

WIREMAN:	
RINGER:	
POINT CKR:	

INDEX

SH. NO.	CONTENTS	REVISION NO.						
		1	2	3	4	5	6	7
1	TITLE, NOTES, INDEX AND REVISIONS	✓						
2	LOCATION PLAN	✓						
3	TRACK AND CONDUIT LAYOUT	✓						
4	POWER DISTRIBUTION HOUSE AND TRACK ONE	✓						
5	POWER DISTRIBUTION TRACK TWO	✓						
6	COMMUNICATIONS AND DATAPROBE CIRCUITS	✓						
7	EPIC III, DED, TEST, COR, PTT, RADIO CIRCUITS TRACK ONE	✓						
8	EPIC III, DED, TEST, COR, PTT CIRCUITS TRACK TWO	✓						
9	SURGE PROTECTION AND CABLE TERMINATIONS TRACK ONE AND TWO	✓						
10	LEFT, REAR, RIGHT WALL LAYOUT	✓						
11	GROUND APPLICATION FOR HSD HOUSE	✓						
12	HOUSE LAYOUT	✓						
13	RAMP	✓						

NOTES

- ☐ = FOR MATERIAL REFERENCE SEE PLAN S-1002
- ⊗ = DENOTES TWISTED PAIR
- GROUND IN ACCORDANCE WITH CS-9001-A

REVISIONS

1

SYSTEM FILE NO:
 WD/AFE NO: PFC NO.
 IN SERVICE:
 PER:

JOB NUMBER
MANAGEMENT CTR.
STORE CODE
EST. DATE NEEDED
TYPE
RELAYS

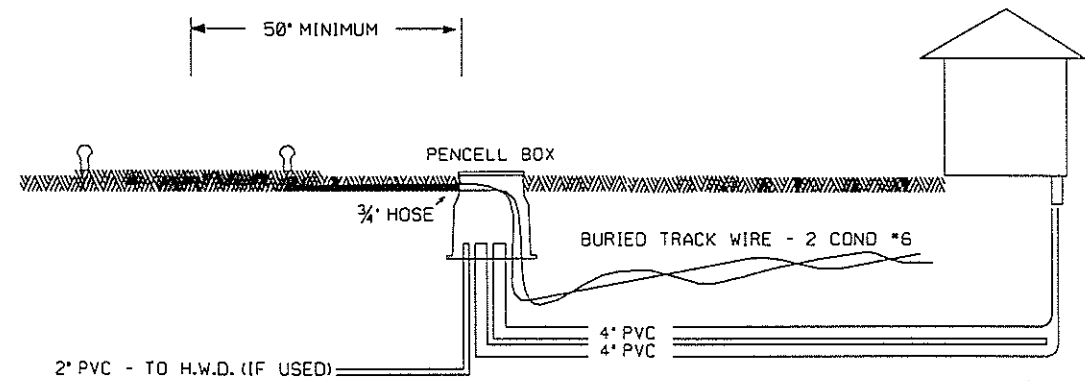
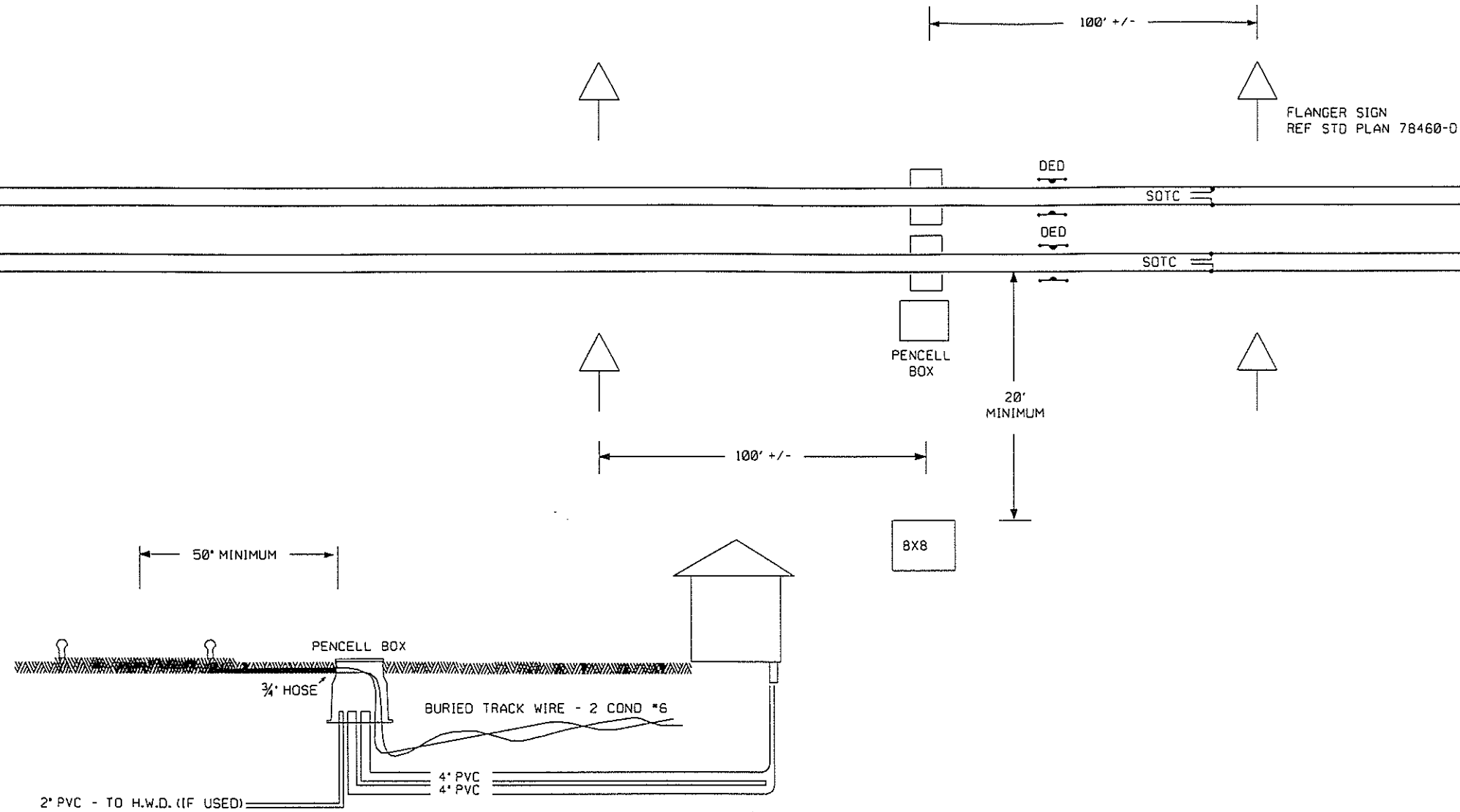


CYBERSCAN
 2 TRACK HOT BOX DETECTOR
 TITLE, NOTES, INDEX AND REVISIONS

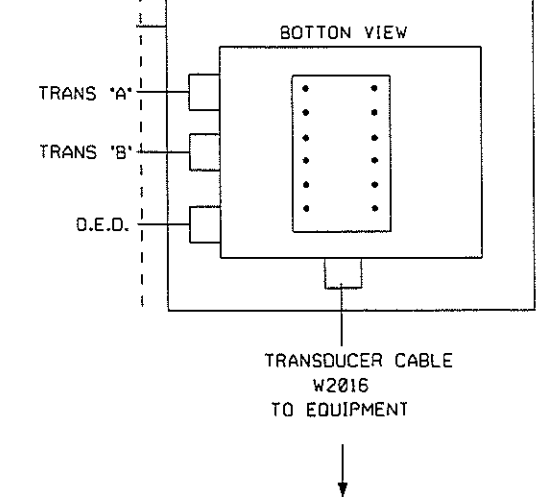
PHILADELPHIA, PA. APPROVED: _____ CHIEF ENGINEER - C&S

ISSUE DATE: JAN 20, 1998 HBD-1997

REV. 1 SHEET 1



WATERPROOF BOX BOLTED TO
BOTTOM OF COVER
ALL FITTINGS ARE COMPRESSION TYPE
T & B* 2521 - 4 EACH
T & B* 2522 - 1 EACH



- NOTES:
1. PENCELL BOX LOCATED 50' MINIMUM FROM GAGE WITH TOP OF PENCELL BOX AT BALLAST LINE.
 2. ALL PVC JOINTS MUST BE CLEANED AND GLUED UNLESS OTHERWISE NOTED
 3. H.W.D. CONDUIT AND RISER ARE 2" PVC.
 4. H.W.D. RISER LOCATED 52' FROM SCANNER CENTERLINE AND 52' FROM GAGE.
 5. TO MAKE 90 DEGREE CORNER, USE SWEEP 'L' OR TWO 45 DEGREE 'L' CONNECTED BY A SHORT PIECE OF PIPE.
 6. 20 FEET MINIMUM CLEARANCE TO HOUSE
40 FEET MAXIMUM CLEARANCE TO HOUSE
200 FEET MINIMUM TO ANY ROAD CROSSING.
 7. D.E.D. CABLE AND TRANSDUCER CABLES ARE IN SEPARATE 3/4" HOSE
 8. TRACK WIRE FOR S.O.T.C. IS DIRECT BURIED FROM HOUSE TO PENCELL BOX.
 9. LOCATION MUST BE APPROVED BY DIV. TRANSPORTATION
 10. D.E.D. CABLE TO ENTER PENCELL BOX USING SHORT PIECE OF S/O CABLE. USE X1 AND X2 WIRES TO HOUSE.
 11. D.E.D. LOCATED WITHIN 6' OF SCANNER USING 9' TIES. SEE CS1531.
 12. HOD SCANNER PROTECTION RAMPS AND FLANGER SIGNS TO BE INSTALLED IN ACCORDANCE WITH STANDARD PLAN CS-1502 AND MW 78460-D. SCANNERS ARE NOT TO BE INSTALLED WITHOUT THIS PROTECTION.
 13. ALL TRANSDUCER MEASUREMENTS ARE TO THE MAGNETIC CENTER.
 14. DIRECTION ! IS PREDOMINATE DIRECTION OF TRAFFIC.
 15. SPARE PVC MAIN TO BE CAPPED - NOT GLUED
 16. PULL LINES TO BE INSTALLED IN ALL PVC RUNS.
 17. PENCELL BOX AND PVC RUNS ARE TO BE BACK FILLED WITH 6" OF WASHED STONE FOR DRAINAGE.
 18. INSTALL REFERENCE TIE ON EDGE TO ALLOW SCANNER ADJUSTMENT. REFERENCE TIE SHOULD BE CLEAR OF JOINTS SO SCANNER CAN BE MOUNTED WITHOUT ANY OBSTRUCTIONS.
 19. REMOVE ALL SPIKES FROM INTENDED SCANNER LOCATION. SPIKES REMAIN IN THE TIE PLATE BETWEEN RAILS. REMOVE ANY ANTI-CREEP DEVICES FROM BOTH SIDES OF THE REFERENCE TIE.

