

REVISIONS				
SYMBOL	DATE	DESCRIPTION	BY	APP'D
A	3-25-93	ENGINEERING CHANGE #267		GP

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 .X JOY .XOX ANGLES
 .01 ±.005 ±.001 ±.30"
 ALL MACHINED SURFACES TO BE 125 FRAIS UNLESS OTHERWISE SPECIFIED
 BREAK SHARP EDGES .015 TO .020 RADIUS UNLESS OTHERWISE SPECIFIED
 RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED
 CAD DATA
 PLOTTED SCALE - NTS
 DATE PLOTTED - 3-23-93

PREP GP 11-27-92
 CHKR JR 5-26-13
 APVD GP 6-7-93

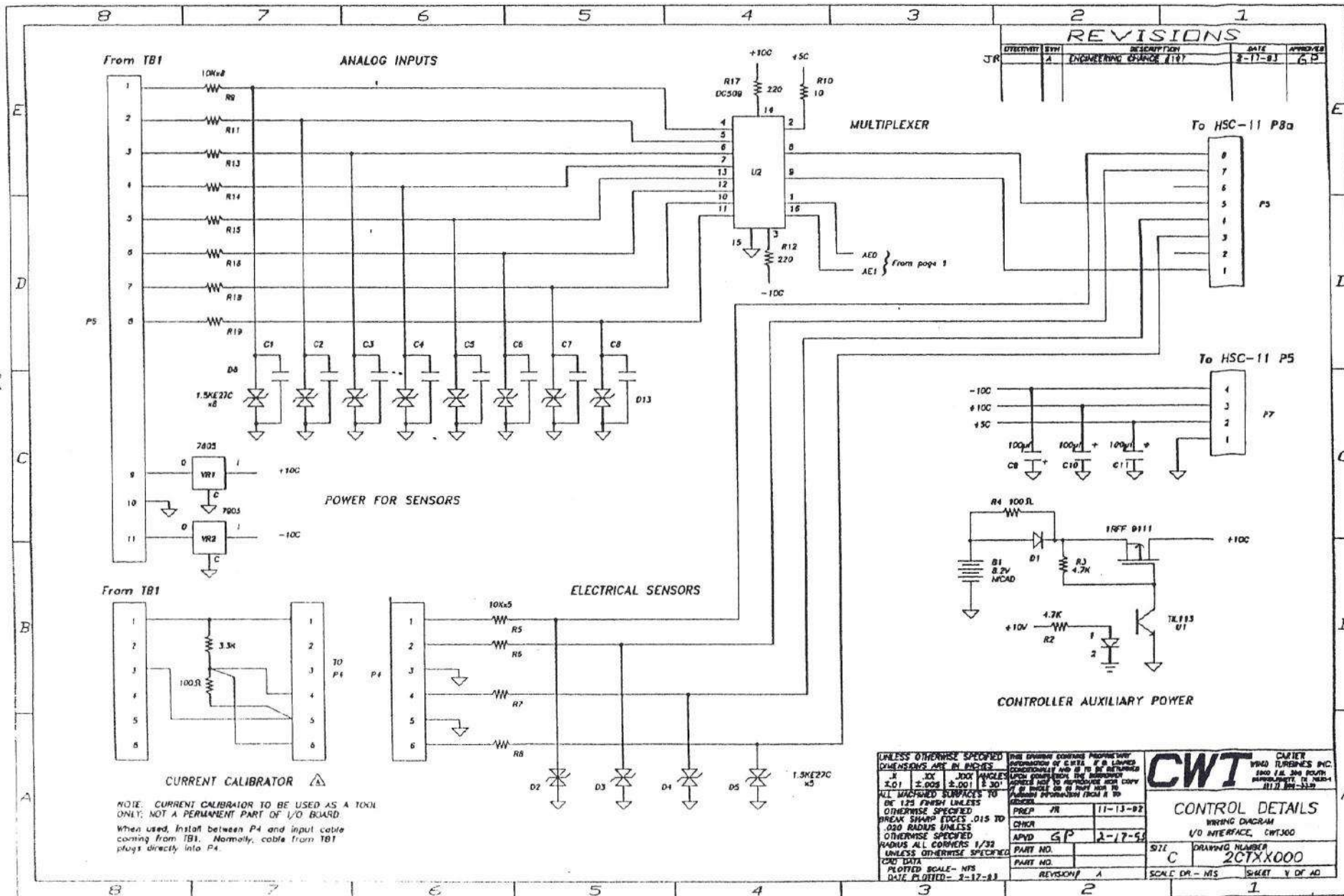
PART NO.
 PART NO.
 REVISION A

CWT CENTER
 WIND FLUTHERS INC.
 1100 FALCON BLVD
 SUITE 117
 FARMINGTON, CT 06030
 (860) 642-2222

CONTROL DETAILS
 WIRING DIAGRAM
 I/O INTERFACE, CNF300

SIZE: DRAWING NUMBER
C 2CTXX000

SCALE: DR - NTS SHEET NO. OF 40



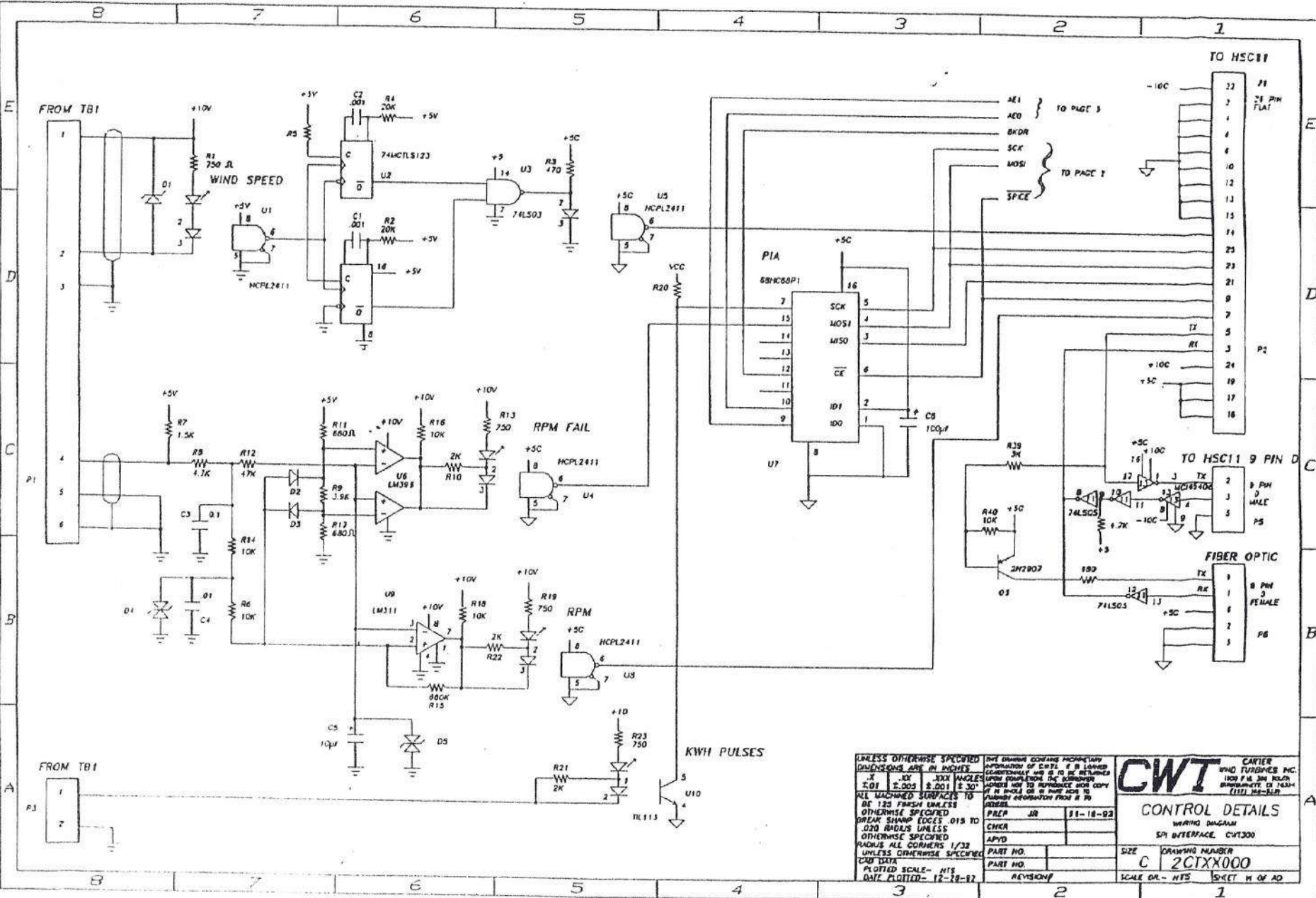
NOTE: CURRENT CALIBRATOR TO BE USED AS A TOOL ONLY; NOT A PERMANENT PART OF I/O BOARD. When used, install between P4 and input cable coming from TB1. Normally, cable from TB1 plugs directly into P4.

