

GENERAL NOTES:

1. ROLL-UP SHUTTER SHOWN ON THIS PRODUCT EVALUATION DOCUMENT (P. E. D.) HAS BEEN VERIFIED FOR CODE COMPLIANCE IN ACCORDANCE WITH THE 2001 EDITION OF THE FLORIDA BUILDING CODE. DESIGN WIND LOADS SHALL BE DETERMINED AS PER SECTION 1606 OF THE ABOVE MENTIONED CODE, FOR A BASIC WIND SPEED AS REQUIRED BY THE JURISDICTION WHERE SHUTTER WILL BE INSTALLED, AND IN ACCORDANCE WITH ASCE 7-98 STANDARD. IN ORDER TO VERIFY THAT ANCHORS ON THIS P.E.D. AS TESTED, WERE NOT OVERSTRESSED, A 33% INCREASE IN ALLOWABLE STRESS FOR WIND LOADS WAS NOT USED IN THEIR ANALYSIS.

ROLL-UP SHUTTER'S ADEQUACY FOR IMPACT AND FATIGUE RESISTANCE HAS BEEN VERIFIED IN ACCORDANCE WITH SECTION 1606.1.4 OF THE ABOVE MENTIONED CODE AS PER ASTM E-1886, E-1996 & E-330 STANDARDS, AS PER ARCHITECTURAL TESTING LAB REPORT # 49124.01-122-44.

THIS SHUTTER SHALL NOT BE INSTALLED WITHIN HIGH VELOCITY HURRICANE ZONES (MIAMI-DADE/BROWARD COUNTIES), AND SHALL ONLY BE INSTALLED WITHIN WIND ZONES 1, 2 OR 3, AS DEFINED BY SECTION 6.2.2 OF THE ASTM E-1996 STANDARD.

2. MAXIMUM DESIGN PRESSURE RATING:

+50.0 PSF , -55.0 PSF

ANY DESIGN WIND LOAD, SLAT SPAN, SHUTTER HEIGHTS AND WIDTHS EQUAL OR SMALLER THAN MAXIMUM ALLOWABLE INDICATED IN THIS DRAWING ARE ACCEPTABLE FOR INSTALLATION.

3. ALL ALUMINUM EXTRUSIONS SHALL BE 6063-T6 ALLOY (UNLESS OTHERWISE NOTED).

4. ALL SCREWS TO BE STAINLESS STEEL 304 OR 316 SERIES W/ 50 ksi YIELD POINT AND 90 ksi TENSILE STRENGTH OR CORROSION RESISTANT COATED CARBON STEEL AS PER DIN 50018 OR ASTM A 510-03.

5. BOLTS TO BE 2024-T4 ALUMINUM ALLOY, ASTM A-307 GALVANIZED OR AISI 304 SERIES STAINLESS STEEL WITH 35 ksi MINIMUM YIELD STRENGTH.

6. STORM BARS AT FLOOR AND CEILING MOUNTING INSTALLATIONS MAY BE REMOVABLE AT NON HURRICANE CONDITIONS. HOWEVER, EACH STORM BAR SHALL BEAR A PERMANENT LABEL IN A VISIBLE PLACE WITH A WARNING NOTE INSTRUCTING THE TENANT OR OWNER THAT STORM BARS MUST BE INSTALLED WITH CORRESPONDING HARDWARE DURING PERIODS OF HURRICANE WARNING AND THAT ROLL UP SHUTTERS WILL NOT OFFER HURRICANE PROTECTION UNLESS ALL STORM BARS ARE INSTALLED AS DIRECTED.

7. REMOVABLE STORM BARS SHALL BE STORED IN A CONSPICUOUS PLACE WITH EASY AND IMMEDIATE ACCESS SO THAT THEY CAN BE REACHED AND INSTALLED ANY TIME (HURRICANE CONDITIONS OR NOT) SLATS ARE ROLLED DOWN. THE EFFECT OF THE SLATS ROLLED DOWN WITHOUT STORM BARS IS; THOSE SLATS WILL SLIP OUT OF TRACK DUE TO THE DEFLECTION CAUSED BY WIND FORCES.