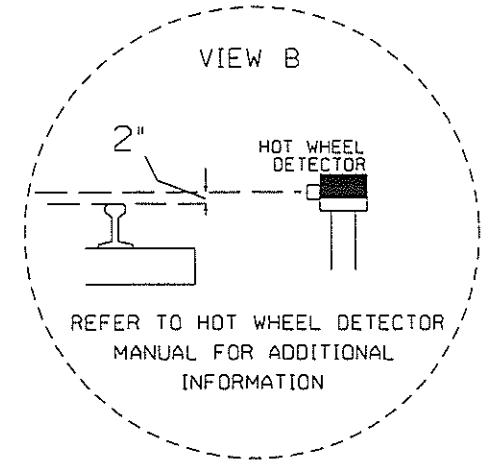
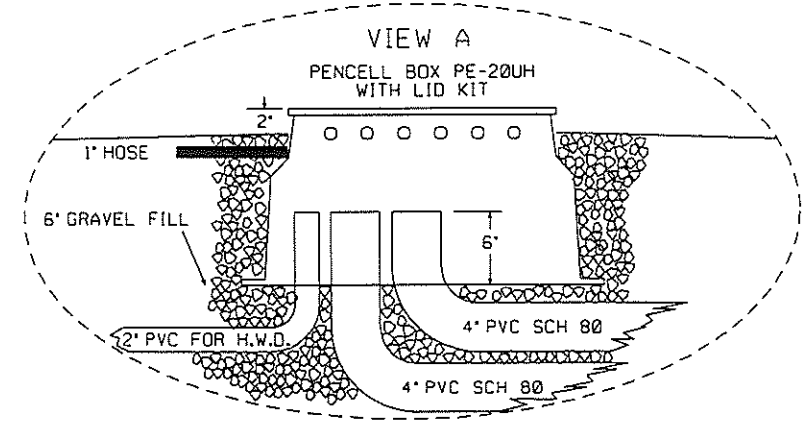
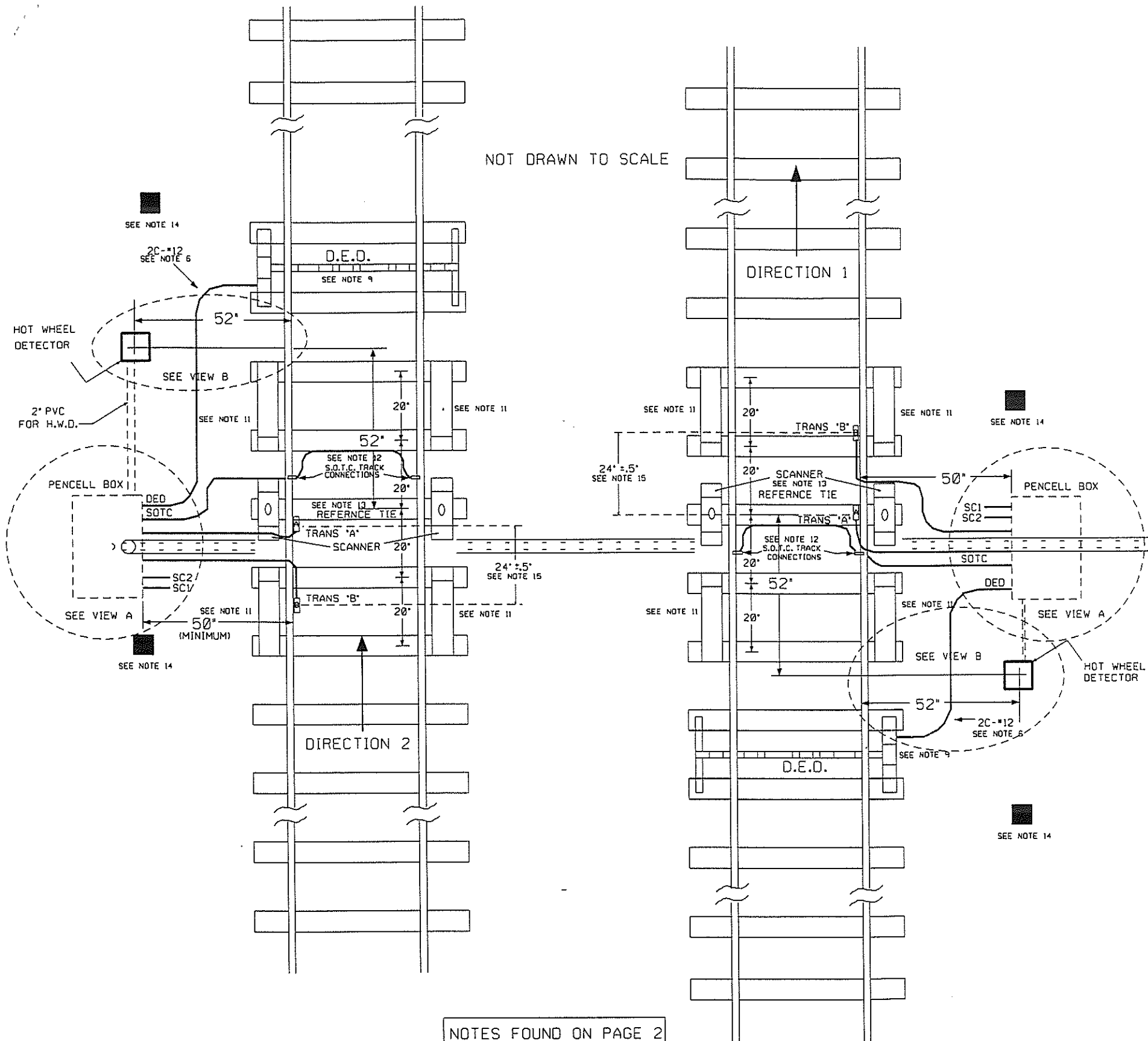
ALL NEW WORK
INSTALL AND CHECK
AS A WHOLE