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
 1/16" 1/8" 3/16" 1/4" 3/8" 1/2" 5/8" 3/4" 1" 1 1/4" 1 1/2" 2" 3" 4" 6" 8" 12" 18" 24"
 .01 .02 .05 .1 .2 .5 1 2 5 10 20 50 100 200 500 1000
 ALL MACHINED SURFACES TO BE 125 FINISH UNLESS OTHERWISE SPECIFIED
 BREAK SHARP EDGES .015 TO .020 RADIUS UNLESS OTHERWISE SPECIFIED
 RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED
 CAD DATA PLOTTED SCALE - NIS DATE PLOTTED - 3-17-83

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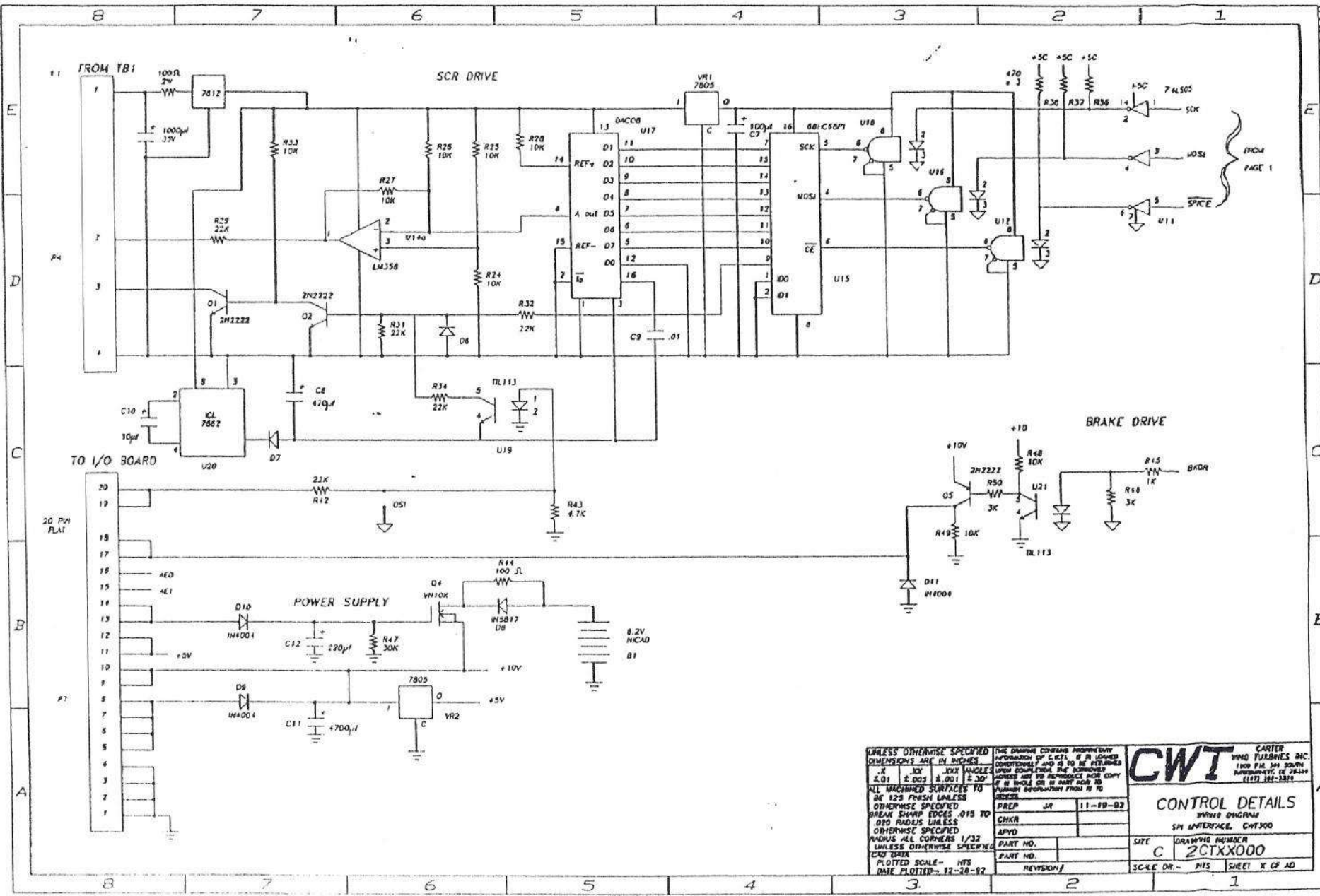
CWT CARVER ILLINOIS INC. 2800 ILL. 380 SOUTH PARALLEL RD. DEERFIELD, IL 60015-1172

