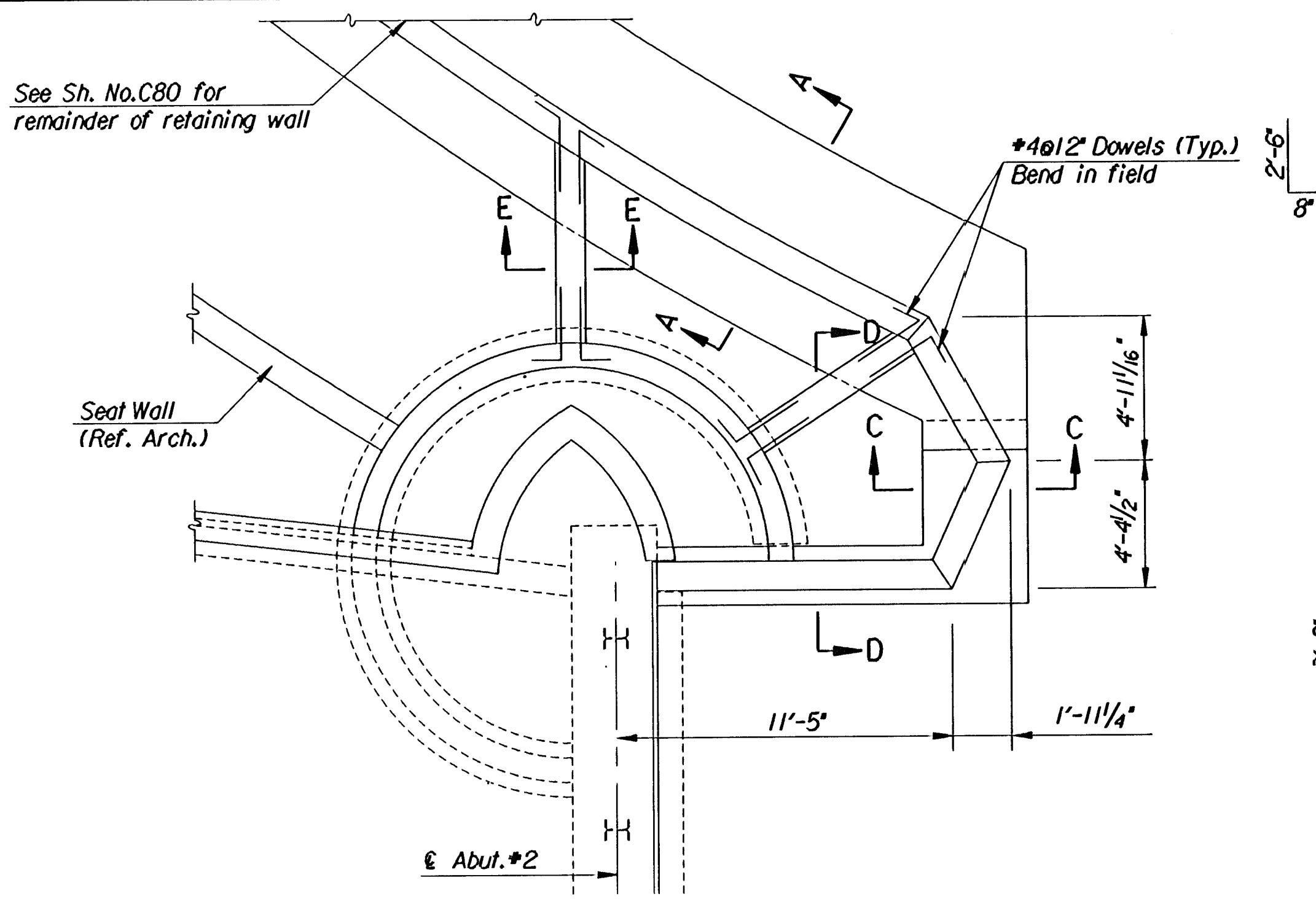
