terms of alignment and ease of the remaining construction steps. Stability and integrity of the greenhouse are also directly associated to proper column installation.

Plotting the columns is done most often with the string and batter-board setup. Use of a transit if available is also suitable.



1. Start by establishing one end of the greenhouse. Mark the width of the greenhouse, A and B using stakes or pegs.
2. Use the Pythagorean Theorem to determine the squareness of the plot.  $L^2 + W^2 = D^2$  where L is the length of the triangle, W is the Width of the triangle, and D is the diagonal across the corners. Using the simple 3-4-5 triangle for example, will yield a triangle with a 90 degree square corner. Any multiple of the 3-4-5 triangle, for example 6-8-10  $2(3-4-5)$  or 18-24-30  $6(3-4-5)$  or 30-40-50  $10(3-4-5)$  will have a 90 degree square corner. See Example below.
3. Using the square corner for reference, the length can be established and the same practice can be used for the opposite end. To ensure squareness, measure the diagonal distance from corner to corner. The opposite will measure the same when the layout is square. SEE CHART FOR DIMENSIONS.
4. Once the corner stakes are established, install batter boards 2'-3' out from the corners. Pull perimeter guide strings across the corner pegs using a plumb bob to find exact on-center intersection. Establish guide strings level across the width of the greenhouse and follow the desired front to back slope for the length of the greenhouse. Guide strings typically are located 6" above average ground level and should be stretched tight to avoid sag or drift.
5. Once the string lines are established at the center line of the perimeter of the greenhouse, mark the column location with large nails 6" on center. When all column locations are marked, move strings half the distance of the diameter of the column to the outside of the greenhouse. Locate outside string location with small nail on the batter board. This string location will be used later to install the columns. Guide strings can now be removed to create pier notes.

| WIDTH | LENGTH | DIAGONAL MEAS. | WIDTH | LENGTH | DIAGONAL MEAS. |
|-------|--------|----------------|-------|--------|----------------|
| 30'   | 30'    | 42'-5"         | 30'   | 90'    | 94'-10 5/8"    |
| 30'   | 36'    | 46'-10 1/4"    | 30'   | 96'    | 100'-6 7/8"    |
| 30'   | 42'    | 51'-7 1/4"     | 30'   | 102'   | 106'-3 3/4"    |
| 30'   | 48'    | 56'-7 1/8"     | 30'   | 108'   | 112'-1"        |
| 30'   | 54'    | 61'-9 1/4"     | 30'   | 114'   | 117'-10 1/2"   |
| 30'   | 60'    | 67'-7/8"       | 30'   | 120'   | 123'-8 1/4"    |
| 30'   | 66'    | 72'-5 7/8"     | 30'   | 126'   | 129'-6 1/4"    |
| 30'   | 72'    | 78'            | 30'   | 132'   | 135'-4 3/8"    |
| 30'   | 78'    | 83'-6 3/4"     | 30'   | 138'   | 141'-2 5/8"    |
| 30'   | 84'    | 89'-2 1/4"     | 30'   | 144'   | 147'-1"        |

**30' WIDE COLUMN**

**PLOT & LAYOUT DETAILS**

**STUPPY GREENHOUSE MFG. INC.**

1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>THR           | CHK'D BY<br>EEG |
| DATE<br>09-13-1996     |                 |
| INDEX NUMBER<br>B-3793 |                 |

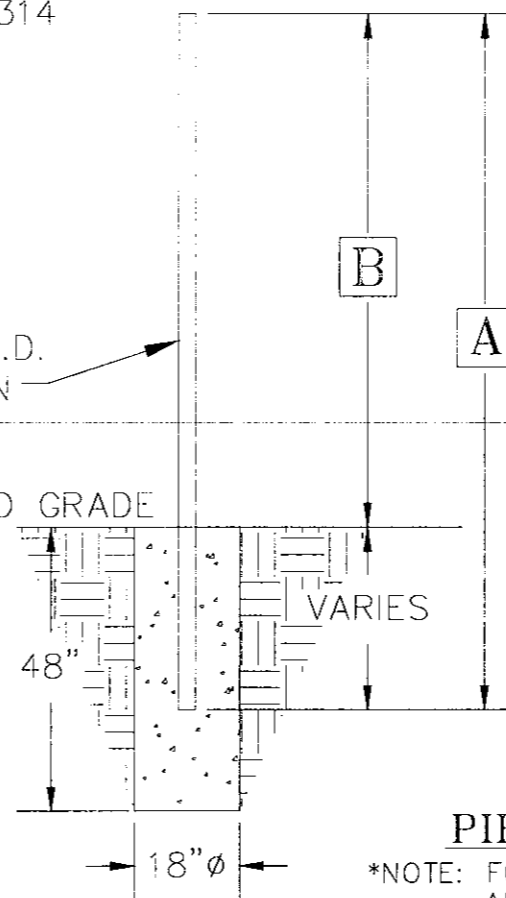
# COLUMN PLOT AND LAYOUT-CONTINUED

6. Drill pier holes at column locations to specified pier dimensions. CODE APPLICATIONS MAY REQUIRE LARGER SIZE PIERS. CHECK ALL DRAWINGS TO CONFIRM PIER SIZE. At minimum, dig 18" diameter hole by 48" deep for standard pier size.
7. Concrete should be small aggregate ("5 to 6 bag mix") with ultimate compressive strength of not less than 2500 psi unless noted. When ordering concrete, it should be ordered "dry". Water can always be added at the job site. See table for helpful information concerning pier size and yards per pier required. Concrete footings must use PORTLAND base cement systems. Portland cement systems provide good protection for posts due to their high alkalinity (pH).
8. Mark all columns with felt marker to locate height out of ground using the string as reference.
9. Because of the corrosive environmental conditions that effect greenhouses (pesticides, fertilizers, high humidity), it is highly recommended from the tubing manufacturer that columns be sealed from the bottom of the tube to above soil or gravel line with a heavy layer of asphaltum (roofing tar), shrink wrap PVC tube, or heavy waterproof paint.
10. Install string lines to the outside location of the columns either before or during pouring of the piers.
11. Pour concrete into pier locations several piers in advance. Be sure not to pour too many piers that several personnel can't work before the concrete starts to set. Install the columns into the concrete using a magnetic post level or similar to insure that the columns are plumb. Line up the marks on the column with the string line or use a transit to install the remaining columns.
12. The concrete pier anchoring the column should extend above soil level and pitched on top so water drains away from the column.
13. It is best to monitor the columns within the first hour to ensure that they set plumb. Wind and weight of the columns can cause misalignment if not monitored. Let columns set at least 24hrs or more before attaching bow members.

2.875 PIPE  
PLUG #1314

2.875 O.D.  
COLUMN

FINISHED GRADE



STANDARD FOOTING  
UNLESS NOTED

### PIER/FOOTING DETAIL

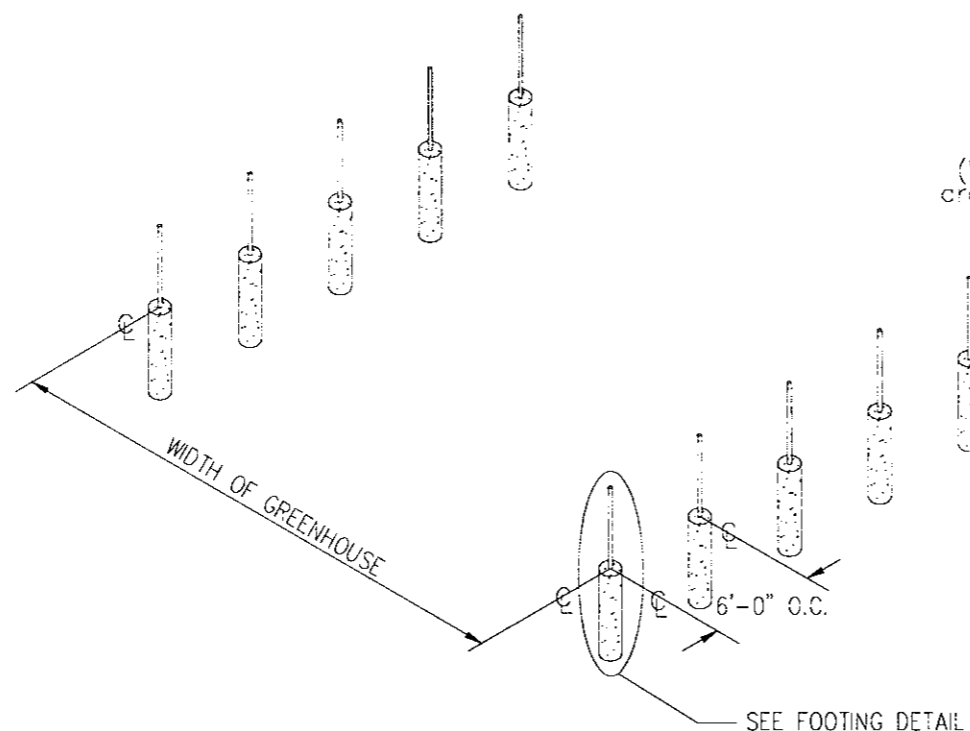
\*NOTE: FOOTING IS RECOMMENDED MINIMUM  
ALWAYS CHECK DRAWINGS FOR FOOTING  
DETAIL FOR CODE APPLICATIONS IF THEY  
APPLY.

| A    | B    | SIDEWALL HEIGHT |
|------|------|-----------------|
| 174" | 144" | 12'             |
| 150" | 120" | 10'             |
| 138" | 108" | 9'              |
| 126" | 96"  | 8'              |
| 114" | 84"  | 7'              |
| 96"  | 72"  | 6'              |
| 84"  | 60"  | 5'              |

| DIAMETER | PIER DEPTH | PIER WEIGHT# | CUBIC YARDS | PIER HOLES PER CUBIC YARD |
|----------|------------|--------------|-------------|---------------------------|
| 18"      | 48"        | 1060         | .262        | 3.8                       |

STANDARD

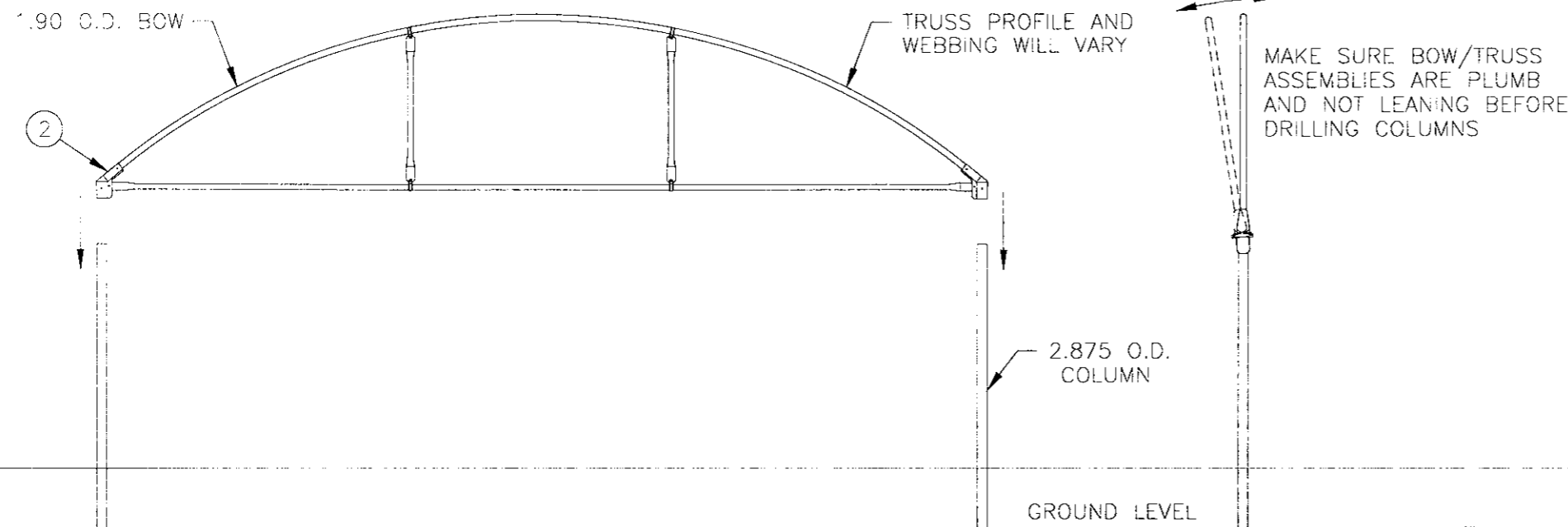
(Weaker soil conditions may require  
larger  $\phi$  pier sizes and deeper depths.)



STANDARD (SCHOOL) NON-CODE PIER APPLICATION

|                                           |          |              |  |
|-------------------------------------------|----------|--------------|--|
| RB+ 6'-0" O.C.                            |          | ITEM NUMBER  |  |
| COLUMN PLOT & LAYOUT DETAIL               |          | REVISION #   |  |
| DRAWN<br>THR                              | CHK'D BY | DATE         |  |
| STUPPY GREENHOUSE MFG. INC.               |          | 09-17-1996   |  |
| 1212 CLAY NORTH KANSAS CITY MO.64116-4027 |          | INDEX NUMBER |  |
| 800-733-5025 / FAX 800-423-1512           |          | B-3278A      |  |

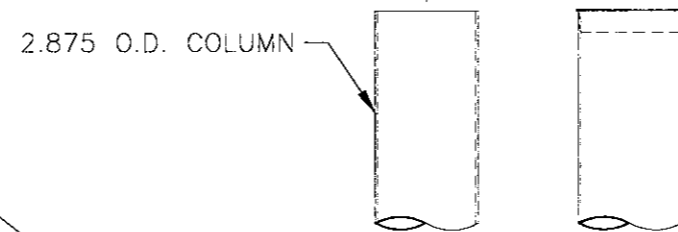
**RAINBOW PLUS FREESTANDING BOW/TRUSS ASSEMBLY DETAILS**



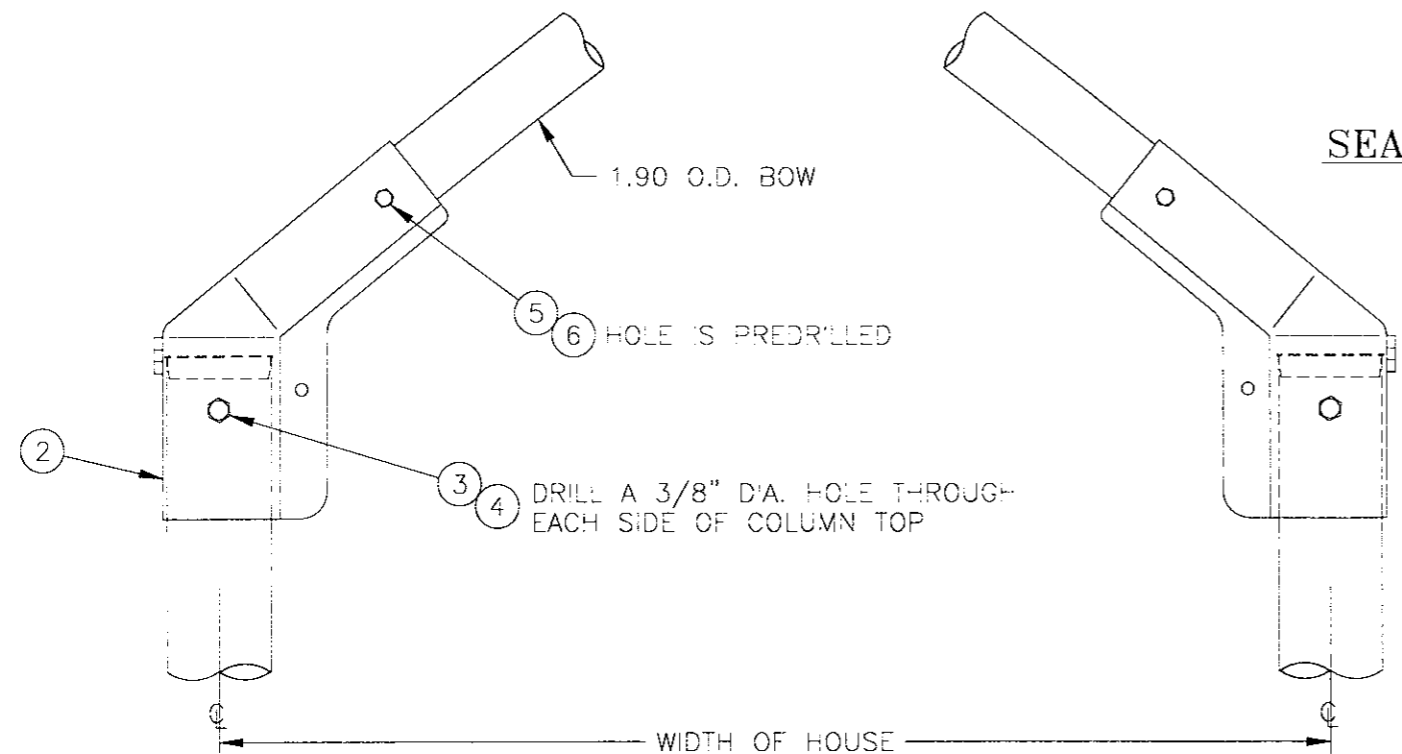
**RB+ FREESTANDING**

1. ALL bow and truss assembly is done on the ground level or on sawhorses.
2. Familiarize yourself with the truss profile of your specific truss included with the drawing set. Slide correct amount of brace bands onto the bows as required by your specific truss. At this time refer to your heater hanger detail, if option was included, add required number of brace bands as is needed for installation.
3. Assemble bow halves together if your greenhouse has a 2 piece bow.
4. Locate the "L"-Connectors #15202 and bolt them onto the ends of the bows.
5. Locate the Horizontal bottom members (HBM's) and assemble the halves if required.
6. Slide required number of bands onto the HBM by referring to your truss drawing.  
NOTE: At each end of the greenhouse, the HBM is set towards the inside of the greenhouse using a spacer #18165. The end bows WILL NOT have any truss webbing included. Endwall framing will be added later.
7. Assemble truss webbing per truss details.
8. Confirm column caps #1314 are installed on the top openings of the columns.
9. Lift trusses up manually or by lift of your choice. Lower trusses onto tops of columns.
10. Install purlin runs as trusses are installed.
11. Be sure trusses are vertically plumb and not leaning before drilling the holes in the column for the "L" connector. Bolt into place.
12. REMEMBER, Both ends of the greenhouse do not have truss webbing installed, only the HBM with the offset spacer towards the inside of the greenhouse will be attached to the bow.

1 INSTALL CAP PLUG BEFORE PUTTING ON "L" CONNECTOR



**SEALING COLUMNS WITH CAP PLUGS**

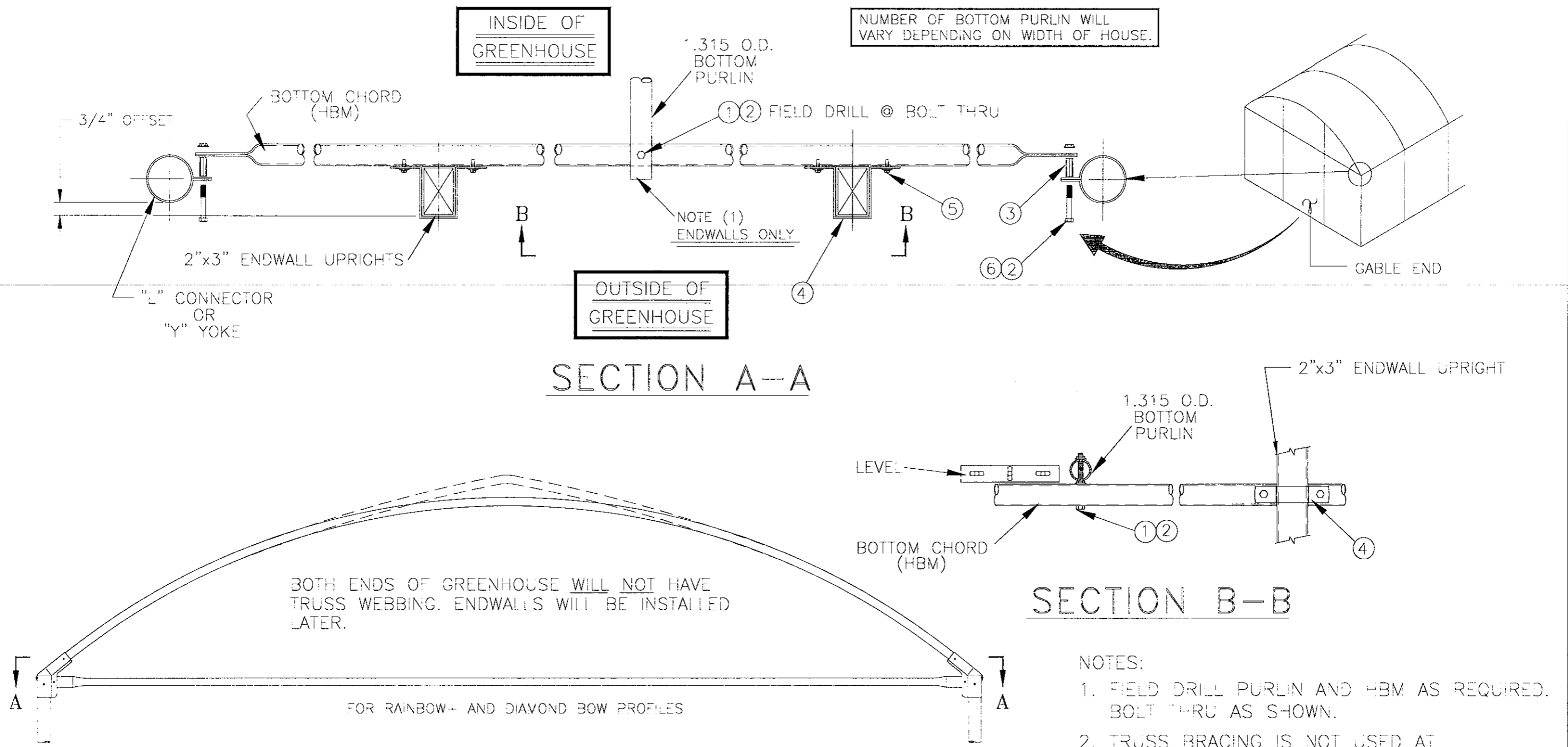


| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 1314   | 2.875 P PE PLUG                  |
| 2 | 15202  | L CONNECTOR OUTSIDE WALL         |
| 3 | 1348   | 3/8-16 x 4" GR5 HEX BOLT         |
| 4 | 1349   | 3/8-16 HEX LOCK NUT              |
| 5 | 1343   | 5/16-18 x 2-1/2" GR5 HX BOLT     |
| 6 | 1346   | 5/16-18 HEX LOCK NUT             |

**RAINBOW PLUS FREE STANDING CONNECTION TO COLUMN**

STUPPY GREENHOUSE MFG. INC.  
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800-733-5025 / FAX 800-423-1512

|                         |                 |
|-------------------------|-----------------|
| ITEM NUMBER             |                 |
| REVISION #              |                 |
| DRAWN<br>BJA            | CHK'D BY<br>EEG |
| DATE<br>11-18-1997      |                 |
| INDEX NUMBER<br>B-0341A |                 |

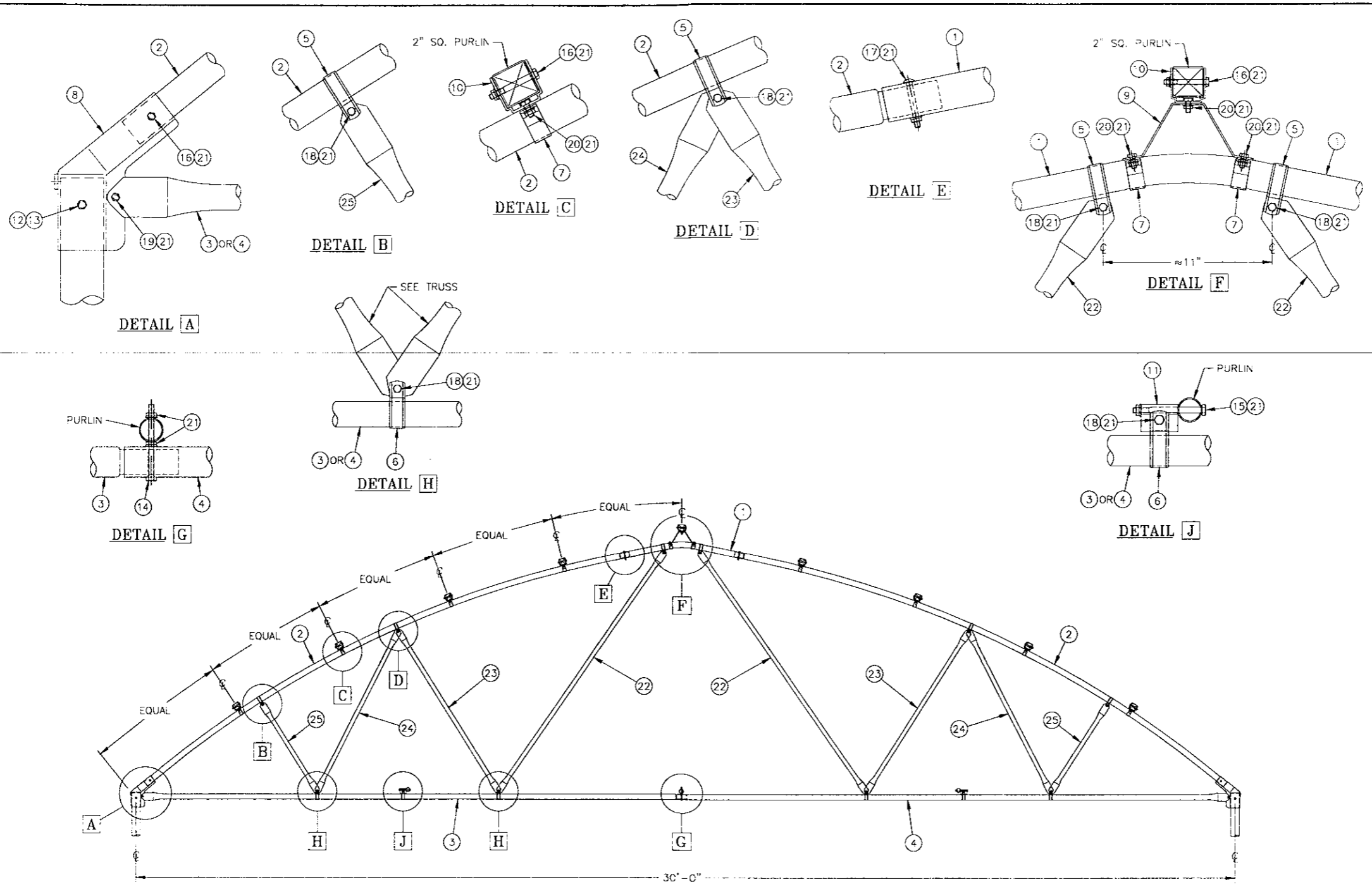


- NOTES:
1. FIELD DRILL PURLIN AND HBM AS REQUIRED. BOLT THRU AS SHOWN.
  2. TRUSS BRACING IS NOT USED AT ENDWALL TRUSSES.

| FASTENER SCHEDULE |        |                           |
|-------------------|--------|---------------------------|
| #                 | ITEM # | ITEM DESCRIPTION          |
| (1)               | Z0004  | 5/16" x 4" ALL THREAD     |
| (2)               | 1346   | 5/16" LOCKNUT             |
| (3)               | 18165  | 1 1/8" x 3/8" HBM SPACER  |
| (4)               | P2990  | 2x3 TUBE STRAP ALUMINUM   |
| (5)               | 1231   | #12-14 1" TEK3 9/16" WSHR |
| (6)               | 13425  | 5/16-18 X 2" GD5 HX BOLT  |


NOTE: BOW ASSEMBLIES LOCATED AT EACH END OF THE GREENHOUSE DO NOT HAVE TRUSS WEBBING. ENDWALL FRAMING WILL BE ADDED TO END BOWS LATER.

|                                                 |  |              |
|-------------------------------------------------|--|--------------|
| RAINBOW PLUS PURLIN/<br>ENDWALL DETAILS - 2 x 3 |  | ITEM NUMBER  |
| STUPPY GREENHOUSE MFG. INC.                     |  | REVISION #   |
| 1212 CLAY NORTH KANSAS CITY MO.64116-4027       |  | DRAWN RLL    |
| 800-733-5025 / FAX 800-423-1512                 |  | CHECK'D BY   |
|                                                 |  | DATE         |
|                                                 |  | 10-01-1997   |
|                                                 |  | INDEX NUMBER |
|                                                 |  | B-3239       |



| ITEM # | MATERIAL LIST - PART DESCRIPTION         | ITEM # | MATERIAL LIST - PART DESCRIPTION          |
|--------|------------------------------------------|--------|-------------------------------------------|
| 1      | 997713 RBD RIDGE BOW 1.90-14GA           | 14     | Z0004 5/16-18 4" ALL THREAD G2CD          |
| 2      | 997719 RBD 30"W SWEDGED 1/2BOW 1.90-14GA | 15     | 13451 5/16-18 3-3/4" HEX BOLT G5CD        |
| 3      | P4954 30' 1/2HBM 1.66 SWG                | 16     | 1343 5/16-18 2-1/2" HEX BOLT G5CD         |
| 4      | P4953 30' 1/2HBM 1.66                    | 17     | 13428 5/16-18 2-1/2" ROUND HEAD MS CD     |
| 5      | 15262 .90 BRACE BAND (BEV 1-7/8)         | 18     | 1341 5/16-18 1-1/4" HEX BOLT G5CD         |
| 6      | 15263 .66 BRACE BAND (BEV 1-5/8)         | 19     | 1340 5/16-18 1" HEX BOLT G5CD             |
| 7      | 15312 .90 PIPE STRAP 1" WIDE             | 20     | 1339 5/16-18 3/4" HEX BOLT G5CD           |
| 8      | 15202 L CONNECTOR O/S WALL               | 21     | 1346 5/16-18 LOCKNUT HEX SERR FLANGE G2CD |
| 9      | P6011 RIDGE MTG BKT 15"                  | 22     | P1602 1.315-16GA x 95 1/2" H-H F/P        |
| 10     | 0667 2" X 2" PURLIN BKT 4.5"             | 23     | P4204 1.315-16GA x 62 1/2" H-H F/P        |
| 11     | 10235 PURLIN BLOCK 2" ALUM               | 24     | 995183-05902 1.315-16GA x 59 1/8" H-H F/P |
| 12     | 1348 3/8-16 4" HEX BOLT G5CD             | 25     | 993179 1.315-16GA x 33 7/8" H-H F/P       |
| 13     | 1349 3/8-16 LOCKNUT HEX SERR FLANGE G2CD | 26     | -----                                     |

- NOTES:**
- ALL STEEL FOR GREENHOUSE MEMBERS MEET REQUIREMENTS OF ASTM A1011M-02.
  - MIN. YIELD STRENGTH OF STEEL MEMBERS SHALL BE 50 KSI UNLESS OTHERWISE NOTED.
  - ALL BOLTS SHALL BE SAE GRADE 5 OR ASTM A325 UNLESS OTHERWISE NOTED.
  - THIS GREENHOUSE HAS BEEN DESIGNED AS A CONTINUOUSLY HEATED STRUCTURE. THE INTERIOR TEMPERATURE MUST BE MAINTAINED AT A MINIMUM OF 50° MEASURED 3'-0" ABOVE THE FLOOR SURFACE. ROOF GLAZING SHALL HAVE A TOTAL THERMAL RESISTANCE FACTOR OF LESS THAN 2 (R<2). REFER TO TABLE 7-3, ASCE 7-05.

  
 1212 Clay Street - PO Box 12456  
 North Kansas City, MO 64116  
 816.842.3071 - www.stuppy.com

SULLIVAN COUNTY SCHOOLS  
 KINGSPORT, TN

PROJECT # 9139

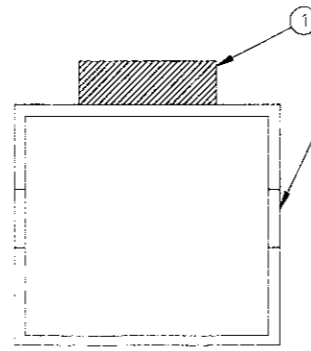
**ISSUE DATE**  
 6/11/2015  
**REVISIONS**  
  
**DRAWN**    **CHECKED**  
 BJA        TNB  
**SHEET**  
**C-12958**  
 CODE TRUSS



## 2" SQUARE ROOF PURLIN INSTALLATION

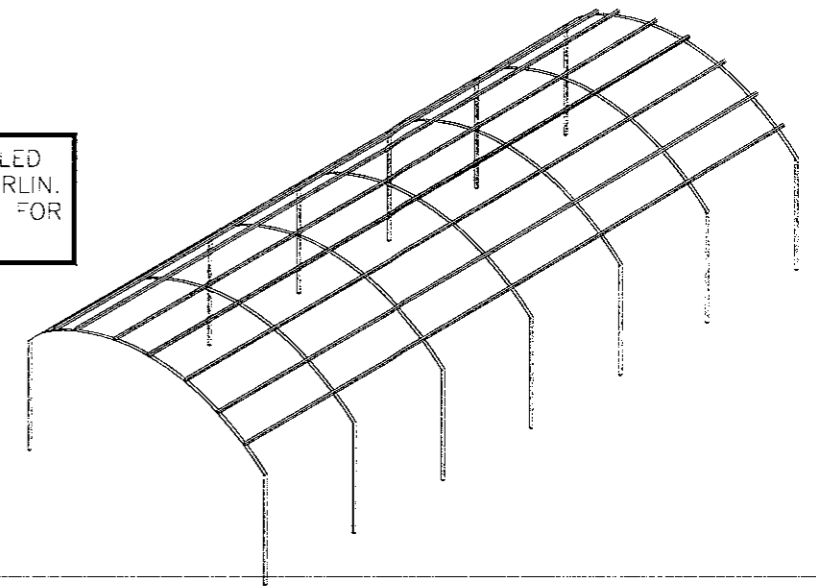
BEFORE INSTALLING ROOF PURLIN, IT IS BEST TO ATTACH THE #10345 NEOPRENE SHIMS TO THE 2" SQUARE PURLIN WHILE ON THE GROUND.

1. VERIFY ROOF GLAZING PANEL WIDTHS (TYPICALLY  $\approx 6'$ ) FOR GLAZING BAR ON-CENTER DIMENSIONS.
2. IDENTIFY THE ROOF PURLIN MEMBERS AND ALIGN THE ENDS TO MARK THE GLAZING BAR AND NEOPRENE SHIM LOCATIONS AS SHOWN.
3. IT IS BEST TO GROUP COMMON PURLIN LENGTHS TOGETHER, MARKING #1029 GLAZING BAR LOCATIONS WITH ONE COLOR OF MARKER, AND THE #10345 SHIM LOCATIONS WITH ANOTHER COLOR OF MARKER.
4. PEEL ADHESIVE TAB COVER OFF SHIM AND INSTALL ON 2" SQUARE PURLIN AS SHOWN. NEOPRENE SHIMS ARE INSTALLED ON SMOOTH SIDE OF 2" SQUARE, WITH PRE-DRILLED HOLES ON THE SIDE. SEE END VIEW.
5. ONCE ALL ROOF PURLIN HAVE BEEN IDENTIFIED, MARKED, AND HAD SHIMS INSTALLED, SET ASIDE TO BE INSTALLED TO THE BOWS NEXT.

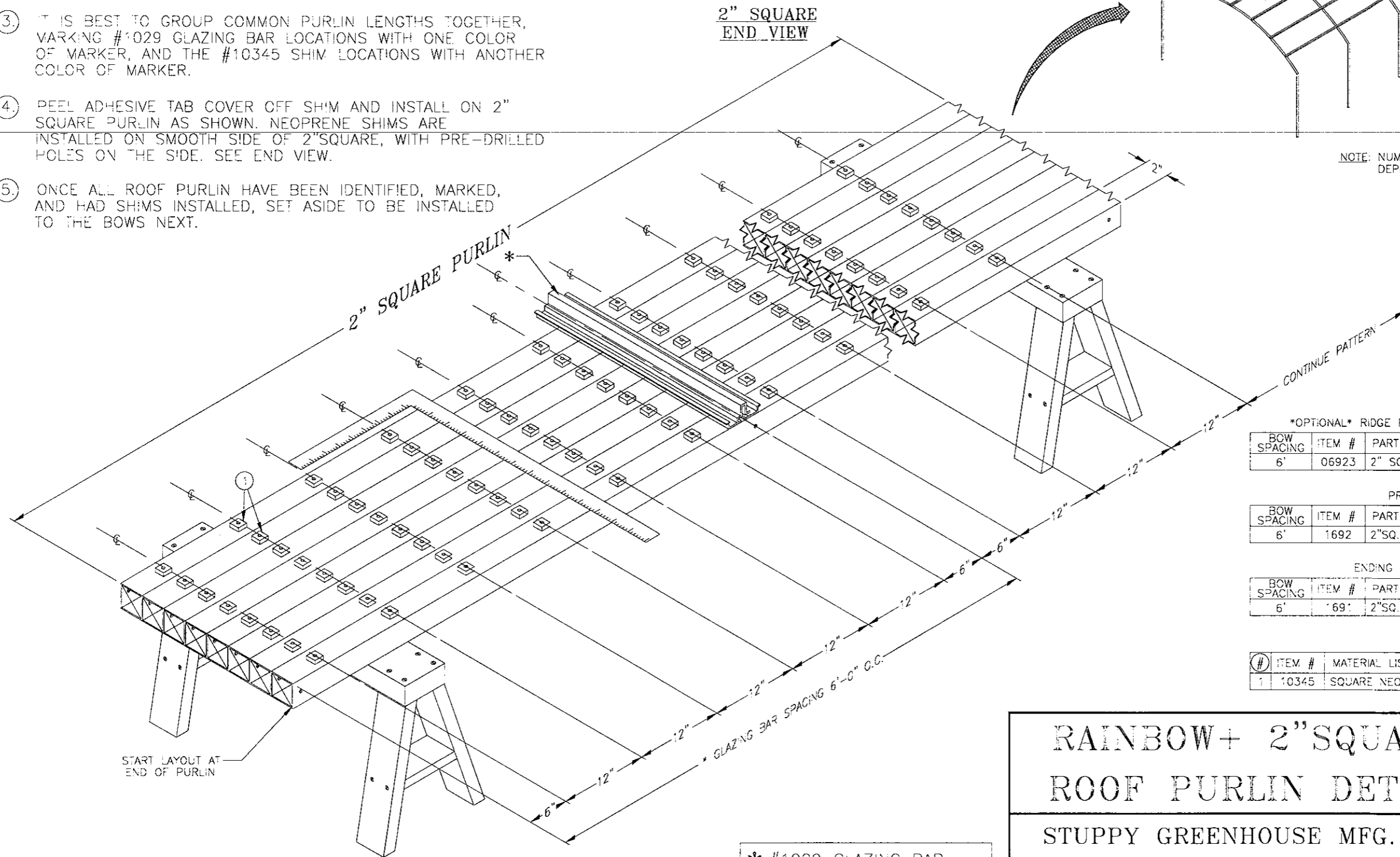


NOTE: SHIMS WILL NOT BE INSTALLED ON #06923 2" SQUARE RIDGE PURLIN. THIS PART HAS ADDITIONAL HOLES FOR MOUNTING THE RIDGE EXTRUSION

2" SQUARE  
END VIEW



NOTE: NUMBER OF ROOF PURLIN WILL VARY DEPENDING ON HOUSE WIDTH AND LOADING.



\*OPTIONAL\* RIDGE PURLIN - NO SHIMS INSTALLED

| BOW SPACING | ITEM # | PART DESCRIPTION              |
|-------------|--------|-------------------------------|
| 6'          | 06923  | 2" SQ. RIDGE PURLIN 12'-6" OC |

PRIMARY PURLIN

| BOW SPACING | ITEM # | PART DESCRIPTION                       |
|-------------|--------|----------------------------------------|
| 6'          | 1692   | 2" SQ. - 15 GA. PURLIN x 12'L - 6'O.C. |

ENDING PURLIN (IF NEEDED)

| BOW SPACING | ITEM # | PART DESCRIPTION                    |
|-------------|--------|-------------------------------------|
| 6'          | 1691   | 2" SQ. - 15 GA. PURLIN x 6'-6" O.C. |

| ITEM # | MATERIAL LIST - PART DESCRIPTION |
|--------|----------------------------------|
| 1      | 10345 SQUARE NEOPRENE SHIM       |

\* #1029 GLAZING BAR TO BE INSTALLED LATER.

## RAINBOW+ 2" SQUARE ROOF PURLIN DETAIL

STUPPY GREENHOUSE MFG. INC.

