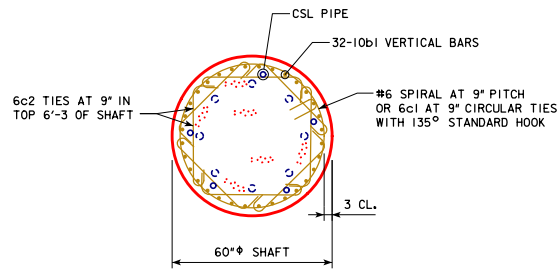
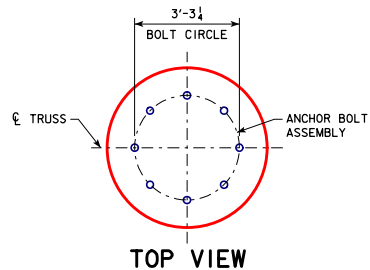


STEELCANTILEVERSTRUSS.dgn - SCST-09-17 - THIS SHEET ISSUED 07-2017.



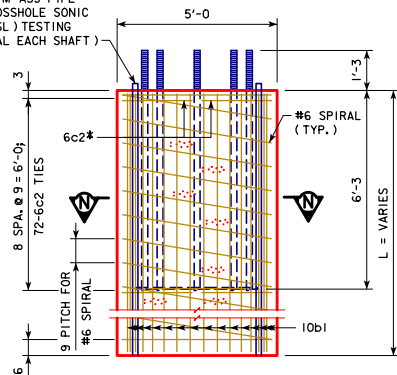
SECTION N-N

8 - 6c2 TIES ARE TO BE PLACED WITH EVERY LAYER OF #6 SPIRAL/6c1 CIRCULAR TIES IN THE TOP 6'-3 OF THE SHAFT



TOP VIEW

2"  $\phi$  ASTM A53 PIPE FOR CROSSHOLE SONIC LOG (CSL) TESTING (5 TOTAL EACH SHAFT)



ELEVATION

\* NOT ALL 6c2 TIES ARE SHOWN

## REINFORCING BAR LIST - EPOXY COATED

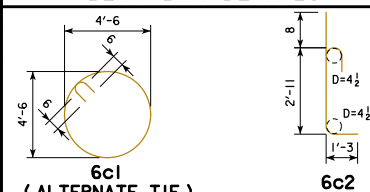
ONE FOUNDATION

BAR	LOCATION	SHAPE	TABULATED VALUE FOR L = 24'-0			EACH ADDITIONAL 1'-0 OF L		
			NO.	LENGTH	WEIGHT	NO.	LENGTH	WEIGHT
10b1	SHAFT VERTICAL		32	23'-3	3201	32	1'-0	138
6c1	SHAFT CIRCULAR TIES (ALTERNATE)		32	15'-9	0	1,33	15'-9	0
6c2	SHAFT TIES		72	4'-10	522	0	4'-10	0
#6	SHAFT SPIRAL		1	487'-11	733	1	19'-2	29
	SPIRAL SPACER L 1" x 1" x 1/8		4	23'-3	75	4	1'-0	3
					TOTAL 4531 LBS.	TOTAL 170 LBS.		

## DRILLED SHAFT QUANTITIES

TRUSS LENGTH	SHAFT LENGTH "L"	EPOXY COATED REBAR	STRUCTURAL CONCRETE
30 FT.	24 FT.	4531 LBS.	17.45 CU. YDS.
32 FT.	25 FT.	4701 LBS.	18.18 CU. YDS.
34 FT.	27 FT.	5041 LBS.	19.63 CU. YDS.
36 FT.	29 FT.	5381 LBS.	21.09 CU. YDS.
38 FT.	31 FT.	5721 LBS.	22.54 CU. YDS.
40 FT.	33 FT.	6061 LBS.	24.00 CU. YDS.

## BENT BAR DETAILS



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

## GENERAL NOTES:

SPIRAL REINFORCING IS TO BE NO. 6 BAR WITH A 4'-6 OUTSIDE DIAMETER AND 9" PITCH WITH 4 EQUALLY SPACED L 1" x 1" x 1/8 SPACERS PUNCHED TO HOLD SPIRALS. SPIRALS ARE TO HAVE 1 1/2 EXTRA TURNS AT TOP AND BOTTOM OF SHAFT.