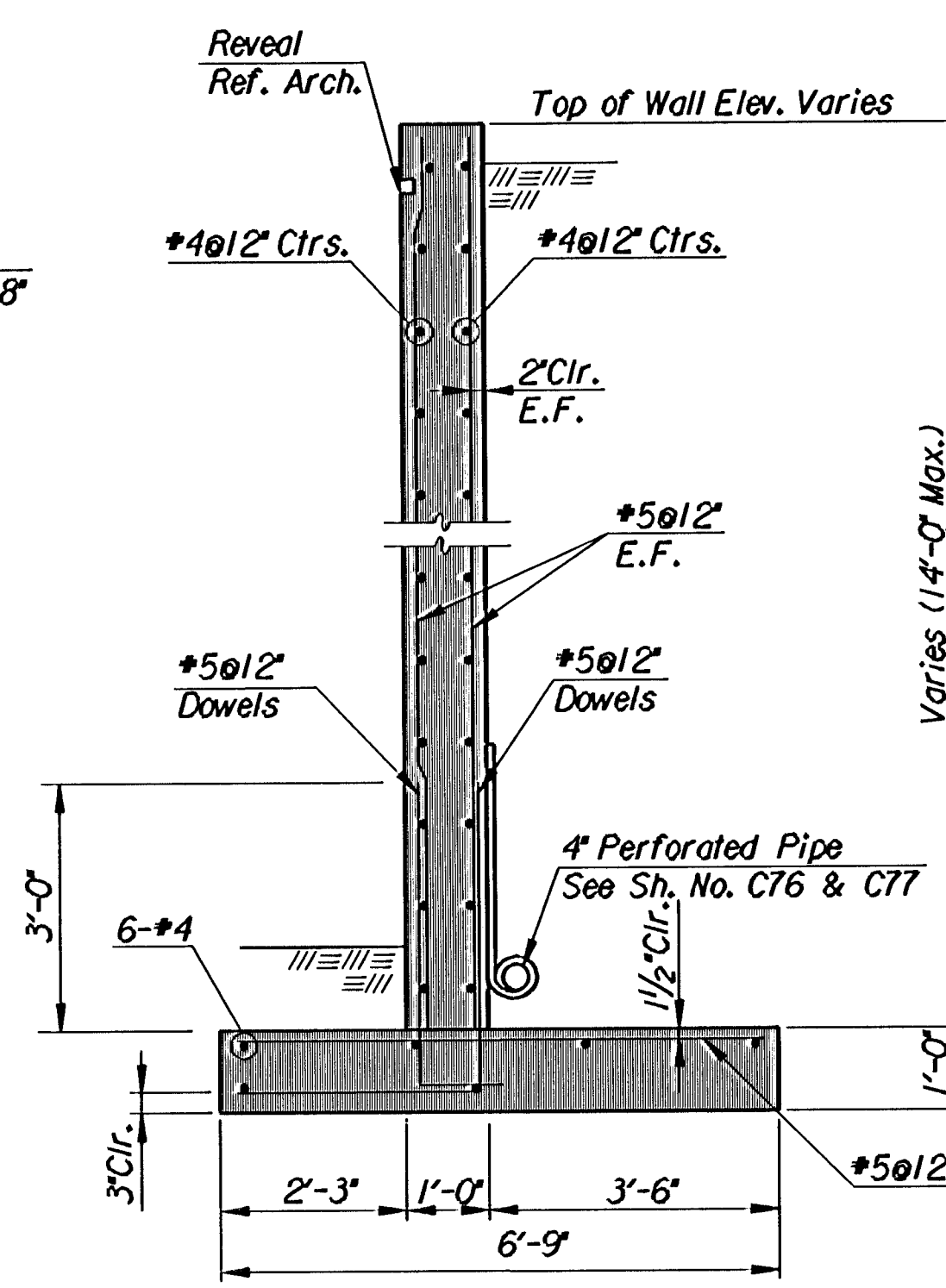