1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

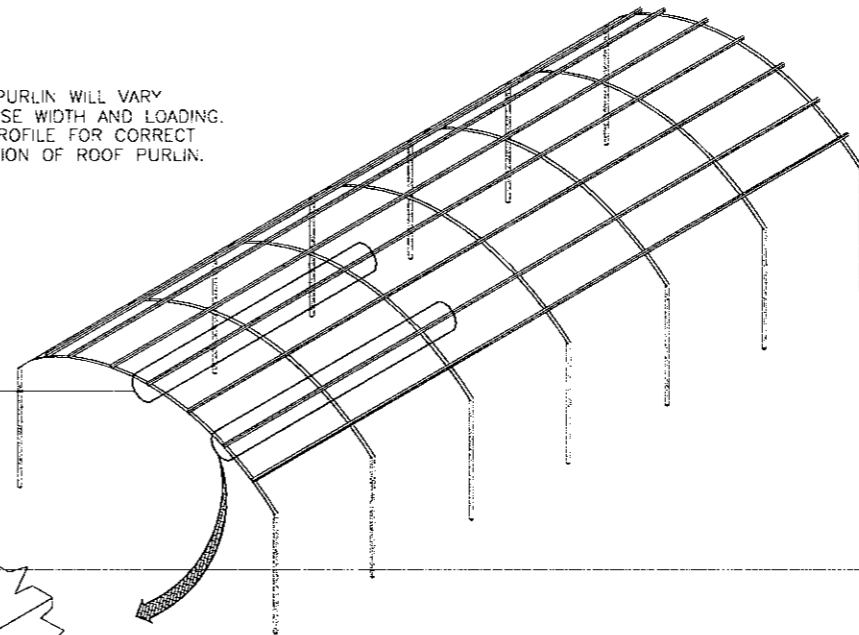
|                     |                |
|---------------------|----------------|
| ITEM NUMBER         |                |
| REVISION #          |                |
| DRAWN BJA/THR       | CHECK'D BY EEG |
| DATE 04-15-1997     |                |
| INDEX NUMBER B-4077 |                |

| 2" SQUARE PRIMARY PURLIN |        |                                  |
|--------------------------|--------|----------------------------------|
| COLUMN SPACING           | ITEM # | MATERIAL LIST - PART DESCRIPTION |
| 6'                       | 1692   | 2" SQ.-15GA PURLIN 12'-6" O.C.   |

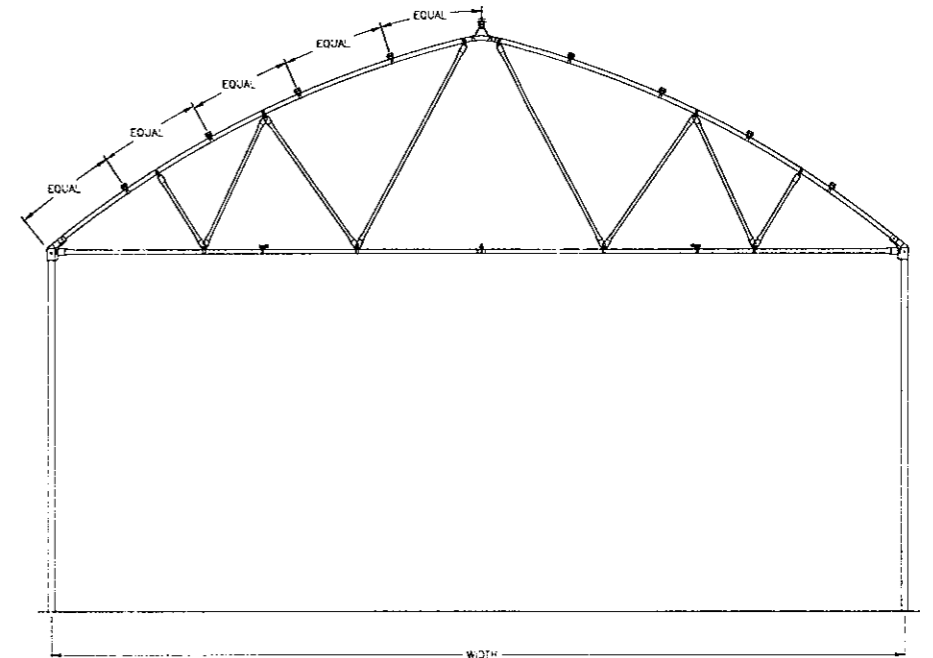
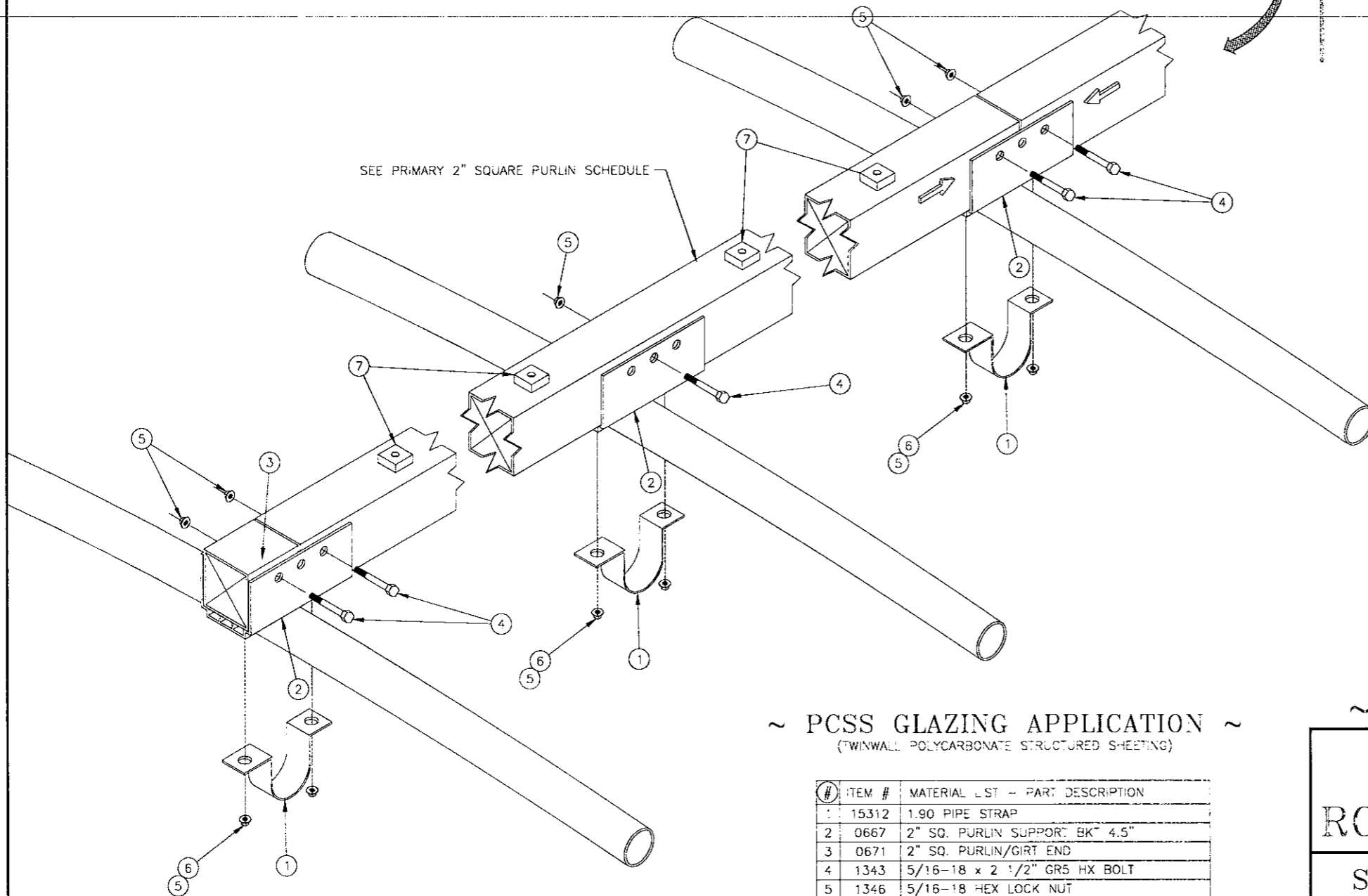
| 2" SQUARE ENDING PURLIN (IF NEEDED) |        |                                  |
|-------------------------------------|--------|----------------------------------|
| COLUMN SPACING                      | ITEM # | MATERIAL LIST - PART DESCRIPTION |
| 6'                                  | 1691   | 2" SQ.-15GA PURLIN 6'-6" O.C.    |

NOTE: NUMBER OF ROOF PURLIN WILL VARY DEPENDING ON HOUSE WIDTH AND LOADING. REFER TO TRUSS PROFILE FOR CORRECT NUMBER AND LOCATION OF ROOF PURLIN.

SEE DRAWING B-6678A FOR RIDGE DETAIL



SEE PRIMARY 2" SQUARE PURLIN SCHEDULE



~ PCSS GLAZING APPLICATION ~  
(TWINWALL POLYCARBONATE STRUCTURED SHEETING)

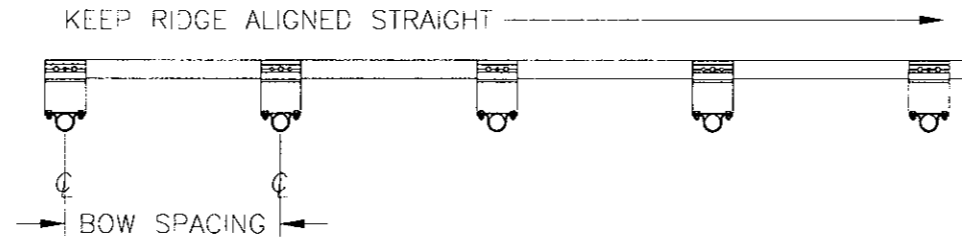
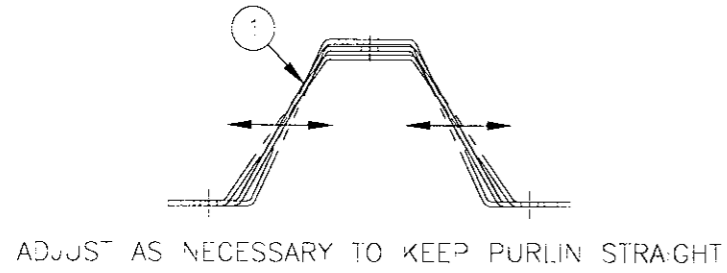
| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 15312  | 1.90 PIPE STRAP                  |
| 2 | 0667   | 2" SQ. PURLIN SUPPORT BK" 4.5"   |
| 3 | 0671   | 2" SQ. PURLIN/GIRT END           |
| 4 | 1343   | 5/16-18 x 2 1/2" GR5 HX BOLT     |
| 5 | 1346   | 5/16-18 HEX LOCK NUT             |
| 6 | 1339   | 5/16-18 x 3/4" HEX BOLT          |
| 7 | 10345  | SQUARE NEOPRENE SHIM             |

~ 15° RIDGE APPLICATION ~

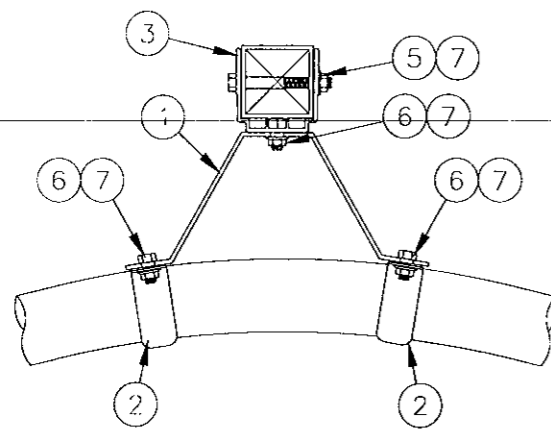
## RAINBOW+ DIAMOND ROOF PURLIN SCHEDULE

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                         |            |
|-------------------------|------------|
| ITEM NUMBER             |            |
| REVISION #              |            |
| DRAWN<br>BJA/TNB        | CHECK'D BY |
| DATE<br>12-28-1999      |            |
| INDEX NUMBER<br>B-5307D |            |



2" SQUARE RIDGE PURLIN  
(SEE CHART)



2" SQUARE RIDGE PURLING

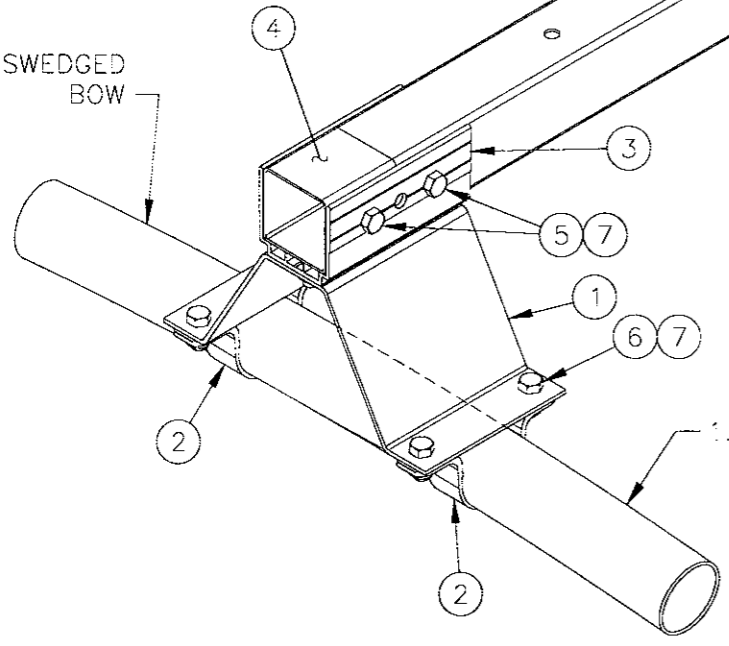
| COLUMN SPACING | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|----------------|--------|----------------------------------|
| 6'             | 06923  | 2x2-15GA RIDGE PURLIN 12' (6'OC) |

2" SQUARE ENDING RIDGE PURLING (IF NEEDED)

| COLUMN SPACING | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|----------------|--------|----------------------------------|
| 6'             | P6817  | 2x2-15GA RIDGE PURLIN 6' (6'OC)  |

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | P6011  | 15° RIDGE MOUNTING BRACKET 15°   |
| 2 | 15312  | 1.90 PIPE STRAP 1" WIDE          |
| 3 | 0667   | 2x2 PURLIN BRACKET 4.5"          |
| 4 | 0671   | 2x2 2-1/4 PURLIN/GIRT END        |
| 5 | 1339   | 5/16-18 x 3/4" HEX BOLT CAD      |
| 6 | 1346   | 5/16-18 HEX LOCK NUT-SRTD FLANGE |

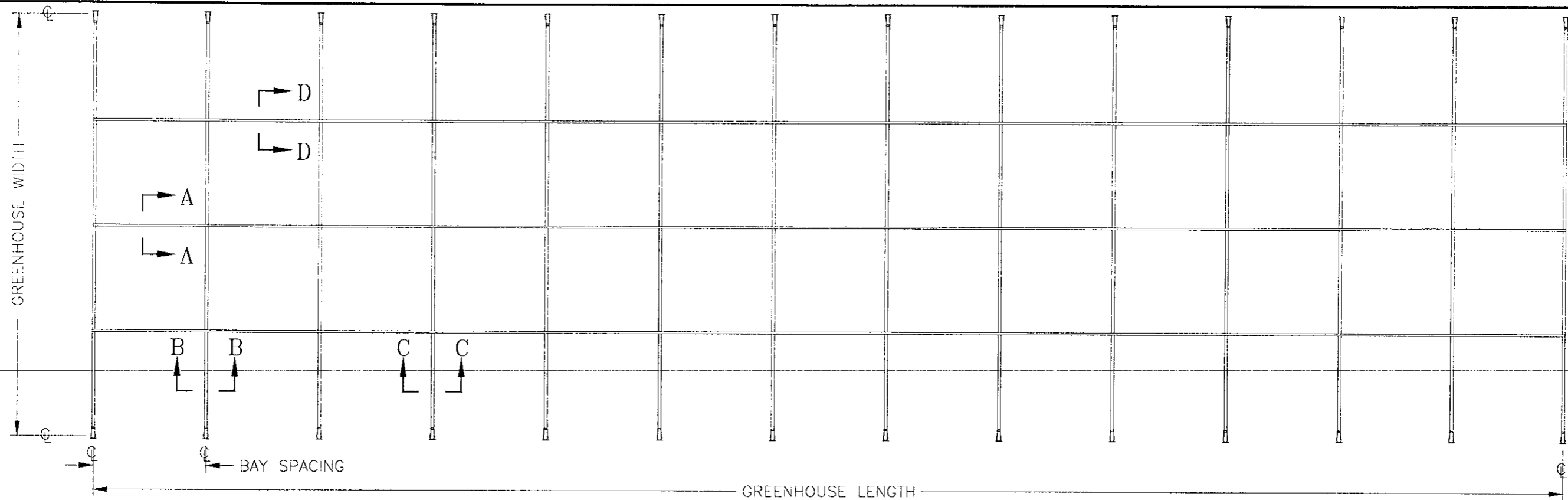
1.90 SWEDGED BOW



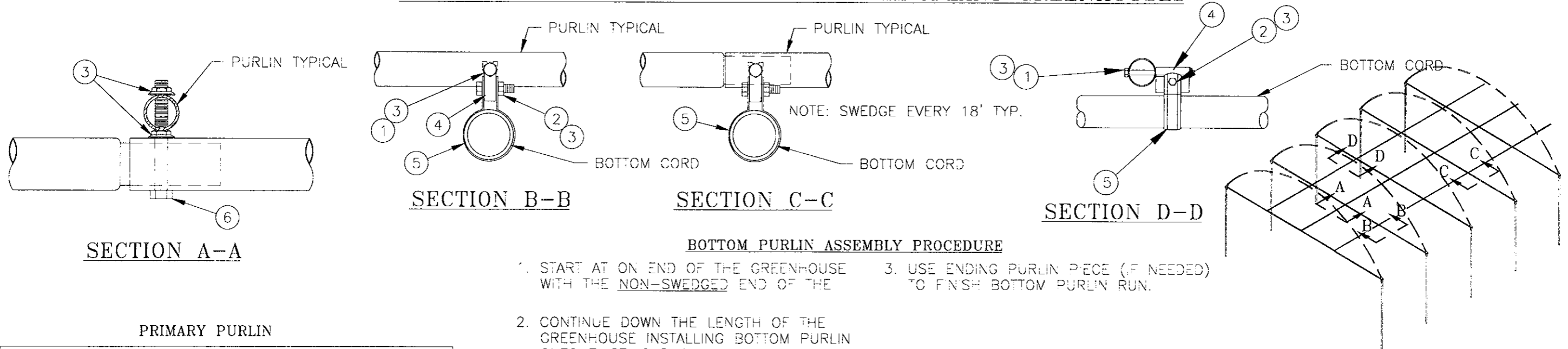
# 15° RIDGE MOUNTING BRACKET INSTALLATION INSTRUCTIONS

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                         |                   |
|-------------------------|-------------------|
| ITEM NUMBER<br>P6011    |                   |
| REVISION #              |                   |
| DRAWN<br>BJA            | CHECK'D BY<br>MJC |
| DATE<br>06/22/2009      |                   |
| INDEX NUMBER<br>B-6678A |                   |



**TOP VIEW BOTTOM PURLIN-35' WIDE TRANSPLANT GREENHOUSES**



- BOTTOM PURLIN ASSEMBLY PROCEDURE**
1. START AT ONE END OF THE GREENHOUSE WITH THE NON-SWEDGED END OF THE
  2. CONTINUE DOWN THE LENGTH OF THE GREENHOUSE INSTALLING BOTTOM PURLIN ONTO EXISTING PURLIN BLOCK ASSEMBLY.
  3. USE ENDING PURLIN PIECE (IF NEEDED) TO FINISH BOTTOM PURLIN RUN.

NOTE:  
ROOF PURLIN & BOWS NOT SHOWN FOR ILLUSTRATION PURPOSES.

**PRIMARY PURLIN**

| BAY SPACING | ITEM # | DESCRIPTION              |
|-------------|--------|--------------------------|
| 6' O.C.     | 1535   | 18'-6" O.C. 1.315 PURLIN |

**ENDING PURLIN**

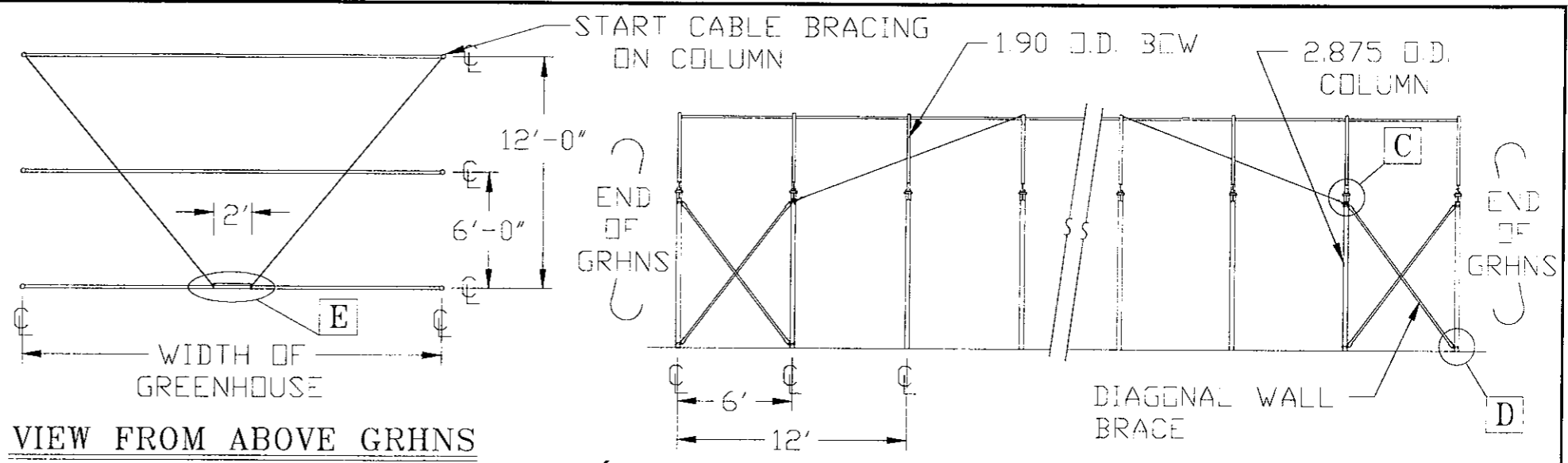
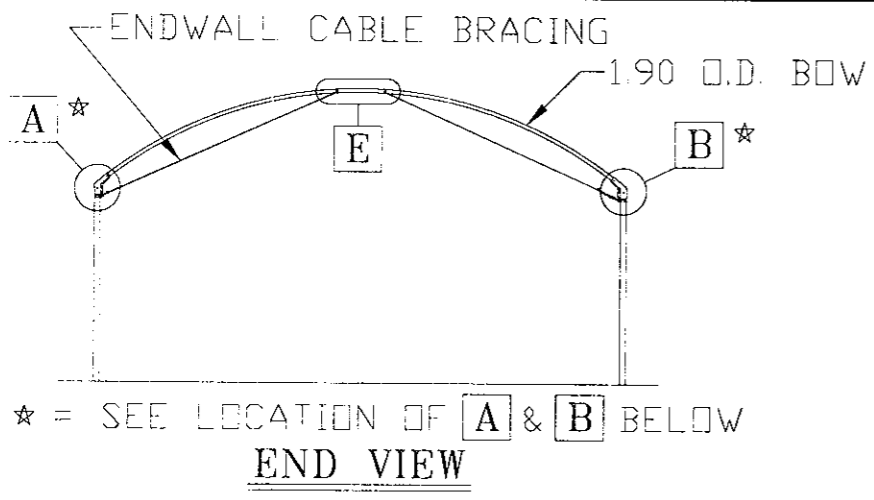
| BAY SPACING | ITEM # | DESCRIPTION              |
|-------------|--------|--------------------------|
| 6' O.C.     | 15371  | 6'-6" O.C. 1.315 PURLIN  |
| 6' O.C.     | 15372  | 12'-6" O.C. 1.315 PURLIN |

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 13451  | 5/16-18 x 3 3/4" GR5 HEX BOLT    |
| 2 | 1341   | 5/16-18 x 1 1/4" GR5 HEX BOLT    |
| 3 | 1346   | 5/16" HEX LOCK NUT               |
| 4 | 10235  | 2" ALUM PURLIN BLOCK             |
| 5 | 27753  | 1.315 BRACE BAND (MSB-1)         |
|   | 15263  | 1.66 BRACE BAND (BEB-2)          |
| 6 | Z0004  | 5/16" x 4" ALL THREAD            |

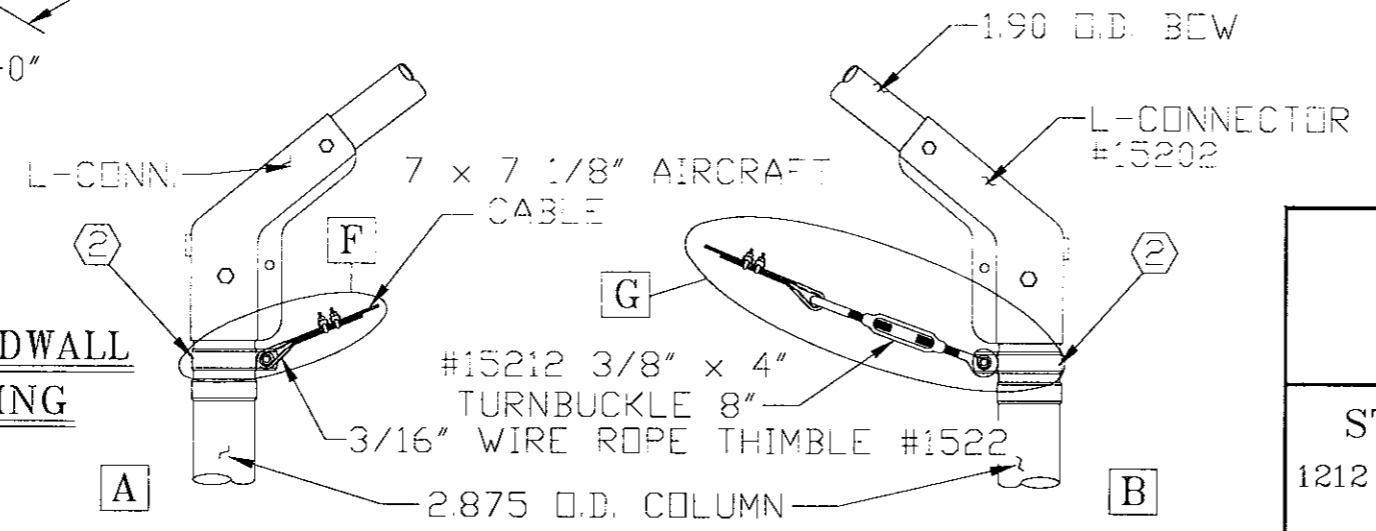
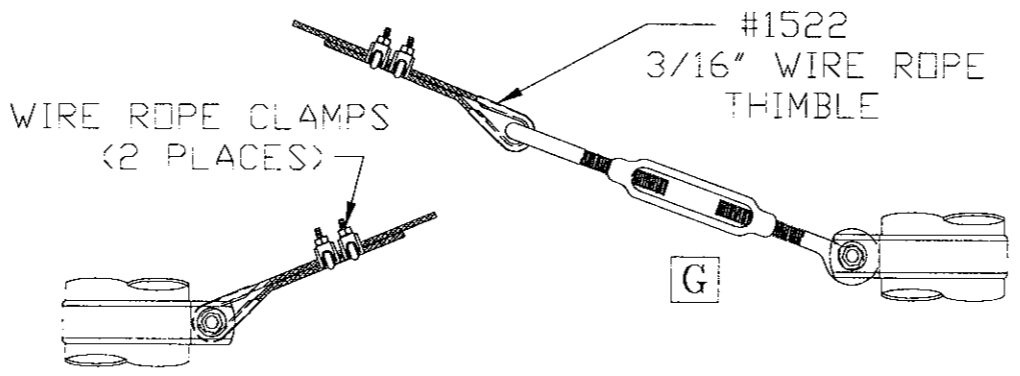
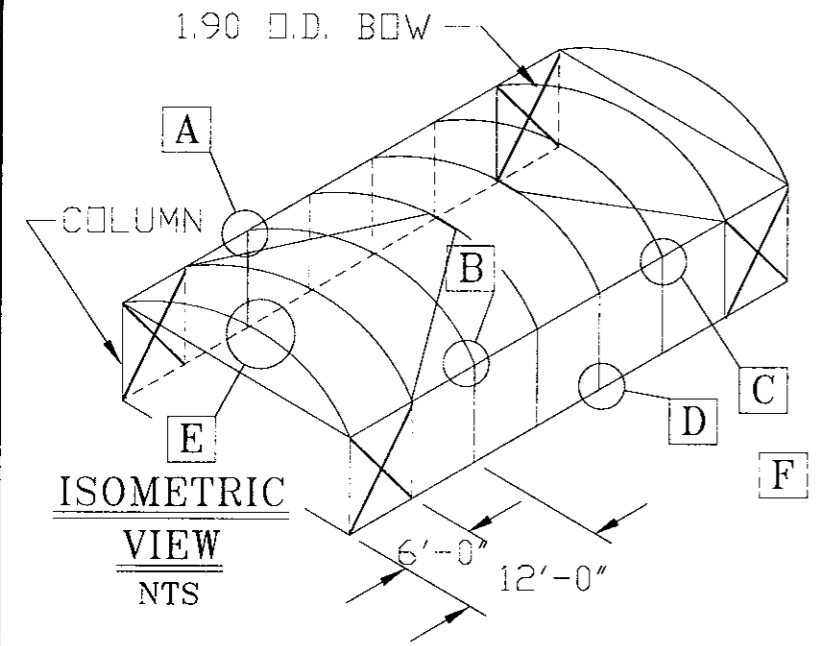
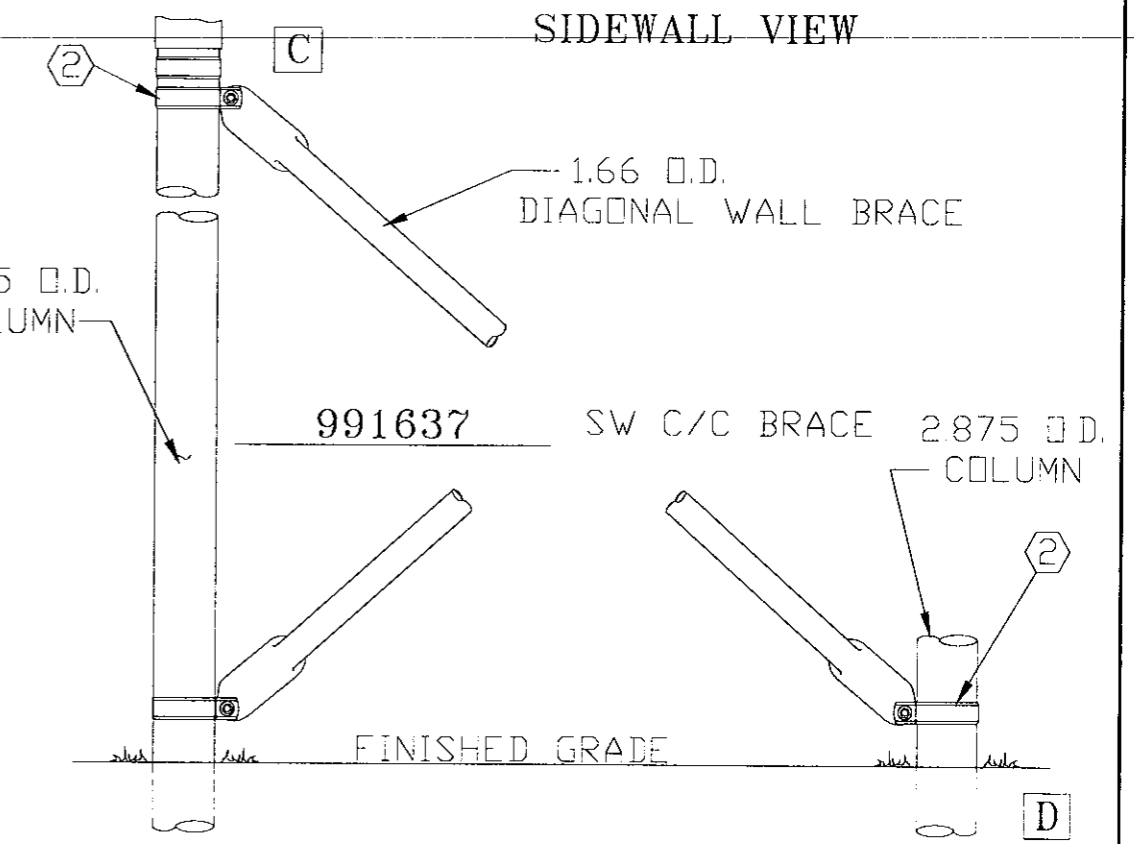
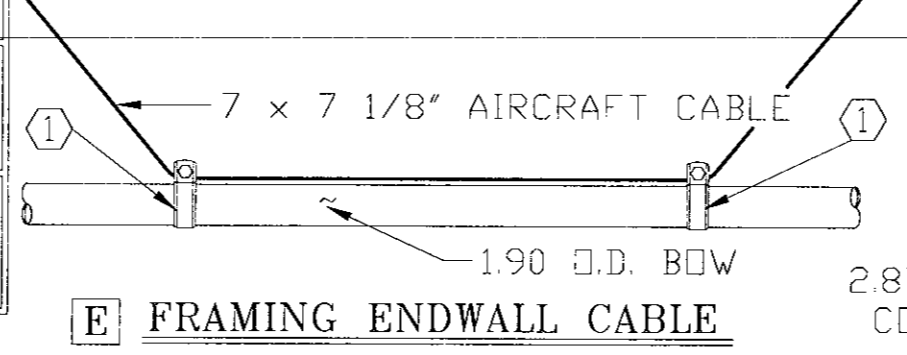
**RAINBOW+ BOTTOM PURLIN SCHEDULE**

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

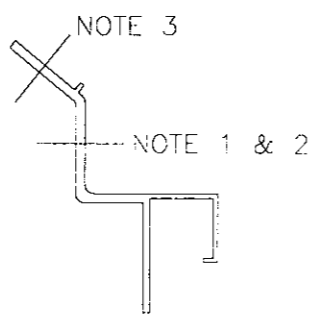
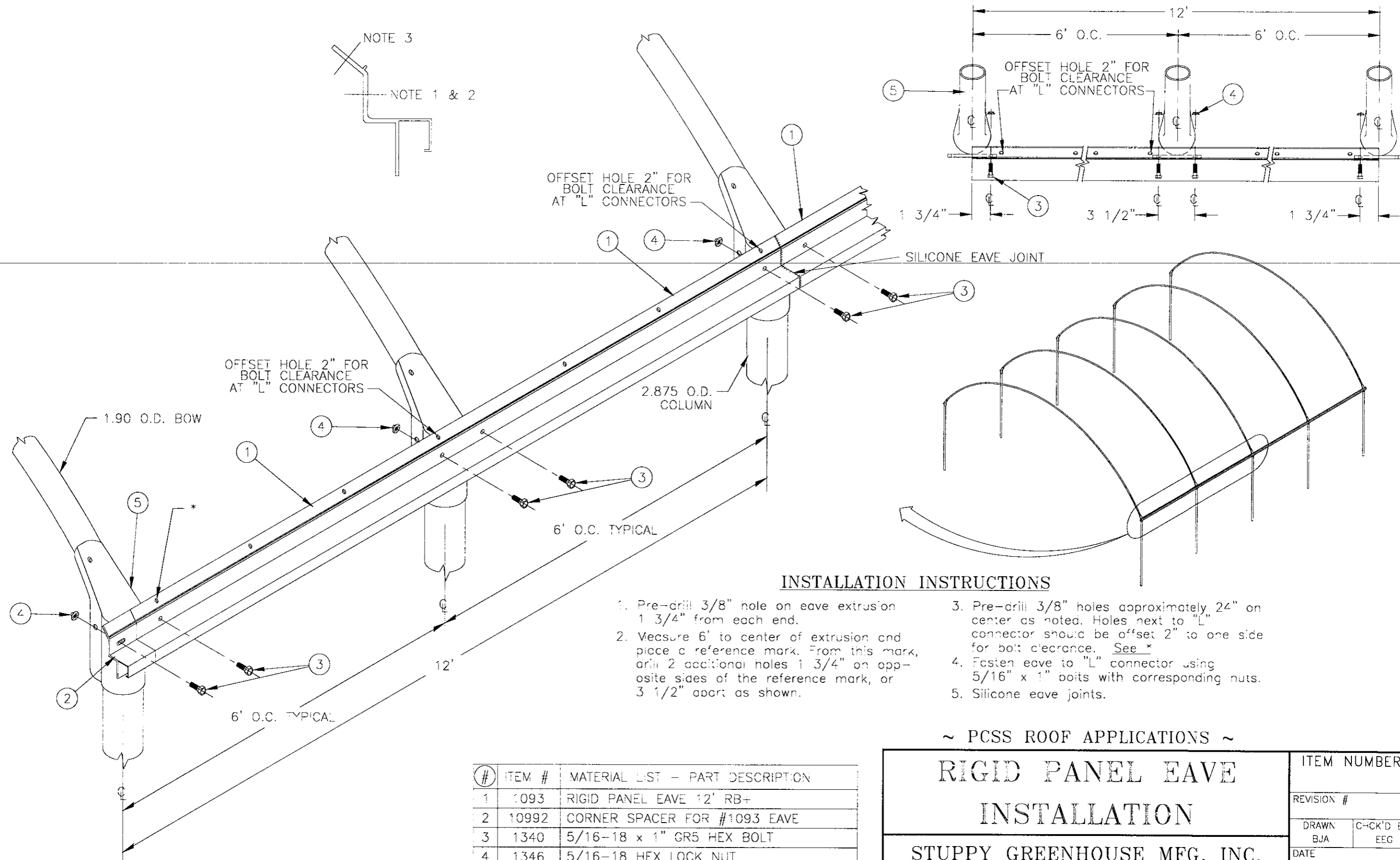
|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>BJA           | CHK'D BY<br>EEG |
| DATE<br>03-28-1997     |                 |
| INDEX NUMBER<br>B-4043 |                 |



| NO | BRACE BANDS w/ BOLTS & NUTS |                               |
|----|-----------------------------|-------------------------------|
| ①  | #15262                      | 1.90 BRACE BAND (BEB-3)       |
|    | #1341                       | 5/16"-18 x 1 1/4" GR5 HX BOLT |
|    | #1346                       | 5/16"-18 HEX LOCKNUT          |
| ②  | #15252                      | 2.875 BRACE BAND (MSB-5)      |
|    | #1341                       | 5/16"-18 x 1 1/4" GR5 HX BOLT |
|    | #1346                       | 5/16"-18 HEX LOCKNUT          |



|                                                                                                                     |                            |
|---------------------------------------------------------------------------------------------------------------------|----------------------------|
| <h2>CABLE &amp; SIDEWALL BRACING DETAILS</h2>                                                                       | ITEM NUMBER                |
|                                                                                                                     | REVISION # TNB<br>10-29-97 |
| <b>STUPPY GREENHOUSE MFG. INC.</b><br>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br>816-842 3071 / FAX- 816 472 0969 | DRAWN AW/ALM    CHCK'D BY  |
|                                                                                                                     | DATE<br>2-8-1985           |
|                                                                                                                     | INDEX NUMBER<br>B-4374A    |



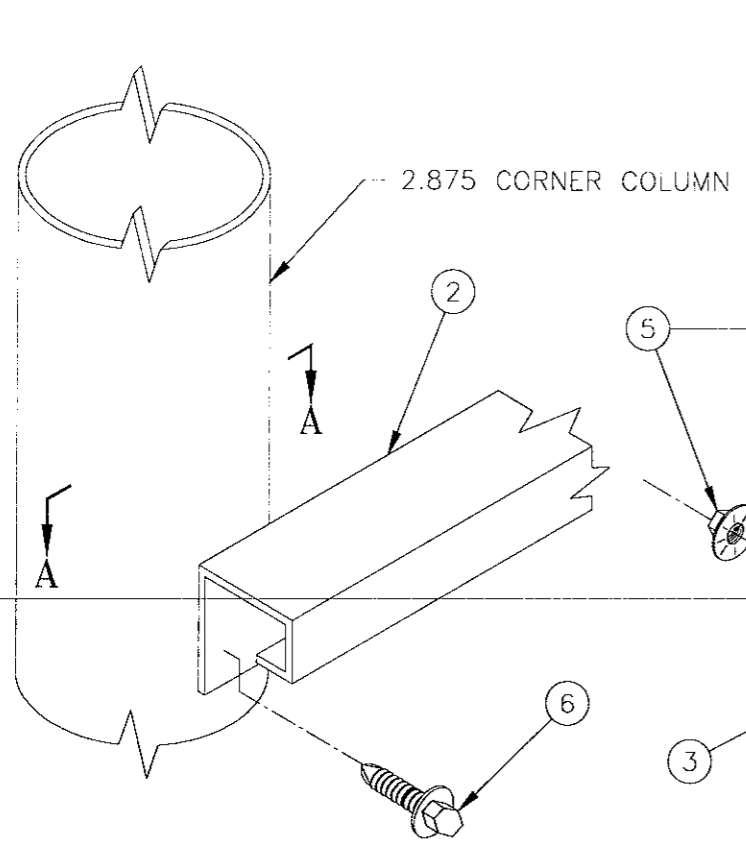
**INSTALLATION INSTRUCTIONS**

1. Pre-drill 3/8" hole on eave extrusion 1 3/4" from each end.
2. Measure 6' to center of extrusion and place a reference mark. From this mark, drill 2 additional holes 1 3/4" on opposite sides of the reference mark, or 3 1/2" apart as shown.
3. Pre-drill 3/8" holes approximately 24" on center as noted. Holes next to "L" connector should be offset 2" to one side for bolt clearance. See \*
4. Fasten eave to "L" connector using 5/16" x 1" bolts with corresponding nuts.
5. Silicone eave joints.