LOCATION PLAN
TWO TRACK

ISSUE DATE:		HBO-1997
REV. 1		SHEET 2

NOT DRAWN TO SCALE



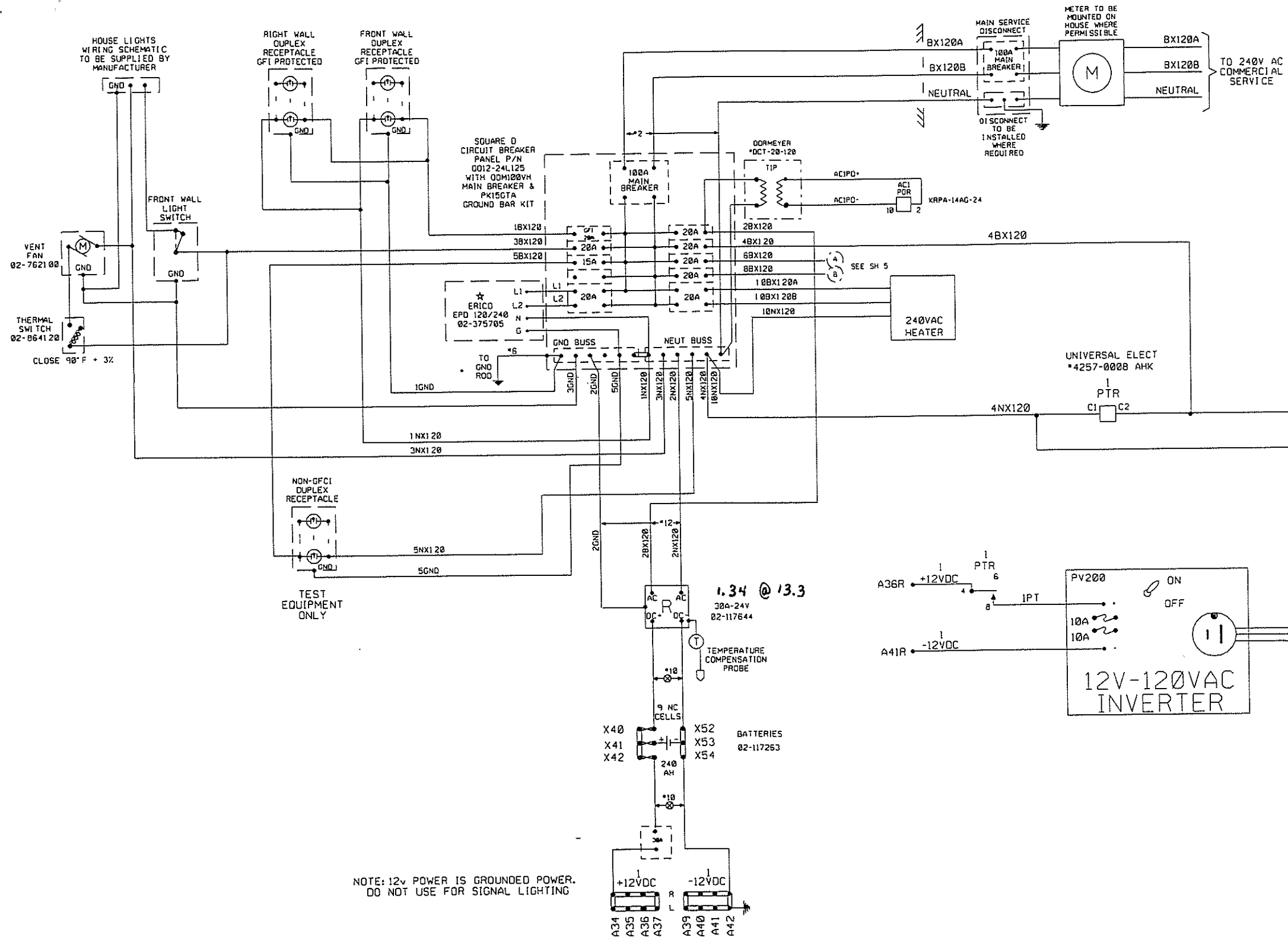
TO HBD EQUIPMENT HOUSE
SEE SHEET 2
2-4" PVC PER TRACK
GOING TO HBD HOUSE

NOTES FOUND ON PAGE 2

CONRAIL

LOCATION
TRACK AND CONDUIT LAYOUT
SINGLE TRACK

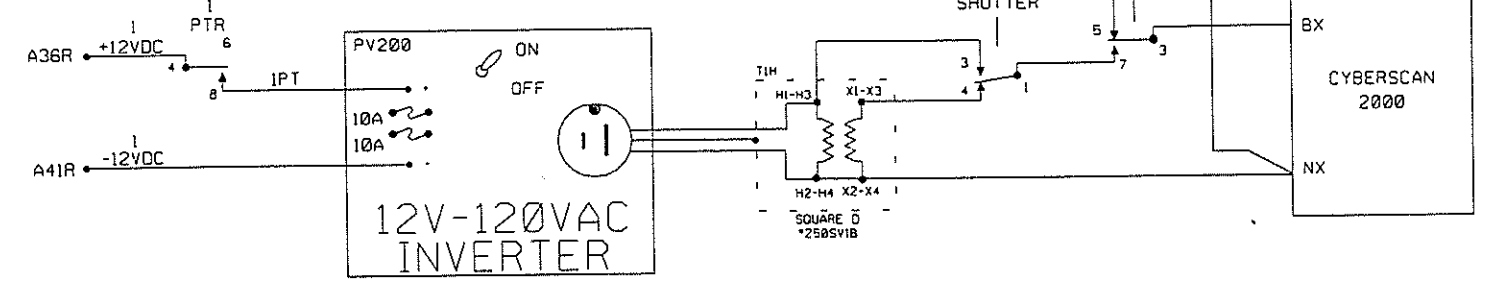
ISSUE DATE:	HBD-1997
REV. 1	SHEET 3



NOTES:

- 1) SUPPRESSOR TO BE LOCATED AS CLOSE AS POSSIBLE TO MAIN BREAKER. LEADS TO BE TWISTED WHENEVER POSSIBLE.
 - 2) 100A SERVICE REQUIRES #2 WIRE. 60A SERVICE REQUIRES #6 WIRE.
 - 3) ALL AC POWER WIRING TO BE IN CONDUIT, ALL OTHER WIRING TO BE TEFLON UNLESS OTHERWISE SPECIFIED.
 - 4) MAXIMUM BREAKER LOAD NOT TO EXCEED 80% OF RATING (IE. 20A BREAKER GOOD FOR 16A).
 - 5) TRANSFORMER TO BE RATED AT 125% OF MAXIMUM LOAD.
 - 6) TRANSFORMER TO BE PROTECTED BY CLASS RK5 FUSE BASED ON 125% OF KVA RATING.
 - 7) Δ = 20A CIRCUIT BREAKER RESERVED FOR COMMUNICATIONS.
 - 8) 480V AC POWER SOURCE MUST BE PROTECTED BY 30A FUSING AT FEED END.
 - 9) LINE SERVICE DISCONNECT DOES NOT KILL LOCATION POWER. SHOP TO PROVIDE WARNING LABEL.
- ⊗ = TWISTED PAIR

