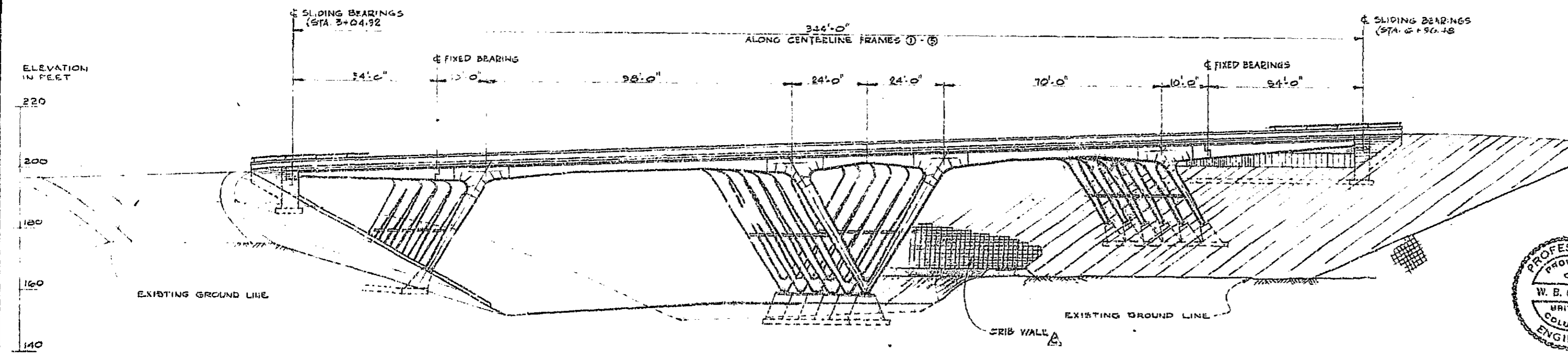


PLAN

SECTION B-B CLEARANCE DIAGRAM SCALE: 1/4" = 15 FT

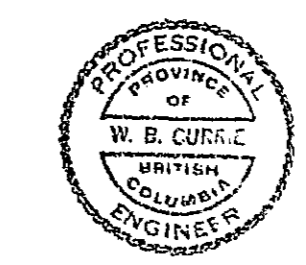
SECTION A-A



SOUTH WEST ELEVATION

- NOTES:
- LOADING HS 25
 - G & C DATA
 - FOR PLAN & PROFILE DETAILS OF HORSESHOE BAY UNDERPASS SEE DWGS P-500-2 & P-500-11
 - LOCATION AND ELEVATIONS OF P & E TRACKS BASED ON A 1965 SURVEY

169346



BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS BRIDGE ENGINEER'S OFFICE

MEMBER GROUP **N. D. LEA & ASSOCIATES CONSULTING ENGINEERS** DRAWING NO. **7013-D-200**

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
GENERAL ARRANGEMENT

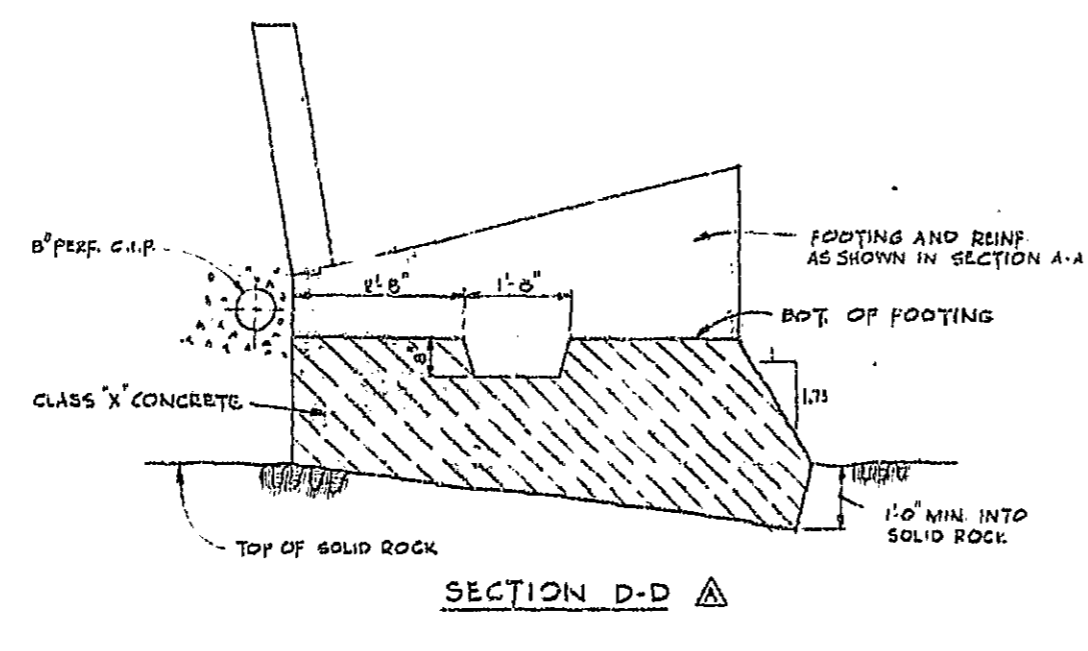
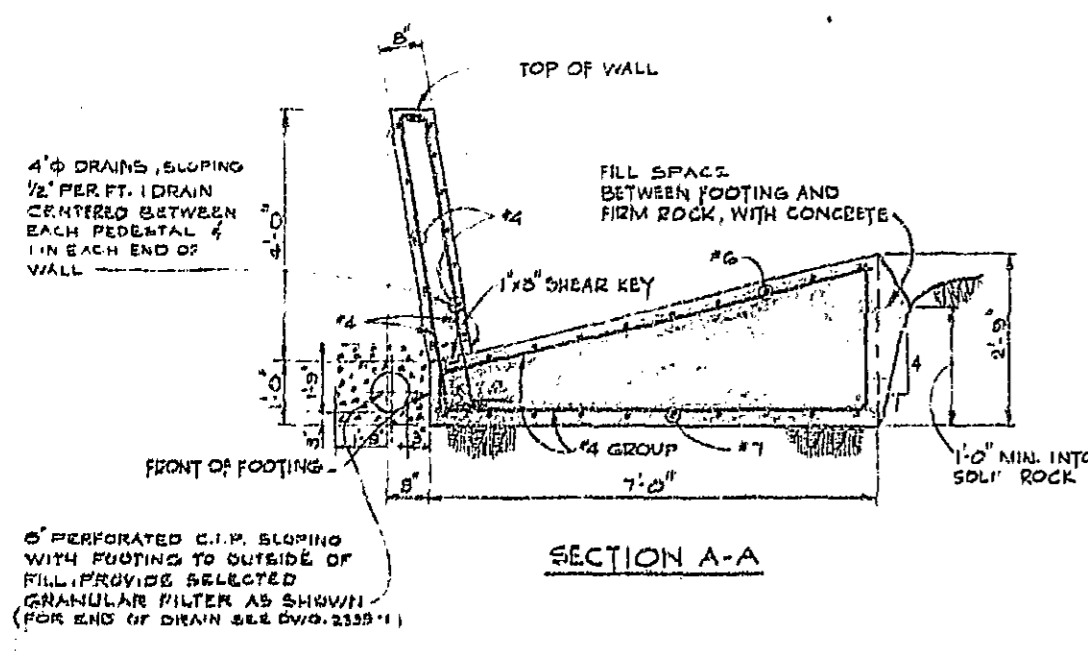
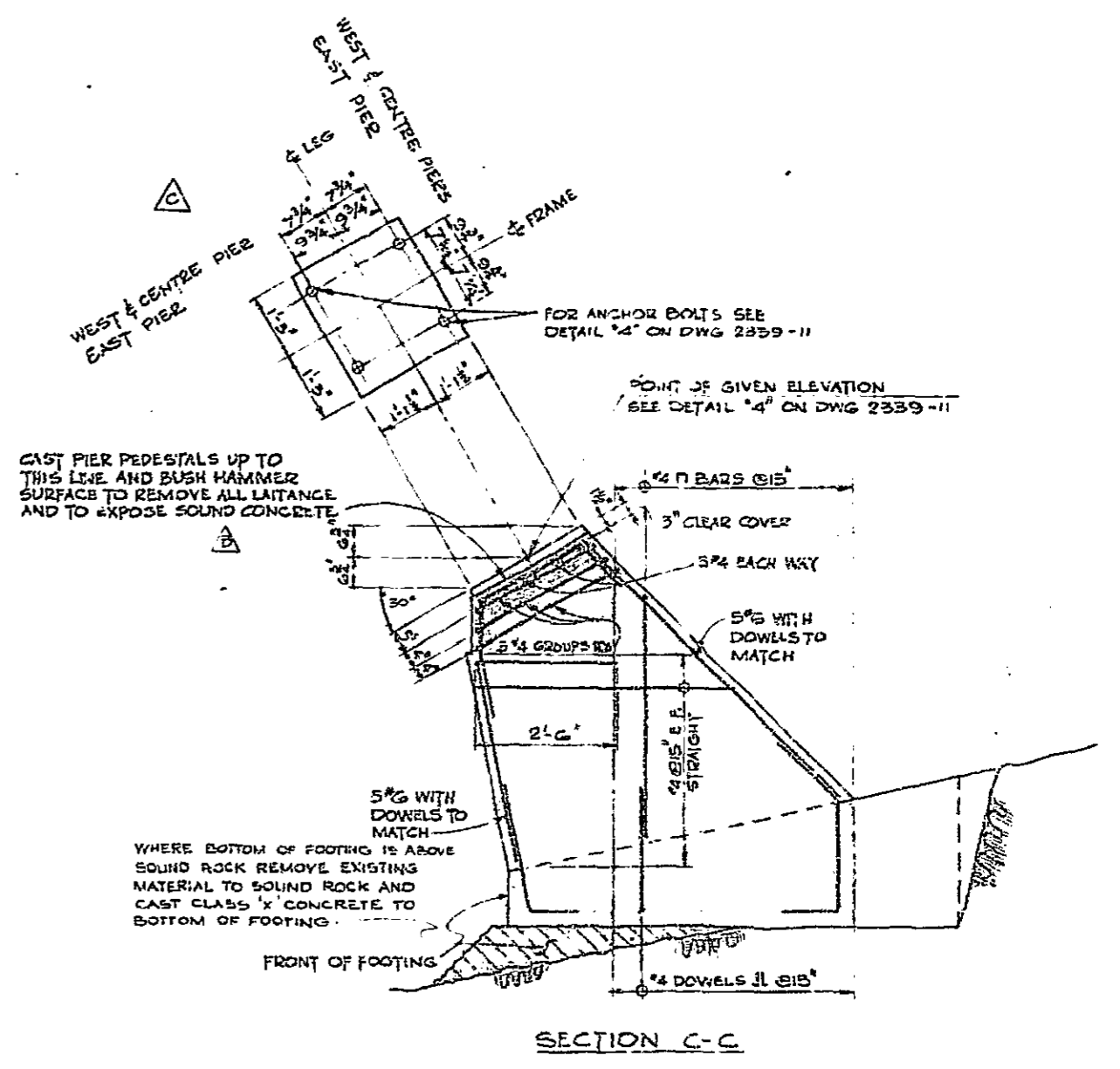
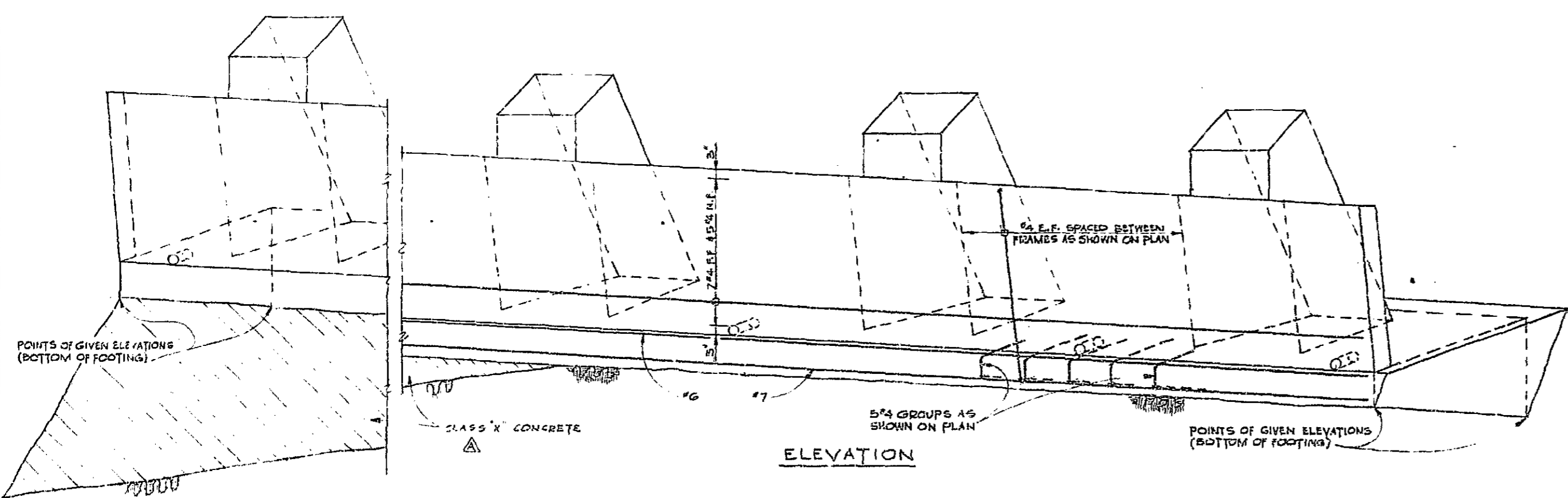
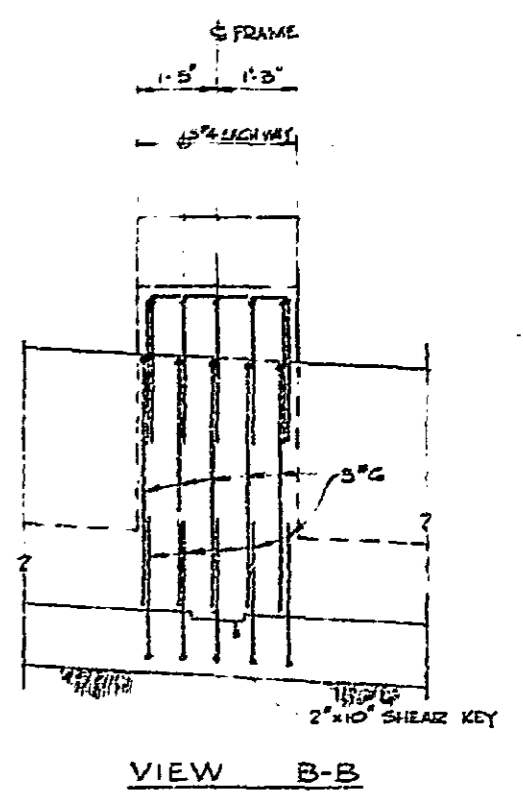
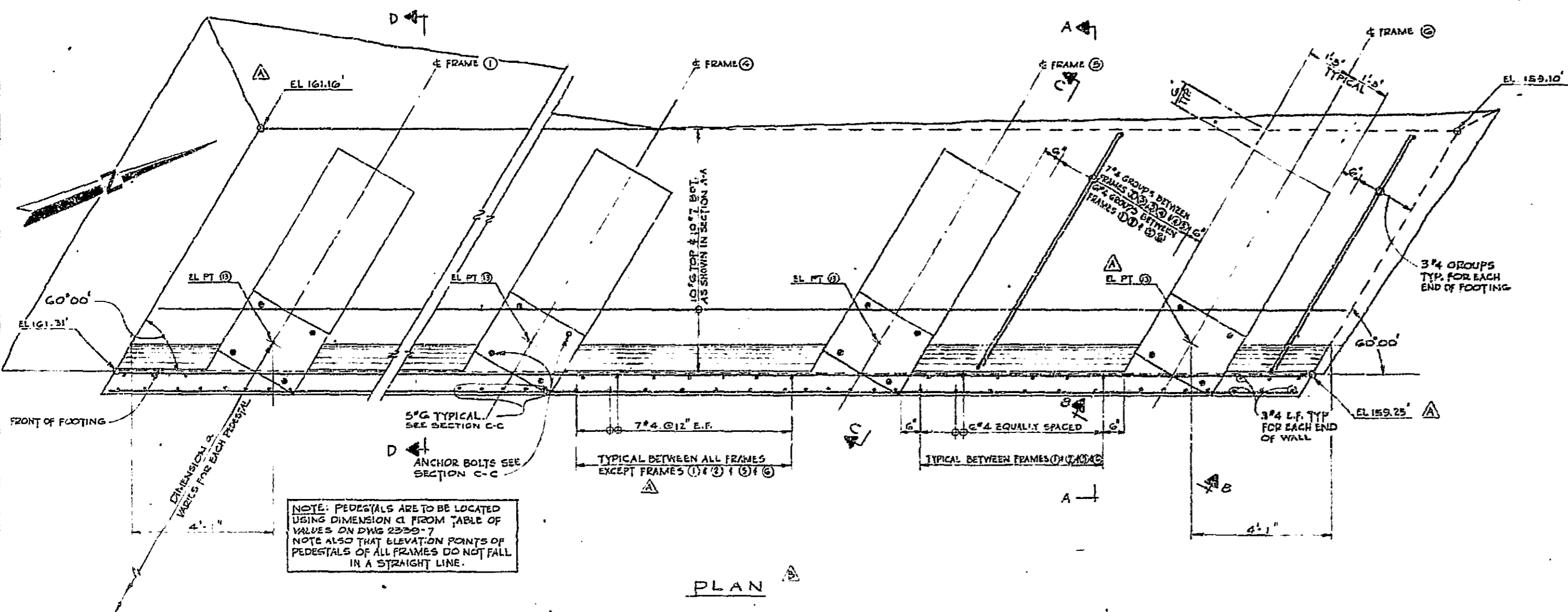
NO.	REVISIONS	DATE	BY	CHECKED	APPROVED
D	LIVE LOADING INCREASED TO HS 25	NOV 30/75			
C	REF. WALL NO. 3 REMOVED, CRIB WALL ADDED	OCT 14/75			
B	DECK WIDTH REVISED, FRAMES NUMBERED	APR 14/75			
A	GENERAL REVISION	22 APR 75			
F	REVISED AS BUILT	12/19/75			
E	DRAIN LOCATION & TYPE REVISED	JUN 20/75			

