

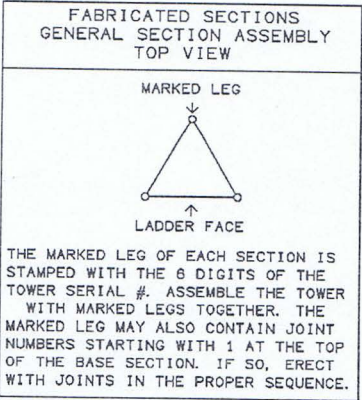
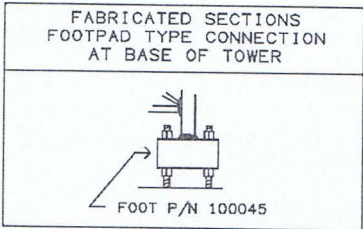
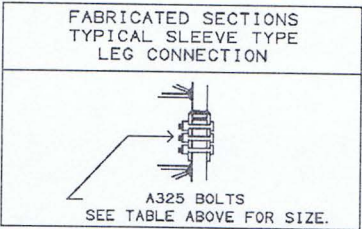
EET LLC
10321 ADAMS ROAD
GRANGER, INDIANA 46530
574-277-0670
ILLINOIS COA #184004782

JOHN R. ERICHSEN
081-005790
LICENSED
STRUCTURAL
ENGINEER
STATE OF ILLINOIS
EXPIRES 11-30-2010
12-14-09

TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'				valmont STRUCTURES	
B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009	APPROVED/ENG.	SKK 12/11/2009
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/FOUND.	N/A
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2009	
From: F1012292.DFT - 12/11/2009 16:31				ENG. FILE NO. A-124707-	DRAWING NO. 228944
Printed from 228944_010B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ARCHIVE F-1012292	PAGE 1 OF 7

FABRICATED SECTION DATA 0' - 80' ELEVATION									
SECT LEN	SEC #	SECTION PART#	LEG SIZE	BRACE SIZE	SECT WT. #	BOLTS AT BOTTOM			
						DIAM	LENGTH		
20'	S- 1.5	115012	1 "	1/2 "	270#	1/2 "	3"	9	
20'	S- 2.0	100241	1- 1/4 "	1/2 "	471#	1/2 "	3"	9	
20'	S- 2.5	100242	1- 1/4 "	1/2 "	451#	9/16"	3-1/2"	9	
20'	S- 3.0	132496	1- 1/2 "	5/8 "	663#				

* THE WEIGHTS LISTED ARE THEORETICAL. THE ACTUAL WEIGHTS WILL VARY. ALL WEIGHTS SHOULD BE CONFIRMED IN THE FIELD PRIOR TO ERECTION.



EET LLC
10321 ADAMS ROAD
GRANGER, INDIANA 46530
574-277-0670
ILLINOIS COA #184004782

JOHN R. ERICHSEN

081-005790
LICENSED
STRUCTURAL
ENGINEER

STATE OF ILLINOIS

EXPIRES 11-30-2010

12-14-09

TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'					
B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009		
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/ENG.	SKK 12/11/2009
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	N/A
				COPYRIGHT 2009	
				DRAWN BY	SKK
From: F1012292.DFT - 12/11/2009 16:31				ENG. FILE NO.	A-124707-
Printed from 228944_020B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ARCHIVE	F-1012292
				DRAWING NO. 228944	
				PAGE 2 OF 7	

