CFQ DOT 1500000043

SINGLE SPAN ARCH FABRIC STEEL FRAMED BUILDING ROOF SYSTEMS

FEBRUARY 4, 2015

COVER-ALL BUILDINGS OF WV, INC.

P.O. BOX 727

BRIDGEPORT, WV 26330

(800) 246-7589

NATE ROHRIG

COVER-ALL BUILDINGS
OF WEST VIRGINIA
PHONE (304) 623-4827 FAX (304) 622-5546

FEBRUARY 1, 2015

STATE OF WV
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON STREET EAST
POST OFFICE BOX 50130
CHARLESTON, WV 25305-0130

CRFQ DOT1500000043

WE ARE PLEASED TO PROVIDE THE FOLLOWING QUOTATION:

BRITESPAN BUILDING SYSTEMS:

TO INCLUDE:

COVER SHEET

1) BID DOCUMENTS
2) WARRANTY DOCUMENTATION
3) A660 CERTIFICATE OF REGISTRATION
4) 40' X 70' W/ONE 18' X 18' ACCORDIAN DOOR (STAMPED SHOP DRAWINGS)
5) 55' X 100' W/ONE 18' X 18' ACCORDIAN DOOR (STAMPED SHOP DRAWINGS)
6) 72' X 100' W/ ONE 18' X 18' ACCORDIAN DOOR (STAMPED SHOP DRAWINGS)
7) 72' X 140' W/ ONE 18' X 18' ACCORDIAN DOOR (STAMPED SHOP DRAWINGS)
8) 72' X 140' W/ TWO 18' X 18' ACCORDIAN DOORS (STAMPED SHOP DRAWINGS)
9) GREEN AND TAN FABRIC SAMPLES
10) BRITESPAN SALT/SAND LITERATURE
11) HOT DIPPED GALVANIZED DOCUMENTATION
12) COVER-ALL BUILDINGS OF WV LITERATURE
13) U.S. STEEL ORIGIN DOCUMENTATION
14) FABRIC SPECIFICATION SHEET
15) AGA CERTIFICATE: CERTIFIED GALVANIZING INSPECTOR
16) SUPERVISOR RESUME.
17) 40' OWNER/ INSTALLATION MANUAL
18) 55' OWNER/ INSTALLATION MANUAL
19) 72' OWNER/INSTALLATION MANUAL
20) ACCORDIAN DOOR DETAIL SHEET

BUILDING REFERENCES:

1)	WVDOH PINEVILLE, WV	72' X 140'
2)	WVDOH CALHOUN CO., WV	72' X 140'
3)	WVDOH GORE, WV	72' X 140'
4)	WVDOH THOMAS, WV	72' X 140'
5)	WVDOH BRUCETON, WV	72' X 140'
6)	WVDOH GRAFTON RD., WV	72' X 140'
7)	WVDOH PARKERSBURG, WV	72' X 140'

02/03/15 10:14:47
WV Purchasing Division

8) WVDOH BRAGG, WV 72' X 140'
9) WVDOH WOOD COUNTY, WV 72' X 140'

THANK YOU FOR YOUR INTEREST IN GUARD-ALL BUILDINGS.

NATE ROHRIG
(800) 246-7589 OFFICE
(304) 641-6450 CELL
(304) 622-5546 FAX
NROHRIG@AOL.COM

Purchasing Divison
2019 Washington Street East
Post Office Box 50130
Charleston, WV 25305-0130

State of West Virginia
Request for Quotation
06 — Building Supply

Proc Folder: 56118

Doc Description: SINGLE SPAN ARCH FABRIC STEEL FRAMED BUILDING ROOF SYSTEMS

Proc Type: Central Master Agreement

Date Issued	Solicitation Closes	Solicitation No	Version
2015-01-05	2015-02-04 13:30:00	CRFQ 0803 DOT1500000043	1

BID RECEIVING LOCATION

BID CLERK
DEPARTMENT OF ADMINISTRATION
PURCHASING DIVISION
2019 WASHINGTON ST E
CHARLESTON WV 25305
US

VENDOR

Vendor Name, Address and Telephone Number:

Cover-All Buildings of WV, Inc.
P.O. Box 727
Bridgeport, WV 26330

Building Prices are the same for All Districts!

FOR INFORMATION CONTACT THE BUYER

Misty Delong
(304) 558-8802
misty.m.delong@wv.gov

Signature X [signature] **FEIN #** 55 076 5924 **DATE** 2-1-15

All offers subject to all terms and conditions contained in this solicitation

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	BUILDING ROOF SYSTEMS DISTRICT 1 - SIZE 40' X 70'	1.00000	EA	25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 1 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
2	BUILDING ROOF SYSTEMS DISTRICT 1 - SIZE 55' X 100'	1.00000	EA	64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 1 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
3	BUILDING ROOF SYSTEMS DISTRICT 1 - SIZE 72' X 100'	1.00000	EA		82,824.34

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 1 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
4	BUILDING ROOF SYSTEMS DISTRICT 1 - SIZE 72' X 140'	1.00000	EA		103,630.86

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 1 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
5	BUILDING ROOF SYSTEMS DISTRICT 1 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite Span		Atlas 72

Extended Description :

DISTRICT 1 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
6	BUILDING ROOF SYSTEMS DISTRICT 2 - SIZE 40' X 70'	1.00000	EA	25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite Span		Atlas 40

Extended Description :

DISTRICT 2 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
7	BUILDING ROOF SYSTEMS DISTRICT 2 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 55

Extended Description :

DISTRICT 2 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
8	BUILDING ROOF SYSTEMS DISTRICT 2 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite-span		Atlas 72

Extended Description :

DISTRICT 2 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
9	BUILDING ROOF SYSTEMS DISTRICT 2 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 72

Extended Description :

DISTRICT 2 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
10	BUILDING ROOF SYSTEMS DISTRICT 2 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 2 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
11	BUILDING ROOF SYSTEMS DISTRICT 3 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 3 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
12	BUILDING ROOF SYSTEMS DISTRICT 3 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 3 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
13	BUILDING ROOF SYSTEMS DISTRICT 3 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 3 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
14	BUILDING ROOF SYSTEMS DISTRICT 3 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 3 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
15	BUILDING ROOF SYSTEMS DISTRICT 3 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 3 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
16	BUILDING ROOF SYSTEMS DISTRICT 4 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 4 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
17	BUILDING ROOF SYSTEMS DISTRICT 4 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 4 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
18	BUILDING ROOF SYSTEMS DISTRICT 4 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 4 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
19	BUILDING ROOF SYSTEMS DISTRICT 4 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 72

Extended Description :

DISTRICT 4 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
20	BUILDING ROOF SYSTEMS DISTRICT 4 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 72

Extended Description :

DISTRICT 4 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
21	BUILDING ROOF SYSTEMS DISTRICT 5 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 5 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
22	BUILDING ROOF SYSTEMS DISTRICT 5 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 5 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES RIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
23	BUILDING ROOF SYSTEMS DISTRICT 5 - SIZE 72' X 100'	1.00000	EA	82, 824. 34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 5 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
24	BUILDING ROOF SYSTEMS DISTRICT 5 - SIZE 72' X 140'	1.00000	EA	$ 103, 630. 86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 5 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
25	BUILDING ROOF SYSTEMS DISTRICT 5 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 5 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
26	BUILDING ROOF SYSTEMS DISTRICT 6 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 6 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
27	BUILDING ROOF SYSTEMS DISTRICT 6 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 6 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
28	BUILDING ROOF SYSTEMS DISTRICT 6 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 6 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
29	BUILDING ROOF SYSTEMS DISTRICT 6 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 6 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
30	BUILDING ROOF SYSTEMS DISTRICT 6 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 6 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
31	BUILDING ROOF SYSTEMS DISTRICT 7 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite spa		Atlas 40

Extended Description :

DISTRICT 7 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
32	BUILDING ROOF SYSTEMS DISTRICT 7 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite spa		Atlas 55

Extended Description :

DISTRICT 7 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
33	BUILDING ROOF SYSTEMS DISTRICT 7 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 7 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
34	BUILDING ROOF SYSTEMS DISTRICT 7 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 7 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
35	BUILDING ROOF SYSTEMS DISTRICT 7 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 7 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
36	BUILDING ROOF SYSTEMS DISTRICT 8 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 8 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
37	BUILDING ROOF SYSTEMS DISTRICT 8 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 8 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
38	BUILDING ROOF SYSTEMS DISTRICT 8 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 8 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
39	BUILDING ROOF SYSTEMS DISTRICT 8 - SIZE 72' X 140'	1.00000	EA		103,630.86

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 8 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
40	BUILDING ROOF SYSTEMS DISTRICT 8 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 8 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
41	BUILDING ROOF SYSTEMS DISTRICT 9 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 40

Extended Description :

DISTRICT 9 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
42	BUILDING ROOF SYSTEMS DISTRICT 9 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 55

Extended Description :

DISTRICT 9 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
43	BUILDING ROOF SYSTEMS DISTRICT 9 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 9 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
44	BUILDING ROOF SYSTEMS DISTRICT 9 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 9 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES RIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
45	BUILDING ROOF SYSTEMS DISTRICT 9 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Brute Span		Atlas 72

Extended Description :

DISTRICT 9 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
46	BUILDING ROOF SYSTEMS DISTRICT 10 - SIZE 40' X 70'	1.00000	EA	$ 25,728.65	

Comm Code	Manufacturer	Specification	Model #
72152601	Brute Span		Atlas 40

Extended Description :

DISTRICT 10 - SIZE 40' X 70'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
47	BUILDING ROOF SYSTEMS DISTRICT 10 - SIZE 55' X 100'	1.00000	EA	$ 64,734.94	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 55

Extended Description :

DISTRICT 10 - SIZE 55' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
48	BUILDING ROOF SYSTEMS DISTRICT 10 - SIZE 72' X 100'	1.00000	EA	$ 82,824.34	

Comm Code	Manufacturer	Specification	Model #
72152601	Brite span		Atlas 72

Extended Description :

DISTRICT 10 - SIZE 72' X 100'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
49	BUILDING ROOF SYSTEMS DISTRICT 10 - SIZE 72' X 140'	1.00000	EA	$ 103,630.86	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 10 - SIZE 72' X 140'

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

INVOICE TO	SHIP TO
ALL STATE AGENCIES VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV99999 US	STATE OF WEST VIRGINIA VARIOUS LOCATIONS AS INDICATED BY ORDER No City WV 99999 US

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
50	BUILDING ROOF SYSTEMS DISTRICT 10 - SIZE 72' X 140'	1.00000	EA	$ 107,242.39	

Comm Code	Manufacturer	Specification	Model #
72152601	Britespan		Atlas 72

Extended Description :

DISTRICT 10 - SIZE 72' X 140' INCLUDE DOORS ON BOTH ENDS

BUILDING ROOF SYSTEMS

QUANTITY OF ONE EACH PER ITEM, PER DISTRICT.

EACH SIZE REQUESTED SHALL INCLUDE THE COMPLETE ROOF SYSTEM.

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

GENERAL TERMS AND CONDITIONS:

1. **CONTRACTUAL AGREEMENT:** Issuance of a Award Document signed by the Purchasing Division Director, or his designee, and approved as to form by the Attorney General's office constitutes acceptance of this Contract made by and between the State of West Virginia and the Vendor. Vendor's signature on its bid signifies Vendor's agreement to be bound by and accept the terms and conditions contained in this Contract.

2. **DEFINITIONS:** As used in this Solicitation/Contract, the following terms shall have the meanings attributed to them below. Additional definitions may be found in the specifications included with this Solicitation/Contract.

   2.1. **"Agency"** or **"Agencies"** means the agency, board, commission, or other entity of the State of West Virginia that is identified on the first page of the Solicitation or any other public entity seeking to procure goods or services under this Contract.

   2.2. **"Contract"** means the binding agreement that is entered into between the State and the Vendor to provide the goods or services requested in the Solicitation.

   2.3. **"Director"** means the Director of the West Virginia Department of Administration, Purchasing Division.

   2.4. **"Purchasing Division"** means the West Virginia Department of Administration, Purchasing Division.

   2.5. **"Award Document"** means the document signed by the Agency and the Purchasing Division, and approved as to form by the Attorney General, that identifies the Vendor as the contract holder.

   2.6. **"Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

   2.7. **"State"** means the State of West Virginia and/or any of its agencies, commissions, boards, etc. as context requires.

   2.8. **"Vendor"** or **"Vendors"** means any entity submitting a bid in response to the Solicitation, the entity that has been selected as the lowest responsible bidder, or the entity that has been awarded the Contract as context requires.

3. **CONTRACT TERM; RENEWAL; EXTENSION:** The term of this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below:

☑ **Term Contract**

Initial Contract Term: This Contract becomes effective on Award and extends for a period of one (1) year(s).

Renewal Term: This Contract may be renewed upon the mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). Any request for renewal should be submitted to the Purchasing Division thirty (30) days prior to the expiration date of the initial contract term or appropriate renewal term. A Contract renewal shall be in accordance with the terms and conditions of the original contract. Renewal of this Contract is limited to two (2) successive one (1) year periods or multiple renewal periods of less than one year, provided that the multiple renewal periods do not exceed 24 months in total. Automatic renewal of this Contract is prohibited. Notwithstanding the foregoing, Purchasing Division approval is not required on agency delegated or exempt purchases. Attorney General approval may be required for vendor terms and conditions.

Delivery Order Limitations: In the event that this contract permits delivery orders, a delivery order may only be issued during the time this Contract is in effect. Any delivery order issued within one year of the expiration of this Contract shall be effective for one year from the date the delivery order is issued. No delivery order may be extended beyond one year after this Contract has expired.

☐ **Fixed Period Contract:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and must be completed within _____ days.

☐ **Fixed Period Contract with Renewals:** This Contract becomes effective upon Vendor's receipt of the notice to proceed and part of the Contract more fully described in the attached specifications must be completed within _____ days. Upon completion, the vendor agrees that maintenance, monitoring, or warranty services will be provided for one year thereafter with an additional _____ successive one year renewal periods or multiple renewal periods of less than one year provided that the multiple renewal periods do not exceed _____ months in total. Automatic renewal of this Contract is prohibited.

☐ **One Time Purchase:** The term of this Contract shall run from the issuance of the Award Document until all of the goods contracted for have been delivered, but in no event will this Contract extend for more than one fiscal year.

☐ **Other:** See attached.

4. **NOTICE TO PROCEED:** Vendor shall begin performance of this Contract immediately upon receiving notice to proceed unless otherwise instructed by the Agency. Unless otherwise specified, the fully executed Award Document will be considered notice to proceed.

5. **QUANTITIES:** The quantities required under this Contract shall be determined in accordance with the category that has been identified as applicable to this Contract below.

   ☑ **Open End Contract:** Quantities listed in this Solicitation are approximations only, based on estimates supplied by the Agency. It is understood and agreed that the Contract shall cover the quantities actually ordered for delivery during the term of the Contract, whether more or less than the quantities shown.

   ☐ **Service:** The scope of the service to be provided will be more clearly defined in the specifications included herewith.

   ☐ **Combined Service and Goods:** The scope of the service and deliverable goods to be provided will be more clearly defined in the specifications included herewith.

   ☐ **One Time Purchase:** This Contract is for the purchase of a set quantity of goods that are identified in the specifications included herewith. Once those items have been delivered, no additional goods may be procured under this Contract without an appropriate change order approved by the Vendor, Agency, Purchasing Division, and Attorney General's office.

6. **PRICING:** The pricing set forth herein is firm for the life of the Contract, unless specified elsewhere within this Solicitation/Contract by the State. A Vendor's inclusion of price adjustment provisions in its bid, without an express authorization from the State in the Solicitation to do so, may result in bid disqualification.

7. **EMERGENCY PURCHASES:** The Purchasing Division Director may authorize the Agency to purchase goods or services in the open market that Vendor would otherwise provide under this Contract if those goods or services are for immediate or expedited delivery in an emergency. Emergencies shall include, but are not limited to, delays in transportation or an unanticipated increase in the volume of work. An emergency purchase in the open market, approved by the Purchasing Division Director, shall not constitute of breach of this Contract and shall not entitle the Vendor to any form of compensation or damages. This provision does not excuse the State from fulfilling its obligations under a One Time Purchase contract.

8. **REQUIRED DOCUMENTS:** All of the items checked below must be provided to the Purchasing Division by the Vendor as specified below.

☐ **BID BOND:** All Vendors shall furnish a bid bond in the amount of five percent (5%) of the total amount of the bid protecting the State of West Virginia. The bid bond must be submitted with the bid.

☐ **PERFORMANCE BOND:** The apparent successful Vendor shall provide a performance bond in the amount of _____. The performance bond must be received by the Purchasing Division prior to Contract award. On construction contracts, the performance bond must be 100% of the Contract value.

☐ **LABOR/MATERIAL PAYMENT BOND:** The apparent successful Vendor shall provide a labor/material payment bond in the amount of 100% of the Contract value. The labor/material payment bond must be delivered to the Purchasing Division prior to Contract award.

In lieu of the Bid Bond, Performance Bond, and Labor/Material Payment Bond, the Vendor may provide certified checks, cashier's checks, or irrevocable letters of credit. Any certified check, cashier's check, or irrevocable letter of credit provided in lieu of a bond must be of the same amount and delivered on the same schedule as the bond it replaces. A letter of credit submitted in lieu of a performance and labor/material payment bond will only be allowed for projects under $100,000. Personal or business checks are not acceptable.

☐ **MAINTENANCE BOND:** The apparent successful Vendor shall provide a two (2) year maintenance bond covering the roofing system. The maintenance bond must be issued and delivered to the Purchasing Division prior to Contract award.

☑ **INSURANCE:** The apparent successful Vendor shall furnish proof of the following insurance prior to Contract award and shall list the state as a certificate holder:

☑ **Commercial General Liability Insurance:** In the amount of $1,000,000.00 _____ or more.

☐ **Builders Risk Insurance:** In an amount equal to 100% of the amount of the Contract.

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The apparent successful Vendor shall also furnish proof of any additional insurance requirements contained in the specifications prior to Contract award regardless of whether or not that insurance requirement is listed above.

☐ **LICENSE(S) / CERTIFICATIONS / PERMITS:** In addition to anything required under the Section entitled Licensing, of the General Terms and Conditions, the apparent successful Vendor shall furnish proof of the following licenses, certifications, and/or permits prior to Contract award, in a form acceptable to the Purchasing Division.

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The apparent successful Vendor shall also furnish proof of any additional licenses or certifications contained in the specifications prior to Contract award regardless of whether or not that requirement is listed above.

9. **WORKERS' COMPENSATION INSURANCE:** The apparent successful Vendor shall comply with laws relating to workers compensation, shall maintain workers' compensation insurance when required, and shall furnish proof of workers' compensation insurance upon request.

10. **LITIGATION BOND:** The Director reserves the right to require any Vendor that files a protest of an award to submit a litigation bond in the amount equal to one percent of the lowest bid submitted or $5,000, whichever is greater. The entire amount of the bond shall be forfeited if the hearing officer determines that the protest was filed for frivolous or improper purpose, including but not limited to, the purpose of harassing, causing unnecessary delay, or needless expense for the Agency. All litigation bonds shall be made payable to the Purchasing Division. In lieu of a bond, the protester may submit a cashier's check or certified check payable to the Purchasing Division. Cashier's or certified checks will be deposited with and held by the State Treasurer's office. If it is determined that the protest has not been filed for frivolous or improper purpose, the bond or deposit shall be returned in its entirety.

11. **LIQUIDATED DAMAGES:** Vendor shall pay liquidated damages in the amount of N/A for N/A. This clause shall in no way be considered exclusive and shall not limit the State or Agency's right to pursue any other available remedy.

12. **ACCEPTANCE/REJECTION:** The State may accept or reject any bid in whole, or in part. Vendor's signature on its bid signifies acceptance of the terms and conditions contained in the Solicitation and Vendor agrees to be bound by the terms of the Contract, as reflected in the Award Document, upon receipt.

13. **FUNDING:** This Contract shall continue for the term stated herein, contingent upon funds being appropriated by the Legislature or otherwise being made available. In the event funds are not appropriated or otherwise made available, this Contract becomes void and of no effect beginning on July 1 of the fiscal year for which funding has not been appropriated or otherwise made available.

14. **PAYMENT:** Payment in advance is prohibited under this Contract. Payment may only be made after the delivery and acceptance of goods or services. The Vendor shall submit invoices, in arrears.

15. **TAXES:** The Vendor shall pay any applicable sales, use, personal property or any other taxes arising out of this Contract and the transactions contemplated thereby. The State of West Virginia is exempt from federal and state taxes and will not pay or reimburse such taxes.

16. **CANCELLATION:** The Purchasing Division Director reserves the right to cancel this Contract immediately upon written notice to the vendor if the materials or workmanship supplied do not conform to the specifications contained in the Contract. The Purchasing Division Director may also cancel any purchase or Contract upon 30 days written notice to the Vendor in accordance with West Virginia Code of State Rules § 148-1-7.16.2.

17. **TIME:** Time is of the essence with regard to all matters of time and performance in this Contract.

18. **APPLICABLE LAW:** This Contract is governed by and interpreted under West Virginia law without giving effect to its choice of law principles. Any information provided in specification manuals, or any other source, verbal or written, which contradicts or violates the West Virginia Constitution, West Virginia Code or West Virginia Code of State Rules is void and of no effect.

19. **COMPLIANCE:** Vendor shall comply with all applicable federal, state, and local laws, regulations and ordinances. By submitting a bid, Vendor acknowledges that it has reviewed, understands, and will comply with all applicable law.

20. **PREVAILING WAGE:** On any contract for the construction of a public improvement, Vendor and any subcontractors utilized by Vendor shall pay a rate or rates of wages which shall not be less than the fair minimum rate or rates of wages (prevailing wage), as established by the West Virginia Division of Labor under West Virginia Code §§ 21-5A-1 et seq. and available at http://www.sos.wv.gov/administrative-law/wagerates/Pages/default.aspx. Vendor shall be responsible for ensuring compliance with

prevailing wage requirements and determining when prevailing wage requirements are applicable. The required contract provisions contained in West Virginia Code of State Rules § 42-7-3 are specifically incorporated herein by reference.

21. **ARBITRATION:** Any references made to arbitration contained in this Contract, Vendor's bid, or in any American Institute of Architects documents pertaining to this Contract are hereby deleted, void, and of no effect.

22. **MODIFICATIONS:** This writing is the parties' final expression of intent. Notwithstanding anything contained in this Contract to the contrary, no modification of this Contract shall be binding without mutual written consent of the Agency, and the Vendor, with approval of the Purchasing Division and the Attorney General's office (Attorney General approval is as to form only). No Change shall be implemented by the Vendor until such time as the Vendor receives an approved written change order from the Purchasing Division.

23. **WAIVER:** The failure of either party to insist upon a strict performance of any of the terms or provision of this Contract, or to exercise any option, right, or remedy herein contained, shall not be construed as a waiver or a relinquishment for the future of such term, provision, option, right, or remedy, but the same shall continue in full force and effect. Any waiver must be expressly stated in writing and signed by the waiving party.

24. **SUBSEQUENT FORMS:** The terms and conditions contained in this Contract shall supersede any and all subsequent terms and conditions which may appear on any form documents submitted by Vendor to the Agency or Purchasing Division such as price lists, order forms, invoices, sales agreements, or maintenance agreements, and includes internet websites or other electronic documents. Acceptance or use of Vendor's forms does not constitute acceptance of the terms and conditions contained thereon.

25. **ASSIGNMENT:** Neither this Contract nor any monies due, or to become due hereunder, may be assigned by the Vendor without the express written consent of the Agency, the Purchasing Division, the Attorney General's office (as to form only), and any other government agency or office that may be required to approve such assignments. Notwithstanding the foregoing, Purchasing Division approval may or may not be required on certain agency delegated or exempt purchases.

26. **WARRANTY:** The Vendor expressly warrants that the goods and/or services covered by this Contract will: (a) conform to the specifications, drawings, samples, or other description furnished or specified by the Agency; (b) be merchantable and fit for the purpose intended; and (c) be free from defect in material and workmanship.

27. **STATE EMPLOYEES:** State employees are not permitted to utilize this Contract for personal use and the Vendor is prohibited from permitting or facilitating the same.

28. **BANKRUPTCY:** In the event the Vendor files for bankruptcy protection, the State of West Virginia may deem this Contract null and void, and terminate this Contract without notice.

29. **CONFIDENTIALITY:** The Vendor agrees that it will not disclose to anyone, directly or indirectly, any such personally identifiable information or other confidential information gained from the Agency, unless the individual who is the subject of the information consents to the disclosure in writing or the disclosure is made pursuant to the Agency's policies, procedures, and rules. Vendor further agrees to comply with the Confidentiality Policies and Information Security Accountability Requirements, set forth in http://www.state.wv.us/admin/purchase/privacy/default.html.

30. **DISCLOSURE:** Vendor's response to the Solicitation and the resulting Contract are considered public documents and will be disclosed to the public in accordance with the laws, rules, and policies governing the West Virginia Purchasing Division. Those laws include, but are not limited to, the Freedom of Information Act found in West Virginia Code §§ 29B-1-1 et seq. and the competitive bidding laws found West Virginia Code §§ 5A-3-1 et seq., 5-22-1 et seq., and 5G-1-1 et seq.

    If a Vendor considers any part of its bid to be exempt from public disclosure, Vendor must so indicate by specifically identifying the exempt information, identifying the exemption that applies, providing a detailed justification for the exemption, segregating the exempt information from the general bid information, and submitting the exempt information as part of its bid but in a segregated and clearly identifiable format. Failure to comply with the foregoing requirements will result in public disclosure of the Vendor's bid without further notice. A Vendor's act of marking all or nearly all of its bid as exempt is not sufficient to avoid disclosure and WILL NOT BE HONORED. Vendor's act of marking a bid or any part thereof as "confidential" or "proprietary" is not sufficient to avoid disclosure and WILL NOT BE HONORED. A legend or other statement indicating that all or substantially all of the bid is exempt from disclosure is not sufficient to avoid disclosure and WILL NOT BE HONORED. Additionally, pricing or cost information will not be considered exempt from disclosure and requests to withhold publication of pricing or cost information WILL NOT BE HONORED.

    Vendor will be required to defend any claimed exemption for nondisclosure in the event of an administrative or judicial challenge to the State's nondisclosure. Vendor must indemnify the State for any costs incurred related to any exemptions claimed by Vendor. Any questions regarding the applicability of the various public records laws should be addressed to your own legal counsel prior to bid submission.

31. **LICENSING:** In accordance with West Virginia Code of State Rules §148-1-6.1.7, Vendor must be licensed and in good standing in accordance with any and all state and local laws and requirements by any state or local agency of West Virginia, including, but not limited to, the West Virginia Secretary of State's Office, the West Virginia Tax Department, West Virginia Insurance Commission, or any other state agency or political subdivision. Upon request, the Vendor must provide all necessary releases to obtain information to enable the Purchasing Division Director or the Agency to verify that the Vendor is licensed and in good standing with the above entities.

32. **ANTITRUST:** In submitting a bid to, signing a contract with, or accepting a Award Document from any agency of the State of West Virginia, the Vendor agrees to convey, sell, assign, or transfer to the State of West Virginia all rights, title, and interest in and to all causes of action it may now or hereafter acquire under the antitrust laws of the United States and the State of West Virginia for price fixing and/or unreasonable restraints of trade relating to the particular commodities or services purchased or acquired by the State of West Virginia. Such assignment shall be made and become effective at the time the purchasing agency tenders the initial payment to Vendor.

33. **VENDOR CERTIFICATIONS:** By signing its bid or entering into this Contract, Vendor certifies (1) that its bid or offer was made without prior understanding, agreement, or connection with any corporation, firm, limited liability company, partnership, person or entity submitting a bid or offer for the same material, supplies, equipment or services; (2) that its bid or offer is in all respects fair and without collusion or fraud; (3) that this Contract is accepted or entered into without any prior understanding, agreement, or connection to any other entity that could be considered a violation of law; and (4) that it has reviewed this Solicitation in its entirety; understands the requirements, terms and conditions, and other information contained herein. Vendor's signature on its bid or offer also affirms that neither it nor its representatives have any interest, nor shall acquire any interest, direct or indirect, which would compromise the performance of its services hereunder. Any such interests shall be promptly presented in detail to the Agency. The individual signing this bid or offer on behalf of Vendor certifies that he or she is authorized by the Vendor to execute this bid or offer or any documents related thereto on Vendor's behalf; that he or she is authorized to bind the Vendor in a contractual relationship; and that, to the best of his or her knowledge, the Vendor has properly registered with any State agency that may require registration.

34. **PURCHASING CARD ACCEPTANCE:** The State of West Virginia currently utilizes a Purchasing Card program, administered under contract by a banking institution, to process payment for goods and services. The Vendor must accept the State of West Virginia's Purchasing Card for payment of all orders under this Contract unless the box below is checked.

    ☐ Vendor is not required to accept the State of West Virginia's Purchasing Card as payment for all goods and services.

35. **VENDOR RELATIONSHIP:** The relationship of the Vendor to the State shall be that of an independent contractor and no principal-agent relationship or employer-employee relationship is contemplated or created by this Contract. The Vendor as an independent contractor is solely liable for the acts and omissions of its employees and agents. Vendor shall be responsible for selecting, supervising, and compensating any and all individuals employed pursuant to the terms of this Solicitation and resulting contract. Neither the Vendor, nor any employees or subcontractors of the Vendor, shall be deemed to be employees of the State for any purpose whatsoever. Vendor shall be exclusively responsible for payment of employees and contractors for all wages and salaries, taxes, withholding payments, penalties, fees, fringe benefits, professional liability insurance premiums, contributions to insurance and pension, or other deferred compensation plans, including but

not limited to, Workers' Compensation and Social Security obligations, licensing fees, etc. and the filing of all necessary documents, forms, and returns pertinent to all of the foregoing. Vendor shall hold harmless the State, and shall provide the State and Agency with a defense against any and all claims including, but not limited to, the foregoing payments, withholdings, contributions, taxes, Social Security taxes, and employer income tax returns.

36. **INDEMNIFICATION:** The Vendor agrees to indemnify, defend, and hold harmless the State and the Agency, their officers, and employees from and against: (1) Any claims or losses for services rendered by any subcontractor, person, or firm performing or supplying services, materials, or supplies in connection with the performance of the Contract; (2) Any claims or losses resulting to an y person or entity injured or damaged by the Vendor, its officers, employees, or subcontractors by the publication, translation, reproduction, delivery, performance, use, or disposition of any data used under the Contract in a manner not authorized by the Contract, or by Federal or State statutes or regulations; and (3) Any failure of the Vendor, its officers, employees, or subcontractors to observe State and Federal laws including, but not limited to, labor and wage and hour laws.

37. **PURCHASING AFFIDAVIT:** In accordance with West Virginia Code § 5A-3-10a, all Vendors are required to sign, notarize, and submit the Purchasing Affidavit stating that neither the Vendor nor a related party owe a debt to the State in excess of $1,000. The affidavit must be submitted prior to award, but should be submitted with the Vendor's bid. A copy of the Purchasing Affidavit is included herewith.

38. **ADDITIONAL AGENCY AND LOCAL GOVERNMENT USE:** This Contract may be utilized by and extends to other agencies, spending units, and political subdivisions of the State of West Virginia; county, municipal, and other local government bodies; and school districts ("Other Government Entities"). This Contract shall be extended to the aforementioned Other Government Entities on the same prices, terms, and conditions as those offered and agreed to in this Contract. If the Vendor does not wish to extend the prices, terms, and conditions of its bid and subsequent contract to the Other Government Entities, the Vendor must clearly indicate such refusal in its bid. A refusal to extend this Contract to the Other Government Entities shall not impact or influence the award of this Contract in any manner.

39. **CONFLICT OF INTEREST:** Vendor, its officers or members or employees, shall not presently have or acquire an interest, direct or indirect, which would conflict with or compromise the performance of its obligations hereunder. Vendor shall periodically inquire of its officers, members and employees to ensure that a conflict of interest does not arise. Any conflict of interest discovered shall be promptly presented in detail to the Agency.

40. **REPORTS:** Vendor shall provide the Agency and/or the Purchasing Division with the following reports identified by a checked box below:

☑ Such reports as the Agency and/or the Purchasing Division may request. Requested reports may include, but are not limited to, quantities purchased, agencies utilizing the contract, total contract expenditures by agency, etc.

☐ Quarterly reports detailing the total quantity of purchases in units and dollars, along with a listing of purchases by agency. Quarterly reports should be delivered to the Purchasing Division via email at purchasing.requisitions@wv.gov.

41. BACKGROUND CHECK: In accordance with W. Va. Code § 15-2D-3, the Director of the Division of Protective Services shall require any service provider whose employees are regularly employed on the grounds or in the buildings of the Capitol complex or who have access to sensitive or critical information to submit to a fingerprint-based state and federal background inquiry through the state repository. The service provider is responsible for any costs associated with the fingerprint-based state and federal background inquiry.

After the contract for such services has been approved, but before any such employees are permitted to be on the grounds or in the buildings of the Capitol complex or have access to sensitive or critical information, the service provider shall submit a list of all persons who will be physically present and working at the Capitol complex to the Director of the Division of Protective Services for purposes of verifying compliance with this provision.

The State reserves the right to prohibit a service provider's employees from accessing sensitive or critical information or to be present at the Capitol complex based upon results addressed from a criminal background check.

Service providers should contact the West Virginia Division of Protective Services by phone at (304) 558-9911 for more information.

42. PREFERENCE FOR USE OF DOMESTIC STEEL PRODUCTS: Except when authorized by the Director of the Purchasing Division pursuant to W. Va. Code § 5A-3-56, no contractor may use or supply steel products for a State Contract Project other than those steel products made in the United States. A contractor who uses steel products in violation of this section may be subject to civil penalties pursuant to W. Va. Code § 5A-3-56. As used in this section:

a. "State Contract Project" means any erection or construction of, or any addition to, alteration of or other improvement to any building or structure, including, but not limited to, roads or highways, or the installation of any heating or cooling or ventilating plants or other equipment, or the supply of and materials for such projects, pursuant to a contract with the State of West Virginia for which bids were solicited on or after June 6, 2001.

b. "Steel Products" means products rolled, formed, shaped, drawn, extruded, forged, cast, fabricated or otherwise similarly processed, or processed by a combination of two or more or such operations, from steel made by the open heath, basic oxygen, electric furnace, Bessemer or other steel making process. The Purchasing Division Director may, in writing, authorize the use of foreign steel products if:

c. The cost for each contract item used does not exceed one tenth of one percent (.1%) of the total contract cost or two thousand five hundred dollars ($2,500.00), whichever is greater.

For the purposes of this section, the cost is the value of the steel product as delivered to the project; or

d. The Director of the Purchasing Division determines that specified steel materials are not produced in the United States in sufficient quantity or otherwise are not reasonably available to meet contract requirements.

43. PREFERENCE FOR USE OF DOMESTIC ALUMINUM, GLASS, AND STEEL: In Accordance with W. Va. Code § 5-19-1 et seq., and W. Va. CSR § 148-10-1 et seq., for every contract or subcontract, subject to the limitations contained herein, for the construction, reconstruction, alteration, repair, improvement or maintenance of public works or for the purchase of any item of machinery or equipment to be used at sites of public works, only domestic aluminum, glass or steel products shall be supplied unless the spending officer determines, in writing, after the receipt of offers or bids, (1) that the cost of domestic aluminum, glass or steel products is unreasonable or inconsistent with the public interest of the State of West Virginia, (2) that domestic aluminum, glass or steel products are not produced in sufficient quantities to meet the contract requirements, or (3) the available domestic aluminum, glass, or steel do not meet the contract specifications. This provision only applies to public works contracts awarded in an amount more than fifty thousand dollars ($50,000) or public works contracts that require more than ten thousand pounds of steel products.

The cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than twenty percent (20%) of the bid or offered price for foreign made aluminum, glass, or steel products. If the domestic aluminum, glass or steel products to be supplied or produced in a "substantial labor surplus area", as defined by the United States Department of Labor, the cost of domestic aluminum, glass, or steel products may be unreasonable if the cost is more than thirty percent (30%) of the bid or offered price for foreign made aluminum, glass, or steel products.

This preference shall be applied to an item of machinery or equipment, as indicated above, when the item is a single unit of equipment or machinery manufactured primarily of aluminum, glass or steel, is part of a public works contract and has the sole purpose or of being a permanent part of a single public works project. This provision does not apply to equipment or machinery purchased by a spending unit for use by that spending unit and not as part of a single public works project.

All bids and offers including domestic aluminum, glass or steel products that exceed bid or offer prices including foreign aluminum, glass or steel products after application of the preferences provided in this provision may be reduced to a price equal to or lower than the lowest bid or offer price for foreign aluminum, glass or steel products plus the applicable preference. If the reduced bid or offer prices are made in writing and supersede the prior bid or offer prices, all bids or offers, including the reduced bid or offer prices, will be reevaluated in accordance with this rule.

CERTIFICATIONAND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Cover-All Buildings of WV, Inc.
(Company)

Nathaniel G. Rohry, VP.
(Authorized Signature) (Representative Name, Title)

304-641-6450 304-622-5546
(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.: DOT1500000043

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

No Addendum

Addendum Numbers Received:
(Check the box next to each addendum received)

☐ Addendum No. 1	☐ Addendum No. 6
☐ Addendum No. 2	☐ Addendum No. 7
☐ Addendum No. 3	☐ Addendum No. 8
☐ Addendum No. 4	☐ Addendum No. 9
☐ Addendum No. 5	☐ Addendum No. 10

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

Cover-All Buildings of WV, Inc.
Company

Authorized Signature

2-1-15
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

SPECIFICATIONS

1. **PURPOSE AND SCOPE:** The West Virginia Purchasing Division is soliciting bids on behalf of the West Virginia Division of Highways to establish an open-end contract to supply all materials for single span truss arch fabric covered steel framed building roof systems for various West Virginia Division of Highways salt shed building site locations throughout the state of West Virginia.

   The West Virginia Division of Highways will perform or contract all site preparation and construct the reinforced concrete walls of the salt shed building. All materials for the roof systems shall be delivered to the building site and the West Virginia Division of Highways personnel will perform or contract the installation. The successful bidder must provide a qualified technical expert during the installation of the roof system.

2. **DEFINITIONS:** The terms listed below shall have the meanings assigned to them below. Additional definitions can be found in section 2 of the General Terms and Conditions.

   2.1 **"Contract Item"** or **"Contract Items"** means the list of items identified in Section 3.2 below and on the Pricing Pages.

   2.2 **"Pricing Pages"** means the schedule of prices, estimated order quantity, totals contained in wvOASIS or attached hereto as Exhibit A and used to evaluate the Solicitation responses.

   2.3 **Solicitation"** means the official notice of an opportunity to supply the State with goods or services that is published by the Purchasing Division.

   2.4 **"WVDOH"** used throughout this Solicitation means the West Virginia Division of Highways.

   2.5 **"ASCE"** used throughout this Solicitation means the American Society of Civil Engineers. Reference: www.asce.org.

   2.6 **"ANSI"** used throughout this Solicitation means the American National Standards Institute. Reference: www.ansi.org.

   2.7 **"AISC"** used through this Solicitation mean the American Institute of Steel Construction. Reference: www.aisc.org.

   2.8 **"AASHTO"** used throughout this Solicitation means American Association of State Highway and Transportation Officials. Reference: www.transportation.org.

2.9 **"ASTM"** used throughout this Solicitation means the American Society for Testing and Materials. Reference: www.astm.org.

2.10 **"HSS"** used throughout this Solicitation means Hollow Structural Steel.

2.11 **"PSI"** used throughout this Solicitation means Pounds per Square Inch.

2.12 **"PSF"** used throughout this Solicitation mean Pounds per Square Foot.

2.13 **"Contractor"** or **"Vendor"** used throughout this Solicitation and in any cited sections of the West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, adopted 2010, as modified by all subsequent annual Supplemental Specifications, are interchangeable.

3. GENERAL REQUIREMENTS:

3.1 A complete hard copy of the West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, adopted 2010, as modified by all subsequent annual Supplemental Specifications may be obtained from:

West Virginia Division of Highways
Contract Administration
Building 5, Room 722
1900 Kanawha Boulevard, East
Charleston, West Virginia 25305
(Phone) 304-558-2885

A complete electronic copy of the West Virginia Department of Transportation, Division of Highways Standard Specifications, Roads and Bridges, adopted 2010, as modified by all subsequent annual Supplemental Specifications may be obtained by sourcing:
http://www.transportation.wv.gov/highways/Contractadmin/specifications/2010StandSpec/Pages/default.aspx

3.2 **Contract Items and Mandatory Requirements:** Vendor shall provide Agency with the Contract Items on an open-end and continuing basis. Contract Items must meet or exceed the mandatory requirements as shown below.

3.2.1 General Requirements and Information

The design shall comply with the ASCE manual on "Minimum Design Loads for Buildings and Other Structures". Reference: http://ascelibrary.org/doi/book/10.1061/9780784412916

3.2.1.1 The minimum interior wall height clearance is 12 feet above the finished floor slab. There are no exceptions for less than 12 feet due to shed loading clearance.

3.2.1.2 The minimum wall thickness is 12 inches.

3.2.1.3 The minimum interior clearance required at the apex of the arch shall be as follows:

40' x 70' = 26'
55' x 100' = 37'
72' x 100' = 39'
72' x 140' = 39'
72' x 140' = 39' with two fabric doors, one centered on each end

3.2.1.4 Basic design loads include 90 MPH wind load and ground snow load of 35 PSF in addition to the dead and live loads. The load combinations shall be as specified in the applicable building code(s). See WV Code §29-3-5b[1] and the WV State Fire Commission State Building Code[2]. These websites are referenced at the end of this document.

3.2.2 Steel Frame Requirements

3.2.2.1 Each member must be designed to withstand stresses resulting from combinations of loads that produce maximum allowable stresses in that member. Each assembly shall be properly piece-marked to assist with the identification and erection of the roof system. Piece-marks by secured tagging or welding practices (prior to final coating of assembly) shall be labeled in clear, easily identifiable locations.

3.2.2.2 Structural steel must comply with ANSI/AISC 360, Specification for Structural Steel Buildings, latest edition for design requirements and allowable stresses.

3.2.2.3 Welded connections must comply with the latest edition of the provisions of ANSI/AISC 360, Specification of Structural Steel Buildings.

3.2.2.4 The entire system shall be galvanized to resist corrosion from road salt stored within the structure in accordance with ASTM A123, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products. All fasteners shall be galvanized in accordance with ASTM A153, Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Hardware.

3.2.2.5 Steel tubing cross members and back wall framing members shall comply with ASTM 500, Grade B, ASTM A501or ASTM A53. If a vendor is submitting pricing for a substitute, an "or equal to" or "a better than" tubing cross members and back wall framing members specifications, the vendor shall supply all specifications with their bid. WVDOH will review the proposed substitute, "or equal to" or "better than" members specifications for adequacy prior to contract award. If the proposed substitute, "or equal to" or "better than" tubing cross members and back wall framing members specifications do not meet the intended requirements, the bid will be disqualified.

3.2.2.6 Steel connection members shall be fabricated from plate or bar stock and provide 42,000 PSI minimum yield strength and comply with ASTM A529, ASTM A570 or ASTM A572 Standards.

3.2.2.7 Bolts for structural framing shall comply with ASTM A307 or ASTM A325 specifications as necessary for design loads and connection details, including bolts for use in corrosive environments.

3.2.2.8 The system is to include HSS end wall steel and fabric on both ends. The back wall shall be totally enclosed and the front wall shall include an 18' x 18' fabric roll-up door, centered along the front wall, for all sizes. The 72' x 140' shall also be bid with an option for two doors, one centered on each end.

3.2.3 Industrial Fabric Cover Requirements

3.2.3.1 The industrial fabric cover shall be woven high density polyethylene tape with double stack weave – finish coated sides, meeting or exceeding the specs listed below:

Weave	16 x 16 psi woven clear HDPE scrim	
Coating Thickness	4.0 mil average each side (94 g/m²)	
Coating Composition	Modified LDPE coating with UV protection	
Weight	12.5 oz/yd² (373 g/m²)+/-5%	
Thickness	23 mils (0.635mm)	ASTM D5199

Hydrostatic Resistance Method	171 psi (1180 kPa)	ASTM D751A
Grab Tensile	Warp: 340 lbs. (1511 N)	ASTM D5034
	Weft: 340 lbs. (1511 N)	ASTM D5034
Strip Tensile	Warp: 250 lbs. (1112 N)	ASTM D5035
	Weft: 250 lbs. (1112 N)	ASTM D5035
Tongue Tear	Warp: 115 lbs. (511 N)	ASTM D2261
	Weft: 115 lbs. (511 N)	ASTM D2261
Mullen Burst	675 psi (4658 kPa)	ASTM D3786
Cold Crack	Minus 60° C	ASTM D2136

Fire Ratings:

Test/Standard	Flame Spread	Smoke Developed	Char Length
ASTM E84	FS10	SD 58	6.5
Can/ULC 5102.2-M88	FS15	SD 125	6.5

3.2.3.2 The cover fastening system shall be compatible with the specifications above including zero stretch belting, welded fabric pockets and 10,000 pound capacity lashing winches coated to prevent corrosion.

3.2.3.3 The system shall include aluminum flat bar for fabric termination around entire building.

3.2.3.4 The color of the fabric cover shall be tan with green trim. Prior to contract award, color samples may be requested by the WVDOH for review and approval by the WVDOH.

3.2.3.5 The warranty period for the industrial cover shall be fifteen (15) years. The awarded vendor shall provide a copy of this warranty.

3.2.3.6 The awarded vendor is responsible for all repairs. Permanent fabric repair service shall be included in the bid price. There shall be no separate costs or payment made for repair service. Temporary patching* shall only be used when conditions do not permit permanent repair (such as temperatures). Permanent repair shall be made as soon as conditions are appropriate for successful repair.

*NOTE: Temporary patching such as the use of Duct Tape is not acceptable.

3.2.4 Shop Drawings

3.2.4.1 Sample Shop Drawings

Vendor sample shop drawings with complete information on the five requested systems MUST BE SUBMITTED with the vendor's bid.

Vendor sample shop drawings shall indicate pertinent criteria, reaction and other information required for fabrication installation and as required by codes. The sample shop drawings shall identify the construction and in-place loads for consideration with the salt shed building design. The sample shop drawings shall identify the specific hoist type for the fabric roll-up door. Bids submitted without sample shop drawings WILL BE DISQUALIFIED.

3.2.4.2 Project Specific Shop Drawings
Once a project has been established, all project specific shop drawings, from the awarded vendor, **must be signed and sealed** by a Professional Engineer registered in the State of West Virginia. Review and approval of project specific shop drawings will be conducted by the WVDOH.

3.2.5 Qualifications

3.2.5.1 Certification
The bidder must be currently certified and shall provide a copy of that certification with their bid at a minimum to ISO 9001:2008 Quality Management Systems Standards, having direct experience in the design, manufacture and installation of structures of the type specified herein; shall operate according to a comprehensive quality system.

However, an equivalent or approved substitute current certification of similar Standards shall be considered for approval by the WVDOH. Documentation of the certification along with a copy of the bidder's current certification shall be provided with the bid. The WVDOH will review the equivalent or approved substitute certification prior to contract award.

The bidder shall provide the name of this certification on the Information Attachment. Bids submitted WITHOUT complete certification requirement will be disqualified.

Whether ISO 9001:2008 certified, equivalent or approved substitute, the certification must continue throughout the term of this contract. Upon any renewals of certification, a copy of the certification must be sent the WVDOH.

3.2.5.2 Structure References
At the time of bid, the bidder shall provide three references with structures in use for at least five (5) years which are a clear span and which enclose an area to or greater than a 72' x 140' concrete structure.

The bidder shall provide the references on the Information Attachment. Bids submitted WITHOUT complete references requirement will be disqualified.

3.2.5.3 Vendor Personnel Requirements
At the time of bid, the bidder shall submit the name of at least one technical expert listing their experience on at least five jobs or similar type jobs.

The bidder shall provide the personnel requirements on the Information Attachment. Additionally, a detailed resume of this technical expert shall also be included with the bidder's response. This resume should be in detail as if submitting a job application. This requirement is for informational purposes and does not dictate the technical expert for any particular project.

The awarded vendor shall provide representation at the pre-bid, pre and post construction meetings for salt shed projects being constructed for the WVDOH. The representation shall be to establish coordination, discussion of installation information and any clarification required between the salt shed construction project, awarded contractors or WVDOH personnel performing the installation of the salt shed building.

4. CONTRACT AWARD:

4.1 Contract Award: The Contract is intended to provide Agencies with a purchase price for Contract Items for all WVDOH locations. A contract will be awarded to the Vendor that provides the Contract Items meeting the required specifications for the lowest overall total cost as shown on the Pricing Pages.

4.2 Pricing Pages: Vendor shall submit a price by providing unit prices for Contract Items for each District. Vendors must submit a price for all Contract Items for all Districts as award will be based on overall total low bid vendor. Failure to submit a price for all Contract Items for all Districts may result in Vendor's bid being disqualified.

The Pricing Pages contain a list of the Contract Items and estimated purchase volume. The estimated purchase volume for each item represents the approximate volume of anticipated purchases only. No future use of the Contract or any individual item is guaranteed or implied.

Vendor should electronically enter the information into the Pricing Pages through wvOASIS, if available, or as an electronic document. In most cases, the Vendor

can request an electronic copy of the Pricing Pages for bid purposes by sending an email request to the following address: crystal.g.rink@wv.gov.

5. ORDERING AND PAYMENT:

5.1 Ordering: Vendor shall accept orders through wvOASIS, regular mail, facsimile, e-mail, or any other written forms of communication. Vendor may, but is not required to, accept on-line orders through a secure internet ordering portal/website. If Vendor has the ability to accept on-line orders, it should include in its response a brief description of how Agencies may utilize the on-line ordering system. Vendor shall ensure that its on-line ordering system is properly secured prior to processing Agency orders on-line.

5.2 Payment: Vendor shall accept payment in accordance with the payment procedures of the State of West Virginia. The State of West Virginia currently utilizes a VISA Purchasing Card Program which is issued through a bank. The successful Vendors must accept the State of West Virginia VISA Purchasing Card for payment of orders placed by any State agency as a condition of award.

6. DELIVERY AND RETURN:

6.1 Delivery Time: Vendor shall deliver standard orders within thirty (30) working days after orders are received. Vendor shall deliver emergency orders within an agreed upon alternative time frame by the WVDOH and the Vendor after orders are received. Vendor shall ship all orders in accordance with the above schedule and shall not hold orders until a minimum delivery quantity is met.

Deliveries shall be made to the designated site during normal project working hours. This information will be provided to the vendor on the Delivery Order. The awarded vendor shall provide representation to inspect and accept the material on behalf of the WVDOH. Unloading of the material shall be performed by the WVDOH or the contractor constructing the salt shed building.

6.2 Late Delivery: The Agency placing the order under this Contract must be notified in writing if orders will be delayed for any reason. Any delay in delivery that could cause harm to an Agency will be grounds for cancellation of the delayed order, and/or obtaining the items ordered from a third party.

Any Agency seeking to obtain items from a third party under this provision must first obtain approval of the Purchasing Division.

6.5 Delivery Payment/Risk of Loss: Standard order delivery shall be F.O.B.

destination to the Agency's location. Vendor shall include the cost of standard order delivery charges in its bid pricing/discount and is not permitted to charge the Agency separately for such delivery. The Agency will pay delivery charges on all emergency orders provided that Vendor invoices those delivery costs as a separate charge with the original freight bill attached to the invoice.

6.5 Return of Unacceptable Items: If the Agency deems the Contract Items to be unacceptable, the Contract Items shall be returned to Vendor at Vendor's expense and with no restocking charge. Vendor shall either make arrangements for the return within five (5) days of being notified that items are unacceptable, or permit the Agency to arrange for the return and reimburse Agency for delivery expenses. If the original packaging cannot be utilized for the return, Vendor will supply the Agency with appropriate return packaging upon request. All returns of unacceptable items shall be F.O.B. the Agency's location. The returned product shall either be replaced, or the Agency shall receive a full credit or refund for the purchase price, at the Agency's discretion.

6.6 Return Due to Agency Error: Items ordered in error by the Agency will be returned for credit within 30 days of receipt, F.O.B. Vendor's location. Vendor shall not charge a restocking fee if returned products are in a resalable condition. Items shall be deemed to be in a resalable condition if they are unused and in the original packaging. Any restocking fee for items not in a resalable condition shall be the lower of the Vendor's customary restocking fee or 5% of the total invoiced value of the returned items.

7. VENDOR DEFAULT:

7.1 The following shall be considered a Vendor default under this Contract.

7.1.1 Failure to provide Contract Items in accordance with the requirements contained herein.

7.1.2 Failure to comply with other specifications and requirements contained herein.

7.1.3 Failure to comply with any laws, rules and ordinances applicable to the Contract Services provided under this Contract.

7.1.4 Failure to remedy deficient performance upon request.

7.2 The following remedies shall be available to Agency upon default.

7.2.1 Immediate cancellation of the Contract.

7.2.2 Immediate cancellation of one or more release orders issued under this Contract.

7.2.3 Any other remedies available in law or equity.

8. MISCELLANEOUS:

8.1 **No Substitutions:** Vendor shall supply only Contract Items submitted in response to the Solicitation unless a contract modification is approved in accordance with the provisions contained in this Contract.

8.2 **Vendor Supply:** Vendor must carry sufficient inventory of the Contract Items being offered to fulfill its obligations under this Contract. By signing its bid, Vendor certifies that it can supply the Contract Items contained in its bid response.

8.3 **Reports:** Vendor shall provide quarterly reports and annual summaries to the Agency showing the Agency's items purchased, quantities of items purchased and total dollar value of the items purchased. Vendor shall also provide reports, upon request, showing the items purchased during the term of this Contract, the quantity purchased for each of those items and the total value of purchases for each of those items. Failure to supply such reports may be grounds for cancellation of this Contract.

8.4 **Contract Manager:** During its performance of the Contract, Vendor must designate and maintain a primary contract manager responsible for overseeing Vendor's responsibilities under this Contract. The Contract Manager must be available during normal business hours to address any customer service or other issues related to this Contract. Vendor should list its Contract Manager and his or her contact information below.

Contract Manager: Nate Rohrig
Telephone Number: 304-641-6450
Fax Number: 304-622-5546
Email Address: nrohrig@aol.com

Reference:
[1]www.legis.state.wv.us/WVCODE/ChapterEntire.cfm?chap=29&art=3&section=5B#03
[2]www.firemarshal.wv.gov/Documents/87-04%20State%20Building%20Code.pdf

Rev. 04/14

State of West Virginia
VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with ***West Virginia Code***, §5A-3-37. (Does not apply to construction contracts). ***West Virginia Code***, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the ***West Virginia Code***. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

1. **Application is made for 2.5% vendor preference for the reason checked:**

____ Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

✓ Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; **or,**

____ Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; **or,**

2. **Application is made for 2.5% vendor preference for the reason checked:**

✓ Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

3. **Application is made for 2.5% vendor preference for the reason checked:**

____ Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; **or,**

4. **Application is made for 5% vendor preference for the reason checked:**

✓ Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; **or,**

5. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**

____ Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; **or,**

6. **Application is made for 3.5% vendor preference who is a veteran for the reason checked:**

____ Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.

7. **Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with *West Virginia Code* §5A-3-59 and *West Virginia Code of State Rules.***

____ Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.

Bidder understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the requirements for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty against such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency or deducted from any unpaid balance on the contract or purchase order.

By submission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and authorizes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid the required business taxes, provided that such information does not contain the amounts of taxes paid nor any other information deemed by the Tax Commissioner to be confidential.

Under penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true and accurate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate changes during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.

Bidder: Cover-An Building of WV, Inc. Nathaniel G. Rohrig **Signed:** [signature]

Date: 2-1-15 **Title:** Vice President

RFQ No. DOT1500000043

STATE OF WEST VIRGINIA
Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Color-All Buildings of WV, Inc.

Authorized Signature: _____ Date: 2-1-15

State of West Virginia

County of Harrison, to-wit:

Taken, subscribed, and sworn to before me this 1 day of February, 2015

My Commission expires June 28, 2015.

AFFIX SEAL HERE

OFFICIAL SEAL
NOTARY PUBLIC
STATE OF WEST VIRGINIA
ANN BRADLEY VOTAW
Harrison County Board of Education
408 E B Saunders Way, PO Box 1370
Clarksburg, WV 26301
My Commission Expires June 28, 2015

NOTARY PUBLIC Ann Bradley Votaw

Building Roof Systems
Qualifications
Information Attachment

Vendor shall provide the current ISO 9001:2008, equivalent or approved substitute, Certification information requested from Section 3.2.5.1 of the Contract specifications in the space provided below. NOTE: A copy of the certification is **required with bid submission.**
See Attached
Vendor shall provide the information requested in Section 3.2.5.2 listing three structure references in use for at least five years in the space provided below.
1 See Attached
2 See Attached
3 See Attached
Vendor shall provide the name of the Technical Expert information requested from Section 3.2.5.3 of the Contract specifications in the space provided below. This requirement is for informational purposes and does not dictate the techical expert for any particular project/job. NOTE: A detailed resume of the technical expert is required with bid submission.

Name of Technical Expert:	Nathaniel Rohrig

Vendor shall provide the information requested in Section 3.2.5.3 listing five jobs or similar type jobs that the above Technical Expert has experience in the space provided below.
1 See Attached
2 See Attached
3 See Attached
See Attached
5 See Attached

BRITESPAN BUILDING SYSTEMS INC

LIMITED WARRANTY

Britespan Warranty for West Virginia DOT Only

SCOPE OF LIMITED WARRANTY

Only the building components manufactured by BRITESPAN Building Systems Inc. and described in this agreement are warranted for manufacturer defects to the building owner.

This warranty is only valid if and when:

i) Warranty has properly been registered by an authorized BRITESPAN Building Systems Inc. dealer as per the instruction in the building kit and,

ii) BRITESPAN Building Systems Inc. receives written notice and proof of claim (photos where possible) of any manufacturers defects during the period of warranty coverage.

Resolve of the structural defect(s) may be through the supply of new, used or rebuilt parts, or on-site repair, at the option of BRITESPAN Building Systems Inc. If BRITESPAN Building Systems Inc. chooses to repair or replace the defective product or component, BRITESPAN Building Systems Inc. shall be allotted reasonable time to do so.

This warranty includes the explicit warranty of BRITESPAN Building Systems Inc. There are no other warranties expressed or implied. This warranty is made and is not to be replaced by any warranties of marketability or suitability for a particular purpose. Warranty specifications are applicable to units sold and erected in Canada and the United States only. Warranty may vary outside of those areas. Please contact your local authorized BRITESPAN Building Systems Inc. representative for more details.

WARRANTY REGISTRATION

Each BRITESPAN Building Systems Inc. building kit will be shipped with a warranty registration package. Follow all of the instructions in the package and return the warranty registration card filled out accompanied with photos as outlined in the package. All warranty registrations must be submitted for registration review within 60 days of building installation. A certificate of warranty will be issued to your local authorized BRITESPAN Building Systems Inc. representative once all of the requirements have been met for registration and approved by BRITESPAN Building Systems Inc.

A warranty certificate may be withheld if the building or any components are not assembled in accordance with the installation procedures indicated in the installation manual. A warranty certificate will be issued upon correction of identified deficiencies supported with new photographs to complete the verification.

If the building changes ownership, the new owner must apply for a warranty transfer to assume remaining years of warranty on the existing structure(s). Contact your local authorized BRITESPAN Building Systems Inc. dealer to obtain a transfer of warranty package. A one-time per transfer fee may apply.

STANDARD LIMITED WARRANTY COVERAGE PERIODS:

TABLE 3-1: STANDARD PRO-RATED WARRANTY COVERAGE PERIOD (YEARS)

COMPONENT	ATLAS / GENESIS / APEX / EASY ACCESS SERIES
MAIN STRUCTURE COVER (NON-FR) (4)	16
MAIN STRUCTURE COVER (FR) (4)	10
END FABRIC (NON—FR) (5)	3
END FABRIC (FR) (5)	3
MAIN STEEL FRAMEWORK (2)	15
END STEEL FRAMEWORK (HSS) (3)	15

BRITESPAN BUILDING SYSTEMS INC

LIMITED WARRANTY

Building needs to be installed by factory trained approved and qualified personnel.

NOTES ON LIMITED WARRANTY COVERAGE PERIODS

- All repair or replacement costs are pro-rated as per table 3-1 on page one of this document. (1)
- Consists of main building trusses, purlins and manufactured brackets (2)
- Consists of vertical columns, horizontal members, and manufactured brackets. Does not include cables or fasteners. (3)
- Consists of main building cover panels only. Does not include any fastening system components (4)
- Consists of end enclosure panels only (standard FR & non-FR fabrics only). Does not include any fastening system components. End enclosure panels must be properly supported by a BRITESPAN Building Systems Inc. end support system or an alternative system designed and engineered to match the end panel fastening system. The alternative system must also meet site wind load and building safety requirements as per engineer requirements. (5)

STANDARD TERMS OF LIMITED WARRANTY COVERAGE

Should any components be found to have manufacturer's defects under normal use, the defect(s) will be repaired or the components replaced, at the discretion of BRITESPAN Building Systems Inc. The building owner will be responsible for the cost of the repair or replacement parts pro-rated per year following the original purchase date, plus the cost of delivery and installation of replacement parts, if required. All replacement parts are F.O.B. Lucknow, Ontario, Canada. Any parts requiring replacement under this warranty are subsequently warranted only for the remaining time period of the unexpired portion of the warranty that is applicable to the original product.

Due to continual product development, over time certain fabric colours or steel components may become unavailable. In those incidents, BRITESPAN Building Systems Inc. reserves the right to substitute replacement components with those that are comparable in function, quality, and price to the original. BRITESPAN Building Systems Inc. is neither responsible nor liable if the replacement component varies in appearance from the original.

LIMITS AND RELEASE OF LIABILITY

This warranty does not apply to defects or damages resulting from a) improper installation and /or installation that is not in accordance with BRITESPAN Building Systems Inc. installation manuals and procedures; b) improper or inadequate maintenance of the structure; c) any modification or alteration of the product; d) misuse, neglect, or abuse of the product; e) accident; f) repair or alteration by an unauthorized BRITESPAN Building Systems Inc. dealer; g) integration of products or accessories not manufactured specifically for use in a BRITESPAN Building Systems Inc.; h) exposure to corrosive elements; i) corrosion resulting from structure applications, environment within the structure, and/or insufficient maintenance or any cause other than a defect in an item's described corrosion protection; j) use of abrasive cleaning methods, chemicals, or solvents; k) exposure to conditions in excess of, or not meeting, as the case may be, wind and snow load specifications for building model; l) design of foundation and/or installation and/or deficiency in the foundation; m) product upgrades; n) product recall; o) normal wear and tear; p) wear caused by multiple installations; q) storage and/or handling of building components; r) an act of God; s) This warranty does not apply to cosmetic defects or deterioration, including discolouration.

BRITESPAN Building Systems Inc. will not be liable for any damages incurred during or as a result of installation of a BRITESPAN Building Systems Inc. product, whether or not in accordance with the installation instructions. In no event will BRITESPAN Building Systems Inc., any distributor, or the selling dealer be liable for any direct, indirect, special, incidental, or consequential damages (including loss of profit, loss of time, inconvenience, or the use or inability to use this product for any purpose whatsoever), whether based on contract, tort, strict liability or any other legal basis; even if BRITESPAN Building Systems Inc., its distributor, or selling dealer was advised of the possibility of the occurrence of such damages. By registering for and taking benefit of the warranty, the building owner expressly releases and discharges BRITESPAN Building Systems Inc., all distributors, and all dealers from all claims, causes of action, demands, actions, suits, judgments and executions for any actual, incidental or consequential damages, bodily or otherwise, that the building owner ever had, now has, or may have by reason of the assembly, erection, use and/or operation of any BRITESPAN Building Systems Inc. All references to building owners, BRITESPAN Building Systems Inc., all distributors and all dealers, include such parties' spouse, heirs, successors, legal representatives and assigns.

BRITESPAN Building Systems Inc. and its authorized dealers are independent businesses; authorized dealers are not agents or legal representatives of BRITESPAN Building Systems Inc. Authorized dealers have no right or authority to assume or create any legal obligation or responsibility, express or implied, on behalf of BRITESPAN Building Systems Inc., or to bind BRITESPAN Building Systems Inc. in any manner whatsoever. BRITESPAN Building Systems Inc. shall have no liability for any acts, errors, omissions, workmanship, supplies, advice, representations or misrepresentations of any authorized dealer.

Certificate of Registration

This is to certify that **QUASAR** *has certified:*

BRITESPAN
BUILDING SYSTEMS

Head Office & Design Office: 37651 Amberly Road, R R # 1, Lucknow, ON N0G 2H0
Plant: 71 North Street West, Wingham, ON N0G 2W0
Plant: Farley Group, 6 Kerr Crescent, Puslinch, ON N0B 1J0

to the Certification Standard:

CSA A660-10

"Certification of Manufacturers of Steel Building Systems"

Initial Registration	Date of Issue	Date of Expiry	Certificate Number
24 September 2010	25 September 2014	24 September 2015	OLYMP0

Scope: Design and manufacture steel building systems

QUASAR

Registrar

Registered by QUASAR Enregistrée par

Refer to www.cwbgroup.org for current certification status.

QUASAR, A Division of the CWB Group, 8260 Park Hill Drive, Milton, Ontario, Canada, L9T 5V7, Tel: 1-800-844-6790 / (905)-542-1312, Fax: (905) 542-1318, Web: www.cwbgroup.org

This project has been designed and fabricated in accordance with the following:

1. DESCRIPTION

Owner's Name and Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Supplier's Name and Address:	COVER-ALL BUILDINGS OF WEST VIRGINIA INC. 812 NORTH OHIO AVENUE, CLARKSBURG, WV. 26301
Manufacturer's Name and Address:	BRITESPAN BUILDING SYSTEMS INC. 37651 AMBERLEY ROAD, LUCKNOW, ON. N0G 2H0
Site Location:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Legal Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Type:	ATLAS 16
Building Size:	40'x 70' @ 14 o.c. (12.192m x 21.336m @ 4.267m o.c.) (2,800 sq.ft)
Applicable Building Code:	ASCE 7-05
Intended Use and Occupancy:	STORAGE - SALT/SAND
Construction Type:	COMMERCIAL
Fabric Type:	NON-FR

2. DESIGN STANDARDS
ASCE 7-05, minimum design loads for building and other structures.
ANSI/AISC 360-05, Specification for Structural Steel Buildings
AISI-Truss, North American Specification for the Design of Cold-Formed Steel Structural Members
NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, 2009 Edition

3. MANUFACTURING STANDARDS
Fabrication in accordance with ANSI/AISC 360-05 and AISI-Truss, as applicable.
Weldingin accordance with ANSI 01.1 Structural Welding Code and AISI-Truss, as applicable.
Britespan Building Systems Inc. is a AWS approved fabricator as per B5.17 and QC17 standards.
Welders have been qualified in accordance with QC7-93.

4. DESIGN CRITERIA

Occupancy Category:	S2 CATEGORY I
Exposure Category:	Exposure C (NON COASTAL) - FULLY EXPOSED
Enclosure Category:	PARTIALLY ENCLOSED

A) DEAD LOADS
I) Self-weight of Building Components
II) Collateral (hanging) load, not to exceed 0.25 psf as an allowance for mechanical, electrical ceiling, sprinklers, etc, or any combination there of.

B) LIVE LOADS

Live Loads determined in accordance with section 4 of ASCE 7-05
Minimum roof live load: 12.0 psf

C) SNOW LOADS

Snow loads determined in accordance with section 7 of ASCE 7-05

Ground Snow Load, Pg (1/50):	35.0 psf
Roof Snow Load, Pf	21.17 psf
Exposure Factor, Ce	0.9
Thermal Factor, Ct	1.2
Importance Factor, Is	0.8

D) WIND LOADS

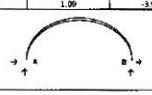
Wind loads determined in accordance with section 6 of ASCE 7-05

Wind Speed (3-sec Gust)	90.0 mph
Basic Wind Pressure, q	13.02 psf
Exposure Coefficient, Kh	0.85
Topographic Factor, Kzt	1.00
Directionality Factor, Kd	0.85
Importance Factor, Iw	0.87

E) LOAD COMBINATIONS
Load combinations determined in accordance with section 2 of 7-05
6. BASE REACTIONS

	SIDE A		SIDE B	
LOAD CASE:	HORIZONTAL X_A (kips)	VERTICAL Y_A (kips)	HORIZONTAL X_B (kips)	VERTICAL Y_B (kips)
DEAD	0.07	0.14	-0.07	0.14
COLLATERAL	0.04	0.07	-0.04	0.07
LIVE	1.83	3.61	-1.83	2.85
SNOW BALANCED	2.87	4.27	-2.87	4.27
SNOW UNBALANCED	1.81	1.44	-1.81	5.26
WIND: PERPENDICULAR	-0.97	1.16	-0.99	5.72
WIND: PARALLEL	-1.12	-3.90	1.09	-3.91

Note:
Negtive values of Y reactions indicates uplift forces



GENERAL
THIS DRAWING INCLUDES INFORMATION HERE-ON, REMAINS THE PROPERTY OF BRITESPAN BUILDING SYSTEMS, INC. IT IS PROVIDED SOLELY FOR ERECTING THE BUILDING DESCRIBED IN THE SALES ORDER AND SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BRITESPAN BUILDING SYSTEMS, INC.

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE, GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN CONFORMANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION INCLUDING THE PROPER USE OF TEMPORARY BRACING.

THIS BUILDING IS NOT DESIGNED TO BE LIFTED AS AN ASSEMBLED UNIT. BRITESPAN BUILDING SYSTEMS INC. IS NOT RESPONSIBLE FOR LOSSES AND/OR DAMAGE AS A RESULT OF LIFTING THIS BUILDING. IF, HOWEVER, IT HAS BEEN DETERMINED TO LIFT THIS BUILDING, IT IS THE RESPONSIBILITY OF THE PERSON, FIRM OR COMPANY CONTRACTED TO LIFT THE BUILDING TO SECURE THE SERVICES OF A QUALIFIED ENGINEER TO ENSURE THE LIFT DOES NOT DAMAGE THE BUILDING AND TO DETERMINE AND FINALIZE ALL ASPECTS OF THE LIFT INCLUDING ALL PARTS/CONNECTORS TO BE ADDED TO THE BUILDING TO FACILITATE THE LIFT.

BRITESPAN BUILDING SYSTEMS, INC. IS NOT RESPONSIBLE FOR ERRORS, OMISSION OR DAMAGES INCURRED IN THE ERECTION OF THE COMPONENTS SHOWN ON THIS DRAWING, NOR FOR THE INSPECTION OF ERECTED COMPONENTS TO DETERMINE THE SAME.

THIS CERTIFICATION AND ENGINEERING SEAL APPLIES ONLY TO PRODUCTS DESIGNED AND FABRICATED BY BRITESPAN BUILDING SYSTEMS, INC. FOR THE LOADING CONDITIONS DESIGNED ON THESE DRAWINGS. CONCRETE FOUNDATIONS, STEEL COMPONENTS BY OTHERS AND ERECTION SUPERVISION ARE NOT THE RESPONSIBILITIES OF BRITESPAN BUILDING SYSTEMS, INC. ON THE CERTIFYING ENGINEER. ALL DOORS, WINDOWS AND ROLL-UP CURTAINS MUST BE DESIGNED TO SUPPORT THE SITE WIND LOADING AND ARE RELIED ON TO BE CLOSED IN THE EVENT OF HIGH WINDS.

ANCHOR BOLTS
ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH CSA STANDARD CAN3-S16.1 USING Fy = 36 KSI (248 MPa). ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

ANCHOR BOLT PROJECTIONS BASED ON NO GAOUT ARE AS FOLLOWS:

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS.

FINISHED FLOOR ELEVATIONS AND UNDERSIDE OF BASE PLATE IS 100'-0" (1000.000mm) UNLESS NOTED.

ERECTION
THE ERECTION MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL THE LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT A BRACED BAY. ERECT AND TEMPORARILY SUPPORT TRUSSES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. INSTALL PURLINS AND CROSS BRACING. PLUMB AND SQUARE TRUSSES IN ACCORDANCE WITH CAN3-S16.1 AND OSHA 29 CFR PART 1926 - SAFETY STANDARD FOR STEEL ERECTION.

ENSURE ALL PURLINS REMAIN PARALLEL.

STRUCTURAL FRAMING MEMBERS ARE CONSIDERED PLUMB, LEVEL, AND ALIGNED WHEN THE VARIANCE DOES NOT EXCEED 1:500.

STRUCTURAL BOLTS
BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS, OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. ALL STRUCTURAL BOLT DIAMETERS LESS THAN 1" CONFORM TO SAE J429 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH. ALL STRUCTURAL NUT DIAMETERS LESS THAN 1" CONFORM TO SAE J995 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH.

ALL BOLTS LARGER THAN 1" (25mm) DIA. CONFORM TO ASTM A325.
ALL OTHER DIA HEX BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
ALL BOLTS SHALL BE PLATED / GALVANIZED OR BUNSEAL COATED.
ALL BOLT REFERENCES REQUIRE BOTH BOLT AND NUT.

BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION VALUES AS SHOWN IN THE TABLE BELOW.

TABLE A - BOLT TENSION

SIZE		GRADE 5		GRADE A325	
in	mm	lbs	kN	lbs	kN
5/8	16	18	80		
3/4	19	28	125		
7/8	22	38	174		
1.0	25	51	227		
7/8				A325	
1 1/8	29	56		249	
1 1/4	32	74		316	

STRUCTURAL BOLT TORQUE VALUES
TABLE B LISTS THE BOLT CLAMP WITH A SUGGESTED ASSEMBLY TORQUE VALUES.
TABLE B - IMPERIAL

DIA.	Threads Per	GRADE 5 Tensile	Proof Load	Clamp Load	Torque Dry	Torque Lube
INCH	Inch	kN	Lbs	lbs	ft-lbs	ft-lbs
3/8	16	123	6800	4956	15	23
7/16	14	123	9050	6780	50	35
1/2	13	125	12100	9050	75	95
5/8	11	123	19200	14400	150	110
3/4	10	125	28400	21300	266	200
5/16		A325				
1 1/4	7	105	71700	53800	1125	845

MATERIAL SPECIFICATIONS:
ROLLED STRUCTURAL SECTIONS CONFORM TO CSA G40.21-44W (300W).

STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS:
PLATES G40.21 44W G40.21/ASTM A572 GR 44 (300W)
W.B.S. G40.21 50W G40.21/ASTM A572 GR 50 (350W)

COATINGS OF STRUCTURAL PLATES ARE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM 153.

TRUSSES ARE HOT-DIP GALVANIZED INSIDE AND OUT IN ACCORDANCE ASTM 123.

CHROMATE CONVERSION COATING APPLIED OVER THE HOT-DIP GALVANIZED SURFACE TO PROVIDE ADDITIONAL CORROSION PROTECTION.

PURLINS AND TIE-DOWN PIPE ARE PRE-GALVANIZED.

DIAGONAL BRACE STEEL CABLES EXTRA HIGH STRENGTH PER ASTM A475
CROSS CABLES - Ø 5/16" (8mm) TYP U/N.

STRUCTURAL COMPONENTS ARE AS FOLLOWS:
2 3/8" (60.325mm) TUBES - 18" (457.2mm) O/C USING @ 1 1/8" (28.575mm) WEB &
2 7/8" (73.025mm) PURLINS - PER ASTM A500 GRADE C

FABRIC / LINER NOTES
EXTERIOR FABRIC IS AN INTEGRAL PART OF THE STRUCTURAL SYSTEM; REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. ALL TEARS MUST BE PATCHED IMMEDIATELY TO AVOID WARRANTY PROBLEMS.

EXTERIOR FABRIC WILL DEFLECT UNDER LOAD. THEREFORE ALL BUILDING ACCESSORIES (LIGHTING, HVAC, SPRINKLERS, ETC) MUST BE LOCATED BENEATH THE INNER CORD OF THE TRUSS. ANYTHING ABOVE THIS MUST BE REVIEWED AND APPROVED IN WRITING BY BRITESPAN BUILDING SYSTEMS, INC. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

FABRIC SPECIFICATIONS
ALL POLYETHYLENE MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

PHYSICAL	PROPERTIES	DESCRIPTION
BASE SCRIM	HDPE 1600 DENIER YARN	HIGH DENSITY POLYETHYLENE
COATING THICKNESS	4 MIL (94 GSM)	EACH SIDE OF SCRIM
SURFACE TYPE	MODIFIED LDPE C /N UV	LOW DENSITY POLYETHYLENE
WEIGHT	12 OZ./YD2 (407 GSM +/-5%)	MINIMUM WEIGHT
GRAB TENSILE STRENGTH	FR WARP - 365 LBS. (1820 N)	ASTM D5034
	NON-FR WARP - 370 LBS. (1664 N)	ASTM D5034
TONGUE TEAR STRENGTH	FR WARP - 120 LBS. (532 N)	ASTM D2261
	NON-FR WARP - 115 LBS. (510 N)	ASTM D2261
STRIP TENSILE STRENGTH	FR WARP - 270 LBS. (2400 N/50M)	ASTM D4851
	NON-FR WARP - 275 LBS. (2444 N/50M)	ASTM D4851
MULLEN BURST	FR - 585 PSI (4705 KPA)	ASTM D3786
	NON-FR - 575 PSI (4857 KPA)	ASTM D3786
THICKNESS	FR - 23 MILS (0.635 MM)	ASTM D1777
	NON-FR - 20 MILS (0.50 MM)	ASTM D1777
COLD CRACK	PASS -60°C	ASTM D8136
FACTORED MEMBRANE RESIST.	WARP - 145 LBS./IN (1227 N/50M)	ASTM D751A
UV & WEATHERING	90% AFTER 2000 HR.	ASTM G-151-00 / D1564-04
COATING ADHESION	3 LBS/INCH	ASTM D-4851-07
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	NFPA 701-2010 METHOD 1 & 2
(FR) FS/SD/CHAR/DRIP	10 / 110 / - / -	ASTM E-84-08
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	CAN/ULC S109-03
(FR) FS/SD/CHAR/DRIP	15 / 85 / - / -	CAN/ULC S102-03
(FR) FS/SD/CHAR/DRIP	0 / 20 / - / -	CAN/ULC S102.2-03
(NON-FR) FS/SD/CHAR:	10 / 85 / -	ASTM E-84
(NON-FR) FS/SD/CHAR/	15 / 100 / -	CAN/ULC S102.2-07

DRAWING SCHEDULE		REVISIONS			
DWG #	DRAWINGS TITLE	REV.	DATE	REV.	DATE
FB-1	COVER PAGE	1	11-Jun-14		
FB-2	BASEPLATE LAYOUT	1	11-Jun-14		
FB-3	PROJECT LAYOUT	1	11-Jun-14		
FB-4	PURLIN LAYOUT	1	11-Jun-14		
FB-5	BRACING LAYOUT	1	11-Jun-14		
ER-1	ENDWALL LAYOUT	1	11-Jun-14		
ER-2	ENDWALL LAYOUT	1	11-Jun-14		
BD-1	BASEPLATE DETAILS	1	11-Jun-14		
SD-1	STANDARD DETAILS 1	1	11-Jun-14		
SD-2	STANDARD DETAILS 2	1	11-Jun-14		
SD-3	STANDARD DETAILS 3	1	11-Jun-14		
ED-1	ENDWALL DETAILS 1	1	11-Jun-14		
ED-2	ENDWALL DETAILS 2	1	11-Jun-14		

ROOF PLAN NOTES
UNLESS NOTED, USE Ø5/8" (16mm) BOLTS FOR PURLIN TO TRUSS, CABLE OR ROD BRACING TO TRUSS AND ANGLES TO TRUSS FOR ALL CONNECTIONS.

CABLE / ROD AND PURLIN BRACING ARE AN INTEGRAL PART OF THE TRUSS STRUCTURAL SYSTEMS AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION FROM BRITESPAN BUILDING SYSTEMS, INC. IS PROHIBITED.

ELEVATION NOTES
HOLES REQUIRED IN HSS COLUMNS, HEADERS OR PURLINS FOR FRAMED OPENINGS, DOOR OR WINDOW POST CONNECTION TO BE BY ERECTOR.

WALK DOOR, WINDOW AND FRAMED OPENING POSTS TO BE FIELD ANCHORED TO CONCRETE WITH Ø1/2" (13mm) "HILTI KWIK-BOLTS" OR SIMILAR

MATERIAL STORAGE
GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. SHORT TERM JOB SITE STORAGE OF STEEL COMPONENTS MAY BE TOLERATED, PROVIDED CARE IS TAKEN TO KEEP THE MATERIALS DRY AT ALL TIMES. WHEN TRUSSES ARE ARE TO BE STORED OUTDOORS, THEY SHOULD BE PLACED AT AN ANGLE SUFFICIENT TO PROMOTE GOOD DRAINAGE. IN ADITTION, SEVERAL INCHES OF CLEARENCE MUST BE PROVIDED BETWEEN THE LOWER END AND THE GROUND TO ALLOW VENTILATION.

NOTE: BRITESPAN BUILDING SYSTEMS, INC. WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

MANUFACTURING STANDARDS
FABRICATION IS IN ACCORDANCE WITH CAN/CSA-S16.1 AND CAN/CSA-S136, AS APPLICABLE.

BRITESPAN BUILDING SYSTEMS, INC. IS A CWB CERTIFIED DIVISION 2.1 MANUFACTURER OF TRUSSES. ALL WELDS ARE COMPLETED IN SHOP AS PER CWB STANDARD CSA W47.1 AND W59, AS PART OF OUR CWB CERTIFICATION AN INDEPENDENT THIRD PARTY TESTS OUR WELDERS AND PROCEDURES AND AUDITS OUR FACILITIES. THIS CERTIFICATION MEETS WITH AWS D1.1 AND D1.3 CRITERIA.

BLOCK FOUNDATION DESIGNER SHALL DETERMINE ANCHOR BOLT SIZE AND TYPE FOR BRITESPAN LOADS. PROPER MINIMUM EDGE DISTANCE FROM CENTER OF ANCHORS TO EDGE OF CONCRETE BLOCK SIDEWALLS AND ENDWALLS SHALL BE PROVIDED FOR THE ANCHOR TYPE. FOUNDATION DESIGN AND STABILITY OF BLOCKS FOR OVERTURNING IS NOT BY SERVINSKY ENGINEERING, PLLC.

FOR BID ONLY
ALL SHEETS LISTED

RTE. 15.001 A

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

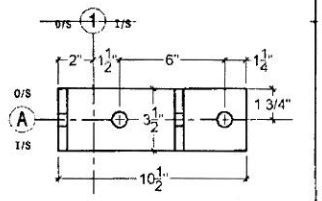
WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
COVER PAGE

SHEET NO.: FB-1
PAGE NO.: 001 / 12

1-21

MARK S. SERVINSKY REGISTERED 16784 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
- LICENCED PROFESSIONAL ENGINEER -

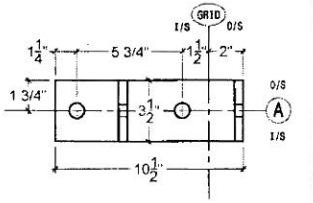


VIEW A

ANCHOR-BOLT HOLES:	Ø 1"
PLATE THICKNESS:	1/2"
PART NUMBER:	186



LEFT END

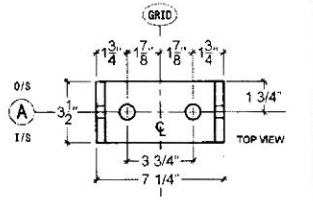


VIEW B

ANCHOR-BOLT HOLES:	Ø 1"
PLATE THICKNESS:	1/2"
PART NUMBER:	188



RIGHT END

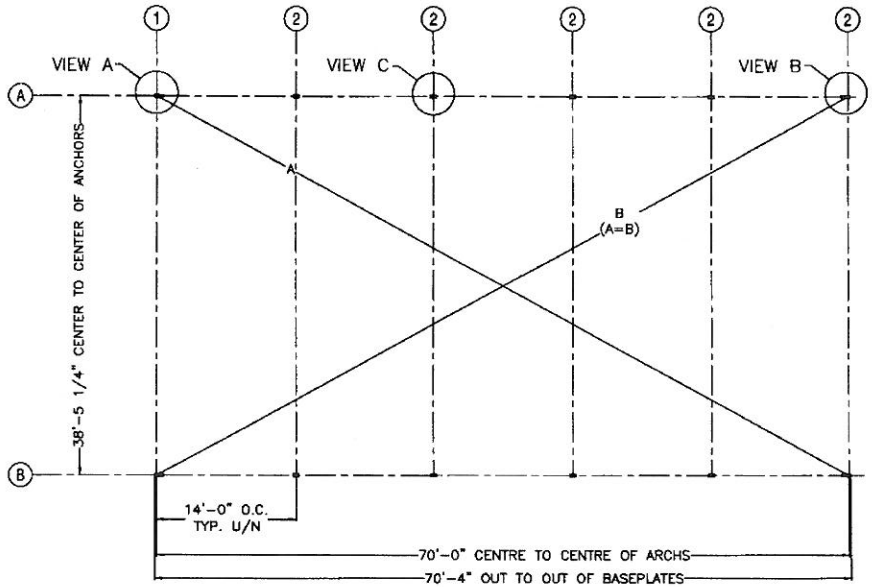


VIEW C

ANCHOR-BOLT HOLES:	Ø 1"
PLATE THICKNESS:	1/2"
PART NUMBER:	187



COMMON



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DRAWN BY: ML

CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19 JAN 2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

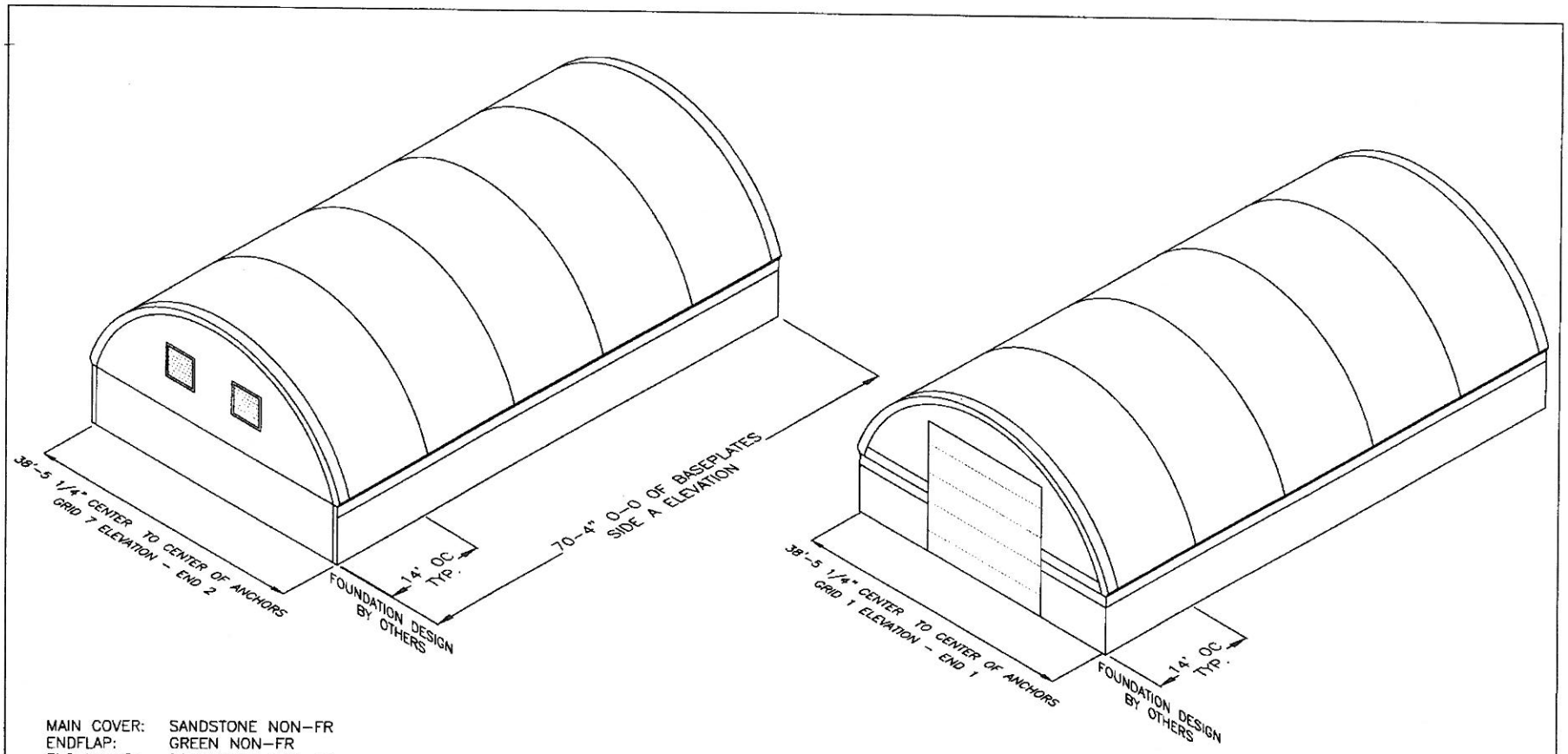
WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
BASEPLATE LAYOUT

SHEET NO.: FB-2

PAGE NO.: 002 /12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



MAIN COVER: SANDSTONE NON-FR
ENDFLAP: GREEN NON-FR
END WALLS: SANDSTONE NON-FR

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

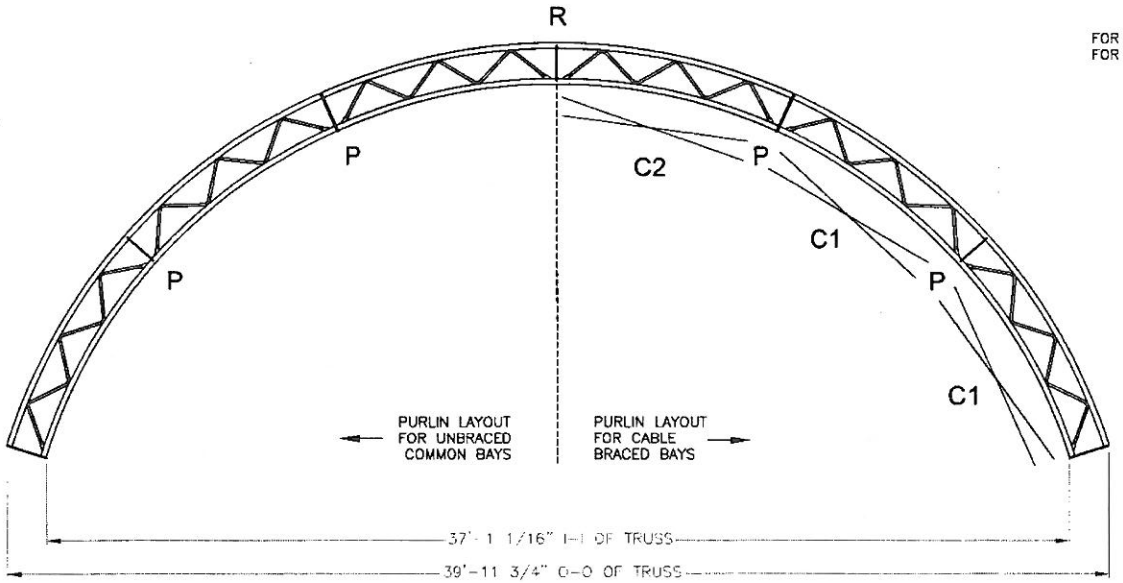
DRAWING TITLE:
PROJECT LAYOUT 1.2

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

SHEET NO.: FB-3
PAGE NO: 003 / 12

MARK S. SERVINSKY
REGISTERED
16736
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

ATLAS18 – 40'W	Qty.	TRUSS & PART No.
	INTERIOR TRUSS	
	3	40' COMMON TRUSS – 104
	END TRUSS	
	3	40' END TRUSS – 105



FOR PURLIN LOCATIONS SEE: SD–1 pg. 008
FOR CABLE LOCATIONS SEE SD–2 pg. 009

A–18 40'	16' BAY		14' BAY		12' BAY		10' BAY		8' BAY		6' BAY		5' BAY	
	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH
C1 CABLE	861220–9	220"	861200–9	200"	861179–9	179"	861160–9	160"	86142–9	142"	861127–9	127"	861121–9	121"
C2 CABLE														
C3 CABLE														

LENGTHS CHECKED 08-NOV-12 – BS
LENGTHS UPDATED 22-JAN-13 – BS

BRACING LEGEND
P = PURLIN
R = RIDGE PURLIN
X = CROSS CABLE

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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19-JAN-2015

DEALER:
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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

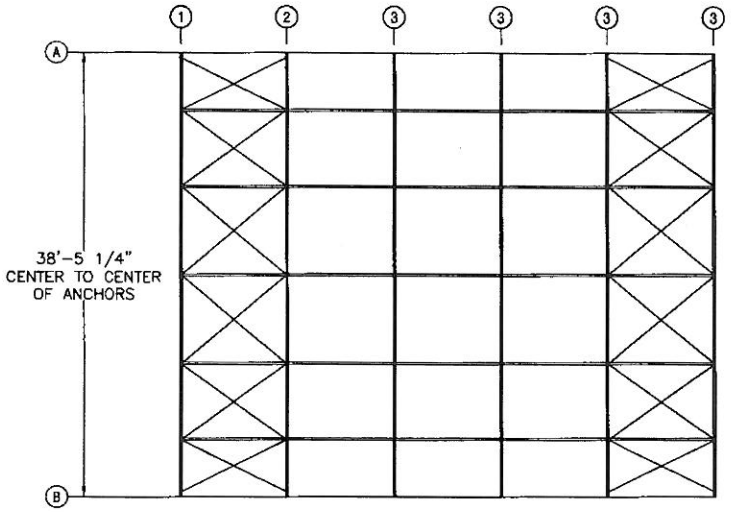
ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
PURLIN & X-CABLE LAYOUT

SHEET NO: FB-4
PAGE NO.: 004 /12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

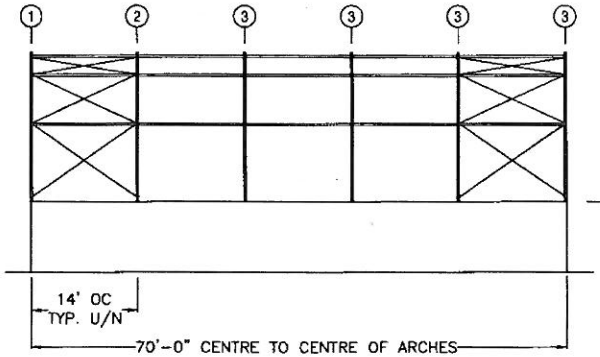


PLAN VIEW

FOR PURLIN DETAILS SEE:
SD-1 pg. 008

FOR CABLE DETAILS SEE:
SD-2 pg. 009

NOTE: THIS BUILDING USES ALL
2 7/8" 14Ga. PURLINS



ELEVATION

BRITESPAN
BUILDING SYSTEMS INC

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Lucknow, ON, Canada
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FAX:1-519-528-2890

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DRAWN BY: ML

CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
BRACING LAYOUT

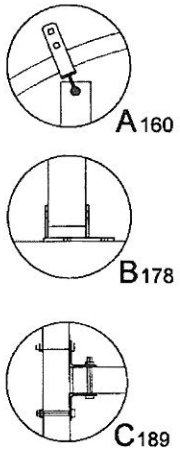
SHEET NO.: FB-5

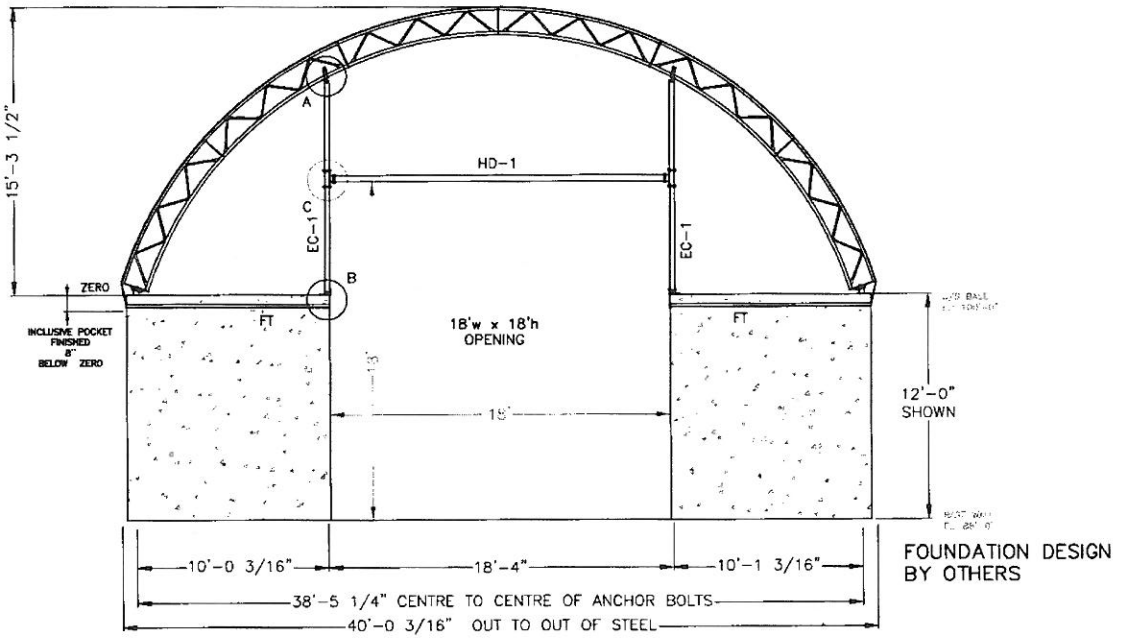
PAGE NO.: 005 /12

MARK S. SERVINSKY
REGISTERED
16634
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

1/21

MARK#	QTY	COMPONENTS (in)
EC-1	2	4"X4"X1/8" 145" HSS
178	2	BASE PLATE – 4X4 HSS
160	2	BRKT –TOP SADDLE ASSY 4" – 2 3/8" CORD
FT	–	2 3/8" DIA 14 Ga FASTENING TUBE CUT TO LENGTH
195	2	BRACKET – 3X3X4 HORIZONTAL ANGLE
HD-1	1	3"X6"X3/16" 215" HSS HEADER





FOUNDATION DESIGN BY OTHERS

BRITESPAN BUILDING SYSTEMS INC

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WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
ENDWALL LAYOUT