SCALE: 1/4" = 10 FT EXCEPT AS SHOWN

DESIGN: **ARR** DRAWN: **LLC** CHECKED: **LLC**

APPROVED: **W. B. CURRIE** BRIDGE ENGINEER

DRAWING NO. **7013-D-200**



APPROXIMATE QUANTITIES

CONCRETE	50 cu yds
REINFORCING STEEL	4,500 lbs.

REVISIONS

D	REVISED AS BUILT	FEB/75
B	ANCHOR BOLTS & TOP OF PEDESTALS REVISED	NOV/71
A	GENERAL REVISION TO SUIT ROCKLINE	APR/66

NOTES

- FOR GENERAL NOTES SEE DWG 2339-1C
- FOR PIER LAYOUT SEE STEEL FRAME LAYOUT ON DWG 2339-7
- FOR ELEVATION PT. 14 OF PEDESTALS SEE TABLE OF VALUES ON DWG. 2339-7
- FOOTING TO BE FOUNDED ON FIRM ROCK

169347

PROFESSIONAL ENGINEER OF BRITISH COLUMBIA
W. B. CURRIE

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

M. D. LEA & ASSOCIATES
CONSULTING ENGINEERS

DRAWING NO. 7013-D-201

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS

WEST PIER
PEDESTALS AND FOOTINGS

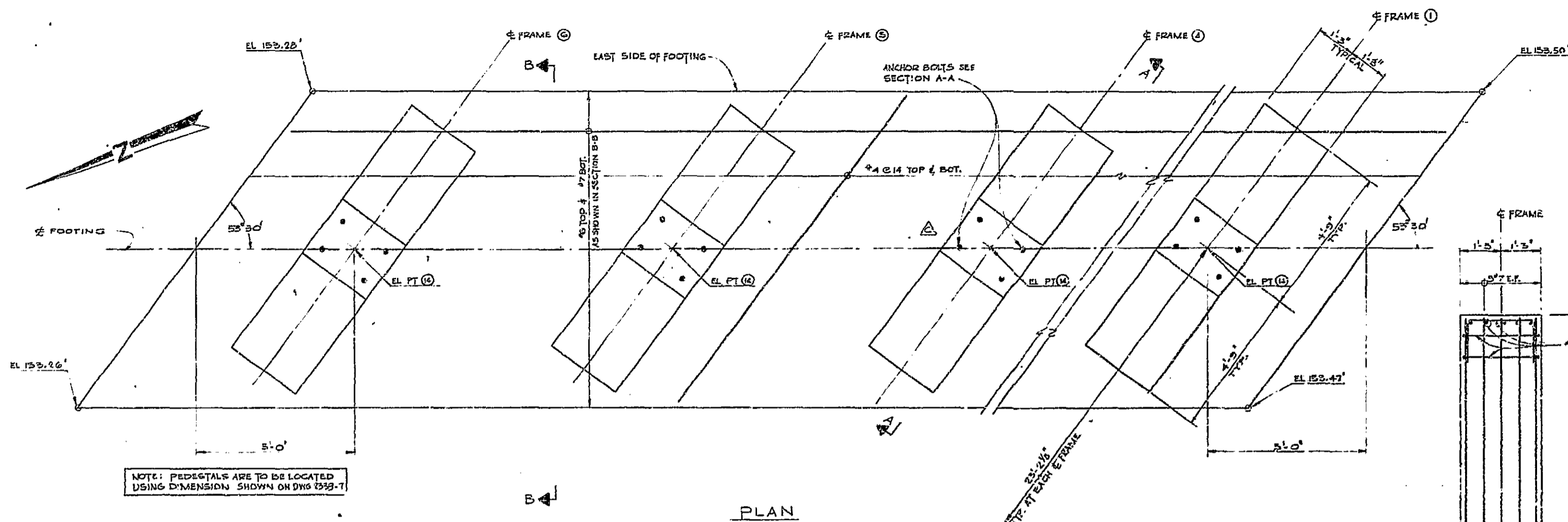
DESIGN IRE FEB/75
DRAWN RP FEB/66
CHECKED E

SCALE: 1/2" = 1'-0"

