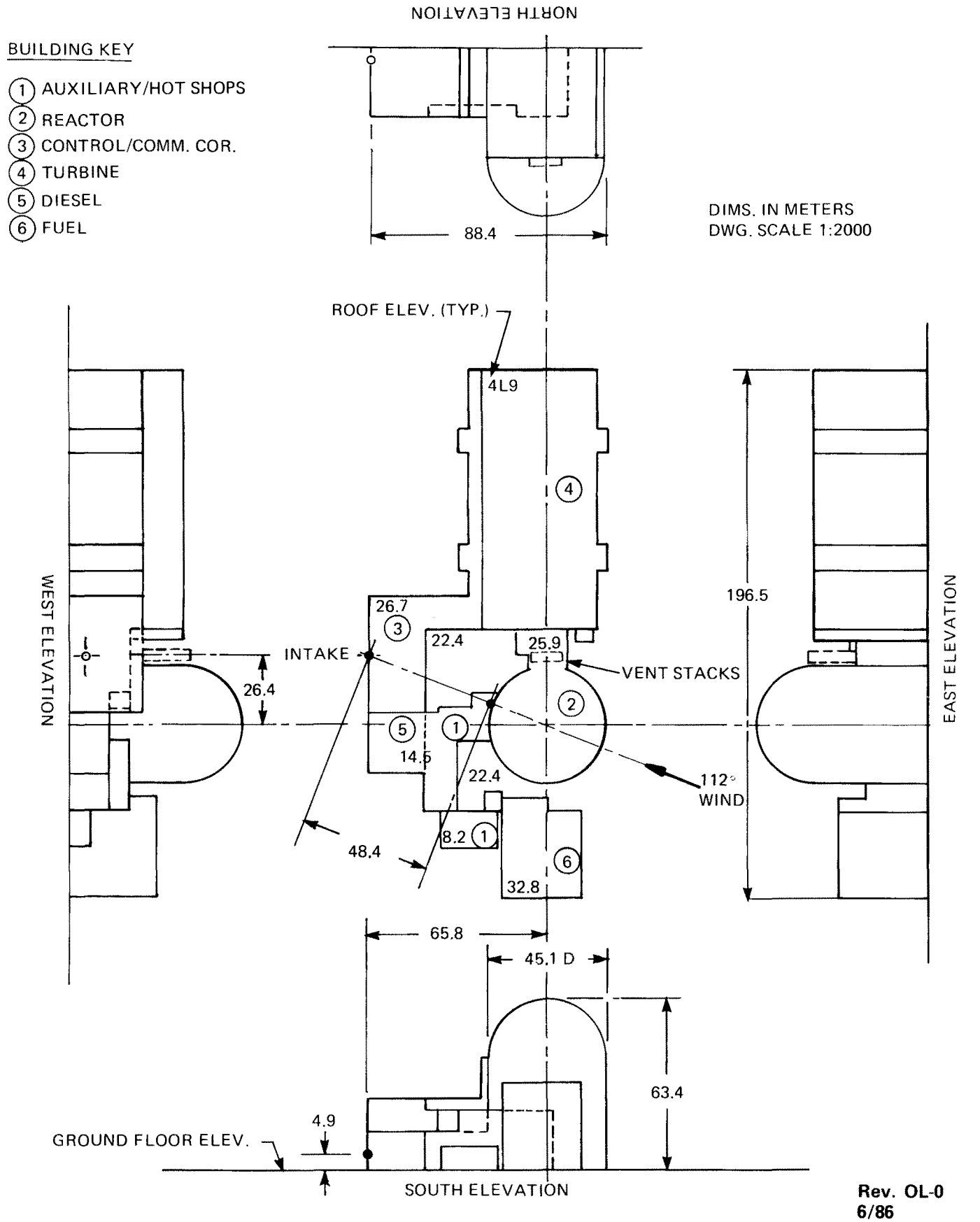

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FIGURE 2.3-1

CONTIGUOUS BUILDING ARRANGEMENT – ONE-UNIT PLANT

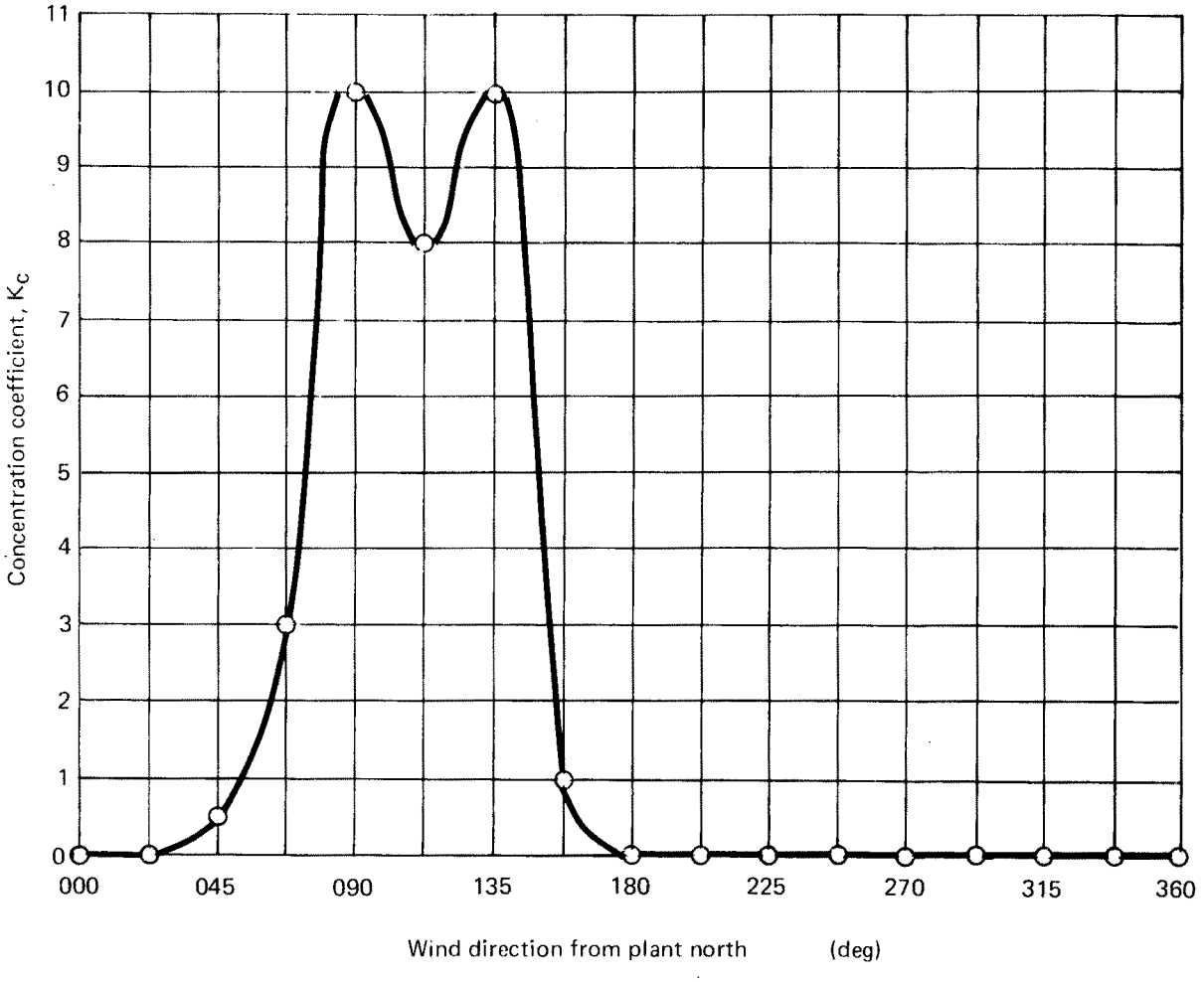

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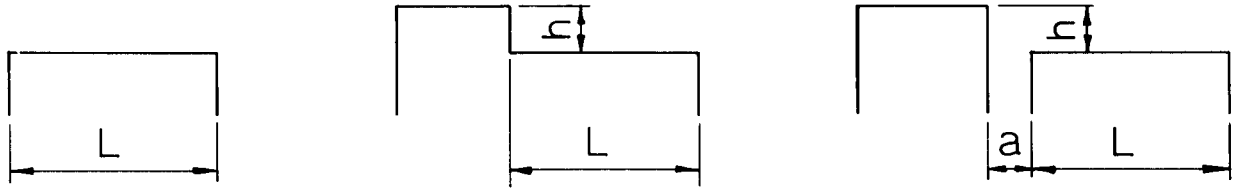
FIGURE 2.3-2