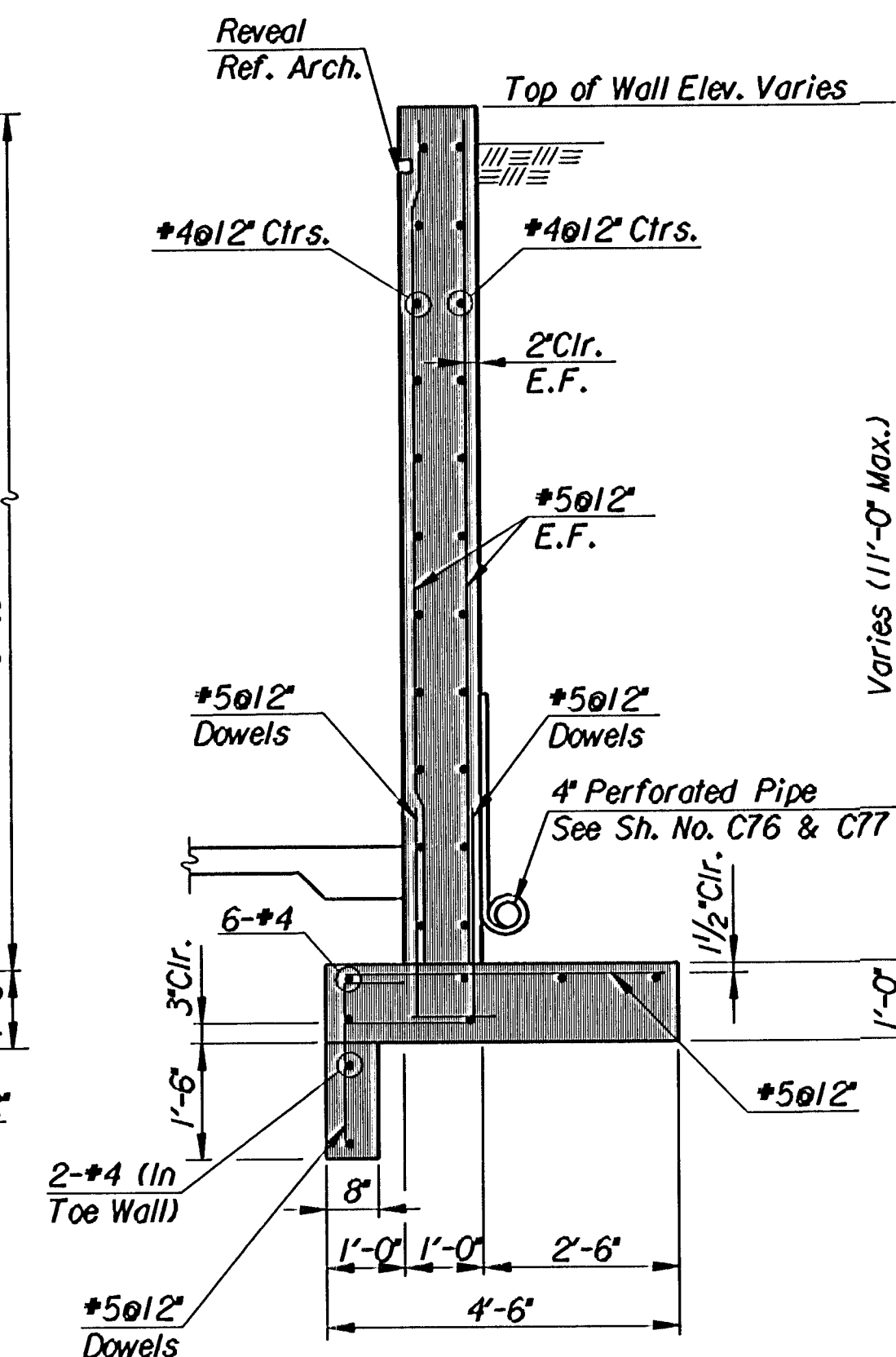




