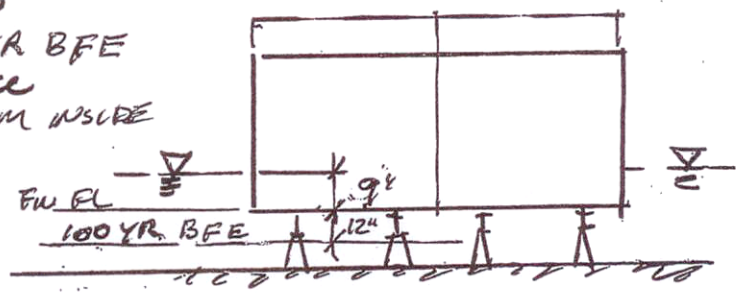


ABESCO  
 ETS 112C  
 Bouyancy Stabilization  
 FOR MANUFACTURED HOMES  
 PLACED IN FEMA FLOOD  
 HAZARD ZONE A, AE & AH

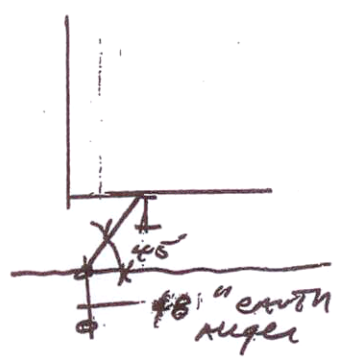


STATIC WATER - SLOW RISE  
 NO VELOCITY

CHECK TIE DOWNS  
 REQUIRED FOR SLOW  
 RISE ABOVE THE 100YR BFE  
 @ 9" WATER LEVEL  
 DIFFERENTIAL FROM INSIDE  
 HOME TO EXTERIOR  
 AVE WT OF COMM  
 MODULAR BLDGS  
 IS 34 psf  
 FOR SINGLES & MULTIFAM



USE MIN 48" EARTH  
 ANCHORS TO RESIST NET  
 BOUYANCY FORCE  
 PLACE ON LONG SIDES  
 OF COMM MODULARS  
 CAPACITY OF EARTH & TIE  
 STRAPS =  $3150 \times 0.707 = 2227$



NET Bouyancy Force =  
SINGLE UNITS

$$\begin{aligned} & \text{SIZE} \times 0.75 \times 624 - \text{SIZE} \times 28 \text{ psf} \\ & = \text{SIZE} \times 468 - 34 \\ & = \text{SIZE} \times 13 \text{ psf} \end{aligned}$$

NO TIE DOWNS REQ'D  
 NET P.F. / 2227

HAZ. AREA  
 ETS-112C  
 HCD  
 10/8/13

PACIFIC CONSULTING ENGINEERS  
 2108 BELL AVE., SUITE 148  
 SACRAMENTO, CA 95838

No. 17918  
 Registered Professional Engineer  
 State of California

Mfg'd Home	NET BF <sup>#</sup>	NO TD <sup>5</sup>	Placement EXSLOR	TOTAL
12x 40	6240 <sup>#</sup>	5	2	(4)
12x 44	6864	4	2	(4)
12x 50	7800	4	2	(4)
12x 56	8736	4	2	(4)
12x 60	9360	5	3	(6)
12x 70	10,920	5	3	(6)
14 x 50	9100	5	3	(6)
14 x 60	10,920	5	3	(6)
14 x 66	12,012	6	3	(6)
14 x 74	13408	6	3	(6)
16 x 66	12480	6	3	(6)
16 x 74	15,392	7	4	(8)

# NET BOUYANCY FOR MULTIWALLS

$$NBF = \text{SIZE} \times 46.8 - 37$$

$$= \text{SIZE} \times 13$$

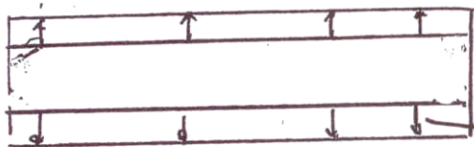
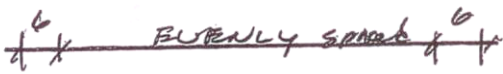
3 / 8

MFG'D HOME SIZE	NBF	NO TD	PLACED EACH SIDE	TOTAL ( )
20 x 40	10,400	5	3	6
20 x 50	13,000	6	3	6
20 x 60	15,600	7	4	(8)
24 x 40	12,480	4	3	(6)
24 x 50	15,600	7	4	(8)
24 x 60	18,720	9	5	(10)
24 x 66	20,592	10	5	(10)
28 x 50	18,700	8	4	(8)
28 x 60	21,840	10	5	(10)
28 x 66	24,024	11	6	(12)
28 x 74	26,932	12	4	(12)
40 x 50	26,600	12	6	(12)
40 x 60	31,200	14	7	(14)
40 x 66	34,320	14	8	(16)
40 x 74	38,480	18	9	(18)

CONSULTANTS  
 Engineers' Computer File

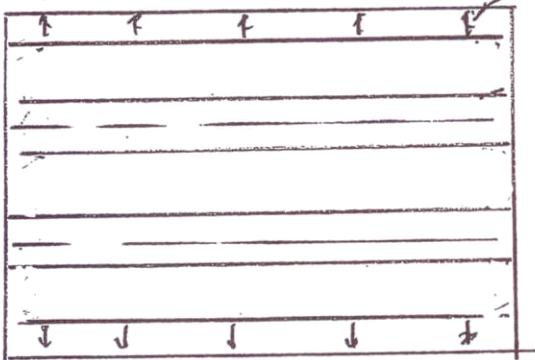
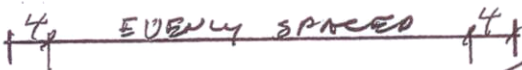
FLOOD ZONE A TIE DOWNS

4/14



INSTALL APPROVED TIE DOWN STRAP = 3/16" 304 STAINLESS STEEL ANCHOR

MFG'D HOME SIZE	NO TIE DOWNS EACH SIDE
12' TO 56'	2
12' X 57' TO 70'	3
14' TO 74'	3
16' TO 60'	3
16' - 61' TO 74'	4



MFG'D HOME SIZE	NO TIE DOWNS EACH SIDE
20' TO 50'	3
20' 50' TO 60'	4
24' TO 50'	3
24' 50' TO 66'	5
29' TO 60'	5
28' 61' TO 74'	6
40' TO 60'	7
40' 61' TO 66'	8
40' 67' - 74'	9

CONSULT WITH THE ENGINEER'S COMPANIES FOR