valmont

1-877-467-4763 Plymouth, IN
1-888-880-9191 Salem, OR

STRUCTURES

GENERAL NOTES

1. TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 75 MPH FASTEST-MILE BASIC WIND SPEED WITH .5" RADIAL ICE WITH LOAD DUE TO WIND REDUCED BY 25% WHEN CONSIDERED SIMULTANEOUSLY WITH ICE.
TOWER DESIGN CONFORMS TO STANDARD EIA/TIA-222-F FOR 75 MPH FASTEST-MILE BASIC WIND SPEED WITH NO ICE.
2. TWIST AND SWAY PER EIA/TIA-222-F FOR 2 FT. DIAMETER DISHES AT 23 GHZ (LESS THAN OR EQUAL TO 1.183 DEGREES) AT 50 MPH WITH NO ICE AT 80 FT. ABOVE THE BASE OF THE TOWER. ALL OPERATIONAL WINDLOADS ARE ASSUMED TO OCCUR AT 33 FT. ABOVE GROUND LEVEL.
3. MATERIAL: (A) SOLID RODS TO ASTM A572 GRADE 50. (B) ANGLES TO ASTM A36. (C) PIPE TO ASTM A500 GRADE B. (D) STEEL PLATES TO ASTM A36. (E) CONNECTION BOLTS TO ASTM A325 OR ASTM A449 (Fu=120 KSI AND Fy=92 KSI) AND ANCHOR BOLTS TO ASTM A572 GRADE 50.
4. BASE REACTIONS PER EIA/TIA-222-F FOR 75 MPH BASIC WIND SPEED WITH 0.50" RADIAL ICE: TOTAL WEIGHT = 3.7 KIPS. MAXIMUM COMPRESSION = 45.2 KIPS PER LEG. MOMENT = 114.3 KIP-FT. MAXIMUM UPLIFT = 42.8 KIPS PER LEG. MAXIMUM SHEAR = 2.5 KIPS TOTAL.
5. BASE REACTIONS PER EIA/TIA-222-F FOR 75 MPH BASIC WIND SPEED WITH NO ICE: TOTAL WEIGHT = 2.6 KIPS. MAXIMUM COMPRESSION = 34.5 KIPS PER LEG. MOMENT = 87.4 KIP-FT. MAXIMUM UPLIFT = 32.8 KIPS PER LEG. MAXIMUM SHEAR = 1.7 KIPS TOTAL.
6. FINISH: ALL BOLTS ARE GALVANIZED IN ACCORDANCE WITH ASTM A153 (HOT DIPPED) OR ASTM B695 CLASS 50 (MECHANICAL). ALL OTHER STRUCTURAL MATERIALS ARE GALVANIZED IN ACCORDANCE WITH ASTM123.
7. ANTENNAS: 80' -(4) 2' SOLID DISHES WITH (4) 1/2" LINES
80' -(1) 10' WHIP ANTENNA WITH (1) 1/2" LINE
NOTE: (A) ELEVATIONS ARE TO THE BOTTOM OF THE ANTENNAS EXCEPT FOR MICROWAVE DISHES, WHICH ARE TO THE CENTERLINE.
8. REMOVE FOUNDATION TEMPLATE PRIOR TO ERECTING TOWER. INSTALL BASE SECTION WITH MINIMUM OF 2" CLEARANCE ABOVE CONCRETE. SEE BASE SECTION PLACEMENT PAGE FOR MORE INFORMATION. PACK NON-SHRINK STRUCTURAL GROUT UNDER BASE SECTION AFTER LEVELING TOWER.
9. MIN. WELDS 5/16" UNLESS OTHERWISE SPECIFIED. ALL WELDING TO CONFORM TO AWS D1.1 SPECIFICATIONS.
10. THIS DRAWING DOES NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND HE SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, SEQUENCES AND PROCEDURES.
11. ALL BOLTS AND NUTS MUST BE IN PLACE BEFORE THE ADJOINING SECTIONS ARE INSTALLED.
12. ALL STRUCTURAL BOLTS ARE TO BE TIGHTENED TO A SNUG TIGHT CONDITION AS DEFINED BY AISC SPECIFICATION UNLESS OTHERWISE NOTED.
13. ATTENTION TOWER ERECTOR: COAT ALL BOLT ASSEMBLIES THAT USE PIN LOCK NUTS WITH ZINC RICH COLD GALVANIZING COMPOUND AFTER FINAL TIGHTENING.
14. EIA GROUNDING FOR TOWER.