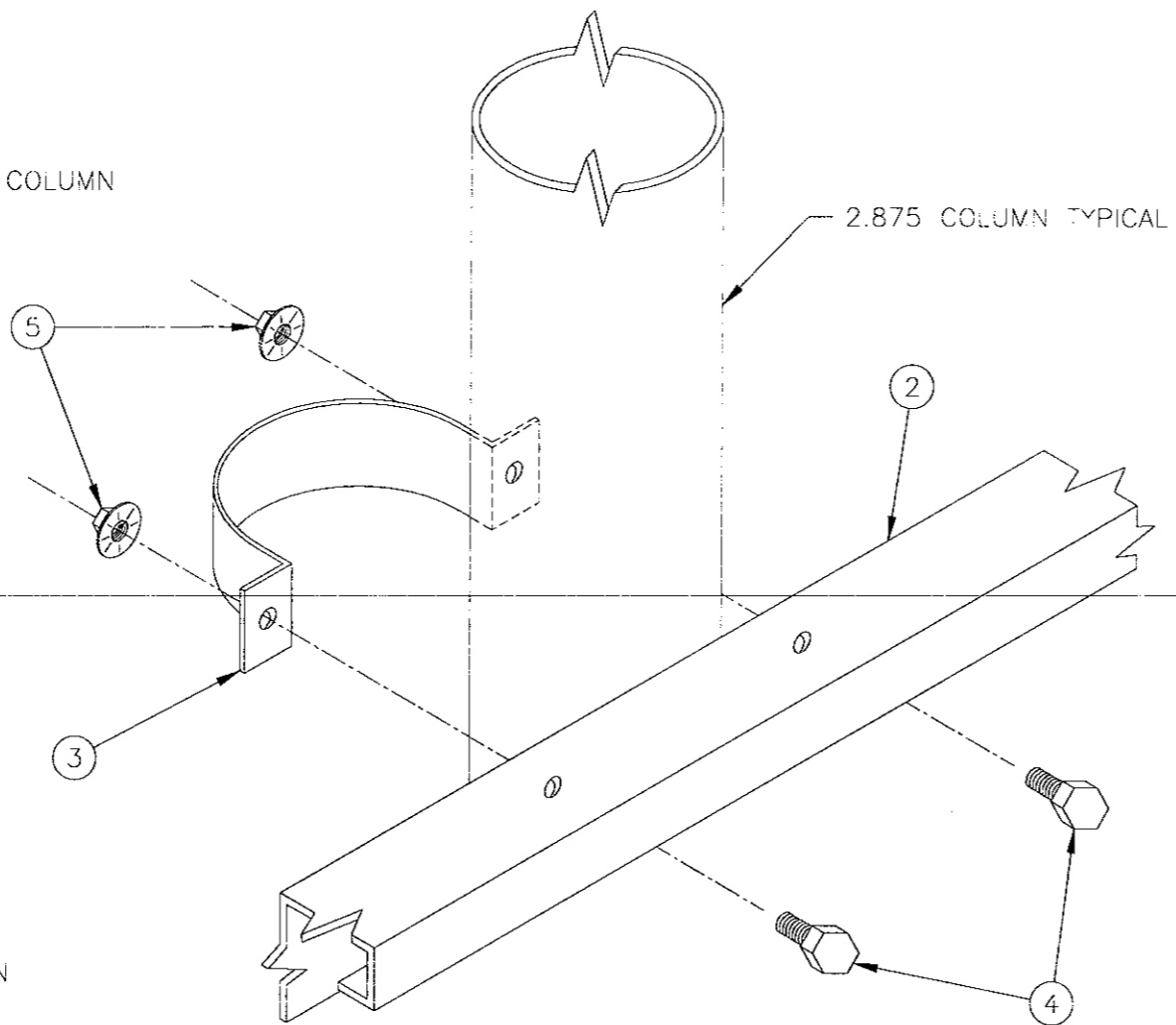
~ PCSS ROOF APPLICATIONS ~

|                                                                                                                                                 |                  |                        |
|-------------------------------------------------------------------------------------------------------------------------------------------------|------------------|------------------------|
| <h2 style="margin: 0;">RIGID PANEL EAVE<br/>INSTALLATION</h2>                                                                                   |                  | ITEM NUMBER            |
| <p style="margin: 0;"><b>STUPPY GREENHOUSE MFG. INC.</b><br/>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br/>816-842 3071 / FAX- 816 472 0969</p> |                  | REVISION #             |
| DRAWN<br>BJA                                                                                                                                    | C-Ck'D BY<br>EEG | DATE<br>07-17-1997     |
|                                                                                                                                                 |                  | INDEX NUMBER<br>B-4213 |

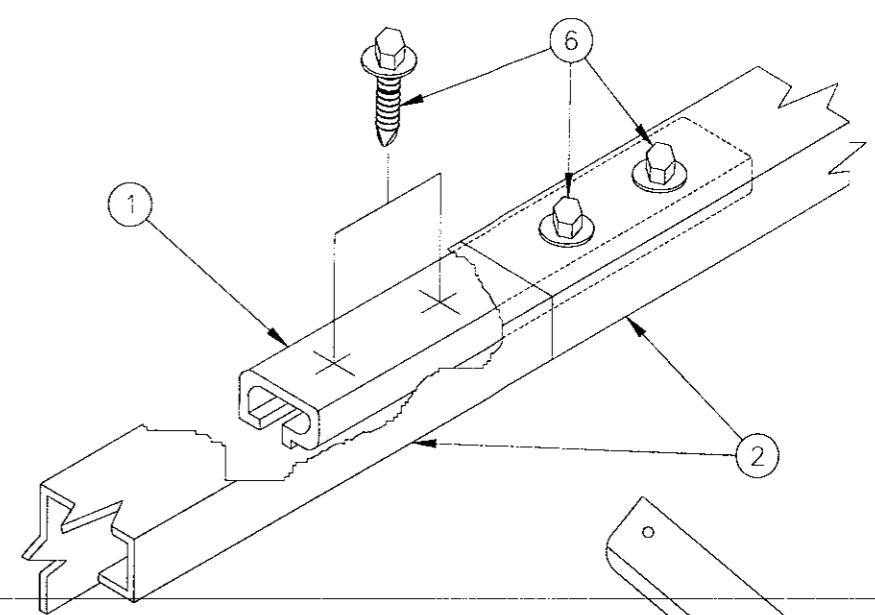
| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 1093   | RIGID PANEL EAVE 12' RB+         |
| 2 | 10992  | CORNER SPACER FOR #1093 EAVE     |
| 3 | 1340   | 5/16-18 x 1" GR5 HEX BOLT        |
| 4 | 1346   | 5/16-18 HEX LOCK NUT             |
| 5 | 15202  | L-CONNECTOR                      |



**DETAIL 1**



**DETAIL 2**

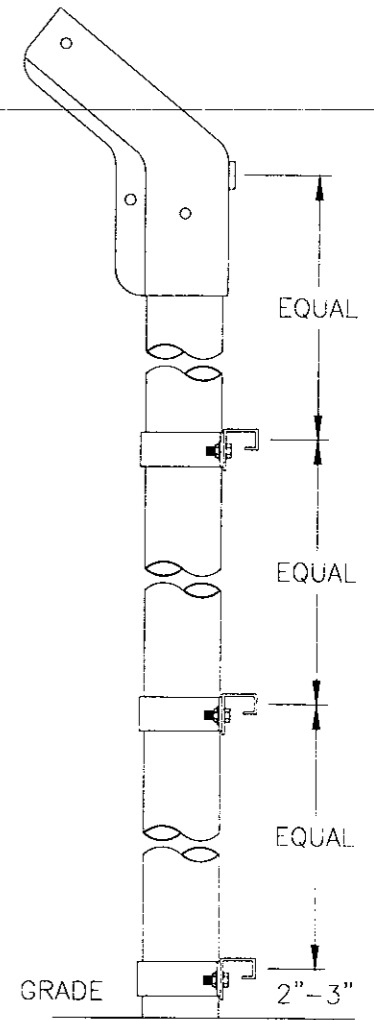


**DETAIL 3**

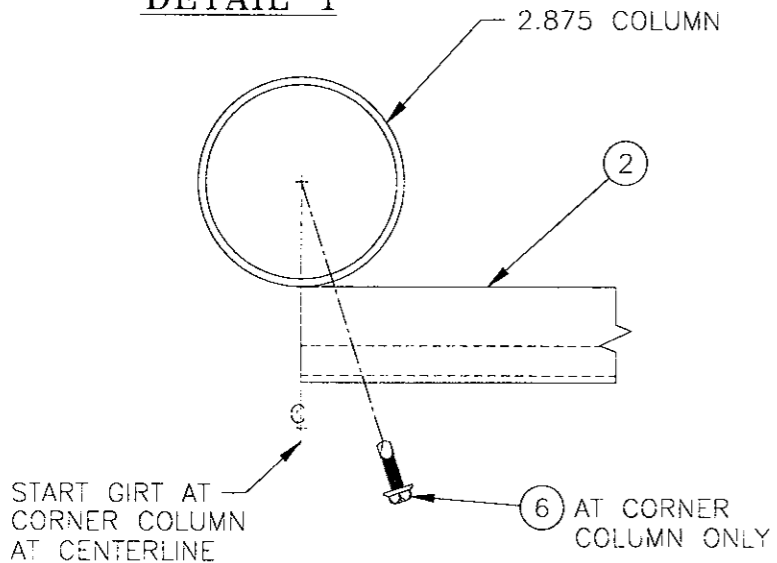
\* NOTE: STAGGER SPLICE JOINTS BY RUNNING GIRTS FROM OPPOSITE ENDS OF THE GREENHOUSE WHEN POSSIBLE.

**INSTALLATION PROCEDURE**

1. LOCATE GIRTS AND LAYOUT DOWN THE SIDEWALLS TO DETERMINE CORRECT QUANTITY.
2. USE #3 STRAP & MARKER TO LOCATE HOLES TO BE FIELD DRILLED TO ATTACH GIRTS TO COLUMNS.
3. DO NOT TEC GIRTS TO COLUMNS EXCEPT AT THE CORNER COLUMNS.

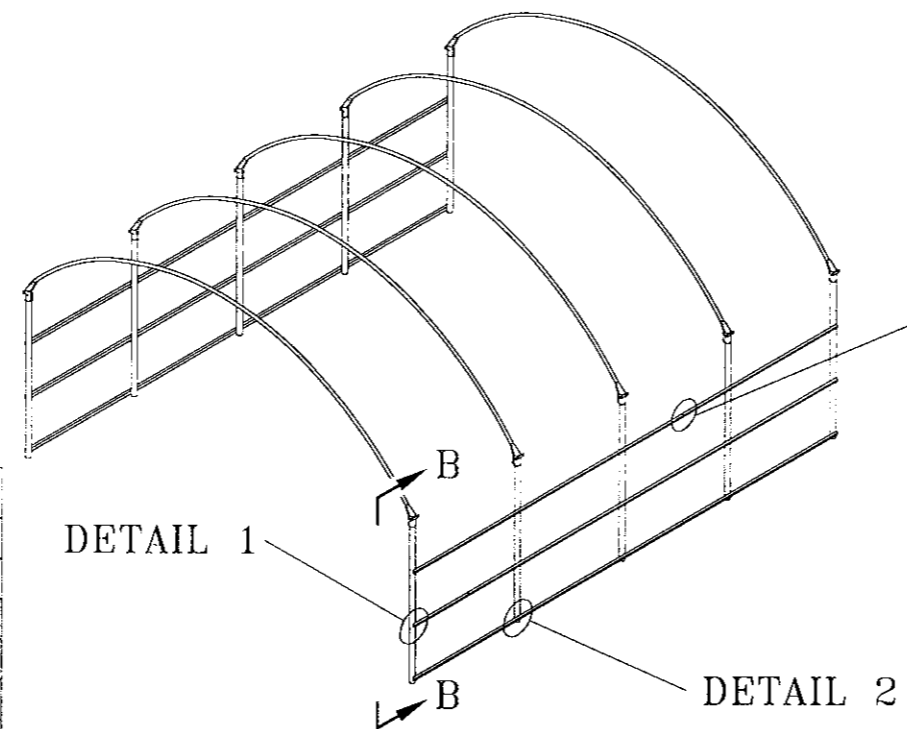


**SECTION B-B**



**SECTION A-A**

NOTE: FIELD DRILL 11/32" HOLES IN GIRTS FOR BOLT/STRAP ATTACHMENT TO COLUMN.



**DETAIL 1**

**DETAIL 2**

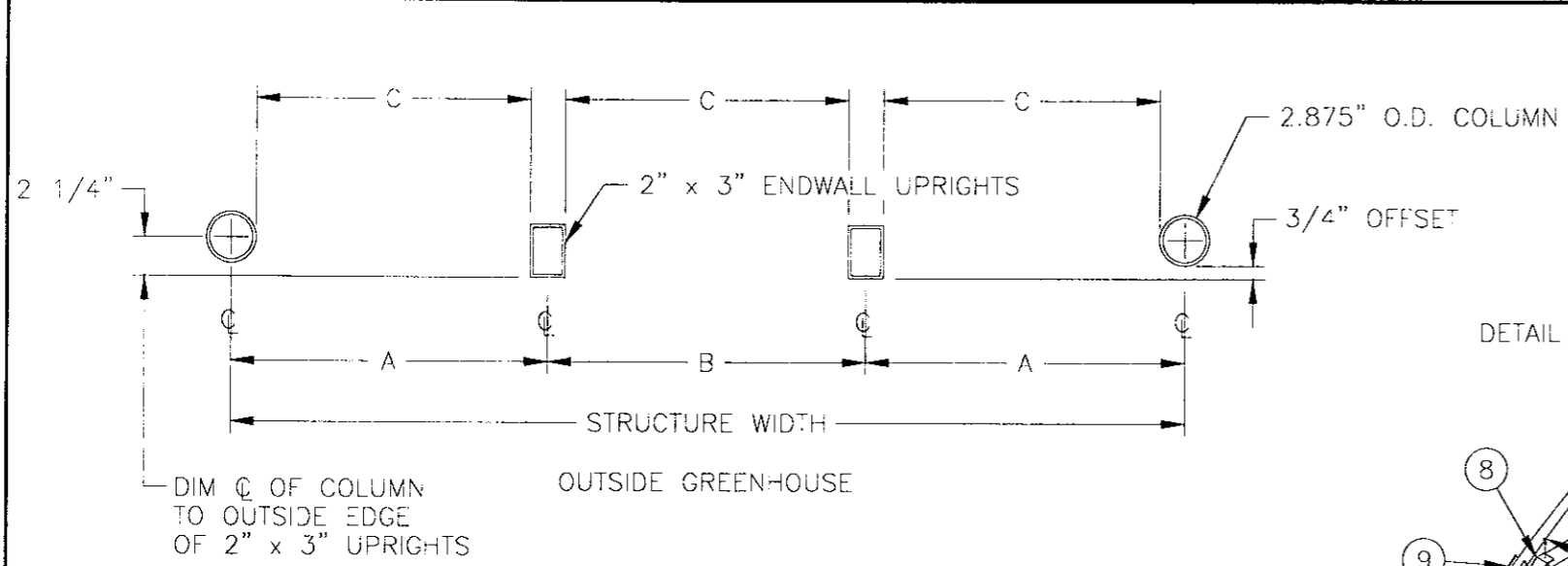
**DETAIL 3\***

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 1000   | GIRT/BASEBOARD SPLICE 6"         |
| 2 | 1001   | ALUM. GIRTS EXTRUSION 16"        |
| 3 | 15342  | 2.875 PIPE STRAP (2 1/2" IPS)    |
| 4 | 1339   | 5/16-18 x 3/4" GD5 HEX BOLT      |
| 5 | 1346   | 5/16-18 HEX LOCK NUT             |
| 6 | 10342  | #12 x 3/4" TEC                   |

**GIRT INSTALLATION & SPLICE DETAIL (RB+ MODEL)**

**STUPPY GREENHOUSE MFG. INC.**  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 816-842 3071 / FAX- 816 472 0969

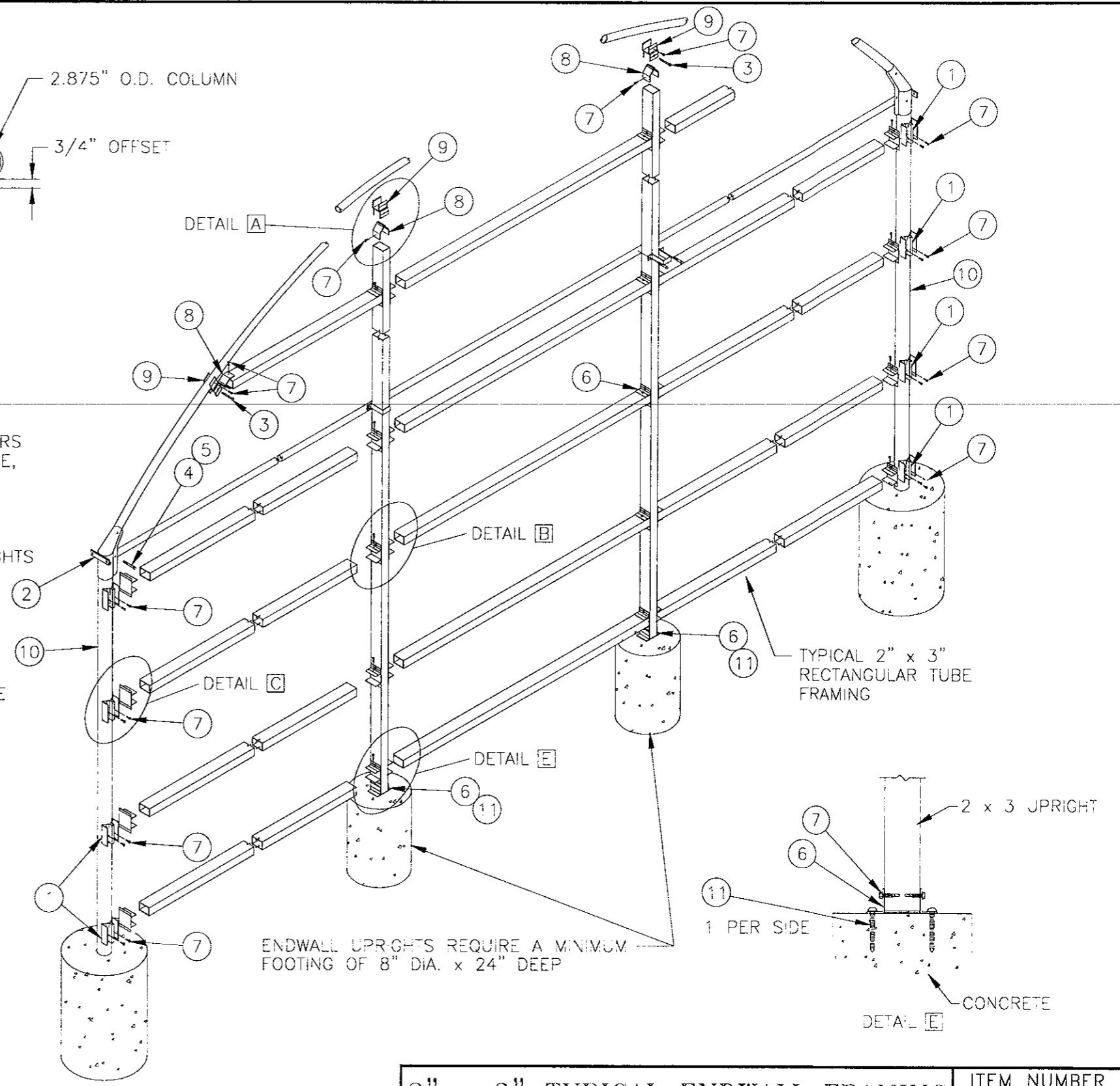
|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>BJA           | CHK'D BY<br>EEG |
| DATE<br>03-30-1998     |                 |
| INDEX NUMBER<br>B-3602 |                 |



### RAINBOW PLUS ENDWALL DETAIL

1. ENDWALLS ARE TYPICALLY DESIGNED SO THAT ALL HORIZONTAL MEMBERS (DIM "C") ARE OF THE SAME LENGTH WHENEVER POSSIBLE. THEREFORE, IT IS ESSENTIAL THAT THE 2" x 3" ENDWALL UPRIGHTS BE PROPERLY PLACED OR DIMENSIONED ACCORDING TO THE ILLUSTRATION ABOVE. SEE YOUR SPECIFIC ENDWALL DETAILS TO OBTAIN DIMENSIONS A & B.
2. FOR ALL STRUCTURES, THE OUTSIDE EDGE OF THE 2" x 3" EW UPRIGHTS SHOULD BE LOCATED 2 1/4" OUT FROM THE  $\phi$  OF THE COLUMNS.
3. CONCRETE FOOTINGS MUST USE PORTLAND BASED CEMENT SYSTEMS. PORTLAND CEMENT SYSTEMS PROVIDE GOOD PROTECTION FOR POSTS DUE TO THEIR HIGH ALKALINITY (pH).
4. THE CONCRETE COLUMN ANCHORING THE TUBE SHOULD EXTEND ABOVE SOIL LEVEL AND LEVEL ON TOP SO #06852 BRACKET CAN BE ANCHORED CORRECTLY.
5. AFTER ENDWALLS ARE CONSTRUCTED AND GLAZED, REMOVE METAL SHAVINGS FROM TOP SURFACES OF 2x3 MEMBERS TO PREVENT RUSTING.

| #  | ITEM # | MATERIAL LIST - PART DESCRIPTION   |
|----|--------|------------------------------------|
| 1  | P2314  | 2.875" ENDWALL CONNECTOR           |
| 2  | 15202  | L-CONNECTOR                        |
| 3  | 1344   | 5/16" x 3" HEX BOLT                |
| 4  | 1348   | 3/8" x 4" HEX BOLT                 |
| 5  | 1349   | 3/8" LOCKNUT                       |
| 6  | 06852  | 2" x 3" 90° ENDWALL CONNECTOR      |
| 7  | 10342  | #2 x 1" TEC SCREW w/o WASHER       |
| 8  | P2315  | 2" x 3" ADJUSTABLE ANGLE CONNECTOR |
| 9  | P2316  | 2" x 3" TOP CHORD ENDWALL CONN.    |
| 10 |        | 2.875" O.D. STEEL COLUMN           |
| 11 | 134303 | 5/16 X 2-1/4" TAPCON SCREW         |



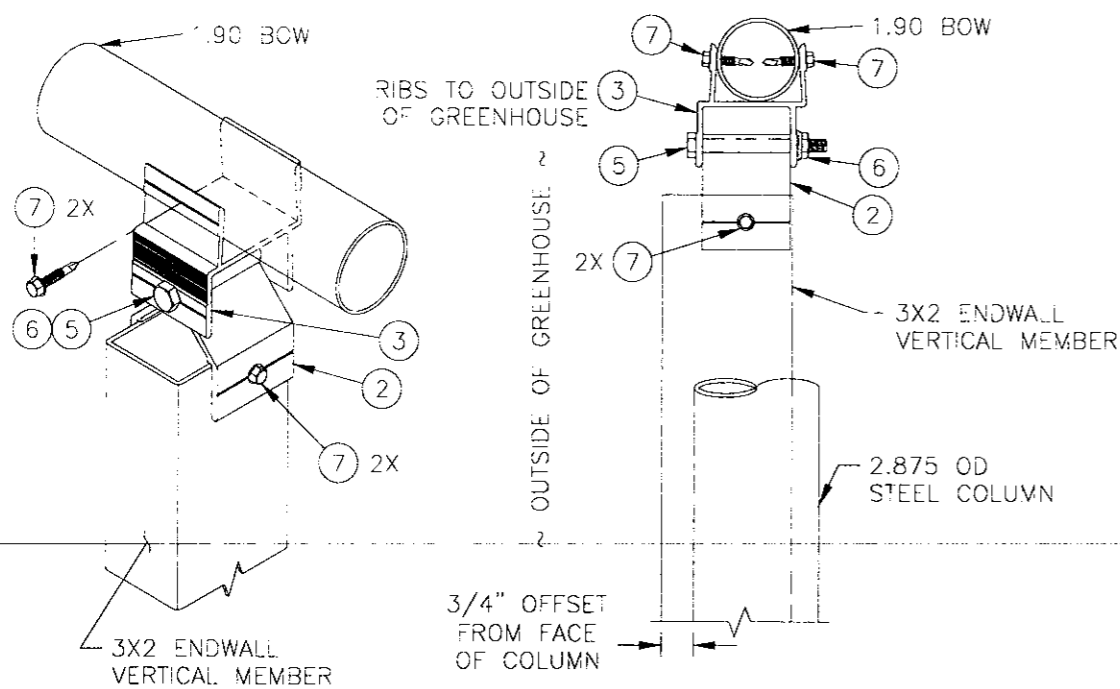
NOTE: ENDWALL CONFIGURATION WILL VARY. ILLUSTRATION IS FOR DETAILS AND PERSPECTIVE VIEWS ONLY. REFER TO SPECIFIC ENDWALL DRAWINGS FOR CONSTRUCTION.

2" x 3" TYPICAL ENDWALL FRAMING  
FOR RAINBOW+ GREENHOUSES

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

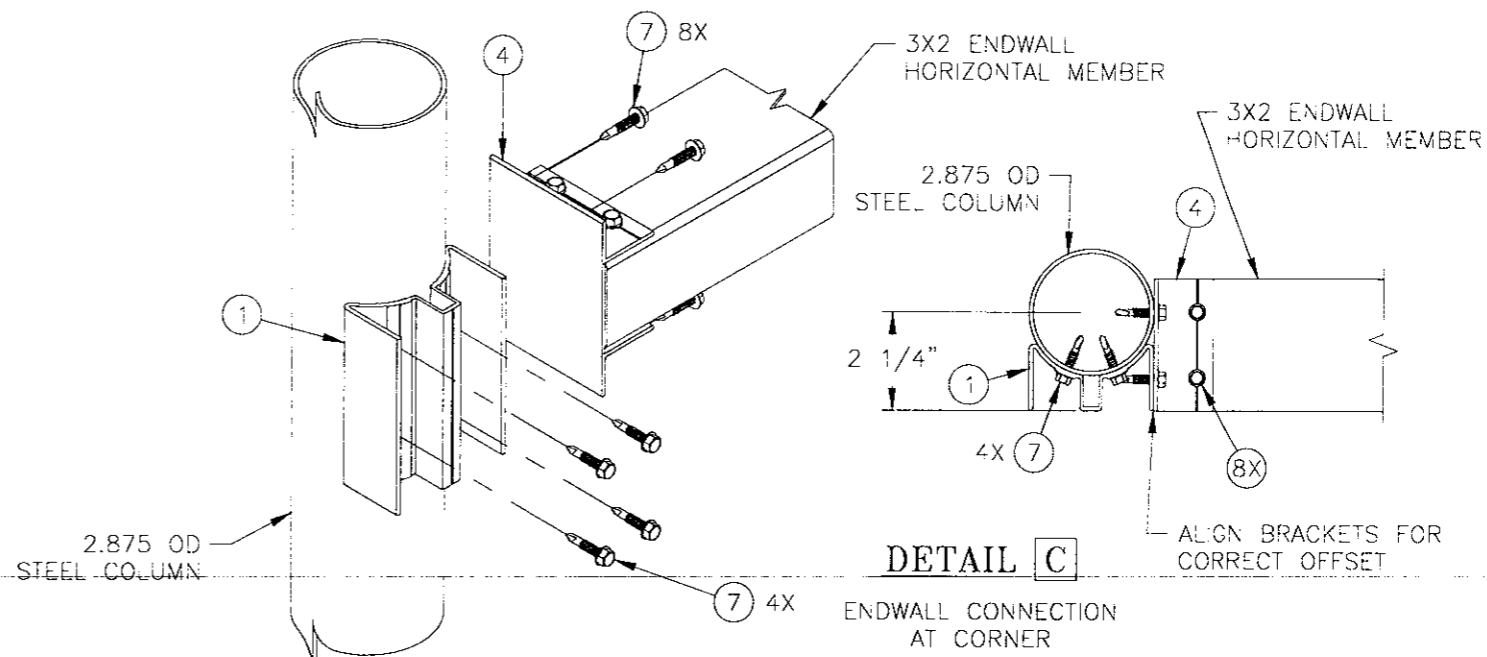
|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>BJA/TNB       | CHK'D BY<br>EEG |
| DATE<br>02-11-1997     |                 |
| INDEX NUMBER<br>C-1951 |                 |





**DETAIL A**

ENDWALL VERTICAL TO BOW CONNECTION



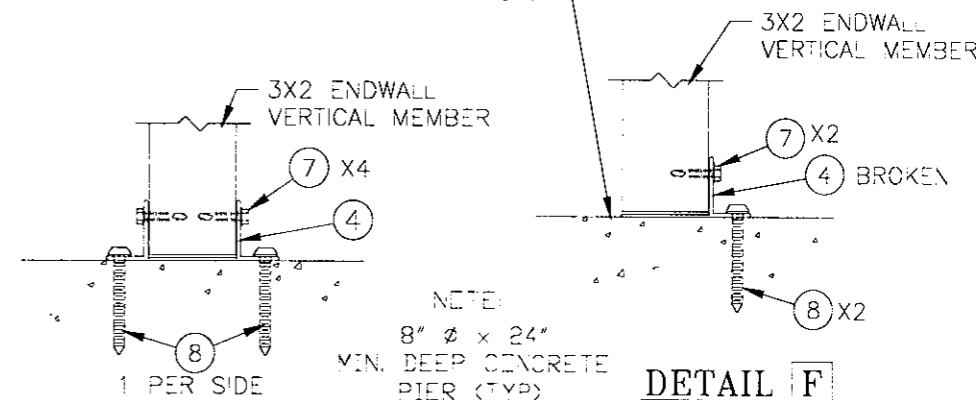
**DETAIL C**

ENDWALL CONNECTION AT CORNER

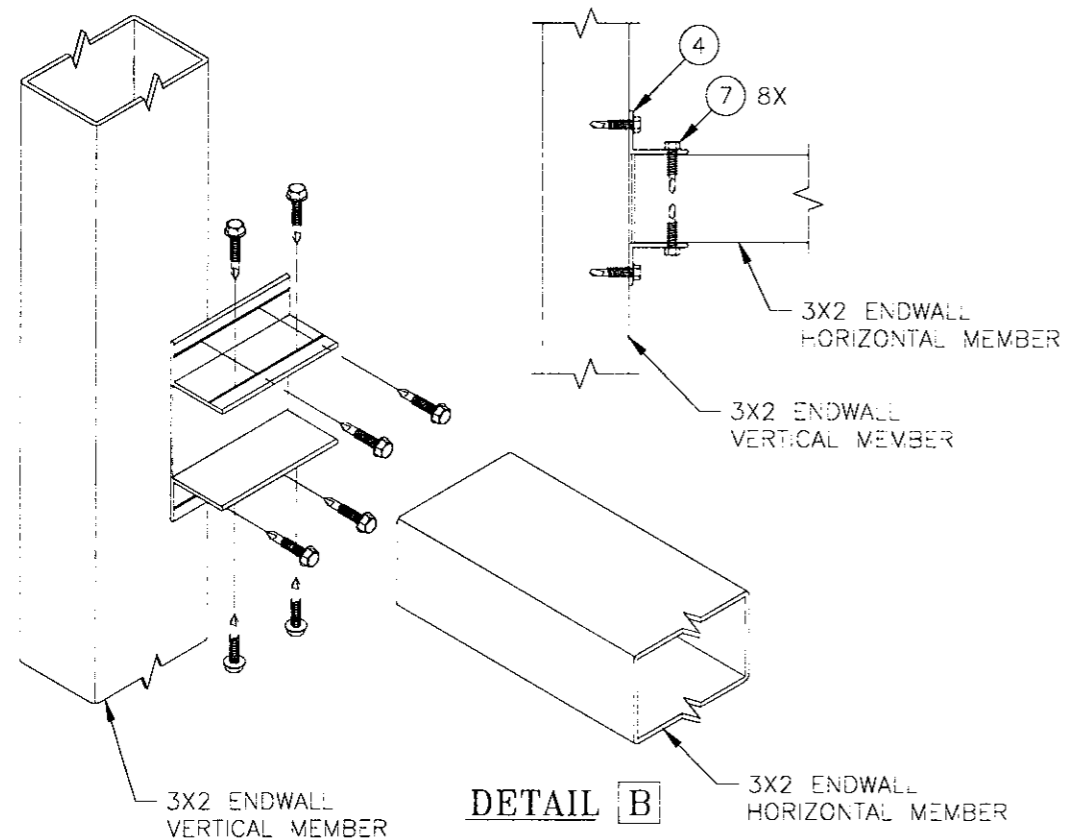
**IMPORTANT VERTICAL UPRIGHT INSTALLATION**

1. CONNECT VERTICAL 2x3 MEMBER TO BOW USING P2316 AND P2315. FIELD CUT TO CORRECT SIZE.
2. SECURE ANCHOR BRACKETS #06852 TO CONCRETE ENDWALL PIERS WITH #134303 TAPCON SCREW, 3/4" OUT FROM OUTSIDE OF COLUMNS.
3. AFTER CUTTING TO LENGTH, SECURE BOTTOM OF THE 2x3 UPRIGHT TO #06852 BRACKET USING #10342 TEC SCREWS.

KEEP DOOR OPENING AREA CLEAR  
BREAK OFF POINT

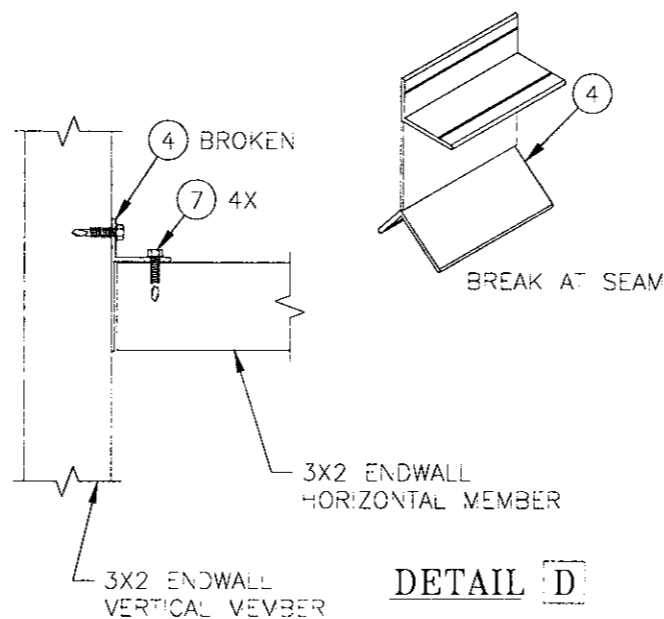


**DETAIL E**



**DETAIL B**

ENDWALL VERTICAL TO HORIZONTAL CONNECTION



**DETAIL D**

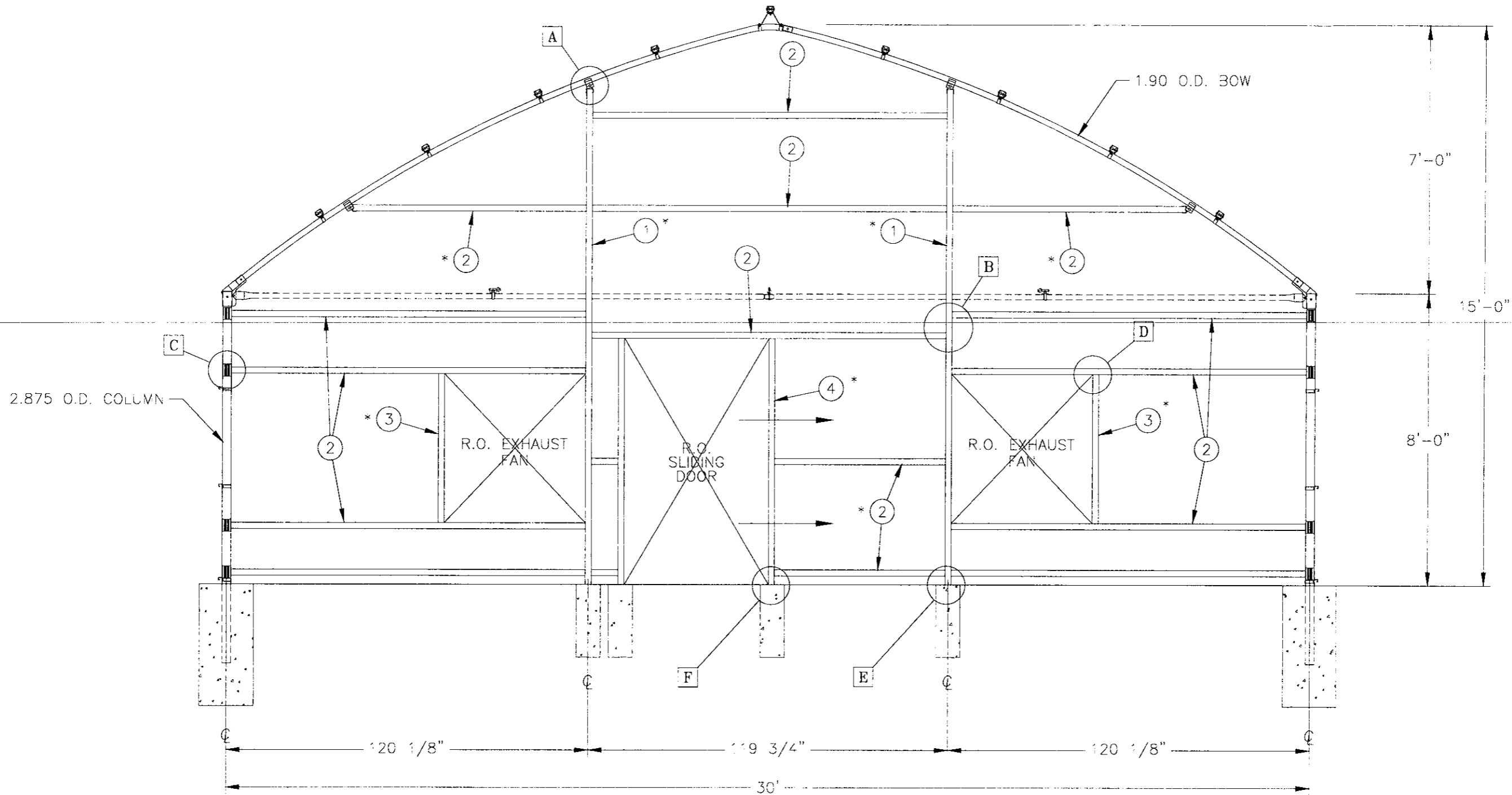
INSIDE DOOR OR FAN FRAMING

| # | REV #  | VATERA LIST - PART DESCRIPTION |
|---|--------|--------------------------------|
| 1 | P2314  | 2.875 ENDWALL CONN 4"          |
| 2 | P2315  | 3X2 ADJUST ANGLE CONN          |
| 3 | P2316  | 1.90 OD TOP CHORD/EWL CON      |
| 4 | 06852  | 2X3 90 DEG 3" ALUM CONNCT      |
| 5 | 1344   | 5/16-18 3" HEX BOLT G5CD       |
| 6 | 1346   | 5/16-18 HX LCK NT-SRTD FLNG    |
| 7 | 10342  | #12-14 1" TEK3 NO WASHER       |
| 8 | 134303 | 5/16 X 2-1/4" TAPCON SCREW     |

**ENDWALL FRAMING DETAILS FOR 3X2 ENDWALL - RBP**

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

| ITEM NUMBER            |                 |
|------------------------|-----------------|
| REVISION #             |                 |
| DRAWN<br>MAW           | CHK'D BY<br>TNS |
| DATE<br>2/3/2010       |                 |
| INDEX NUMBER<br>B-1879 |                 |



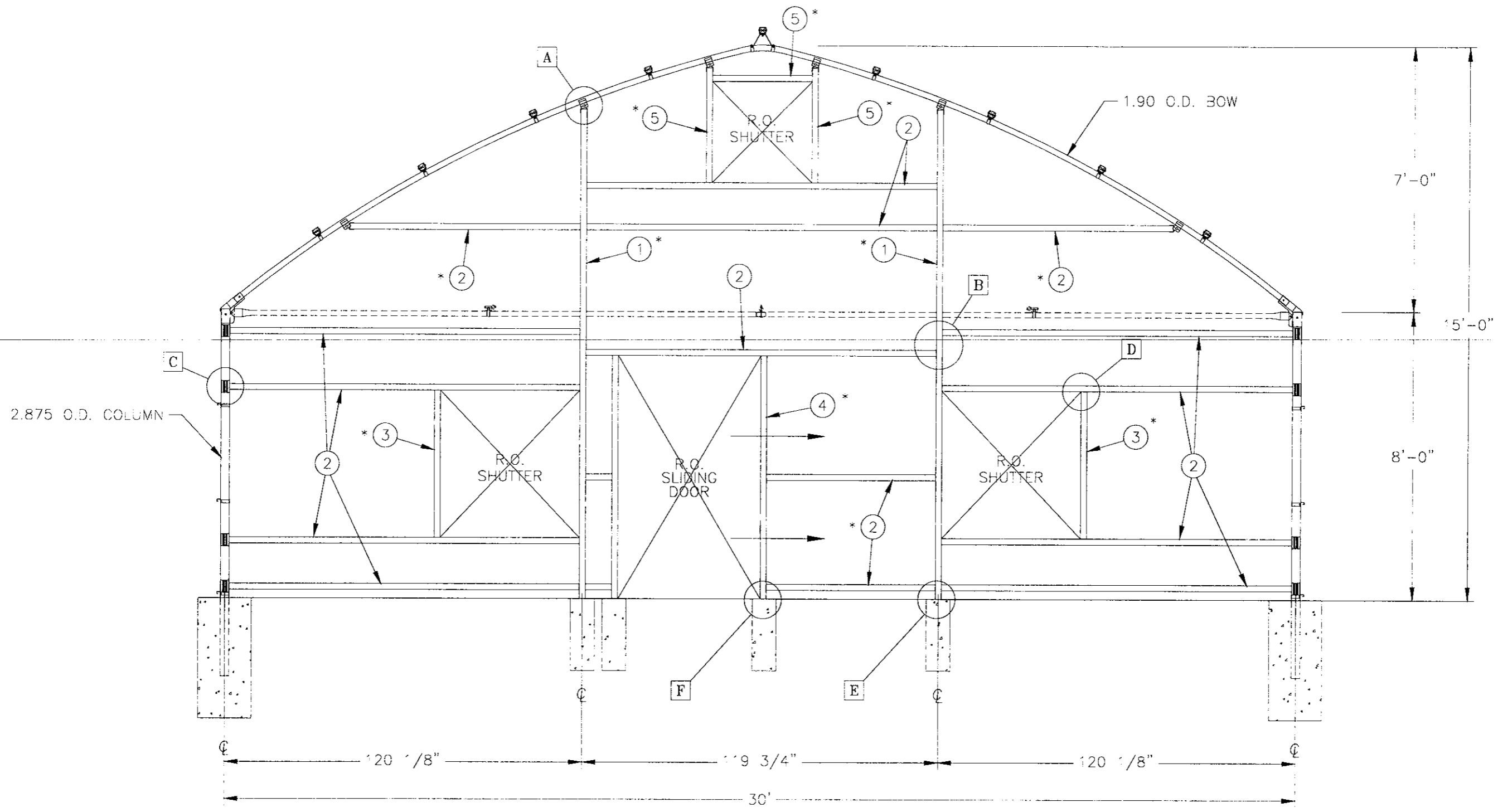
| # | ITEM # | MATERIAL LIST - PART | DESCRIP         | QTY |
|---|--------|----------------------|-----------------|-----|
| 1 | P2194  | 2x3                  | 15GA x 180"     | 2   |
| 2 | P2161  | 2x3                  | 15GA x 117-3/8" | 15  |
| 3 | P2176  | 2x3                  | 15GA x 63-1/2"  | 2   |
| 4 | P2158  | 2x3                  | 15GA x 89-3/8"  | 2   |

- NOTES:
- \* DENOTES PIECE TO BE FIELD CUT TO SIZE.
  - CHECK WITH CUSTOMER FOR EXACT LOCATION OF EQUIPMENT.
  - SPRAY PAINT ALL CUT EDGES.
  - AFTER ERECTING ENDWALLS USE A BRUSH AND WIPE THE METAL SHAVINGS OFF OF 2x3's.
  - FOR TYPICAL ENDWALL FRAMING DETAILS REFER TO DWG. B-1879.

