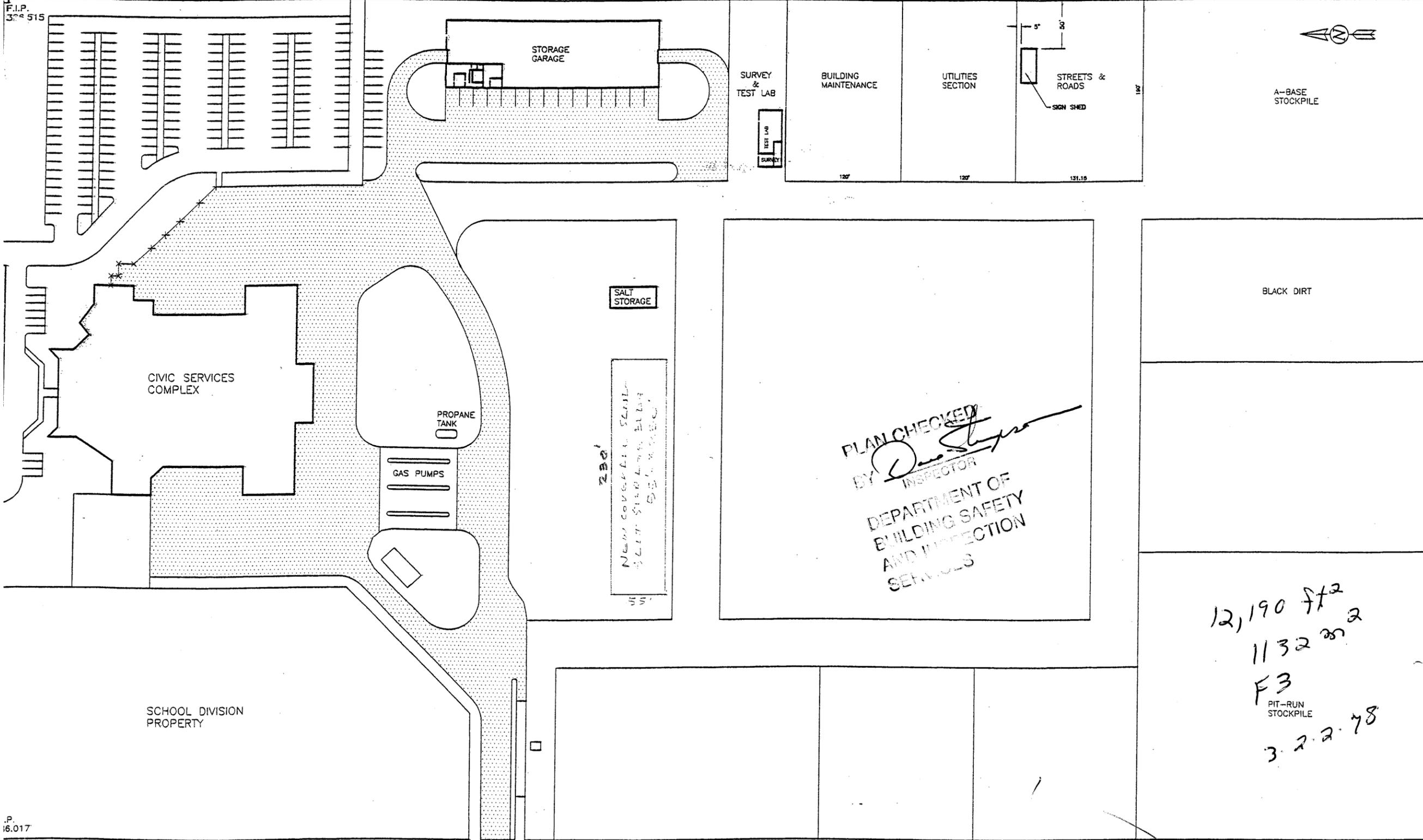


LEGAL:
 LOT 1, PLAN 2070
 EXCLUDING
 PORTION TAKEN
 FOR PLAN 2223

F.I.P.
 304 515



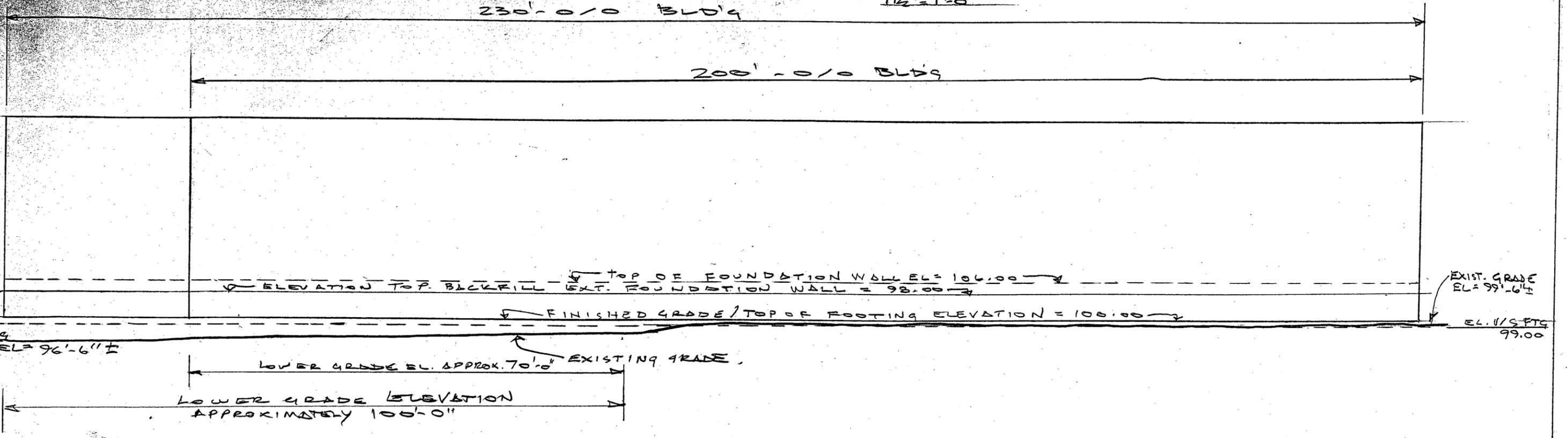
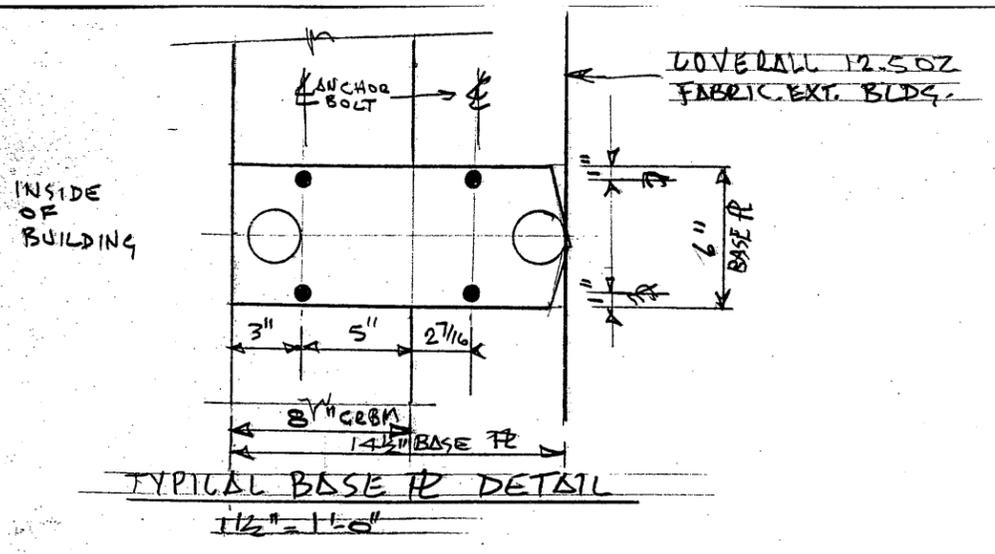
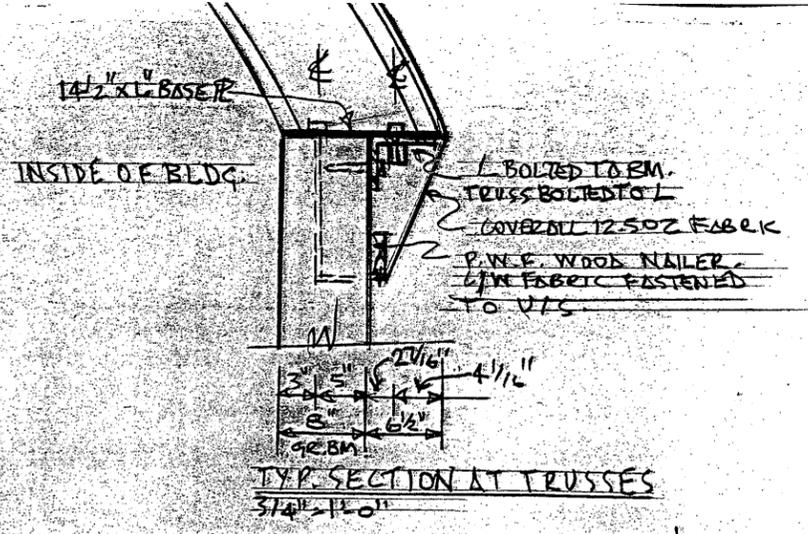
PLAN CHECKED
 BY *[Signature]*
 INSPECTOR
 DEPARTMENT OF
 BUILDING SAFETY
 AND INSPECTION
 SERVICES

12,190 ft²
 1132 sq ft
 F3
 PIT-RUN STOCKPILE
 3.2.2.78

P.
 16.017

DOUGLAS STREET

CIVIC WORKS COMPLEX - SITE PLAN			
DESIGNED	CITY OF BRANDON		
DRAWN R.B.S.	DEPARTMENT OF ENGINEERING AND OPERATIONS		
CHECKED			
APPROVED	DATE MARCH 25, 1997	DWG. NO. B1115A	REV.
SCALE HOR. 1:500	VERT. 1:500	FILE NO.	SHEET 1 OF 3



SECTION THROUGH SITE / BLDG - SHOWING EXIST. / PROPOSED ELEVATIONS.
SCALE: 1/16" = 1'-0"

GENERAL NOTES:
 EXIST. GRADE TO V/S FOOTING TO BE GRANULAR FILL - COMPACTED.
 INT. BLDG. EXIST. GRADE TO TOP FOOTING TO BE GRANULAR FILL COMPACTED.
 RETAINING WALL, EXT. BLDG TO BE CLEAN NON ORGANIC FILL - COMPACTED.

PRELIMINARY: NOT FOR CONSTRUCTION.

REV	REVISIONS DESCRIPTION	BY	DATE
	PROP SAND/SALT STORAGE BLDG. CITY OF BRANDON		

THIS DRAWING IS PROPERTY OF COVER-ALL BUILDING SYSTEMS. ANY REPRODUCTION IN WHOLE OR IN PART WITHOUT THE EXPRESSED WRITTEN CONSENT OF COVER-ALL BUILDING SYSTEMS IS PROHIBITED.