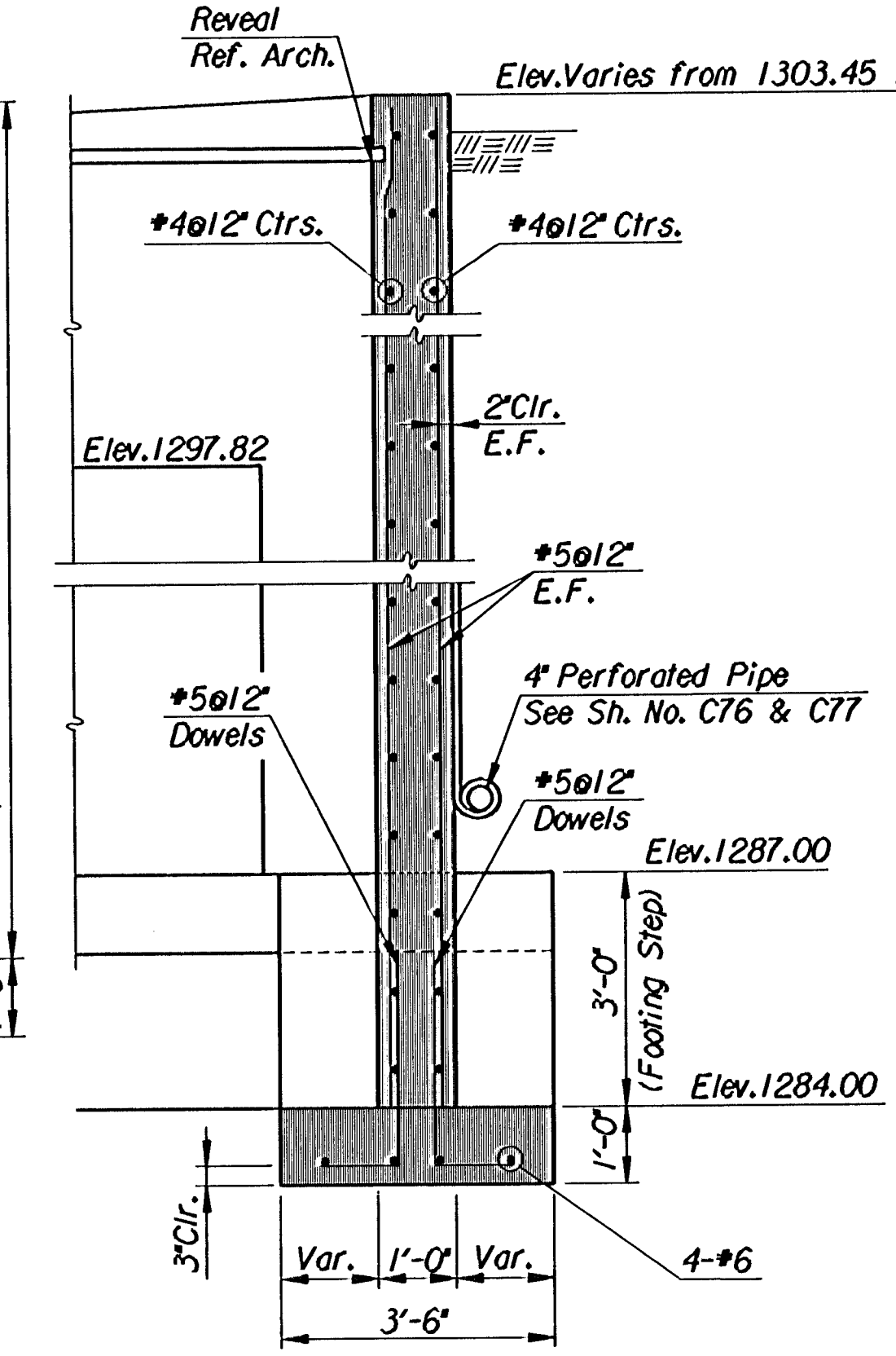
NORTHEAST RETAINING WALL PLAN



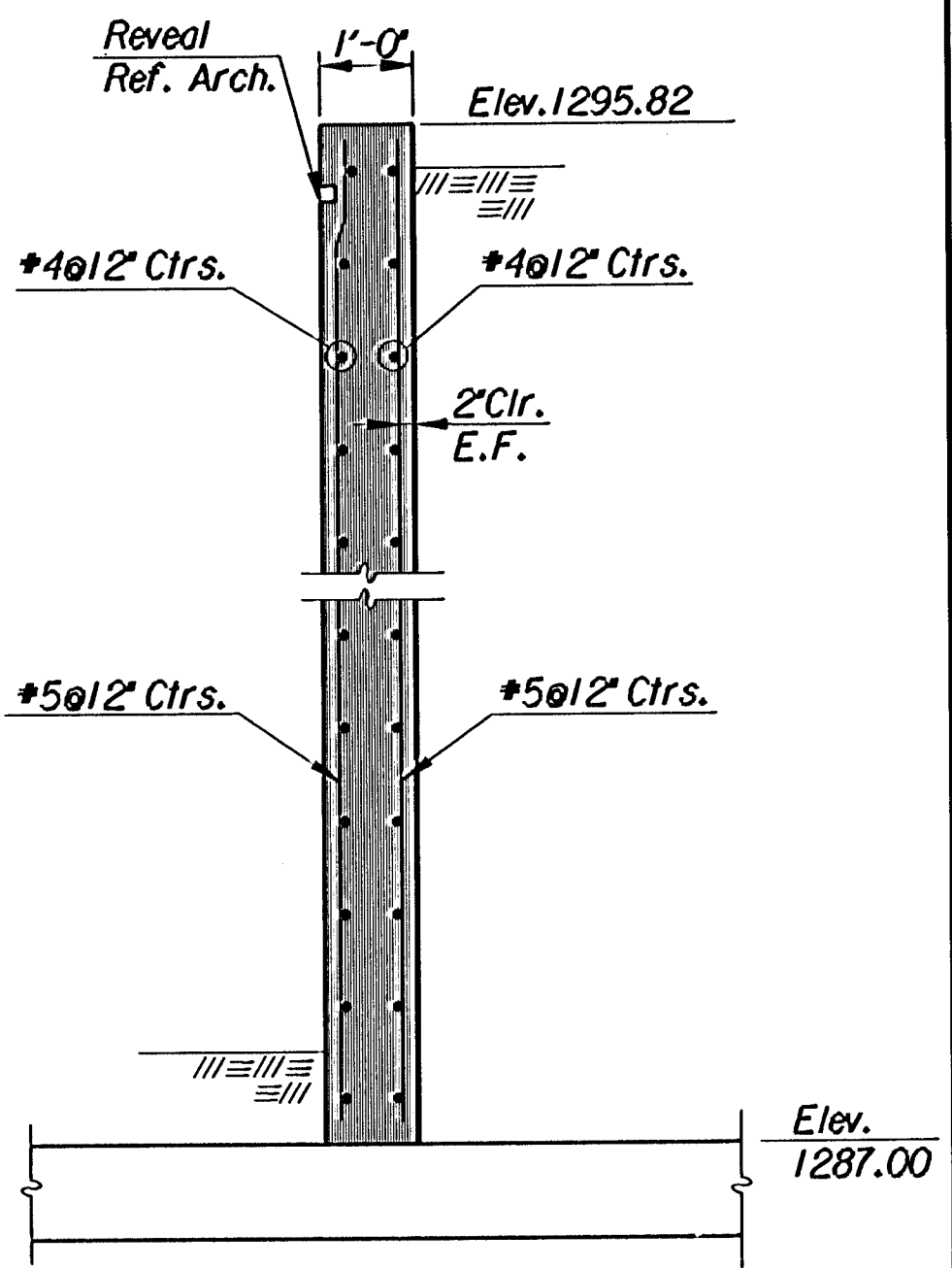
SECTION A-A



SECTION B-B



SECTION C-C



SECTION E-E

STRUCTURAL NOTES

I. DESIGN CRITERIA

- A. BUILDING CODE: UNIFORM BUILDING CODE (UBC), 1994 EDITION, INCLUDING LOCAL SUPPLEMENTS.
- B. GRAVITY LOADS: STAIRS AND SIDEWALKS SHALL BE DESIGNED FOR A UNIFORM LIVE LOAD OF 100 PSF.
- C. LATERAL LOADS:
 - 1. LATERAL EARTH PRESSURE IS BASED ON BACKFILL MATERIAL HAVING AN EQUIVALENT FLUID DENSITY OF 55 PCF.

II. SOIL PREPARATION AND FOUNDATIONS

- A. A COPY OF THE SUB-SURFACE GEOTECHNICAL INVESTIGATION IS AVAILABLE AT THE ENGINEER'S PLACE OF BUSINESS.