VARIATION OF INTAKE K_c WITH WIND DIRECTION

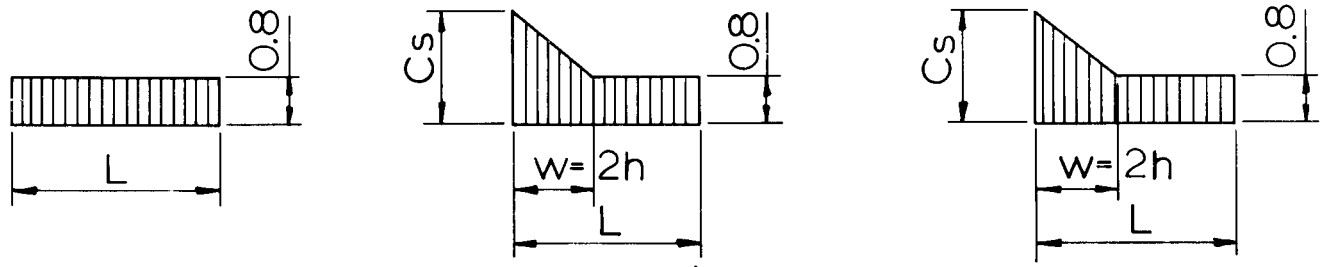
ROOF GEOMETRY



FLAT EXPOSED ROOF, UPPER LEVEL OF MULTI-LEVEL ROOFS, AND DOMES.

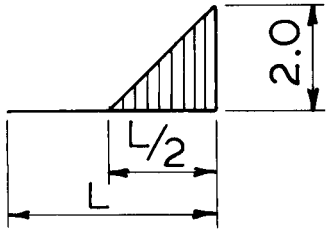
LOWER LEVEL OF MULTI-LEVEL ROOFS WHEN UPPER ROOF IS PART OF THE SAME BUILDING OR AN ADJACENT BUILDING NOT MORE THAN 15 FT. AWAY.