CONTROL WIRING DETAILS
 I/O INTERFACE, CWT300
 DRAWING NUMBER: 2CTXX000
 SCALE: DR - NIS
 SHEET: 4 OF 40

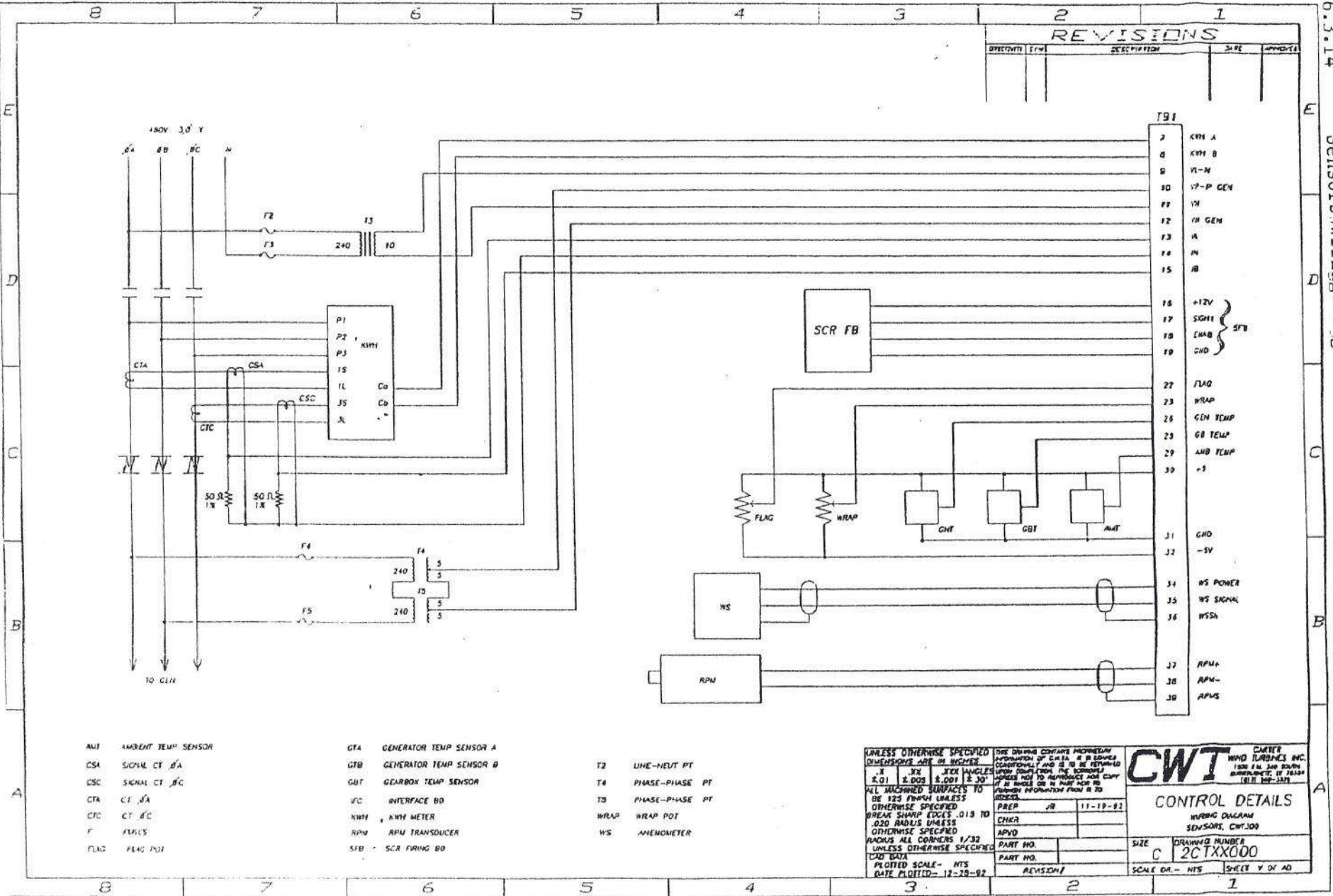


-87-

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES			CWT CONTROL DETAILS WIRING DIAGRAM SPI INTERFACE CWT300
X	.XX	XXX ANGLES	
R.01	±.005	±.001 ±.30°	PREP JR 11-18-92 CHKR APVD PART NO. PART NO. REVISION
ALL MACHINED SURFACES TO BE 125 FINISH UNLESS OTHERWISE SPECIFIED BREAK SHARP EDGES .015 TO .020 RADII UNLESS OTHERWISE SPECIFIED RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED CAD DATA PLOTTED SCALE - HTS DATE PLOTTED - 12-18-92			DRAWING NUMBER C 2CTXX000 SCALE DR - HTS SHEET 11 OF 40



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		<p>THE DRAWING CONTAINS INFORMATION IN FORM OF C.A.T. & IS ISSUED CONVENTIONALLY AND IS TO BE PERMANENTLY REPRODUCED FOR THE COMPANY'S USE. ADDRESS NOT TO BE REPRODUCED NOR COPY OF THIS DRAWING OR INFORMATION FROM IT TO BE MADE.</p>	<p>CWT CARTER WIND TURBINES INC. 3100 P.O. BOX 3000 MILWAUKEE, WI 53234 (414) 384-1500</p>
<p>1/8" ± 0.015 1/16" ± 0.005 1/32" ± 0.001</p>	<p>± 30°</p>		
<p>ALL MACHINED SURFACES TO BE 125 FRESH UNLESS OTHERWISE SPECIFIED BREAK SHARP EDGES 0.015 TO 0.020 RADIUS UNLESS OTHERWISE SPECIFIED RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED</p>		<p>PREP JR 11-19-82</p>	<p>CONTROL DETAILS SPI INTERFACE, CNT300</p>
<p>DATE PLOTTED - 12-28-82</p>		<p>CHKR</p>	
<p>PART NO.</p>		<p>APVD</p>	<p>SCALE DR. - NTS SHEET X OF 40</p>
<p>REVISION/</p>		<p>PART NO.</p>	<p>DATE PLOTTED - 12-28-82</p>



REVISIONS				
DATE	BY	DESCRIPTION	SIZE	APPROVAL

TBI	DESCRIPTION
1	
2	KWH A
3	KWH B
4	VL-N
5	V7-P GEN
6	VH
7	VH GEN
8	A
9	M
10	AB
11	
12	+12V
13	SGH1
14	EWAB
15	GND
16	
17	
18	
19	
20	
21	
22	FLAG
23	WRAP
24	GEN TEMP
25	GB TEMP
26	AMB TEMP
27	+5
28	
29	
30	
31	GND
32	-5V
33	
34	WS POWER
35	WS SIGNAL
36	WSSA
37	RPM+
38	RPM-
39	RPM5

- | | | | | | |
|------|---------------------|-----|-------------------------|----|----------------|
| ANT | AMBIENT TEMP SENSOR | GTA | GENERATOR TEMP SENSOR A | T2 | LINE-NEUT PT |
| CSA | SIGNAL CT 6A | GTB | GENERATOR TEMP SENSOR B | T4 | PHASE-PHASE PT |
| CSC | SIGNAL CT 6C | GBT | GEARBOX TEMP SENSOR | T3 | PHASE-PHASE PT |
| CTA | CT 6A | IFC | INTERFACE BD | WS | ANEMOMETER |
| CTC | CT 6C | KWH | KWH METER | | |
| F | FUSES | RPN | RPM TRANSDUCER | | |
| FLAG | FLAG POT | 57B | SCR FIRING BD | | |

