

10-JUL-2020

TM619.dgn

REACTIONS AT BASE PLATES (UNFACTORED)						
SPAN "S" (max.)	Force in vertical axis (lb)	Moment about axis perp. to sign (lb-ft)	Moment about axis parallel to sign (lb-ft)	Moment about vertical axis (lb-ft)	Shear normal to signs (lb)	Shear parallel to signs (lb)
69'	15,740	99,550	825,900	9,590	26,980	6,740
89'	19,110	129,050	1,054,500	14,750	33,720	8,990
108'	23,610	154,860	1,268,350	22,120	39,340	12,370
128'	28,100	180,670	1,519,060	36,870	47,210	14,610
148'	32,600	239,650	1,788,220	51,620	55,080	17,990
167'	38,000	272,840	1,917,270	58,990	60,700	20,230

SPREAD FOOTING FOUNDATION REINFORCING SCHEDULE							
Type A – SOIL CONDITION NON-BUOYANT							
Spread Footing Foundation Design Number	SPAN "S" (max.)	Length	Width	Bars a	Bars b	Bars c	Bars d
1A	69'	25'-0"	12'-6"	22-#7	22-#6	22-#5	22-#6
2A	89'	27'-0"	13'-6"	26-#7	30-#6	30-#5	26-#6
3A	108'	29'-0"	14'-6"	30-#7	36-#6	36-#5	30-#6
4A	128'	30'-6"	15'-3"	36-#7	44-#6	44-#5	36-#6
5A	148'	32'-0"	16'-0"	42-#7	54-#6	54-#5	42-#6
6A	167'	33'-0"	16'-6"	44-#7	60-#6	60-#5	44-#6

Type B – SOIL CONDITION BUOYANT							
Spread Footing Foundation Design Number	SPAN "S" (max.)	Length	Width	Bars a	Bars b	Bars c	Bars d
1B	69'	31'-0"	15'-6"	22-#7	22-#6	22-#5	22-#6
2B	89'	34'-0"	17'-0"	26-#7	30-#6	30-#5	26-#6
3B	108'	36'-0"	18'-0"	30-#7	36-#6	36-#5	30-#6
4B	128'	38'-0"	19'-0"	36-#7	44-#6	44-#5	36-#6
5B	148'	40'-0"	20'-0"	42-#7	54-#6	54-#5	42-#6
6B	167'	41'-0"	20'-6"	44-#7	60-#6	60-#5	44-#6

The Standard Sign Bridge Spread Footing drawing contains two standardized designs based on Type A or Type B assumed soil conditions. The assumed soil conditions will be verified by the Engineer of Record before referencing Dwg.# TM619 on the Project Plans. Verification of assumed soil conditions will be based on a site-specific geotechnical study to be performed by ODOT. The assumed allowable equivalent uniform bearing pressure is based on the methodology described in the references listed below. The assumed soil conditions are as follows:

Type A designs assume non-buoyant conditions for stability calculations (compacted soil density of soil over footing = 120 lb/ft³, concrete density = 150 lb/ft³). Type A designs assume allowable equivalent uniform bearing pressures of 1000 psf for Group I Loads, and 1333 psf for Group II and Group III Loads.

Type B designs assume buoyant conditions for stability calculations (compacted soil density of soil over footing = 48 lb/ft³, concrete density = 88 lb/ft³). Type B designs assume allowable equivalent uniform bearing pressures of 1000 psf for Group I Loads, and 1333 psf for Group II and Group III Loads.