8. PROTEUS® FLAME RETARDANT 18G, IS A POLYPROPYLENE MANUFACTURED BY POLY HI SOLIDUR, INC., USED AT SPRING LOADED SYSTEM FOR REMOVABLE STORM BARS & COMPLIES W/ THE FOLLOWING SPECIFICATIONS:

| DESIGNATION | PROPERTIES | VALUE |
|-------------|-------------------------|-------------------------------------|
| ASTM D-792 | DENSITY | 59.51 lbs/ft ³ (AVERAGE) |
| ASTM D-638 | YIELD POINT | 3200 psi (AVERAGE) |
| ASTM D-638 | TENSILE BREAK | 3250 psi (AVERAGE) |
| ASTM D-638 | ELONGATION AT BREAK | 600 % (AVERAGE) |
| ASTM D-790 | FLEXURAL MODULUS | 145000 psi (AVERAGE) |
| ASTM D-4020 | IZOD IMPACT | 0.15 ft-lbs/inch (AVERAGE) |
| UL 94 | BURN RATING. | V-0/5-VA (AVERAGE) |
| ASTM E-84 | FLAME SPREAD INDEX | 15 °F (AVERAGE) |
| ASTM E-84 | SMOKE DEVELOPMENT INDEX | 375 °F (AVERAGE) |

9. ANCHORS TO WALL FOR SIDE RAILS & BOX CONNECTION SHALL BE AS FOLLOWS:

- 1/4" # TAPCON ANCHORS, AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON.

NOTES:

A.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO POURED CONCRETE IS 1 3/4". NO EMBEDMENT INTO STUCCO SHALL BE CONSIDERED AS PART OF THE REQUIRED EMBEDMENT.

A.2) IN CASE THAT PRECAST STONE, PRECAST CONCRETE OR BRICK PANELS, VENEER OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH COVERS. ANCHORAGE SHALL BE AS INDICATED ON NOTE A.1 ABOVE.

(B) TO EXISTING CONCRETE BLOCK WALL:

- 1/4" # TAPCON ANCHORS AS MANUFACTURED BY I.T.W. BUILDEX OR ELCO TEXTRON.

NOTES:

B.1) MINIMUM EMBEDMENT OF TAPCON ANCHORS INTO CONCRETE BLOCK UNIT SHALL BE 1 1/4".

B.2) IN CASE THAT PRECAST STONE, PRECAST CONCRETE OR BRICK PANELS, VENEER OR PAVERS BE FOUND ON THE EXISTING WALL OR FLOOR, ANCHORS SHALL BE LONG ENOUGH TO REACH THE MAIN STRUCTURE BEHIND SUCH COVERS. ANCHORAGE SHALL BE AS INDICATED ON NOTE B.1 ABOVE.

(C) TO EXISTING WOOD FRAME WALL (MIN. SPECIFIC GRAVITY = 0.36):
- 5/16" # WOOD SCREWS W/ 2" MIN. EMBEDMENT INTO WOOD BEYOND ANY WALL FINISH.

(D) ANCHORS SHALL BE INSTALLED FOLLOWING ALL OF THE RECOMMENDATIONS AND SPECIFICATIONS OF THE ANCHOR'S MANUFACTURER.

(E) ANCHORS REQUIRED FOR STORM BARS & HEADER CONNECTIONS SHALL BE AS SPECIFIED ON APPLICABLE SECTIONS SHOWN ON SHEETS 4 & 5 OF 5. POWER BOLT ANCHORS TO BE AS MANUFACTURER BY POWERS FASTENERS, INC., WOOD SCREWS SHALL BE COMPLY W/ THE NATIONAL DESIGN SPECIFICATION FROM AF&PA.

10. THE INSTALLATION CONTRACTOR IS TO SEAL/CAULK ALL SHUTTER COMPONENT EDGES WHICH REMAIN IN CONTINUOUS CONTACT WITH THE BUILDING TO PREVENT WIND/RAIN INTRUSION.

11. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SOUNDNESS OF THE STRUCTURE WHERE SHUTTER IS TO BE ATTACHED TO INSURE PROPER ANCHORAGE. THIS SHUTTER SHALL ONLY BE ATTACHED TO CONCRETE, CONCRETE BLOCK OR WOOD FRAME BUILDINGS.