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES

1/8 3/16 1/4 5/16 3/8 1/2 5/8 3/4 7/8 1 1 1/8 1 1/4 1 1/2 1 3/4 2 2 1/4 2 1/2 3 3 1/4 3 1/2 4 4 1/4 4 1/2 5 5 1/4 5 1/2 6 6 1/4 6 1/2 7 7 1/4 7 1/2 8 8 1/4 8 1/2 9 9 1/4 9 1/2 10 10 1/4 10 1/2 11 11 1/4 11 1/2 12 12 1/4 12 1/2 13 13 1/4 13 1/2 14 14 1/4 14 1/2 15 15 1/4 15 1/2 16 16 1/4 16 1/2 17 17 1/4 17 1/2 18 18 1/4 18 1/2 19 19 1/4 19 1/2 20 20 1/4 20 1/2 21 21 1/4 21 1/2 22 22 1/4 22 1/2 23 23 1/4 23 1/2 24 24 1/4 24 1/2 25 25 1/4 25 1/2 26 26 1/4 26 1/2 27 27 1/4 27 1/2 28 28 1/4 28 1/2 29 29 1/4 29 1/2 30 30 1/4 30 1/2 31 31 1/4 31 1/2 32 32 1/4 32 1/2 33 33 1/4 33 1/2 34 34 1/4 34 1/2 35 35 1/4 35 1/2 36 36 1/4 36 1/2 37 37 1/4 37 1/2 38 38 1/4 38 1/2 39 39 1/4 39 1/2 40 40 1/4 40 1/2 41 41 1/4 41 1/2 42 42 1/4 42 1/2 43 43 1/4 43 1/2 44 44 1/4 44 1/2 45 45 1/4 45 1/2 46 46 1/4 46 1/2 47 47 1/4 47 1/2 48 48 1/4 48 1/2 49 49 1/4 49 1/2 50 50 1/4 50 1/2 51 51 1/4 51 1/2 52 52 1/4 52 1/2 53 53 1/4 53 1/2 54 54 1/4 54 1/2 55 55 1/4 55 1/2 56 56 1/4 56 1/2 57 57 1/4 57 1/2 58 58 1/4 58 1/2 59 59 1/4 59 1/2 60 60 1/4 60 1/2 61 61 1/4 61 1/2 62 62 1/4 62 1/2 63 63 1/4 63 1/2 64 64 1/4 64 1/2 65 65 1/4 65 1/2 66 66 1/4 66 1/2 67 67 1/4 67 1/2 68 68 1/4 68 1/2 69 69 1/4 69 1/2 70 70 1/4 70 1/2 71 71 1/4 71 1/2 72 72 1/4 72 1/2 73 73 1/4 73 1/2 74 74 1/4 74 1/2 75 75 1/4 75 1/2 76 76 1/4 76 1/2 77 77 1/4 77 1/2 78 78 1/4 78 1/2 79 79 1/4 79 1/2 80 80 1/4 80 1/2 81 81 1/4 81 1/2 82 82 1/4 82 1/2 83 83 1/4 83 1/2 84 84 1/4 84 1/2 85 85 1/4 85 1/2 86 86 1/4 86 1/2 87 87 1/4 87 1/2 88 88 1/4 88 1/2 89 89 1/4 89 1/2 90 90 1/4 90 1/2 91 91 1/4 91 1/2 92 92 1/4 92 1/2 93 93 1/4 93 1/2 94 94 1/4 94 1/2 95 95 1/4 95 1/2 96 96 1/4 96 1/2 97 97 1/4 97 1/2 98 98 1/4 98 1/2 99 99 1/4 99 1/2 100 100 1/4 100 1/2

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PREP JR 11-19-92
CHKD
APPD
PART NO.
PART NO.
REVISION

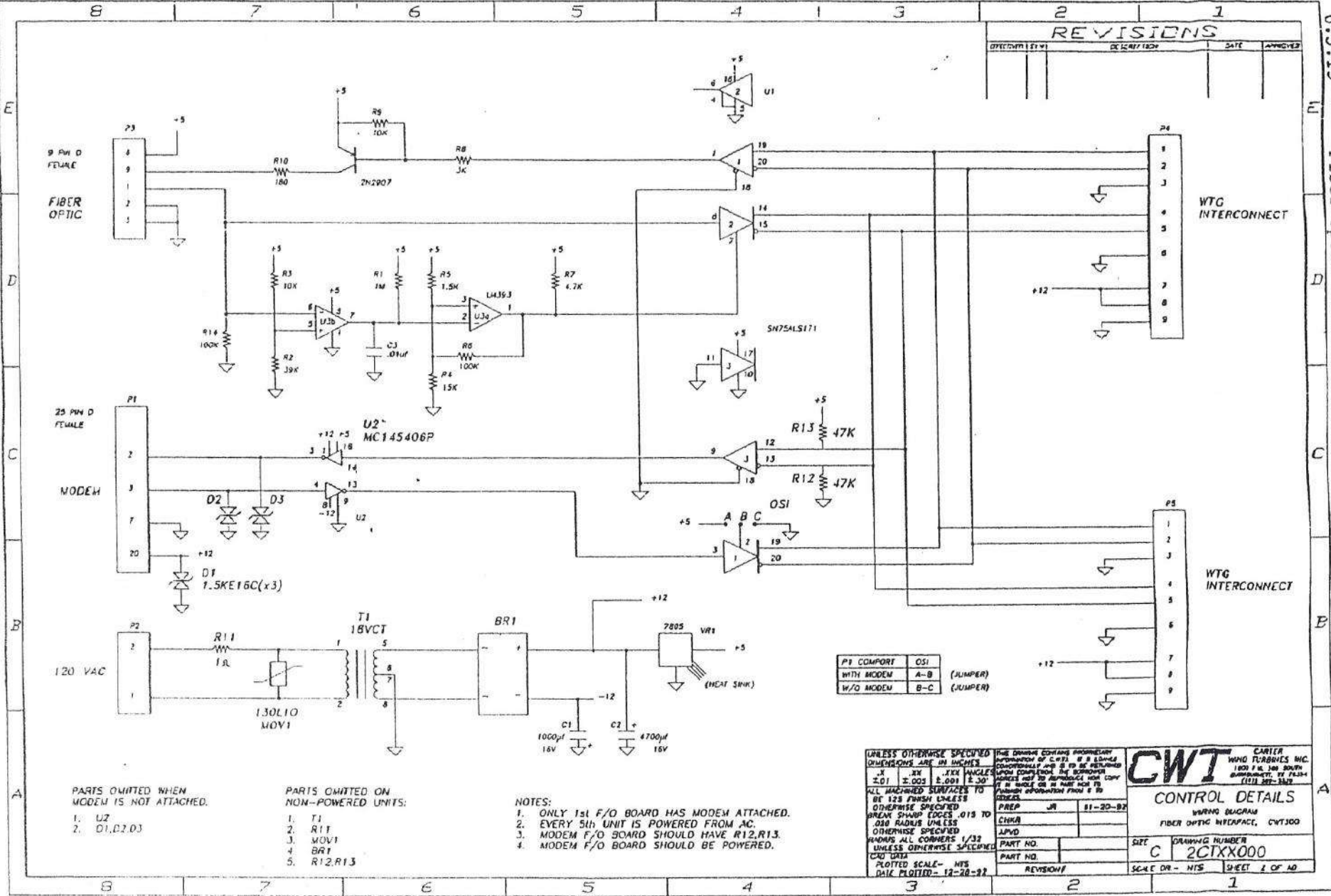
CWT CARTER WIND TUBES INC. 1800 E. 2ND SOUTH BIRMINGHAM, AL 35204 (205) 948-1329

CONTROL DETAILS
MURPHY DRAWING NUMBER
SENSORS, CWT-100

SIZE C DRAWING NUMBER
2CTXX000

SCALE OR - NTS SHEET Y OF 40

REVISIONS			
DESCRIPTION	DATE	APPROVED	BY



PARTS OMITTED WHEN MODEM IS NOT ATTACHED.