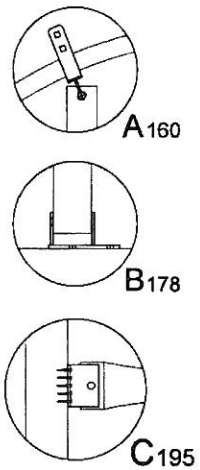
SHEET NO.: EW-1

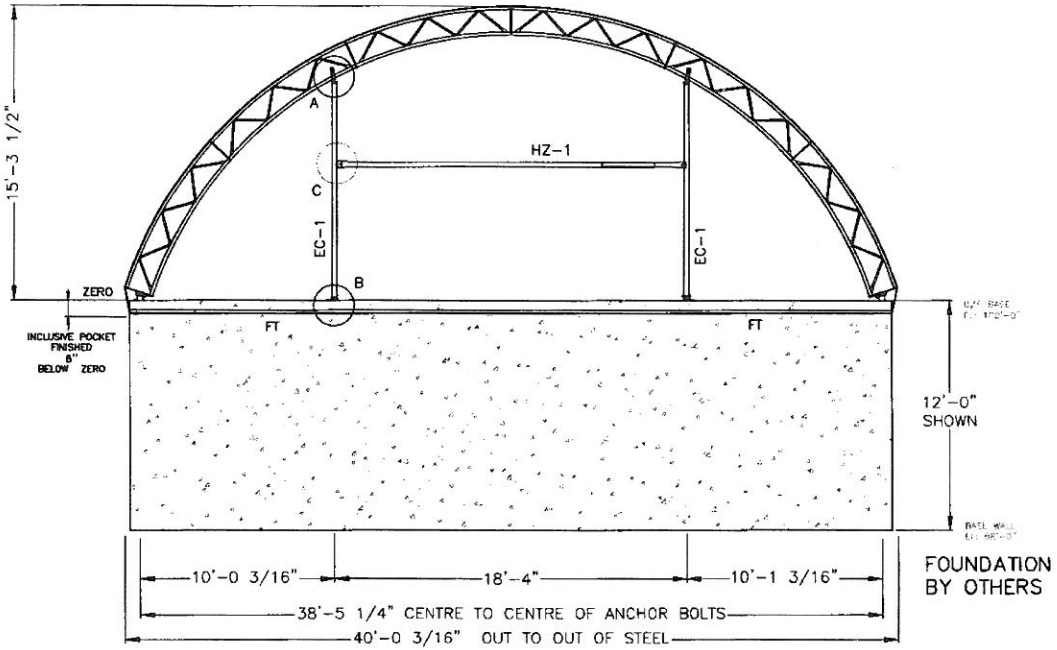
PAGE NO.: 006a /12

1-21

MARK S. SERVINSKY
REGISTERED
16736
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	4"X4"X1/8" 135° HSS
178	2	BASE PLATE – 4X4 HSS
160	2	BRKT –TOP SADDLE ASSY 4" – 2 3/8" CORD
FT	–	2 3/8" DIA 14 Go FASTENING TUBE CUT TO LENGTH
195	2	BRACKET – 3X3X4 HORIZONTAL ANGLE
HZ-1	1	32000039 (2 1/2" – 14GA + 32000146 (2 7/8" 14 GA)





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DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
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SHADY SPRINGS, WV. 25918

PROJECT:
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40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

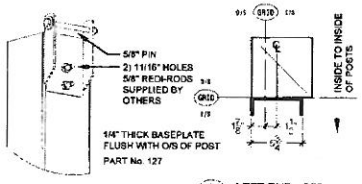
WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
ENDWALL LAYOUT

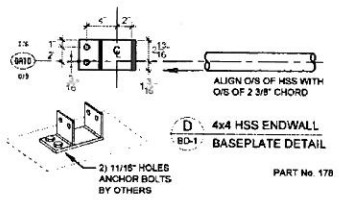
SHEET NO.: EW-2

PAGE NO.: 006b / 12

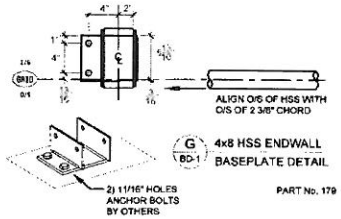
MARK S. SERWINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



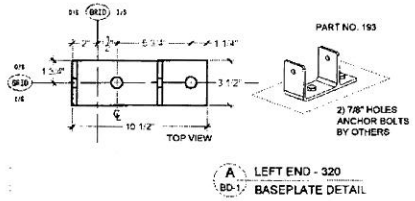
A BD-1 LEFT END - 220 BASEPLATE DETAIL



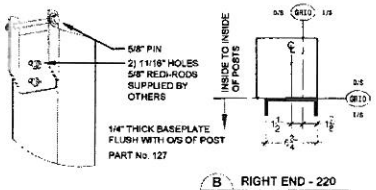
D BD-1 4x4 HSS ENDWALL BASEPLATE DETAIL



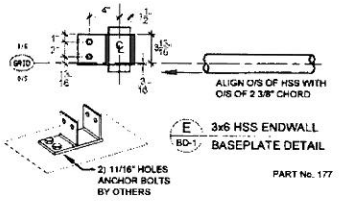
G BD-1 4x8 HSS ENDWALL BASEPLATE DETAIL



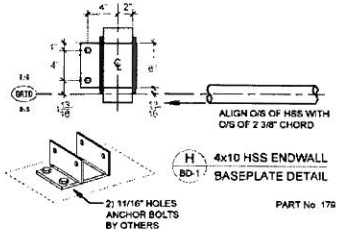
A BD-1 LEFT END - 320 BASEPLATE DETAIL



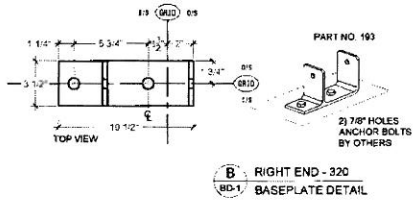
B BD-1 RIGHT END - 220 BASEPLATE DETAIL



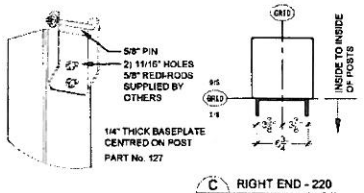
E BD-1 3x6 HSS ENDWALL BASEPLATE DETAIL



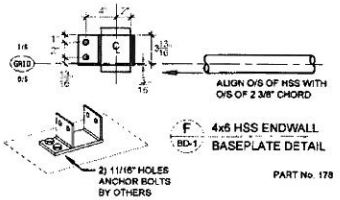
H BD-1 4x10 HSS ENDWALL BASEPLATE DETAIL



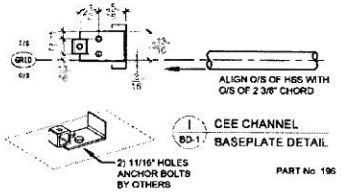
B BD-1 RIGHT END - 320 BASEPLATE DETAIL



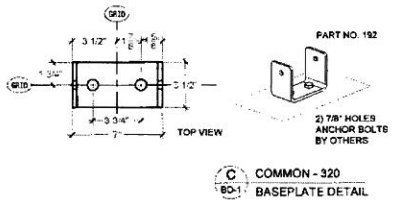
C BD-1 RIGHT END - 220 BASEPLATE DETAIL



F BD-1 4x5 HSS ENDWALL BASEPLATE DETAIL



I BD-1 CEE CHANNEL BASEPLATE DETAIL



C BD-1 COMMON - 320 BASEPLATE DETAIL

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	19.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

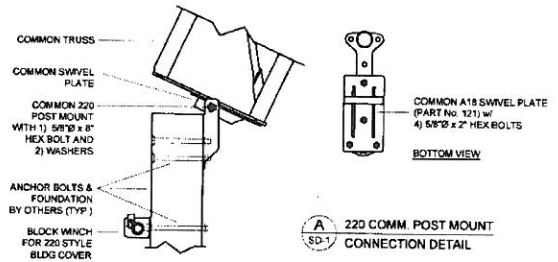
ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

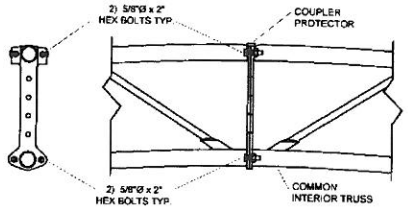
DRAWING TITLE:
BASEPLATE DETAILS (-2)

SHEET NO.: BD-1
PAGE NO.: 007 / 12

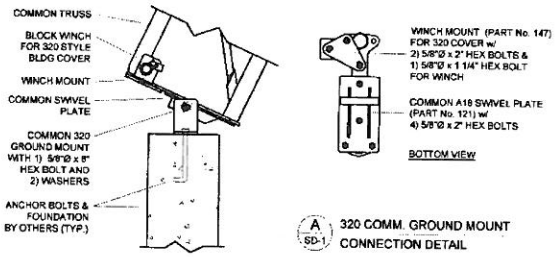
MARK S. SERVINSKY REGISTERED 16784 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



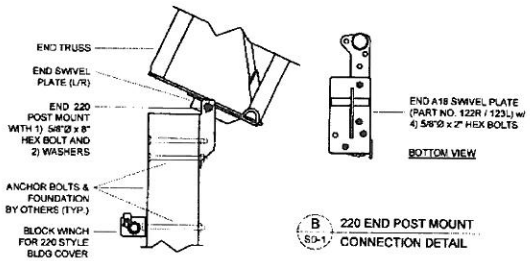
A SD-1 220 COMM. POST MOUNT CONNECTION DETAIL



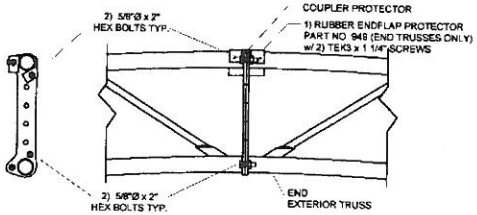
C SD-1 COMMON TRUSS CONNECTION DETAIL



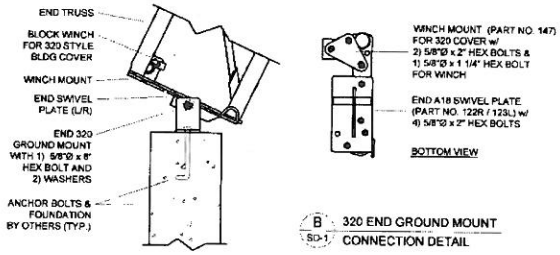
A SD-1 320 COMM. GROUND MOUNT CONNECTION DETAIL



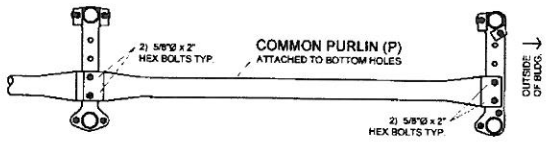
B SD-1 220 END POST MOUNT CONNECTION DETAIL



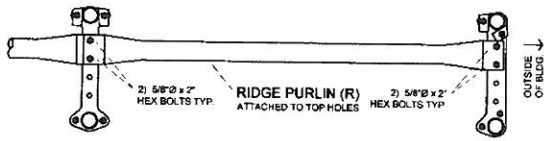
D SD-1 END TRUSS CONNECTION DETAIL



B SD-1 320 END GROUND MOUNT CONNECTION DETAIL



E SD-1 COMMON PURLIN CONNECTION DETAIL



F SD-1 RIDGE PURLIN CONNECTION DETAIL

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37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
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REV:	DESCRIPTION:	DATE:
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DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

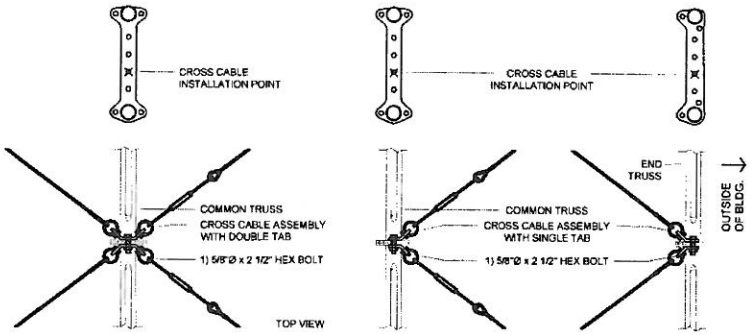
ORDER ID
SO#3778

DRAWING TITLE:
STANDARD DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

SHEET NO.: SD-1
PAGE NO.: 008 /12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

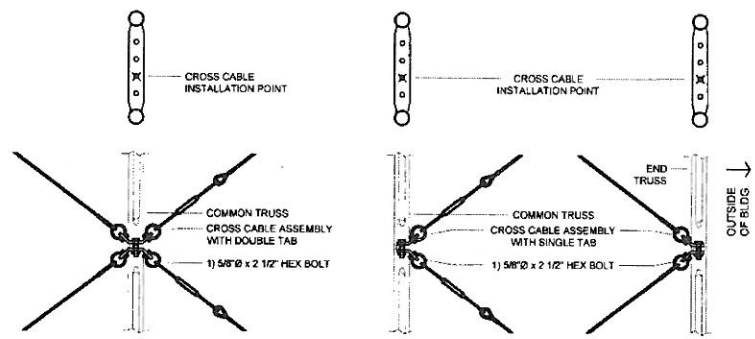


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION

A SD-2 CROSS CABLES AT DOGBONE CONNECTION DETAILS



DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
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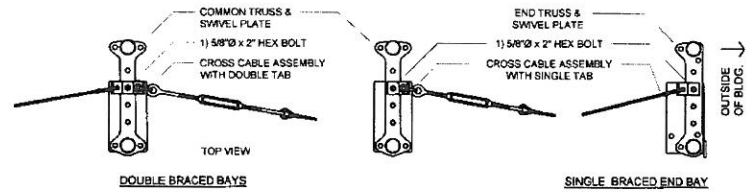
B SD-2 CROSS CABLES AT KINGPIN CONNECTION DETAILS

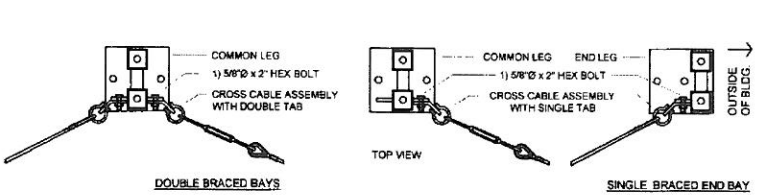


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

C SD-2 CROSS CABLES AT SWIVEL PLATE CONNECTION DETAILS



DOUBLE BRACED BAYS

SINGLE BRACED END BAY

D SD-2 CROSS CABLES AT LEG CONNECTION DETAILS

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DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

DRAWING TITLE:
STANDARD DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

SHEET NO.: SD-2

PAGE NO.: 009 /12

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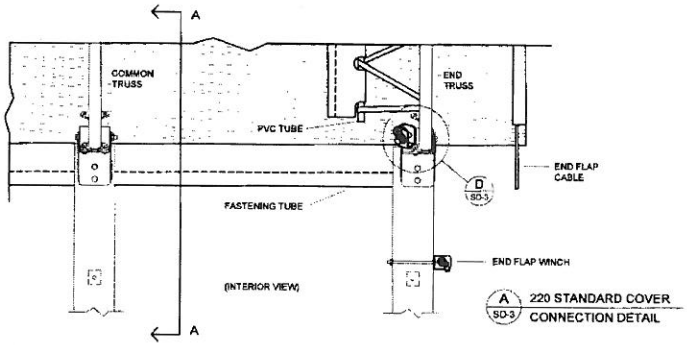
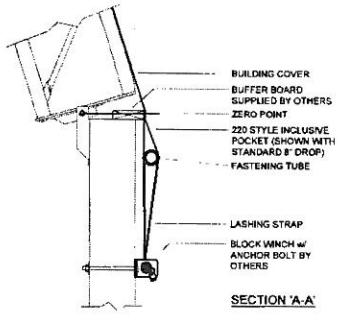
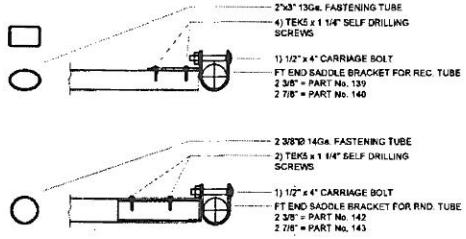


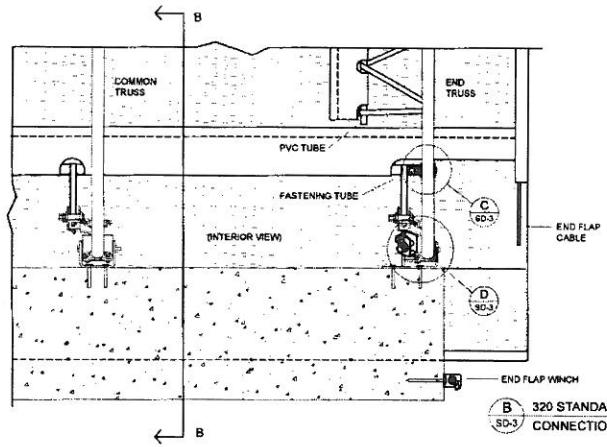
A SD-3 220 STANDARD COVER CONNECTION DETAIL



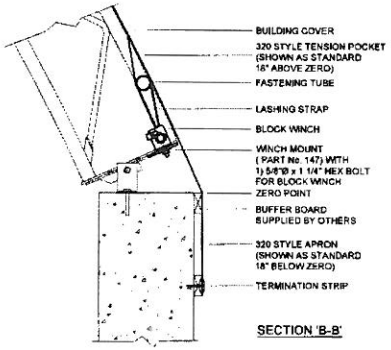
SECTION 'A-A'



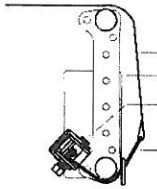
C SD-3 FASTENING TUBE SADDLE CONNECTION DETAILS



B SD-3 320 STANDARD COVER CONNECTION DETAIL

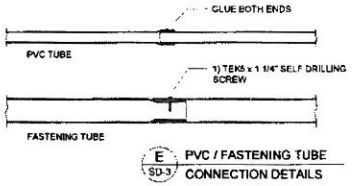


SECTION 'B-B'



NOTE: ENDFLAP WINCH CAN ALSO BE INSTALLED ON FRONT FACE OF FOUNDN AS SHOWN IN A&B / SD-3.

D SD-3 END FLAP CABLE & WINCH CONNECTION DETAIL



E SD-3 PVC / FASTENING TUBE CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37851 Amberley Road
Lucknow, ON, Canada
N0G 2H0
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FAX:1-519-528-2890

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DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP
40-320-320-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-3
PAGE NO.: 010 / 12

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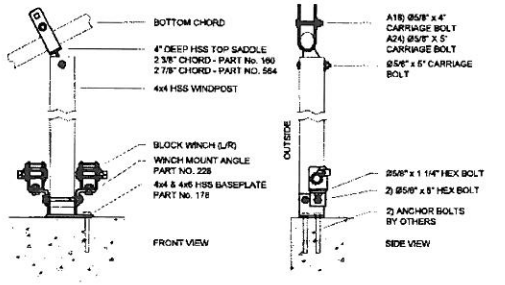
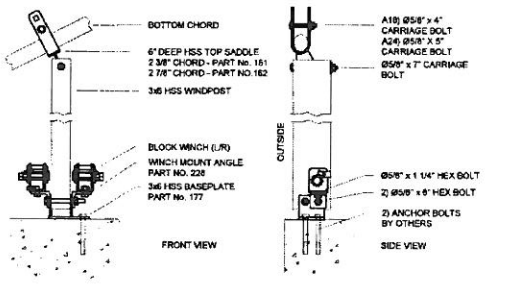
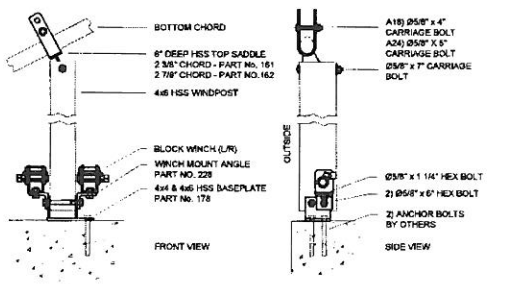


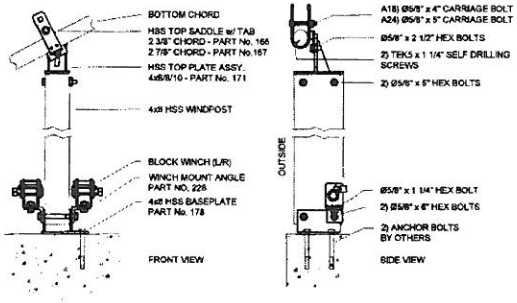
A ED-1 4x4 HSS WINDPOST CONNECTION DETAILS



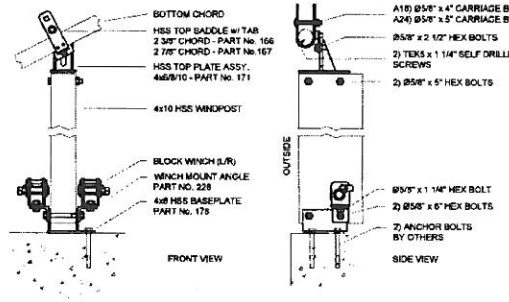
B ED-1 3x6 HSS WINDPOST CONNECTION DETAILS



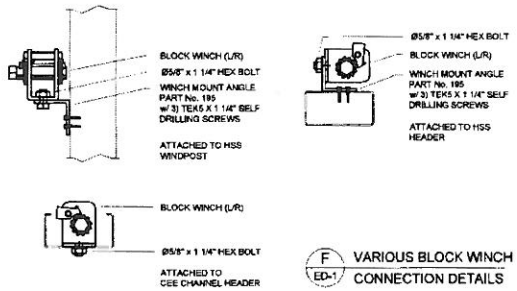
C ED-1 4x6 HSS WINDPOST CONNECTION DETAILS



D ED-1 4x8 HSS WINDPOST CONNECTION DETAILS



E ED-1 4x10 HSS WINDPOST CONNECTION DETAILS



F ED-1 VARIOUS BLOCK WINCH CONNECTION DETAILS

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37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
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DEALER:
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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

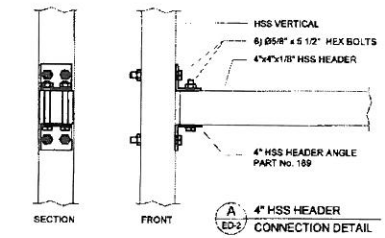
WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
EAVE DETAILS

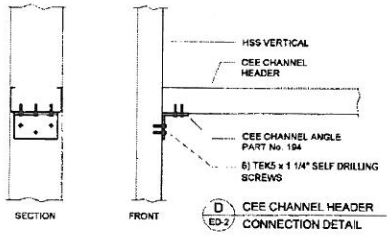
SHEET NO: ED-1

PAGE NO.: 011 /12

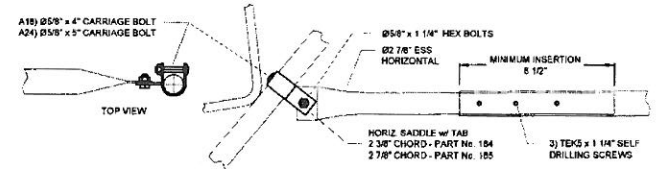
MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER



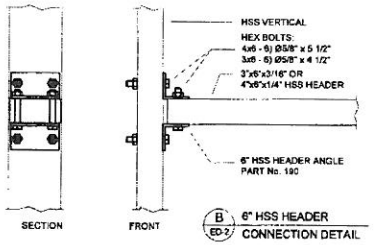
A 4" HSS HEADER CONNECTION DETAIL ED-2



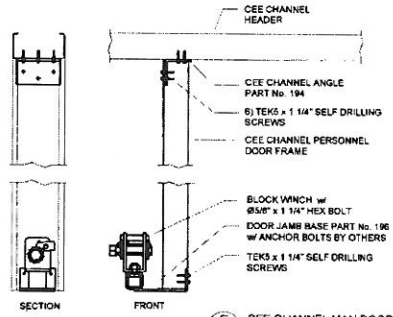
D CEE CHANNEL HEADER CONNECTION DETAIL ED-2



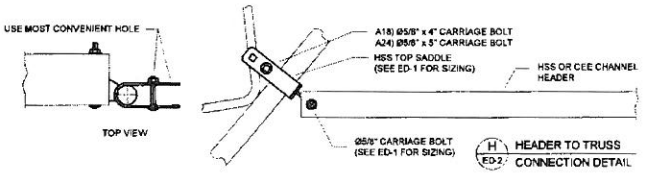
G ESS HORIZONTAL TO TRUSS CONNECTION DETAIL ED-2



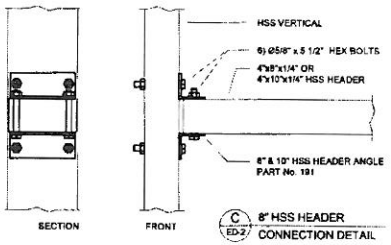
B 6" HSS HEADER CONNECTION DETAIL ED-2



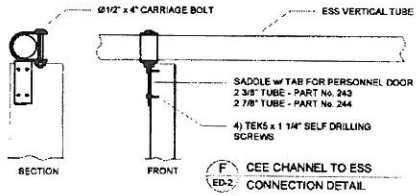
E CEE CHANNEL MAN DOOR CONNECTION DETAILS ED-2



H HEADER TO TRUSS CONNECTION DETAIL ED-2



C 8" HSS HEADER CONNECTION DETAIL ED-2



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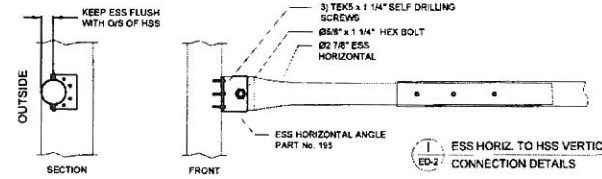
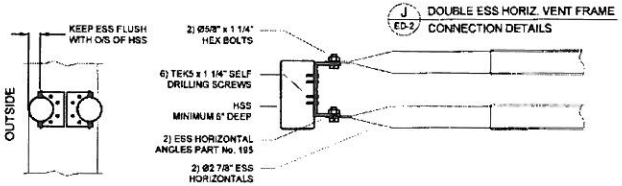


I ESS HORIZ. TO HSS VERTICAL CONNECTION DETAILS ED-2



J DOUBLE ESS HORIZ. VENT FRAME CONNECTION DETAILS ED-2

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH. 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV.	DESCRIPTION	DATE
1	PREPARED AS UN-STAMPED DRAWINGS	19.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
40'x70' 320 GM
14' oc

ORDER ID:
SO#3778

WIDTH-STEEL-FAB-HSS-HSSDROP:
40-320-320-18-0

DRAWING TITLE:
ENDWALL DETAILS

SHEET NO.: ED-2
PAGE NO.: 012 / 12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

This project has been designed and fabricated in accordance with the following:

1. DESCRIPTION

Owner's Name and Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Supplier's Name and Address:	COVER-ALL BUILDINGS OF WEST VIRGINIA INC. 812 NORTH OHIO AVENUE, CLARKSBURG, WV. 26301
Manufacturer's Name and Address:	BRITESPAN BUILDING SYSTEMS INC. 37651 AMBERLEY ROAD, LUCKNOW, ON, N0G 2H0
Site Location:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Legal Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Type:	ATLAS 18
Building Size:	55' x 100' @ 10' o.c. (16.764m x 30.480m @ 3.048m o.c.) (5,500 sq. ft.)
Applicable Building Code:	ASCE 7-05
Intended Use and Occupancy:	STORAGE - SALT/SAND
Construction Type:	COMMERCIAL
Fabric Type:	NON-FR

2. DESIGN STANDARDS
ASCE 7-05, Minimum design loads for building and other structures.
AWS(/AISC 360-05, Specification for Structural Steel Buildings
AISI-Truss, North American Specification for the Design of Cold-Formed Steel Structural Members
NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, 2009 Edition

3. MANUFACTURING STANDARDS
Fabrication in accordance with AWS/AISC 360-05 and AISI-Truss, as applicable.
Weldingin accordance with AWS D1.3 Structural Welding Code and AISI-Truss, as applicable.
Britespan Building Systems Inc. is a AWS approved fabricator as per B5.17 and QC17 standards.
Welders have been qualified in accordance with QC7-93.

4. DESIGN CRITERIA

Occupancy Category:	S2 CATEGORY I
Exposure Category:	Exposure C (NON COASTAL) - FULLY EXPOSED
Enclosure Category:	PARTIALLY ENCLOSED

A) DEAD LOADS
I) Self-weight of Building Components
II) Collateral (hanging) load, not to exceed 0.26 psf as an allowance for mechanical, electrical ceiling, sprinklers, etc, or any combination there of.

B) LIVE LOADS

Live Loads determined in accordance with section 4 of ASCE 7-05
Minimum roof live load: 12.0 psf

C) SNOW LOADS

Snow loads determined in accordance with section 7 of ASCE 7-05

Ground Snow Load, Pg (1/50):	35.0 psf
Roof Snow Load, Pf	21.17 psf
Exposure Factor, Ce	0.9
Thermal Factor, Ct	1.2
Importance Factor, Is	0.8

D) WIND LOADS

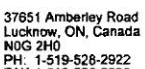
Wind loads determined in accordance with section 6 of ASCE 7-05

Wind Speed (3-sec Gust)	90.0 mph
Basic Wind Pressure, q	13.76 psf
Exposure Coefficient, Kh	0.9
Topographic Factor, Kzt	1.00
Directionality Factor, Kd	0.85
Importance Factor, Iw	0.87

E) LOAD COMBINATIONS
Load combinations determined in accordance with section 2 of 7-05
F. BASE REACTIONS

	SIDE A		SIDE B	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
LOAD CASE	XA [kips]	YA [kips]	XB [kips]	YB [kips]
DEAD	0.05	0.27	-0.05	0.27
COLLATERAL	0.03	0.07	-0.03	0.07
LIVE	1.92	3.28	-1.22	3.28
SNOW BALANCED	1.78	3.59	-1.78	3.59
SNOW UNBALANCED	1.21	1.93	-1.21	4.18
WIND: PERPENDICULAR	-1.13	2.48	1.13	2.40
WIND: PARALLEL	-0.16	-4.05	0.16	-4.05

Note:
Negative values of Y reactions indicates uplift forces.



GENERAL
THIS DRAWING INCLUDES INFORMATION HERE-ON, REMAINS THE PROPERTY OF BRITESPAN BUILDING SYSTEMS, INC. IT IS PROVIDED SOLEY FOR ERECTING THE BUILDING DESCRIBED IN THE SALES ORDER AND SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BRITESPAN BUILDING SYSTEMS, INC.

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE, GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN CONFORMANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING AND INDUSTRY STANDARDS PERTAINING TO PROPER ERECTION INC. USING THE PROPER USE OF TEMPORARY BRACING.

THIS BUILDING IS NOT DESIGNED TO BE LIFTED AS AN ASSEMBLED UNIT. BRITESPAN BUILDING SYSTEMS INC. IS NOT RESPONSIBLE FOR LOSSES AND/OR DAMAGE AS A RESULT OF LIFTING THIS BUILDING. IF, HOWEVER, IT HAS BEEN DETERMINED TO LIFT THIS BUILDING, IT IS THE RESPONSIBILITY OF THE PERSON, FIRM OR COMPANY CONTRACTED TO LIFT THE BUILDING TO SECURE THE SERVICES OF A QUALIFIED ENGINEER TO ENSURE THE LIFT DOES NOT DAMAGE THE BUILDING AND TO DETERMINE AND FINALIZE ALL ASPECTS OF THE LIFT INCLUDING ALL PARTS/CONNECTORS TO BE ADDED TO THE BUILDING TO FACILITATE THE LIFT.

BRITESPAN BUILDING SYSTEMS, INC. IS NOT RESPONSIBLE FOR ERRORS, OMISSION OR DAMAGES INCURRED IN THE ERECTION OF THE COMPONENTS SHOWN ON THIS DRAWING, NOR FOR THE INSPECTION OF ERECTED COMPONENTS TO DETERMINE THE SAME.

THIS CERTIFICATION AND ENGINEERING SEAL APPLIES ONLY TO PRODUCTS DESIGNED AND FABRICATED BY BRITESPAN BUILDING SYSTEMS, INC. FOR THE LOADING CONDITIONS DESIGNED ON THESE DRAWINGS. CONCRETE FOUNDATIONS, STEEL COMPONENTS BY OTHERS AND ERECTION SUPERVISION ARE NOT THE RESPONSIBILITIES OF BRITESPAN BUILDING SYSTEMS, INC. OR THE CERTIFYING ENGINEER. ALL DOORS, WINDOWS AND ROLL-UP CURTAINS MUST BE DESIGNED TO SUPPORT THE SITE WIND LOADING AND ARE RELIED ON TO BE CLOSED IN THE EVENT OF HIGH WINDS.

ANCHOR BOLTS
ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH CSA STANDARD CAN3-S16.1 USING Fy = 36 KSI (248 MPa). ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

ANCHOR BOLT PROJECTIONS BASED ON NO GROUT ARE AS FOLLOWS:

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS.

FINISHED FLOOR ELEVATIONS AND UNDERSIDE OF BASE PLATE IS 100'-0" (1000.000mm) UNLESS NOTED.

ERECTION
THE ERECTION MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL THE LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT A BRACED BAY. ERECT AND TEMPORARILY SUPPORT TRUSSES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. INSTALL PURLINS AND CROSS BRACING. PLUMB AND SQUARE TRUSSES IN ACCORDANCE WITH CAN3-S16.1 AND OSHA 29 CFR PART 1926 - SAFETY STANDARD FOR STEEL ERECTION.

ENSURE ALL PURLINS REMAIN PARALLEL.

STRUCTURAL FRAMING MEMBERS ARE CONSIDERED PLUMB, LEVEL, AND ALIGNED WHEN THE VARIANCE DOES NOT EXCEED 1:300.

STRUCTURAL BOLTS
BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS, OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. ALL STRUCTURAL BOLT DIAMETERS LESS THAN 1" CONFORM TO SAE J429 GR.5., BE PLATED / GALVANIZED OR J2508 COATED FINISH. ALL STRUCTURAL NUT DIAMETERS LESS THAN 1" CONFORM TO SAE J995 GR.5., BE PLATED / GALVANIZED OR J2508 COATED FINISH.

ALL BOLTS LARGER THAN 1" (25mm) DIA. CONFORM TO ASTM A325.
ALL OTHER DIA HEX BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
ALL BOLTS SHALL BE PLATED / GALVANIZED OR SUNGAL COATED.
ALL BOLT REFERENCES REQUIRE BOTH BOLT AND NUT.

BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION VALUES AS SHOWN IN THE TABLE BELOW.

TABLE A - BOLT TENSION

SIZE		GRADE 5	
in	mm	lbs	kN
5/8	16	18	80
3/4	18	28	125
7/8	22	36	174
1.0	25	51	227
SIZE		A325	
1 1/8	25	56	249
1 1/4	32	74	316

STRUCTURAL BOLT TORQUE VALUES
TABLE B LISTS THE BOLT CLAMP WITH A SUGGESTED ASSEMBLY TORQUE VALUES.
TABLE B - IMPERIAL

SIZE		GRADE 5				
DIA. INCH	Threads Per Inch	Tensile Ksi Min	Proof Load Lbs	Clamp Load Lbs	Torque Dry ft-lbs	Torque Lube ft-lbs
3/8	16	120	8800	4950	15	23
7/16	14	120	9050	6780	50	55
1/2	13	120	12100	9060	75	55
5/8	11	120	19300	14400	150	150
3/4	10	120	28400	21300	260	200
SIZE		A325				
1 1/4	7	105	71700	53800	1120	840

MATERIAL SPECIFICATIONS.
ROLLED STRUCTURAL SECTIONS CONFORM TO CSA G40.21-44W (350W).

STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS:
PLATES G40.21 44W G40.21/ASTN A572 GR 44 (300W)
M.S.S. G40.21 50W G40.21/ASTN A572 GR 50 (350W)

COATINGS OF STRUCTURAL PLATES ARE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM 153.

TRUSSES ARE HOT-DIP GALVANIZED INSIDE AND OUT IN ACCORDANCE ASTM 123.

CHROMATE CONVERSION COATING APPLIED OVER THE HOT-DIP GALVANIZED SURFACE TO PROVIDE ADDITIONAL CORROSION PROTECTION.

PURLINS AND TIE-DOWN PIPE ARE PRE-GALVANIZED.

DIAGONAL BRACE STEEL CABLES EXTRA HIGH STRENGTH PER ASTM A475
CROSS CABLES - Ø 5/16" (8mm) TYP U/N.

STRUCTURAL COMPONENTS ARE AS FOLLOWS:
2 3/8" (Ø0.375mm) TRUSS - 18" (457.2mm) O/O USING @ 1 1/8" (26.575mm) WEB &
2 7/8" (73.025mm) PURLINS - PER ASTM A500 GRADE C

FABRIC / LINER NOTES
EXTERIOR FABRIC IS AN INTEGRAL PART OF THE STRUCTURAL SYSTEM; REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED, ALL TEARS MUST BE PATCHED IMMEDIATELY TO AVOID WARRANTY PROBLEMS.

EXTERIOR FABRIC WILL DEFLECT UNDER LOAD, THEREFORE ALL BUILDING ACCESSORIES (LIGHTING, HVAC, SPRINKLERS, ETC) MUST BE LOCATED BENEATH THE TAUGHT CORD OF THE TRUSS. ANYTHING ABOVE THIS MUST BE REVIEWED AND APPROVED IN WRITING BY BRITESPAN BUILDING SYSTEMS, INC. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

FABRIC SPECIFICATIONS
ALL POLYETHYLENE MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

PHYSICAL	PROPERTIES	DESCRIPTION
BASE SCRIM	HDPE 1600 DENIER YARN	HIGH DENSITY POLYETHYLENE
COATING THICKNESS	4 MIL (94 GSM)	EACH SIDE OF SCRIM
SURFACE TYPE	MODIFIED LDPE C /W UV	LOW DENSITY POLYETHYLENE
WEIGHT	12 OZ./YD2 (407 GSM +/-5%)	MINIMUM WEIGHT
GRAB TENSILE STRENGTH	FR WARP - 340 LBS. (1820 N)	ASTM D5034
	NON-FR WARP - 370 LBS. (1654 N)	ASTM D5034
TONGUE TEAR STRENGTH	FR WARP - 120 LBS. (532 N)	ASTM D2291
	NON-FR WARP - 115 LBS. (510 N)	ASTM D2291
STRIP TENSILE STRENGTH	FR WARP - 270 LBS. (2400 N/5CM)	ASTM D4851
	NON-FR WARP - 275 LBS. (2444 N/5CM)	ASTM D4851
MULLEN BURST	FR - 683 PSI (4705 KPA)	ASTM D3786
	NON-FR - 675 PSI (4657 KPA)	ASTM D3786
THICKNESS	FR - 25 MILS (0.635 MM)	ASTM D1777
	NON-FR - 20 MILS (0.50 MM)	ASTM D1777
COLD CRACK	PASS -50°C	ASTM D2136
FACTORED MEMBRANE RESIST.	WARP - 145 LBS./IN (1267 N/5CM)	ASTM D751A
UV & WEATHERING	90% AFTER 2000 HR.	ASTM G-151-00 / G154-04
COATING ADHESION	5 LBS/INCH	ASTM D-4851-07
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	NFPA 701-2010 METHOD 1 & 2
(FR) FS/SD/CHAR/DRIP	10 / 110 / - / -	ASTM E-84-08
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	CAN/ULC S109-03
(FR) FS/SD/CHAR/DRIP	15 / 85 / - / -	CAN/ULC S102-03
(FR) FS/SD/CHAR/DRIP	0 / 20 / - / -	CAN/ULC S102.2-03
(NON-FR) FS/SD/CHAR/	10 / 85 / - /	ASTM E-84
(NON-FR) FS/SD/CHAR/	15 / 100 / - / -	CAN/ULC S102.2-07

DRAWING SCHEDULE		REVISIONS			
DWG #	DRAWINGS TITLE	REV.	DATE	REV.	DATE
FB-1	COVER PAGE	1	11-Jun-14		
FB-2	BASEPLATE LAYOUT	1	11-Jun-14		
FB-3	PROJECT LAYOUT	1	11-Jun-14		
FB-4	PURLIN LAYOUT	1	11-Jun-14		
FB-5	BRACING LAYOUT	1	11-Jun-14		
EN-1	ENDWALL LAYOUT	1	11-Jun-14		
EN-2	ENDWALL LAYOUT	1	11-Jun-14		
BD-1	BASEPLATE DETAILS	1	11-Jun-14		
SD-1	STANDARD DETAILS 1	1	11-Jun-14		
SD-2	STANDARD DETAILS 2	1	11-Jun-14		
SD-3	STANDARD DETAILS 3	1	11-Jun-14		
ED-1	ENDWALL DETAILS 1	1	11-Jun-14		
ED-2	ENDWALL DETAILS 2	1	11-Jun-14		

ROOF PLAN NOTES
UNLESS NOTED, USE Ø5/8" (16mm) BOLTS FOR PURLIN TO TRUSS, CABLE OR ROD BRACING TO TRUSS AND ANGLES TO TRUSS FOR ALL CONNECTIONS.

CABLE / ROD AND PURLIN BRACING ARE AN INTEGRAL PART OF THE TRUSS STRUCTURAL SYSTEMS AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION FROM BRITESPAN BUILDING SYSTEMS, INC. IS PROHIBITED.

ELEVATION NOTES
HOLES REQUIRED IN HSS COLUMNS, HEADERS OR PURLINS FOR FRAMED OPENINGS. DOOR OR WINDOW POST CONNECTION TO BE BY ERECTOR.

WALK DOOR, WINDOW AND FRAMED OPENING POSTS TO BE FIELD ANCHORED TO CONCRETE WITH Ø1/2" (13mm) "HILTI KWIK-BOLTS" OR SIMILAR

MATERIAL STORAGE
GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. SHORT TERM JOB SITE STORAGE OF STEEL COMPONENTS MAY BE TOLERATED, PROVIDED CARE IS TAKEN TO KEEP THE MATERIALS DRY AT ALL TIMES. WHEN TRUSSES ARE TO BE STORED OUTDOORS, THEY SHOULD BE PLACED AT AN ANGLE SUFFICIENT TO PROMOTE GOOD DRAINAGE. IN ADDITION, SEVERAL INCHES OF CLEARANCE MUST BE PROVIDED BETWEEN THE LOWER END AND THE GROUND TO ALLOW VENTILATION.

NOTE: BRITESPAN BUILDING SYSTEMS, INC. WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

MANUFACTURING STANDARDS
FABRICATION IS IN ACCORDANCE WITH CAN/CSA-S16.1 AND CAN/CSA-S136, AS APPLICABLE.

BRITESPAN BUILDING SYSTEMS, INC. IS A CWB CERTIFIED DIVISION 3.1 MANUFACTURER OF TRUSSES. ALL WELDS ARE COMPLETED IN SHOP AS PER CWB STANDARD CSA W47.1 AND W59. AS PART OF OUR CWB CERTIFICATION AN INDEPENDENT THIRD PARTY TESTS OUR WELDERS AND PROCEDURES AND AUDITS OUR FACILITIES. THIS CERTIFICATION MEETS WITH AWS D1.1 AND D1.3 CRITERIA.

BLOCK FOUNDATION DESIGNER SHALL DETERMINE ANCHOR BOLT SIZE AND TYPE FOR BRITESPAN LOADS. PROPER MINIMUM EDGE DISTANCE FROM CENTER OF ANCHORS TO EDGE OF CONCRETE BLOCK SIDEWALLS AND ENDWALLS SHALL BE PROVIDED FOR THE ANCHOR TYPE. FOUNDATION DESIGN AND STABILITY OF BLOCKS FOR OVERTURNING IS NOT BY SERVINSKY ENGINEERING, PLLC.

FOR BID ONLY

ALL SHEETS LISTED

RTE. 15.001B

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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CHECKED BY: EN

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10' OC

ORDER ID:
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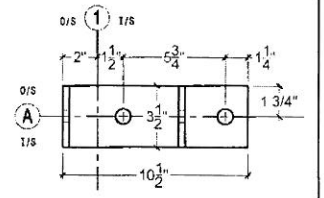
WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

DRAWING TITLE:
COVER PAGE

SHEET NO.: FB-1
PAGE NO.: 001 /12

1:2

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

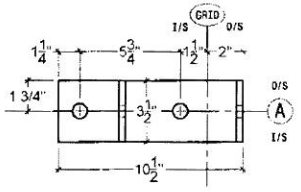


VIEW A

ANCHOR-BOLT HOLES: ⌀ 7/8"
PLATE THICKNESS: 3/8"
PART NUMBER: 118



LEFT END

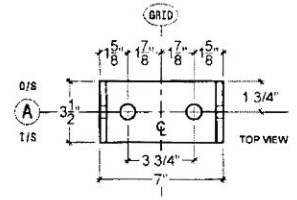


VIEW B

ANCHOR-BOLT HOLES: ⌀ 7/8"
PLATE THICKNESS: 3/8"
PART NUMBER: 118



RIGHT END



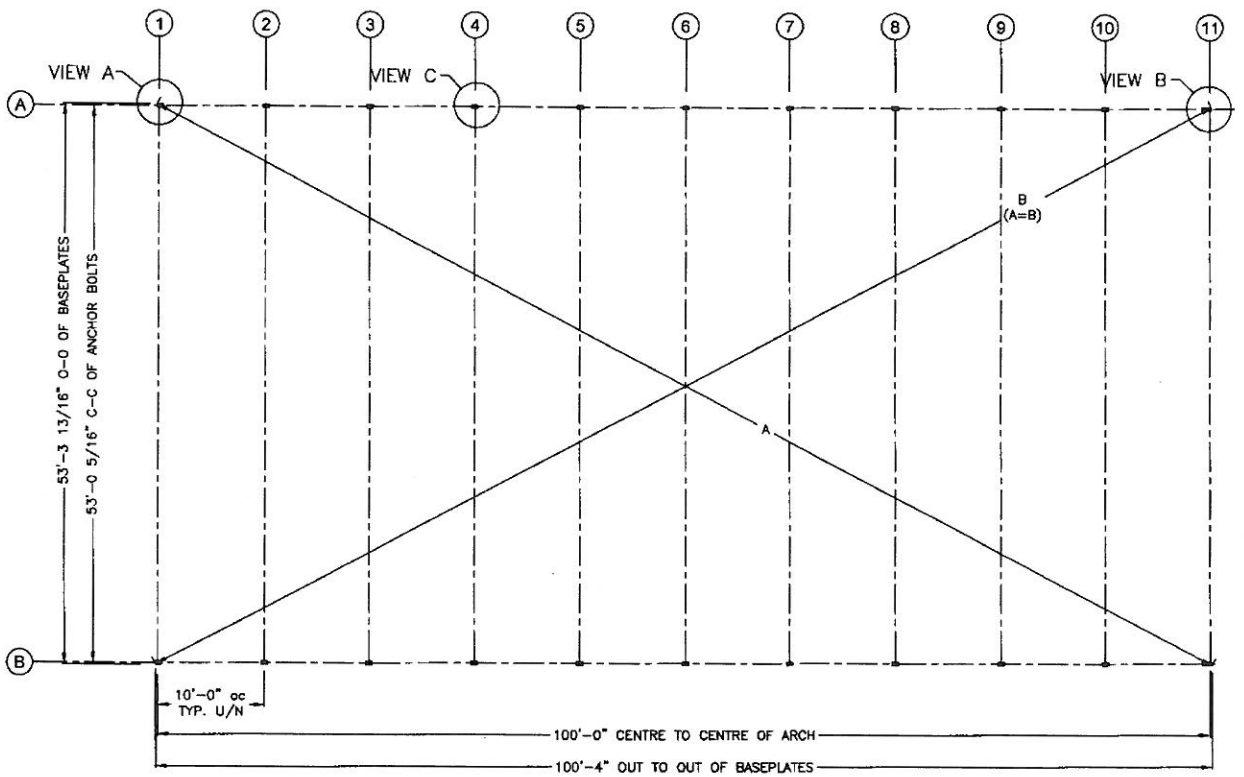
TOP VIEW

VIEW C

ANCHOR-BOLT HOLES: ⌀ 7/8"
PLATE THICKNESS: 3/8"
PART NUMBER: 117



COMMON



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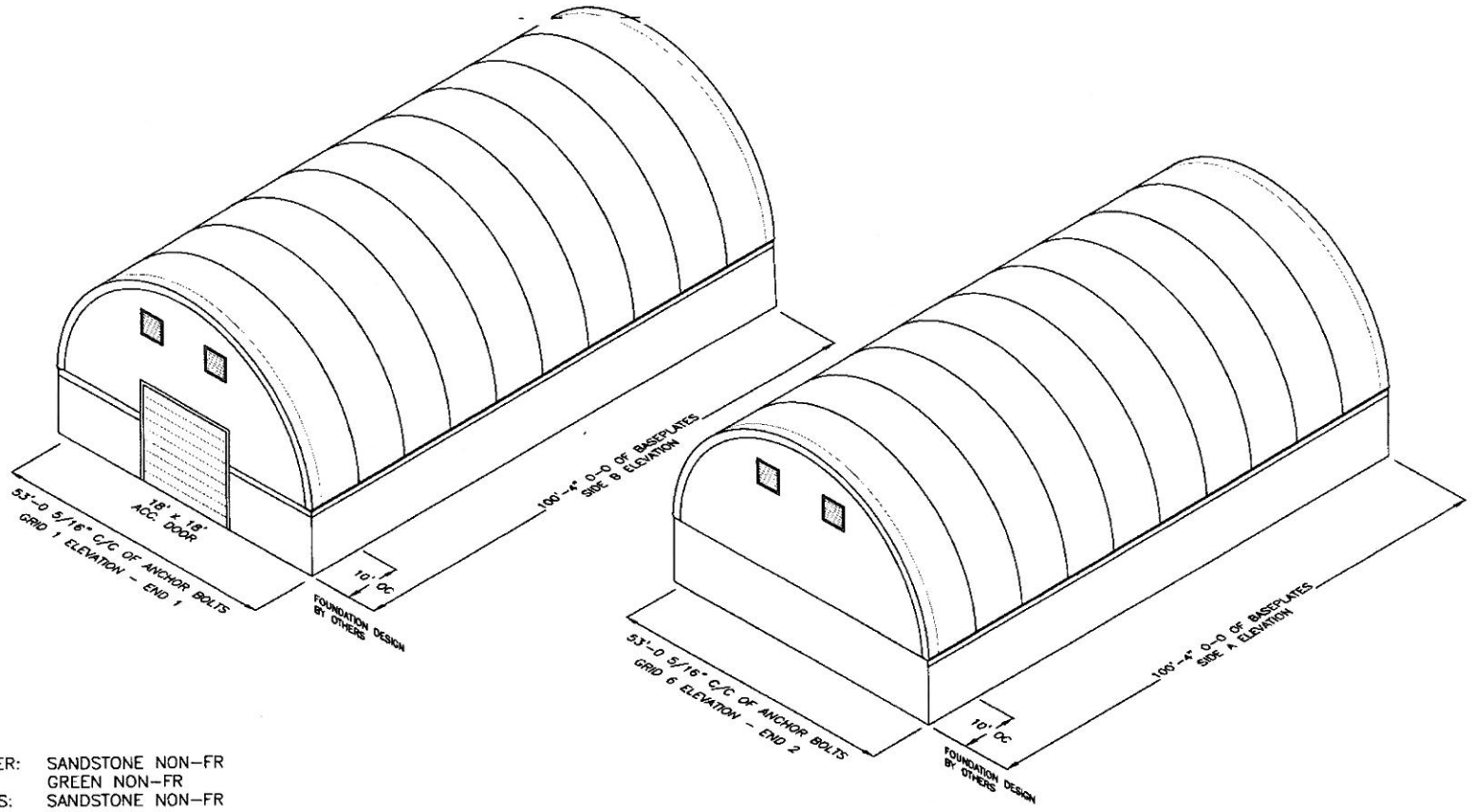
WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

DRAWING TITLE:
BASEPLATE LAYOUT

SHEET NO.: FB-2

PAGE NO.: 002 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



MAIN COVER: SANDSTONE NON-FR
ENDFLAP: GREEN NON-FR
END WALLS: SANDSTONE NON-FR

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 18
55' x 100' 320 GM
10' oc

ORDER ID:
SO#3779

WIDTH-STEEL-FAB-HSS-HSSDROP
55-320-220-18-0

DRAWING TITLE:
PROJECT LAYOUT

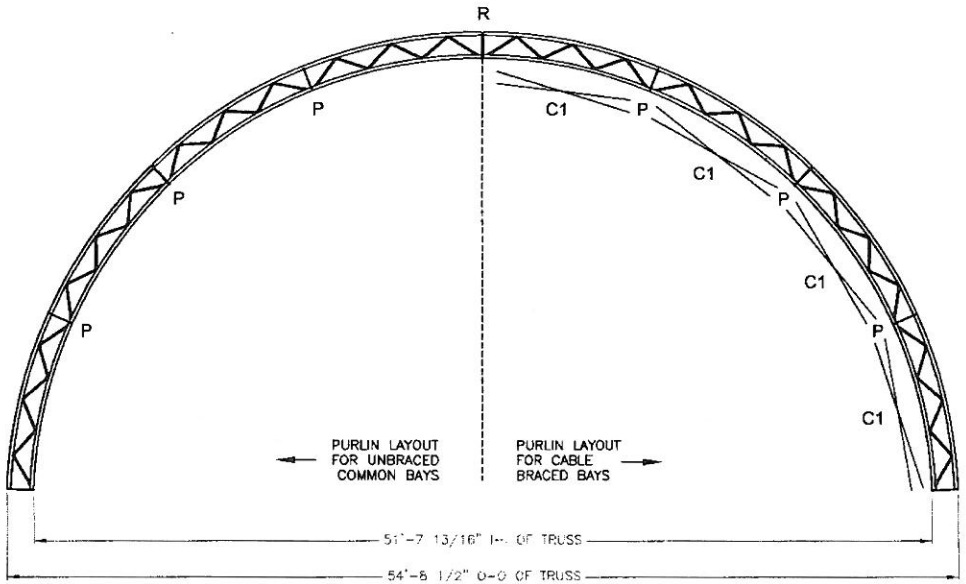
SHEET NO.: FB-3

PAGE NO.: 003 /12

MARK S. SERVINSKY
REGISTERED
16794
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

ATLAS18 – 55'w	Qty.	TRUSS & PART No.
	INTERIOR TRUSS	
	4	50'/55' COMMON TRUSS – 106
	END TRUSS	
	4	50'/55' END TRUSS – 108

FOR PURLIN LOCATIONS SEE: SD-1 pg. 008
FOR CABLE LOCATIONS SEE SD-2 pg. 009



BRACING LEGEND
P = PURLIN
R = RIDGE PURLIN
X = CROSS CABLE

	16' BAY		14' BAY		12' BAY		10' BAY		8' BAY		6' BAY		5' BAY	
A-18 55'	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH
C1 CABLE	861230-9	230"	861210-9	210"	861190-9	190"	861173-9	173"	861157-9	157"	861143-9	143"	861137-9	137"
C2 CABLE														
C3 CABLE														

LENGTHS CHECKED 09.NOV.12 – 08
LENGTHS UPDATED 22.JAN.13 – 08

BRITESPAN BUILDING SYSTEMS INC
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Lucknow, ON, Canada
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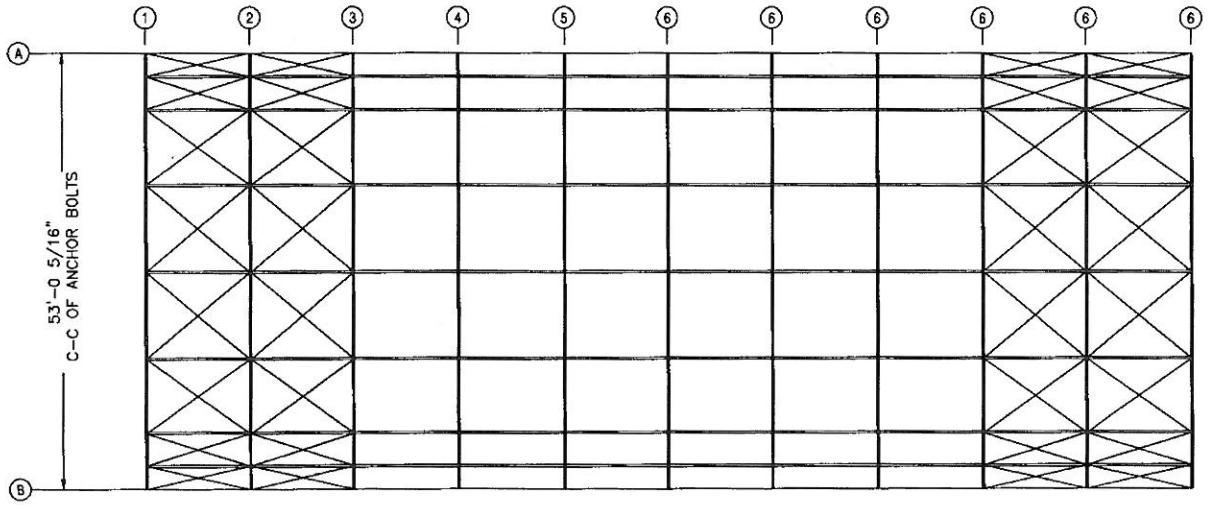
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 18
55' x 100' 320 GM
10' oc

ORDER ID: SO#3779
WIDTH-STEEL-FAB-HSS-HSSDROP: 55-320-220-18-0

DRAWING TITLE: PURLIN & X-CABLE LAYOUT
SHEET NO.: FB-4
PAGE NO.: 004 /12

MARK S. SERVINSKY
REGISTERED
16784
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER

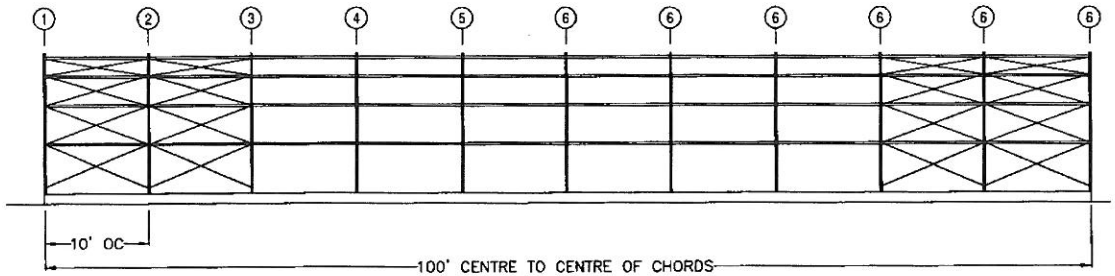


PLAN VIEW

FOR PURLIN DETAILS SEE:
SD-1 pg. 008

FOR CABLE DETAILS SEE:
SD-2 pg. 009

NOTE: THIS BUILDING USES ALL
2 7/8" 14Ga. PURLINS



BUILDING BASEPLATES ELEV. 100'-0"

ELEVATION

BRITESPAN BUILDING SYSTEMS INC
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Lucknow, ON, Canada
N0G 2H0
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FAX:1-519-528-2890

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DRAWING TITLE:
BRACING LAYOUT

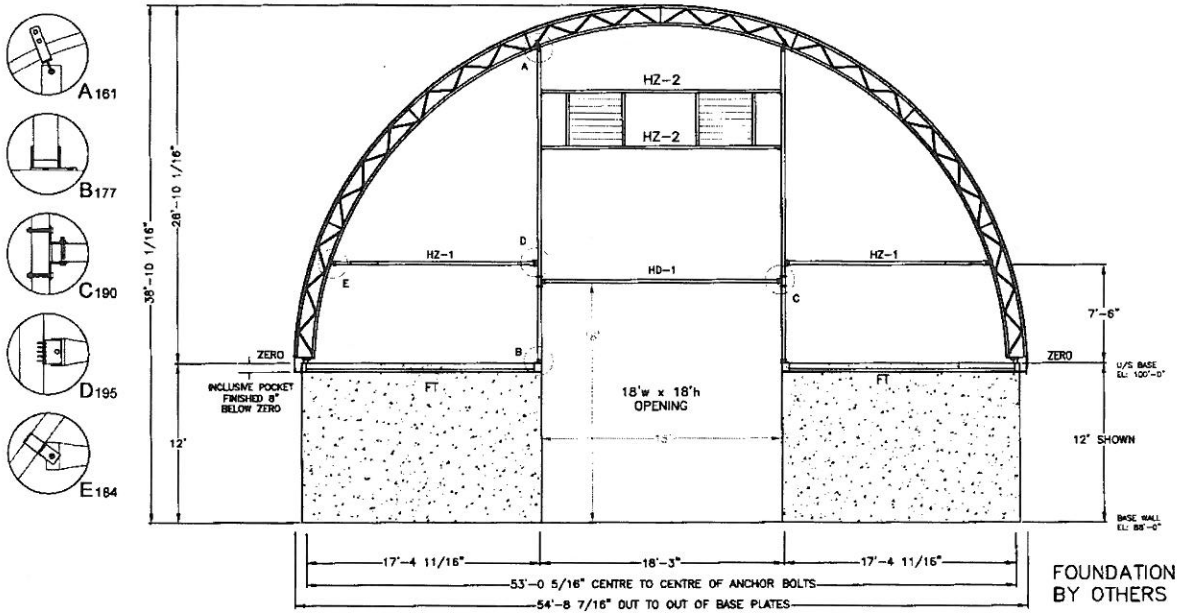
SHEET NO: FB-5

PAGE NO: 005 / 12

1-21



MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 280" HSS VERTICAL
HZ-1	2	32000039 (2 1/2 - 14GA) + 32000192 (2 7/8" 14 GA)
HZ-2	2	6" CEE CHANNEL - 20' LONG
HD-1	1	4X6X1/8" 215" HSS HEADER
FT	-	2 3/8" DIA 14 Ga FASTENING TUBE CUT TO LENGTH
195	2	BRACKET - HORIZ. ANGLE
177	2	BASE ANGLE - 3X6 HSS
161	2	BRKT - TOP SADDLE ASSY 6" - 2 3/8" CHORD
184	2	BRACKET - HORIZ. SADDLE WITH TAB - 2 3/8" CHORD
190	4	BRACKET - 6" HSS HEADER ANGLE
194	4	BRKT - CEE CHANNEL ANGLE



FOUNDATION DESIGN BY OTHERS

BRITESPAN BUILDING SYSTEMS INC

37651 Amberley Road
Lucknow, ON. Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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ORDER ID:
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WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

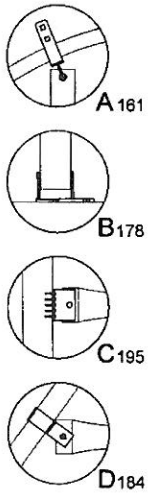
DRAWING TITLE:
ENDWALL LAYOUT

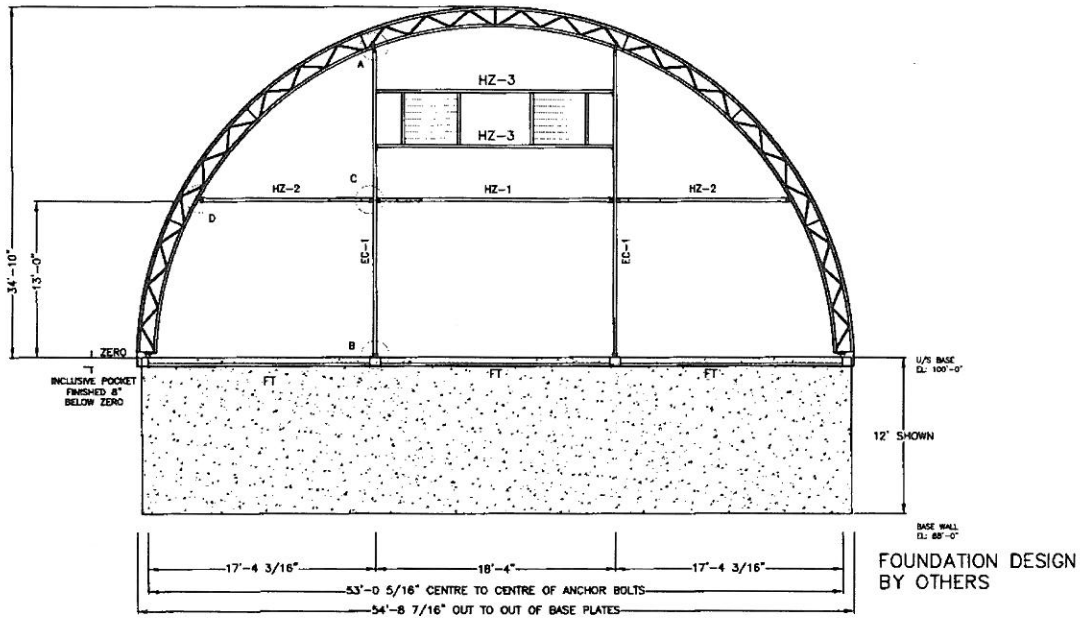
SHEET NO.: EW-1

PAGE NO.: 006a / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	4x6x1/4" 280" HSS VERTICAL
HZ-1	1	32000039 (2 1/2 - 14GA + 32000194 (2 7/8" 14 GA)
HZ-2	2	32000039 (2 1/2 - 14GA + 32000146 (2 7/8" 14 GA)
FT	-	2 3/8" DIA 14 Go FASTENING TUBE CUT TO LENGTH
195	4	BRACKET - HORIZ .ANGLE
178	2	BASE ANGLE - 4X4/6 HSS
161	2	BRKT -TOP SADDLE ASSY 4X6 - 2 3/8" CORD
184	2	BRACKET - HORIZ. SADDLE WITH TAB - 2 3/8" CORD
194	4	BRKT - CEE CHANNEL ANGLE
HZ-3	2	6" CEE CHANNEL - 20' LONG





FOUNDATION DESIGN BY OTHERS

BRITESPAN BUILDING SYSTEMS INC

37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
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10' oc

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SO#3779

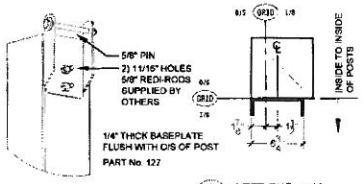
WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

DRAWING TITLE:
ENDWALL LAYOUT

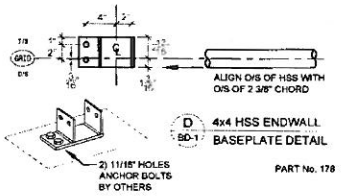
SHEET NO.: EW-2

PAGE NO.: 006b / 12

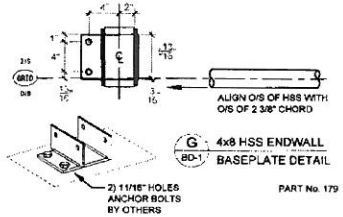
MARK S. SERWINSKY
REGISTERED
16731
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



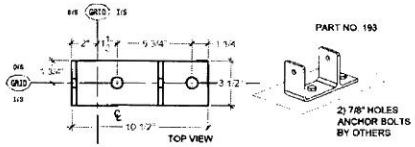
A BD-1 LEFT END - 220 BASEPLATE DETAIL



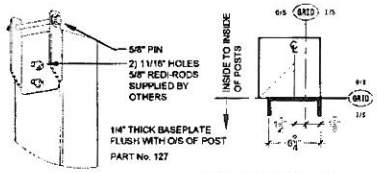
D BD-1 4x4 HSS ENDWALL BASEPLATE DETAIL



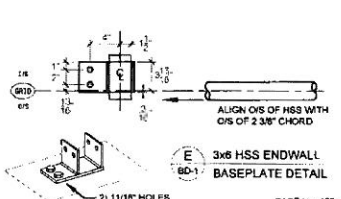
G BD-1 4x8 HSS ENDWALL BASEPLATE DETAIL



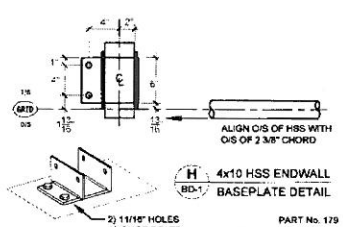
A BD-1 LEFT END - 320 BASEPLATE DETAIL



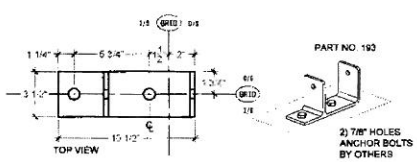
B BD-1 RIGHT END - 220 BASEPLATE DETAIL



E BD-1 3x6 HSS ENDWALL BASEPLATE DETAIL



H BD-1 4x10 HSS ENDWALL BASEPLATE DETAIL



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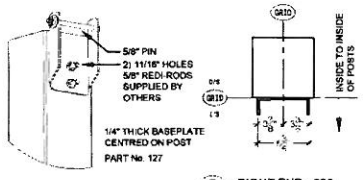
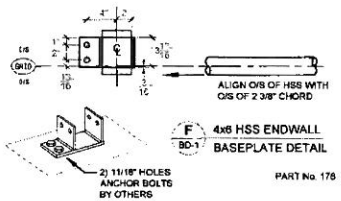
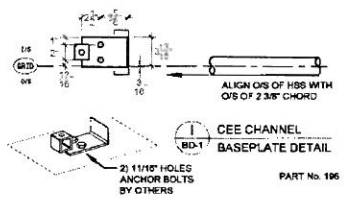


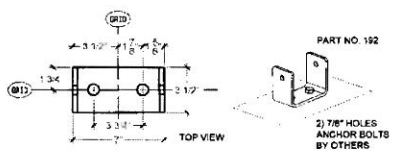
C BD-1 RIGHT END - 220 BASEPLATE DETAIL



F BD-1 4x6 HSS ENDWALL BASEPLATE DETAIL



I BD-1 CEE CHANNEL BASEPLATE DETAIL



C BD-1 COMMON - 320 BASEPLATE DETAIL

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 18
55' x 100' 320 GM
10' oc

ORDER ID.
SO#3779

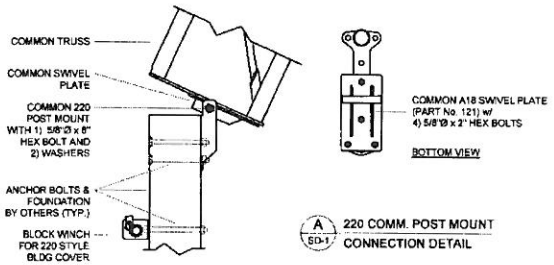
WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

DRAWING TITLE:
BASEPLATE DETAILS

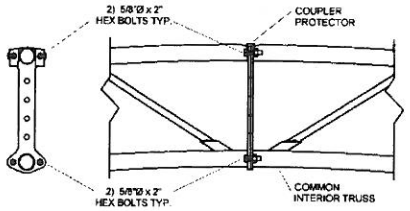
SHEET NO.: BD-1

PAGE NO.: 007 / 12

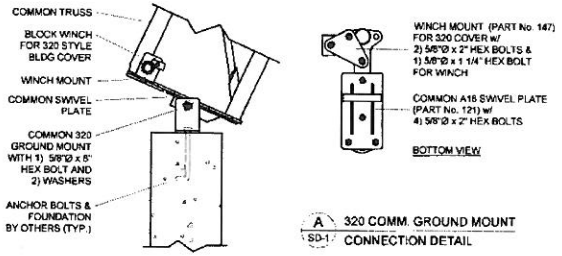
MARK S. GERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



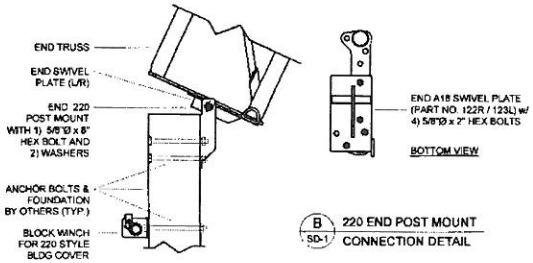
A SD-1 220 COMM. POST MOUNT CONNECTION DETAIL



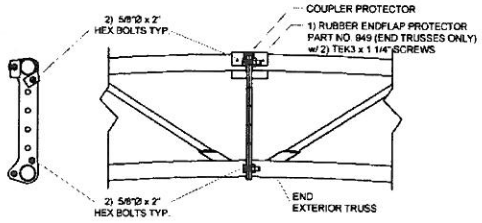
C SD-1 COMMON TRUSS CONNECTION DETAIL



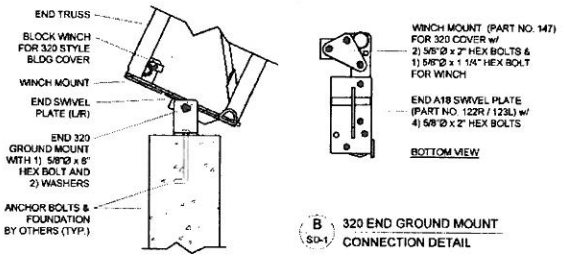
A SD-1 320 COMM. GROUND MOUNT CONNECTION DETAIL



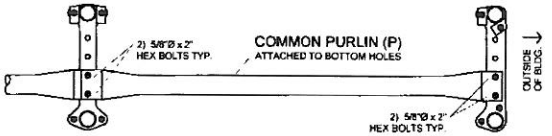
B SD-1 220 END POST MOUNT CONNECTION DETAIL



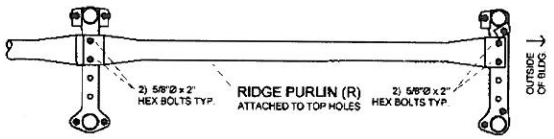
D SD-1 END TRUSS CONNECTION DETAIL



B SD-1 320 END GROUND MOUNT CONNECTION DETAIL



E SD-1 COMMON PURLIN CONNECTION DETAIL



F SD-1 RIDGE PURLIN CONNECTION DETAIL

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
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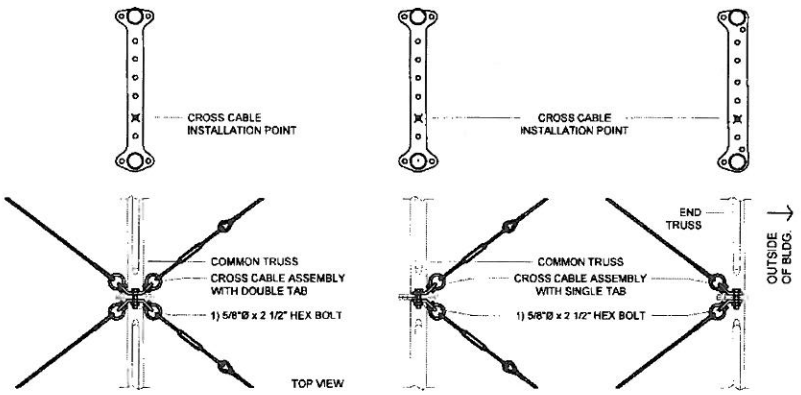
55-320-220-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-1
PAGE NO.: 008 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER

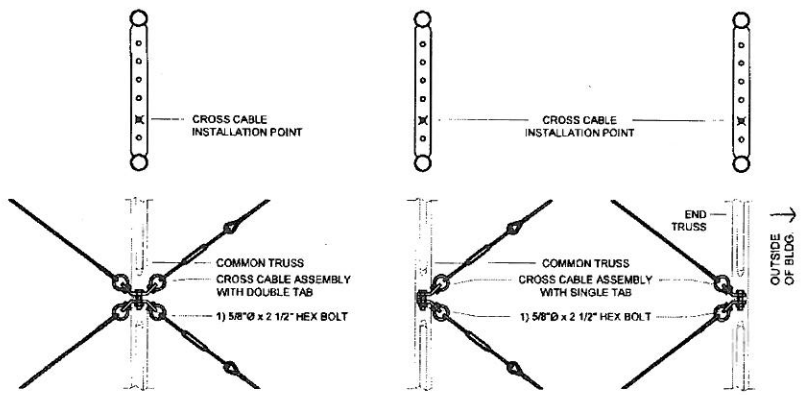


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

A SD-2 CROSS CABLES AT DOGBONE CONNECTION DETAILS

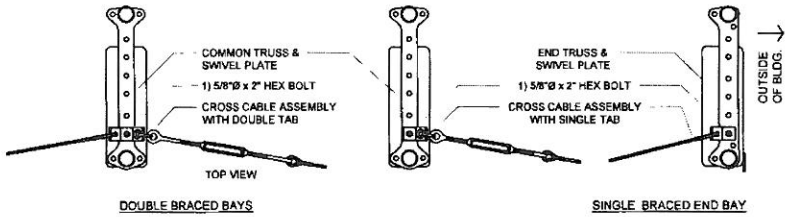


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

B SD-2 CROSS CABLES AT KINGPIN CONNECTION DETAILS

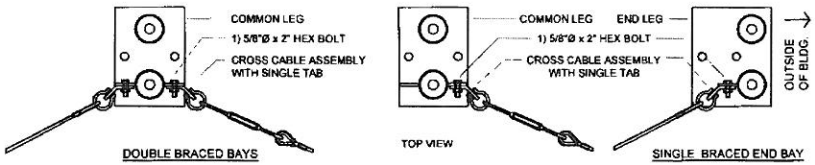


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

C SD-2 CROSS CABLES AT SWIVEL PLATE CONNECTION DETAILS



DOUBLE BRACED BAYS

SINGLE BRACED END BAY

D SD-2 CROSS CABLES AT LEG CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML

CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 18
55' x 100' 320 GM
10' oc

ORDER ID:
SO#3779

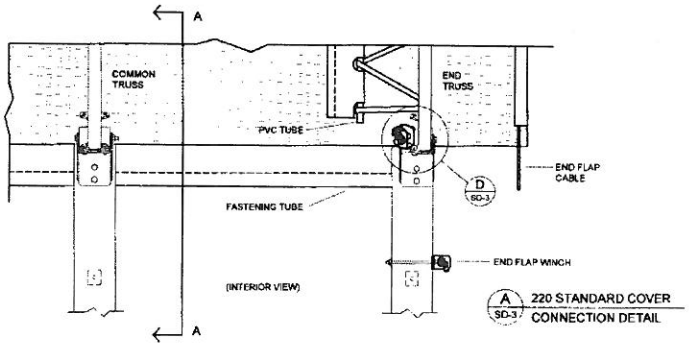
WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-2

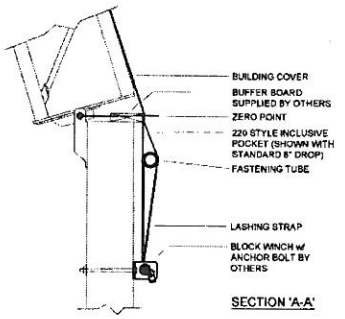
PAGE NO.: 009 /12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



A SD-3 220 STANDARD COVER CONNECTION DETAIL

B SD-3 320 STANDARD COVER CONNECTION DETAIL



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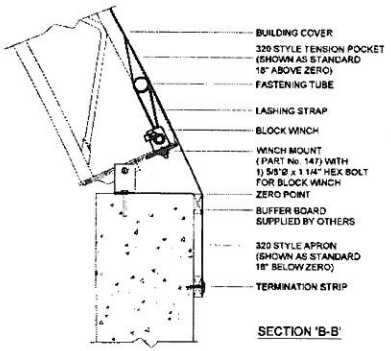

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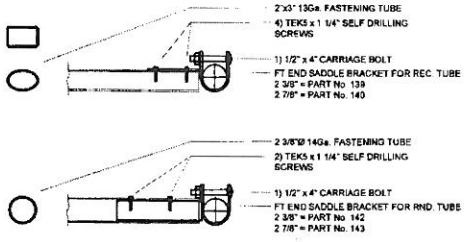
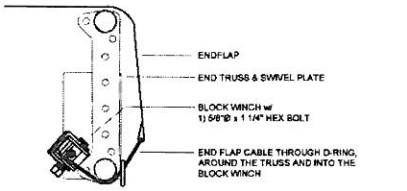
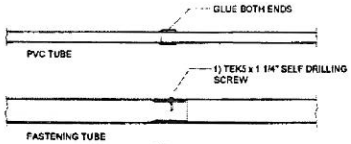


C SD-3 FASTENING TUBE SADDLE CONNECTION DETAILS



NOTE:
ENDFLAP WINCH CAN ALSO BE INSTALLED ON FRONT FACE OF FOUNDN AS SHOWN IN A&B / SD-3.

D SD-3 END FLAP CABLE & WINCH CONNECTION DETAIL



E SD-3 PVC / FASTENING TUBE CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
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FAX:1-519-528-2890

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SHADY SPRINGS, WV. 25918

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10' oc

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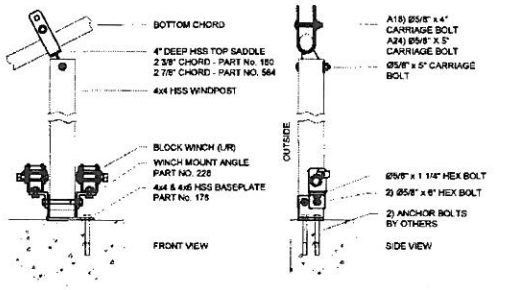
55-320-220-18-0

DRAWING TITLE:
STANDARD DETAILS

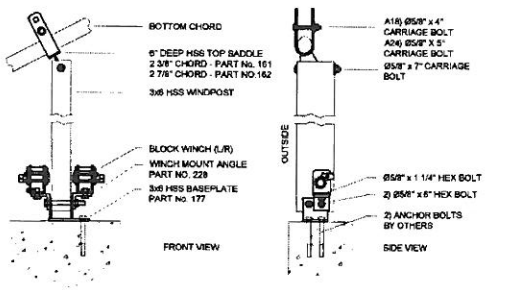
SHEET NO.: SD-3

PAGE NO.: 010 / 12

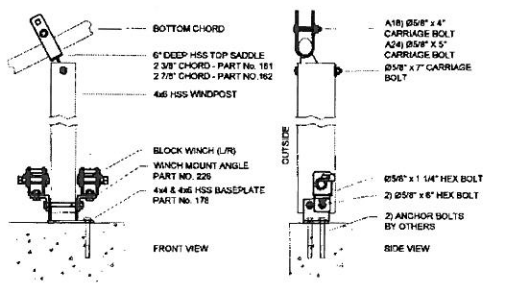
REGISTERED 16794 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER



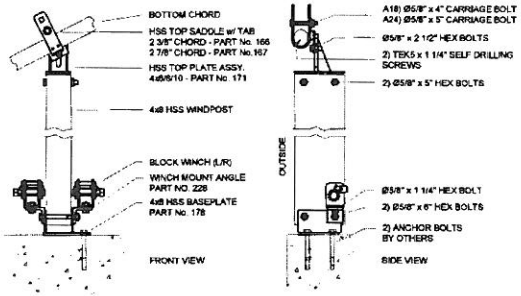
A ED-1 4x4 HSS WINDPOST CONNECTION DETAILS



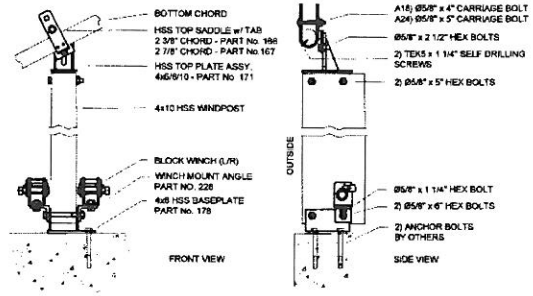
B ED-1 3x6 HSS WINDPOST CONNECTION DETAILS



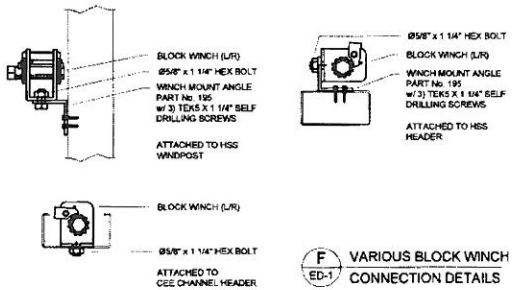
C ED-1 4x6 HSS WINDPOST CONNECTION DETAILS



D ED-1 4x8 HSS WINDPOST CONNECTION DETAILS



E ED-1 4x10 HSS WINDPOST CONNECTION DETAILS



F ED-1 VARIOUS BLOCK WINCH CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37851 Amberley Road
Lucknow, ON, Canada
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PH: 1-519-528-2922
FAX:1-519-528-2890

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WIDTH-STEEL-FAB-HSS-HSSDROP:
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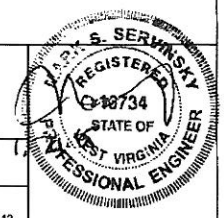
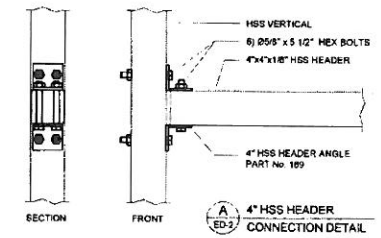
DRAWING TITLE:
EAVE DETAILS

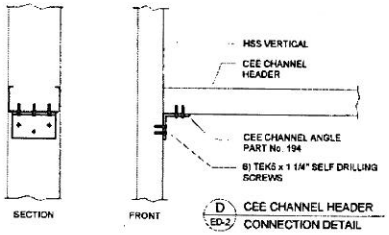
SHEET NO.: ED-1

PAGE NO.: 011 / 12

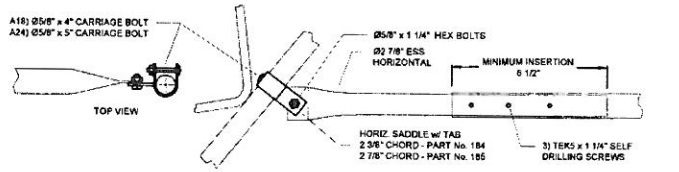




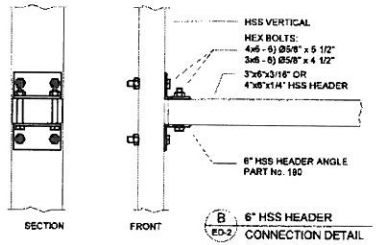
A ED-2 4" HSS HEADER CONNECTION DETAIL



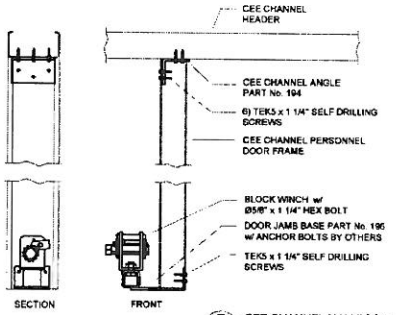
D ED-2 CEE CHANNEL HEADER CONNECTION DETAIL



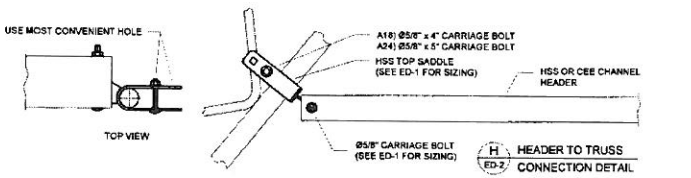
G ED-2 ESS HORIZONTAL TO TRUSS CONNECTION DETAIL



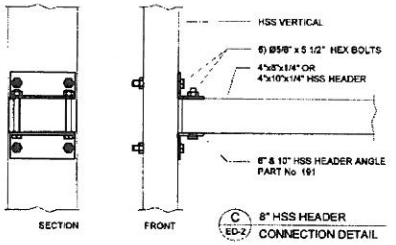
B ED-2 6" HSS HEADER CONNECTION DETAIL



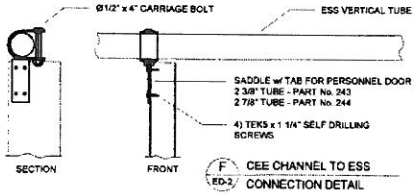
E ED-2 CEE CHANNEL MAN DOOR CONNECTION DETAILS



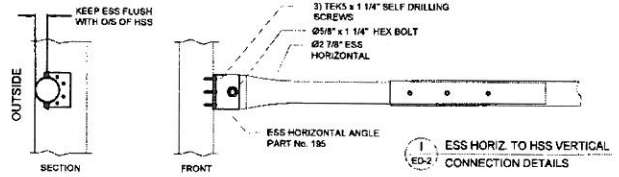
H ED-2 HEADER TO TRUSS CONNECTION DETAIL



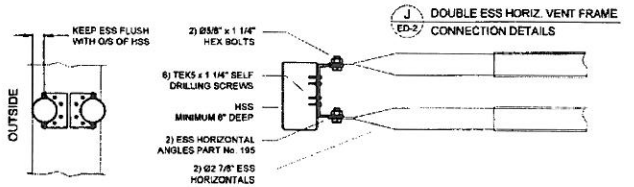
C ED-2 8" HSS HEADER CONNECTION DETAIL



F ED-2 CEE CHANNEL TO ESS CONNECTION DETAIL



I ED-2 ESS HORIZ. TO HSS VERTICAL CONNECTION DETAILS



J ED-2 DOUBLE ESS HORIZ. VENT FRAME CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX: 1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 18
55' x 100' 320 GM
10' oc

ORDER ID:
SO#3779

DRAWING TITLE:
ENDWALL DETAILS 1 / 2

WIDTH-STEEL-FAB-HSS-HSSDROP:
55-320-220-18-0

SHEET NO.: ED-2
PAGE NO.: 012 / 12

MARK S. SERWINSKY REGISTERED 18734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

This project has been designed and fabricated in accordance with the following:

1. DESCRIPTION

Owner's Name and Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Supplier's Name and Address:	COVER-ALL BUILDINGS OF WEST VIRGINIA INC. 812 NORTH OHIO AVENUE, CLARKSBURG, WV. 26301
Manufacturer's Name and Address:	BRITESPAN BUILDING SYSTEMS INC. 37651 AMBERLEY ROAD, LUCKNOW, ON. N0G 2H0
Site Location:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Legal Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Type:	ATLAS 24
Building Size:	72'± 140' @ 12' & 10' o.c. (21.946m x 42.673m @ 3.658m & 3.048m o.c.) (10,080 sq. ft.)
Applicable Building Code:	ASCE 7-05
Intended Use and Occupancy:	STORAGE - SALT/SAND
Construction Type:	COMMERCIAL
Fabric Type:	NON-FR

2. DESIGN STANDARDS
ASCE 7-05, minimum design loads for building and other structures.
AA&S(AISC 360-05, Specification for Structural Steel Buildings
AISI-Truss, North American Specification for the Design of Cold-Formed Steel Structural Members
NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, 2009 Edition

3. MANUFACTURING STANDARDS
Fabrication in accordance with ANSI/AISC 360-05 and AISI-Truss, as applicable.
Weldingin accordance with AWS D1.3 Structural Welding Code and AISI-Truss, as applicable.
Britespan Building Systems Inc. is a AWS approved fabricator as per 85.17 and QC17 standards.
Welders have been qualified in accordance with QC7-93.

4. DESIGN CRITERIA

Occupancy Category:	S2 CATEGORY I
Exposure Category:	Exposure C (NON-COASTAL) - FULLY EXPOSED
Enclosure Category:	PARTIALLY ENCLOSED

A) DEAD LOADS
I) Self-weight of Building Components
II) Collateral (hanging) load, not to exceed 0.25 psf as an allowance for mechanical, electrical ceiling, sprinklers, etc, or any combination there of.

B) LIVE LOADS

Live Loads determined in accordance with section 4 of ASCE 7-05

Minimum roof live load.	12.0 psf

C) SNOW LOADS

Snow loads determined in accordance with section 7 of ASCE 7-05

Ground Snow Load, Pg (1/50)	35.0 psf
Roof Snow Load, Pf	21.17 psf
Exposure Factor, Ce	0.9
Thermal Factor, Ct	1.2
Importance Factor, Is	0.8

D) WIND LOADS

Wind loads determined in accordance with section 6 of ASCE 7-05

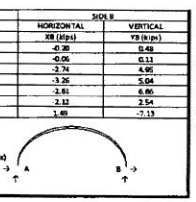
Wind Speed (3-sec Gust)	90.0 mph
Basic Wind Pressure, q	22.0 psf
Exposure Coefficient, Kh	0.99
Topographic Factor, Kzt	1.00
Directionality Factor, Kd	0.85
Importance Factor, Iw	0.8

E) LOAD COMBINATIONS
Load combinations determined in accordance with section 2 of 7-05
5. BASE REACTIONS

	SIDE A		SIDE B	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
LOAD CASE:	XA (kips)	YA (kips)	XB (kips)	YB (kips)
DEAD	0.20	0.48	-0.20	0.48
COLLATERAL	0.05	0.11	-0.05	0.11
LIVE	1.14	2.74	-1.14	4.95
SNOW BALANCED	3.26	4.95	-3.26	5.04
SNOW UNBALANCED	2.61	2.34	-2.61	6.86
WIND PERPENDICULAR	-2.36	3.33	2.13	2.54
WIND PARALLEL	-1.99	-7.13	1.49	-7.13

Note:
Negative values of Y reactions indicates uplift forces.

Note: Standard tubular truss with 20 gauge chords and legs (no channels)



GENERAL
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ANCHOR BOLTS
ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH CSA STANDARD CAN3-S16.1 USING Fy = 36 KSI (248 MPa). ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

ANCHOR BOLT PROJECTIONS BASED ON NO GROUT ARE AS FOLLOWS:

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS.

FINISHED FLOOR ELEVATIONS AND UNDERSIDE OF BASE PLATE IS 100'-0" (1000.000mm) UNLESS NOTED.

ERECTION
THE ERECTION MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL THE LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT A BRACED BAY. ERECT AND TEMPORARILY SUPPORT TRUSSES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. INSTALL PURLINS AND CROSS BRACING. PLUMB AND SQUARE TRUSSES IN ACCORDANCE WITH CAN3-S16.1 AND OSHA 29 CFR PART 1926 - SAFETY STANDARD FOR STEEL ERECTION.

ENSURE ALL PURLINS REMAIN PARALLEL.

STRUCTURAL FRAMING MEMBERS ARE CONSIDERED PLUMB, LEVEL, AND ALIGNED WHEN THE VARIANCE DOES NOT EXCEED 1:300.

STRUCTURAL BOLTS
BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS, OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. ALL STRUCTURAL BOLT DIAMETERS LESS THAN 1" CONFORM TO SAE J429 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH. ALL STRUCTURAL NUT DIAMETERS LESS THAN 1" CONFORM TO SAE J995 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH.

ALL BOLTS LARGER THAN 1" (25mm) DIA. CONFORM TO ASTM A325.
ALL OTHER DIA HEX BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
ALL BOLTS SHALL BE PLATED / GALVANIZED OR SUNSEAL COATED.
ALL BOLT REFERENCES REQUIRE BOTH BOLT AND NUT.

BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION VALUES AS SHOWN IN THE TABLE BELOW.

TABLE A - BOLT TENSION

SIZE	mm	GRADE 5	
in		kip	kN
5/8	16	19	88
3/4	19	28	125
7/8	22	39	174
1.0	25	51	227
SIZE		A325	
1 1/8	29	56	249
1 1/4	32	74	316

STRUCTURAL BOLT TORQUE VALUES
TABLE B (1)(2) THE BOLT CLAMP WITH A SUGGESTED ASSEMBLY TORQUE VALUES.
TABLE B - IMPERIAL

SIZE		GRADE 5				
DIA.	Threads	Tensile	Proof	Clamp	Torque	Torque
INCH	Per	ksi	Load	Load	Dry	Lube
	Inch	Min	lbs	lbs	ft-lbs	ft-lbs
5/8	18	120	6800	4050	15	23
7/16	14	120	9050	5780	50	35
1/2	13	120	12100	9050	75	55
5/8	11	120	19200	14400	150	110
3/4	10	120	28400	21300	250	200
SIZE		A325				
1 1/4	7	105	71700	53800	1120	840

MATERIAL SPECIFICATIONS:
ROLLED STRUCTURAL SECTIONS CONFORM TO CSA G40.21-44W (300W).

STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS:
PLATES G40.21 44W G40.21/ASTM A572 GR 44 (300W)
H.S.S. G40.21 50W G40.21/ASTM A572 GR 50 (350W)

COATINGS OF STRUCTURAL PLATES ARE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM 153.

TRUSSES ARE HOT-DIP GALVANIZED INSIDE AND OUT IN ACCORDANCE ASTM 123.

CHROMATE CONVERSION COATING APPLIED OVER THE HOT-DIP GALVANIZED SURFACE TO PROVIDE ADDITIONAL CORROSION PROTECTION.

PURLINS AND TIE-DOWN PIPE ARE PRE-GALVANIZED.

DIAGONAL BRACE STEEL CABLES EXTRA HIGH STRENGTH PER ASTM A475
CROSS CABLES - Ø 5/16" (8mm) TYP U.N.

STRUCTURAL COMPONENTS ARE AS FOLLOWS:
2 7/8" (73.025mm) TUBES - 24" (609.6mm) O/O USING @ 1 1/4" (31.8mm) WEB &
2 7/8" (73.025mm) PURLINS
ALL OTHER SIZE/GUAGES - MIN YIELD = 55ksi (379MPa).

FABRIC / LINER NOTES:
EXTERIOR FABRIC IS AN INTEGRAL PART OF THE STRUCTURAL SYSTEM; REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. ALL TEARS MUST BE PATCHED IMMEDIATELY TO AVOID WARRANTY PROBLEMS.

EXTERIOR FABRIC WILL DEFLECT UNDER LOAD, THEREFORE ALL BUILDING ACCESSORIES (LIGHTING, HVAC, SPRINKLERS, ETC) MUST BE LOCATED BENEATH THE INNER CORD OF THE TRUSS. ANYTHING ABOVE THIS MUST BE REVIEWED AND APPROVED IN WRITING BY BRITESPAN BUILDING SYSTEMS, INC. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

FABRIC SPECIFICATIONS
ALL POLYETHYLENE MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

PHYSICAL	PROPERTIES	DESCRIPTION
BASE SCRIM	HDPE 1600 DENIER YARN	HIGH DENSITY POLYETHYLENE
COATING THICKNESS	4 MIL (94 GSM)	EACH SIDE OF SCRIM
SURFACE TYPE	MODIFIED LDPE C /W UV	LOW DENSITY POLYETHYLENE
WEIGHT	12 OZ./YD2 (407 GSM +/-5%)	MINIMUM WEIGHT
GRAB TENSILE STRENGTH	FR WARP - 365 LBS. (1620 N)	ASTM D5034
	NON-FR WARP - 370 LBS. (1664 N)	ASTM D5034
TONGUE TEAR STRENGTH	FR WARP - 120 LBS. (532 N)	ASTM D2261
	NON-FR WARP - 115 LBS. (510 N)	ASTM D2261
STRIP TENSILE STRENGTH	FR WARP - 270 LBS. (2400 N/5CM)	ASTM D4851
	NON-FR WARP - 275 LBS. (2444 N/5CM)	ASTM D4851
MULLEN BURST	FR - 603 PSI (4705 KPA)	ASTM D3786
	NON-FR - 676 PSI (4657 KPA)	ASTM D3786
THICKNESS	FR - 23 MILS (0.635 MM)	ASTM D1777
	NON-FR - 20 MILS (0.50 MM)	ASTM D1777
COLD CRACK	PASS -60°C	ASTM D2136
FACTORED MEMBRANE RESIST.	WARP - 145 LBS./IN (1287 N/5CM)	ASTM D751A
UV & WEATHERING	90% AFTER 2000 HR.	ASTM G-151-00 / G154-04
COATING ADHESION	5 LBS/INCH	ASTM D-4851-97
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	NFPA 701-2010 METHOD 1 & 2
(FR) FS/SD/CHAR/DRIP	10 / 110 / - / -	ASTM E-84-08
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	CAN/ULC S109-00
(FR) FS/SD/CHAR/DRIP	15 / 85 / - / -	CAN/ULC S102-03
(FR) FS/SD/CHAR/DRIP	0 / 20 / - / -	CAN/ULC S102.2-03
(NON-FR) FS/SD/CHAR/	10 / 85 / -	ASTM E-84
(NON-FR) FS/SD/CHAR/	15 / 100 / -	CAN/ULC S102.2-07

DRAWING SCHEDULE		REVISIONS			
DWG #	DRAWINGS TITLE	REV.	DATE	REV.	DATE
FB-1	COVER PAGE	1	20.JAN.2015		
FB-2	BASEPLATE LAYOUT	1	20.JAN.2015		
FB-3	PROJECT LAYOUT	1	20.JAN.2015		
FB-4	PURLIN LAYOUT	1	20.JAN.2015		
FB-5	BRACING LAYOUT	1	20.JAN.2015		
EW-1	ENDWALL LAYOUT	1	20.JAN.2015		
EW-2	ENDWALL LAYOUT	1	20.JAN.2015		
BD-1	BASEPLATE DETAILS	1	20.JAN.2015		
SD-1	STANDARD DETAILS 1	1	20.JAN.2015		
SD-2	STANDARD DETAILS 2	1	20.JAN.2015		
SD-3	STANDARD DETAILS 3	1	20.JAN.2015		
ED-1	ENDWALL DETAILS 1	1	20.JAN.2015		
ED-2	ENDWALL DETAILS 2	1	20.JAN.2015		

ROOF PLAN NOTES
UNLESS NOTED, USE Ø5/8" (16mm) BOLTS FOR PURLIN TO TRUSS, CABLE OR ROD BRACING TO TRUSS AND ANGLES TO TRUSS FOR ALL CONNECTIONS.