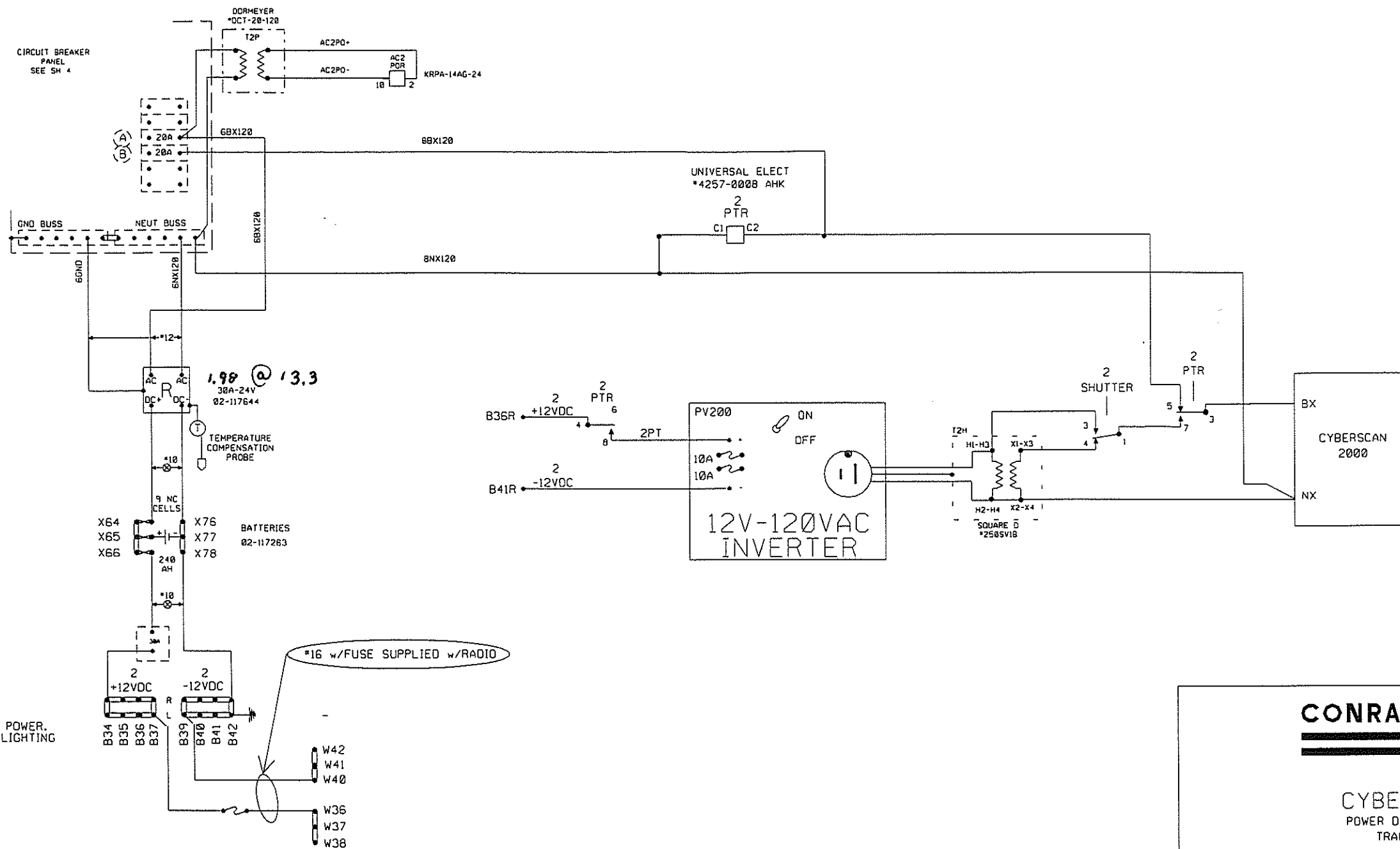
NOTE: 12V POWER IS GROUND POWER. DO NOT USE FOR SIGNAL LIGHTING



CONRAIL

CYBERSCAN
POWER DISTRIBUTION
TRACK ONE

ISSUE DATE:	HBD-1997
REV. 1	SHEET 4

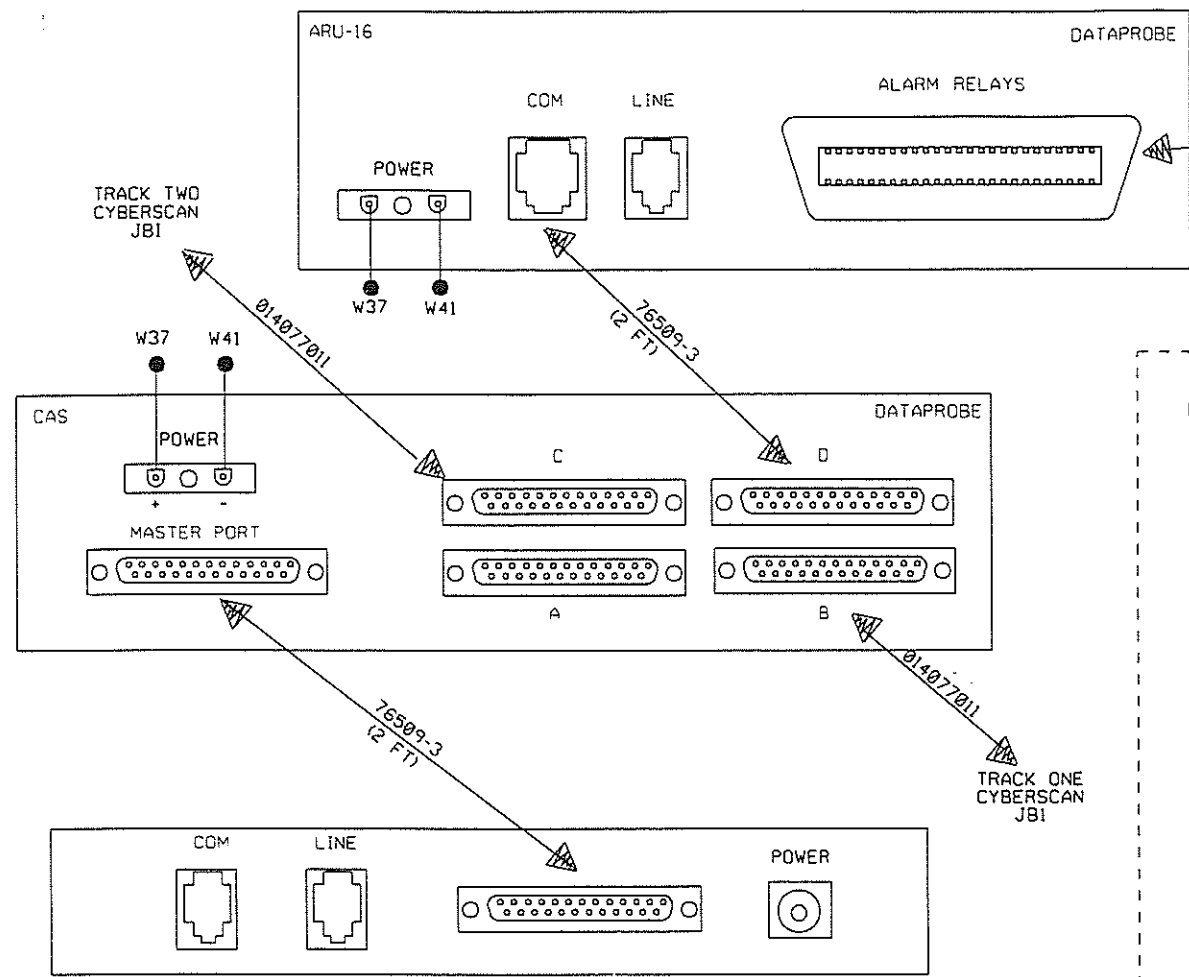


NOTE:
12v POWER IS GROUNDED POWER.
DO NOT USE FOR SIGNAL LIGHTING

CONRAIL

CYBERSCAN
POWER DISTRIBUTION
TRACK TWO

ISSUE DATE:		HBD-1997
REV. 1	SHEET 5	

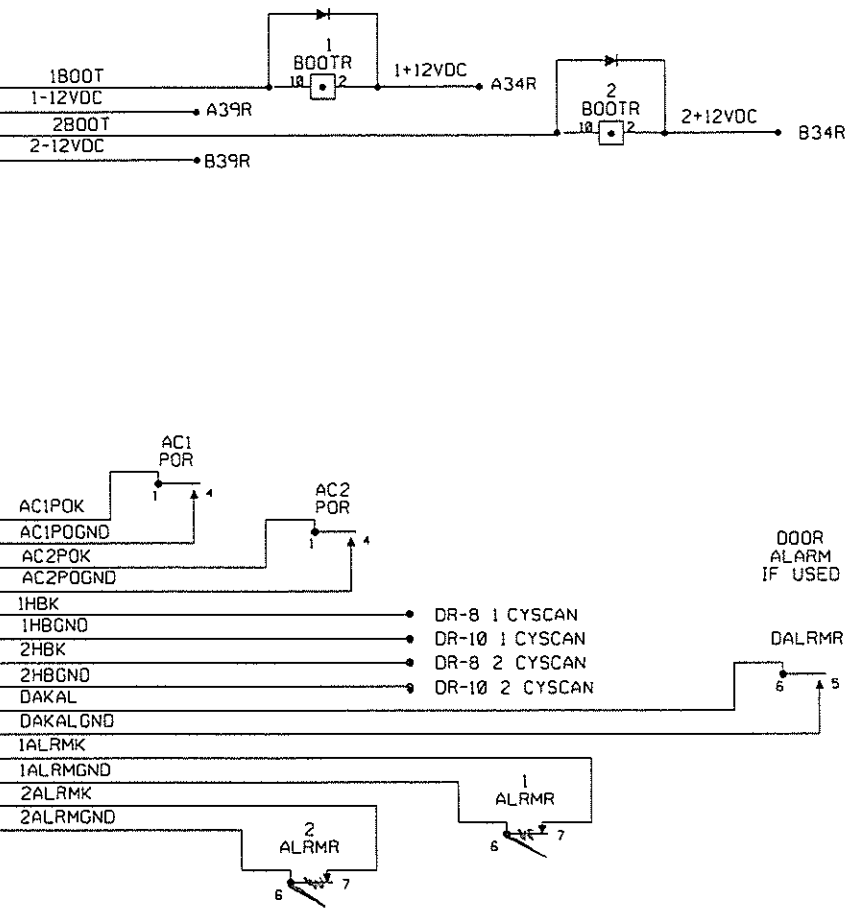
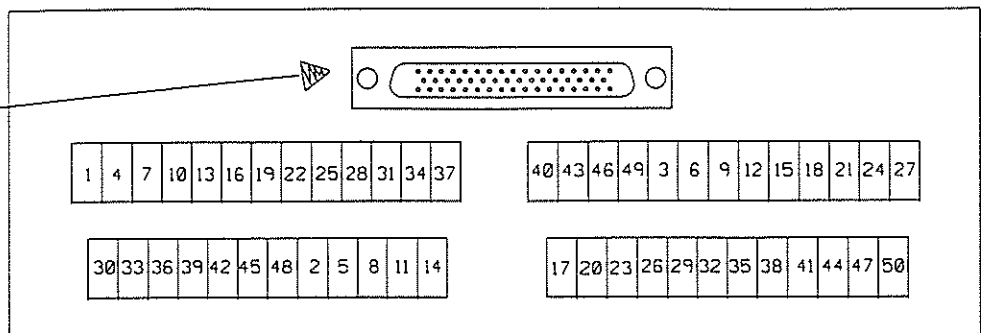


ADAPTER CABLE
TO
ARU-16 50 PIN TELCO

76509-3 CABLE IS SUPPLIED W/COMM PACKAGE.
2 FT PIECES ARE CUT OFF AND RJ45 PLUGS ARE ADDED
16 FT PIECE IS USED FOR TRK 1 PRINTER

INTERFACE BOARD 50 PIN WAGO BLOCK

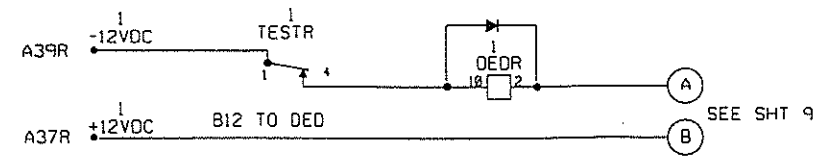
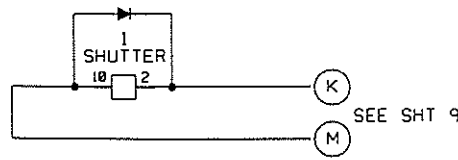
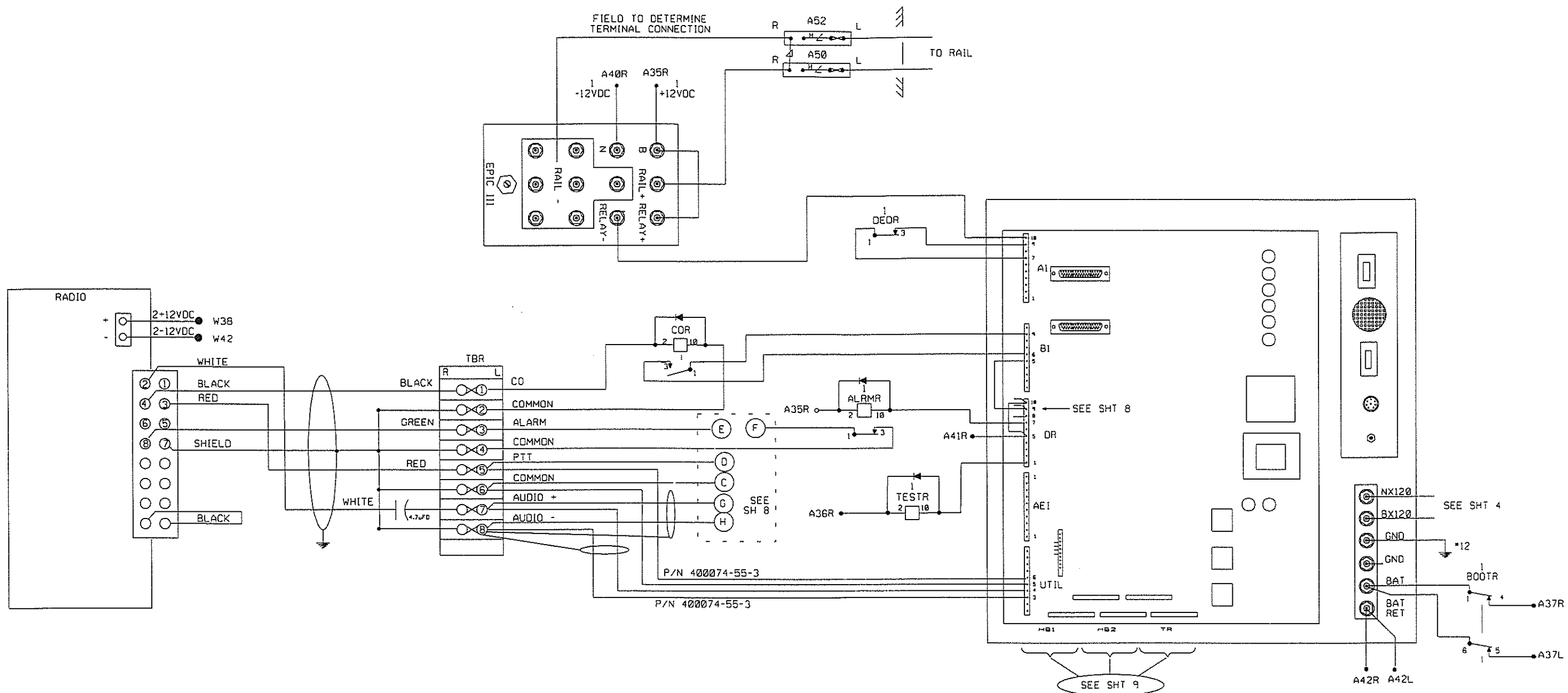
FEMALE DB50	WAGO PIN 1-24	WAGO PIN 25-50
17	(CONTROL CIRCUIT #1)	17
42	(CONTROL COMM #1)	42
18	(CONTROL CIRCUIT #2)	18
43	(CONTROL COMM #2)	43
19	(CONTROL CIRCUIT #3)	19
44	(CONTROL COMM #3)	44
20	(CONTROL CIRCUIT #4)	20
45	(CONTROL COMM #4)	45
21	(CONTROL CIRCUIT #5)	21
46	(CONTROL COMM #5)	46
22	(CONTROL CIRCUIT #6)	22
47	(CONTROL COMM #6)	47
23	(CONTROL CIRCUIT #7)	23
48	(CONTROL COMM #7)	48
24	(CONTROL CIRCUIT #8)	24
49	(CONTROL COMM #8)	49
25	(EXTERNAL +VDC IN)	25
50	(EXTERNAL +VDC IN)	50
26	(ALARM CIRCUIT #1)	26
34	(GROUND)	34
27	(ALARM CIRCUIT #2)	27
35	(GROUND)	35
28	(ALARM CIRCUIT #3)	28
36	(GROUND)	36
29	(ALARM CIRCUIT #4)	29
37	(GROUND)	37
30	(ALARM CIRCUIT #5)	30
38	(GROUND)	38
31	(ALARM CIRCUIT #6)	31
39	(GROUND)	39
32	(ALARM CIRCUIT #7)	32
40	(GROUND)	40
33	(ALARM CIRCUIT #8)	33
41	(GROUND)	41
1	(NOT USED)	1
9	(ALARM CIRCUIT #9)	9
2	(NOT USED)	2
10	(ALARM CIRCUIT #10)	10
3	(NOT USED)	3
11	(ALARM CIRCUIT #11)	11
4	(NOT USED)	4
12	(ALARM CIRCUIT #12)	12
5	(NOT USED)	5
13	(ALARM CIRCUIT #13)	13
6	(NOT USED)	6
14	(ALARM CIRCUIT #14)	14
7	(NOT USED)	7
15	(ALARM CIRCUIT #15)	15
8	(NOT USED)	8
16	(ALARM CIRCUIT #16)	16



