

**PILE BENT NOTES:**

THESE PIER BENTS ARE DESIGNED FOR USE IN LOCATIONS WHERE ICE AND DRIFT CONDITIONS ARE NOT SEVERE.

FOR DETAILS OF TRESTLE PILES, TYPES 1, 2 AND 3, SEE STANDARD PIOL.

MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR SHALL BE 2 INCHES UNLESS OTHERWISE NOTED OR SHOWN.

PIER PILES SHALL BE DRIVEN TO VALUES SHOWN IN DESIGN PLANS.

**REINFORCING BAR LIST AND ESTIMATED QUANTITIES - PER PILE BENT**

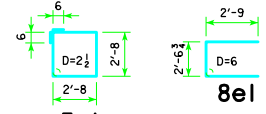
BAR	LENGTH	SHAPE	9 PILE BENT			10 PILE BENT			11 PILE BENT			12 PILE BENT			13 PILE BENT			14 PILE BENT			15 PILE BENT			16 PILE BENT					
			NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT	NO.	SIZE	WEIGHT			
q1	41'-8"		8	9	1133	6	9	850	6	9	850	6	9	850	6	9	850	6	9	850	6	9	850	6	9	850			
q2	41'-8"		4	8	445	4	8	445	4	8	445	4	8	445	4	8	445	4	8	445	4	8	445	4	8	445	4	8	445
b1	41'-8"		4	9	567	4	9	567	4	9	567	4	9	567	4	9	567	4	9	567	4	9	567	4	9	567	4	9	567
5c1	11'-8"		42	5	511	38	5	462	42	5	511	46	5	560	50	5	608	54	5	657	44	5	535	47	5	572	47	5	572
8e1	8'-1"		4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86	4	8	86
① REINFORCING STEEL (LB.)			2742			2410			2459			2508			2556			2605			2483			2520					
STRUCTURAL ② PILE TYPE			-----			-----			14.4			14.4			14.3			14.3			14.2			14.2					
CONCRETE (CY)			3			14.9			14.9			14.9			14.9			14.9			14.9			14.9					

NOTE: THE REINFORCING STEEL QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

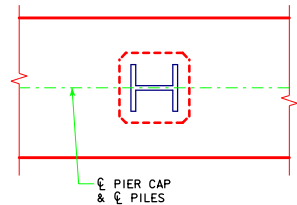
NOTE: THE CONCRETE QUANTITY IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

NOTE: THE PILE TYPE IS TO BE INCLUDED ON THE SUMMARY QUANTITIES SHEET IN THE PLAN.

**BENT BAR DETAILS**



NOTE: ALL DIMENSIONS ARE OUT TO OUT. D=PIN DIAMETER.



**PILE ORIENTATION DETAIL FOR TYPE 3 TRESTLE BENT PILES**

E-E ABUTMENT BEARING	FRICTION BEARING PILING			FRICTION OR POINT BEARING PILING		
	PIOL TYPE 1 OR 2			PIOL TYPE 3		
	NUMBER OF TRESTLE PILES	③ "K" (INCHES)	④ LRFD P <sub>u</sub> , STRENGTH I, DES. LOAD (KIPS)	NUMBER OF TRESTLE PILES	PILE SIZE	④ LRFD P <sub>u</sub> , STRENGTH I, DES. LOAD (KIPS)
160'-0"	13	14	92	9	HP10x57	133
	11	16	109	9	HP12x53	133
180'-0"	14	14	94	9	HP10x57	146
	12	16	109	10	HP12x53	131
200'-0"	--	--	--	10	HP10x57	142
	--	--	--	11	HP12x53	129
220'-0"	--	--	--	11	HP10x57	141
	--	--	--	12	HP12x53	129
240'-0"	--	--	--	12	HP10x57	142
	--	--	--	13	HP12x53	131
260'-0"	--	--	--	13	HP10x57	141
	--	--	--	14	HP12x53	131
280'-0"	--	--	--	14	HP10x57	141
	--	--	--	15	HP12x53	132
300'-0"	--	--	--	15	HP10x57	141
	--	--	--	16	HP12x53	133
320'-0"	--	--	--	16	HP10x57	141
340'-0"	--	--	--	--	--	--

- ① SEE SHEET RS40-166-14 FOR STEP REINFORCING STEEL QUANTITIES AND DETAILS.
- ② CONCRETE QUANTITIES SHOWN HAVE HAD THE VOLUME OF EMBEDDED PILES DEDUCTED FOR TYPES 1 AND 2 BASED ON 0.8 FT<sup>3</sup> PER FOOT OF EMBEDMENT. THE CONCRETE QUANTITIES FOR TYPE 3 PILES DO NOT REQUIRE REDUCTION FOR PILE EMBEDMENT.
- ③ SEE STANDARD PIOL FOR "K" DIMENSION.
- ④ NOTE: P<sub>u</sub>, STRENGTH I DESIGN LOAD (KIPS) IS NOT THE VALUE USED IN THE FIELD FOR DRIVING PILES.

NOTE: FRICTION BEARING INCLUDES SIDE FRICTION AND END BEARING IN SOIL.  
POINT BEARING INCLUDES SIDE FRICTION AND POINT BEARING IN ROCK.

LATEST REVISION DATE	APPROVED BY BRIDGE ENGINEER <i>Thomas E. Mc Donnell</i>	<b>IOWADOT</b> Highway Division	
		STANDARD DESIGN - 40' ROADWAY, 3 SPAN BRIDGES <b>ROLLED STEEL BEAM BRIDGES</b> OCTOBER, 2014	
		<b>PILE BENT PIERS</b> 10° SKEW	<b>RS40-101-14</b>