1. U2
2. D1, D2, D3

PARTS OMITTED ON NON-POWERED UNITS:

1. T1
2. R11
3. MOV1
4. BR1
5. R12, R13

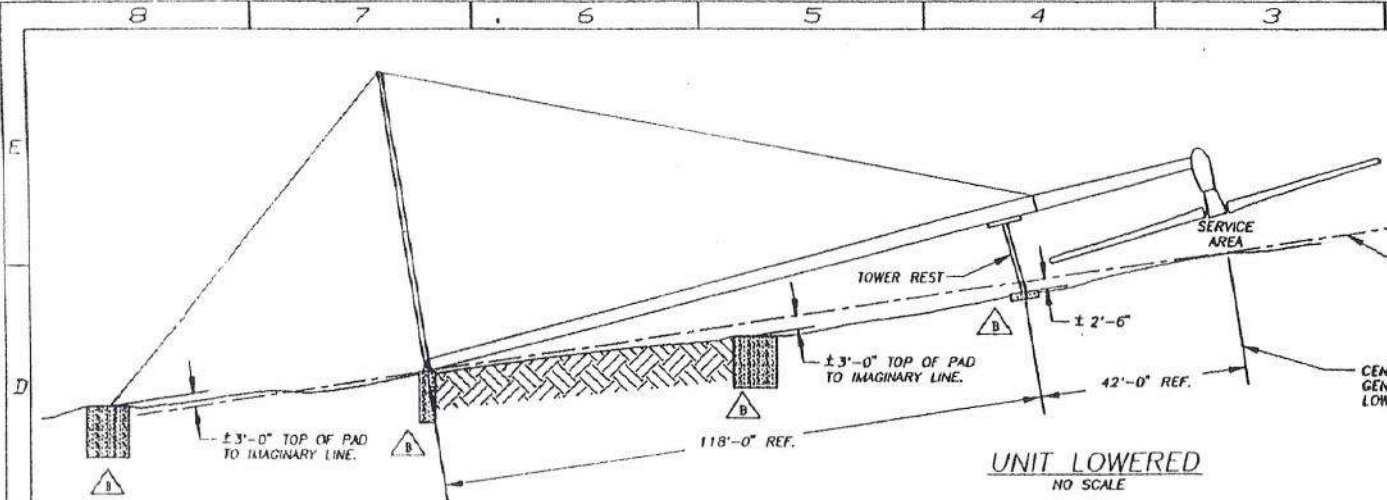
NOTES:

1. ONLY 1st F/O BOARD HAS MODEM ATTACHED.
2. EVERY 5th UNIT IS POWERED FROM AC.
3. MODEM F/O BOARD SHOULD HAVE R12, R13.
4. MODEM F/O BOARD SHOULD BE POWERED.

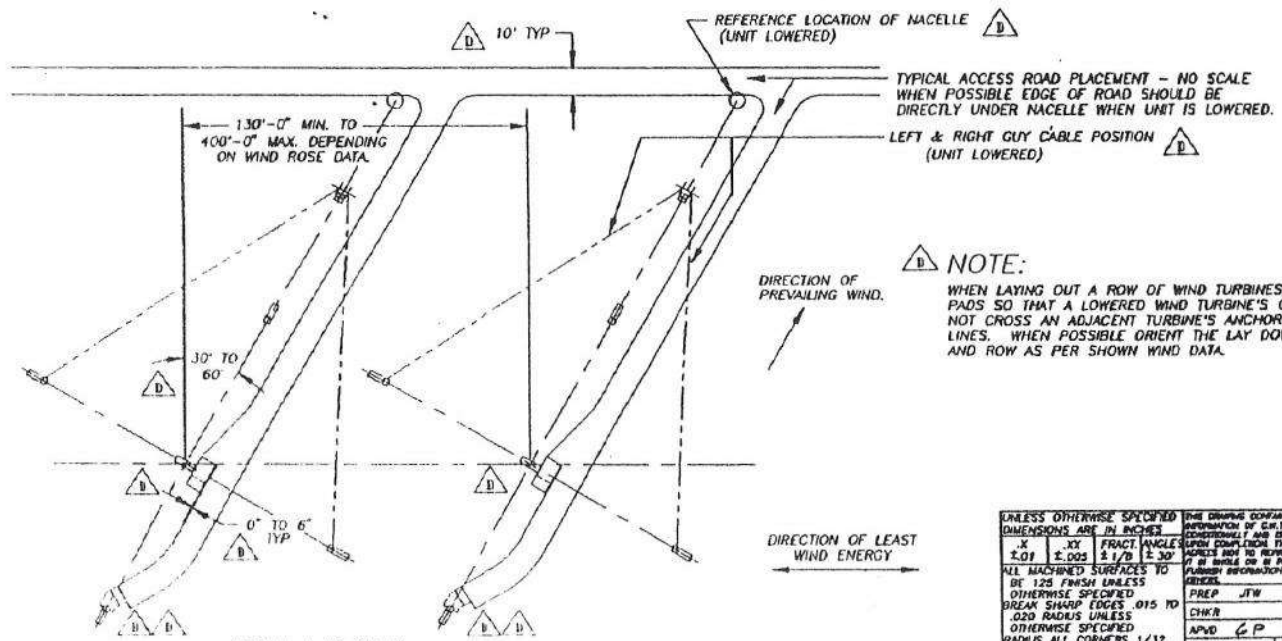
P1 COMPORT	OSI
WITH MODEM	A-B (JUMPER)
W/O MODEM	B-C (JUMPER)

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES		<p>CWT CARTER WIND TURBINES INC. 1801 F.W. JOHNSON BLVD. DALLAS, TEXAS 75244 (214) 342-1317</p>
.X	.XX ANGLE	
±.01	±.005 ±.001 ±.30°	<p>CONTROL DETAILS</p> <p>WIRING DIAGRAM FIBER OPTIC INTERFACE, CWT1500</p> <p>SIZE C 2CTXX000</p> <p>DRAWING NUMBER</p> <p>PART NO.</p> <p>SCALE DR - NIS SHEET 2 OF 10</p>
<p>ALL MACHINED SURFACES TO BE 12.5 FINISH UNLESS OTHERWISE SPECIFIED</p> <p>BREAK SHARP EDGES .015 TO .030 RADIUS UNLESS OTHERWISE SPECIFIED</p> <p>HANDS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED</p> <p>CAD DATE PLOTTED SCALE- NIS DATE PLOTTED- 12-28-92</p>		<p>PREP JR 81-20-82</p> <p>CHEK</p> <p>APVD</p> <p>PART NO.</p> <p>REVISION</p>