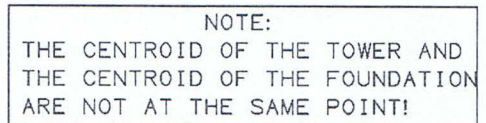
FOUNDATION NOTES

1. ALLOWABLE SOIL PRESSURE ASSUMED TO BE3000 PSF. ALLOWABLE PASSIVE PRESSURE ASSUMED TO BE330 LB PCF. THE PURCHASER & OWNER/CONTRACTOR MUST VERIFY THAT THE ACTUAL SITE SOIL PARAMETERS MEET OR EXCEED THE ASSUMED SOIL PARAMETERS PER THIS NOTE AND/OR SHOULD OBTAIN A SOIL REPORT TO DETERMINE THE SOIL CO
2. CONCRETE TO BE 3000 PSI @ 28 DAYS. REINFORCING BAR TO CONFORM TO ASTM A615 GRADE 60 SPECIFICATIONS. CONCRETE INSTALLATION TO CONFORM TO ACI-318 (2002) BUILDING REQUIREMENTS FOR REINFORCED CONCRETE. ALL CONCRETE TO BE PLACED AGAINST UNDISTURBED EARTH FREE OF WATER AND ALL FOREIGN OBJECTS AND MATERIALS. A MINIMUM OF THREE INCHES OF CONCRETE SHALL COVER ALL REINFORCEMENT. WELDING OF REBAR NOT PERMITTED.
3. BENDING, STRAIGHTENING OR REALIGNING (HOT OR COLD) OF THE ANCHOR BOLTS BY ANY METHOD IS PROHIBITED.
4. CROWN TOP OF FOUNDATION FOR PROPER DRAINAGE.
5. THIS DESIGN ASSUMES A MEDIUM DENSE SAND SOIL EXHIBITING A COHESION OF 0 PSF, A SOIL UNIT WEIGHT OF 110 PCF, AN ANGLE OF INTERNAL FRICTION OF 30 DEGREES AND NO GROUNDWATER ENCOUNTERED.

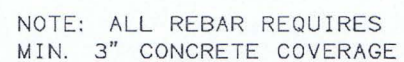
EET LLC
10321 ADAMS ROAD
GRANGER, INDIANA 46530
574-277-0670
ILLINOIS COA #184004782




TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'				valmont STRUCTURES 1-877-467-4763 Plymouth, IN 1-888-880-9191 Salem, OR	
B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009	APPROVED/ENG.	SKK 12/11/2009
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/FOUND.	M.S 12/14/2009
REV	DESCRIPTION OF REVISIONS	INI	DATE	COPYRIGHT 2009	
From: F1012292.DFT - 12/11/2009 16:31				DRAWN BY	SKK
Printed from 228944_03@B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ENG. FILE NO.	A-124707-228944
				ARCHIVE	F-1012292
				PAGE	3 OF 7

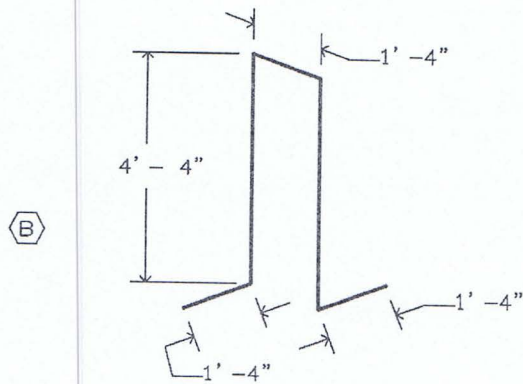


FOR ANCHOR STEEL IDENTIFICATION AND
PLACEMENT INFORMATION, SEE PAGE 6
OF THIS DRAWING. SEE PAGE 7 FOR
BASE SECTION INSTALLATION DETAIL.