12. SHUTTER'S INSTALLATION SHALL COMPLY WITH ALL SPECS INDICATED IN THIS DRAWING PLUS ANY BUILDING AND ZONING REGULATIONS PROVIDED BY THE JURISDICTION WHERE PERMIT IS APPLIED TO.

13. LIFTING MECHANISM NOT PART OF THIS APPROVAL, BUT SHALL BE CERTIFIED BY AN INDEPENDENT TESTING AGENCY.

14. (a) THIS P.E.D. PREPARED BY THIS ENGINEER IS GENERIC AND DOES NOT PROVIDE INFORMATION FOR A SITE SPECIFIC PROJECT; i.e. WHERE THE SITE CONDITIONS DEVIATE FROM THE P.E.D.

(b) CONTRACTOR TO BE RESPONSIBLE FOR THE SELECTION, PURCHASE AND INSTALLATION INCLUDING LIFE SAFETY OF THIS PRODUCT, BASED ON THIS P.E.D. PROVIDED HE/SHE DOES NOT DEVIATE FROM THE CONDITIONS DETAILED ON THIS DOCUMENT. CONSTRUCTION SAFETY AT SITE IS THE CONTRACTOR'S RESPONSIBILITY.


(c) THIS P.E.D. WILL BE CONSIDERED INVALID IF ALTERED BY ANY MEANS.

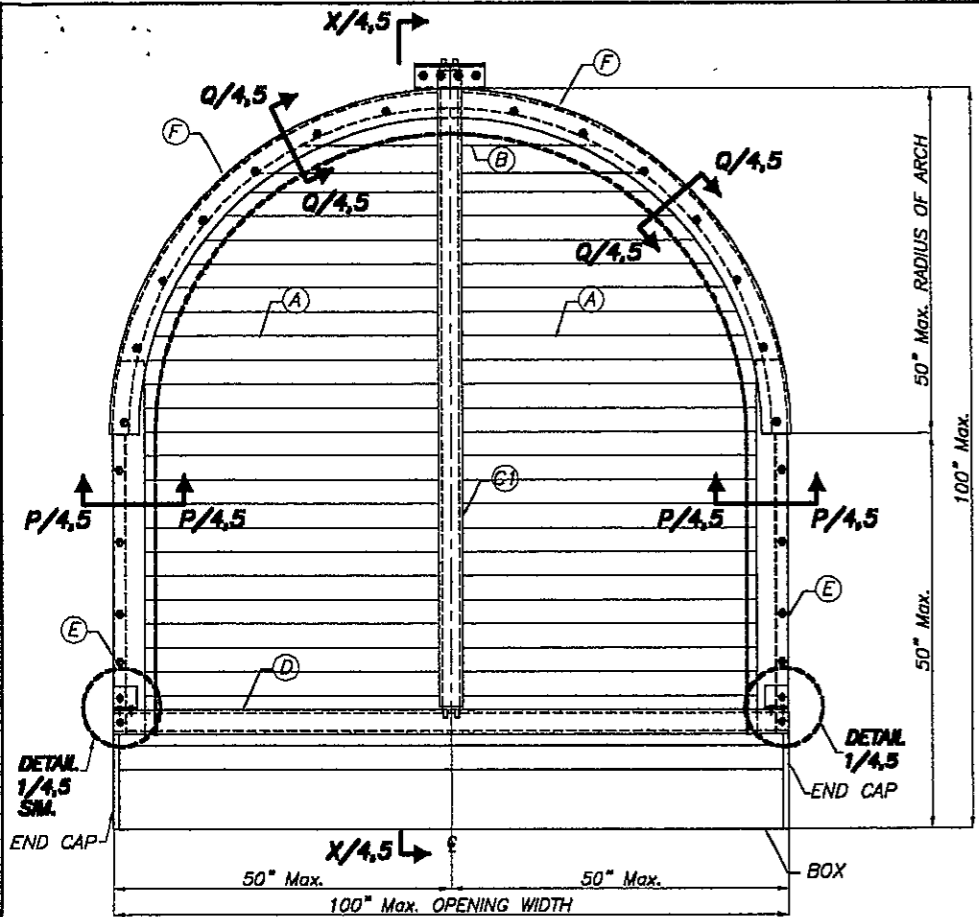
(d) SITE SPECIFIC PROJECTS SHALL BE PREPARED BY A FLORIDA REGISTERED ENGINEER OR ARCHITECT WHICH WILL BECOME THE ENGINEER OF RECORD (E.O.R.) FOR THE PROJECT AND WHO WILL BE RESPONSIBLE FOR THE PROPER USE OF THE P.E.D. ENGINEER OF RECORD, ACTING AS A DELEGATED ENGINEER TO THE P.E.D. ENGINEER, SHALL SUBMIT TO THIS LATTER THE SITE SPECIFIC DRAWINGS FOR REVIEW.