DRAWN BY: LH	DATE: MAR 8/01
CHECKED BY:	DATE:
SCALE: 1/16" = 1'-0"	ORDER #:

COVER-ALL
 BUILDING SYSTEMS
 5101 PORTAGE AVENUE
 HEADINGLY, MB R4H1E1
 PA-487 6675 FAX 4883922
 SHEET ONE

230'-0" 0/0 BLDG

23 BAYS @ 10'-0"

3'0" x 6'8" HM DOOR
4 P.S. FRAME

18" x 18" DURATRACK
DH DOOR
EXT. MOUNT

SAND / SALT STORAGE BLDG.
55' x 230' = 12,650 sq ft

18" x 18" DURATRACK
DH DOOR
EXT. MOUNT

3'0" x 6'8" HM DOOR
4 P.S. FRAME

55'-0" 0/0 BLDG

18'-6"

FLOOR PLAN

1/16" = 1'-0"

COVERALL FD. 12.5 OZ FABRIC

BACKFILL MATERIAL

ONC. FOUND.
WALL

TYPICAL SIDE ELEVATION

1/16" = 1'-0"

PRELIMINARY: NOT FOR CONSTRUCTION

PROPOSED SAND/SALT STOR.			
BLDG. CITY OF BRANDON			
REV	REVISIONS DESCRIPTION	BY	DATE

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DRAWN BY: L. H. DATE: MAR 5, 2001

CHECKED BY: DATE:

SCALE: 1/16" = 1'-0"

ORDER #:

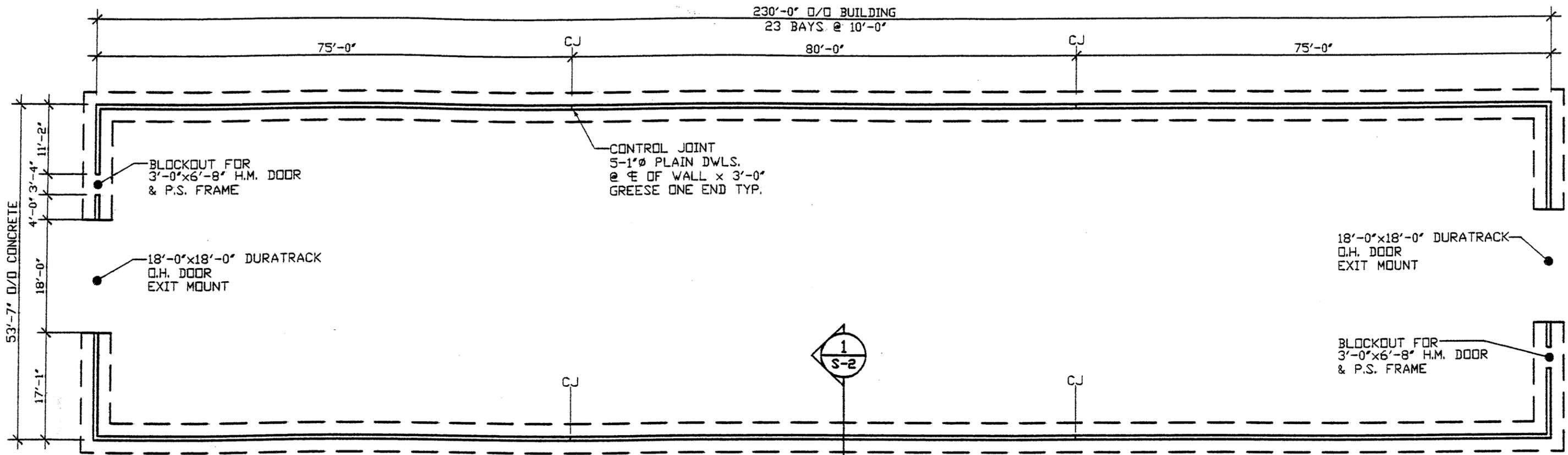
COVER-ALL

BUILDING SYSTEMS

5101 PORTAGE AVENUE
HEADINGLY, MS 38461
PH. 487 6675 FAX 4883922

FILE FLOOR PLAN SHEET 3 REVISION

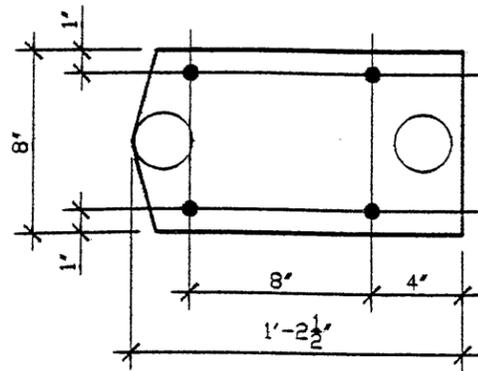
TYP. SIDE ELEVATION



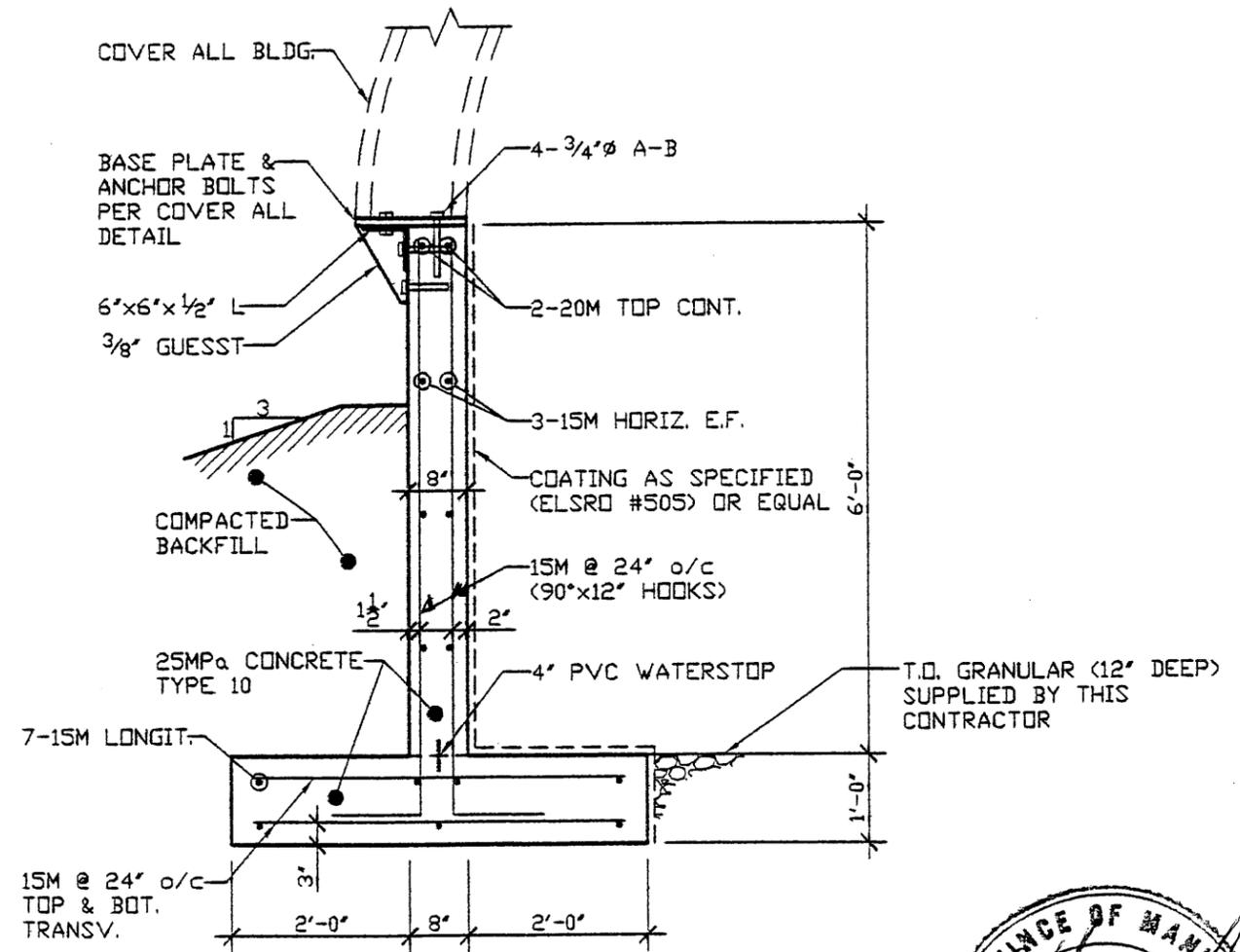
FOUNDATION PLAN
SCALE: 1/16" = 1'-0"



COVER-ALL SAND/SALT STORAGE BLDG. - BRANDON			
DESIGN BY W.H.	DRAWING BY T.M.K.	 Hanuschak Consultants Incorporated Consulting Structural Engineers	26 EDMONTON ST. WINNIPEG, MB. CANADA, R3C 1P7 PH.: 204-956-2200 FAX.: 204-956-1671 E-MAIL: hci@hanuschak.com
JOB NO. 01-149	DATE APRIL 17, 2001		



TYPICAL BASE PLATE DETAIL
SCALE: 1 1/2" = 1'-0"



1 TYPICAL CROSS SECTION
S-2 SCALE: 1/2" = 1'-0"



COVER-ALL SAND/SALT STORAGE BLDG. - BRANDON			
DESIGN BY W.H.	DRAWING BY T.M.K.	H Hanuschak Consultants Incorporated Consulting Structural Engineers	26 EDMONTON ST. WINNIPEG, MB. CANADA, R3C 1P7 PH.: 204-956-2200 FAX: 204-956-1671 E-MAIL: hci@hanuschak.com
JOB NO. 01-149	DATE APRIL 17, 2001		

**CERTIFICATE OF DESIGN AND MANUFACTURING CONFORMANCE
FOR COVER-ALL BUILDING SYSTEMS**

All components of the steel and fabric building system described below have been or will be designed and fabricated in accordance with the standards and loads listed below

1. DESCRIPTION
 AP / Ref Number: GA3314/ENG456
 Building Type and Size: TAS 55' X 230' @ 10' OC
 Intended Use and Occupancy: F3 LOW HAZARD INDUSTRIAL SALT STORAGE
 Importance Factor: 0.8
 Site Location: BRANDON, MB
 Exposure Factor, Cw: 0.75
 Building Category: 2 (PARTIALLY ENCLOSED)
 Applicable Building Code: BMHA 98
 Builder's Name and Address: COVER-ALL MANITOBA HEADINGLEY, MB
 Owner's Name and Address: BRANDON SALT STORAGE BRANDON, MB
 Building Legal Address: LOT 1
PLAN 2070 EXCLUDED PORTION
TAKEN FROM PLAN 2223
BRANDON, MB

2. DESIGN STANDARDS

Building and Mobile Homes Act, Part 4: Structural Design, CAN/CSA-S16.1, Steel Structures for Buildings, CAN/CSA-S136, Cold Formed Steel Structural Members, Other -

edition dated: 1998
 edition dated: 1994
 edition dated: 1994

3. MANUFACTURING STANDARDS

(a) Fabrication has been or will be in accordance with CAN/CSA-S16.1 and CAN/CSA-S136, as applicable.
 (b) Welding has been or will be performed in accordance with CSA-W59 and CAN/CSA-S136, as applicable.
 (c) The Manufacturer has been certified in accordance with CSA-W47.1, for Division 2.1
 (d) Welders have been certified in accordance with CSA-W47.1

4. LOADS

(a) Snow, Ice and Rain Loads
 Ground snow load, Sg, 40.0 (psf)
 Associated Rain load, Sr, 4.18 (psf)

(b) Wind Load
 reference velocity pressure for q 1/10 7.73 (psf)
 reference velocity pressure for q 1/30 9.40 (psf)

(c) Wind Load Application
 (i) applied as per BMHA Act Part 4, Section 4.1.9
 (ii) pressure coefficients as per Supplement to NBC, Commentary on Wind Loads, Figures B8 thru B8 and B11

(d) Earth quake loads as per BAMH Act Part 4, Section 4.1.9

5. Engineer

I, Margal Regnier, a Professional Engineer registered or licensed to practice in the Province or Territory of MANITOBA, hereby certify that I have reviewed the design and manufacturing process for the Steel and Fabric Building System described. I certify that the foregoing statements, initiated by myself, are true.

Signature: [Signature]
 Name: Margal Regnier
 Member: 21137
 Affiliation: Consultant
 Date: APR 26/01

* Initial each true statement. Mark N/A if statement does not apply.

GENERAL

THIS DRAWING INCLUDING INFORMATION HEREON, REMAINS THE PROPERTY OF COVER-ALL BUILDINGS. 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 COVER-ALL BUILDING SYSTEMS.

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.

COVER-ALL BUILDINGS IS NOT RESPONSIBLE FOR ERRORS, OMISSIONS OR DAMAGES INCURRED IN THE ERECTION OF THE COMPONENTS SHOWN ON THIS DRAWING, NOR FOR THE INSPECTION OF ERECTED COMPONENTS TO DETERMINE SAME.

THIS CERTIFICATION AND ENGINEERING SEAL APPLIES ONLY TO PRODUCTS DESIGNED AND FABRICATED BY COVER-ALL BUILDINGS FOR THE LOADING CONDITIONS DESIGNATED ON THESE DRAWINGS. CONCRETE FOUNDATIONS, STEEL COMPONENTS BY OTHERS AND ERECTION SUPERVISION ARE NOT THE RESPONSIBILITIES OF COVER-ALL BUILDINGS SYSTEMS OR THE CERTIFYING ENGINEER.

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:
 SERIES 2: MIN. 1 3/4" MAX. 2 1/2"
 SERIES 3: MIN. 2" MAX. 3 1/2"
 SERIES 4: MIN. 2" MAX. 3 1/2"
 TAS/AS GROUND MOUNT: MIN. 2 1/2" MAX. 3 1/2"

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 ERECTOR MUST PROVIDE SAFE WORKING CONDITIONS AND PRACTICES CONFORMING TO ALL SAFETY REGULATIONS. ALL 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

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 PILES IN A JOINT ARE IN FIRM CONTACT.