**RAINBOW PLUS DIAMOND**  
**2x3 ENDWALL**

**STUPPY GREENHOUSE MFG. INC.**  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 816-842 3071 / FAX- 816 472 0969

|              |           |
|--------------|-----------|
| ITEM NUMBER  | 88050     |
| REVISION #   |           |
| DRAWN        | CHK'D BY  |
| TNB          | MJC       |
| DATE         | 6-11-2015 |
| INDEX NUMBER | B-7036    |



| # | ITEM # | MATERIAL LIST - PART | DESCRIP  | QTY |
|---|--------|----------------------|----------|-----|
| 1 | P2194  | 2x3 15GA x           | 180"     | 2   |
| 2 | P2161  | 2x3 15GA x           | 117-3/8" | 15  |
| 3 | P2176  | 2x3 15GA x           | 63-1/2"  | 2   |
| 4 | P2158  | 2x3 15GA x           | 89-3/8"  | 2   |
| 5 | P3845  | 2x3 15GA x           | 48"      | 3   |

NOTES:

1. \* DENOTES PIECE TO BE FIELD CUT TO SIZE.
2. CHECK WITH CUSTOMER FOR EXACT LOCATION OF EQUIPMENT.
3. SPRAY PAINT ALL CUT EDGES.
4. AFTER ERECTING ENDWALLS USE A BRUSH AND WIPE THE METAL SHAVINGS OFF OF 2x3's.
5. FOR TYPICAL ENDWALL FRAMING DETAILS REFER TO DWG. B-1879.

**RAINBOW PLUS DIAMOND**  
**2x3 ENDWALL**

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER<br>88051   |                 |
| REVISION #             |                 |
| DRAWN<br>TNB           | CHK'D BY<br>MJO |
| DATE<br>6-11-2015      |                 |
| INDEX NUMBER<br>B-7037 |                 |



INSTALLATION GUIDE FOR 360/3100/3500/3600 SERIES  
PREHUNG, 4-WAY UNIVERSAL DOOR

This door is designed for installation in all types of construction, with or without a J-channel nailing fin, prehung at the factory for 4-way installation.

**BEFORE STARTING:**

1. Read these instructions completely BEFORE starting to install this door.
2. The rough opening into which this door is to be installed should be 1/2" wider and 1/2" higher than the Outside Measurement of the door frame.
3. Check the rough opening to be certain that it is square and plumb. The rough opening must be square to ease the installation of the door and to insure proper operation of the door after installation.

**TOOLS AND SUPPLIES REQUIRED:**

Tape measure, square, level, drill, 1/8" drill bit, hammer, two (2) saw horses, Phillips screw-driver, shimming material and at least seventeen tec screws to attach the J-channel to the frame.

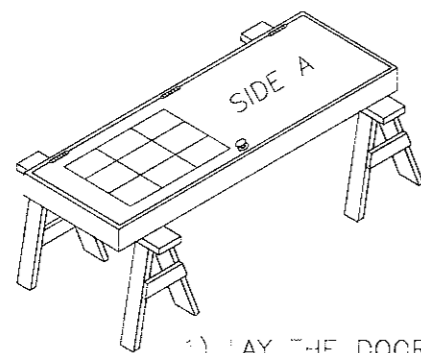
**DOOR INSTALLATION:**

1. Remove the door from the carton and LAY IT ON THE SAW HORSES WITH WHAT WILL BE THE OUTSIDE OF THE DOOR FACING UP.
2. Remove the screw pack, containing the weatherstripped header parting stop and optional J-channel nailing fin and lock set from the carton.
3. Optional J-channel nailing fin is to be applied to the door frame at this time.
4. To apply the J-channel to the door frame, slide the groove in the J-channel over the top leg of the frame section. Apply the short header piece first, and then both vertical pieces by starting at the sill end of the jamb and sliding the pieces toward the top of the frame.
5. When moving the door from the saw horses to the rough opening, be certain to grasp both the J-channel and the door frame when picking the complete unit up.
6. From the outside of the building set the complete unit loosely in the rough opening.
7. Push the entire unit tightly to the hinge side of the rough opening.
8. Insert one of the tec screws in the top hole of the J-channel on the lock side of the door unit.

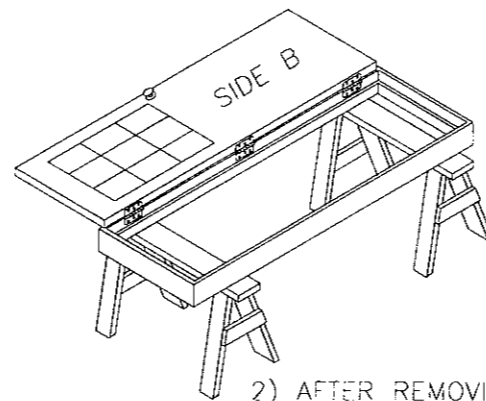
9. After lining up the miter corners of the J-channel, install another screw in the top hole of the J-channel on the lock side of the door unit.
10. Open the door and install one of the furnished #12 X 2 3/4" header tec screws in the center hole of the top hinge (Item #1251).
11. Check the aluminum frame to be certain it is square and plumb.
12. Install a #12 x 2 3/4" header tec screw in the center hole of the bottom hinge and then one in the center hole of the center hinge.
13. Check the aluminum frame for squareness again and shim if necessary.
14. Install shimming material #1033 between the lock frame jamb and the wood frame, especially in the areas where the four (4) installation screws will be placed and in the locked area.
15. Install one of the furnished #12 x 2 3/4" header tec screws in the top installation screw hole of the lock jamb and then one in the bottom hole. Next install one in the second from the top hole and then in the second from the bottom hole. Check while installing these screws that the space, approximately 5/32", between the door and the aluminum frame remains even. Shim as necessary.
16. Install the four (4) remaining #12 x 2 3/4" header tec screws in the installation screw holes in the hinge jamb, following the same sequence as those installed in the lock jamb.
17. Check the aluminum frame for squareness again the adjust screws and shim if necessary.
18. Re-check the alignment of the miter corners of the J-channel, adjust if necessary and proceed to fasten it in place with the customer supplies nails or screws.
19. Install the snap-in parting stop on the frame header by:
  - A. Swing the door completely open to allow sufficient working area.
  - B. Hook the leg of the parting stop containing the weatherstrip into the slot in the header frame. Remember to keep the weatherstrip toward the door, the same as in the jambs.
  - C. Swing the parting stop up and press it against the header frame until the other leg of the parting stop snaps into the groove in the header frame. NOTE: Due to Standard Aluminum Commercial tolerances, it may be necessary to gently tap the parting stop into place with a hammer. If so, use either a soft faced hammer or piece a block of wood between the hammer and the parting stop to avoid damaging the extrusion or the painted finish.
20. Remove the adhesive backed spacers from the lock side of the door.
21. Install the lock set as per the lock manufacturers instructions except, use the strike plate furnished with the door. Use the two (2) #6 x 1/2" screws found in the lock bolt area of the door perimeter to attach the lock bolt to the door. Apply a thread locking solution to the screws prior to installing to insure that they do not work loose as the door is used.

|                                           |                  |              |  |
|-------------------------------------------|------------------|--------------|--|
| INSTALLION GUIDE FOR 360/3100/3500/3600   |                  | ITEM NUMBER  |  |
| PREHUNG, 4-WAY UNIVERSAL DOOR             |                  | REVISION #   |  |
| DRAWN<br>THR                              | C-Ck'D BY<br>EEG | DATE         |  |
| STUPPY GREENHOUSE MFG. INC.               |                  | 09-27-1996   |  |
| 1212 CLAY NORTH KANSAS CITY MO.64116-4027 |                  | INDEX NUMBER |  |
| 800-733-5025 / FAX 800-423-1512           |                  | C-4002       |  |

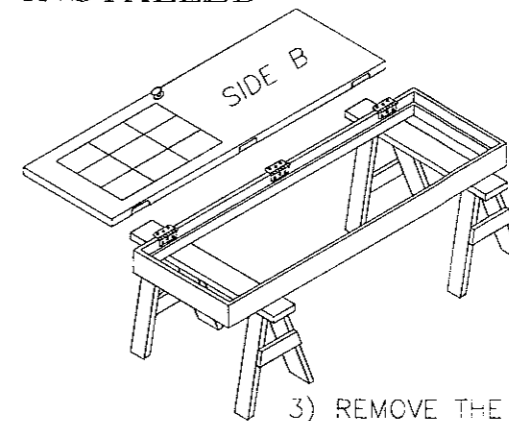
# HINGE REVERSING PROCEDURE PREHUNG 4 - WAY DOORS WITH FACTORY INSTALLED WINDOW



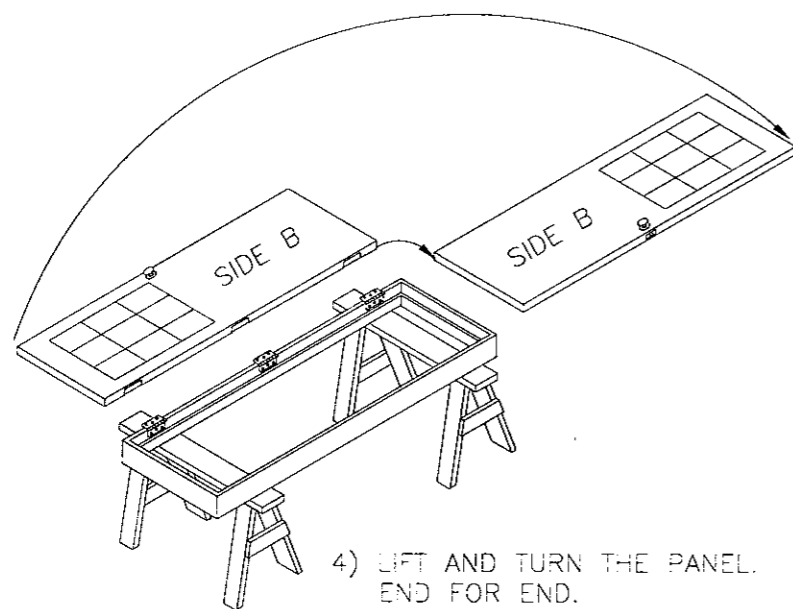
1) LAY THE DOOR ON SAW HORSES WITH THE HINGE KNUCKELS UP.



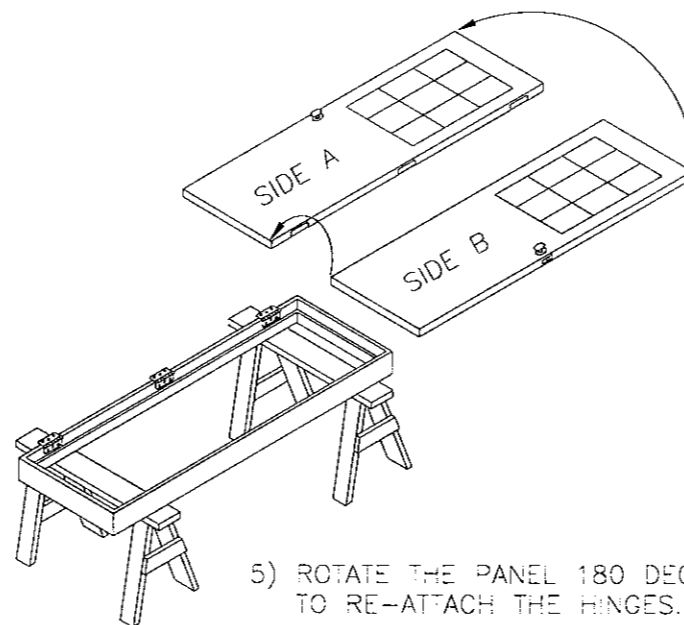
2) AFTER REMOVING THE RETAINING CLIP FRAME SPACER, OPEN THE DOOR.



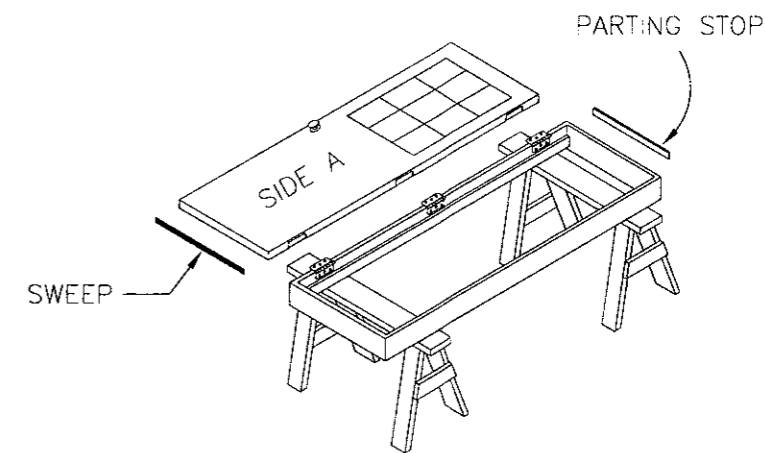
3) REMOVE THE NINE HINGE SCREWS FROM THE DOOR PANEL.



4) LIFT AND TURN THE PANEL. END FOR END. (DO NOT MOVE THE FRAME)

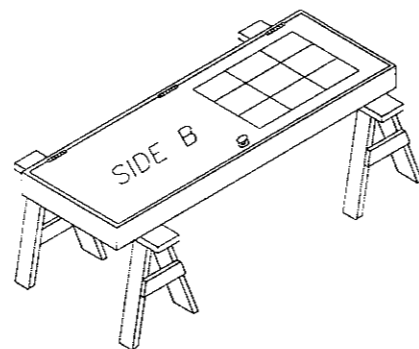


5) ROTATE THE PANEL 180 DEGREES TO RE-ATTACH THE HINGES.



6) INSTALL THE NINE HINGE SCREW WHICH WERE REMOVED IN STEP 3.

7) INSTALL THE PARTING STOP AT THE TOP OF THE DOOR PANEL. INSTALL THE SWEEP AT THE BOTTOM OF THE DOOR - REFER TO THE INSTRUCTION SHEET FOR CORRECT ORIENTATION.



8) PUT THE DOOR PANEL BACK INTO THE FRAME AND REPLACE FRAME SPACERS.

NOTE: WITHOUT REMOVING THE FRAME, DOORS WITHOUT LITES MAY BE ROTATED AND TURNED TO ACHIEVE THE DESIRED SWING.



## HINGE REVERSING PROCEDURE

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                          |          |
|--------------------------|----------|
| ITEM NUMBER<br>1952,1953 |          |
| REVISION #               |          |
| DRAWN<br>TNB             | CHK'D BY |
| DATE<br>07-26-01         |          |
| INDEX NUMBER<br>B-5629   |          |

\* CHECK WITH PAPERWORK THAT COMES WITH DOOR FOR YOUR EXACT ROUGH OPENING.

READ ALL INSTRUCTIONS WITH DOOR FOR #1952, 1953, & 1954 3600 NF SERIES DOORS

#1033 SHIM PLATES SHIM AS NECESSARY

INSIDE OF GREENHOUSE

(TYPICAL END FRAMING)

(TYPICAL END FRAMING)

2 x 3

2 x 3

2 x 3 DOOR UPRIGHTS

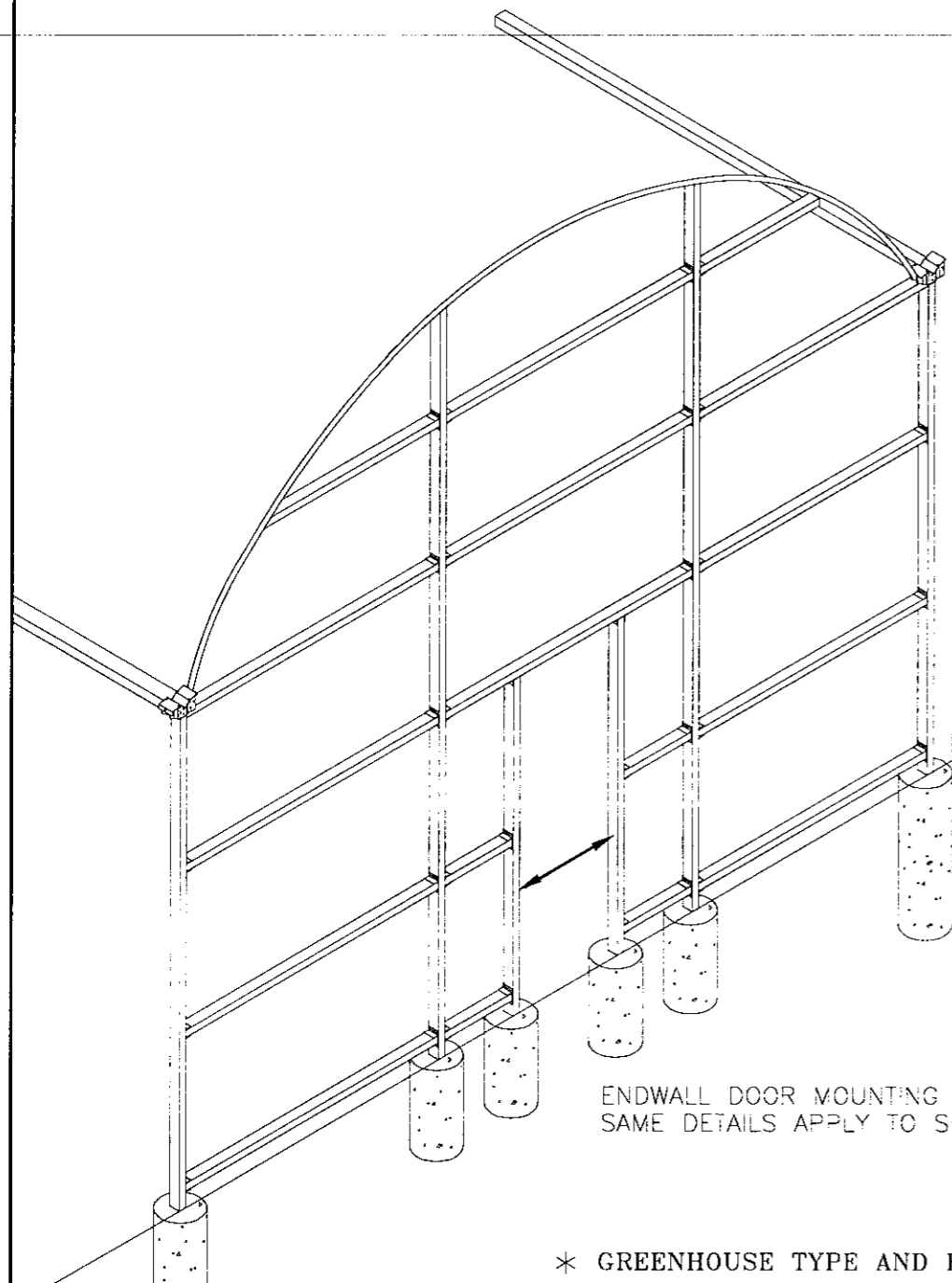
DW 2-3/8 SELF DRILLER ZP (#121708)

DW 2-3/8 SELF DRILLER ZP (#121708)\*

PUSH FRAME TIGHTLY AGAINST FRAMING MEMBER ON HINGE SIDE

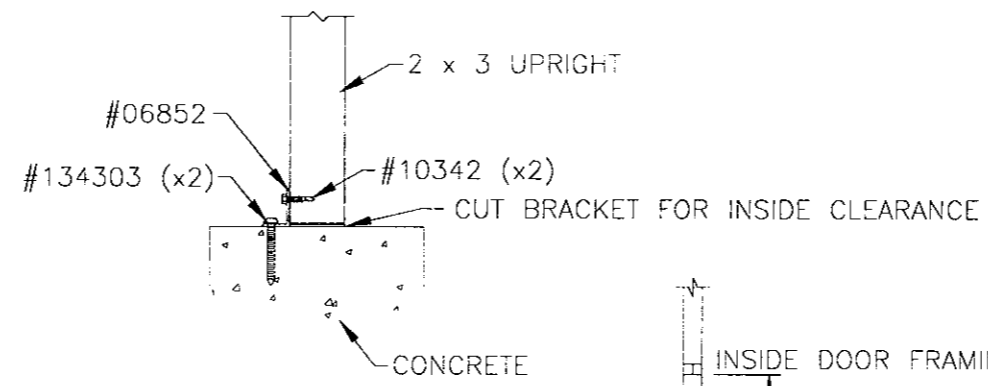
(10342) #12 x 1" TEC 3 NO WASHER

SECTION A-A

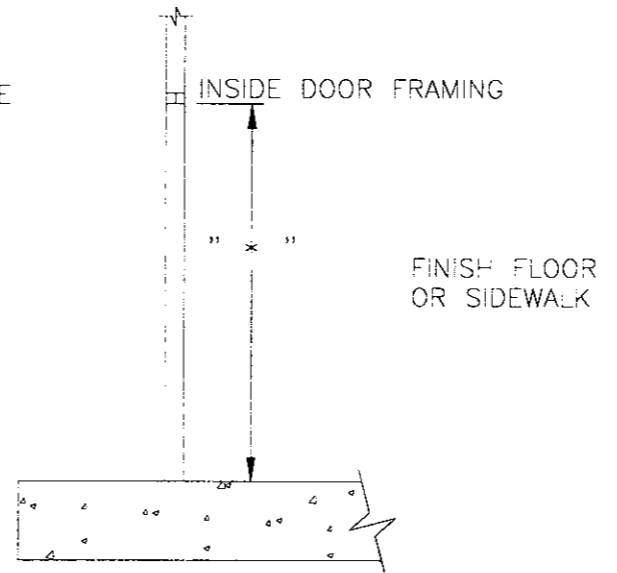


ENDWALL DOOR MOUNTING APPLICATION SHOWN— SAME DETAILS APPLY TO SIDEWALL MOUNTING.

\* GREENHOUSE TYPE AND ENDWALL CONFIGURATION WILL VARY

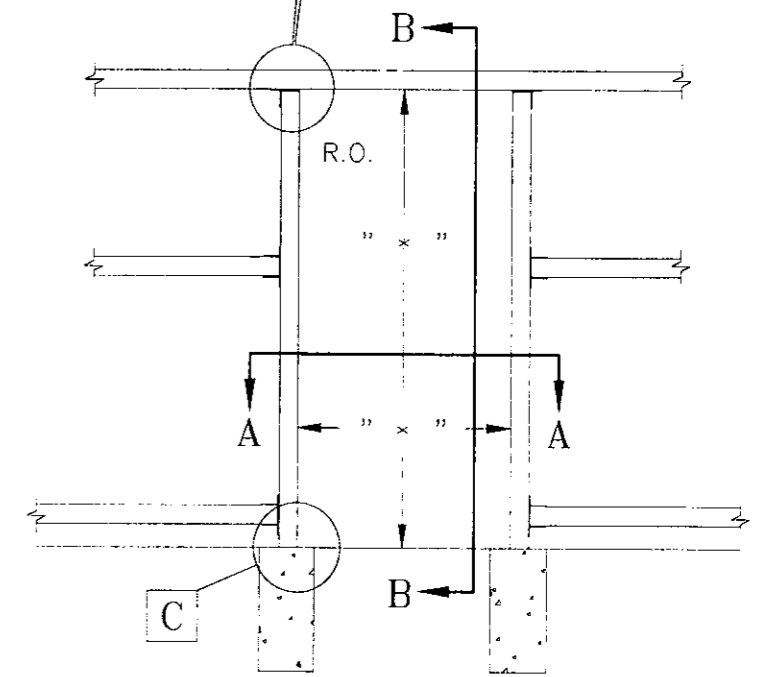


DETAIL C



SECTION B-B

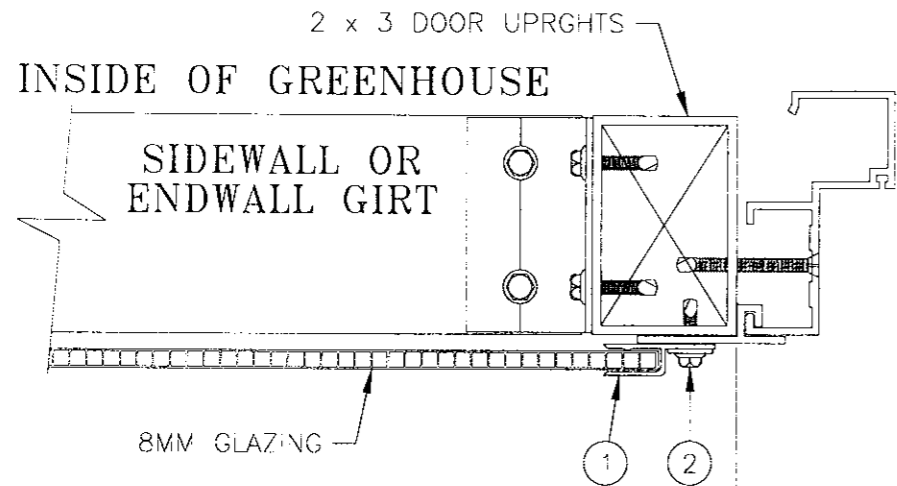
(06852) 2x3 90 DEGREE 3" ALUM CONNECTOR



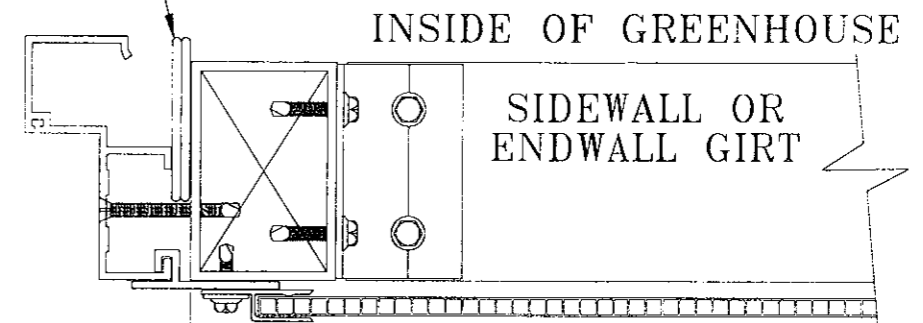
A-J IND. 3600 DOOR FRAMING  
2 x 3 ENDWALL DETAILS

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                                  |                 |
|----------------------------------|-----------------|
| ITEM NUMBER<br>'952, 1953 & '954 |                 |
| REVISION #                       |                 |
| DRAWN<br>THR                     | CHK'D BY<br>EEG |
| DATE<br>09-25-1996               |                 |
| INDEX NUMBER<br>B-1884           |                 |

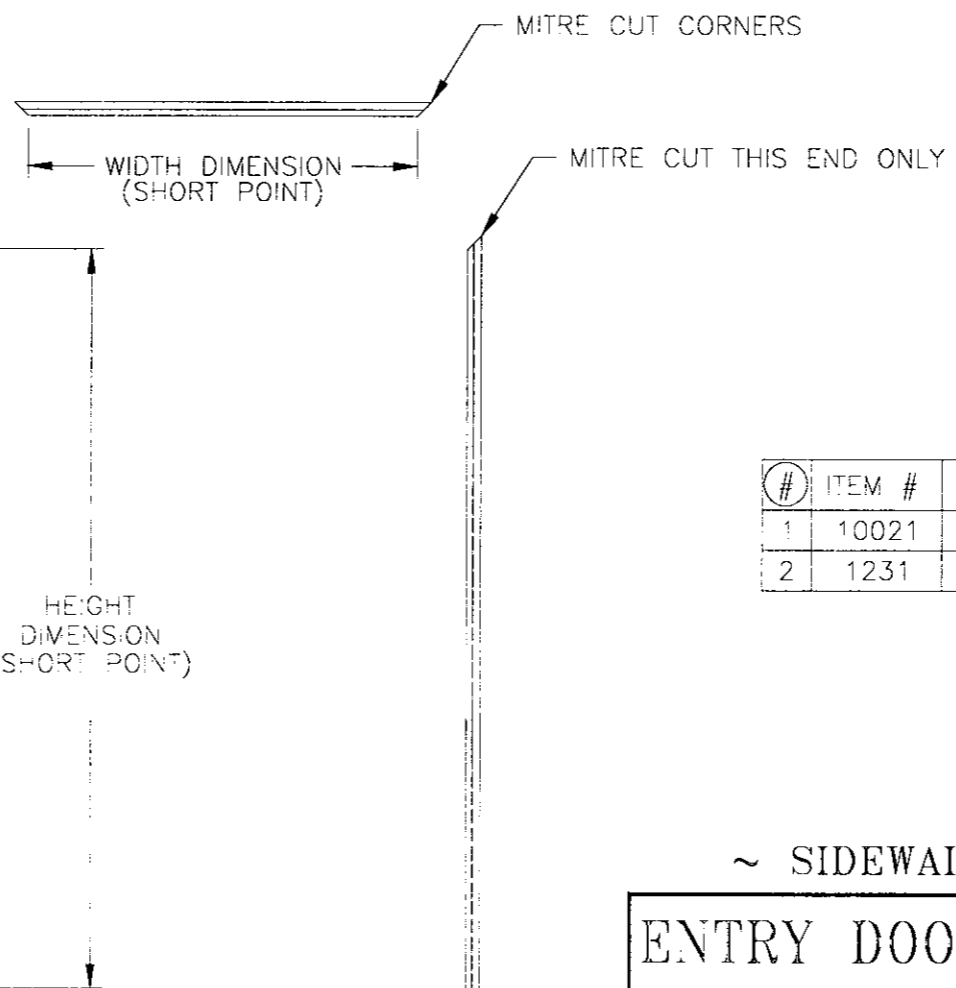
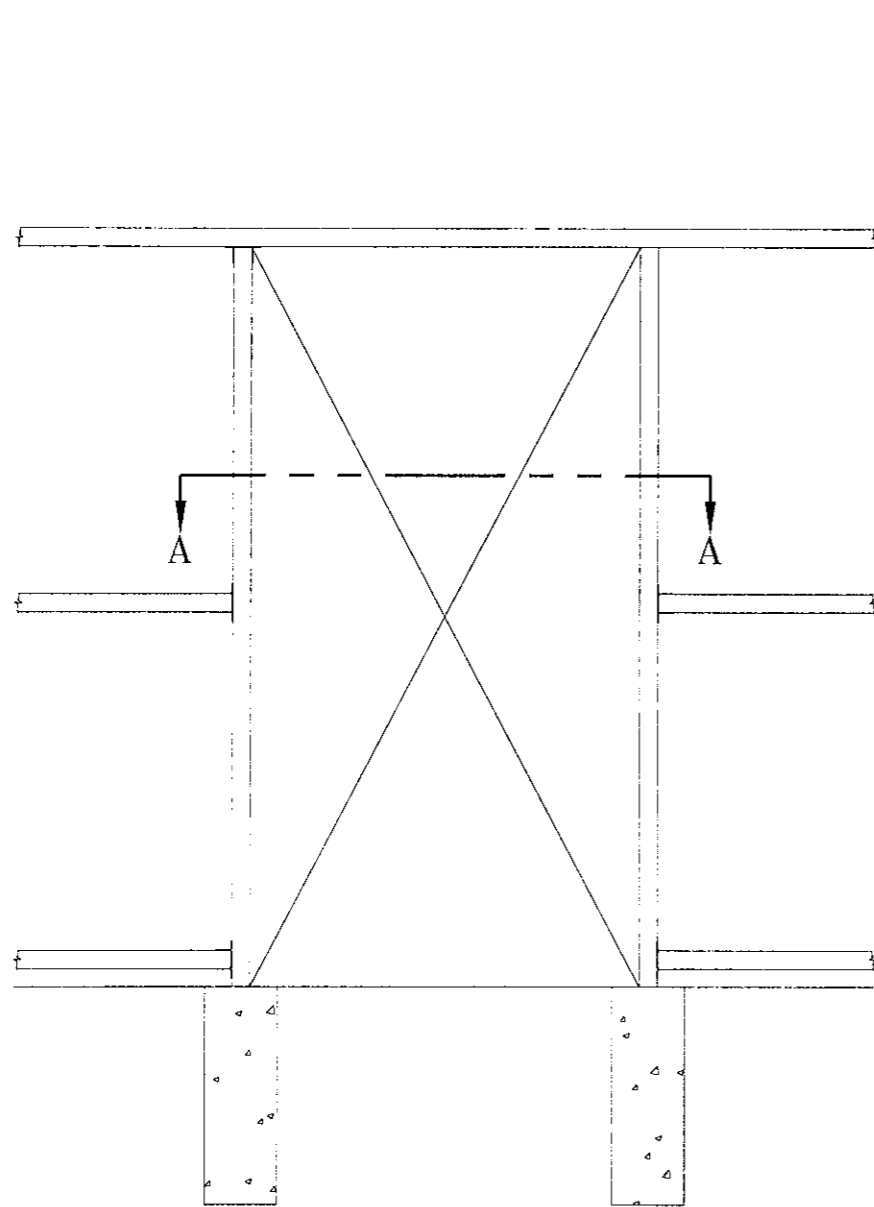


SHIM PLATES AS NECESSARY



R.O. DOOR

**SECTION A-A**



**INSTALLATION DETAILS**

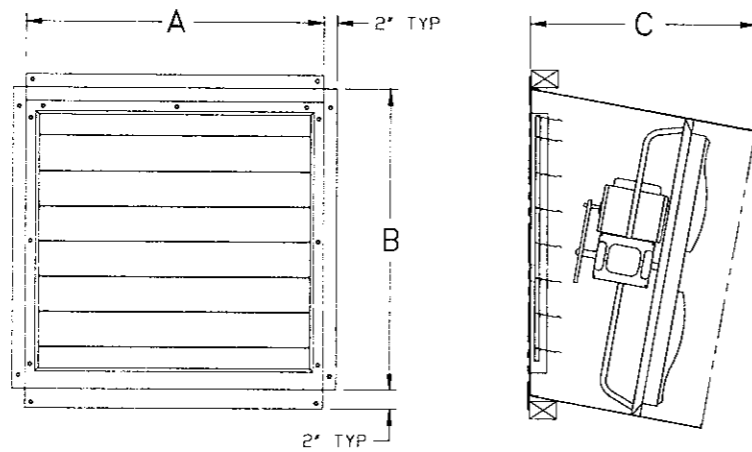
1. THE DOOR TRIM PACKAGE INCLUDES ENOUGH ALUMINUM EXTRUSION TO TRIM AROUND THE PERIMETER OF THE DOOR.
2. INSTALL THE DOOR FIRST ACCORDING TO DOOR INSTALLATION INSTRUCTIONS.
3. REMOVE TECS USED TO INSTALL DOOR FLANGE AS TRIM IS INSTALLED AROUND THE DOOR. THIS IS SO THAT THE TRIM WILL LAY FLUSH AGAINST THE DOOR FLANGE.
4. GLAZE AS REQUIRED.