(e) THIS P.E.D. SHALL BEAR THE DATE AND ORIGINAL SEAL AND SIGNATURE OF THE PROFESSIONAL ENGINEER OF RECORD THAT PREPARED IT.

F.B.C.(N.H.V.H.Z.)

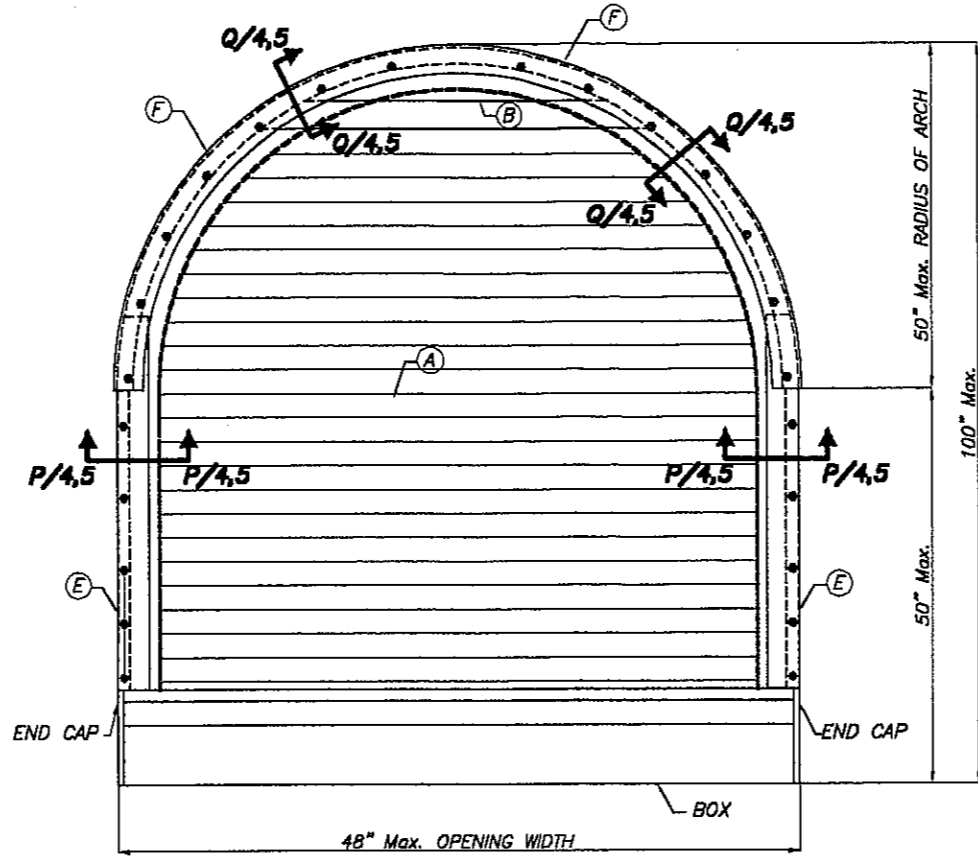
[Signature]
OCT 06 2004

|  TILLIT TESTING & ENGINEERING COMPANY 6599 N.W. 38th. St. Ste. 217 - VEROBANK GARDENS, FL 33166 Phone : (305)871-1530 . Fax : (305)871-1531 EB-0008719 WALTER A. TILLIT, Jr., P. E. FLORIDA Lic. # 44167 | STUDIO STAR 40mm ROLL-UP SHUTTER | AS SHOWN SCALE | | | | | | | | | | | | | | | | | | |
|--|--|-----------------|---------|-------------|-------------|------|---|---|---|---|---|---|---|---|---|---|---|---|--|--|
| | ALUTECH UNITED INC. 15 DIXON STREET SELBYVILLE, DE 19975 | 10/4/04 DATE | | | | | | | | | | | | | | | | | | |