APPROVED: [Signature]
CHIEF ENGINEER

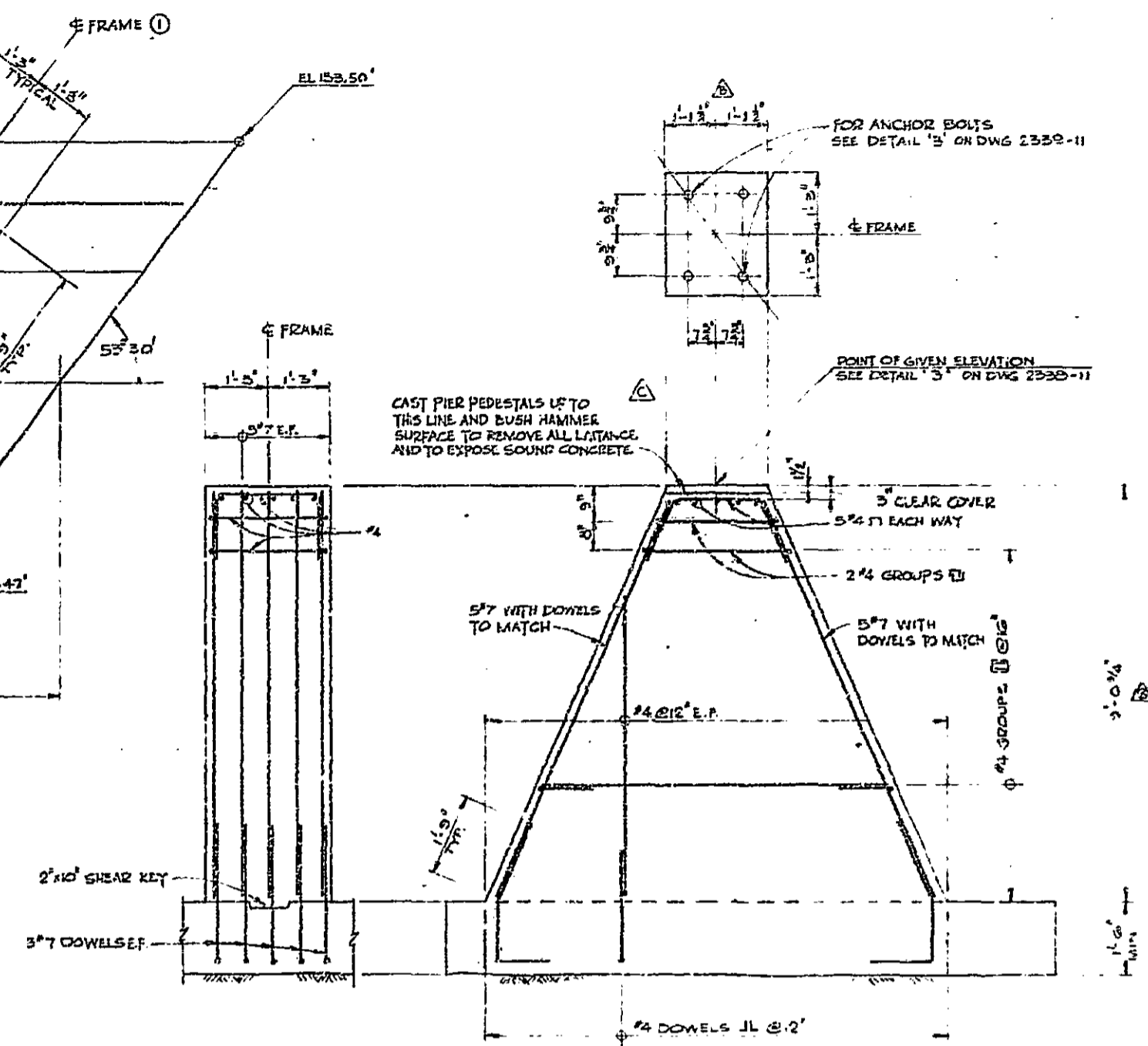
DRAWING No. 2339-D-6

CANCEL PERMITS BEARING EARLIER DATES

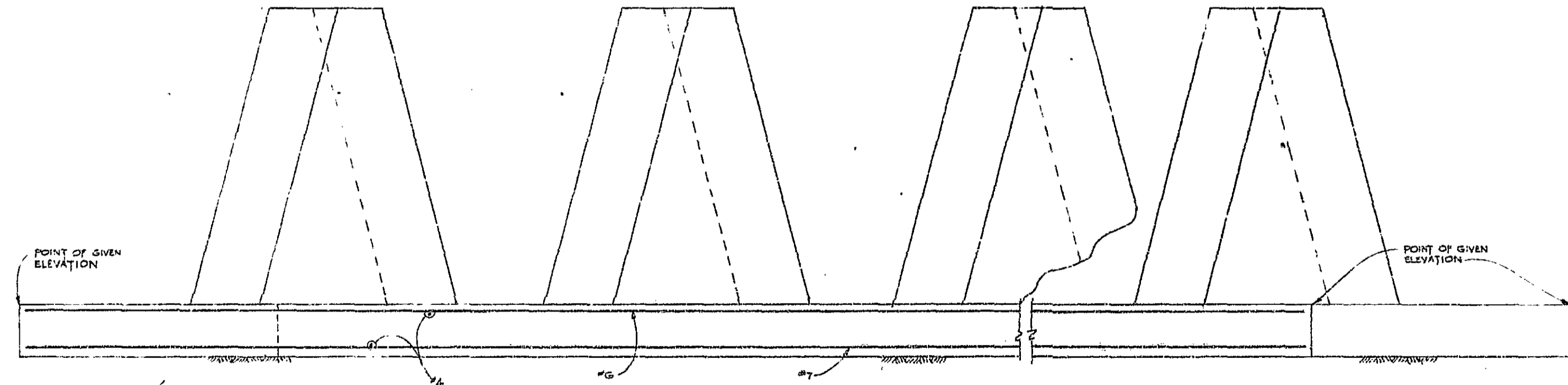


NOTE: PEDESTALS ARE TO BE LOCATED USING DIMENSION SHOWN ON DWG 2333-7

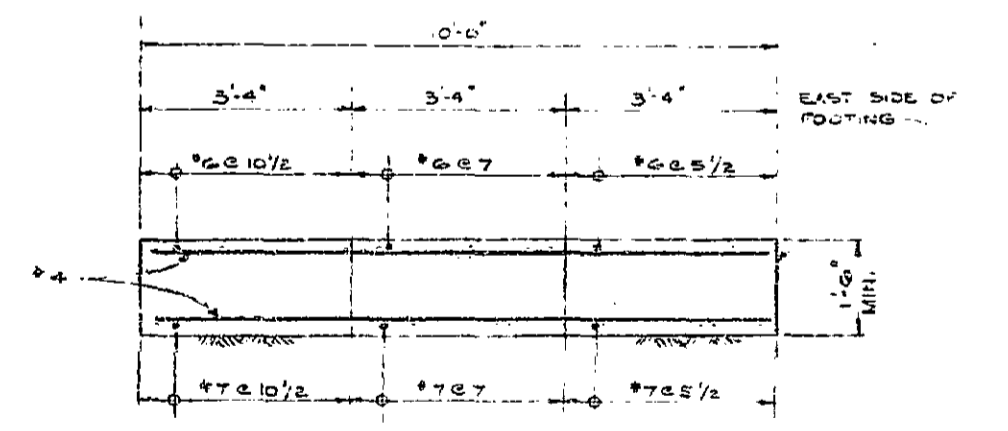
PLAN



SECTION A-A

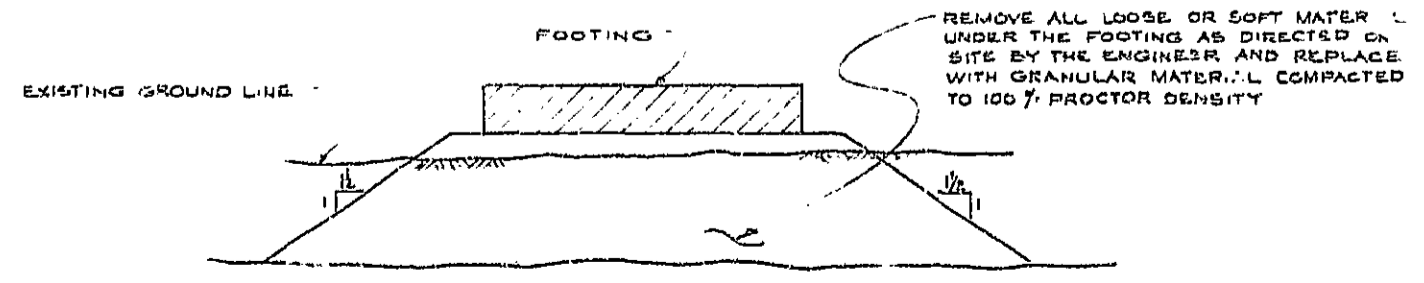


ELEVATION



SECTION B-B

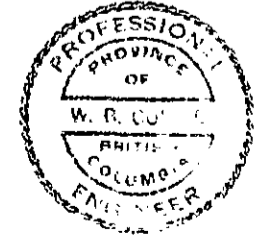
NOTES
 1. FOR GENERAL NOTES SEE DWG 2333-10
 2. FOR PIER LAYOUT SEE STEEL FRAME LAYOUT ON DWG 2333-7
 3. FOR ELEVATION 15 PEDESTALS 1 TO 6 SEE TABLE OF VALUES ON DWG 2333-7



SECTION B-B (SHOWING FOUNDATION PREPARATION)

APPROXIMATE QUANTITIES	
CONCRETE	60 CU YDS
REINFORCING STEEL	76 COLBS.

REVISIONS	
D	REVISED AS BUILT FEB/75
C	ANCHOR BOLTS & TOP OF PEDESTAL REVISED NOV/71
B	DIMENSIONS CHANGED OCT/71
A	EL. POINTS, E.C.S AND DIMENSIONS REVISED APR/71



BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
 BRIDGE ENGINEER'S OFFICE

M. D. LEA & ASSOCIATES
 CONSULTING ENGINEERS

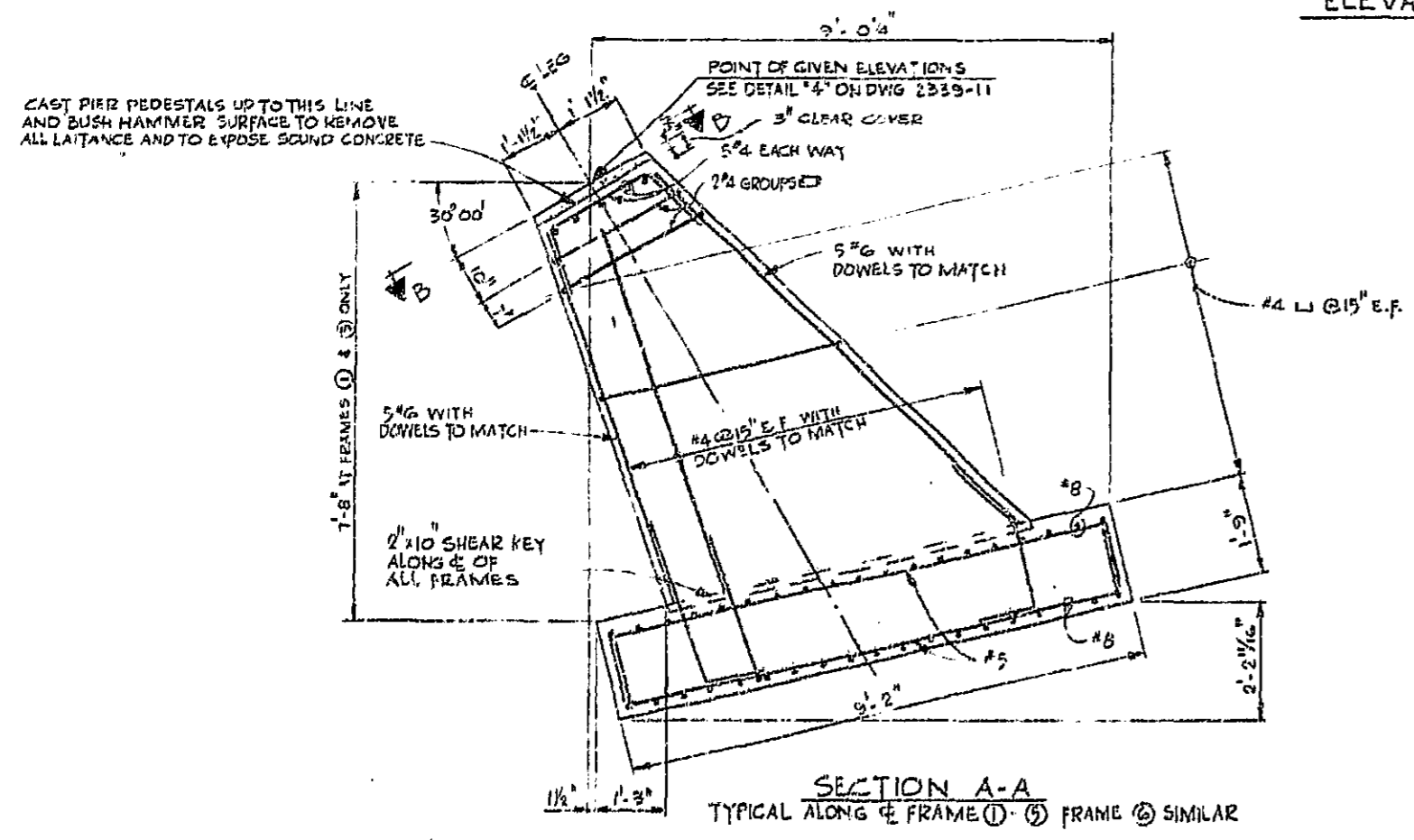
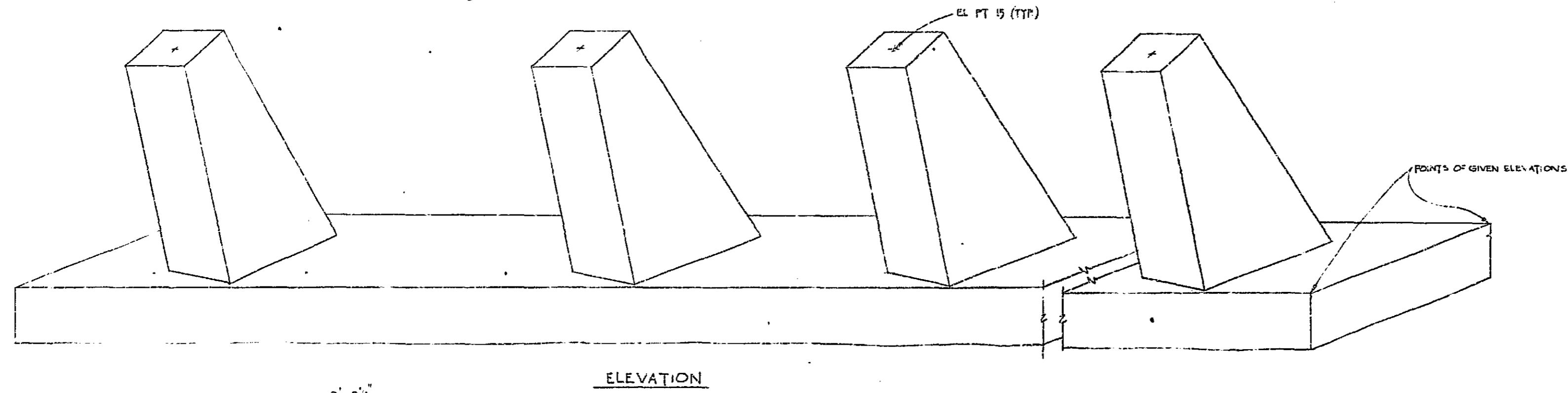
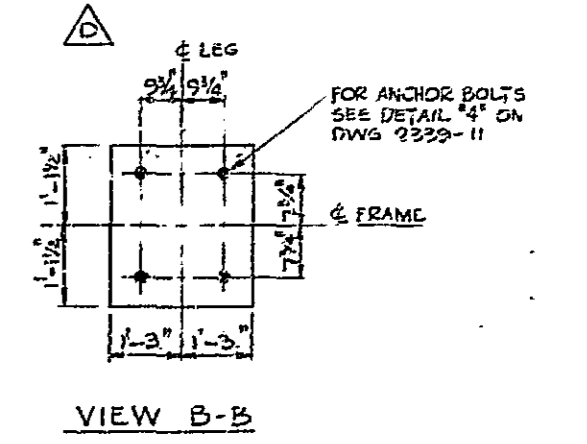
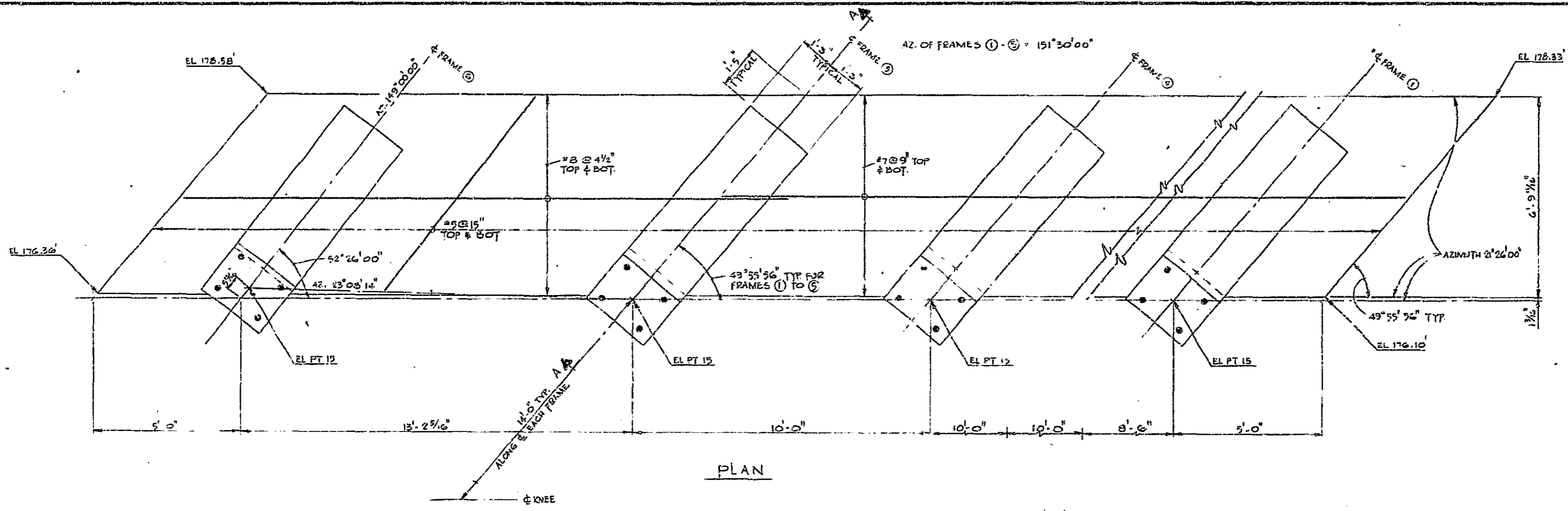
DRAWING NO. 7013-D-202

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
 HORSESHOE BAY UNDERPASS
 CENTER PIER
 PEDESTALS AND FOOTINGS

DESIGN: JRR
 SCALE: 1/4" = 1'-0"
 DRAWN: J.P. FEB/66
 CHECKED: J.P.
 DRAWING No. 2333-3

109348

CANCEL PRINTS BEARING EARLIER LETTER.