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 10021  | 8MM SINGLE CAP 8'                |
| 2 | 1231   | #12 x 1" TEC W-5/8" WASHER       |

~ SIDEWALL OR ENDWALL APPLICATION ~

|                                                                                                             |                  |                        |  |
|-------------------------------------------------------------------------------------------------------------|------------------|------------------------|--|
| <b>ENTRY DOOR ALUMINUM TRIM PACKAGE-8MM PCSS GLAZING</b>                                                    |                  | ITEM NUMBER<br>76008   |  |
|                                                                                                             |                  | REVISION #             |  |
| DRAWN<br>BJA                                                                                                | CHCK'D BY<br>EEG | DATE<br>05-27-1998     |  |
| STUPPY GREENHOUSE MFG. INC.<br>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br>800-733-5025 / FAX 800-423-1512 |                  | INDEX NUMBER<br>B-4604 |  |

AMERICAN  
COOL-AIR



\*\*\*\* END FRAMING \*\*\*\*

WOOD OR METAL ENDS

1. Due to the unlimited diversity of operator requirements, we do not have a specific detailed plan for end framing. Refer to illustrations in end framing drawings for suggested framing details.
2. We recommend that you carefully plan your end framing, taking into consideration all of the equipment for which frames must be made. Information on the exact sizes of openings for "Cool-Air" and "Modine" equipment can be found in our catalog or in the instructions provided by the manufacturer. (See left side of page)
3. Be sure to take into consideration your requirements for doors and emergency exits.
4. As a minimum, use framing members of sound 2" x 6" lumber which have been treated with a preservative which does not harm plant life. See our catalog preservatives, ask your lumber supplier.
5. Vertical members, either wood or metal, should be made from solid members running from grade to bow.

| FAN SIZE | WALL HOUSING |     | AUTOMATIC ALUMINUM SHUTTER |     | INSIDE FRAMED OPENING DIMENSIONS |           |           |
|----------|--------------|-----|----------------------------|-----|----------------------------------|-----------|-----------|
|          | MODEL        | WT. | MODEL                      | WT. | A                                | B         | C         |
| 24"      | GSWH24       | 52  | LRW27                      | 12  | 32 7/8"                          | 33 11/16" | 29 1/16"  |
| 30"      | GSWH30       | 67  | LRW33                      | 14  | 38 7/8"                          | 39 3/4"   | 29 1/16"  |
| 36"      | GSWH36       | 82  | LRW39                      | 17  | 44 7/8"                          | 45 13/16" | 29 9/16"  |
| 42"      | GSWH42       | 104 | LRW45                      | 20  | 50 7/8"                          | 51 15/16" | 29 11/16" |
| 48"      | GSWH48       | 122 | LRW51                      | 24  | 56 7/8"                          | 58"       | 30 1/2"   |
| 54"      | GSWH54       | 132 | LRW57                      | 30  | 62 7/8"                          | 64 1/16"  | 32 9/16"  |
| 60"      | GSWH60       | 148 | LRW66                      | 36  | 68 3/4"                          | 70 1/8"   | 33"       |

NOTE:

Typically for single speed fans, the motors come pre-wired for 230 volt connection. To use 115 volt you will need to open panel on side of motor and change the wires to correspond to diagram on plate for 115V.

MOTORIZED INLET SHUTTERS

| SHUTTER MODEL | DIMENSIONS        |                   |
|---------------|-------------------|-------------------|
|               | OVERALL           | FRAMED OPENING    |
| LRW16E        | 19 1/4" x 19 1/4" | 16 1/2" x 16 1/2" |
| LRW21E        | 24 1/4" x 24 1/4" | 21 1/2" x 21 1/2" |
| LRW27E        | 30 1/4" x 30 1/4" | 27 1/2" x 27 1/2" |
| LRW33E        | 36 1/4" x 36 1/4" | 33 1/2" x 33 1/2" |
| LRW39E        | 42 1/4" x 42 1/4" | 39 1/2" x 39 1/2" |
| LRW45E        | 48 1/4" x 48 1/4" | 45 1/2" x 45 1/2" |
| LRW51E        | 54 1/4" x 54 1/4" | 51 1/2" x 51 1/2" |
| LRW57E        | 60 1/4" x 60 1/4" | 57 1/2" x 57 1/2" |
| LRW66E        | 69 1/4" x 69 1/4" | 66 1/2" x 66 1/2" |
| LRW4515E      | 48 1/4" x 18 1/4" | 45 1/2" x 15 1/2" |
| LRW4527E      | 48 1/4" x 30 1/4" | 45 1/2" x 27 1/2" |
| LRW6015E      | 63 1/4" x 18 1/4" | 60 1/2" x 15 1/2" |
| LRW6024E      | 63 1/4" x 27 1/4" | 60 1/2" x 24 1/2" |
| LRW6036E      | 63 1/4" x 39 1/4" | 60 1/2" x 36 1/2" |

FOR 2" x 3" METAL ENDS ONLY

1. After reviewing steps 1 thru 3 above for correct location of 2" x 3" steel members, See dimensions on 2" x 3" 's and endwall framing drawings, for the correct location.
2. Depending on your equipment size type and location some cutting of 2" x 3" steel members may be necessary, spray paint any cut ends

POWER TUBE FAN PERFORMANCE DATA

| POWER TUBE FAN MODEL | HORSE POWER | TUBE SIZE | SYSTEM CFM | MOTORIZED SHUTTER MODEL | * FRAMED OPENING SIZE I.D. | DISTANCE OF HEATER FROM HEAT KIT OPENING ★ |
|----------------------|-------------|-----------|------------|-------------------------|----------------------------|--------------------------------------------|
| PTFA12F17            | 1/6         | 12"       | 1250       | LRW16E                  | 17" x 17"                  | 18"                                        |
| PTFA18H16            | 1/3         | 18"       | 3650       | LRW21E                  | 22" x 22"                  | 18"                                        |
| PTFB24H              | 1/3         | 24"       | 4850       | LRW27E                  | 28" x 28"                  | 24"                                        |
| PTFB30J              | 1/2         | 30"       | 7550       | LRW33E                  | 34" x 34"                  | 30"                                        |
| PTFB30L              | 1           | 30"       | 10450      | LRW33E                  | 34" x 34"                  | 30"                                        |

\* FRAMED OPENING FURNISHED BY OTHERS

★ (SEE CAUTION)

FAN/SHUTTER  
SPECS

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|              |           |
|--------------|-----------|
| ITEM NUMBER  |           |
| REVISION #1  | BJA       |
| 07/17/2012   |           |
| DRAWN        | CHCK'D BY |
| TNB          | CD        |
| DATE         |           |
| 3-9-2009     |           |
| INDEX NUMBER |           |
| B-3315A      |           |



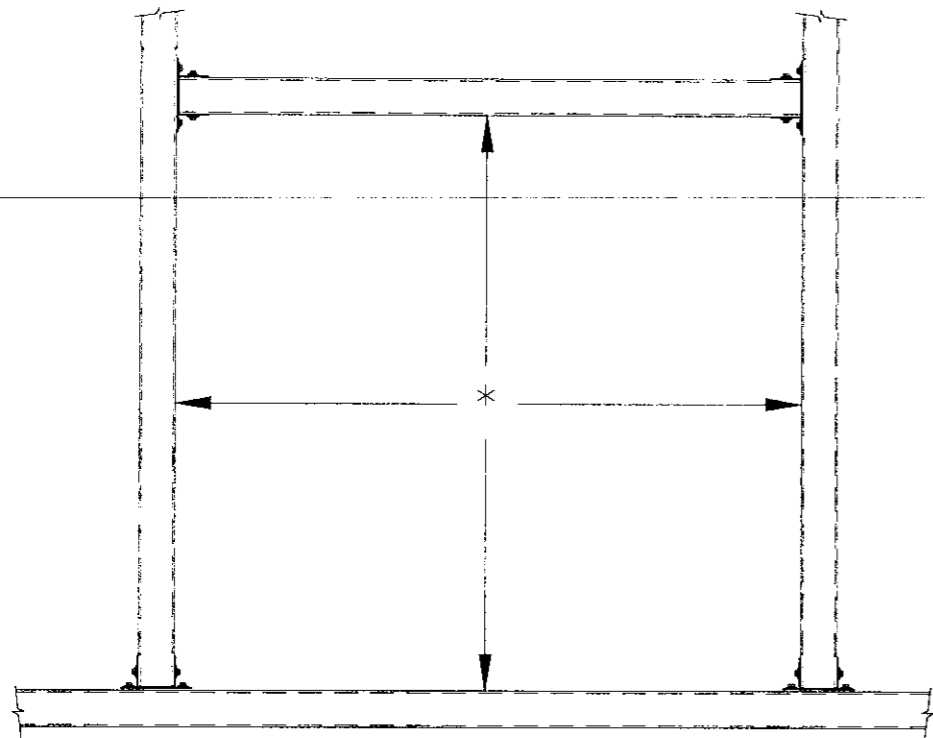
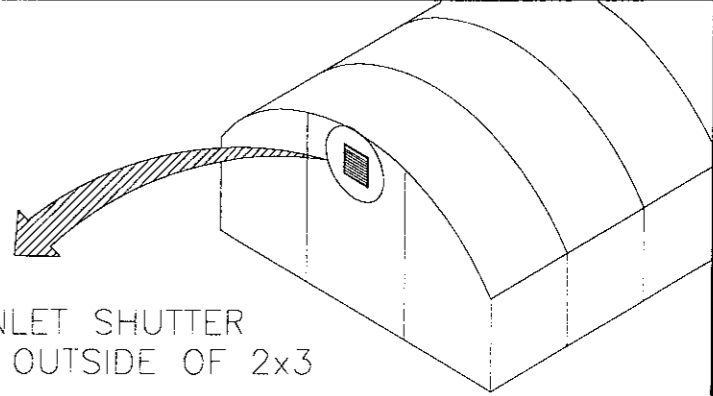
AMERICAN  
COOL-AIR

TOP VIEW INSIDE

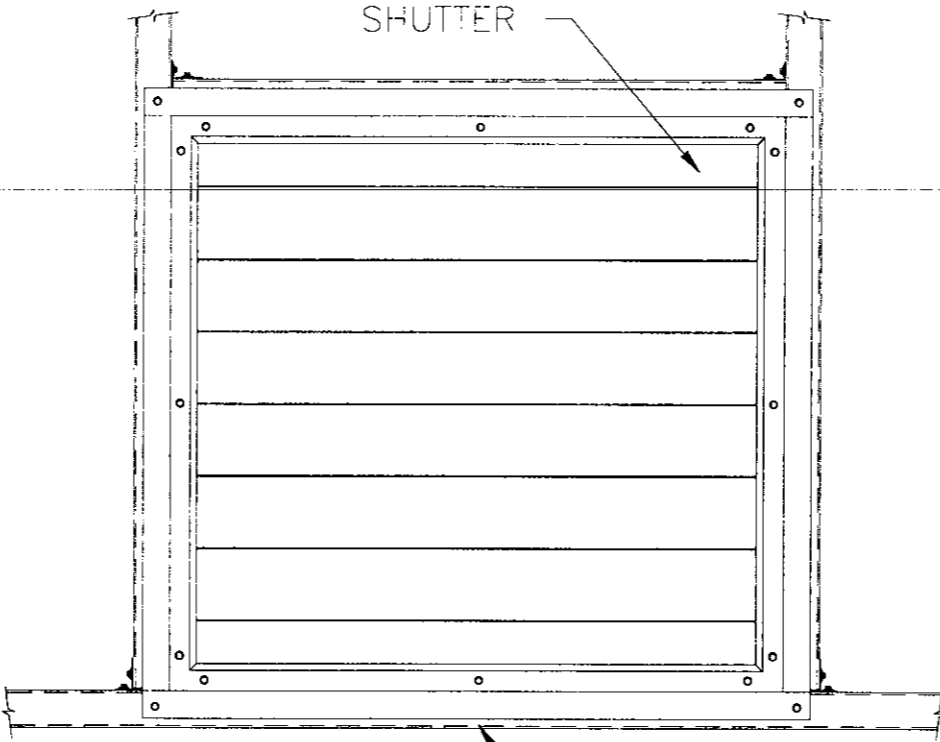
2" x 3" FRAMING  
MEMBERS

NOTE: SHUTTER TO BE INSTALLED  
BEFORE GLAZING IS ATTACHED.

MOTORIZED INLET SHUTTER  
MOUNTED TO OUTSIDE OF 2x3  
FRAMING



MOTORIZED INLET  
SHUTTER



GLAZING  
(TYPICAL)

OUTSIDE

INSIDE

SEE MOTOR BOX  
FOR MOTOR  
MOUNTING DETAILS

MOTORIZED  
INLET  
SHUTTER

GLAZING  
(TYPICAL)

2" x 3" FRAMING  
MEMBERS (TYPICAL)

2" x 3" FRAMING  
MEMBERS (TYPICAL)

**INSTALLATION DETAILS**

Upper gable shutters are used for minimum cooling/ventilation. Sometimes they are used for dehumidification. The upper gable shutter will always have a summer/winter switch. When minimum cooling is called for, the low speed of a 2-speed fan will open either the upper gable louver or the lower endwall louvers or rigid vent, one or the other. Upper gable shutters work well for winter ventilation. On a bright sunny winter day, cooling may be required. Cool air is pulled in thru the upper gable shutter, blending with the hottest air in the greenhouse and gradually cooling the greenhouse. This avoids shocking the crop if cold air was brought through the endwall vent or louvers, at crop level.

| * ROUGH OPENING<br>INSIDE TO INSIDE | SHUTTER<br>MODEL |
|-------------------------------------|------------------|
| 16 1/2" x 16 1/2"                   | LRW16            |
| 21 1/2" x 21 1/2"                   | LRW21            |
| 27 1/2" x 27 1/2"                   | LRW27            |
| 33 1/2" x 33 1/2"                   | LRW33            |
| 39 1/2" x 39 1/2"                   | LRW39            |
| 45 1/2" x 45 1/2"                   | LRW45            |
| 51 1/2" x 51 1/2"                   | LRW51            |
| 57 1/2" x 57 1/2"                   | LRW57            |
| 66 1/2" x 66 1/2"                   | LRW66            |
| 45 1/2" x 15 1/2"                   | LRW4515          |
| 45 1/2" x 27 1/2"                   | LRW4527          |
| 60 1/2" x 15 1/2"                   | LRW6015          |
| 60 1/2" x 24 1/2"                   | LRW6024          |
| 60 1/2" x 36 1/2"                   | LRW6036          |

~ MINIMUM COOLING APPLICATION ~

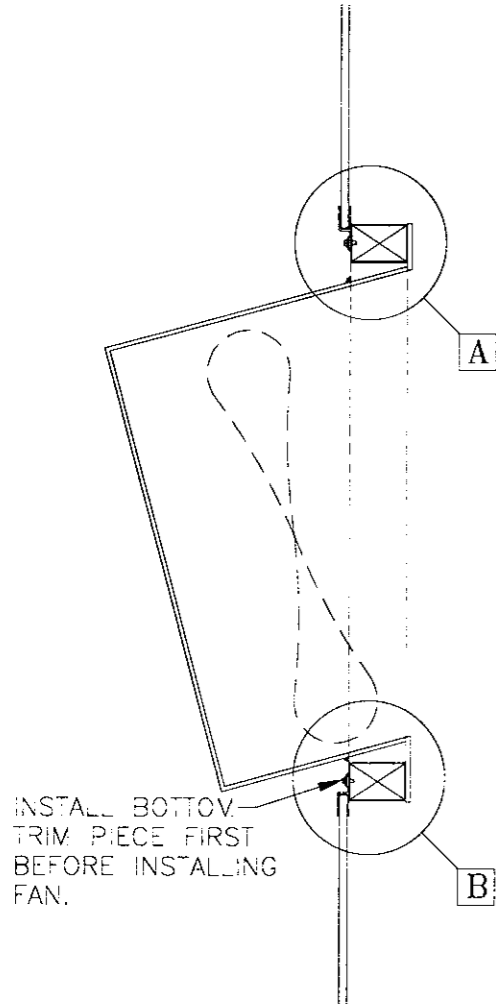
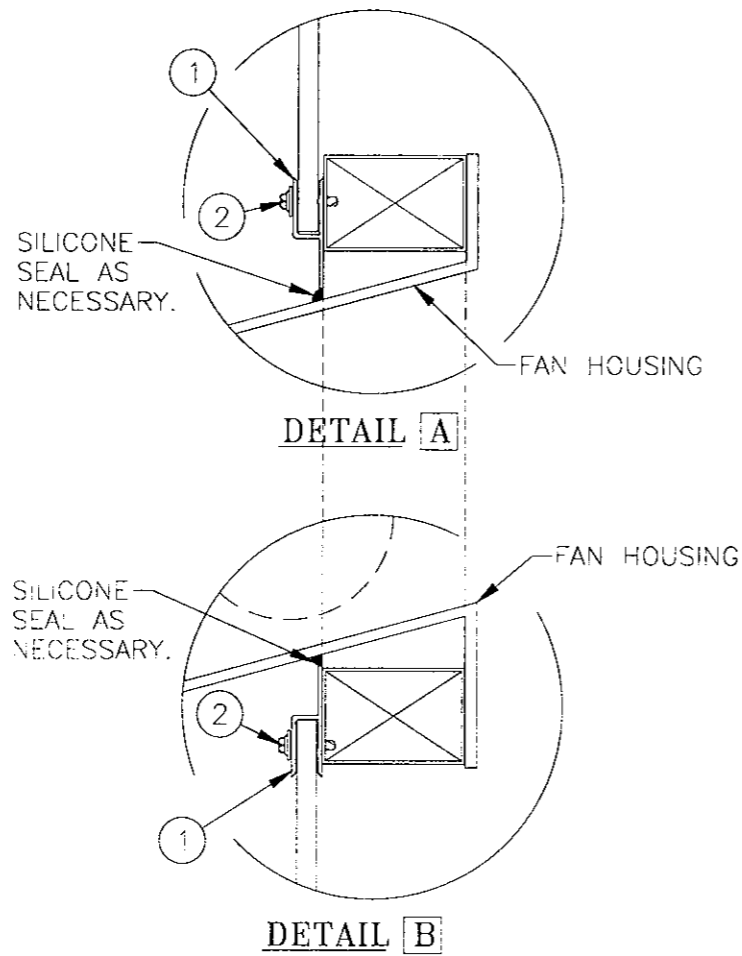
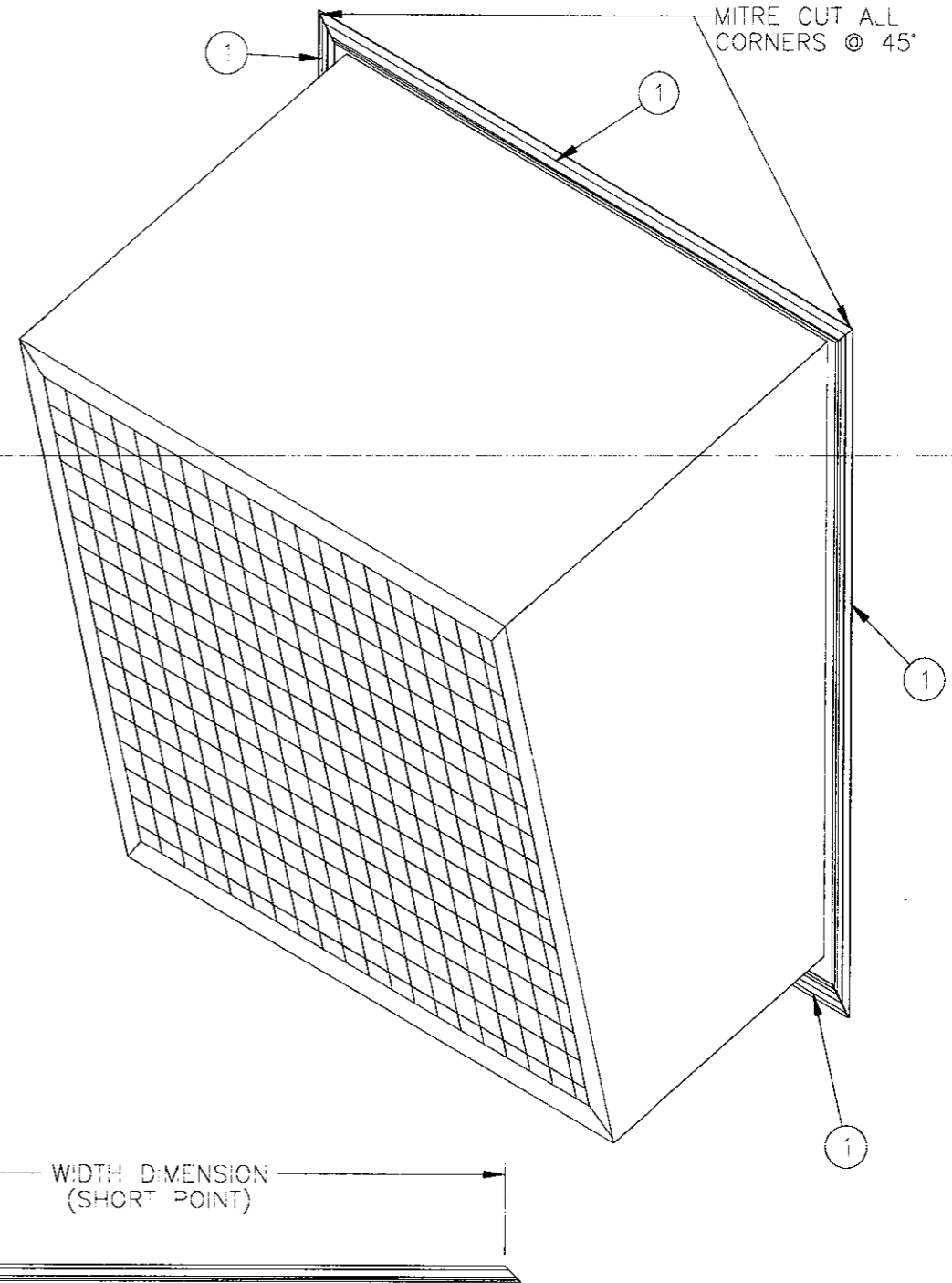
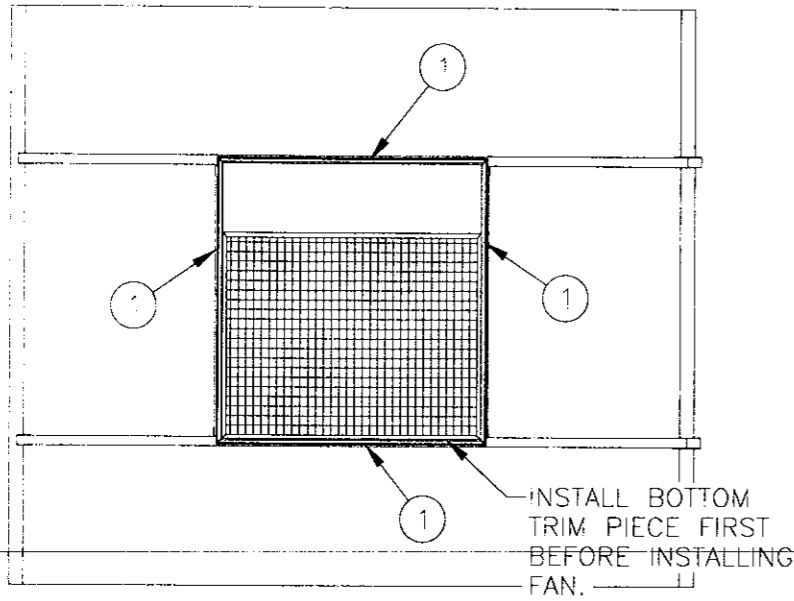
**2" x 3" INLET SHUTTER  
FRAMING DETAIL UPPER GABLE**

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                         |                |
|-------------------------|----------------|
| ITEM NUMBER             |                |
| REVISION #              |                |
| DRAWN<br>TNB            | CHK'D BY<br>CD |
| DATE<br>3-9-2009        |                |
| INDEX NUMBER<br>B-4409A |                |

### INSTALLATION PROCEDURE

1. Install bottom trim piece first before installing fan. This is so access to the attaching screws is possible.
2. Install fan from the inside of the greenhouse.
3. Measure perimeter of fan housing for width and height.
4. Cut #10025 trim extrusion at 45° angles as shown to frame around fan housing.
5. Attach trim pieces around fan housing with #1231 tec screws.
6. When inserting PCSS glazing around trim, panels will need to be bowed or flexed to allow the panel to fit into the trim extrusion.



| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 10025  | 8MM SINGLE CAP x 11'             |
| 2 | 1231   | #12 X 1" TEC W-5/8" WASHER       |

~PCSS TRIM PACKAGE FOR 36" TO 48" FANS~

|                                                                                                                    |           |                         |  |
|--------------------------------------------------------------------------------------------------------------------|-----------|-------------------------|--|
| <h2>FAN FRAMING TRIM DETAILS</h2>                                                                                  |           | REV NUMBER<br>#76068    |  |
|                                                                                                                    |           | REVISION #              |  |
| DRAWN<br>TNB                                                                                                       | CHCK'D BY | DATE<br>01-30-2013      |  |
| <b>STUPPY GREENHOUSE MFG. INC.</b><br>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br>800-733-5025 / FAX 800-423-1512 |           | INDEX NUMBER<br>B-4683A |  |

LEXAN THERMOCLEAR sheet may be fabricated on site—sawing, drilling and attachment are easily performed with basic hand tools. Although characterized by ease of handling and installation, it is important to allow for thermal expansion to avoid bowing. Sheets should be mounted with ribs running vertically and the bottom edge unsealed to assist condensed water vapor drainage.

**MASKING**

Printed masking covers the UV surface treated side. This must **ALWAYS** face the exterior elements as indicated on the LEXAN THERMOCLEAR sheet printed masking.

**EXTRUSION CHANNELS**

LEXAN THERMOCLEAR sheet should be installed using extrusion channels that provide allowances for thermal expansion while retaining sufficient edge engagement.

**RABBET DEPTH**

LEXAN THERMOCLEAR sheet will expand and contract upon temperature changes. The total thermal expansion and contraction allowances for various sheet dimensions are provided below.

| Dimensions | Sheet Expansion/Contraction |      | Total Expansion Allowance |
|------------|-----------------------------|------|---------------------------|
| Up to 24"  | 1/16                        | 1/16 | = 1/8                     |
| 24"-48"    | 1/8                         | 1/8  | = 1/4                     |
| 48"-72"    | 3/16                        | 3/16 | = 3/8                     |
| 72"-96"    | 1/4                         | 1/4  | = 1/2                     |
| 96"-120"   | 5/16                        | 5/16 | = 5/8                     |
| 120"-144"  | 3/8                         | 3/8  | = 3/4                     |
| 144"-168"  | 7/16                        | 7/16 | = 7/8                     |

**CUTTING**

LEXAN THERMOCLEAR sheet can easily be cut to the exact size desired with most power saws. Protective masking should be left in place to prevent marring. Note that circular saw blades should be triple chip design of fine tooth panel blades. When hand tools are used, the sheet should be clamped to work table to avoid undesirable vibration. Sheets up to 10mm can also be cut with a utility knife.

**CHANNEL CLEANING**

Sawdust should be blown from channels to avoid weepage problems using vacuum or compressed air.

**TOP CHANNEL SEALING**

LEXAN THERMOCLEAR sheet top channels should be sealed using thin guage adhesive-backed aluminum or poly tape. This eliminates moisture or contaminants from entering channels.

**BOTTOM CHANNELS/WEEPING**

Bottom channels should be left open or covered with (#23316 3M vent tape to allow condensate moisture to escape. Weep holes should be drilled in the glazing channel (if used) so moisture can escape (1/16 to 1/8" hole every 18 to 24").

**INSTALLATION PROCEDURES**

– Masking should not be exposed for long periods to direct sunlight. Remove soon after cutting before installation.

– Always seal top of LEXAN THERMOCLEAR sheet to protect from dirt and dust entering the channels with (ITEM #1040).

– Mesh tape bottom edge (ITEM #23316) on sidewalls only or where contact with ground is made.

– Several white latex shading compounds are compatible with LEXAN THERMOCLEAR sheet. Manufacturers include: Continental Products, Euclid, OH.

– When removing shading compounds, it is important to follow the LEXAN THERMOCLEAR sheet recommended cleaning instructions. (For further information see Maintenance and Cleaning Instructions.)

**REMOVING HAIRLINE SCRATCHES**

Scratches and minor abrasions can be removed or minimized by using a mild automobile polish. Three products that tend to polish and fill scratches, making them virtually invisible, are: Johnson Paste Wax; Novus Plastic Polish #1 and #2, Novus Inc., Minneapolis, MN; and Mirror Glaze Plastic Polish (M.G. M10), Mirror Bright Polish Co., Pasadena, CA. Test sample of LEXAN THERMOCLEAR sheet with product selected before using.

**CLEANING**

Periodic cleaning with lukewarm water, soft cloth, and compatible cleaners is recommended to prolong surface life.

Compatible Cleaning Agents

|                  |                       |
|------------------|-----------------------|
| Formula 409      | Top Job               |
| Freon R.D.       | VM & P Grade Naptha   |
| Joy              | Windex with Ammonia D |
| Palmolive Liquid |                       |

**SOME IMPORTANT "DONT'S"**

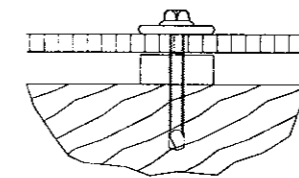
DO NOT use abrasive or highly alkaline cleaner on LEXAN THERMOCLEAR sheet.

NEVER scrape LEXAN THERMOCLEAR sheet with squeegees, razor blades or other sharp instruments.

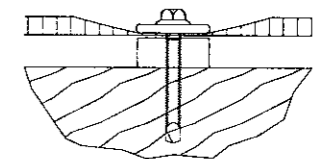
NEVER use Benzene, leaded gasoline, acetone or carbon tetrachloride on LEXAN THERMOCLEAR

DO NOT clean LEXAN THERMOCLEAR sheet in hot sun or at elevated temperatures.

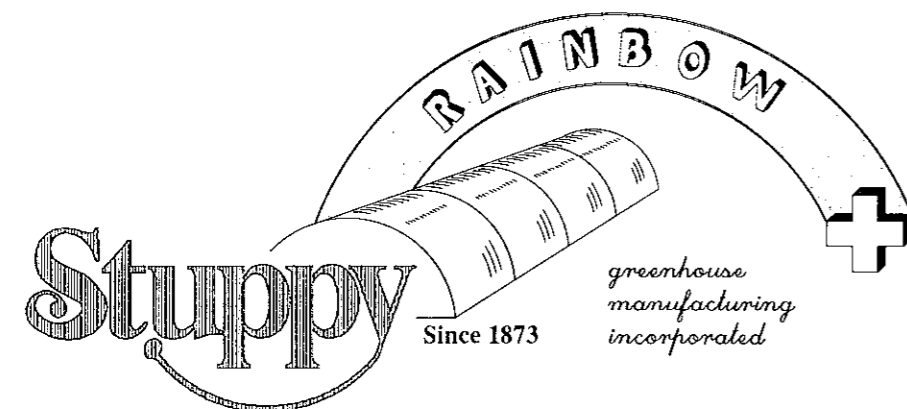
**IMPORTANT**



**CORRECT**  
SEAT WASHER FLUSH WITH SURFACE OF PANEL




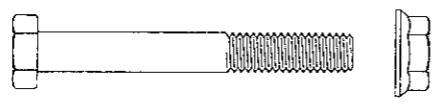
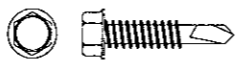
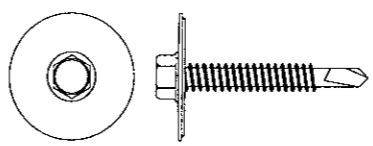
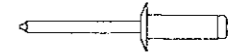

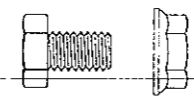
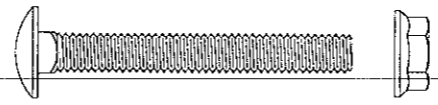
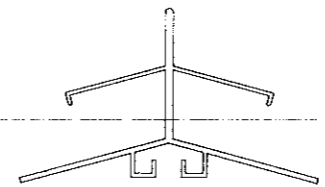
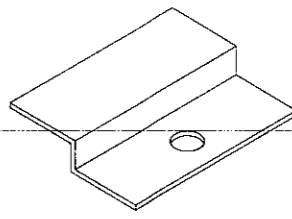
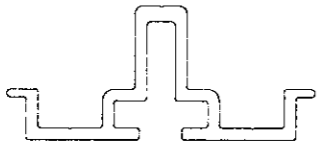
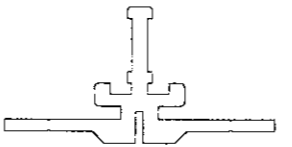
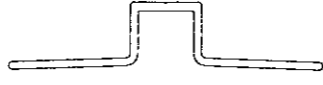
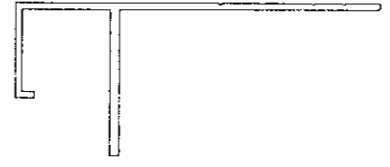
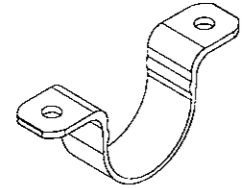
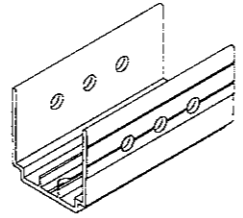
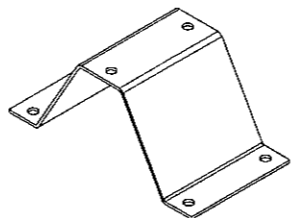
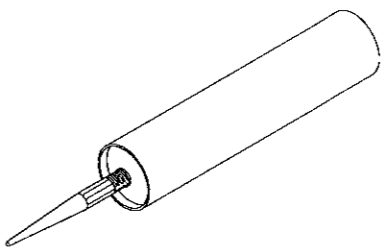
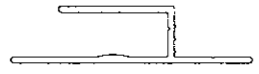
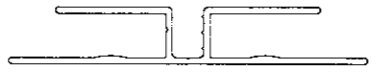
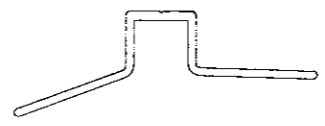
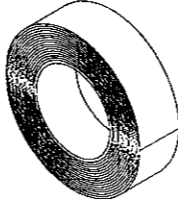
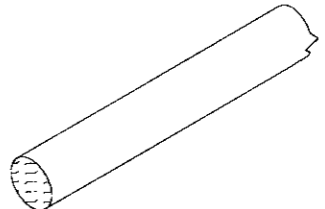
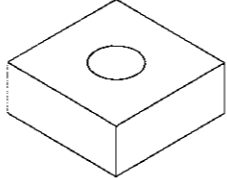
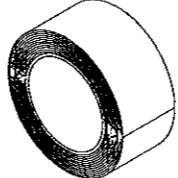
**INCORRECT**  
DO NOT SEVERELY DISTORT PANEL SURFACE

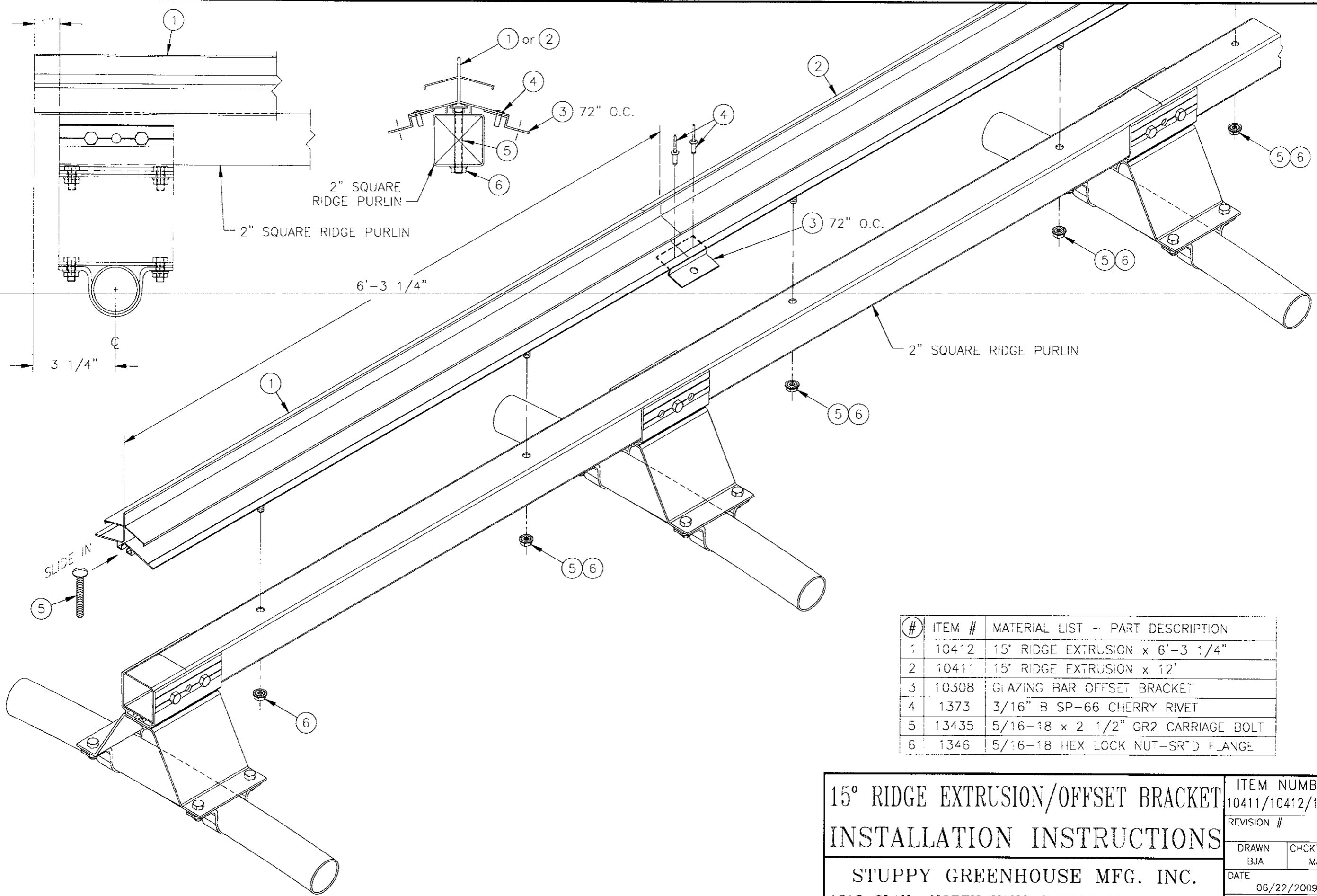


**PCSS GLAZING SYSTEM  
INSTALLATION DETAILS**

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>BJA           | CHK'D BY<br>EEG |
| DATE<br>07-28-1997     |                 |
| INDEX NUMBER<br>B-4226 |                 |

|                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|--|------------|--|--------------|-----------------|--------------------|--|------------------------|--|
| <p>#1339 - 5/16-18 x 3/4" GR5 HEX BOLT<br/>#1346 - 5/16-18 HEX LOCK NUT</p>  <p>USE: ATTACHES 1.90 STRAP #153'2 TO #0667 BRACKET</p>                                                                                                                              | <p>#1343 - 5/16-18 x 2-1/2" GR5 HEX BOLT<br/>#1346 - 5/16-18 HEX LOCK NUT</p>  <p>USE: ATTACHES 2" SQUARE ROOF PURLIN TO PURLIN SUPPORT BRACKET #0667</p>                                                                                                                                     | <p>#10342 - #12 x 1" TEC 3 NO WASHER</p>  <p>USE: SECURES #1029 GLAZING BAR TO 2" SQUARE ROOF PURLIN</p>                                                                                                                                                                                                                                                                                                                                                                           | <p>#10346 - #12 x 1-1/2" TEC 3 w/1" WASHER</p>  <p>USE: SECURES 8MM GLAZING TO ROOF PURLIN USED WITH #10345 SQUARE NEOPRENE SHIMS</p>                      | <p>#1373 - 3/16" B SP-86 CHERRY RIVET</p>  <p>USE: SECURES #10308 OFFSET BRACKET TO #10301 RIDGE</p> |             |  |            |  |              |                 |                    |  |                        |  |
| <p>#1338 - 5/16-18 x 3/4" GR2 CARRIAGE BOLT<br/>#1346 - 5/16-18 HEX LOCK NUT</p>  <p>USE: SECURES #1029 GLAZING BAR AT BOTH ENDS TO #10361 EXTRUSION</p>                                                                                                          | <p>#13382 - 5/16-18 x 1/2" GR5 HEX BOLT<br/>#1346 - 5/16-18 HEX LOCK NUT</p>  <p>USE: TO BOLT #10305 SPLICE TO #1029 GLAZING BAR IF NEEDED</p>                                                                                                                                                | <p>#13435 - 5/16-18 x 2-1/2" GR2 CARRIAGE BOLT<br/>#1346 - 5/16-18 HEX LOCK NUT</p>  <p>USE: SECURES #10301 &amp; #10302 RIDGE TO #06923 RIDGE PURLIN</p>                                                                                                                                                                                                                                                                                                                          | <p>#10411 - 15° RIDGE EXTRUSION x 12'L<br/>#10412 - 15° RIDGE EXTRUSION x 6'-3 1/4"L (END)</p>  <p>USE: TO SPLIT ROOF PANELS AT RIDGE OF GREENHOUSE</p>    | <p>#10308 - GLAZING BAR OFFSET BRACKET</p>  <p>USE: SECURES #1029 GLAZING BAR TO #10301 RIDGE</p>    |             |  |            |  |              |                 |                    |  |                        |  |
| <p>#1029 - PCSS GLAZING BAR 18'</p>  <p>USE: USED AS SPLICE CHANNEL FOR ROOF PANELS</p>                                                                                                                                                                          | <p>#10305 - PCSS GLAZING BAR SPLICE 6"</p>  <p>USE: TO SPLICE #1029 GLAZING BAR IF NEEDED</p>                                                                                                                                                                                               | <p>#1030 - PCSS GLAZING BAR CAP 18'</p>  <p>USE: TO CAP 8MM PANELS USED WITH #1029 GLAZING BAR</p>                                                                                                                                                                                                                                                                                                                                                                                | <p>#06751 - CLASSIC GABLE END CAP 12' NOTCHED</p>  <p>USE: INSTALLED ON TOP OF 2" SQUARE ROOF PURLIN ALONG GABLE END TO JOIN ENDWALL AND ROOF GLAZING</p> |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| <p>#15312 - 1.90 PIPE STRAP 1" WIDE</p>  <p>USE: SECURES #0667 BRACKET TO BOW</p>                                                                                                                                                                               | <p>#0667 - 2" SQUARE PURLIN SUPPORT BRACKET 4.5"</p>  <p>USE: ATTACHES 2" SQUARE ROOF PURLIN TO BOW MEMBERS</p>                                                                                                                                                                            | <p>#P8011 - 15° RIDGE MOUNTING BRACKET</p>  <p>USE: ATTACHES 2" SQUARE RIDGE PURLIN TO 2 PIECE BOW MEMBERS</p>                                                                                                                                                                                                                                                                                                                                                                   | <p>#2314 - SILICONE SEALANT CARTRIDGE</p>                                                                                                                |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| <p>#1006 - 6MM SINGLE CAP 8'<br/>#10061 - 6MM SINGLE CAP 11'<br/>#10062 - 6MM SINGLE CAP 13'<br/><br/>#10021 - 8MM SINGLE CAP 8'<br/>#10025 - 8MM SINGLE CAP 11'<br/>#10027 - 8MM SINGLE CAP 13'</p>  <p>USE: TO TRIM PCSS ALONG CORNERS, DOORS, FANS, ETC.</p> | <p>#1004 - 6MM DOUBLE SPLICE 8'<br/>#10044 - 6MM DOUBLE SPLICE 11'<br/>#10045 - 6MM DOUBLE SPLICE 13'<br/><br/>#1002 - 8MM DOUBLE SPLICE 8'<br/>#10024 - 8MM DOUBLE SPLICE 11'<br/>#10026 - 8MM DOUBLE SPLICE 13'</p>  <p>USE: TO JOIN PCSS PANELS TOGETHER ON SIDEWALLS &amp; ENDWALLS</p> | <p>#10374 - PCSS GABLE BAR CAP 18'</p>  <p>USE: CAPS GLAZING BAR ALONG GABLE ENDS ONLY</p>                                                                                                                                                                                                                                                                                                                                                                                       | <p>#1040 - PCSS ALUMINUM TAPE 1.5" x 150'</p>  <p>USE: CAPS UPPER END OF PCSS PANEL</p>                                                                  | <p>#1140 - 5/8" ROUND SEAL</p>                                                                     |             |  |            |  |              |                 |                    |  |                        |  |
| <p>#10345 - SQUARE NEOPRENE SHIM-BLACK</p>  <p>USE: TO ATTACH 8MM PANEL TO ROOF PURLIN</p>                                                                                                                                                                    | <p>#23316 - PCSS TAPE 2" x 108'</p>  <p>USE: CAPS BOTTOM END OF PCSS PANEL</p>                                                                                                                                                                                                             | <p style="text-align: center;"><b>RB+ PCSS GLAZING PARTS ID SHEET</b></p> <p style="text-align: center;">STUPPY GREENHOUSE MFG. INC.<br/>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br/>800-733-5025 / FAX 800-423-1512</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td colspan="2">ITEM NUMBER</td> </tr> <tr> <td colspan="2">REVISION #</td> </tr> <tr> <td>DRAWN<br/>BJA</td> <td>CHK'D BY<br/>TNB</td> </tr> <tr> <td colspan="2">DATE<br/>06/25/2009</td> </tr> <tr> <td colspan="2">INDEX NUMBER<br/>B-5298</td> </tr> </table> |                                                                                                                                                                                                                                               |                                                                                                                                                                                         | ITEM NUMBER |  | REVISION # |  | DRAWN<br>BJA | CHK'D BY<br>TNB | DATE<br>06/25/2009 |  | INDEX NUMBER<br>B-5298 |  |
| ITEM NUMBER                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| REVISION #                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| DRAWN<br>BJA                                                                                                                                                                                                                                                                                                                                       | CHK'D BY<br>TNB                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| DATE<br>06/25/2009                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |
| INDEX NUMBER<br>B-5298                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                                               |                                                                                                                                                                                         |             |  |            |  |              |                 |                    |  |                        |  |