| 04-129 DRAWING No | | SHEET 1 OF 5 | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> <th>REV. No</th> <th>DESCRIPTION</th> <th>DATE</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>-</td> <td>-</td> <td>3</td> <td>-</td> <td>-</td> </tr> <tr> <td>2</td> <td>-</td> <td>-</td> <td>4</td> <td>-</td> <td>-</td> </tr> </tbody> </table> | REV. No | DESCRIPTION | DATE | REV. No | DESCRIPTION | DATE | 1 | - | - | 3 | - | - | 2 | - | - | 4 | - | - | | |
| REV. No | DESCRIPTION | DATE | REV. No | DESCRIPTION | DATE | | | | | | | | | | | | | | | |
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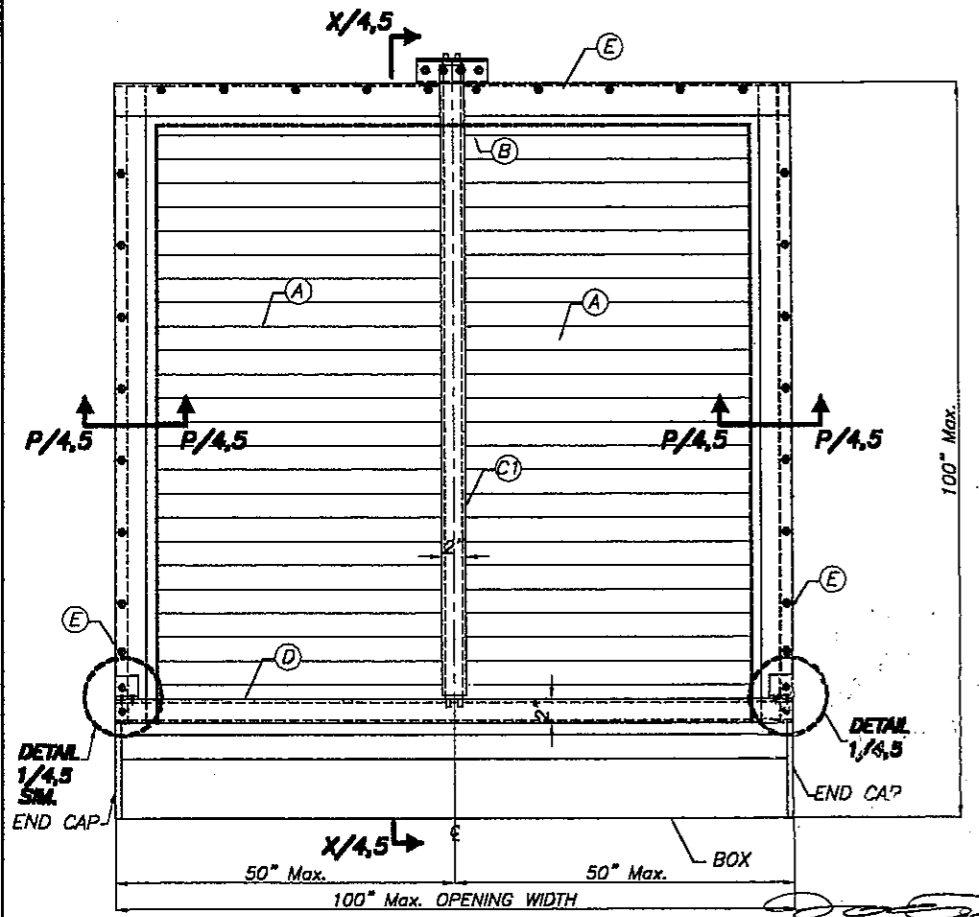
TYPICAL DOUBLE UNIT ARCH ELEVATION (STORM BARS REQUIRED)

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE
SCALE: 3/4"=1'