B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009			
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/ENG.	SKK 12/11/2009	
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M_S 12/14/2009	
				COPYRIGHT 2009		
				DRAWN BY	SKK	DRAWING NO.
From: F1012292.DFT - 12/11/2009 16:31				ENG. FILE NO.	A-124707-	228944
Printed from 228944_040B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ARCHIVE	F-1012292	PAGE 4 OF 7

(A)  # 4 REBAR - 36 PIECES REQ. TOTAL
APPROX WT = 5.0# EACH, 180# TOTAL



REBAR SUPPORTS MAY CONSIST OF ANY ACCEPTABLE MEANS OF SECURELY SUPPORTING THE TOP REINFORCEMENT GRID ABOVE THE BOTTOM REINFORCEMENT GRID WHILE MAINTAINING A SEPARATION OF 4'-6" (OUTSIDE REBAR TO OUTSIDE REBAR).

4 REBAR - 9 PIECES REQUIRED TOTAL
TYPE 26 STANDEE PLACED BETWEEN REBAR GRIDS ON NOMINAL 4' SPACING THROUGHOUT
APPROX UNBENT LENGTH = 12' - 8- 3/4"
APPROX WT = 8.5# EACH, 77# TOTAL

REBAR DETAIL

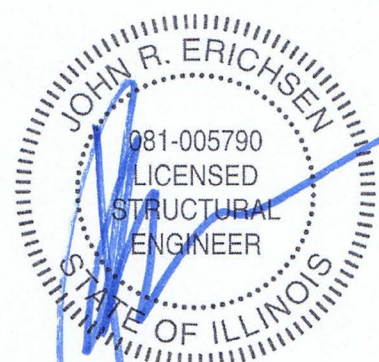
TOTAL APPROX REBAR WEIGHT = 257#
REINFORCING BAR TO CONFORM TO
ASTM A615 GRADE 60 SPECIFICATIONS.

EET LLC

10321 ADAMS ROAD
GRANGER, INDIANA 46530

574-277-0670

ILLINOIS COA #184004782

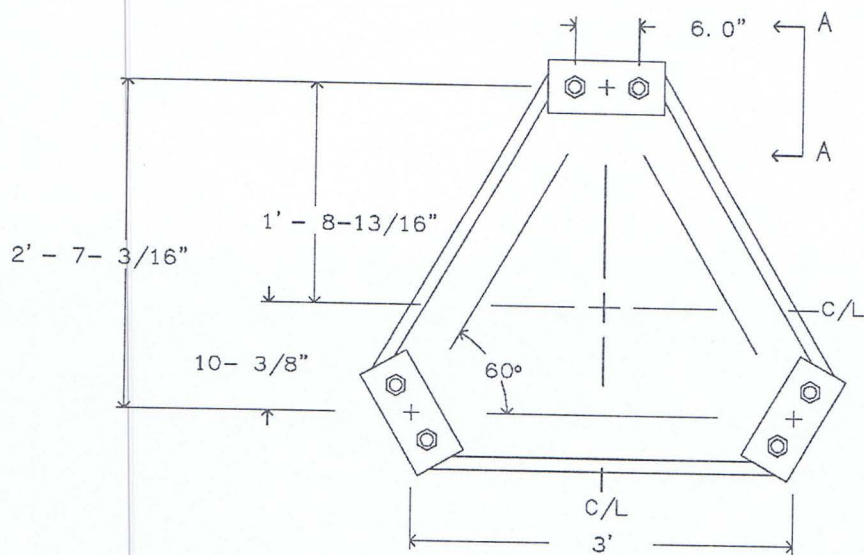


EXPIRES 11-30-2010

12-14-09

TOWER WORKS QUEEN BEE SOUTH SITE, IL U-3.0 X 80'			
B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009
REV	DESCRIPTION OF REVISIONS	INI	DATE
		APPROVED/ENG.	SKK 12/11/2009
		APPROVED/FOUND.	M_S 12/14/2009
		COPYRIGHT 2009	
		DRAWN BY	SKK
From: F1012292.DFT - 12/11/2009 16:31		ENG. FILE NO.	A-124707-
Printed from 228944_05@B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13		ARCHIVE	F-1012292
		DRAWING NO.	228944
		PAGE	5 OF 7

