

BAY CRAWL SPACE GRID LOCK FOUNDATION ANALYSIS

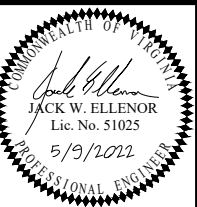
APRIL 2022

PREPARED BY:

COLLINS
ENGINEERS INC.

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ISSUE FOR CONSTRUCTION



DESIGN CRITERIA:

THE DESIGN IS IN ACCORDANCE WITH THE FOLLOWING:

1. INTERNATIONAL BUILDING CODE (IBC 2015)
2. INSTITUTE OF STEEL CONSTRUCTION (AISC) 14TH EDITION
3. MINIMUM DESIGN LOADS FOR BUILDING AND OTHER STRUCTURES (ASCE 7-16)
4. A MAXIMUM SOIL INTERNAL FRICTION ANGLE OF 35 DEGREES WAS USED FOR THE FOOTING ANALYSIS.
5. STEEL PLATES SHALL BE GRADE A36 HOT ROLLED STEEL.

GENERAL NOTES:

1. THE INTENT OF THE STRUCTURAL DRAWINGS IS TO SHOW THE FOOTING DESIGN FOR THE TITAN CRAWL JACK USED TO REDUCE VERTICAL SETTLEMENT IN SUPPLEMENTAL RESIDENTIAL APPLICATIONS.
2. REFER TO TABLES 1-5 WHICH SUMMARIZE THE CAPACITY OF EACH FOOTING SIZE WITH EACH SOIL CAPACITY.
3. FOOTING DEPTH SHALL BE IN ACCORDANCE WITH LOCAL BUILDING CODES.
4. DRAWING EXPIRES WHEN 2015 IBC CODES ARE NO LONGER IN EFFECT.
5. PIPE TO PLATE CONNECTION DESIGN IS BY OTHERS

TYPE 1 FOOTING

1. TYPE 1 FOOTING IS ADEQUATE TO STABILIZE FLOORS AND WALLS IN SINGLE STORY HOMES AND TO STABILIZE FLOORS IN TWO-STORY HOMES.

TYPE 2 FOOTING:

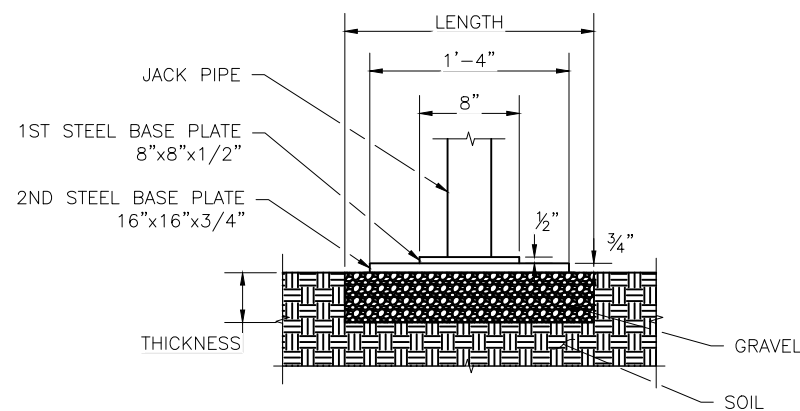
1. TYPE 2 FOOTING IS ADEQUATE TO STABILIZE AND LIFT FLOORS AND MOST WALLS IN SINGLE STORY HOMES AND TO STABILIZE FLOORS AND WALLS IN TWO-STORY HOMES.

TYPE 3 FOOTING

1. TYPE 3 FOOTING IS ADEQUATE TO STABILIZE AND LIFT FLOORS AND WALLS IN SINGLE STORY HOMES AND TO STABILIZE AND LIFT FLOORS AND WALLS IN TWO-STORY HOMES.

GRAVEL:

1. GRAVEL TO BE USED FOR THE FOOTING WILL BE VDOT #57 STONE OR EQUAL AND HAND TAMPED.
2. PEA GRAVEL OR RIVERROCK ARE NOT ACCEPTABLE.



ELEVATION VIEW – FOOTING

SCALE: 1:8

SOIL BEARING CAPACITY (PSF)	ALLOWABLE LOAD (LBS)	LENGTH (IN)	WIDTH (IN)	MIN. THICKNESS (IN)
1000 PSF	2770 LBS	20 IN	20 IN	4 IN
1500 PSF	4166 LBS	20 IN	20 IN	4 IN
2000 PSF	5554 LBS	20 IN	20 IN	4 IN

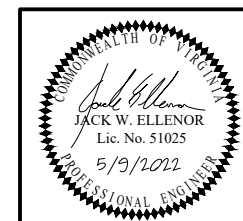
SOIL BEARING CAPACITY (PSF)	ALLOWABLE LOAD (LBS)	LENGTH (IN)	WIDTH (IN)	MIN. THICKNESS (IN)
1000 PSF	4000 LBS	24 IN	24 IN	6 IN
1500 PSF	6000 LBS	24 IN	24 IN	6 IN
2000 PSF	8000 LBS	24 IN	24 IN	6 IN

SOIL BEARING CAPACITY (PSF)	ALLOWABLE LOAD (LBS)	LENGTH (IN)	WIDTH (IN)	MIN. THICKNESS (IN)
1000 PSF	6250 LBS	30 IN	30 IN	10 IN
1500 PSF	9375 LBS	30 IN	30 IN	10 IN
2000 PSF	12500 LBS	30 IN	30 IN	10 IN

SOIL BEARING CAPACITY (PSF)	ALLOWABLE LOAD (LBS)	LENGTH (IN)	WIDTH (IN)	MIN. THICKNESS (IN)
1000 PSF	9000 LBS	36 IN	36 IN	16 IN
1500 PSF	13500 LBS	36 IN	36 IN	16 IN
2000 PSF	18000 LBS	36 IN	36 IN	16 IN

MAXIMUM ALLOWABLE LOAD (LBS)	LENGTH (IN)	WIDTH (IN)	MIN. THICKNESS (IN)
5600 LBS	30 IN	30 IN	10 IN
8000 LBS	36 IN	36 IN	15 IN
12500 LBS	48 IN	48 IN	24 IN
18000 LBS	54 IN	54 IN	28 IN

ISSUE FOR CONSTRUCTION



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 SCALE: AS SHOWN
 PROJECT. NO. 20-13805

BAY CRAWL SPACE – GRID LOCK FOUNDATION ANALYSIS

GENERAL NOTES & FOOTING CAPACITIES

FIG. NO. G01