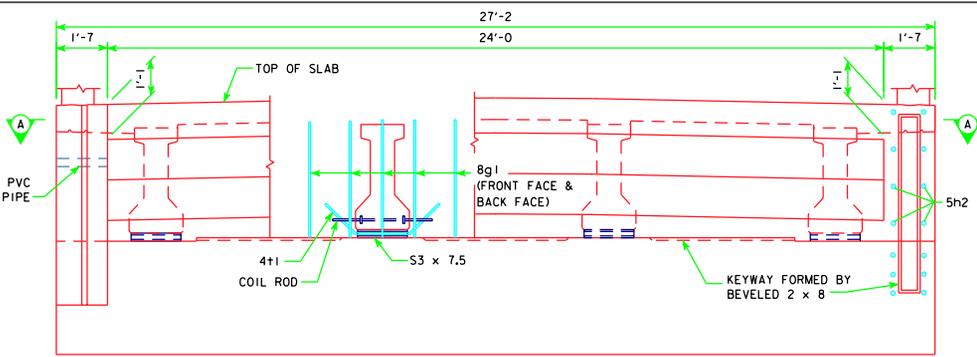
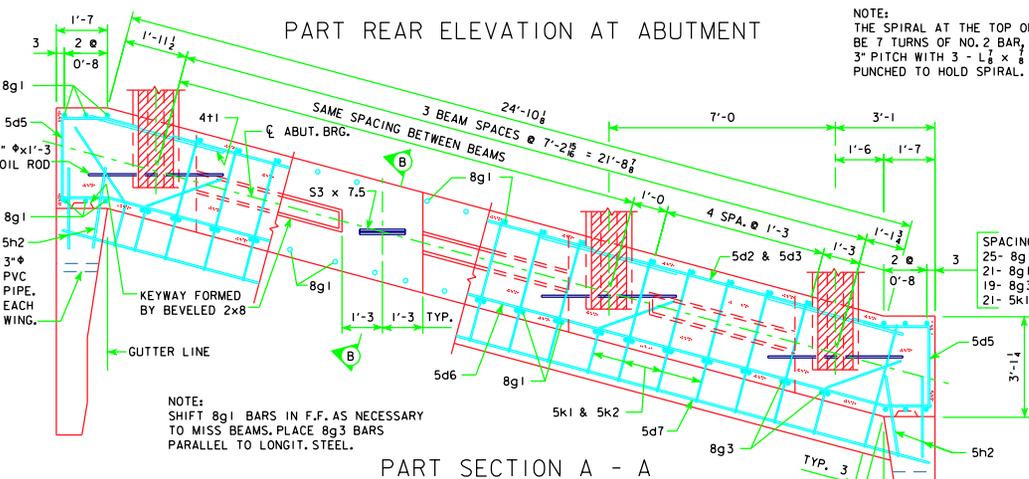


REVISED 01-10 - PILING NO. & DESIGN LOADS CHANGED TO LRFD. ABUT. WING SHAPE CHANGED.



PART REAR ELEVATION AT ABUTMENT

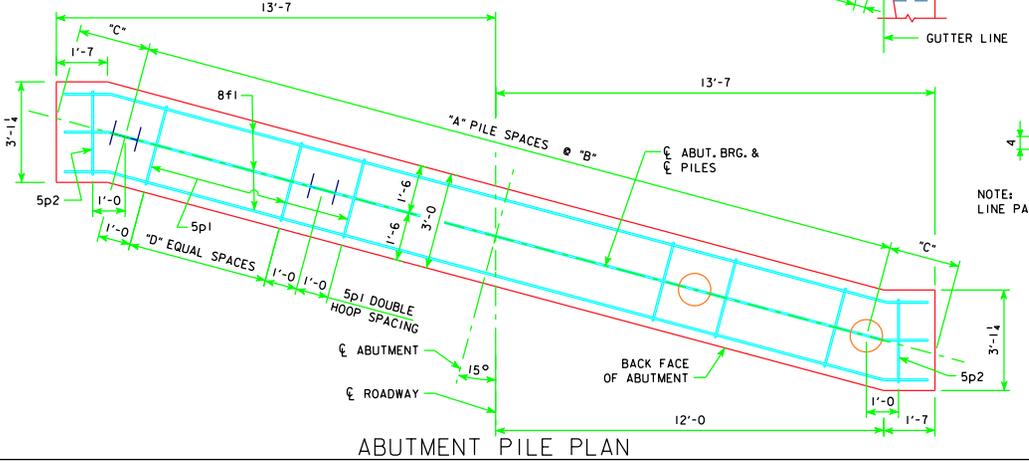
NOTE: THE SPIRAL AT THE TOP OF EACH PILE TO BE 7 TURNS OF NO. 2 BAR, 21" DIAMETER, 3" PITCH WITH 3 - L₄ x 8 x 8 SPACERS PUNCHED TO HOLD SPIRAL.