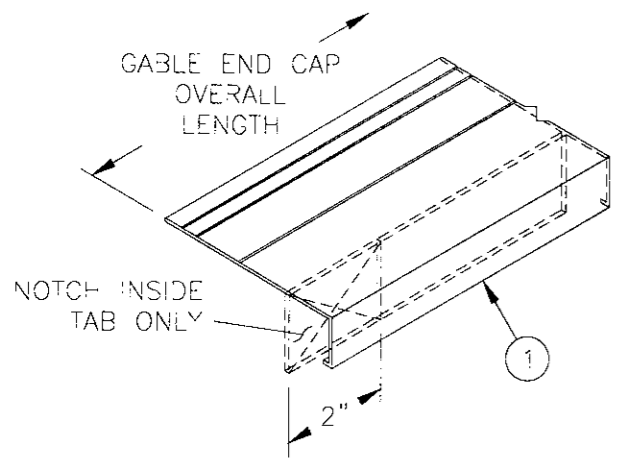


| # | ITEM # | MATERIAL LIST - PART DESCRIPTION   |
|---|--------|------------------------------------|
| 1 | 10412  | 15' RIDGE EXTRUSION x 6'-3 1/4"    |
| 2 | 10411  | 15' RIDGE EXTRUSION x 12'          |
| 3 | 10308  | GLAZING BAR OFFSET BRACKET         |
| 4 | 1373   | 3/16" B SP-66 CHERRY RIVET         |
| 5 | 13435  | 5/16-18 x 2-1/2" GR2 CARRIAGE BOLT |
| 6 | 1346   | 5/16-18 HEX LOCK NUT-SR'D FLANGE   |

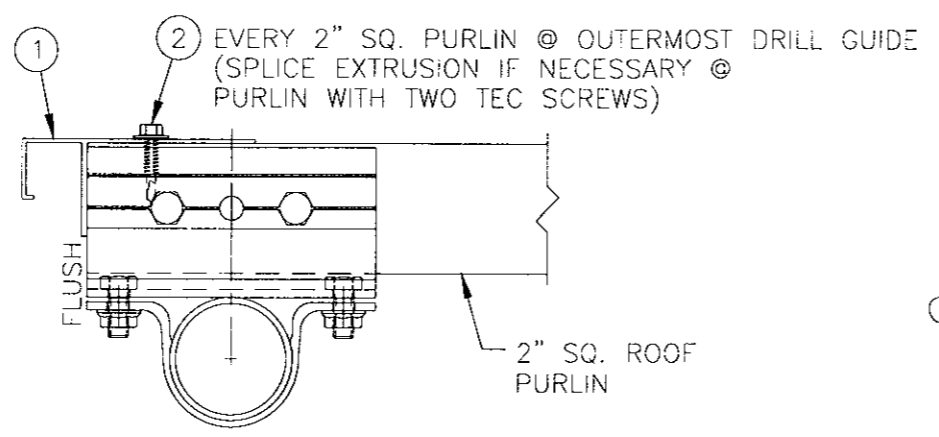
**15° RIDGE EXTRUSION/OFFSET BRACKET  
INSTALLATION INSTRUCTIONS**

**STUPPY GREENHOUSE MFG. INC.**  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 800-733-5025 / FAX 800-423-1512

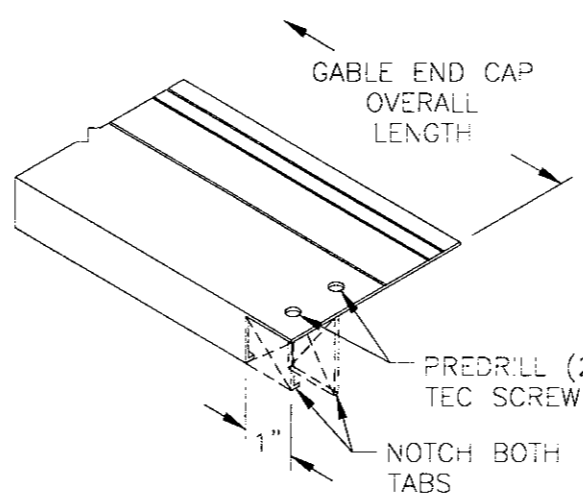
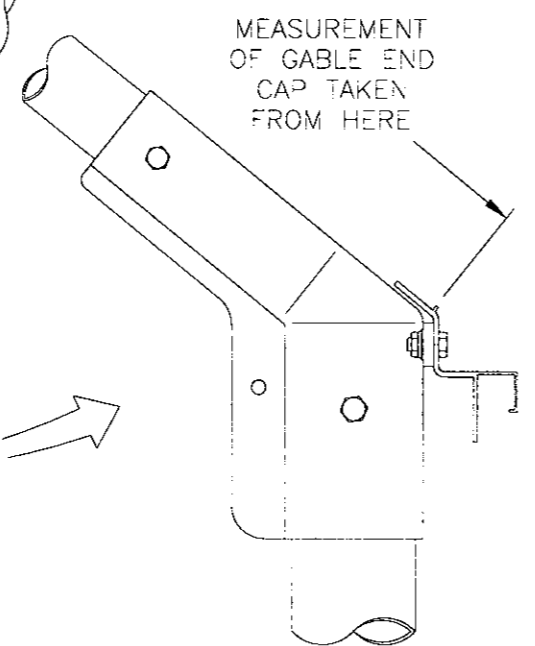
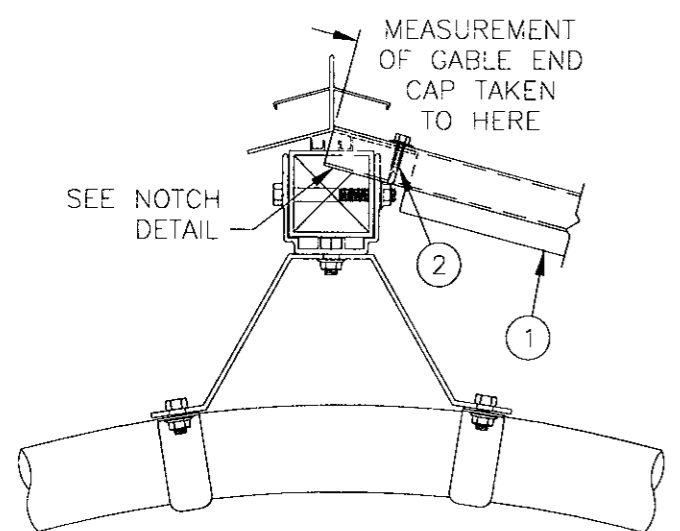
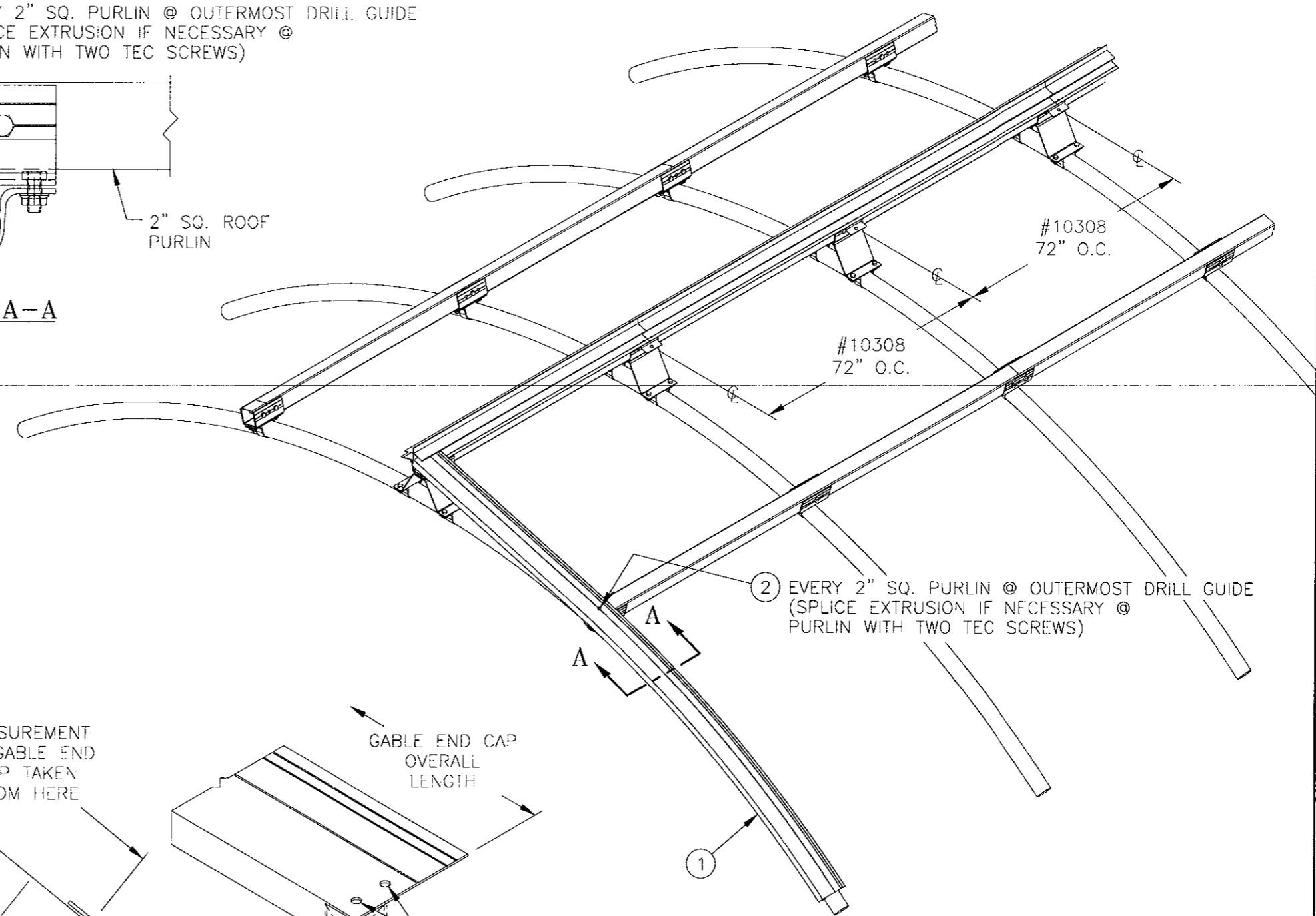
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|----------------------------------|-----------------|
| ITEM NUMBER<br>10411/10412/10308 |                 |
| REVISION #                       |                 |
| DRAWN<br>BJA                     | CHK'D BY<br>MJO |
| DATE<br>06/22/2009               |                 |
| INDEX NUMBER<br>B-6679A          |                 |



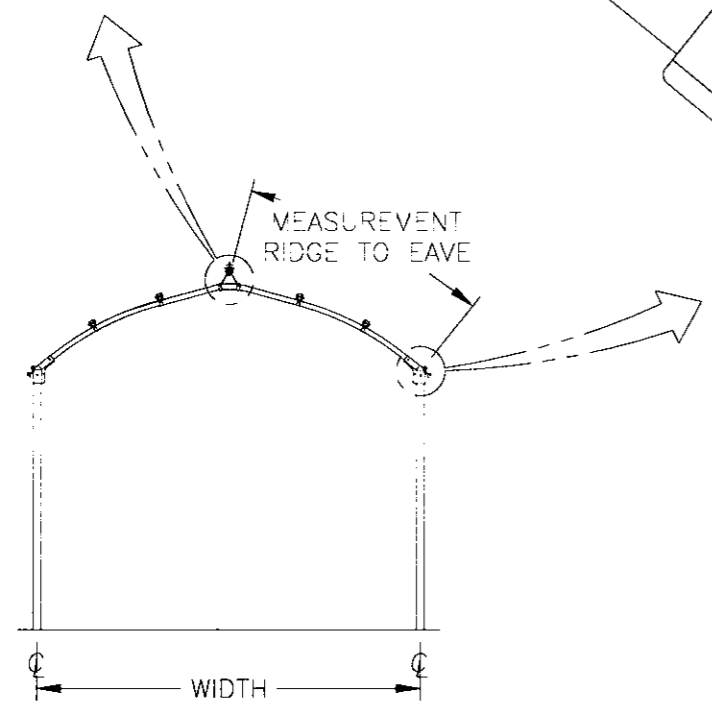
#06751 NOTCH  
DETAIL @ RIDGE



SECTION A-A



#06751 NOTCH  
DETAIL @ EAVE

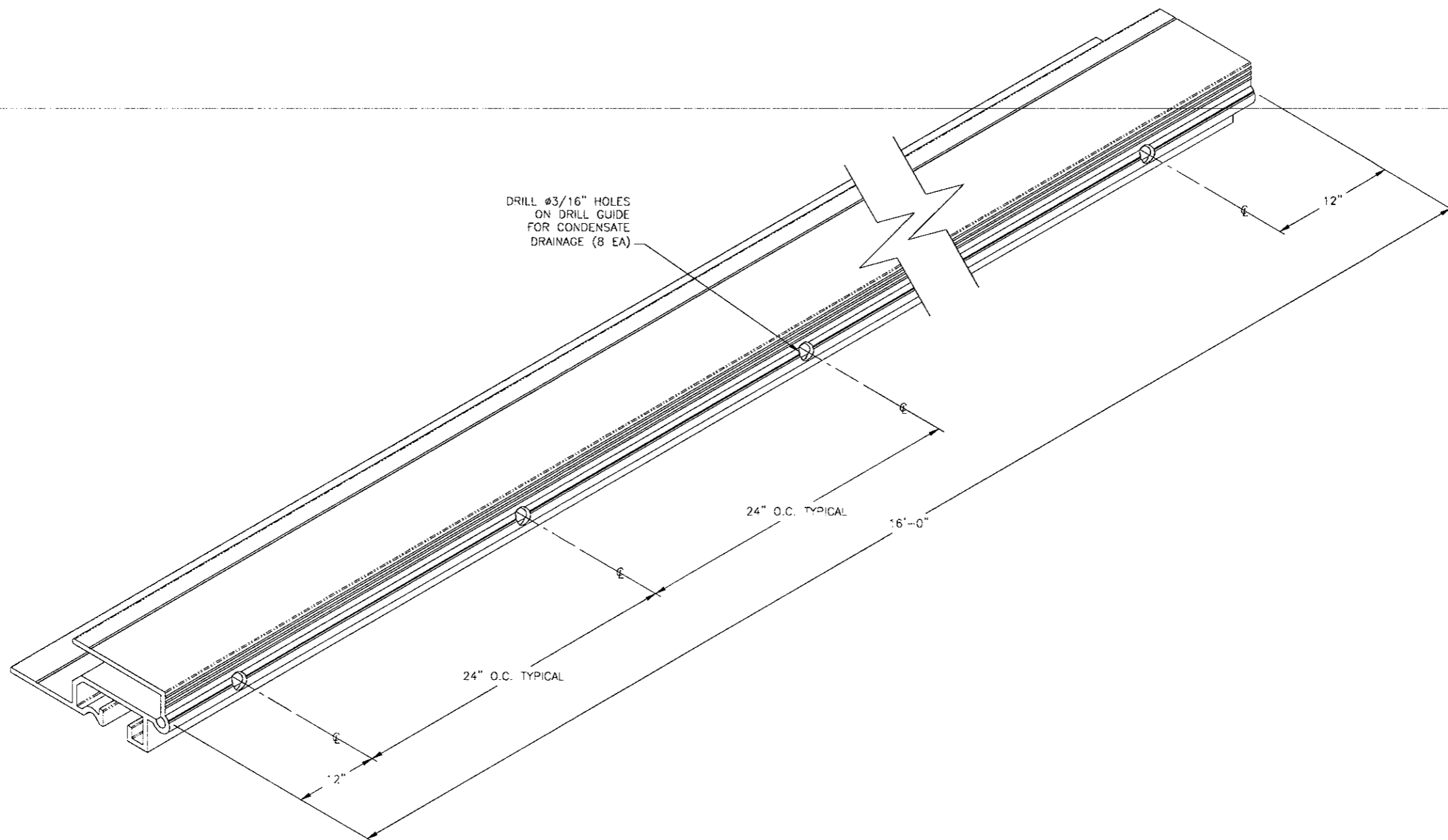
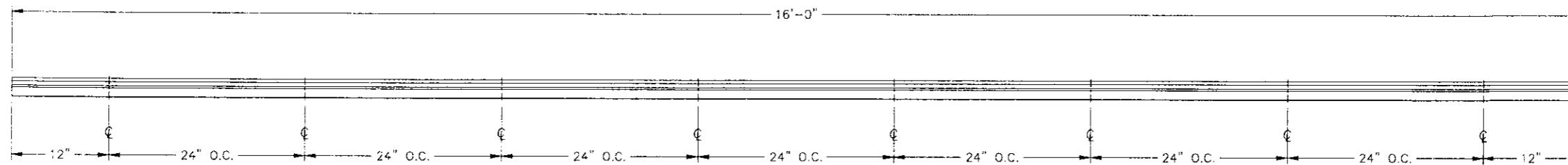


| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 06751  | CL GABLE END CAP 12' NOTCHED     |
| 2 | 1231   | #12 x 1" TEC w/ 9/16" WASHER     |

**GABLE END CAP  
INSTALLATION INSTRUCTIONS**

**STUPPY GREENHOUSE MFG. INC.**  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

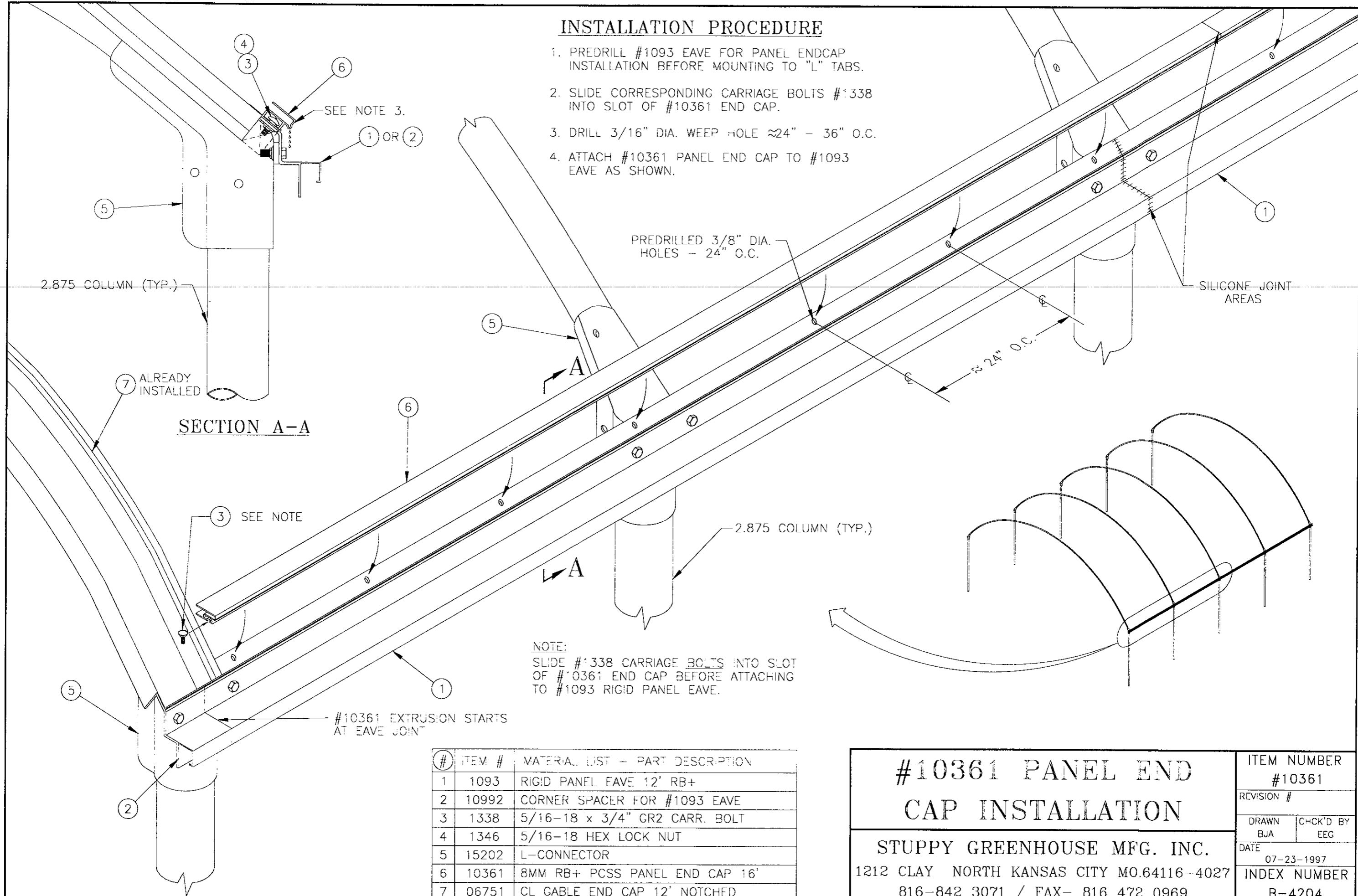
|                         |                 |
|-------------------------|-----------------|
| ITEM NUMBER<br>06751    |                 |
| REVISION #              |                 |
| DRAWN<br>BJA            | CHCK'D BY<br>CD |
| DATE<br>06/25/2009      |                 |
| INDEX NUMBER<br>B-6680A |                 |



|                                           |           |              |  |
|-------------------------------------------|-----------|--------------|--|
| #10361 PANEL END CAP                      |           | ITEM NUMBER  |  |
| WEEP HOLE DRILLING                        |           | 10361        |  |
| REVISION #                                |           |              |  |
| DRAWN                                     | CHCK'D BY |              |  |
| BJA                                       | CD        |              |  |
| DATE                                      |           | 12/10/2007   |  |
| STUPPY GREENHOUSE MFG. INC.               |           | INDEX NUMBER |  |
| 1212 CLAY NORTH KANSAS CITY MO.64116-4027 |           | C-9359       |  |
| 800-733-5025 / FAX 800-423-1512           |           |              |  |

### INSTALLATION PROCEDURE

1. PREDRILL #1093 EAVE FOR PANEL ENDCAP INSTALLATION BEFORE MOUNTING TO "L" TABS.
2. SLIDE CORRESPONDING CARRIAGE BOLTS #1338 INTO SLOT OF #10361 END CAP.
3. DRILL 3/16" DIA. WEEP HOLE  $\approx$ 24" - 36" O.C.
4. ATTACH #10361 PANEL ENDCAP TO #1093 EAVE AS SHOWN.

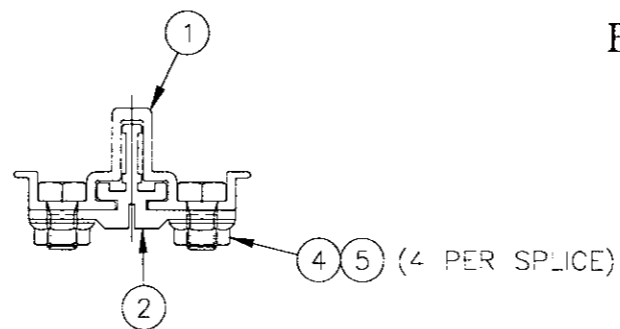
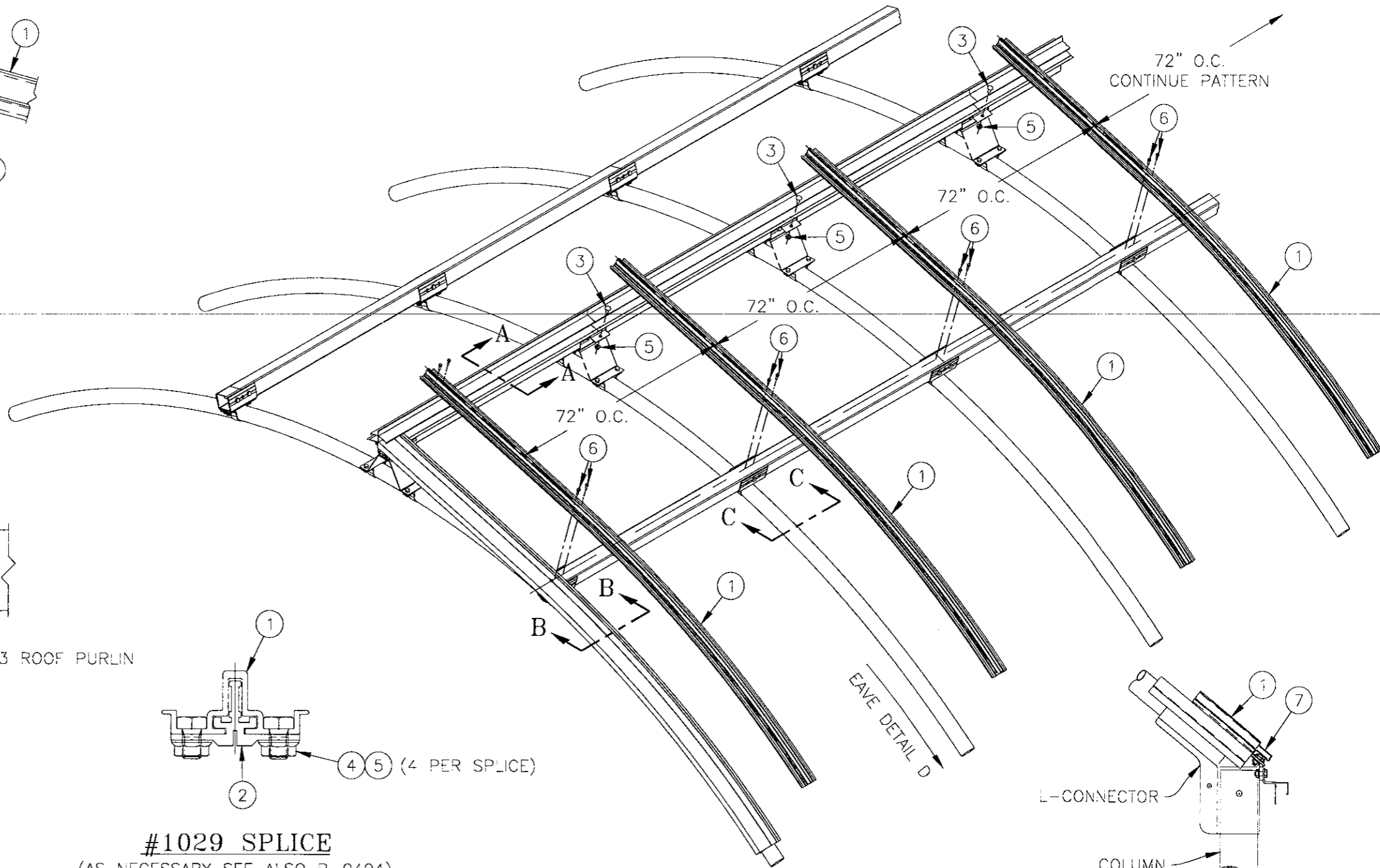
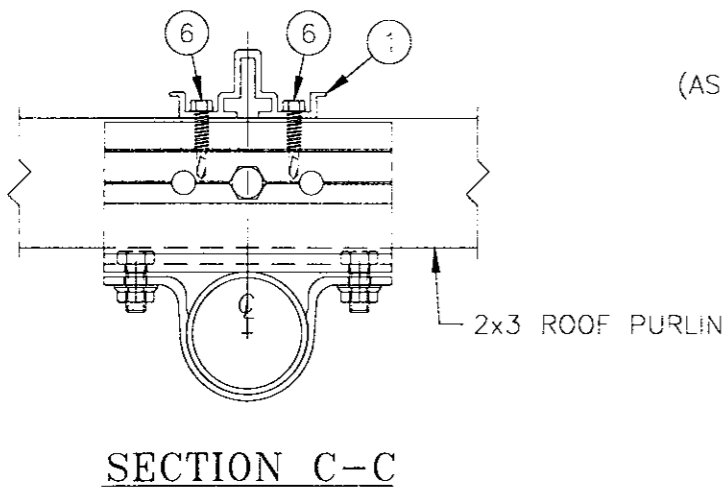
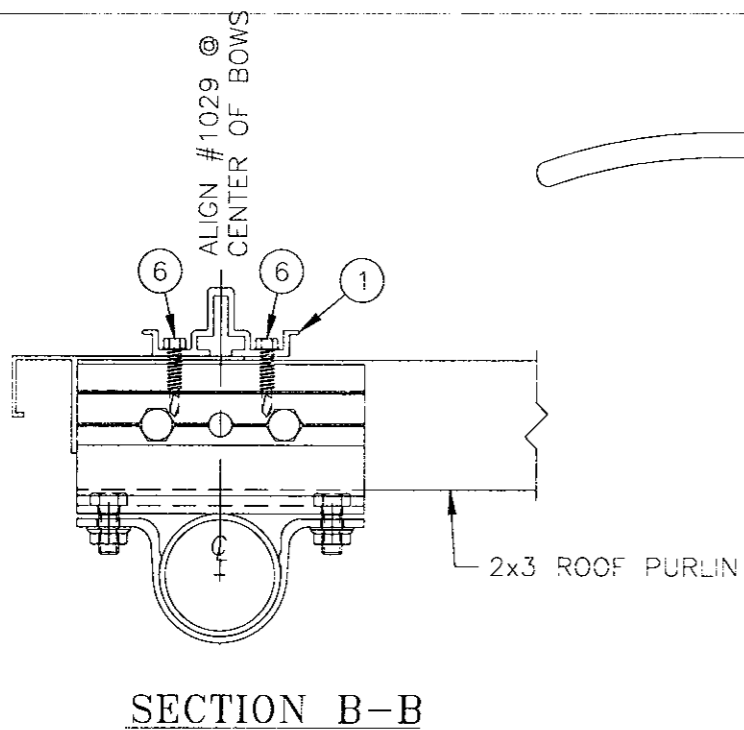
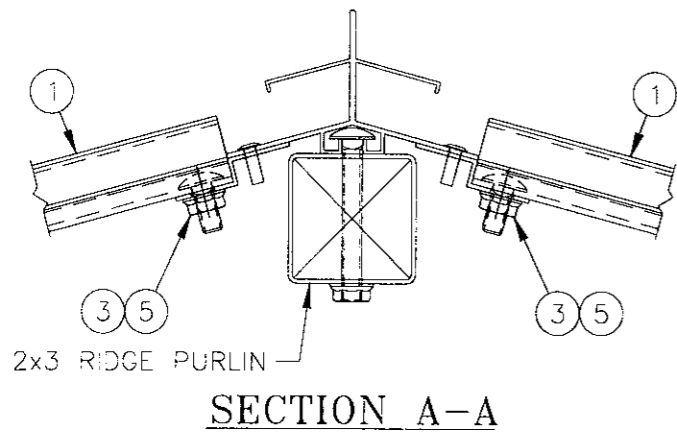


NOTE:  
 SLIDE #1338 CARRIAGE BOLTS INTO SLOT OF #10361 END CAP BEFORE ATTACHING TO #1093 RIGID PANEL EAVE.