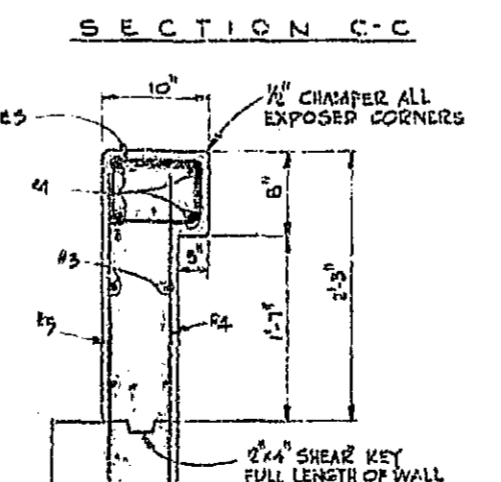
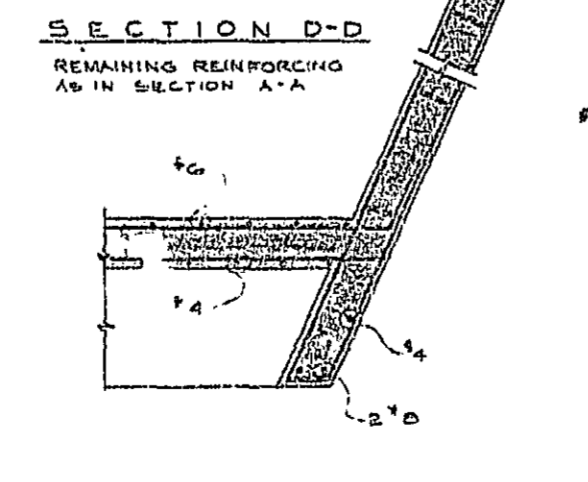
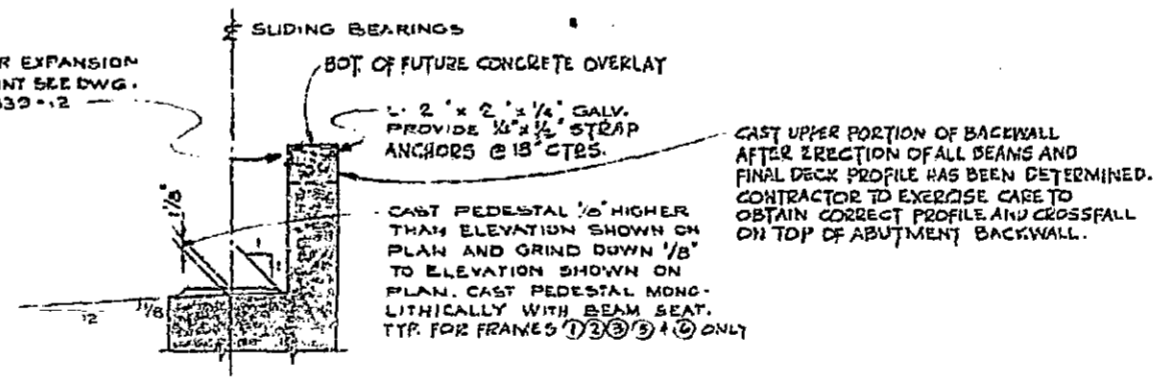
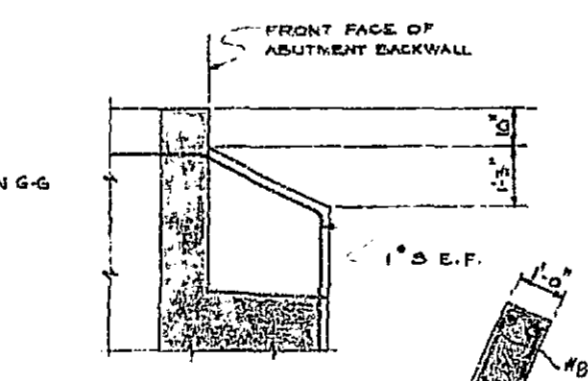
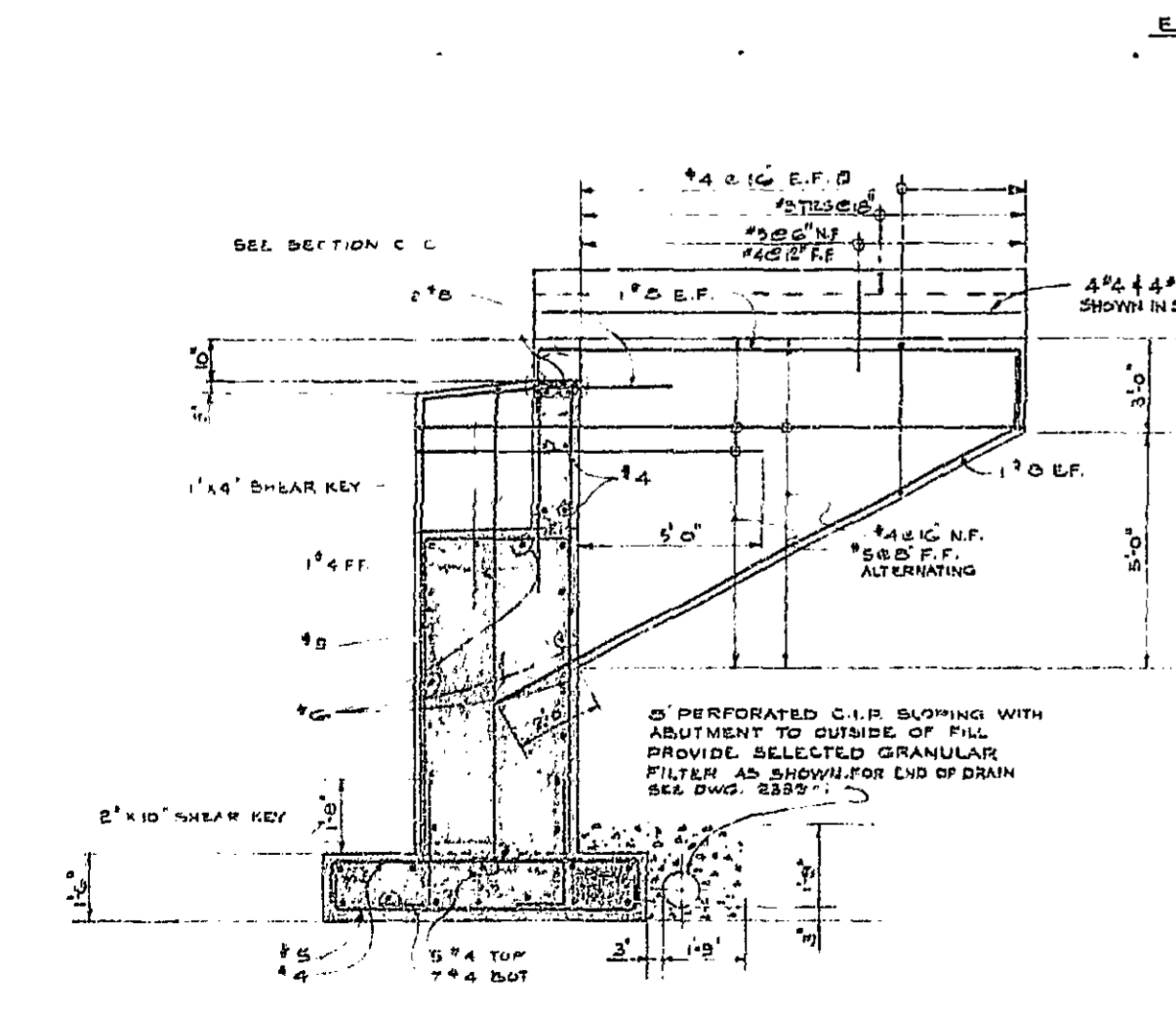
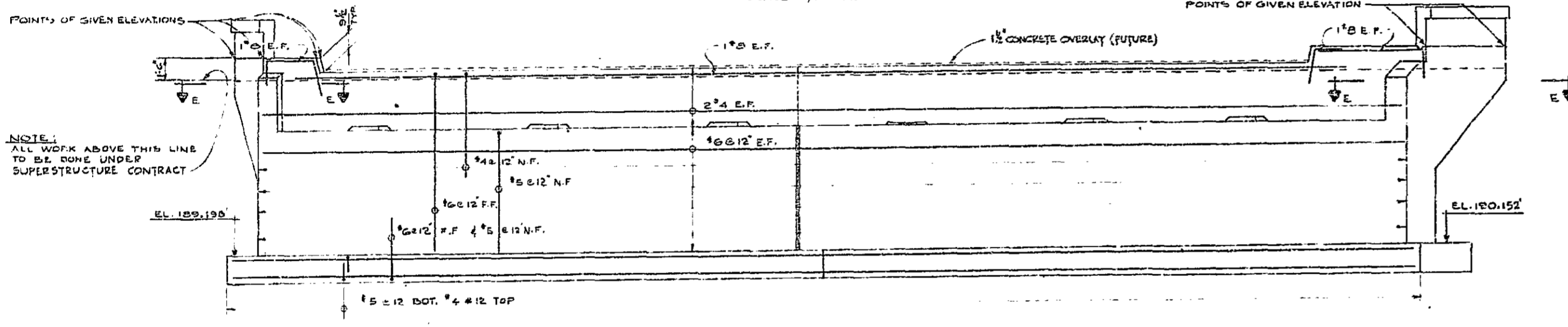
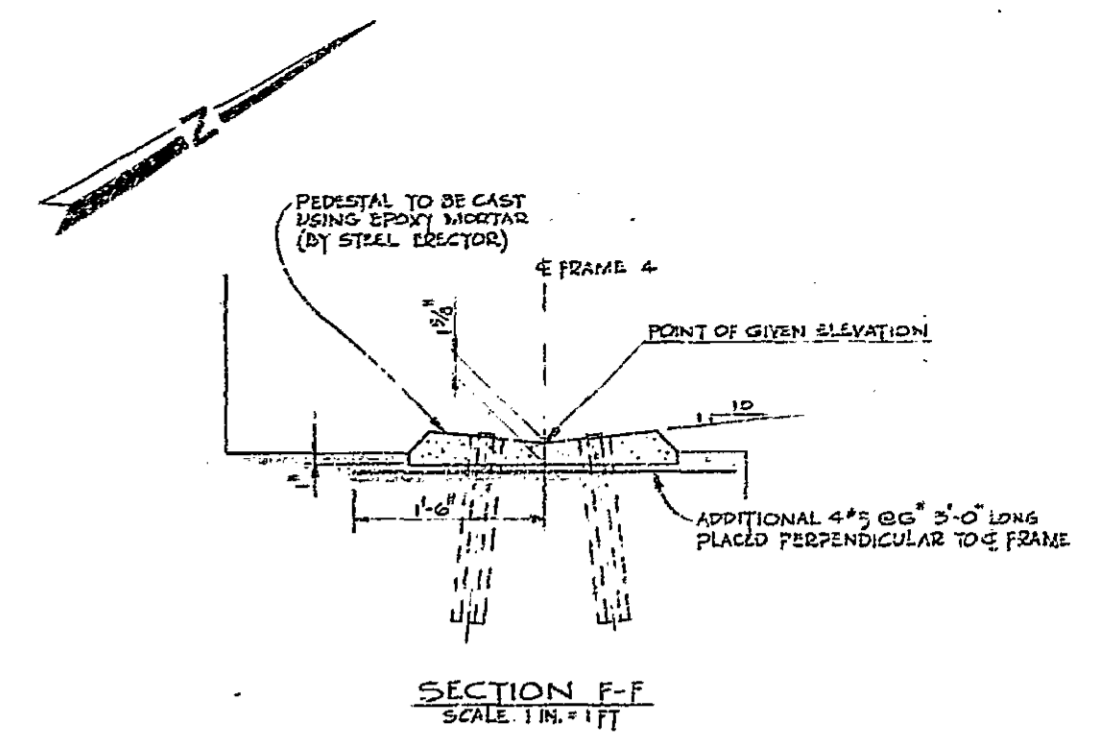
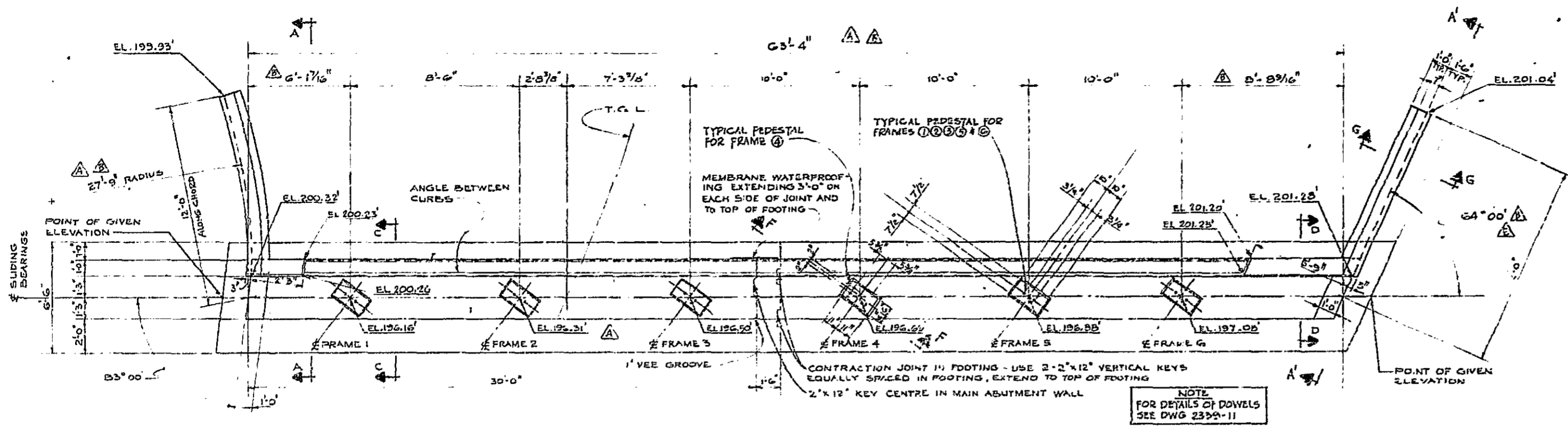


103349

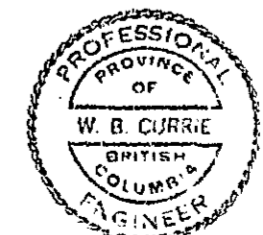
NOTES

- FOR GENERAL NOTES SEE DWG 2339-10
- FOR PIER LAYOUT SEE STEEL FRAME LAYOUT ON DWG 2339-7
- FOR ELEVATION OF POINT 15 FOR FRAMES 1 TO 6 SEE TABLE OF VALUES ON DWG 2339-7
- BACKFILLING OF PIERS SHALL BE DONE IN HORIZONTAL LAYERS STARTING AT THE LOWEST FILL ELEVATION AND CARRIED UPWARDS TOWARDS THE ABUTMENTS

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS			
BRIDGE ENGINEER'S OFFICE			
N. D. Lea & Associates Ltd.			DRAWING NO
TRANSPORTATION ENGINEERS			7013-D-203
TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER			
HORSESHOE BAY UNDERPASS			
EAST PIER			
D	REVISED AS BUILT	RR FEB/75	DESIGN
C	DRAWING REDRAWN + COMPLETELY REVISOR	RR FEB/75	DRAWN
REVISIONS		CHECKED	SCALE: 1/2" = 1 FT
			APPROVED:
			DRAWING No.
			2339-4 1D
CANCEL PRINTS BEARING EARLIER LETTERS			