CABLE / ROD AND PURLIN BRACING ARE AN INTEGRAL PART OF THE TRUSS STRUCTURAL SYSTEMS AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION FROM BRITESPAN BUILDING SYSTEMS, INC. IS PROHIBITED.

ELEVATION NOTES
HOLES REQUIRED IN HSS COLUMNS, HEADERS OR PURLINS FOR FRAMED OPENINGS. DOOR OR WINDOW POST CONNECTION TO BE BY ERECTOR.

WALK DOOR, WINDOW AND FRAMED OPENING POSTS TO BE FIELD ANCHORED TO CONCRETE WITH Ø1/2" (13mm) "HILTI KWIK-BOLTS" OR SIMILAR

MATERIAL STORAGE
GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. SHORT TERM JOB SITE STORAGE OF STEEL COMPONENTS MAY BE TOLERATED, PROVIDED CARE IS TAKEN TO KEEP THE MATERIALS DRY AT ALL TIMES. WHEN TRUSSES ARE ARE TO BE STORED OUTDOORS, THEY SHOULD BE PLACED AT AN ANGLE SUFFICIENT TO PROMOTE GOOD DRAINAGE. IN ADITTION, SEVERAL INCHES OF CLEARENCE MUST BE PROVIDED BETWEEN THE LOWER END AND THE GROUND TO ALLOW VENTILATION.

NOTE: BRITESPAN BUILDING SYSTEMS, INC. WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

MANUFACTURING STANDARDS
FABRICATION IS IN ACCORDANCE WITH CAN/CSA-S16.1 AND CAN/CSA-S136, AS APPLICABLE.

BRITESPAN BUILDING SYSTEMS, INC. IS A CWB CERTIFIED DIVISION 2.1 MANUFACTURER OF TRUSSES. ALL WELDS ARE COMPLETED IN SHOP AS PER CWB STANDARD CSA W47.1 AND W59. AS PART OF OUR CWB CERTIFICATION AN INDEPENDENT THIRD PARTY TESTS OUR WELDERS AND PROCEDURES AND AUDITS OUR FACILITIES. THIS CERTIFICATION MEETS WITH AWS D1.1 AND D1.3 CRITERIA.

BLOCK FOUNDATION DESIGNER SHALL DETERMINE ANCHOR BOLT SIZE AND TYPE FOR BRITESPAN LOADS. PROPER MINIMUM EDGE DISTANCE FROM CENTER OF ANCHORS TO EDGE OF CONCRETE BLOCK SIDEWALLS AND ENDWALLS SHALL BE PROVIDED FOR THE ANCHOR TYPE. FOUNDATION DESIGN AND STABILITY OF BLOCKS FOR OVERTURNING IS NOT BY SERVINSKY ENGINEERING, PLLC.

FOR BID PURPOSE ONLY

RTE.15 LOT C

BLOCK C

BRITESPAN BUILDING SYSTEMS INC

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
COVER PAGE

SHEET NO.: FB-1

PAGE NO.: 001 / 12

1.21.15

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STATE OF
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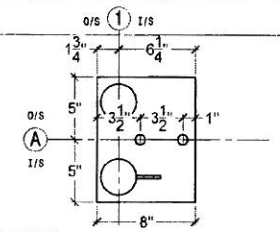
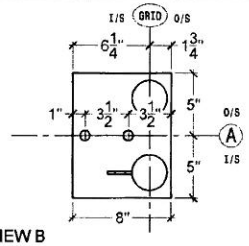
PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER



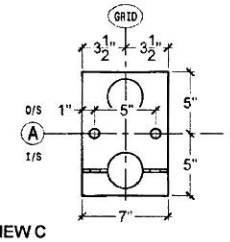
VIEW A

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 137 LEFT END



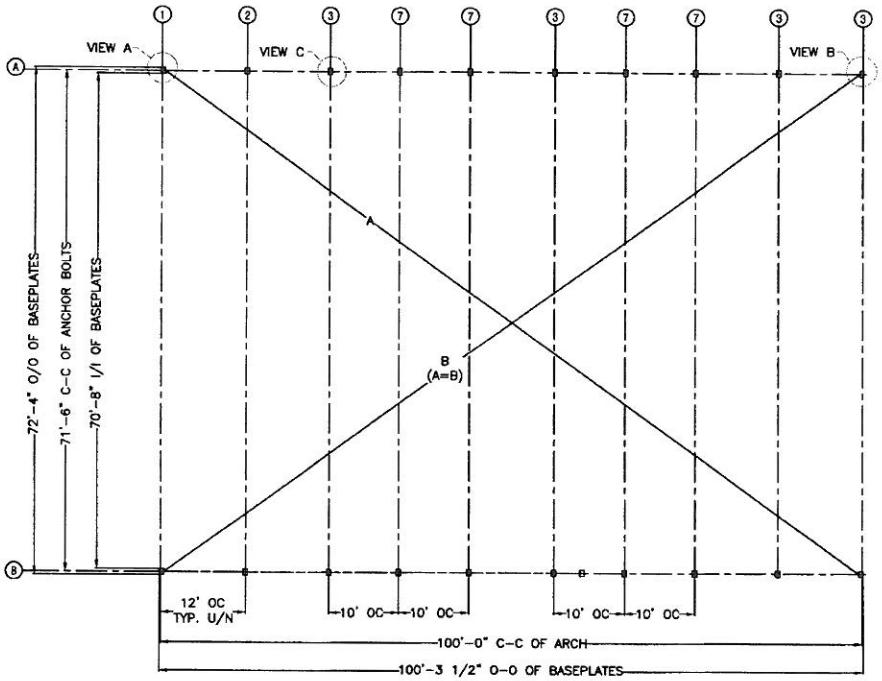
VIEW B

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 136 RIGHT END



VIEW C

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 135 COMMON



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72' x 100' - 420 GM
12' & 10' oc

ORDER ID.
SO#3780

DRAWING TITLE:
BASEPLATE LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: FB-2
PAGE NO.: 002 /12

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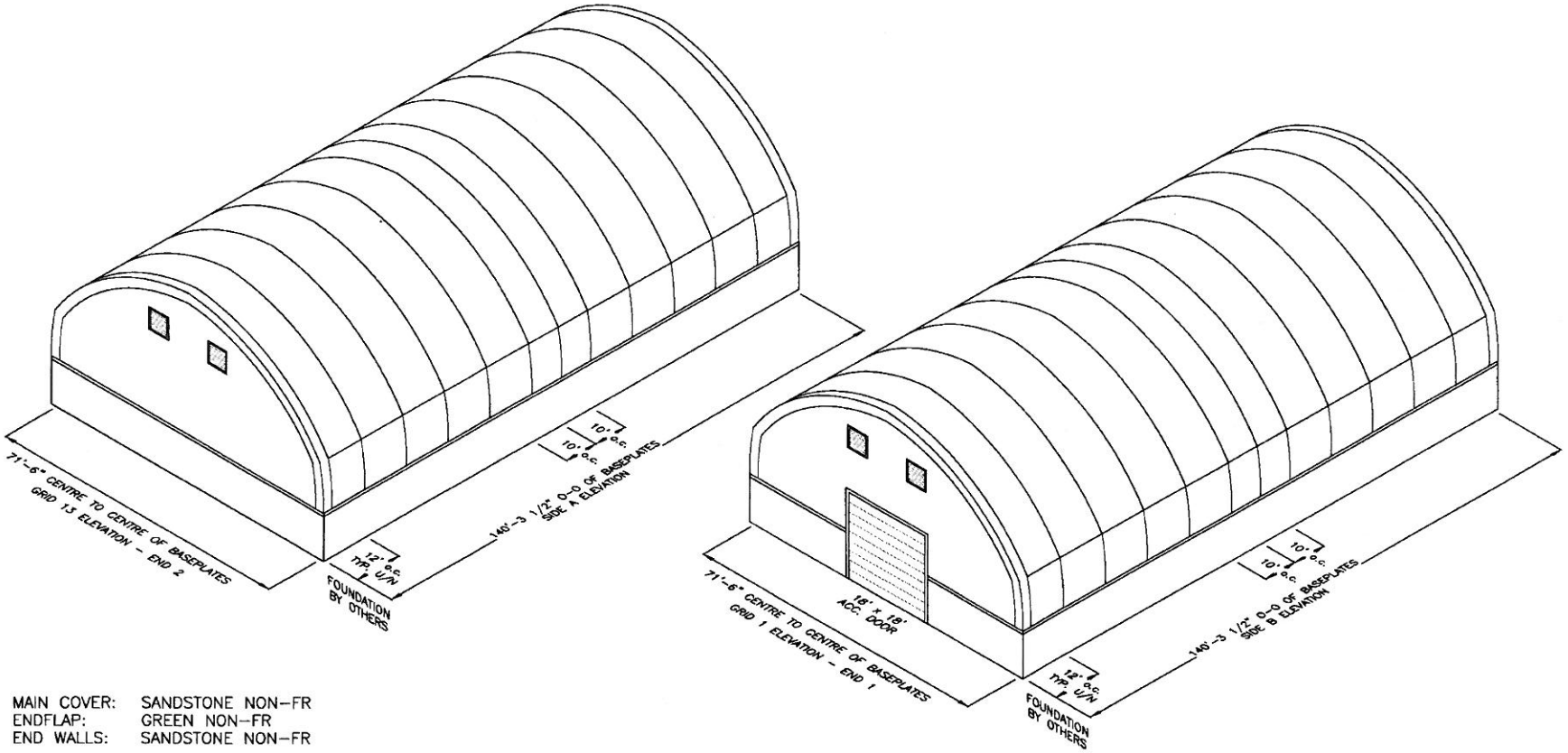

MAIN COVER: SANDSTONE NON-FR
ENDFLAP: GREEN NON-FR
END WALLS: SANDSTONE NON-FR

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72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

DRAWING TITLE:
PROJECT LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: FB-3
PAGE NO.: 003 / 12

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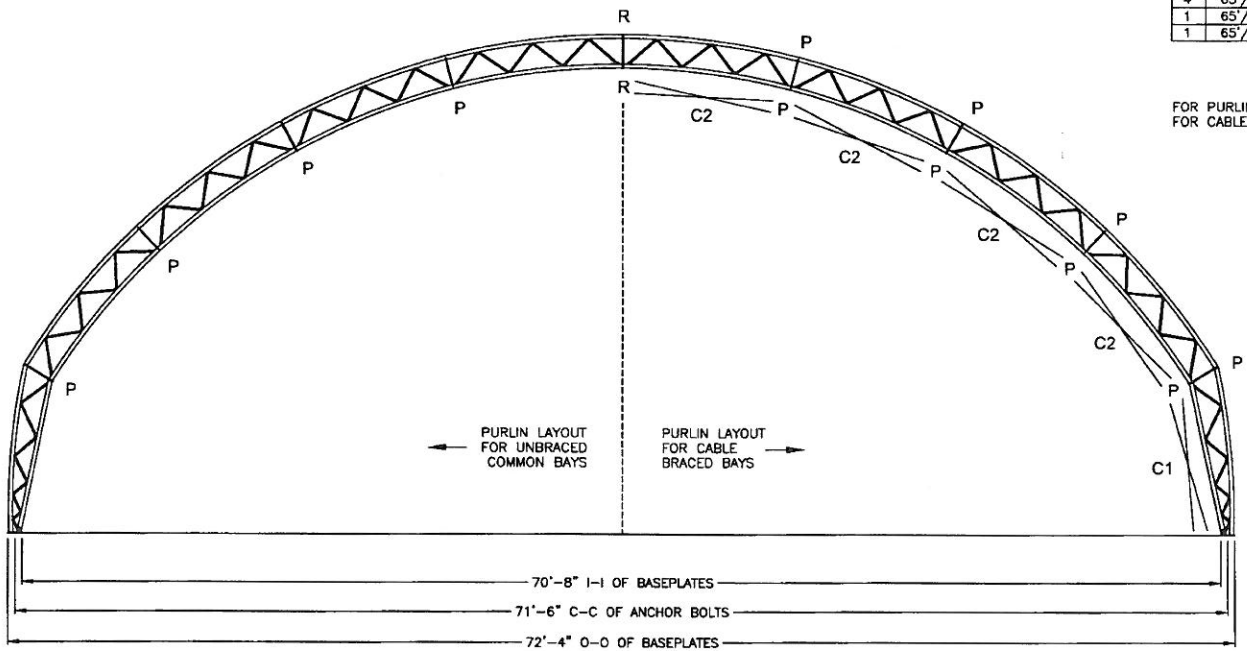
ATLAS24 – 72'W

Qty.	TRUSS & PART No.
INTERIOR TRUSS	
4	65'/70'/72'/82' COMMON TRUSS – 130
2	65'/72' COMMON LEG – 135
END TRUSS	
4	65'/70'/72'/82' END TRUSS – 132
1	65'/72' RIGHT END LEG – 136
1	65'/72' LEFT END LEG – 137

FOR PURLIN LOCATIONS SEE: SD–1 pg. 008
FOR CABLE LOCATIONS SEE SD–2 pg. 009



A–24 72'	16' BAY		14' BAY		12' BAY		10' BAY		8' BAY		6' BAY		5' BAY	
	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH
C1 CABLE	861225–9	225"	861205–9	205"	861186–9	186"	861167–9	167"	861151–9	151"	861136–9	136"	861131–9	131"
C2 CABLE	861230–9	230"	861210–9	210"	861192–9	192"	861174–9	174"	861157–9	157"	861145–9	145"	861140–9	140"
C3 CABLE														

LENGTHS CHECKED 18.NOV.13 – SS
LENGTHS UPDATED 22.JAN.13 – SS
LENGTHS CHANGED 31.MAR.13 – SS

BRACING LEGEND
P = PURLIN
R = RIDGE PURLIN
X = CROSS CABLE

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REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
PURLIN & X-CABLE LAYOUT

SHEET NO.: FB-4
PAGE NO.: 004 /12

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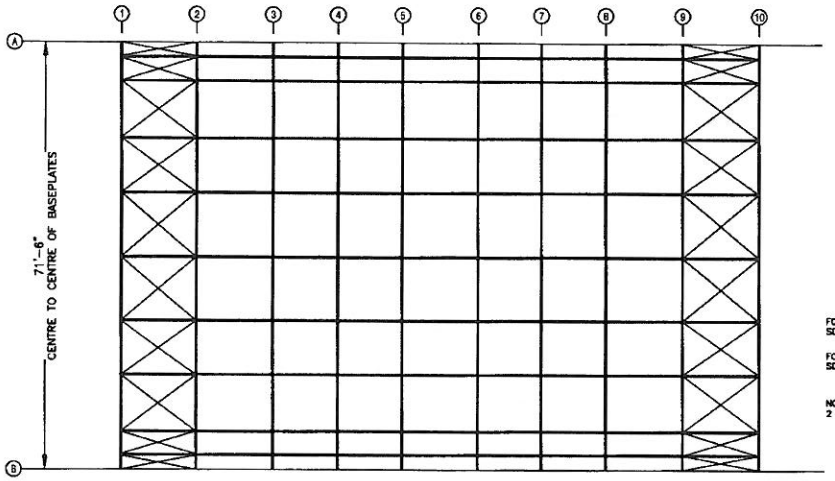
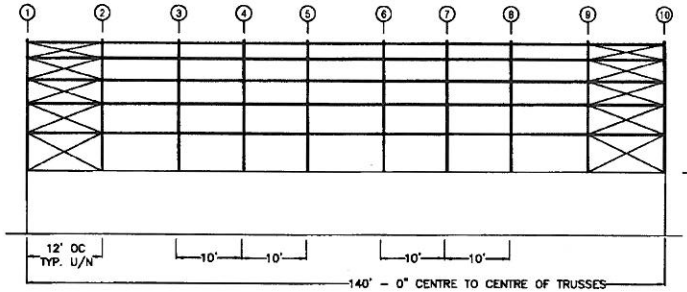


PLAN VIEW

FOR PURLIN DETAILS SEE:
SD-1 pg. 008

FOR CABLE DETAILS SEE:
SD-2 pg. 009

NOTE: THIS BUILDING USES ALL
2 7/8" 14Ga. PURLINS



ELEVATION

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ORDER ID:
SO#3780

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
BRACING LAYOUT 1 - 2

SHEET NO.: FB-5

PAGE NO.: 005 /12

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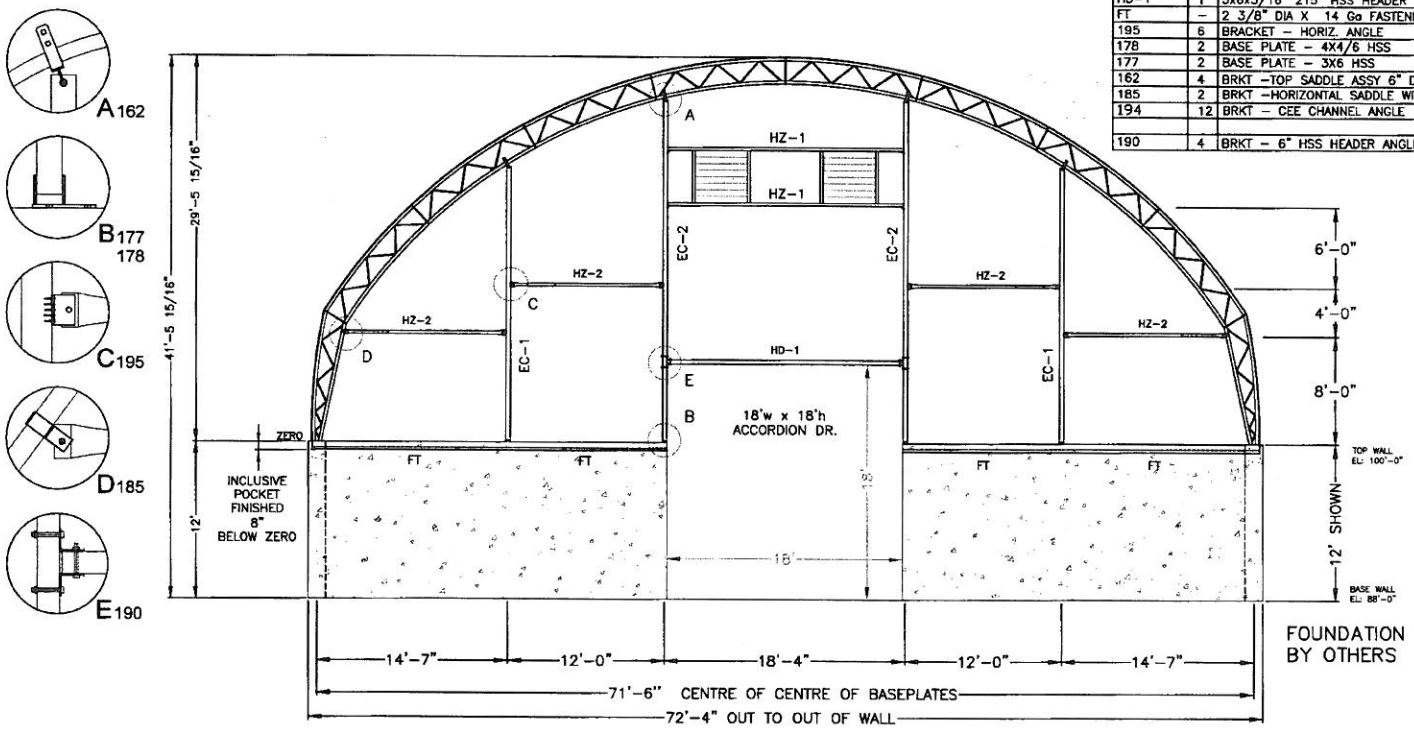
PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 252" HSS VERTICAL
EC-2	2	4x6x1/4" 313" HSS VERTICAL
HZ-1	3	6" CEE CHANNEL - 20' LONG
HZ-2	4	32000039 (2 1/2 - 14GA) + 32000122 (2 7/8" 14 GA)
HD-1	1	3x6x3/16" 215" HSS HEADER
FT	-	2 3/8" DIA X 14 Ga FASTENING TUBE CUT TO LENGTH
195	6	BRACKET - HORIZ. ANGLE
178	2	BASE PLATE - 4X4/6 HSS
177	2	BASE PLATE - 3X6 HSS
162	4	BRKT -TOP SADDLE ASSY 6" DEEP - 2 7/8" CHORD
185	2	BRKT -HORIZONTAL SADDLE WITH TAB - 2 7/8" CHORD
194	12	BRKT - CEE CHANNEL ANGLE
190	4	BRKT - 6" HSS HEADER ANGLE



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REV:	DESCRIPTION:	DATE:
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DEALER:
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ORDER ID:
SO#3780

DRAWING TITLE:
ENDWALL LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

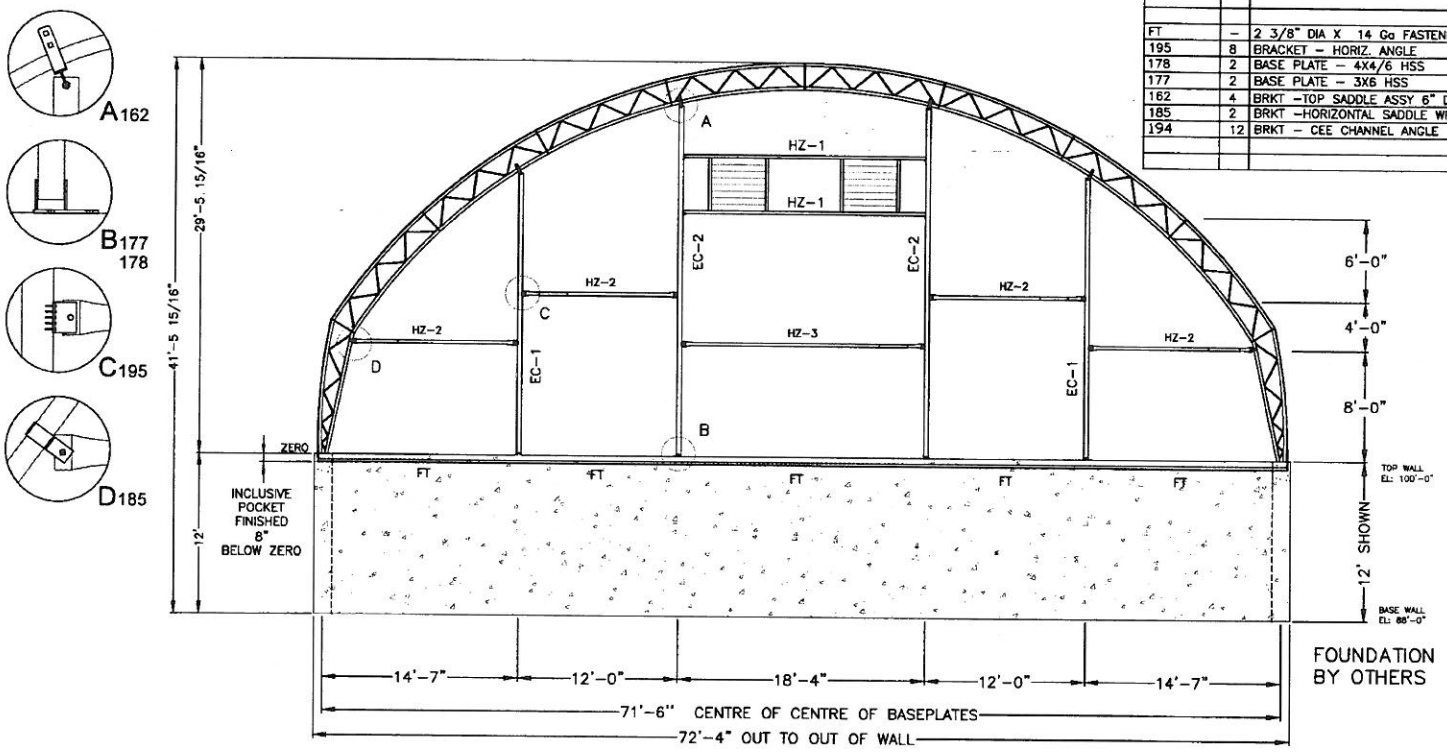
SHEET NO.: EW-1

PAGE NO.: 006a / 12

MARK S. SERVINSKY REGISTERED 16784 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

LICENSED PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 252" HSS VERTICAL
EC-2	2	4x6x1/4" 313" HSS VERTICAL
HZ-1	3	6" CEE CHANNEL – 20' LONG
HZ-2	4	32000039 (2 1/2 – 14GA) + 32000122 (2 7/8" 14 GA)
HZ-3	1	32000039 (2 1/2 – 14GA) + 32000194 (2 7/8" 14 GA)
FT	–	2 3/8" DIA X 14 Ga FASTENING TUBE CUT TO LENGTH
195	8	BRACKET – HORIZ. ANGLE
178	2	BASE PLATE – 4X4/6 HSS
177	2	BASE PLATE – 3X6 HSS
162	4	BRKT –TOP SADDLE ASSY 6" DEEP – 2 7/8" CHORD
185	2	BRKT –HORIZONTAL SADDLE WITH TAB – 2 7/8" CHORD
194	12	BRKT – CEE CHANNEL ANGLE



BRITESPAN BUILDING SYSTEMS INC

37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

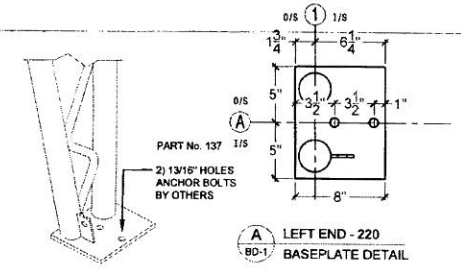
DRAWING TITLE:
ENDWALL LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

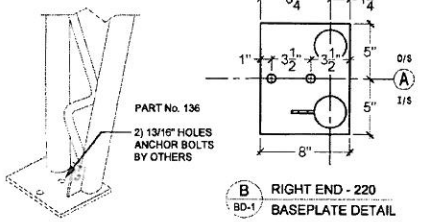
SHEET NO.: EW-2

PAGE NO.: 006b / 12

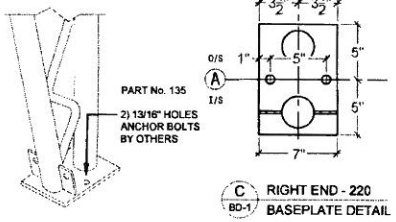
MARK S. SERVINSKY
REGISTERED
18784
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER



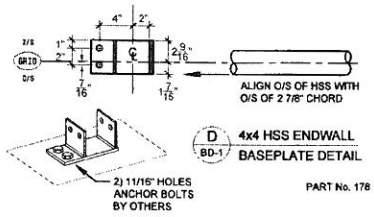
A BD-1 LEFT END - 220 BASEPLATE DETAIL



B BD-1 RIGHT END - 220 BASEPLATE DETAIL

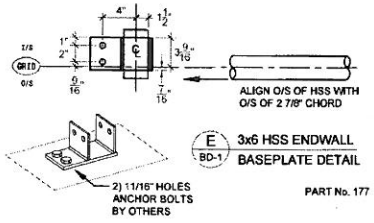


C BD-1 RIGHT END - 220 BASEPLATE DETAIL



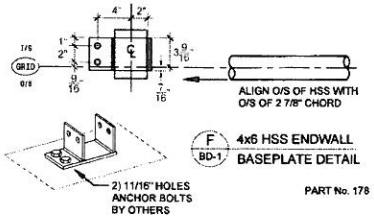
D BD-1 4x4 HSS ENDWALL BASEPLATE DETAIL

PART No. 178



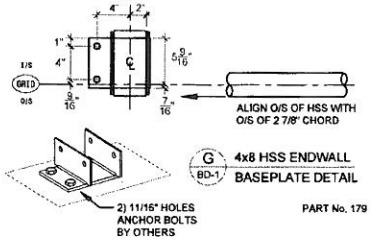
E BD-1 3x6 HSS ENDWALL BASEPLATE DETAIL

PART No. 177



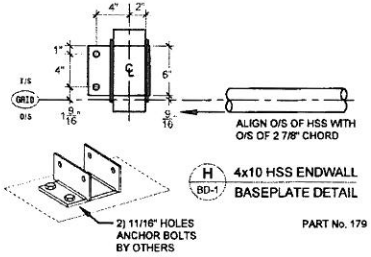
F BD-1 4x6 HSS ENDWALL BASEPLATE DETAIL

PART No. 178



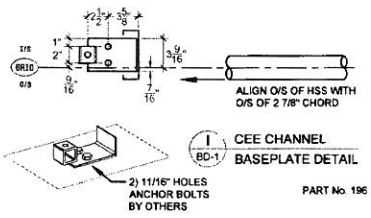
G BD-1 4x8 HSS ENDWALL BASEPLATE DETAIL

PART No. 179



H BD-1 4x10 HSS ENDWALL BASEPLATE DETAIL

PART No. 179



I BD-1 CEE CHANNEL BASEPLATE DETAIL

PART No. 196

BRITESPAN BUILDING SYSTEMS INC

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DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

DRAWING TITLE:
BASEPLATE DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: BD-1

PAGE NO.: 007 /12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

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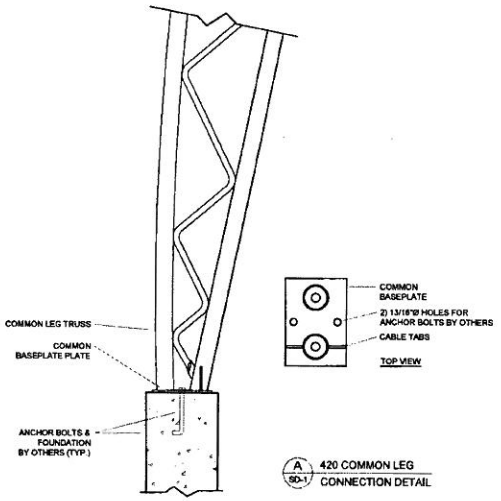
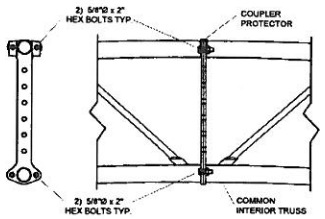
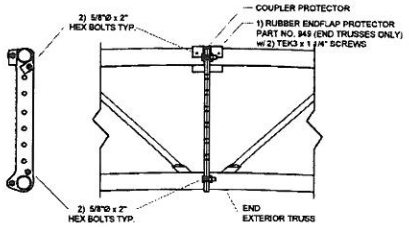


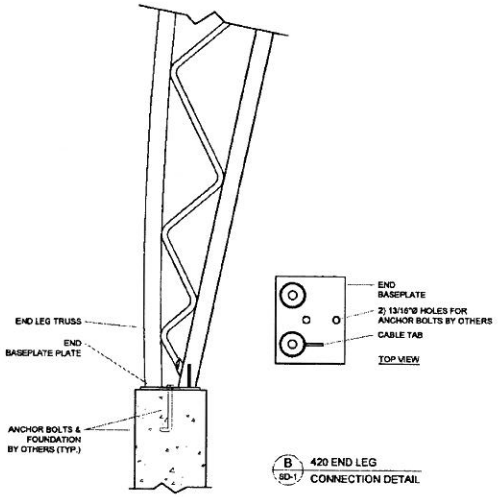
A SD-1 420 COMMON LEG CONNECTION DETAIL



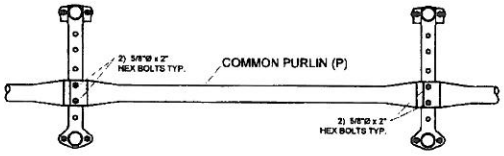
C SD-1 COMMON TRUSS CONNECTION DETAIL



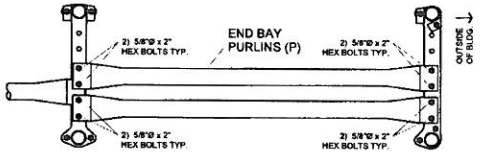
D SD-1 END TRUSS CONNECTION DETAIL



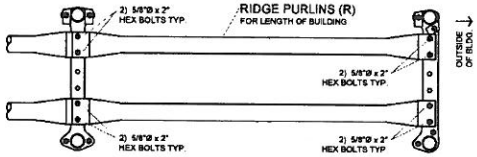
B SD-1 420 END LEG CONNECTION DETAIL



E SD-1 COMMON PURLIN CONNECTION DETAIL



F SD-1 END BAY PURLIN CONNECTION DETAIL



G SD-1 RIDGE PURLIN CONNECTION DETAIL

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CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

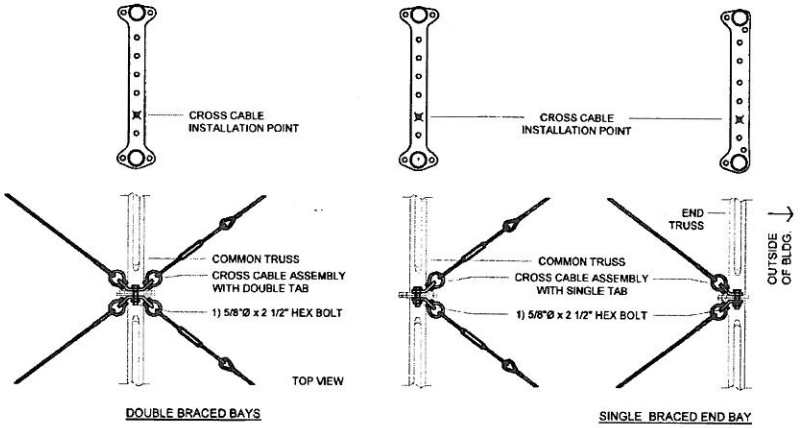
ORDER ID:
SO#3780

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-1
PAGE NO.: 008 /12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

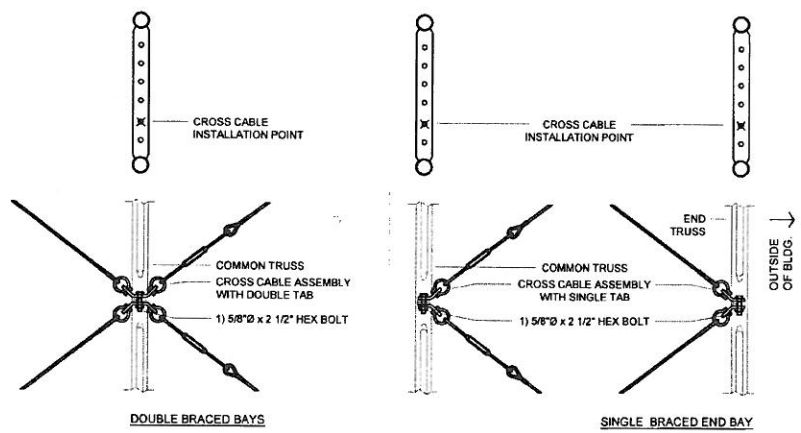


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

A SD-2 CROSS CABLES AT DOGBONE CONNECTION DETAILS

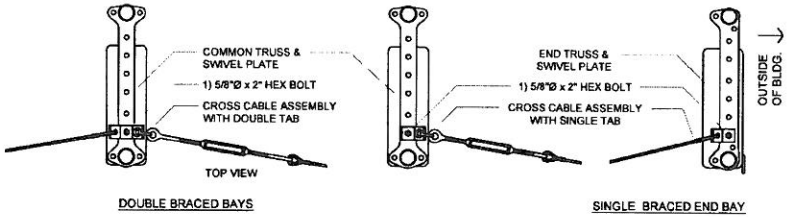


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

B SD-2 CROSS CABLES AT KINGPIN CONNECTION DETAILS

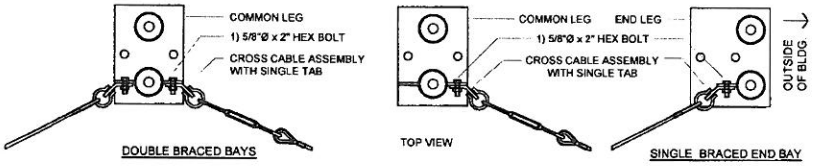


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

C SD-2 CROSS CABLES AT SWIVEL PLATE CONNECTION DETAILS



DOUBLE BRACED BAYS

SINGLE BRACED END BAY

D SD-2 CROSS CABLES AT LEG CONNECTION DETAILS

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N0G 2H0
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ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

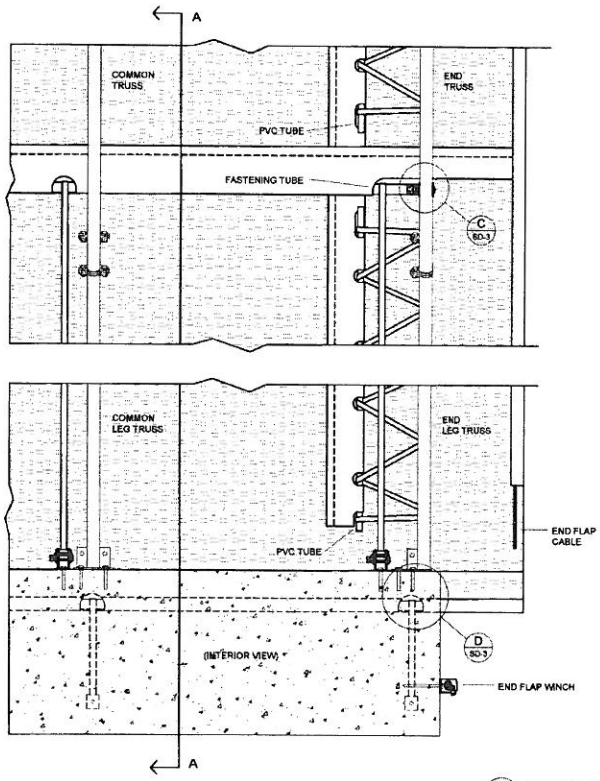
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
STANDARD DETAILS

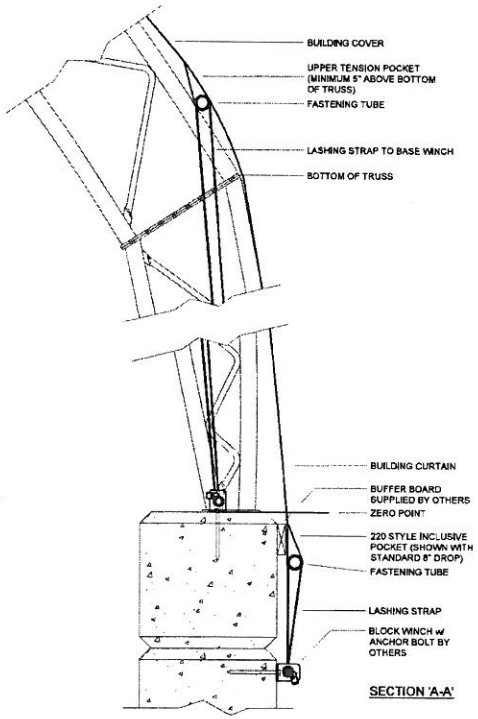
SHEET NO.: SD-2

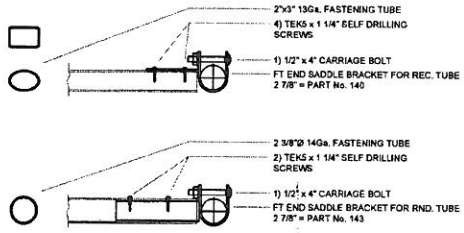
PAGE NO.: 009 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

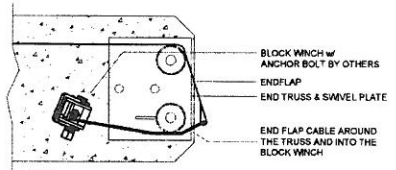


A SD-3 220/420 STANDARD COVER CONNECTION DETAIL



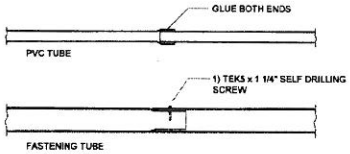


C SD-3 FASTENING TUBE SADDLE CONNECTION DETAILS



NOTE:
ENDFLAP WINCH CAN ALSO BE INSTALLED ON FRONT FACE OF FOUND'N AS SHOWN IN A / SD-3.

D SD-3 END FLAP CABLE & WINCH CONNECTION DETAIL



E SD-3 PVC / FASTENING TUBE CONNECTION DETAILS

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CLARKSBURG, WV.26301

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WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
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ORDER ID:
SO#3780

DRAWING TITLE:
STANDARD DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: SD-3
PAGE NO.: 010 / 12

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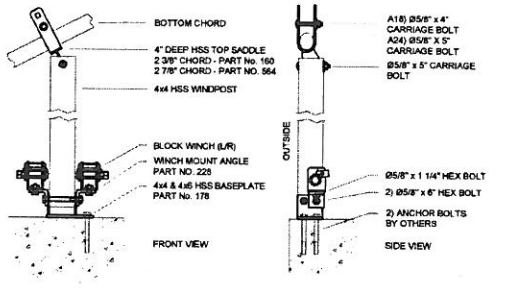
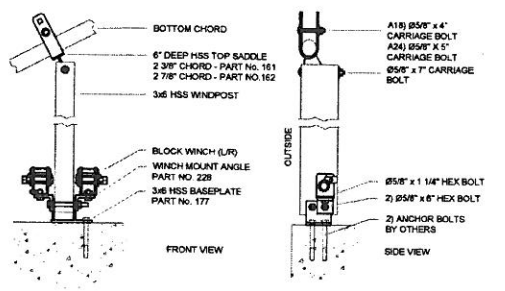
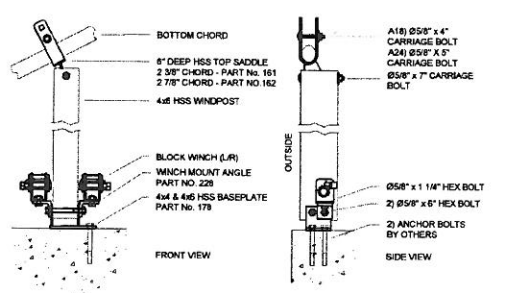


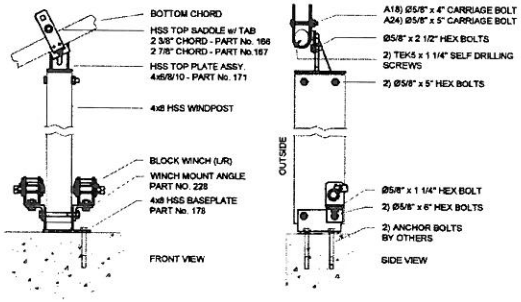
A ED-1 4x4 HSS WINDPOST CONNECTION DETAILS



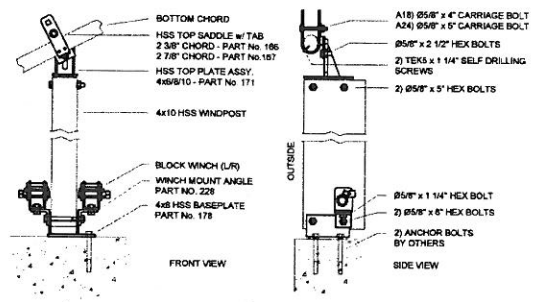
B ED-1 3x6 HSS WINDPOST CONNECTION DETAILS



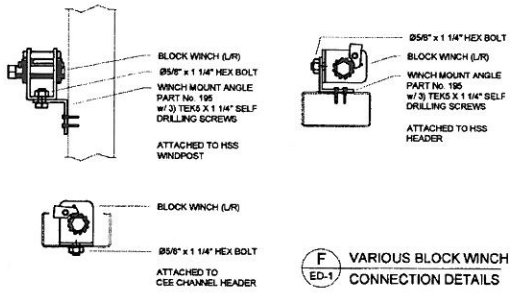
C ED-1 4x6 HSS WINDPOST CONNECTION DETAILS



D ED-1 4x8 HSS WINDPOST CONNECTION DETAILS



E ED-1 4x10 HSS WINDPOST CONNECTION DETAILS



F ED-1 VARIOUS BLOCK WINCH CONNECTION DETAILS

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EAVE DETAILS

SHEET NO.: ED-1
PAGE NO.: 011 /12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
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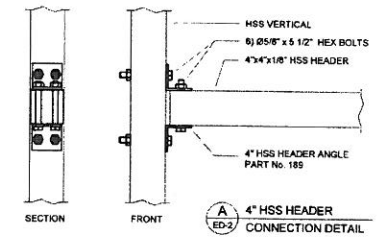
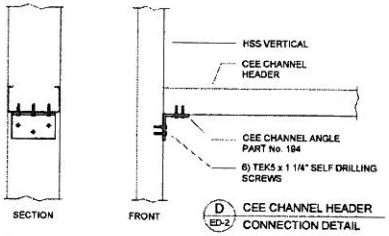
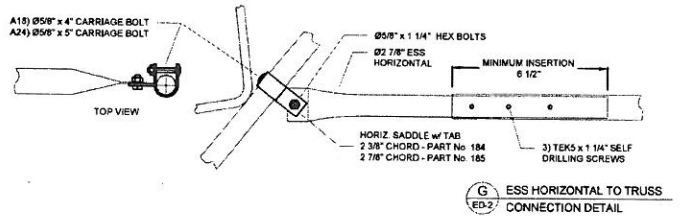


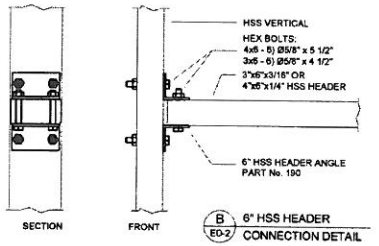
A ED-2 4" HSS HEADER CONNECTION DETAIL



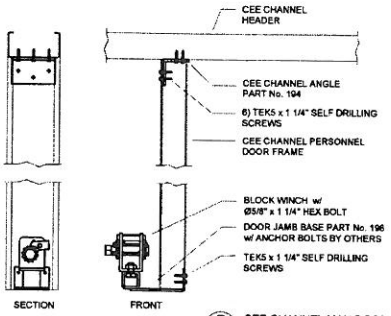
D ED-2 CEE CHANNEL HEADER CONNECTION DETAIL



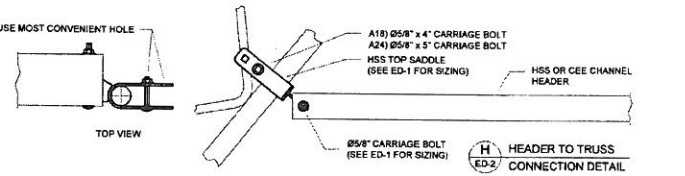
G ED-2 ESS HORIZONTAL TO TRUSS CONNECTION DETAIL



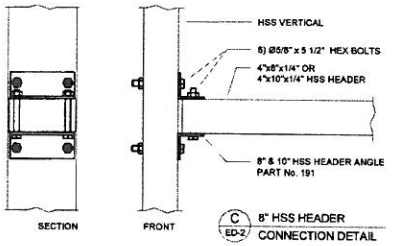
B ED-2 6" HSS HEADER CONNECTION DETAIL



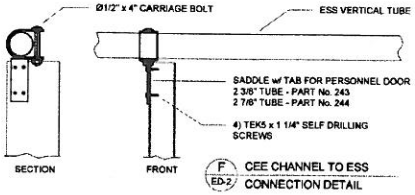
E ED-2 CEE CHANNEL MAN DOOR CONNECTION DETAILS



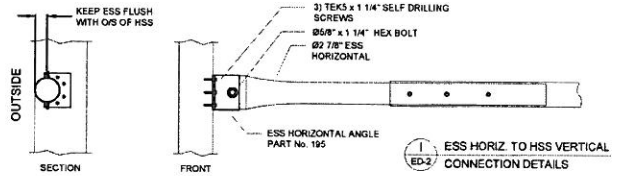
H ED-2 HEADER TO TRUSS CONNECTION DETAIL



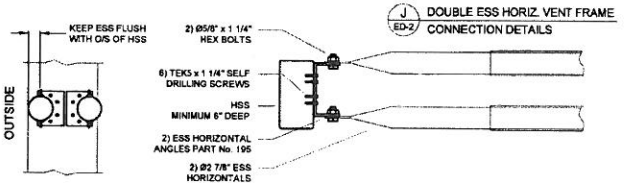
C ED-2 8" HSS HEADER CONNECTION DETAIL



F ED-2 CEE CHANNEL TO ESS CONNECTION DETAIL



I ED-2 ESS HORIZ. TO HSS VERTICAL CONNECTION DETAILS



J ED-2 DOUBLE ESS HORIZ. VENT FRAME CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 100' - 420 GM
12' & 10' oc

ORDER ID:
SO#3780

DRAWING TITLE:
ENDWALL DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: ED-2
PAGE NO.: 012 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

This project has been designed and fabricated in accordance with the following:

1. DESCRIPTION

Owner's Name and Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Supplier's Name and Address:	COVER-ALL BUILDINGS OF WEST VIRGINIA INC. 812 NORTH OHIO AVENUE, CLARKSBURG, WV. 26301
Manufacturer's Name and Address:	BRITESPAN BUILDING SYSTEMS INC. 37651 AMBERLEY ROAD, LUCKNOW, ON. N0G 2H0
Site Location:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Legal Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Type:	ATLAS 24
Building Size:	72' x 140' @ 12' & 10' o.c. (21.946m x 42.673m @ 3.658m & 3.048m o.c) (10,080 sq. ft)
Applicable Building Code:	ASCE 7-05
Intended Use and Occupancy:	STORAGE - SALT/SAND
Construction Type:	COMMERCIAL
Fabric Type:	NON-FR

2. DESIGN STANDARDS
ASCE 7-05, minimum design loads for building and other structures.
SANSI/AISC 360-05, Specification for Structural Steel Buildings
AISI-Truss, North American Specification for the Design of Cold-Formed Steel Structural Members
NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, 2009 Edition

3. MANUFACTURING STANDARDS
Fabrication in accordance with ANSI/AISC 360-05 and AISI-Truss, as applicable.
Weldingin accordance with AWS D1.3 Structural Welding Code and AISI-Truss, as applicable.
Britespan Building Systems Inc. is a AWS approved fabricator as per B5.17 and QC17 standards.
Welders have been qualified in accirdance with QC7-93.

4. DESIGN CRITERIA

Occupancy Category:	S2 CATEGORY I
Exposure Category:	Exposure C (NON COASTAL) - FULLY EXPOSED
Enclosure Category:	PARTIALLY ENCLOSED

A) DEAD LOADS
I) Self-weight of Building Components
II) Collateral (hanging) load, not to exceed 0.25 psf as an allowance for mechanical, electrical ceiling, sprinklers, etc, or any combination there of.

B) LIVE LOADS

Live Loads determined in accordance with section 4 of ASCE 7-05
Minimum roof live load. 12.0 psf

C) SNOW LOADS

Snow loads determined in accordance with section 7 of ASCE 7-05

Ground Snow Load, Pg (1/50)	35.0 psf
Roof Snow Load, Pf	21.17 psf
Exposure Factor, Ce	0.9
Thermal Factor, Ct	1.2
Importance Factor, Is	0.8

D) WIND LOADS

Wind loads determined in accordance with section 6 of ASCE 7-05

Wind Speed (3-sec Gust)	90.0 mph
Basic Wind Pressure, q	22.0 psf
Exposure Coefficient, Kh	0.99
Topographic Factor, Kzt	1.00
Directionality Factor, Kd	0.85
Importance Factor, Iw	0.8

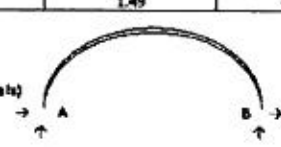
E) LOAD COMBINATIONS
Load combinations determined in accordance with section 2 of 7-05

5. BASE REACTIONS

	SIDE A		SIDE B	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
LOAD CASE:	XA (kips)	YA (kips)	XB (kips)	YB (kips)
DEAD	0.20	0.48	-0.20	0.48
COLLATERAL	0.06	0.11	-0.06	0.11
LIVE	2.74	4.88	-2.74	4.95
SNOW BALANCED	3.26	4.96	-3.26	5.04
SNOW UNBALANCED	2.61	2.34	-2.61	6.66
WIND: PERPENDICULAR	-2.16	3.33	-2.12	2.54
WIND: PARALLEL	-1.59	-7.11	1.49	-7.13

Note:
Negtive values of Y reactions indicates uplift forces.

Note: Standard tubular truss with 10 guage chords and legs (no channels)



GENERAL
THIS DRAWING INCLUDES INFORMATION HERE-ON, REMAINS THE PROPERTY OF BRITESPAN BUILDING SYSTEMS, INC. IT IS PROVIDED SOLEY FOR ERECTING THE BUILDING DESCRIBED IN THE SALES ORDER AND SHALL NOT BE MODIFIED, REPRODUCED OR USED FOR ANY OTHER PURPOSE WITHOUT PRIOR WRITTEN APPROVAL OF BRITESPAN BUILDING SYSTEMS, INC.

THE GENERAL CONTRACTOR AND/OR ERECTOR IS SOLELY RESPONSIBLE FOR ACCURATE, GOOD QUALITY WORKMANSHIP IN ERECTING THIS BUILDING IN CONFORMANCE WITH THIS DRAWING, DETAILS REFERENCED IN THIS DRAWING AND INDUSRTY STANDARDS PERTAINING TO PROPER ERECTION INCLUDING THE PROPER USE OF TEMPORAARY BRACING.

THIS BUILDING IS NOT DESIGNED TO BE LIFTED AS AN ASSEMBLED UNIT. BRITESPAN BUILDING SYSTEMS INC. IS NOT RESPONSIBLE FOR LOSSES AND/OR DAMAGE AS A RESULT OF LIFTING THIS BUILDING. IF, HOWEVER, IT HAS BEEN DETERMINED TO LIFT THIS BUILDING, IT IS THE RESPONSIBILITY OF THE PERSON, FIRM OR COMPANY CONTRACTED TO LIFT THE BUILDING TO SECURE THE SERVICES OF A QUALIFIED ENGINEER TO ENSURE THE LIFT DOES NOT DAMAGE THE BUILDING AND TO DETERMINE AND FINALIZE ALL ASPECTS OF THE LIFT INCLUDING ALL PARTS/CONNECTORS TO BE ADDED TO THE BUILDING TO FACILITATE THE LIFT.

BRITESPAN BUILDING SYSTEMS, INC. IS NOT RESPONSIBLE FOR ERRORS, OMISSION OR DAMAGES INCURRED IN THE ERECTION OF THE COMPONENTS SHOWN ON THIS DRAWING, NOR FOR THE INSPECTION OF ERECTED COMPONENTS TO DETERMINE THE SAME.

THIS CERTIFICATION AND ENGINEERING SEAL APPLIES ONLY TO PRODUCTS DESIGNED AND FABRICATED BY BRITESPAN BUILDING SYSTEMS, INC. FOR THE LOADING CONDITIONS DESIGNED ON THESE DRAWINGS. CONCRETE FOUNDATIONS, STEEL COMPONENTS BY OTHERS AND ERECTION SUPERVISION ARE NOT THE RESPONSIBILITIES OF BRITESPAN BUILDING SYSTEMS, INC. OR THE CERTIFYING ENGINEER. ALL DOORS, WINDOWS AND ROLL-UP CURTAINS MUST BE DESIGNED TO SUPPORT THE SITE WIND LOADING AND ARE RELIED ON TO BE CLOSED IN THE EVENT OF HIGH WINDS.

ANCHOR BOLTS
ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH CSA STANDARD CAN3-S16.1 USING Fy = 36 KSI (248 MPa). ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

ANCHOR BOLT PROJECTIONS BASED ON NO GROUT ARE AS FOLLOWS:

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS.

FINISHED FLOOR ELEVATIONS AND UNDERSIDE OF BASE PLATE IS 100'-0" (1000.000mm) UNLESS NOTED.

ERECTION
THE ERECTION MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL THE LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT A BRACED BAY, ERECT AND TEMPORARILY SUPPORT TRUSSES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. INSTALL PURLINS AND CROSS BRACING. PLUMB AND SQUARE TRUSSES IN ACCORDANCE WITH CAN3-S16.1 AND OSHA 29 CFR PART 1926 - SAFETY STANDARD FOR STEEL ERECTION.

ENSURE ALL PURLINS REMAIN PARALLEL.

STRUCTURAL FRAMING MEMBERS ARE CONSIDERED PLUMB, LEVEL, AND ALIGNED WHEN THE VARIANCE DOES NOT EXCEED 1:300.

STRUCTURAL BOLTS
BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS, OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. ALL STRUCTURAL BOLT DIAMETERS LESS THAN 1" CONFORM TO SAE J429 GR.5., BE PLATED / GALVANIZED OR JS500 COATED FINISH. ALL STRUCTURAL NUT DIAMETERS LESS THAN 1" CONFORM TO SAE J995 GR.8., BE PLATED / GALVANIZED OR JS500 COATED FINISH.

ALL BOLTS LARGER THAN 1" (25mm) DIA. CONFORM TO ASTM A325.
ALL OTHER DIA HEX BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
ALL BOLTS SHALL BE PLATED / GALVANIZED OR SUNSEAL COATED.
ALL BOLT REFERENCES REQUIRE BOTH BOLT AND NUT.

BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION VALUES AS SHOWN IN THE TABLE BELOW.

TABLE A - BOLT TENSION

SIZE		GRADE 5	
in	mm	kips	kN
5/8	16	18	80
3/4	19	28	125
7/8	22	39	174
1.0	25	51	227
SIZE		A325	
1 1/8	29	56	249
1 1/4	32	74	316

STRUCTURAL BOLT TORQUE VALUES
TABLE B LISTS THE BOLT CLAMP WITH A SUGGESTED ASSEMBLY TORQUE VALUES.
TABLE B - IMPERIAL

SIZE		GRADE 5				
DIA. INCH	Threads Per Inch	Tensile ksi Min	Proof Load lbs	Clamp Load lbs	Torque Dry ft-lbs	Torque Lube ft-lbs
3/8	16	120	6600	4950	15	23
7/16	14	120	9050	6780	50	35
1/2	13	120	12100	9050	75	55
5/8	11	120	19200	14400	150	110
3/4	10	120	29400	21300	260	200
SIZE		A325				
1 1/4	7	105	71700	53800	1120	840

MATERIAL SPECIFICATIONS.
ROLLED STRUCTURAL SECTIONS CONFORM TO CSA G40.21-44W (300W).

STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS:
PLATES G40.21 44W G40.21/ASTM A572 GR 44 (300W)
H.S.S. G40.21 50W G40.21/ASTM A572 GR 50 (350W)

COATINGS OF STRUCTURAL PLATES ARE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM 153.

TRUSSES ARE HOT-DIP GALVANIZED INSIDE AND OUT IN ACCORDANCE ASTM 123.

CHROMATE CONVERSION COATING APPLIED OVER THE HOT-DIP GALVANIZED SURFACE TO PROVIDE ADDITIONAL CORROSION PROTECTION.

PURLINS AND TIE-DOWN PIPE ARE PRE-GALVANIZED.

DIAGONAL BRACE STEEL CABLES EXTRA HIGH STRENGTH PER ASTM A475
CROSS CABLES - Ø 5/16" (8mm) TYP U/N.

STRUCTURAL COMPONENTS ARE AS FOLLOWS:
2 7/8" (73.025mm) TUBES - 24" (609.6mm) O/O USING Ø 1 1/4" (31.8mm) WEB &
2 7/8" (73.025mm) PURLINS
ALL OTHER SIZE/GUAGES - MIN YIELD = 55ksi (379MPa).

FABRIC / LINER NOTES
EXTERIOR FABRIC IS AN INTEGRAL PART OF THE STRUCTURAL SYSTEM; REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. ALL TEARS MUST BE PATCHED IMMEDIATELY TO AVOID WARRANTY PROBLEMS.

EXTERIOR FABRIC WILL DEFLECT UNDER LOAD, THEREFORE ALL BUILDING ACCESSORIES (LIGHTING, HVAC, SPRINKLERS, ETC) MUST BE LOCATED BENEATH THE INNER CORD OF THE TRUSS. ANYTHING ABOVE THIS MUST BE REVIEWED AND APPROVED IN WRITING BY BRITESPAN BUILDING SYSTEMS, INC. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

FABRIC SPECIFICATIONS
ALL POLYETHYLENE MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

PHYSICAL	PROPERTIES	DESCRIPTION
BASE SCRIM	HDPE 1500 DENIER YARN	HIGH DENSITY POLYETHYLENE
COATING THICKNESS	4 MIL (94 GSM)	EACH SIDE OF SCRIM
SURFACE TYPE	MODIFIED LDPE C /W UV	LOW DENSITY POLYETHYLENE
WEIGHT	12 OZ./YD2 (407 GSM +/-5%)	MINIMUM WEIGHT
GRAB TENSILE STRENGTH	FR WARP - 365 LBS. (1620 N)	ASTM D5034
	NON-FR WARP - 370 LBS. (1664 N)	ASTM D5034
TONGUE TEAR STRENGTH	FR WARP - 120 LBS. (532 N)	ASTM D2261
	NON-FR WARP - 115 LBS. (510 N)	ASTM D2261
STRIP TENSILE STRENGTH	FR WARP - 270 LBS. (2400 N/5CM)	ASTM D4851
	NON-FR WARP - 275 LBS. (2444 N/5CM)	ASTM D4851
MULLEN BURST	FR - 683 PSI (4705 KPA)	ASTM D3786
	NON-FR - 675 PSI (4657 KPA)	ASTM D3786
THICKNESS	FR - 23 MILS (0.635 MM)	ASTM D1777
	NON-FR - 20 MILS (0.50 MM)	ASTM D1777
COLD CRACK	PASS -60°C	ASTM D2136
FACTORED MEMBRANE RESIST.	WARP - 145 LBS./IN (1287 N/5CM)	ASTM D751A
UV & WEATHERING	90% AFTER 2000 HR.	ASTM G-151-00 / G154-04
COATING ADHESION	5 LBS/INCH	ASTM D-4851-07
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	NFPA 701-2010 METHOD 1 & 2
(FR) FS/SD/CHAR/DRIP	10 / 110 / - / -	ASTM E-84-08
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	CAN/ULC S109-03
(FR) FS/SD/CHAR/DRIP	15 / 95 / - / -	CAN/ULC S102-03
(FR) FS/SD/CHAR/DRIP	0 / 20 / - / -	CAN/ULC S102.2-03
(NON-FR) FS/SD/CHAR/	10 / 65 / -	ASTM E-84
(NON-FR) FS/SD/CHAR/	15 / 100 / -	CAN/ULC S102.2-07

DRAWING SCHEDULE		REVISIONS			
DWG #	DRAWINGS TITLE	REV.	DATE	REV.	DATE
FB-1	COVER PAGE	1	11-Jun-14		
FB-2	BASEPLATE LAYOUT	1	11-Jun-14		
FB-3	PROJECT LAYOUT	1	11-Jun-14		
FB-4	PURLIN LAYOUT	1	11-Jun-14		
FB-5	BRACING LAYOUT	1	11-Jun-14		
EW-1	ENDWALL LAYOUT	1	11-Jun-14		
EW-2	ENDWALL LAYOUT	1	11-Jun-14		
BD-1	BASEPLATE DETAILS	1	11-Jun-14		
SD-1	STANDARD DETAILS 1	1	11-Jun-14		
SD-2	STANDARD DETAILS 2	1	11-Jun-14		
SD-3	STANDARD DETAILS 3	1	11-Jun-14		
ED-1	ENDWALL DETAILS 1	1	11-Jun-14		
ED-2	ENDWALL DETAILS 2	1	11-Jun-14		

ROOF PLAN NOTES
UNLESS NOTED, USE Ø5/8" (16mm) BOLTS FOR PURLIN TO TRUSS, CABLE OR ROD BRACING TO TRUSS AND ANGLES TO TRUSS FOR ALL CONNECTIONS.

CABLE / ROD AND PURLIN BRACING ARE AN INTEGRAL PART OF THE TRUSS STRUCTURAL SYSTEMS AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION FROM BRITESPAN BUILDING SYSTEMS, INC. IS PROHIBITED.

ELEVATION NOTES
HOLES REQUIRED IN HSS COLUMNS, HEADERS OR PURLINS FOR FRAMED OPENINGS. DOOR OR WINDOW POST CONNECTION TO BE BY ERECTOR.

WALK DOOR, WINDOW AND FRAMED OPENING POSTS TO BE FIELD ANCHORED TO CONCRETE WITH Ø1/2" (13mm) "HILTI KWIK-BOLTS" OR SIMILAR

MATERIAL STORAGE
GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. SHORT TERM JOB SITE STORAGE OF STEEL COMPONENTS MAY BE TOLERATED, PROVIDED CARE IS TAKEN TO KEEP THE MATERIALS DRY AT ALL TIMES. WHEN TRUSSES ARE ARE TO BE STORED OUTDOORS, THEY SHOULD BE PLACED AT AN ANGLE SUFFICIENT TO PROMOTE GOOD DRAINAGE. IN ADITTION, SEVERAL INCHES OF CLEARENCE MUST BE PROVIDED BETWEEN THE LOWER END AND THE GROUND TO ALLOW VENTILATION.

NOTE: BRITESPAN BUILDING SYSTEMS, INC. WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

MANUFACTURING STANDARDS
FABRICATION IS IN ACCORDANCE WITH CAN/CSA-S16.1 AND CAN/CSA-S136, AS APPLICABLE.

BRITESPAN BUILDING SYSTEMS, INC. IS A CWB CERTIFIED DIVISION 2.1 MANUFACTURER OF TRUSSES. ALL WELDS ARE COMPLETED IN SHOP AS PER CWB STANDARD CSA W47.1 AND W59. AS PART OF OUR CWB CERTIFICATION AN INDEPENDENT THIRD PARTY TESTS OUR WELDERS AND PROCEDURES AND AUDITS OUR FACILITIES. THIS CERTIFICATION MEETS WITH AWS D1.1 AND D1.3 CRITIERIA.

BLOCK FOUNDATION DESIGNER SHALL DETERMINE ANCHOR BOLT SIZE AND TYPE FOR BRITESPAN LOADS. PROPER MINIMUM EDGE DISTANCE FROM CENTER OF ANCHORS TO EDGE OF CONCRETE BLOCK SIDEWALLS AND ENDWALLS SHALL BE PROVIDED FOR THE ANCHOR TYPE. FOUNDATION DESIGN AND STABILITY OF BLOCKS FOR OVERTURNING IS NOT BY SERVINSKY ENGINEERING, PLLC.

FOR BID PURPOSE ONLY

RTE 15 001 D

BRITESPAN
BUILDING SYSTEMS INC

37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX: 1-519-528-2890

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DRAWN BY: ML
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ATLAS 24
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ORDER ID:
SO#3781

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
COVER PAGE

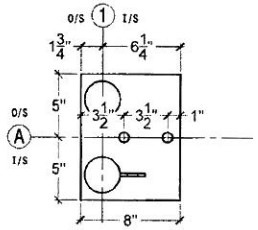
1-21-15

SHEET NO.: FB-1

PAGE NO.: 001 / 12

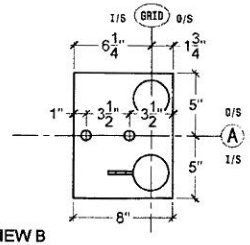
MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
- LICENCED PROFESSIONAL ENGINEER -

BLDG D



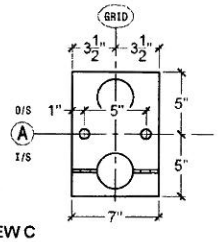
VIEW A

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 137 — LEFT END



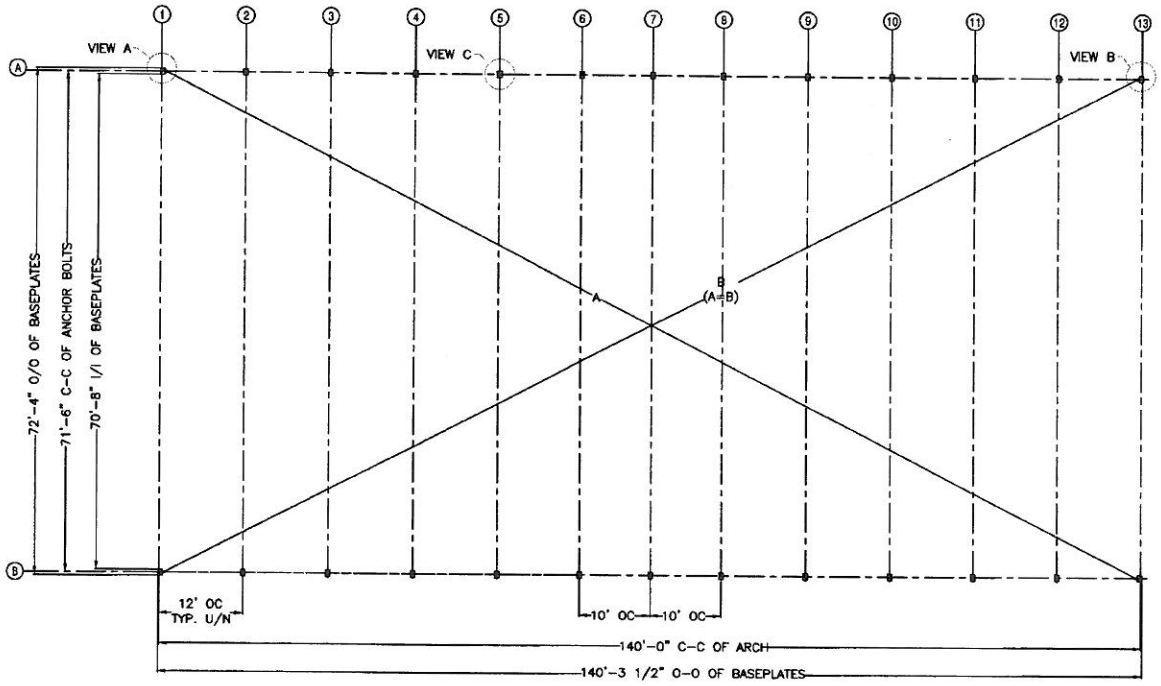
VIEW B

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 136 — RIGHT END



VIEW C

ANCHOR-BOLT HOLES: ⌀ 13/16"
PLATE THICKNESS: 1/2"
PART NUMBER: 135 — COMMON



BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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DRAWN BY: ML
CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

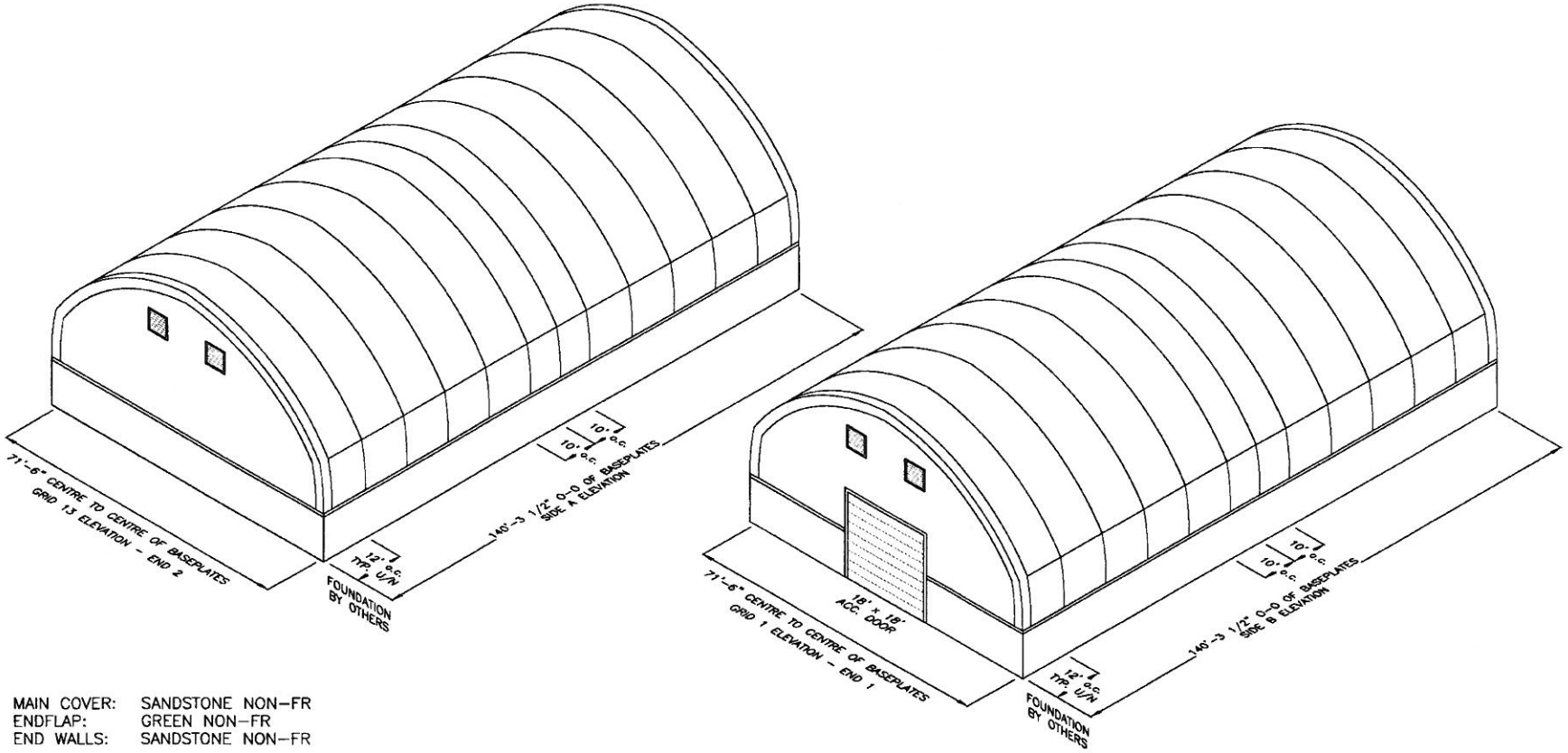
ORDER ID:
SO#3781

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
BASEPLATE LAYOUT

SHEET NO.: FB-2
PAGE NO.: 002 /12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



MAIN COVER: SANDSTONE NON–FR
ENDFLAP: GREEN NON–FR
END WALLS: SANDSTONE NON–FR

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CLARKSBURG, WV.26301

CUSTOMER:
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72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3781

DRAWING TITLE:
PROJECT LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

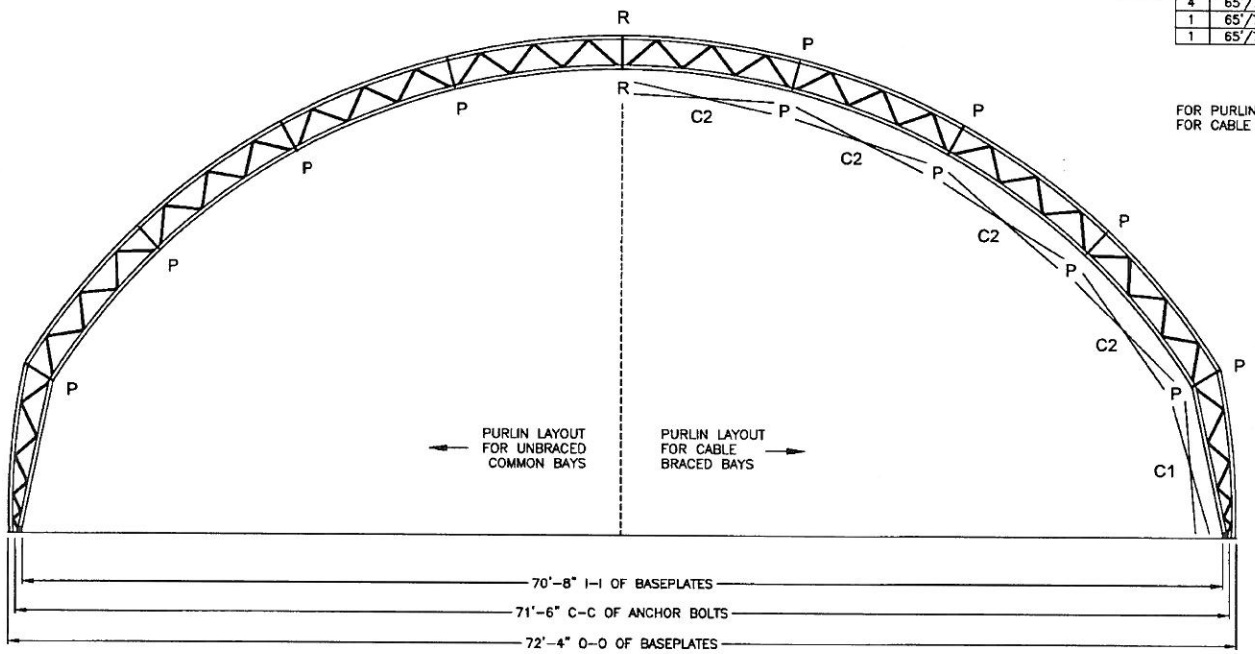
SHEET NO.: FB-3
PAGE NO.: 003 /12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

ATLAS24 – 72'w

Qty.	TRUSS & PART No.
INTERIOR TRUSS	
4	65'/70'/72'/82' COMMON TRUSS – 130
2	65'/72' COMMON LEG – 135
END TRUSS	
4	65'/70'/72'/82' END TRUSS – 132
1	65'/72' RIGHT END LEG – 136
1	65'/72' LEFT END LEG – 137

FOR PURLIN LOCATIONS SEE: SD-1 pg. 008
FOR CABLE LOCATIONS SEE SD-2 pg. 009



A-24 72'	16' BAY		14' BAY		12' BAY		10' BAY		8' BAY		6' BAY		5' BAY	
	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH
C1 CABLE	861225-9	225"	861205-9	205"	861186-9	186"	861167-9	167"	861151-9	151"	861136-9	136"	861131-9	131"
C2 CABLE	861230-9	230"	861210-9	210"	861192-9	192"	861174-9	174"	861157-9	157"	861145-9	145"	861140-9	140"
C3 CABLE														

LENGTHS CHECKED 15.NOV.12 – DS
LENGTHS UPDATED 22.JAN.13 – DS
LENGTHS CHANGED 27.MAR.13 – DS

BRACING LEGEND
P = PURLIN
R = RIDGE PURLIN
X = CROSS CABLE

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72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3781

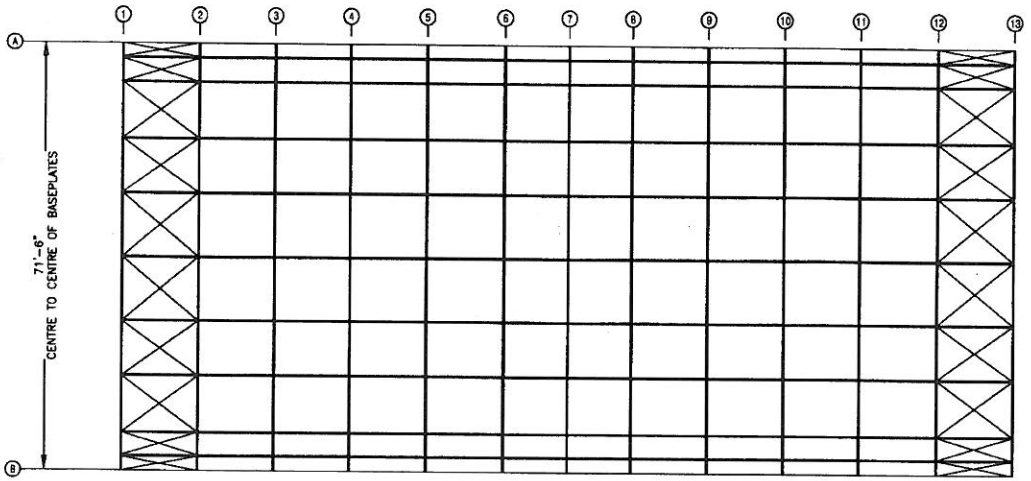
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
PURLIN & X-CABLE LAYOUT

SHEET NO.: FB-4

PAGE NO.: 004 / 12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER

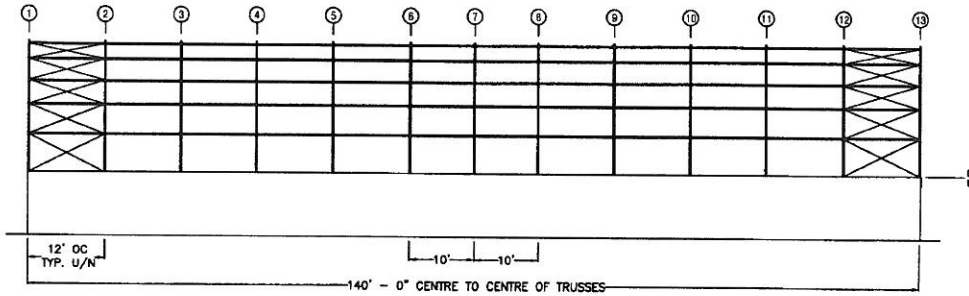


PLAN VIEW

FOR PURLIN DETAILS SEE:
SD--1 pg. 008

FOR CABLE DETAILS SEE:
SD--2 pg. 009

NOTE: THIS BUILDING USES ALL
2 7/8" 14Ga. PURLINS



ELEVATION

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ORDER ID:
SO#3781

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

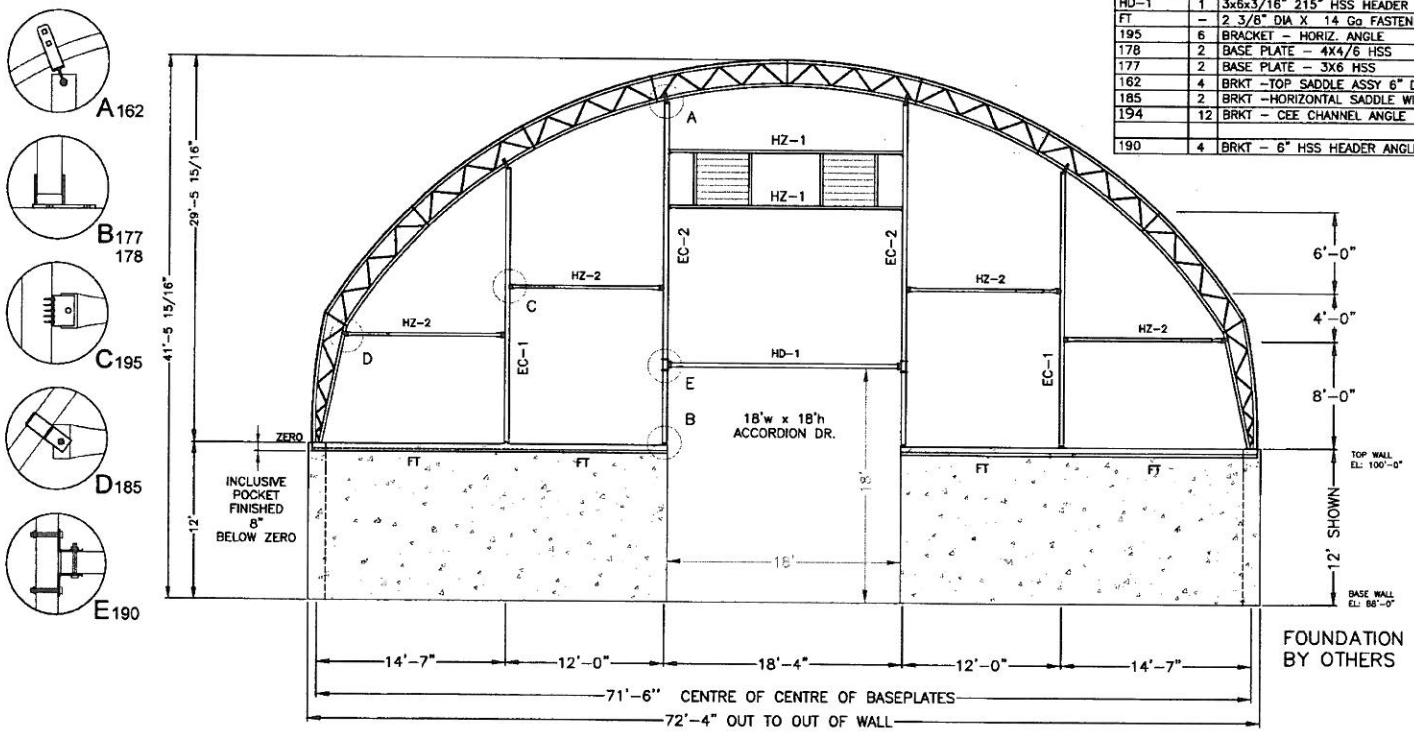
DRAWING TITLE:
BRACING LAYOUT

SHEET NO.: FB-5

PAGE NO.: 005 / 12

MARK S. SERVINSKY
REGISTERED
16764
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 252" HSS VERTICAL
EC-2	2	4x6x1/4" 313" HSS VERTICAL
HZ-1	3	6" CEE CHANNEL - 20' LONG
HZ-2	4	32000039 (2 1/2 - 14GA) + 32000122 (2 7/8" 14 GA)
HD-1	1	3x6x3/16" 215" HSS HEADER
FT	-	2 3/8" DIA X 14 Ga FASTENING TUBE CUT TO LENGTH
195	6	BRACKET - HORIZ. ANGLE
178	2	BASE PLATE - 4X4/6 HSS
177	2	BASE PLATE - 3X6 HSS
162	4	BRKT -TOP SADDLE ASSY 6" DEEP - 2 7/8" CHORD
185	2	BRKT -HORIZONTAL SADDLE WITH TAB - 2 7/8" CHORD
194	12	BRKT - CEE CHANNEL ANGLE
190	4	BRKT - 6" HSS HEADER ANGLE



FOUNDATION BY OTHERS

BRITESPAN BUILDING SYSTEMS INC

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Lucknow, ON, Canada
N0G 2H0
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DEALER:
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ORDER ID:
SO#3781

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

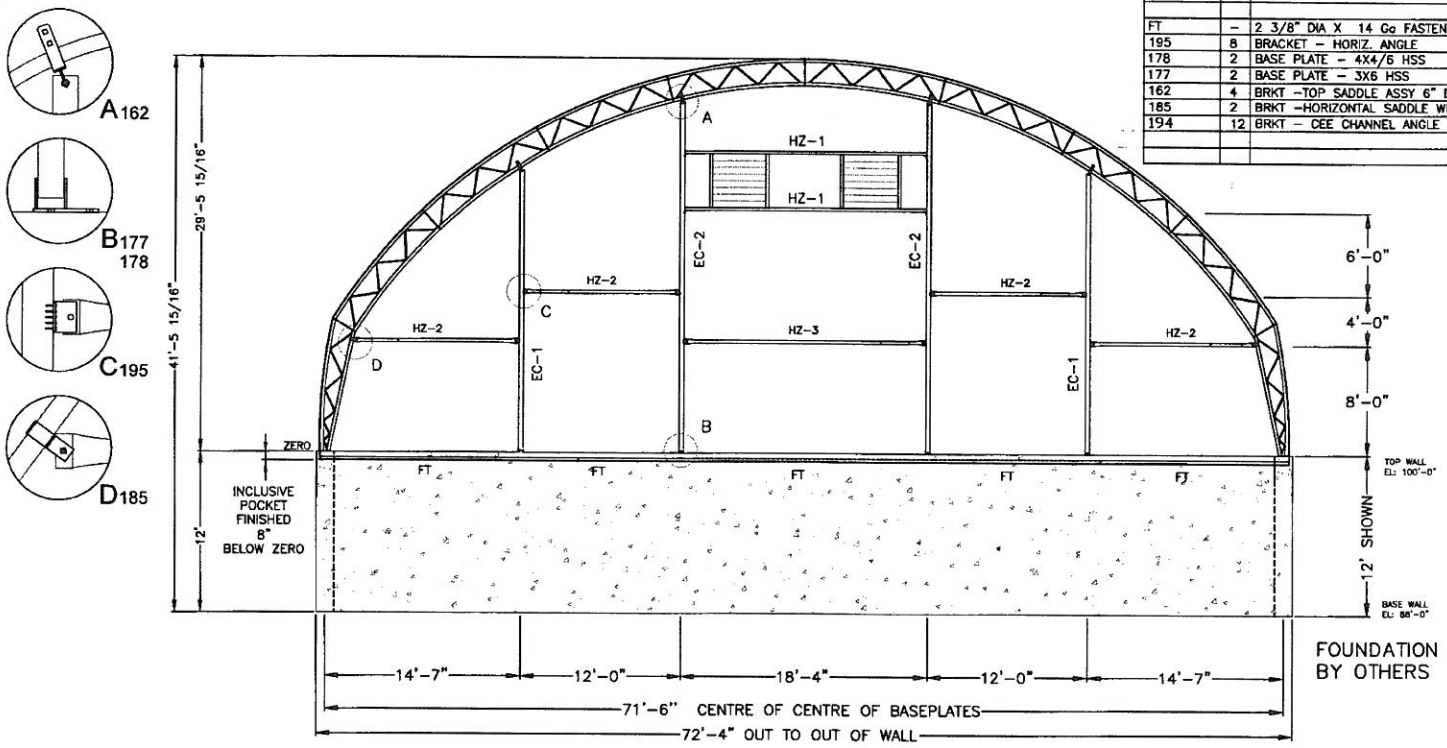
DRAWING TITLE:
ENDWALL LAYOUT

SHEET NO.: EW-1

PAGE NO.: 006a / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 252" HSS VERTICAL
EC-2	2	4x6x1/4" 313" HSS VERTICAL
HZ-1	3	6" CEE CHANNEL - 20' LONG
HZ-2	4	32000039 (2 1/2 - 14GA) + 32000122 (2 7/8" 14 GA)
HZ-3	1	32000039 (2 1/2 - 14GA) + 32000194 (2 7/8" 14 GA)
FT	-	2 3/8" DIA X 14 Ga FASTENING TUBE CUT TO LENGTH
195	8	BRACKET - HORIZ. ANGLE
178	2	BASE PLATE - 4X4/6 HSS
177	2	BASE PLATE - 3X6 HSS
162	4	BRKT -TOP SADDLE ASSY 6" DEEP - 2 7/8" CHORD
185	2	BRKT -HORIZONTAL SADDLE WITH TAB - 2 7/8" CHORD
194	12	BRKT - CEE CHANNEL ANGLE



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ORDER ID:
SO#3781

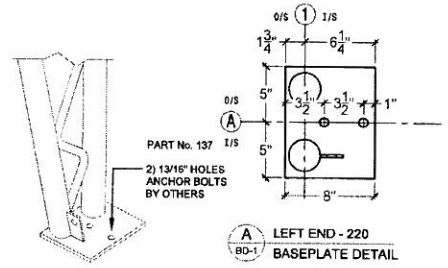
DRAWING TITLE:
ENDWALL LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

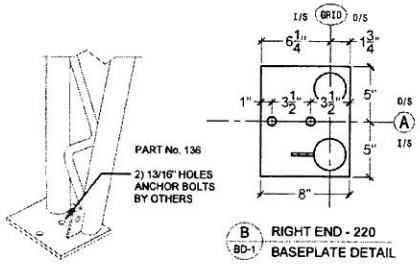
SHEET NO.: EW-2

PAGE NO.: 006b / 12

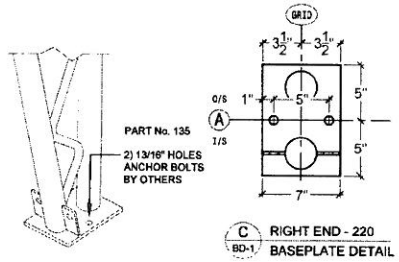
MARK S. SERVINSKY
REGISTERED
16784
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



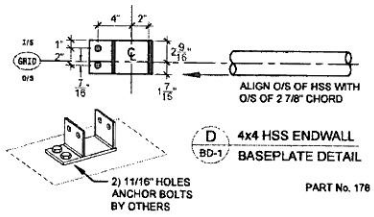
A BD-1 LEFT END - 220 BASEPLATE DETAIL



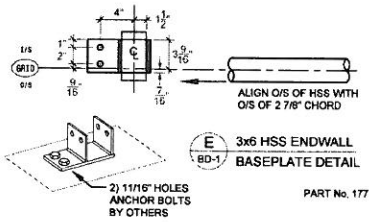
B BD-1 RIGHT END - 220 BASEPLATE DETAIL



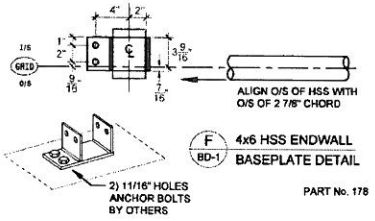
C BD-1 RIGHT END - 220 BASEPLATE DETAIL



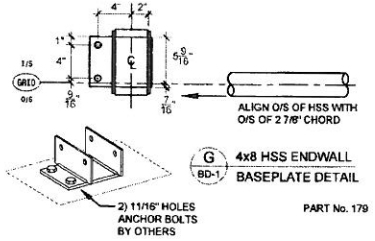
D BD-1 4x4 HSS ENDWALL BASEPLATE DETAIL



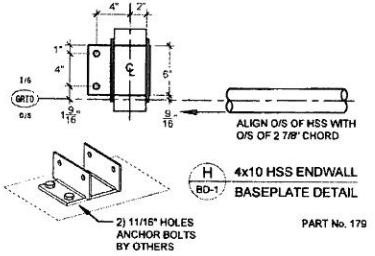
E BD-1 3x6 HSS ENDWALL BASEPLATE DETAIL



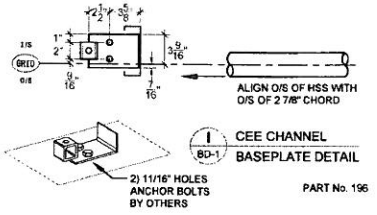
F BD-1 4x6 HSS ENDWALL BASEPLATE DETAIL



G BD-1 4x8 HSS ENDWALL BASEPLATE DETAIL



H BD-1 4x10 HSS ENDWALL BASEPLATE DETAIL



I BD-1 CEE CHANNEL BASEPLATE DETAIL

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Lucknow, ON, Canada
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812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3781

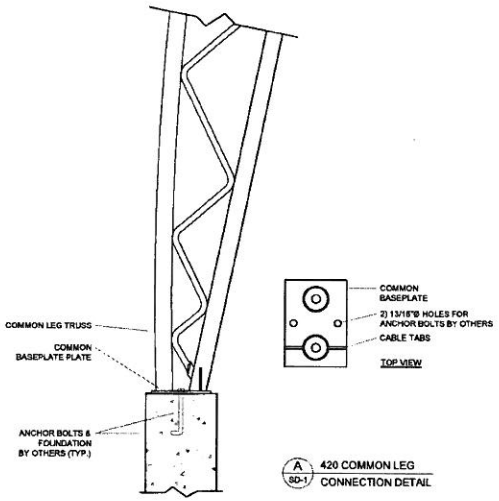
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
BASEPLATE DETAILS

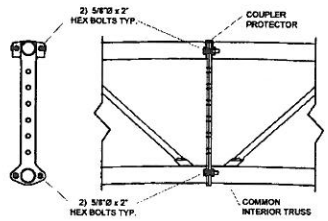
SHEET NO.: BD-1

PAGE NO.: 007 / 12

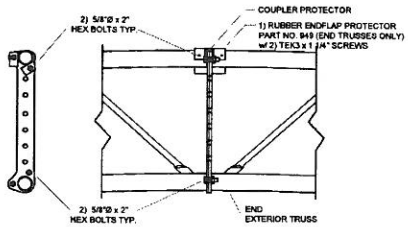
MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



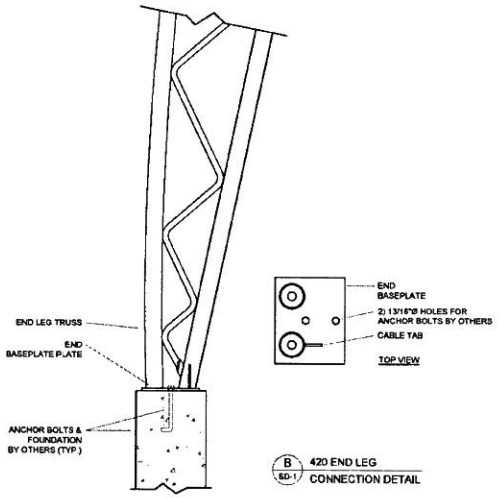
A SD-1 420 COMMON LEG CONNECTION DETAIL



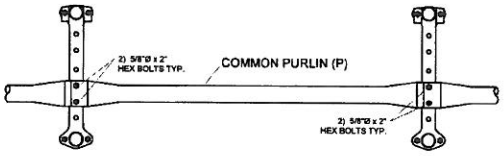
C SD-1 COMMON TRUSS CONNECTION DETAIL



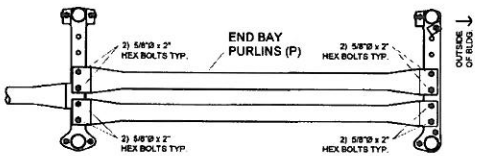
D SD-1 END TRUSS CONNECTION DETAIL



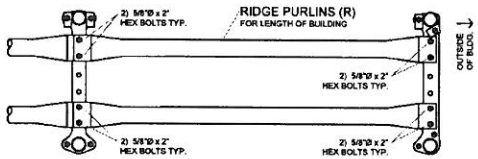
B SD-1 420 END LEG CONNECTION DETAIL



E SD-1 COMMON PURLIN CONNECTION DETAIL



F SD-1 END BAY PURLIN CONNECTION DETAIL



G SD-1 RIDGE PURLIN CONNECTION DETAIL

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WIDTH-STEEL-FAB-HSS-HSSDROP:
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DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-1
PAGE NO.: 008 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
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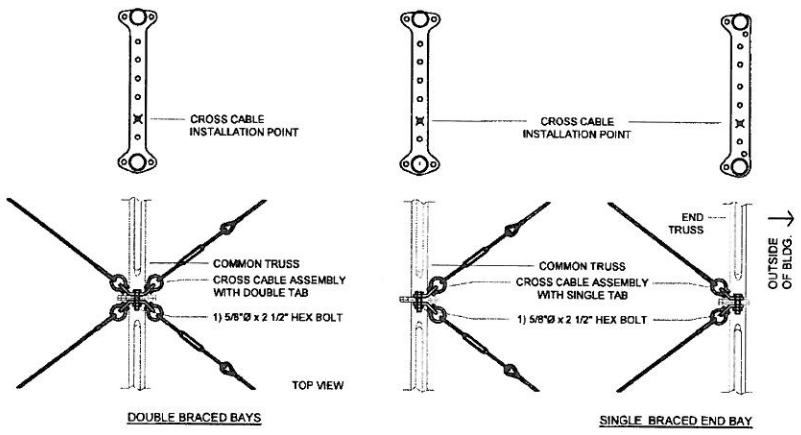
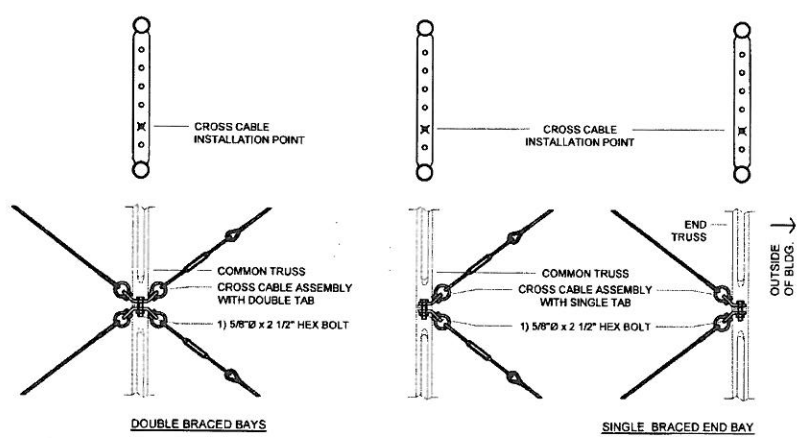
PROFESSIONAL ENGINEER



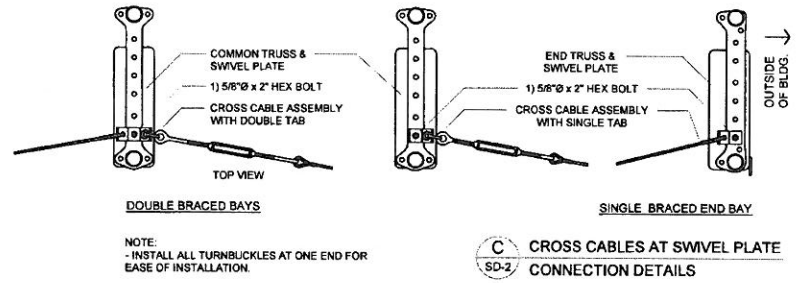
NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

A SD-2 CROSS CABLES AT DOGBONE CONNECTION DETAILS



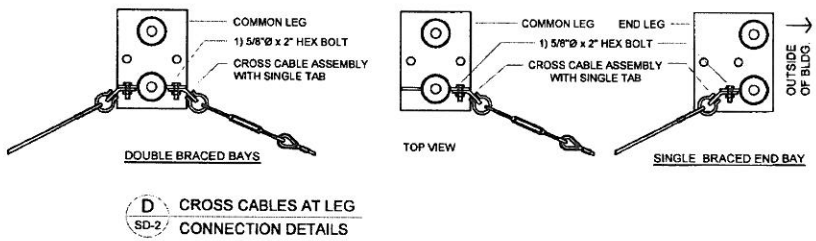
NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

B SD-2 CROSS CABLES AT KINGPIN CONNECTION DETAILS



NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

C SD-2 CROSS CABLES AT SWIVEL PLATE CONNECTION DETAILS



D SD-2 CROSS CABLES AT LEG CONNECTION DETAILS

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	11.JUN.14

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3781

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-2

PAGE NO.: 009 / 12

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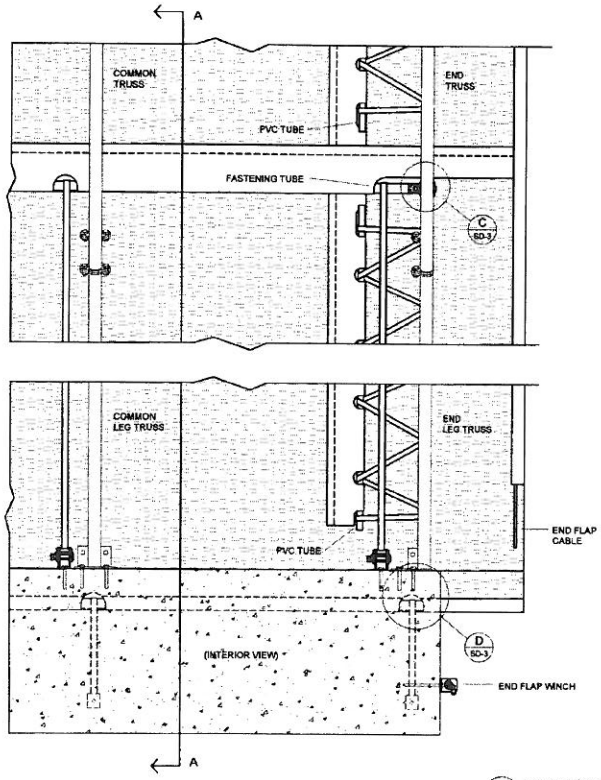
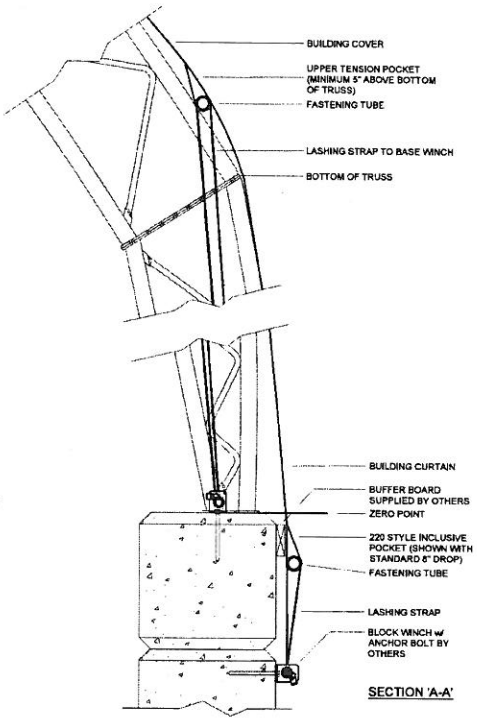
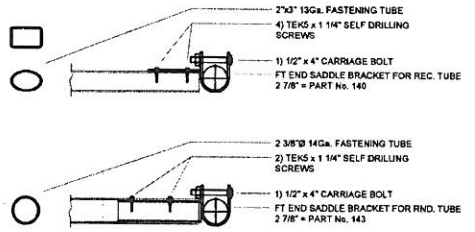


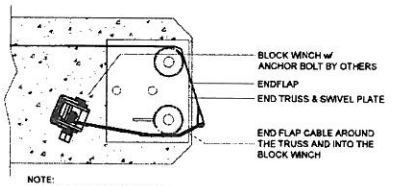
A SD-3 220/420 STANDARD COVER CONNECTION DETAIL



SECTION 'A-A'

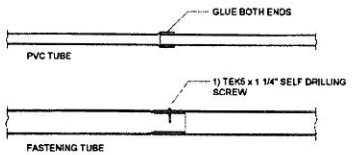


C SD-3 FASTENING TUBE SADDLE CONNECTION DETAILS



NOTE:
ENDFLAP WINCH CAN ALSO BE INSTALLED ON FRONT FACE OF FOUND'N AS SHOWN IN A / SD-2.