DISTRIBUTION COEFFICIENTS



$C_s = 0.8$ FOR ALL EXPOSED UNSHELTERED ROOFS.

IN ADDITION FOR SPHERICAL DOMES:



REFERENCE: AMERICAN NATIONAL STANDARD A58.1-1972, SECTION 7.1, FIGURES 5 AND 6.

$C_s = 15\frac{h}{g}$

WHEN $15\frac{h}{g} < 0.8$ USE $C_s = 0.8$

WHEN $15\frac{h}{g} > 3.0$ USE $C_s = 3.0$

$w = 2h$

WHEN $h < 5$ FT. USE $w = 10$ FT.

WHEN $h > 15$ FT. USE $w = 30$ FT.

WHERE

h = DIFFERENCE IN ROOF HT. IN FT.

g = GROUND SNOW LOAD IN PSF

w = WIDTH OF DRIFT IN FT.

a = DISTANCE BETWEEN BUILDINGS < 15 FT.

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FIGURE 2.4-1

SNOW LOAD DISTRIBUTIONS AND COEFFICIENTS

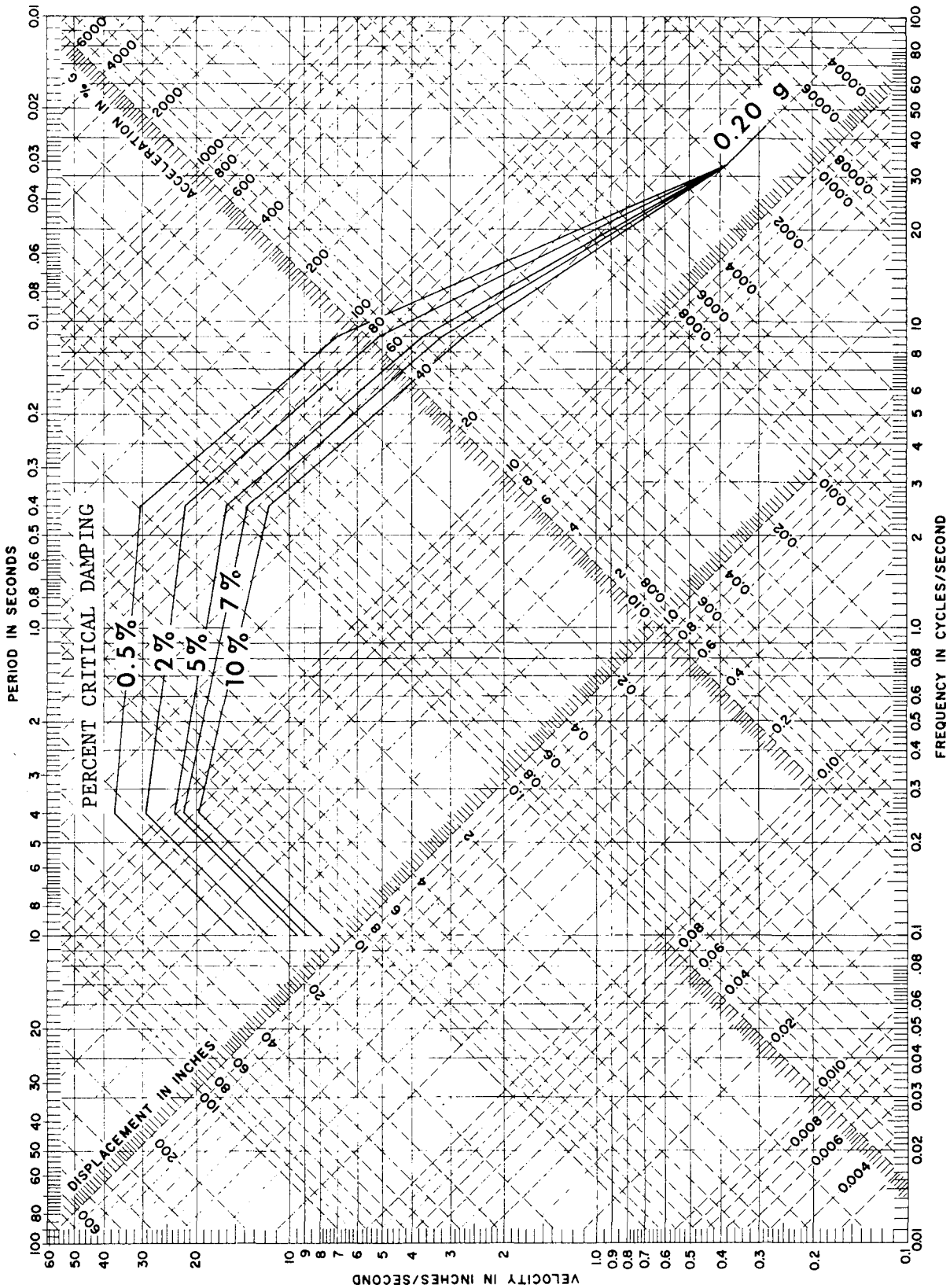

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FIGURE 2.5-1

SSE HORIZONTAL DESIGN SPECTRA

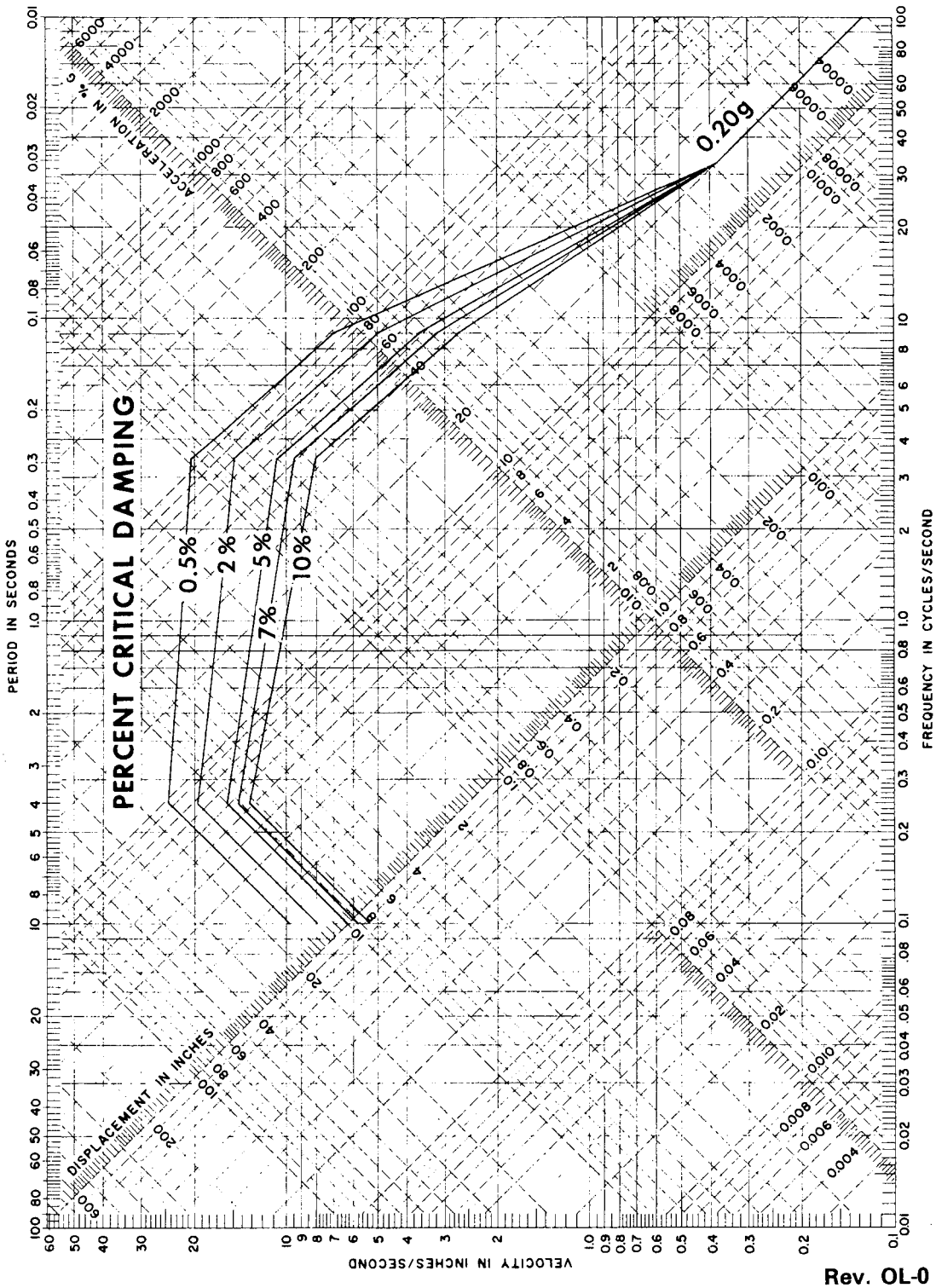

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FIGURE 2.5-2

SSE VERTICAL DESIGN SPECTRA

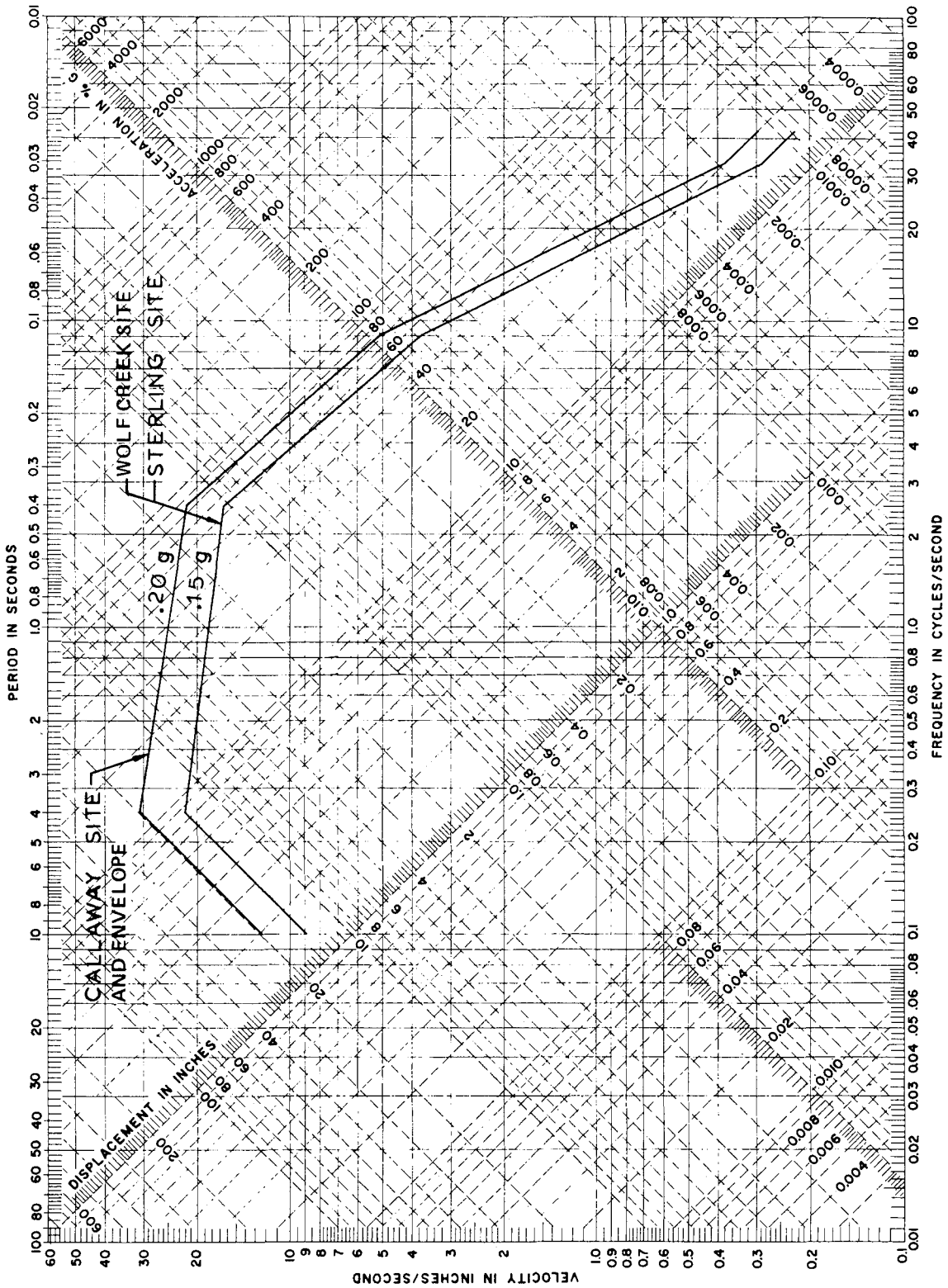

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FIGURE 2.5-3

ENVELOPE OF SITE SSE HORIZONTAL DESIGN SPECTRA FOR 2% DAMPING

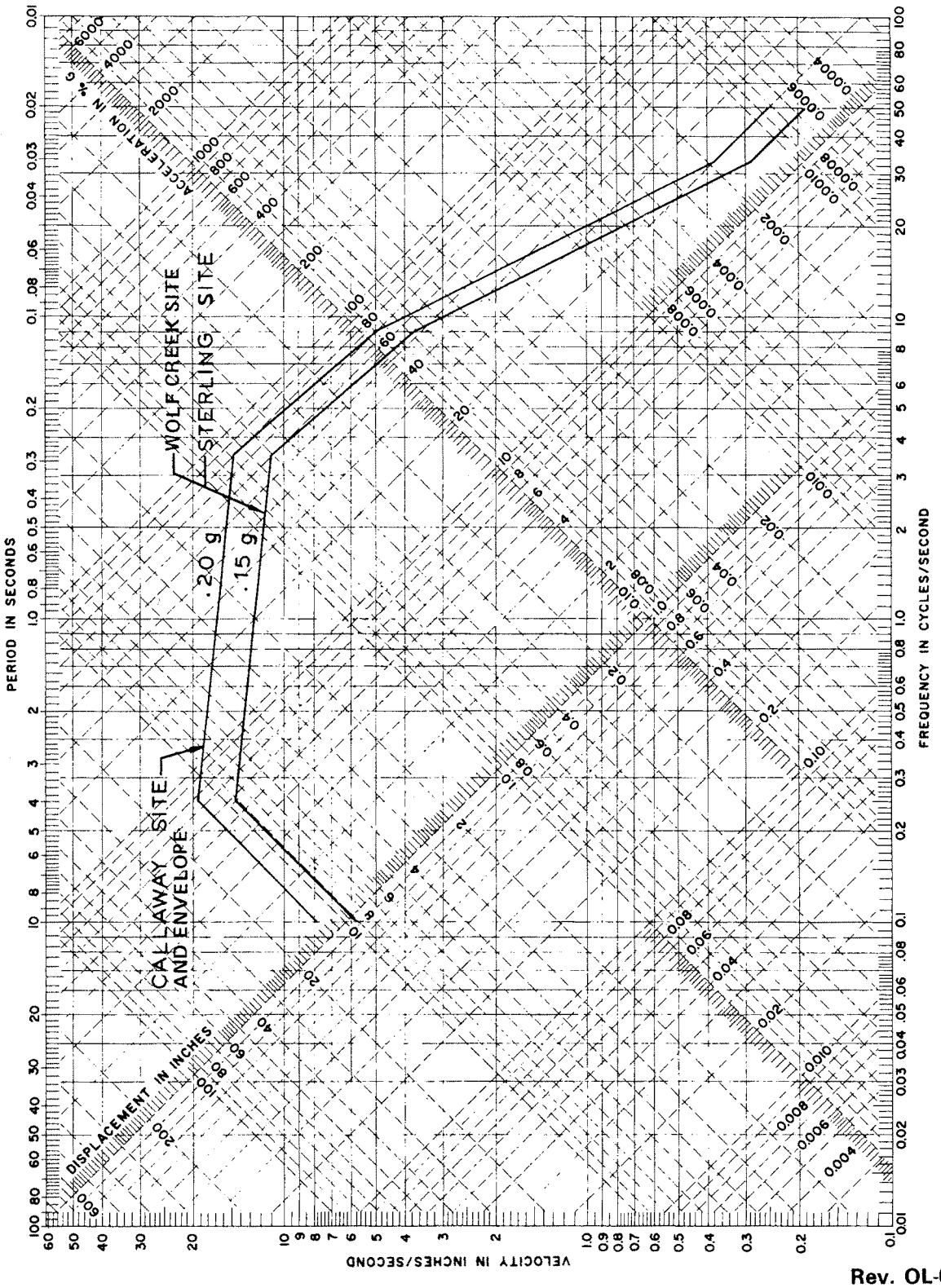

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FIGURE 2.5-4

ENVELOPE OF SITE SSE VERTICAL DESIGN SPECTRA FOR 2% DAMPING