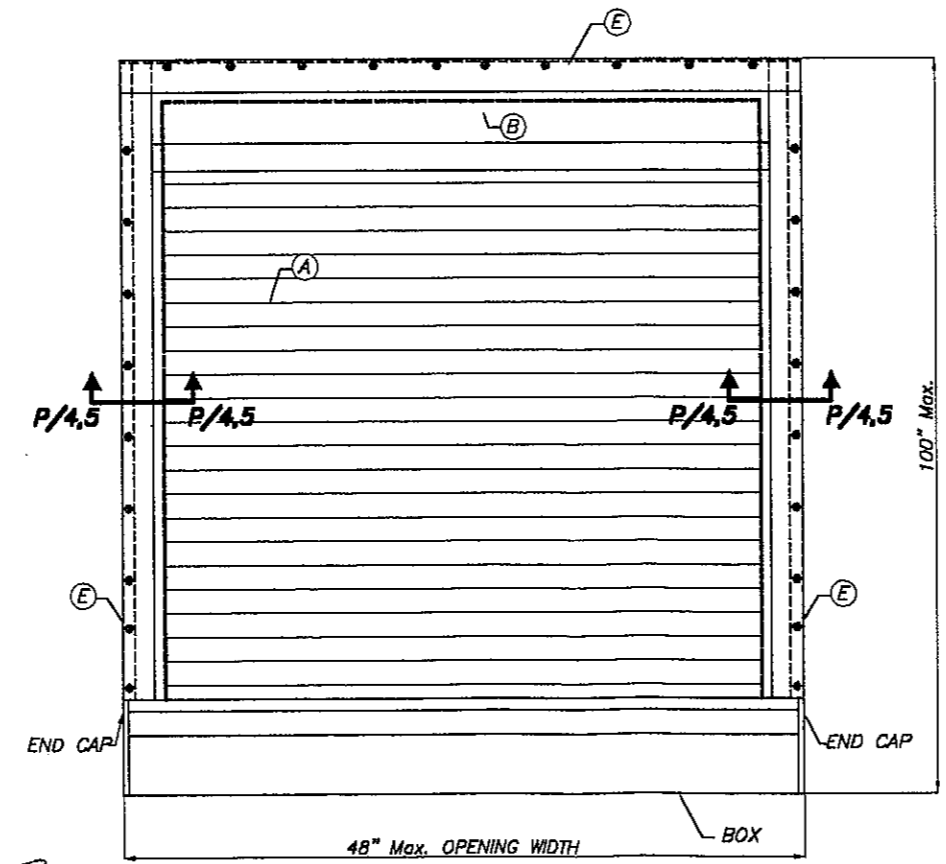
TYPICAL SINGLE UNIT ARCH ELEVATION (NO STORM BARS REQUIRED)

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE
SCALE: 3/4"=1'



TYPICAL DOUBLE UNIT ELEVATION (STORM BARS REQUIRED)

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE
SCALE: 3/4"=1'



TYPICAL SINGLE UNIT ELEVATION (NO STORM BARS REQUIRED)

NOTE: SEE SHEET 3 OF 5 FOR COMPONENTS NOMENCLATURE
SCALE: 3/4"=1'

OCT 06 2004

TILECO INC.
TILLIT TESTING & ENGINEERING COMPANY
6595 N.W. 38th St., Ste. 217 - VIRGINIA GARDENS, FL 33188
Phone: (305)871-1830 - Fax: (305)871-1531
EB-0006719
WALTER A. TILLIT Jr., P. E.
FLORIDA Lic. # 44167

| | | | | | | |
|---|-------------|------|---------|-------------|------|-------------------|
| STUDIO STAR 40mm ROLL-UP SHUTTER | | | | | | AS SHOWN SCALE |
| ALUTECH UNITED INC. | | | | | | 10/4/04 DATE |
| 15 DIXON STREET SELBYVILLE, DE 19975 | | | | | | 04-129 DRAWING No |
| REV. No | DESCRIPTION | DATE | REV. No | DESCRIPTION | DATE | SHEET 2 OF 5 |
| 1 | - | - | 3 | - | - | |
| 2 | - | - | 4 | - | - | |

F.B.C.(N.H.V.H.Z.)

(2) 3/8" POWER BOLTS
W/ 2 1/2" MIN.
EMBEDMENT INTO WALL
BEYOND ANY WALL FINISH.