- B. REMOVE EXISTING FILL TO AN ELEVATION OF 3' BELOW ELEV. OF PROPOSED FOOTING (TOE-WALL EXCLUDED); FILL SUBGRADE TO ELEVATION SHOWN ON THE DRAWINGS WITH NON-EXPANSIVE GRANULAR FILL AND COMPACT PER SPECIFICATION.
- C. SOIL SUPPORTED FOUNDATIONS
 - 1. SOIL SUPPORTED FOUNDATIONS HAVE BEEN DESIGNED USING A NET ALLOWABLE BEARING PRESSURE OF 2000 PSF. FOUNDATIONS SHALL BEAR ON PROPERLY COMPACTED APPROVED ENGINEERED FILL MATERIAL. BEARING MATERIALS SHALL BE VERIFIED BY A LICENSED SOIL ENGINEER.
 - 2. ALL FOUNDATIONS HAVE BEEN DESIGNED USING FORMED SIDES. IF EARTH FORMED SIDES ARE APPROVED BY THE ENGINEER, THE TOP 5 1/2" SHALL BE FORMED THE DESIGN DIMENSION AND ONE INCH SHALL BE ADDED TO EACH SIDE OF THE EARTH FORMED AREA TO PROVIDE ADEQUATE COVER OVER THE REINFORCING. THIS SHALL BE DONE AT THE CONTRACTOR'S EXPENSE.
 - 3. ALL REINFORCING SHALL BE SUPPORTED FROM ABOVE OR WITH 3" SAND BEARING PLATES AT 4'-0" MAXIMUM SPACING

III. CAST-IN-PLACE CONCRETE

- A. ALL STRUCTURAL CONCRETE HAS BEEN DESIGNED IN ACCORDANCE WITH THE ACI 318-95 AND THE BUILDING CODE.
- B. CEMENT SHALL BE TYPE I OR TYPE II CONFORMING TO ASTM C150.
- C. AGGREGATES AND SAND SHALL CONFORM TO ASTM C33.
- D. MIX REQUIREMENTS: CONCRETE MIX SHALL BE PER SPECIFICATION.
- E. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60. WELDED WIRE FABRIC SHALL CONFORM TO THE REQUIREMENTS OF ASTM A185.
- F. ALL REINFORCING SHALL BE CONTINUOUS. PROVIDE BENT BARS AT ALL CORNERS. SEE DETAILS ON SHEET C81.
- G. ALL EXPOSED EDGES SHALL BE CHAMFERED 3/4" OR TOOLED TO A 3/4" RADIUS UNLESS OTHERWISE NOTED.