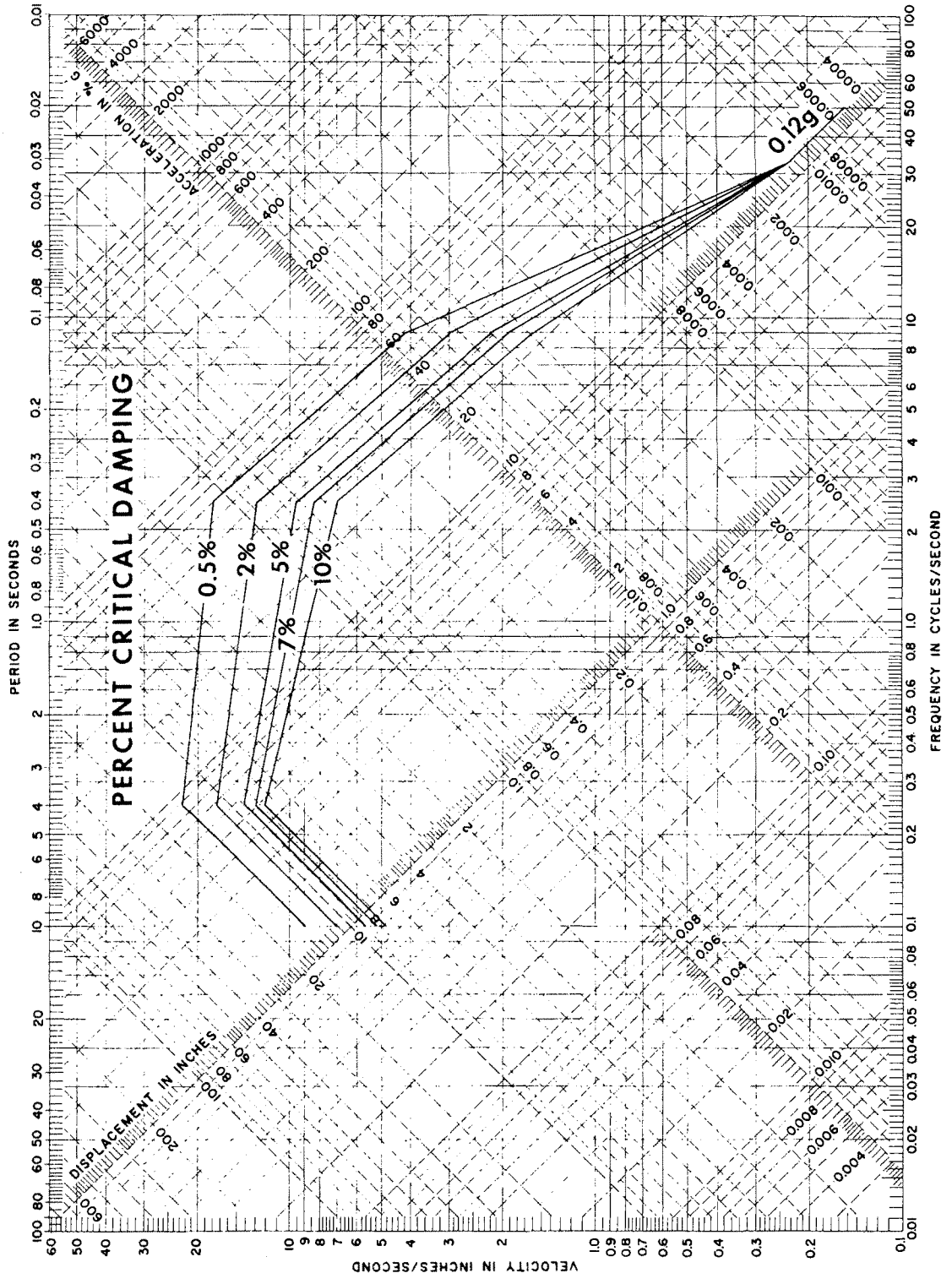

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FIGURE 2.5-5

OBE HORIZONTAL DESIGN SPECTRA

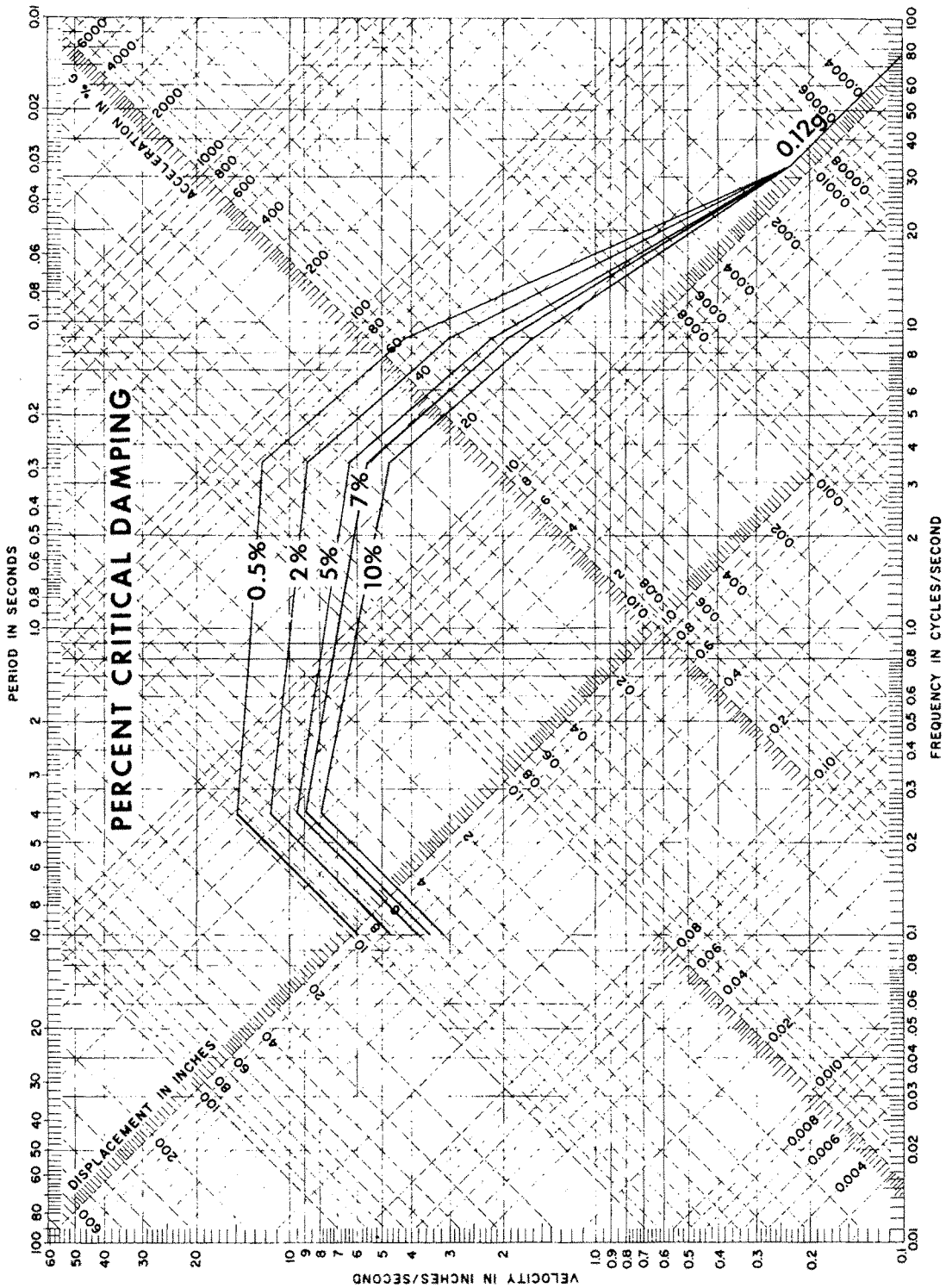

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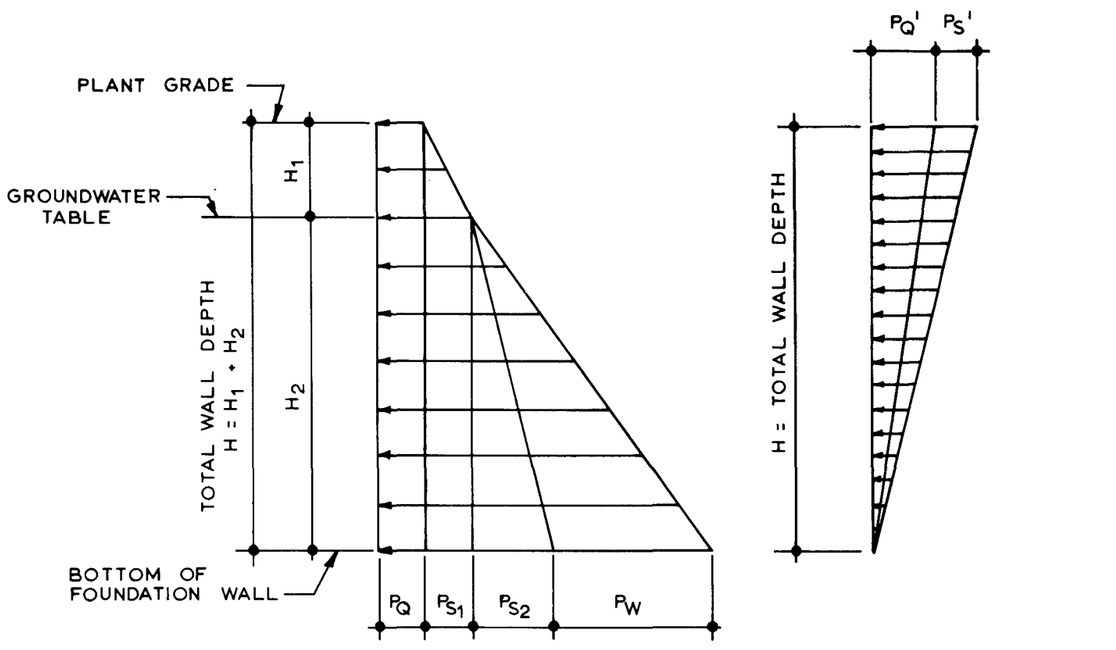
FIGURE 2.5-6

OBE VERTICAL DESIGN SPECTRA

LATERAL EARTH PRESSURE EQUATIONS

SITE	DESIGN WATER TABLE ELEVATION	UNIT WEIGHTS (PCF)			STATIC PRESSURES				DYNAMIC PRESSURES			
									ENVELOPING OBE = 0.12G		ENVELOPING SSE = 0.20G	
		MOIST	SATURATED	BUOYANT	P_Q	P_{S_1}	P_{S_2}	P_W	P_Q'	P_S'	P_Q'	P_S'