CONRAIL

CYBERSCAN

COMMUNICATIONS AND DATAPROBE CIRCUITS

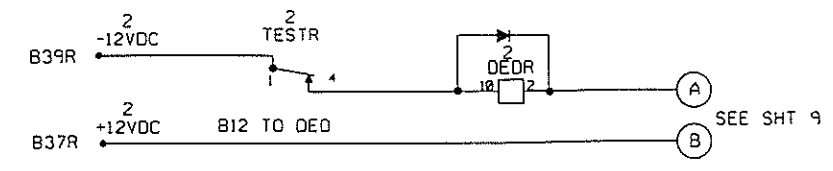
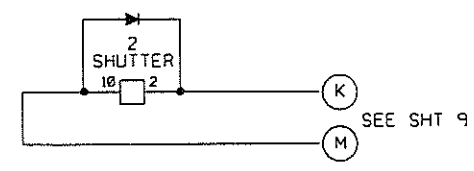
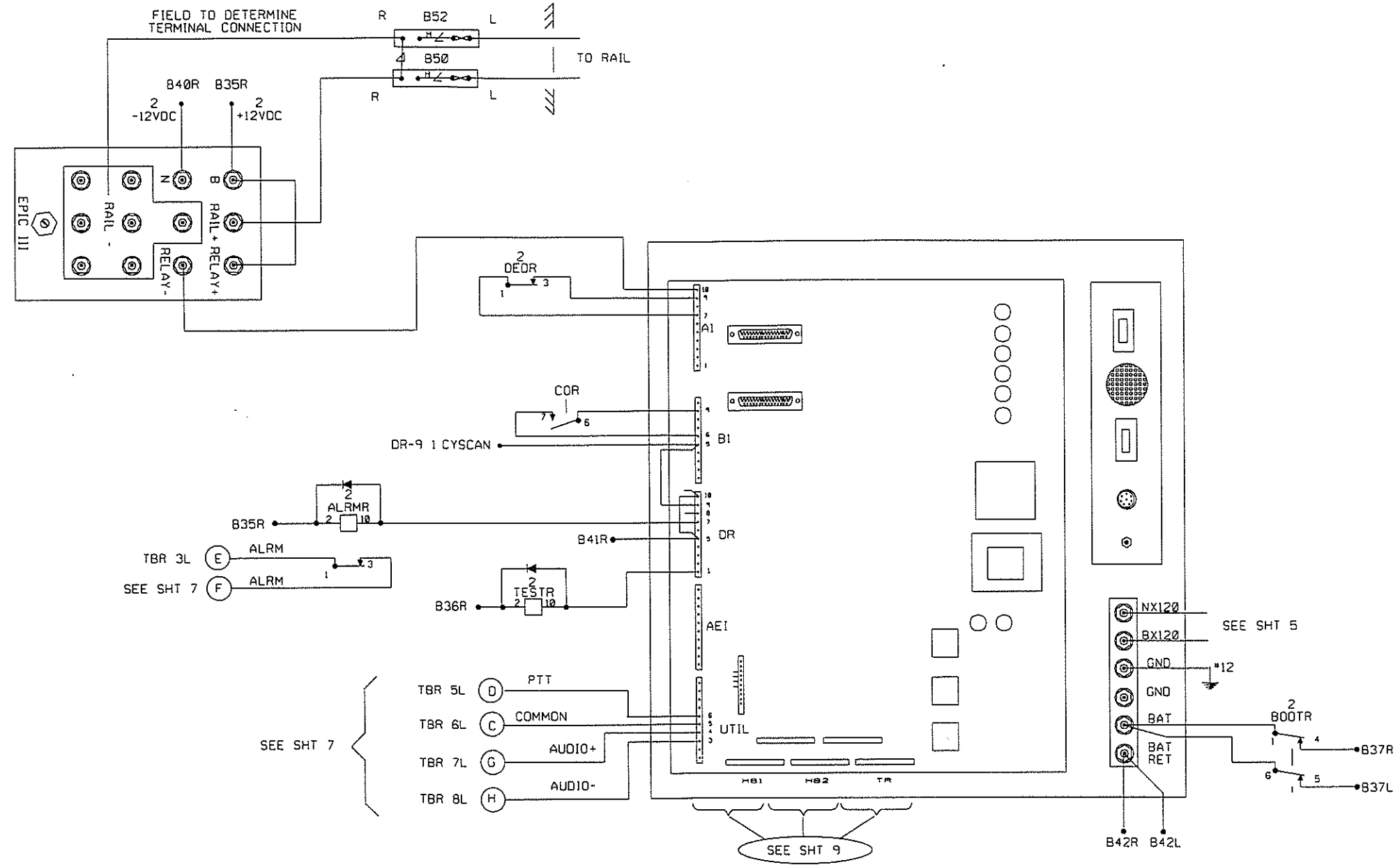


CONRAIL

CYBERSCAN

SOTC, DED, TEST, COR, PTT.
RADIO CIRCUITS
TRACK ONE

ISSUE DATE:	
RE REV 1	SHEET 7



CONRAIL

CYBERSCAN

SOTC, DEO, TEST, COR, PTT,
RADIO CIRCUITS
TRACK TWO

ISSUE DATE:		HBO-1997
REV. 1	SHEET 8	

6 GREEN HB1-12
 7 RED HB1-11
 9 WHITE 8 BLACK HB1-10
 13 GREEN/YELLOW HB1-9
 12 GREEN/WHITE HB1-8
 5 BLACK HB1-7
 3 YELLOW HB1-6
 4 BLUE HB1-5
 14 WHITE/YELLOW HB1-4
 2 WHITE 1 BLACK HB1-3
 11 WHITE/GREEN HB1-2
 10 GREEN HB1-1

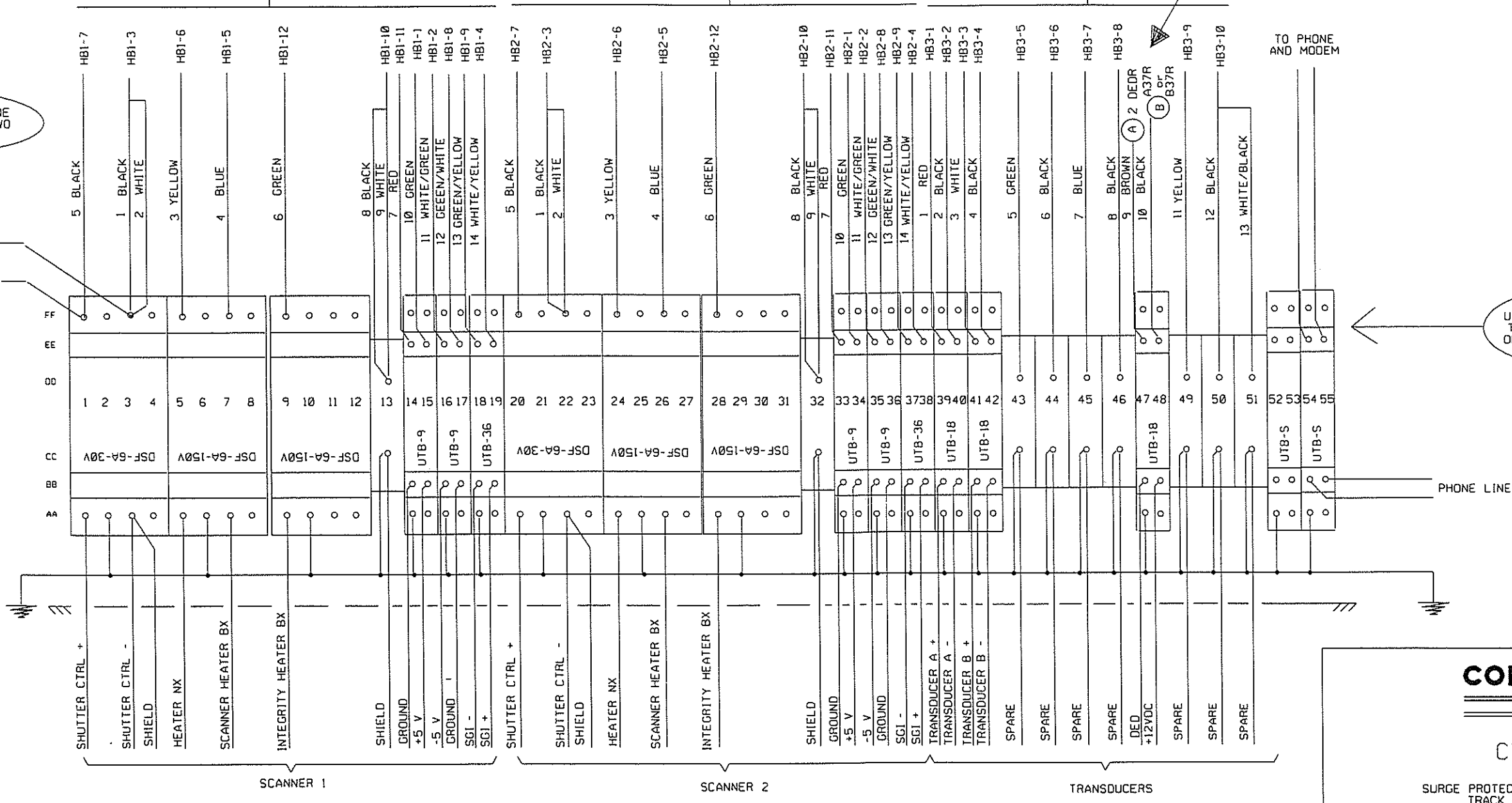
6 GREEN HB2-12
 7 RED HB2-11
 9 WHITE 8 BLACK HB2-10
 13 GREEN/YELLOW HB2-9
 12 GREEN/WHITE HB2-8
 5 BLACK HB2-7
 3 YELLOW HB2-6
 4 BLUE HB2-5
 14 WHITE/YELLOW HB2-4
 2 WHITE 1 BLACK HB2-3
 11 WHITE/GREEN HB2-2
 10 GREEN HB2-1

