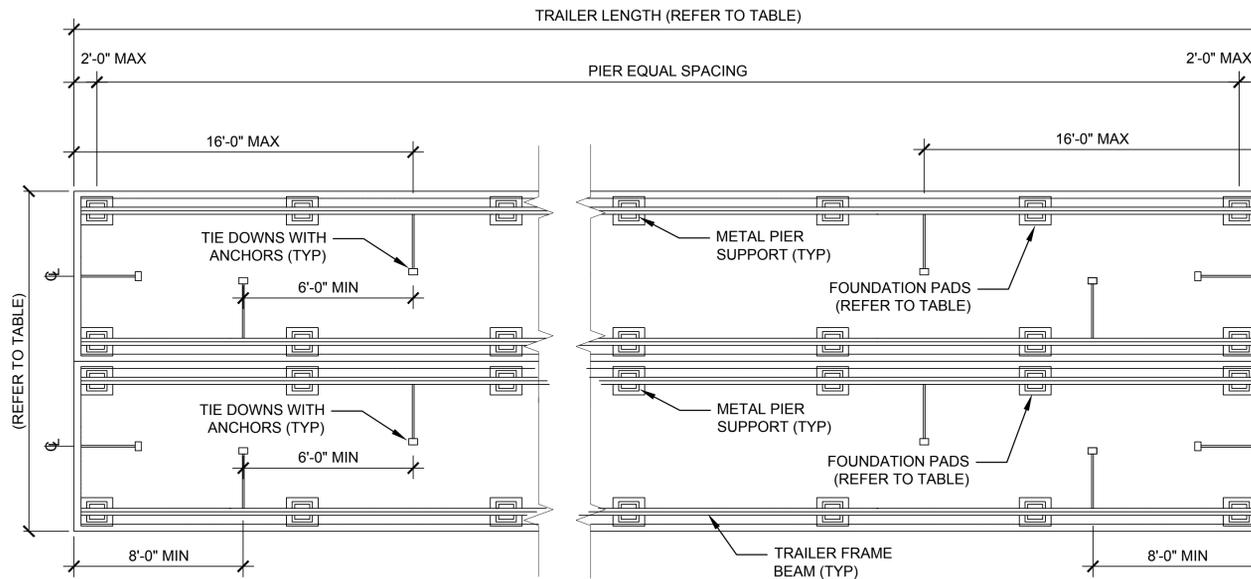


Trailer Size	Total Anchors	No. Anchors Along Long Side	No. Anchors Along Short End	Pad Size ft ²	Bearing Capacity 1500 psf		Bearing Capacity 3000 psf	
					Total No. of Piers	No. Piers Per Side	Total No. of Piers	No. Piers Per Side
					20x50	12	4	2
20x60	14	5	2	2.5	32	8	24	6
				3	28	7		
				4	20	5		
24x50	12	4	2	2	48	12	24	6
				2.5	40	10		
				3	32	8		
24x60	14	5	2	2	56	14	28	7
				2.5	44	11		
				3	36	9		
28x50	12	4	2	2	56	14	28	7
				2.5	44	11		
				3	36	9		
28x60	14	5	2	2	64	16	32	8
				2.5	52	13		
				3	44	11		
32x50	12	4	2	2	60	15	32	8
				2.5	48	12		
				3	40	10		
32x60	14	5	2	2	72	18	36	9
				2.5	60	15		
				3	48	12		
				4	36	9		



FOUNDATION PLAN

DESIGN CRITERIA:

THIS DRAWING DEPICTS A PIER AND GROUND ANCHOR SUPPORT SYSTEM FOR DOUBLE WIDE MANUFACTURED TEMPORARY OFFICE BUILDING UNITS THAT WILL BE INSTALLED AT LOS ALAMOS NATIONAL LABORATORY. PIERS ARE PYRAMID SHAPED OPEN STEEL FRAMES SUPPORTED ON ELASTOMERIC BEARING PADS.