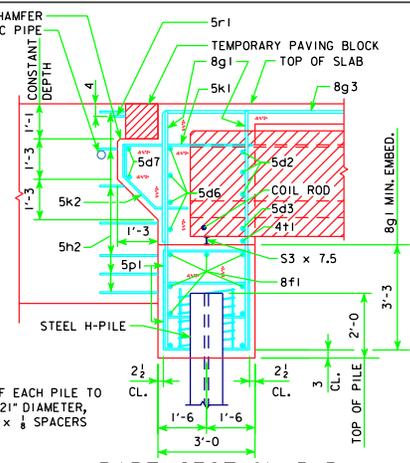
PART SECTION A - A

NOTE: SHIFT 8g1 BARS IN F.F. AS NECESSARY TO MISS BEAMS, PLACE 8g3 BARS PARALLEL TO LONGIT. STEEL.

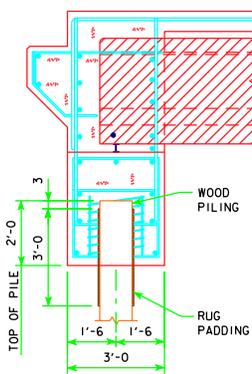
SPACING FOR:
 25- 8g1 BACK FACE
 21- 8g1 FRONT FACE
 19- 8g3 BACK FACE
 21- 5k1 & 5k2 BACK FACE



ABUTMENT PILE PLAN



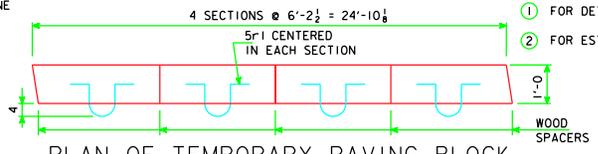
PART SECTION B-B
(FOR STEEL H-PILING)



PART SECTION B-B
(FOR WOOD PILING)

WOOD PILING NOTE:
 AFTER PILES ARE CUT OFF, THE UPPER 3', EXCEPT AS SHOWN, IS TO BE WRAPPED WITH A DOUBLE THICKNESS OF RUG PADDING HELD IN PLACE BY TACKING WITH GALVANIZED ROOFING NAILS AND WRAPPED WITH #14 GAUGE GALVANIZED WIRE AT A 4" PITCH, CARE IS TO BE TAKEN NOT TO DAMAGE PADDING WHEN PLACING CONCRETE. RUG PADDING MAY BE EITHER OF THE FOLLOWING:
 (1) HAIR AND JUTE RUG PADDING, RUBBERIZED ON BOTH SIDES, AND WEIGHING NOT LESS THAN 47 OZ. PER SQ. YD.
 (2) BONDED URETHANE OR BONDED POLYFOAM WITH A MINIMUM DENSITY OF 5 LBS. PER CU. FT. AND SHALL BE AT LEAST 3/8" THICK, MATERIAL LESS THAN 3/8" IN THICKNESS MAY BE USED, BUT WILL REQUIRE ADDITIONAL WRAPS FOR A TOTAL OF AT LEAST ONE INCH.

ABUTMENT PILE SPACING		6-6	138'-10	151'-4	163'-10	176'-4	188'-10
		ABUT. BRG.					
WITH WOOD PILES	"A" PILE SPACES		9	10	10	10	10
	"B" (FT. - IN.)		2'-9	2'-6	2'-6	2'-6	2'-6
	"C" (FT. - IN.)		1'-8 1/2	1'-6 1/2	1'-6 1/2	1'-6 1/2	1'-6 1/2
	"D" EQUAL SPACES		1	1	1	1	1
NO. OF PILES PER ABUT.			10	11	11	11	11
①	PILE BEARING (TONS)		20	19	20	21	21
	STRENGTH I DESIGN LOAD (KIPS)		56	53	57	59	61
WITH STEEL H-PILES	"A" PILE SPACES		4	4	4	4	5
	"B" (FT. - IN.)		5'-10	5'-10	5'-10	5'-10	4'-8
	"C" (FT. - IN.)		2'-4 1/2	2'-4 1/2	2'-4 1/2	2'-4 1/2	2'-4 1/2
	"D" EQUAL SPACES		4	4	4	4	3
NO. OF PILES PER ABUT.			5	5	5	5	6
①	PILE BEARING (TONS)		43	45	48	49	43
	STRENGTH I DESIGN LOAD (KIPS)		125	130	138	143	123



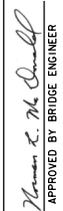
NOTE: LINE PAVING NOTCH WITH TAR PAPER BEFORE PLACING THE TEMPORARY PAVING BLOCK.

- ① FOR DETERMINING ACTUAL PILE LENGTHS IN FIELD.
- ② FOR ESTIMATING PILE LENGTHS USING AASHTO LRFD SPECIFICATIONS.

ABUTMENT NOTES:
 MINIMUM CLEAR DISTANCE FROM FACE OF CONCRETE TO NEAR REINFORCING BAR IS TO BE 2" UNLESS OTHERWISE NOTED OR SHOWN.

ABUTMENT PILES ARE TO BE DRIVEN TO THE DESIGN BEARING VALUE AS GIVEN IN THE ABUTMENT PILE SPACING TABLE.

PLACE 5h2 BAR AT 1:6 SLOPE TO MATCH TRAFFIC SIDE OF ABUTMENT WING FACE. (BOTH SIDES TYPICAL)

LATEST REVISION DATE	 APPROVED BY BRIDGE ENGINEER	 Iowa Department of Transportation Highway Division	
ABUTMENT DETAILS 15° SKEW A & B BEAMS		H24-11-06	