OPEN 1/2" HOLE TO
ACCEPT 3/8" ALUM. PINS

(2) 2"x5"x1/8"x0'-6" ALUM.
ANGLES CONNECTED TOGETHER
W/ (2) 3/8" BOLTS W/NUT
THRU ANGLES NOT SHOWN FOR
CLARITY. (SEE VIEW X)

EXISTING
POURED
CONCRETE
REQ'D.

EXISTING
GLASS

EXISTING CONCRETE
BLOCK W/ GROUT FILLED
CELL'S OR POURED
CONCRETE REQ'D.

2"x3"x1/4"x0'-3" (6061-T6 ALLOY) ALUM.
ANGLE W/(1) 3/8" POWER BOLT
W/ 3 1/2" MIN. EMBEDMENT INTO WALL
BEYOND ANY WALL FINISH & (2) 3/8"x1"
BOLTS W/NUT TO SILL TUBE.

(1) 3/8" POWER BOLT
W/ 2 1/2" MIN. EMBEDMENT INTO
WALL BEYOND ANY WALL FINISH .

DRILL PILOT HOLE
TO ACCESS FOR
ANCHOR

(1) 3/8" POWER BOLT
W/ 2 1/2" MIN. EMBEDMENT
INTO WALL BEYOND ANY
WALL FINISH. (DRILL HOLE
TO ACCESS FOR ANCHOR)

3" MIN.
E.D.

3" MIN.
E.D.

1/2"
TYP

1 1/4"

2 3/4"

F AT ARCH
OR
E STRAIGHT

B

A

C1

E

1" MIN.
SEPARATION
TO GLASS

OPEN 1/2" HOLE
TO ACCEPT 3/8" ALUM. PINS

#8x3/4" S.D.S.
@ ONE REQ'D EACH
END OF CAP

(2) 2"x5"x1/8"x0'-6" ALUM.
ANGLES CONNECTED TOGETHER
W/ (2) 3/8" BOLTS W/NUT
THRU ANGLES.

STORM BAR

(2) 3/8" POWER BOLT
W/ 2 1/2" MIN. EMBEDMENT INTO
WALL BEYOND ANY WALL FINISH.

EXISTING
POURED
CONCRETE
REQ'D.

3/16" TAPCON
ANCHORS
@ 6" O.C. MAX.

EXISTING CONCRETE
BLOCK W/ GROUT
FILLED CELL'S OR
POURED CONCRETE
REQ'D.

3/16" TAPCON
ANCHORS
@ 6" O.C. MAX.

3"
MIN. E.D.

POURED
CONCRETE
REQ'D.

3"
MIN. E.D.

E

A OR B

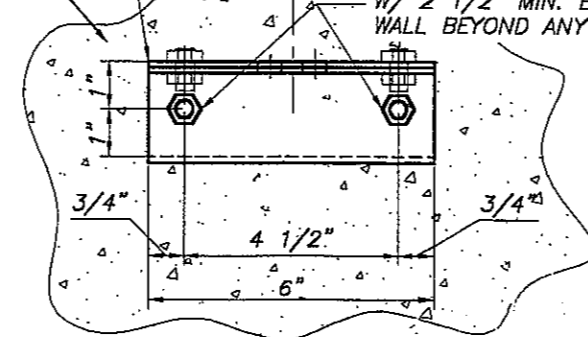
EXISTING CONCRETE
BLOCK W/ GROUT
FILLED CELL'S OR
POURED CONCRETE
REQ'D.

2"x2"x1/8" ALUM. PLATE
W/ 3/16"x2 1/4" TAPCON
ANCHORS @ 12" O.C.

**SECTION X-X
WALL MOUNTING INSTALLATION W/
REMOVABLE STORM BARS**

SCALE: 1/2"=1"