ALL BOLTS LARGER THAN 1" DIA CONFORM TO ASTM A325.
 ALL OTHER DIA BOLTS CONFORM TO SAE GR.5 OR EQUIVALENT.
 ALL BOLTS SHALL BE PLATED / GALVANIZED OR SUNSEAL COATED.

BOLTS IN CONNECTIONS SUBJECT TO TENSION LOADS REQUIRE PRE TENSIONING TO MINIMUM TENSION
 -VALUES AS SHOWN IN THE TABLE BELOW-

SIZE		Gr 5/A325	
In	mm	kips	kN
5/8	16	18	80
3/4	19	26	125
7/8	22	39	174
1.0	25	51	227
1 1/8	29	56	249
1 1/4	32	71	316

STRUCTURAL BOLT TORQUE VALUES

TABLE B LISTS THE BOLT CLAMP LOADS WITH A SUGGESTED ASSEMBLY TORQUE VALUES

SIZE	Threads Per Inch	Tensile (Min)	Proof Load (Min)	Clamp Load		Torque	
				lbs	kg	Dry ft-lbs	Lube ft-lbs
3/8	18	120	8800	4950	30	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	280	200	
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 C40.21 44W C40.21/ASTM A572 GR 44 (300W)
 H.S.S. C40.21 50W C40.21/ASTM A572 GR 50 (350W)

COATINGS OF TUBES ARE DONE IN-LINE, HOT-DIPPED GALVANIZED TO A NOMINAL COATING ZINC WEIGHT OF 0.8 oz/ft² (180 g/m²) (1.0mil)

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

CLEAR ORGANIC POLYMER APPLIED AS THE TOP SURFACE COAT TO RETARD OXIDATION, ENHANCE SURFACE APPEARANCE AND PROVIDE A PRIMER BASE FOR SUBSEQUENT WELTEN ZINC APPLIED TO ALL WELDS.

ALL VIBERSTEEL WITH GATORSHIELD WILL DEMONSTRATE THE ABILITY TO WITHSTAND A MINIMUM OF 1000 HOURS OF ACCELERATED SALT FOG TESTING TO THE CONDITION OF 5% SURFACE RED RUST, WHEN TESTED IN ACCORDANCE WITH ASTM B117 STANDARDS.

DIAGONAL BRACE ROD STEEL MINIMUM YIELD STRESS 36 KSI (248 MPa).
 DIAGONAL BRACE ROD (CROSS ROD) - #5/8" TYP. U/N
 DIAGONAL BRACE STEEL CABLE EXTRA HIGH STRENGTH PER ASTM A475.
 CROSS CABLES - #5/16" TYP. U/N
 SWAY CABLES - #3/16" TYP. U/N PERPENDICULAR TO THE TOP AND BOTTOM CHORDS U/N

STRUCTURAL COMPONENTS OF THE TITAN SERIES ARE AS FOLLOWS:
 SERIES 2: 3 1/2" TUBES - 24" C-C USING 1.66" DIAMETER WEBS
 SERIES 3: 4" TUBES - 32" C-C USING 1.9" DIAMETER WEBS
 SERIES 4: 5" TUBES - 42" C-C USING 2.375" DIAMETER WEBS

STRUCTURAL COMPONENTS OF THE ARCH SERIES ARE AS FOLLOWS:
 SAS: 2 3/8" TUBES
 TAS: 2 3/8" TUBES - 12" C-C USING #1" WEB
 IAS: ARCH: 2 7/8" TUBES - 24" C-C USING #1" WEB
 LEG: 2 7/8" TUBES - 24" C-C USING #1" WEB

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.

FABRIC SPECIFICATIONS

ALL DURAWEAWE 811X MEMBRANES WILL POSSESS THE FOLLOWING MINIMUM SPECIFICATIONS:

BASE TYPE WEAVE:	DURAWEAWE 2 811X POLYETHYLENE NOMINAL 18 BY 22pp WOVEN CLEAR HDPE SCRIM USING 1800 DENIER TAPES (83 x 87 TAPES PER CM)	ASTM D5199
WEIGHT:	11 ounce/yd ² (373 g/m ²) +/- 5%	ASTM D522
FINISHED COAT WEIGHT:	2.5 MILS AVERAGE EACH SIDE	ASTM D5034
SURFACE PROTECTION:	MODIFIED HDPE COATING WITH UV PROTECTION	ASTM D5034
TOTAL THICKNESS:	25 MILS (0.63 mm)	ASTM D2281
COLD CRACK:	PASS @ MINUS 30 DEGREES C	ASTM D2281
HYDROSTATIC RESISTANCE:	>300 psi (2070 kPa)	ASTM D4533
GRAB TENSILE:	WARP: 325 lbs (1445 N) WEFT: 450 lbs (2000 N)	ASTM D4533
TONGUE TEAR:	WARP: 145 lbs (645 N) WEFT: 140 lbs (622 N)	ASTM D3786
TRAP TEAR:	WARP: 110 lbs (444 N) WEFT: 150 lbs (667 N)	ASTM G53
MULLEN BURST:	730 psi (5037 kPa)	ASTM G53
ACCELERATED UV WEATHERING:	COLOR - >90% STRENGTH RETENTION AFTER 2000 HRS CLEAR - >80% STRENGTH RETENTION AFTER 2000 HRS	ASTM G53

DRAWING SCHEDULE		REVISIONS			
DWG #	DRAWING TITLE	REV.	DATE	REV.	DATE
1	COVERPAGE	1	24 APR 01		
2	BASE PLATE LAYOUT	1	24 APR 01		
3	DESIGN CRITERIA	1	24 APR 01		
4	BUILDING PROFILE	1	24 APR 01		
5	BRACING LAYOUT	1	24 APR 01		
6	FABRIC DETAILS	1	24 APR 01		
7	ENDWALL - GROUNDLINE 1	1	24 APR 01		
8	ENDWALL - GROUNDLINE 24	1	24 APR 01		
9	STANDARD DETAILS 1	1	24 APR 01		
10	STANDARD DETAILS 2	1	24 APR 01		
11	STANDARD DETAILS 3	1	24 APR 01		
12	END DETAILS	1	24 APR 01		

DURAWEAWE FR FABRIC

DURAWEAWE FR FABRIC MEETS OR EXCEEDS THE FOLLOWING TEST STANDARDS.
 NFPA 701
 CAN / ULC-S102.2-M88
 ASTM E 84
 CAN / ULC-S109-M87
 UBC 31-1
 FA-51403

ROOF PLAN NOTES:

UNLESS NOTED, USE 5/8" DIA. 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 TRUSSES STRUCTURAL SYSTEM AND SHOULD BE PROPERLY INSTALLED PRIOR TO ERECTION OF FABRIC ROOF AND ENDWALL PANELS. REMOVAL OR ALTERATION OF ANY BRACING WITHOUT PRIOR AUTHORIZATION IS PROHIBITED.

ELEVATION NOTES:

HOLE 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 1/2" DIA. "HILTI KWIK-BOLTS" OR SIMILAR.

PARTITION WALL NOTE:

FIELD INSTALLATION OF PARTITION WALL TO UNDERSIDE OF ANY ARCH FRAMING MEMBERS MUST ALLOW FOR VERTICAL BUILDING DEFLECTION. CONTACT COVER-ALL BUILDING SYSTEMS FOR REQUIRED CLEARANCES.

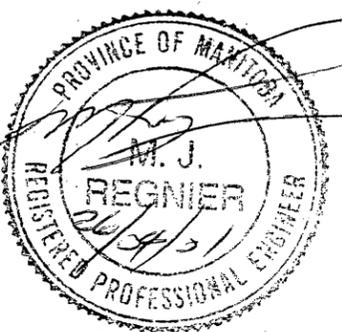
MATERIAL STORAGE:

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: COVER-ALL BUILDINGS SYSTEMS WILL NOT BE HELD RESPONSIBLE FOR MATERIALS WHICH ARE IMPROPERLY PROTECTED AFTER DELIVERY.

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

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



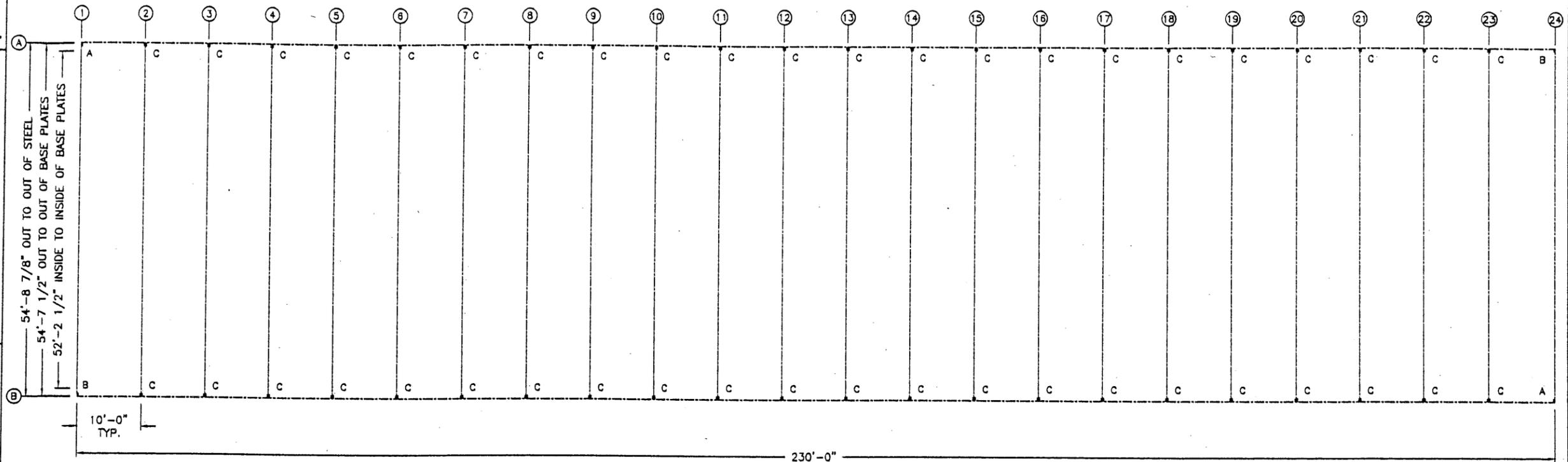
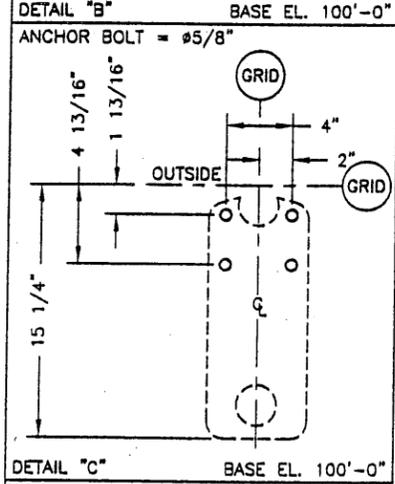
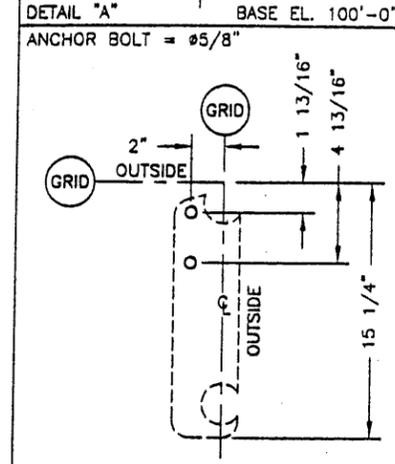
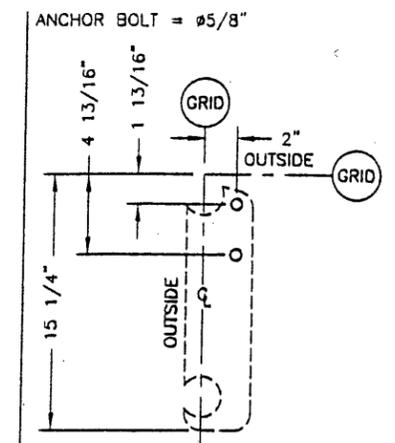
DEALER: COVER-ALL MANITOBA HEADINGLEY, MB
 CUSTOMER: BRANDON SALT STORAGE BRANDON, MB
 PROJECT: SALT STORAGE BUILDING BRANDON, MB
 PROJECT ID: GA3314/ENG456
 ORDER ID:

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DRAWN BY: N MARKHAM
 DATE: 24 APR 01
 CHECKED BY: [Signature]
 DATE: 25 APR 01
 SCALE: N.T.S.