1 RED HB3-1
 2 BLACK HB3-2
 3 WHITE HB3-3
 4 BLACK HB3-4
 5 GREEN HB3-5
 6 BLACK HB3-6
 7 BLUE HB3-7
 8 BLACK HB3-8
 9 YELLOW HB3-9
 10 BLACK HB3-10
 11 WHITE/BLACK

SEE SH 7 FOR TRACK ONE
 SH 8 FOR TRACK TWO

SEE SH 7 FOR TRACK ONE
 SH 8 FOR TRACK TWO

UTB-S #54 & 55
 TO BE USED ON
 ONE TRACK ONLY

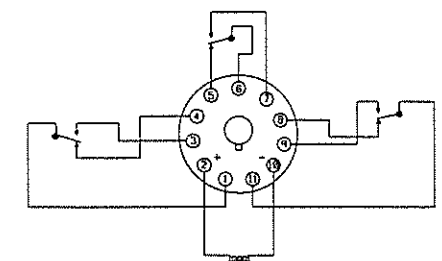
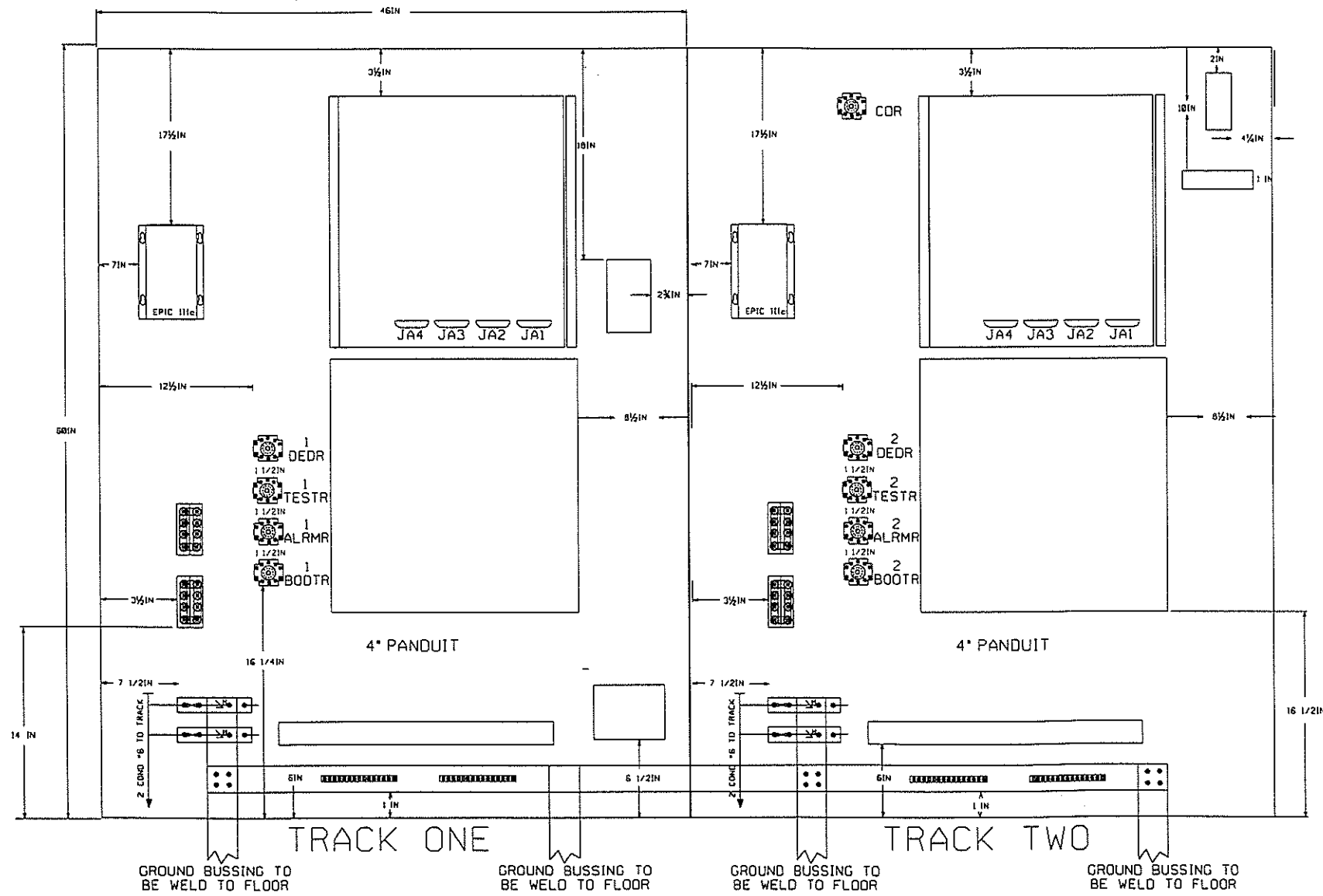
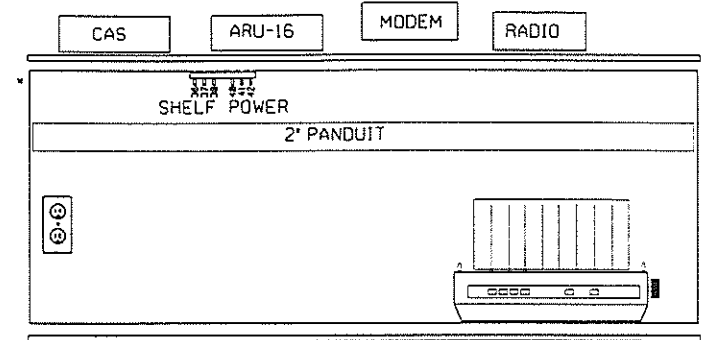
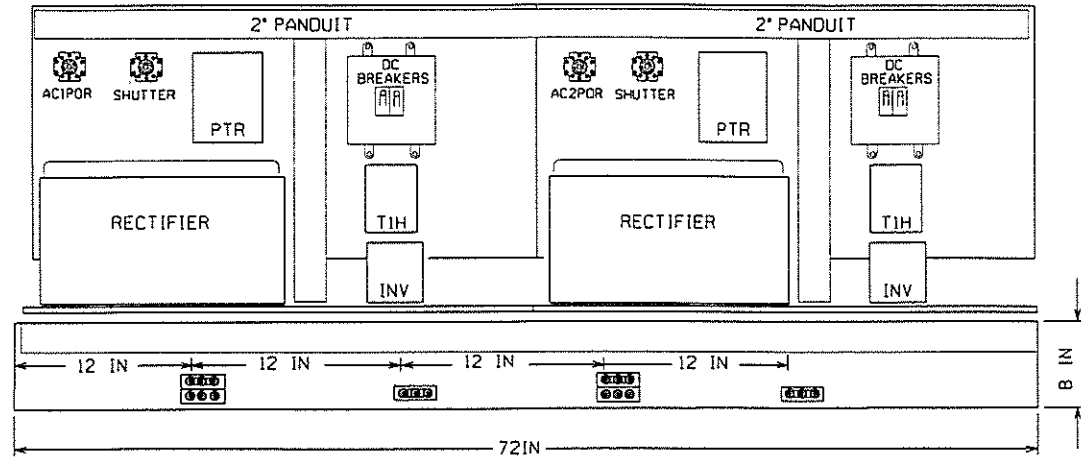