REVISIONS				
REVISED BY	BY	DESCRIPTION	DATE	APPROVED
A	REVISED PER OTHER IN SET		10-18-91	
B	ADDED WHICH PAD		9-28-92	
C	ENGINEERING CHANGE #114		12-22-92	
D	ENGINEERING CHANGE #108		2-24-93	GP



UNIT LOWERED
NO SCALE

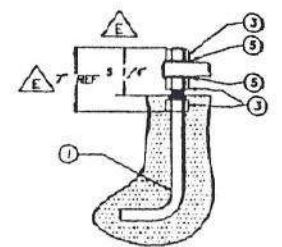
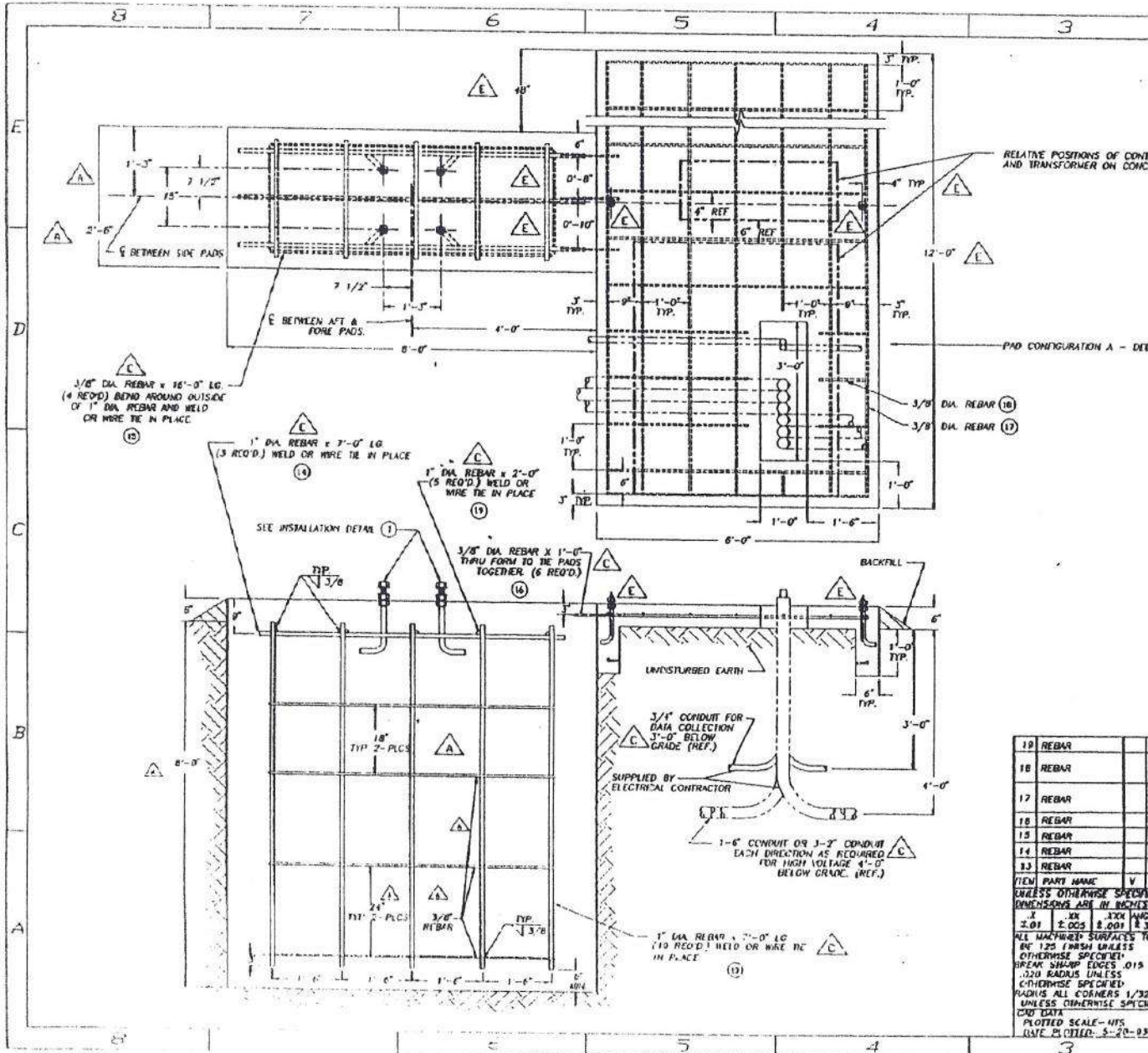


ROW LAYOUT
NO SCALE

NOTE:
WHEN LAYING OUT A ROW OF WIND TURBINES, ORIENT THE PADS SO THAT A LOWERED TURBINE'S GUY CABLES DO NOT CROSS AN ADJACENT TURBINE'S ANCHOR PAD CENTER LINES. WHEN POSSIBLE ORIENT THE LAY DOWN POSITION AND ROW AS PER SHOWN WIND DATA.

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.X	.XX	FRACT. ANGLES	PREP. DATE	
1/32	1/16	1/2 3/4	9-19-91	TOWER FOUNDATION ROW LAYOUT AND LAY DOWN DATA DRAWING NUMBER C 21EEX000 SCALE OR - NO SCALE SHEET B OF E
ALL MACHINED SURFACES TO BE 125 FRAZ UNLESS OTHERWISE SPECIFIED		OTHERWISE SPECIFIED BREAK SHARP EDGES .015 RD	CHKR	
OTHERWISE SPECIFIED RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED		CDR DATA	APVD GP 5-20-93	
PLOTTED SCALE - HTS DATE PLOTTED - 5-18-93		REVISIONS		

REVISIONS				
NO.	DATE	DESCRIPTION	BY	APPROVED
A	10-18-81	CHANGED DEPTH		
B	1-8-82	CHANGED ITEM 18 QTY FROM 3 TO 8		
C	4-28-82	CHANGED WORKING IN DC-20		
D	12-22-82	ENGINEERING CHANGE 4146		
E	3-1-83	ENGINEERING CHANGE 4217		CP



INSTALLATION DETAIL
BASE PAD BOLT

ITEM	PART NAME	DESCRIPTION	PAD CONFD.	
			A	B
19	REBAR	1" DIA x 2'-0" LG.	D	FTF-19 5 8
18	REBAR	3/8" DIA x 5'-6" LG. (CUT AS SHOWN TO CLEAR ELECTRICAL OPENING)	E	FTF-18 15 8
17	REBAR	3/8" DIA x 11'-6" LG. (CUT AS SHOWN TO CLEAR ELECTRICAL OPENING)	E	FTF-17 8 7
16	REBAR	3/8" DIA x 1'-0" LG.	D	FTF-16 6 8
15	REBAR	3/8" DIA x 17'-0" LG. (BEHND AS SHOWN)	D	FTF-15 1 4
14	REBAR	1" DIA x 7'-0" LG.	D	FTF-14 3 3
13	REBAR	1" DIA x 7'-0" LG.	D	FTF-13 10 10