2201 SPEERS AVE, SASKATOON, SASKATCHEWAN, S7L 5X6
 PH: 1-306-664-4777 FAX: 1-306-664-1752
 WEBSITE: www.coverall.net, E-MAIL: tech@coverall.net

FILE: COVERPAGE
 SHEET: 1of12
 REVISION: 1



54'-8 7/8" OUT TO OUT OF STEEL
 54'-7 1/2" OUT TO OUT OF BASE PLATES
 52'-2 1/2" INSIDE TO INSIDE OF BASE PLATES

BASE PLATE LAYOUT

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
 HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
 BRANDON, MB

PROJECT: SALT STORAGE BUILDING
 BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

THIS DRAWING IS PROPERTY OF COVER-ALL BUILDING SYSTEMS. ANY REPRODUCTION IN WHOLE OR IN PART WITHOUT THE EXPRESSED WRITTEN CONSENT OF COVER-ALL BUILDING SYSTEMS IS PROHIBITED

DRAWN BY: N MARKHAM
 DATE: 24 APR 01

CHECKED BY: [Signature]
 DATE: 25 APR 01

SCALE: N.T.S.

2201 SPEERS AVE, SASKATOON, SASKATCHEWAN, S7L 5X6
 PH: 1-306-664-4777 FAX: 1-306-664-1752
 WEBSITE: www.coverall.net, E-MAIL: tech@coverall.net

BASE PLATE LAYOUT

SHEET 2 of 12

REVISION 1

SNOW AND WIND LOAD LIMITATIONS OF 55 FOOT TRUSS ARCH STRUCTURES FOR LOW HUMAN OCCUPANCY APPLICATIONS FOR EXPOSED LOCATIONS (C_w = 0.75 AS DEFINED BY CLAUSE 4.1.7 OF THE BMHA 98)

In the course of the design, an S-Frame analysis and component tests were performed to develop allowable snow and wind load criteria. The summary of the results of the analysis are shown in the table below:

SPACING OF ARCH (FT)	ALLOWABLE WIND PRESSURE (LBS/FT ²)	MEAN HOURLY WIND VELOCITY (MPH)	ALLOWABLE GROUND SNOW LOAD (S _s + S _R) (LBS/FT ²)	MINIMUM ANCHOR POINT REQUIREMENTS (LBS)		
				HORIZ.	DOWN	UP
10	10.0	60.9	50.0	2,800	3,760	2,450

These numbers are generated based on the Buildings and Mobile Homes Act 1998 (BMHA 98) for low human occupancy as defined by A-4.1.3.2.(7). The factors that have been applied from these codes are as follows:

GENERAL:

$\gamma = 0.8$ (importance factor)

WIND LOAD:

$C_e = 0.9$ (exposure factor)

$C_g = 2.0$ (gust factor)

$C_{pe} = *$ (external pressure coefficient)

SNOW LOAD:

$C_w = 0.75$ (wind exposure factor)

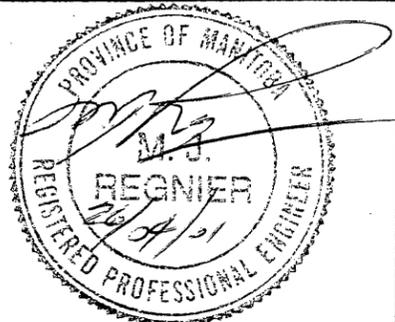
$C_s = 0.80$ (basic snow load factor)

$C_d = \frac{(60^\circ - \alpha)}{45^\circ}$ (slope factor)

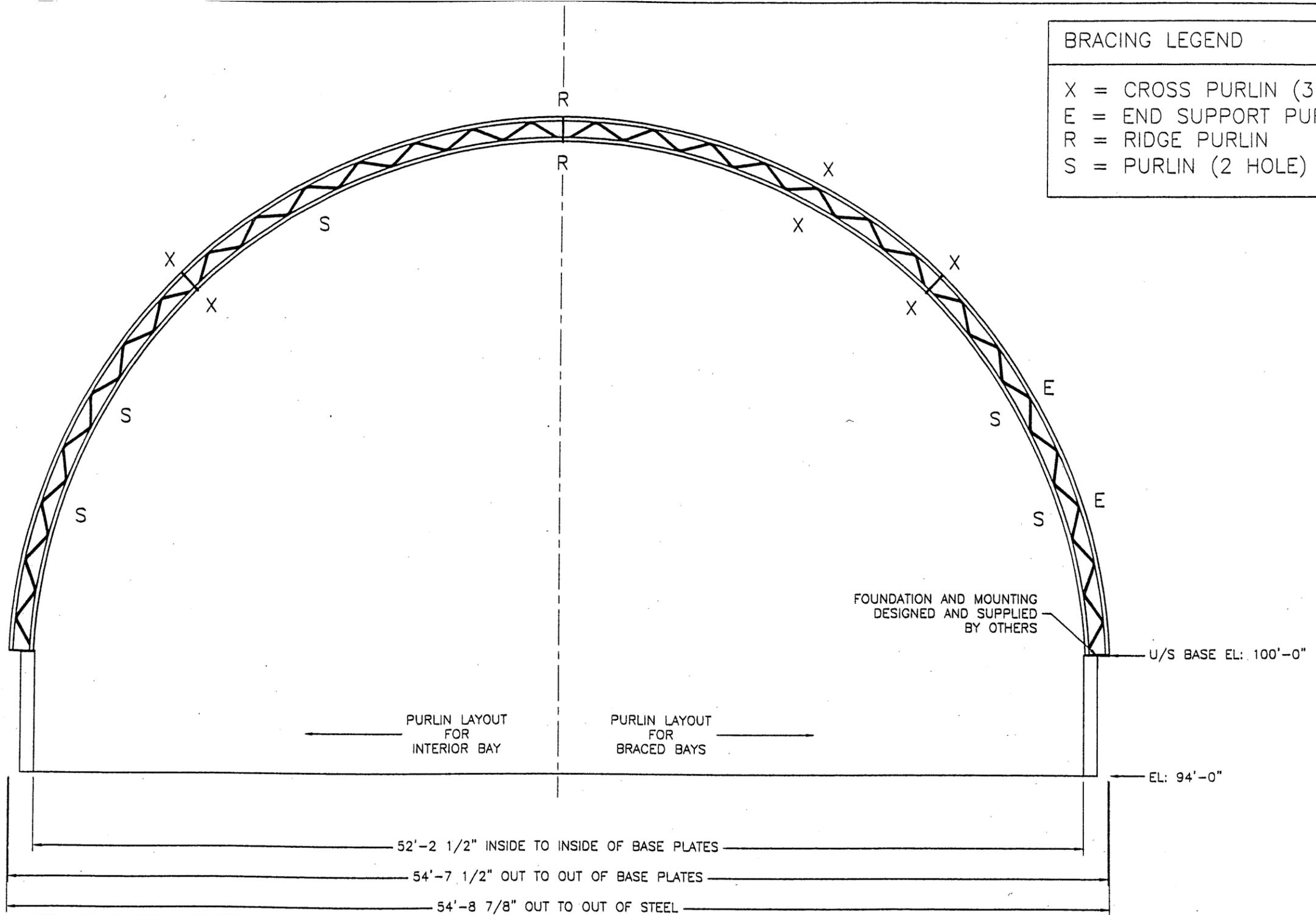
$C_a = 1.00$ (accumulation factor)

* C_{pe} values were developed based on a model developed by the University of Saskatchewan to analyze an arch type storage unit. The values closely follow those of Figure B-20 of the NBC 1995.

Because the BMHA 98 requires evaluation of each site and its surroundings, each installation must be individually evaluated. This assessment must be completed by a qualified engineer, including assurance that the building is not sheltered. As well, the owner of the building must ensure adequate foundation restraint (including any engineering required).

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					CUSTOMER: BRANDON SALT STORAGE BRANDON, MB			DRAWN BY: N MARKHAM DATE: 24 APR 01
					PROJECT: SALT STORAGE BUILDING BRANDON, MB	CHECKED BY: <i>[Signature]</i> DATE: 25 APR 01	2201 SPEERS AVE, SASKATOON, SASKATCHEWAN, S7L 5X6 PH: 1-306-664-4777 WEBSITE: www.coverall.net, E-MAIL: tech@coverall.net	
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REV.	DESCRIPTION	BY	DATE					

BRACING LEGEND	
X	= CROSS PURLIN (3 HOLE)
E	= END SUPPORT PURLIN (3 HOLE)
R	= RIDGE PURLIN
S	= PURLIN (2 HOLE)



REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

PROJECT: SALT STORAGE BUILDING
BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

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DATE: 24 APR 01

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DATE: 25 APR 01

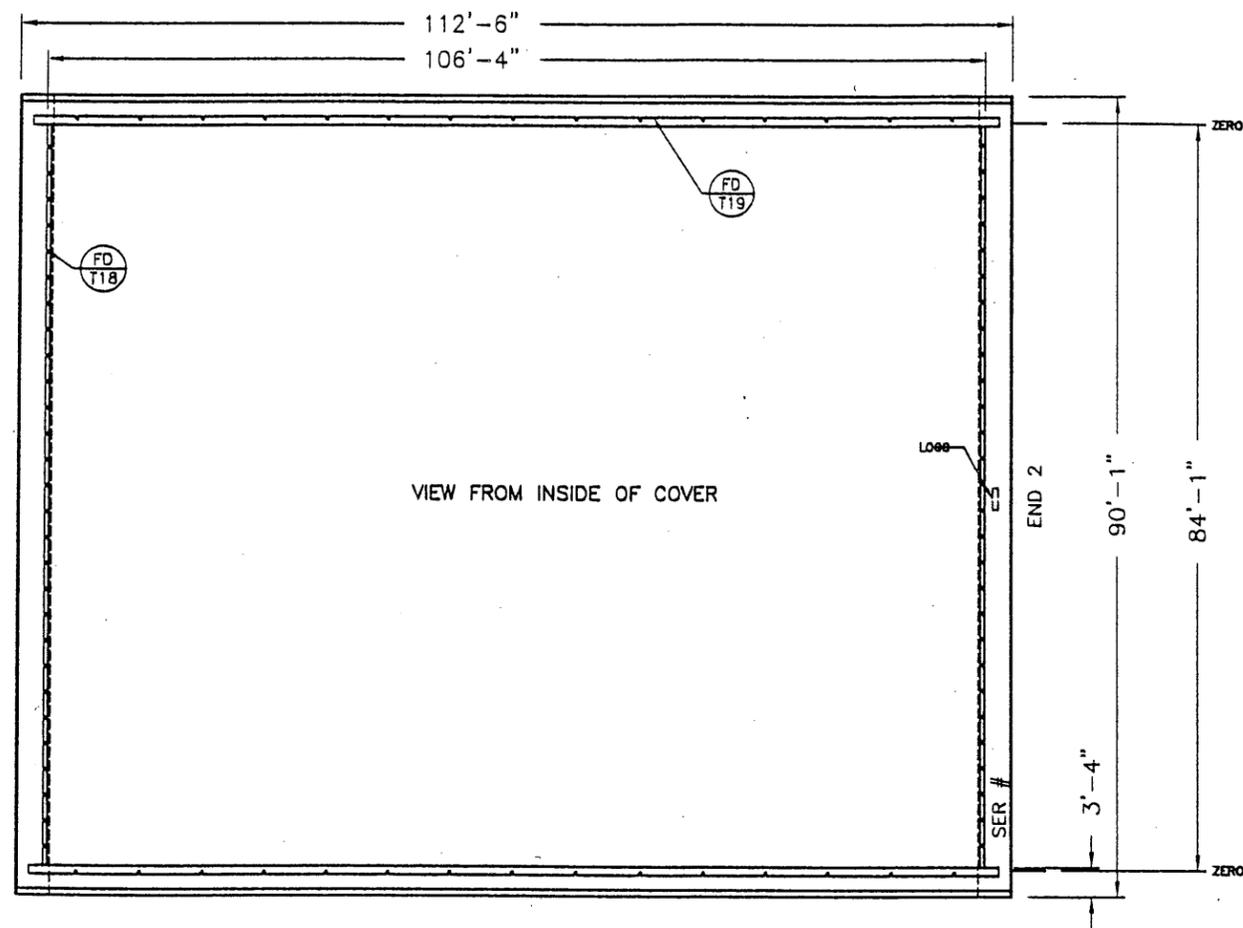
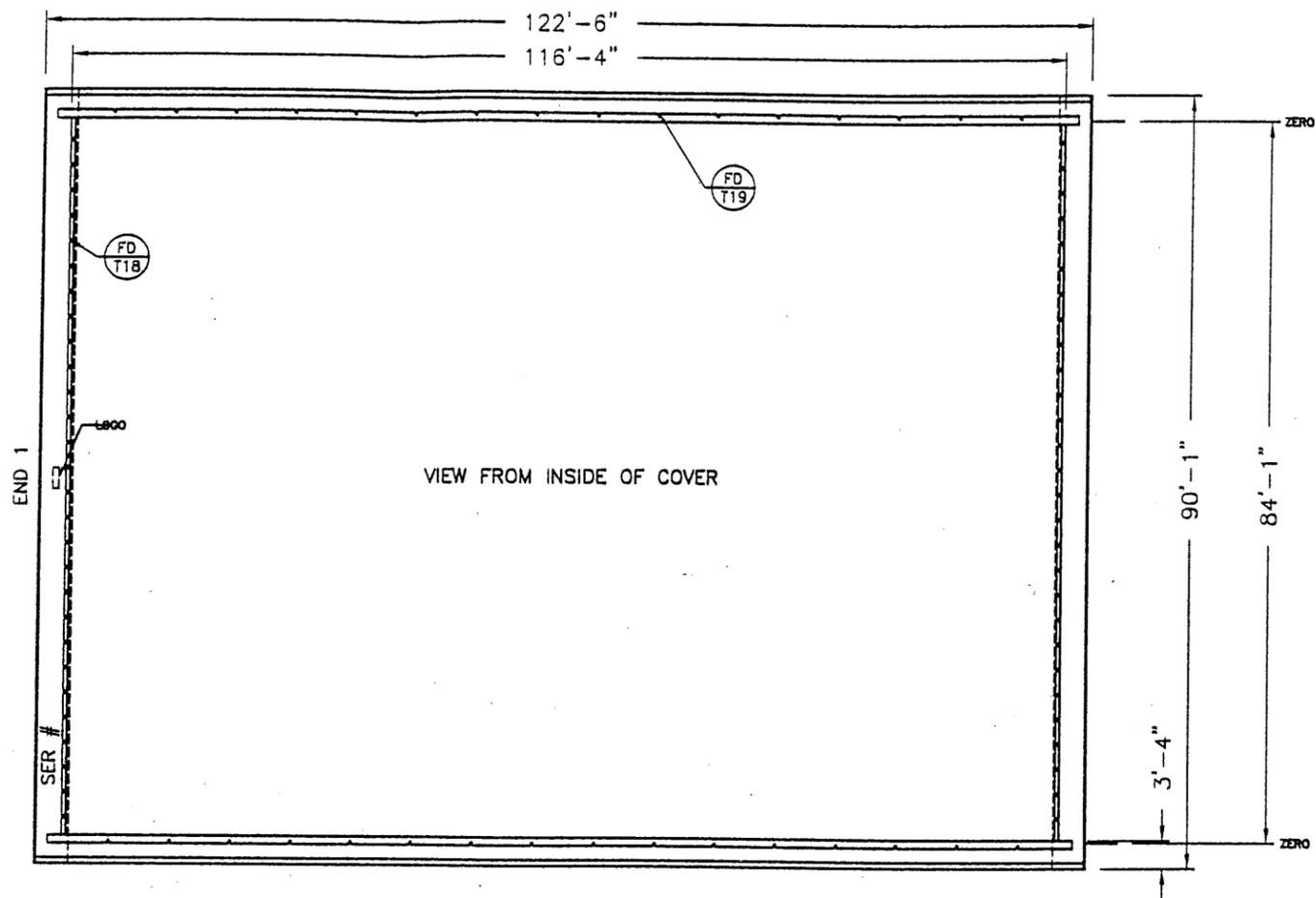
SCALE: N.T.S.