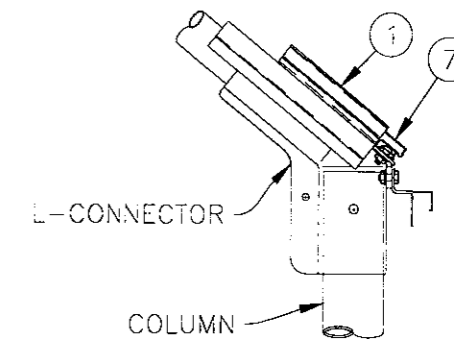
| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 1093   | RIGID PANEL EAVE 12' RB+         |
| 2 | 10992  | CORNER SPACER FOR #1093 EAVE     |
| 3 | 1338   | 5/16-18 x 3/4" GR2 CARR. BOLT    |
| 4 | 1346   | 5/16-18 HEX LOCK NUT             |
| 5 | 15202  | L-CONNECTOR                      |
| 6 | 10361  | 8MM RB+ PCSS PANEL ENDCAP 16'    |
| 7 | 06751  | CL GABLE END CAP 12' NOTCHED     |

|                                                                                                                                                                                                    |                 |                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|
| <h2>#10361 PANEL END CAP INSTALLATION</h2> <p>STUPPY GREENHOUSE MFG. INC.<br/>                 1212 CLAY NORTH KANSAS CITY MO.64116-4027<br/>                 816-842 3071 / FAX- 816 472 0969</p> |                 | ITEM NUMBER<br>#10361  |
|                                                                                                                                                                                                    |                 | REVISION #             |
| DRAWN<br>BJA                                                                                                                                                                                       | CHK'D BY<br>EEG | DATE<br>07-23-1997     |
|                                                                                                                                                                                                    |                 | INDEX NUMBER<br>B-4204 |





**#1029 SPLICE**  
(AS NECESSARY SEE ALSO B-0404)



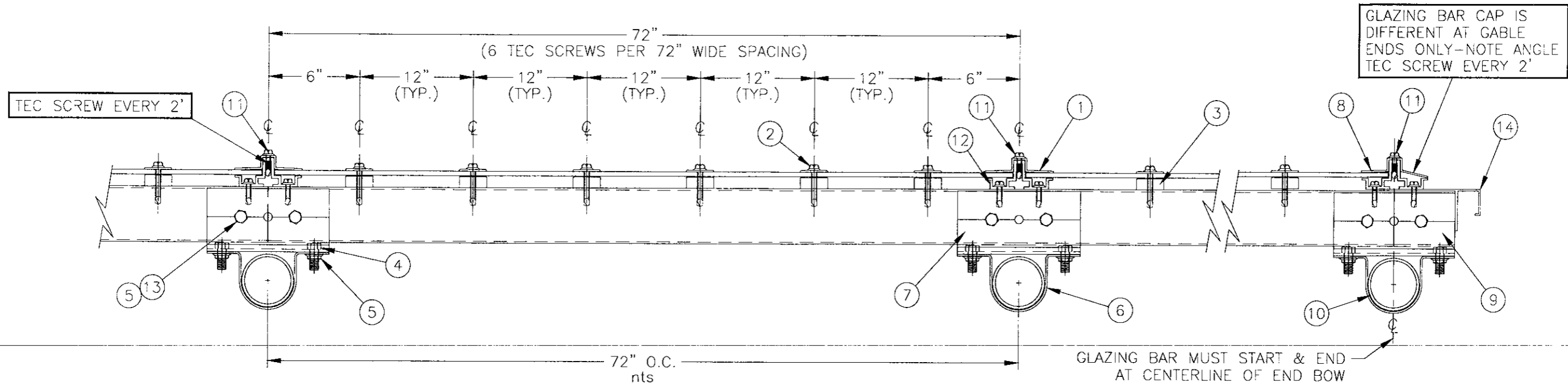
**DETAIL D**

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION |
|---|--------|----------------------------------|
| 1 | 1029   | PCSS GLAZING BAR '8'             |
| 2 | 10305  | PCSS GLAZING BAR SPLICE          |
| 3 | 1338   | 5/16-18 x 3/4" GR2 CARRIAGE BOLT |
| 4 | 13382  | 5/16-18 x 1/2" HEX BOLT GR5      |
| 5 | 1346   | 5/16-18 HEX LOCK NUT-SRTD FLANGE |
| 6 | 10342  | #12 x 1" TEC 3 NO WASHER         |
| 7 | 10361  | 8MM RB+ PCSS PNL END CAP         |

# PCSS GLAZING BAR 18' INSTALLATION INSTRUCTIONS

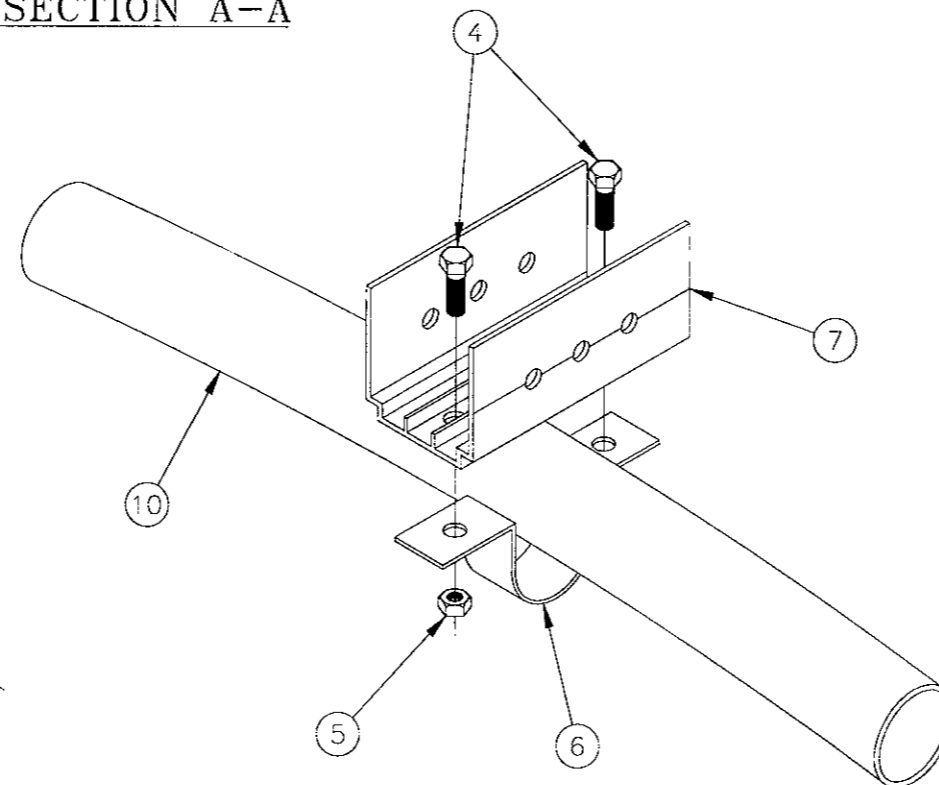
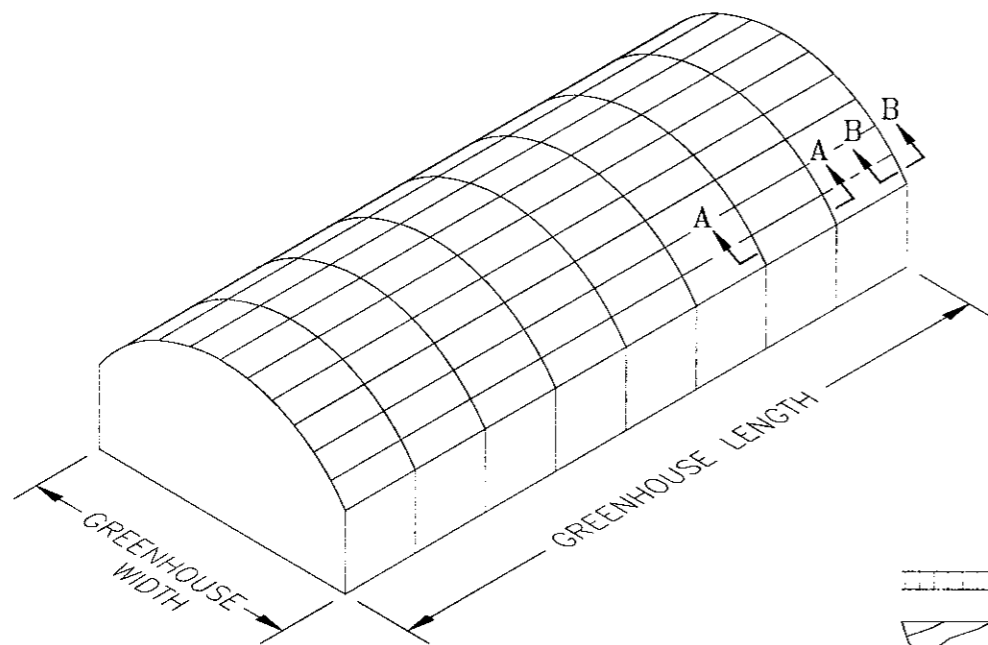
STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                         |                 |
|-------------------------|-----------------|
| ITEM NUMBER<br>1029     |                 |
| REVISION #              |                 |
| DRAWN<br>BJA            | CHK'D BY<br>MJO |
| DATE<br>06/23/2009      |                 |
| INDEX NUMBER<br>B-6681A |                 |



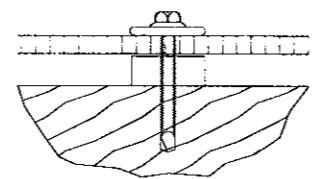
SECTION A-A

SECTION B-B

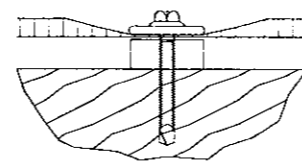


| #  | ITEM # | MATERIAL LIST - PART DESCRIPTION   |
|----|--------|------------------------------------|
| 1  | 1030   | PCSS GLAZING BAR CAP 18'           |
| 2  | 10346  | #12 x 1 1/2" TEC 3 W/1" WASHER     |
| 3  | 10345  | SQUARE NEOPRENE SHIM               |
| 4  | 1339   | 5/16-18 x 3/4" GR5 HEX BOLT        |
| 5  | 1346   | 5/16-18 HEX LOCK NUT               |
| 6  | 15312  | 1.90 PIPE STRAP (1 1/2" IPS)       |
| 7  | 0667   | 2" SQUARE PURLIN SECURE BKT 4 1/2" |
| 8  | 10374  | PCSS GABLE BAR CAP 10'             |
| 9  | 0671   | 2" SQ. 2 1/4" PURLIN/GIRT END      |
| 10 | ----   | 1.90 O.D. BOW                      |
| 11 | 1231   | #12 x 3/4" TEC W-5/8" WASHER       |
| 12 | 1029   | PCSS GLAZING BAR 18'               |
| 13 | 1343   | 5/16-18 x 2 1/2" GR5 HEX BOLT      |
| 14 | 06751  | CL GABLE END CAP 12' NOTCHED       |

**IMPORTANT**

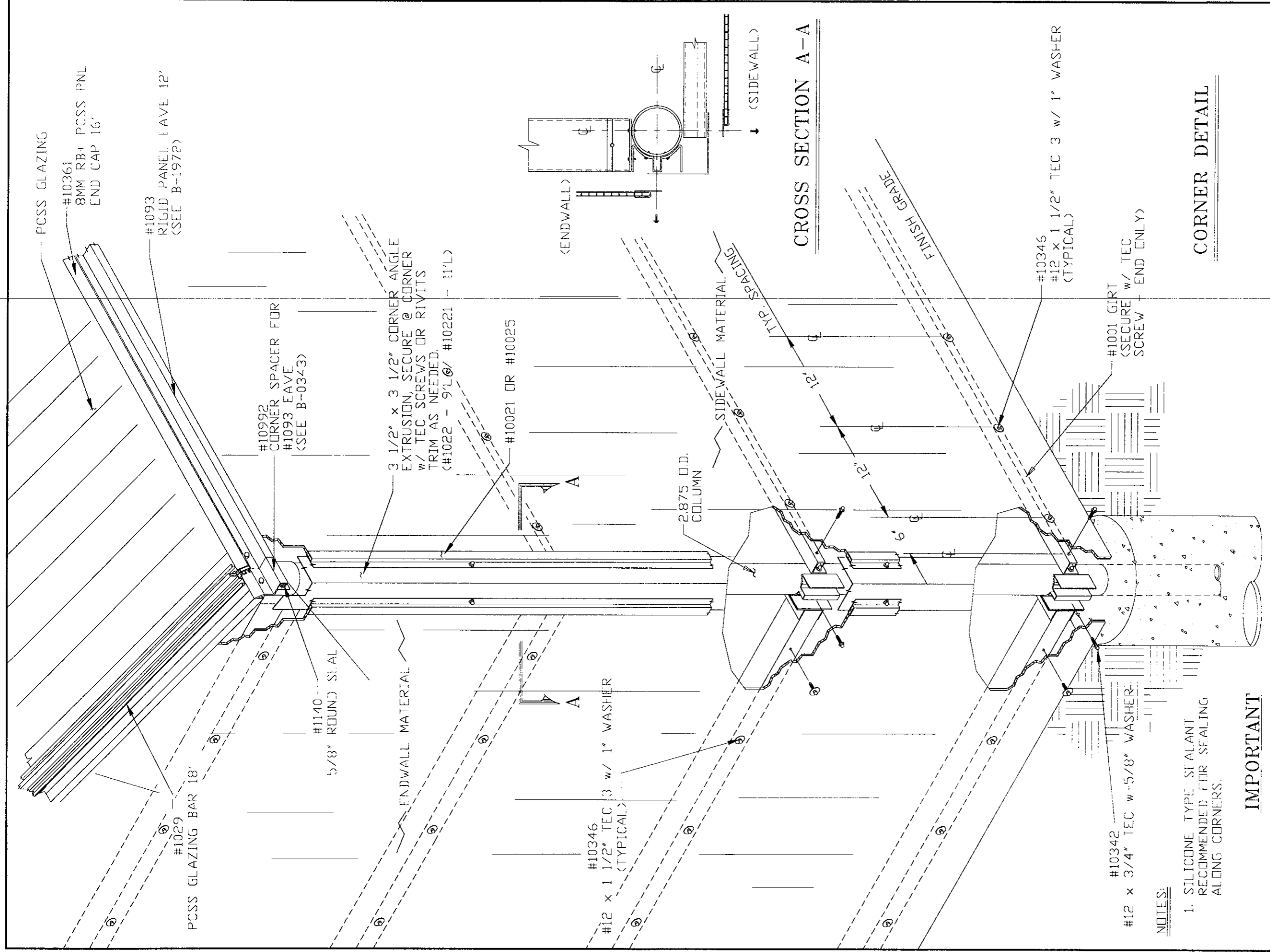


**CORRECT**  
SEAT WASHER FLUSH WITH SURFACE OF PANEL



**INCORRECT**  
DO NOT SEVERELY DISTORT PANEL SURFACE

|                                                                                                                                                              |                 |                        |  |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------|--|
| <h2>2" SQUARE ROOF PURLIN DETAILS</h2> <p>STUPPY GREENHOUSE MFG. INC.<br/>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br/>816-842 3071 / FAX- 816 472 0969</p> |                 | ITEM NUMBER            |  |
|                                                                                                                                                              |                 | REVISION #             |  |
| DRAWN<br>BJA                                                                                                                                                 | CHK'D BY<br>EEG | DATE<br>03-30-1998     |  |
|                                                                                                                                                              |                 | INDEX NUMBER<br>B-4130 |  |

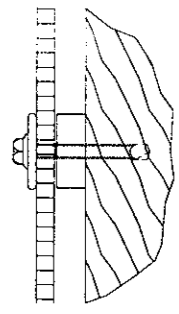


CROSS SECTION A-A

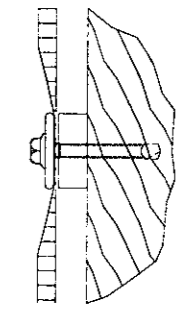
CORNER DETAIL

NOTES:  
 1. SILICONE TYPE SEALANT RECOMMENDED FOR SEALING ALONG CORNERS.

IMPORTANT



**CORRECT**  
 SEAT WASHER FLUSH WITH SURFACE OF PANEL



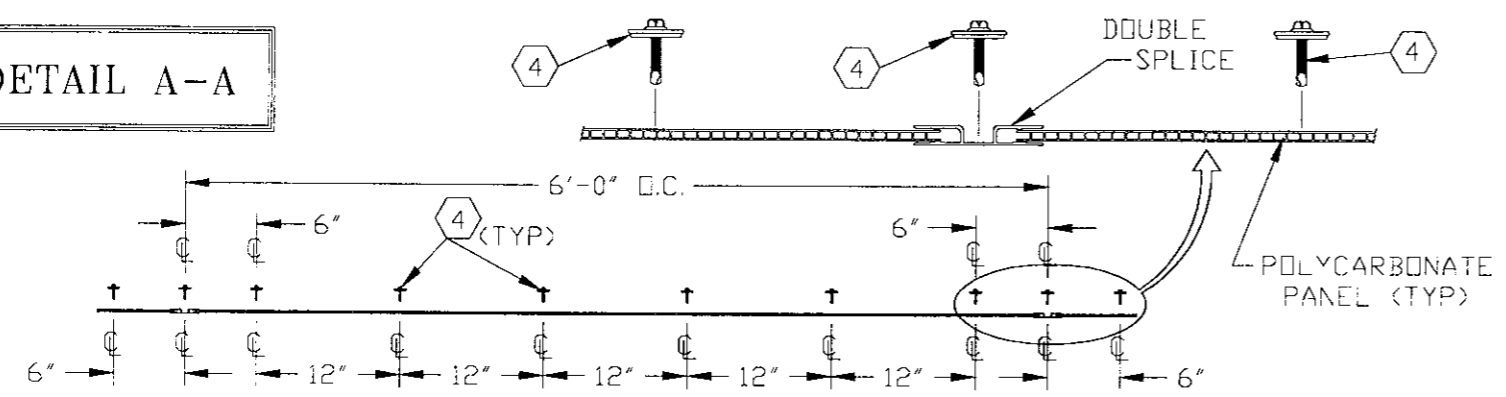
**INCORRECT**  
 DO NOT SEVERELY DISTORT PANEL SURFACE

POLYCARBONATE ROOF, SIDES AND ENDS

STUPPY GREENHOUSE MFG. INC.  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 816-842 3071 / FAX- 816 472 0969

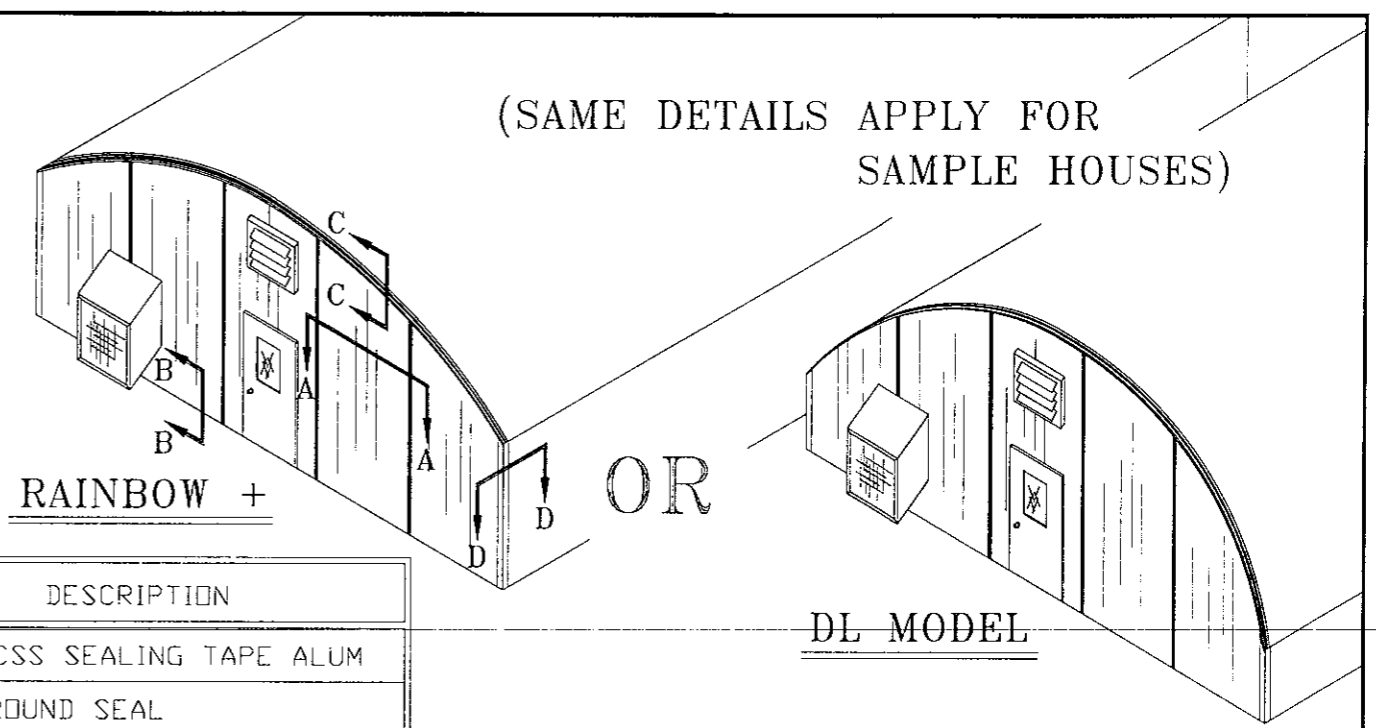
|             |              |
|-------------|--------------|
| ITEM NUMBER | REVISION #   |
|             | DRAWN        |
|             | CHK'D BY     |
|             | DATE         |
|             | INDEX NUMBER |
|             | B-3735       |

**DETAIL A-A**



DOUBLE SPLICE MUST BE INSTALLED 6'-0" O.C. - PANEL WILL BE CENTERED BETWEEN SPLICES TO ALLOW FOR EXPANSION AND CONTRACTION. THERE WILL BE A SLIGHT GAP FROM THE EDGE OF PANEL TO THE SPLICE.

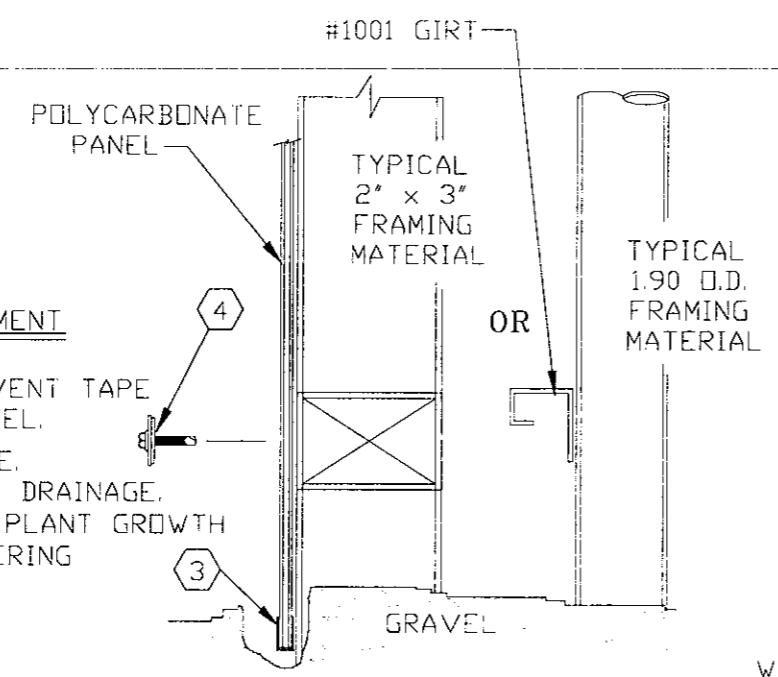
(SAME DETAILS APPLY FOR SAMPLE HOUSES)



**DETAIL B-B**

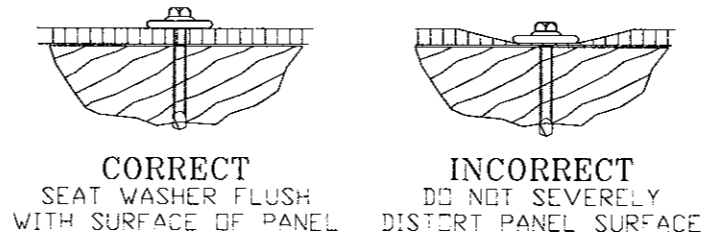
BOTTOM PANEL TREATMENT

1. CAP BOTTOM PANEL WITH VENT TAPE AND BACK FILL WITH GRAVEL.
2. TREATMENT FOR USING TAPE.
  - a) ALLOWS CONDENSATE DRAINAGE.
  - b) PREVENTS INSECTS, PLANT GROWTH AND DIRT FROM ENTERING RIBS OF PANELS.



| ITEM # | DESCRIPTION                          |
|--------|--------------------------------------|
| 1      | 1040 150' PCSS SEALING TAPE ALUM     |
| 2      | 1140 5/8" ROUND SEAL                 |
| 3      | 23316 #394 PCSS TAPE-108' / RL       |
| 4      | 10346 #12 X 1-1/2" TEC 3 W/1" WASHER |
| 5      | 1231 #12 x 1" TEC w-5/8" WASHER      |

**IMPORTANT**



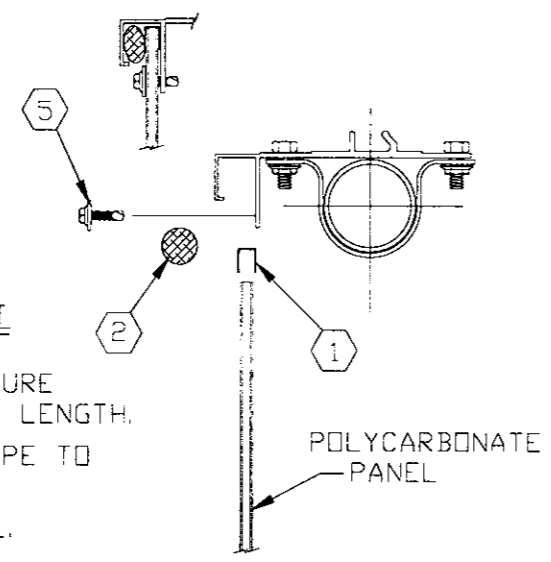
INSTALLATION GUIDELINES

1. ALL EQUIPMENT TYPICALLY INSTALLED BEFORE GLAZING.
2. PRINTED MASKING INDICATES UV RESISTANT SIDE WHICH MUST BE GLAZED OUTWARDS. \* KEEP PANELS DRY AND OUT OF SUNLIGHT PRIOR TO INSTALLATION TO KEEP MASKING FROM PERMANENTLY ADHERING TO PANEL. \*
3. LEXAN CAN BE CUT WITH MOST POWER SAWS USING FINE TOOTH BLADES, OR WITH A UTILITY KNIFE. LEAVE MASKING IN PLACE TO PREVENT MARRING OF THE PANEL.

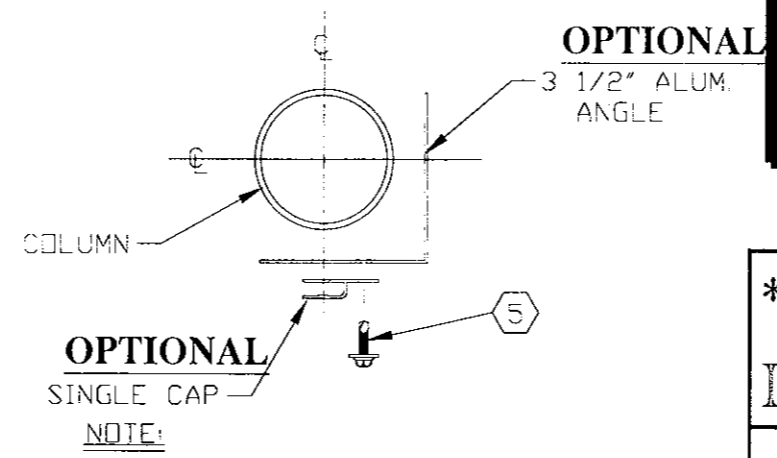
**DETAIL C-C**

TOP PANEL TREATMENT

1. SCRIBE PANEL FOR CURVATURE OF GABLE END AND CUT TO LENGTH.
2. INSTALL ALUMINUM FOIL TAPE TO TOP OF PANEL.
3. SLIDE PANEL INTO CHANNEL.
4. INSTALL ROUND SEAL.
5. TEC PANEL TO LIP TO SECURE IT.



**DETAIL D-D**



**OPTIONAL**

NOTE:  
SOME HOUSES MAY REQUIRE STARTING PANEL ON CENTERLINE OF COLUMNS (18', 24' & 30') TO PROPERLY GLAZE ENTIRE ENDWALL.

**IMPORTANT:**  
BEFORE INSTALLING PANELS VERIFY PANEL WITH YOUR ORDER.

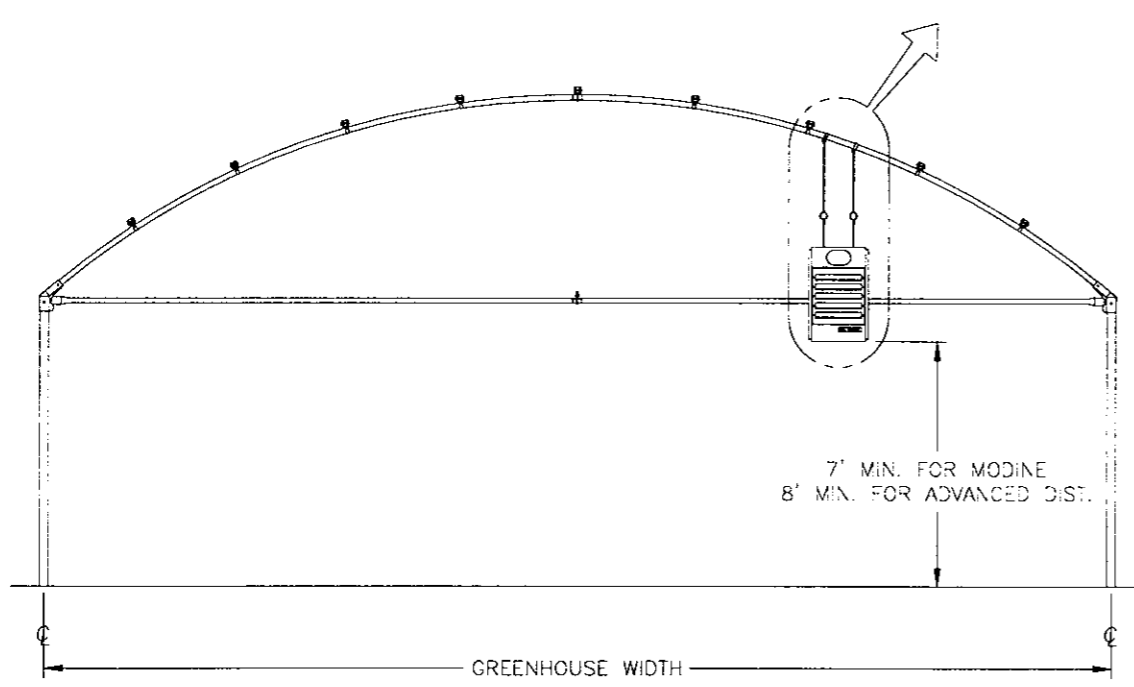
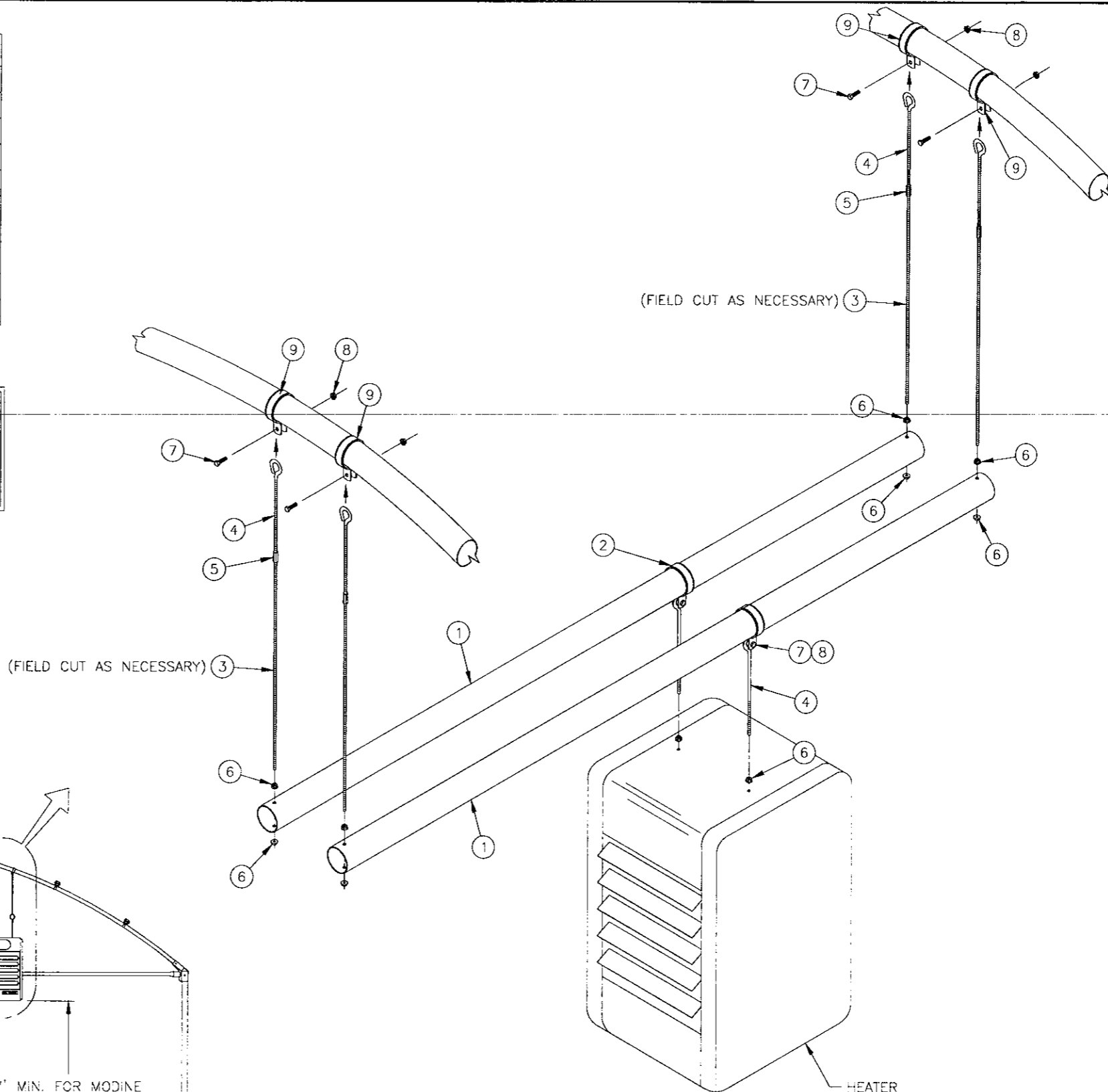
REV 1) DWG PUT ON AUTO CAD & SEPARATED FROM SIDEWALL DETAILS.

**\*TYPICAL\* POLYCARBONATE DETAILS FOR ENDWALLS**  
  
**STUPPY GREENHOUSE MFG. INC.**  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 816-842 3071 / FAX- 816 472 0969

|                     |              |
|---------------------|--------------|
| ITEM NUMBER         |              |
| REVISION #1         | 10-27-1995   |
| DRAWN ALM           | CHK'D BY EEG |
| DATE 8-24-1981      |              |
| INDEX NUMBER B-0378 |              |

| # | ITEM # | MATERIAL LIST - PART DESCRIPTION       | QTY |
|---|--------|----------------------------------------|-----|
| 1 | 1866   | 1.90-14GA TUBE 6'-2" DRILL             | 2   |
| 2 | 15262  | 1.90 BRACE BAND (BEB-3)                | 4   |
| 3 | 13151  | 3/8-16 x 36" THREADED ROD              | 4   |
| 4 | 13152  | 3/8 x 11-1/2" EYE BOLT Z/P             | 8   |
| 5 | 18165  | 1-1/8" x 3/8" BOTTOM HBM SPACER        | 4   |
| 6 | 1349   | 3/8-16 HEX LOCK NUT                    | 10  |
| 7 | 1341   | 5/16-18 x 1-1/4" GR5 HEX BOLT          | 8   |
| 8 | 1346   | 5/16-18 HEX LOCK NUT                   | 8   |
| 9 | 15262  | 1.90 BRACE BAND (1.90 BOW APPLICATION) | 4   |
|   | 15361  | 2.40 BRACE BAND (2.40 BOW APPLICATION) | 4   |

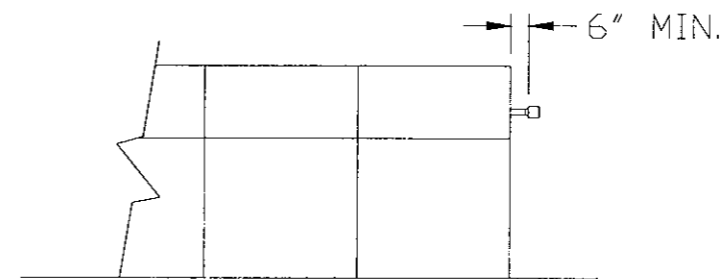
| MODINE HEATER SIZE (BTU) | HEATER MOUNTING SUPPORT HOLES |
|--------------------------|-------------------------------|
| 30 - 250                 | 2                             |
| 300 - 400                | 4                             |



|                                                                                                             |          |                         |
|-------------------------------------------------------------------------------------------------------------|----------|-------------------------|
| <b>6'OC BOW MOUNTED<br/>DOUBLE HEATER HANGER</b>                                                            |          | ITEM NUMBER<br>5238     |
|                                                                                                             |          | REVISION #              |
| DRAWN<br>TNB                                                                                                | CHK'D BY |                         |
| DATE<br>9-13-2007                                                                                           |          | INDEX NUMBER<br>B-3060A |
| STUPPY GREENHOUSE MFG. INC.<br>1212 CLAY NORTH KANSAS CITY MO.64116-4027<br>800-733-5025 / FAX 800-423-1512 |          |                         |

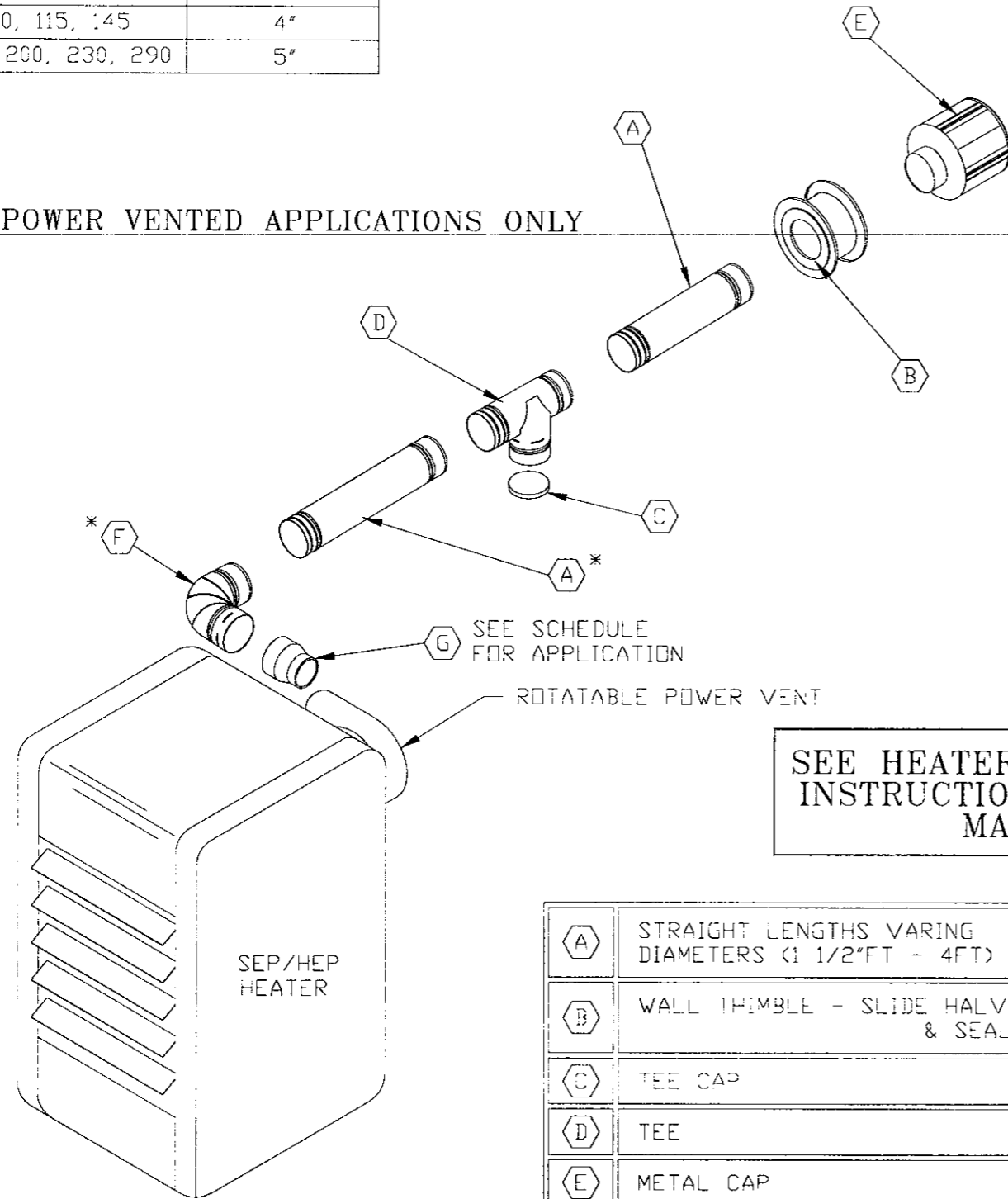
| MODEL                | VENT PIPE SIZE FOR INSTALLATION |
|----------------------|---------------------------------|
| HEP50                | 3"                              |
| HEP75, 100, 125, 150 | 4"                              |
| HEP200, 250, 300     | 5"                              |

| MODEL                 | VENT PIPE SIZE FOR INSTALLATION |
|-----------------------|---------------------------------|
| SEP60                 | 3"                              |
| SEP90, 115, 145       | 4"                              |
| SEP175, 200, 230, 290 | 5"                              |



GREENHOUSE SIDE VIEW

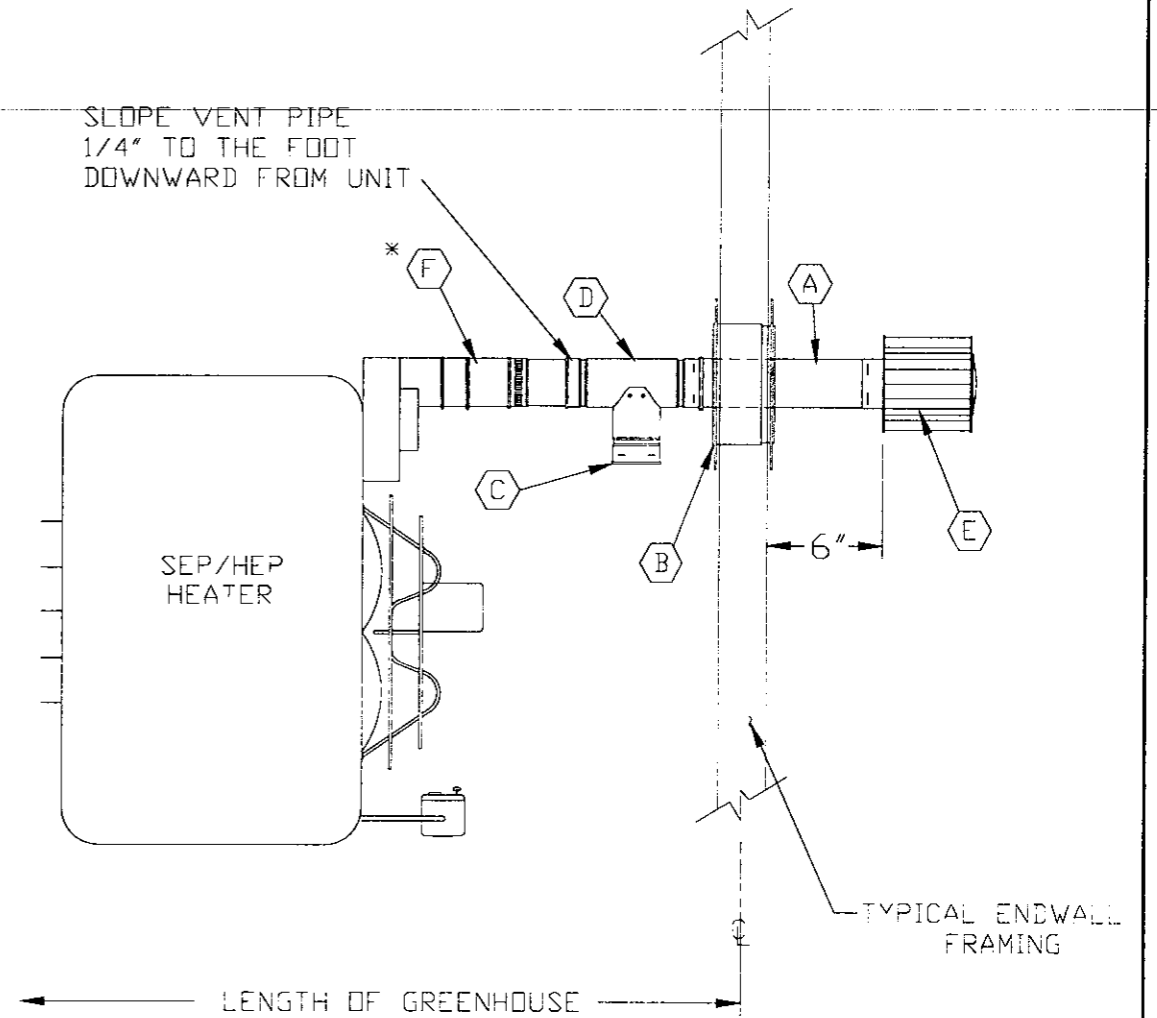
POWER VENTED APPLICATIONS ONLY



SEE HEATER INSTALLATION INSTRUCTIONS & SERVICE MANUAL

|     |                                                              |
|-----|--------------------------------------------------------------|
| (A) | STRAIGHT LENGTHS VARYING DIAMETERS (1 1/2" FT - 4 FT)        |
| (B) | WALL THIMBLE - SLIDE HALVES TOGETHER RIVET & SEAL TO GLAZING |
| (C) | TEE CAP                                                      |
| (D) | TEE                                                          |
| (E) | METAL CAP                                                    |
| (F) | ADJUSTABLE ELBOW                                             |
| (G) | VENT TRANSITION                                              |

SLOPE VENT PIPE 1/4" TO THE FOOT DOWNWARD FROM UNIT

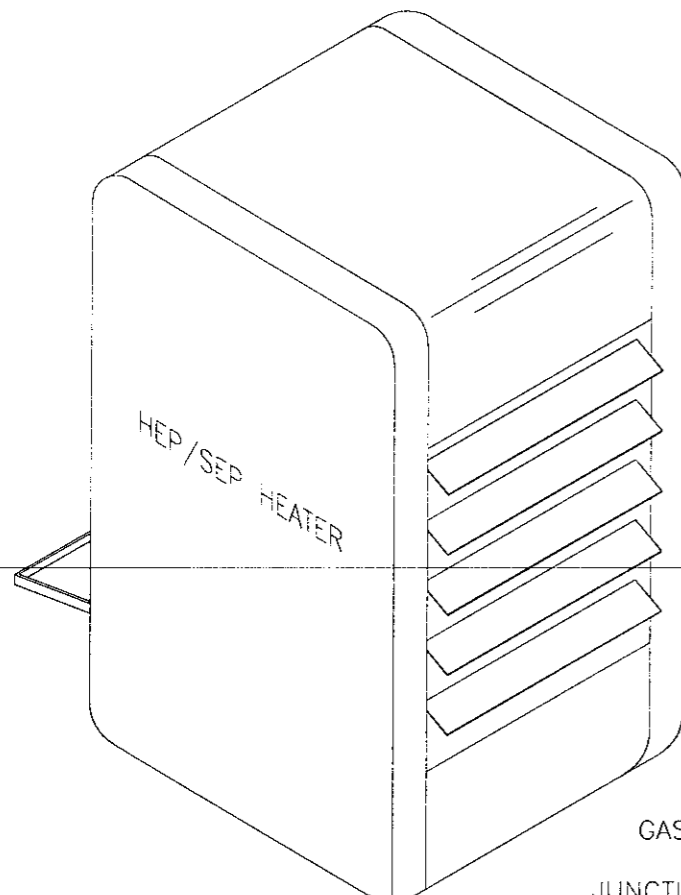


"SEP/HEP STYLE" HEATER STACKING DETAIL w/HAF

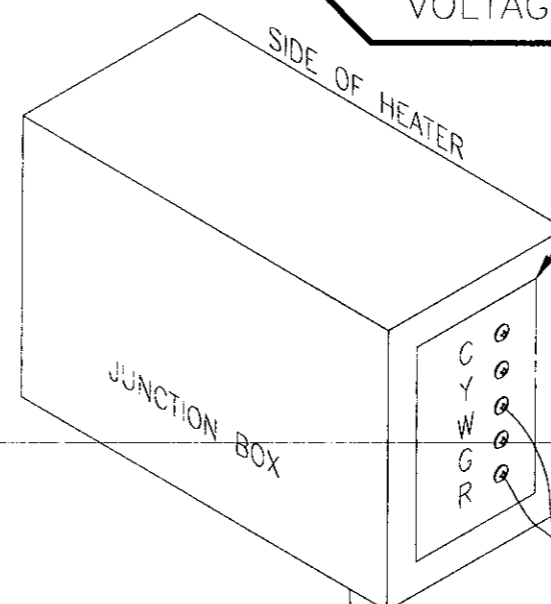
STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>ALM/BJA       | CHK'D BY<br>EEG |
| DATE<br>11-18-1996     |                 |
| INDEX NUMBER<br>B-3909 |                 |

NOTE: #3294 THERMOSTAT IS USED AS A "LOW VOLTAGE" THERMOSTAT FOR HEATER APPLICATIONS, ALTHOUGH IT IS A "LINE VOLTAGE" THERMOSTAT.