- H. WHERE NECESSARY, VERTICAL CONSTRUCTION JOINTS SHALL BE LOCATED AT MIDSPAN. ALL JOINTS SHALL BE THOROUGHLY CLEANED AND PURPOSELY ROUGHENED TO 1/4" PRIOR TO PLACING ADJACENT CONCRETE.

- I. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE DESIGN OF ALL FORMING, TEMPORARY BRACING AND SHORING.

IV. MISCELLANEOUS

- A. THE CONTRACTOR SHALL PROVIDE THE FOLLOWING ADDITIONAL SERVICES:
 - 1. REMOVAL OF ABANDONED FOUNDATIONS, UTILITIES, PIPELINES, ETC. THAT INTERFERE WITH NEW CONSTRUCTION.
 - 2. REVIEW AND APPROVE ALL SHOP DRAWINGS PRIOR TO SUBMITTAL TO THE STRUCTURAL ENGINEER, NOTING CHANGES MADE WHICH DO NOT COMPLY WITH THE DESIGN DRAWINGS. NOTE ALL CONFLICTS BETWEEN PIPING, CONDUITS AND OTHER EQUIPMENT WITH STRUCTURAL ITEMS ON SHOP DRAWINGS.
 - 3. PROVIDE TEMPORARY BRACING AND SHORING TO PREVENT EXCESSIVE DEFLECTION AND DAMAGE DURING CONSTRUCTION.
- B. THE SPECIFICATION SHALL GOVERN OVER THE PLANS WHEN CONFLICTS OCCUR BETWEEN PLANS AND SPECIFICATIONS.

TABLE "A"

BAR SIZE	f'c=4.0 KSI		fy=60.0 KSI		HOOKS
	LAP LENGTH (IN.)	EMBED LENGTH (IN.)	TOP	OTHER	
3	13	12	12	12	8
4	18	13	14	12	10
5	22	16	17	12	12
6	27	19	20	15	15
7	33	24	26	19	17
8	44	32	34	24	19
9	56	40	43	31	22
10	71	51	55	39	25
11	87	62	67	48	27

- 1. LAP LENGTHS SHOWN ARE FOR CLASS B TENSION SPLICES IN NORMAL WEIGHT CONCRETE PER ACI 318-89, 12.15, C0-3
- 2. FOR BARS SPACED LATERALLY LESS THAN 6" O.C. OR BARS WITH LESS THAN 3" CLEAR EDGE DISTANCE, MULTIPLY ABOVE LENGTHS BY 1.25.
- 3. TOP BARS ARE HORIZONTAL REINFORCEMENT PLACED SO THAT MORE THAN 12" OF CONCRETE IS CAST BELOW THE REINFORCEMENT IN THAT MEMBER.
- 4. FOR HOOKS WITH SIDE COVER NORMAL TO PLANE OF HOOK NOT LESS THAN 2" AND FOR 90 DEG. HOOKS, COVER LESS THAN 2", MULTIPLY ABOVE LENGTHS BY 8.7.
- 5. HOOK VALUE IS Ld, MEASURED FROM CRITICAL SECTION TO OUTSIDE END OF HOOK (STRAIGHT EMBEDMENT LENGTH BETWEEN CRITICAL SECTION AND START OF HOOK, PLUS RADIUS OF BEND AND ONE BAR DIAMETER).

No.	Revisions	By	Date
CITY OF WICHITA, KANSAS MICHAEL E. LINDEBAK, P.E.-CITY ENGINEER DOUGLAS AVENUE BRIDGE OVER ARKANSAS RIVER MISCELLANEOUS WALL DETAILS AND STRUCTURAL NOTES CITY OF WICHITA PROJECT NO. 472-82721 PROFESSIONAL ENGINEERING CONSULTANTS, P.A. ENGINEERS WICHITA, KANSAS			
Designed by	RWA	Checked by	R.A.S.
Drawn by	W.L.L.	Date	Sept. 1997 Job No. 95088-4