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BUILDING PROFILE

SHEET 4 of 12

REVISION 1



REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

LOCATION: SALT STORAGE BUILDING
BRANDON, MB

PROJECT:
GA3314/ENG456

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DATE: 24 APR 01

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DATE: 25 APR 01

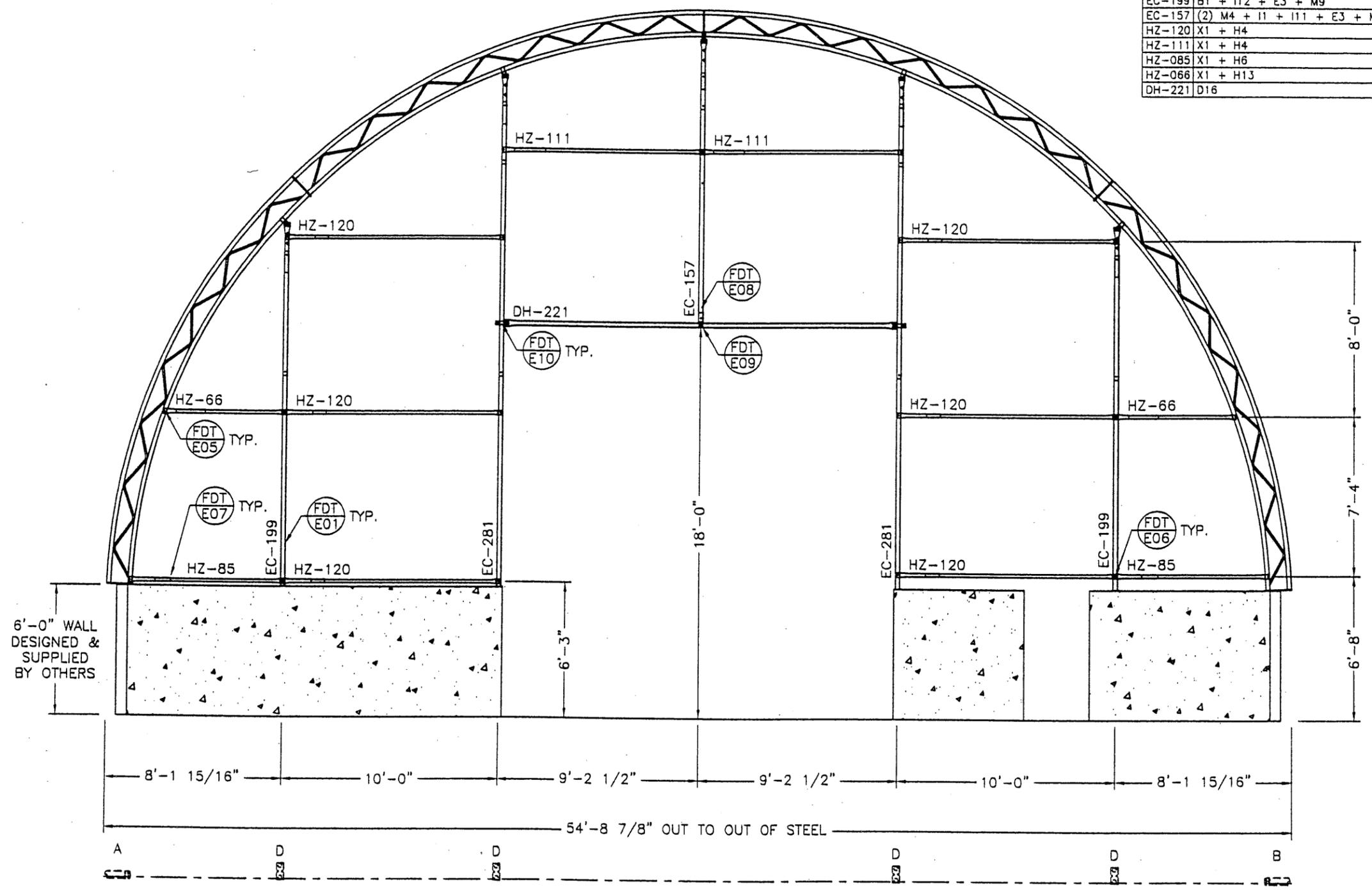
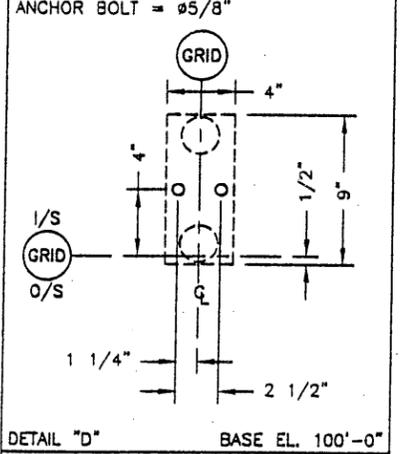
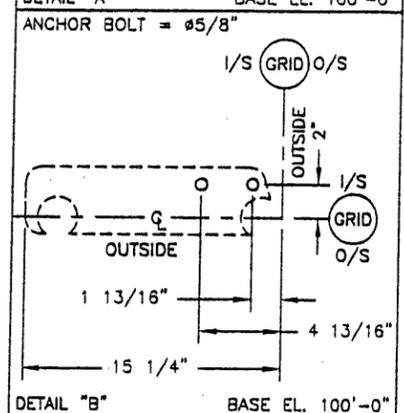
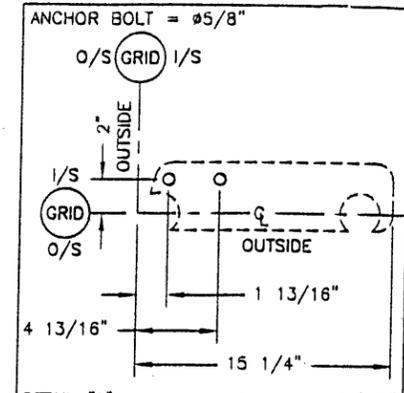
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ORDER #:

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FILE: FABRIC DETAILS
SHEET: 6 of 12
REVISION: 1

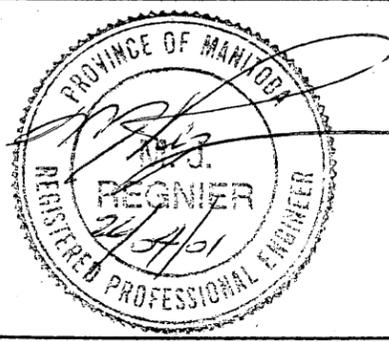
NOTE: VERTICAL COMPONENTS LABELLED FROM GROUND UP

MARK#	COMPONENTS	WEIGHT
EC-281	B1 + I1 + I10 + E3 + M9	114.14
EC-199	B1 + I12 + E3 + M9	83.58
EC-157	(2) M4 + I1 + I11 + E3 + M9	67.66
HZ-120	X1 + H4	15.93
HZ-111	X1 + H4	15.93
HZ-085	X1 + H6	11.97
HZ-066	X1 + H13	10.68
DH-221	D16	77.16



I/S = INSIDE OF BUILDING.
O/S = OUTSIDE OF BUILDING.

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

PROJECT: SALT STORAGE BUILDING
BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

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DATE: 24 APR 01

SCALE: N.T.S.

