PROJECT NAME _____
PROJECT # _____
ENGINEER _____
DATE **SHEET** of

OFF CENTER COLUMNS & COMBINED FOOTINGS

Minimum Footing Size:

Ultimate Soil Load Bearing Capacity:	Q_{ult}	=	1.5	ksf
Concrete Density:	ρ_{conc}	=	150	pcf
Depth of Concrete:	d	=	4	ft
Additional Dead Load Over Pad:	D_{pad}	=	0	ksf
Live Load Over Pad:	L_{pad}	=	0.06	ksf
# of Columns on pad:		=	2	
Factored load Column 1:	P_{u1}	=	9.87	k
Factored load Column 1:	P_{u2}	=	0	k
Factored load Column 1:	P_{u3}	=	0	k
Factored load Column 1:	P_{u4}	=	0	k

Minimum Pad Area: $A \geq \frac{\sum P_u}{Q + 1.2(d\rho_{conc} + D_{pad}) + 1.6L_{pad}}$ = **14.4298** ft²

Footing Geometry Check (Rectangles): ALL CALCULATIONS BASED ON ORIGIN AT BOTTOM LEFT OF FOOTING

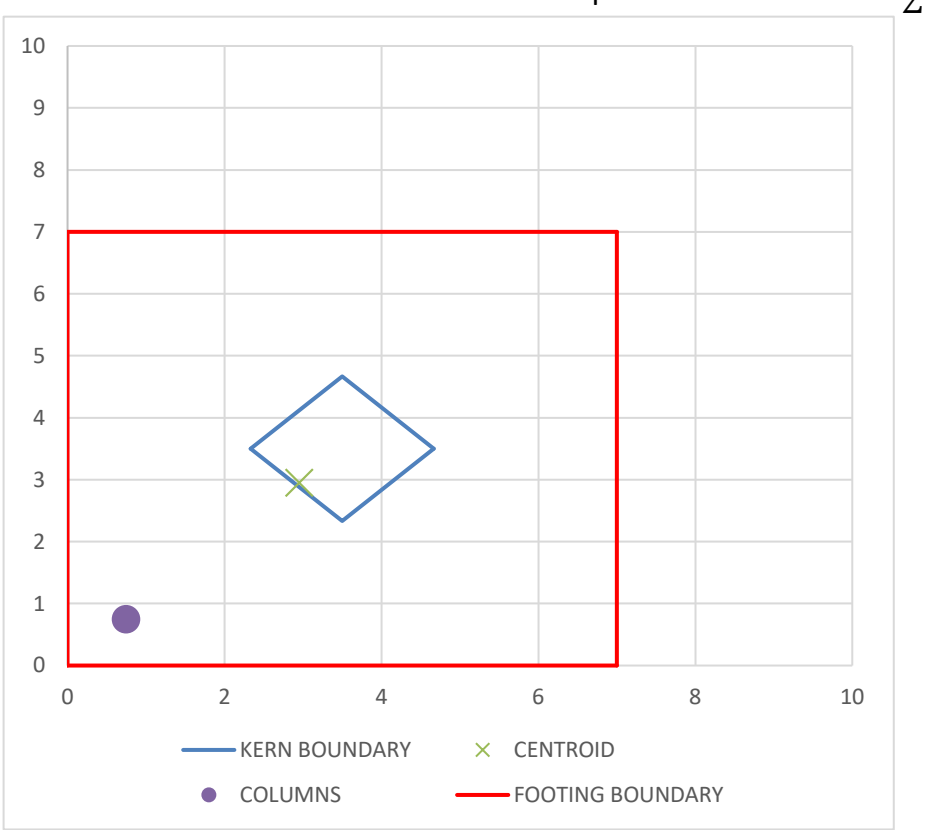
Footing Geometry:				
Width:	B	=	7	ft
Length:	L	=	7	ft
KERN (distance from center):	x	=	**1.16667**	ft
	y	=	**1.16667**	ft
Geometric Center:	$\bar{X}_{pad}$	=	**3.5**	ft
	$\bar{Y}_{pad}$	=	**3.5**	ft

Column Positions:

Column 1	$\bar{X}_1$	0.75	ft	$\bar{Y}_1$	0.75 ft
Column 2	$\bar{X}_2$	0	ft	$\bar{Y}_2$	0 ft
Column 3	$\bar{X}_3$	0	ft	$\bar{Y}_3$	0 ft
Column 4	$\bar{X}_4$	0	ft	$\bar{Y}_4$	0 ft

Centroid Location: $\bar{X}$ $\bar{X} \geq \frac{\sum P_u \bar{X}}{\sum P_u}$ = **2.956** ft

$\bar{Y}$ = **2.956** ft



AREA? **PASS**

CENTROID? **CHECK GRAPH**

VOLUME (FOR ESTIMATES): 7.3 CY