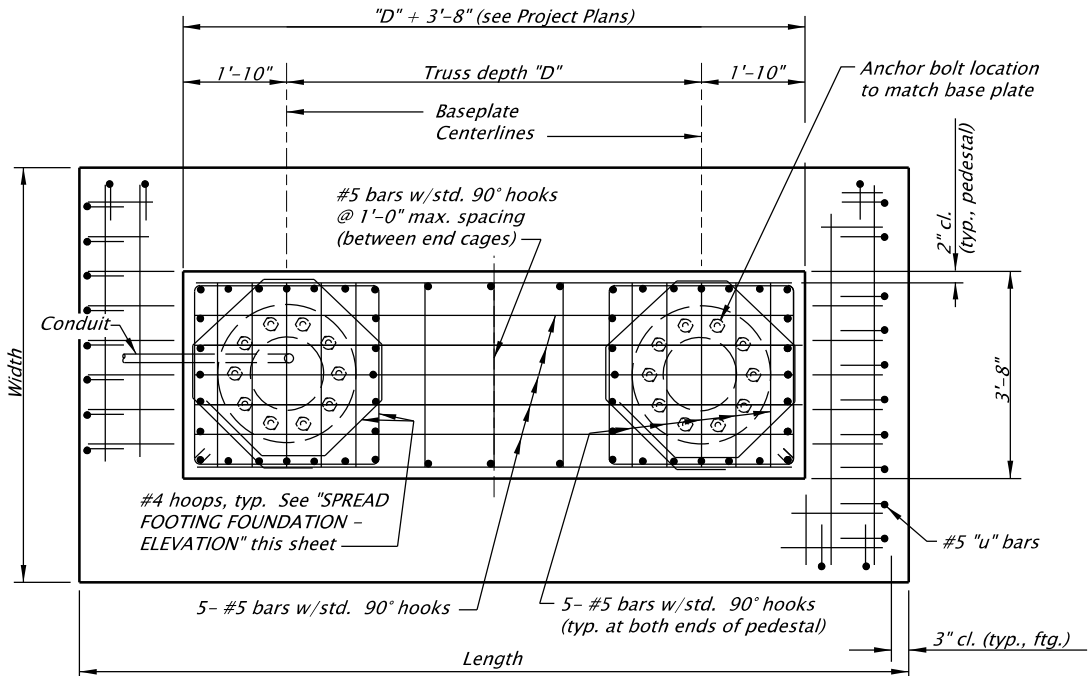
Both Type A and Type B designs assume that uniform settlement of individual footings will not exceed 2 inches and differential settlement of footings at opposite ends of sign bridge will not exceed 2 inches.

References:
1. Standard Specification for Highway Bridges, 16th Ed., AASHTO, 1996, Section 4.4.7.1.1.
2. Meyerhoff, G.G. (1953), The Bearing Capacity of Foundations Under Eccentric and Inclined Loads, Proceeding of Third ICSMFE, vol. 1, pp. 440-445.

The following uncoated splice lengths shall be used unless shown otherwise:

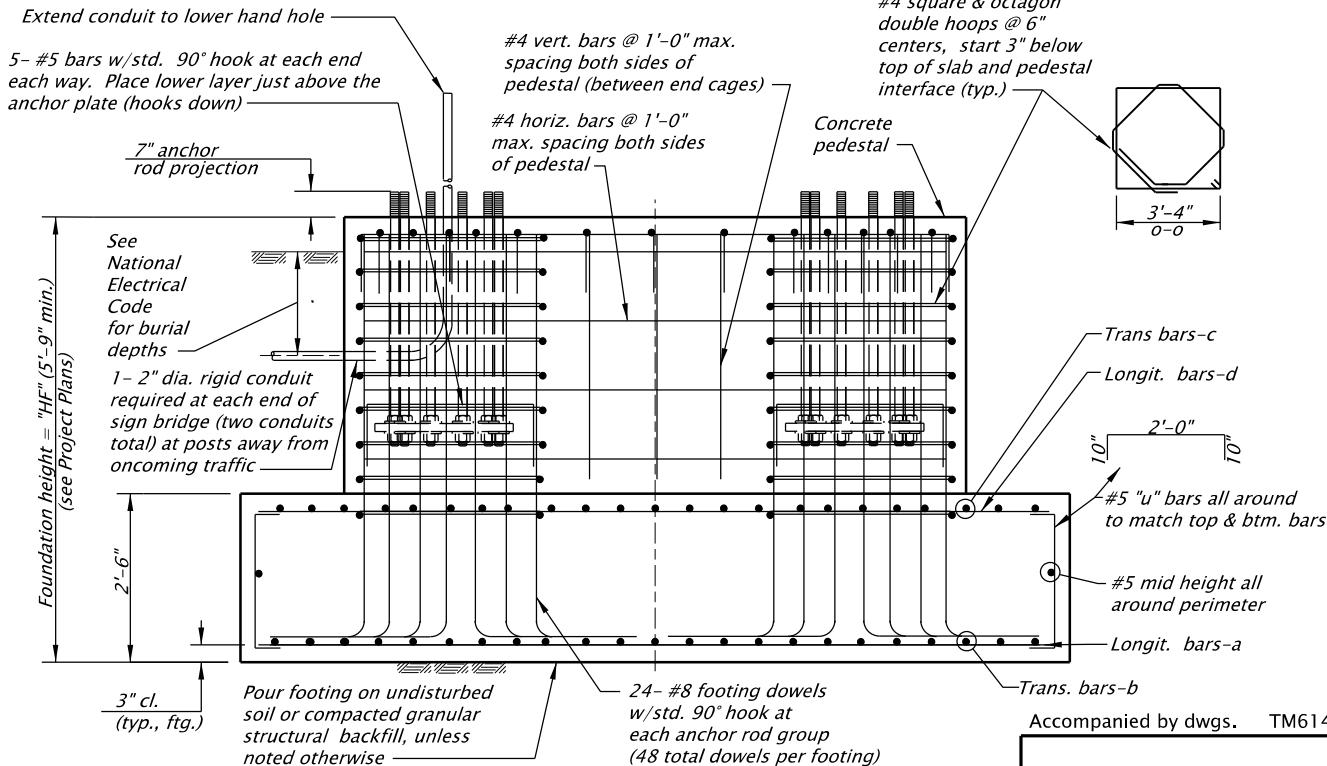
Bar size	#4	#5	#6	#7	#8	#9
Splice length (in.) (top bars)	1'-11"	2'-5"	2'-10"	3'-11"	5'-1"	6'-6"
Splice length (in.) (all others)	1'-5"	1'-9"	2'-1"	2'-9"	3'-8"	4'-8"

