

SPAN (ft)	DESIGN WIND HEIGHT TO $\phi$ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
				AVERAGE N (BLOWS/12")			
				10	20	30	40
10	15	67	60	20	14	14	14
	20	82	93	24	14	14	14
	25	97	135	28	17	17	17
	30	113	184	32	20	20	20
	35	130	243	37	23	23	23
	40	148	311	41	27	27	27
	45	167	388	46	30	30	30
	50	186	474	51	33	33	33
	55	207	570	57	37	37	37
15	15	73	65	22	14	14	14
	20	90	99	26	15	14	14
	25	107	140	31	17	17	17
	30	125	190	36	20	20	20
	35	144	248	40	23	23	23
	40	164	316	46	27	27	27
	45	185	393	51	30	30	30
	50	207	480	57	33	33	33
	55	230	576	63	37	37	37
20	15	79	73	23	14	14	14
	20	97	106	28	16	14	14
	25	116	147	33	18	17	17
	30	136	197	38	21	20	20
	35	157	256	44	23	23	23
	40	179	324	49	27	27	27
	45	202	401	55	30	30	30
	50	225	487	62	33	33	33
	55	250	583	68	37	37	37
25	15	84	82	25	14	14	14
	20	104	116	30	17	14	14
	25	125	157	36	19	17	17
	30	147	207	41	22	20	20
	35	170	265	47	25	23	23
	40	194	333	53	28	27	27
	45	219	410	60	31	30	30
	50	245	497	67	35	33	33
	55	271	593	74	38	37	37
30	15	90	94	26	15	14	14
	20	111	127	32	17	14	14
	25	134	169	38	20	17	17
	30	158	218	44	24	20	20
	35	183	277	50	27	23	23
	40	209	345	57	30	27	27
	45	235	422	64	34	30	30
	50	263	508	71	37	33	33
	55	292	604	79	41	37	37


SPAN (ft)	DESIGN WIND HEIGHT TO $\phi$ TRUSS (ft)	MAXIMUM DRILLED SHAFT AXIAL LOAD (kips)	MAXIMUM DRILLED SHAFT MOMENT (k-ft)	DRILLED SHAFT EMBEDMENT LENGTH (ft)			
				AVERAGE N (BLOWS/12")			
				10	20	30	40
35	15	95	108	28	15	14	14
	20	119	141	34	18	14	14
	25	143	182	40	22	17	17
	30	169	232	47	25	20	20
	35	195	291	54	28	23	23
	40	223	359	61	32	27	27
	45	252	436	68	36	30	30
	50	282	522	76	40	33	33
	55	313	618	84	44	37	37
40	15	101	124	29	16	14	14
	20	126	157	36	19	14	14
	25	152	198	43	23	17	17
	30	180	248	50	26	20	20
	35	208	307	57	30	23	23
	40	238	375	65	34	27	27
	45	269	452	73	38	30	30
	50	301	538	81	42	33	33
	55	334	634	90	46	37	37
45	15	107	142	31	17	14	14
	20	133	175	38	20	15	14
	25	161	216	45	24	17	17
	30	190	266	52	28	20	20
	35	221	325	60	32	23	23
	40	252	393	69	36	27	27
	45	285	470	77	40	30	30
	50	319	556	86	44	33	33
	55	354	652	95	49	37	37

1. DETERMINE DRILLED SHAFT DIAMETER AND MAXIMUM DRILLED SHAFT AXIAL LOAD (KIPS) FROM TABLE BASED ON SPAN LENGTH AND DESIGN WIND HEIGHT TO CENTERLINE OF TRUSS.
2. CONTACT THE HOUSTON DISTRICT LABORATORY FOR CONCISE DRILLED SHAFT EMBEDMENT LENGTH OR USE THE FOLLOWING ITERATIVE PROCEDURE.
3. MAKE AN INITIAL ESTIMATE OF THE DRILLED SHAFT EMBEDMENT LENGTH.
4. FROM SOIL EXPLORATION DATA, DETERMINE AN AVERAGE N VALUE (BLOWS/12") OF THE SOIL THROUGHOUT THE UPPER THIRD OF THE EMBEDMENT LENGTH. USE A WEIGHTED-AVERAGE OF THE BLOW COUNT OF INDIVIDUAL STRATA.
5. USE TABLE TO DETERMINE THE REQUIRED DRILLED SHAFT EMBEDMENT LENGTH BASED ON AXIAL LOAD AND AVERAGE N.
6. IF THE REQUIRED EMBEDMENT LENGTH DIFFERS SIGNIFICANTLY FROM THE INITIAL ESTIMATED EMBEDMENT LENGTH, RETURN TO STEP 3 WITH THE REQUIRED EMBEDMENT LENGTH DETERMINED IN STEP 5 AND REPEAT STEPS 3, 4 & 5.
7. THE EMBEDMENT LENGTH TABLE IS BASED UPON THE GREATEST EMBEDMENT LENGTH DERIVED FROM MOMENT, UPLIFT, OR THE AXIAL LOAD IN THE DRILLED SHAFT.

**DESIGNER NOTE:**  
THIS SHEET IS FOR DESIGNER'S USE IN DETERMINING DRILLED SHAFT DIAMETER, LOADS AND EMBEDMENT. DO NOT INSERT INTO PLANSET.

**FOUNDATION DATA AND EMBEDMENT LENGTH TABLE**

(42" DIAMETER DRILLED SHAFT FOR ALL CASES)


**Texas Department of Transportation**  
 Houston District Bridge  
 Green Ribbon Project

**CANTILEVER OVERHEAD  
 SIGN STRUCTURE  
 FOUNDATION DATA AND  
 EMBEDMENT SELECTION TABLE**  
 WAVE SCHEME  
**COSS-WS**

FILE# STDN42.DGN	DN# HOU	CK# HOU	DW# HOU	CK# HOU
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REVISIONS	HOUSTON 6	COUNTY	CONTROL SECT	JOB HIGHWAY