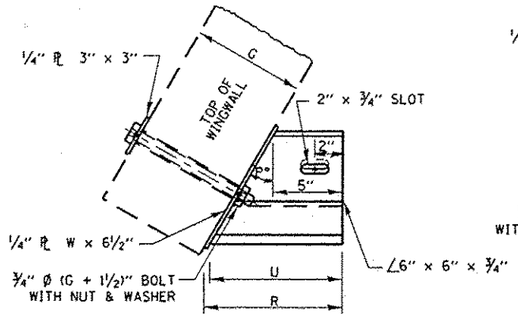
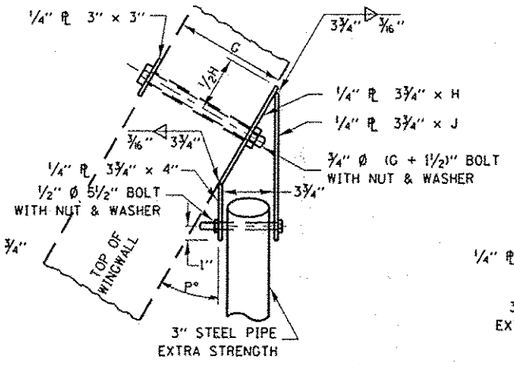


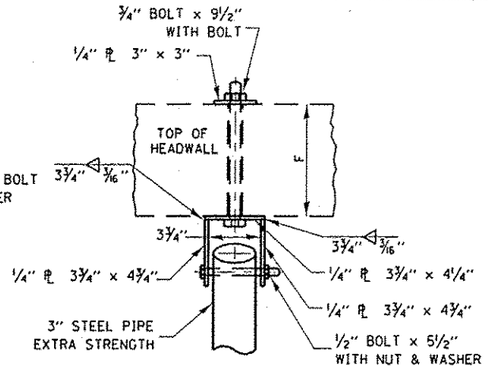
PLAN

END BRACKET ASSEMBLY – LEFT



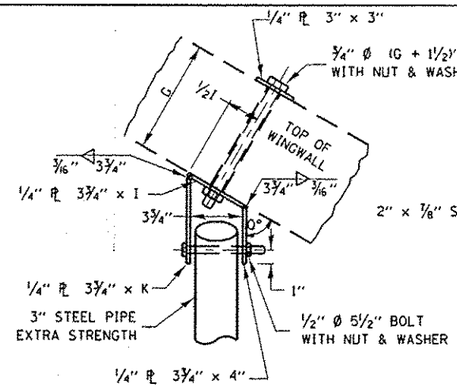
PLAN

WINGWALL BRACKET ASSEMBLY – LEFT



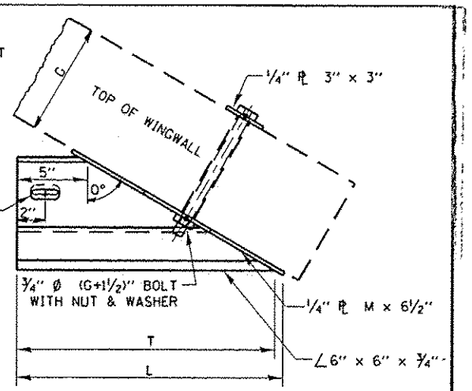
PLAN

HEADWALL BRACKET ASSEMBLY



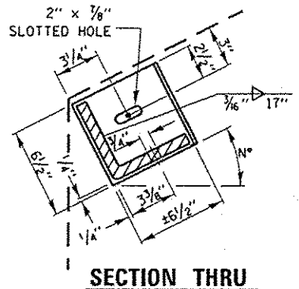
PLAN

WINGWALL BRACKET ASSEMBLY – RIGHT



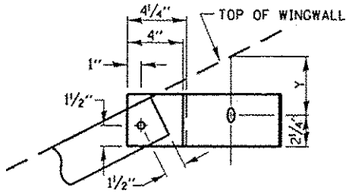
PLAN

END BRACKET ASSEMBLY – RIGHT



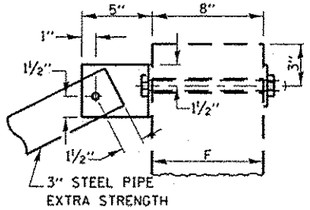
SECTION THRU

DETAIL A



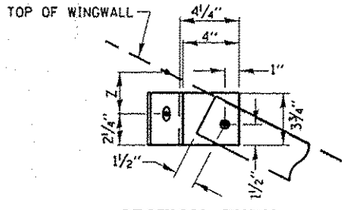
SECTION THRU

DETAIL B



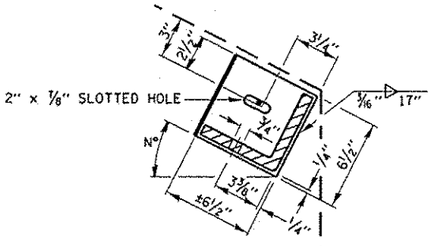
SECTION THRU

DETAIL C



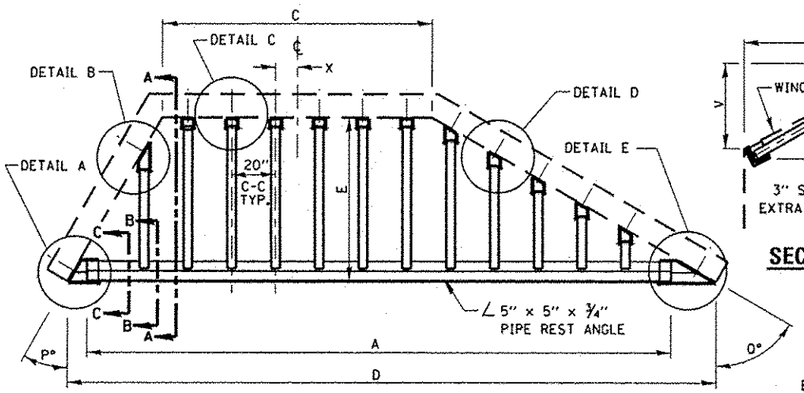
SECTION THRU

DETAIL D

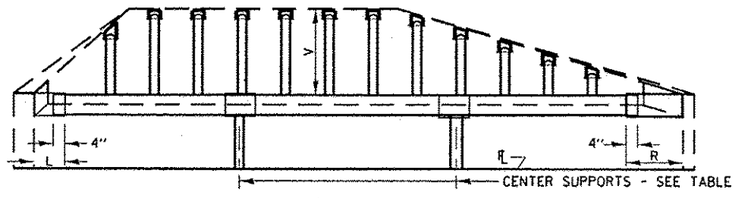


SECTION THRU

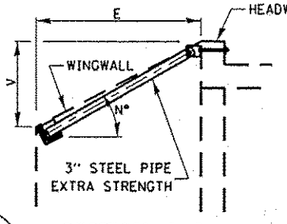
DETAIL E



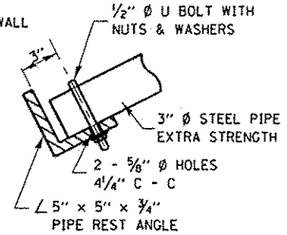
PLAN VIEW



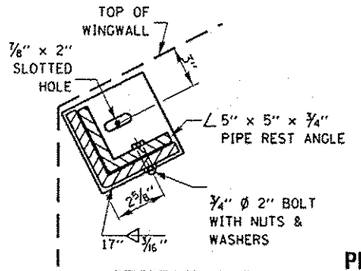
ELEVATION VIEW



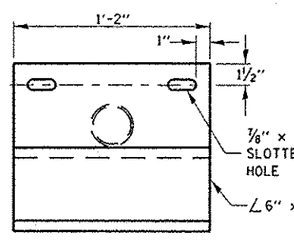
SECTION A–A