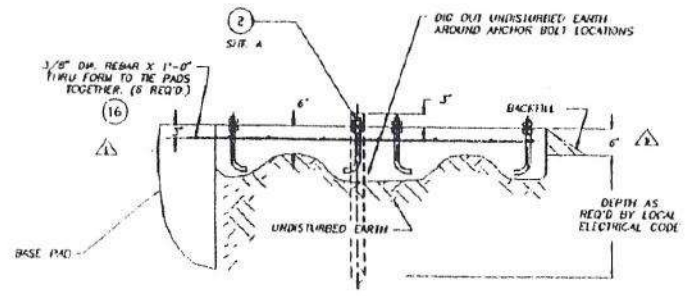
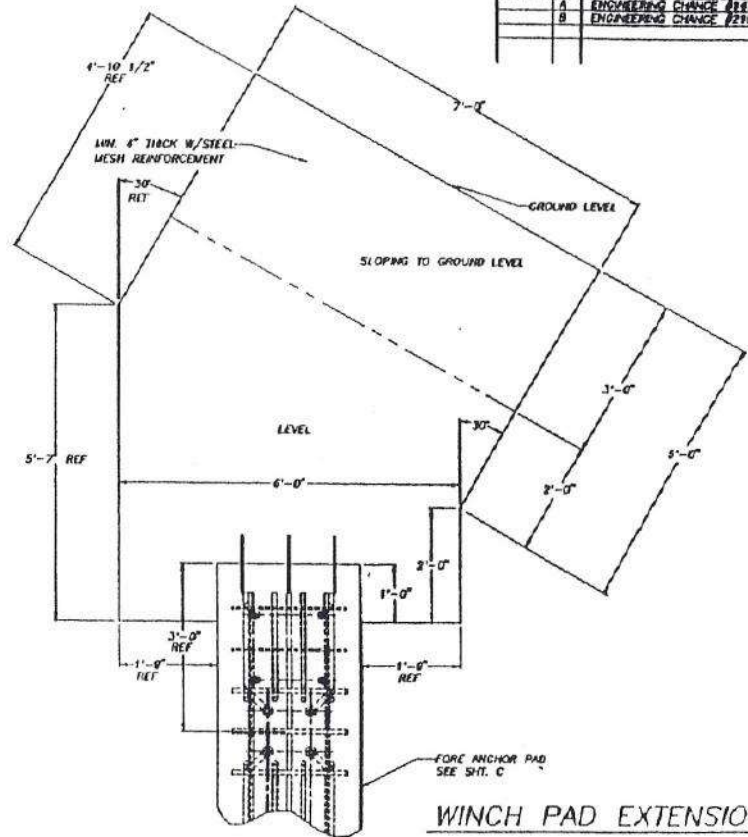
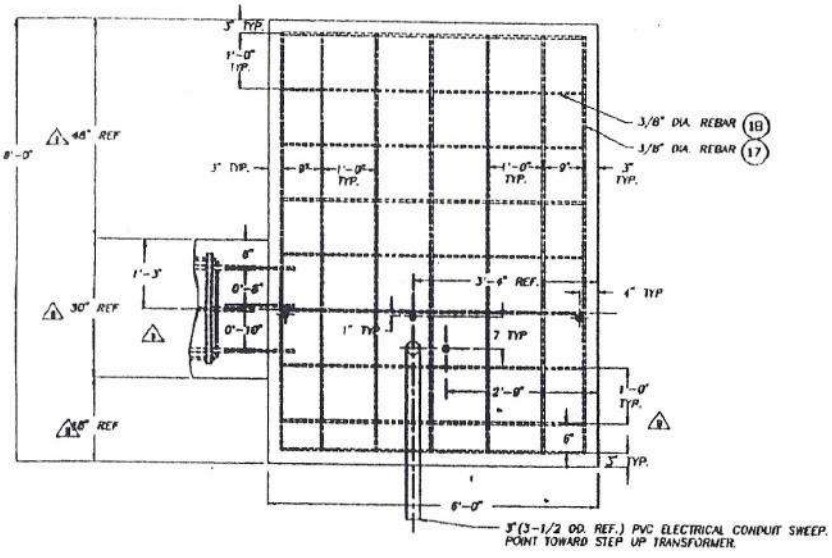
ITEM	PART NAME	DESCRIPTION	REV	PART NO.	QTY
19	REBAR	1" DIA x 2'-0" LG.	D	FTF-19	5
18	REBAR	3/8" DIA x 5'-6" LG. (CUT AS SHOWN TO CLEAR ELECTRICAL OPENING)	E	FTF-18	15
17	REBAR	3/8" DIA x 11'-6" LG. (CUT AS SHOWN TO CLEAR ELECTRICAL OPENING)	E	FTF-17	8
16	REBAR	3/8" DIA x 1'-0" LG.	D	FTF-16	6
15	REBAR	3/8" DIA x 17'-0" LG. (BEHND AS SHOWN)	D	FTF-15	1
14	REBAR	1" DIA x 7'-0" LG.	D	FTF-14	3
13	REBAR	1" DIA x 7'-0" LG.	D	FTF-13	10

REV	DATE	DESCRIPTION
1	10-18-81	CHANGED DEPTH
2	1-8-82	CHANGED ITEM 18 QTY FROM 3 TO 8
3	4-28-82	CHANGED WORKING IN DC-20
4	12-22-82	ENGINEERING CHANGE 4146
5	3-1-83	ENGINEERING CHANGE 4217

<p>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES</p> <p>1" = 1/8" HATCHES</p> <p>2.00 1.00 0.50 0.25</p> <p>ALL MATCHED SURFACES TO BE 1/8" FINISH UNLESS OTHERWISE SPECIFIED</p> <p>BREAK SHARP EDGES .015 TO .020 RADIUS UNLESS OTHERWISE SPECIFIED</p> <p>RADIIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED</p> <p>CONCRETE DATA</p> <p>PLOTTED SCALE - 1/8" = 1'-0"</p> <p>DATE PLOTTED - 5-20-83</p>	<p>NO DIMENSIONS SHOWN PRELIMINARY INFORMATION OF CONTROL IS TO BE OBTAINED FROM CONTRACTOR THE BIDDING NUMBER NOT TO APPROXIMATE FOR ESTIMATE IN BIDDING OR IN FINAL CONTRACT</p> <p>PREP: JTW 9-11-81</p> <p>CHECK: CP 5-20-83</p> <p>PART NO. _____</p> <p>REVISED: E</p>	<p>CWT CARTER TOWER FOUNDATIONS INC. 1800 PINE JAW ROAD, BIRMINGHAM, AL 35211 (205) 988-1111</p> <p>TOWER FOUNDATION</p> <p>TRANSFORMER & BASE PADS</p> <p>SCALE: DRAWING NUMBER C 217X.X000</p> <p>SCALE: DR. FULL SHEET NO. 14 C</p>
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REVISIONS					
APPROVED	BY	DESCRIPTION	DATE	APPROVED	
	A	ENGINEERING CHANGE #169	12-27-92		
	B	ENGINEERING CHANGE #210	2-25-93	GP	