valmont 
1-877-467-4763 Plymouth, IN
1-888-880-9191 Salem, OR
STRUCTURES

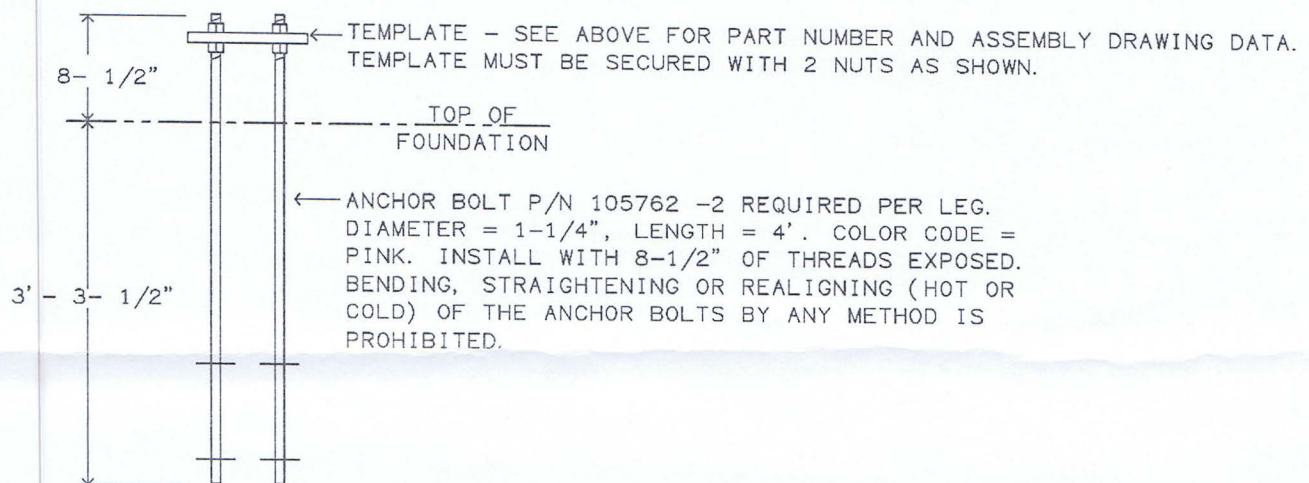


TOWER ANCHOR STEEL PLACEMENT - TOP VIEW

TEMPLATE ASSEMBLY P/N 102804 IS REQUIRED FOR INSTALLATION AND MUST BE PLACED AS SHOWN. SEE PAGE 4 FOR TOWER C/L LOCATION RELATIVE TO THE FOUNDATION LAYOUT. TEMPLATE PLACEMENT +/- 3". TEMPLATE IS COLOR CODED PINK. TEMPLATE MUST BE LEVEL +/- 1 DEGREE. INSTALL TEMPLATE WITH SUFFICIENT SPACE BENEATH (2" MINIMUM) TO PERMIT FINISHING OF CONCRETE AND TO FACILITATE TEMPLATE REMOVAL PRIOR TO TOWER ERECTION.

SEE PAGE 7 FOR BASE SECTION INSTALLATION DETAIL.

ANCHOR BOLTS MUST BE VERTICAL.
TEMPLATE MUST BE UTILIZED TO ASSIST IN PROPER PLACEMENT.



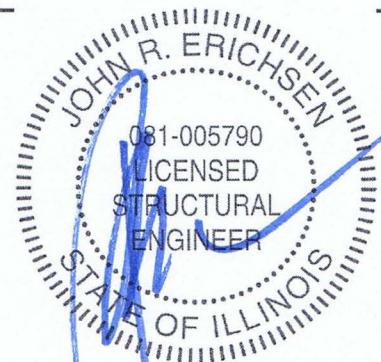
VIEW A - A - ANCHOR BOLT INSTALLATION DETAIL (NOT TO SCALE)

ATTENTION CONTRACTOR INSTALLING THE ANCHOR BOLTS!

1-1/4" DIAMETER ANCHOR BOLTS FOR FABRICATED TOWER.