SECTION B–B

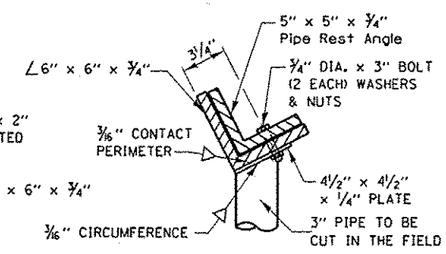


SECTION C–C

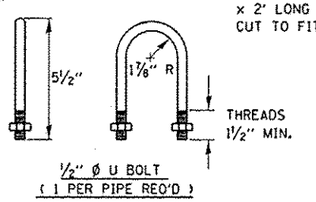


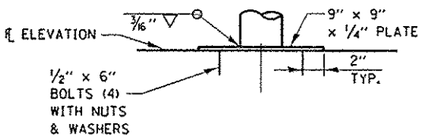
PLAN VIEW OF SUPPORT

3" STEEL PIPE, EXTRA STRENGTH
x 2' LONG TO BE
CUT TO FIT IN THE FIELD



END VIEW OF SUPPORT





CENTER SUPPORT DETAIL

GENERAL NOTES

BOLTS AND NUTS SHALL CONFORM TO ASTM A 307.
ALL BOLTS SHALL HAVE WASHERS AT EACH END.
HOLES SHALL BE 1/16" OVERSIZE UNLESS OTHERWISE NOTED EXCEPT IN CONCRETE WHICH SHALL BE 1/8" OVERSIZE.
ANGLES AND STEEL PLATES SHALL CONFORM TO AASHTO M183.
STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE B OR ASTM A 501.
STEEL PIPES, ANGLES AND PLATES SHALL BE HOT DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF AASHTO M111.
BOLTS, NUTS AND WASHERS SHALL BE HOT DIPPED GALVANIZED CONFORMING TO THE REQUIREMENTS OF AASHTO M232.
THE APPROXIMATE WEIGHT OF STEEL GIVEN IN TABLES INCLUDES PLATES ANGLES, AND PIPES. BOLTS, NUTS AND WASHERS ARE NOT INCLUDED.
ALL DIMENSIONS ARE TO BE VERIFIED IN THE FIELD.