APPROXIMATE QUANTITIES	
CONCRETE	90 CU.YD
REINF. STEEL	7,400 LBS



- NOTES:
- FOR GENERAL NOTES SEE DWG. 2339-10
 - FOR ABUTMENT LAYOUT SEE STEEL FRAME LAYOUT ON DWG. 2339-7

REVISIONS	DATE	DESCRIPTION
D	FEB/75	SMALL CHANGES IN DIM. & ELEVATIONS
C	MAY/74	PARAPET WALL & LIVE LOADING INCREASED TO HS25
B	MAY/74	GENERAL REVISION
A	FEB/74	ELEVATIONS & DIMENSIONS CHANGED
F		REVISED AS BUILT
E	MAY/74	ANGLE CHANGED

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

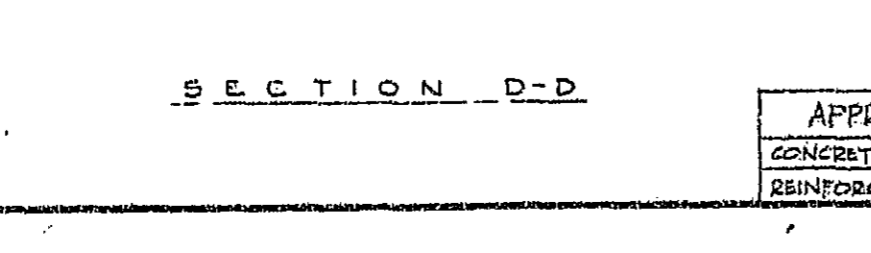
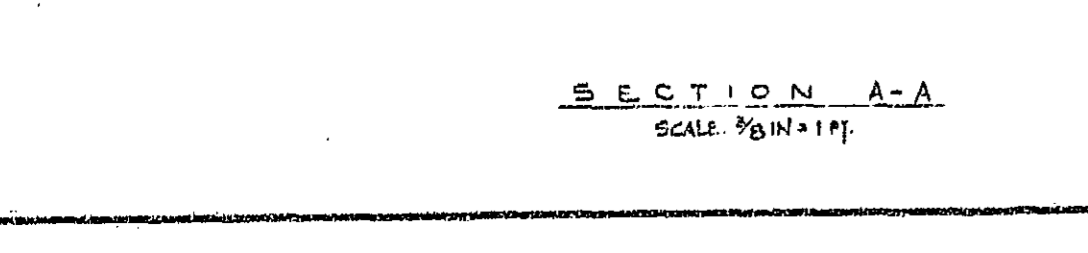
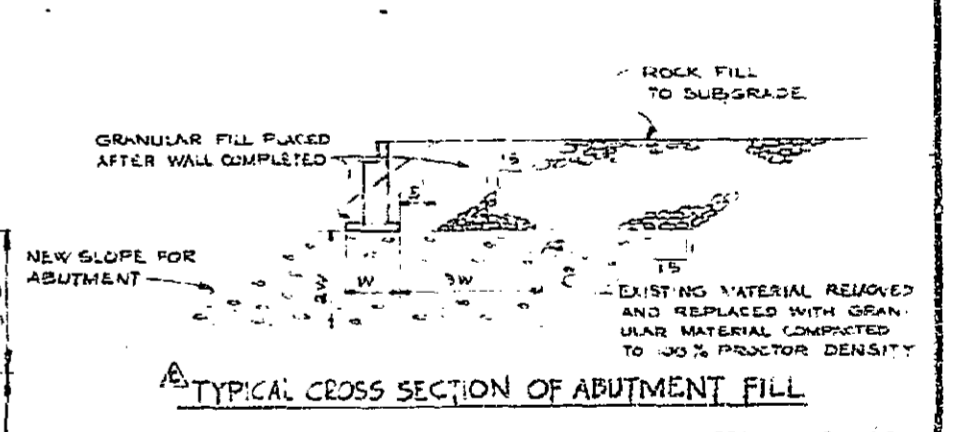
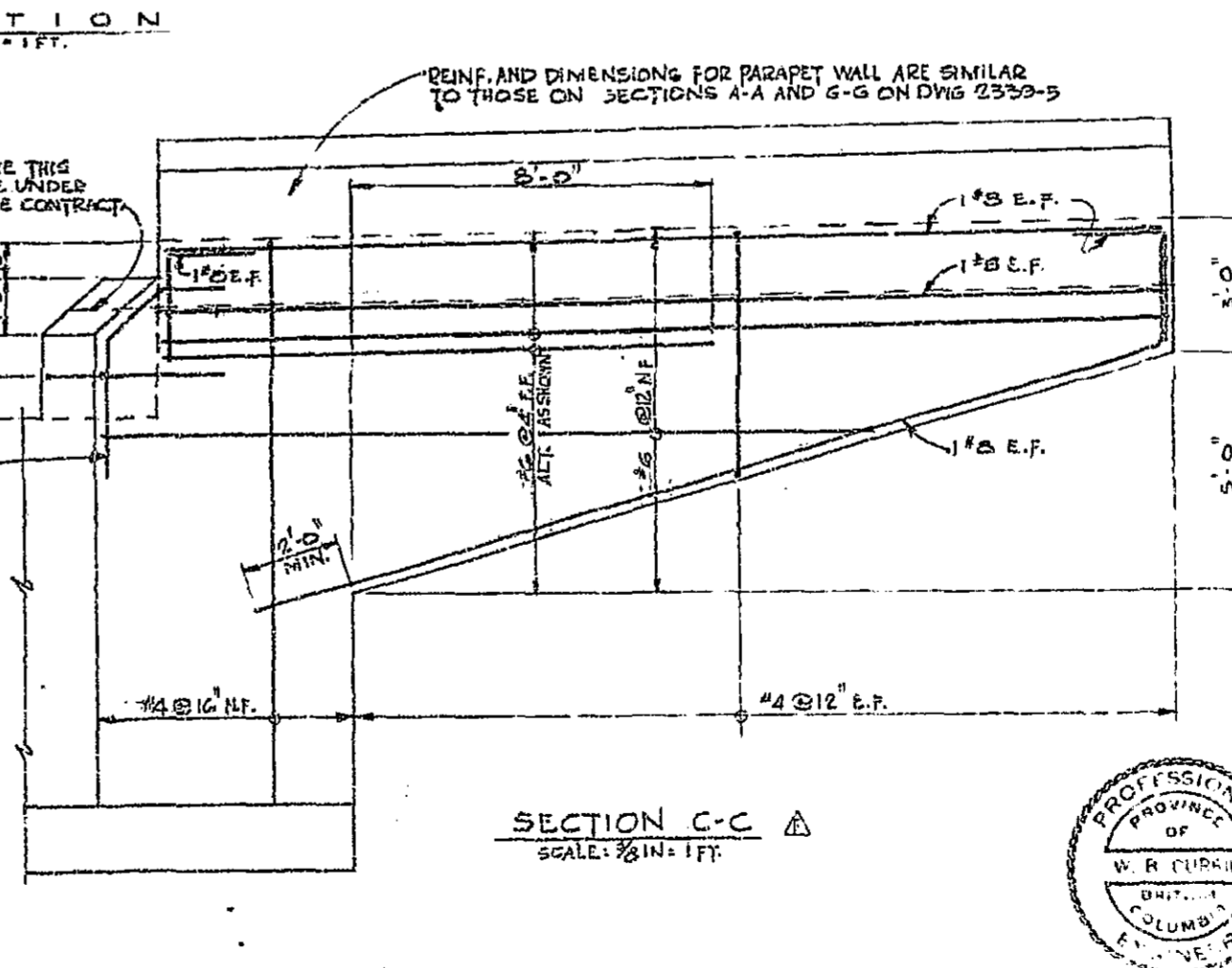
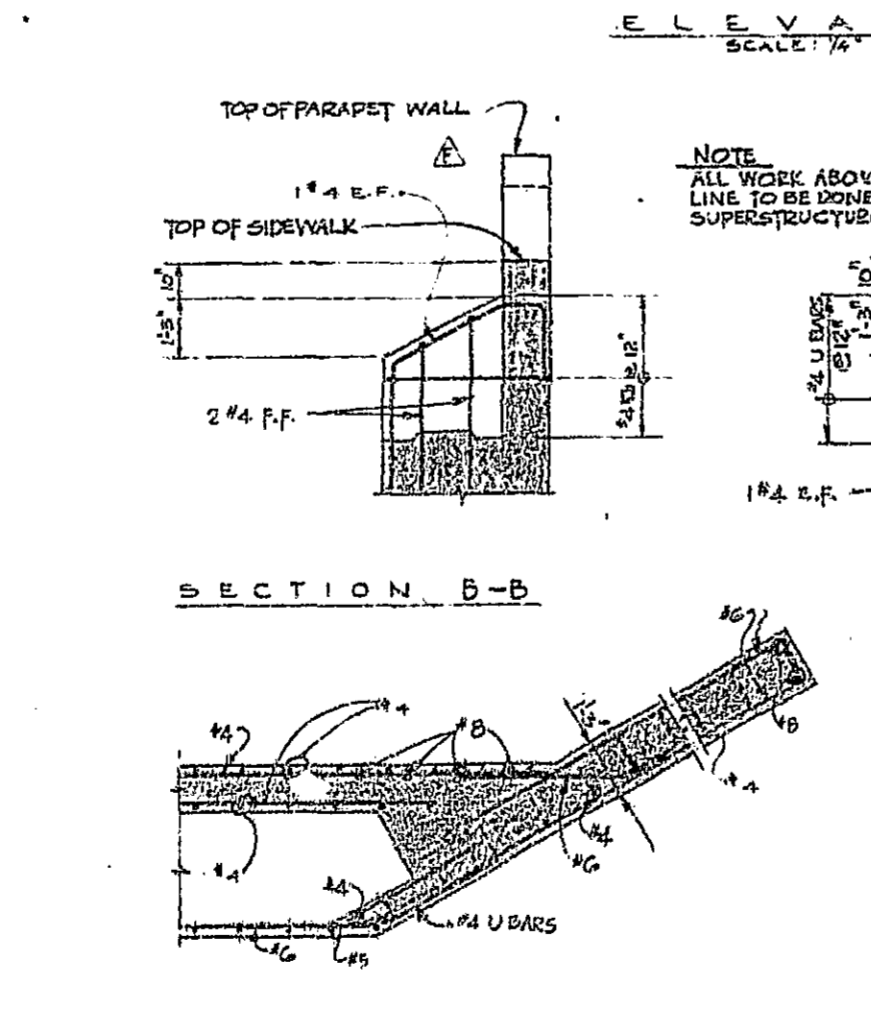
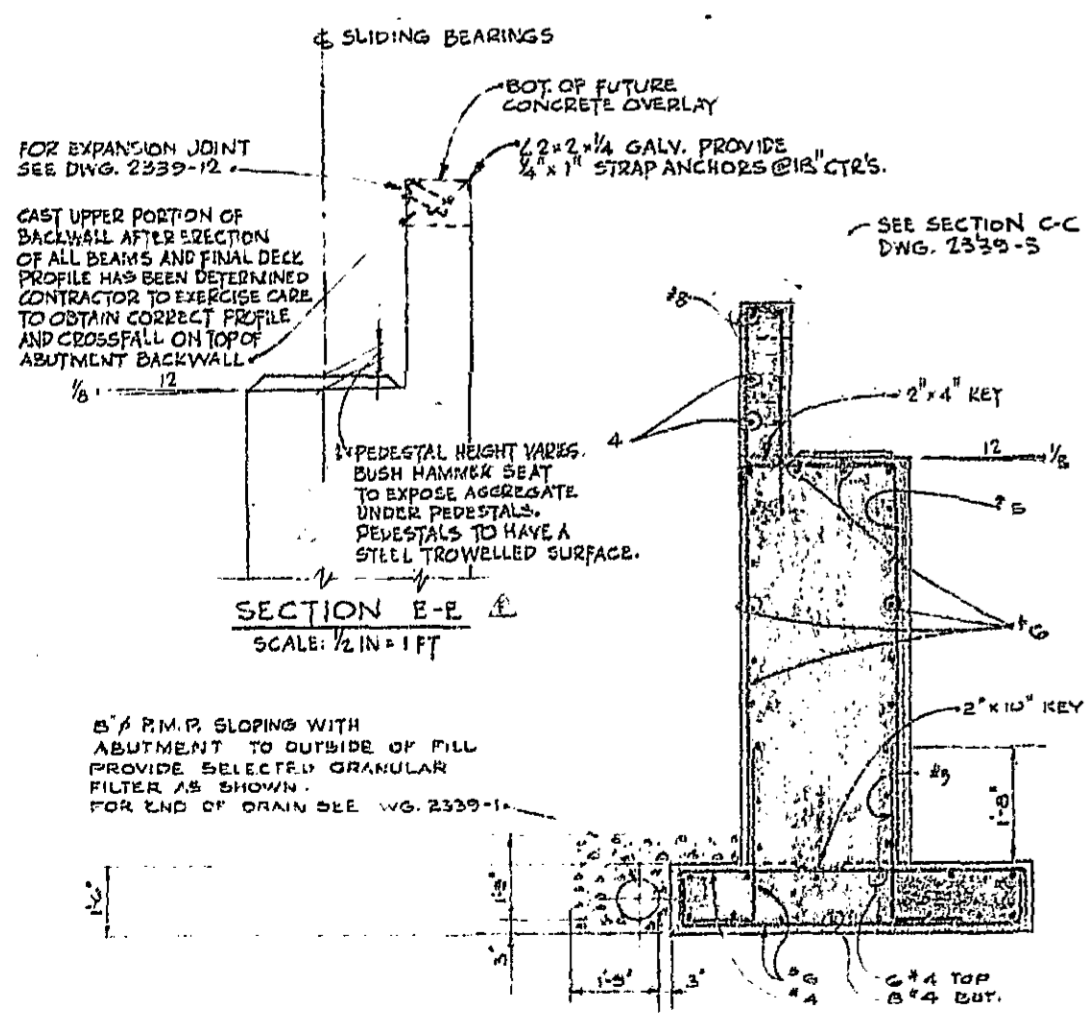
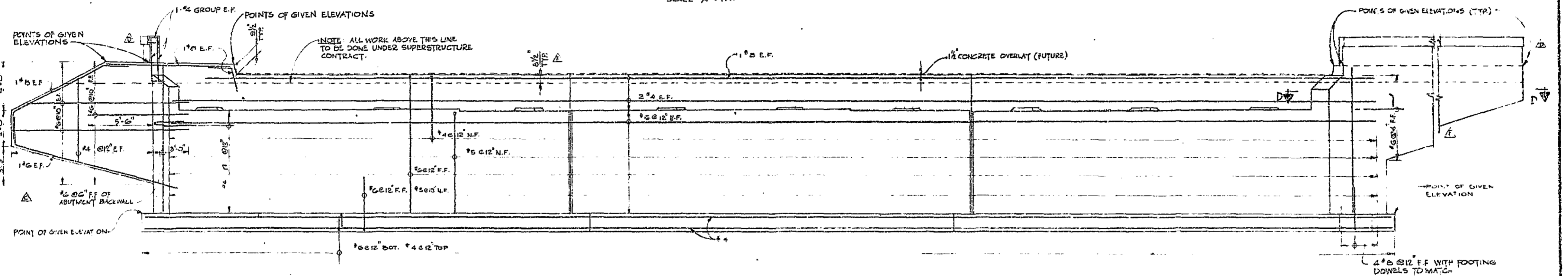
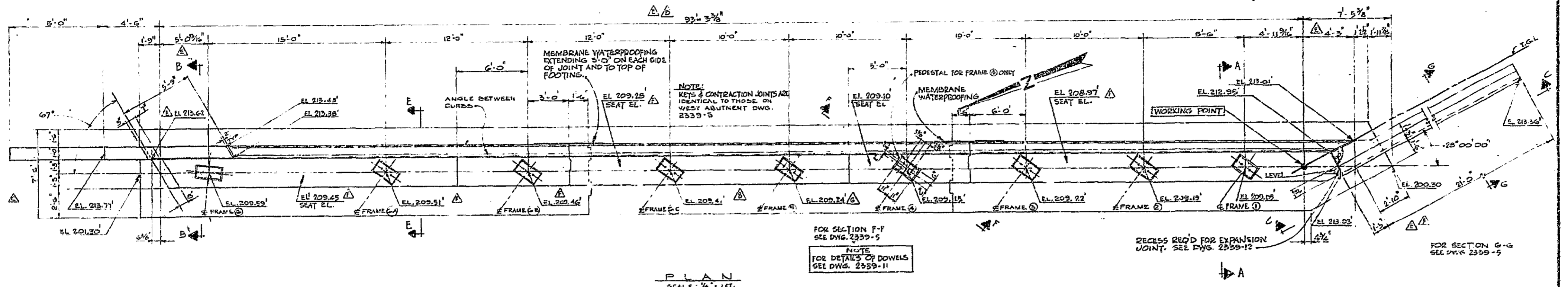
MEMBER GROUP N. D. LEA & ASSOCIATES CONSULTING ENGINEERS 7013-D-204