CONTROL CABINET PAD
CONFIGURATION B - REMOTE TRANSFORMER

WINCH PAD EXTENSION

ITEM	PART NAME	QTY	REV	PART NO.	QTY
30	CAB. SWEEP	1		PIE-30	1
18	REBAR	15		PIE-18	15
17	REBAR	9		PIE-17	9
16	REBAR	6		PIE-16	6

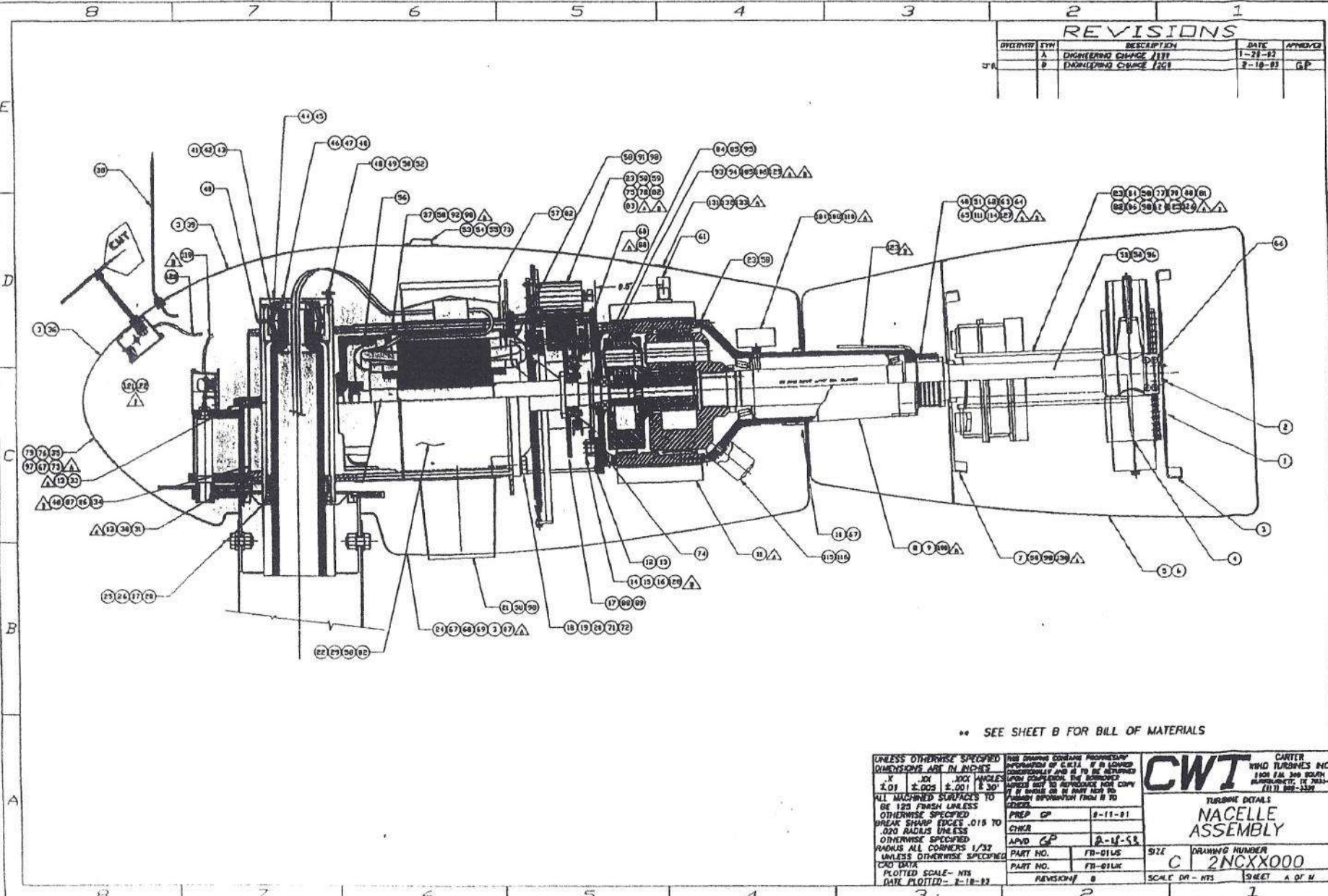
ITEM	PART NAME	QTY	REV	PART NO.	QTY
	CABINET STAND SWEEP 3" PVC 48"	1		GP	1
	SEE SHI. D (3/8" DIA x 5'-6" LG. REF)				
	SEE SHI. D (3/8" DIA x 11'-6" LG. REF)				
	SEE SHI. D (3/8" DIA x 1'-0" LG. REF)				

UNLESS OTHERWISE SPECIFIED	PREP	GP	8-11-92
DIMENSIONS ARE IN INCHES	CHKR		
ALL FINISHED SURFACES TO BE 1/8" FINISH UNLESS OTHERWISE SPECIFIED	APVD	GP	5-20-93
BREAK SHARP EDGES 0.15 TO 0.200 RADII UNLESS OTHERWISE SPECIFIED	PART NO.		
RADIUS ALL CORNERS 1/32 UNLESS OTHERWISE SPECIFIED	PART NO.		
PLotted SCALE - NTS	DATE PLOTTED - 5-20-93		

CWT	CARTER WIND TURBINES INC. 1800 P.O. BOX 1007 BIRMINGHAM, AL 35201 (205) 397-3333
TOWER FOUNDATION	TRANSFORMER & WINCH PADS
SIZE	DRAWING NUMBER C 21FXX000
SCALE	EM. - FULL DET. - 1" = 1'-0"

LOCATE BOLTS (SUPPLIED BY CWT) AND 3" PVC SWEEP WITH TEMPLATE. BOLT POSITION IMPORTANT TO FIT CONTROLLER & CABINET STAND AND ALSO TEMPORARY WORK BUILDING.

REVISIONS				
REVISED BY	BY	DESCRIPTION	DATE	APPROVED
	A	ENGINEERING CHANGE 1171	1-21-82	
	B	ENGINEERING CHANGE 1261	2-18-82	GP



SEE SHEET B FOR BILL OF MATERIALS

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
X .01 X .005 X .001 X .30'
ALL MACHINED SURFACES TO
BE 125 FINISH UNLESS
OTHERWISE SPECIFIED
BREAK SHARP EDGES .015 TO
.020 RADIUS UNLESS
OTHERWISE SPECIFIED
RADIUS ALL CORNERS 1/32
UNLESS OTHERWISE SPECIFIED
CAD DATA
PLOTTED SCALE - NTS
DATE PLOTTED - 2-18-82

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CARTER TURBOPROP, INC., IT IS
CONSIDERED UNLAWFUL.
PREP GP 8-11-81
CHKR
APVD GP 2-14-82
PART NO. FD-01US
PART NO. FR-01LC
REVISION/ B

CWT	CARTER TURBOPROP, INC. 1100 E.M. 300 SOUTH MURFREESBORO, TN 38554 (615) 892-3300
	TURBINE DETAILS NACELLE ASSEMBLY
SIZE C	DRAWING NUMBER 2NCXX000
SCALE DN - NTS	SHEET A OF M