D SD-3 END FLAP CABLE & WINCH CONNECTION DETAIL



E SD-3 PVC / FASTENING TUBE CONNECTION DETAILS

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DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-3

PAGE NO.: 010 / 12

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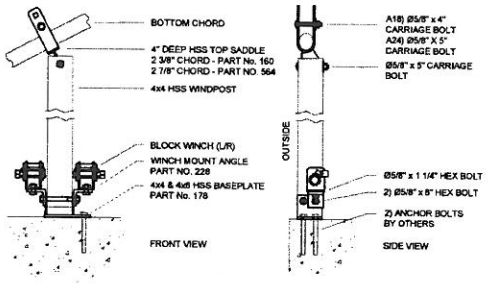
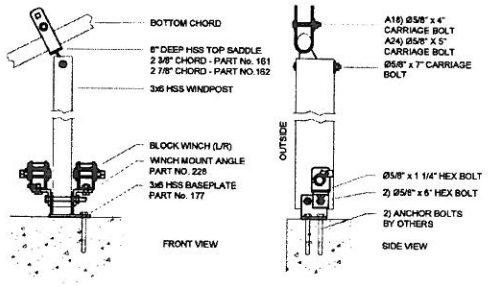
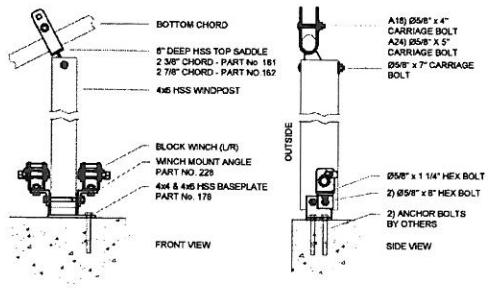
18734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



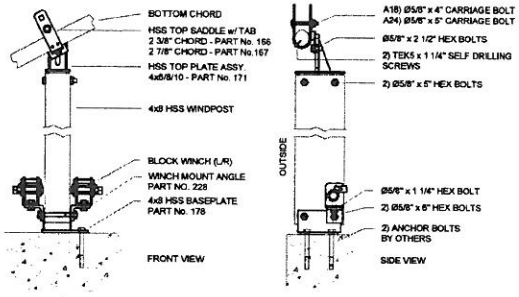
A ED-1 4x4 HSS WINDPOST CONNECTION DETAILS



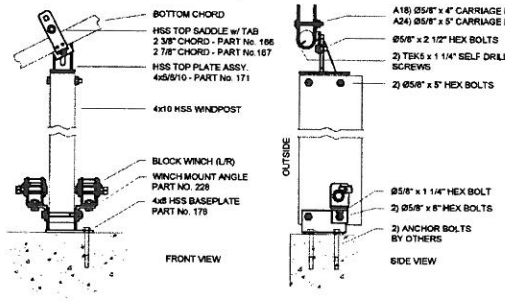
B ED-1 3x6 HSS WINDPOST CONNECTION DETAILS



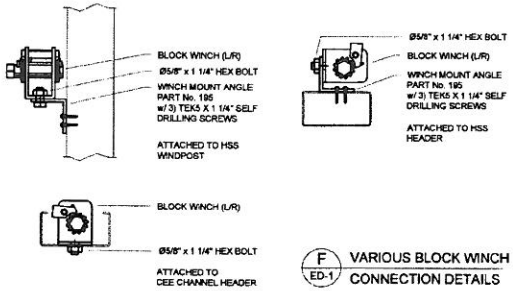
C ED-1 4x6 HSS WINDPOST CONNECTION DETAILS



D ED-1 4x8 HSS WINDPOST CONNECTION DETAILS



E ED-1 4x10 HSS WINDPOST CONNECTION DETAILS



F ED-1 VARIOUS BLOCK WINCH CONNECTION DETAILS

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EAVE DETAILS

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72-420-220-18-0

SHEET NO.: ED-1
PAGE NO.: 011 / 12

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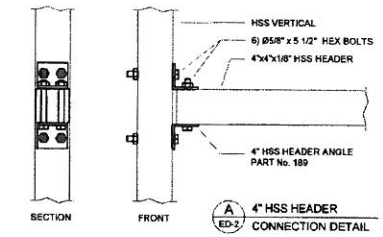
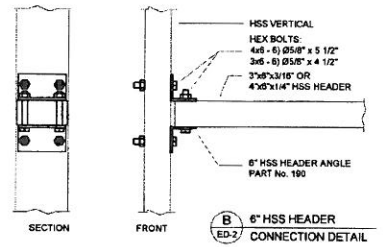
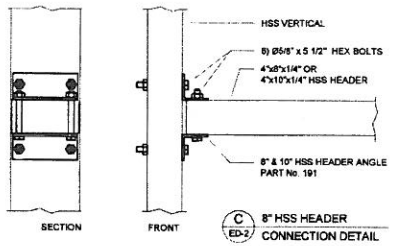


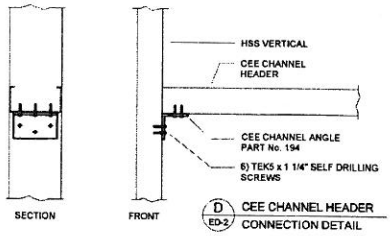
A 4" HSS HEADER CONNECTION DETAIL (ED-2)



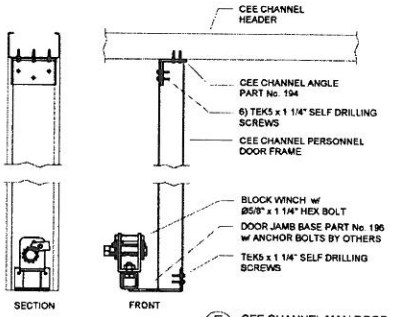
B 6" HSS HEADER CONNECTION DETAIL (ED-2)



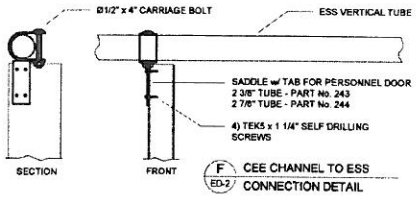
C 8" HSS HEADER CONNECTION DETAIL (ED-2)



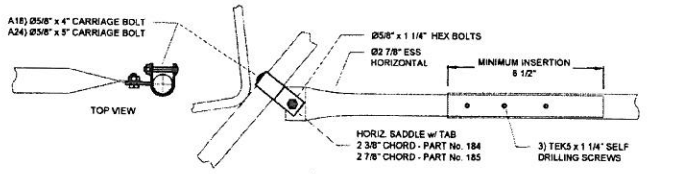
D CEE CHANNEL HEADER CONNECTION DETAIL (ED-2)



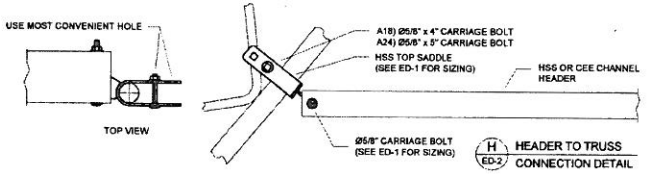
E CEE CHANNEL MAN DOOR CONNECTION DETAILS (ED-2)



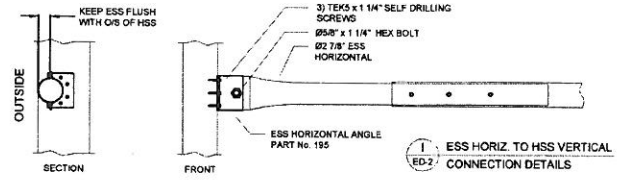
F CEE CHANNEL TO ESS CONNECTION DETAIL (ED-2)



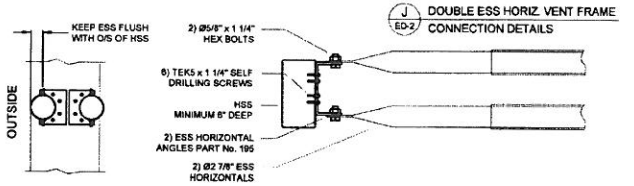
G ESS HORIZONTAL TO TRUSS CONNECTION DETAIL (ED-2)



H HEADER TO TRUSS CONNECTION DETAIL (ED-2)



I ESS HORIZ. TO HSS VERTICAL CONNECTION DETAILS (ED-2)



J DOUBLE ESS HORIZ. VENT FRAME CONNECTION DETAILS (ED-2)

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37651 Amberley Road
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FAX:1-519-528-2890

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812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
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72-420-220-18-0

DRAWING TITLE:
ENDWALL DETAILS

SHEET NO.: ED-2
PAGE NO.: 012 /12

MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

This project has been designed and fabricated in accordance with the following:

1. DESCRIPTION

Owner's Name and Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Supplier's Name and Address:	COVER-ALL BUILDINGS OF WEST VIRGINIA INC. 812 NORTH OHIO AVENUE, CLARKSBURG, WV. 26301
Manufacturer's Name and Address:	BRITESPAN BUILDING SYSTEMS INC. 3851 AMBERLEY ROAD, LUCKNOW, ON. N0G 2H0
Site Location:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Legal Address:	WVDOH 200 SAMAITAN DRIVE, SHADY SPRINGS, WV. 25918
Building Type:	ATLAS 24
Building Size:	72' x 140' @ 12' & 10' o.c. (21.946m x 42.673m @ 3.659m & 3.048m o.c.) (10,080 sq ft)
Applicable Building Code:	ASCE 7-05
Intended Use and Occupancy:	STORAGE - SALT/SAND
Construction Type:	COMMERCIAL
Fabric Type:	NON-FR

2. DESIGN STANDARDS
ASCE 7-05, minimum design loads for building and other structures.
SANSI/AISC 360-05, Specification for Structural Steel Buildings
AISI-truss, North American Specification for the Design of Cold-Formed Steel Structural Members
NFPA 701, Standard Methods of Fire Tests for Flame Propagation of Textiles and Films, 2009 Edition

3. MANUFACTURING STANDARDS
Fabrication is accordance with ANSI/AISC 360-05 and AISI-Truss, as applicable.
Weldingin accordance with AWS D1.3 Structural Welding Code and AISI-Truss, as applicable.
Britespan Building Systems Inc. is a AWS approved fabricator as per QS.17 and QC17 standards.
Welders have been qualified in accordance with QC7-93.

4. DESIGN CRITERIA

S2 Category I

Occupancy Category:	
Exposure Category:	Exposure C (NON COASTAL) FULLY EXPOSED
Enclosure Category:	PARTIALLY ENCLOSED

A) DEAD LOADS
I) Self-weight of Building Components
II) Collateral (hanging) load, not to exceed 0.25 psf as an allowance for mechanical, electrical ceiling, sprinklers, etc, or any combination there of.

B) LIVE LOADS

Live Loads determined in accordance with section 4 of ASCE 7-05
Minimum roof live load. 12.0 psf

C) SNOW LOADS

Snow loads determined in accordance with section 7 of ASCE 7-05

Ground Snow Load, Pg (1750)	35.0 psf
Roof Snow Load, Pf	21.17 psf
Exposure Factor, Ce	0.9
Thermal Factor, Ct	1.2
Importance Factor, Is	0.8

D) WIND LOADS

Wind loads determined in accordance with section 6 of ASCE 7-05

Wind Speed (3-sec Gust)	90.0 mph
Basic Wind Pressure, q	22.6 psf
Exposure Coefficient, Kh	0.99
Topographic Factor, Kzt	1.00
Directionality Factor, Kd	0.85
Importance Factor, Is	0.8

E) LOAD COMBINATIONS
Load combinations determined in accordance with section 2 of 7-05
5. BASE REACTIONS

	SIDE A		SIDE B	
	HORIZONTAL	VERTICAL	HORIZONTAL	VERTICAL
LOAD CASE:	XA (kips)	YA (kips)	XB (kips)	YB (kips)
DEAD	0.20	0.48	-0.20	0.48
COLLATERAL	0.00	0.11	-0.00	0.11
LIVE	2.74	4.88	-2.74	4.95
SNOW BALANCED	3.26	4.96	-3.26	5.04
SNOW UNBALANCED	2.53	3.94	-2.61	6.66
WIND: PERPENDICULAR	-2.16	3.33	-2.12	2.54
WIND: PARALLEL	-1.39	-7.11	1.49	-7.13

Note:
Negitive values of Y reactions indicates uplift forces.

Note: Standard tubular truss with 20 gauge chords and legs (no channels)



GENERAL
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ANCHOR BOLTS
ANCHOR BOLT DIAMETERS ARE DETERMINED IN ACCORDANCE WITH CSA STANDARD CAN3-S16.1 USING Fy = 36 KSI (248 MPa). ANCHOR BOLT LENGTHS AND LOAD TRANSFER TO THE FOUNDATION ARE TO BE DETERMINED BY OTHERS.

ANCHOR BOLT PROJECTIONS BASED ON NO GROUT ARE AS FOLLOWS:

FOUNDATION MUST BE LEVEL, SQUARE AND SMOOTH. ANCHOR BOLTS MUST BE ACCURATELY PLACED AS SHOWN ON THE DRAWINGS.

FINISHED FLOOR ELEVATIONS AND UNDERSIDE OF BASE PLATE IS 100'-0" (1000.000mm) UNLESS NOTED.

ERECTION
THE ERECTION MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL THE LIFTING DEVICES ARE TO BE SPECIFICALLY DESIGNED TO LIFT THE VARIOUS BUILDING COMPONENTS. SLINGS AND SPREADER BARS ARE TO BE USED TO PREVENT PERMANENT DEFORMATION OF ALL STRUCTURAL COMPONENTS.

ERECTION SHOULD START AT A BRACED BAY. ERECT AND TEMPORARILY SUPPORT TRUSSES. USE TEMPORARY BRACING AS REQUIRED TO ENSURE STABILITY OF THE FRAMES. INSTALL PURLINS AND CROSS BRACING. PLUMB AND SQUARE TRUSSES IN ACCORDANCE WITH CAN3-S16.1 AND OSHA 29 CFR PART 1926 - SAFETY STANDARD FOR STEEL ERECTION.

ENSURE ALL PURLINS REMAIN PARALLEL.

STRUCTURAL FRAMING MEMBERS ARE CONSIDERED PLUMB, LEVEL, AND ALIGNED WHEN THE VARIANCE DOES NOT EXCEED 1:300.

STRUCTURAL BOLTS
BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS, OR WHERE LOOSENING DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE NOT DESIGN CONSIDERATIONS NEED ONLY BE SNUG TIGHTENED, WHICH IS DEFINED AS THE TIGHTNESS THAT EXISTS WHEN ALL PLIES IN A JOINT ARE IN FIRM CONTACT. ALL STRUCTURAL BOLT DIAMETERS LESS THAN 1" CONFORM TO SAE J429 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH. ALL STRUCTURAL NUT DIAMETERS LESS THAN 1" CONFORM TO SAE J995 GR.5., BE PLATED / GALVANIZED OR J5500 COATED FINISH.

ALL BOLTS LARGER THAN 1" (25mm) DIA. CONFORM TO ASTM A325.
ALL OTHER DIA HEX BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
ALL BOLTS SHALL BE PLATED / GALVANIZED OR SUNGEAL COATED.
ALL BOLT REFERENCES REQUIRE BOTH BOLT AND NUT.

BOLTS IN CONNECTIONS NOT SUBJECT TO TENSION LOADS REQUIRE PRE-TENSIONING TO MINIMUM TENSION VALUES AS SHOWN IN THE TABLE BELOW.

TABLE A - BOLT TENSION

SIZE	GRADE 5			
in	mm	kips	kN
5/8	16	18	80
3/4	19	28	125
7/8	22	39	174
1.0	25	51	227
SIZE	A325		
1 1/8	29	59	249
1 1/4	32	74	316

STRUCTURAL BOLT TORQUE VALUES
TABLE B LISTS THE BOLT CLAMP WITH A SUGGESTED ASSEMBLY TORQUE VALUES.
TABLE B - IMPERIAL

SIZE DIA. INCH	Threads Per Inch	GRADE 5 Tensile ksi Min	Proof Load lbs	Clamp Load lbs	Torque Dry ft-lbs	Torque Lube ft-lbs
3/8	16	120	6600	4950	15	23
7/16	14	120	9050	6780	50	35
1/2	13	120	12100	9050	75	55
5/8	11	120	19200	14400	150	110
3/4	10	120	28400	21300	266	200
SIZE		A325				
1 1/4	7	105	71750	53800	1120	840

MATERIAL SPECIFICATIONS.
ROLLED STRUCTURAL SECTIONS CONFORM TO CSA G40.21-44W (300W).

STRUCTURAL PLATE CONFORMS TO THE FOLLOWING SPECIFICATIONS:
PLATES G40.21 44W G40.21/ASTM A572 GR 44 (300W)
H.S.S. G40.21 50W G40.21/ASTM A572 GR 50 (350W)

COATINGS OF STRUCTURAL PLATES ARE HOT-DIP GALVANIZED IN ACCORDANCE WITH ASTM 153.

TRUSSES ARE HOT-DIP GALVANIZED INSIDE AND OUT IN ACCORDANCE ASTM 123.

CHROMATE CONVERSION COATING APPLIED OVER THE HOT-DIP GALVANIZED SURFACE TO PROVIDE ADDITIONAL CORROSION PROTECTION.

PURLINS AND TIE-DOWN PIPE ARE PRE-GALVANIZED.

DIAGONAL BRACE STEEL CABLES EXTRA HIGH STRENGTH PER ASTM A475
CROSS CABLES - Ø 5/16" (8mm) TYP U/N.

STRUCTURAL COMPONENTS ARE AS FOLLOWS:
2 7/8" (73.025mm) TUBES - 24" (609.6mm) O/O USING Ø 1 1/4" (31.8mm) WEB &
2 7/8" (73.025mm) PURLINS
ALL OTHER SIZE/GUAGES = MIN YIELD = 55ksi (379MPa).

FABRIC / LINER NOTES
EXTERIOR FABRIC IS AN INTEGRAL PART OF THE STRUCTURAL SYSTEM; REMOVAL OR ALTERATION WITHOUT PRIOR AUTHORIZATION IS PROHIBITED. ALL TEARS MUST BE PATCHED IMMEDIATELY TO AVOID WARRANTY PROBLEMS.

EXTERIOR FABRIC WILL DEFLECT UNDER LOAD, THEREFORE ALL BUILDING ACCESSORIES (LIGHTING, HVAC, SPRINKLERS, ETC) MUST BE LOCATED BENEATH THE INNER CORD OF THE TRUSS. ANYTHING ABOVE THIS MUST BE REVIEWED AND APPROVED IN WRITING BY BRITESPAN BUILDING SYSTEMS, INC. SEVERE DAMAGE TO THE BUILDING AND ACCESSORIES MAY RESULT FROM FAILURE TO COMPLY WITH THIS REQUIREMENT.

FABRIC SPECIFICATIONS
ALL POLYETHYLENE MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

PHYSICAL	PROPERTIES	DESCRIPTION
BASE SCRIM	HDPE 16DD DENIER YARN	HIGH DENSITY POLYETHYLENE
COATING THICKNESS	4 MIL (94 GSM)	EACH SIDE OF SCRIM
SURFACE TYPE	MODIFIED LDPE C /W UV	LOW DENSITY POLYETHYLENE
WEIGHT	12 OZ./YD2 (407 GSM +/-5%)	MINIMUM WEIGHT
GRAB TENSILE STRENGTH	FR WARP - 365 LBS. (1620 N)	ASTM D5034
	NON-FR WARP - 370 LBS. (1664 N)	ASTM D5034
TONGUE TEAR STRENGTH	FR WARP - 120 LBS. (532 N)	ASTM D2261
	NON-FR WARP - 115 LBS. (510 N)	ASTM D2261
STRIP TENSILE STRENGTH	FR WARP - 370 LBS. (2400 N/50M)	ASTM D4851
	NON-FR WARP - 375 LBS. (2444 N/50M)	ASTM D4851
MULLEN BURST	FR - 883 PSI (4705 KPA)	ASTM D3786
	NON-FR - 675 PSI (4657 KPA)	ASTM D3786
THICKNESS	FR - 23 MILS (0.635 MM)	ASTM D1777
	NON-FR - 20 MILS (0.50 MM)	ASTM D1777
COLD CRACK	PASS -60°C	ASTM D2136
FACTORED MEMBRANE RESIST.	WARP - 145 LBS./IN (1287 N/50M)	ASTM D751A
UV & WEATHERING	80% AFTER 2000 HR.	ASTM G-151-00 / G154-04
COATING ADHESION	5 LBS/INCH	ASTM D-4851-07
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	NFPA 701-2010 METHOD 1 & 2
(FR) FS/SD/CHAR/DRIP	10 / 110 / - / -	ASTM E-84-09
(FR) FS/SD/CHAR/DRIP	- / - / PASS / NO	CAN/ULC S109-03
(FR) FS/SD/CHAR/DRIP	15 / 95 / - / -	CAN/ULC S102-03
(FR) FS/SD/CHAR/DRIP	0 / 90 / - / -	CAN/ULC S102.2-03
(NON-FR) FS/SD/CHAR/	10 / 85 / -	ASTM E-84
(NON-FR) FS/SD/CHAR/	15 / 100 / -	CAN/ULC S102.2-07

DRAWING SCHEDULE

DWG #	DRAWINGS TITLE
FS-1	COVER PAGE
FS-2	BASEPLATE LAYOUT
FS-3	PROJECT LAYOUT
FS-4	PURLIN LAYOUT
FS-5	BRACING LAYOUT
EW-1	ENDWALL LAYOUT
EW-2	ENDWALL LAYOUT
BD-1	BASEPLATE DETAILS
SD-1	STANDARD DETAILS 1
SD-2	STANDARD DETAILS 2
SD-3	STANDARD DETAILS 3
ED-1	ENDWALL DETAILS 1
ED-2	ENDWALL DETAILS 2

REVISIONS

REV.	DATE	REV.	DATE
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		
1	20.JAN.2015		

ROOF PLAN NOTES
UNLESS NOTED, USE Ø5/8" (16mm) BOLTS FOR PURLIN TO TRUSS, CABLE OR ROD BRACING TO TRUSS AND ANGLES TO TRUSS FOR ALL CONNECTIONS.

CABLE / ROD AND PURLIN BRACING ARE AN INTEGRAL PART OF THE TRUSS STRUCTURAL SYSTEMS AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION FROM BRITESPAN BUILDING SYSTEMS, INC. IS PROHIBITED.

ELEVATION NOTES
HOLES REQUIRED IN HSS COLUMNS, HEADERS OR PURLINS FOR FRAMED OPENINGS. DOOR OR WINDOW POST CONNECTION TO BE BY ERECTOR.

WALK DOOR, WINDOW AND FRAMED OPENING POSTS TO BE FIELD ANCHORED TO CONCRETE WITH 01/2" (12mm) "HILTI KWIK-BOLTS" OR SIMILAR

MATERIAL STORAGE
GALVANIZED, ALUMINIZED, AND COLORED MATERIALS ARE SUBJECT TO CORROSION AND DISCOLORATION IF THEY ARE IMPROPERLY STORED. SHORT TERM JOB SITE STORAGE OF STEEL COMPONENTS MAY BE TOLERATED, PROVIDED CARE IS TAKEN TO KEEP THE MATERIALS DRY AT ALL TIMES. WHEN TRUSSES ARE ARE TO BE STORED OUTDOORS, THEY SHOULD BE PLACED AT AN ANGLE SUFFICIENT TO PROMOTE GOOD DRAINAGE. IN ADDITION, SEVERAL INCHES OF CLEARANCE MUST BE PROVIDED BETWEEN THE LOWER END AND THE GROUND TO ALLOW VENTILATION.

NOTE: BRITESPAN BUILDING SYSTEMS, INC. WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

MANUFACTURING STANDARDS
FABRICATION IS IN ACCORDANCE WITH CAN/CSA-S16.1 AND CAN/CSA-S136, AS APPLICABLE.

BRITESPAN BUILDING SYSTEMS, INC. IS A CWB CERTIFIED DIVISION 3.1 MANUFACTURER OF TRUSSES. ALL WELDS ARE COMPLETED IN SHOP AS PER CWB STANDARD CSA W47.1 AND W59. AS PART OF OUR CWB CERTIFICATION AN INDEPENDENT THIRD PARTY TESTS OUR WELDERS AND PROCEDURES AND AUDITS OUR FACILITIES. THIS CERTIFICATION MEETS WITH AWS D1.1 AND CH.3 CRITIERIA.

BLOCK FOUNDATION DESIGNER SHALL DETERMINE ANCHOR BOLT SIZE AND TYPE FOR BRITESPAN LOADS. PROPER MINIMUM EDGE DISTANCE FROM CENTER OF ANCHORS TO EDGE OF CONCRETE BLOCK SIDEWALLS AND ENDWALLS SHALL BE PROVIDED FOR THE ANCHOR TYPE. FOUNDATION DESIGN AND STABILITY OF BLOCKS FOR OVERTURNING IS NOT BY SERVINSKY ENGINEERING, PLLC.

FOR BID PURPOSE ONLY

RTE-15.001E

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

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DRAWN BY: ML
CHECKED BY: EM

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3782

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

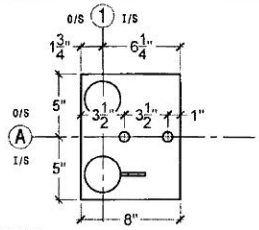
DRAWING TITLE:
COVER PAGE

SHEET NO.: FB-1
PAGE NO.: 001 /12

1.21.15

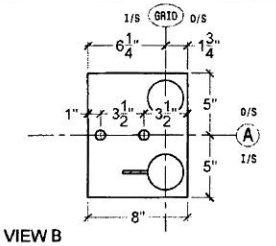
MARK S. SERVINSKY REGISTERED 16704 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER

BLOG E



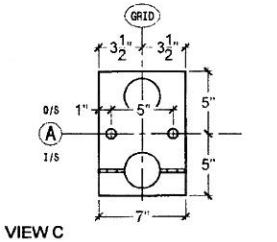
VIEW A

ANCHOR-BOLT HOLES:	⌀ 13/16"	
PLATE THICKNESS:	1/2"	
PART NUMBER:	137	LEFT END



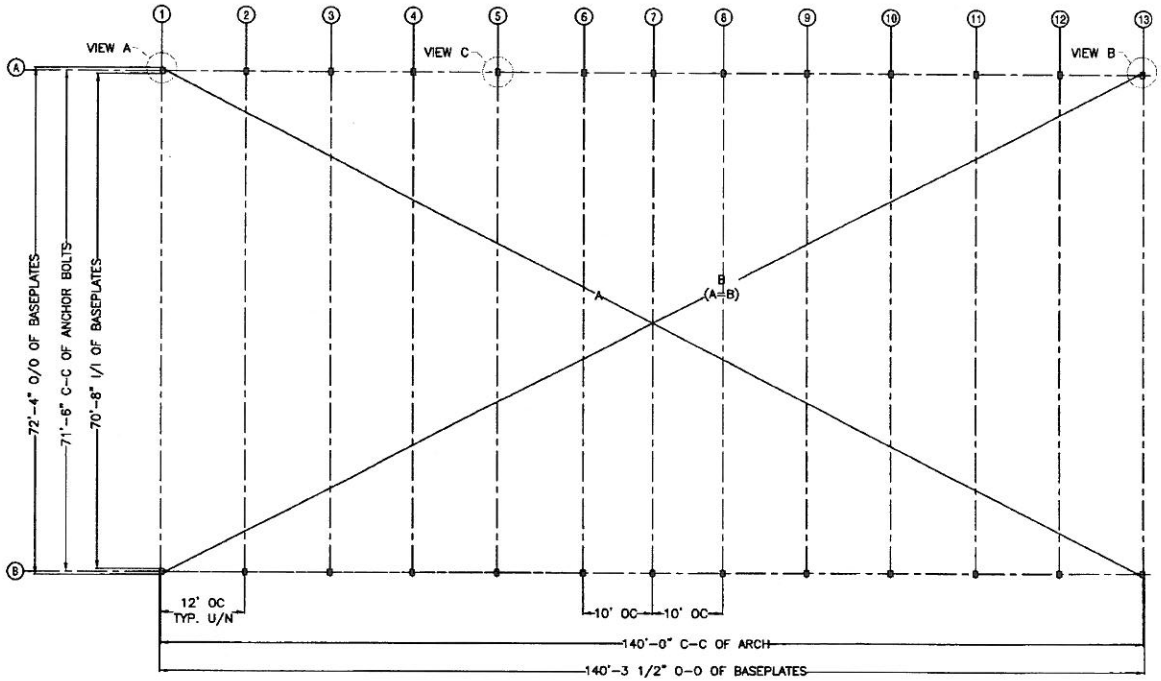
VIEW B

ANCHOR-BOLT HOLES:	⌀ 13/16"	
PLATE THICKNESS:	1/2"	
PART NUMBER:	136	RIGHT END



VIEW C

ANCHOR-BOLT HOLES:	⌀ 13/16"	
PLATE THICKNESS:	1/2"	
PART NUMBER:	135	COMMON



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PH: 1-519-528-2922
FAX:1-519-528-2890

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REV:	DESCRIPTION:	DATE:
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CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

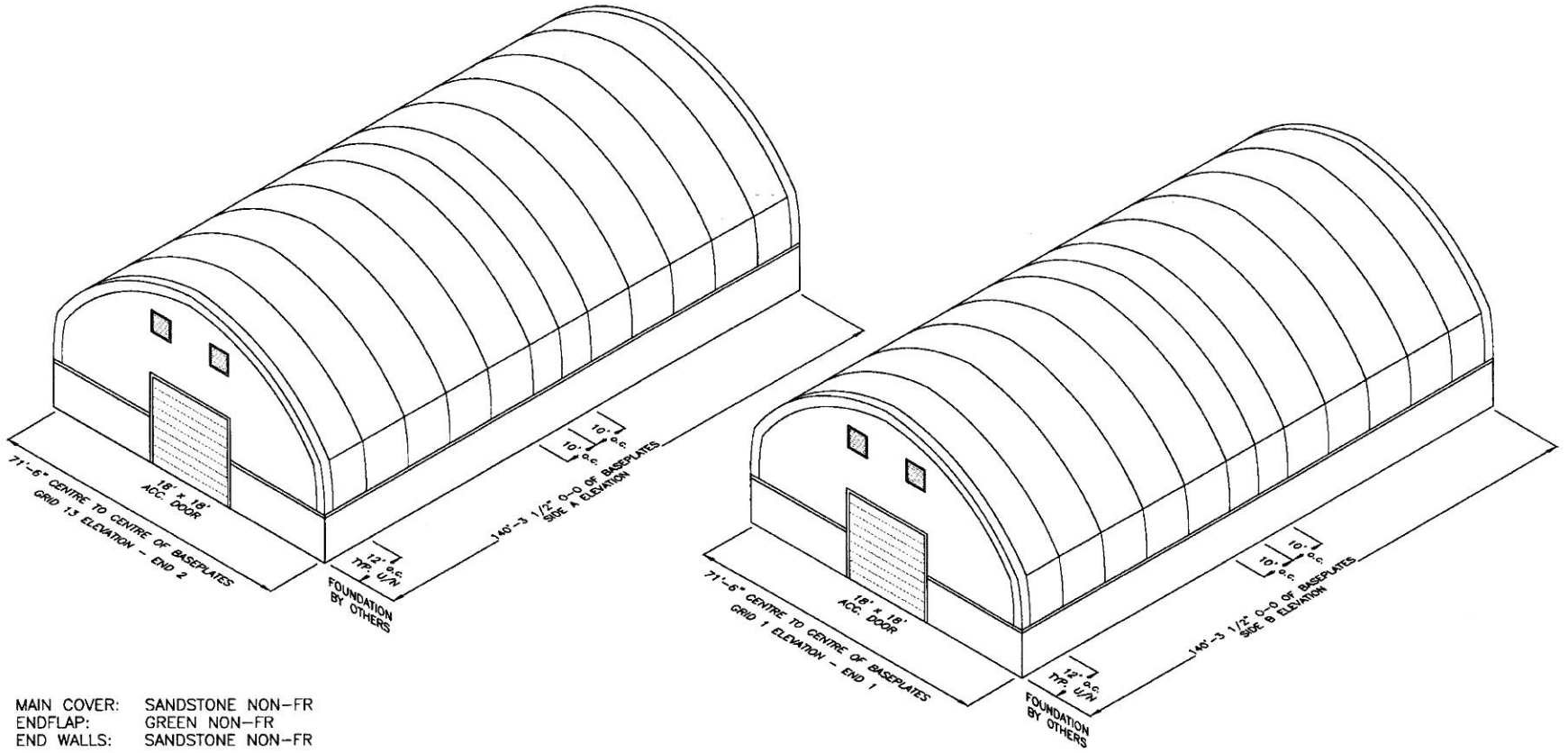
ORDER ID:
SO#3782

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
BASEPLATE LAYOUT

SHEET NO.: FB-2
PAGE NO.: 002 / 12

MARK S. SERVINSKY
REGISTERED
16734
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER



MAIN COVER: SANDSTONE NON-FR
ENDFLAP: GREEN NON-FR
END WALLS: SANDSTONE NON-FR

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SO#3782

DRAWING TITLE:
PROJECT LAYOUT

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

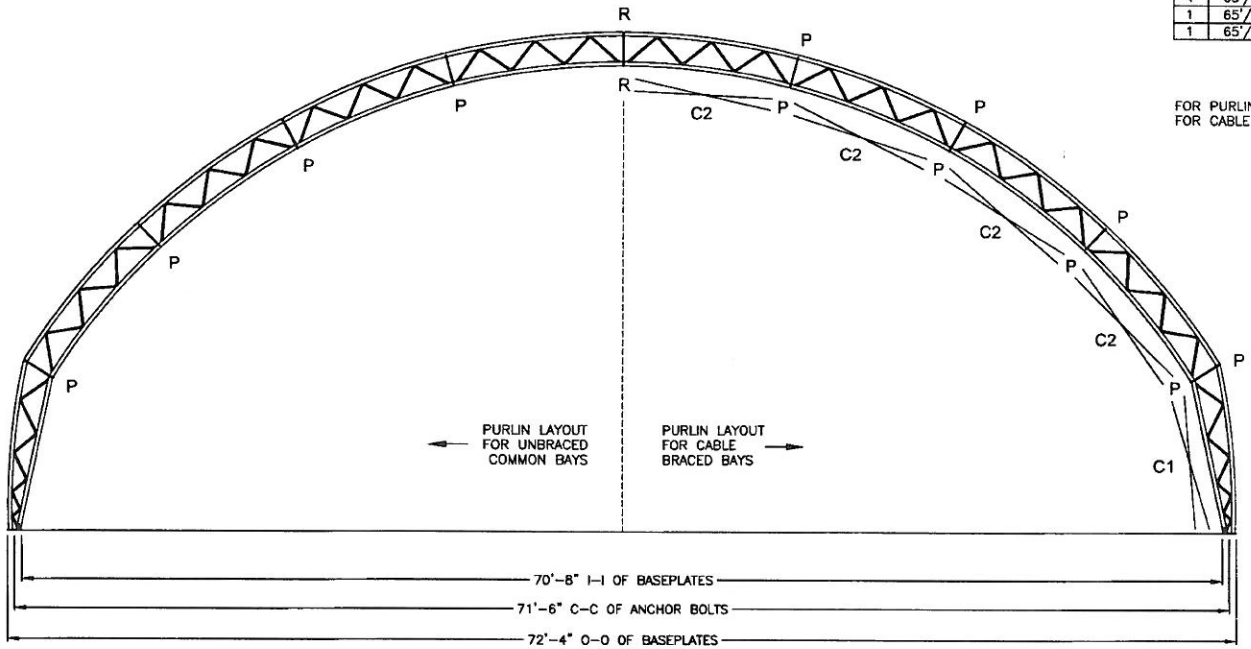
SHEET NO.: FB-3
PAGE NO.: 003 / 12

MARK S. SERVINSKY
REGISTERED
16434
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER

ATLAS24 – 72'w

Qty.	TRUSS & PART No.
INTERIOR TRUSS	
4	65'/70'/72'/82' COMMON TRUSS – 130
2	65'/72' COMMON LEG – 135
END TRUSS	
4	65'/70'/72'/82' END TRUSS – 132
1	65'/72' RIGHT END LEG – 136
1	65'/72' LEFT END LEG – 137

FOR PURLIN LOCATIONS SEE: SD–1 pg. 008
FOR CABLE LOCATIONS SEE SD–2 pg. 009



A–24 72'	16' BAY		14' BAY		12' BAY		10' BAY		8' BAY		6' BAY		5' BAY	
	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH	ITEM #	LENGTH
C1 CABLE	861225–9	225"	861205–9	205"	861186–9	186"	861167–9	167"	861151–9	151"	861136–9	136"	861131–9	131"
C2 CABLE	861230–9	230"	861210–9	210"	861192–9	192"	861174–9	174"	861157–9	157"	861145–9	145"	861140–9	140"
C3 CABLE														

BRACING LEGEND
P = PURLIN
R = RIDGE PURLIN
X = CROSS CABLE

LENGTHS CHECKED 16.NOV.12 – SB
LENGTHS UPDATED 22.JAN.13 – SB
LENGTHS CHANGED 31.MAR.13 – SB

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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
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CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3782

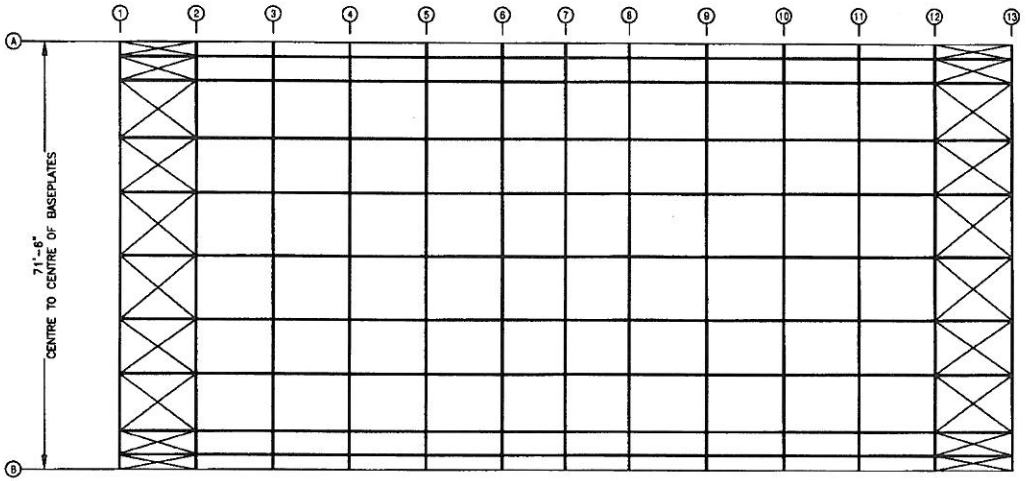
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
PURLIN & X-CABLE LAYOUT

SHEET NO.: FB-4

PAGE NO.: 004 /12

MARK S. SERVINSKY REGISTERED 16732 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

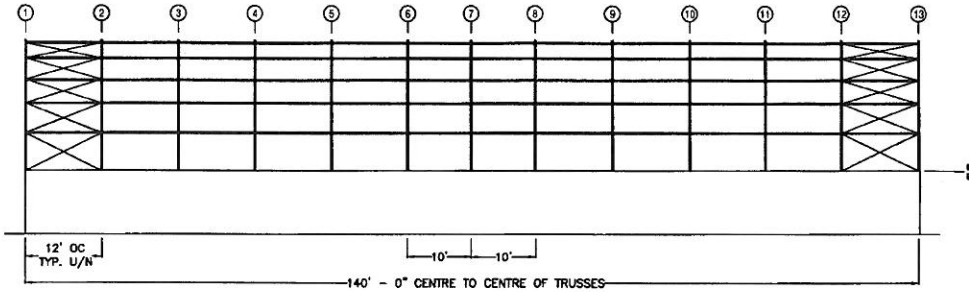


PLAN VIEW

FOR PURLIN DETAILS SEE:
SD--1 pg. 008

FOR CABLE DETAILS SEE:
SD--2 pg. 009

NOTE: THIS BUILDING USES ALL
2 7/8" 14Ga. PURLINS



ELEVATION

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1	PREPARED AS LIN-STAMPED DRAWINGS	20.JAN.2015

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COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
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SHADY SPRINGS, WV. 25918

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ORDER ID:
SO#3782

DRAWING TITLE:
BRACING LAYOUT

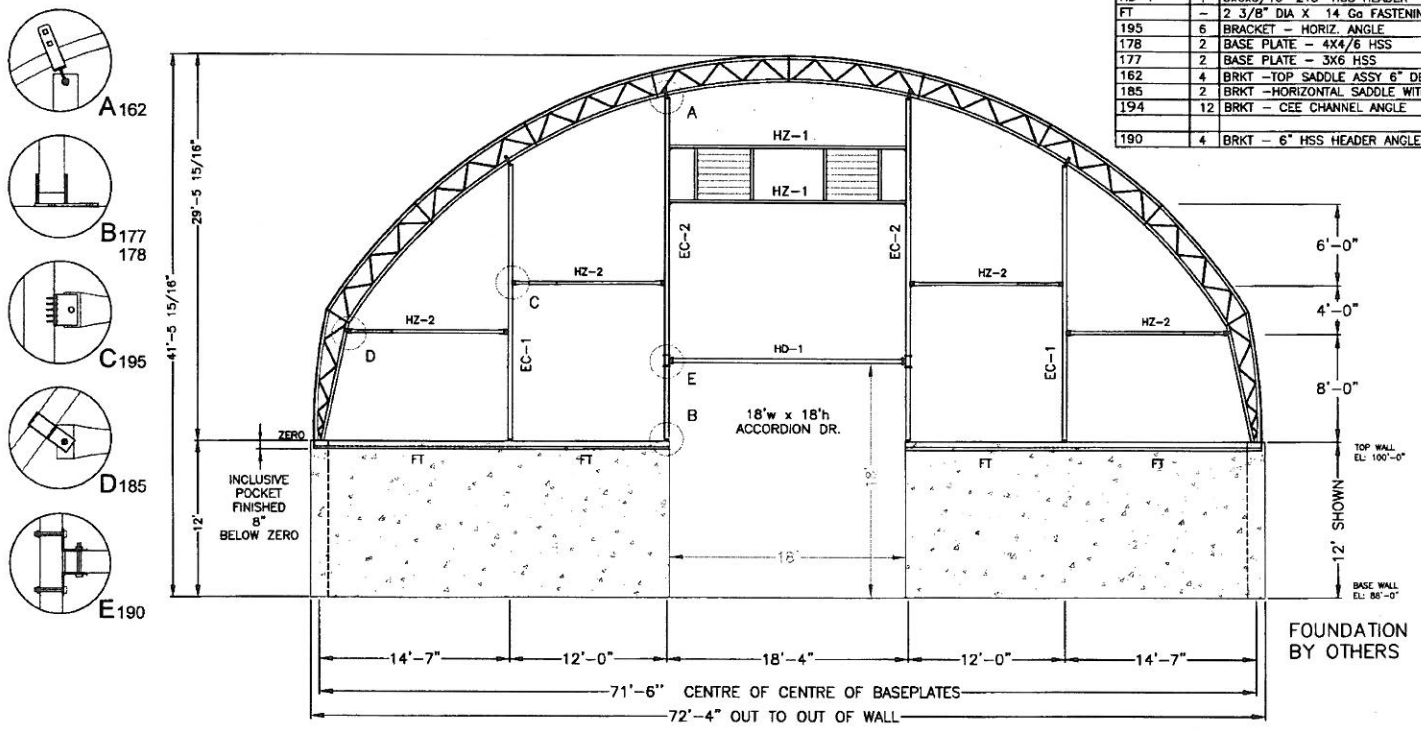
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: FB-5

PAGE NO.: 005 /12

MARK S. SERVINSKY
REGISTERED
18794
STATE OF
WEST VIRGINIA
PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER

MARK#	QTY	COMPONENTS (in)
EC-1	2	3x6x3/16" 252" HSS VERTICAL
EC-2	2	4x6x1/4" 313" HSS VERTICAL
HZ-1	3	6" CEE CHANNEL - 20' LONG
HZ-2	4	32000039 (2 1/2 - 14GA) + 32000122 (2 7/8" 14 GA)
HD-1	1	3x6x3/16" 215" HSS HEADER
FT	-	2 3/8" DIA X 14 Ga FASTENING TUBE CUT TO LENGTH
195	6	BRACKET - HORIZ. ANGLE
178	2	BASE PLATE - 4X4/6 HSS
177	2	BASE PLATE - 3X6 HSS
162	4	BRKT -TOP SADDLE ASSY 6" DEEP - 2 7/8" CHORD
185	2	BRKT -HORIZONTAL SADDLE WITH TAB - 2 7/8" CHORD
194	12	BRKT - CEE CHANNEL ANGLE
190	4	BRKT - 6" HSS HEADER ANGLE



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ORDER ID:
SO#3782

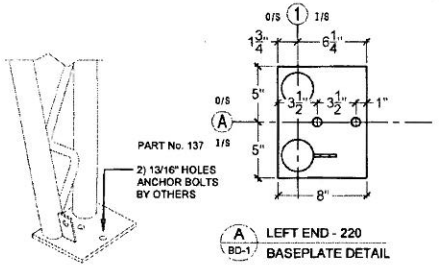
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
ENDWALL LAYOUT

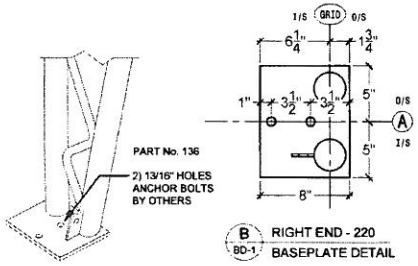
SHEET NO.: EW-1&2

PAGE NO.: 006 /12

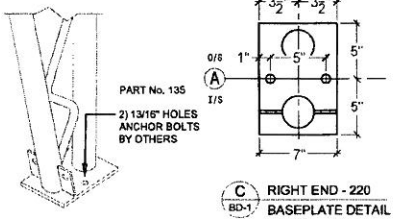
MARK S. SERVINSKY
REGISTERED
16734
STATE OF WEST VIRGINIA
PROFESSIONAL ENGINEER



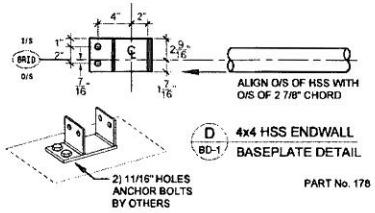
A BD-1 LEFT END - 220 BASEPLATE DETAIL



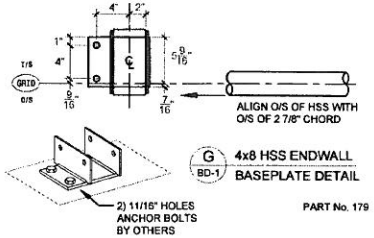
B BD-1 RIGHT END - 220 BASEPLATE DETAIL



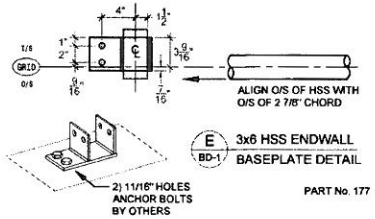
C BD-1 RIGHT END - 220 BASEPLATE DETAIL



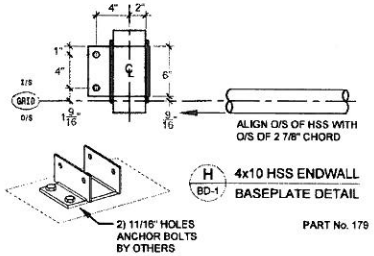
D BD-1 4x4 HSS ENDWALL BASEPLATE DETAIL



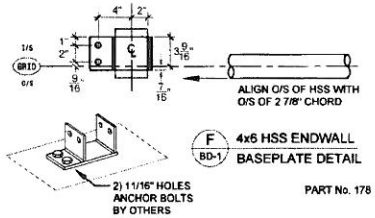
G BD-1 4x8 HSS ENDWALL BASEPLATE DETAIL



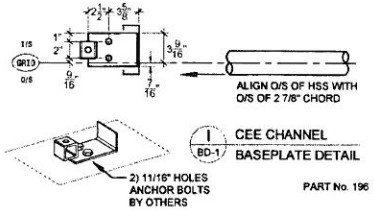
E BD-1 3x6 HSS ENDWALL BASEPLATE DETAIL



H BD-1 4x10 HSS ENDWALL BASEPLATE DETAIL



F BD-1 4x6 HSS ENDWALL BASEPLATE DETAIL



I BD-1 CEE CHANNEL BASEPLATE DETAIL

BRITESPAN BUILDING SYSTEMS INC
37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX:1-519-528-2890

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CHECKED BY: EM

REV:	DESCRIPTION:	DATE:
1	PREPARED AS UN-STAMPED DRAWINGS	20.JAN.2015

DEALER:
COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

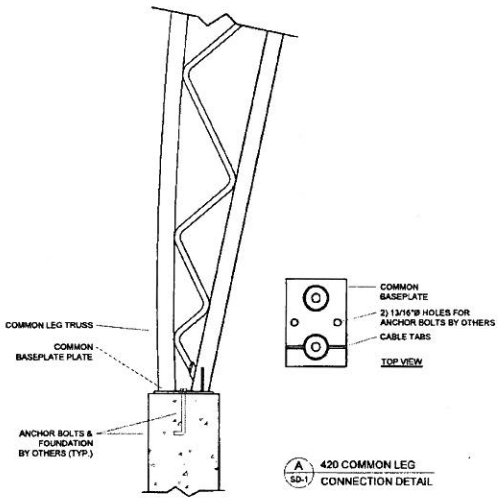
ORDER ID:
SO#3782

WIDTH-STEEL-FAB-HSS-HSSDROP
72-420-220-18-0

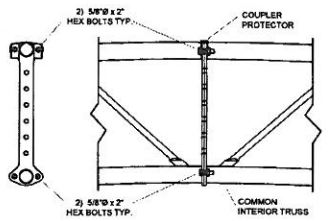
DRAWING TITLE:
BASEPLATE DETAILS

SHEET NO: BD-1
PAGE NO: 007 / 12

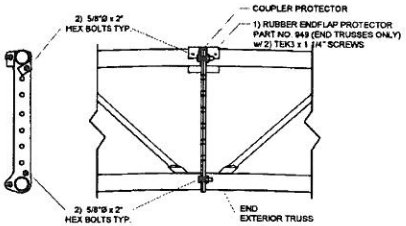
MARK S. SERVINSKY REGISTERED 16734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



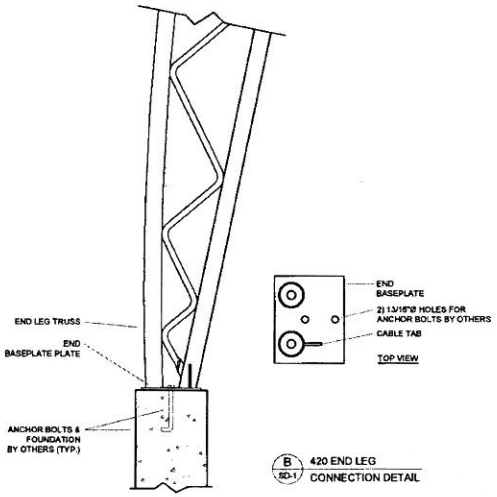
A SD-1 420 COMMON LEG CONNECTION DETAIL



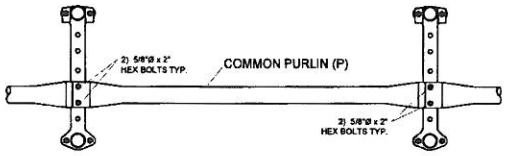
C SD-1 COMMON TRUSS CONNECTION DETAIL



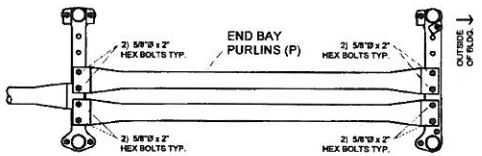
D SD-1 END TRUSS CONNECTION DETAIL



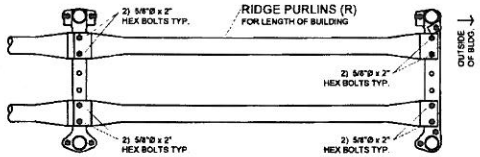
B SD-1 420 END LEG CONNECTION DETAIL



E SD-1 COMMON PURLIN CONNECTION DETAIL



F SD-1 END BAY PURLIN CONNECTION DETAIL



G SD-1 RIDGE PURLIN CONNECTION DETAIL

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Lucknow, ON, Canada
N0G 2H0
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DEALER:
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812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

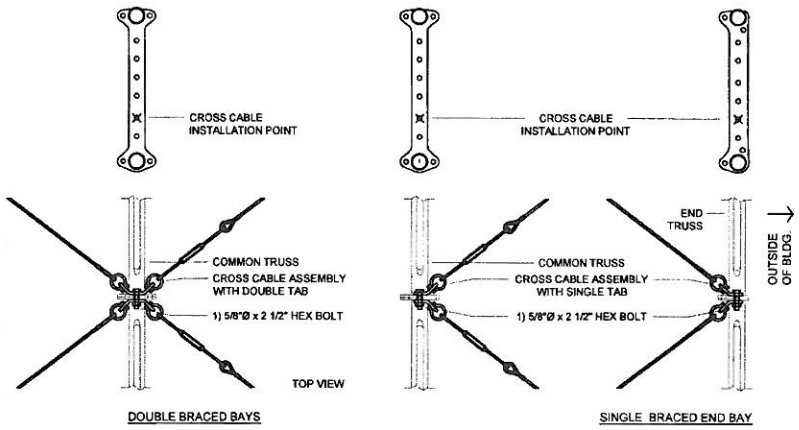
ORDER ID:
SO#3782

WIDT-I-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-1
PAGE NO.: 008 / 12

MARK S. SERVINSKY REGISTERED PROFESSIONAL ENGINEER 16734 STATE OF WEST VIRGINIA
LICENCED PROFESSIONAL ENGINEER

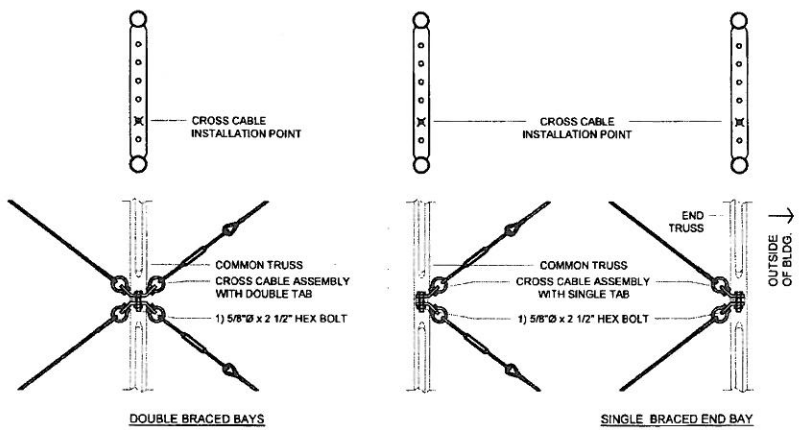


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

A SD-2 CROSS CABLES AT DOGBONE CONNECTION DETAILS

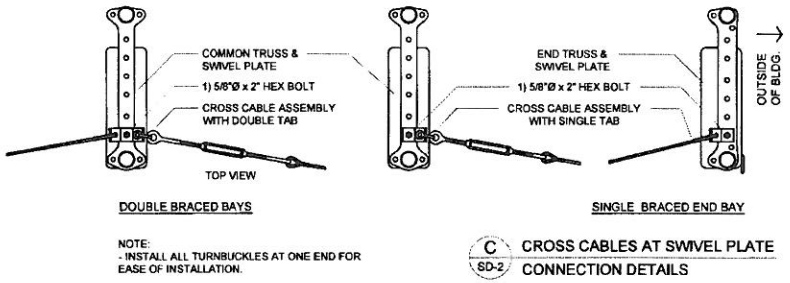


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

B SD-2 CROSS CABLES AT KINGPIN CONNECTION DETAILS

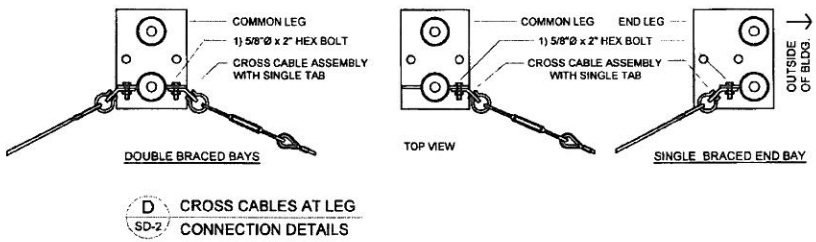


DOUBLE BRACED BAYS

SINGLE BRACED END BAY

NOTE:
- INSTALL ALL TURNBUCKLES AT ONE END FOR EASE OF INSTALLATION.

C SD-2 CROSS CABLES AT SWIVEL PLATE CONNECTION DETAILS



DOUBLE BRACED BAYS

SINGLE BRACED END BAY

D SD-2 CROSS CABLES AT LEG CONNECTION DETAILS

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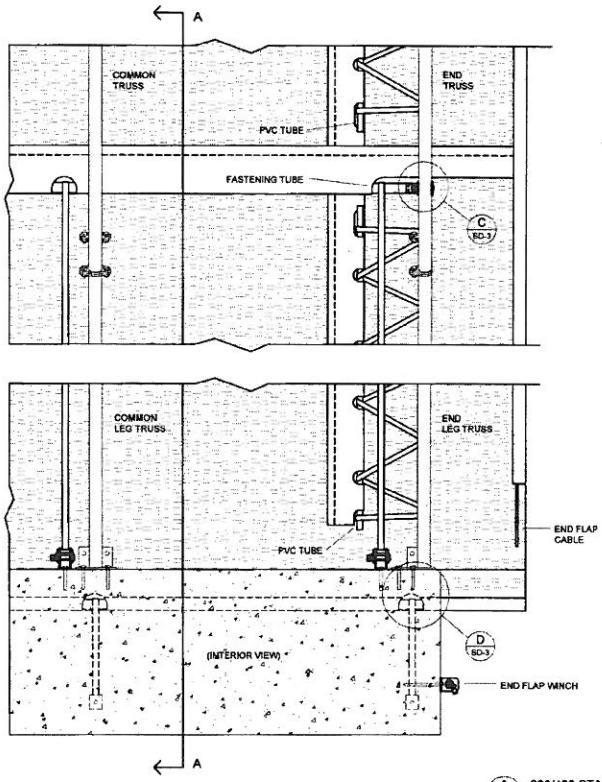
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
STANDARD DETAILS

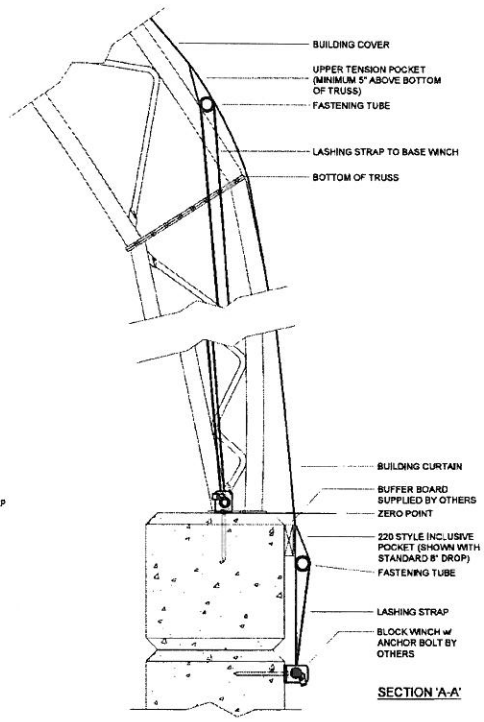
SHEET NO.: SD-2

PAGE NO.: 009 / 12

MARK S. SERVINSKY REGISTERED 15734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER



A SD-3 220/420 STANDARD COVER CONNECTION DETAIL



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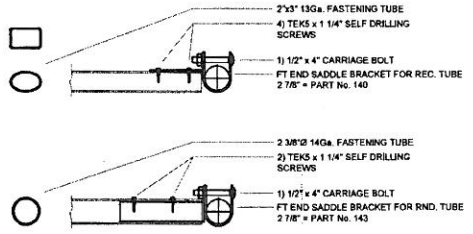
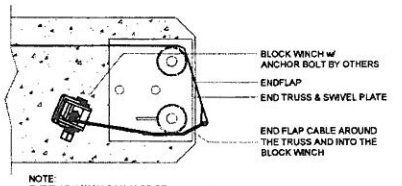
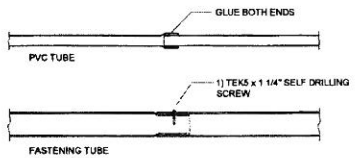


C SD-3 FASTENING TUBE SADDLE CONNECTION DETAILS



NOTE:
ENDFLAP WINCH CAN ALSO BE INSTALLED ON FRONT FACE OF FOUND'N AS SHOWN IN A / SD-3.

D SD-3 END FLAP CABLE & WINCH CONNECTION DETAIL



E SD-3 PVC / FASTENING TUBE CONNECTION DETAILS

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Lucknow, ON, Canada
N0G 2H0
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PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

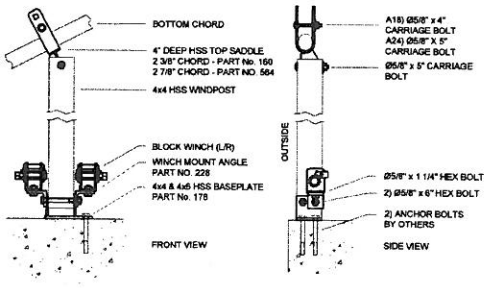
ORDER ID:
SO#3782

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

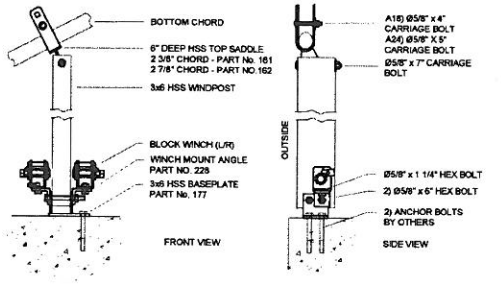
DRAWING TITLE:
STANDARD DETAILS

SHEET NO.: SD-3
PAGE NO.: 010 / 12

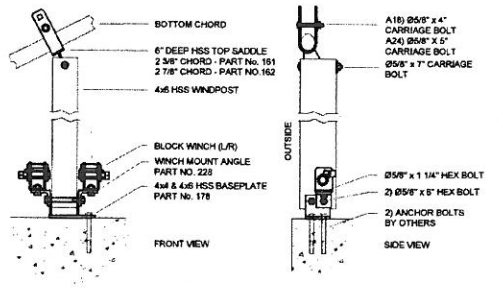
MARK S. SERVINSKY REGISTERED 16764 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER



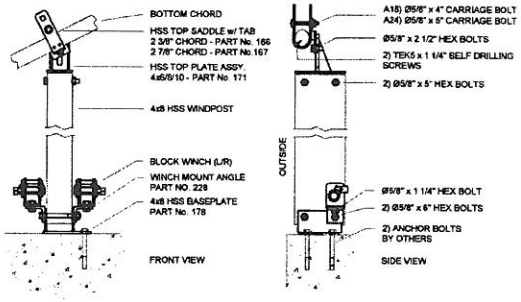
A ED-1 4x4 HSS WINDPOST CONNECTION DETAILS



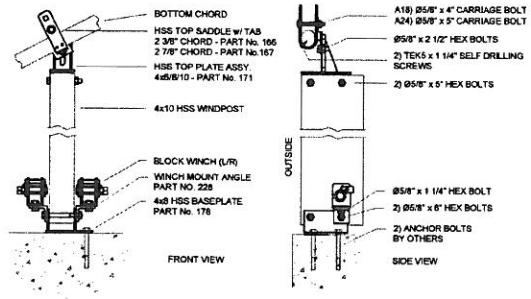
B ED-1 3x6 HSS WINDPOST CONNECTION DETAILS



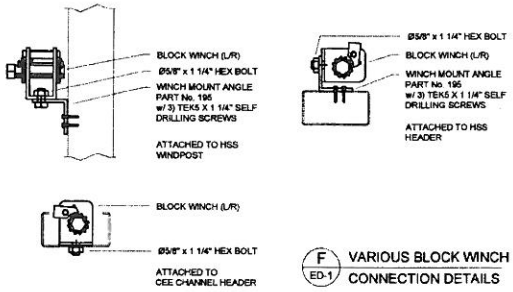
C ED-1 4x6 HSS WINDPOST CONNECTION DETAILS



D ED-1 4x8 HSS WINDPOST CONNECTION DETAILS



E ED-1 4x10 HSS WINDPOST CONNECTION DETAILS



F ED-1 VARIOUS BLOCK WINCH CONNECTION DETAILS

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Lucknow, ON, Canada
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200 SAMAITAN DRIVE
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PROJECT:
ATLAS 24
72' x 140' - 420 GM
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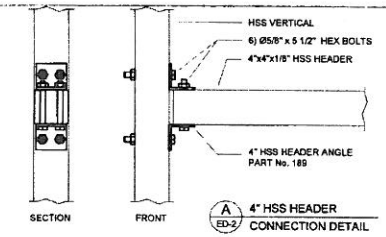
ORDER ID:
SO#3782

DRAWING TITLE:
EAVE DETAILS

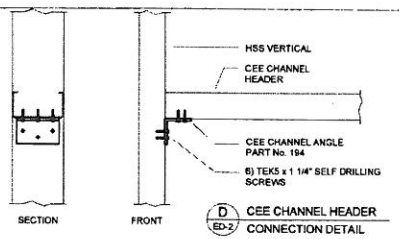
WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

SHEET NO.: ED-1
PAGE NO.: 011 / 12

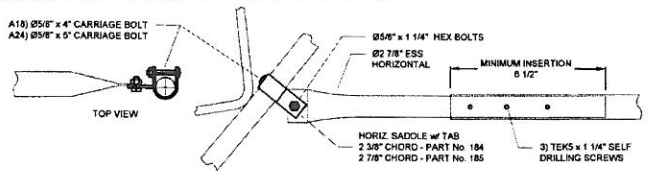
MARK S. SERVINSKY REGISTERED 19734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENCED PROFESSIONAL ENGINEER



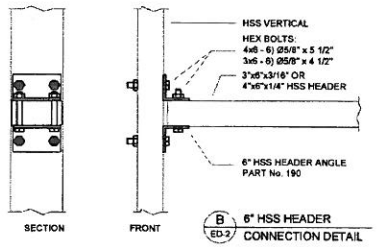
A ED-2 4" HSS HEADER CONNECTION DETAIL



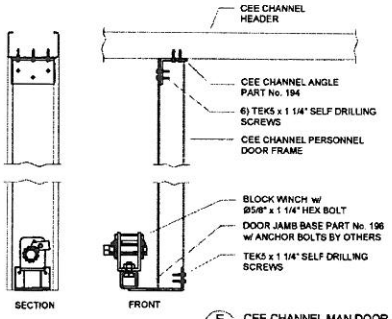
D ED-2 CEE CHANNEL HEADER CONNECTION DETAIL



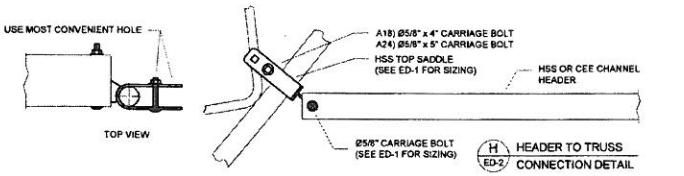
G ED-2 ESS HORIZONTAL TO TRUSS CONNECTION DETAIL



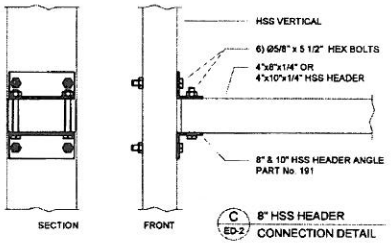
B ED-2 6" HSS HEADER CONNECTION DETAIL



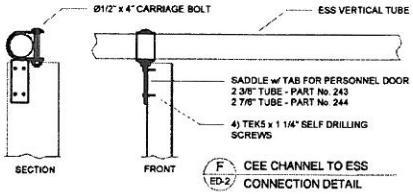
E ED-2 CEE CHANNEL MAN DOOR CONNECTION DETAILS



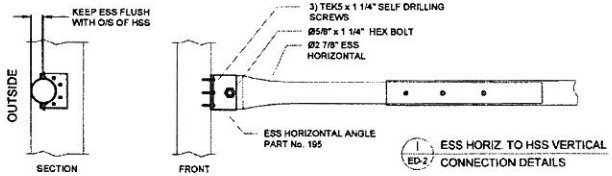
H ED-2 HEADER TO TRUSS CONNECTION DETAIL



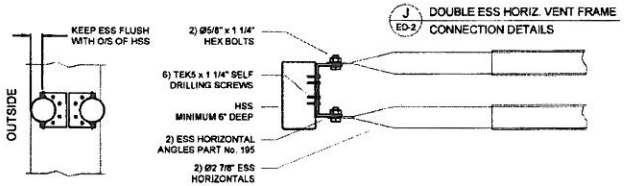
C ED-2 8" HSS HEADER CONNECTION DETAIL



F ED-2 CEE CHANNEL TO ESS CONNECTION DETAIL



I ED-2 ESS HORIZ. TO HSS VERTICAL CONNECTION DETAILS



J ED-2 DOUBLE ESS HORIZ. VENT FRAME CONNECTION DETAILS

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COVER-ALL BUILDINGS OF WEST VIRGINIA
812 N. OHIO AVE.
CLARKSBURG, WV.26301

CUSTOMER:
WVDOH
200 SAMAITAN DRIVE
SHADY SPRINGS, WV. 25918

PROJECT:
ATLAS 24
72' x 140' - 420 GM
12' & 10' oc

ORDER ID:
SO#3782

WIDTH-STEEL-FAB-HSS-HSSDROP:
72-420-220-18-0

DRAWING TITLE:
ENDWALL DETAILS

SHEET NO.: ED-2
PAGE NO.: 012 /12

MARK G. SERWINSKY REGISTERED 15734 STATE OF WEST VIRGINIA PROFESSIONAL ENGINEER
LICENSED PROFESSIONAL ENGINEER

BRITESPAN
BUILDING SYSTEMS INC



1.800.407.5846
www.britespanbuildings.com

Fabric Buildings

To the untrained eye, most fabric buildings look alike, but are they? The following pages will help you understand how fabric buildings are different from one another even though they look very similar. Like anything else, price is a main factor when you make a purchase. Unfortunately, saving a few pennies often ends up costing you thousands in the long run. Buildings are no different. Please take a moment and read through the following pages as they will help educate you on steel trussed tension fabric buildings.

Some companies just want to make the sale, and there is no follow up or service if you need it. These companies are low priced and often cut corners to hit their price point. These corners are often at the owner's expense. There are many situations where engineering is not required to erect a building. These companies take advantage of that and rarely follow the requirements of the building code, allowing them to lighten the building and make it "cheap," which in turn helps them sell more buildings. Unfortunately, that is when disaster can set in.

This document addresses several issues that are normally not discussed when you are looking for a building. Its purpose is to help ensure you purchase a building that meets your individual requirements, is safe, minimizes liability, and is insurable.

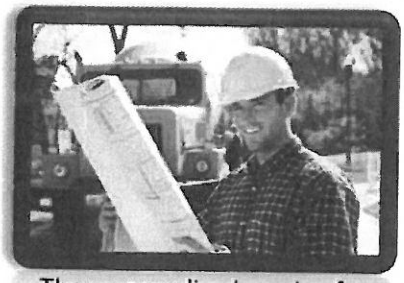
Why Buy From BriteSpan Building Systems?

BRITESPAN BUILDING SYSTEMS INC

Dealer Network

Unlike some companies, BriteSpan believes that doing business face to face is the best practice. Our authorized dealers are experts in the industry. They can come to your site and see what challenges you may face prior to selling you a building, which will help eliminate unforeseen surprises after the building gets delivered. **BriteSpan** has the most experienced Dealer Network in the industry that can help you with every aspect of your project.

Some companies do not care enough to provide localized service. They just expect you to order a kit out of a magazine and you are on your own. In the time of need, would you rather have somebody by your side or simply an order taker on the phone with no practical experience in the field? Which would you prefer...?



The personalized service from an experienced **BriteSpan** dealer?

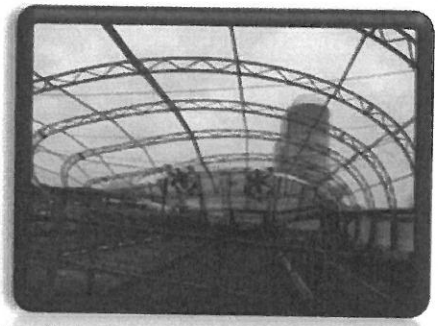


Or to be just another number to a mass marketer?

Designed vs. Engineered

Does it really matter? Many manufacturers offer buildings that are "designed" for your area, but they have that disclaimer or small print to follow. Then, when you ask for the building to be engineered, everything changes and the price doubles. How would you feel knowing that they would have sold you a product that is not capable of handling the conditions of your site without consideration for your safety? **BriteSpan** does not work that way. We incorporate all of the critical design factors into our buildings so you do not have to worry about your building's safety. Before you get a quote on your building we will have made sure to reference the International Building Code for: **Wind and Snow Loads, Thermal Factors, Importance Categories, Enclosure Categories, and Exposure Factors.**

This means that the engineered **BriteSpan** building you are quoted up front will withstand the conditions of the site to which it has been engineered without all of the surprise price increases.



This building was "designed," just not to the correct loading for the area.



This building was "engineered" to the correct requirements of the area. Can you see the difference?

Galvanized is Galvanized Right?

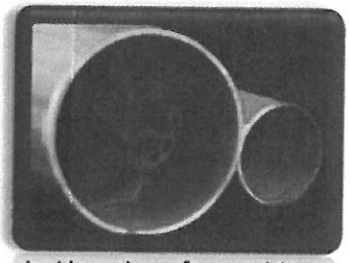
No. There are two different types of galvanized pipe: in-line (triple coat or pre-galvanized) and Post Production Hot Dipped Galvanized. While both use a zinc coating, the application is the most critical part .

In-line galvanized pipe is rolled through a waterfall of zinc and the pipe is coated on the outside, painted on the inside, and is then sent out to be manufactured. The pipe is bent, welded into trusses, and shipped out. Unfortunately, the welding of the trusses burns off the paint on the inside of the pipe, leaving it unprotected and susceptible to rust before it ever gets erected.

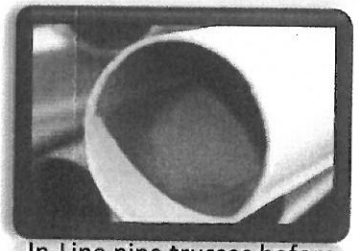
BriteSpan's Post Production Hot Dipped Galvanizing uses an entirely different process to ensure a much longer service life. We start with untreated black iron. We bend and weld the raw steel into our trusses. Holes are drilled into the pipe to ensure the galvanizing reaches every surface. After that, the trusses are submerged in a bath of molten zinc where they receive a coating on every surface inside and out that is 3 times thicker than the coating on the outside of in-line galvanized pipe. This process means that your building will offer a service life that is approximately 3 times longer than the in-line galvanized alternative.

Truss Weight

Many companies claim that they use as much as 30% more steel in their buildings. The question is 30% more than what? In order to exceed required loading, **BriteSpan** has some of the heaviest trusses in the industry. For example, our 42' truss weighs 560 lbs, whereas some of our competitor's are tipping the scale around 360 lbs. Your building is not something you want to be light weight.



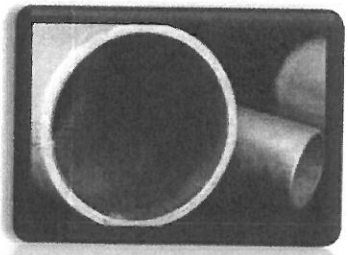
In-Line pipe after welding



In-Line pipe trusses before the building is erected



In-Line pipe trusses, 6 year old salt building



BriteSpan's Post Production Hot Dipped Galvanized

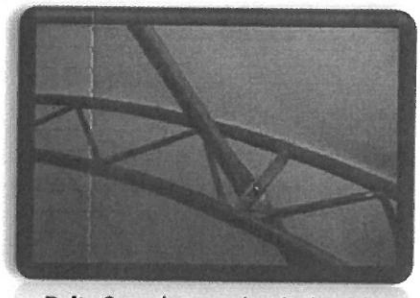


BriteSpan trusses being dipped

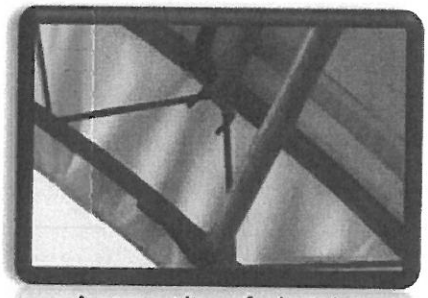
Solid Mounted Purlins

Purlins are a section of pipe that keep the trusses spread apart and are responsible for withstanding the wind load against the ends of the building. Many companies use small diameter light gauge purlins. This often results in the building racking or collapsing in severe wind conditions. These companies may also use a saddle bracket connection that wraps around the truss cord for attachment. This allows for rotation around the cord and offers less rigidity in the connection.

BriteSpan uses up to 4" purlins that are double bolted to structural truss members to provide the strongest building possible. There are no parts that can move or loosen over time, which increases the lifespan of your cover.



BriteSpan's standard double bolted solid purlin mount



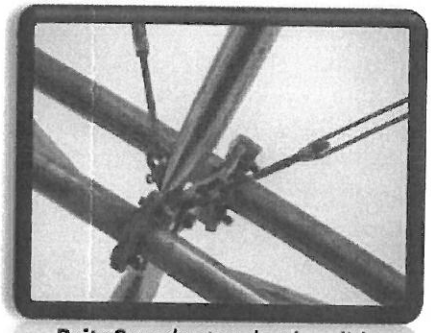
A competitors fork style floating purlin mount and a saddle bracket mount

Cross Cables

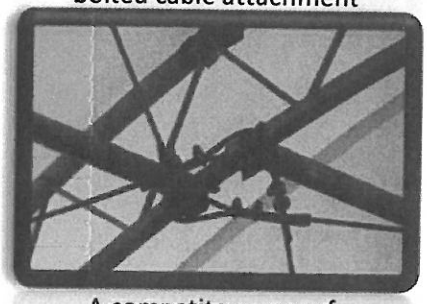
The strength of a building is dependent on many factors. While the amount of steel in the building is the biggest factor, you also need to look at the building's rigidity. The less the building moves the longer the fabric will last. Cross cables in a building dramatically reduce the deflection of the building under load. Well, in theory, that is. Cables must be secure and tight to achieve this benefit.

BriteSpan uses the best quality cables that are solid mounted to structural truss members that are specifically designed to do the job.

Many manufacturers overlook this element and weave their cables through many bays and wrap them around the web of the truss, which is quite often the lightest part of the truss. The cables can slide and move and require maintenance to ensure their tension at all times. This results in buildings that move more in the wind, reducing the life of the fabric.



BriteSpan's standard solid bolted cable attachment



A competitors way of attaching critical structural cables

Winch Blocks or Ratchet Straps

Ensuring your cover stays tight is the most important factor in the longevity of your fabric. **BriteSpan** utilizes the cleanest and strongest tensioning system. Our 10,000 lb. winch blocks hold all of our covers on from 19' wide and up.

In order to be able to sell you a cheap building, many of our competitors will provide you with their standard ratchet strap fastening system. While this is a cost effective alternative up front, the cost of replacing your cover is not. Make sure your fastening system is up for the job!



BriteSpan's standard 10,000lb winch block

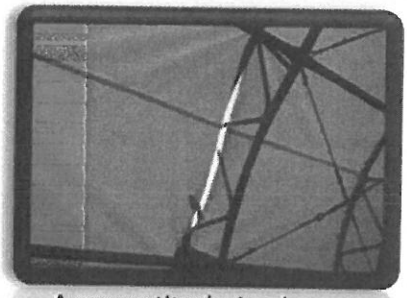


A competitor's ratchet strap mounting system

Tension Pipe

The tension pipe is a pipe that runs parallel with your cover and is attached to the winch block. It allows you to put tension on your cover, which is required for longevity and warranty. A loose cover will rapidly result in cover damage that is not covered by the manufacturer's warranty. Some companies use tension pipe that is as small as 1 7/8" in diameter. When you try to tension a cover with small pipe, the pipe deflects between the winches. This makes it impossible to get the proper tension on the cover between the trusses without over tensioning directly over the trusses. This causes the fabric to tear due to excessive tension.

BriteSpan only uses large diameter or oval heavy gauge material for fastening pipe. This allows for even tensioning of the cover without fear of an over tension situation over the trusses. This means your cover should last 20-25 years under normal circumstances.



A competitor's inadequate tension pipe means trouble.



BriteSpan's large diameter tension pipe ensures a uniform tension around the building.

Insurability

Like the rest of your buildings, you want to make sure your new building is protected by insurance in case something would happen. Some insurance companies have begun excluding or limiting coverage on buildings that do not meet the requirements of the building code. Some companies may offer insurance, collect premiums for insurance, and then deny claims after a building failure if the building is found to be non-compliant with the building codes. **BriteSpan** works hand in hand with insurance companies to eliminate the worry on their end. This means that your **BriteSpan** Building will be able to be insured like the rest of your buildings. It may also be difficult to get any value for an uninsurable building when it comes to the sale of the property.

Warranties and The Company

Warranties provide you with peace of mind that if something happens to your product, the company will be there to stand behind it. Warranty length is most commonly 15 years. As 36,000+ Cover-All building owners learned a few years ago, buying from the biggest and/ or oldest company doesn't mean a thing when they go out of business. For the first year after Cover-All went out of business, **BriteSpan** Building Systems stepped up in a time of need and honored warranties that Cover-All left outstanding . They had no obligation to do so as **BriteSpan** Building Systems Inc. is in no way affiliated with the late Cover-All Building Systems. We did it out of compassion for the owners that were left on their own to deal with certain problems after Cover-All Building Systems went out of business. Go ahead and ask any other company if they have honored warranties beyond their own. This truly speaks to the integrity of the company. **BriteSpan** offers a 16 year warranty, and we will be around long into the future. We believe in our buildings so much that we actually manufacture our product inside one of our own buildings.

Liability

Some building owners may think it is unnecessary for the building to meet the requirements of the building codes if it is for their own personal use. You should seriously consider the matter of liability if someone is injured in any way or killed while in the structure.

Conclusion

While it is true that a majority of fabric buildings look the same on the outside, the fine details are what makes them different. **BriteSpan** Building systems is a leader in the fabric building industry and strives to provide the best building at the most affordable price. While we are not the cheapest building in town, the value we bring is second to none!

About BriteSpan Building Systems

BriteSpan Building Systems Inc. is an industry leader in the manufacturing of high quality, engineered, and cost effective fabric building systems. Combined with our extensive dealer network, we offer the most expertise and experience in the industry. Customer service and satisfaction are our top priorities. Our outstanding team of employees ensure your project flows smoothly from start to finish. Contact us to see how we can help turn building your dream into a reality.



Contact Us

Canada

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Lucknow, ON N0G 2H0
Toll Free: 1-800-407-5846

USA

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Mosinee, WI 54455
Toll Free: 1-800-407-5846

United Kingdom

1 Park Terrace
Stirling FK8 2NA
+1 -845-323-9233

J.M. LAHMAN MFG. INC.
Steel tube in solid supply

5476 Ament Line, Linwood, Ontario, Canada

519-698-2440

January 23rd, 2015

To whom it may concern:

This is to certify that J.M. Lahman, as a supplier to Britespan Building Systems, does purchase raw goods for tubular product from U.S. steel sources such as Nucor Steel, that is used for the manufacturing of Britespan USA buildings.

Regards,

Jonathan Klassen
Steel Tubing Sales
J.M. Lahman Mfg. Inc.
5467 Ament Line
Linwood, ON N0B 2A0
519-698-2440 x 213 (office)

Nucor Canada Inc.
1455 Lakeshore Rd - 204 N.
Burlington, Ontario
Canada L7S 2J1

TEL (905) 634 6868
FAX (905) 634 6865

NUCOR

Nucor Canada Inc.

January 23, 2015

To whom it may Concern:

This is to confirm that J M Lahman is a Nucor Canada customer. We supply J M Lahman with steel coils melted and manufactured at our Nucor Steel Mills in the United States of America.

Please contact me if you have any questions or concerns.

Regards,

Orlando Tesolin
Sales and Marketing Manager
Nucor Canada Inc.

/sm

NON-FR Fabric (RU-88X-6)

Strength & Durability
The fabric is a heavyweight fabric constructed of two parts, the scrim and 4 mil coatings. The scrim, which is the woven part of the material, is constructed of individual tapes. The unique composition of the tapes and how they are woven together gives the fabric its tremendous rip, tear and puncture strength. The specialized 4 mil coatings provide a more uniform and thicker protection layer for the scrim, increasing ultraviolet protection. The thicker coatings are more resistant to abrasion damage during both fabrication and installation of the cover. The NON-FR fabric comes with a 16-year pro rata warranty.

Safe & Environmentally Friendly
No toxic chemicals are used in the production of Fabric. All scraps and used covers are 100 percent recyclable.

Bright Atmosphere
NON-FR fabric covers provide an exceptionally bright and pleasant interior atmosphere. Natural light penetrates the fabric while the unique composition of the tapes ensures it remains pliable and resistant to ultraviolet damage. The fabric reduces the conduction of heat and cold, ensuring a building that is warmer in the winter and cooler in the summer. The fabric is available in a variety of attractive colors, all featuring a bright white underside that further enhances the interior brightness.

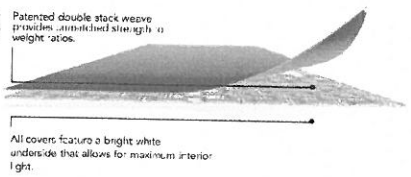
Fabric Specifications

Weave	16 x 16 psi woven clear HDPE scrim	
Coating Thickness:	4.0 mils average each side (94 g/m²)	
Coating Composition:	Modified LDPE coating with UV protection	
Weight:	12.5 oz/yd² (373 g/m²) +/- 5%	
Thickness:	23 mils (0.635mm)	ASTM D5199
Hydrostatic Resistance Method:	171 psi (1180 kPa)	ASTM D751A
Grab Tensile:	Warp: 340 lbs. (1511 N) Weft: 340 lbs. (1511 N)	ASTM D5034 ASTM D5034
Strip Tensile:	Warp: 250 lbs. (1112 N) Weft: 250 lbs. (1112 N)	ASTM D5035 ASTM D5035
Tongue Tear:	Warp:115 lbs. (511 N) Weft: 115 lbs. (511 N)	ASTM D2261 ASTM D2261
Mullen Burst:	675 psi (4658 kPa)	ASTM D3786
Cold Crack:	Minus 60°C	ASTM D2136

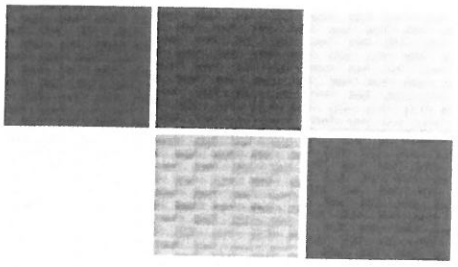
Fabric Fire Ratings

Test / Standard	Flame Spread	Smoke Developed	Char Length
ASTM E84	FS10	SD 58	6.5
CAN/ULC 5102.2 – M88	FS15	SD 125	6.5

NON-FR FABRIC



Fabric Colours



Colors may not be exactly as shown here.
Contact your local BRITESPAN Dealer for actual fabric samples.

BRITESPAN™
BUILDING SYSTEMS INC

1-800-407-5846

Certificate of Completion

This certificate acknowledges

Nathaniel Rohrig

Successfully completed the American Galvanizers Association's Hot-Dip Galvanized Steel Inspection Course on December 9, 2011.

Tom Langill

Tom Langill, Ph.D., Technical Director

www.galvanizeit.org

Nathaniel G. Rohrig

[redacted]

Engineered Tensioned Fabric Buildings

SUMMARY

Eleven years experience in the Engineered Tension Fabric Building business, performed construction management and general construction roles. Experienced in construction, renovation, and cost estimating within commercial and industrial environments. Recognized for well-developed project management skills, including the use of computer technology to track job progress, control project costs, and schedule operational tasks that enable project completion on time and under budget. Consistently deliver quality and excellence in workmanship. Excellent safety record.

SKILLS

- Project Management
- Client Focus
- Tools and Techniques
- On-time Completion
- Cost Estimation
- Communication Skills
- MS Project
- MS Excel
- Safety Emphasis
- Materials Expertise
- Apprentice Mentoring
- Builder's Assistant

EXPERIENCE

Cover-All Buildings of WV, Inc. Bridgeport, WV 2000 to Present
Vice President
Negotiated terms for new construction projects, bidding private and publicly funded projects. Managed completion of over 400 projects in West Virginia, Pennsylvania, Tennessee and North Dakota. Supervised crews of up to 25 foundation and general laborer personnel. Secured all required permit approvals.

- Progressive use of technology, including use of computer models to prepare detailed bids for client review.
- Estimated project costs and used actual costs to refine computerized estimating models.
- Performed follow-up customer satisfaction reviews to identify opportunities to improve services or procedures.
- Received numerous accolades from clients for superior workmanship.

R & T Enterprises, Inc., Bridgeport, WV 2000 to Present
Vice President
Administered strategic planning, pricing, sales analysis, consumer research, new product introduction process, and product usage forecasting. Built market share in all business segments. Analyzed economic conditions, business trends, industry trends, and potential markets. Assisted in developing and implementing company policies and procedures. Developed and implemented new compensation plans for the sales forces that reduced costs without affecting sales. Planned logistics of sales, production, sourcing, and inventories to ensure efficient production operations and profitable use of resources. Facilitated joint venture projects.

R & T Enterprises, Inc., Bridgeport, WV 1992 to 2000
Secretary/Treasurer
Coordinated all general record keeping. Additional duties included purchase and setup of PC systems, hardware, and software, company-wide network and troubleshooting, and operation / purchasing of all office equipment. Managed all general accounting functions, track banking transactions, made daily deposits, managed petty cash, track all financial records and reporting, and created monthly projections and end-of-month summaries. Oversaw payroll, annual budget, acquisitions, and accounts/payable.

The Prudential, Morgantown, WV 1996 to 1996
Insurance and Investment sales
Produced leading sales results with a diversified insurance brokerage firm. Achieved sales success through an informational, knowledgeable sales approach, and a focus on customer satisfaction, striving to "educate" the consumer, building positive professional relationships through strong interaction skills and sound investment advice. Marketed a complete line of equity-based products to individuals and groups throughout region. Successfully marketed and sold a full line of products for the company. Independently managed the entire sales cycle, from initial client consultation, product presentation, pricing and contract negotiation, to the final sales closing. Conferred with clients and developed proposals and programs to meet their financial needs, goals, and objectives. Specialized in providing individualized services for life insurance, upgrading existing policies, servicing existing accounts, making presentations, and initiating the claims process for clientele.

Pete Dye Golf Club, Bridgeport, WV 1992 to 1992
General Labor
Inspected work in progress to ensure that work conforms to contract specifications and adheres to established work schedules. Coordinated labor and equipment resources ensuring all jobs were completed accurately, efficiently, and in a quality manner. Experienced in handling simultaneous projects and meeting deadlines effectively. Planned construction procedures, specifications, work schedules, and material needs. Worked as a liaison between the property managers and owners. Worked with subcontractors, architects, engineers, and owners. Simultaneously managed multiple job responsibilities.