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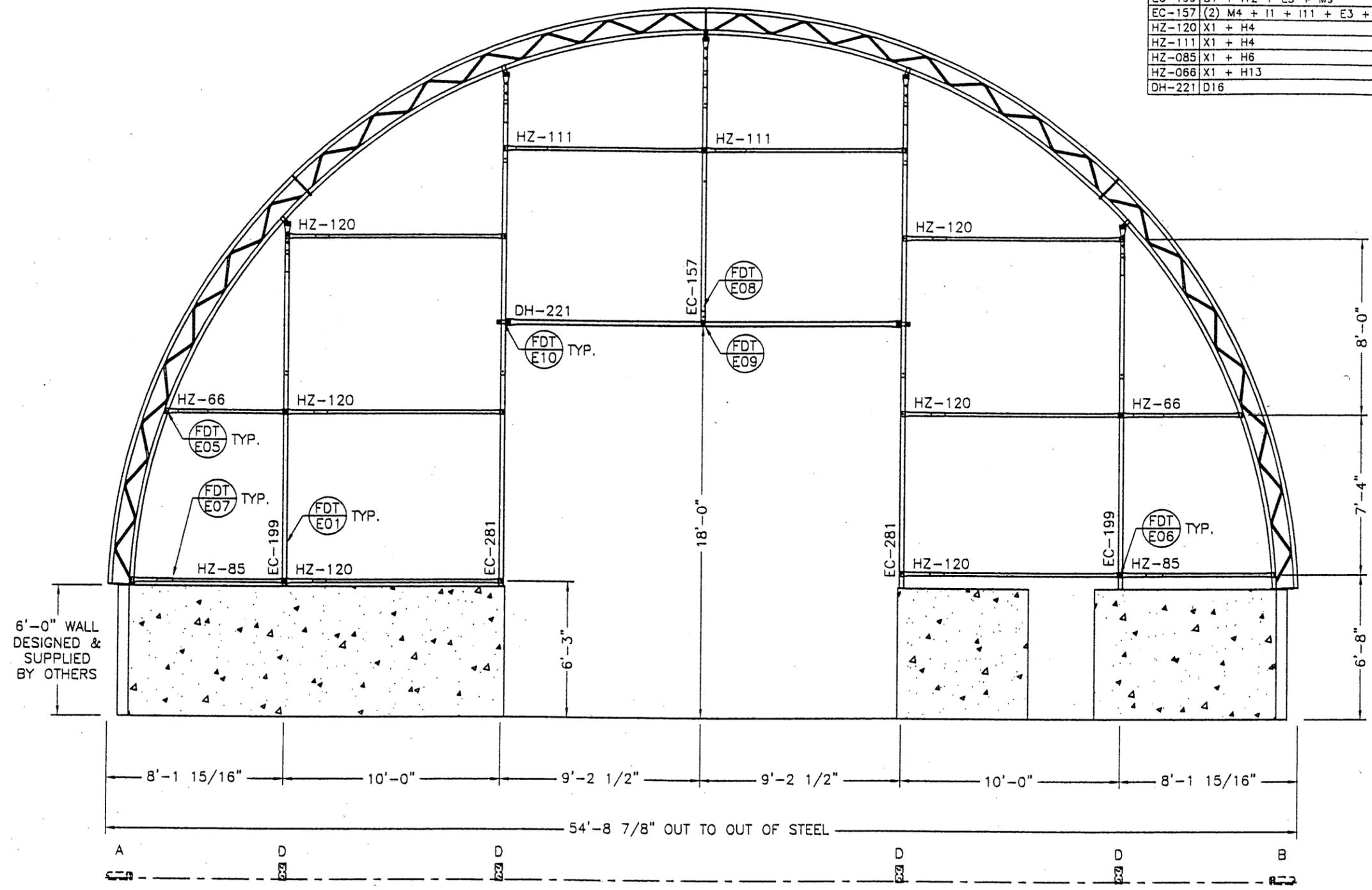
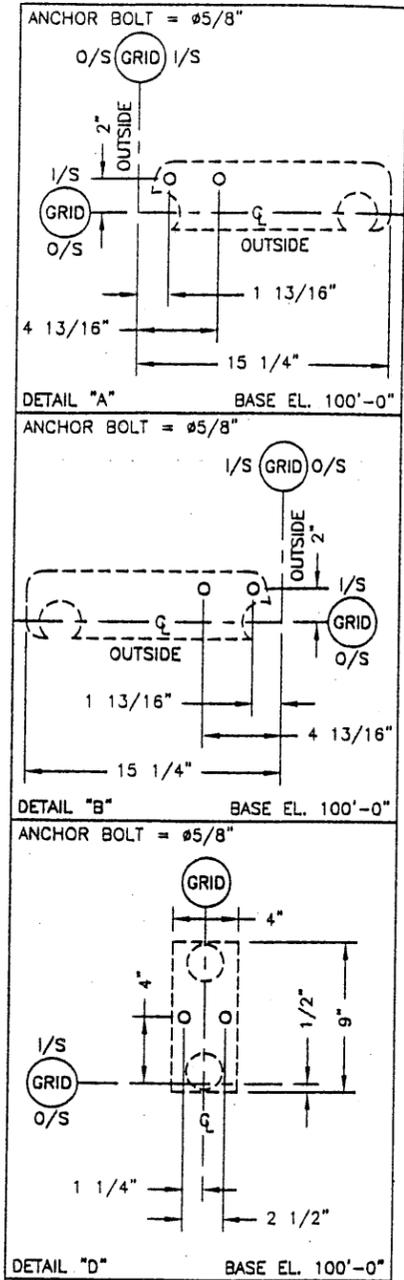
FILE: ENDWALL - GRIDLINE 1

SHEET: 7of12

REVISION: 1

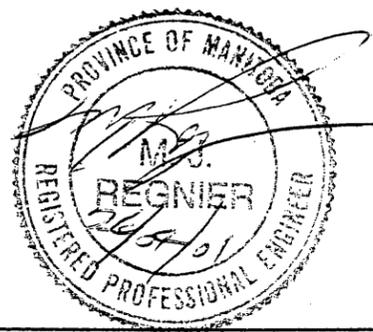
NOTE: VERTICAL COMPONENTS LABELLED FROM GROUND UP

MARK#	COMPONENTS	WEIGHT
EC-281	B1 + I1 + I10 + E3 + M9	114.14
EC-199	B1 + I12 + E3 + M9	83.58
EC-157	(2) M4 + I1 + I11 + E3 + M9	67.66
HZ-120	X1 + H4	15.93
HZ-111	X1 + H4	15.93
HZ-085	X1 + H6	11.97
HZ-066	X1 + H13	10.88
DH-221	D16	77.16



I/S = INSIDE OF BUILDING.
O/S = OUTSIDE OF BUILDING.

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

PROJECT: SALT STORAGE BUILDING
BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

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CHECKED BY: [Signature]

DATE: 24 APR 01

SCALE: N.T.S.

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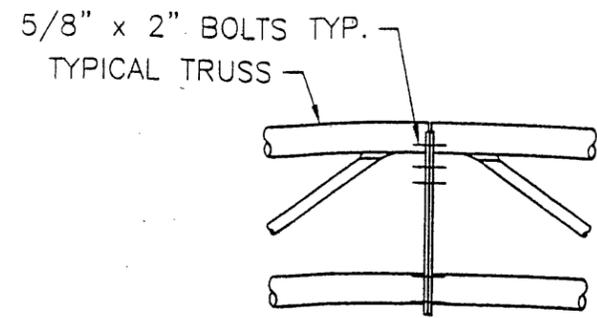
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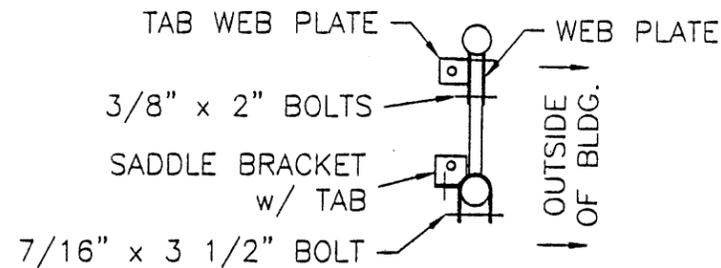
FILE: ENDWALL - GRIDLINE 24

SHEET: 8of12

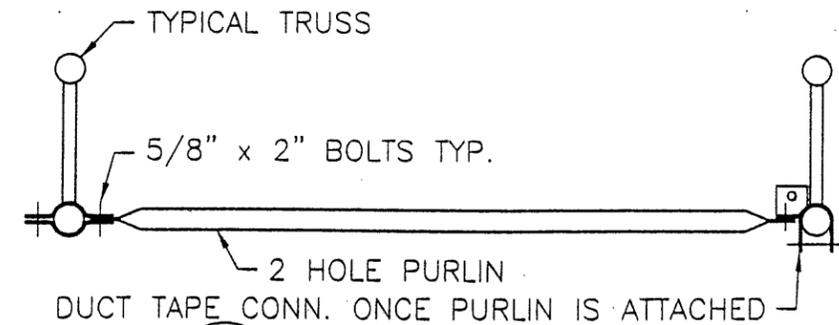
REVISION: 1



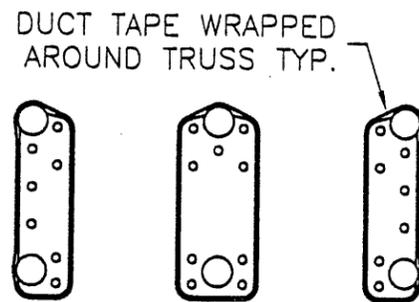
FD COUPLER CONNECTION
T01 DETAIL



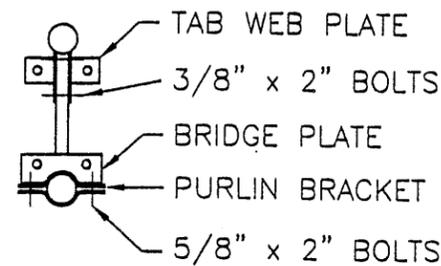
FD WEB PLATE & SADDLE BRACKET
T04 CONNECTION AT END ARCH



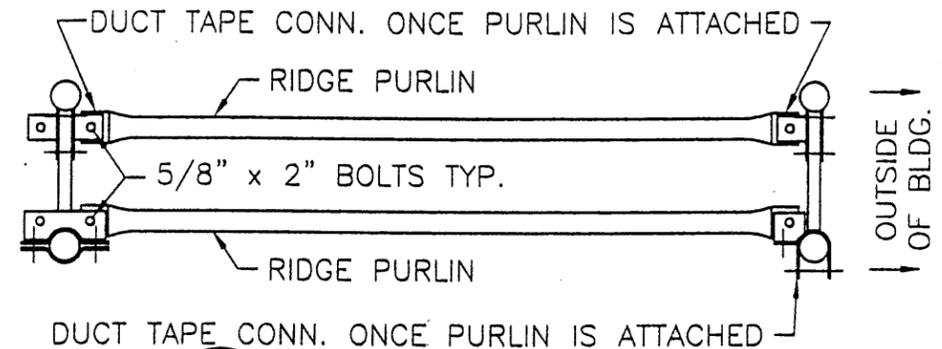
FD 2-HOLE PURLIN
T07 CONNECTION



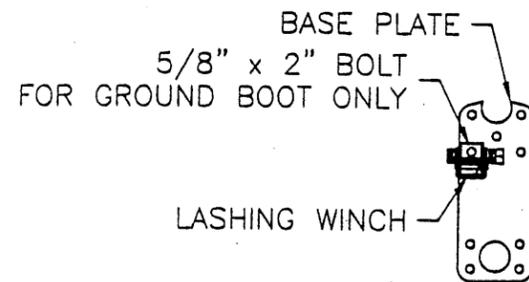
FD DUCT TAPE APPLICATION
T02 TO PROTECT FABRIC



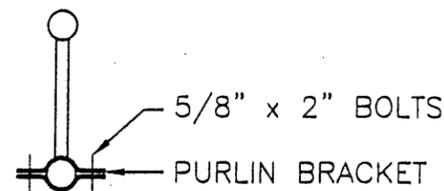
FD WEB PLATE & PURLIN BRACKET
T05 CONNECTION AT INTERIOR ARCH



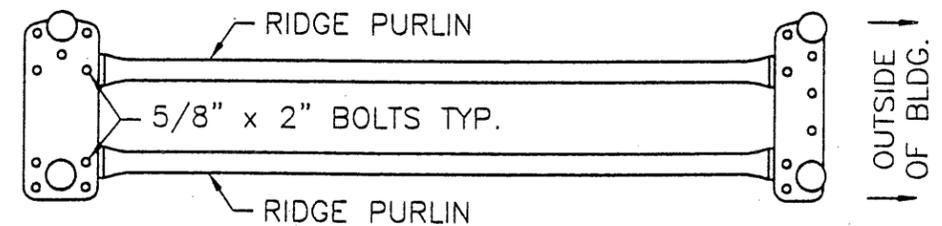
FD RIDGE PURLIN WEB
T08 CONNECTION



FD LASHING WINCH ATTACHMENT
T03 FOR GROUND MOUNT BLDG.

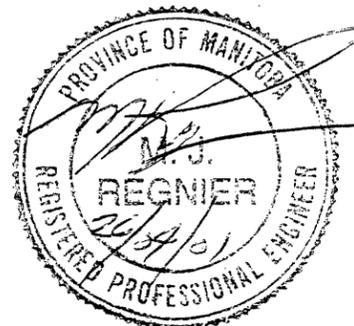


FD PURLIN BRACKET
T06 CONNECTION



FD RIDGE PURLIN COUPLER
T09 CONNECTION

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

PROJECT: SALT STORAGE BUILDING
BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

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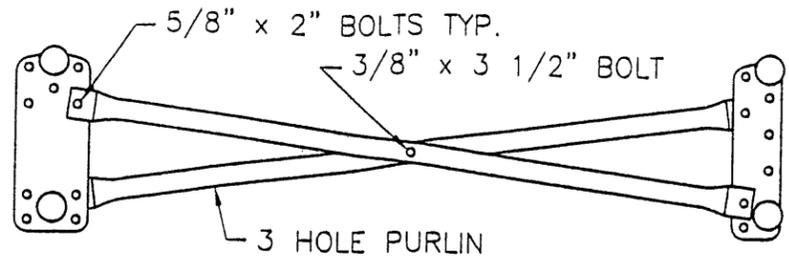
SCALE: N.T.S.