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER HORSESHOE BAY UNDERPASS WEST ABUTMENT

DESIGN: J.R.R. SCALE: NOT TO SCALE EXCEPT AS NOTED
DRAWN: M.K. FEB/64 APPROVED: [Signature]
CHECKED: [Signature] DRAWING No. 2339-5 F

CANCEL PRINTS BEARING EARLIER LETTER

169350



APPROXIMATE QUANTITIES

CONCRETE	180 CU YDS
REINFORCING STEEL	13,400 LBS.

NO.	DESCRIPTION	DATE	BY	CHKD.
H	REVISED AS BUILT	FEB/75		
G	PER. EL. FOR FRAME (5) REVISED	2/21/74		
F	PER. ELEVATIONS & REV. SECTIONS A/A, B/B, D-D, SOUTH WINGWALL & ADDED SECT'S C-C, E-E	4/27/74		
E	SMALL CHANGES IN DIM. & ELEVATIONS	4/27/74		
D	PARAPET WALL (LIVE LOADING INCREASED) REVISED	NOV 8/73		
C	RET. WALL NO. 5 REMOVED AND PINWALL BEED	NOV 8/73		
B	DIMENSIONS & ELEVATIONS CHANGED	APR 4/71		
A	GENERAL REVISION	JULY 1/69		

169351

PROFESSIONAL ENGINEER
W. R. CURRIE
BRITISH COLUMBIA

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

M. P. SAA & ASSOCIATES
CONSULTING ENGINEERS

DRAWING NO. 7013-D-205

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
EAST ABUTMENT

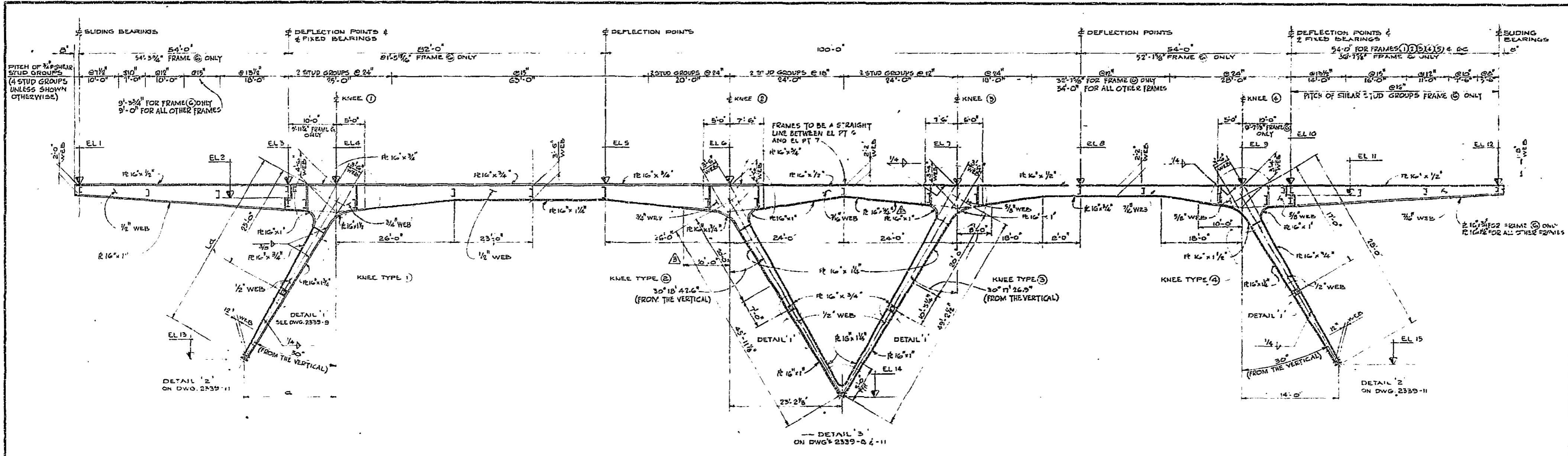
DESIGN: A.R.G. SCALE: NOT TO SCALE EXCEPT AS NOTED

DRAWN: MK. REV. 1/69 APPROVED: [Signature]

CHECKED: [Signature]

DRAWING NO. 2339-6

CANCEL PRINTS BEARING EARLIER DATES

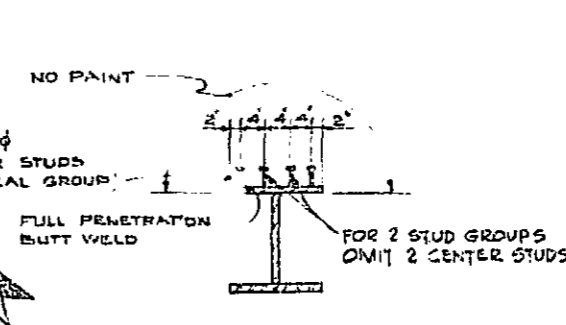
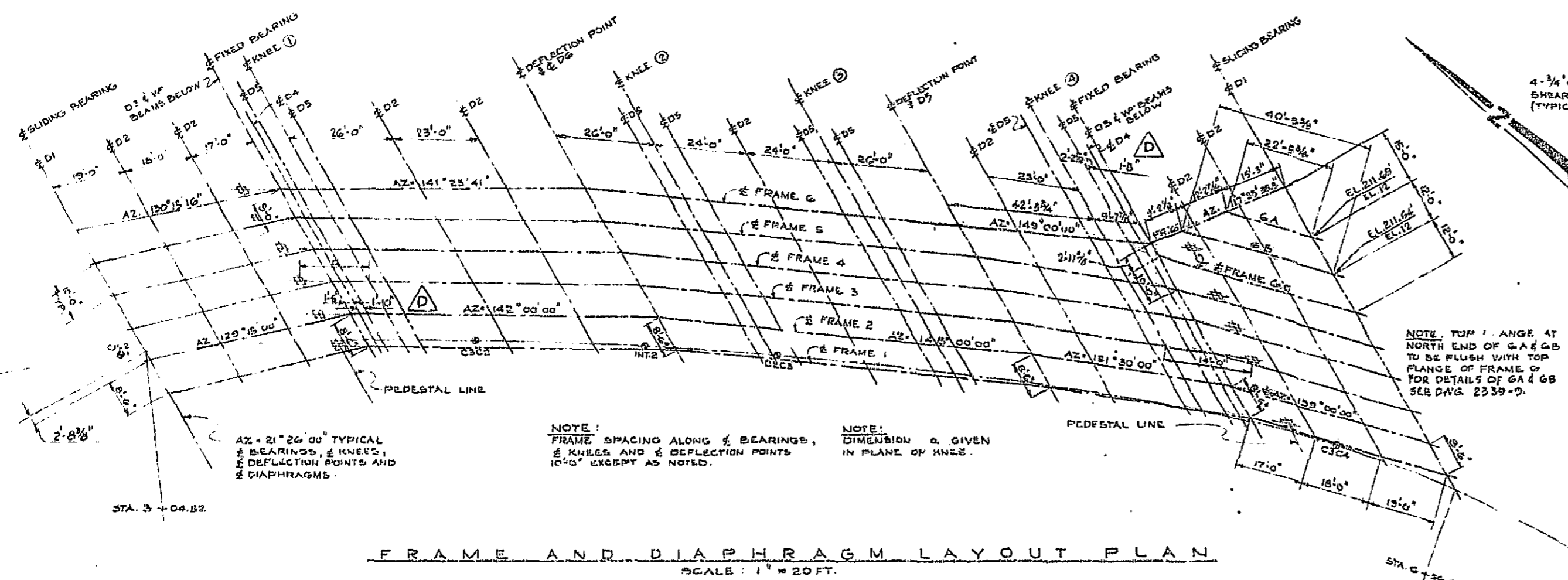


ELEVATION OF TYPICAL FRAME
(NOT TO SCALE)



TABLE OF VALUES (FEET)

	EL 1	EL 2	EL 3	EL 4	EL 5	EL 6	EL 7	EL 8	EL 9	EL 10	EL 11	EL 12	EL 13	EL 14	EL 15	Ld	d
FRAME 1	198.25	196.34	200.43	200.75	203.78	204.88	207.19	208.48	209.73	210.77	208.48	211.22	188.74	182.52	183.79	24.38	17.19
FRAME 2	198.79	198.42	200.48	200.80	203.78	204.88	207.17	208.46	209.83	210.05	208.49	211.35	188.43	182.48	183.92	24.32	17.41
FRAME 3	194.98	198.58	200.85	200.95	203.77	204.79	207.12	208.50	209.82	210.06	208.49	211.39	188.03	182.49	183.94	25.38	17.69
FRAME 4	199.17	198.62	200.76	201.04	203.77	204.76	207.06	208.46	209.85	210.07	208.49	211.86	187.68	182.41	183.94	25.95	17.98
FRAME 5	198.34	198.76	200.86	201.14	203.82	204.73	207.06	208.35	209.94	210.11	208.55	211.58	187.30	182.38	183.95	26.52	18.26
FRAME 6	199.56	198.95	201.02	201.28	203.81	204.73	207.03	208.40	209.75	210.13	208.56	211.73	186.98	182.34	183.84	27.03	18.92
FRAME GC					210.15	208.56	211.67										

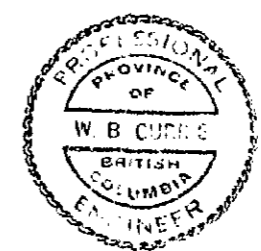


NORMAL SLAB THICKNESS	SHEAR STUD HEIGHT
8 1/2"	6"
9"	7"

FOR DECK SLAB DETAILS SEE DWG. 2339-10

- NOTES:
- FOR STRUCTURAL STEEL NOTES SEE DWG. 2339-6
 - D1 TO D6 DENOTES TYPE OF DIAPHRAGM AND CONNECTION. FOR DETAILS SEE DWGS. 2339-9 & 11.