EDUCATION

Bachelor of Science (Finance) 1996
West Virginia University Morgantown, WV

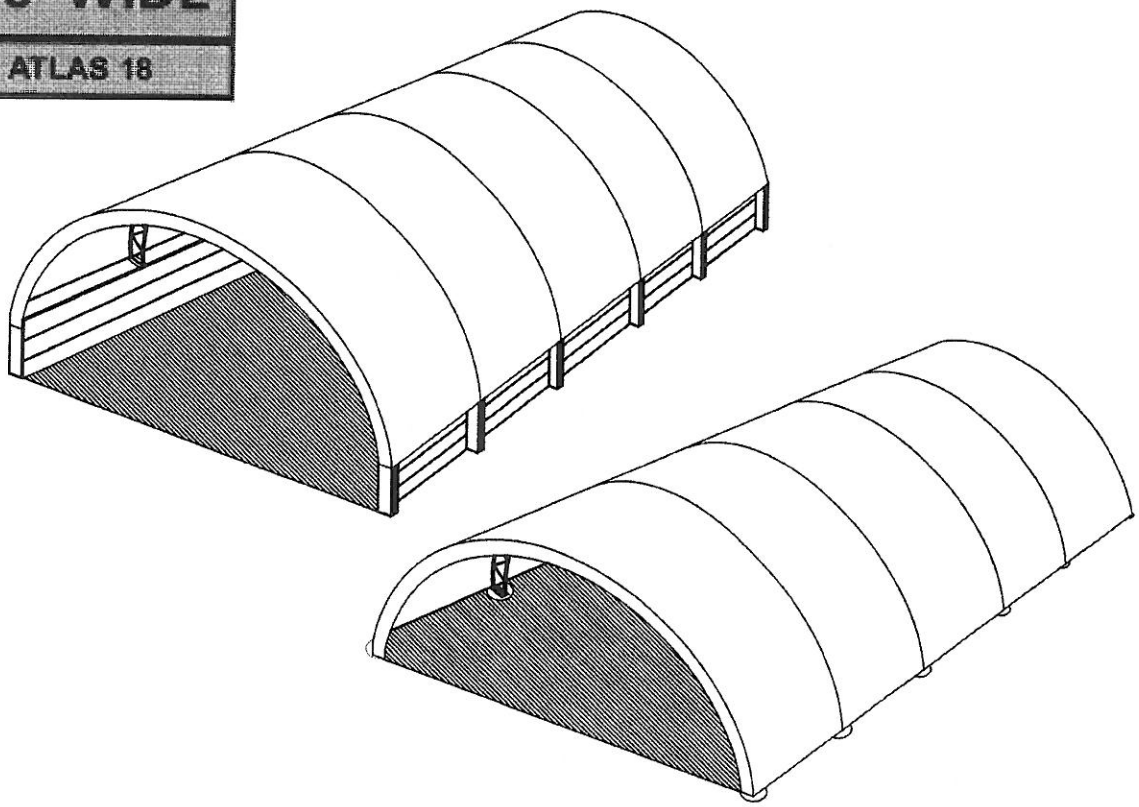
BRITESPAN
BUILDING SYSTEMS INC

Owner / Installation Manual

Includes Warranty and Registration

40' WIDE

ATLAS 18

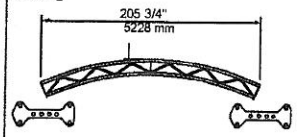


SEPARATE MANUALS Are Supplied for END ENCLOSURES

Atlas18 – 40 Manual Rev – 4

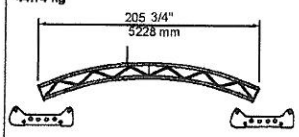
Building Components

110.55 #
50.15 kg

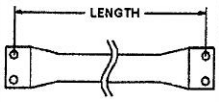


TRUSS-A18 40' COMMON 30003021

109.65 #
44.74 kg



TRUSS-A18 40' END 30003026



DIA.	LENGTH	WEIGHT
PA3.500 - 16S	16'0"/ 4877mm	49.14 # / 22.29kg
PA2.875 - 16S	16'0"/ 4877mm	40.00 # / 18.14kg
PA2.875 - 14S	14'0"/ 4267mm	35.25 # / 15.99kg
PA2.875 - 12S	12'0"/ 3658mm	30.19 # / 13.69kg
PA2.875 - 10S	10'0"/ 3048mm	25.34 # / 11.49kg
PA2.875 - 8S	8'0"/ 2438mm	20.28 # / 9.20kg
PA2.875 - 6S	6'0"/ 1829mm	15.43 # / 7.00kg
PA2.875 - 5S	5'0"/ 1524mm	12.95 # / 5.87kg

PURLIN - 14 GA

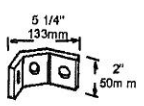
NOTE: Length = Arch Spacing



ARCH SPACING	LENGTH	WEIGHT
16 - 861222-9	222"/ 5639mm	6.56 # / 2.98kg
14 - 861201-9	201"/ 5105mm	6.25 # / 2.84kg
12 - 861180-9	180"/ 4572mm	5.95 # / 2.70kg
10 - 861163-9	163"/ 4140mm	5.71 # / 2.60kg
8 - 861144-9	144"/ 3658mm	5.43 # / 2.46kg
6 - 861128-9	128"/ 3251mm	5.20 # / 2.36kg
5 - 861122-9	122"/ 3099mm	5.12 # / 2.32kg

CROSS CABLE Ø 5/16" / 8mm

1.33 #
0.60 kg



BRACKET - CROSS CABLE DOUBLE TAB
3/8" x 2" [10 x 50mm] 30012350

4.02 #
1.82 kg

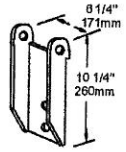
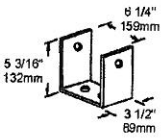


PLATE - WALL BRACKET
1/4" [6mm] PLATE 30003430

Ø 7/8"



BOOT COMMON GROUND MOUNT
3/8" [10mm] PLATE 30003350

3.77 #
1.71 kg

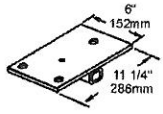


PLATE - SWIVEL COMMON A18
3/8" [10mm] 30003355

3.77 #
1.71 kg

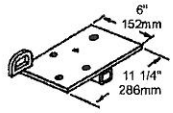


PLATE - SWIVEL LEFT END A18
3/8" [10mm] 30003365

3.84 #
1.85 kg

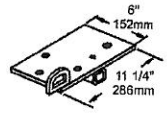
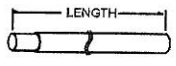


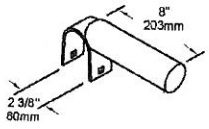
PLATE - SWIVEL RIGHT END A18
3/8" [10mm] 30003361

41.52 #
18.83 kg

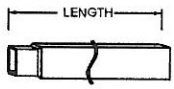


FASTENING TUBE
Ø 2.375 [60mm] 14 GA FT2.375-245S

2.50 #
1.13 kg

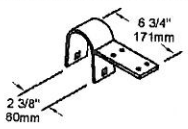


BRACKET-ROUND FT END SADDLE
2 3/8" TUBE 30011238
2 7/8" TUBE 30011278



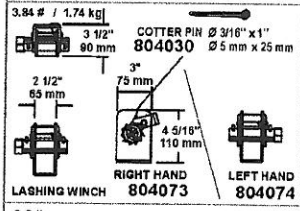
TUBE - 2" x 3" HSS FASTENING (SWAGED) 14 GA
50 x 76mm
172" [4369mm] 39.13 # [17.75 kg] 880172
196" [4978mm] 44.59 # [20.22 kg] 880196

1.40 #
0.63 kg



BRACKET-RECTANGLE FT END SADDLE
2" (50mm) TUBE 30010200
2 3/8" (60mm) TUBE 30010238
2 7/8" (73mm) TUBE 30010278

3.84 # / 1.74 kg

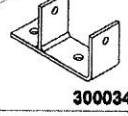


LASHING WINCH 804073 804074

BRACKET-WINCH MOUNT 320 END 30012340

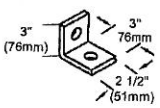


1.91 #
0.86 kg



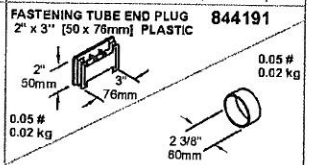
BOOT END
5/8 (10mm) PLATE 30003450

1.23 #
0.55 kg



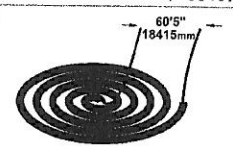
BRACKET - WINCH MOUNT 33400190
2 X 3 X 2 X 3/8"

FASTENING TUBE END PLUG 844191
2" x 3" [50 x 76mm] PLASTIC



FASTENING TUBE END PLUG 844190
Ø 2 3/8" [60mm] PLASTIC

0.0 #



CABLE - 40 FLAP - 60'5" [18415mm] 870701
Ø 3/16" [5mm]

0.15 #
0.07 kg



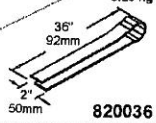
RUBBER FLAP PROTECTOR 890375

1" [25mm] BELTING 804540



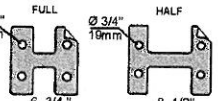
0.43 #
0.20 kg

1.5 # / 100 ft
0.70 kg / 30480mm



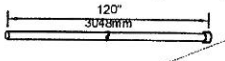
TIE DOWN STRAP
6' [183mm] LONG 820036

0.01 #
0.01 kg



FULL COUPLER PROTECTOR A18 830675
HALF COUPLER PROTECTOR A18 830850

PVC TUBE Ø 1" [25mm] WHITE 810120



2.80 #
1.27 kg



COVER

HEX BOLT 5/8" x 2" M16 x 50mm		800218
5/8" x 2 1/2" M16 x 65mm		800055
5/8" x 8" M16 x 200mm		800901
WASHER - FLAT - 5/8" [M16]		802010
NUT - 5/8" [M16]		801050
CARR BOLT 1/2" x 4" M12 x 100mm		800920

REDI-ROD 5/8" x 12" 0.83 # M16" x 300mm 0.38 kg		800400
HEX BOLT 1/2" x 2" M12 x 100mm		800913
WASHER - FLAT - 1/2" [M12]		803154
NUT - 1/2" [M12]		803153
1/4"-14 x 3/4" (Tek 3) M6-14 x 19mm		800020
#12-24 x 1 1/4" (Tek 5) #12-24 x 32mm		803020

1/4" FENDER WASHER 6mm		802000
5/16" PIPE CLIP 8mm		802005
3/8" MAG CHUCK DRIVER 10mm		804100
PVC GLUE		810119

Buildings Over 144' / 44M

22.71 #
10.3 kg

EXTRUSION 335" [853mm] 850336

COVER JOINER - EXTRUSION - 220 30012220

1.56 #
0.70 kg

COVER JOINER - EXTRUSION 320 30012320

COVER JOINER
32 " END FLAP (2X18")

300012225

Norseal Butyl Tape
100FT Roll

804510

#12-14 x 1 1/4" (Tek 3) #12-14 x 32mm		803040
5/16" MAG CHUCK DRIVER 8mm		800005
RTV SILICONE		804509
LUBRICANT .95 L GREENLEE WINTERGEL		804508

BRITESPAN
BUILDING SYSTEMS INC

IMPORTANT – READ MANUAL FIRST

Improper Site Preparation, Assembly and Maintenance may invalidate warranty and cause unnecessary and costly mistakes. If you have any questions contact your local dealer.

MAINTENANCE SCHEDULE

Failure to comply with this maintenance schedule will invalidate the warranty.

A. INSTALLATION ADJUSTMENT

1. The cover of your Atlas building may relax after installation. The fabric is designed to be under tension at all times to prevent wear and ensure a long life. Adjust the cover over the entire building to remove as many wrinkles and creases and bagging as possible. For most buildings 35 - 45 ft. lbs [48 - 60 N.m] of torque provides adequate cover tension. Adjust the end winches until the fastening pipe is level. Re-tension end flaps.

NOTE: ***Building covers installed during cooler weather tend to relax more than covers installed during warmer weather. If your cover was installed in cooler weather recheck its tightness on the first available warm sunny day.***

B. INSTALLATION INSPECTION - 1 WEEK MAINTENANCE

1. Cover - ensure the cover straps are secure and the cover is tensioned. For most buildings 35 - 45 ft. lbs [48 - 60N.m] of torque provides adequate cover tension. Adjust cover tension as required..
2. Belting - check for premature belting wear and ensure tightness.
3. End Flaps - ensure the flaps remain tight and securely fastened.
4. Aprons - ensure the aprons are securely fastened.
5. Cables - ensure the cables are tensioned according to the installation instructions.
6. Steel - Seal all surface penetration marks with a sealant or high zinc content paint.

C. QUARTERLY MAINTENANCE

1. Repeat above "INSTALLATION INSPECTION - 1 WEEK" a minimum of 4 times per year.

D. GENERAL MAINTENANCE

1. **Cover** - Clean with water and non-abrasive soap. Do not use solvents or chemicals. Use caution when using high pressure washers.
2. **Snowfall** - Snow accumulating on the cover could indicate that the cover needs re-tensioning. Remove snow and check tension.
3. Use caution when using heavy equipment or manually clearing away avalanched snow.

E. ACCIDENTAL DAMAGE

Cover: Sharp objects can puncture and damage the cover. Do not attempt to seal or repair with conventional materials. Call your local BRITESPAN representative. They will be able to assess the damage and facilitate replacement or provide a heat-weld service if the cover is repairable.

Structure: Report and document any damage to the steel structure, components or foundation immediately. Have your local BRITESPAN representative inspect the damage and provide a comprehensive evaluation. Perform any temporary or emergency repairs as determined. Replace or repair damanaged components as determined.

BRITESPAN
BUILDING SYSTEMS INC

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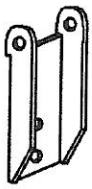
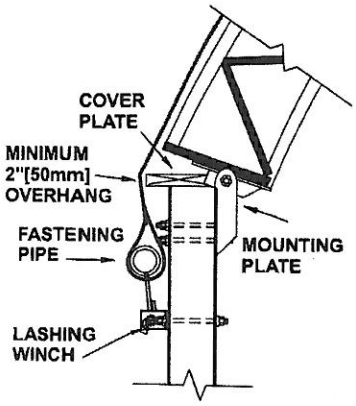
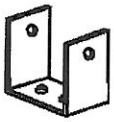
STEP 1 DETERMINE INSTALLATION TYPE



TYPE 220 INSTALLATION

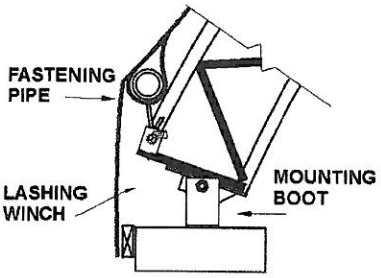
- The mounting plate is attached to the inside of the foundation and secured through the foundation.
- The cover fastening pipe is located below the mounting plate, outside the foundation, and the cover lashing winches attach to the foundation.
- A **minimum 2" [50mm]** cover plate overhang **is required** to keep the fastening pipe and lashing straps from contacting mounting plate hardware.
- Typically, the cover does not have a finish/seal apron.





TYPE 320 INSTALLATION

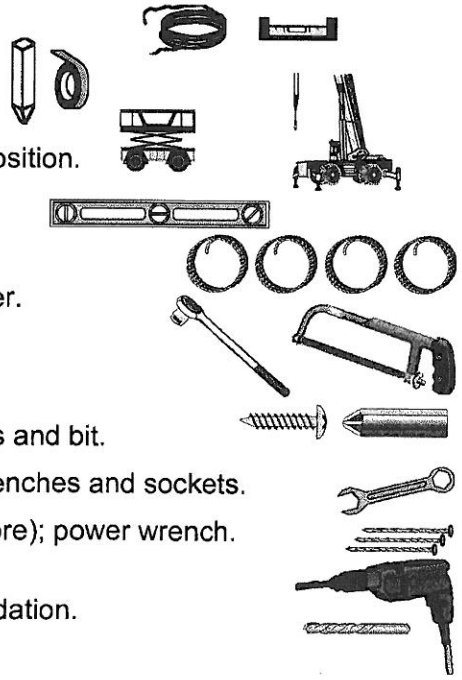
- The mounting boot attaches to the top surface of the foundation.
- The cover fastening pipe is located on the arch steel and the cover lashing winches attach to plates attached to the arch coupler plate.
- Typically the cover has an attached finish/seal apron.



Custom buildings may have variations of the these two installation types. Check with your Dealer or agent for details.

STEP 2 REQUIRED EQUIPMENT

1. String and string level for alignment.
2. Stakes and tape to mark the post/pile locations.
3. Movable scaffolding or a platform lift.
4. Crane or equivalent to lift arches into the vertical position.
5. Temporary bracing - dimensional lumber or rope.
6. Square level.
7. 2 to 4 lengths of cover pull rope 100' [31M] or longer.
8. Torque wrench.
9. Hacksaw.
10. #10 x 3/4" [#10 x 20mm] round head Philips screws and bit.
11. 13/16" [21mm] - 15/16" [24mm] - 1 1/8" [29mm] wrenches and sockets.
12. **Optional** -A transit (available from a local rental store); power wrench.



TYPE 220 Installation

13. Drill and Ø 5/8" [16mm] drill bit to drill through foundation.
14. 3 1/2" [90mm] spiral nails (galvanized) - 6 per post.

REQUIRED FOR BUILDINGS OVER 144'[44M] IN LENGTH

1. Drill - Appendix A
2. Rubber mallet - Appendix A
3. Caulking gun - Appendix B

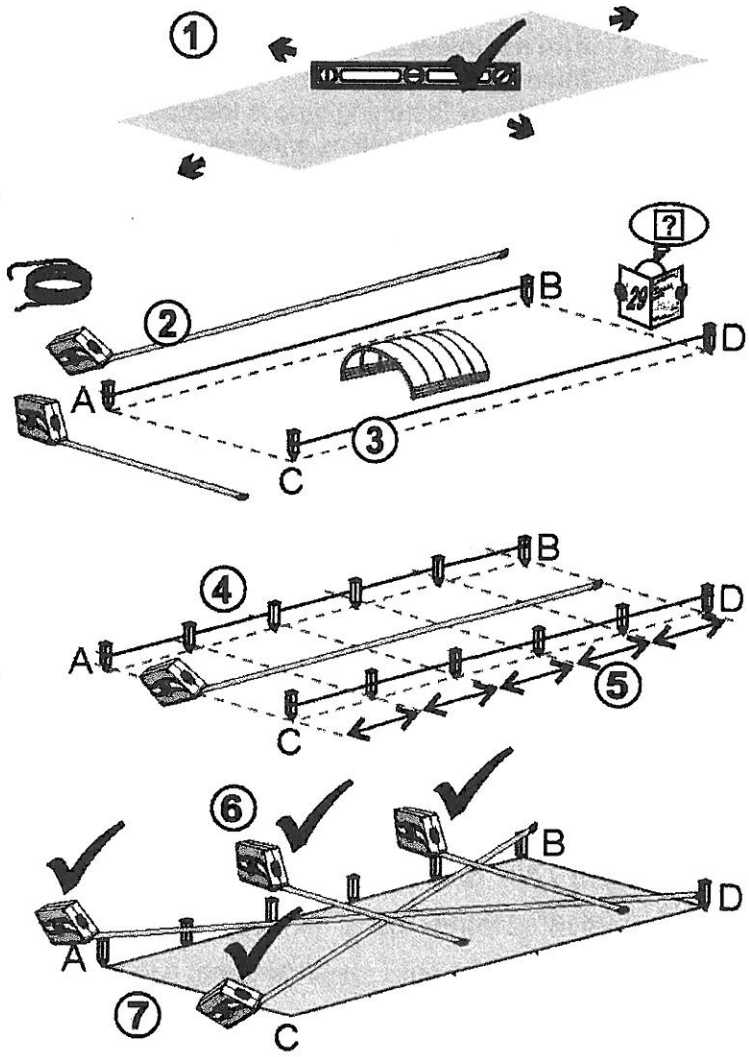


BUILDINGS OVER 144' [44M] IN LENGTH See STEP 37, Page 25

STEP 3 SITE PREPARATION

BRITESPAN BUILDING SYSTEMS IS NOT RESPONSIBLE FOR FOUNDATION DESIGN OR INSTALLATION.

1. Start with a level site.
2. Measure and stake out the location of the corner posts/ piles A, B, C and D. Use an accepted method to make the foundation straight and square.
   See Squaring A Foundation on Page 33 for assistance.
3. String lines from A to B and from C to D.
4. Measure and stake the arch on-center intervals along the length of the building using a **running measurement.**
5. Check linear measurements by measuring the distance between each stake. Distance should be equal.
6. Check the width measurements the entire length of the building.
7. Check the square of the foundation by measuring diagonally. Diagonal measurements should be equal.



NOTE: ***Buildings over 144' [44M] in length have more than one cover. Even with this feature, the foundation continues as a running measurement for the entire length of the building.***

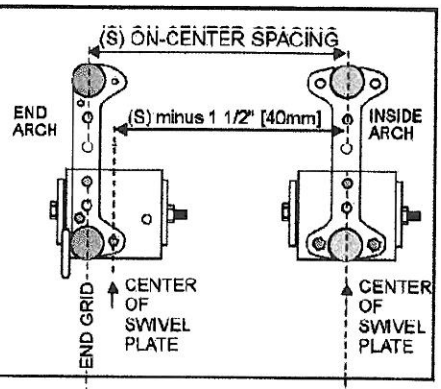
STEP 4 CRITICAL FOUNDATION PLANNING

In order to maintain the correct on-center arch spacing YOU MUST INSTALL the foundation so that the end mounting brackets and boots can be safely attached 1 1/2" [40mm] inside the end grid line.

TYPE 220 and TYPE 320
End arches have half coupler plates that bolt 1 1/2" [40mm] off-center on a 5 hole end swivel plate.

The inside arches have full coupler plates and bolt to the center of the 4 hole swivel plates.

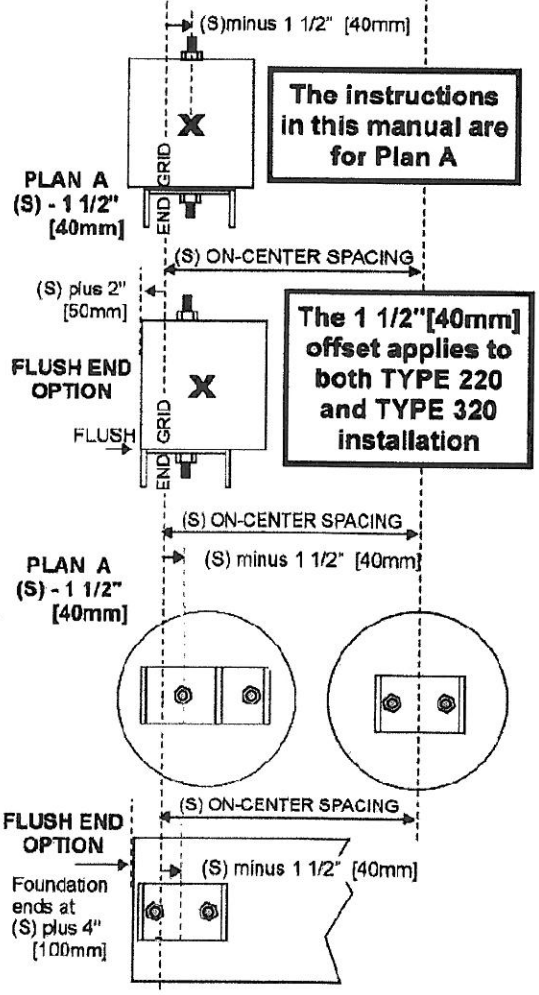
On-center arch spacing must be maintained when planning the foundation.



TYPE 220 INSTALLATION

PLAN A - RECOMMENDED
When you install the end posts with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting bracket and swivel plate center will be positioned in the center of the post and the correct on-center arch spacing is maintained.

FLUSH END OPTION
To finish the end of the building steel flush to the outside edge of the end post INSTALL THE EDGE OF THE POST PLUS 2" [50mm] OUTSIDE the end grid line. The mounting bracket will be positioned flush to the edge of the post regardless of post size and the correct on-center arch spacing is maintained.



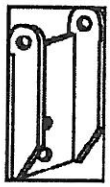
TYPE 320 INSTALLATION

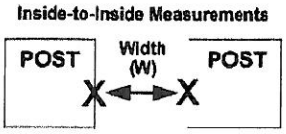
PLAN A - RECOMMENDED
When you install the end piles with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting boot and swivel plate center will be positioned in the center of the pile and the correct on-center arch spacing is maintained.

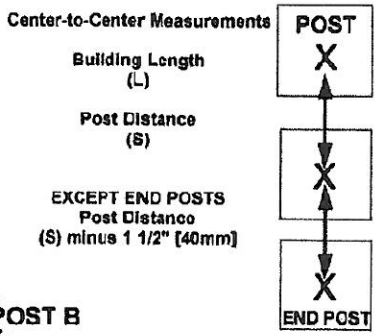
FLUSH END OPTION
To reduce the corner foundation protrusion, design the foundation so that the mounting boot can be installed as close to the edge of the foundation as allowable by the foundation's construction.
Example - Depending on anchor type - terminate the foundation at minimum (S) PLUS 4" [100mm] OUTSIDE the end grid line. Always check with a foundation engineer for appropriate anchor types and their installation requirements.
ALWAYS MAINTAIN the correct on-center arch spacing.

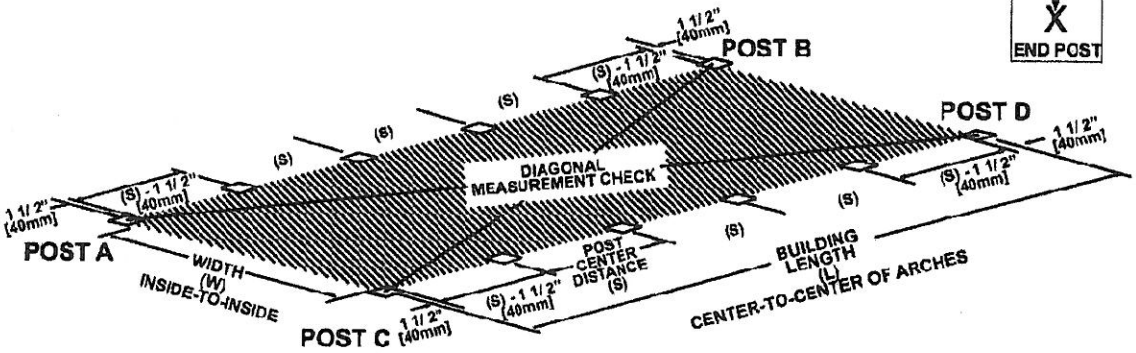
TYPE 320 INSTALLATION - Go to Page 11

TYPE 220 INSTALLATION









40' WIDE - ATLAS 18

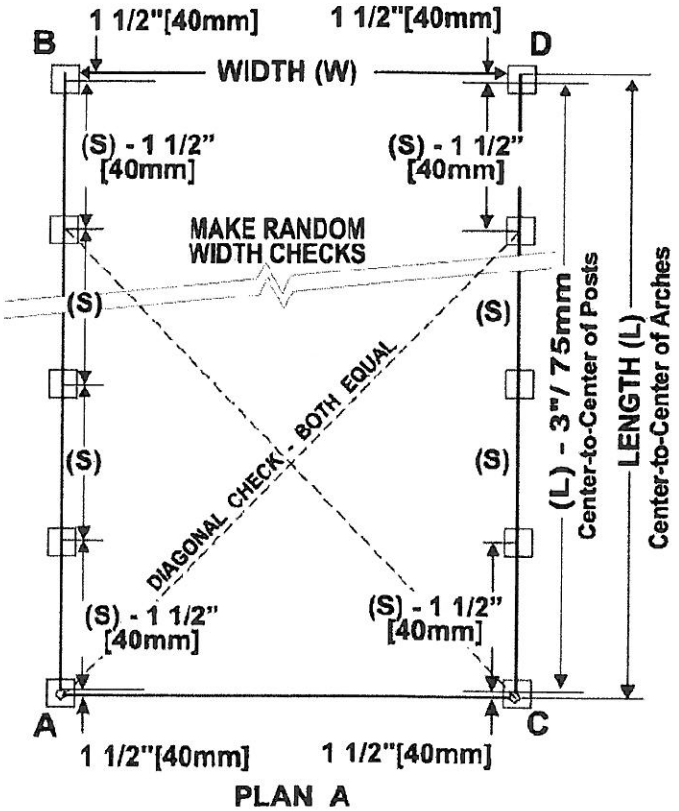
IN TO IN OF POST
(W) WIDTH = 38' 7 3/4"

IMPORTANT

END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A
MEASURE AND INSTALL THE END POST CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BRACKETS TO BE MOUNTED IN THE CENTER OF THE POST

OPTION
MEASURE AND INSTALL THE OUTSIDE EDGE OF THE END POST AT (S) PLUS 2" [50mm]. THIS WILL ALLOW FLUSH END FABRIC TERMINATION AT THE CORNERS.



PLAN A

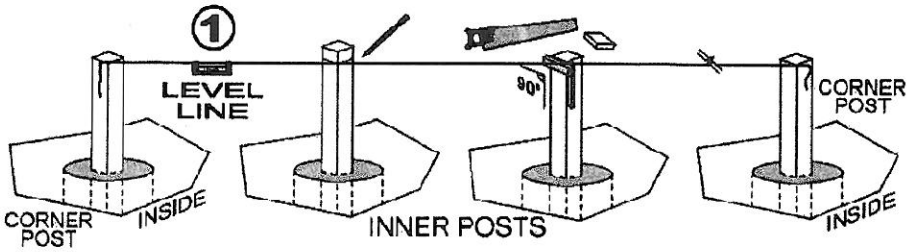
BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

STEP 5 TYPE 220 - INSTALL THE SILL PLATE

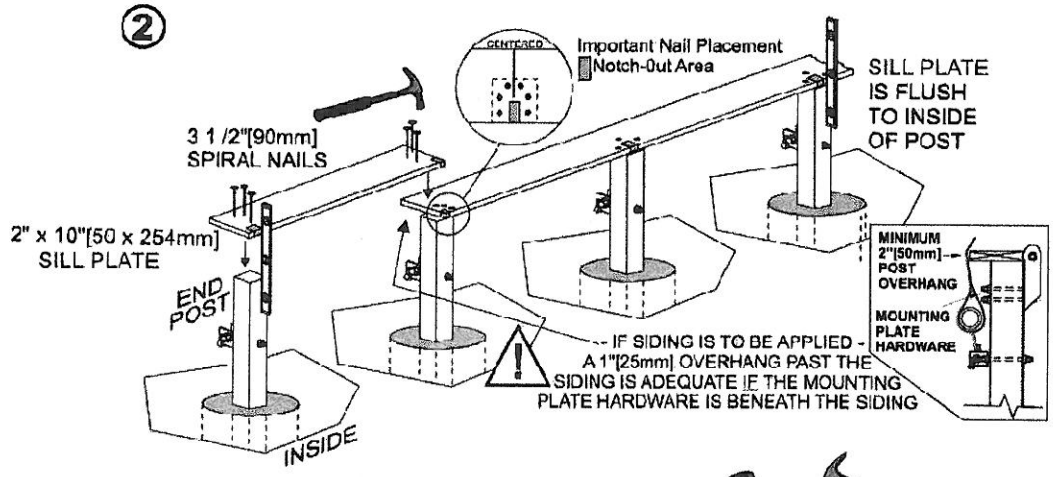
THE 220 COVER CANNOT BE TENSIONED WITHOUT THE SILL PLATE

1. **CUT POSTS TO DESIRED FINISHED HEIGHT**
   Tie a string line to the corner posts and mark the cut lines on the inner posts. Cut off the tops of each post along the line.

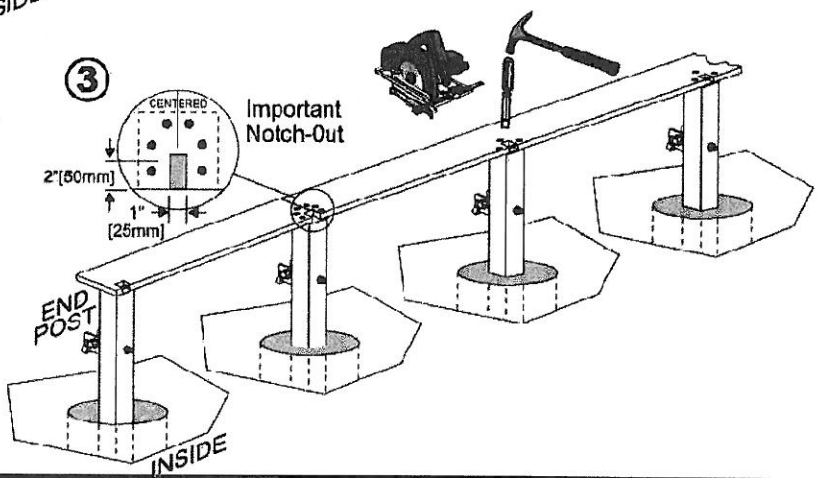




2. **INSTALL THE SILL PLATE**
   Using 3 1/2" [90mm] spiral nails (not supplied), securely fasten a minimum 2" x 10" [50 x 254 mm] dimensional lumber sill plate to the top of the posts.
   The inside edge of the sill plate is flush to the inside of the post. A 2"[50mm] post overhang is required to keep the cover clear of the mounting plate hardware.

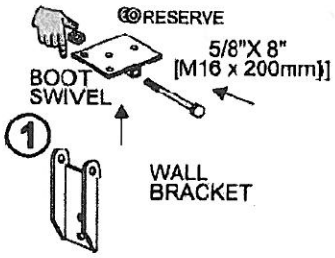


3. Cut out 2" x 1" [50 x 25mm] notches in the sill plate at the posts where the mounting plate and boot swivel will be attached.



IMPORTANT:
Mounting brackets and swivels will not install properly without notch outs.

STEP 6 TYPE 220 - INSTALL MOUNTING BRACKETS



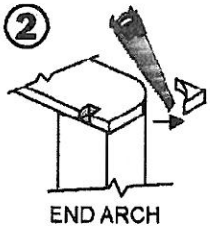
1. Temporarily assemble one TYPE 220 mounting bracket and a 4-hole INSIDE boot swivel using a 5/8" x 8" [M16 x 200mm] bolt/washers/nut.

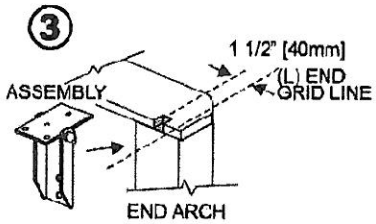
   Use this drill guide assembly for drilling the mounting holes in all the posts including the end posts.

2. **END POSTS - Trim cover plate corners to eliminate a pressure point on the corner fabric.**

3. **END POSTS - The center of the bracket assembly mounts 1 1/2" [40mm] inside the end grid line.**

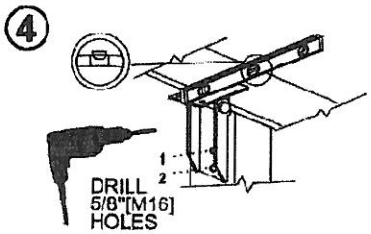
   Remember - If you have **not** installed the end posts at (S) minus 1 1/2" [40mm], the bracket will not be centered on the post.





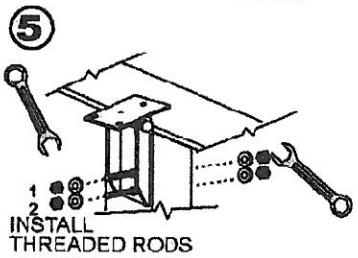
4. **INSIDE POSTS and END POSTS**
   Set the drill guide assembly on the post so that the swivel plate is level and drill 2 of Ø 5/8" [16mm] holes through the post.

   Use the drill guide assembly to drill 2 of Ø 5/8" [16mm] holes through every post.

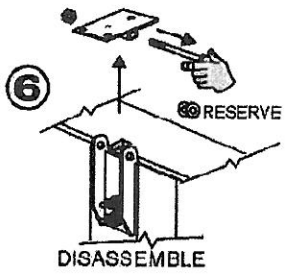


5. **ALL POSTS**
   Attach brackets - **not the drill guide assembly** - to the posts using 2 of Ø 5/8" [M16] threaded rod/washers/nuts.

   Install 2 of Ø 5/8"[M16] threaded rods every post.



6. Attach the drill guide assembly bracket on the last post and remove the boot swivel. The swivel attaches to an arch to allow a single pin assembly. See next Step 7.

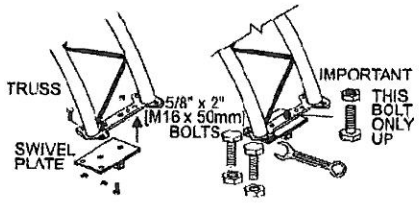


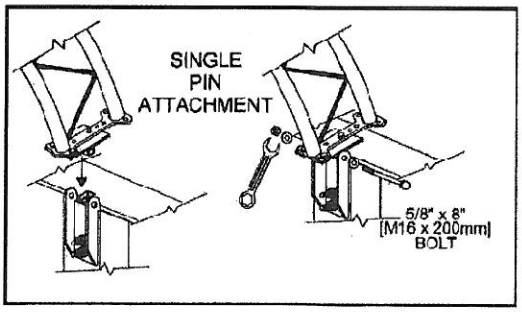
IMPORTANT
TWO threaded rods MUST BE INSTALLED every post.

Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 7 TYPE 220 - INSTALL SWIVEL PLATES

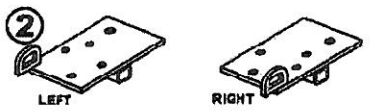
1. **INSIDE ARCHES** - Attach the 4 hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment when installing the arches.





2. **END ARCHES** - Attach the 5 hole boot swivel plates with the welded on D-rings to the end arches using 5/8" x 2" [M16 x 50mm] bolts/nuts.

   The welded D-rings are always on the OUTSIDE of the end of the building.

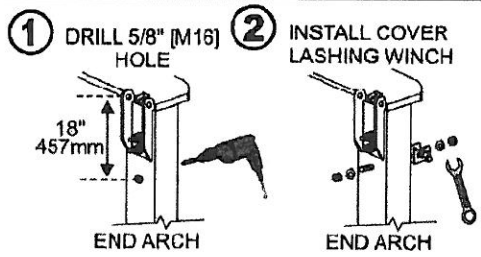


USE 5/8" X 2" [M12 x 50mm] BOLTS

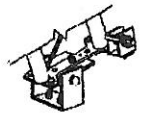
STEP 8 TYPE 220 - INSTALL COVER WINCHES

ALL POSTS

1. Drill a Ø 5/8" [16mm] hole through the center of each post 18" [457mm] below the top of the post.
2. Fasten a lashing winch to the outside of each post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*



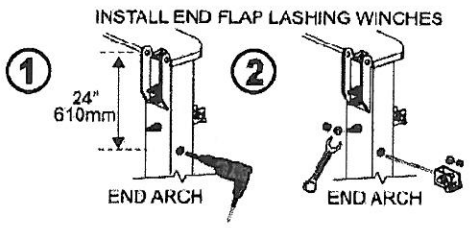
NOTE: If you are installing an eave on your building the cover lashing winches are not mounted on the posts. Cover winches are installed on the base coupler using a winch mount bracket. See *STEP 23* for details.



STEP 9 TYPE 220 - INSTALL END FLAP WINCHES

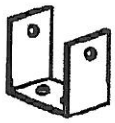
ALL CORNERS

1. Drill a Ø 5/8" [16mm] hole through the center of each corner post 24" [610mm] below the top of the post.
2. Fasten a lashing winch to the outside (end) of each corner post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*

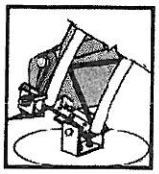


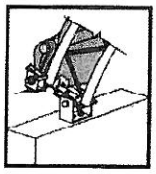
Tighten all bolts/nuts to assembly torque value- See Page 32

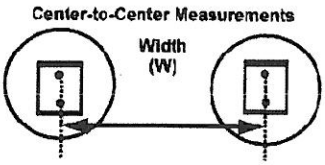
TYPE 220 INSTALLATION - Go directly to *STEP 12* on Page 13

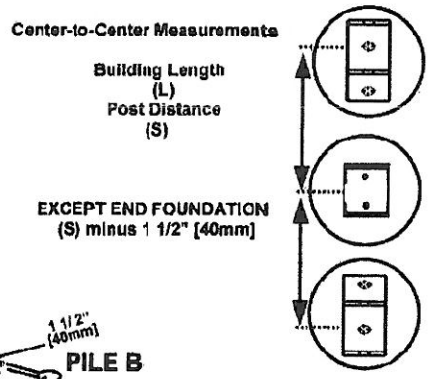


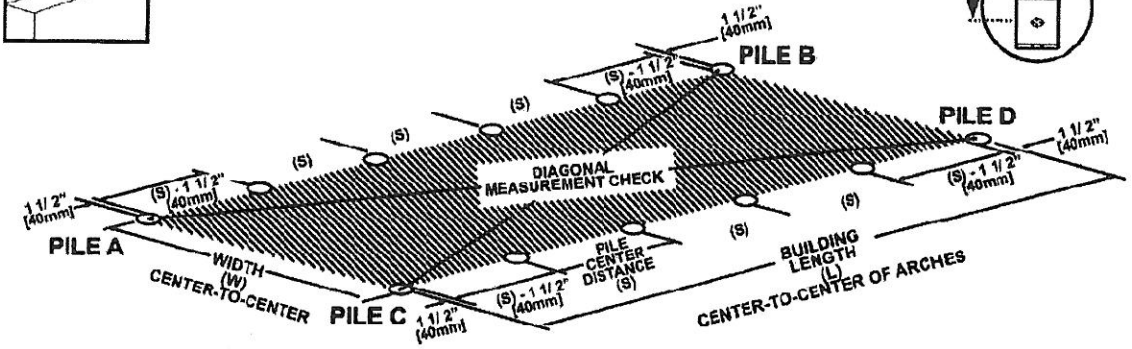
TYPE 320 INSTALLATION











40' WIDE - ATLAS 18

C/C ANCHOR BOLT (W) WIDTH = 38' 5 1/4"

IMPORTANT

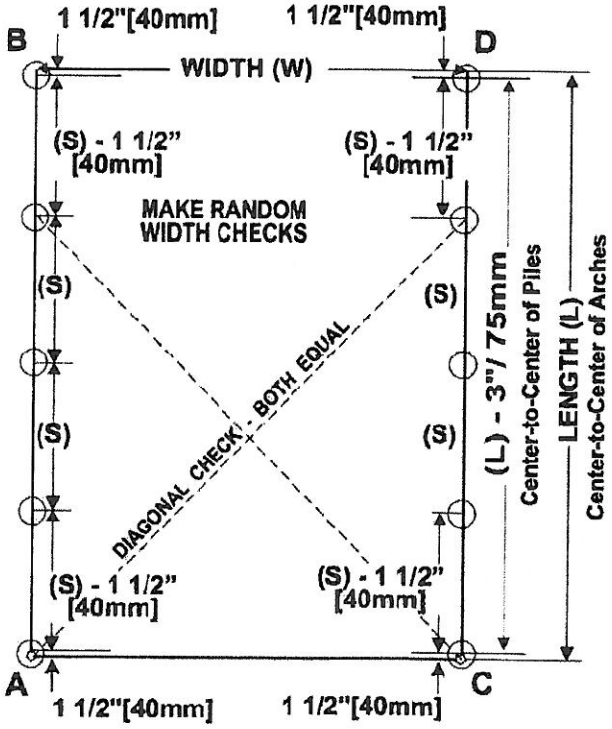
END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A

MEASURE AND INSTALL THE END PILE CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BOOTS TO BE MOUNTED IN THE CENTER OF THE PILE.

OPTION

MEASURE AND INSTALL THE OUTSIDE EDGE OF THE FOUNDATION AT (S) PLUS 4" [100m]. TO REDUCE FOUNDATION PROTRUSION AT THE CORNERS.



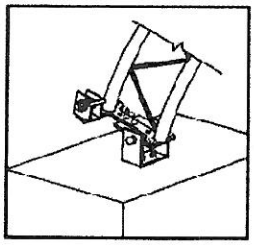
PLAN A

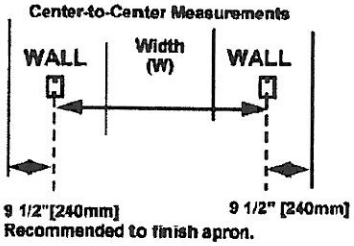
BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

TYPE 320 - INSTALLATION continued

WIDE FOUNDATIONS

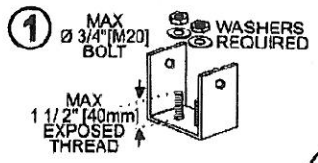
Planning the foundation so that the boot mounts 9 1/2" [240mm] from the outside edge will permit the apron to finish straight down from the cover's tensioning point.





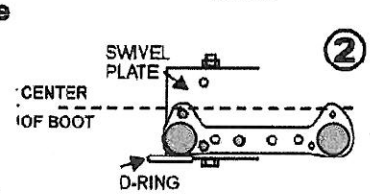
STEP 10 TYPE 320 - INSTALL MOUNTING BOOTS

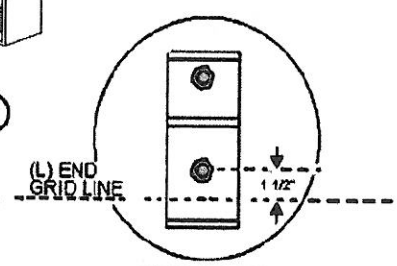
1. ANCHOR BOLTS - Maximum Ø 3/4" [M20] bolts. Maximum 1 1/2" [40mm] exposed thread. Washers required
   Tighten all anchor bolts securely.



2. **END ARCHES - The center of the mounting boot mounts 1 1/2" [40mm] inside the end grid line.**

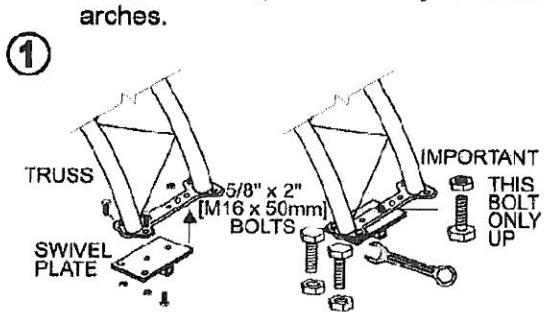
Remember - If you have not installed the end piles at (S) minus 1 1/2" [40mm], the bracket will not be centered on the pile.

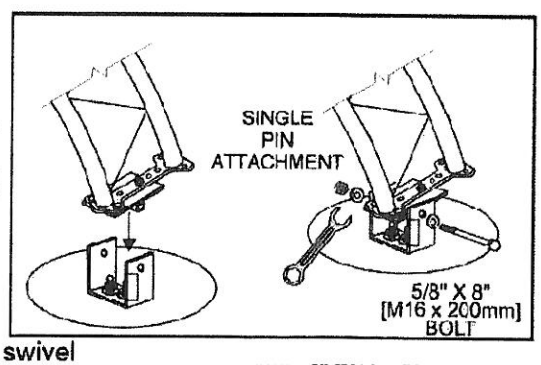




STEP 11 TYPE 320 - INSTALL SWIVEL PLATES

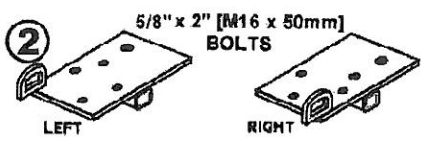
1. **INSIDE ARCHES** - Attach the 4 hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment of the arches.





2. **END ARCHES** - Attach the 5 hole boot swivel plates with the welded on D-rings to the end arches using 5/8" x 2" [M16 x 50mm] bolts/nuts.

   The welded D-rings are always on the OUTSIDE of the end of the building.



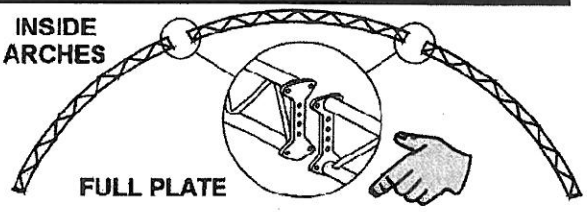
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 12 ASSEMBLE THE ARCHES

IDENTIFY AND LAYOUT ARCH TRUSSES.

1. Identify and separate the inside trusses from the end trusses. Inside trusses have full coupler plates. End trusses have half coupler plates

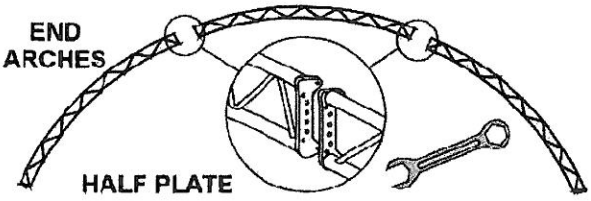
40' WIDE - ATLAS 18
Each completed arch requires 3 truss sections



ASSEMBLE ARCHES

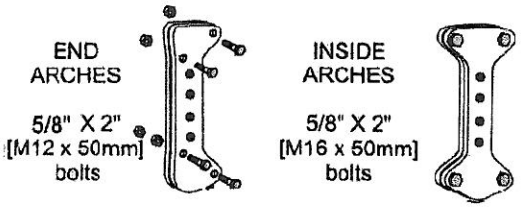
2. **END ARCHES**

   4 of 5/8" x 2" [M16 x 50mm] bolts/nuts



3. **INSIDE ARCHES**

   4 of 5/8" x 2" [M16 x 50mm] bolts/nuts



LEAVE THE 4 HOLES IN THE CENTER OF THE COUPLER EMPTY

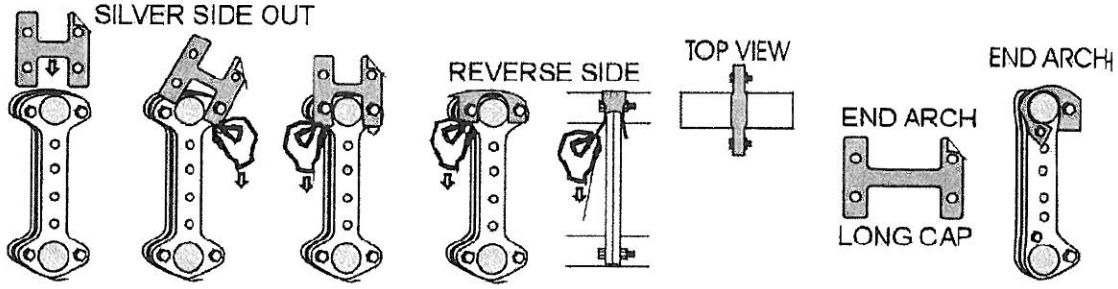
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 13 INSTALL COUPLER PROTECTORS

The coupler protectors fit OVER the bolt head and nuts of the TOP of the ASSEMBLED arches.

The coupler protectors ARE REQUIRED to protect the fabric cover.

WARNING: *FABRIC DAMAGE WILL OCCUR IF NOT INSTALLED.* Remove or smooth any burs or irregularities before installing.



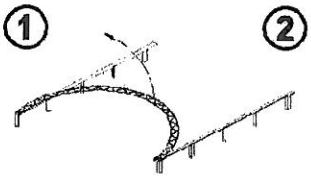
IMPORTANT - Do not attempt to install the coupler protectors UNDER the bolts or nuts. The fabric will deform, twist and tear off.

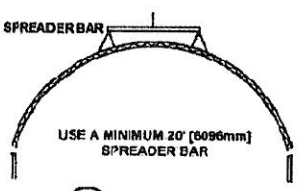
WARNING: ***TRUSS WILL FAIL AND WARRANTY IS VOID IF A SPREADER BAR IS NOT USED.***

STEP 14 ERECT END ARCH

TYPE 220

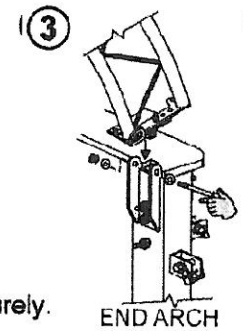
MOUNTING BRACKETS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.

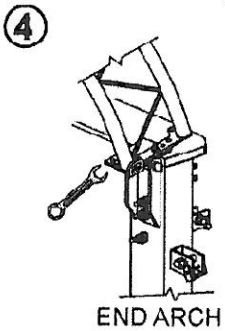


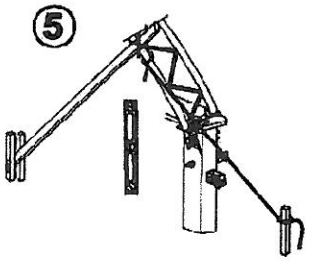


MOVE *END* ARCH INTO POSITION

1. Position an end arch so that the arch can be tilted upright.
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end posts. Use extreme caution when lifting arches.
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Tighten the 5/8" x 8" [M16 x 200mm] bolt/nut securely.
5. Plumb and brace the arch securely using rope or dimensional lumber.





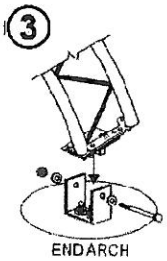


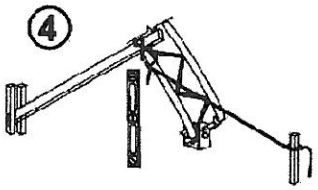
TYPE 320

MOUNTING BOOTS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.

MOVE *END* ARCH INTO POSITION

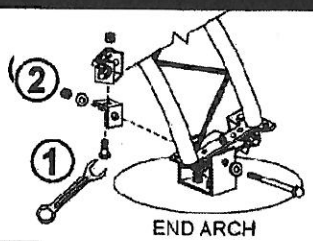
1. Position an end arch so that the arch can be tilted upright. (See (1) TYPE 220 illustration above)
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end piles. Use extreme caution when lifting arches. (See (2) TYPE 220 illustration above)
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Plumb and brace the arch securely using rope or dimensional lumber.





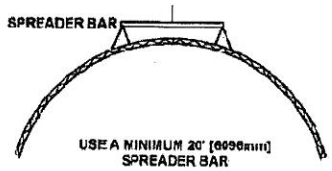
STEP 15 TYPE 320 - INSTALL END FLAP WINCHES

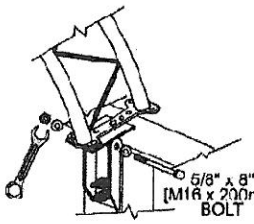
1. **End Arches Only** - Attach an end flap lashing winch to a winch mount bracket using a 5/8" x 2" [M16 x 50mm] bolt/nut.
2. Attach the bracket/winch assembly to the inside of arch boot 5/8" x 8" [M16 x 200mm] bolt. Tighten securely.

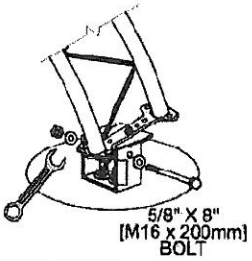


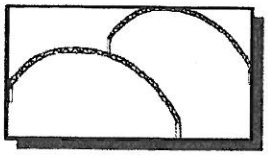
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 16 ERECT THE NEXT ARCH





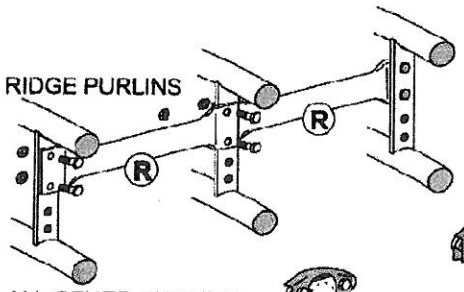




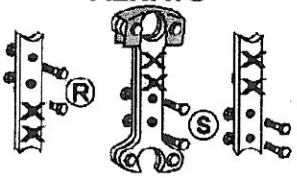
WASHERS ARE REQUIRED



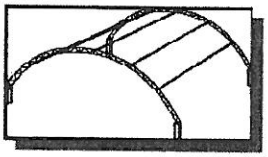
STEP 17 INSTALL PURLINS

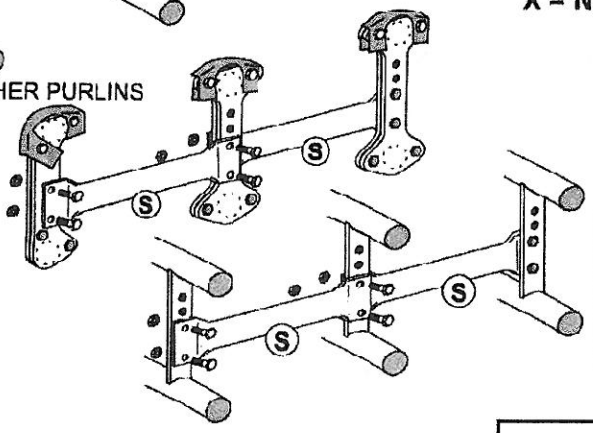


ALWAYS



X = NO BOLTS





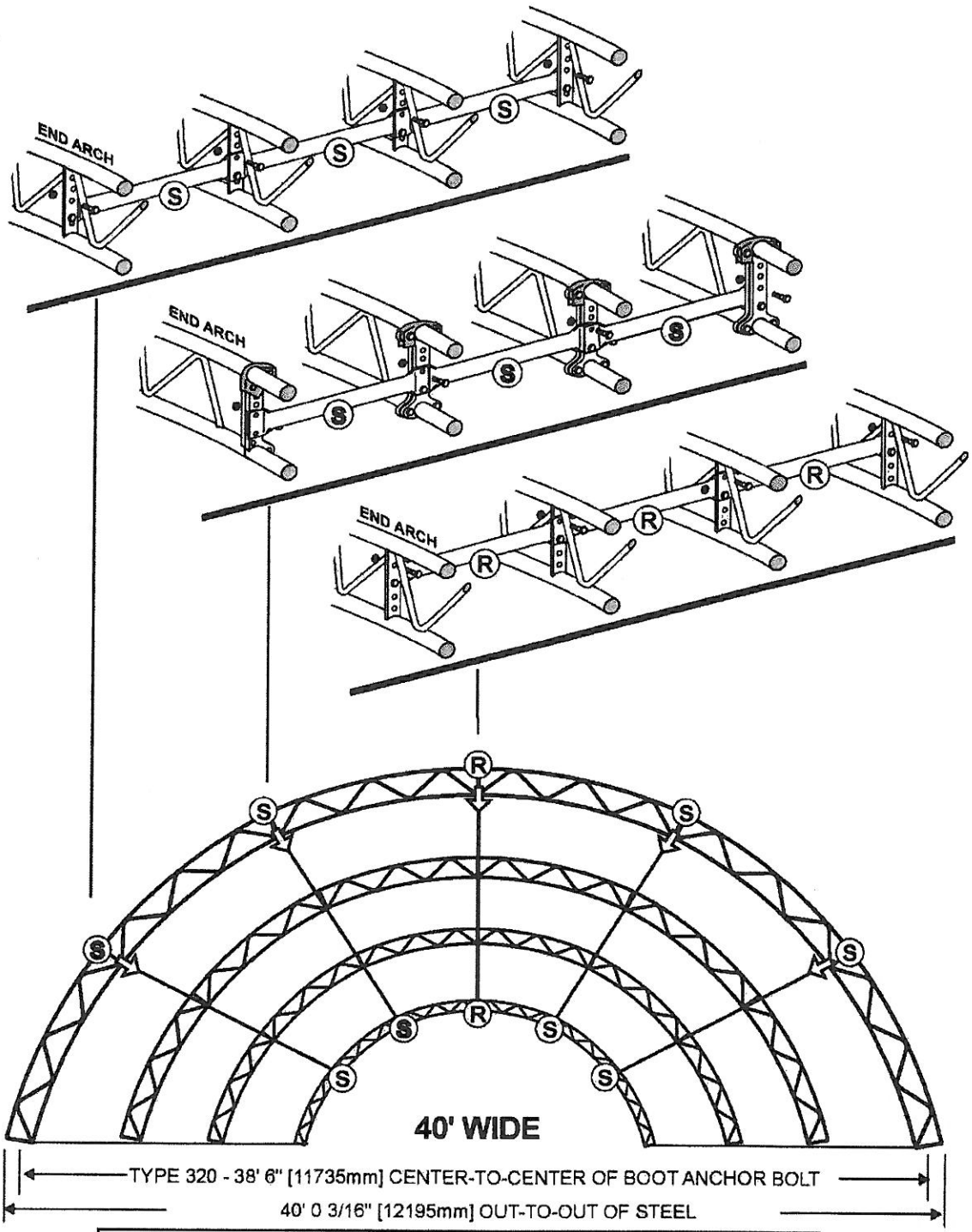
ATTACH PURLINS USING
5/8" x 2" [M16 x 50mm]
BOLTS

LABOUR SAVING HINT
ARCHES WITH CROSS CABLES
Do not install CENTER HOLE bolts.
See Step 18 next page.

16 o/c END BAY ONLY
substitute ALL 2 7/8" purlins with 3 1/2" purlins

IMPORTANT
INSTALL ALL PURLINS BETWEEN THESE FIRST TWO ARCHES BEFORE PROCEEDING

Tighten all bolts/nuts to assembly torque value- See Page 32



Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 18

INSTALL CROSS CABLES

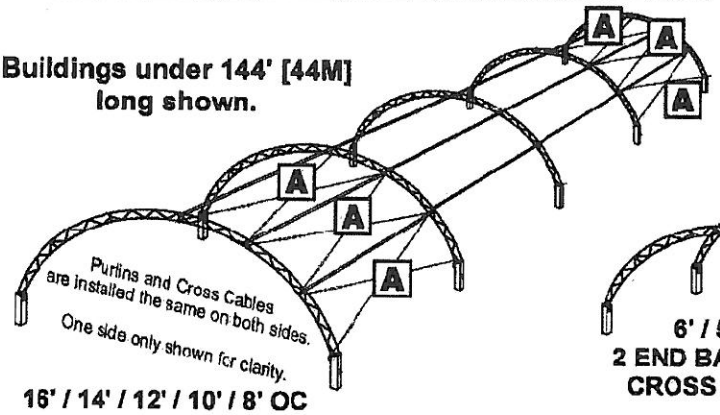
Cross cabled end arch (or arches) create a structural frame for the rest of the building.

This Atlas building uses one only cable length .
Install cables at every LOCATION [A].

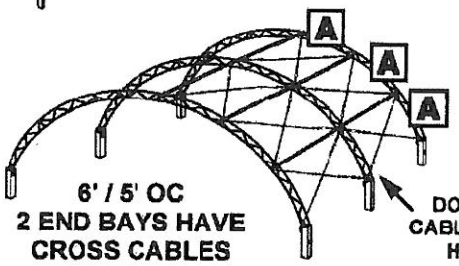


NOTE: Arch spacing determines cable length. More than one cable length is supplied when any portion of the building has a different arch spacing. See Building Components, Page 1, of this manual for cable lengths for specific arch spacings.

Buildings under 144' [44M] long shown.



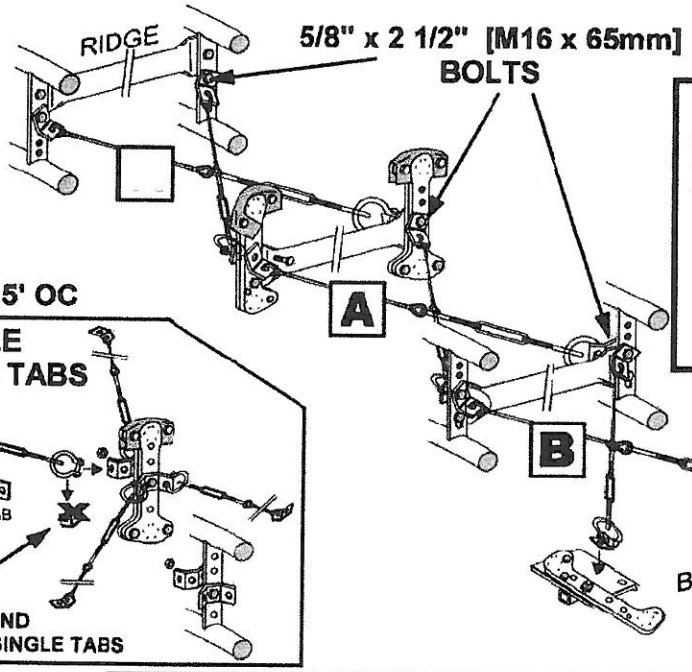
16' / 14' / 12' / 10' / 8' OC ONE END BAY HAS CROSS CABLES



6' / 5' OC 2 END BAYS HAVE CROSS CABLES

DOUBLE CABLE TABS HERE

CABLES ALWAYS ATTACH AT THE CENTER HOLE



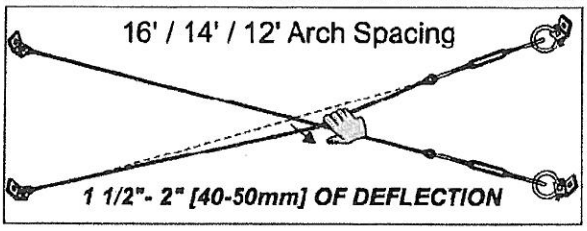
TO ATTACH CABLES SUBTITUTE 5/8" x 2 1/2" [M16 x 65mm] BOLTS IN CENTER HOLES

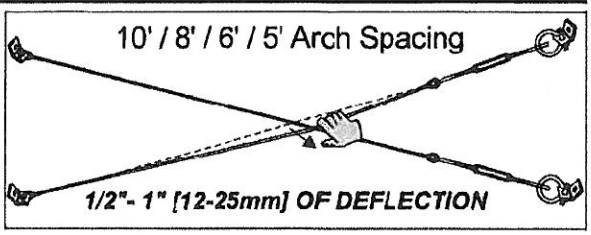
EXCEPT AT BASE USE 5/8" x 2" [M16 x 50mm] BOLTS

6' AND 5' OC

Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 19 TENSION CROSS CABLES





MAKE CROSSED CABLE LENGTHS EQUAL TO SQUARE



STEP 20 TIGHTEN CABLE TURNBUCKLE LOCKNUTS



STEP 21 ERECT ALL REMAINING ARCHES

ERECT ALL REMAINING ARCHES. AND INSTALL ALL PURLINS AND ALL CROSS CABLES

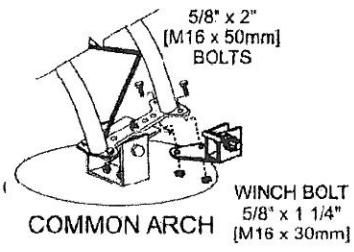
STEP 22 BUILDINGS OVER 144' [44M] - SEE APPENDIX A

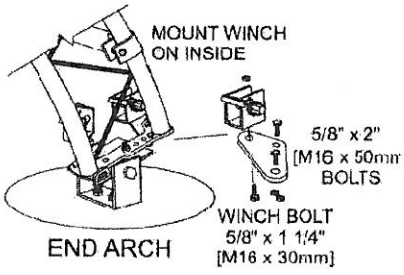
If you are erecting a building that is over 144' [44M] long go to APPENDIX A, Item 1, on Page 26 of this manual for cross cable placement and cross cable double tab placement.

STEP 23 TYPE 320 - INSTALL COVER LASHING WINCHES

1. Install lashing winch mounting brackets on the underside of each arch base EXCEPT 5' [1524mm] o/c and 6' [1830mm] o/c buildings - install every other arch - match placement to notches in cover.

Inside Common Arches -
1 bracket required
5/8" X 2" [M16 x 50mm] bolts/nuts
End Arch -
1 bracket required
5/8"x 2" [M16 x 50mm] bolts/nuts



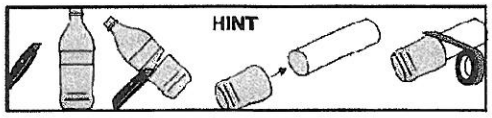


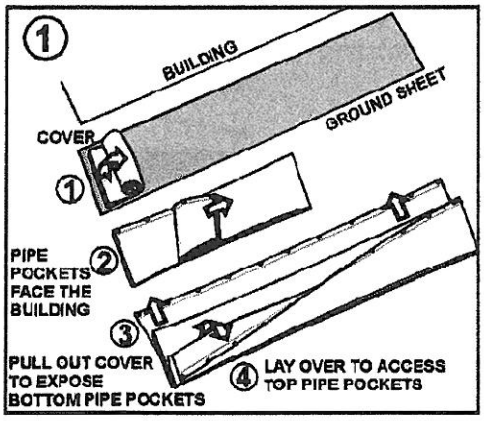
2. Attach lashing winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.

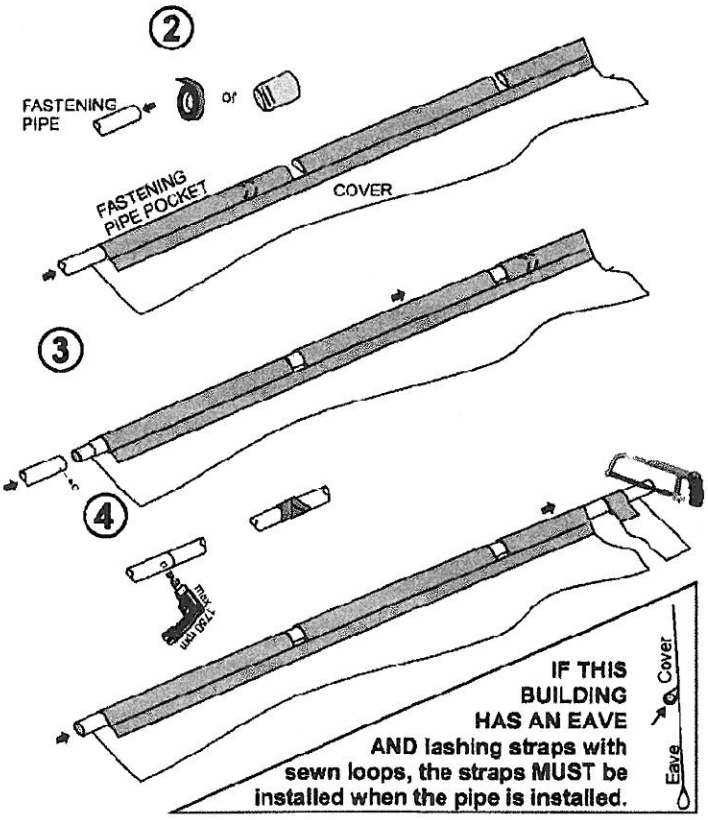
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 24 INSTALL COVER FASTENING PIPES

Use a ground sheet to protect the cover while it is being prepared for installation.



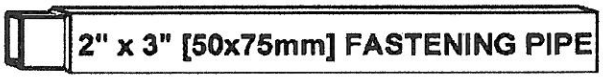




1. Roll out the cover and leave a small walk area along the building. Align the cover evenly to each end of the frame.
2. Pipe raw edge can damage pocket fabric. Wrap or cap leading edge of pipe.
3. Install BOTH fastening pipes.
4. Use 1/4" x 3/4" [M6 x 20mm] Tek self-drilling screws to fasten the pipes together. Wrap with duct tape (tape optional - not supplied).

NOTE: ***Fastening pipes are supplied in factory cut lengths. Some buildings will require measured cuts, possibly on two lengths of pipe.***

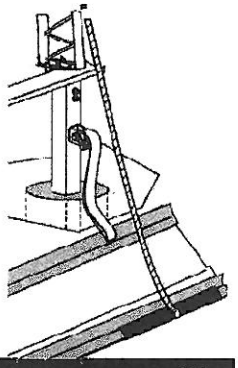
BUILDINGS USE 2" x 3" [50 x 75MM] RECTANGULAR FASTENING PIPE OR 2 3/8" [60MM] ROUND FASTENING PIPES



OR

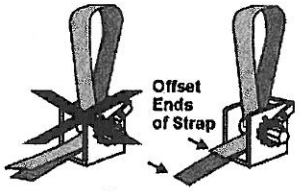


2 3/8" [60mm] ROUND FASTENING PIPE

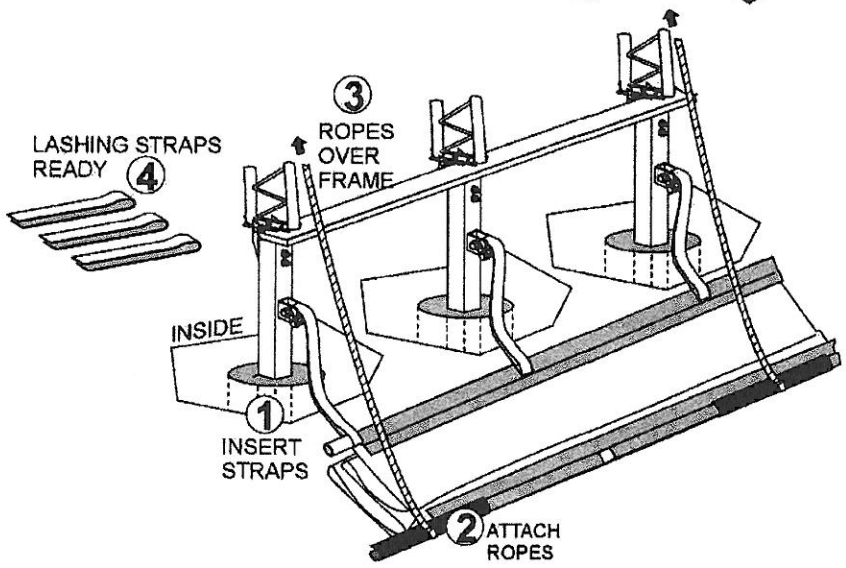


STEP 25 INSTALL THE COVER

NOTE: ***DO NOT install the cover onto the frame in high wind conditions. A slight breeze is the most advantageous for cover installation. Take advantage of the breeze by pulling the cover up over the arches with the breeze blowing into the cover . . . like a sail filled with air.***



1. Loop the lashing straps around the inner fastening pipe and secure both ends of the straps in the lashing winches.
2. **On the opposite side of the cover** (the side of the cover that is furthest from the frame), tie several ropes, approximately 30 feet [9M] apart, to the steel fastening pipe through the notched hole.
3. Throw the free end of the ropes over the frame to the opposite side of the building.
4. Ready the lashing straps on the opposite side of the building.



CHECK LIST:

- **<u>BEFORE</u> proceeding ensure that the cover is POCKET SIDE up.**
- **ALL coupler plates have coupler protectors.**
- **BOTH fastening pipes are in place.**
- **Fastening straps near side are SECURED in the lashing winches.**
- **Ropes are secured to the OPPOSITE pipe and passed over the frame.**
- **NO WIND or there can be a light breeze (ideally from rope pulling side).**



USE CAUTION WHEN INSTALLING COVERS WITH MOTORIZED EQUIPMENT.
PRE-ARRANGE COMMUNICATION DEVICES OR HAND SIGNALS TO RELAY DIRECTIONS TO EQUIPMENT OPERATORS.

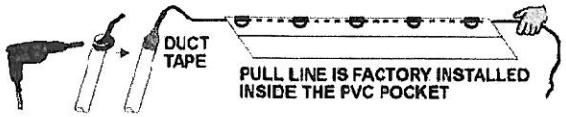
5. Pull the cover over the frame EVENLY, CAREFULLY and SLOWLY.
6. Loop the lashing straps around the fastening pipe and **loosely secure** in the lashing winches. <u>DO NOT TIGHTEN</u>. Adjust the cover so that it is square and evenly centered on the frame. *The end flaps should overhang evenly at both ends.*

NOTE: ***DO NOT LEAVE THE COVER UNATTENDED UNDER ANY CIRCUMSTANCES until final assembly and tightening has been completed.***

STEP 26 INSTALL COVER PVC PIPE

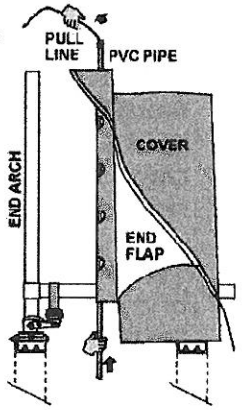
1. Once the cover is on the frame and is sitting centered, square and straight, visually check to ensure the cover extends approximately 12" [305mm] on both ends of the building.

2. Drill a hole in the smooth end of one PVC tube and tie the pull line to it. Wrap this leading end with duct tape.

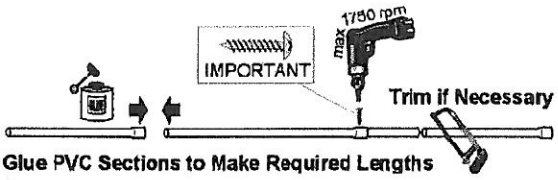


Hint - A small funnel or cone (not supplied) on the leading edge of the PVC will help spread the PVC pocket.

3. Push - Pull the PVC into the pocket. Glue and screw the lengths of PVC together as you proceed.



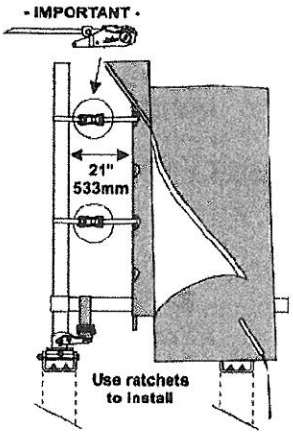
IMPORTANT - ALWAYS install a screw (not supplied) at every connection. PVC glue looses adhesive qualities when applied in cold weather and in damp and humid conditions.



Hint: PVC tubes should slide easily into the pockets. Do not force. Check for twisted fabric or misaligned pocket openings if you experience difficulty.

STEP 27 TENSION COVER ENDS

1. Operate the cover fastening tube end arch lashing winches to remove the slack from the lashing straps. DO NOT TENSION.

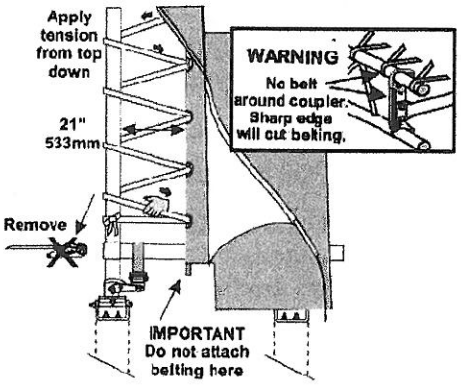


Hint - Use ratchet straps (not supplied) on both ends, evenly spaced, to tension and hold the cover lengthwise. Adjust to obtain a distance of 21" [533mm] between the Arch tube and the PVC pipe at both ends. Then lace the cover to the end arch.

2. **Lace - start at the base.** Lace the 1" [25mm] belting around the PVC tube through the notches and then back to the top truss tube of the end arch - **in 10'-12' [3-4M] sections** - all the way up to the top center of the building. Tie off each section. **Repeat lacing from other base.**

Hint - The cover shifts down when final tension is applied. Always try to lace the belting on the down side of the web weld.

3. **Tension - start at the top center.** Work your way down from the secured end use force to tighten the belting and finish by tying the belting off on each section. The PVC tube should be parallel with the end arch all the way around.



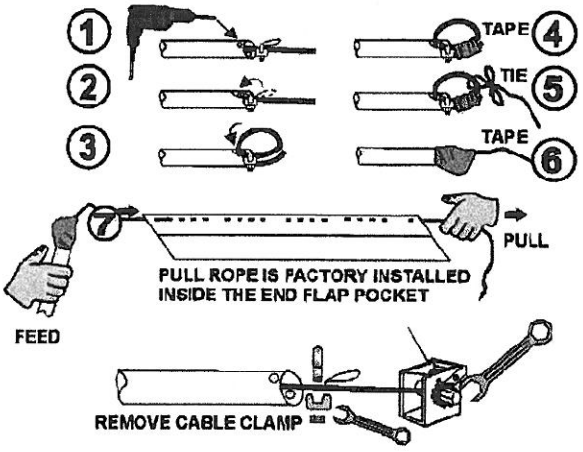
4. Lace and tension the opposite end of the building. The cover should be tight and secure from end to end when finished.

Hint: Trim the belting excess <u>after</u> you have finished the tighten-down.

STEP 28 INSTALL END FLAP CABLE

1. Secure BOTH the cable and PVC tube casing to the end flap pull rope in an acceptable manner. Protect the fabric from any sharp edges.
2. Feed and pull the cable through the end flap until it is equal on both sides.

   You may require a third person on a lift to assist the cable through the folds and creases. You can try flipping the end flap flat over the top of the building.
3. The cable clamps can be removed after the cable is secured into the lashing winch.



WARNING - Pull slowly or rope burn will damage fabric.

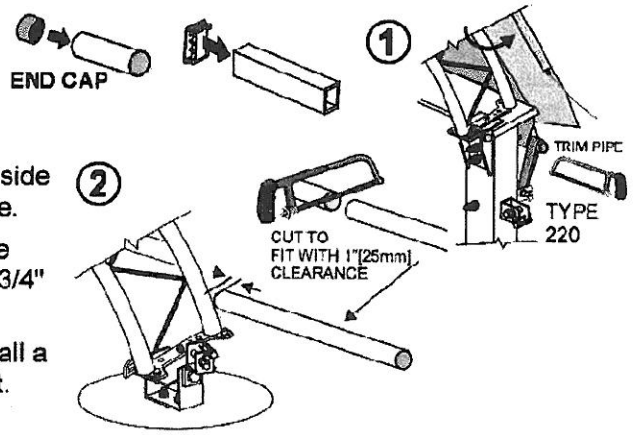
STEP 29 TERMINATE THE COVER FASTENING PIPE

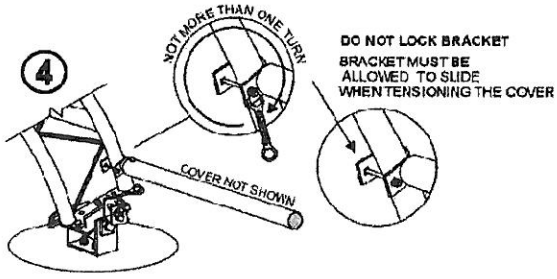
TYPE 220 INSTALLATION

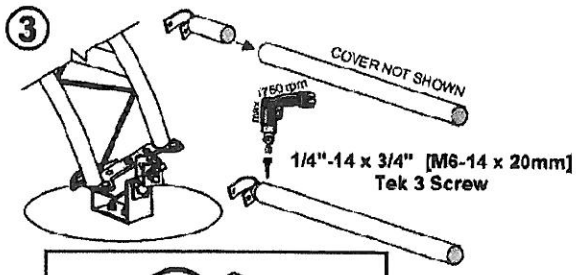
1, Trim the fastening pipe to the end of the building and install plastic end caps.

TYPE 320 INSTALLATION

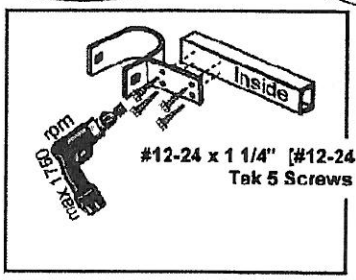
2. Cut the ends of the fastening pipe to fit inside the arch with 1/2"-1" [12-25mm] clearance.
3, Install the saddle bracket in the end of the tube and secure using a single 1/4"-14 x 3/4" [M6-14 x 20mm] Tek 3 screw.
4. Fit the saddle over the arch tube and install a 1/2" x 4" [M12 x 100mm] carriage bolt/nut.







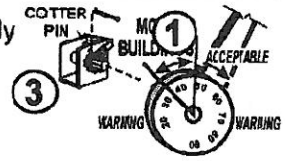
IMPORTANT: Deform the bracket by tightening the 1/2" [M12] bolt/nut as far as possible. This will reduce any protruding edges. **Then release the nut** until you achieve a one turn lock. The bracket must be allowed to slide on the truss tube when the cover is tensioned.



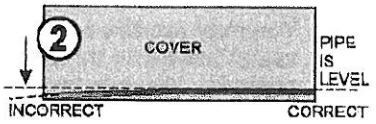
Tighten all bolts/nuts to torque value- See Page 32

It is now safe to remove all ropes used to steady the frame and install the cover.

STEP 30 TENSION THE COVER

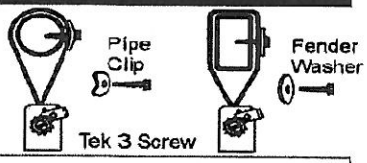


1. Use a 1 1/8" [29mm] wrench to tighten the cover lashing straps evenly on both sides of the building. The tension for the lashing winches on this building has been calculated at **35 - 45 ft. lbs. [48-60N.m.] DO NOT EXCEED 45 ft. lbs. [60N.m]** *Use a torque wrench.* Remove as many wrinkles and creases and bagging as possible.
2. Next, adjust the end lashing straps tension until the cover fastening pipes are level.
3. Install a cotter pin in the lashing winch pilot holes to lock the release lever.



STEP 31 TYPE 220 - SECURE END LASHING STRAPS

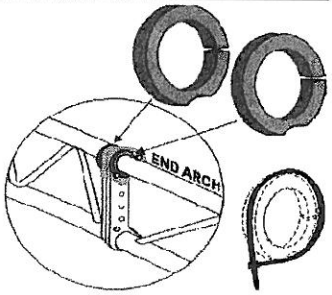
1. Secure the outside (end) lashing straps (4) to the fastening pipe by using pipe clips or fender washers and 1/4" x 3/4" [M6 x 20mm] Tek 3 self-drilling screws. Install the screws **through the fastening strap** into the fastening pipe.



NOTE: ***Failure to secure the corner fastening straps to the pipe could result in possible damage to the cover. Not required on TYPE 320 installation.***

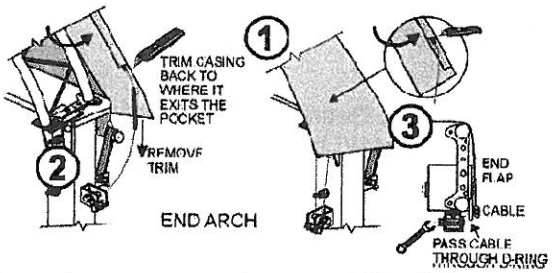
STEP 32 INSTALL RUBBER END FLAP PROTECTORS

1. All buildings require 2 rubber end flap protectors installed on the upper truss tube at all connected couplers on the end arches.
2. The rubber protectors are designed to pressure fit on the truss tube. If necessary, tape them in position.
3. **WARNING** - DO NOT tension the end flap without installing the rubber protectors. DAMAGE WILL OCCUR. If protectors are missing, wrap Ø 1/2" [12mm] 12 rope at the coupler and tape to secure.



STEP 33 TENSION THE END FLAP CABLES

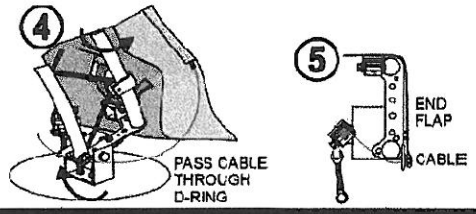
1. **Trim** the plastic cable casing.
2. **TYPE 220** - Insert the cable in the end flap winches so that the windings bind the cable end.
3. **TYPE 220 with Fabric End Wall** - Cut an exit hole in the end flap pocket so the cable exits above the D-ring. Pierce the end panel and feed the cable inside the building through the D-ring to the winch. Secure or weld the end flap tail to the end wall.



It may be necessary to repeat the tightening several times at both winches.

4. **TYPE 320** - Thread the end flap cable through the D-ring to the end flap winch.

5. Tighten winches on both sides until the end flap is tight. *Repeat this procedure on the other end of the building.*



STEP 34 TYPE 320 - SECURE THE APRON

ALWAYS SECURE THE APRON

The fabric is designed to be under tension at all times.

GROUND

Use dimensional lumber to attach the apron to the frame or foundation. Or back fill the apron at the foundation.

WALL

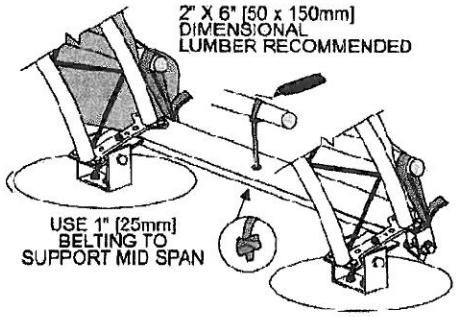
Depending on the width of the wall you may want to consider the following finishing option. Protruding edges on fabric are potential wear points.
WARNING - This is a 320 APRON option only. Do not use for 220 covers.

1. Attach dimensional lumber to the underside of the arch bases so that the apron can be wrapped around the lumber and away from protruding edges.

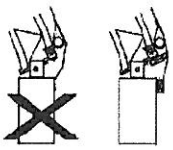
NOTE: Longer bolts may be required to re-attach the lashing winches.

2. Drill a 1" [25mm] hole mid span in the dimensional lumber and pass a short section of 1" [25mm] belting through the hole. Tie a permanent knot below the lumber that will not pass through the hole.

3. Slit the fastening tube pocket directly above the hole and loop the 1" [25mm] belting around the fastening tube. Level the dimensional lumber and tie a releasable knot.

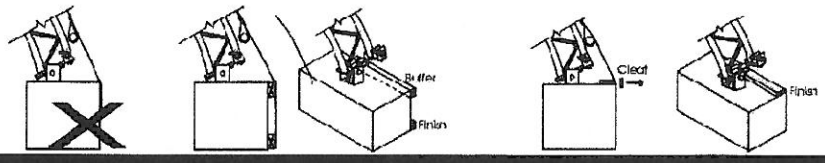


4. This belting will keep the dimensional lumber from sagging. The belting length may need to be adjusted when cover tension is adjusted.



CONCRETE

Never install fabric over concrete edges.
Always install a dimensional lumber buffer or equivalent.



STEP 35 READ MAINTENANCE SCHEDULE Page 2

STEP 36 COMPLETE WARRANTY REGISTRATION

www.britespanbuildings.com

APPENDIX A
EXTRUSION CONNECTION

TYPEB

TYPEC

TYPED

APPENDIX B
FLAP OVERLAP CONNECTION

TYPEA

APPENDIX A

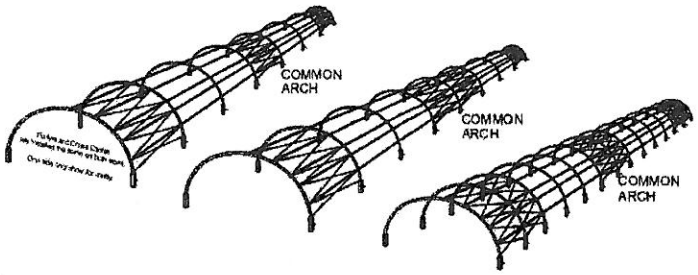
EXTRUSION CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length.
This enables ease of onsite handling and installation.
Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M] .
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. CROSS CABLE INSTALLATION

A. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.

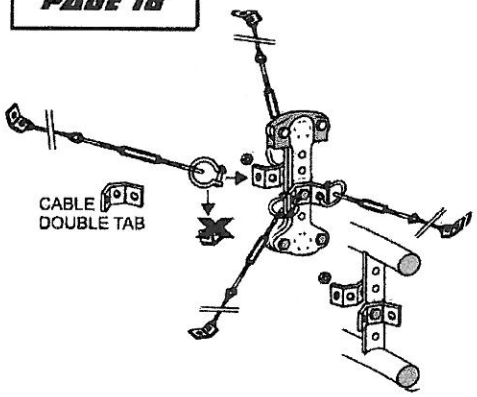
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

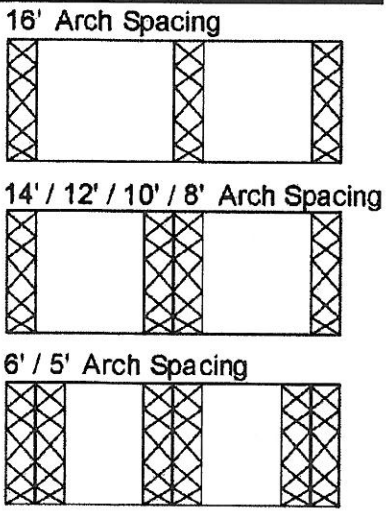


B. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.

STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

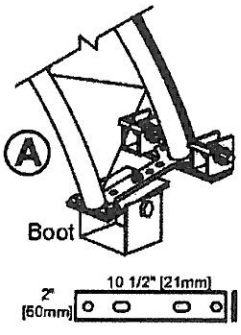


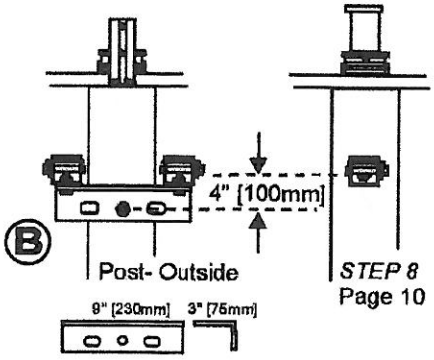


2. WINCH BRACKET INSTALLATION

A. Attach the flat winch bracket to the common arch base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts.

B. Attach the angle winch bracket on the outside of the common post using one of 5/8" x 12" [M16 x 305mm] threaded rod and 5/8" [M16] washers/nuts. Attach the winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.





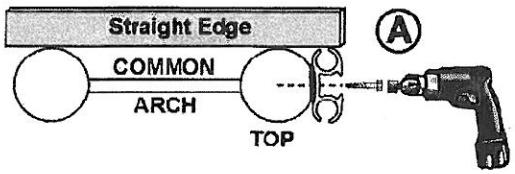
STEP 8 Page 10

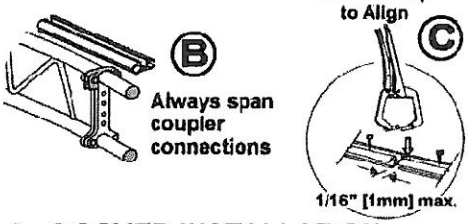
Tighten all bolts/nuts to assembly torque value- See Page 32

3. INSTALL EXTRUSION

Apply Norseal butyl tape to underside of extrusion

Install extrusion on the Common arch as shown using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws. Step #6 can be completed before truss is lifted into place.

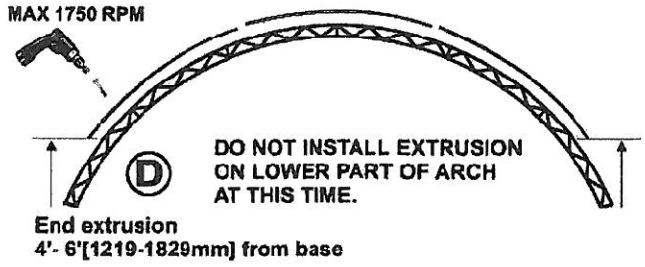












4. 2 COVER INSTALLATION

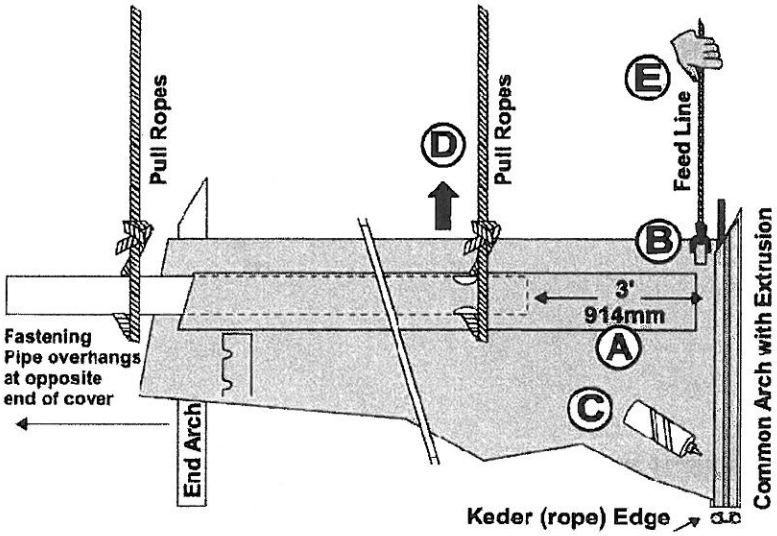
Install the covers as directed in *STEPS 24-33* (Pages 19-23), ***except :***

A - When installing the cover, shift the pull-over fastening pipe 3 feet [914mm] away from the extrusion end of the cover (the keder rope edge).

B - Attach a light feed line to the keder D-ring at the leading edge of the cover.

C- Charge the extrusion with WinterGel Lubricant.

D - PULL the cover with the fastening pipe.



E - FEED the keder edge evenly with the D-ring line while installing.

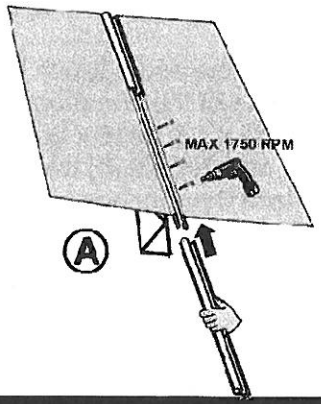
F - Fastening pipe end brackets are not required at common arch.

YOU MUST USE RATCHET STRAPS TO GET ADEQUATE LENGTHWISE TENSION ON THE COVER
SEE *STEP 27*, Page 21.

5. LOWER EXTRUSION INSTALLATION

A. After both covers are installed, install extrusion on the lower edge of the covers and secure to the common arches using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.

THE INSTALLER DETERMINES WHERE THE LOWER EXTRUSION TERMINATES - AVOID POINTS OR ANGLES THAT COULD DAMAGE THE FARIC WHEN THE FABRIC IS TERMINATED.



6. TRUSS COVER INSTALLATION

A - Install the truss covers

Use a rubber mallet to install snap cap on outside of extrusion

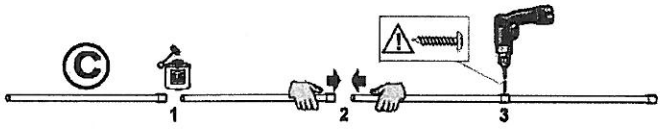


7. 3 OR MORE COVERS - INNER COVERS -

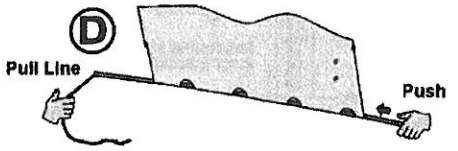
A - Install extrusion on all Common arches.

B - Inner covers have a main cover part and a narrow connector part. Both parts have a keder end and a PVC pocket end and are laced together at the PVC connection.

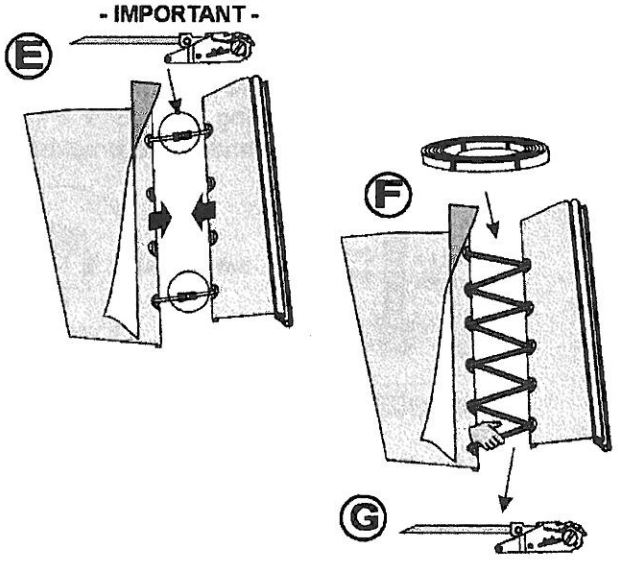
Install the main cover part and the narrow connector part separately.



C - Assemble lengths of PVC pipe.



D - Install the PVC pipe in the PVC pockets of both the main cover part and the narrow connector part.



E - Attach ratchet straps to the PVC pipes every 10-12 feet [3-4M] and apply tension.

F - Lace the PVC pipe together in 10-12 feet [3-4M] sections using the 1" [25mm] belting. Always tie off the sections.

G - Remove the ratchet straps.

Finish the interior covers by following the directions Step 5 and Step 6 in this Appendix A.

APPENDIX B

FLAP OVERLAP CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length.
This enables ease of onsite handling and installation.
Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M].

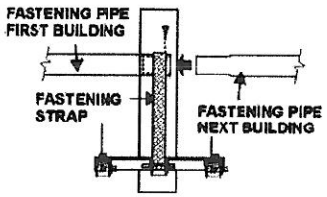
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. SITE PREPARATION

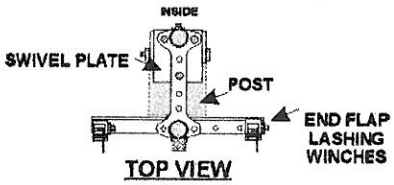
a. Arch spacing (running measurement) is the same for the entire length of the building. (the covers share a common arch). *Eg. - 150' [46M] building on 10' [3M] centers has 16 piles/posts on each side.*

2. TYPE 220 INSTALLATION - JOINER BRACKET

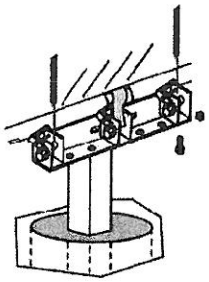
a. Install a joiner bracket to the common arch post. The bracket installs under the cover lashing winch on the threaded rod. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16x50mm] bolts and nuts.