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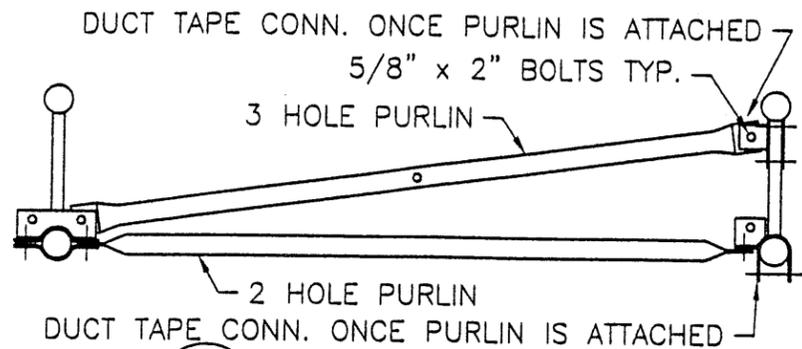
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STANDARD DETAILS 1

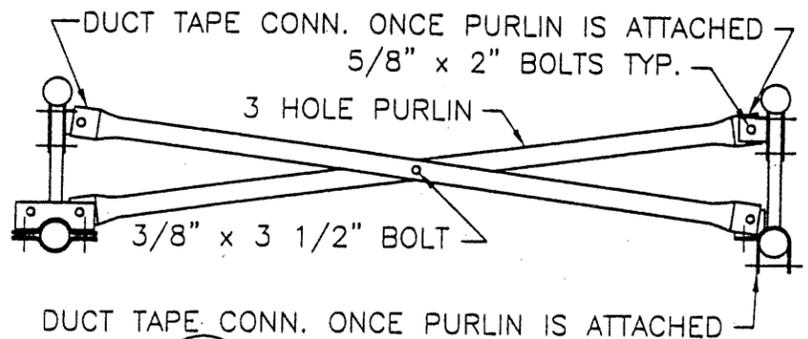
SHEET 9 of 12
REVISION 1



FD T10 BRACING PURLIN CONNECTION



FD T11 END SUPPORT PURLIN WEB CONNECTION

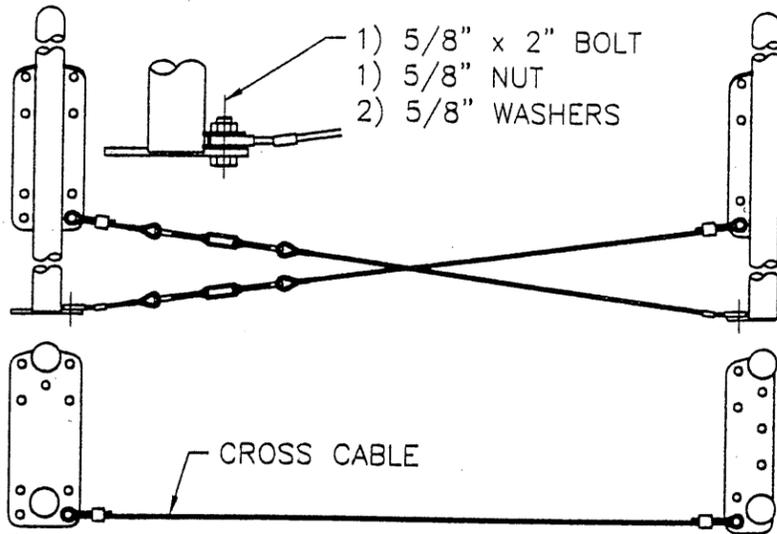


FD T12 END SUPPORT BRACE PURLIN AT WEB CONN.

OUTSIDE OF BLDG.

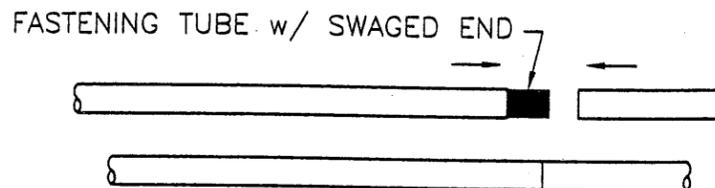
OUTSIDE OF BLDG.

OUTSIDE OF BLDG.



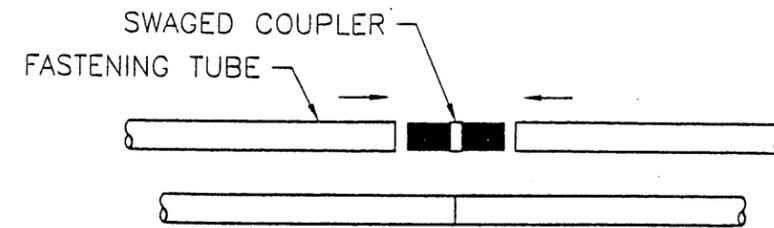
FD T13 CROSS CABLE CONNECTION FOR Ø3/16" CABLES

FOR BUILDINGS WITHOUT GROUND BOOT, USE ANCHOR BOLT AT BASE CONNECTION IN LIEU OF 5/8" x 2" BOLT



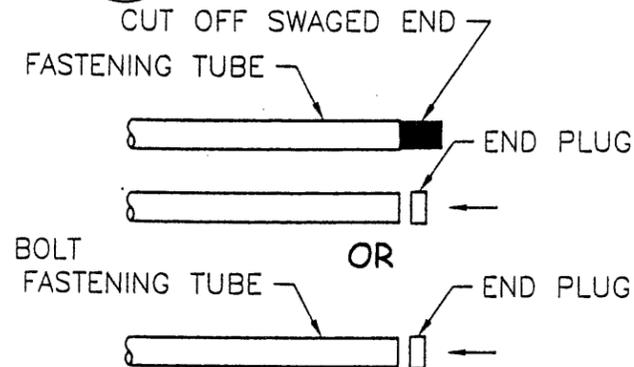
FD T14 FASTENING TUBE CONNECTION

1) TEK SCREW 1/4"-14 x 3/4"

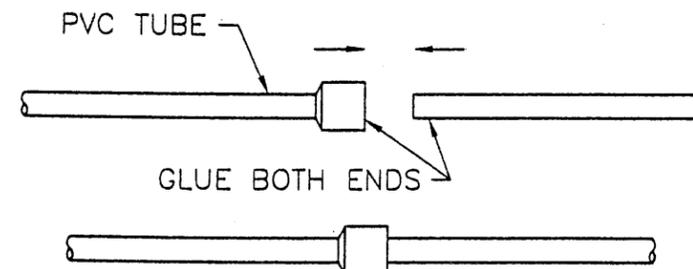


1) TEK SCREW 1/4"-14 x 3/4"

FD T15 FASTENING TUBE SPLICE CONNECTION



FD T16 FASTENING TUBE CAP



FD T17 PVC TUBE CONNECTION

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA HEADINGLEY, MB
 CUSTOMER: BRANDON SALT STORAGE BRANDON, MB
 PROJECT: SALT STORAGE BUILDING BRANDON, MB

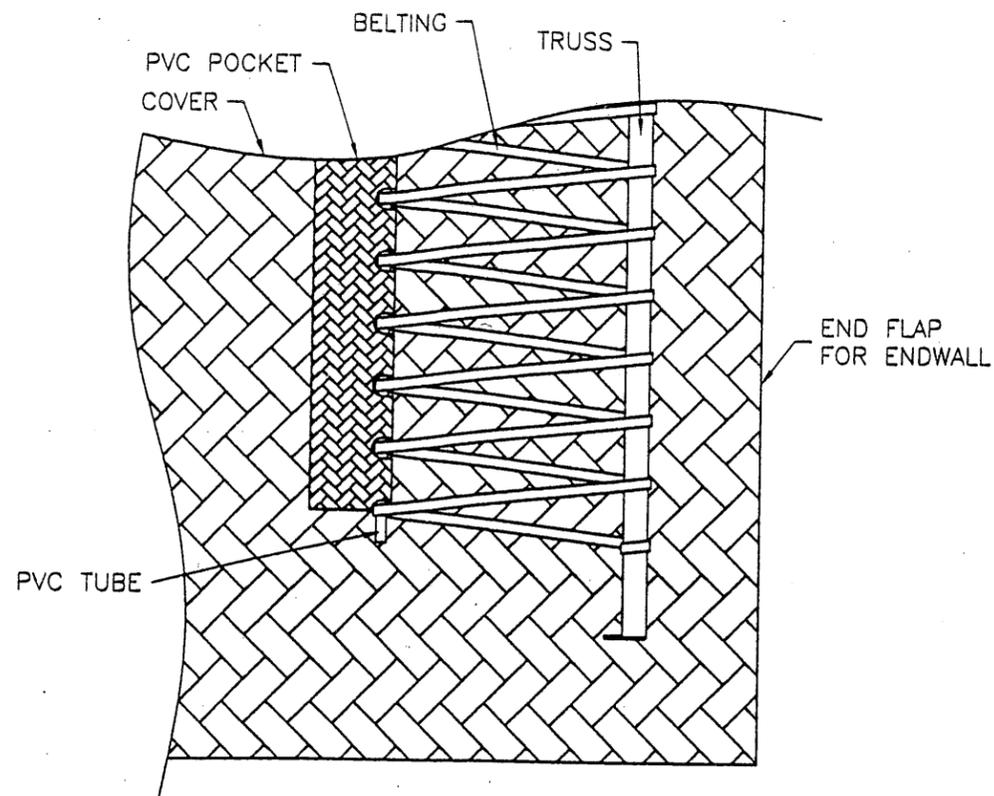
PROJECT ID: GA3314/ENG456
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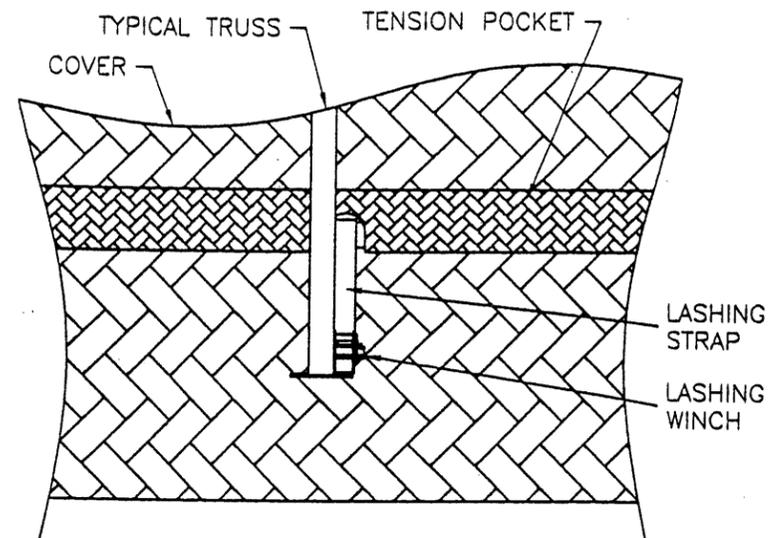
DRAWN BY: N MARKHAM
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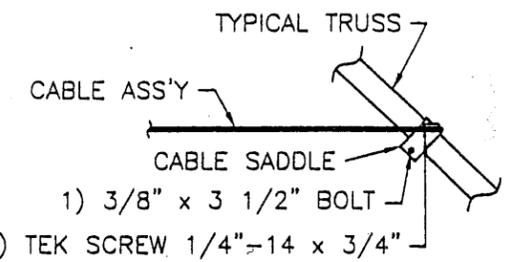
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 STANDARD DETAILS 2
 SHEET 10 of 12
 REVISION 1



