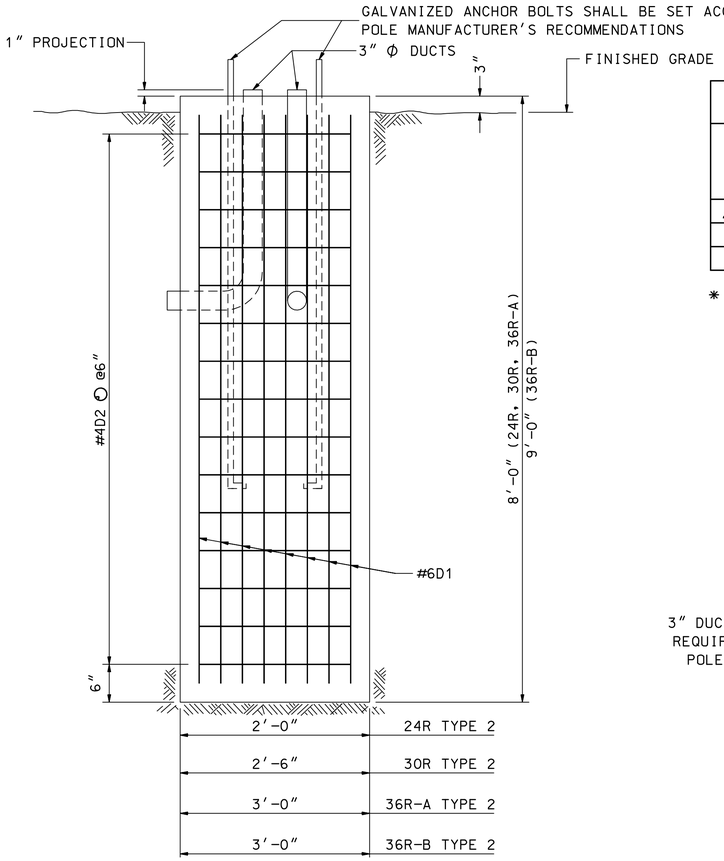
TRAFFIC SIGNAL MAST ARM FOUNDATION - TYPE 2 - 24R, 30R, 36R-A, 36R-B

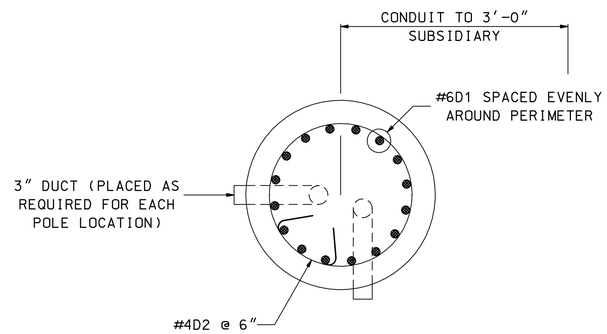


ELEVATION

TYPICAL QUANTITIES PER BASE

ITEM NUMBER	ITEM	UNIT	QUANTITY FOR FOOTING SIZE			
			24R	30R	36R-A	36R-B
▲ 508*	STRUCTURAL FILL	CY	25	26	29	32
520.21*	CONCRETE CLASS B, FOOTINGS	CY	1.0	1.5	2.1	2.4
544*	REINFORCING STEEL	LB	195	256	317	359

* ITEM NUMBERS ARE FOR SPECIFICATION REFERENCE ONLY. NO SEPARATE PAYMENT WILL BE MADE FOR THESE ITEMS, EXCEPT AS PROVIDED IN NOTE NO. 1 OF THE GENERAL NOTES, AND NOTE NO. 4 FOR THE EXCAVATED HOLES.

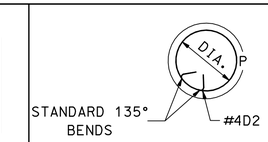


PLAN

REINFORCING SCHEDULE

MARK	SIZE	NO.	UNBENT LENGTH	TYPE
D1	#6	"X"	"Z"	——
D2	#4	"W"	"Y"	○

FOUNDATION SIZE	"W"	"X"	"Y"	"Z"
24R	15	12	5'-11"	7'-6"
30R	15	16	7'-6"	7'-6"
36R-A	15	20	9'-1"	7'-6"
36R-B	17	20	9'-1"	8'-6"



FOUNDATION SIZE	DIMENSION	
	D	P
24R	1'-6"	4'-8"
30R	2'-0"	6'-3"
36R-A	2'-6"	7'-10"
36R-B	2'-6"	7'-10"

GENERAL NOTES (TYPE 2 FOOTING)