TYRONE ENERGY PARK (5)	BELOW GRADE $H_1 = 7.50'$	125	133	70	0.75 Q	$94 H_1$	$52.5 H_2$	$62 H_2$	.42Q	$\frac{1476+395H_2+14.7H_2^2}{(7.5+H_2)}$	.82Q	$\frac{2882+771H_2+28.7H_2^2}{(7.5+H_2)}$
	BELOW WALL $H_2 = 0$				0.75 Q	$94 H_1$	—	—	.42Q	$26H_1$	.82Q	$51H_1$
WOLF CREEK	AT GRADE $H_1 = 0$	—	130	68	0.65 Q	—	$106 H_2$ (4)	—	.18Q	$15H_2^{(4)}$	.30Q	$27H_2^{(4)}$
CALLAWAY	AT GRADE $H_1 = 0$	—	150	88	.33Q	—	$92H_2$ (4)	—	.18Q	$18H_2^{(4)}$	.30Q	$30H_2^{(4)}$
STERLING	AT GRADE $H_1 = 0$	—	127	65	0.70Q	—	$108H_2$ (4)	—	.12Q	$11H_2^{(4)}$	.20Q	$19H_2^{(4)}$



STATIC PRESSURES DYNAMIC PRESSURES

NOTES:

1. THE EQUATIONS SHOWN IN THE TABLE ARE USED TO COMPUTE THE LATERAL EARTH PRESSURES AT THE TOP AND