160352



BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

N. D. LEA & ASSOCIATES
CONSULTING ENGINEERS

DRAWING NO. 7D15-D-206

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER HORSESHOE BAY UNDERPASS
STEEL FRAME LAYOUT

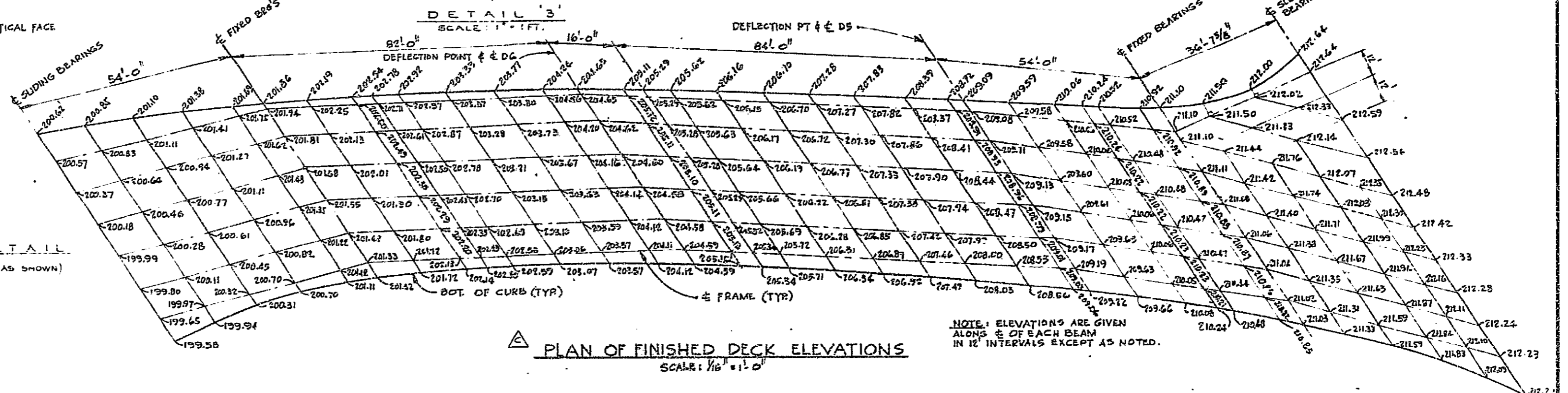
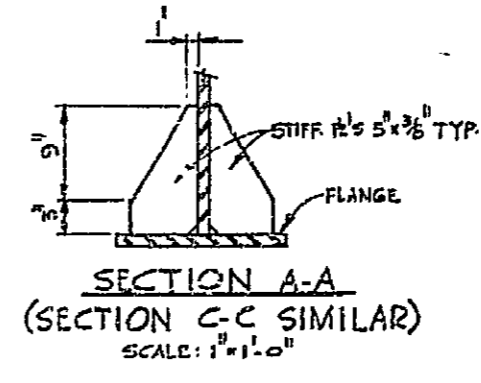
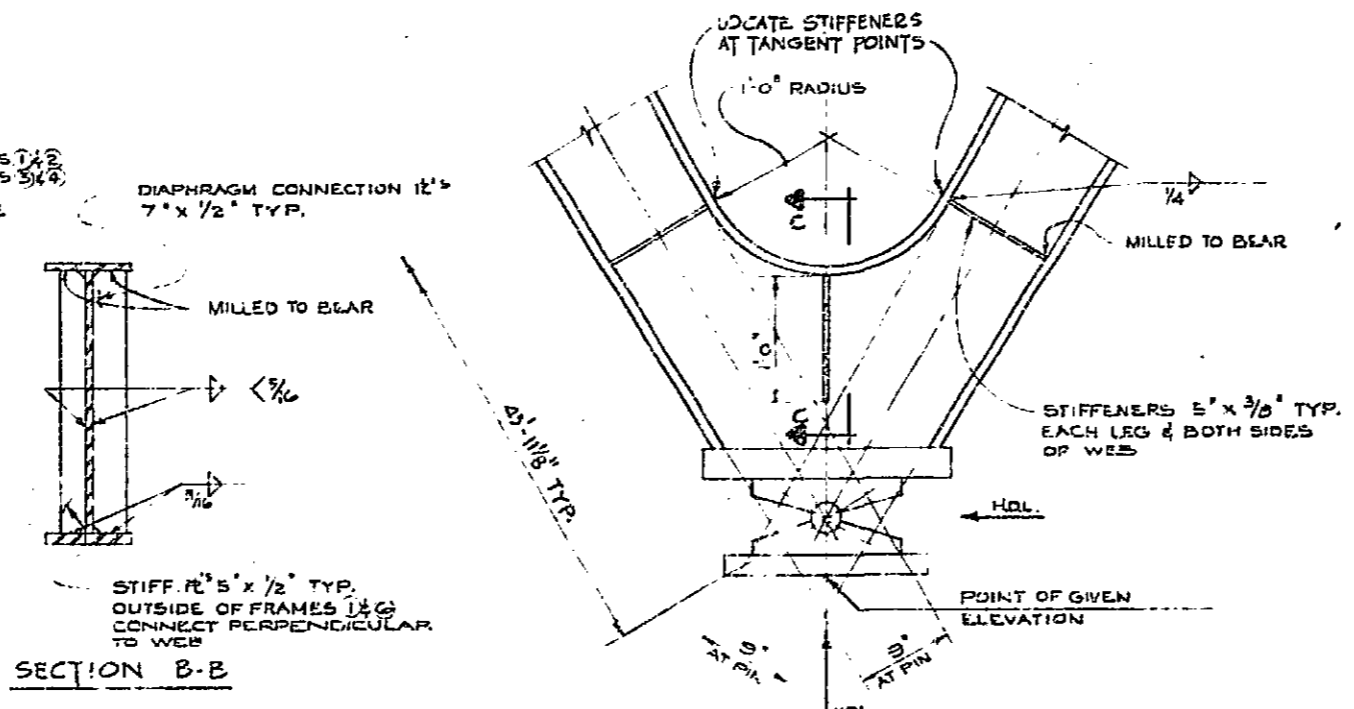
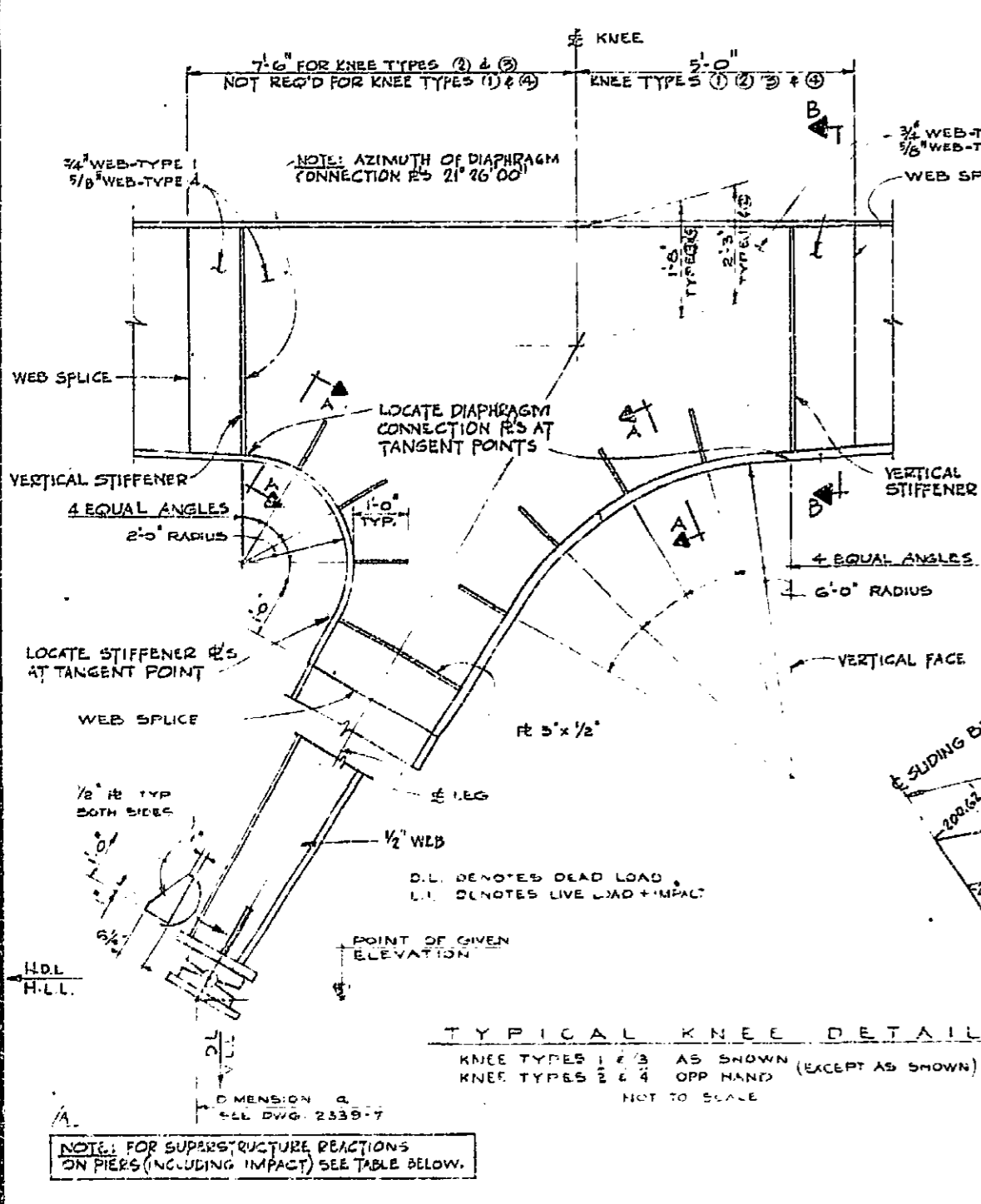
REVISIONS	DATE	BY	FOR
D	REVISED AS BUILT	WBL/7/72	
C	LIVE LOADING INCREASED TO HS 25	WBL/8/72	
B	DIMENSIONS & THICKNESS CHANGED	JUN/8/71	
A	GENERAL REVISION OF ELS & DIM.	APR/71	

DESIGN: WBL
DRAWN: RR
CHECKED: WBL

SCALE: AS SHOWN

DRAWING No. 2339-7 D

CANCEL PRINTS BEARING EARLIER LETTERS



STRUCTURAL STEEL NOTES

SPECIFICATIONS:
STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES - AASHTO 1969 EDITION

LOADING:
LIVE LOAD: HS 25
DEAD LOAD: SEE DRAWING 2339-13

MATERIALS:
ALL STRUCTURAL STEEL SHALL CONFORM TO THE CURRENT C.S.A. SPECIFICATION G40.8 FOR GRADE B MATERIAL UNLESS NOTED OTHERWISE. HIGH STRENGTH STEEL BOLTS SHALL CONFORM TO THE CURRENT A.S.T.M. SPECIFICATION A325.

FABRICATION:
THE FABRICATION OF ALL STEELWORK SHALL CONFORM TO THE REQUIREMENTS OF A.W.S. D2 0-69. ALL MANUAL WELDING ELECTRODES SHALL BE OF THE LOW-HYDROGEN TYPE AND OF THE ETOXK SERIES. SUBMERGED-ARC ELECTRODES AND FLY SHALL CONFORM TO A.W.S. D2 0-69. SHOP SPICES SHALL BE WELDED AND ALL FILLET WELD SIZES SHALL CONFORM TO AASHTO CLAUSE 1.7.27

ERECTION:
FIELD SPICES IN MAIN FRAMES SHALL BE WELDED AND LOCATED IN REGIONS OF RELATIVELY LOW STRESS. OTHER FIELD CONNECTIONS MAY BE EITHER WELDED OR ASSEMBLED USING HIGH TENSILE BOLTS. STEEL FRAMES SHALL BE ERECTED WITH DUE ALLOWANCE FOR FULL DEAD LOAD DEFLECTION OF THE BRIDGE. ELEVATIONS GIVEN AT TOP OF STEEL DO NOT INCLUDE ANY ALLOWANCE FOR DEFLECTIONS.

PAINTING:
SHOP PAINTING SHALL CONFORM TO SECTION 216 AND FIELD PAINTING SHALL CONFORM TO SECTION 217 OF THE DEPARTMENT'S SPECIFICATIONS.

DIAPHRAGM CONNECTIONS:
UNLESS SHOWN OTHERWISE, ALL DIAPHRAGM CONNECTIONS SHALL BE 7/16\"/>

TYPICAL KNEE DETAIL
KNEE TYPES 1 & 3 AS SHOWN (EXCEPT AS SHOWN)
KNEE TYPES 2 & 4 OPP. HAND

PLAN OF FINISHED DECK ELEVATIONS
SCALE: 1/16" = 1'-0"

NOTE: ELEVATIONS ARE GIVEN ALONG C.C. OF EACH BEAM IN 12" INTERVALS EXCEPT AS NOTED.

PIER REACTIONS FOR FRAMES (1) TO (5) INCLUSIVE		
WEST PIER	CENTER PIER	EAST PIER
H.D.L. = 92K ←	H.D.L. = 24K →	H.D.L. = 68K →
V.D.L. = 136K	V.D.L. = 197K	V.D.L. = 98K
H.L.L. (MAX) = 46K & V.L.L. = 68K	H.L.L. (MAX) = 37K & V.L.L. = 54K H.L.L. (MAX) = 29K & V.L.L. = 39K	H.L.L. (MAX) = 55K & V.L.L. = 49K
V.L.L. (MAX) = 70K & H.L.L. = 42K ←	V.L.L. (MAX) = 137K & H.L.L. = 12K →	V.L.L. (MAX) = 91K & H.L.L. = 29K

PIER REACTIONS FOR FRAME (6)		
WEST PIER	CENTER PIER	EAST PIER
H.D.L. = 88K ←	H.D.L. = 22K →	H.D.L. = 79K →
V.D.L. = 137K	V.D.L. = 194K	V.D.L. = 146K
H.L.L. (MAX) = 23K & V.L.L. = 34K	H.L.L. (MAX) = 19K & V.L.L. = 27K H.L.L. (MAX) = 15K & V.L.L. = 20K	H.L.L. (MAX) = 18K & V.L.L. = 23K
V.L.L. (MAX) = 37K & H.L.L. = 21K ←	V.L.L. (MAX) = 99K & H.L.L. = 6K	V.L.L. (MAX) = 26K & H.L.L. = 15K

NOTES:
1. FOR STEEL FRAME LAYOUT SEE DWG 2339-7



GENERAL ARRANGEMENT APPROVED
160903

**BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE**

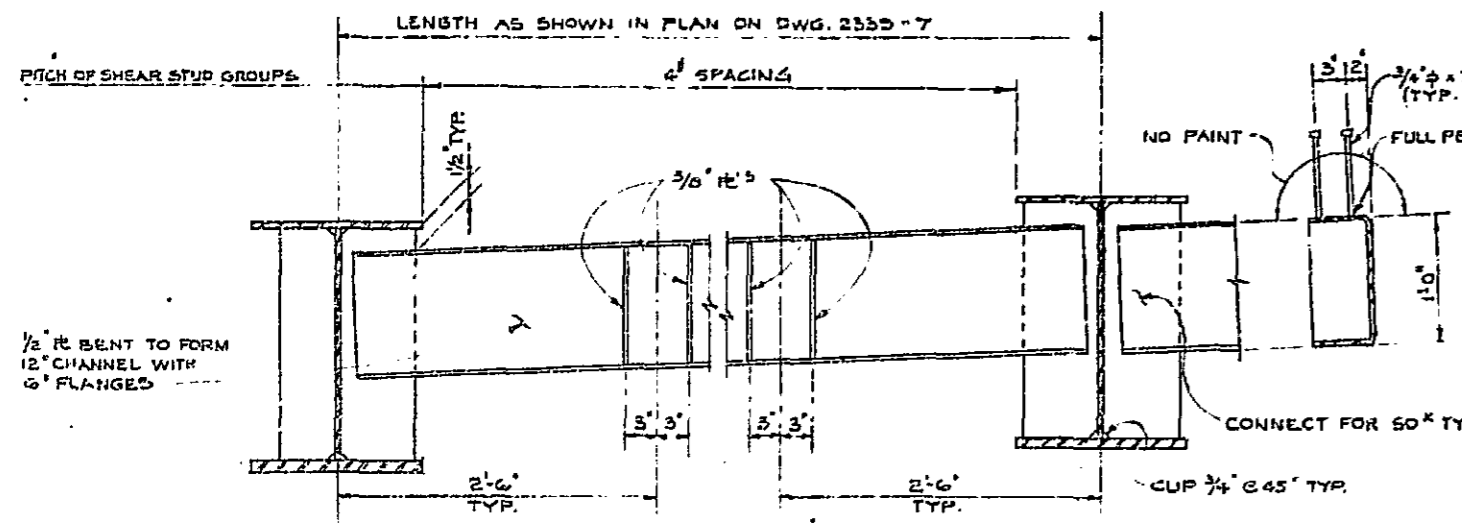
MEMBER GROUP **W. D. LEE & ASSOCIATES** CONSULTING ENGINEERS
DRAWING NO. 7013-D-207