Splice reinforcing steel at alternate bars, staggered at least one splice length or as far as possible, unless shown otherwise.



SPREAD FOOTING FOUNDATION - PLAN

No Scale

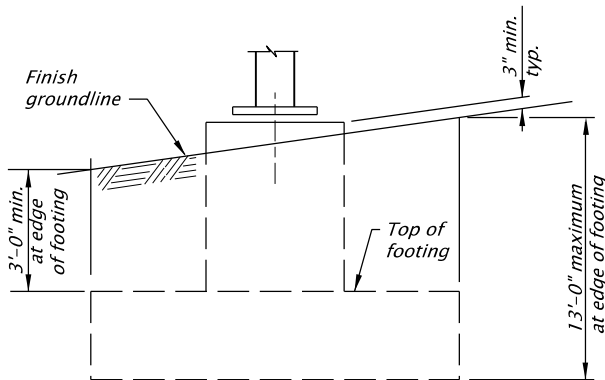


SPREAD FOOTING FOUNDATION - ELEVATION

No Scale

Note: See notes on Dwg.# TM615

Advisory Note:
These standard reactions are located at the base of the end truss posts and are the total reaction for the foundation at one end of the bridge due to Group II loading. They include the loading from the maximum sign area listing on Dwg.# TM614 and an "HP" = 36 feet. Group I and III loadings are summarized in the calculation book. If the design engineer desires to use lower values for a specific project foundation, the minimum loadings shall be: (1) signs extending over the full width of travel lanes and shoulders, and (2) at least 75% of the maximum span truss sign area.



TYP. GROUND COVER and
GROUNDLINE DETAILS
FOR FOOTINGS

No Scale

Accompanied by dwgs. TM614, TM615, TM616, TM617, TM618, TM620

The selection and use of this Standard Drawing, while designed in accordance with generally accepted engineering principles and practices, is the sole responsibility of the user and should not be used without first consulting a Registered Professional Engineer.

All materials shall be in accordance with the current Oregon Standard Specifications.			
OREGON STANDARD DRAWINGS			
STANDARD TRUSS TYPE SIGN			
BRIDGE 50' TO 167' SPAN RANGE			
STD. SPREAD FTG.			
FOUNDATION DETAIL			
2024			
DATE	REVISION DESCRIPTION		
CALC. BOOK NO.	5071	SDR DATE	07-JAN-2019
TM619			

Effective Date: June 1, 2026 – November 30, 2026