OUTSIDE VIEW

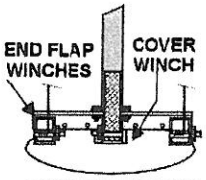


TOP VIEW

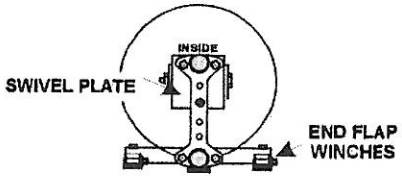


3. TYPE 320 INSTALLATION - JOINER BRACKET

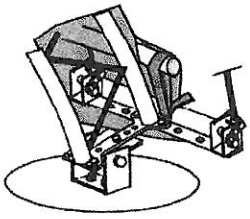
a. Install a joiner bracket to the underside of the arch base between the cover lashing winch and the base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16 x 50mm] bolts and nuts.



OUTSIDE VIEW

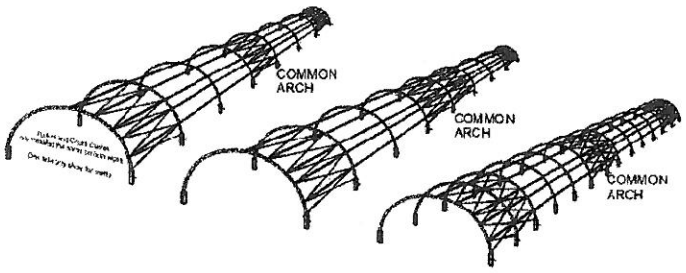


TOP VIEW



4. CROSS CABLE INSTALLATION

a. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.



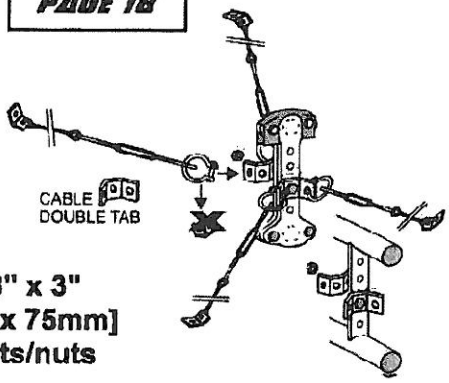
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

Tighten all bolts/nuts to assembly torque value- See Page 32

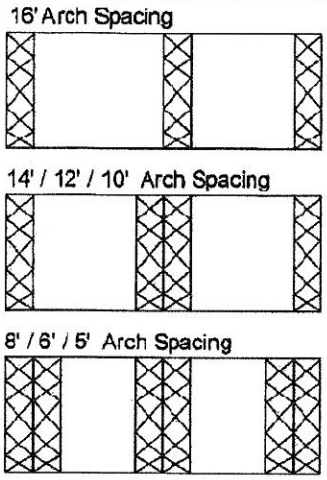
STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

b. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.



5/8" x 3" [M16 x 75mm] bolts/nuts

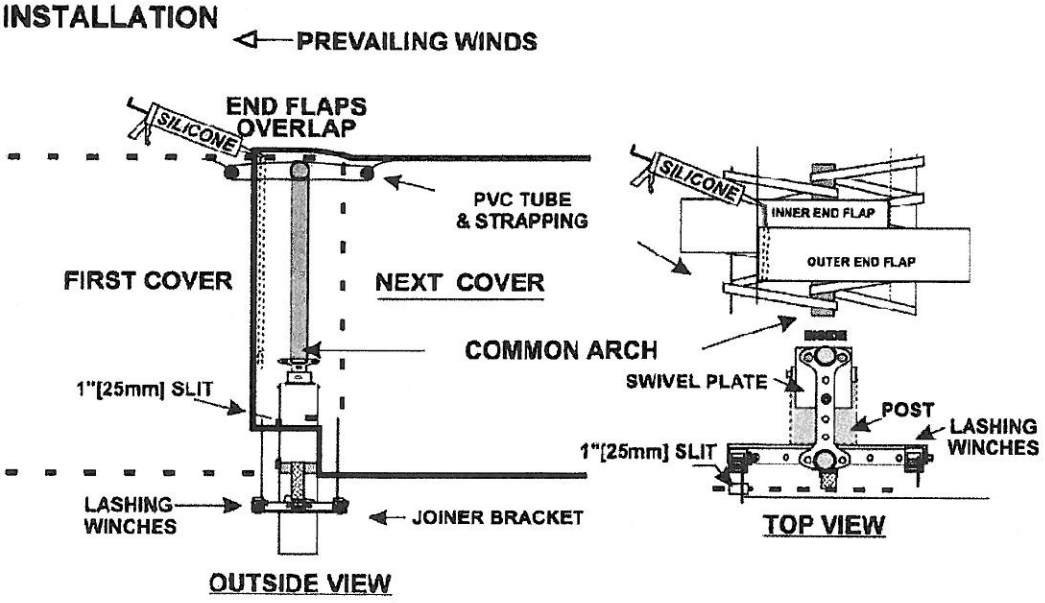


5. COVER INSTALLATION

a. Install the first cover as directed in STEPS 24-32 (Pages 19-23), ***except that :*** the end flap on the common arch is *not* secured at this time, flip the end flap back and out of the way; the joiner bracket is installed under the lashing winch; and the end flap lashing winches are secured to the joiner bracket.

b. Install the next cover in the same manner, *lacing the PVC tube to the common arch.* Do not tighten the lashing winches of this cover at this time.

TYPE 220 INSTALLATION



c. Release the fastening strap in the end arch winch of the first building. Join the fastening pipe of both covers and secure with Tek self-drilling bolts. Place the fastening strap over the fastening pipe and re-install the end fastening strap in the winch. Retighten this lashing winch and tighten all of the winches of the next cover.

Adjust the cover lashing winches to remove as many wrinkles and bagging as possible over the entire building. For most buildings 35 - 45 ft. lbs [48-60 N.m.] of torque provides adequate cover tension.

Tighten all bolts/nuts to assembly torque value- See Page 32

d. Place the end flap of the first cover over the next cover's lacing. Attach the end flap cable for this first (inner) end flap to the lashing winches. Tension the lashing winches.

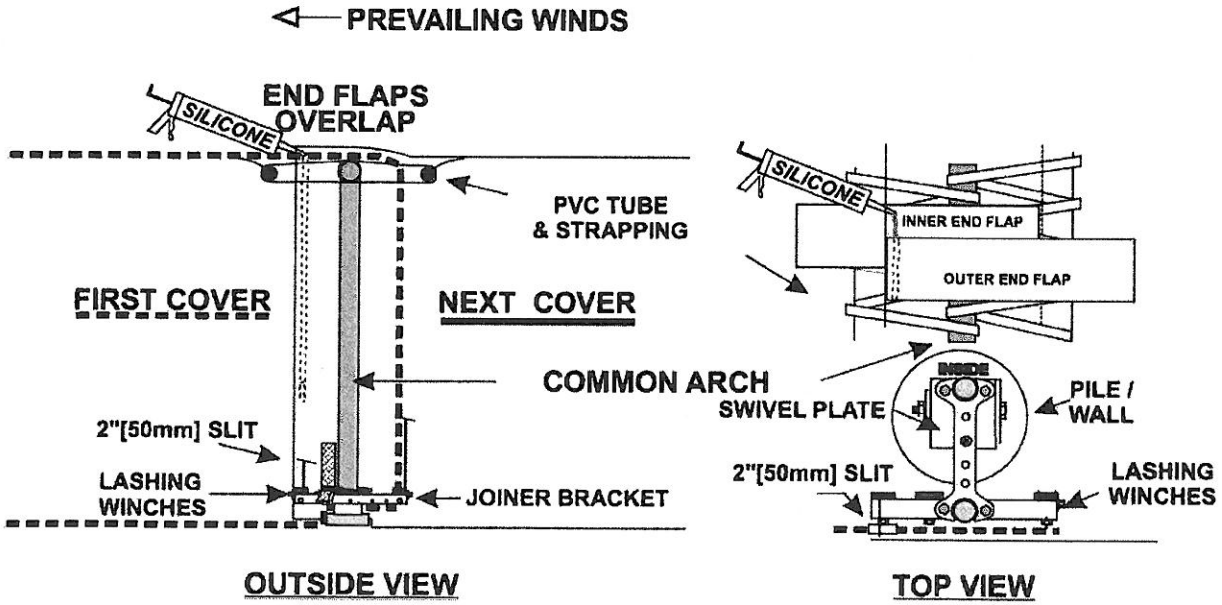
NOTE:	***If your building is subject to prevailing winds, you should secure the end flaps to protect the overlap.***

e. Place the end flap (outer) of the next cover over the first (inner) end flap. Cut a slit in the first (inner) end flap at the point where the end flap cable for the outer end flap exits its pocket. Feed the fastening cable through the slit and attach to the lashing winches. Tension the lashing winches.

It is best to have the end flap PVC cable casing passing through the fabric or against any part of the fabric rather than the end flap steel cable.

f. Apply a bead of silicone (supplied) between the outer end flap and the cover. Insert the tube tip between the layers with all straps fastened securely . Walk on the building to seal the top portion of the end flap and use a ladder or lift equipment to reach the sides. Where it is difficult to reach some areas, unsealed portions should not exceed 3 feet [914mm].

TYPE 320 INSTALLATION

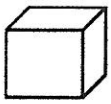


CONVERSIONS

INCHES					MILLIMETERS
1/32"					
2/32	1/16"				1.6
3/32					
4/32	2/16	1/8"			3.2
5/32					
6/32	3/16"				4.8
7/32					
8/32	4/16	2/8	1/4"		6.4
	5/16				
	6/16	3/8"			9.5
	7/16				
	8/16	4/8	2/4	1/2"	12.7
	9/16				
	10/16	5/8"			15.9
	11/16				
	12/16	6/8	3/4"		19.0
	13/16				
	14/16	7/8"			22.2
	15/16				
	16/16	8/8	4/4	2/2 1"	25.4



1 ft. lb. = 1.356 N.m



1 CUBIC YARD = .77 M^3

1 CUBIC FOOT = .03 M^3

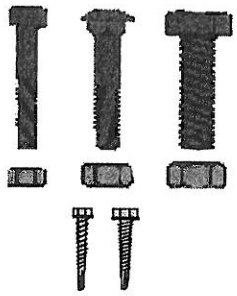
FEET	METERS
1'	.305
2	.610
3	.914
4	1.219
5	1.524
6	1.829
7	2.134
8	2.438
9	2.743
10	3.048
25	7.620
30	9.144
35	10.668
40	12.192
45	13.716
50	15.240
60	18.288
70	21.336
80	24.384
90	27.432
100'	30.480

ASSEMBLY TORQUE VALUES

SUGGESTED ASSEMBLY TORQUE VALUES FOR STRUCTURAL BOLTS

Ø SIZE INCH/mm	THREADS per INCH/25mm	GRADE 5 ft – lbs		GRADE 5 N.m	
		DRY	WET*	DRY	WET*
3/8 M10	16	30	23	40	30
7/16 M12	14	50	35	70	50
1/2 M12	13	75	55	100	75
5/8 M16	11	150	110	200	150
3/4 M20	10	260	200	353	270
1 1/4 M30	7	1120	840	1520	1140
#12 TEK 3	14	7.7	-	10.5	-
#12 TEK 5	24	12.5	-	17	-

* Lubricant



SQUARING A FOUNDATION

IMPORTANT

Depending on the size of your building, you may need a qualified contractor or surveyor to lay out the foundation of your building to ensure that it is straight and square. The following is a suggested method only.

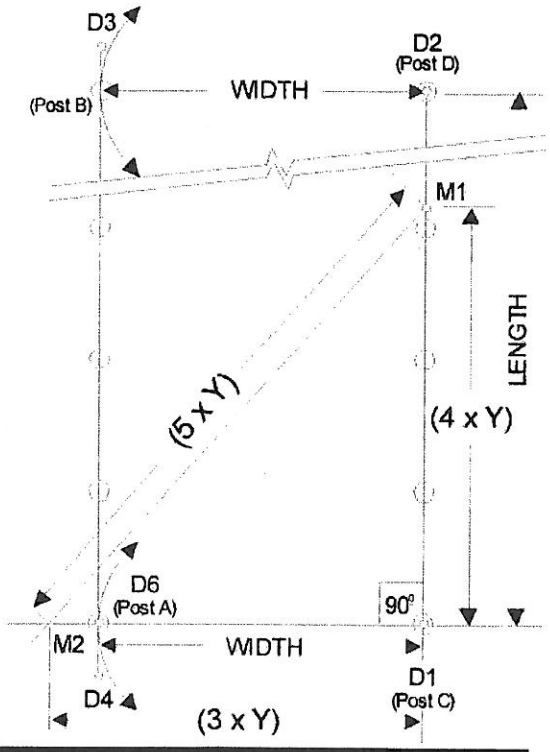
BRITESPAN is not responsible for foundations.

1. Measure and string a straight line the exact length of the building (D1-D2).
2. Attach a measuring tape to stake D2 and measure the exact width of the building perpendicular to line D1-D2. Make an arc in the dirt at that exact measurement. Repeat this procedure at stake D1 and make a second arc.
3. String an extended line (D3-D4) at the crowns of these two arcs. Recheck width measurements.

USING THE **3-4-5 METHOD** TO SQUARE THE FOUNDATION

4. With the measuring tape still attached to stake D1, measure the distance **(4 x Y)** from stake D1 towards stake D2 and place a stake (M1). See chart this page for a suggested value for Y for your building.
5. With the measuring tape still attached to stake D1, measure the distance **(3 x Y)** through the crown of the arc, and past line D3-D4, to M2.
6. With a second tape attached to stake M1, measure the distance **(5 x Y)** to M2.
7. Keeping the tapes tight, cross the two tapes at exactly the **(3 x Y)** measurement and the **(5 x Y)** measurement and hold in position. Place a stake (D6) exactly **where line D1-M2 crosses line D3-D4**. Remove stake M2.
8. Follow the linear and diagonal measurement checks beginning on Page 6 of this manual.

SERIES/ SIZE	SUGGESTED Y VALUE
18/20	7' [2.0M]
22	8' [2.5M]
26	9' [2.8M]
30/32	11' [3.4M]
36	12' [3.6M]
40	14' [4.3M]
42	15' [4.5M]
50	17' [5.2M]
55	19' [5.8M]
62	22' [6.7M]
72	25' [7.6M]
82	30' [9.2M]



Maintenance Recommendations For Buildings in Corrosive Environments

BUILDING STEEL

BRITESPAN manufactured steel components are hot dipped galvanized, hot zinc plated or coated with a high quality sealant. *It is recommended that the building owner/operator:*

- Prevent corrosive material or product from resting against or covering the building steel.
- Remove any environmental residue that accumulates on the building steel.
- Seal all surface penetration marks with a high quality sealant or a high zinc content paint.

BUILDING HARDWARE

Hardware components are made of galvanized steel or aluminum alloy; are zinc plated with an added leachant-sealant; or are zinc or cadmium plated. *It is recommended that the building owner/operator:*

- Prevent corrosive material or product from coming in direct contact with the building hardware.
- Remove any environmental residue that accumulates on the building hardware.
- Seal or protect from corrosion any non-building components that are connected to, or that come in contact with, the building hardware.

ANCHOR BOLTS *It is recommended that the building owner/operator:*

- Seal the exposed anchor bolt threads with a high quality sealant or a high zinc content paint.

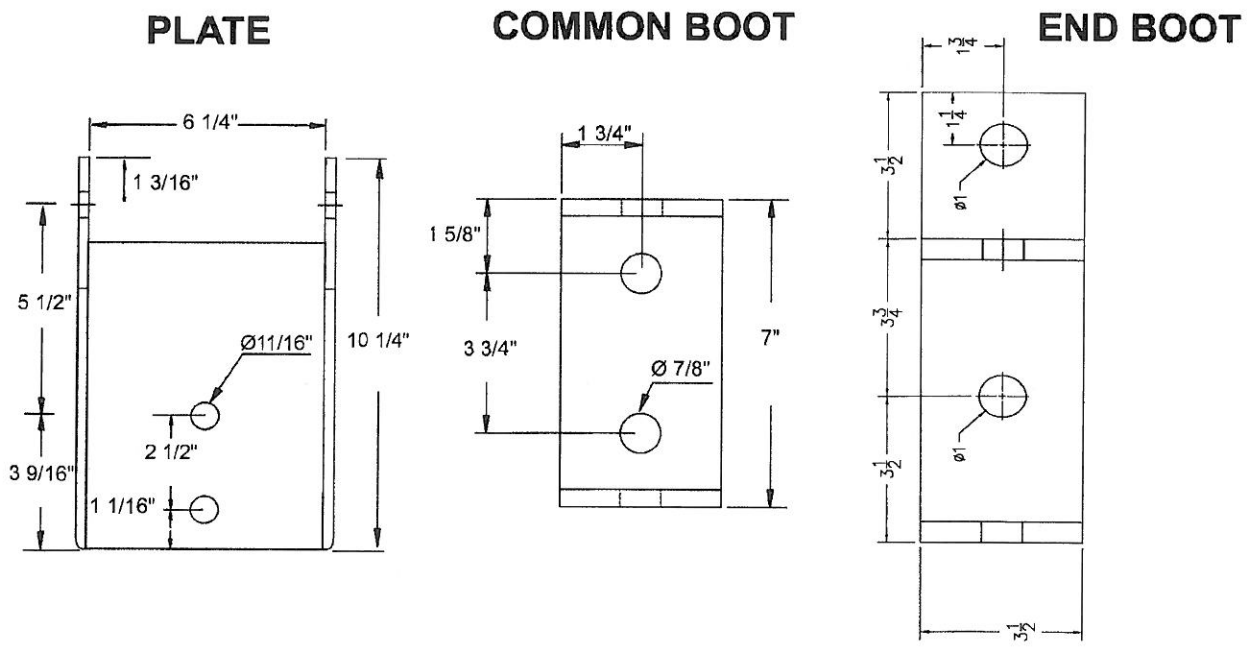
FABRIC LASHING WINCHES *It is recommended that the building owner/operator:*

- Spray the lashing winches with a moisture displacing filming lubricant. (WD40 or equivalent)

FABRIC *It is recommended that the building owner/operator:*

- Prevent corrosive material or product from resting against or covering the building fabric.
- Remove any environmental residue that accumulates on the building fabric. Where moisture will not contribute to corrosion – wash with water and non-abrasive soap.

MOUNTING TEMPLATES



BUILDING ENDWALLS

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

FABRIC END WALLS must be supported by a framework that is constructed to meet wind load ratings and building safety standards.

If you are constructing a framework for BRITESPAN supplied fabric end panels the framework MUST BE DESIGNED to match the fastening system of the fabric end panel and must be constructed to meet wind load ratings and building safety standards per engineer's requirements.

Failure to comply with the above can result in damage to the building and will void fabric end panel warranty.

Contact a structural engineer or your local BRITESPAN representative for details.

SUSPENDING OBJECTS AND SERVICES IN BUILDING

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

RULE # 1

Always suspend weighted objects and services from the arches. Use dedicated brackets and hardware and attach to the lower truss cord only - do not use building brackets or hardware and never use the truss webbing as an attachment point. Wherever possible, use clamps to avoid drilling or piercing the lower truss cord. Any suspended objects must be approved by a licensed engineer. If this is not done it may void the building warranty.

RULE #2

Do not suspend weighted objects, services or building operation components from the purlins. The purlins act under compression when wind and snow loads affect the building. Added weight to a purlin can cause it to react unevenly and fail when wind and snow load forces are applied.

If suspensions mid-arch are necessary, use a separate purlin dedicated to the suspension. In some cases a tensioned cable in conjunction with the standard purlin can be used to offset the weight of the suspended object. Four inch (100mm) diameter purlins are capable of supporting weighted objects and services and in some cases can be substituted for standard purlins.

Exceptions for suspensions from purlins can include:
> Lightweight aluminum and plastic roof vents
> Simple lighting services without ballasts or transformers
> Electrical conduit and wiring
> Control cables

IMPORTANT- always use clamps or ties - DO NOT drill or pierce purlins

Contact a structural engineer or your BRITESPAN representative for assistance.

BRITESPAN Building Systems Inc.
37651 Amberley Road
Lucknow, ON
N0G 2H0
www.britespanbuildings.com

BRITESPAN BUILDING SYSTEMS INC

Phone: (519) 528-2922
Fax: (519) 528-2890
Email: warranty@britespanbuildings.com

ONLINE WARRANTY REGISTRATION

Please go to www.britespanbuildings.com and select warranty tab. Complete all registration information boxes (similar to form below). Attach all photos requested and submit. Please ensure photos are clear and are in the view and sequence shown in the attached examples.

1. Owner Name		Business / Company Name COMPLETE	
2. Mailing Address		Agent / Representative ONLY IF	Title
		Phone APPLICABLE	Website
3. City / Town	4. Prov/State	5. Postal Code	6. Country
7. ( ) Home Phone	8. ( ) Work Phone	9. Email Address (required for warranty certificate)	

10. The Building Address is the same as above ☐ If not, provide the building address

11. x Building Size (w x l)	12. # of Enclosed Ends	13. Size of Door / Openings
14. SO#		15. Date Warranty Registration Submitted
16. Date of Purchase	17. Name of Dealer Purchased from	18. Dealer Invoice Number

19. Building Application: Primary Use:

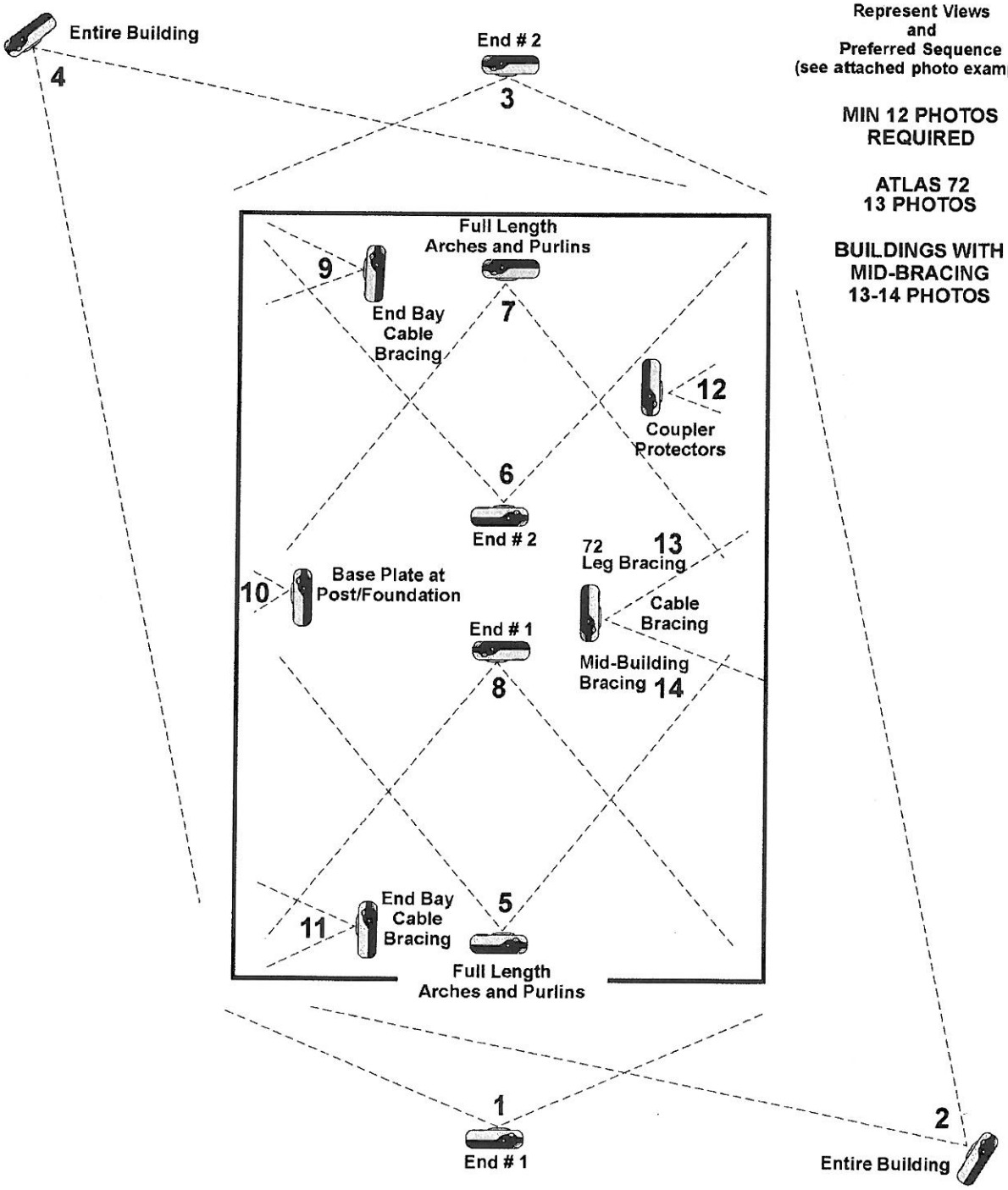
	Industry Self-Installed	Dealer Installed	Other	Name of Contractor is required
20. The Building foundation was	☐	☐	☐	
21. The Building steel was	☐	☐	☐	
22. The Building cover was	☐	☐	☐	
23. The end frame(s) were	☐	☐	☐	
24. The end(s) fabric were	☐	☐	☐	

	Yes	No
25. Did you receive the Steel and Fabric and Warranty?	☐	☐
26. Did you receive Building Maintenance information located in owner/installation manual?	☐	☐
27. Did you ask the installer or Dealer for instructions on how to perform Building Maintenance procedures?	☐	☐

Comments

Allow 90 days from date of registration submitted for Processing and Warranty Evaluation of photos. If you are not emailed a Warranty Certificate within this time frame please contact you BRITESPAN Representative. Use the building SO# as your trace number. Note: Warranty only valid with warranty registration and required photos. See attached for

BRITESPAN Warranty Photo Registration



NUMBERS
Represent Views
and
Preferred Sequence
(see attached photo examples)

MIN 12 PHOTOS REQUIRED

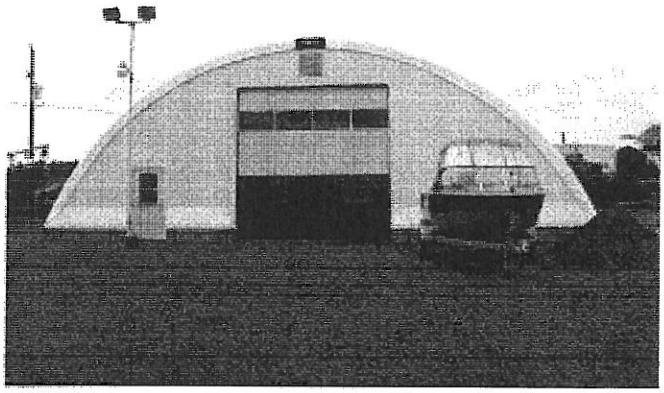
ATLAS 72
13 PHOTOS

BUILDINGS WITH MID-BRACING
13-14 PHOTOS

BRITESPAN WARRANTY PHOTOS

1

REQUIRED VIEWS



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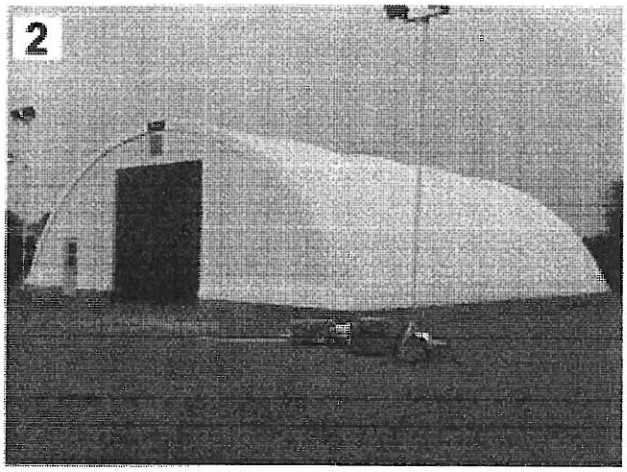

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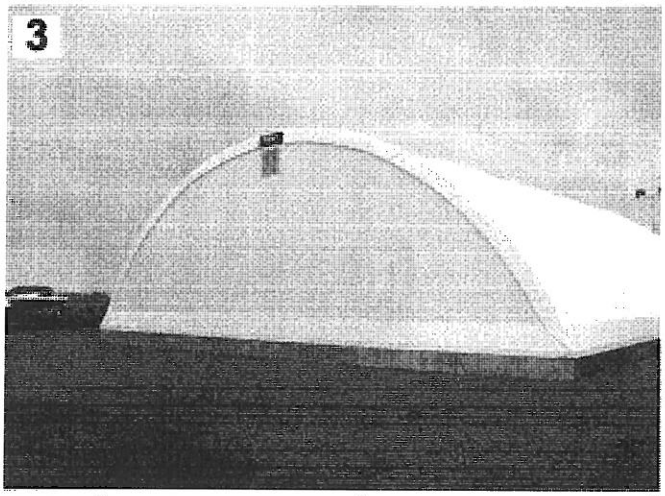

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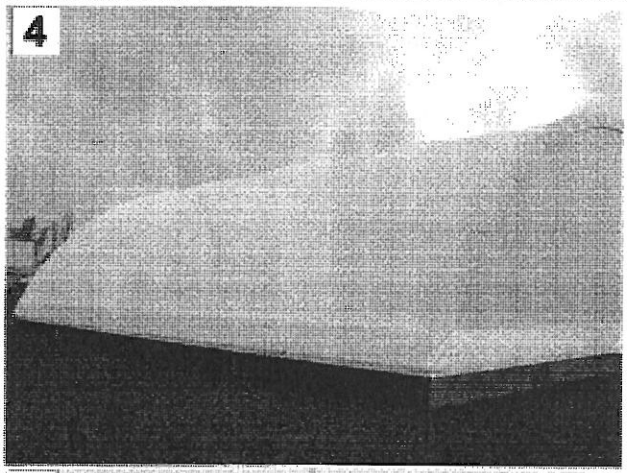

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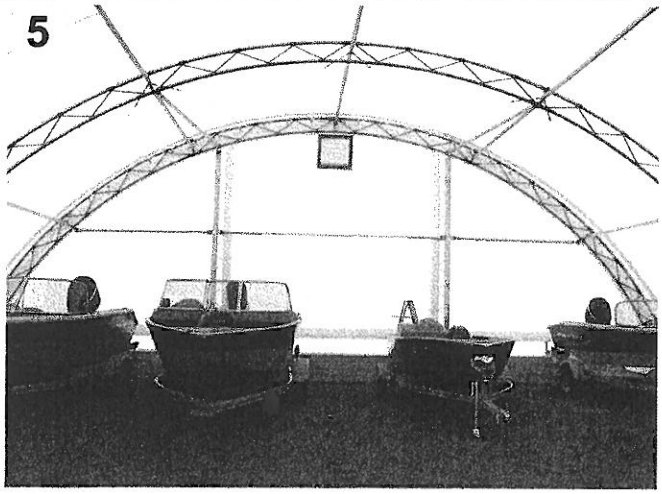

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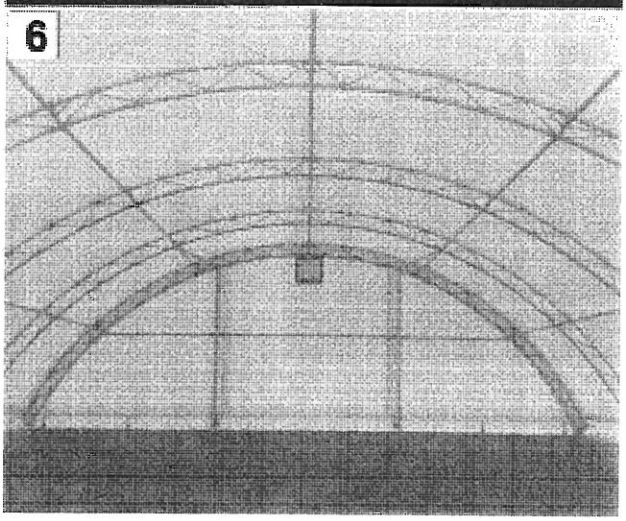
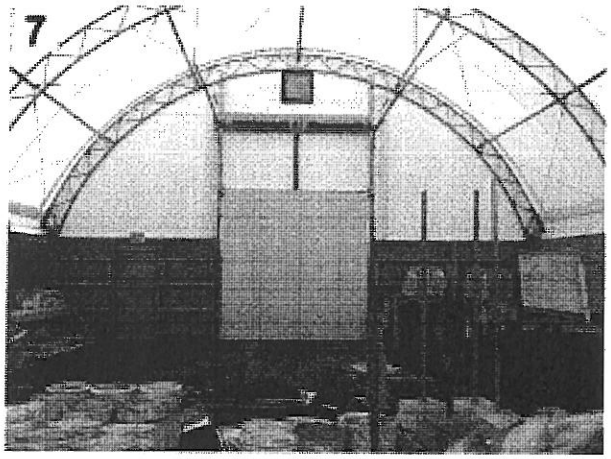


BRITESPAN WARRANTY PHOTOS

REQUIRED VIEWS

7



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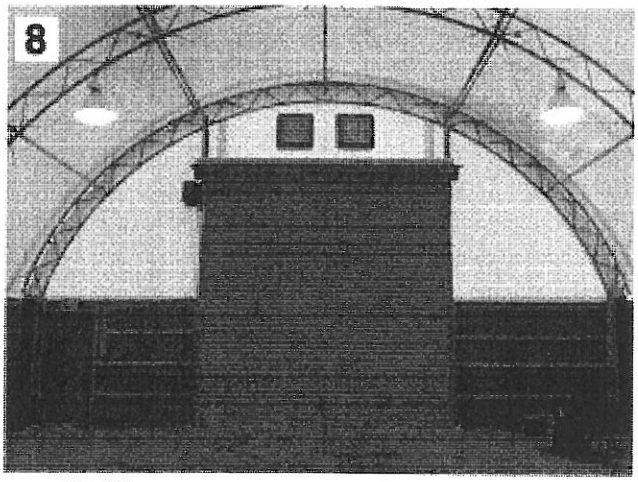

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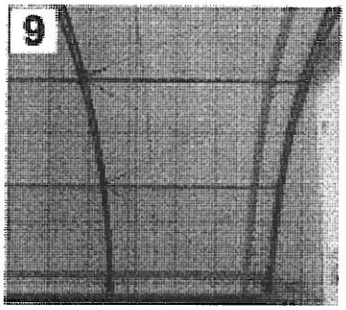

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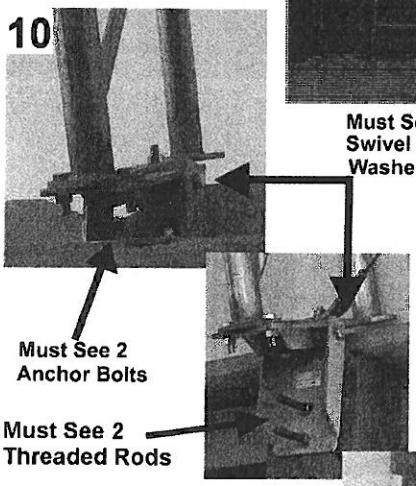

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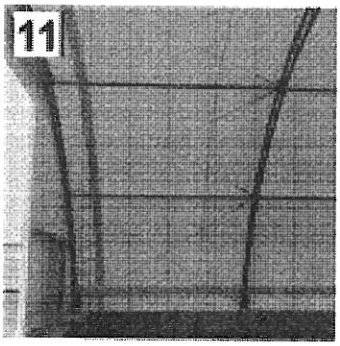
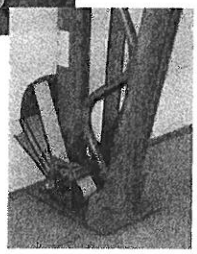


65
and
72



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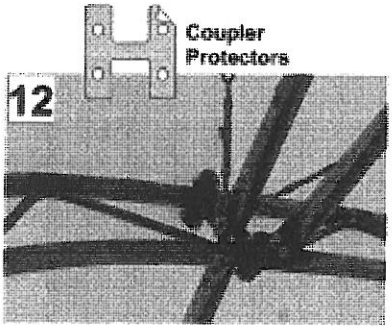

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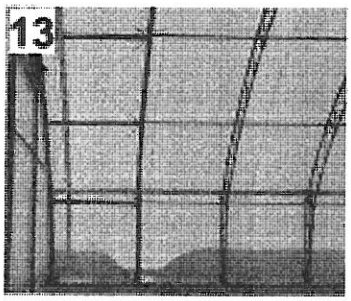
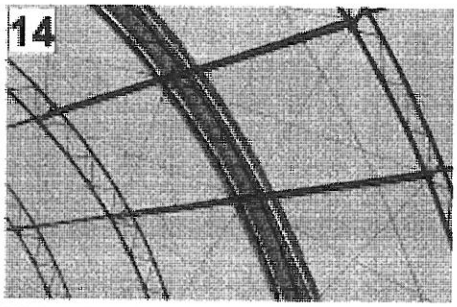


65 and 72 Building Leg Bracing

14



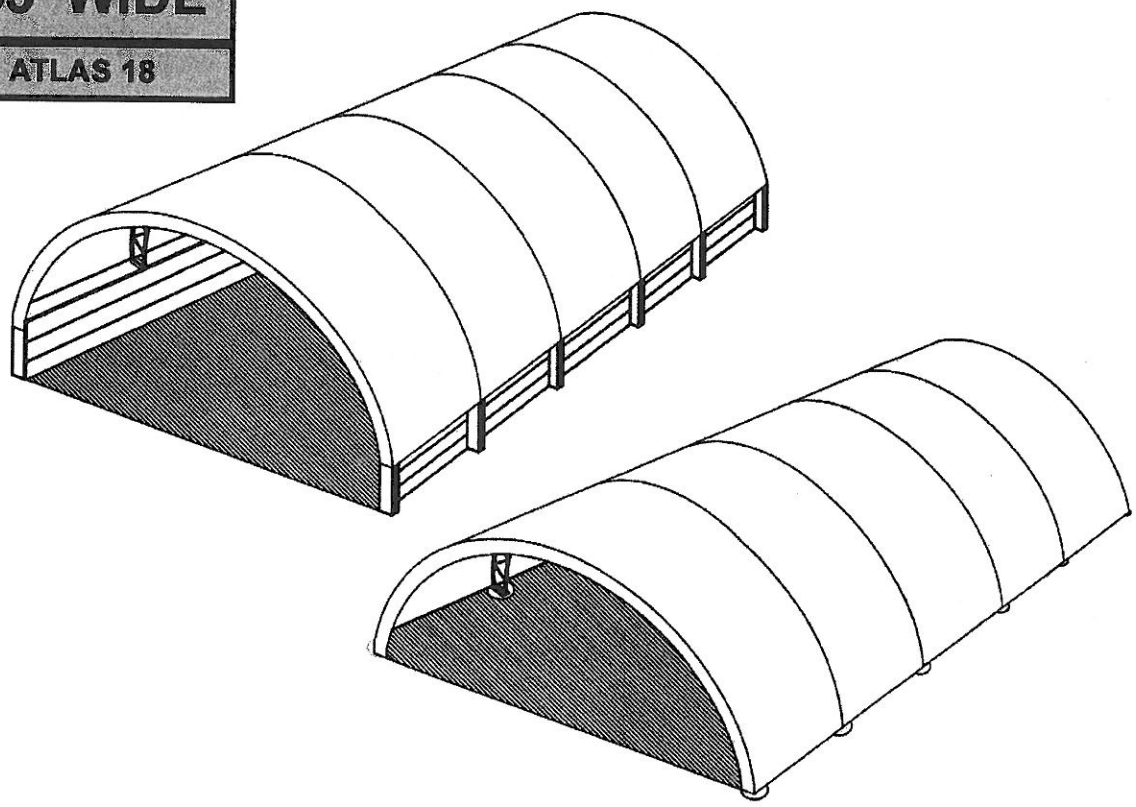
Mid-Building Bracing

BRITESPAN™
BUILDING SYSTEMS INC

Owner / Installation Manual

Includes Warranty and Registration

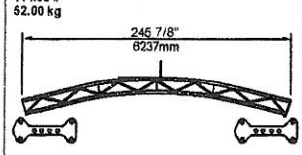
55' WIDE
ATLAS 18



SEPARATE MANUALS Are Supplied for END ENCLOSURES

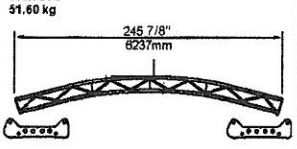
Building Components

114.65 #
52.00 kg

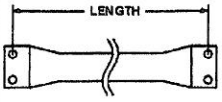


TRUSS-A18 50'/55' COMMON **30003032**

113.751 #
51.60 kg



TRUSS-A18 50'/55' END **30003037**



PURLIN - 14 GA

DIA.	LENGTH	WEIGHT
PA3.500 - 16S	16'0"/ 4877mm	49.14 # / 22.29kg
PA2.875 - 16S	16'0"/ 4877mm	40.00 # / 18.14kg
PA2.875 - 14S	14'0"/ 4267mm	35.25 # / 15.99kg
PA2.875 - 12S	12'0"/ 3658mm	30.19 # / 13.69kg
PA2.875 - 10S	10'0"/ 3048mm	25.34 # / 11.49kg
PA2.875 - 8S	8'0"/ 2438mm	20.28 # / 9.20kg
PA2.875 - 6S	6'0"/ 1829mm	15.43 # / 7.00kg
PA2.875 - 5S	5'0"/ 1524mm	12.95 # / 5.87kg

NOTE: Length = Arch Spacing

ARCH SPACING	LENGTH	WEIGHT
16 - 861231-9	231"/ 5867mm	6.69 # / 3.03kg
14 - 861211-9	211"/ 5360mm	6.40 # / 2.90kg
12 - 861192-9	192"/ 4877mm	6.13 # / 2.78kg
10 - 861174-9	174"/ 4420mm	5.87 # / 2.66kg
8 - 861160-9	160"/ 4064mm	5.66 # / 2.57kg

ARCH SPACING	LENGTH	WEIGHT
6 - 861145-9	145"/ 3683mm	5.46 # / 2.47kg
5 - 861139-9	139"/ 3531mm	5.38 # / 2.44kg



CROSS CABLE Ø 5/16" [8mm]

3.77 #
1.71 kg

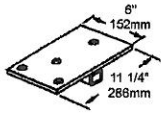


PLATE - SWIVEL COMMON A18
3/8" [10MM] **30003356**

3.77 #
1.71 kg

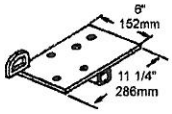


PLATE - SWIVEL LEFT END A18
3/8" [10MM] **30003366**

3.64 #
1.65 kg

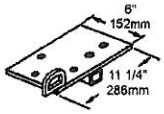
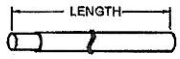


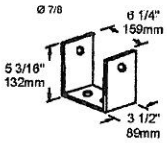
PLATE - SWIVEL RIGHT END A18
3/8" [10MM] **30003361**

41.52 #
18.83 kg



FASTENING TUBE
Ø 2.375 [60mm] 14 GA **FT2.375-245S**

5.81 #
2.64 kg



BOOT COMMON GROUND MOUNT
3/8" [10mm] PLATE **30003350**

4.02 #
1.82 kg

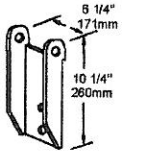
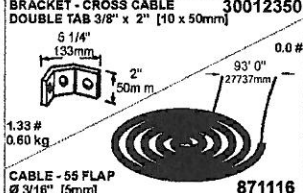


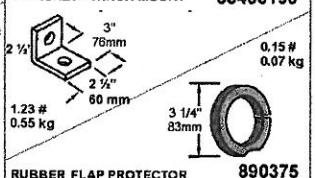
PLATE - WALL BRACKET
1/4" [6mm] PLATE **30003430**

BRACKET - CROSS CABLE **30012350**
DOUBLE TAB 3/8" x 2" [10 x 50mm]



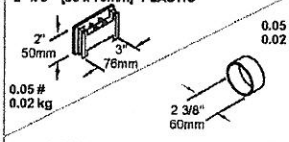
CABLE - 55 FLAP
Ø 3/16" [5mm] **871116**

BRACKET - WINCH MOUNT **33400190**



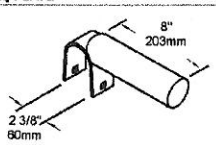
RUBBER FLAP PROTECTOR **890375**

FASTENING TUBE END PLUG **844191**
2" x 3" [50 x 76mm] PLASTIC

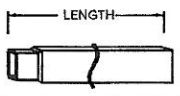


FASTENING TUBE END PLUG
Ø 2 3/8" [60mm] PLASTIC **844190**

2.50 #
1.13 kg



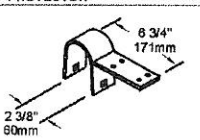
BRACKET - ROUND FT END SADDLE
2 3/8" (60 mm) TUBE **30011238**
2 7/8" (73 mm) TUBE **30011278**



TUBE - 2" x 3" HSS FASTENING (SWAGED) 14 GA
50 x 76mm

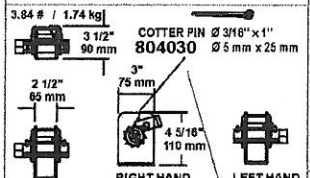
172" [4369mm] 39.13 # [17.75 kg] **960125**
196" [4978mm] 44.59 # [20.22 kg] **960128**

1.40 #
0.63 kg



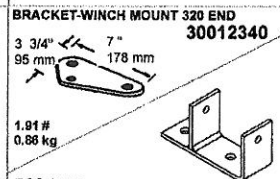
BRACKET - RECTANGLE FT END SADDLE
2 " (53 mm) TUBE 30010200
2 3/8" (60mm) TUBE 30010238
2 7/8" (73mm) TUBE 30010278

3.84 # / 1.74 kg



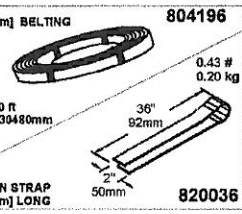
LASHING WINCH **804073** **804074**

BRACKET-WINCH MOUNT 320 END
30012340



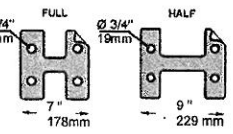
BOOT END
5/8 (10mm) PLATE **30003450**

1" [25mm] BELTING **804196**



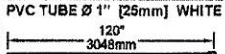
TIE DOWN STRAP
6' [183mm] LONG **820036**

0.01 #
0.01 kg



FULL COUPLER PROTECTOR **830700**
HALF COUPLER PROTECTOR **830900**

PVC TUBE Ø 1" [25mm] WHITE **810120**



2.80 #
1.27 kg



COVER

Buildings Over
144' / 44M

22.71 #
10.3 kg



EXTRUSION 336" [853mm] **850336**

HEX BOLT 5/8" x 2" M16 x 50mm		800218
5/8" x 2 1/2" M16 x 65mm		800055
5/8" x 8" M16 x 200mm		800901
WASHER - FLAT - 5/8" [M16]		802010
NUT - 5/8" [M16]		801050
CARR BOLT 1/2" x 4" M12 x 100mm		800920

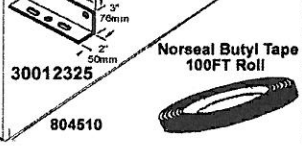
COVER JOINER - EXTRUSION - 220
30012220



COVER JOINER
EXTRUSION - 320 **30012320**

REDI-ROD 5/8" x 12" 0.83 # M16" x 300mm 0.38 kg		800400
HEX BOLT 1/2" x 2" M12 x 100mm		800913
WASHER - FLAT - 1/2" [M12]		803154
NUT - 1/2" [M12]		803153
1/4"-14 x 3/4" (Tek 3) M6-14 x 19mm		800020
#12-24 x 1 1/4" (Tek 5) #12-24 x 32mm		803020

COVER END JOINER
36 " END FLAP



804510

1/4" FENDER WASHER 6mm		802000
5/16" PIPE CLIP 8mm		802005
3/8" MAG CHUCK DRIVER 10mm		804100
PVC GLUE		804520
#12-14 x 1 1/4" (Tek 3) #12-14 x 32mm		803040
5/16" MAG CHUCK DRIVER 8mm		804509
RTV SILICONE		804509
LUBRICANT .95 L GREENLEE WINTERGEL		804508

BRITESPAN
BUILDING SYSTEMS INC

IMPORTANT – READ MANUAL FIRST

Improper Site Preparation, Assembly and Maintenance may invalidate warranty and cause unnecessary and costly mistakes. If you have any questions contact your local dealer.

MAINTENANCE SCHEDULE

Failure to comply with this maintenance schedule will invalidate the warranty.

A. INSTALLATION ADJUSTMENT

1. The cover of your Atlas building may relax after installation. The fabric is designed to be under tension at all times to prevent wear and ensure a long life. Adjust the cover over the entire building to remove as many wrinkles and creases and bagging as possible. For most buildings 35 - 45 ft. lbs [48 - 60 N.m] of torque provides adequate cover tension. Adjust the end winches until the fastening pipe is level. Re-tension end flaps.

NOTE: ***Building covers installed during cooler weather tend to relax more than covers installed during warmer weather. If your cover was installed in cooler weather recheck its tightness on the first available warm sunny day.***

B. INSTALLATION INSPECTION - 1 WEEK MAINTENANCE

1. Cover - ensure the cover straps are secure and the cover is tensioned. For most buildings 35 - 45 ft. lbs [48 - 60N.m] of torque provides adequate cover tension. Adjust cover tension as required..
2. Belting - check for premature belting wear and ensure tightness.
3. End Flaps - ensure the flaps remain tight and securely fastened.
4. Aprons - ensure the aprons are securely fastened.
5. Cables - ensure the cables are tensioned according to the installation instructions.
6. Steel - Seal all surface penetration marks with a sealant or high zinc content paint.

C. QUARTERLY MAINTENANCE

1. Repeat above "INSTALLATION INSPECTION - 1 WEEK" a minimum of 4 times per year.

D. GENERAL MAINTENANCE

1. **Cover** - Clean with water and non-abrasive soap. Do not use solvents or chemicals. Use caution when using high pressure washers.
2. **Snowfall** - Snow accumulating on the cover could indicate that the cover needs re-tensioning. Remove snow and check tension.
3. Use caution when using heavy equipment or manually clearing away avalanched snow.

E. ACCIDENTAL DAMAGE

Cover: Sharp objects can puncture and damage the cover. Do not attempt to seal or repair with conventional materials. Call your local BRITESPAN representative. They will be able to assess the damage and facilitate replacement or provide a heat-weld service if the cover is repairable.

Structure: Report and document any damage to the steel structure, components or foundation immediately. Have your local BRITESPAN representative inspect the damage and provide a comprehensive evaluation. Perform any temporary or emergency repairs as determined. Replace or repair damanaged components as determined.

BRITESPAN
BUILDING SYSTEMS INC

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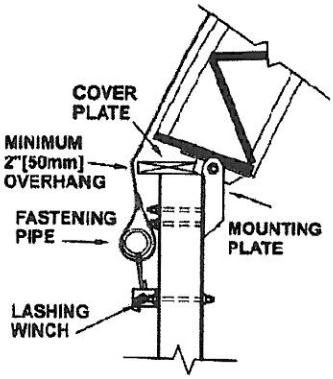
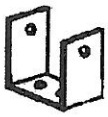
STEP 1 DETERMINE INSTALLATION TYPE



TYPE 220 INSTALLATION

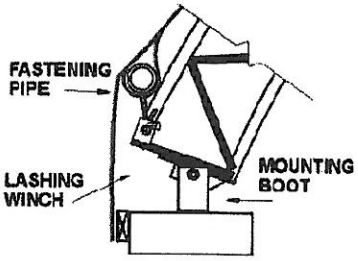
- The mounting plate is attached to the inside of the foundation and secured through the foundation.
- The cover fastening pipe is located below the mounting plate, outside the foundation, and the cover lashing winches attach to the foundation.
- A **minimum 2" [50mm]** cover plate overhang **is required** to keep the fastening pipe and lashing straps from contacting mounting plate hardware.
- Typically, the cover does not have a finish/seal apron.





TYPE 320 INSTALLATION

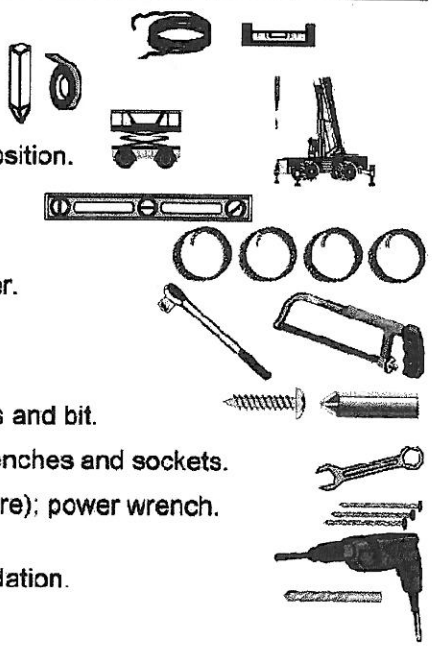
- The mounting boot attaches to the top surface of the foundation.
- The cover fastening pipe is located on the arch steel and the cover lashing winches attach to plates attached to the arch coupler plate.
- Typically the cover has an attached finish/seal apron.



Custom buildings may have variations of the these two installation types. Check with your Dealer or agent for details.

STEP 2 REQUIRED EQUIPMENT

1. String and string level for alignment.
2. Stakes and tape to mark the post/pile locations.
3. Movable scaffolding or a platform lift.
4. Crane or equivalent to lift arches into the vertical position.
5. Temporary bracing - dimensional lumber or rope.
6. Square level.
7. 2 to 4 lengths of cover pull rope 100' [31M] or longer.
8. Torque wrench.
9. Hacksaw.
10. #10 x 3/4" [#10 x 20mm] round head Philips screws and bit.
11. 13/16" [21mm] - 15/16" [24mm] - 1 1/8" [29mm] wrenches and sockets.
12. **Optional** -A transit (available from a local rental store); power wrench.



TYPE 220 Installation

13. Drill and Ø 5/8" [16mm] drill bit to drill through foundation.
14. 3 1/2" [90mm] spiral nails (galvanized)

REQUIRED FOR BUILDINGS OVER 144'[44M] IN LENGTH

1. Drill - Appendix A
2. Rubber mallet - Appendix A
3. Caulking gun - Appendix B



BUILDINGS OVER 144' [44M] IN LENGTH See STEP 37, Page 25

STEP 3 SITE PREPARATION

BRITESPAN IS NOT RESPONSIBLE FOR FOUNDATION DESIGN OR INSTALLATION.

1 Start with a level site.

2. Measure and stake out the location of the corner posts/ piles A, B, C and D. Use an accepted method to make the foundation straight and square.
See Squaring A Foundation on Page 33 for assistance.

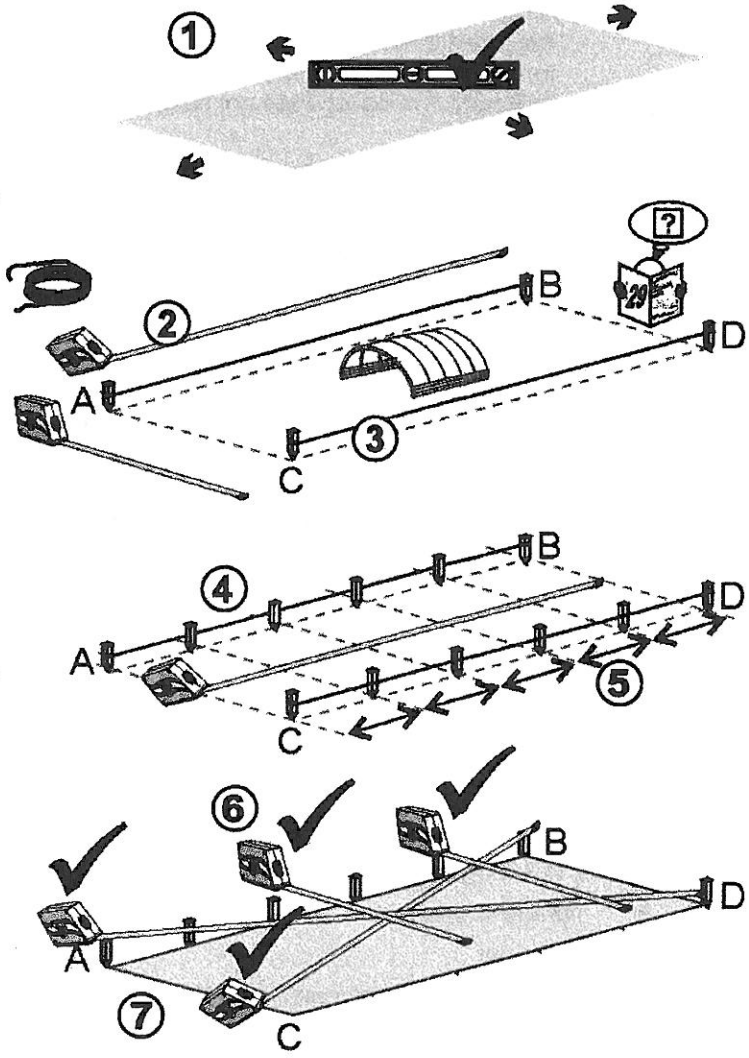
3. String lines from A to B and from C to D.

4. Measure and stake the arch on-center intervals along the length of the building using a **running measurement.**

5. Check linear measurements by measuring the distance between each stake. Distance should be equal.

6. Check the width measurements the entire length of the building.

7. Check the square of the foundation by measuring diagonally. Diagonal measurements should be equal.



NOTE: ***Buildings over 144' [44M] in length have more than one cover. Even with this feature, the foundation continues as a running measurement for the entire length of the building.***

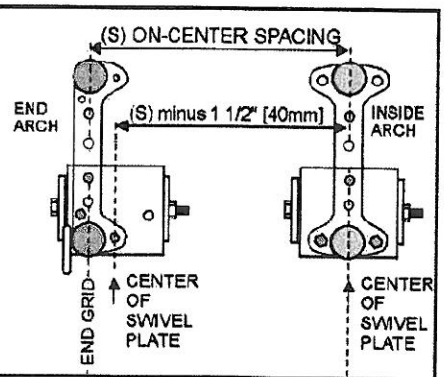
STEP 4 CRITICAL FOUNDATION PLANNING

In order to maintain the correct on-center arch spacing YOU MUST INSTALL the foundation so that the end mounting brackets and boots can be safely attached 1 1/2" [40mm] inside the end grid line.

TYPE 220 and TYPE 320
End arches have half coupler plates that bolt 1 1/2" [40mm] off-center on a 5 hole end swivel plate.

The inside arches have full coupler plates and bolt to the center of the 4 hole swivel plates.

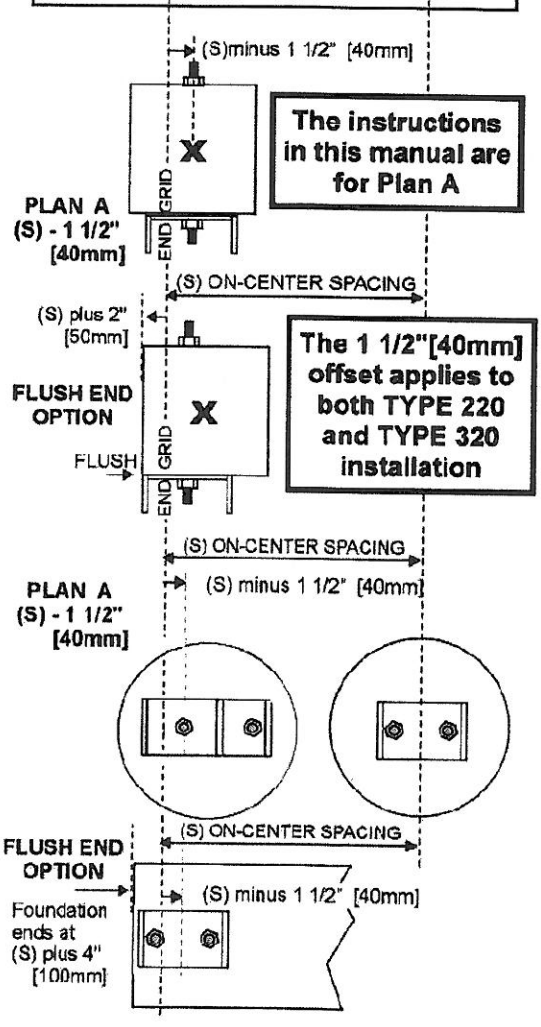
On-center arch spacing must be maintained when planning the foundation.



TYPE 220 INSTALLATION

PLAN A - RECOMMENDED
When you install the end posts with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting bracket and swivel plate center will be positioned in the center of the post and the correct on-center arch spacing is maintained.

FLUSH END OPTION
To finish the end of the building steel flush to the outside edge of the end post INSTALL THE EDGE OF THE POST PLUS 2" [50mm] OUTSIDE the end grid line. The mounting bracket will be positioned flush to the edge of the post regardless of post size and the correct on-center arch spacing is maintained.



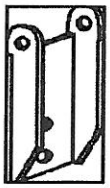
TYPE 320 INSTALLATION

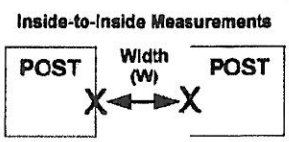
PLAN A - RECOMMENDED
When you install the end piles with their centers aligned 1 1/2" [40mm] inside the end grid line the mounting boot and swivel plate center will be positioned in the center of the pile and the correct on-center arch spacing is maintained.

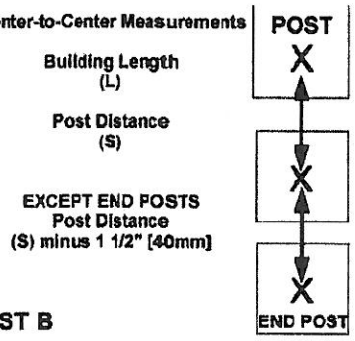
FLUSH END OPTION
To reduce the corner foundation protrusion, design the foundation so that the mounting boot can be installed as close to the edge of the foundation as allowable by the foundation's construction.
Example - Depending on anchor type - terminate the foundation at minimum (S) PLUS 4" [100mm] OUTSIDE the end grid line. Always check with a foundation engineer for appropriate anchor types and their installation requirements.
ALWAYS MAINTAIN the correct on-center arch spacing.

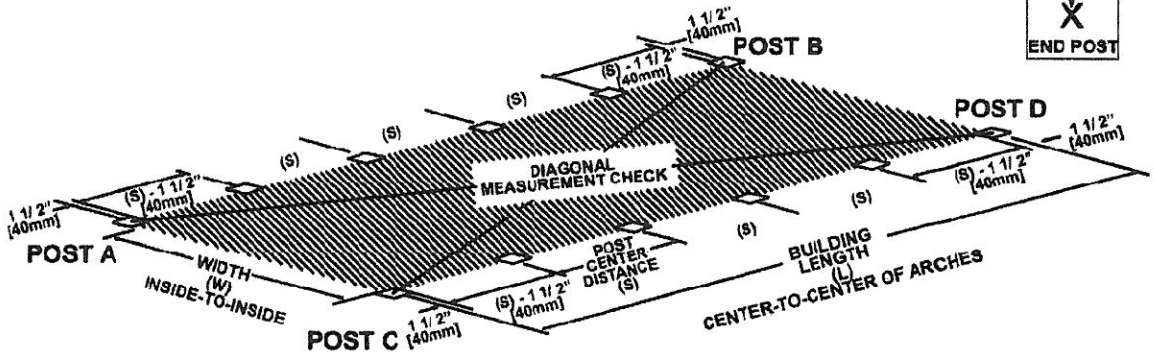
TYPE 320 INSTALLATION - Go to Page 11

TYPE 220 INSTALLATION









55' WIDE - ATLAS 18

IN TO IN OF POST
(W) WIDTH = 53' 2 13/16

IMPORTANT

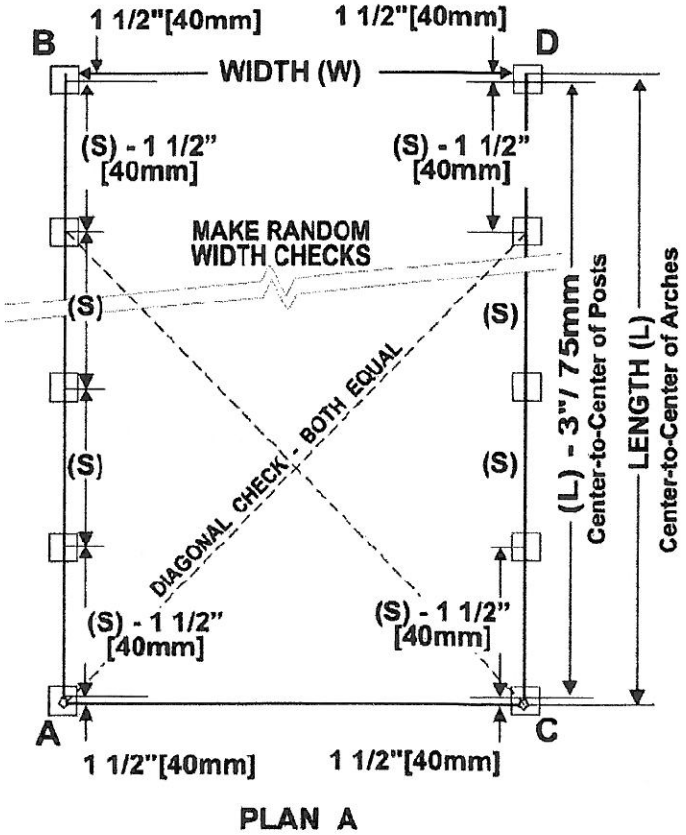
END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A

MEASURE AND INSTALL THE END POST CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BRACKETS TO BE MOUNTED IN THE CENTER OF THE POST

OPTION

MEASURE AND INSTALL THE OUTSIDE EDGE OF THE END POST AT (S) PLUS 2" [50mm]. THIS WILL ALLOW FLUSH END FABRIC TERMINATION AT THE CORNERS.



PLAN A

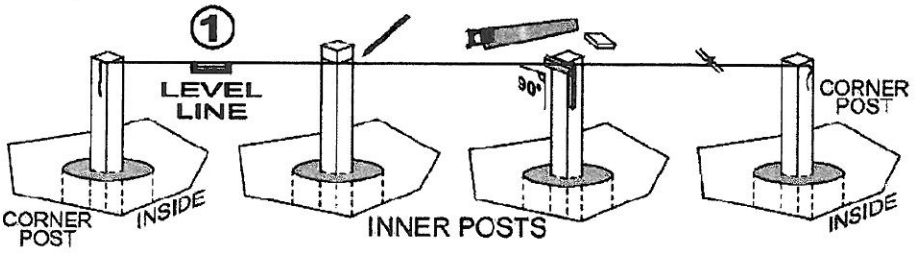
BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

STEP 5 TYPE 220 - INSTALL THE SILL PLATE

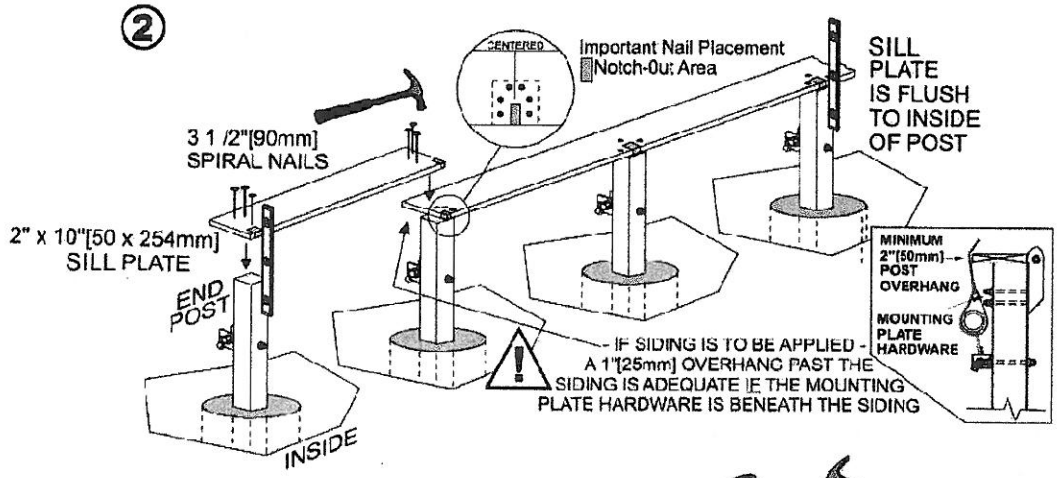
THE 220 COVER CANNOT BE TENSIONED WITHOUT THE SILL PLATE

1. **CUT POSTS TO DESIRED FINISHED HEIGHT**
   Tie a string line to the corner posts and mark the cut lines on the inner posts. Cut off the tops of each post along the line.





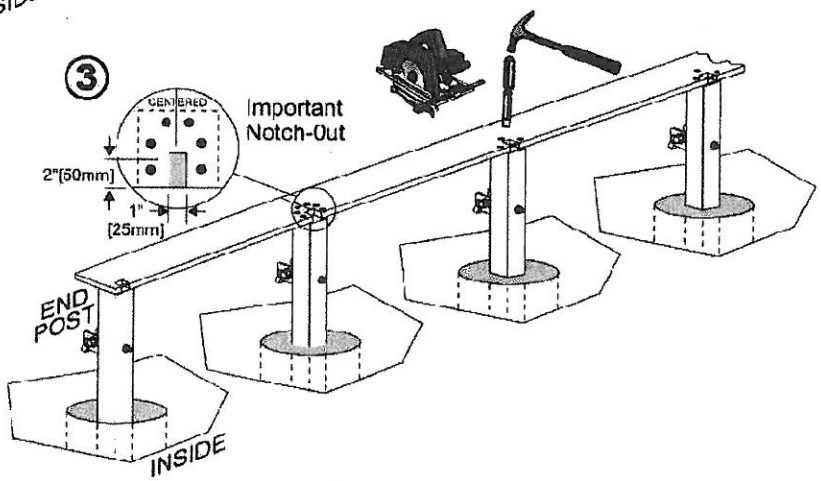
2. **INSTALL THE SILL PLATE**
   Using 3 1/2" [90mm] spiral nails (not supplied), securely fasten a minimum 2" x 10" [50 x 254mm] dimensional lumber sill plate to the top of the posts.
   The inside edge of the sill plate is flush to the inside of the post. A 2" [50mm] post overhang is required to keep the cover clear of the mounting plate hardware.



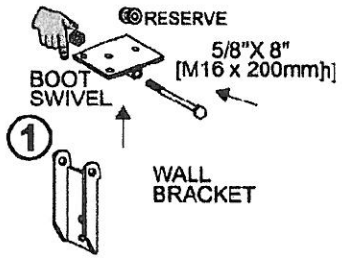
3. Cut out 2" x 1" [50 x 25mm] notches in the sill plate at the posts where the mounting plate and boot swivel will be attached.



IMPORTANT: Mounting brackets and swivels will not install properly without notch outs.



STEP 6 TYPE 220 - INSTALL MOUNTING BRACKETS



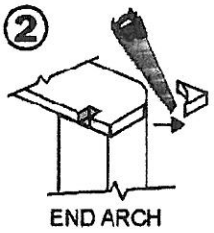
1. Temporarily assemble one TYPE 220 mounting bracket and a 4-hole INSIDE boot swivel using a 5/8" x 8" [M16 x 200mm] bolt/washers/nut.

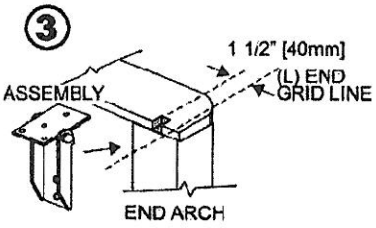
   Use this drill guide assembly for drilling the mounting holes in all the posts including the end posts.

2. **END POSTS - Trim cover plate corners to eliminate a pressure point on the corner fabric.**

3. **END POSTS - The center of the bracket assembly mounts 1 1/2" [40mm] inside the end grid line.**

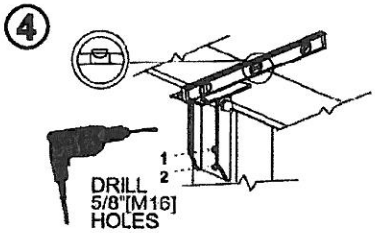
   Remember - If you have **not** installed the end posts at (S) minus 1 1/2" [40mm], the bracket will not be centered on the post.





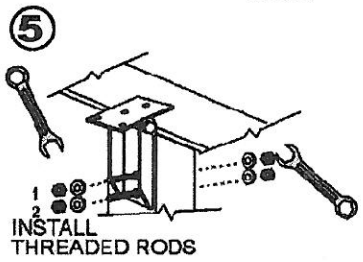
4. **INSIDE POSTS and END POSTS**
   Set the drill guide assembly on the post so that the swivel plate is level and drill 2 of Ø 5/8" [M16] holes through the post.

   Use the drill guide assembly to drill 2 of Ø 5/8"[M16] holes through every post.

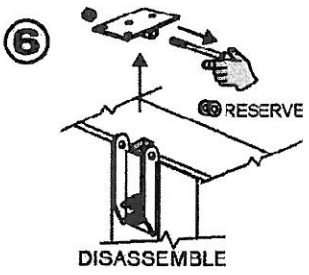


5. **ALL POSTS**
   Attach brackets - **not the drill guide assembly** - to the posts using 2 of Ø 5/8" [M16] threaded rod/washers/nuts.

   Install 2 of Ø 5/8" [M16] threaded rods every post.



6. Attach the drill guide assembly bracket on the last post and remove the boot swivel. The swivel attaches to an arch to allow a single pin assembly. See next Step 7.



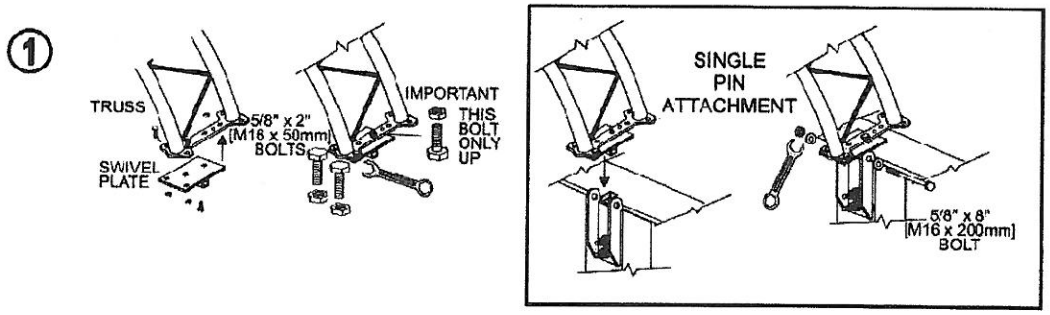


IMPORTANT
TWO threaded rods MUST BE INSTALLED every post.

Tighten all bolts/nuts to assembly torque value- See Page 32

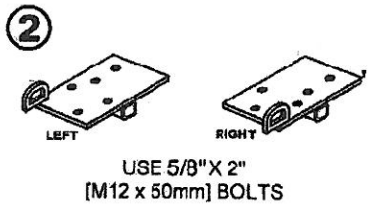
STEP 7 TYPE 220 - INSTALL SWIVEL PLATES

1. **INSIDE ARCHES** - Attach the 4 hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment when installing the arches.



2. **END ARCHES** - Attach the 5 hole boot swivel plates with the welded on D-rings to the end arches using 5/8"x 2" [M16 x 50mm] bolts/nuts.

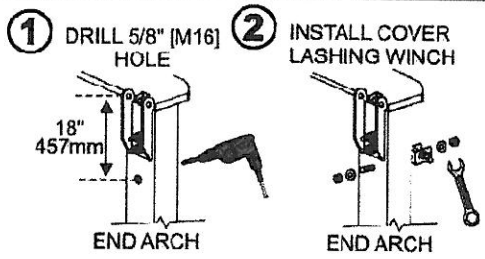
   The welded D-rings are always on the OUTSIDE of the end of the building.



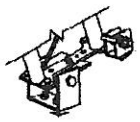
STEP 8 TYPE 220 - INSTALL COVER WINCHES

ALL POSTS

1. Drill a Ø 5/8" [M16] hole through the center of each post 18" [457mm] below the top of the post.
2. Fasten a lashing winch to the outside of each post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*



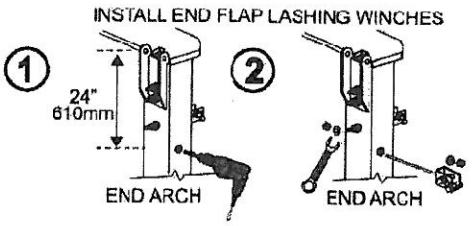
NOTE: If you are installing an eave on your building the cover lashing winches are not mounted on the posts. Cover winches are installed on the base coupler using a winch mount bracket. See *STEP 23* for details.



STEP 9 TYPE 220 - INSTALL END FLAP WINCHES

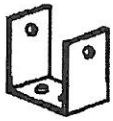
ALL CORNERS

1. Drill a Ø 5/8" [M16] hole through the center of each corner post 24" [610mm] below the top of the post.
2. Fasten a lashing winch to the outside (end) of each corner post using 5/8" [M16] threaded rod, nuts, and washers. Tighten securely. *Mount lashing winches with the safety bar facing down.*

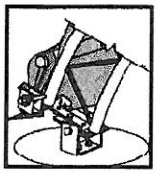


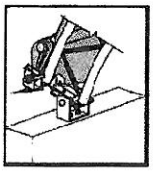
Tighten all bolts/nuts to assembly torque value- See Page 32

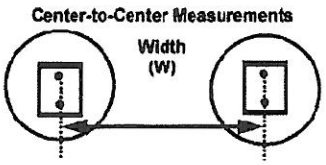
TYPE 220 INSTALLATION - Go directly to Page 13

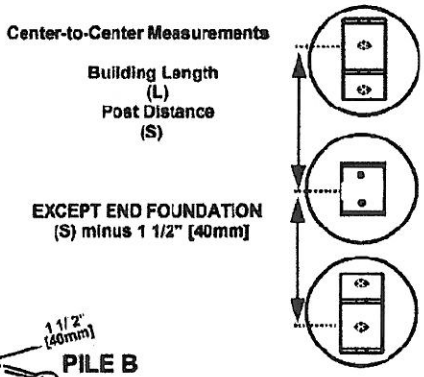


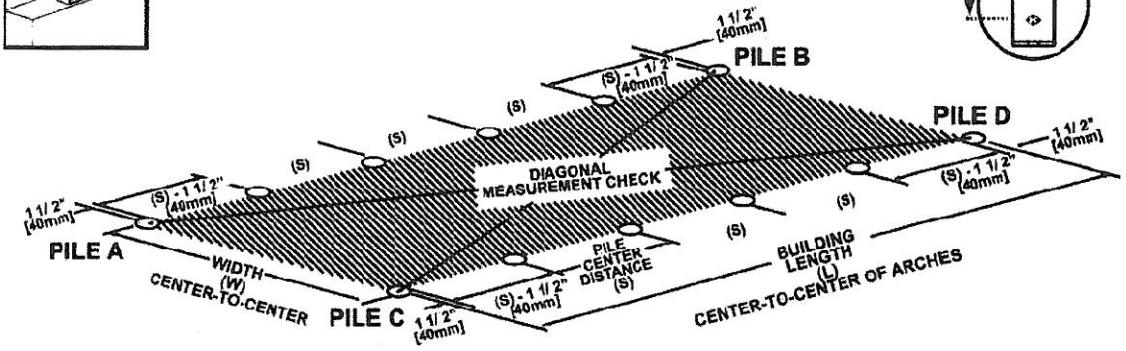
TYPE 320 INSTALLATION











55' WIDE - ATLAS 18

C/C TO ANCHOR BOLT
(W) WIDTH = 53' 5/16"

IMPORTANT

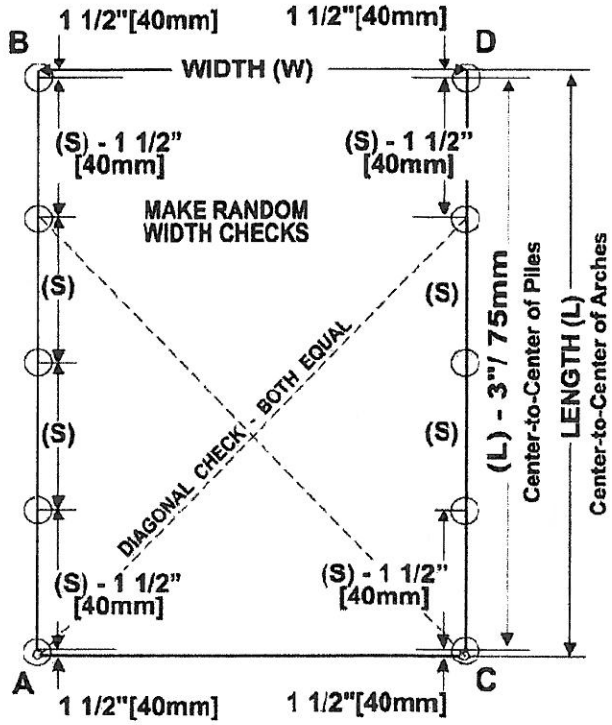
END ARCHES MOUNT 1 1/2" [40mm] OFFSET ON THE SWIVEL PLATE.

PLAN A

MEASURE AND INSTALL THE END PILE CENTERS AT (S) MINUS 1 1/2" [40mm]. THIS WILL ALLOW THE END ARCH MOUNTING BOOTS TO BE MOUNTED IN THE CENTER OF THE PILE.

OPTION

MEASURE AND INSTALL THE OUTSIDE EDGE OF THE FOUNDATION AT (S) PLUS 4" [100m]. TO REDUCE FOUNDATION PROTRUSION AT THE CORNERS.



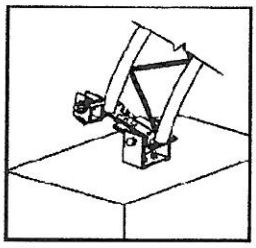
PLAN A

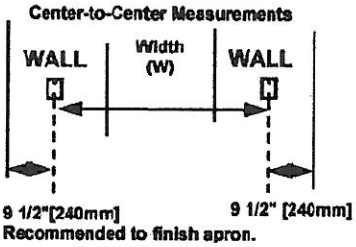
BUILDING ON-CENTER MEASUREMENT (S) IS AS ORDERED

TYPE 320 - INSTALLATION continued

WIDE FOUNDATIONS

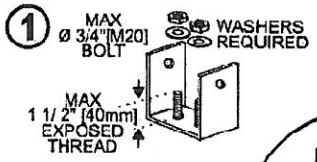
Planning the foundation so that the boot mounts 9 1/2" [240mm] from the outside edge will permit the apron to finish straight down from the cover's tensioning point.





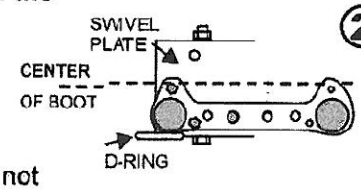
STEP 10 TYPE 320 - INSTALL MOUNTING BOOTS

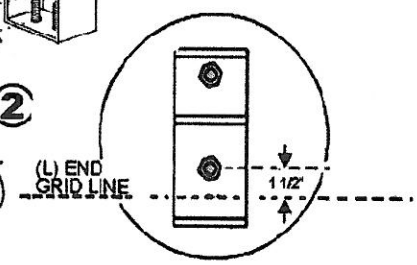
1. ANCHOR BOLTS - Maximum Ø 3/4"[M20] bolts. Maximum 1 1/2" [40mm] exposed thread. Washers required
Tighten all anchor bolts securely.



2. **END ARCHES - The center of the mounting boot mounts 1 1/2" [40mm] inside the end grid line.**

Remember - If you have not installed the end piles at (S) minus 1 1/2" [40mm], the bracket will not be centered on the pile.

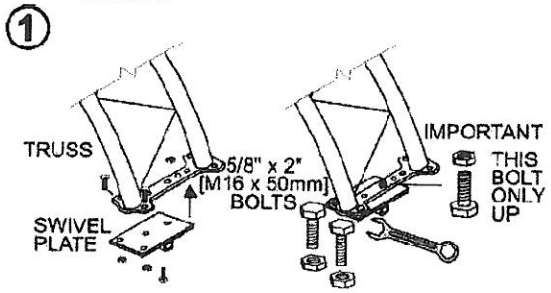


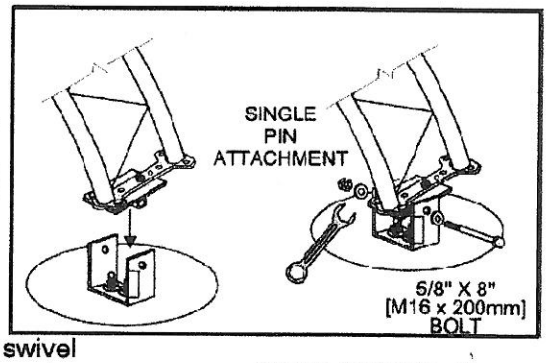


END ARCH

STEP 11 TYPE 320 - INSTALL SWIVEL PLATES

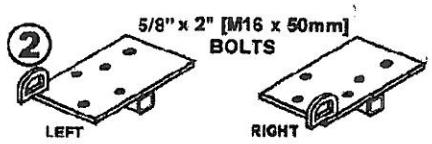
1. **INSIDE ARCHES** - Attach the 4 hole boot swivel plates to the base of the inside arches using 5/8" x 2" [M16 x 50mm] bolts/nuts. This will permit single pin attachment of the arches.





2. **END ARCHES** - Attach the 5 hole boot swivel plates with the welded on D-rings to the end arches using 5/8" x 2" [M12 x 50mm] bolts/nuts.

The welded D-rings are always on the OUTSIDE of the end of the building.



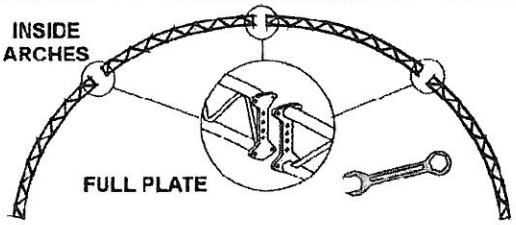
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 12 ASSEMBLE THE ARCHES

IDENTIFY AND LAYOUT ARCH TRUSSES.

1. Identify and separate the inside trusses from the end trusses. Inside trusses have full coupler plates. End trusses have half coupler plates.

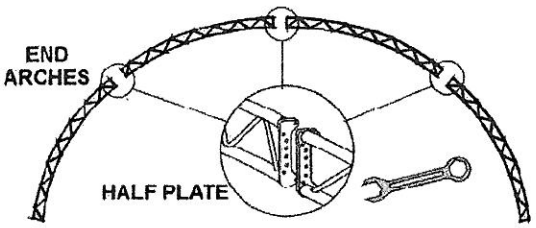
55' WIDE - ATLAS 18
Each completed arch requires 4 truss sections.



ASSEMBLE ARCHES

2. **END ARCHES**

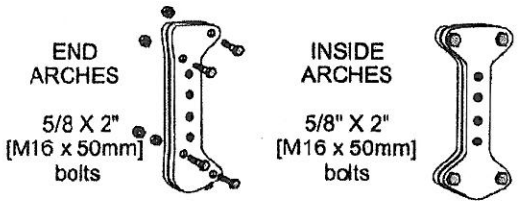
4 of 5/8"x 2" [M16 x 50mm] bolts/nuts



3. **INSIDE ARCHES**

4 of 5/8" x 2" [M16 x 50mm] bolts/nuts

LEAVE THE 4 HOLES IN THE CENTER OF THE COUPLER EMPTY



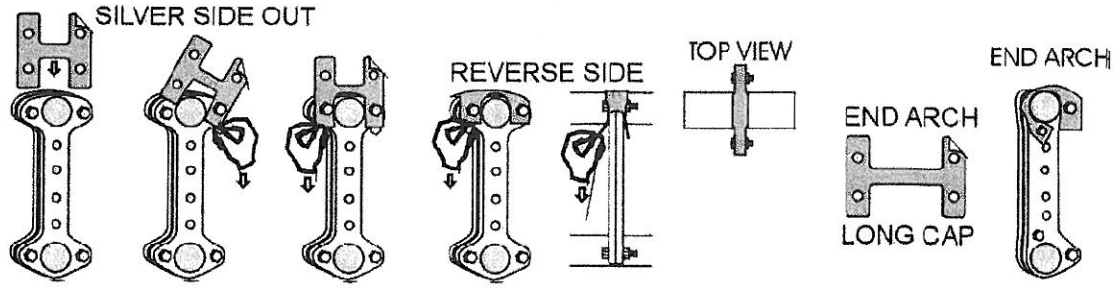
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 13 INSTALL COUPLER PROTECTORS

The coupler protectors fit OVER the bolt head and nuts of the TOP of the ASSEMBLED arches.

The coupler protectors ARE REQUIRED to protect the fabric cover.

WARNING: *FABRIC DAMAGE WILL OCCUR IF NOT INSTALLED.* Remove or smooth any burs or irregularities before installing.



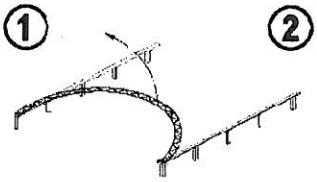
IMPORTANT - Do not attempt to install the coupler protectors UNDER the bolts or nuts. The fabric will deform, twist and tear off.

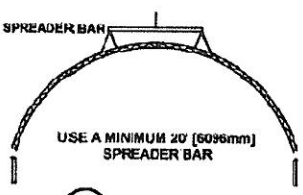
WARNING: *TRUSS WILL FAIL AND WARRANTY IS VOID IF A SPREADER*

STEP 14 ERECT END ARCH

TYPE 220

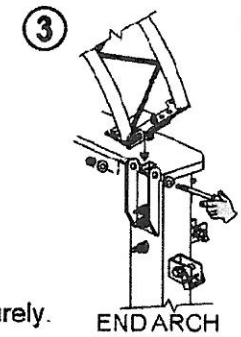
MOUNTING BRACKETS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.

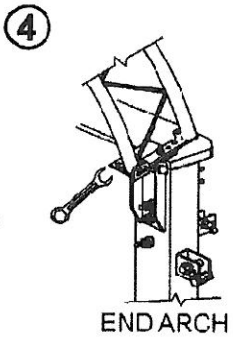




MOVE *END* ARCH INTO POSITION

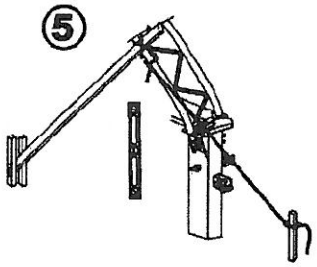
1. Position an end arch so that the arch can be tilted upright.
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end posts. Use extreme caution when lifting arches.
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Tighten the 5/8" x 8" [M16 x 200mm] bolt/nut securely.
5. Plumb and brace the arch securely using rope or dimensional lumber.





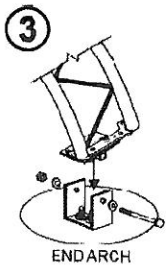
TYPE 320

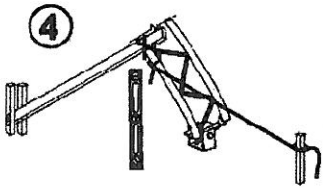
MOUNTING BOOTS AND SWIVELS MUST BE ATTACHED BEFORE ERECTION.



MOVE *END* ARCH INTO POSITION

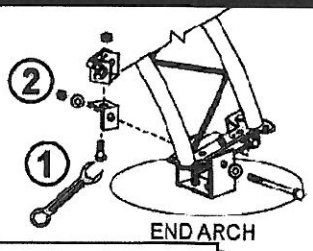
1. Position an end arch so that the arch can be tilted upright. (See ① TYPE 220 illustration above)
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the end piles. Use extreme caution when lifting arches. (See ② TYPE 220 illustration above)
3. Lower the arch into position and install a 5/8" x 8" [M16 x 200mm] bolt/nut.
4. Plumb and brace the arch securely using rope or dimensional lumber.





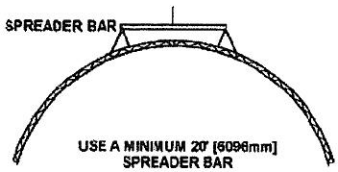
STEP 15 TYPE 320 - INSTALL END FLAP WINCHES

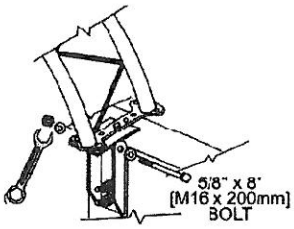
1. **End Arches Only** - Attach an end flap lashing winch to a winch mount bracket using a 5/8" x 2" [M16 x 50mm] bolt/nut.
2. Attach the bracket/winch assembly to the inside of arch boot 5/8" x 8" [M16 x 200mm] bolt. Tighten securely.

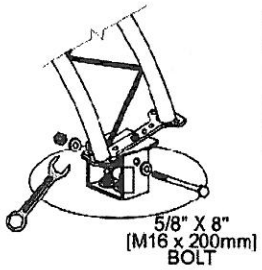


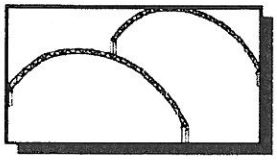
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 16 ERECT THE NEXT ARCH





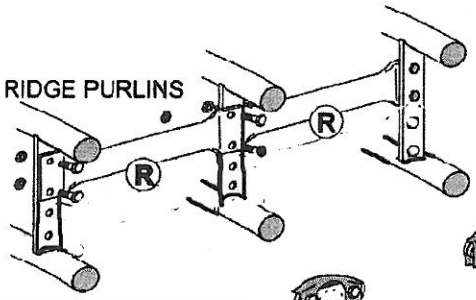


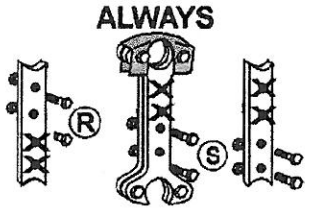


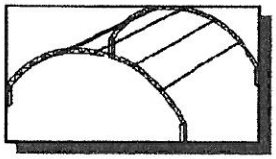
WASHERS ARE REQUIRED



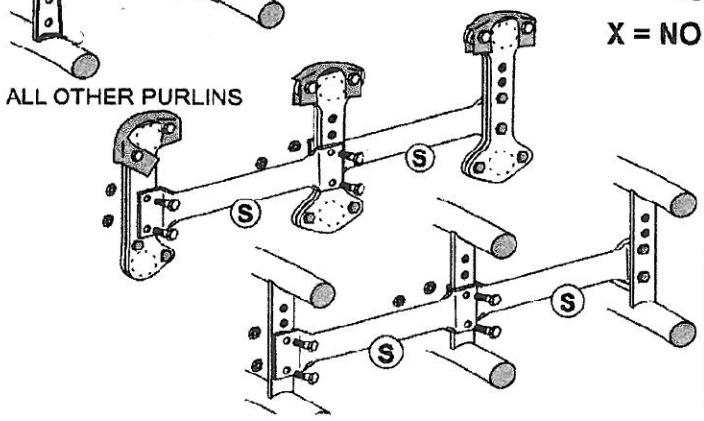
STEP 17 INSTALL PURLINS







X = NO BOLTS



ATTACH PURLINS USING 5/8" x 2" [M16 x 50mm] BOLTS

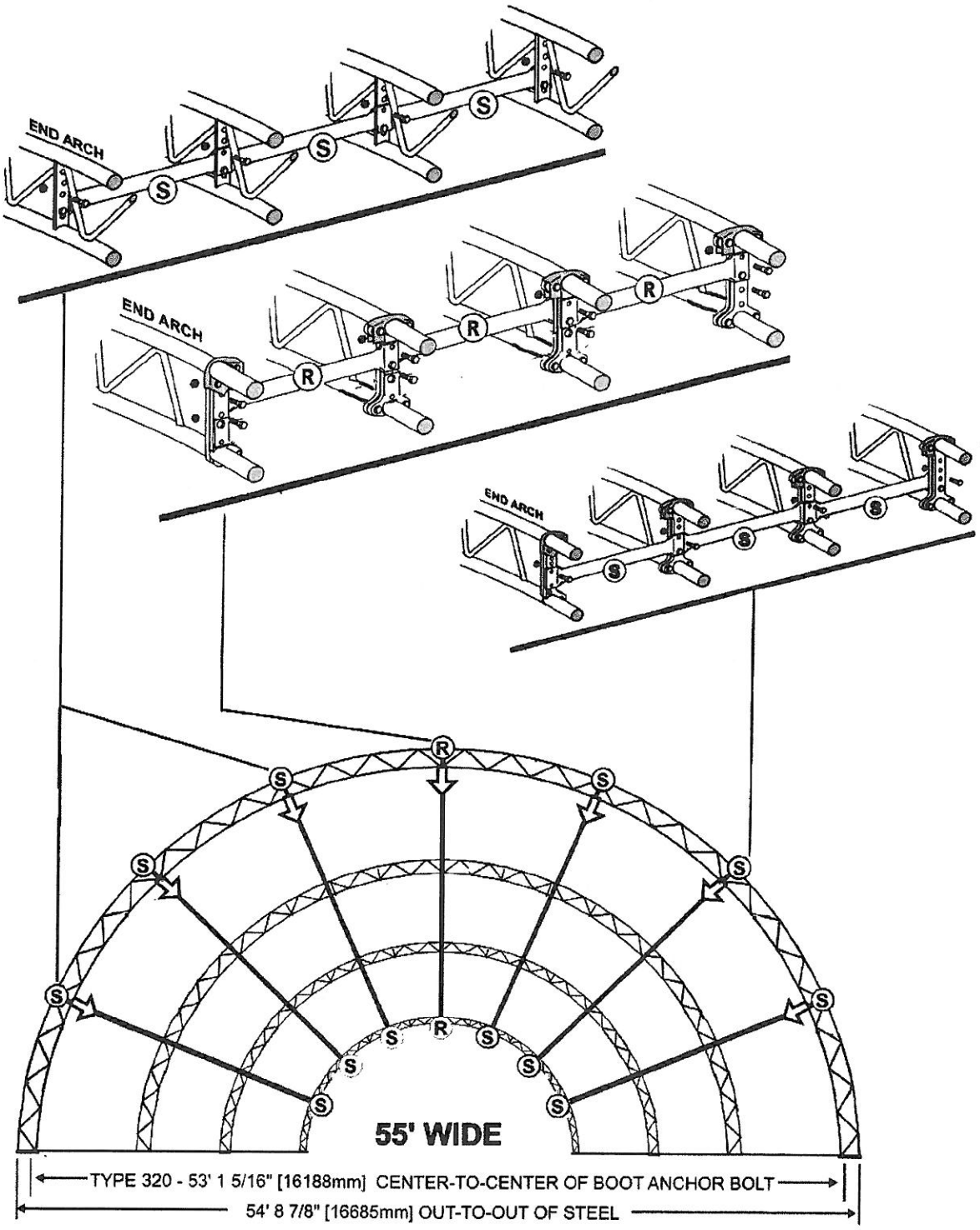
LABOUR SAVING HINT
ARCHES WITH CROSS CABLES
Do not install CENTER HOLE bolts.
See Step 18 next page.