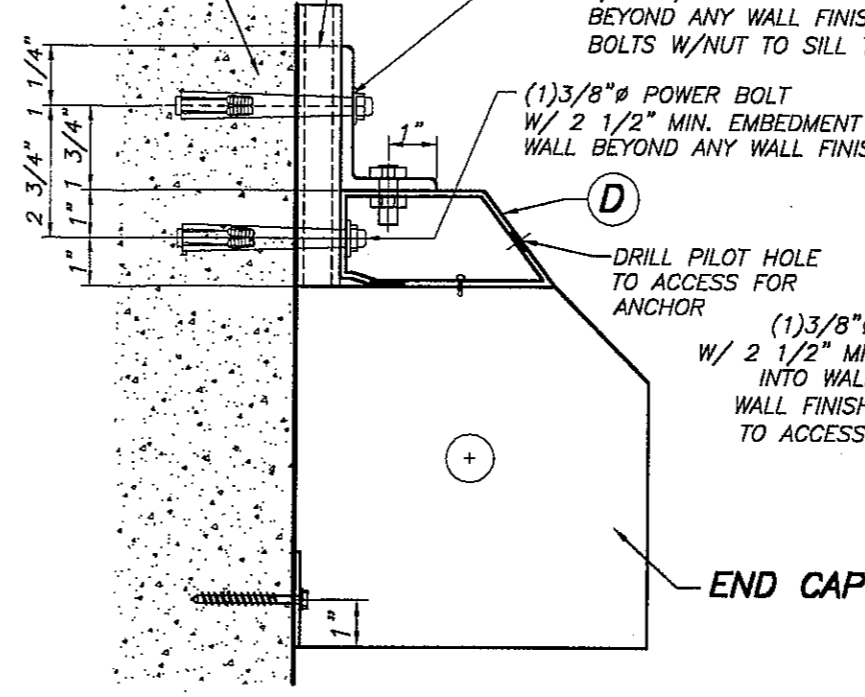
SINGLE SPAN SECTIONS AND DETAILS ARE SIMILAR TO
ABOVE SHOWN WITHOUT STORM BARS AND SILL TUBE



VIEW X

SCALE: 1/2"=1"

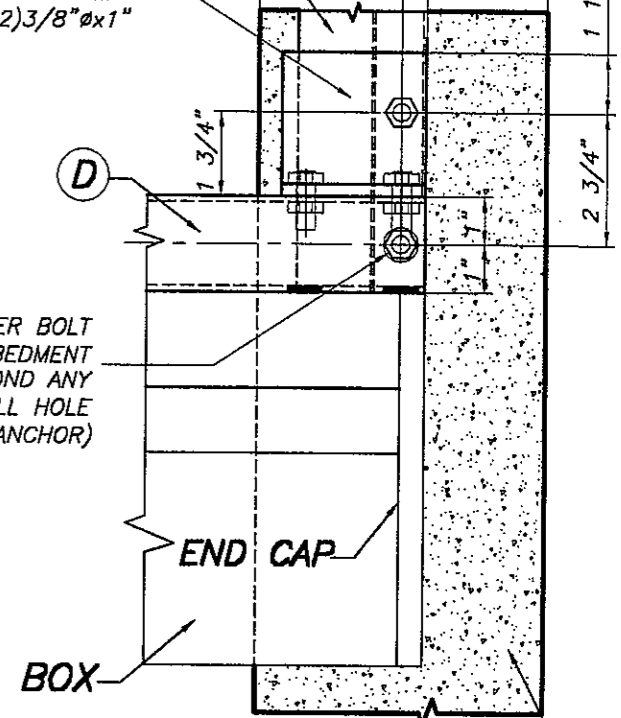
(STORM BAR NOT SHOWN FOR CLARITY)



SECTION M-M

DETAIL 1

SCALE: 1/2"=1"



ELEVATION

EXISTING CONCRETE
BLOCK W/ GROUT
FILLED CELL'S OR
POURED CONCRETE
REQ'D.

SECTION Q-Q

SCALE: 1/2"=1"

SECTION P-P

SCALE: 1/2"=1"

F.B.C. (N.H.V.H.Z.)

| | | | | | |
|---|-------------|---|---------|-------------------|--------------|
| <p>TILLIT TESTING & ENGINEERING COMPANY 6393 N.W. 32th St., Ste. 217 - VIRGINIA GARDENS, FL 33186 Phone: (305)871-1530 - Fax: (305)871-1531 EB-0008719 WALTER A. TILLIT Jr., P. E. FLORIDA Lic. # 44167</p> | | STUDIO STAR 40mm ROLL-UP SHUTTER | | AS SHOWN SCALE | |
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| | | | | | SHEET 4 OF 5 |

OCT 06 2004