BOTTOM OF THE CATEGORY I FOUNDATION WALLS OF THE STANDARD PLANT AT EACH SITE. THE DYNAMIC EFFECT OF THE EARTH PRESSURES AT EACH SITE IS BASED ON THE ENVELOPING SSE AND OBE.
2. THE MAXIMUM EARTH PRESSURES COMPUTED AT THE TOP AND BOTTOM OF THE WALLS ARE TAKEN AS THE ENVELOPING PRESSURES AND ARE USED IN DESIGN OF THE CATEGORY I STRUCTURES.
3. THE FOLLOWING DEFINITIONS APPLY:
   - P_Q = STATIC PRESSURE DUE TO SURCHARGE LOADING
   - P_{S_1} = STATIC PRESSURE DUE TO SOIL ABOVE WATER TABLE
   - P_{S_2} = STATIC PRESSURE DUE TO SOIL BELOW WATER TABLE
   - P_W = HYDROSTATIC PRESSURE DUE TO GROUNDWATER
   - P_S' = DYNAMIC PRESSURE DUE TO SOIL
   - P_Q' = DYNAMIC PRESSURE DUE TO SURCHARGE LOADING
   - H_1 = DEPTH TO GROUNDWATER TABLE
   - H_2 = DEPTH FROM GROUNDWATER TABLE TO BOTTOM OF FOUNDATION WALL
   - H = TOTAL DEPTH OF WALL $= H_1 + H_2$
4. INCLUDES EFFECT OF HYDROSTATIC PRESSURE.
5. THE LATERAL EARTH PRESSURES AT THE TYRONE ENERGY PARK SITE ARE ANALYZED FOR THE CONDITIONS OF GROUNDWATER AT 7.50' BELOW GRADE AND GROUNDWATER BELOW THE FOUNDATION WALL.
6. ALL PRESSURES IN POUNDS PER SQUARE FOOT (PSF).

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FIGURE 2.5-7

LATERAL EARTH PRESSURE SCHEMATIC

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