16 o/c END BAY ONLY
substitute ALL 2 7/8" purlins with 3 1/2" purlins

IMPORTANT
INSTALL ALL PURLINS BETWEEN THESE FIRST TWO ARCHES BEFORE PROCEEDING

Tighten all bolts/nuts to assembly torque value- See Page 32

55' WIDE - ATLAS 18



Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 18 INSTALL CROSS CABLES

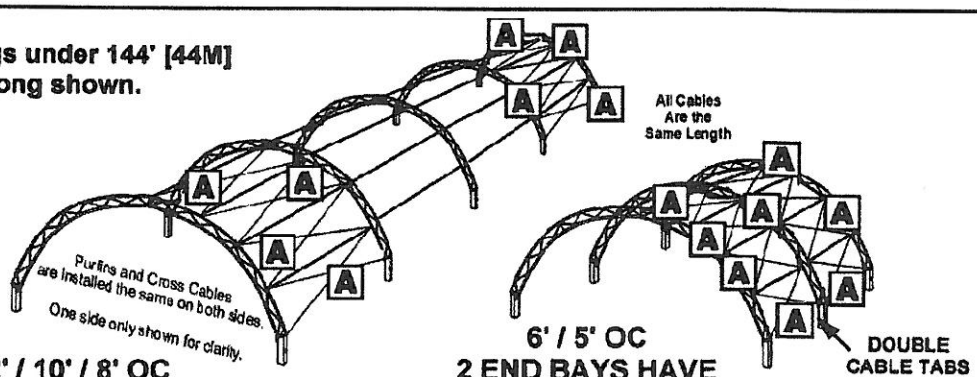
Cross cabled end arch (or arches) create a structural frame for the rest of the building.

This Atlas 55 building uses 1 cable length.
Cables install in LOCATION [A]



NOTE: Arch spacing determines cable length. More than three cable lengths are supplied when any portion of the building has a different arch spacing. See Building Components, Page 1, of this manual for cable lengths for specific arch spacings.

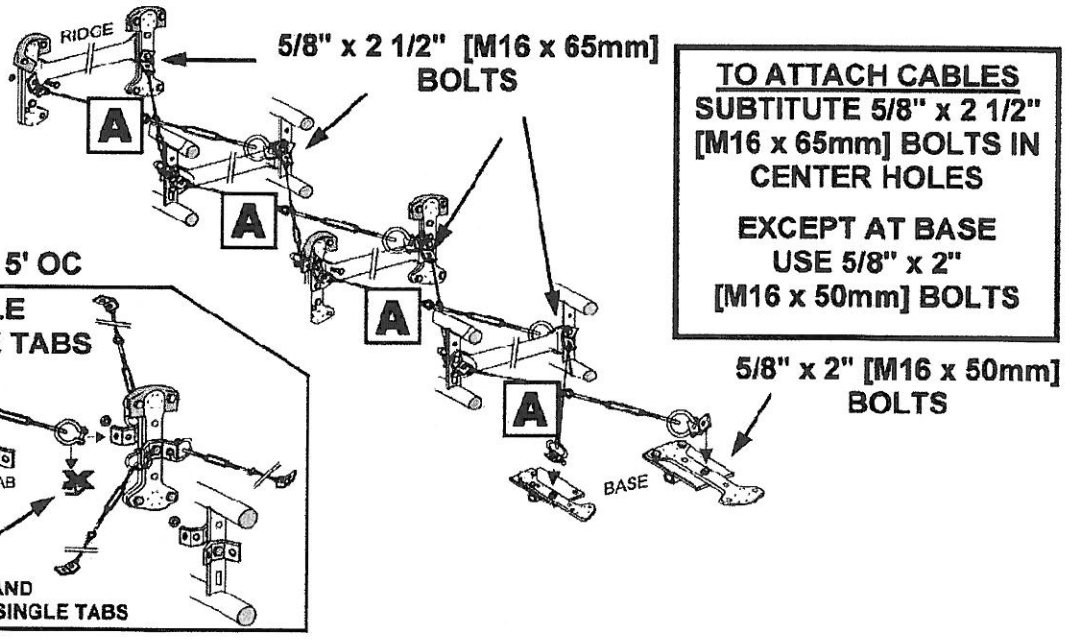
Buildings under 144' [44M] long shown.



'16' / 14' / 12' / 10' / 8' OC ONE END BAY HAS CROSS CABLES

6' / 5' OC 2 END BAYS HAVE CROSS CABLES

CABLES ALWAYS ATTACH AT THE CENTER HOLE



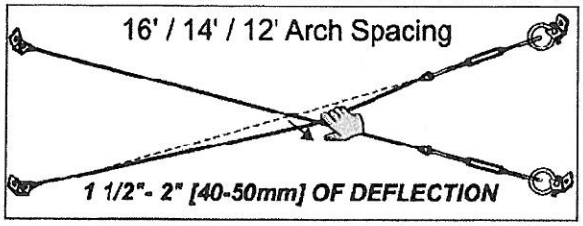
TO ATTACH CABLES SUBTITUTE 5/8" x 2 1/2" [M16 x 65mm] BOLTS IN CENTER HOLES

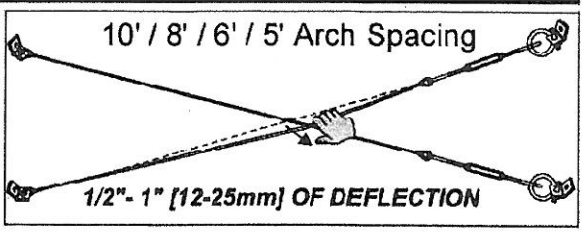
EXCEPT AT BASE USE 5/8" x 2" [M16 x 50mm] BOLTS

6' AND 5' OC

Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 19 TENSION CROSS CABLES

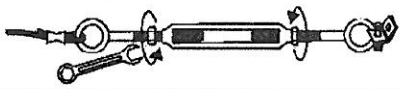




MAKE CROSSED CABLE LENGTHS EQUAL TO SQUARE THE FRAME



STEP 20 TIGHTEN CABLE TURNBUCKLE LOCKNUTS



STEP 21 ERECT ALL REMAINING ARCHES

ERECT ALL REMAINING ARCHES. AND INSTALL ALL PURLINS AND ALL CROSS CABLES

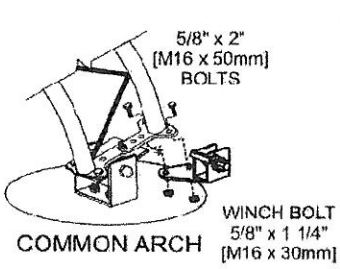
STEP 22 BUILDINGS OVER 144' [44M] - SEE APPENDIX A

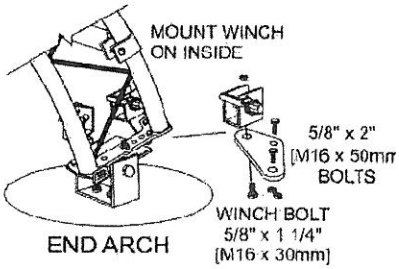
If you are erecting a building that is over 144' [44M] long go to APPENDIX A, Item 1, on Page 26 of this manual for cross cable placement and cross cable double tab placement.

STEP 23 TYPE 320 - INSTALL COVER LASHING WINCHES

1. Install lashing winch mounting brackets on the underside of each arch base EXCEPT 5' [1524mm] o/c and 6' [1830mm] o/c buildings - install every other arch - match placement to notches in cover.

Inside Common Arches -
1 bracket required
5/8" X 2" [M16 x 50mm] bolts/nuts
End Arch -
1 bracket required
5/8" x 2" [M16 x 50mm] bolts/nuts



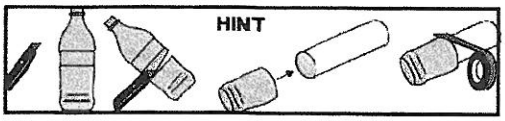


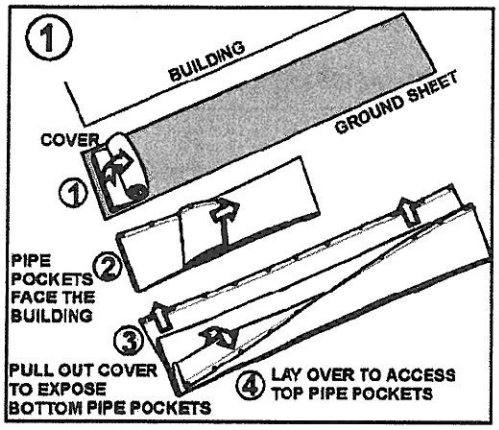
2. Attach lashing winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.

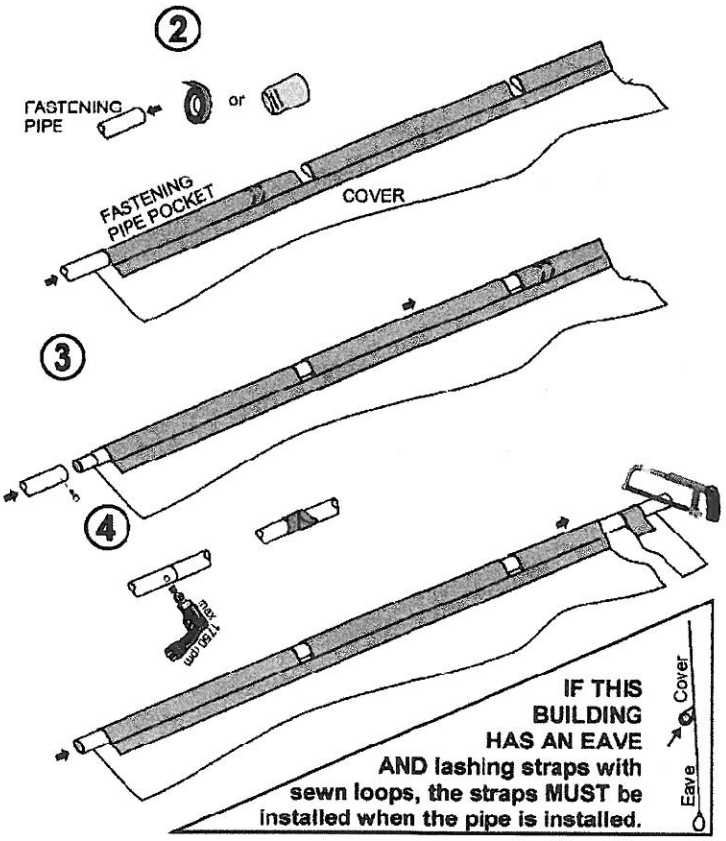
Tighten all bolts/nuts to assembly torque value- See Page 32

STEP 24 INSTALL COVER FASTENING PIPES

Use a ground sheet to protect the cover while it is being prepared for installation.



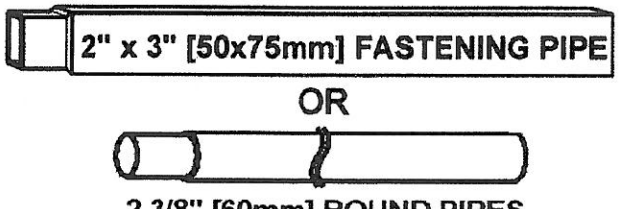


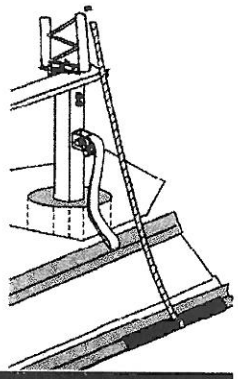


1. Roll out the cover and leave a small walk area along the building. Align the cover evenly to each end of the frame.
2. Pipe raw edge can damage pocket fabric. Wrap or cap leading edge of pipe.
3. Install BOTH fastening pipes.
4. Use 1/4" x 3/4" [M6 x 20mm] Tek self-drilling screws to fasten the pipes together. Wrap with duct tape (tape optional - not supplied).

NOTE: ***Fastening pipes are supplied in factory cut lengths. Some buildings will require measured cuts, possibly on two lengths of pipe.***

BUILDINGS USE 2" X 3" [50 X 75MM] RECTANGULAR FASTENING PIPE OR 2 3/8" [60MM] ROUND FASTENING PIPES

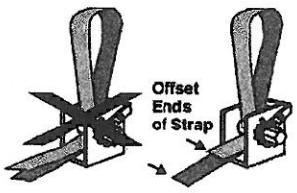




STEP 25 INSTALL THE COVER

NOTE: ***DO NOT install the cover onto the frame in high wind conditions. A slight breeze is the most advantageous for cover installation. Take advantage of the breeze by pulling the cover up over the arches with the breeze blowing into the cover . . . like a sail filled with air.***

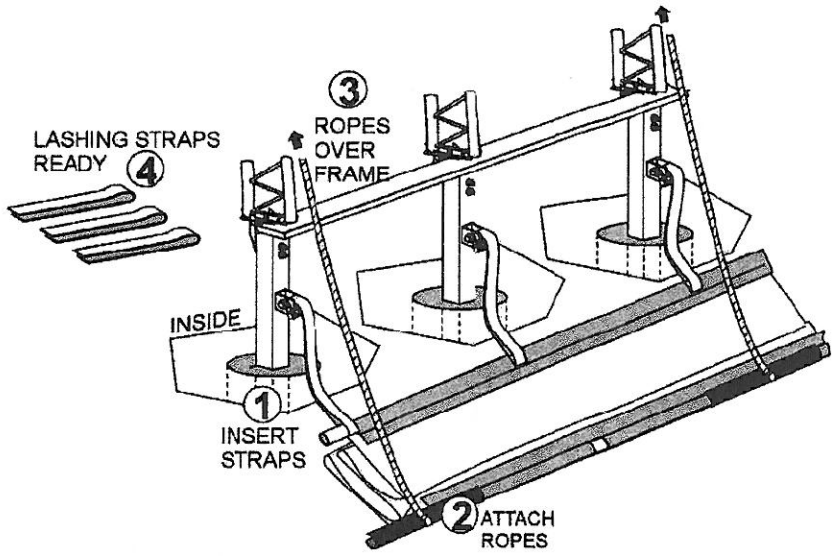
1. Loop the lashing straps around the inner fastening pipe and secure both ends of the straps in the lashing winches.



2. **On the opposite side of the cover** (the side of the cover that is furthest from the frame), tie several ropes, approximately 30 feet [9M] apart, to the steel fastening pipe through the notched hole.

3. Throw the free end of the ropes over the frame to the opposite side of the building.

4. Ready the lashing straps on the opposite side of the building.



CHECK LIST:

- <u>BEFORE</u>
proceeding ensure that the cover is POCKET SIDE up.
- ALL coupler plates have coupler protectors.
- BOTH fastening pipes are in place.
- Fastening straps near side are SECURED in the lashing winches.
- Ropes are secured to the OPPOSITE pipe and passed over the frame.
- NO WIND or there can be a light breeze (ideally from rope pulling side).



USE CAUTION WHEN INSTALLING COVERS WITH MOTORIZED EQUIPMENT.
PRE-ARRANGE COMMUNICATION DEVICES OR HAND SIGNALS TO RELAY DIRECTIONS TO EQUIPMENT OPERATORS.

5. Pull the cover over the frame EVENLY, CAREFULLY and SLOWLY.

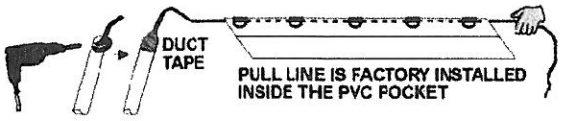
6. Loop the lashing straps around the fastening pipe and **loosely secure** in the lashing winches. <u>DO NOT TIGHTEN</u>. Adjust the cover so that it is square and evenly centered on the frame. *The end flaps should overhang evenly at both ends.*

NOTE: ***DO NOT LEAVE THE COVER UNATTENDED UNDER ANY CIRCUMSTANCES until final assembly and tightening has been completed.***

STEP 26 INSTALL COVER PVC PIPE

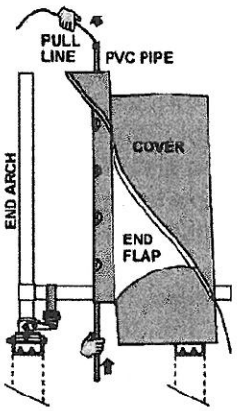
1. Once the cover is on the frame and is sitting centered, square and straight, visually check to ensure the cover extends approximately 12" [305mm] on both ends of the building.

2. Drill a hole in the smooth end of one PVC tube and tie the pull line to it. Wrap this leading end with duct tape.

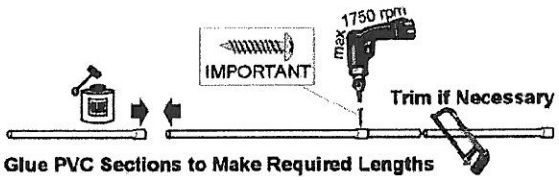


Hint - A small funnel or cone (not supplied) on the leading edge of the PVC will help spread the PVC pocket.

3. Push - Pull the PVC into the pocket. Glue and screw the lengths of PVC together as you proceed.

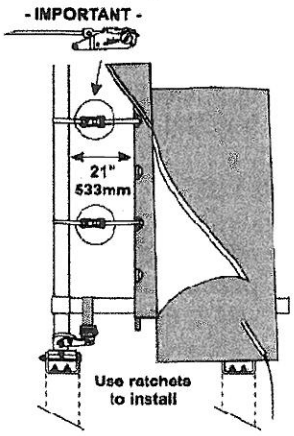


IMPORTANT - ALWAYS install a screw (not supplied) at every connection. PVC glue looses adhesive qualities when applied in cold weather and in damp and humid conditions.



Hint: PVC tubes should slide easily into the pockets. Do not force. Check for twisted fabric or misaligned pocket openings if you experience difficulty.

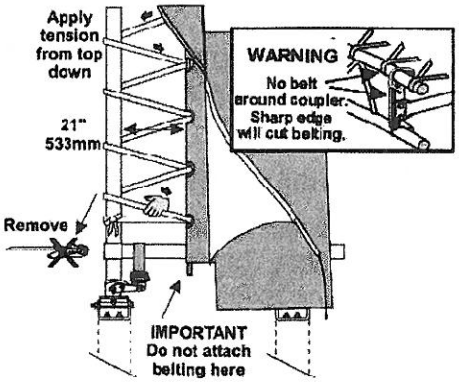
STEP 27 TENSION COVER ENDS



1. Operate the cover fastening tube end arch lashing winches to remove the slack from the lashing straps. DO NOT TENSION.

Hint - Use ratchet straps (not supplied) on both ends, evenly spaced, to tension and hold the cover lengthwise. Adjust to obtain a distance of 21" [533mm] between the Arch tube and the PVC pipe at both ends. Then lace the cover to the end arch.

2. **Lace - start at the base.** Lace the 1" [25mm] belting around the PVC tube through the notches and then back to the top truss tube of the end arch - **in 10'-12' [3-4M] sections** - all the way up to the top center of the building. Tie off each section. **Repeat lacing from other base.**



Hint - The cover shifts down when final tension is applied. Always try to lace the belting on the down side of the web weld.

3. **Tension - start at the top center.** Work your way down from the secured end use force to tighten the belting and finish by tying the belting off on each section. The PVC tube should be parallel with the end arch all the way around.

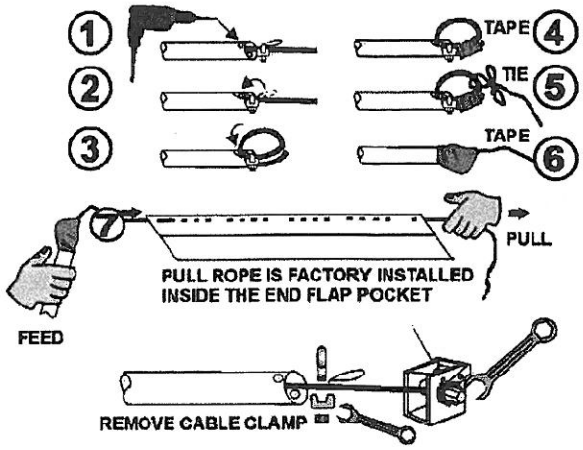
4. Lace and tension the opposite end of the building. The cover should be tight and secure from end to end when finished.

Hint: Trim the belting excess <u>after</u> you have finished the tighten-down.

STEP 28 INSTALL END FLAP CABLE

1. Secure BOTH the cable and PVC tube casing to the end flap pull rope in an acceptable manner. Protect the fabric from any sharp edges.
2. Feed and pull the cable through the end flap until it is equal on both sides.

   You may require a third person on a lift to assist the cable through the folds and creases. You can try flipping the end flap flat over the top of the building.
3. The cable clamps can be removed after the cable is secured into the lashing winch.



WARNING - Pull slowly or rope burn will damage fabric.

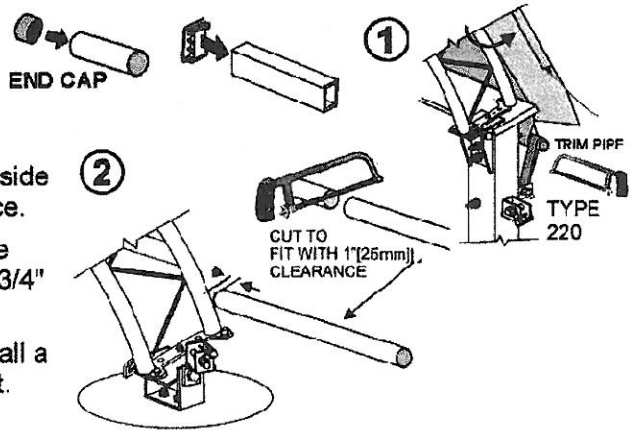
STEP 29 TERMINATE THE COVER FASTENING PIPE

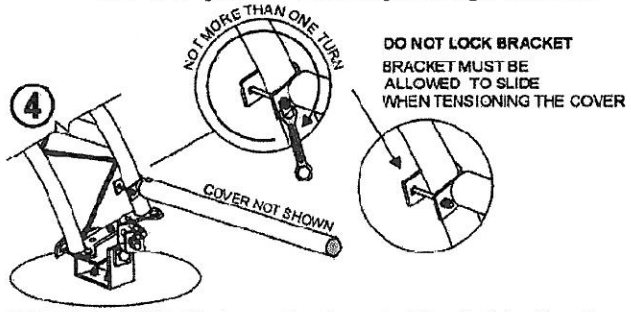
TYPE 220 INSTALLATION

1, Trim the fastening pipe to the end of the building and install plastic end caps.

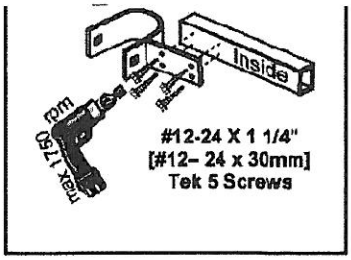
TYPE 320 INSTALLATION

2. Cut the ends of the fastening pipe to fit inside the arch with 1/2" -1" [12-25mm] clearance.
3, Install the saddle bracket in the end of the tube and secure using a single 1/4"-14 x 3/4" [M6-14 x 20mm] Tek 3 screw.
4. Fit the saddle over the arch tube and install a 1/2" x 4" [M12 x 100mm] carriage bolt/nut.





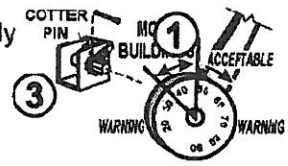
IMPORTANT: Deform the bracket by tightening the 1/2" [M12] bolt/nut as far as possible. This will reduce any protruding edges. **Then release the nut** until you achieve a one turn lock. The bracket must be allowed to slide on the truss tube when the cover is tensioned.



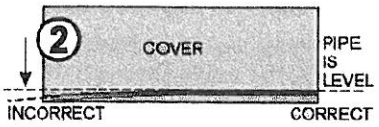
Tighten all bolts/nuts to torque value- See Page 32

It is now safe to remove all ropes used to steady the frame and install the cover.

STEP 30 TENSION THE COVER

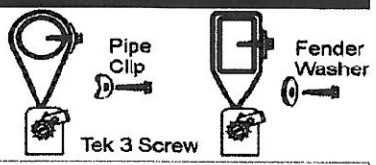


1. Use a 1 1/8" [29mm] wrench to tighten the cover lashing straps evenly on both sides of the building. The tension for the lashing winches on this building has been calculated at **35 - 45 ft. lbs. [48-60N.m.] DO NOT EXCEED 45 ft. lbs. [60 n.m]** *Use a torque wrench.* Remove as many wrinkles and creases and bagging as possible.
2. Next, adjust the end lashing straps tension until the cover fastening pipes are level.
3. Install a cotter pin in the lashing winch pilot holes to lock the release lever.



STEP 31 TYPE 220 - SECURE END LASHING STRAPS

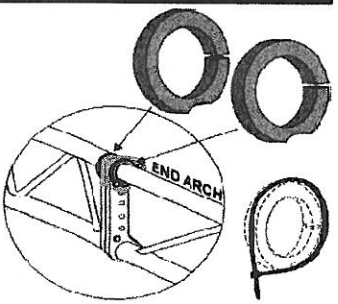
1. Secure the outside (end) lashing straps (4) to the fastening pipe by using pipe clips or fender washers and 1/4" x 3/4" [M6 x 20mm] Tek 3 self-drilling screws. Install the screws **through the fastening strap** into the fastening pipe.



NOTE: ***Failure to secure the corner fastening straps to the pipe could result in possible damage to the cover. Not required on TYPE 320 installation.***

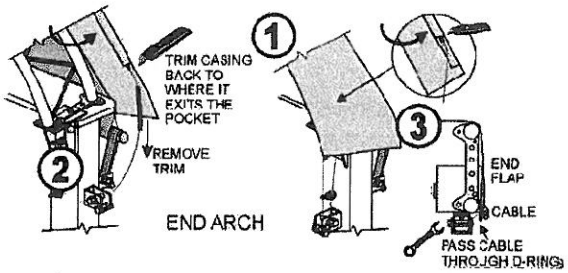
STEP 32 INSTALL RUBBER END FLAP PROTECTORS

1. All buildings require 2 rubber end flap protectors installed on the upper truss tube at all connected couplers on the end arches.
2. The rubber protectors are designed to pressure fit on the truss tube. If necessary, tape them in position.
3. **WARNING** - DO NOT tension the end flap without installing the rubber protectors. DAMAGE WILL OCCUR. If protectors are missing, wrap Ø 1/2" [12mm] 12 rope at the coupler and tape to secure.



STEP 33 TENSION THE END FLAP CABLES

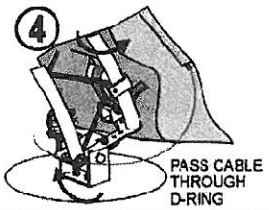
1. **Trim** the plastic cable casing.
2. **TYPE 220** - Insert the cable in the end flap winches so that the windings bind the cable end.
3. **TYPE 220 with Fabric End Wall** - Cut an exit hole in the end flap pocket so the cable exits above the D-ring. Pierce the end panel and feed the cable inside the building through the D-ring to the winch. Secure or weld the end flap tail to the end wall.

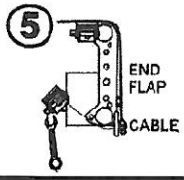


It may be necessary to repeat the tightening several times at both winches.

4. **TYPE 320** - Thread the end flap cable through the D-ring to the end flap winch.

5. Tighten winches on both sides until the end flap is tight. *Repeat this procedure on the other end of the building.*





STEP 34 TYPE 320 - SECURE THE APRON

ALWAYS SECURE THE APRON

The fabric is designed to be under tension at all times.

GROUND

Use dimensional lumber to attach the apron to the frame or foundation.
Or back fill the apron at the foundation.

WALL

Depending on the width of the wall you may want to consider the following finishing option. Protruding edges on fabric are potential wear points.
<u>WARNING - This is a 320 APRON option only. Do not use for 220 covers.</u>

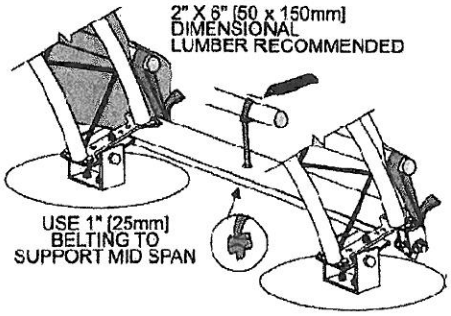
1. Attach dimensional lumber to the underside of the arch bases so that the apron can be wrapped around the lumber and away from protruding edges.

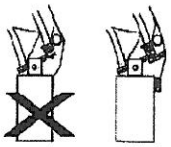
NOTE: Longer bolts may be required to re-attach the lashing winches.

2. Drill a 1" [25mm] hole mid span in the dimensional lumber and pass a short section of 1" [25mm] belting through the hole. Tie a permanent knot below the lumber that will not pass through the hole.

3. Slit the fastening tube pocket directly above the hole and loop the 1" [25mm] belting around the fastening tube. Level the dimensional lumber and tie a releasable knot.

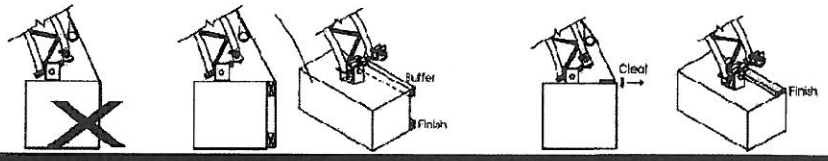
4. This belting will keep the dimensional lumber from sagging. The belting length may need to be adjusted when cover tension is adjusted.





CONCRETE

Never install fabric over concrete edges.
Always install a dimensional lumber buffer or equivalent.



STEP 35 READ MAINTENANCE SCHEDULE Page 2

STEP 36 COMPLETE WARRANTY REGISTRATION Page 36

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APPENDIX A
EXTRUSION CONNECTION

TYPEB

TYPEC

TYPED

APPENDIX B
FLAP OVERLAP CONNECTION

TYPEA

APPENDIX A

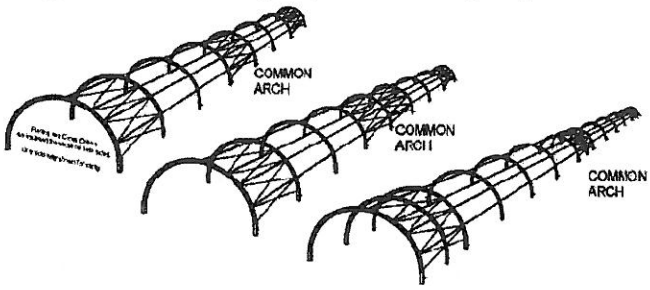
EXTRUSION CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length.
This enables ease of onsite handling and installation.
Normally covers are supplied in equal or near equal lengths. The longest cover length is 144'.
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. CROSS CABLE INSTALLATION

A. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.

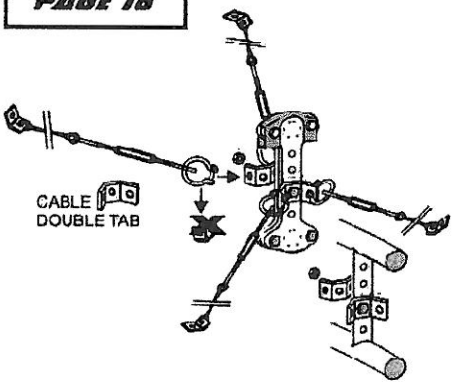
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

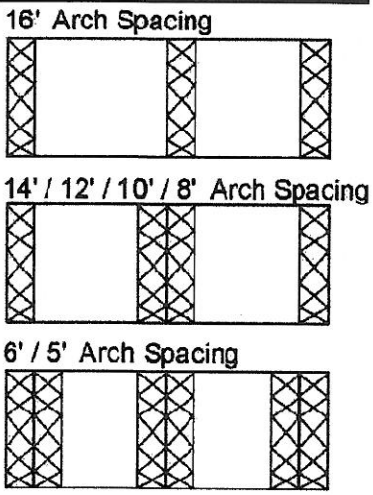


B. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.

STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

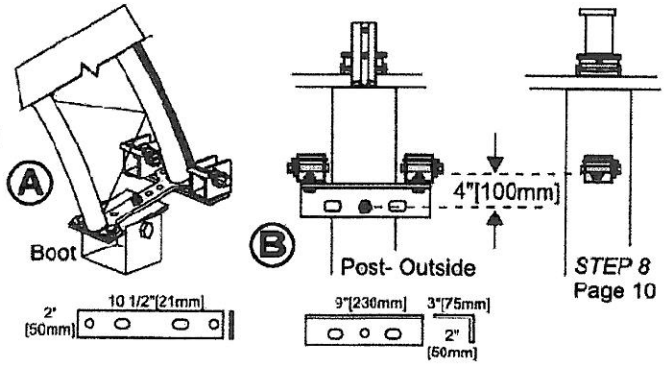




2. WINCH BRACKET INSTALLATION

A. Attach the flat winch bracket to the common arch base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts.

B. Attach the angle winch bracket on the outside of the common post using one of 5/8" x 12" [M16 x 305mm] threaded rod and 5/8" [M16] washers/nuts. Attach the winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.



STEP 8 Page 10

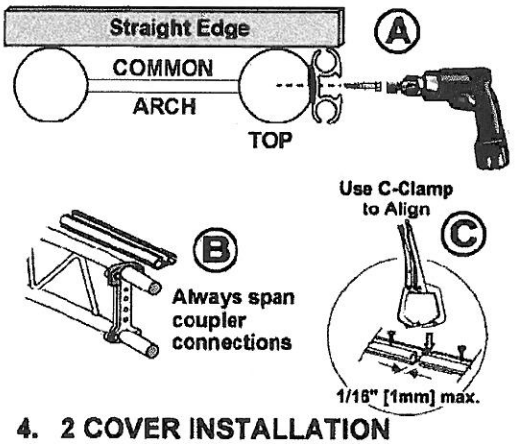
Tighten all bolts/nuts to assembly torque value- See Page 32

3. INSTALL EXTRUSION

Apply Norseal butyl tape to underside of extrusion

Install extrusion on the Common arch as shown using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.

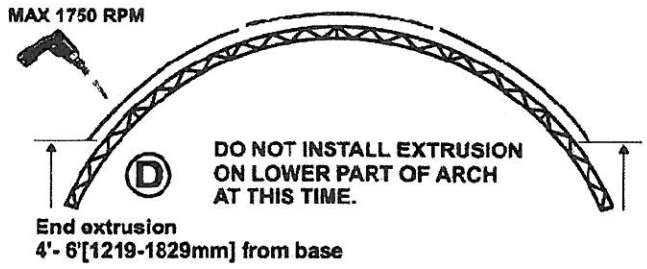
Step #6 can be completed before truss is lifted into place.











4. 2 COVER INSTALLATION

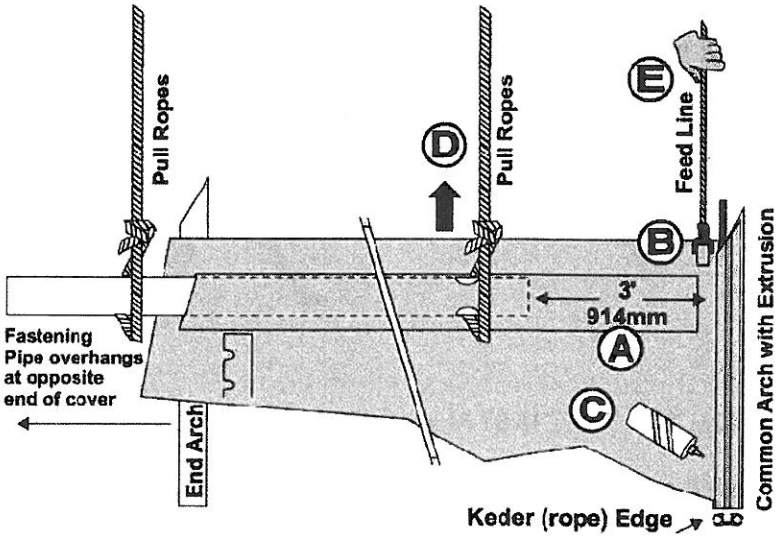
Install the covers as directed in *STEPS 24-33* (Pages 19-23), ***except :***

A - When installing the cover, shift the pull-over fastening pipe 3 feet [914mm] away from the extrusion end of the cover (the keder rope edge).

B - Attach a light feed line to the keder D-ring at the leading edge of the cover.

C- Charge the extrusion with WinterGel Lubricant.

D - PULL the cover with the fastening pipe.



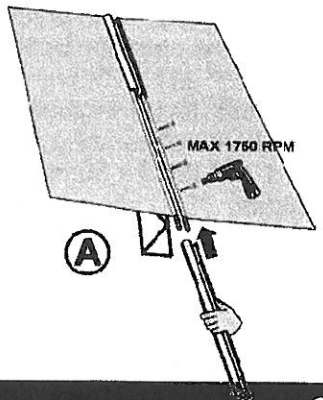
E - FEED the keder edge evenly with the D-ring line while installing.

F - Fastening pipe end brackets are not required at common arch.

YOU MUST USE RATCHET STRAPS TO GET ADEQUATE LENGTHWISE TENSION ON THE COVER
SEE *STEP 27*, Page 21.

5. LOWER EXTRUSION INSTALLATION

A. After both covers are installed, install extrusion on the lower edge of the covers and secure to the common arches using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.



THE INSTALLER DETERMINES WHERE THE LOWER EXTRUSION TERMINATES - AVOID POINTS OR ANGLES THAT COULD DAMAGE THE FARIC WHEN THE FABRIC IS TERMINATED.

6. TRUSS COVER INSTALLATION

A - Install the truss covers

Use a rubber mallet to install snap cap on outside of extrusion

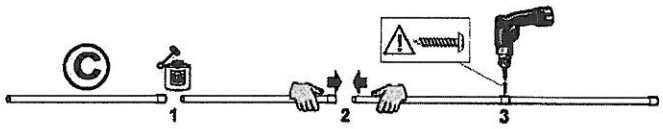


7. 3 OR MORE COVERS - INNER COVERS -

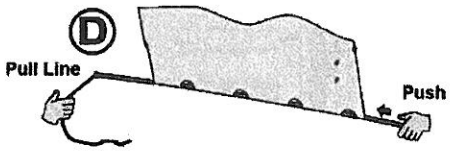
A - Install extrusion on all Common arches.

B - Inner covers have a main cover part and a narrow connector part. Both parts have a keder end and a PVC pocket end and are laced together at the PVC connection.

Install the main cover part and the narrow connector part separately.

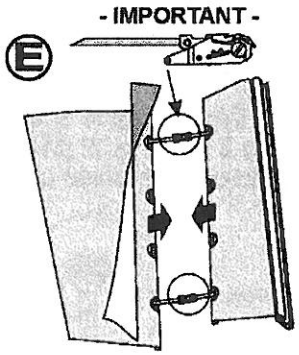


C - Assemble lengths of PVC pipe.

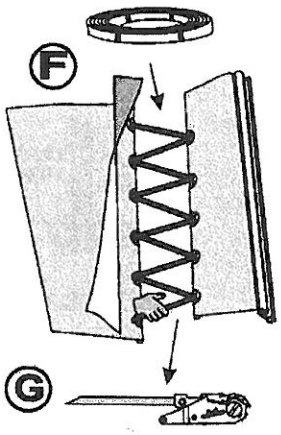


D - Install the PVC pipe in the PVC pockets of both the main cover part and the narrow connector part.

- IMPORTANT -



E - Attach ratchet straps to the PVC pipes every 10-12 feet [3-4M] and apply tension.



F - Lace the PVC pipe together in 10-12 feet [3-4M] sections using the 1" [25mm] belting. Always tie off the sections.

G - Remove the ratchet straps.

Finish the interior covers by following the directions Step 5 and Step 6 in this Appendix A.

APPENDIX B

FLAP OVERLAP CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length. This enables ease of onsite handling and installation. Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M].

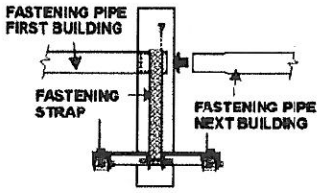
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M]and one 80' [25M] cover.

1. SITE PREPARATION

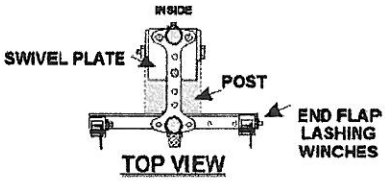
a. Arch spacing (running measurement) is the same for the entire length of the building. (the covers share a common arch). *Eg. - 150' [46M] building on 10' [3M] centers has 16 piles/posts on each side.*

2. TYPE 220 INSTALLATION - JOINER BRACKET

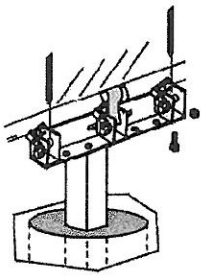
a. Install a joiner bracket to the common arch post. The bracket installs under the cover lashing winch on the threaded rod. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16 x 50mm] bolts and nuts.



OUTSIDE VIEW

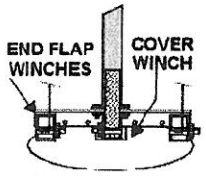


TOP VIEW

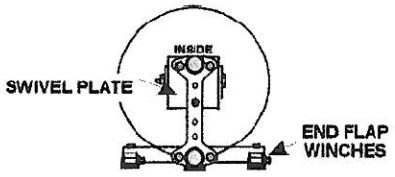


3. TYPE 320 INSTALLATION - JOINER BRACKET

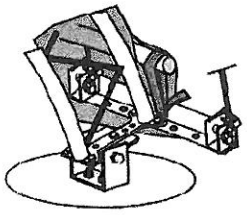
a. Install a joiner bracket to the underside of the arch base between the cover lashing winch and the base using 2 of 5/8" x 2" [M16 x 50mm] bolts/nuts. Add an end flap lashing winch to each end of the bracket using 5/8" x 2" [M16 x 50mm] bolts and nuts.



OUTSIDE VIEW

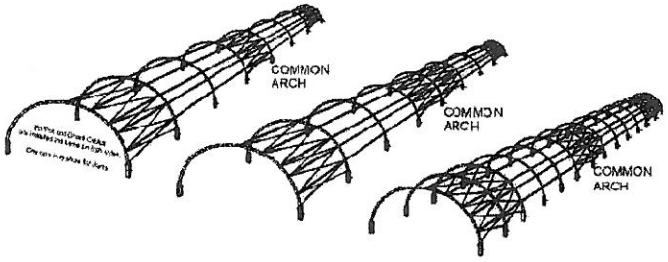


TOP VIEW



4. CROSS CABLE INSTALLATION

a. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.



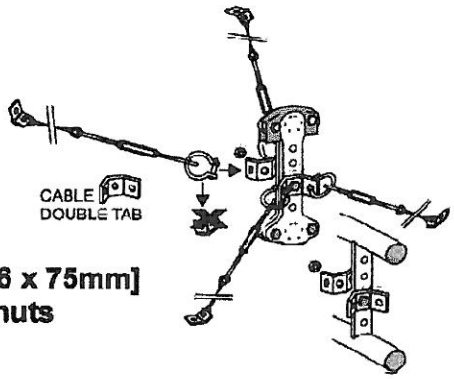
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

Tighten all bolts/nuts to assembly torque value- See Page 32

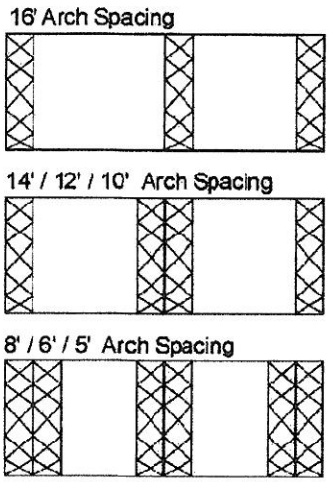
STEP 22 FROM PAGE 18

DOUBLE TAB AND CROSS CABLE PLACEMENT

b. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.



5/8" x 3" [M16 x 75mm] bolts/nuts

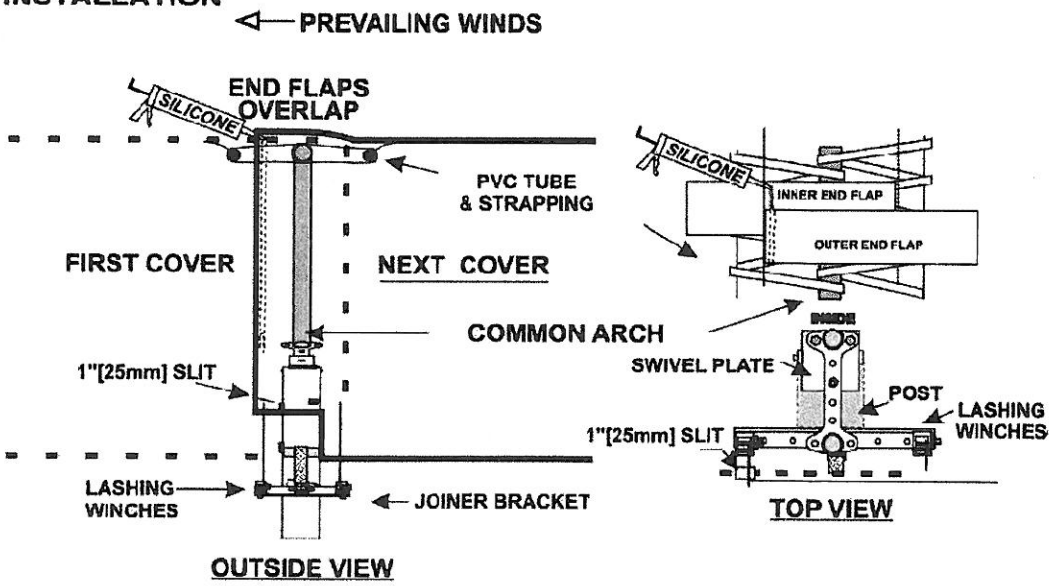


5. COVER INSTALLATION

a. Install the first cover as directed in STEPS 24-32 (Pages 19-23), ***except that :*** the end flap on the common arch is *not* secured at this time, flip the end flap back and out of the way; the joiner bracket is installed under the lashing winch; and the end flap lashing winches are secured to the joiner bracket.

b. Install the next cover in the same manner, *lacing the PVC tube to the common arch.* Do not tighten the lashing winches of this cover at this time.

TYPE 220 INSTALLATION



c. Release the fastening strap in the end arch winch of the first building. Join the fastening pipe of both covers and secure with Tek self-drilling screws. Place the fastening strap over the fastening pipe and re-install the end fastening strap in the winch. Retighten this lashing winch and tighten all of the winches of the next cover.

Adjust the cover lashing winches to remove as many wrinkles and bagging as possible over the entire building. For most buildings 35 - 45 ft. lbs [48-60N.m.] of torque provides adequate cover tension.

Tighten all bolts/nuts to assembly torque value- See Page 32

d. Place the end flap of the first cover over the next cover's lacing. Attach the end flap cable for this first (inner) end flap to the lashing winches. Tension the lashing winches.

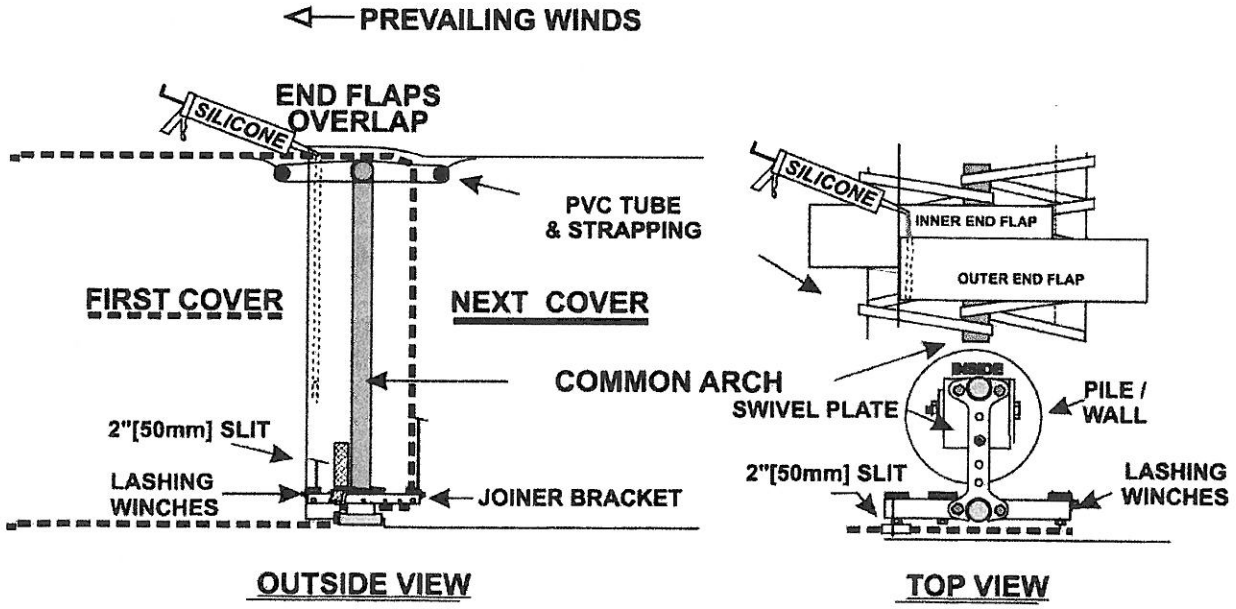
NOTE: ***If your building is subject to prevailing winds, you should secure the end flaps to protect the overlap.***

e. Place the end flap (outer) of the next cover over the first (inner) end flap. Cut a slit in the first (inner) end flap at the point where the end flap cable for the outer end flap exits its pocket. Feed the fastening cable through the slit and attach to the lashing winches. Tension the lashing winches.

It is best to have the end flap PVC cable casing passing through the fabric or against any part of the fabric rather than the end flap steel cable.

f. Apply a bead of silicone (supplied) between the outer end flap and the cover. Insert the tube tip between the layers with all straps fastened securely . Walk on the building to seal the top portion of the end flap and use a ladder or lift equipment to reach the sides. Where it is difficult to reach some areas, unsealed portions should not exceed 3 feet [914mm].

TYPE 320 INSTALLATION

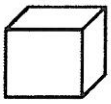


CONVERSIONS

INCHES					MILLIMETERS
1/32"					
2/32	1/16"				1.6
3/32					
4/32	2/16	1/8"			3.2
5/32					
6/32	3/16"				4.8
7/32					
8/32	4/16	2/8	1/4"		6.4
	5/16				
	6/16	3/8"			9.5
	7/16				
	8/16	4/8	2/4	1/2"	12.7
	9/16				
	10/16	5/8"			15.9
	11/16				
	12/16	6/8	3/4"		19.0
	13/16				
	14/16	7/8"			22.2
	15/16				
	16/16	8/8	4/4	2/2 1"	25.4



1 ft. lb. = 1.356 N.m



1 CUBIC YARD
= .77 M^3

1 CUBIC FOOT
= .03 M^3

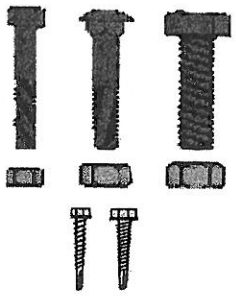
FEET	METERS
1'	.305
2	.610
3	.914
4	1.219
5	1.524
6	1.829
7	2.134
8	2.438
9	2.743
10	3.048
25	7.620
30	9.144
35	10.668
40	12.192
45	13.716
50	15.240
60	18.288
70	21.336
80	24.384
90	27.432
100'	30.480

ASSEMBLY TORQUE VALUES

SUGGESTED ASSEMBLY TORQUE VALUES FOR STRUCTURAL BOLTS

Ø SIZE INCH/mm	THREADS per INCH/25mm	GRADE 5 ft – lbs		GRADE 5 N.m	
		DRY	WET*	DRY	WET*
3/8 M10	16	30	23	40	30
7/16 M12	14	50	35	70	50
1/2 M12	13	75	55	100	75
5/8 M16	11	150	110	200	150
3/4 M20	10	260	200	353	270
1 1/4 M30	7	1120	840	1520	1140
#12 TEK 3	14	7.7	-	10.5	-
#12 TEK 5	24	12.5	-	17	-

* Lubricant



SQUARING A FOUNDATION

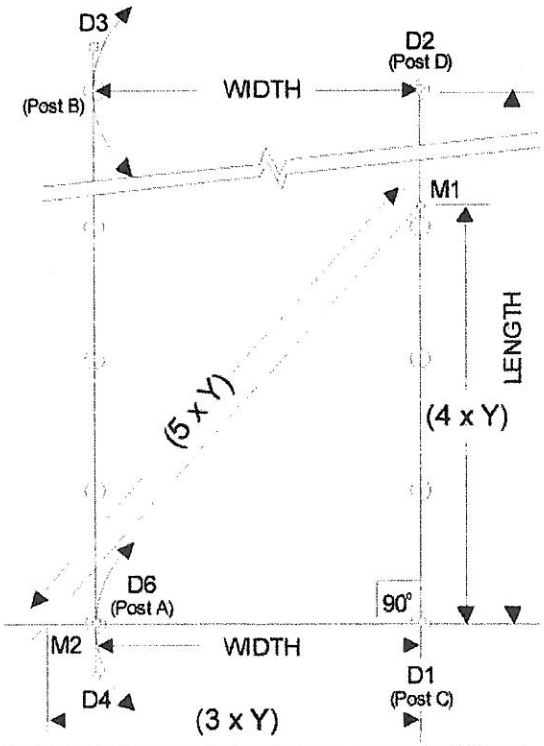
IMPORTANT
Depending on the size of your building, you may need a qualified contractor or surveyor to lay out the foundation of your building to ensure that it is straight and square.
The following is a suggested method only.
BRITESPAN is not responsible for foundations.

1. Measure and string a straight line the exact length of the building (D1-D2).
2. Attach a measuring tape to stake D2 and measure the exact width of the building perpendicular to line D1-D2. Make an arc in the dirt at that exact measurement. Repeat this procedure at stake D1 and make a second arc.
3. String an extended line (D3-D4) at the crowns of these two arcs. Recheck width measurements.

USING THE **3-4-5 METHOD** TO SQUARE THE FOUNDATION

4. With the measuring tape still attached to stake D1, measure the distance **(4 x Y)** from stake D1 towards stake D2 and place a stake (M1). See chart this page for a suggested value for Y for your building.
5. With the measuring tape still attached to stake D1, measure the distance **(3 x Y)** through the crown of the arc, and past line D3-D4, to M2.
6. With a second tape attached to stake M1, measure the distance **(5 x Y)** to M2.
7. Keeping the tapes tight, cross the two tapes at exactly the **(3 x Y)** measurement and the **(5 x Y)** measurement and hold in position. Place a stake (D6) exactly **where line D1-M2 crosses line D3-D4**. Remove stake M2.
8. Follow the linear and diagonal measurement checks beginning on Page 6 of this manual.

SERIES/ SIZE	SUGGESTED Y VALUE
18/20	7' [2.0M]
22	8' [2.5M]
26	9' [2.8M]
30/32	11' [3.4M]
36	12' [3.6M]
40	14' [4.3M]
42	15' [4.5M]
50	17' [5.2M]
55	19' [5.8M]
62	22' [6.7M]
72	25' [7.6M]
82	30' [9.2M]



Maintenance Recommendations For Buildings in Corrosive Environments

BUILDING STEEL
BRITESPAN manufactured steel components are hot dipped galvanized, hot zinc plated or coated with a high quality sealant. *It is recommended that the building owner/operator:*
- Prevent corrosive material or product from resting against or covering the building steel.
- Remove any environmental residue that accumulates on the building steel.
- Seal all surface penetration marks with a high quality sealant or a high zinc content paint.

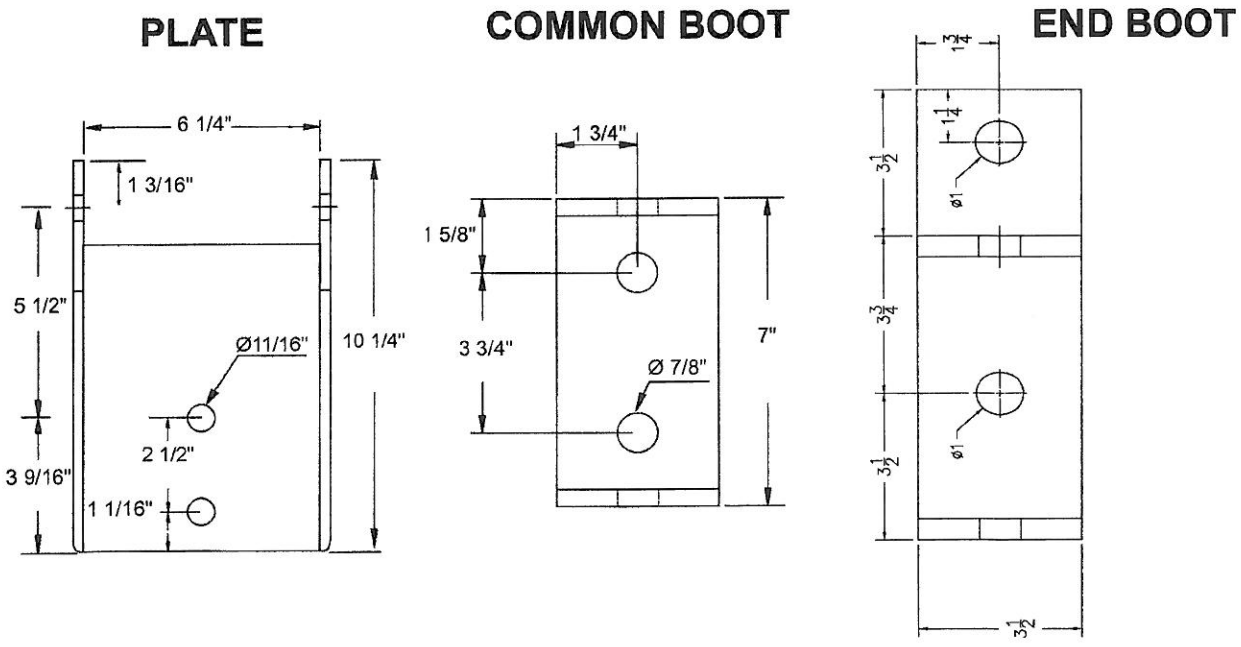
BUILDING HARDWARE
Hardware components are made of galvanized steel or aluminum alloy; are zinc plated with an added leachant-sealant; or are zinc or cadmium plated. *It is recommended that the building owner/operator:*
- Prevent corrosive material or product from coming in direct contact with the building hardware.
- Remove any environmental residue that accumulates on the building hardware.
- Seal or protect from corrosion any non-building components that are connected to, or that come in contact with, the building hardware.

ANCHOR BOLTS *It is recommended that the building owner/operator:*
- Seal the exposed anchor bolt threads with a high quality sealant or a high zinc content paint.

FABRIC LASHING WINCHES *It is recommended that the building owner/operator:*
- Spray the lashing winches with a moisture displacing filming lubricant. (WD40 or equivalent)

FABRIC *It is recommended that the building owner/operator:*
- Prevent corrosive material or product from resting against or covering the building fabric.
- Remove any environmental residue that accumulates on the building fabric. Where moisture will not contribute to corrosion – wash with water and non-abrasive soap.

MOUNTING TEMPLATES



BUILDING ENDWALLS

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

FABRIC END WALLS must be supported by a framework that is constructed to meet wind load ratings and building safety standards.

If you are constructing a framework for BRITESPAN supplied fabric end panels the framework MUST BE DESIGNED to match the fastening system of the fabric end panel and must be constructed to meet wind load ratings and building safety standards per engineer's requirements.

Failure to comply with the above can result in damage to the building and will void fabric end panel warranty.

Contact a structural engineer or your local BRITESPAN representative for details.

SUSPENDING OBJECTS AND SERVICES IN BUILDING

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

RULE # 1

Always suspend weighted objects and services from the arches. Use dedicated brackets and hardware and attach to the lower truss cord only - do not use building brackets or hardware and never use the truss webbing as an attachment point. Wherever possible, use clamps to avoid drilling or piercing the lower truss cord. Any suspended objects must be approved by a licensed engineer. If this is not done it may void the building warranty.

RULE #2

Do not suspend weighted objects, services or building operation components from the purlins. The purlins act under compression when wind and snow loads affect the building. Added weight to a purlin can cause it to react unevenly and fail when wind and snow load forces are applied.

If suspensions mid-arch are necessary, use a separate purlin dedicated to the suspension. In some cases a tensioned cable in conjunction with the standard purlin can be used to offset the weight of the suspended object. Four inch (100mm) diameter purlins are capable of supporting weighted objects and services and in some cases can be substituted for standard purlins.

Exceptions for suspensions from purlins can include:
> Lightweight aluminum and plastic roof vents
> Simple lighting services without ballasts or transformers
> Electrical conduit and wiring
> Control cables

IMPORTANT- always use clamps or ties - DO NOT drill or pierce purlins

Contact a structural engineer or your BRITESPAN representative for assistance.

FOR TECHNICAL ASSISTANCE CALL YOUR LOCAL DEALER, SALES REPRESENTATIVE OR 1-800-407-5846

Manufactured in Canada

BRITESPAN
BUILDING SYSTEMS INC

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Lucknow, Ontario Canada N0G 2H0
www britespanbuildings.com

BRITESPAN Building Systems Inc.
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Lucknow, ON
N0G 2H0
www.britespanbuildings.com

Phone: (519) 528-2922
Fax: (519) 528-2890
Email: warranty@britespanbuildings.com

ONLINE WARRANTY REGISTRATION

Please go to www.britespanbuildings.com and select warranty tab. Complete all registration information boxes (similar to form below). Attach all photos requested and submit. Please ensure photos are clear and are in the view and sequence shown in the attached examples.

1. Owner Name		Business / Company Name	
2. Mailing Address		Agent / Representative	Title
		Phone	Website
3. City / Town	4. Prov/State	5. Postal Code	6. Country
7. ( ) Home Phone	8. ( ) Work Phone	9. Email Address (required for warranty certificate)	

COMPLETE ONLY IF APPLICABLE

10. The Building Address is the same as above ☐ If not, provide the building address

11. x Building Size (w x l)	12. # of Enclosed Ends	13. Size of Door / Openings
14. SO#		15. Date Warranty Registration Submitted
16. Date of Purchase	17. Name of Dealer Purchased from	18. Dealer Invoice Number

19. Building Application: Primary Use:

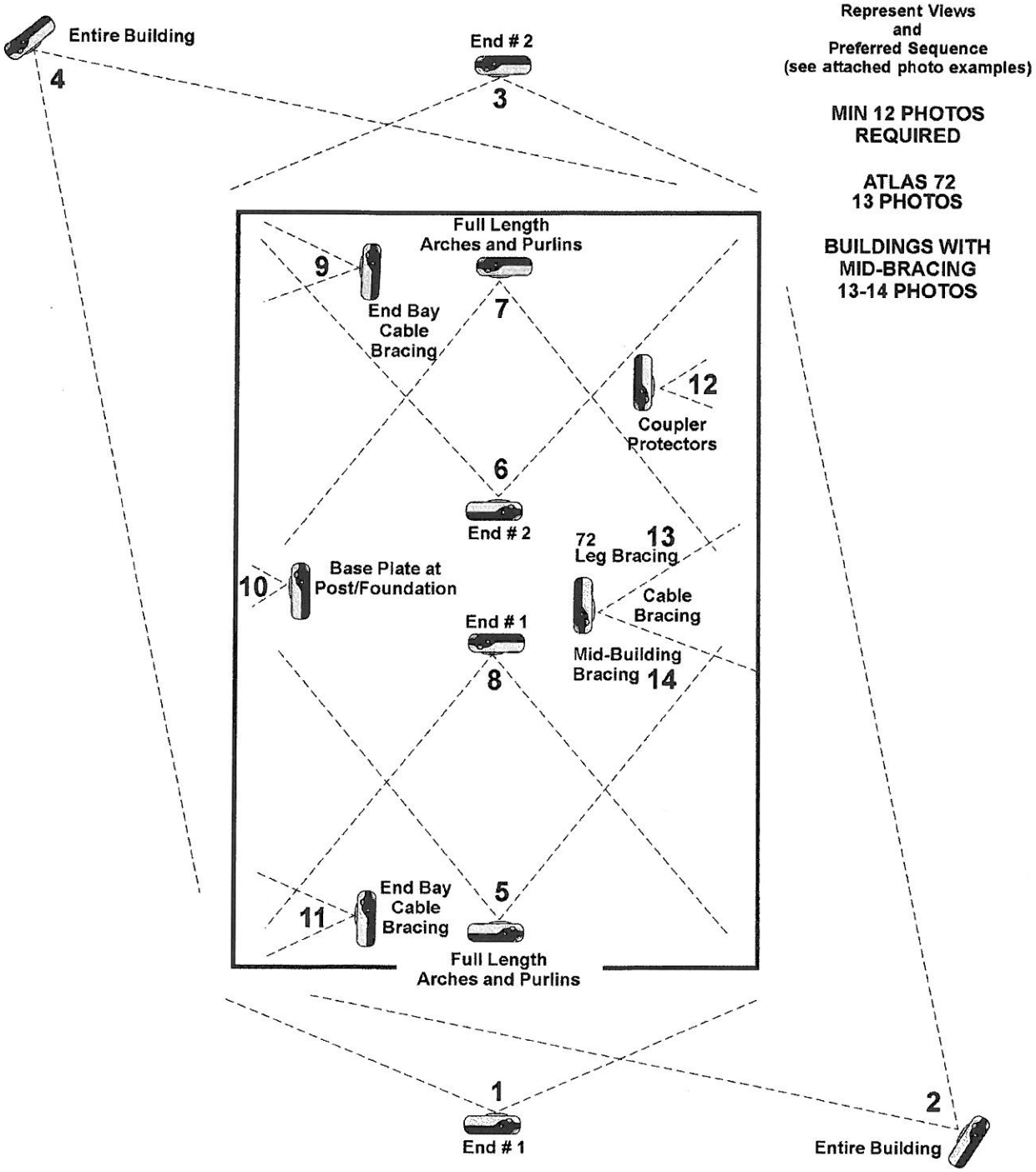
	Industry Self-Installed	Dealer Installed	Other	Name of Contractor is required
20. The Building foundation was	☐	☐	☐	
21. The Building steel was	☐	☐	☐	
22. The Building cover was	☐	☐	☐	
23. The end frame(s) were	☐	☐	☐	
24. The end(s) fabric were	☐	☐	☐	

	Yes	No
25. Did you receive the Steel and Fabric and Warranty?	☐	☐
26. Did you receive Building Maintenance information located in owner/installation manual?	☐	☐
27. Did you ask the installer or Dealer for instructions on how to perform Building Maintenance procedures?	☐	☐

Comments

Allow 90 days from date of registration submitted for Processing and Warranty Evaluation of photos. If you are not emailed a Warranty Certificate within this time frame please contact you BRITESPAN Representative. Use the building SO# as your trace number. Note: Warranty only valid with warranty registration and required photos. See attached for

BRITESPAN Warranty Photo Registration



NUMBERS
Represent Views
and
Preferred Sequence
(see attached photo examples)

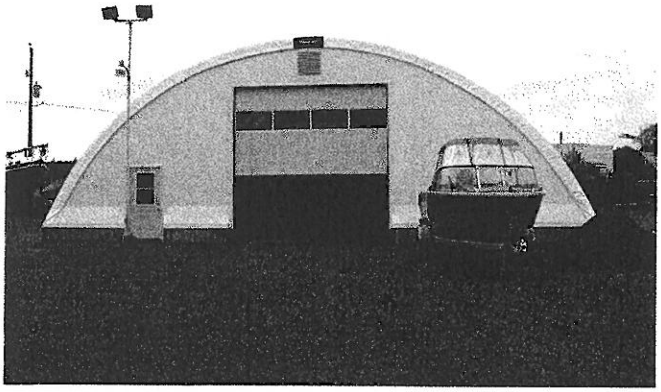
MIN 12 PHOTOS REQUIRED

ATLAS 72
13 PHOTOS

BUILDINGS WITH MID-BRACING
13-14 PHOTOS

BRITESPAN WARRANTY PHOTOS

1



REQUIRED VIEWS

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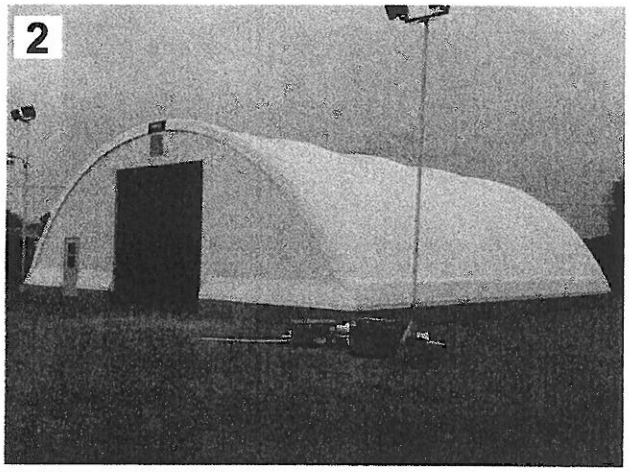

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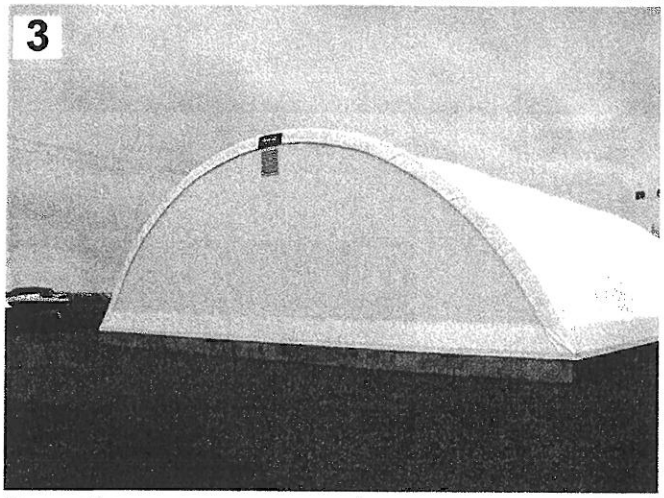

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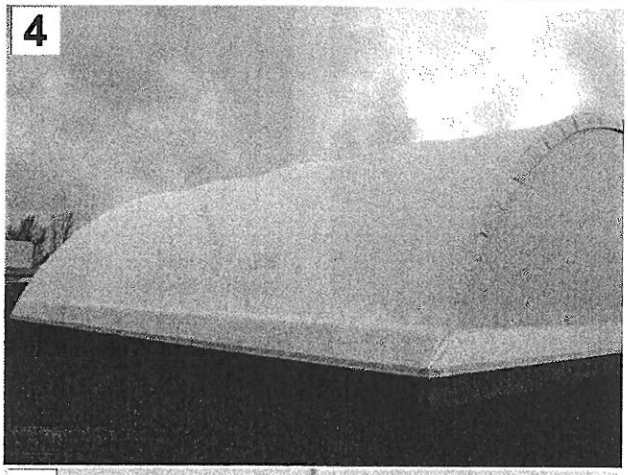

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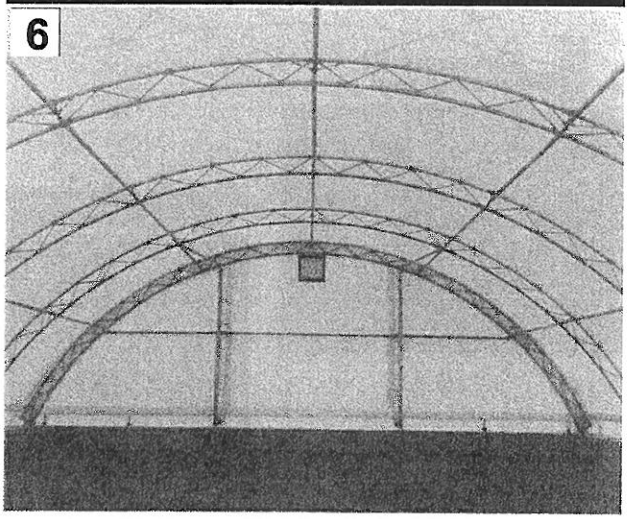
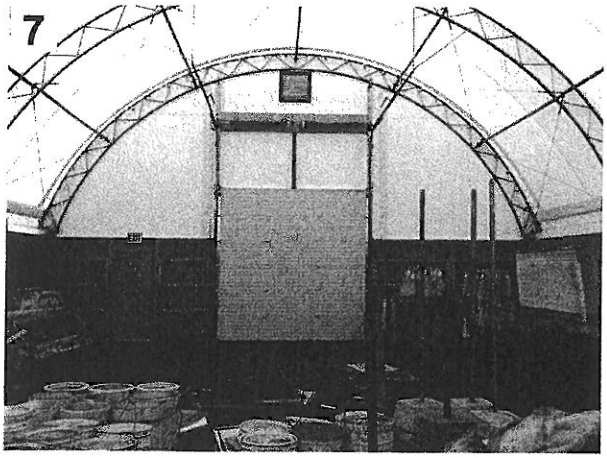


BRITESPAN WARRANTY PHOTOS

REQUIRED VIEWS

7



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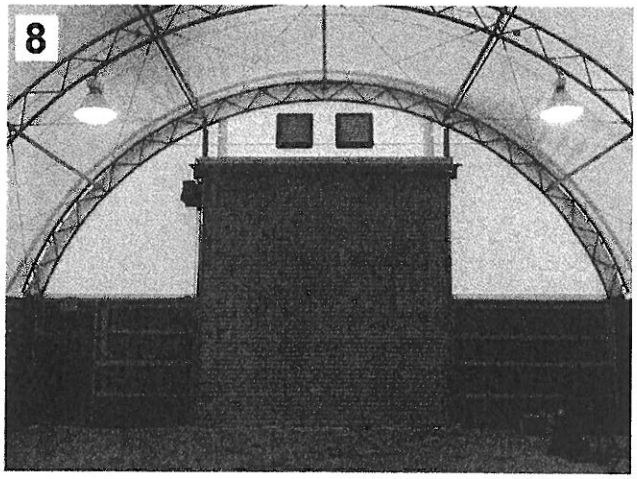

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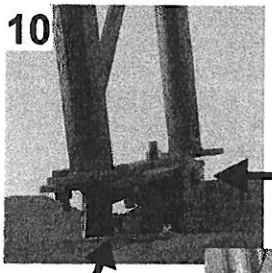
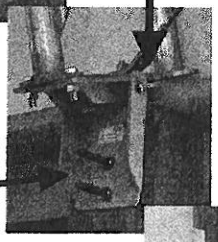


Must See
Swivel Bolt
Washer

Must See 2
Anchor Bolts

Must See 2
Threaded Rods



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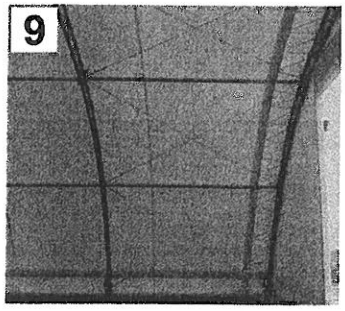

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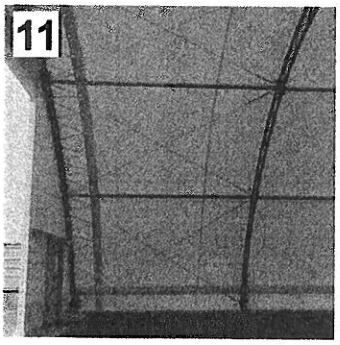
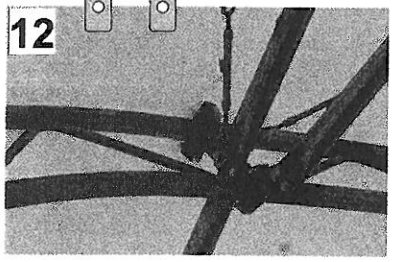


65
and
72



Coupler
Protectors

12



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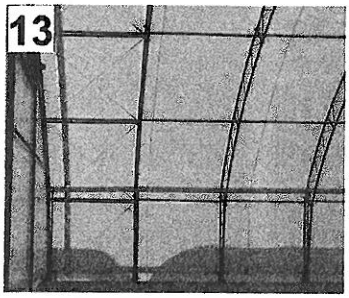
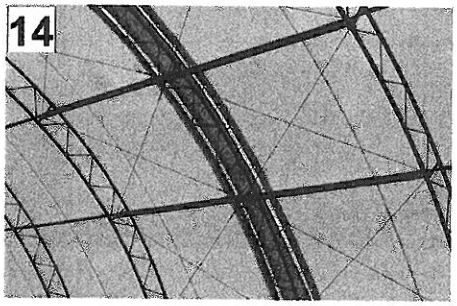


65 and 72 Building Leg Bracing

14



Mid-Building Bracing

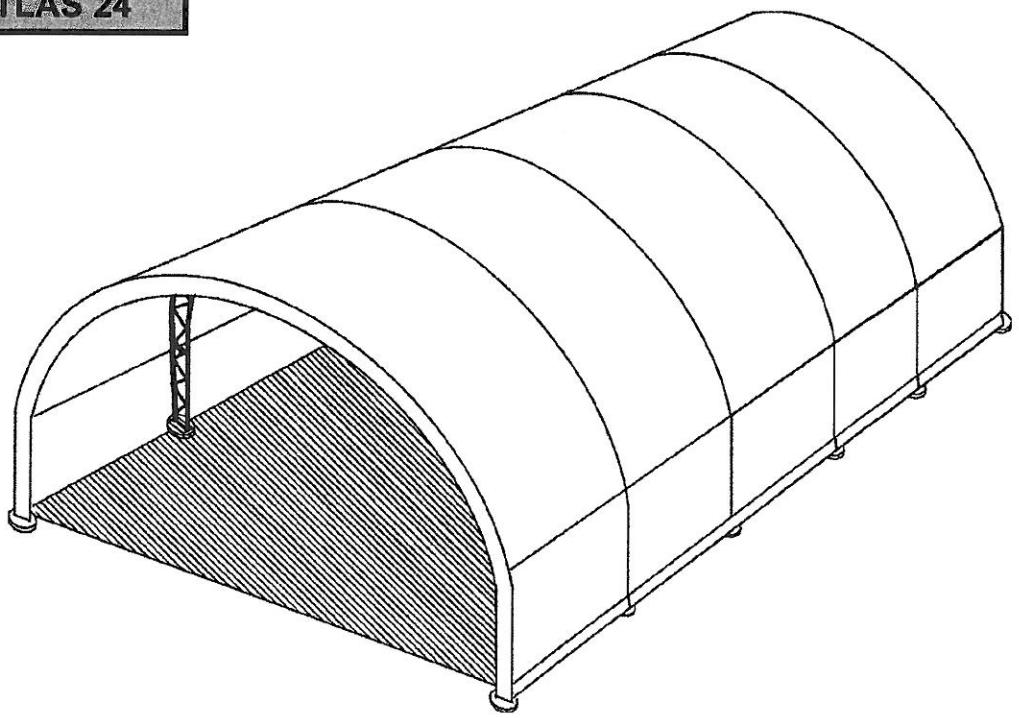
BRITESPAN
BUILDING SYSTEMS INC

Owner / Installation Manual

Includes Warranty and Registration

72' WIDE

ATLAS 24



SEPARATE MANUALS Are Supplied for END ENCLOSURES

Building Components

148.82#
67.50 kg
249 1/4"
6331 mm
TRUSS - ATLAS 24 65'/70'/72'/82'
COMMON CENTRE 30004050

149.64#
67.88 kg
249 1/4"
6331 mm
TRUSS - ATLAS 24 65'/70'/72'/82'
COMMON END 30004055

75.80#
34.38 kg
120"
3048 mm
TRUSS - ATLAS 24 65'/72'
LEFT LEG 30004072

75.80#
34.38 kg
120"
3048 mm
TRUSS - ATLAS 24 65'/72'
RIGHT LEG 30004067

75.76#
34.36 kg
120"
3048 mm
TRUSS - ATLAS 24 65'/72'
COMMON LEG 30004060

LENGTH
PURLIN - 14 GA

DIA.	LENGTH	WEIGHT
PA3.500 - 16S	16' 0" / 406 mm	49.14 # / 22.29 kg
PA2.875 - 16S	16' 0" / 406 mm	40.00 # / 18.14 kg
PA2.875 - 14S	14' 0" / 356 mm	35.25 # / 15.99 kg
PA2.875 - 12S	12' 0" / 305 mm	30.19 # / 13.69 kg
PA2.875 - 10S	10' 0" / 254 mm	25.34 # / 11.49 kg
PA2.875 - 8S	8' 0" / 203 mm	20.28 # / 9.20 kg
PA2.875 - 6S	6' 0" / 152 mm	15.43 # / 7.00 kg
PA2.875 - 5S	5' 0" / 127 mm	12.95 # / 5.87 kg

NOTE: Length = Arch Spacing

LENGTH
OPEN

ARCH SPACING	LENGTH	WEIGHT
16 - 861231-9	231"/ 5867mm	6.69 # / 3.03kg
16 - 861225-9	225"/ 5715mm	6.60 # / 2.99kg
14 - 861205-9	211"/ 5360mm	6.40 # / 2.90kg
14 - 861189-9	205"/ 5207mm	6.31 # / 2.86kg
12 - 861192-9	192"/ 4877mm	6.13 # / 2.78kg
12 - 861186-9	186"/ 4724mm	6.04 # / 2.74kg

ARCH SPACING	LENGTH	WEIGHT
10 - 861174-9	174"/ 4420mm	5.90 # / 2.68 kg
10 - 861167-9	167"/ 4242mm	5.76 # / 2.61 kg
8 - 861157-9	157"/ 3988mm	5.62 # / 2.55 kg
8 - 861151-9	151"/ 3835mm	5.53 # / 2.51 kg
6 - 861192-9	192"/ 4877mm	6.13 # / 2.78 kg
6 - 861186-9	186"/ 4724mm	6.04 # / 2.74 kg
5 - 861174-9	174"/ 4420mm	5.90 # / 2.68 kg
5 - 861167-9	167"/ 4242mm	5.76 # / 2.61 kg

41.52#
18.83 kg
LENGTH
FASTENING TUBE
Ø 2.375 [60mm] 14 GA FT2.375-245S

LENGTH
TUBE - 2" x 3" HSS FASTENING (SWAGED) 14 GA
50 x 76mm
172" [4369mm] 39.13 # [17.75 kg] 880172
196" [4978mm] 44.59 # [20.22 kg] 880196

1.72#
0.78 kg
6"
152mm
2 7/8"
73mm
BRACKET - FT END SADDLE 30010278
2 7/8" [73mm] FOR 2" x 3" FT [50 x 76mm]

3.57 #
1.62 kg
8"
203mm
2 7/8"
73mm
FT End Saddle Brkt 30011278
2 3/8" Round - 2 7/8" Cord

BRACKET - CROSS CABLE 30012350
DOUBLE TAB 3/8" x 2" [10 x 50mm]
5 1/4"
133mm
2"
50mm
0.0 #
110' 0"
33528mm
1.33 #
0.60 kg
CABLE - 72 FLAP
Ø 3/16" [5mm] 871320

3.84 # / 1.74 kg
3 1/2"
90 mm
COTTER PIN Ø 3/16" x 1"
Ø 5 mm x 25 mm
804030
2 1/2"
65 mm
3"
75 mm
4 5/16"
110 mm
LASHING WINCH 804073
RIGHT HAND 804074
LEFT HAND

1.23 #
0.55 kg
3"
76mm
2 1/2"
2 1/2"
BRACKET - WINCH MOUNT
2 1/2" X 3" X 2 1/2" X 3/8" 33400190

0.01 #
0.01 kg
FULL
HALF
Ø 3/4" [20mm]
Ø 3/4" [20mm]
7 3/4"
197mm
9 1/2"
241mm
FULL COUPLER PROTECTOR 830775
HALF COUPLER PROTECTOR 830950

24 ft TIE DOWN STRAP 320530
120"
3048mm
0.43 #
0.20 kg
2"
50mm
0.94 #
0.43 kg
36"
914mm
2"
50mm
TIE DOWN STRAP
6' [1829mm] LONG 350072

1" [25mm] BELTING 804196
1.5 # / 100 ft
0.70 kg / 30480mm
2.80 #
1.27 kg
120" / 3048mm
PVC TUBE Ø 1" [25mm] WHITE 900308

COVER
0.15 #
0.07 kg
3 1/4"
83mm
RUBBER FLAP PROTECTOR 890375

Buildings Over 144' / 44m

3.84#
1.74 kg
14 1/2"
368mm
3"
76mm
2"
50mm
24 COVER JOINT
WINCH ANGLE 30005010

0.8#
0.36 kg
SILICONE
RTV SILICONE 804509

HEX BOLT 5/8" x 2" M16 x 50mm 800218
5/8" x 2 1/2" M16 x 65mm 800055
5/8" x 3" M16 x 75mm 800050
NUT - 5/8" [M16] 801050
CARR BOLT 1/2" x 4" M12x 100mm 800920
NUT - 1/2" [M12] 883153
WASHER - 1/2" [M12] 883154

3/8" MAG CHUCK DRIVER 10mm 804100
PVC GLUE 804520
#14"-14 X 3/4" (Tek 3) M6-14 x 19mm 800020
#12-24 x 1 1/4" (Tek 5) #12-24 x 32mm 803020

8.24 #
3.74 kg
32"
813mm
BUILDING JOINER BRACKET
2" x 3" x 3/16" ANGLE
50 x 75 x 5mm 30003420

4.84 #
2.20 kg
8"
200mm
9"
229mm
3"
75mm
24 FT STABILIZER 30012279

22.71 # EXTRUSION 336" [8534mm]
10.30 kg
850336
Norseal Butyl Tape
100FT Roll
804510

#12-14 x 1 1/4" (Tek 3) #12-14 x 32mm 803040
5/16" MAG CHUCK DRIVER 8mm 840005
LUBRICANT .95 L GREENLEE WINTERGEL 8045085

BRITESPAN
BUILDING SYSTEMS INC

IMPORTANT – READ MANUAL FIRST

Improper Site Preparation, Assembly and Maintenance may invalidate warranty and cause unnecessary and costly mistakes. If you have any questions contact your local dealer.

MAINTENANCE SCHEDULE

Failure to comply with this maintenance schedule will invalidate the warranty.

A. INSTALLATION ADJUSTMENT

1. The cover of your Atlas building may relax after installation. The fabric is designed to be under tension at all times to prevent wear and ensure a long life. Adjust the cover over the entire building to remove as many wrinkles and creases and bagging as possible. For most buildings 35 - 45 ft. lbs [48 - 60 N.m] of torque provides adequate cover tension. Adjust the end winches until the fastening pipe is level. Re-tension end flaps.

NOTE: ***Building covers installed during cooler weather tend to relax more than covers installed during warmer weather. If your cover was installed in cooler weather recheck its tightness on the first available warm sunny day.***

B. INSTALLATION INSPECTION - 1 WEEK MAINTENANCE

1. Cover - ensure the cover straps are secure and the cover is tensioned. For most buildings 35 - 45 ft. lbs [48 - 60N.m] of torque provides adequate cover tension. Adjust cover tension as required..
2. Belting - check for premature belting wear and ensure tightness.
3. End Flaps - ensure the flaps remain tight and securely fastened.
4. Aprons - ensure the aprons are securely fastened.
5. Cables - ensure the cables are tensioned according to the installation instructions.
6. Steel - Seal all surface penetration marks with a sealant or high zinc content paint.

C. QUARTERLY MAINTENANCE

1. Repeat above "INSTALLATION INSPECTION - 1 WEEK" a minimum of 4 times per year.

D. GENERAL MAINTENANCE

1. **Cover** - Clean with water and non-abrasive soap. Do not use solvents or chemicals. Use caution when using high pressure washers.
2. **Snowfall** - Snow accumulating on the cover could indicate that the cover needs re-tensioning. Remove snow and check tension.
3. Use caution when using heavy equipment or manually clearing away avalanched snow.

E. ACCIDENTAL DAMAGE

Cover: Sharp objects can puncture and damage the cover. Do not attempt to seal or repair with conventional materials. Call your local BRITESPAN representative. They will be able to assess the damage and facilitate replacement or provide a heat-weld service if the cover is repairable.

Structure: Report and document any damage to the steel structure, components or foundation immediately. Have your local BRITESPAN representative inspect the damage and provide a comprehensive evaluation. Perform any temporary or emergency repairs as determined. Replace or repair damanaged components as determined.

BRITESPAN
BUILDING SYSTEMS INC

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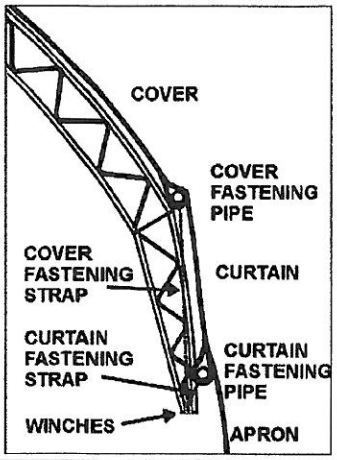
STEP 1 INSTALLATION TYPE

LEG MOUNT

- The leg attaches to the top surface of the foundation.
- The cover fastening pipe is located above the first coupler and the cover lashing winches attach to the leg anchor bolts.
- The curtain fastening pipe is located above the base and the curtain lashing winches attach to the leg anchor bolts.
- Typically the cover has an attached finish/seal apron.



STEP 2 REQUIRED EQUIPMENT

1. String and string level for alignment.
2. Stakes and tape to mark the post/pile locations.
3. Movable scaffolding or a platform lift.
4. Crane or equivalent to lift arches into the vertical position.
5. Temporary bracing - dimensional lumber or rope.
6. Square level.
7. 2 to 4 lengths of cover pull rope 125' [40M] or longer.
8. Torque wrench.
9. Hacksaw.
10. #10 x 3/4" [#10 x 20mm] round head Philips screws and bit.
11. 13/16" [21mm] - 15/16" [24mm] - 1 1/8" [29mm] wrenches and sockets.
12. **Optional** -A transit (available from a local rental store); power wrench.












REQUIRED FOR BUILDINGS OVER 144' IN LENGTH

1. Drill - Appendix A
2. Rubber mallet - Appendix A
3. Caulking gun - Appendix B



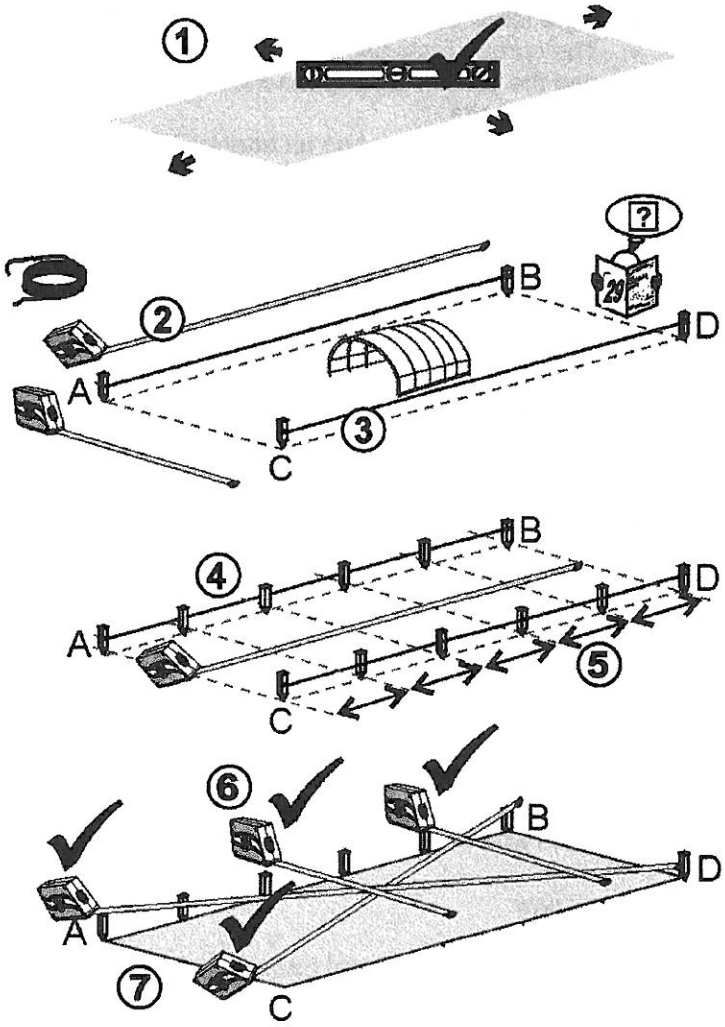



BUILDINGS OVER 144' [44M] IN LENGTH See *STEP 34*, Page 21

STEP 3 SITE PREPARATION

BRITESPAN IS NOT RESPONSIBLE FOR FOUNDATION DESIGN OR INSTALLATION.

1. Start with a level site.
2. Measure and stake out the location of the corner piles A, B, C and D. Use an accepted method to make the foundation straight and square.
   See Squaring A Building Layout on Page 29 for assistance.
3. String lines from A to B and from C to D.
4. Measure and stake the arch on-center intervals along the length of the building using a **running measurement.**
5. Check linear measurements by measuring the distance between each stake. Distance should be equal.
6. Check the width measurements the entire length of the building.
7. Check the square of the foundation by measuring diagonally. Diagonal measurements should be equal.

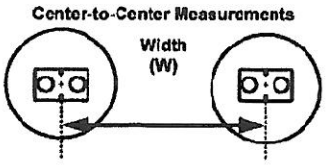


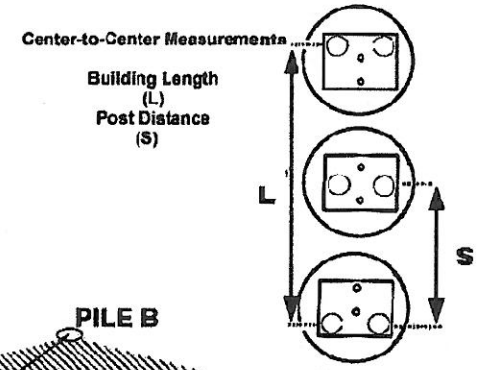
NOTE: ***Buildings over 144' [44M] in length have more than one cover. Even with this feature, the foundation continues as a running measurement for the entire length of the building.***

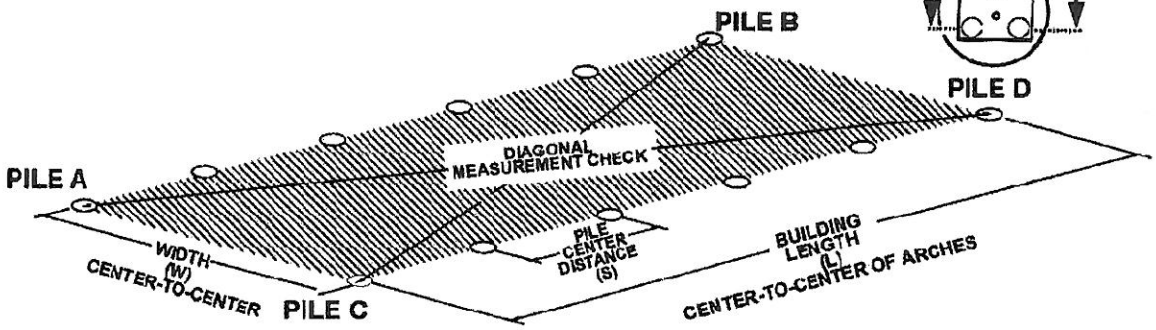
STEP 4

BUILDING LAYOUT







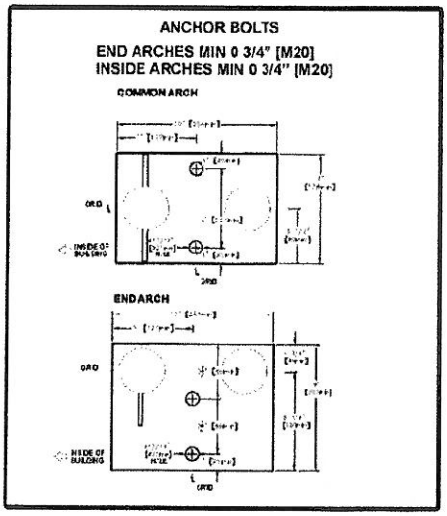


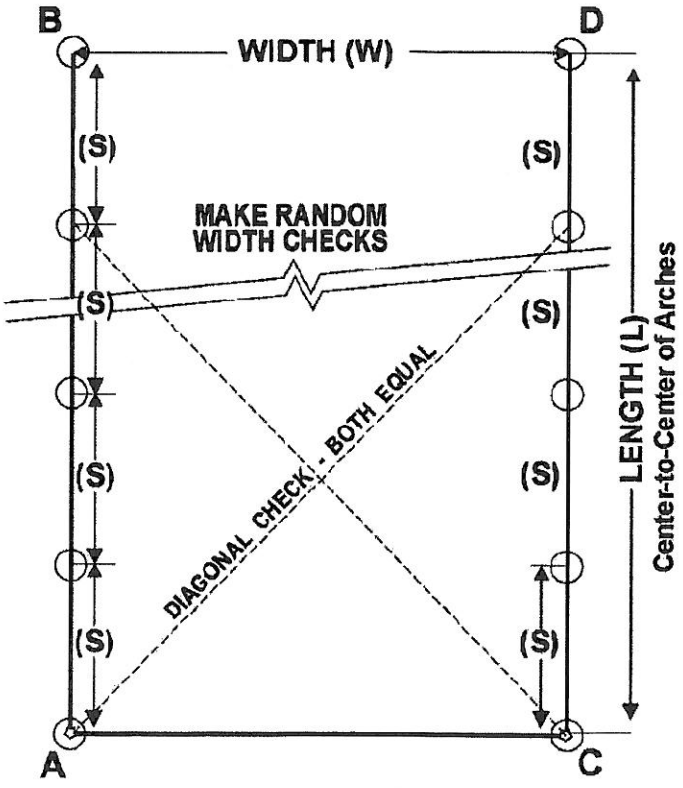
72' WIDE - ATLAS 24

C/C ANCHOR BOLT
(W) WIDTH = 71' 6"
[21805mm]

(S) ON-CENTER
AS ORDERED

(L) LENGTH
AS ORDERED





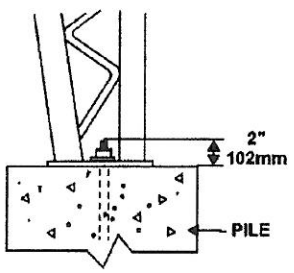
ALL MEASUREMENTS ARE CENTER-TO-CENTER

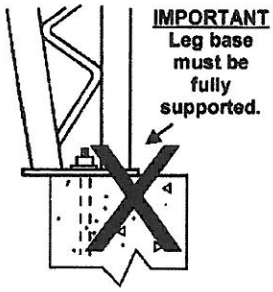
STEP 5 ANCHOR BOLTS

ANCHOR BOLTS - not supplied

1. **End Arches** - Minimum Ø 3/4" [M20] .
   Inside Arches - Minimum Ø 3/4" [M20]
   Minimum 2" [102mm] exposed thread.
   Washers are required.
   Two (2) anchor bolts are required for each leg.
   Two (2) additional 5/8" [M16] end flap winch and winch mount anchor bolts are required at each end leg.

   Consult a foundation engineer to determine the type and size of anchor.