CONRAIL

CYBERSCAN

SURGE PROTECTION AND CABLE TERMINATIONS
 TRACK ONE AND TWO IDENTICAL

ISSUE DATE:	HBD-1997
REV. 1	SHEET 9



NON VITAL RELAY
WIRING DIAGRAM
BASE - SR3P-05 (11 PIN BASE)
DIODES - 1N4007



CYBERSCAN

LEFT, REAR, RIGHT WALL LAYOUT

ISSUE DATE:	HBD-1997
REV. 1	SHEET 10

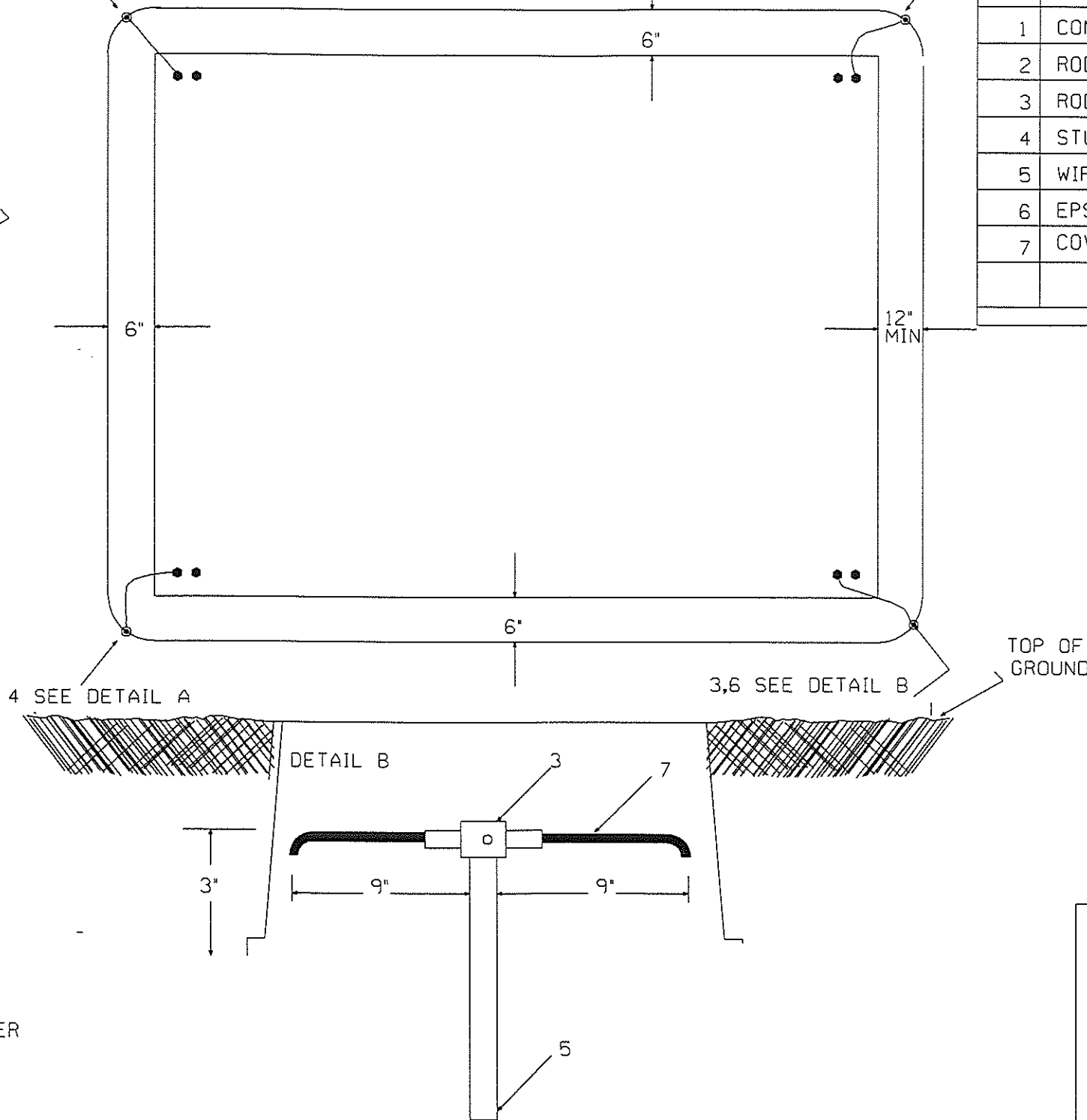
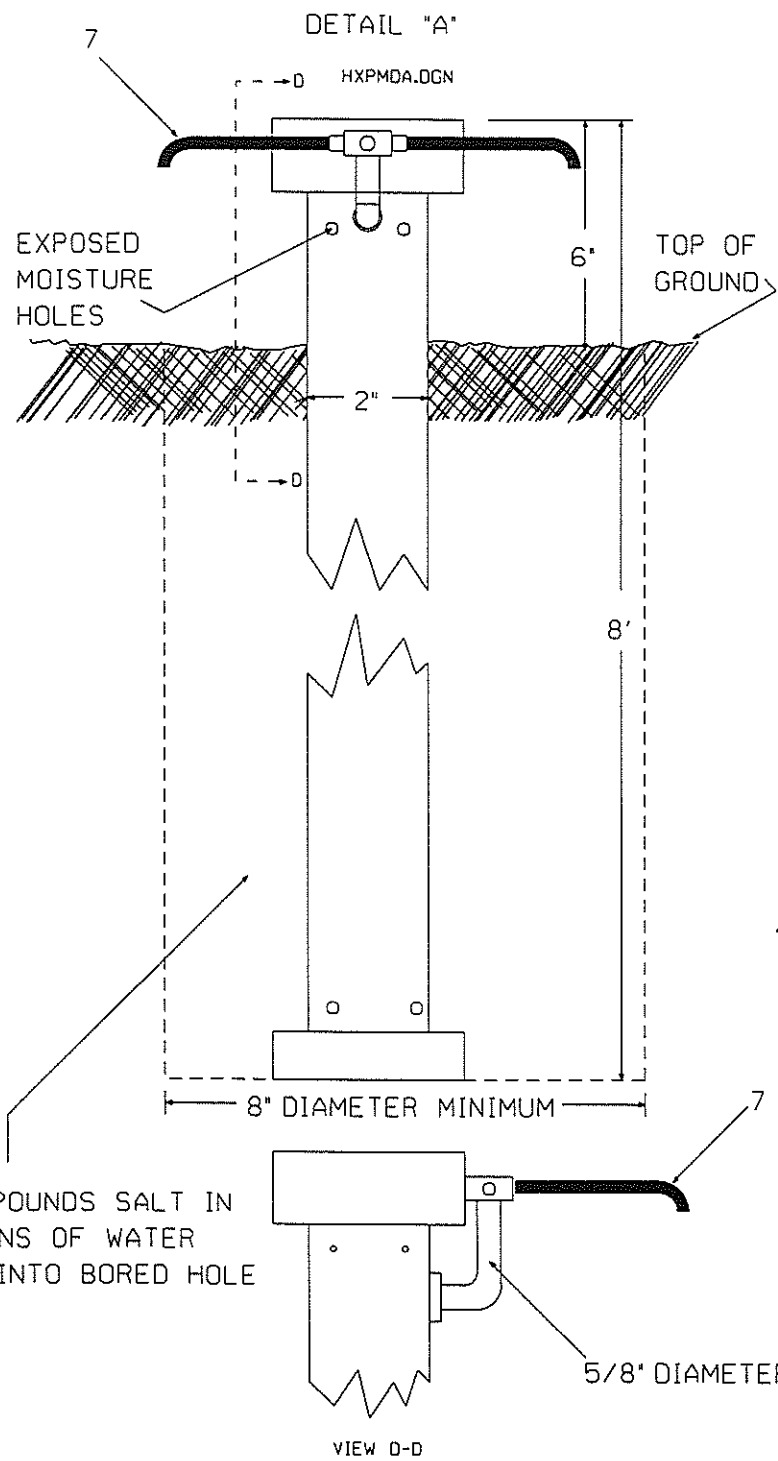
CHEMICAL GROUND ROD INSTALLATION

3,6 SEE DETAIL B

GROUND GRID LAYOUT

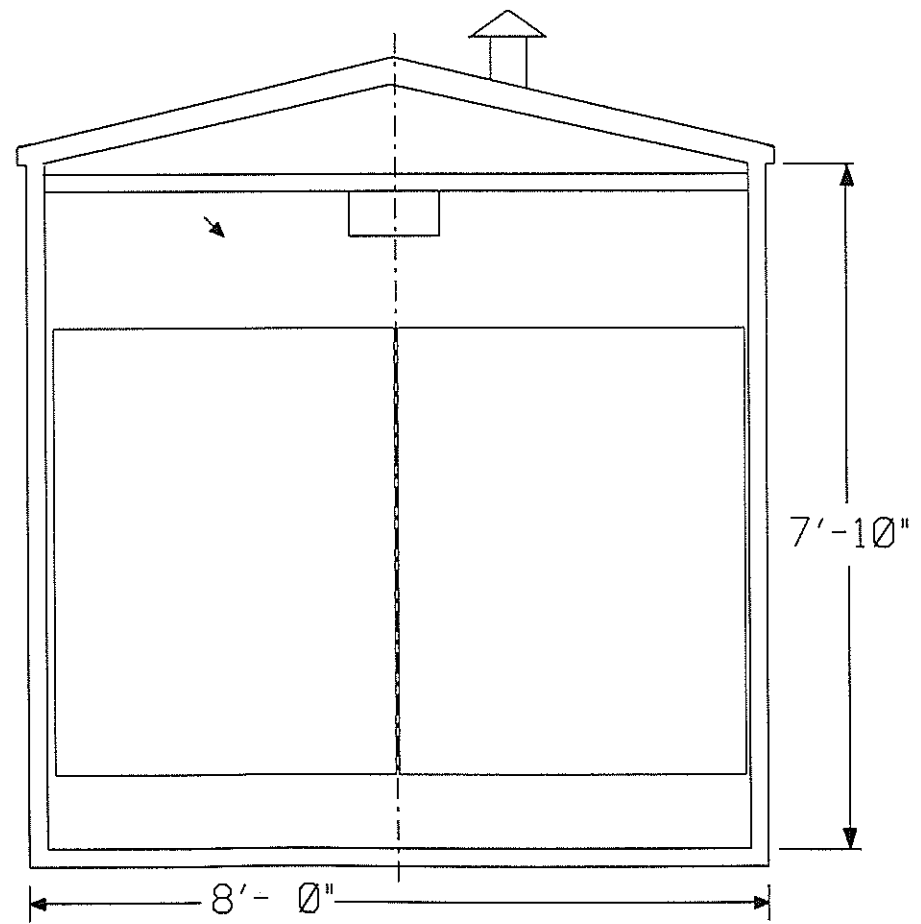
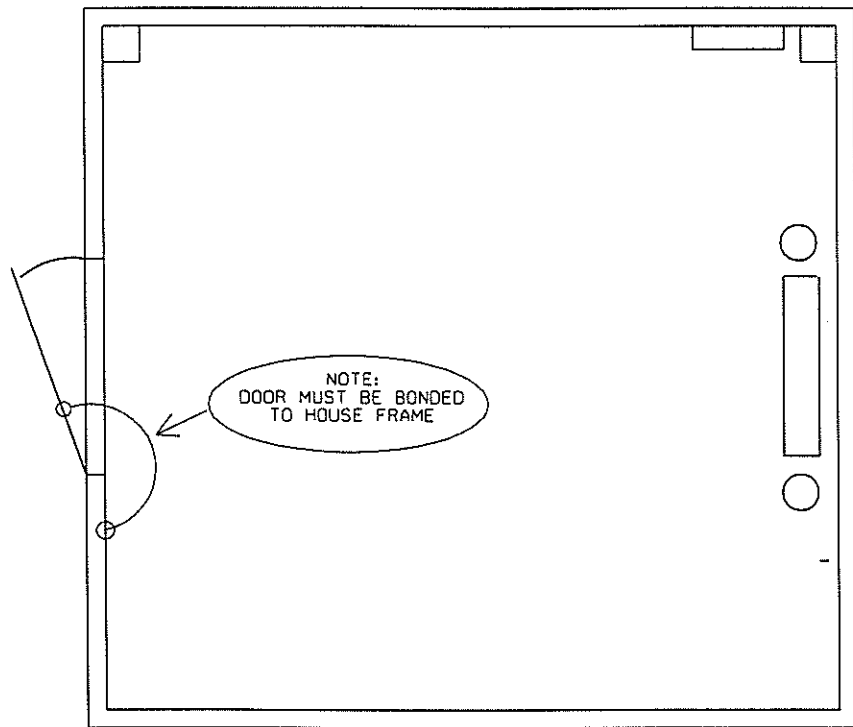
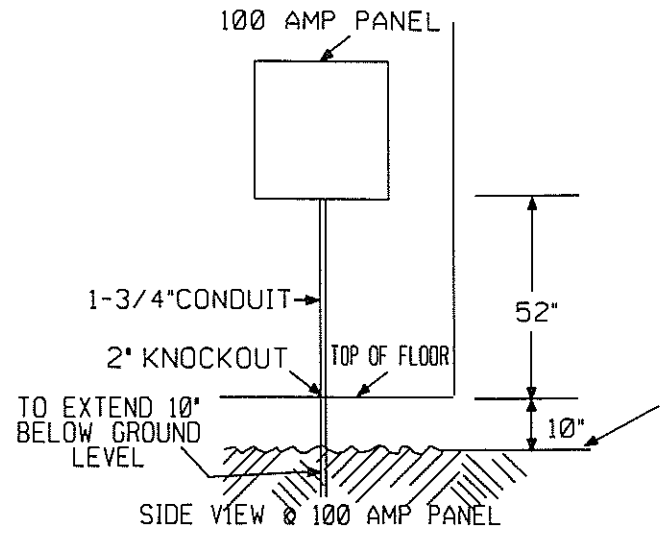
4 SEE DETAIL A