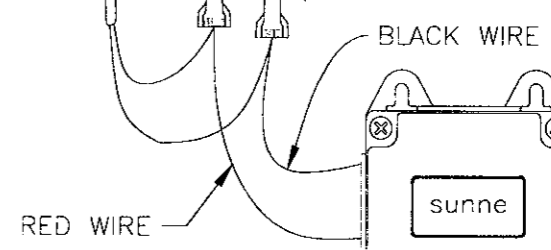
BACK OF HEATER



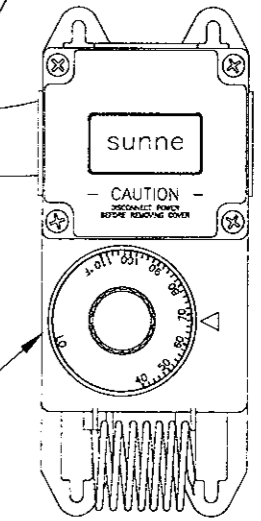
CONNECT WIRE TO TERMINALS "W" AND "R"

18-22 GAUGE BELLWIRE SOLID COPPER "TWISTED PAIR" 24 VOLT DC CIRCUIT

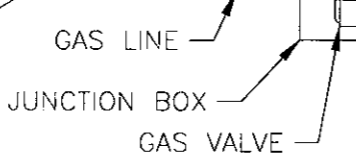
WIRE CONNECTIONS TO BE MADE INSIDE OF THERMOSTAT. BLUE WIRE IS NOT USED FOR HEATER APPLICATIONS.



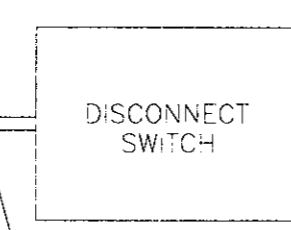
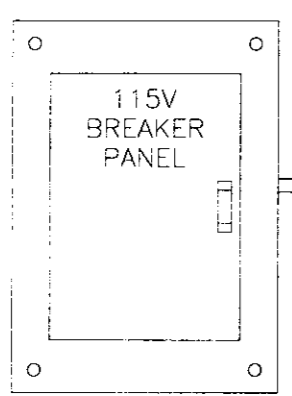
THERMOSTAT TO BE LOCATED AT THE MIDDLE OF THE GREENHOUSE



#3294 SINGLE STAGE THERMOSTAT



\* HEATER TYPE WILL VARY \*



12/2 OR 14/2 WITH GROUND (WIRE SIZE MAY DEPEND ON LENGTH OF WIRE AND AMP LOAD OF UNIT HEATER)

| WIRE TYPE            |               | INSIDE HEATER JUNCTION BOX |
|----------------------|---------------|----------------------------|
| 14/2 W/GROUND        | 12/2 W/GROUND |                            |
| WHITE (COMMON)       |               | WHITE                      |
| BLACK (POWER)        |               | BLACK                      |
| BARE COPPER (GROUND) |               | GREEN                      |

\* ALWAYS REFER TO MODINE ELECTRICAL & INSTALLATION MANUALS FOR SPECIFIC DETAILS ON YOUR HEATER TYPE. \*

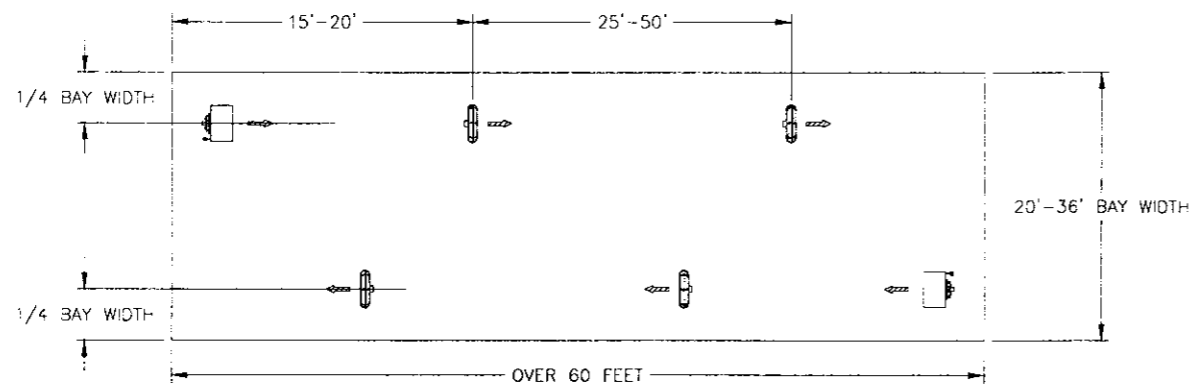
\* ALL WIRING MUST CONFORM TO LOCAL AND/OR NATIONAL ELECTRICAL CODES. \*

~ HEP/SEP TYPE HEATER APPLICATION ~

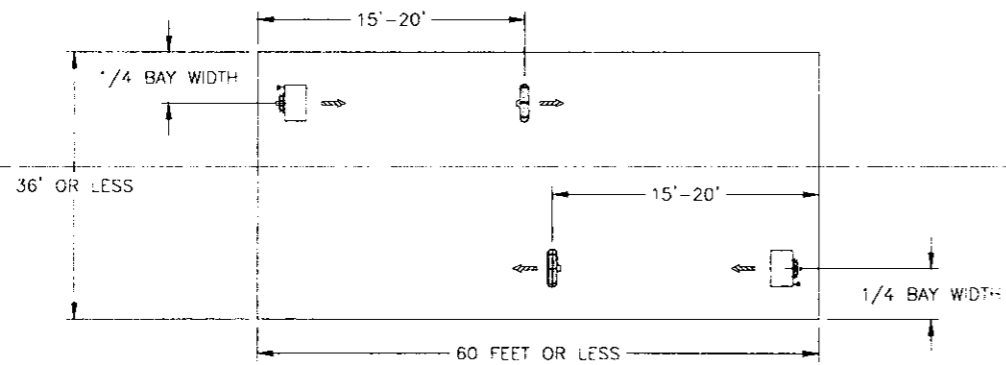
HEATER AND THERMOSTAT WIRING DETAIL

STUPPY GREENHOUSE MFG. INC.  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 816-842 3071 / FAX- 816 472 0969

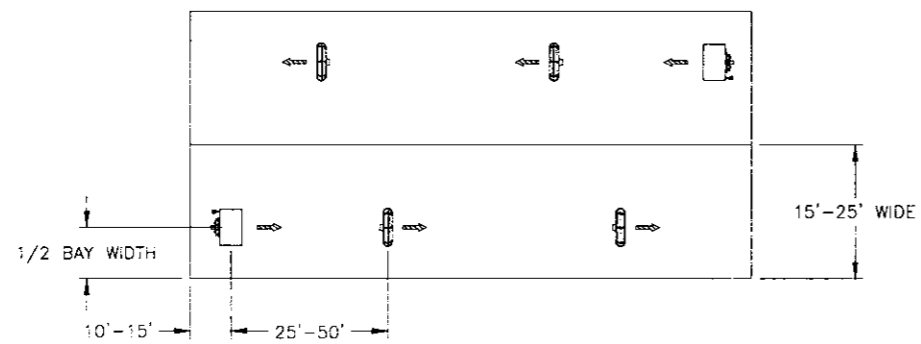
|                        |                  |
|------------------------|------------------|
| ITEM NUMBER            |                  |
| REVISION #             |                  |
| DRAWN<br>BJA           | CHCK'D BY<br>EEG |
| DATE<br>07-21-1999     |                  |
| INDEX NUMBER<br>B-5088 |                  |



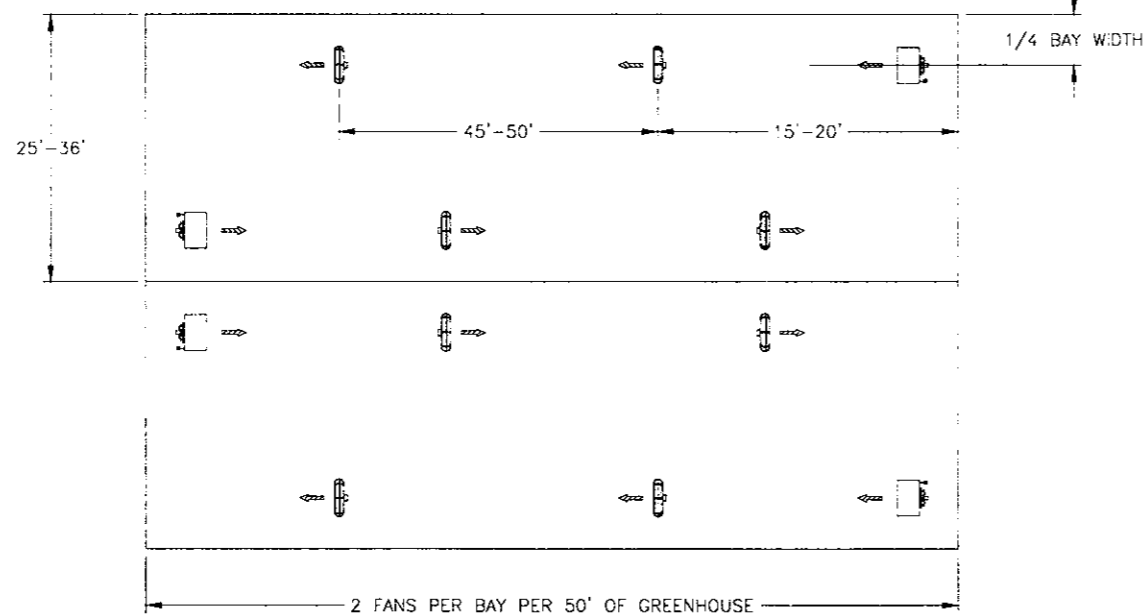
**LONG SINGLE HOUSE**



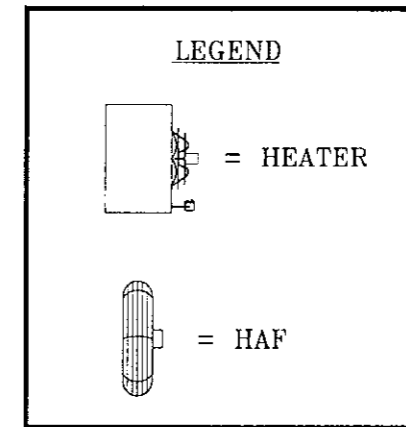
**SMALL SINGLE HOUSE**



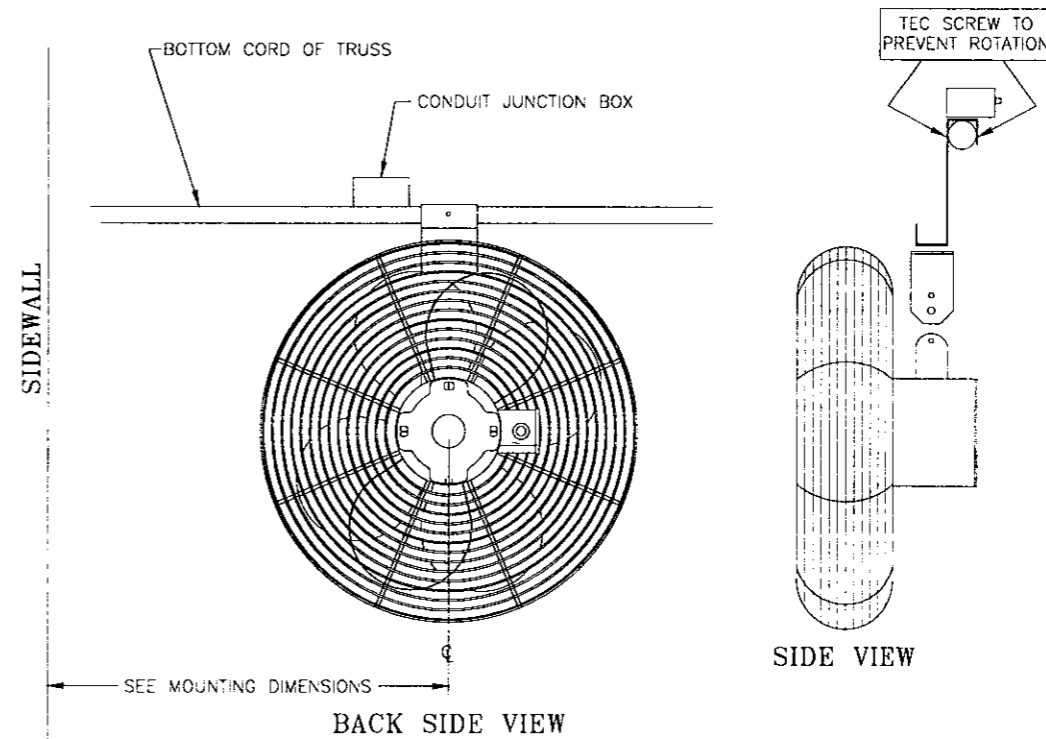
**MULTIPLE LONG NARROW HOUSES**



**MULTIPLE LONG WIDE HOUSES**



**NOTE:**  
All electrical wiring should be performed by a qualified electrician according to all local and NEC codes and standards.



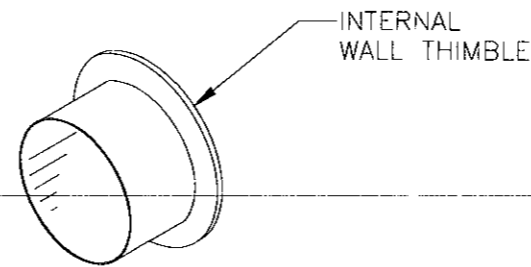
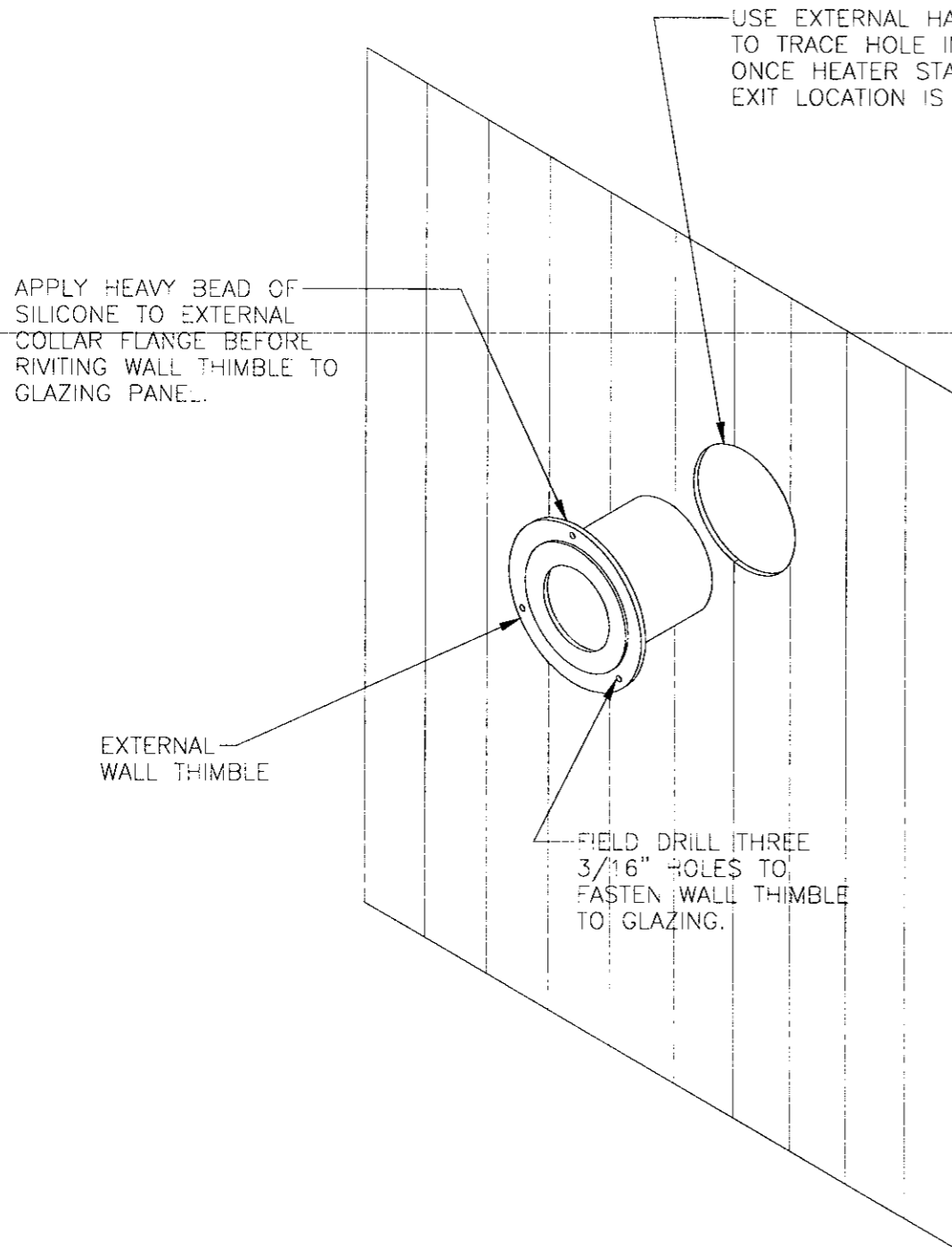
**HAF FAN INSTALLATION  
DETAILS**

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
800-733-5025 / FAX 800-423-1512

|                        |                     |
|------------------------|---------------------|
| ITEM NUMBER            |                     |
| REVISION #             |                     |
| DRAWN<br>BJA/THR       | CHK'D BY<br>EEG/TNB |
| DATE<br>11-18-1998     |                     |
| INDEX NUMBER<br>C-5272 |                     |

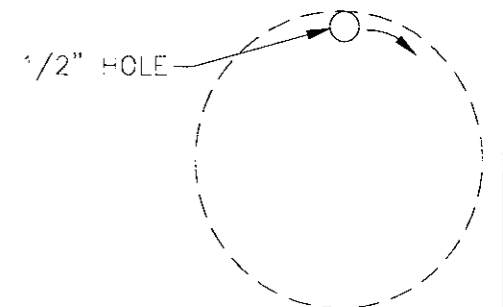
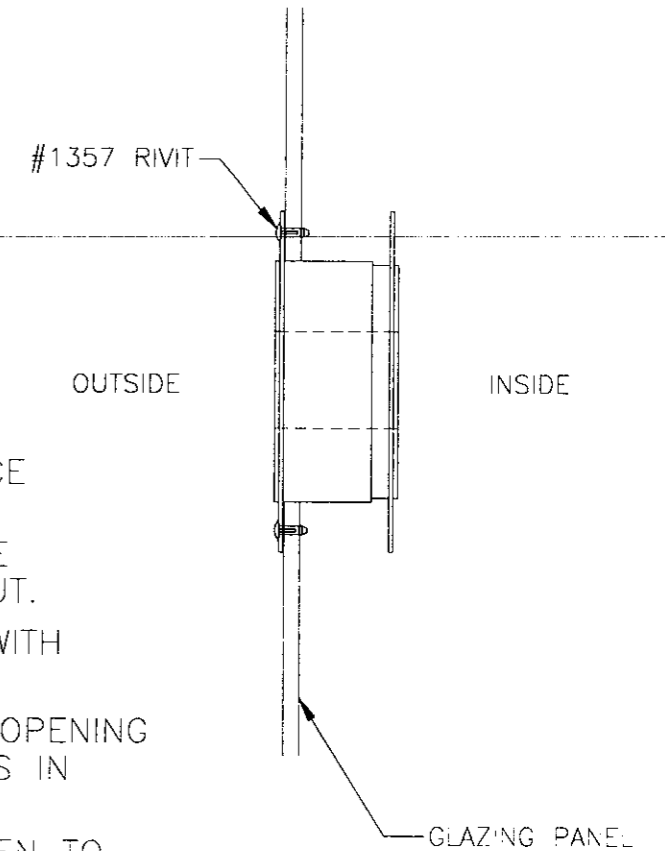


| WALL THIMBLES |        |
|---------------|--------|
| SIZE          | ITEM#  |
| 3"            | 558010 |
| 4"            | 558036 |
| 5"            | 558068 |
| 6"            | 558096 |
| 7"            | 558130 |
| 8"            | 558154 |
| 10"           | 558178 |



### INSTALLATION PROCEDURE

- ① LOCATE HEATER STACKING EXIT LOCATION.
- ② USING LARGER HALF OF WALL THIMBLE, TRACE HOLE SIZE ON GLAZING PANEL.
- ③ CUT HOLE IN PANEL WITH FINE TOOTH BLADE USING 1/2" DRILLED HOLE FOR STARTING CUT.
- ④ PRE-DRILL OUTSIDE WALL THIMBLE FLANGE WITH THREE 3/16" HOLES.
- ⑤ SLIDE EXTERNAL WALL THIMBLE INTO HOLE OPENING AND USE HOLES IN THIMBLE TO DRILL HOLES IN GLAZING PANEL.
- ⑥ SILICONE EXTERNAL WALL THIMBLE AND FASTEN TO GLAZING PANEL.
- ⑦ SLIDE INTERNAL WALL THIMBLE INTO EXTERNAL WALL THIMBLE.
- ⑧ HEATER FLUE PIPE CAN NOW BE INSTALLED AS REQUIRED.

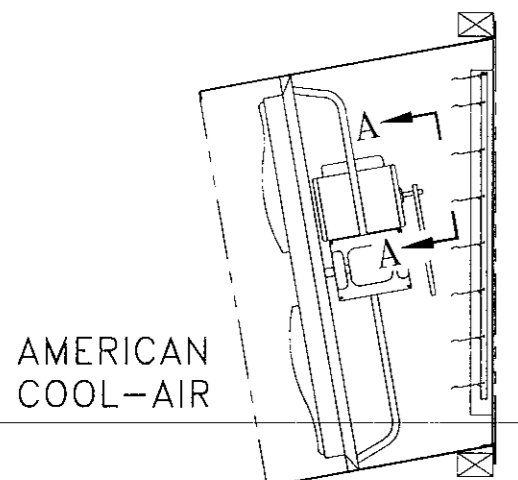


## HEATER WALL THIMBLE INSTALLATION

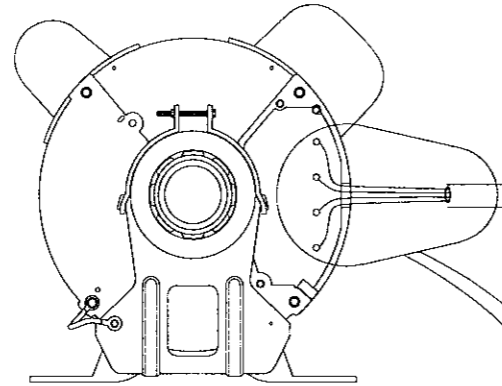
STUPPY GREENHOUSE MFG. INC.  
 1212 CLAY NORTH KANSAS CITY MO.64116-4027  
 800-733-5025 / FAX 800-423-1512

|                        |                  |
|------------------------|------------------|
| ITEM NUMBER            |                  |
| REVISION #             |                  |
| DRAWN<br>THR           | CHCK'D BY<br>EEG |
| DATE<br>06-11-1997     |                  |
| INDEX NUMBER<br>B-4151 |                  |

NOTE: SHUTTERS WIRED IN TANDOM BEFORE CONNECTED TO THERMOSTAT

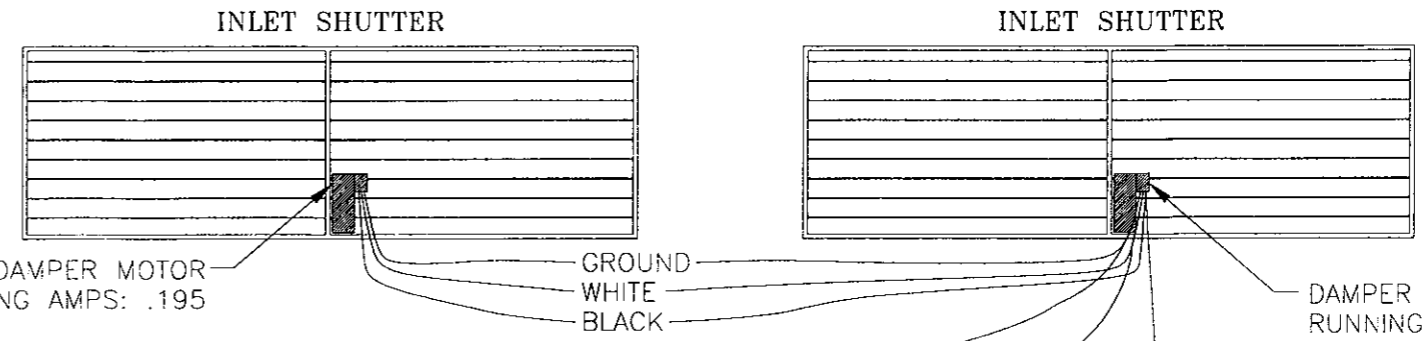


AMERICAN COOL-AIR



SECTION A-A

\* FAN SIZE WILL VARY \*



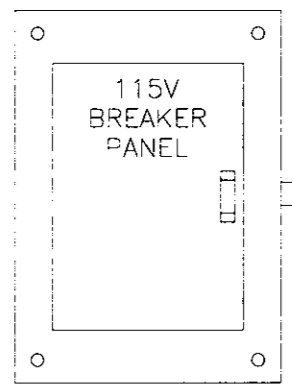
DAMPER MOTOR  
RUNNING AMPS: .195

DAMPER MOTOR  
RUNNING AMPS: .195

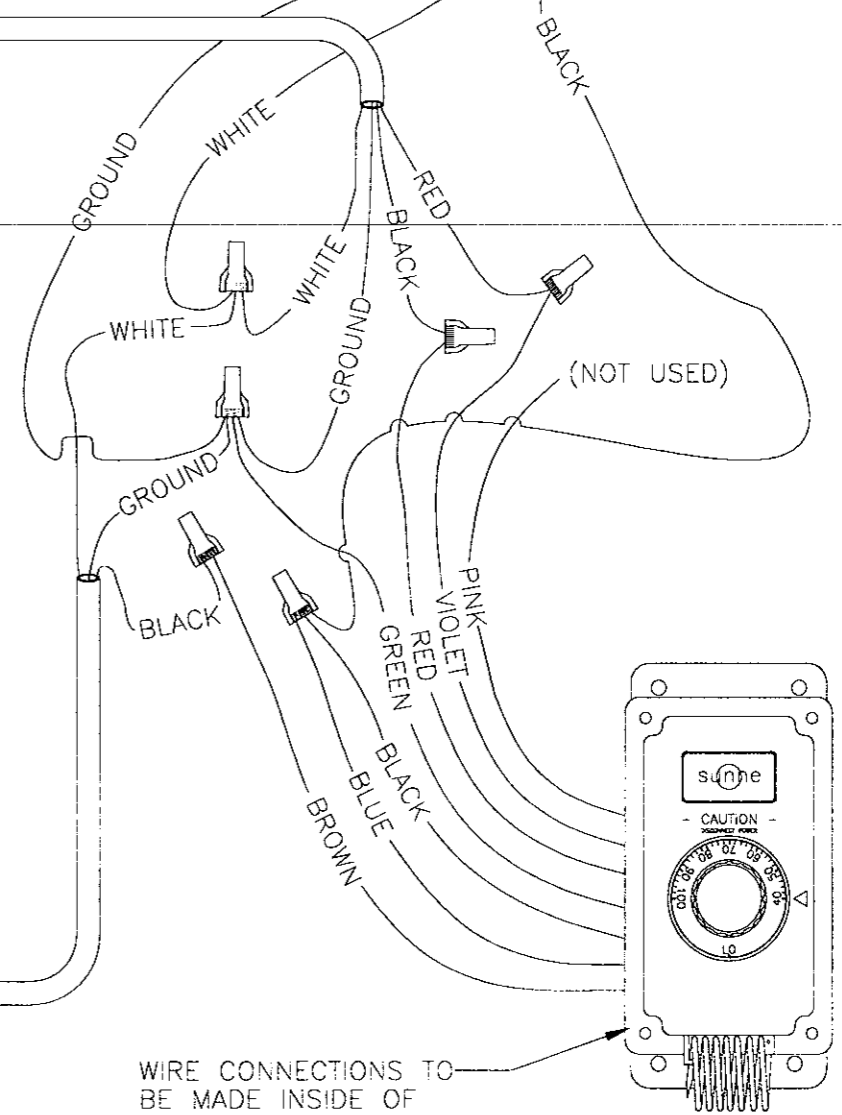
FUSED DISCONNECT SWITCH

12/3 OR 14/3 WITH GROUND  
(WIRE SIZE MAY DEPEND ON LENGTH OF WIRE AND AMP LOAD OF FAN MOTOR)

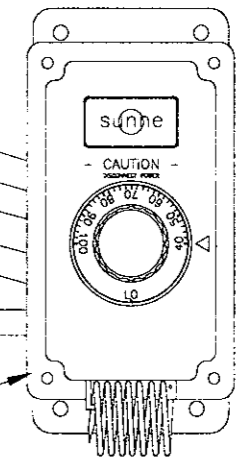
| WIRE TYPE                      |                        |
|--------------------------------|------------------------|
| 14/2 W/GROUND<br>12/2 W/GROUND | INSIDE FAN MOTOR PLATE |
| WHITE (COMMON)                 | WHITE (COMMON)         |
| BLACK (POWER)                  | LOW SPEED TERMINAL     |
| BARE COPPER (GROUND)           | GREEN (GROUND SCREW)   |
| RED (POWER)                    | HI SPEED TERMINAL      |



12/2 OR 14/2 WITH GROUND  
(WIRE SIZE MAY DEPEND ON LENGTH OF WIRE AND AMP LOAD OF FAN MOTOR)



WIRE CONNECTIONS TO BE MADE INSIDE OF THERMOSTAT.



#3295  
2 STAGE THERMOSTAT  
16 AMP MAX. LOAD

\* ALWAYS REFER TO COOL-AIR ELECTRICAL & INSTALLATION MANUALS FOR SPECIFIC DETAILS ON YOUR FAN TYPE. \*

\* ALL WIRING MUST CONFORM TO LOCAL AND/OR NATIONAL ELECTRICAL CODES. \*

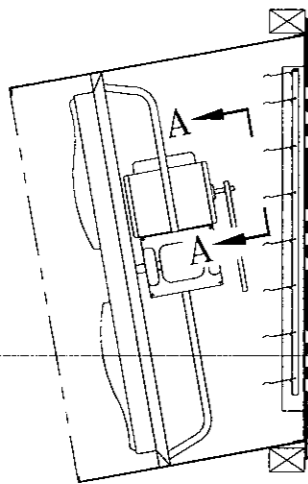
COOL-AIR APPLICATION

2 SPEED FAN AND THERMOSTAT WIRING DETAIL - 115V

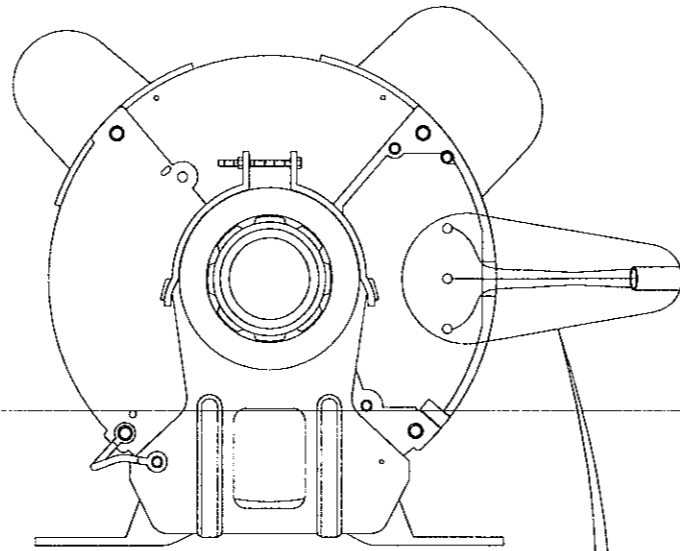
STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                         |                 |
|-------------------------|-----------------|
| ITEM NUMBER             |                 |
| REVISION #              |                 |
| DRAWN<br>TNB            | CHK'D BY<br>MJO |
| DATE<br>04-05-06        |                 |
| INDEX NUMBER<br>B-4094B |                 |

IMPORTANT: MOST 1-SPEED MOTORS ARE DUAL VOLTAGE (115/230). IT IS IMPERATIVE TO CHECK THE INTERNAL WIRING TERMINALS TO VERIFY THE MOTOR IS SET UP FOR 115V. MOTORS ARE NOT ALWAYS SHIPPED FROM THE FACTORY AT THE 115V SETTING.

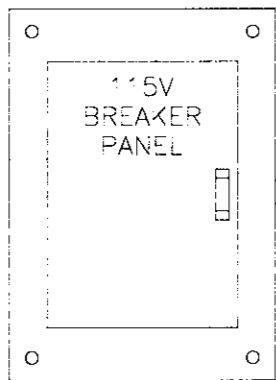


\* FAN SIZE WILL VARY \*



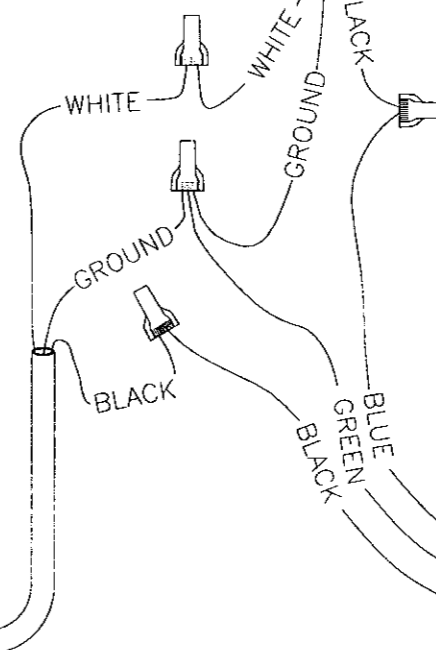
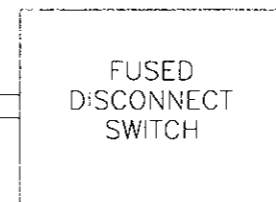
SECTION A-A

| WIRE TYPE                      |                           |
|--------------------------------|---------------------------|
| 14/2 W/GROUND<br>12/2 W/GROUND | INSIDE FAN<br>MOTOR PLATE |
| WHITE<br>(COMMON)              | WHITE                     |
| BLACK<br>(POWER)               | BLACK                     |
| BARE COPPER<br>(GROUND)        | GREEN<br>(GROUND SCREW)   |

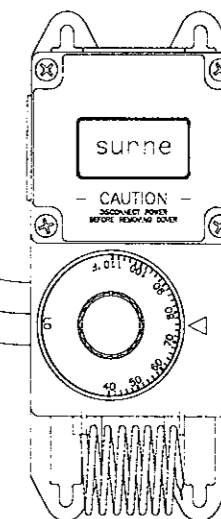


12/2 OR 14/2 WITH GROUND  
(WIRE SIZE MAY DEPEND  
ON LENGTH OF WIRE AND  
AMP LOAD OF FAN MOTOR)

12/2 OR 14/2 WITH GROUND  
(WIRE SIZE MAY DEPEND  
ON LENGTH OF WIRE AND  
AMP LOAD OF FAN MOTOR)



WIRE CONNECTIONS TO  
BE MADE INSIDE OF  
THERMOSTAT. RED WIRE  
IS NOT USED FOR FAN  
APPLICATIONS.



#3294 SINGLE  
STAGE THERMOSTAT  
16 AMP MAX. LOAD

~ 115V APPLICATION ~

\* ALWAYS REFER TO ACME ELECTRICAL & INSTALLATION MANUALS FOR SPECIFIC DETAILS ON YOUR FAN TYPE. \*

\* ALL WIRING MUST CONFORM TO LOCAL AND/OR NATIONAL ELECTRICAL CODES. \*

# 1 SPEED FAN AND THERMOSTAT WIRING DETAIL

STUPPY GREENHOUSE MFG. INC.  
1212 CLAY NORTH KANSAS CITY MO.64116-4027  
816-842 3071 / FAX- 816 472 0969

|                        |                 |
|------------------------|-----------------|
| ITEM NUMBER            |                 |
| REVISION #             |                 |
| DRAWN<br>BJA           | CHK'D BY<br>EEG |
| DATE<br>04-11-1997     |                 |
| INDEX NUMBER<br>B-4076 |                 |