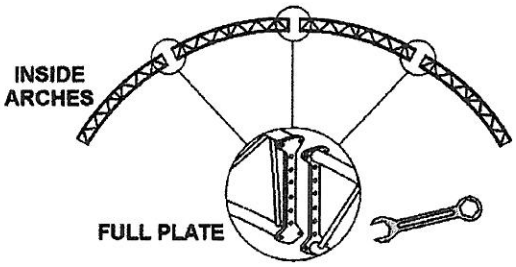
See anchor bolt template on Page 26

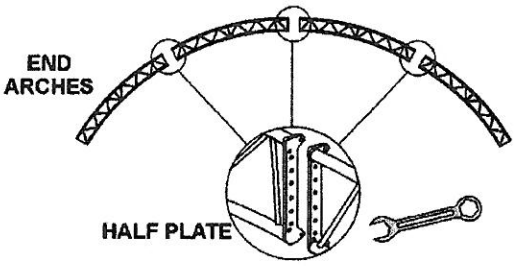
STEP 6 ASSEMBLE THE ARCHES

IDENTIFY AND LAYOUT ARCH TRUSSES.

1. . Identify and separate the inside trusses from the end trusses. Inside trusses have full coupler plates. End trusses have half coupler plates.

72' WIDE - ATLAS 24
Each completed arch requires 4 truss sections.

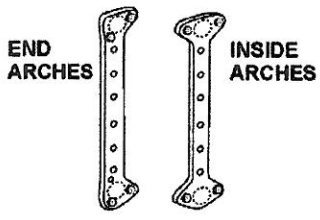




ASSEMBLE ARCHES

2. **END ARCHES AND INSIDE ARCHES**
   4 of 5/8" x 2" [M16 x 50mm] bolts/nuts

   LEAVE THE 6 HOLES IN THE CENTER OF THE COUPLER EMPTY



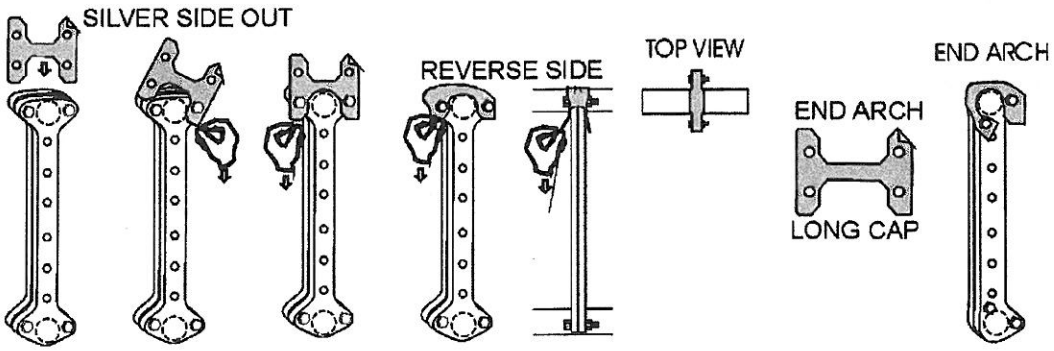
Tighten all bolts/nuts to assembly torque value- See Page 30

STEP 7 INSTALL COUPLER PROTECTORS

The coupler protectors fit OVER the bolt head and nuts of the TOP of the ASSEMBLED arches.

The coupler protectors ARE REQUIRED to protect the fabric cover.

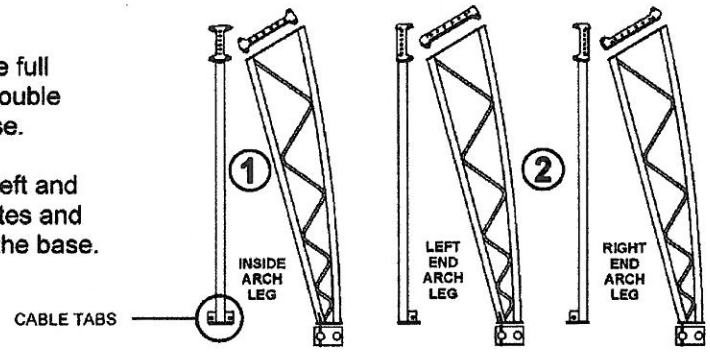
WARNING: *FABRIC DAMAGE WILL OCCUR IF NOT INSTALLED.* Remove or smooth any burs or irregularities before installing.



IMPORTANT - Do not attempt to install the coupler protectors UNDER the bolts or nuts. The fabric will deform, twist and tear off.

STEP 8 IDENTIFY THE LEGS

1. Inside arch legs have full coupler plates and double cable tabs at the base.
2. End arch legs have left and right half coupler plates and single cable tabs at the base.

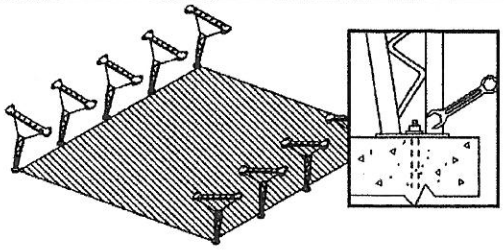


STEP 9 INSTALL THE END ARCH LEGS

TIGHTEN ALL ANCHOR BOLTS COMPLETELY.

Under normal conditions the secured the legs will stand on their own.

END LEGS - The single cable tab is always on the inside.



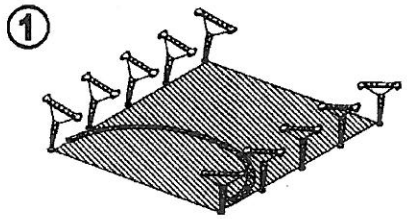
Tighten all bolts/nuts to assembly torque value- See Page 30

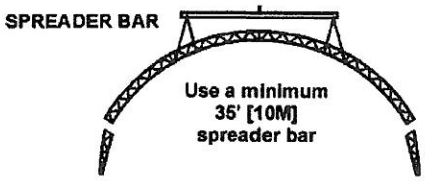
STEP 10 ERECT END ARCH

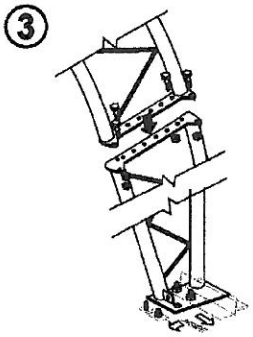
LEGS MUST BE ATTACHED TO THE FOUNDATION BEFORE ERECTION.

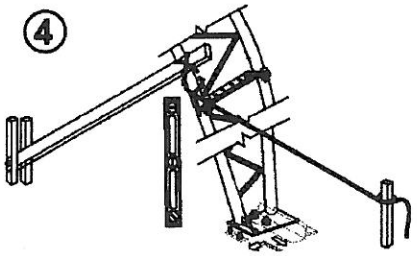
MOVE *END* ARCH INTO POSITION

1. Position an end arch so that the arch can be tilted upright.
2. Attach a spreader bar to the arch and elevate the truss into its upright position, and center it on top of the legs. Use extreme caution when lifting arches.
3. Lower the arch into position and attach to the legs using 4 of 5/8 x 2" [M16 x 50mm]
4. Plumb and brace the arch securely using rope or dimensional lumber.



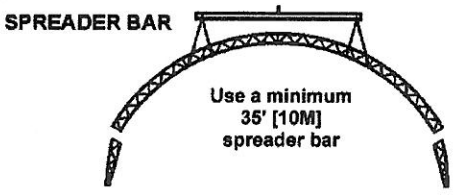


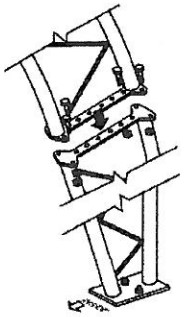


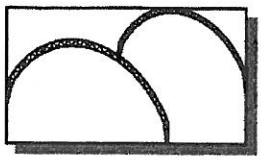


WARNING: *TRUSS WILL FAIL AND WARRANTY IS VOID IF A SPREADER BAR IS NOT USED.*

STEP 11 ERECT THE NEXT ARCH

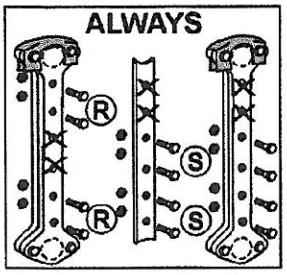




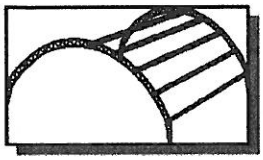


Tighten all bolts/nuts to assembly torque value- See Page 30

STEP 12 INSTALL PURLINS

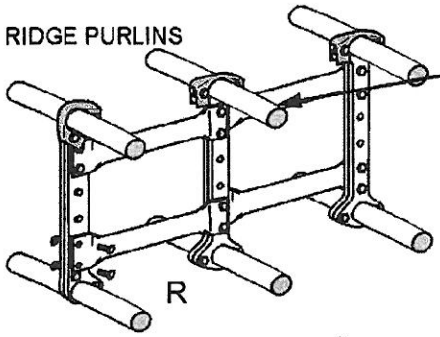


X = NO BOLTS



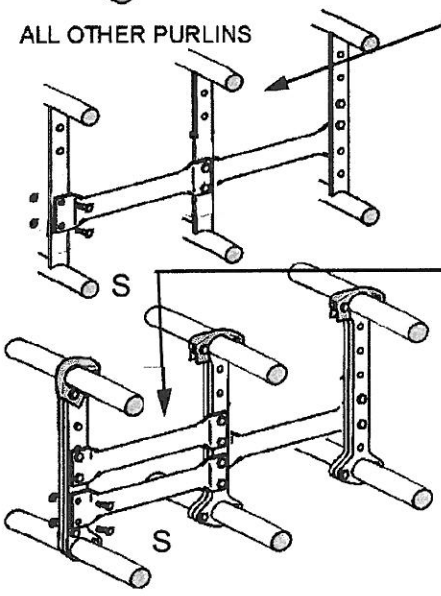
ATTACH PURLINS USING 5/8" x 2 1/2" M16 x 65mm BOLTS AT COUPLER

RIDGE PURLINS



ATTACH PURLINS USING 5/8" x 2" M16 x 50mm BOLTS AT KINGPIN

ALL OTHER PURLINS



EXCEPT RIDGE PURLINS

DOUBLE PURLINS ARE TO BE INSTALLED IN END BAYS ONLY

IMPORTANT

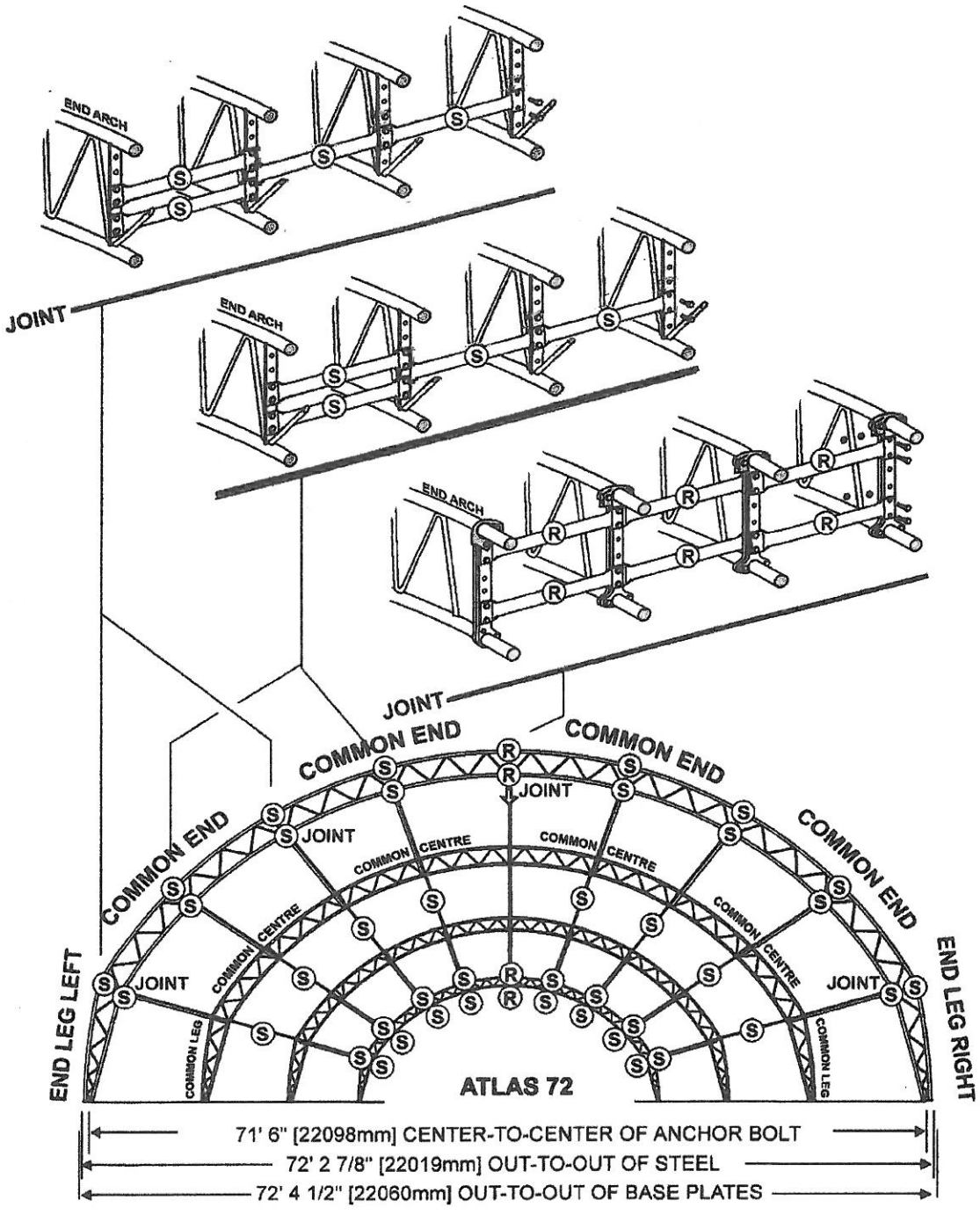
INSTALL ALL PURLINS BETWEEN THESE FIRST TWO ARCHES BEFORE PROCEEDING

LABOUR SAVING HINT
ARCHES WITH CROSS CABLES. Do not install the SECOND FROM BOTTOM bolts. See Step 13 next page.

16 o/c END BAY ONLY
substitute ALL 2 7/8" purlins with 3 1/2" purlins

Tighten all bolts/nuts to assembly torque value- See Page 30

STEP 12 CONTINUED



Tighten all bolts/nuts to assembly torque value- See Page 30

STEP 13 INSTALL CROSS CABLES

Cross cabled end arch (or arches) create a structural frame for the rest of the building.

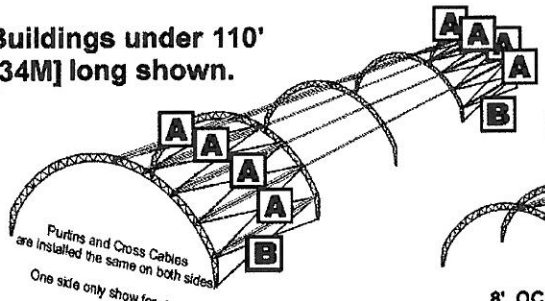
This Atlas building uses 2 cable length.

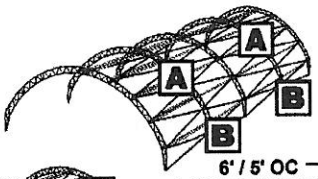
Install LONG cables in every LOCATION [A].
Install SHORT cables in every LOCATION [B].

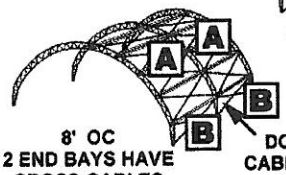


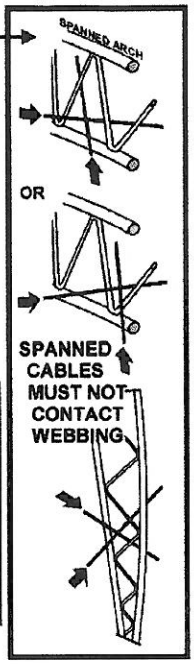
NOTE: Arch spacing determines cable length. More than one cable length is supplied when any portion of the building has a different arch spacing. See Building Components, Page 1, of this manual for cable lengths for specific arch spacings.

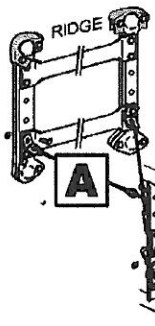
Buildings under 110' [34M] long shown.





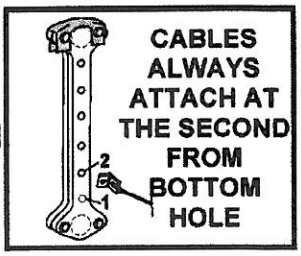






5/8" x 2" [M16 x 50mm]

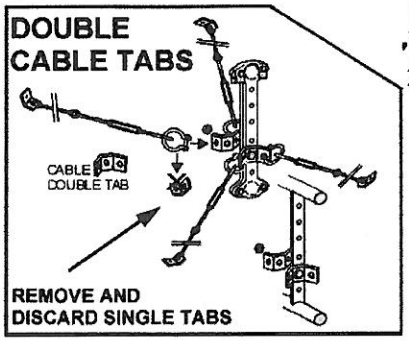
5/8" x 2 1/2" [M16 x 65mm] BOLTS



5/8" x 2 1/2" [M16 x 65mm]

5/8" x 3" [M16 x 75mm] BOLTS

8' / 6' / 5' OC

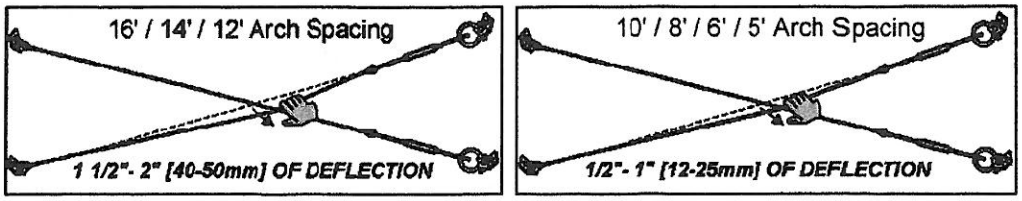


TO ATTACH CABLES
AT KING PINS USE 5/8" x 2 1/2" [M16 x 65] BOLTS
AT COUPLERS USE 5/8" x 3" [M16 x 75] BOLTS
AT BASE USE 5/8" x 2" [M16 x 50] BOLTS

5/8" x 2" [M16 x 50] BOLTS

Tighten all bolts/nuts to assembly torque value- See Page 30

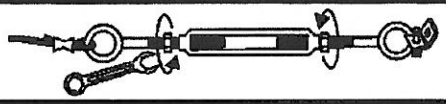
STEP 14 TENSION CROSS CABLES



MAKE CROSSED CABLE LENGTHS EQUAL TO SQUARE THE FRAME



STEP 15 TIGHTEN CABLE TURNBUCKLE LOCKNUTS



STEP 16 ERECT ALL REMAINING LEGS AND ARCHES

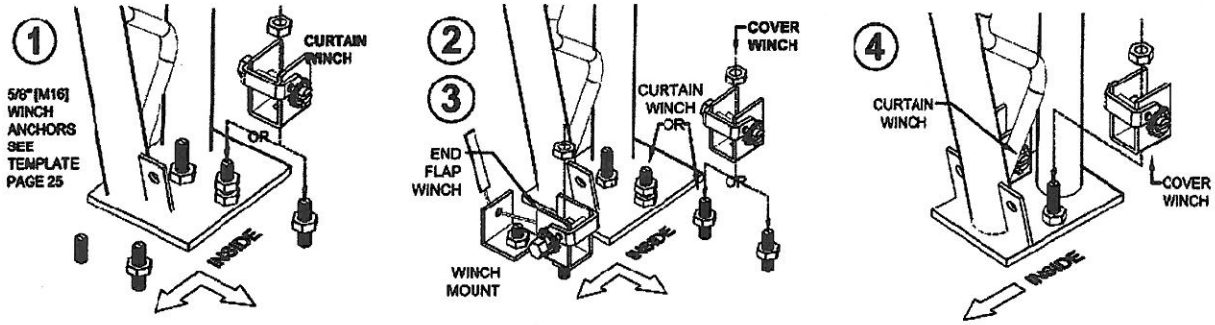
ERECT ALL REMAINING LEGS AND ARCHES AND INSTALL ALL PURLINS AND ALL CROSS CABLES

STEP 17 BUILDINGS OVER 144' [44M] - SEE APPENDIX A

If you are erecting a building that is over 144' [44M] go to APPENDIX A on Page 22 of this manual to determine cross cable placement and cross cable double tab placement.

STEP 18 INSTALL LASHING WINCHES

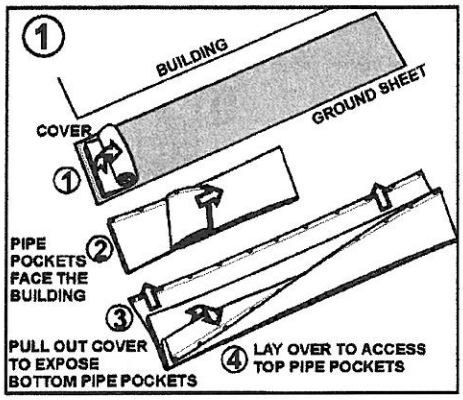
1. END ARCHES- Attach curtain lashing winches to the inside leg anchor if using a 5/8" anchor bolt long enough to double nut. If using 3/4" leg anchors, install a separate 5/8" anchor for curtain winch.
2. END ARCHES- Install cover winch on a separate 5/8" anchor.
3. The end flap cable winch can have 2 anchor bolts. Depending on end flap termination, one anchor may be required for a winch mount bracket to redirect cable. Install 5/8" [M16] anchors.
4. INSIDE ARCHES– Install lashing winches on the anchor bolts if using 5/8" diameter, otherwise install a separate 5/8" anchor for each winch beside the leg base.



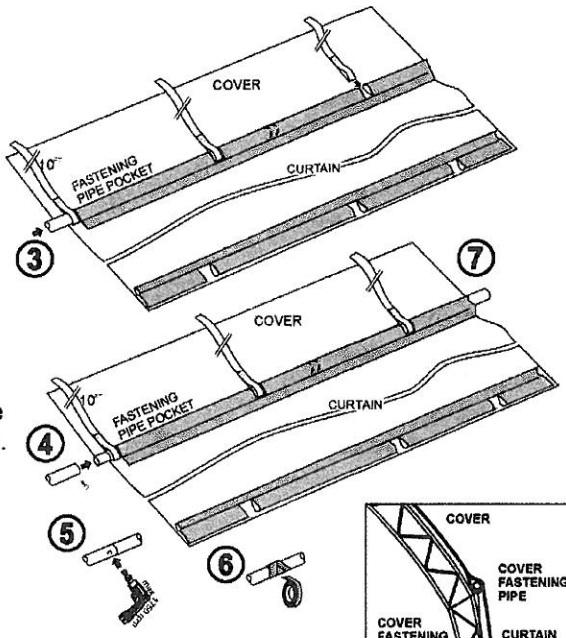
Tighten all bolts/nuts to assembly torque value- See Page 30

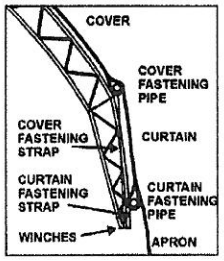
STEP 19 INSTALL COVER FASTENING PIPES

Use a ground sheet to protect the cover while it is being prepared for installation.





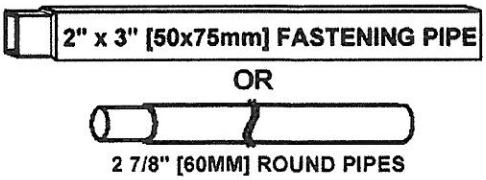




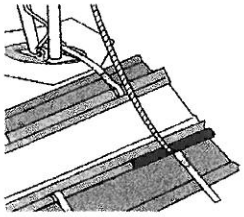
1. Roll out the cover and leave a small walk area along the building. Align the cover evenly to each end of the frame.
2. Pipe raw edge can damage pocket fabric. Wrap or cap leading edge of pipe.
3. Install BOTH cover fastening pipes only and the LONG sewn lashing straps at this time.
4.- 6. Use 1/4 x 3/4" [M6 x 20mm] Tek screws to fasten the pipes together. Wrap with duct tape (tape optional - not supplied).
7. Install fastening pipe the full length of the building.

NOTE: ***Fastening pipes are supplied in factory cut lengths. Some buildings will require measured cuts, possibly on two lengths of pipe.***

BUILDINGS USE 2" X 3" [50 X 75MM] RECTANGULAR FASTENING PIPE OR 2 7/8" [60MM] ROUND FASTENING PIPES



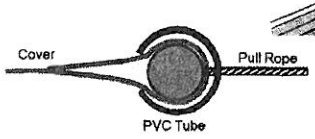
HINT: **2" x 3" [50 x 75mm] and Pipe** - Make an ABS or PVC Pull-Over Pipe for every arch pull point. This reduces leading edge friction and risk of damage to the fabric when used in conjunction with the recommended installation procedure for covers.



Ø 3" x 24" [M80 x 610mm]



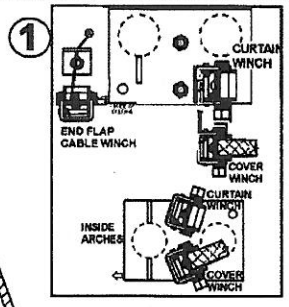
Drill hole to accomodate pull rope



STEP 20 INSTALL THE COVER

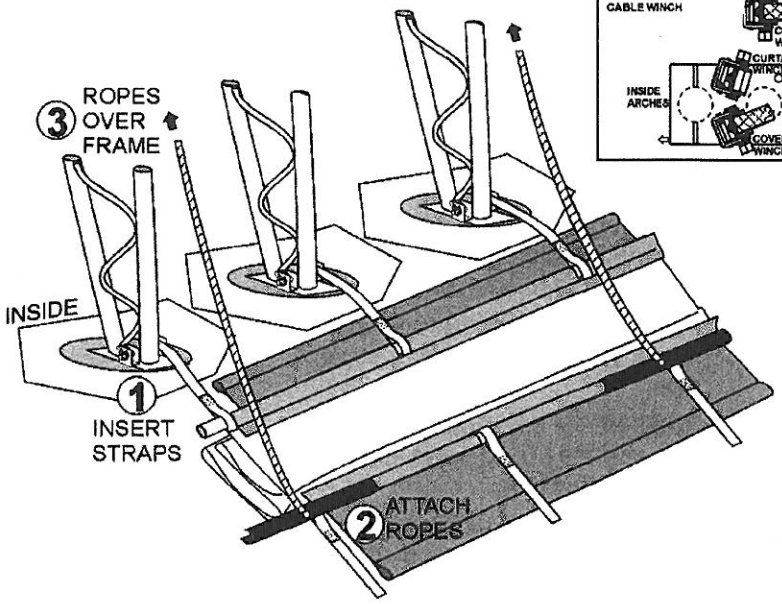
NOTE: ***DO NOT install the cover onto the frame in high wind conditions. A slight breeze is the most advantageous for cover installation. Take advantage of the breeze by pulling the cover up over the arches with the breeze blowing into the cover . . . like a sail filled with air.***

1. Secure the cover lashing straps in the lashing winches.



2. **On the opposite side of the cover** (the side of the cover that is furthest from the frame), tie several ropes, approximately 30' [10M] apart, to the steel fastening pipe through the notched hole.

3. Throw the free end of the ropes over the frame to the opposite side of the building.



CHECK LIST:

- **<u>BEFORE</u> proceeding ensure that the cover is POCKET SIDE up.**
- **ALL coupler plates have coupler protectors.**
- **BOTH fastening pipes are in place.**
- **Fastening straps near side are SECURED in the lashing winches.**
- **Ropes are secured to the OPPOSITE pipe and passed over the frame.**
- **NO WIND or there can be a light breeze (ideally from rope pulling side).**



USE CAUTION WHEN INSTALLING COVERS WITH MOTORIZED EQUIPMENT. PRE-ARRANGE COMMUNICATION DEVICES OR HAND SIGNALS TO RELAY DIRECTIONS TO EQUIPMENT OPERATORS.

4. Pull the cover over the frame EVENLY, CAREFULLY and SLOWLY.

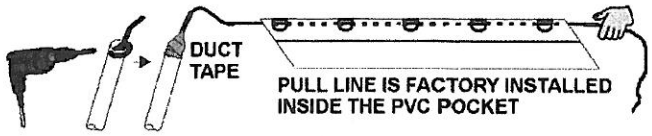
5. Insert the cover lashing straps in the lashing winches and **loosely secure**. <u>DO NOT TIGHTEN</u>. Adjust the cover so that it is square and evenly centered on the frame. *The end flaps should overhang evenly at both ends.*

NOTE: ***DO NOT LEAVE THE COVER UNATTENDED UNDER ANY CIRCUMSTANCES until final assembly and tightening has been completed.***

STEP 21 INSTALL COVER PVC PIPE

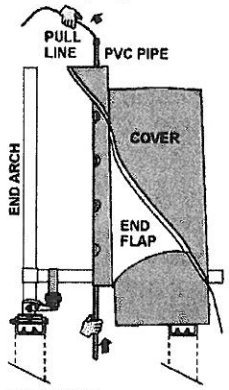
1. Once the cover is on the frame and is sitting centered, square and straight, check to ensure the cover extends approximately 24" [610mm] on both ends of the building.

2. Drill a hole in the smooth end of one PVC tube and tie the pull line to it. Wrap this leading end with duct tape.

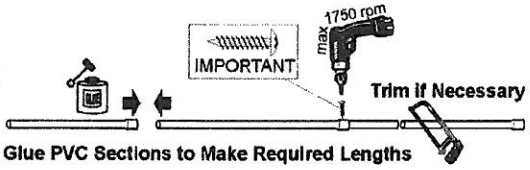


Hint - A small funnel or cone (not supplied) on the leading edge of the PVC will help spread the PVC pocket.

3. Push - Pull the PVC into the pocket.
Glue and screw the lengths of PVC together as you proceed.



IMPORTANT - ALWAYS install a screw (not supplied) at every connection. PVC glue looses adhesive qualities when applied in cold weather and in damp and humid conditions.

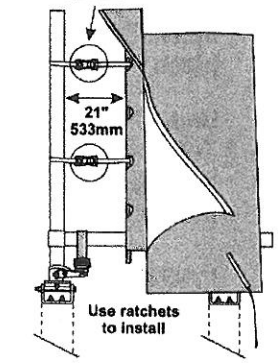


Hint: PVC tubes should slide easily into the pockets. Do not force. Check for twisted fabric or misaligned pocket openings if you experience difficulty.

STEP 22 TENSION COVER ENDS

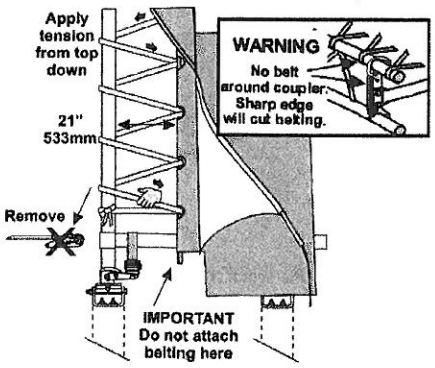
1. Operate the cover fastening tube end arch lashing winches to remove the slack from the lashing straps. DO NOT TENSION.

Hint - Use ratchet straps (not supplied) on both ends, evenly spaced, to tension and hold the cover lengthwise. Adjust to obtain a distance of 21" between the Arch tube and the PVC pipe at both ends. Then lace the cover to the end arch.



2. **Lace - start at the base.** Lace the 1" [25 mm] belting around the PVC tube through the notches and then back to the top truss tube of the end arch - **in 10'-12' [3M-4M] sections -** all the way up to the top center of the building. Tie off each section. **Repeat lacing from other base.**

Hint - The cover shifts down when final tension is applied. Always try to lace the belting on the down side of the web weld.



3. **Tension - start at the top center.** Work your way down from the secured end and use force to tighten the belting. Finish by tying the belting off on each section. The PVC tube should be parallel with the end arch all the way around.

4. Lace and tension the opposite end of the building. The cover should be tight and secure from end to end when finished.

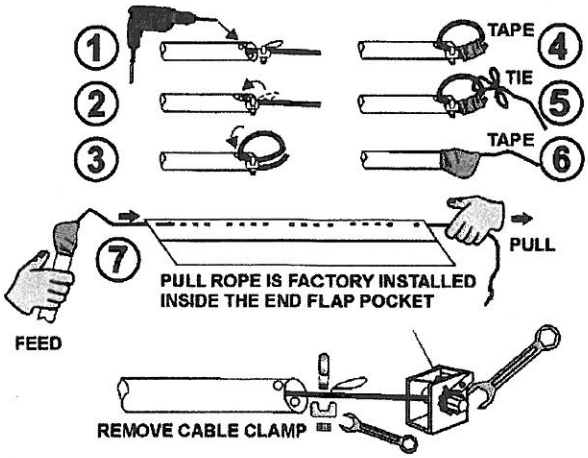
Hint: Trim the belting excess <u>after</u> you have finished the tighten-down.

STEP 23 INSTALL END FLAP CABLE

1. Secure BOTH the cable and PVC tube casing to the end flap pull rope in an acceptable manner. Protect the fabric from any sharp edges.
2. Feed and pull the cable through the end flap until it is equal on both sides.

You may require a third person on a lift to assist the cable through the folds and creases. You can try flipping the end flap flat over the top of the building.

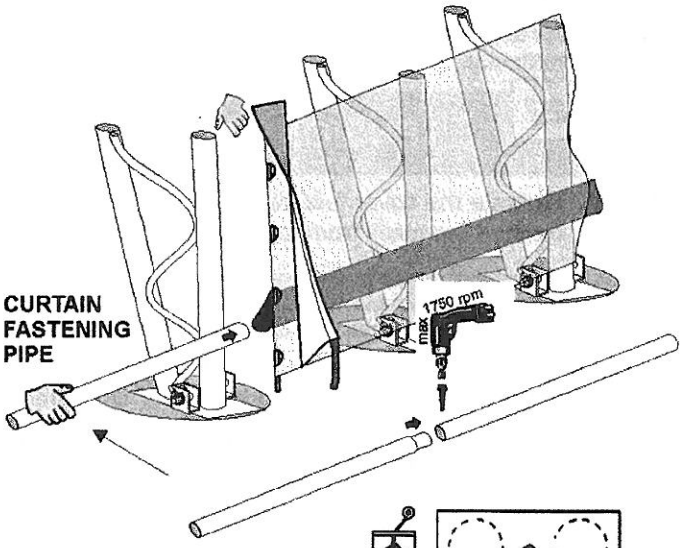
3. The cable clamps can be removed after the cable is secured into the lashing winch.

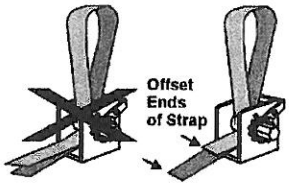


WARNING - Pull slowly or rope burn will damage fabric.

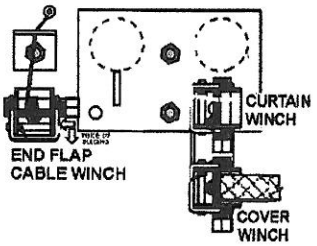
STEP 24 INSTALL CURTAIN FASTENING PIPES

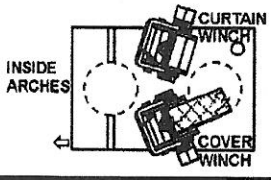
1. Pipe raw edge can damage pocket fabric. Wrap or cap leading edge of pipe.
2. Install BOTH curtain fastening pipes.
3. Use 1/4" x 3/4" [M6 x 20mm] Tek screws to fasten the pipes together. Wrap joint with duct tape (optional - not supplied).
4. Insert the SHORT lashing straps in the lashing winches.





5. Add light tension only at this time.



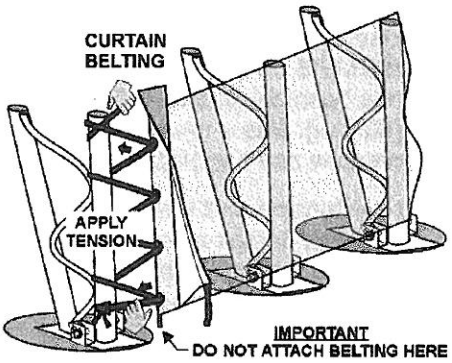


STEP 25 TENSION THE CURTAIN ENDS

1. Tension the curtain ends.

   Follow STEP 21 instructions on previous page.

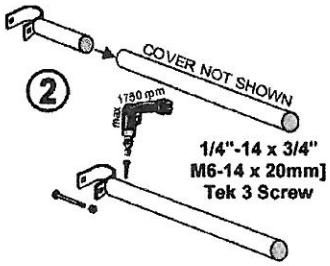
Hint - The fabric shifts down when final tension is applied. Always try to lace the belting on the down side of the web weld.

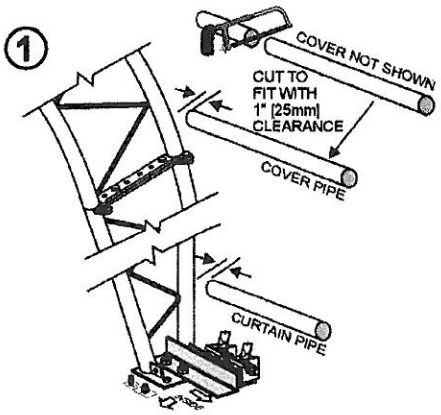


STEP 26 TERMINATE ALL FASTENING PIPES

1. Cut the ends of the fastening pipe to fit inside the arch with 1/2" -1" [12 - 25mm] clearance.

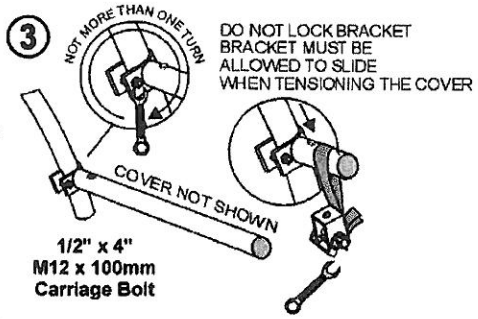
2. Install the saddle bracket in the end of the tube and secure using a single 1/4"-14 x 3/4" [M6 -14 x 20mm] Tek 3 screw.



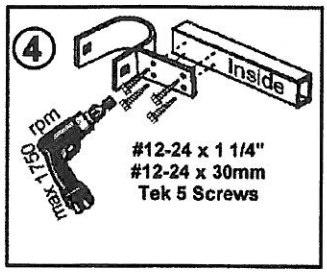


3. Fit the saddle over the arch tube and install a 1/2" x 4" [M12 x 100mm] carriage bolt/nut.

4. Trim the rectangular fastening pipes using above instructions. Fit saddle bracket on truss and align on pipe before marking mounting holes and fastening with #12-24 x 11/4" [#12-24 x 30mm] Tek 5 screws.



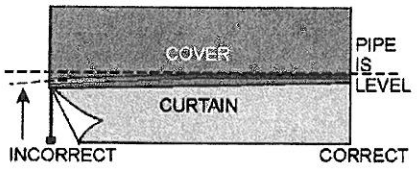
IMPORTANT: Deform the bracket by tightening the 1/2" [M12] bolt/nut as far as possible. This will reduce any protruding edges. **Then release the nut** until you achieve a one turn lock. The bracket must be allowed to slide on the truss tube when the cover is tensioned.

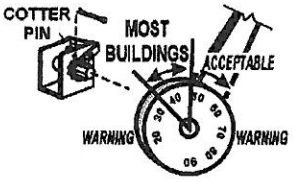


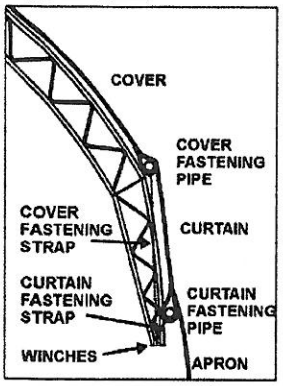
Tighten all bolts/nuts to torque value- See Page 30

STEP 27 TENSION THE COVER

1. Use a 1 1/8" [29mm] wrench to tighten the cover lashing straps **EXCEPT THE END STRAPS** on both sides of the building. The tension for the lashing winches on this building has been calculated at **35 - 45 ft. lbs. [48 - 60N.m]. DO NOT EXCEED 45 ft. lbs. [60N.m].** *Use a torque wrench.* Remove as many wrinkles and creases and bagging as possible.
2. Now tension end lashing straps until the cover fastening pipes are level. Install a cotter pin in the lashing winch pilot holes to lock the release lever.

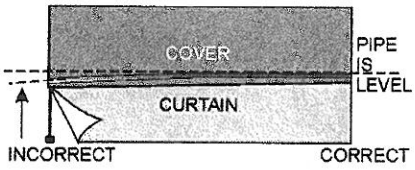


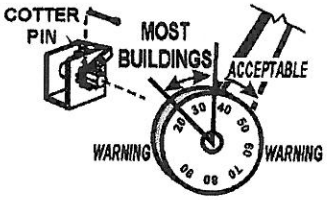


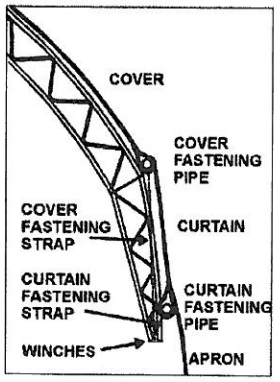


STEP 28 TENSION THE CURTAIN

1. Use a 1 1/8" [29mm] wrench to tighten the curtain lashing straps **EXCEPT THE END STRAPS** on both sides of the building. The tension for the lashing winches on this building has been calculated at **25 - 35 ft. lbs. [34 - 48N.m]. DO NOT EXCEED 35 ft. lbs. [48N.m].** *Use a torque wrench.* Remove as many wrinkles and creases and bagging as possible.
2. Now tension end lashing straps until the curtain fastening pipes are level. Install a cotter pin in the lashing winch pilot holes to lock the release lever.

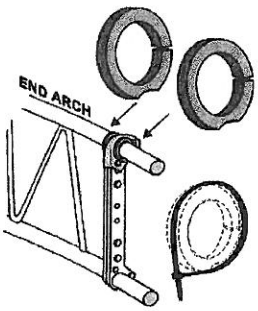






STEP 29 INSTALL RUBBER END FLAP PROTECTORS

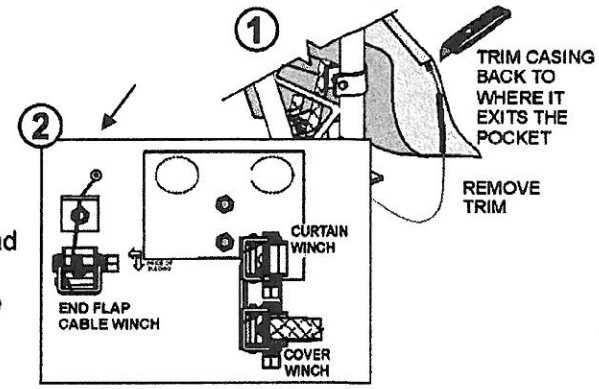
1. All buildings require 2 rubber end flap protectors installed at every coupler connection on the upper truss tube on the end arches.
2. Use zip ties or tape to ensure the rubber end flap protectors stay in position during end flap tensioning.
3. **WARNING** - DO NOT tension the end flap without installing the rubber protectors. DAMAGE WILL OCCUR. If protectors are missing, wrap Ø 1/2" [12mm] rope at the coupler and tape to secure.



STEP 30 TENSION THE END FLAP CABLES

1. **Trim** the plastic cable casing back to where it exits the fabric pocket.
2. **Thread** the end flap cable through the hole in the winch mount bracket and secure in the end flap winch so that the windings bind the cable end.
3. **Tighten** both sides of the building's end flaps until the slack in the flap is gone. *Repeat this procedure for the opposite end of the building.*

It may be necessary to repeat the tightening several times at both ends of the cover.



TOP VIEW

STEP 31 SECURE THE APRON

ALWAYS SECURE THE APRON

The fabric is designed to be under tension at all times.

GROUND

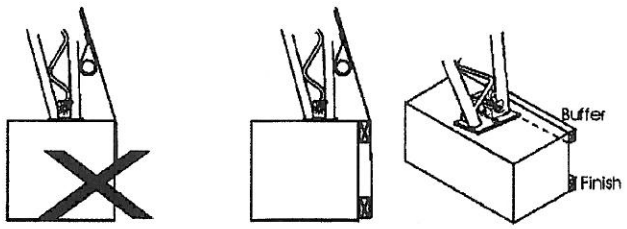
Use dimensional lumber to attach the apron to the frame or foundation.
Or back fill the apron at the foundation.

WALL

Protruding edges on fabric are potential wear points.

CONCRETE

Never install fabric over concrete edges.
Always install a dimensional lumber buffer or equivalent.



STEP 32 READ MAINTENANCE SCHEDULE Page 2

STEP 33 COMPLETE WARRANTY REGISTRATION

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APPENDIX A
EXTRUSION CONNECTION

TYPEB

TYPEC

TYPED

APPENDIX B
FLAP OVERLAP CONNECTION

TYPEA

APPENDIX A

EXTRUSION CONNECTION

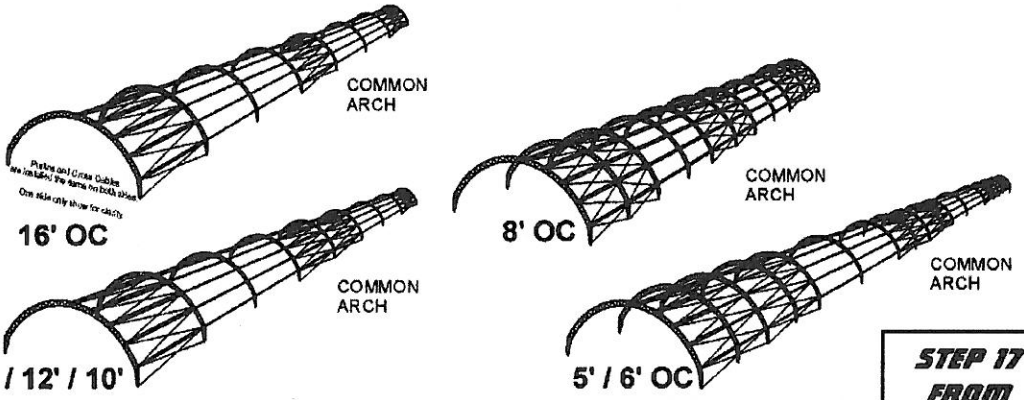
Multiple covers are provided for buildings over 144' [44M] in length. This enables ease of onsite handling and installation. Normally covers are supplied in equal or near equal lengths. The longest cover length is 144' [44M].

Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. CROSS CABLE INSTALLATION

A. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.

THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.



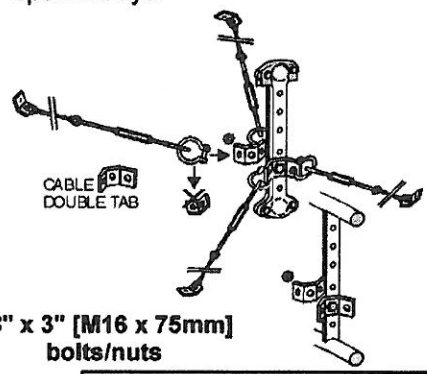
STEP 17 FROM PAGE 13

DOUBLE TAB AND CROSS CABLE PLACEMENT

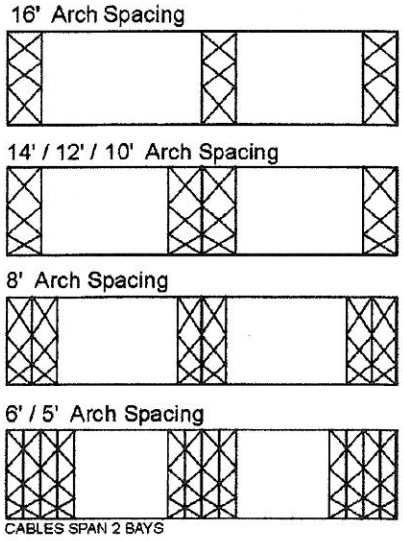
B. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.

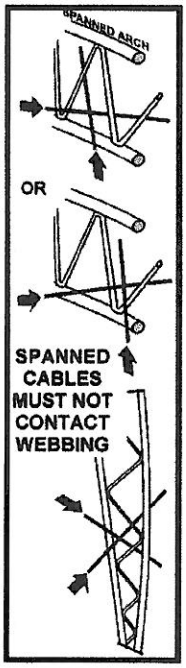
NOTE: **Except ridge purlins** - Double purlins are to be installed in all cable braced bays. See Step 12.

NOTE: **6' and 5' arch spacing** - cables span 2 bays.



5/8" x 3" [M16 x 75mm] bolts/nuts



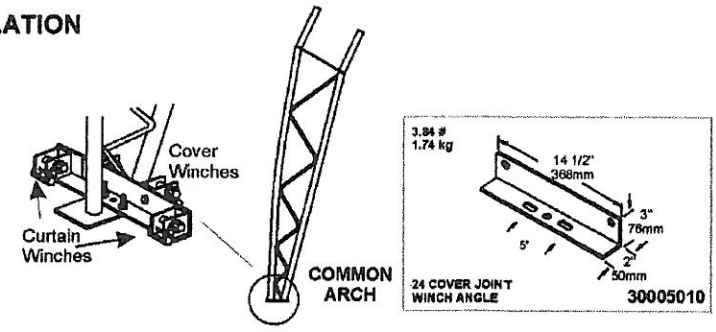


Tighten all bolts/nuts to assembly torque value- See Page 30

2. WINCH BRACKET INSTALLATION

Attach the cover joint winch angle bracket to the common arch base anchor bolts.

Attach the winches using 5/8" x 1 1/4" [M16 x 30mm] bolts/nuts.

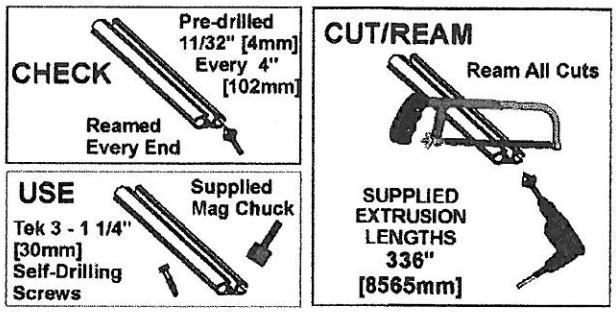


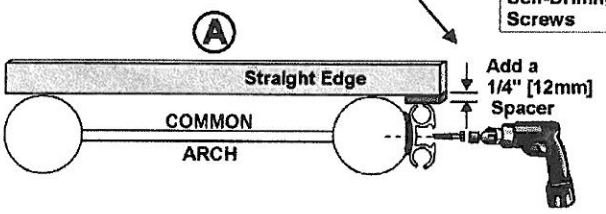
3. INSTALL EXTRUSION

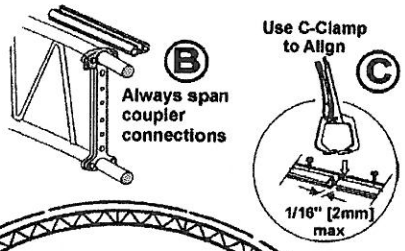
Apply Norseal butyl tape to underside of extrusion.

Install extrusion on the Common arch as shown using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.

NOTE: SPACER REQUIRED









4. 2 COVER INSTALLATION

Install the covers as directed in *STEPS 19-30* (Pages 14-20), ***except :***

A - When installing the cover, shift the pull-over fastening pipe 3' [1M] away from the extrusion end of the cover (the keder rope edge).

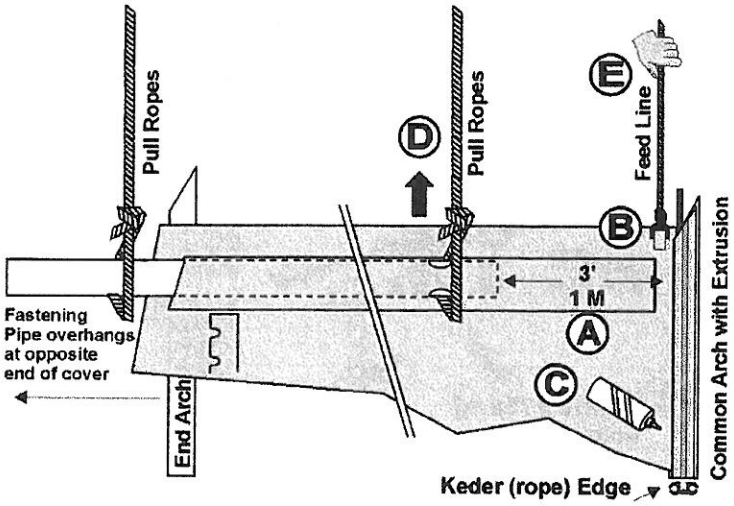
B - Attach a light feed line to the keder D-ring at the leading edge of the cover.

C- Charge the extrusion with WinterGel Lubricant.

D - PULL the cover with the fastening pipe.

E - FEED the keder edge evenly with the D-ring line while installing.

F - Fastening pipe end brackets are not required at common



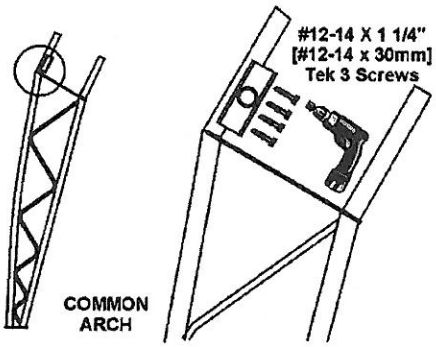
YOU MUST USE RATCHET STRAPS TO GET ADEQUATE LENGTHWISE TENSION ON THE COVER. SEE *STEP 22*, Page 16.

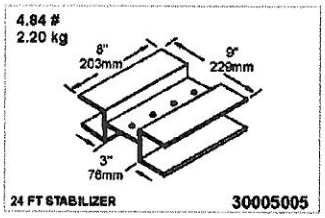
5. STABILIZER BRACKET INSTALLATION

DO NOT INSTALL UNTIL AFTER THE COVER IS INSTALLED - DAMAGE TO FABRIC COULD OCCUR.

A. Release the cover lashing winches on the common arch.

B. Attach the stabilizer bracket using 11/4" [30mm] Tek 3 screws so that the cover fastening pipes will rest in the middle of the stabilizer bracket when the cover is tensioned.

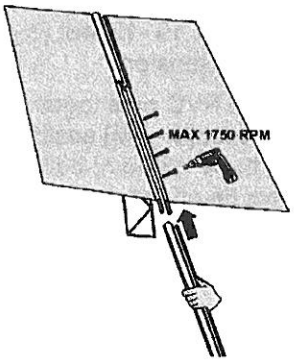




C. Re-tension the cover lashing winches

6. LOWER EXTRUSION INSTALLATION

After both covers are installed, install extrusion on the lower edge of the covers and secure to the common arches using #12-14 x 1 1/4" [#12-14 x 30mm] Tek 3 screws.



THE INSTALLER DETERMINES WHERE THE LOWER EXTRUSION TERMINATES - AVOID POINTS OR ANGLES THAT COULD DAMAGE THE FABRIC WHEN THE FABRIC IS TERMINATED.

7. TRUSS COVER INSTALLATION

A - Install the truss covers

8. 3 OR MORE COVERS - INNER COVERS -

A - Install extrusion on all Common arches.

B - Inner covers have a main cover part and a narrow connector part. Both parts have a keder end and a PVC pocket end and are laced together at the PVC connection.

Install the main cover part and the narrow connector part separately.

C - Assemble lengths of PVC pipe.

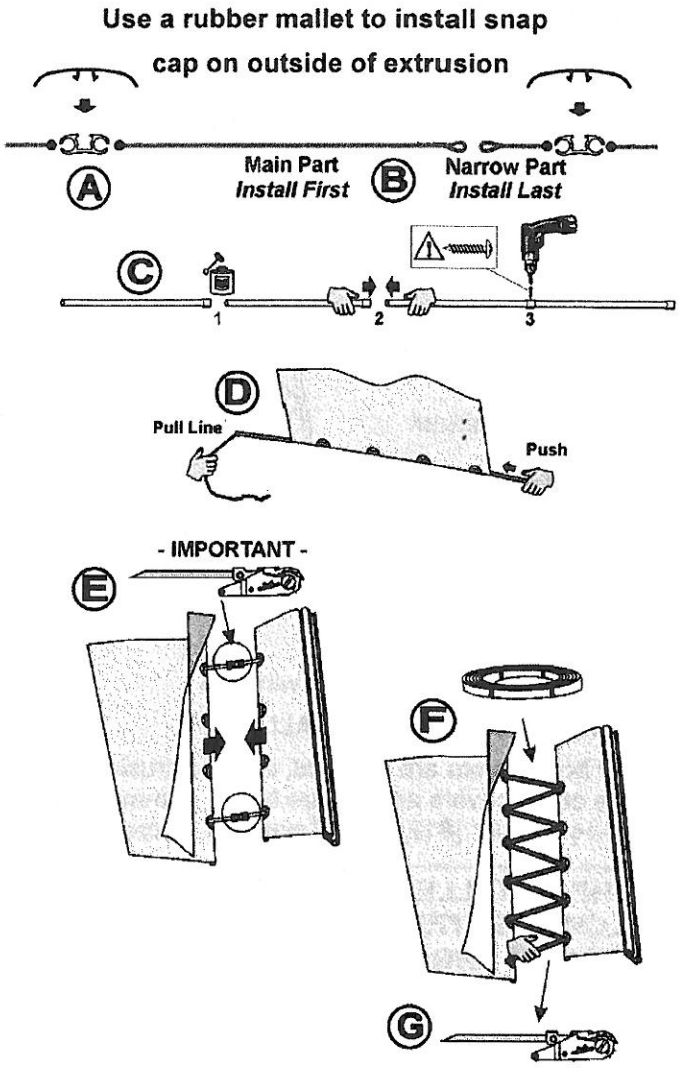
D - Install the PVC pipe in the PVC pockets of both the main cover part and the narrow connector part.

E - Attach ratchet straps to the PVC pipes every 10 -12 feet [3 - 4M] and apply tension.

F - Lace the PVC pipe together in 10 -12 feet [3 - 4M] sections using the 1" [25mm] belting. Always tie off the sections.

G - Remove the ratchet straps.

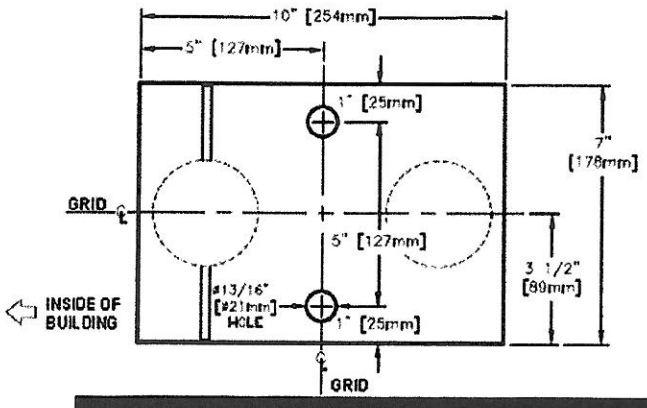
Finish the interior covers by following the directions Step 6 and Step 7 in this Appendix A.



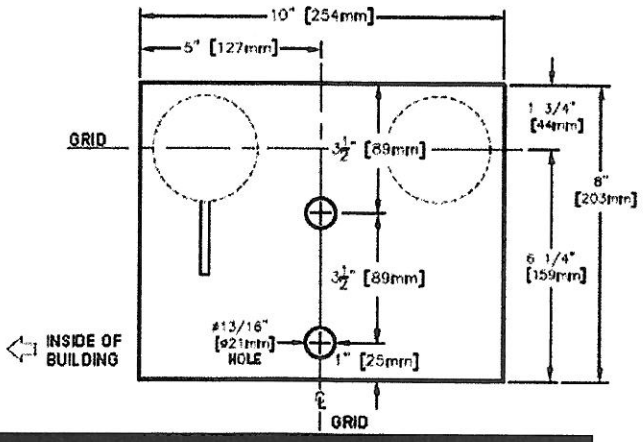
ANCHOR BOLT TEMPLATE

IMPORTANT: ARCHES - MINIMUM Ø 3/4" [M20] ANCHOR BOLTS.
END FLAP WINCH and MOUNT - Ø 5/8" [M16] ANCHOR BOLTS.

COMMON ARCH



END ARCH



APPENDIX B

FLAP OVERLAP CONNECTION

Multiple covers are provided for buildings over 144' [44M] in length.
This enables ease of on site handling and installation.
Normally covers are supplied in equal or near equal lengths.
The longest cover length is 144' [44M].

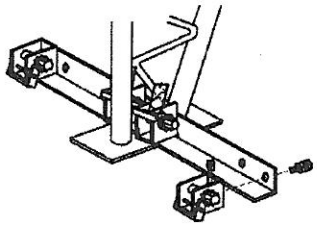
Eg. - a 150' [46M] building with 10' [3M] spacing is supplied with one 70' [21M] and one 80' [25M] cover.

1. SITE PREPARATION

a. Arch spacing (running measurement) is the same for the entire length of the building. (the covers share a common arch). *Eg. - 150' [46M] building on 10' [3M] centers has 16 piles/ posts on each side.*

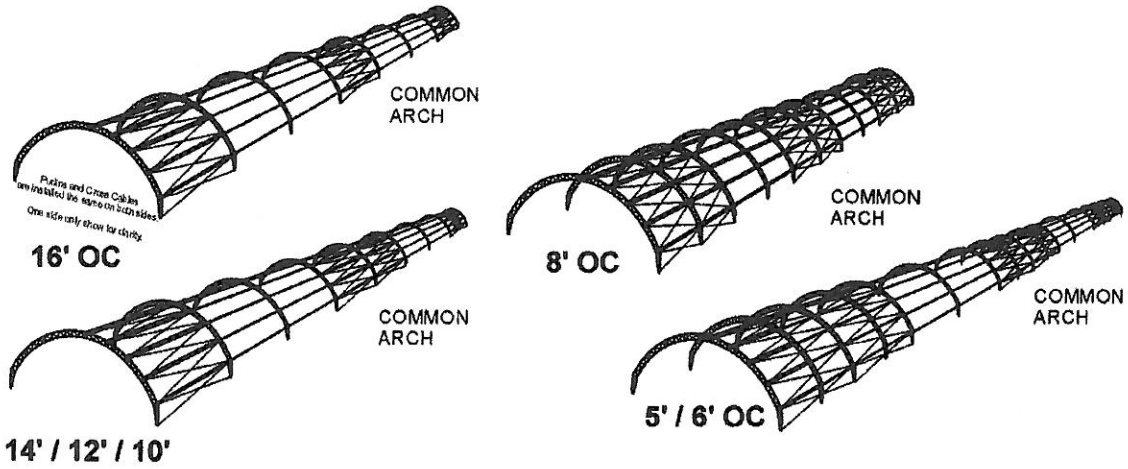
2. JOINER BRACKET

a. Install a joiner bracket to the arch base using the anchor bolts. In addition to the 2 lashing winches mounted on the anchor bolts, add end flap lashing winches to each end of the bracket using 5/8" x 2" [M16 x 50mm] bolts and nuts.



3. CROSS CABLE INSTALLATION

a. Buildings over 144' [44M] long require additional cross cables at the center of the building and some require additional end bay cabling.



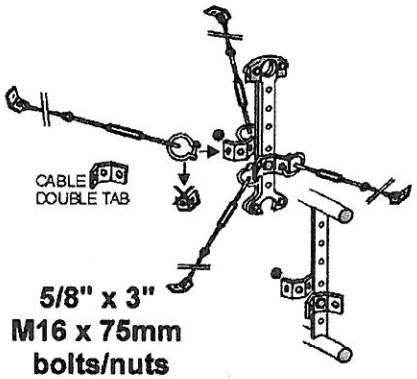
THE COMMON ARCH IS ALWAYS WHERE THE COVERS JOIN.

Tighten all bolts/nuts to assembly torque value- See Page 30

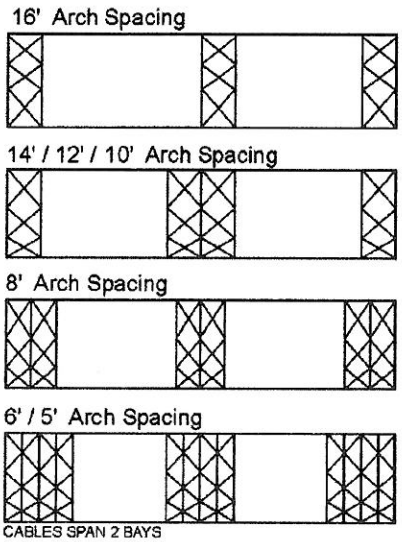
STEP 17 FROM PAGE 13

DOUBLE TAB AND CROSS CABLE PLACEMENT

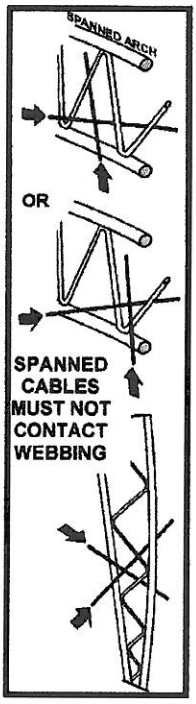
b. Use double tabs where cables are installed in adjacent bays. Remove and discard the single tabs.



c. Install cables as required by the building's arch spacing.

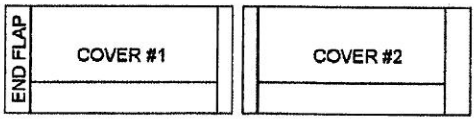


NOTE: 6' and 5' arch spacing - cables span 2 bays.



4. COVER INSTALLATION

IMPORTANT
The larger cover end flaps are the building ends. The smaller end flaps are where the building joins.



a. Install the first cover as directed in STEPS 18-30 ***except that :*** the end flap on the common arch is *not* secured at this time, flip the end flap back and out of the way; the joiner bracket is installed under the lashing winch; and the end flap lashing winches are secured to the joiner bracket.

b. Install the next cover in the same manner, *lacing the PVC tube to the common arch.* Do not tighten the cover or curtain lashing winches at this time.

Tighten all bolts/nuts to assembly torque value- See Page 30

c. Release the fastening strap in the end arch winch of the first building. Join the fastening pipes of both covers and secure with Tek self-drilling bolts. Re-install the end fastening straps in the winches. Retighten the cover and curtain lashing winches and tighten all of the winches of the next cover.

Adjust the cover lashing winches to remove as many wrinkles and bagging as possible over the entire building. For most buildings 35 - 45 ft. lbs. [48 - 60N.m] of torque provides adequate cover tension and 25-35 ft. lbs. [34 - 48N.m] of torque provides adequate curtain tension

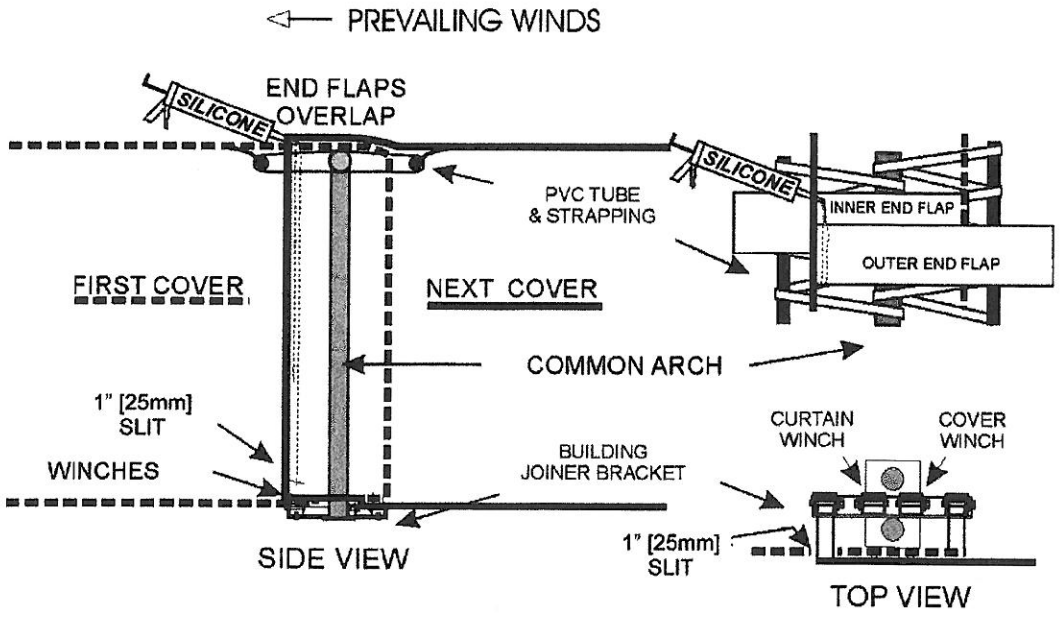
d. Place the end flap of the first cover over the next cover's lacing. Attach the end flap cable for this first (inner) end flap to the lashing winches. Tension the lashing winches.

NOTE: ***If your building is subject to prevailing winds, you should secure the end flaps to protect the overlap.***

e. Place the end flap (outer) of the next cover over the first (inner) end flap. Cut a slit in the first (inner) end flap at the point where the end flap cable for the outer end flap exits its pocket. Feed the fastening cable through the slit and attach to the lashing winches. Tension the lashing winches.

It is best to have the end flap PVC cable casing passing through the fabric or against any part of the fabric rather than the end flap steel cable.

f. Apply a bead of silicone (supplied) between the outer end flap and the cover. Insert the tube tip between the layers with all straps fastened securely . Walk on the building to seal the top portion of the end flap and use a ladder or lift equipment to reach the sides. Where it is difficult to reach some areas, unsealed portions should not exceed 3 feet [1 M].



SQUARING A BUILDING LAYOUT

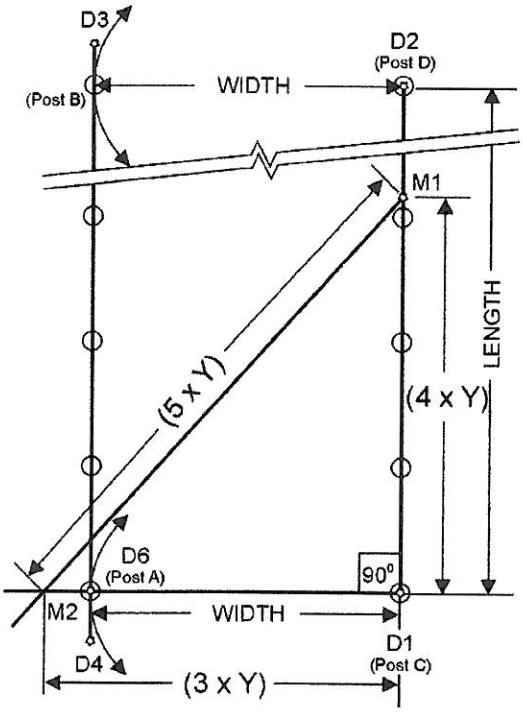
IMPORTANT
Depending on the size of your building, you may need a qualified contractor or surveyor to lay out the foundation of your building to ensure that it is straight and square. The following is a suggested method only.

1. Measure and string a straight line the exact length of the building (D1-D2).
2. Attach a measuring tape to stake D2 and measure the exact width of the building perpendicular to line D1-D2. Make an arc in the dirt at that exact measurement. Repeat this procedure at stake D1 and make a second arc.
3. String an extended line (D3-D4) at the crowns of these two arcs. Recheck width measurements.

USING THE **3-4-5 METHOD** TO SQUARE THE BUILDING LAYOUT

4. With the measuring tape still attached to stake D1, measure the distance **(4 x Y)** from stake D1 towards stake D2 and place a stake (M1). See chart this page for a suggested value for Y for your building.
5. With the measuring tape still attached to stake D1, measure the distance **(3 x Y)** through the crown of the arc, and past line D3-D4, to M2.
6. With a second tape attached to stake M1, measure the distance **(5 x Y)** to M2.
7. Keeping the tapes tight, cross the two tapes at exactly the **(3 x Y)** measurement and the **(5 x Y)** measurement and hold in position. Place a stake (D6) exactly **where line D1-M2 crosses line D3-D4**. Remove stake M2.
8. Follow the linear and diagonal measurement checks beginning on Page 6 of this manual.

SERIES/ SIZE	SUGGESTED Y VALUE
65	23' [7.0M]
70	25' [7.6M]
72	25' [7.6M]
82	30' [9.1M]



Maintenance Recommendations For Buildings in Corrosive Environments

BUILDING STEEL

BRITESPAN manufactured steel components are hot dipped galvanized, hot zinc plated or coated with a high quality sealant.

It is recommended that the building owner/operator:

- Prevent corrosive material or product from resting against or covering the building steel.
- Remove any environmental residue that accumulates on the building steel.
- Seal all surface penetration marks with a high quality sealant or a high zinc content paint.

BUILDING HARDWARE

Hardware components are made of galvanized steel or aluminum alloy; are zinc plated with an added leachant-sealant; or are zinc or cadmium plated.

It is recommended that the building owner/operator:

- Prevent corrosive material or product from coming in direct contact with the building hardware.
- Remove any environmental residue that accumulates on the building hardware.
- Seal or protect from corrosion any non-building components that are connected to, or that come in contact with, the building hardware.

ANCHOR BOLTS *It is recommended that the building owner/operator:*

- Seal the exposed anchor bolt threads with a high quality sealant or a high zinc content paint.

FABRIC LASHING WINCHES *It is recommended that the building owner/operator:*

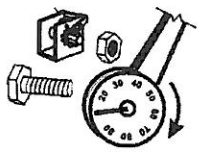
- Spray the lashing winches with a moisture displacing filming lubricant. (WD40 or equivalent)

FABRIC *It is recommended that the building owner/operator:*

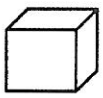
- Prevent corrosive material or product from resting against or covering the building fabric.
- Remove any environmental residue that accumulates on the building fabric. Where moisture will not contribute to corrosion – wash with water and non-abrasive soap.

CONVERSIONS

INCHES				MILLIMETERS
1/32"				
2/32	1/16"			1.6
3/32				
4/32	2/16	1/8"		3.2
5/32				
6/32	3/16"			4.8
7/32				
8/32	4/16	2/8	1/4"	6.4
	5/16			
	6/16	3/8"		9.5
	7/16			
	8/16	4/8	2/4	1/2" 12.7
	9/16			
	10/16	5/8"		15.9
	11/16			
	12/16	6/8	3/4"	19.0
	13/16			
	14/16	7/8"		22.2
	15/16			
	16/16	8/8	4/4 2/2 1"	25.4



1 ft. lb. = 1.356 N.m



1 CUBIC YARD = .77 M^3

1 CUBIC FOOT = .03 M^3

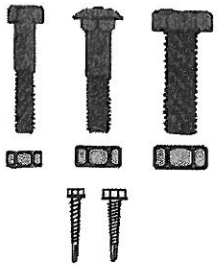
FEET	METERS
1'	.305
2	.610
3	.914
4	1.219
5	1.524
6	1.829
7	2.134
8	2.438
9	2.743
10	3.048
25	7.620
30	9.144
35	10.668
40	12.192
45	13.716
50	15.240
60	18.288
70	21.336
80	24.384
90	27.432
100'	30.480

TORQUE VALUES

SUGGESTED ASSEMBLY TORQUE VALUES FOR STRUCTURAL BOLTS

Ø SIZE INCH/mm	THREADS per INCH/25mm	GRADE 5 ft – lbs DRY	GRADE 5 ft – lbs WET*	GRADE 5 N.m DRY	GRADE 5 N.m WET*
3/8 M10	16	30	23	40	30
7/16 M12	14	50	35	70	50
1/2 M12	13	75	55	100	75
5/8 M16	11	150	110	200	150
3/4 M20	10	260	200	353	270
1 1/4 M30	7	1120	840	1520	1140
#12 TEK 3	14	7.7	-	10.5	-
#12 TEK 5	24	12.5	-	17	-

* Lubricant



BUILDING ENDWALLS

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

FABRIC END WALLS must be supported by a framework that is constructed to meet wind load ratings and building safety standards.

If you are constructing a framework for BRITESPAN supplied fabric end panels the framework MUST BE DESIGNED to match the fastening system of the fabric end panel and must be constructed to meet wind load ratings and building safety standards.

Failure to comply with the above can result in damage to the building and will void fabric end panel warranty.

Contact a structural engineer or your BRITESPAN representative for details.

SUSPENDING OBJECTS AND SERVICES IN BUILDING

AN IMPORTANT MESSAGE FOR INSTALLERS AND OWNERS

RULE # 1

Always suspend weighted objects and services from the arches. Use dedicated brackets and hardware and attach to the lower truss cord only - do not use building brackets or hardware and never use the truss webbing as an attachment point. Wherever possible, use clamps to avoid drilling or piercing the lower truss cord. Any suspended objects must be approved by a licensed engineer. If this is not done it may void the building warranty.

RULE #2

Do not suspend weighted objects, services or building operation components from the purlins. The purlins act under compression when wind and snow loads affect the building. Added weight to a purlin can cause it to react unevenly and fail when wind and snow load forces are applied.

If suspensions mid-arch are necessary, use a separate purlin dedicated to the suspension. In some cases a tensioned cable in conjunction with the standard purlin can be used to offset the weight of the suspended object. Four inch (100mm) diameter purlins are capable of supporting weighted objects and services and in some cases can be substituted for standard purlins.

Exceptions for suspensions from purlins can include:
> Lightweight aluminum and plastic roof vents
> Simple lighting services without ballasts or transformers
> Electrical conduit and wiring
> Control cables

IMPORTANT- always use clamps or ties - DO NOT drill or pierce purlins

Contact a structural engineer or your BRITESPAN representative for assistance.

FOR TECHNICAL ASSISTANCE CALL YOUR LOCAL DEALER OR SALES REPRESENTATIVE OR 1-800-407-5846

Manufactured in Canada

BRITESPAN
BUILDING SYSTEMS INC

37651 Amberley Road
Lucknow, Ontario Canada N0G 2H0
www.britespanbuildings.com

BRITESPAN Building Systems Inc.
37651 Amberley Road
Lucknow, ON
N0G 2H0
www.britespanbuildings.com

Phone: (519) 528-2922
Fax: (519) 528-2890
Email: warranty@britespanbuildings.com

ONLINE WARRANTY REGISTRATION

Please go to www.britespanbuildings.com and select warranty tab. Complete all registration information boxes (similar to form below). Attach all photos requested and submit. Please ensure photos are clear and are in the view and sequence shown in the attached examples.

1. Owner Name

2. Mailing Address

Business / Company Name COMPLETE

Agent / Representative ONLY IF Title

Phone APPLICABLE Website

3. City / Town | 4. Prov/State | 5. Postal Code | 6. Country

7. ( ) Home Phone | 8. ( ) Work Phone | 9. Email Address (required for warranty certificate)

10. The Building Address is the same as above ❑ If not, provide the building address

11. x Building Size (w x l) | 12. # of Enclosed Ends | 13. Size of Door / Openings

14. SO# | 15. Date Warranty Registration Submitted

16. Date of Purchase | 17. Name of Dealer Purchased from | 18. Dealer Invoice Number

19. Building Application: Primary Use: Industry

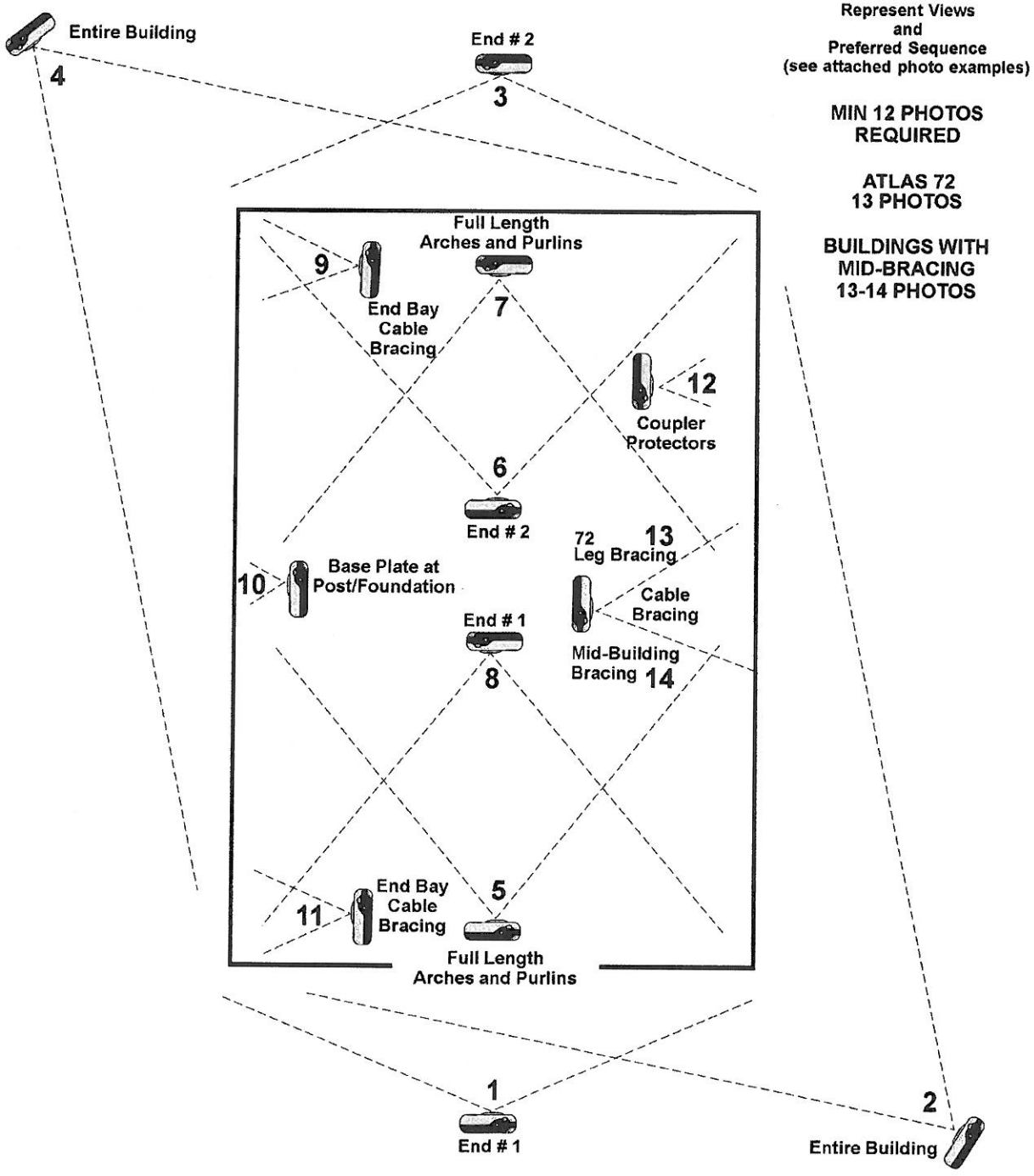
	Self-Installed	Dealer Installed	Other	Name of Contractor is required
20. The Building foundation was	❑	❑	❑	
21. The Building steel was	❑	❑	❑	
22. The Building cover was	❑	❑	❑	
23. The end frame(s) were	❑	❑	❑	
24. The end(s) fabric were	❑	❑	❑	

	Yes	No
25. Did you receive the Steel and Fabric and Warranty?	❑	❑
26. Did you receive Building Maintenance information located in owner/installation manual?	❑	❑
27. Did you ask the installer or Dealer for instructions on how to perform Building Maintenance procedures?	❑	❑

Comments

Allow 90 days from date of registration submitted for Processing and Warranty Evaluation of photos. If you are not emailed a Warranty Certificate within this time frame please contact you BRITESPAN Representative. Use the building SO# as your trace number. Note: Warranty only valid with warranty registration and required photos. See attached for photo instructions.

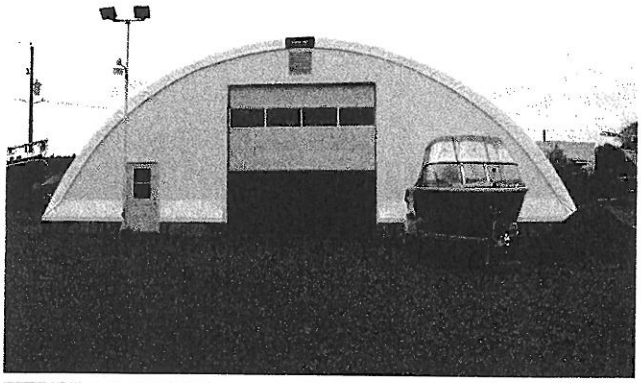
BRITESPAN Warranty Photo Registration



BRITESPAN WARRANTY PHOTOS

1

REQUIRED VIEWS



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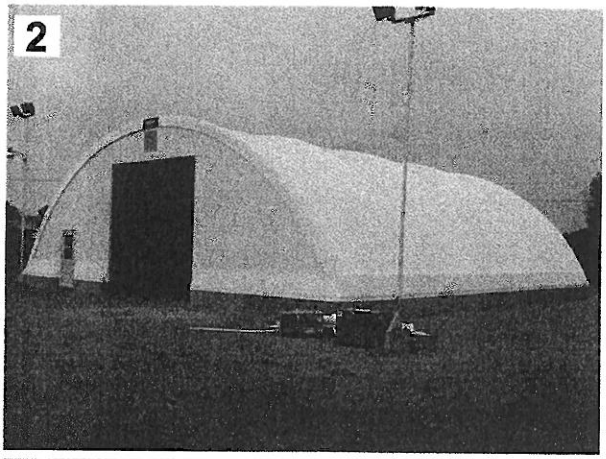

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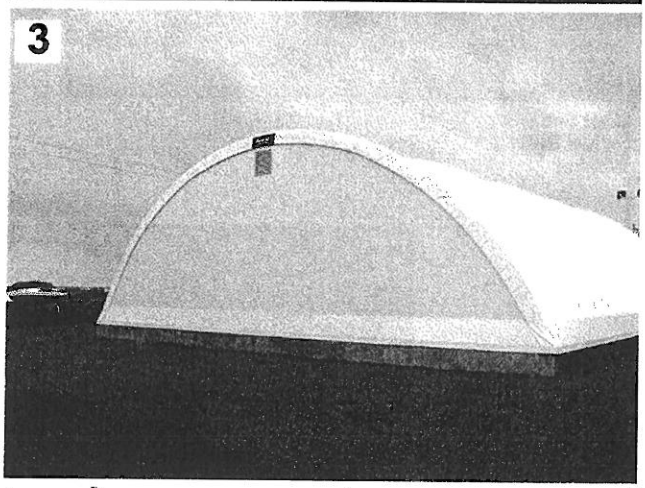

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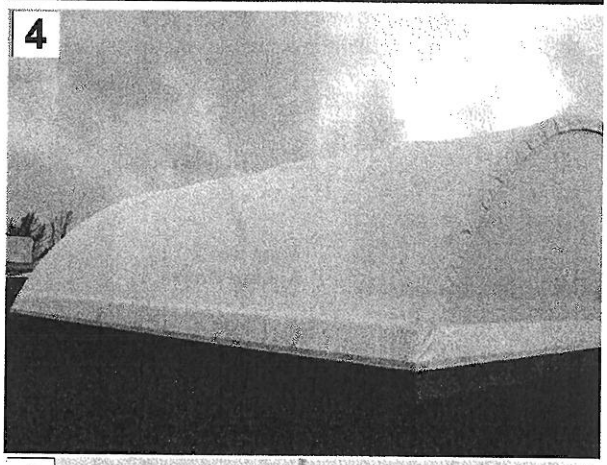

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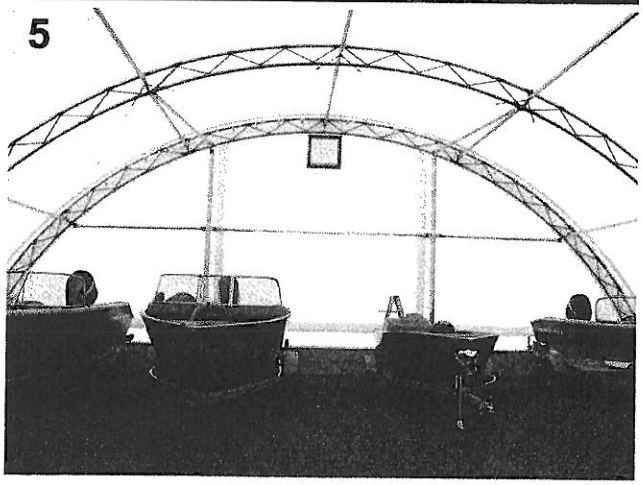

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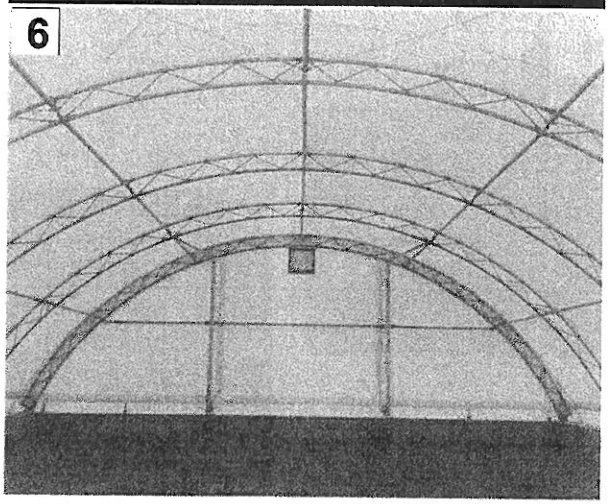
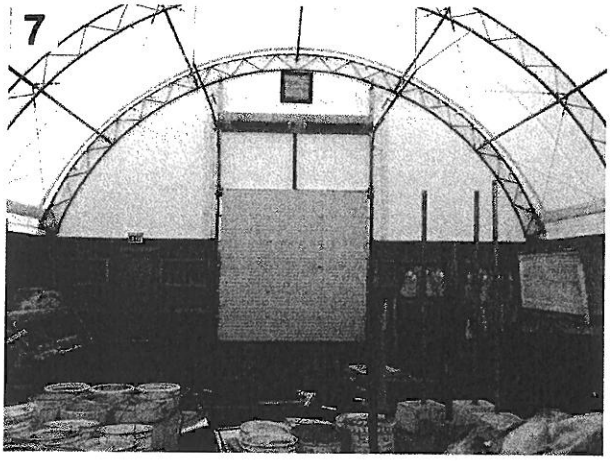


BRITESPAN WARRANTY PHOTOS

REQUIRED VIEWS

7



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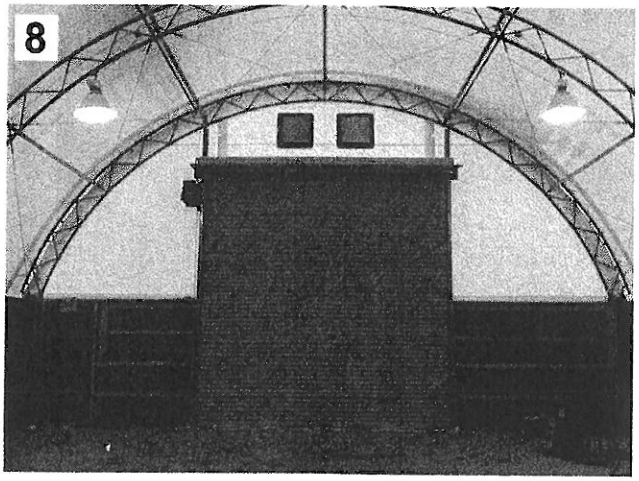

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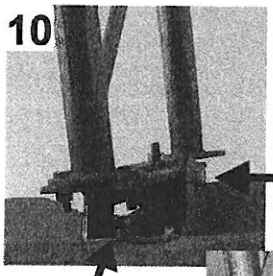
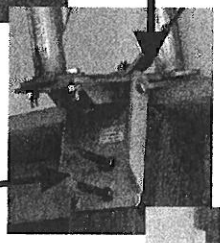


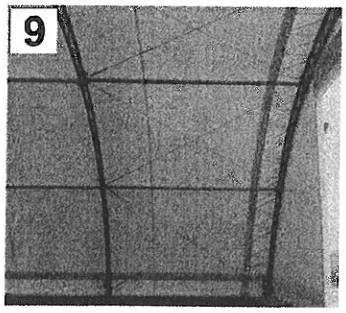
Must See
Swivel Bolt
Washer

Must See 2
Anchor Bolts



Must See 2
Threaded Rods

9



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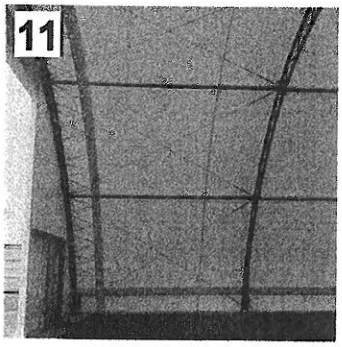
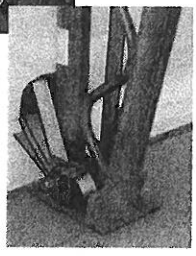
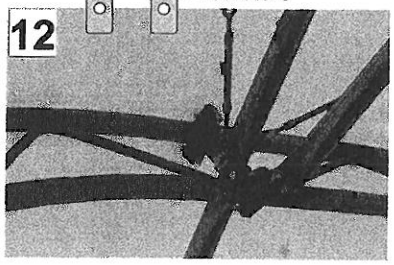




65
and
72

Coupler
Protectors

12



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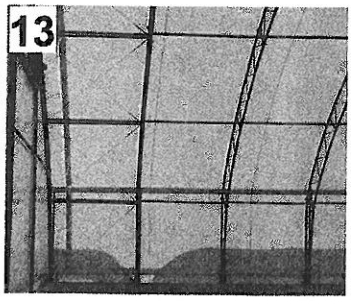
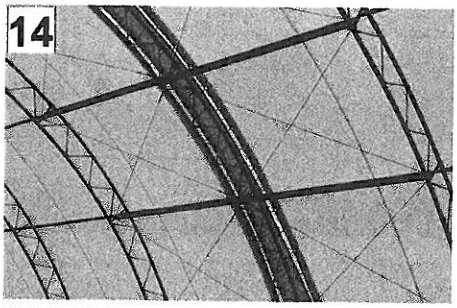


65 and 72 Building Leg Bracing

14



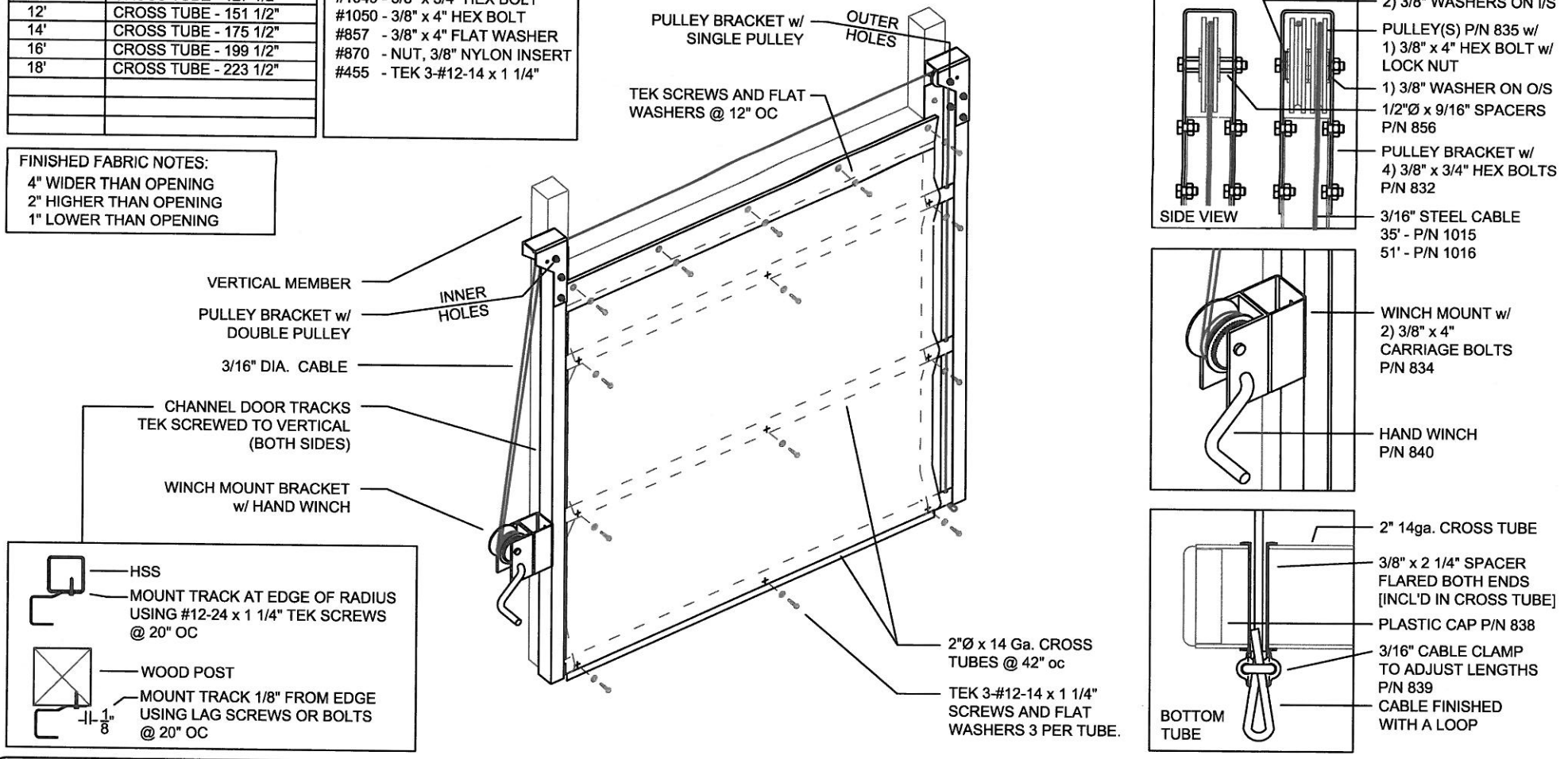
Mid-Building Bracing

DR. WIDTH	DESCRIPTION
8'	CROSS TUBE - 103 1/2"
10'	CROSS TUBE - 127 1/2"
12'	CROSS TUBE - 151 1/2"
14'	CROSS TUBE - 175 1/2"
16'	CROSS TUBE - 199 1/2"
18'	CROSS TUBE - 223 1/2"

FASTENERS:

#1049 - 3/8" x 3/4" HEX BOLT
#1050 - 3/8" x 4" HEX BOLT
#857 - 3/8" x 4" FLAT WASHER
#870 - NUT, 3/8" NYLON INSERT
#455 - TEK 3-#12-14 x 1 1/4"

FINISHED FABRIC NOTES:
4" WIDER THAN OPENING
2" HIGHER THAN OPENING
1" LOWER THAN OPENING



BRITESPAN BUILDING SYSTEMS INC.

37651 Amberley Road
Lucknow, ON, Canada
N0G 2H0
PH: 1-519-528-2922
FAX: 1-519-528-2890

DETAILER:	DWG REV	REVISED BY: DESCRIPTION	DATE
DS.	1		06.NOV.13
	6		20.JUN.14

DEALER
BRITESPAN ONTARIO
37651 AMBERLEY ROAD, RR#1
LUCKNOW, ON. N0G 2H0

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CUSTOMER:

PROJECT: ACCORDION DOOR DETAILS

WIDTH-STEEL-FAB-HSS-HSSDROP

DRAWING TITLE:

PROJECT ID:

SO/ORDER ID:

DRAWING:

TAB TITLE:

FOR BRITESPAN BUILDING SYSTEMS INC.

LICENCED PROFESSIONAL ENGINEER