ITEM	MATERIAL	ACCT REF NO
1	CONNECTION, EXO WELD, 3 WIRE	02-742243
2	ROD, CHEMICAL GROUND 8'	02-829347
3	ROD, COPPERWELD GROUND 5/8"X8'	02-829263
4	STUD, DRIVE FOR 5/8" GROUND ROD	02-563664
5	WIRE, #6 AWG SOLID, BARE, SOFT	49-779709
6	EPSON SALT	02-784419
7	COVER	



GROUND APPLICATION FOR
HBD HOUSE

ISSUE DATE:	HBO-1997
REV. 1	SHEET 11



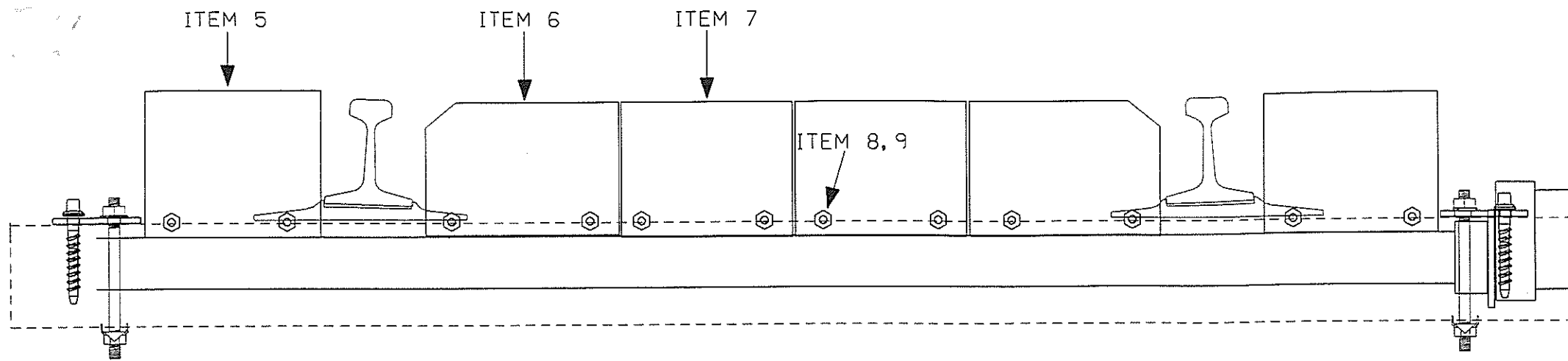
FRONT VIEW

NOTE #	ACCT. REF.	DESCRIPTION
1	02-117644	ERBC 24/30 BATTERY CHARGER
2	02-	240 AMP HOUR CELLS
3	02-	COMMUNICATIONS PACKAGE
4	02-	HEATER
5	02-	DC - DC CONVERTER, 1650-24-12-15
6	02-	CYBERSCAN
7	02-	INVERTER, PV200
8	02-	S.O.T.C., HARMON EPIC III
9	02-	SURGE PROTECTION
10	02-	RADIO
11	02-	
12	02-	
13	02-	PENCELL BE 20 UH
14	02-378238	BATTERY RACK
15	46-646315	MATTING
	02-	P.O.R., UNIVERSAL ELECTRIC, 4257-0008AH
	02-	
	02-	
	02-	

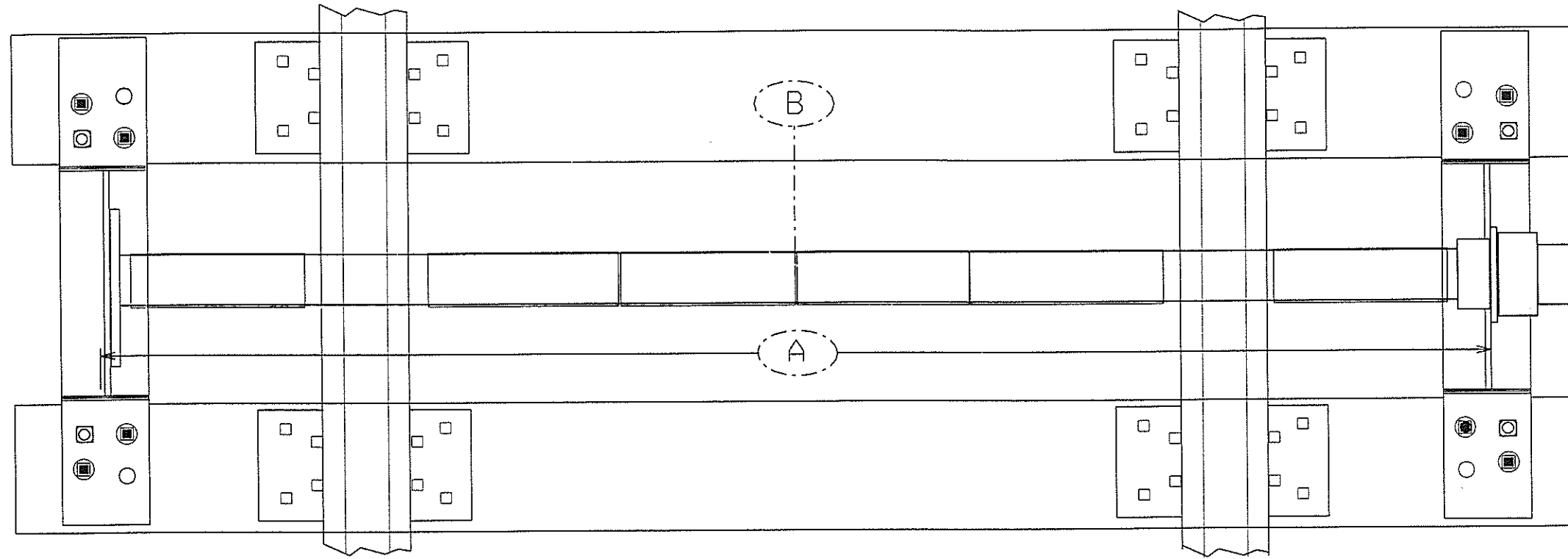


HOUSE LAYOUT

ISSUE DATE:	HBO-1997
REV. 1	SHEET 12

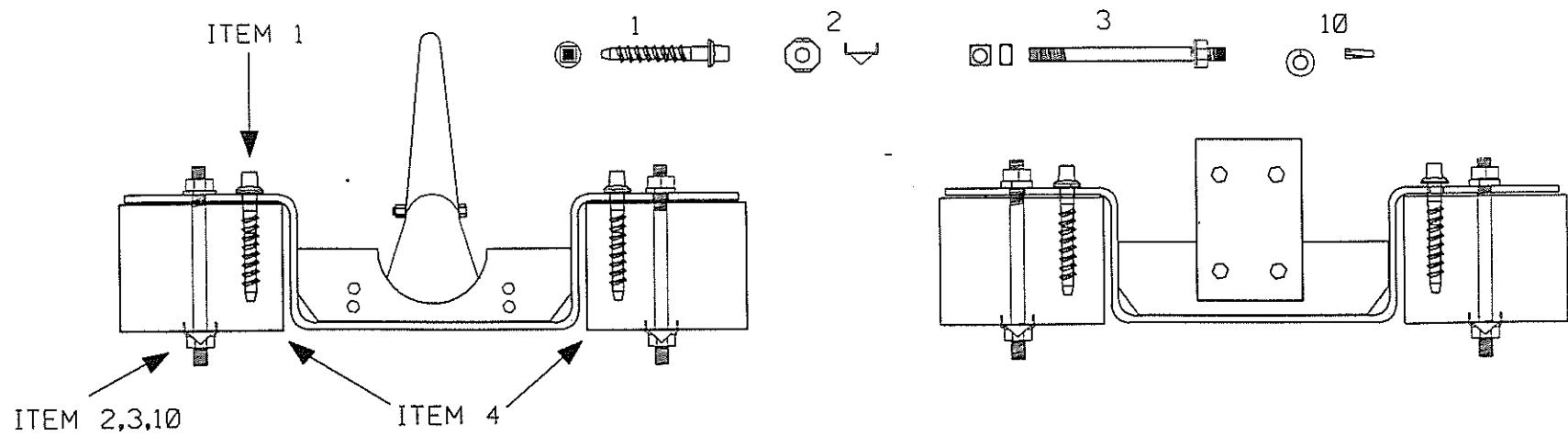



ITEM	NAME	REQ	ACCT NO.
1	SPIKE DRIVE CONE NECK 3/4 X 6"	8	01-754009
2	WASHER BOLT GRIP	4	02-611257
3	STUD 3/4-10NCX11" THREADED	4	19-709656
4	TIE SWITCH 7" X 9" X 9'	2	05-061500
5	PLATE, ACTUATOR, END	2	02-346821
6	PLATE, ACTUATOR, MIDDLE	2	02-346847
7	PLATE, ACTUATOR, CENTER	2	02-346862
8	BOLT, 1/2"-13x1-1/2"(PLATE)	8	19-179207
9	NUT, HEX, 1/2"-13 w/nylon inst	8	19-428802
10	WASHER, LOCK 3/4"	4	19-775251
DED Assembly			02-185690



NOTES:

1. Detectors shall be bi-directional.
2. End actuator plates (item 5) to be adjustable both horizontally and vertically.
3. Middle and center actuator plates (items 6 & 7) adjustable one inch vertically.
4. Drive spikes (item 1) shall be set in predrilled 5/8" x 5" holes.
5. Equipment shall be painted black enamel non-reflective, 47-299203 or equal
6. Periodic lubrication shall be in accordance with C&S -31, section 17
7. Test and maintain in accordance with C&S - 27, Test 37.
8. Alignment across the rails can be determined by measuring from centerline of gage (B) to outside edge of the pivot bearing and the outside edge of the center bearing end of the equipment. (A)



CS-1531	CONRAIL C.&S. DEPT.	PHILADELPHIA, PA.
 DETECTOR, DRAGGING EQUIPMENT SELF RESTORING TYPE		
REV. NO.	DATE:	SHEET 1 of 1
SCALE: 13.5 to 1		