- BASIS OF DESIGN IS CALCULATION CALC-11-00-000-000-0009-S-R-0, 3/7/2012
- PIER AND GROUND ANCHOR LOCATIONS AND SPACING ARE BASED ON GUIDELINES DEVELOPED BY THE MANUFACTURED HOUSING RESEARCH ALLIANCE.
- TIE DOWN ENGINEERING (WWW.TIEDOWN.COM) OR APPROVED EQUAL GROUND ANCHORS MAY BE VERTICAL OR IN-LINE ANCHORS AND MUST BE CAPABLE OF PROVIDING A SAFE LATERAL WORKING LOAD OF 3150 LBS AT EACH ANCHOR LOCATION. ANCHOR STRAPPING MUST COMPLY WITH THE HUD CODE AS REFERENCED IN PART 3280 OF THE MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS AND PART 3285 OF THE INSTALLATION STANDARDS. GROUND ANCHOR HOLDING CAPACITIES MUST BE JUSTIFIED WITH CERTIFYING DOCUMENTATION FROM THE MANUFACTURER. DESIGN ANCHORS FOR SOIL OR WELDED TUFF AS SITE DICTATES.
- THE ALLOWABLE SOIL BEARING CAPACITY MUST BE DETERMINED FOR EACH INDIVIDUAL SITE. THE PIER AND PAD SPACING REQUIREMENTS TABULATED ON THIS DRAWING ARE FOR 1500 PSF AND 3000 PSF BEARING CAPACITIES. ASSUME 1500 PSF SOIL BEARING PRESSURE UNLESS SITE SPECIFIC GEOTECHNICAL INVESTIGATIONS INDICATE OTHERWISE. MANUFACTURED TEMPORARY OFFICE SHALL BE PLACED ON A MINIMUM OF TWO FEET OF BASE COURSE MATERIAL COMPACTED TO 95% OF MAXIMUM DENSITY.
- ANCHORS MUST BE SEPARATED BY A MINIMUM OF 6'-0" IN ANY DIRECTION.
- THE EAST END OF TA-54 AND TA-53 ARE LOCATIONS WHERE TOPOGRAPHIC EFFECTS MAY CAUSE AN INCREASE IN WIND SPEED. FOR TRAILERS LOCATED IN THESE AREAS, CONTACT ES-EPD FOR FURTHER ANALYSIS.

CONSTRUCTION CRITERIA:

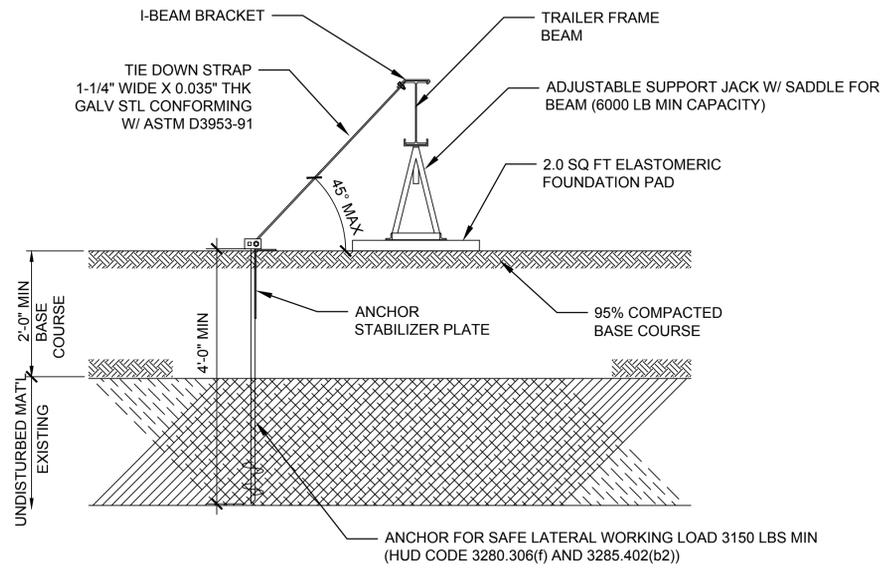
- FINISH GRADE UNDER PADS MUST BE LEVELED AND EVENLY COMPACTED. MAXIMUM PAD DEFLECTION SHALL BE 1/8".
- PLACE ELASTOMERIC PAD WITH GRID SIDE UP AND SMOOTH SIDE DOWN.
- CENTER STEEL PIER SUPPORT ON ELASTOMERIC PAD AND ENSURE THAT TIE STRAPS ARE TIGHT.