VERIFY THE PART NUMBERS AND SIZES FOR ALL COMPONENTS ON THIS PAGE AND PAGE 7.

IF THERE ARE ANY DISCREPANCIES, PLEASE NOTIFY PIROD, INC. PRIOR TO INSTALLATION!!



EXPIRES 11-30-2010
12-14-09

EET LLC

10321 ADAMS ROAD

GRANGER, INDIANA 46530

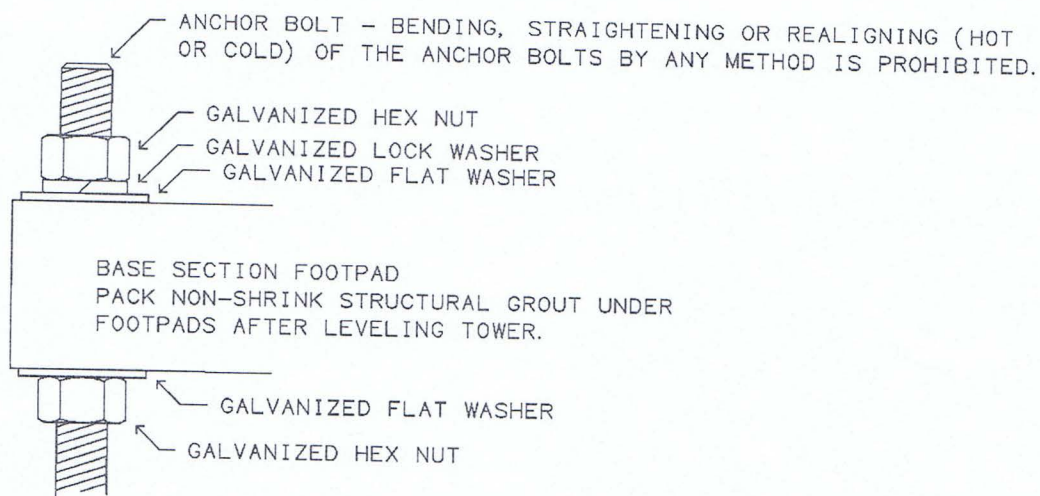
574-277-0670

ILLINOIS COA #184004782

TOWER WORKS
QUEEN BEE SOUTH SITE, IL
U-3.0 X 80'

B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009		
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/ENG.	SKK 12/11/2009
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M.S 12/14/2009
				COPYRIGHT 2009	
				DRAWN BY	SKK
From: F1012292.DFT - 12/11/2009 16:31				ENG. FILE NO.	A-124707-
Printed from 228944_06@B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ARCHIVE	F-1012292
					DRAWING NO. 228944
					PAGE 6 OF 7

valmont STRUCTURES
1-877-467-4763 Plymouth, IN
1-888-880-9191 Salem, OR



BASE SECTION INSTALLATION DETAIL



EXPIRES 11-30-2010

12-14-09

EET LLC

10321 ADAMS ROAD

GRANGER, INDIANA 46530

574-277-0670

ILLINOIS COA #184004782

TOWER WORKS
QUEEN BEE SOUTH SITE, IL
U-3.0 X 80'

B	CHANGE TOP SECTION FROM 7/8"	SKK	12/11/2009		
A	ADDED FOUNDATION PER ASSUMED SOIL	WRH	12/07/2009	APPROVED/ENG.	SKK 12/11/2009
REV	DESCRIPTION OF REVISIONS	INI	DATE	APPROVED/FOUND.	M.S 12/14/2009
				COPYRIGHT 2009	
				DRAWN BY	SKK
From: F1012292.DFT - 12/11/2009 16:31				ENG. FILE NO.	A-124707-
Printed from 228944_07@B.DWG - 12/11/2009 16:41 @ 12/14/2009 13:13				ARCHIVE	F-1012292
					DRAWING NO. 228944
					PAGE 7 OF 7

valmont 
1-877-467-4763 Plymouth, IN
1-888-880-9191 Salem, OR
STRUCTURES