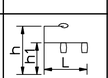
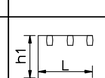
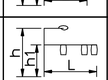
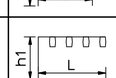
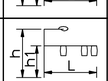
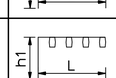
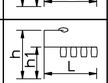
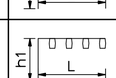
1. THE ROUND TYPE 2 FOOTING SHALL BE POURED IN DRILLED HOLES AGAINST UNDISTURBED MATERIAL. THE MAXIMUM DESIGN SOIL PRESSURE IS 1½ TONS/SF (BOTH HORIZONTALLY AND VERTICALLY). IF THE SOIL IS NOT CAPABLE OF A BEARING PRESSURE OF 1½ TONS/SF OR WILL NOT STAND VERTICALLY, THE ENGINEER SHALL REQUEST AN EXCAVATED HOLE AS DESCRIBED BELOW.
2. THE DRILLED HOLES FOR THE ROUND TYPE 2 FOOTING SHALL BE MADE WITH THE PROPER SIZE AUGER DRILLED TO THE PROPOSED BOTTOM OF FOOTING (7'-9" BELOW THE FINISHED GROUND SURFACE FOR 24R, 30R AND 36R-A, AND 8'-9" FOR 36R-B).
3. TRENCHES FOR THE CONDUITS SHALL BE HAND DUG WITHIN 5'-0" OF THE PROPOSED FOOTING SURFACE, DISTURBING AS LITTLE SOIL AS POSSIBLE IN PLACING OF THE CONDUITS (APPROXIMATELY 2'-6" MAXIMUM DOWN FROM THE EXISTING GROUND SURFACE). THE RESULTING TRENCHES SHALL BE BACKFILLED WITH STRUCTURAL FILL. THE HORIZONTAL LIMIT SHALL BE 5'-0" FROM THE FOOTING SURFACE.
4. THE ENGINEER SHALL REQUEST A BORING AT ANY LOCATION WHERE HE DEEMS THE SOILS TO BE QUESTIONABLE BEFORE PROCEEDING WITH THE DRILLING OPERATION IF AFTER THE DRILLING OPERATION THE SOILS ARE NOT FOUND UNSUITABLE, THE ENGINEER SHALL REQUEST AN EXCAVATED HOLE AS DETERMINED BELOW OR THE USE OF A TYPE 1 SPREAD FOOTING.
5. WHERE LEDGE IS ENCOUNTERED THE DRILL SHALL PENETRATE THE LEDGE A MINIMUM OF 3'-0" AND IN ALL CASES A MINIMUM FOOTING LENGTH OF 5'-0" SHALL BE OBTAINED. MAXIMUM DRILL PENETRATION SHALL ALL BE 7'-9" FOR 24R, 30R AND 36R-A, AND 8'-9" FOR 36R-B.
6. ALL REINFORCING STEEL SHALL BE EITHER GRADE 40 OR GRADE 60.
7. ALL REINFORCING STEEL SHALL BE A MINIMUM 3" CLEAR.

▲ *EXCAVATED HOLES*

1. AS AN ALTERNATIVE TO THE ABOVE DRILLED HOLES, THE ROUND TYPE 2 FOOTINGS MAY BE POURED IN EXCAVATED HOLES, USING THE PROPER FORMS WHICH MUST BE REMOVED, OR PRECAST AND PLACED IN THE EXCAVATED HOLES.
2. THE EXCAVATED HOLES SHALL BE AT LEAST 3'-0" CLEAR OF THE FOOTING SIDES AND 1'-0" DEEPER THAN THE FOOTING. CARE SHALL BE TAKEN TO AVOID OVER-EXCAVATING AROUND THE TOP OF THE FOOTING.
3. ANY LEDGE ENCOUNTERED SHALL BE REMOVED TO THE ABOVE LIMITS IF POSSIBLE OR THE ENGINEER SHALL REQUEST A REDESIGN.
4. THE TOTAL EXCAVATED HOLE FOR EACH FOOTING SHALL BE COMPLETELY BACKFILLED WITH STRUCTURAL FILL. NO PAYMENT SHALL BE MADE FOR STRUCTURAL FILL, EXCEPT AS PROVIDED IN NOTE NO. 1 OF THE GENERAL NOTES.

STANDARD ROUND TRAFFIC SIGNAL FOUNDATION

DETERMINATION OF REQUIRED FOOTING SIZE

FOOTING SIZE	CASE 1 MAX. h=40'-0" MAX. h1=22'-0"			CASE 2 MAX. h1=22'-0"		
	SHAPE	MAX. LENGTH OF ONE MAST ARM WITH ONE LUMINAIRE ON THE SAME POLE (L)	MAX. NUMBER OF SIGNALS FOR CASE 1	SHAPE	MAX. LENGTH OF ONE MAST ARM WITH NO LUMINAIRE (L)	MAX. NUMBER OF SIGNALS FOR CASE 2
24R TYPE 2 (2'-0" x 8'-0")		20'	2		25'	3
30R TYPE 2 (2'-6" x 8'-0")		25'	3		35'	4
36R-A TYPE 2 (3'-0" x 8'-0")		35'	3		45'	4
36R-B TYPE 2 (3'-0" x 9'-0")		50'	4		50'	4

NOTE: COMBINATIONS OTHER THAN THOSE SHOWN IN THE ABOVE CHART SHALL NOT BE USED WITHOUT DESIGN APPROVAL.

TRAFFIC SIGNAL STANDARD

TRAFFIC SIGNAL MAST ARM FOUNDATION - TYPE 2

STANDARD NO. TS-3

REVISION DATE
07-13-01
02-26-10

*.DGN FILE NAME
TS-3

STANDARD PLANS

New Hampshire DOT Department of Transportation

STANDARD NO. TS-3