CUTTING OF THE EXTRA STRENGTH PIPE AND ANGLES TO THE EXACT LENGTHS AND DRILLING HOLES IS TO BE DONE IN THE FIELD.
THIS WORK SHALL BE PAID FOR AT THE CONTRACT UNIT PRICE "EACH" FOR GRATING FOR CONCRETE HEADWALLS IN PLACE, AND SHALL INCLUDE FABRICATION PAINTING, CENTER SUPPORTS WHEN REQUIRED, AND INSTALLATION OF THE GRATING AS DETAILED.

DETERMINING NEED OF CENTER SUPPORTS		
TIP TO TIP OF WINGWALLS (DIMENSION "D")	NUMBER OF SUPPORTS REQUIRED	LOCATION
0'-0" TO 12'-6"	0	--
12'-6" TO 18'-0"	1	CENTER OF SPAN
18'-0" TO 24'-0"	2	1/3 OF SPAN
24'-0" TO 30'-0"	3	1/4 OF SPAN
30'-0" TO 36'-0"	4	1/5 OF SPAN

FILE NAME :	USER NAME : RNH	DESIGNED - CMF	REVISED -
		DRAWN - RNH	REVISED -
	PLOT SCALE :	CHECKED - TMM	REVISED -
	PLOT DATE :	DATE -	REVISED -

STATE OF ILLINOIS
DEPARTMENT OF TRANSPORTATION

GRATING FOR CULVERTS WITH WINGWALLS

SCALE: _____ | SHEET NO. __ OF __ SHEETS | STA. _____ TO STA. _____

F.A.P. RTE.	SECTION	COUNTY	TOTAL SHEETS	SHEET NO.
41	(11)W&RS-1	KANKAKEE	450	170
		CONTRACT NO. 66905		
FED. ROAD DIST. NO.	ILLINOIS	FED. AID PROJECT		