NOTES FOR FIELD

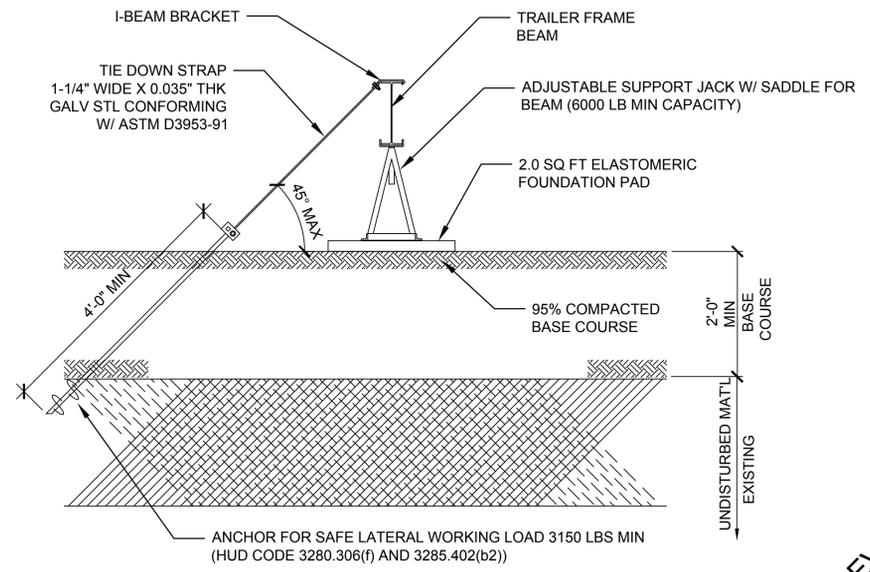
(DO NOT INCLUDE ON CONSTRUCTION DRAWINGS)

- PROVIDE PIER SPACING.
- APPLICABLE TO DOUBLE WIDE TEMPORARY TRAILER, STANDARDIZED ANCHORAGES ARE SUFFICIENT FOR WIND LOAD ALONE, AND SEISMIC DOES NOT CONTROL THE LOADING.
- CONSTRUCTION OF THE TRAILER ASSUMED TO BE OF LIGHT FRAMED WALLS WITH SHEAR PANELS OF OTHER MATERIALS AND ROOF RIDGE PARALLEL WITH LONG SIDE.
- TRAILER MUST BE DESIGNED/BUILT TO MEET LANL REQUIREMENTS, ESPECIALLY ESM CHAPTERS 5 & 16.
- SUBMIT INFORMATION ON ANCHORAGE CAPACITY AND INSTALLATION FOR APPROVAL PRIOR TO CONSTRUCTION.

DRAWING DEVELOPED FOR ML-4 INSTALLATIONS



VERTICAL ANCHOR OPTION



IN-LINE ANCHOR OPTION

00% REVIEW
NOT FOR CONSTRUCTION

1	10-24-16	UNCLASS	ES	UPDATED TABLE TO CORRECT ERRORS FROM ORIGINAL CALC. ADMIN. CHANGES TO CAD MANUAL REV#5 FORMAT.	SR	GP	AM	GP	TO
NO	DATE	CLASS REV	DC	DESCRIPTION	DWN	DSGN	CHKD	SUB	APP

ENGINEERING STANDARDS

FOUNDATION SUPPORT SYSTEM FOR TEMPORARY TRAILERS

DOUBLE WIDE TRAILER REQUIREMENTS FOR IN-SITU SOIL FOUNDATION PLAN AND ANCHOR DETAILS

TA-XX BLDG XXXX

SUBMITTED DOUG VOLKMAN APPROVED FOR RELEASE STANDARDS MANAGER: TOBIN ORUCH

Los Alamos NATIONAL LABORATORY P.O. Box 1663 Los Alamos, New Mexico 87545

D.C.: UNCLASSIFIED REVIEWER: TOBIN ORUCH DATE: 3-7-12

PROJECT ID DRAWING NO. ST-Z1052-2

DATE: 3-7-12

REV 1