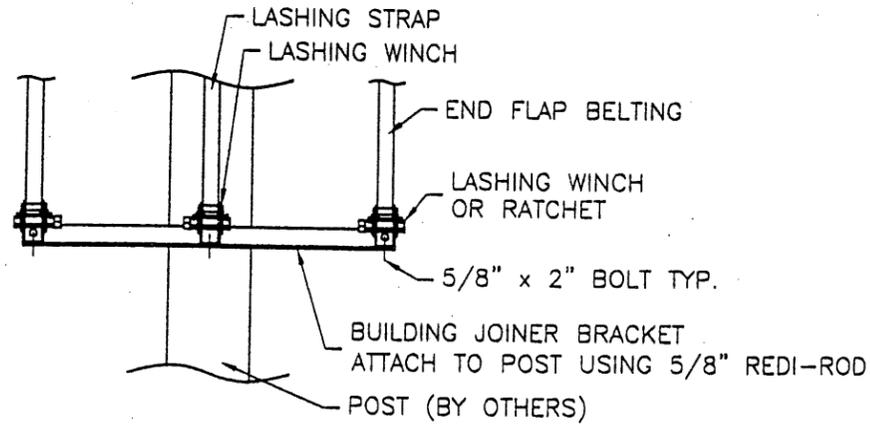
FD PVC TUBE CONNECTION
T18 TO BUILDING



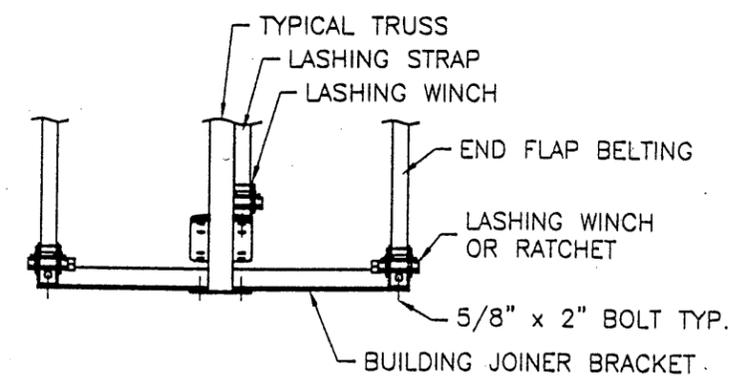
FD FASTENING TUBE CONNECTION
T19 TO BUILDING



FD ARCH CABLE CONNECTION
T22 TO BUILDING - Ø5/16" CABLE



FD JOINER BRACKET CONNECTIONS
T20 TO WALL MOUNT BUILDING



FD JOINER BRACKET CONNECTIONS
T21 TO GROUND MOUNT BUILDING

REV.	DESCRIPTION	BY	DATE
1	RELEASED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA
HEADINGLEY, MB

CUSTOMER: BRANDON SALT STORAGE
BRANDON, MB

PROJECT: SALT STORAGE BUILDING
BRANDON, MB

PROJECT ID: GA3314/ENG456

ORDER ID:

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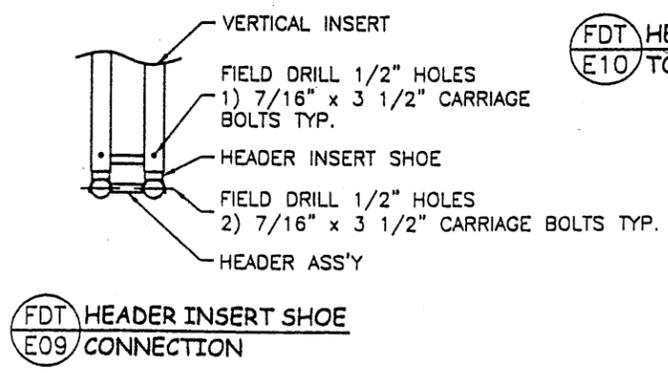
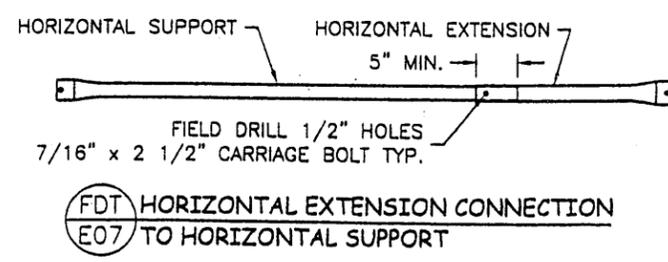
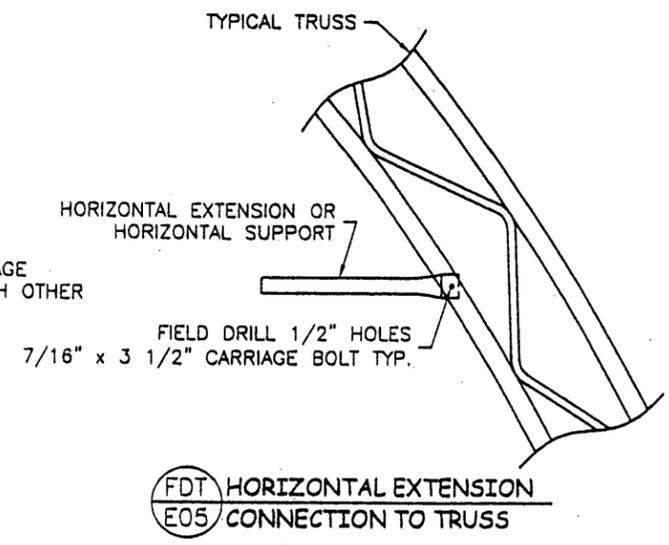
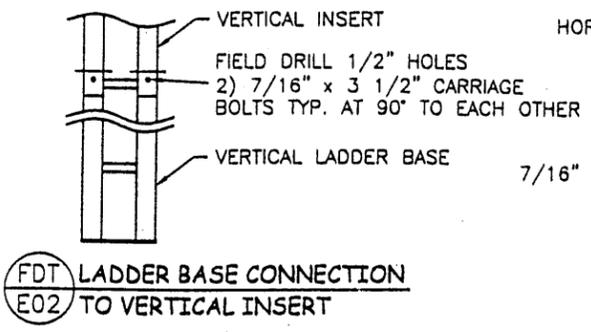
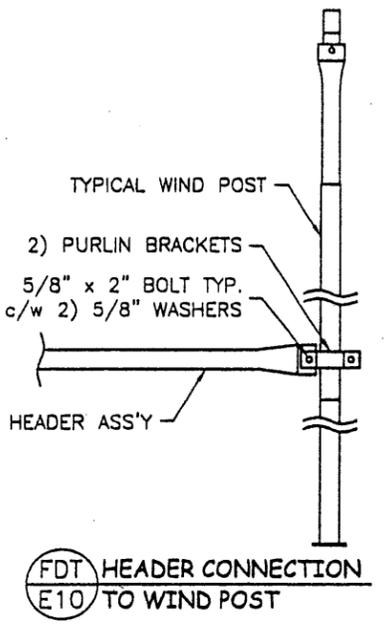
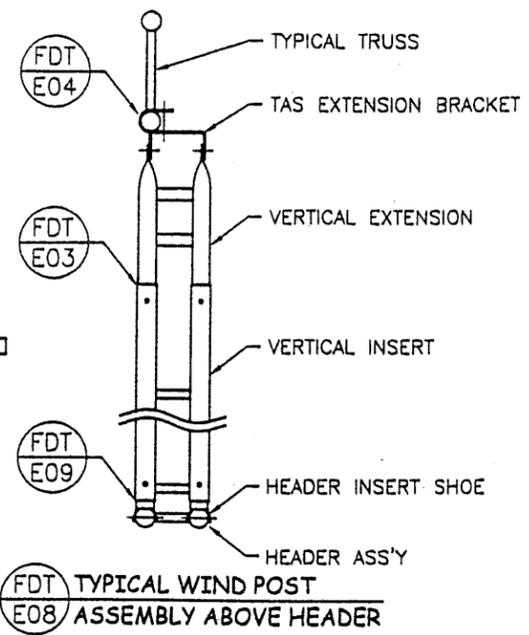
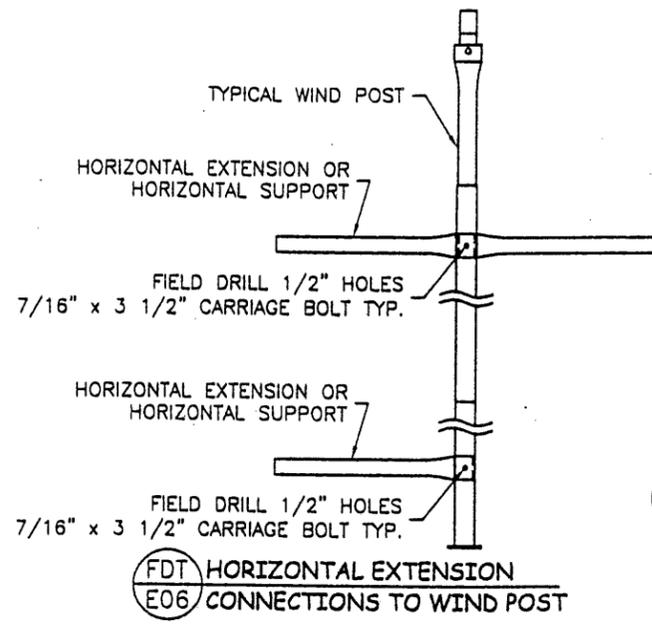
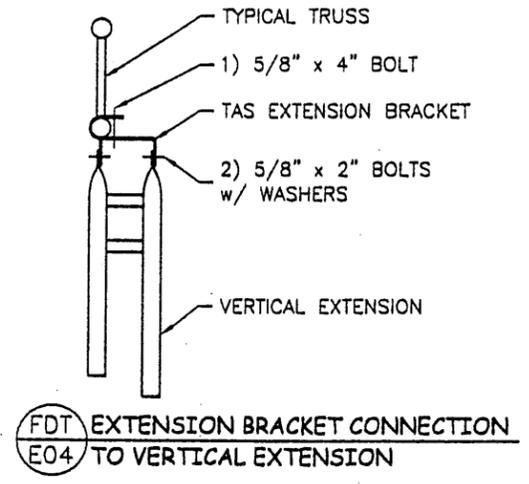
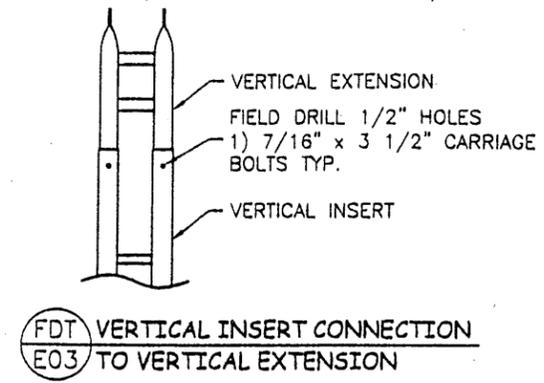
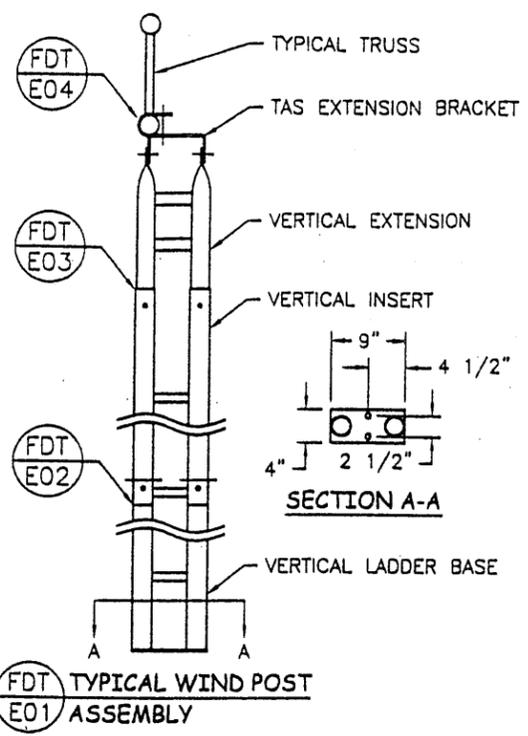
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DATE: 24 APR 01

CHECKED BY: [Signature]
DATE: 24 APR 01

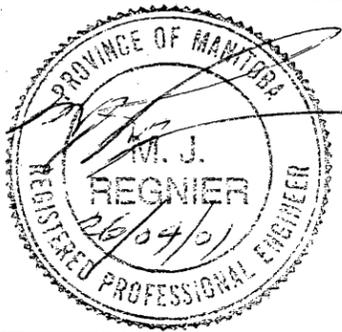
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FILE: STANDARD DETAILS 3 SHEET 11 of 12 REVISION 1



REV.	DESCRIPTION	BY	DATE
1	ISSUED	NM	24 APR 01



DEALER: COVER-ALL MANITOBA HEADINGLEY, MB
 CUSTOMER: BRANDON SALT STORAGE BRANDON, MB
 PROJECT: SALT STORAGE BUILDING BRANDON, MB
 PROJECT ID: GA3314/ENG456
 ORDER ID:

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 DRAWN BY: N MARKHAM
 CHECKED BY: [Signature]
 SCALE: N.T.S.
 DATE: 24 APR 01

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 SHEET: 12 of 12
 REVISION: 1

Handwritten notes: "Dan / 2012 / 11 / 21 / 6:00 PM" and "REVISED" with a signature.