THE SPIRAL REINFORCING MAY BE SPLICED BY LAPPING 3'-1. THE LENGTH OF THE SPIRAL SHOWN DOES NOT INCLUDE THE LAPPED LENGTH OF THE SPLICES. THE COST OF THE LAPS AT SPLICES IS TO BE INCLUDED IN THE PRICE BID FOR OTHER REINFORCEMENT.

CIRCULAR TIES MAY BE SUBSTITUTED FOR THE SPIRAL REINFORCEMENT. PAYMENT WILL BE BASED ON THE WEIGHT OF SPIRAL REINFORCEMENT. NO ADJUSTMENTS IN REINFORCING STEEL PAY WEIGHT WILL BE ALLOWED. SEE BENT BAR DETAILS FOR ALTERNATE TIE CONFIGURATION.

ALL EXPOSED CORNERS 90° OR SHARPER SHALL BE FILLETED WITH A 3/4" DRESSED AND BEVELED STRIP.

ALL REINFORCING IS TO BE SECURELY WIRED IN PLACE BEFORE CONCRETE IS POURED.

THE FOUNDATION DETAILS SHOWN ARE BASED ON COMMON COHESIVE SOIL CONDITIONS (SILTY OR SANDY CLAY) WITH AN AVERAGE UNCONFINED COMPRESSIVE STRENGTH ( $q_u$ ) OF AT LEAST 1.25 TON/FT<sup>2</sup>, WHICH MUST BE DETERMINED BY PREVIOUS SOIL INVESTIGATIONS AT THE JOBSITE. WHEN OTHER CONDITIONS ARE INDICATED, THE BORING DATA WILL BE INCLUDED IN THE PLANS AND THE FOUNDATION EMBEDMENT WILL BE THE RESULT OF SITE SPECIFIC DESIGNS.

IF THE CONDITIONS ENCOUNTERED ARE DIFFERENT THAN THOSE INDICATED, THE CONTRACTOR SHALL NOTIFY THE ENGINEER TO DETERMINE IF THE FOUNDATION EMBEDMENT NEEDS TO BE MODIFIED. IF THE EMBEDMENT IS REVISED BY MORE THAN 12" BY THE CONTRACTOR, "AS-BUILT" PLANS SHALL BE PREPARED AND SUBMITTED TO THE IOWA DOT FOR FUTURE REFERENCE.

DESIGN EMBEDMENT LENGTHS LISTED IN THE SHAFT EMBEDMENT TABLE ARE BASED ON A SOIL UNDRAINED COHESION OF 0.625 TON/FT<sup>2</sup>, A SOIL EFFECTIVE UNIT WEIGHT OF 57.6 LB/FT<sup>3</sup>, AND A SOIL STRAIN FACTOR (ESO) OF 0.007.

EXCAVATIONS SHALL BE DEWATERED BEFORE CONCRETE PLACEMENT AT NO ADDITIONAL COST TO THE STATE.

CONCRETE SHALL BE PLACED MONOLITHICALLY WITHOUT CONSTRUCTION JOINTS.

DRILLED SHAFT SHALL HAVE CROSSHOLE SONIC LOGGING (CSL) PIPES AS SHOWN. CSL PIPES SHALL BE PLACED IN A PATTERN SO THAT EACH PIPE IS SPACED THE MAXIMUM DISTANCE POSSIBLE FROM ADJACENT PIPES.

A NORMAL SURFACE FINISH FOLLOWED BY A CONCRETE SEALER APPLICATION IS REQUIRED ON CONCRETE SURFACES ABOVE THE LOWEST ELEVATION 6" BELOW FINISHED GROUND LINE.

ELEVATION - TOP OF SHAFT AND BACKFILL

**IOWA DOT** Highway Division

STANDARD DESIGN

**STEEL CANTILEVER SIGN TRUSS**

JULY, 2017

FOUNDATION DETAILS -  
DRILLED SHAFT

SCST-09-17