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
STEEL DETAILS - SHEET #1

DESIGN	W.D.L.	DATE	MAR 75
DRAWN	M.C.	DATE	NOV 74
CHECKED	W.D.L.	DATE	FEB 76

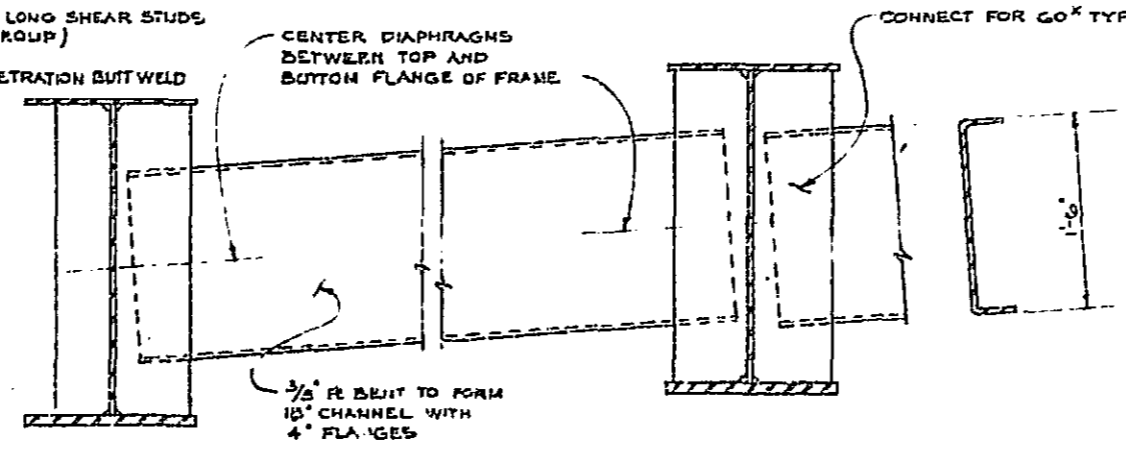
APPROVED: [Signature]
DRAWING No. 2339-B C

REVISIONS	DATE
D	
C	MAR 75
B	NOV 74
A	MAY 73



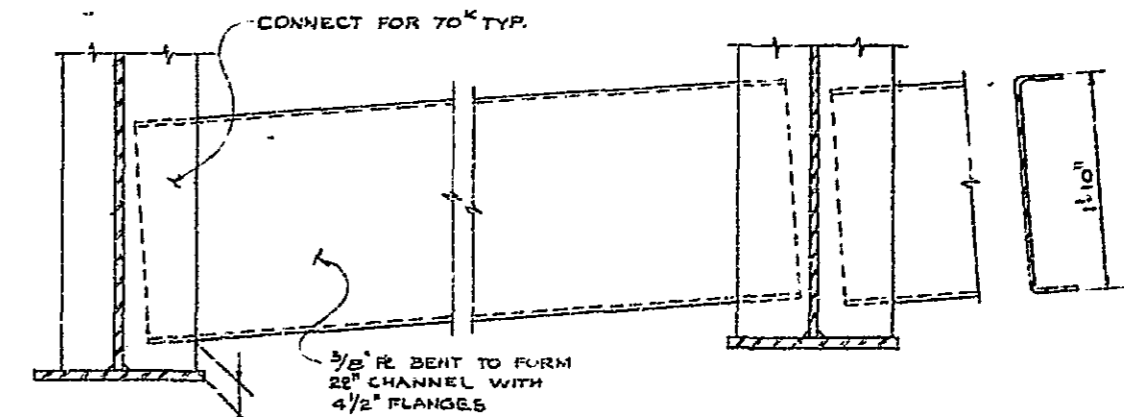
DIAPHRAGM D1 & D4

D1 AS SHOWN
D4 OMIT STIFFENER R¹³
TYPICAL BETWEEN FRAMES
SCALE: 1" = 1 FT



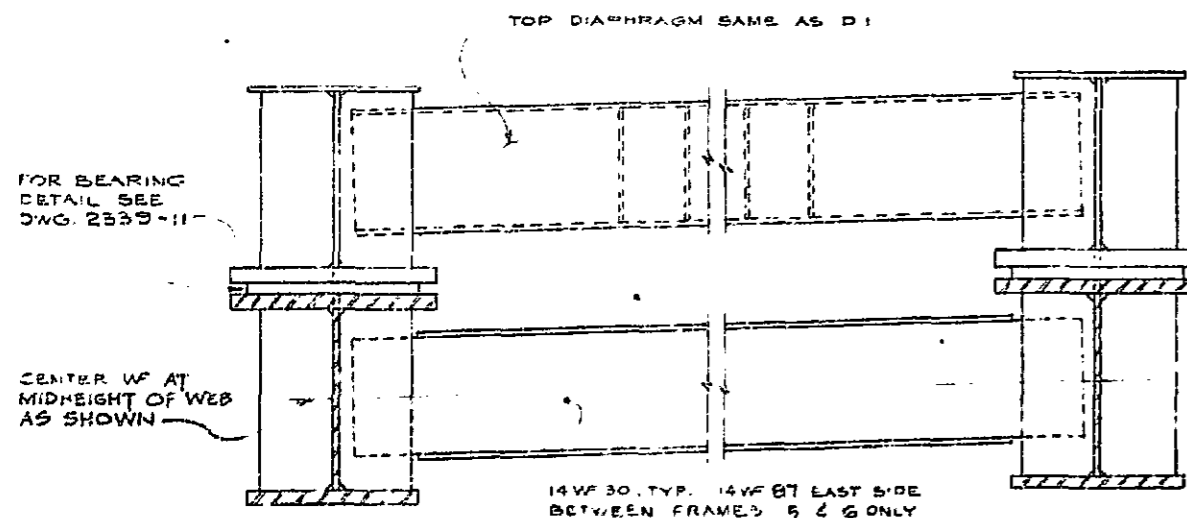
DIAPHRAGM D2

TYPICAL BETWEEN FRAMES
SCALE: 1" = 1 FT



DIAPHRAGM D5

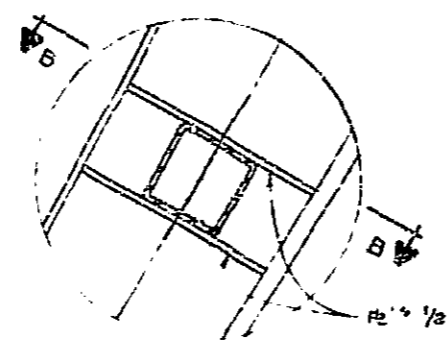
TYPICAL BETWEEN FRAMES
SCALE: 1" = 1 FT



DIAPHRAGM D3

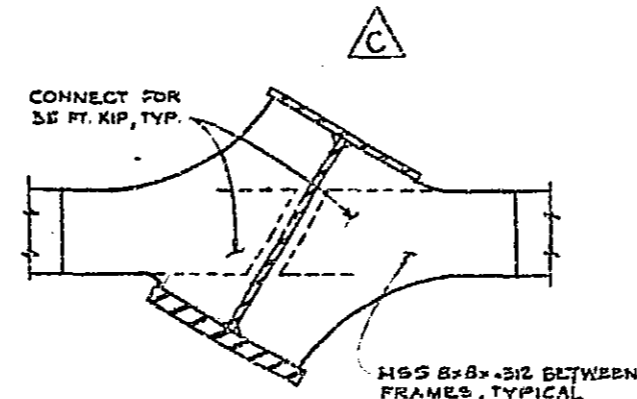
TYPICAL BETWEEN FRAMES
SCALE: 1" = 1 FT

NOTE: FRAME 6C BEARS ON TOP OF 14 WF 87. FOR DETAILS SEE PLAN AND SECTION ON DWG 2339-11



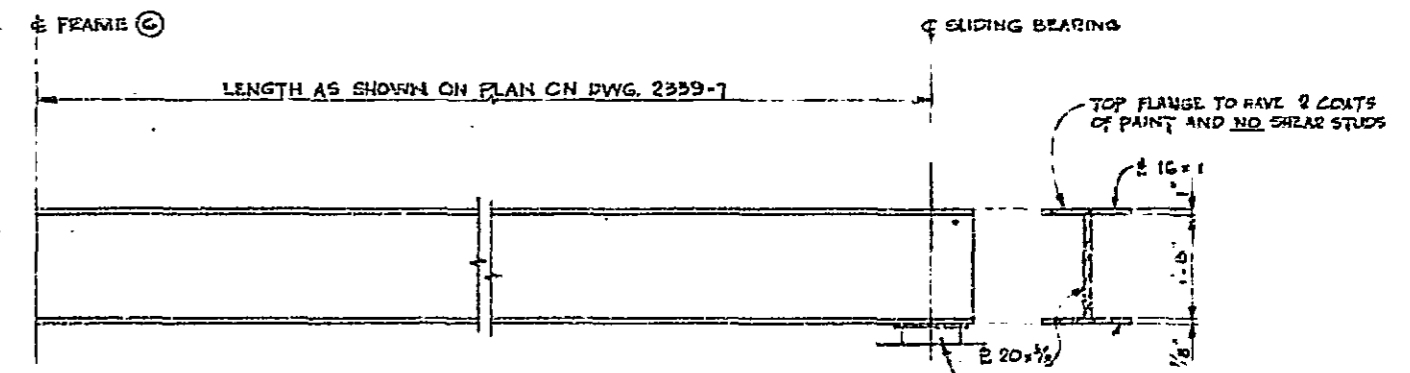
DETAIL 1

SEE DWG. 2339-7
SCALE: 1 IN. = 1 FT



SECTION B-B

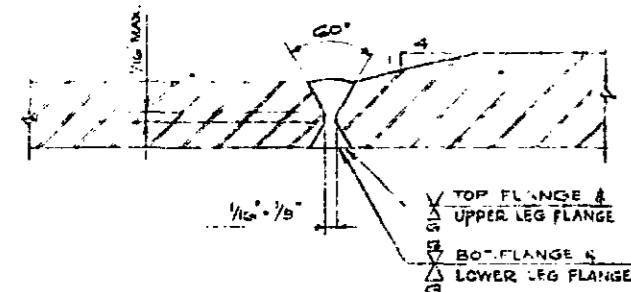
SCALE: 1 IN. = 1 FT



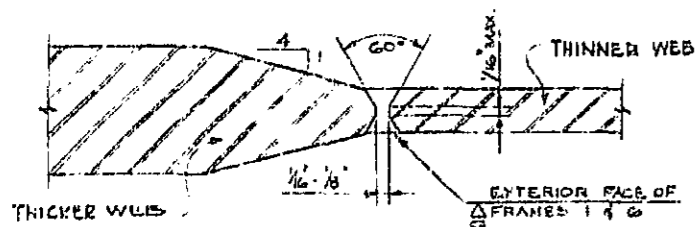
BEAMS GA & GB

(SEE STEEL LAYOUT PLAN ON DWG 2339-7)
SCALE: 1/2" = 1 FT

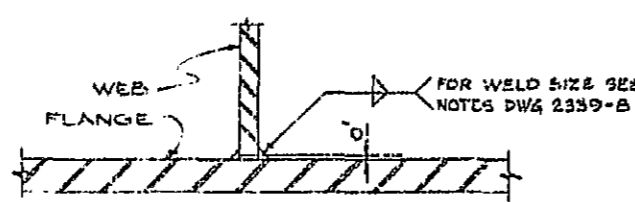
FOR BEARING DETAIL SEE SECTION A-A DWG 2339-11



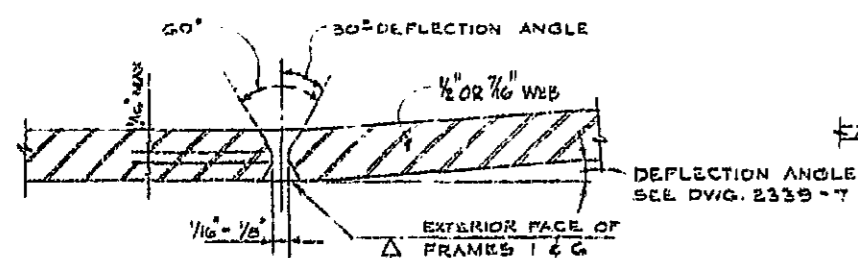
TYPE 1 SPLICE
FLANGE TRANSITION



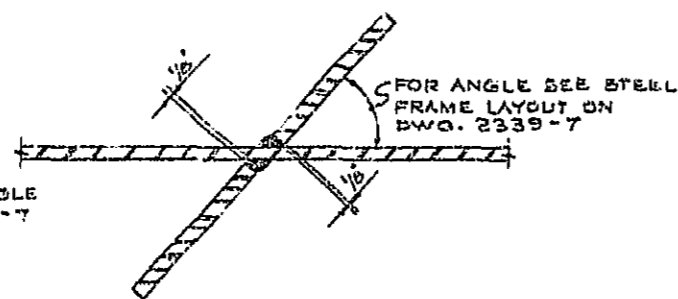
TYPE 2 SPLICE
WEB TRANSITION



WEB TO FLANGE CONNECTION



TYPE 3 SPLICE
DEFLECTION POINT IN WEB



ATTACHMENT OF DIAPHRAGM CONNECTION R¹³



NOTES:
1. FOR STEEL FRAME LAYOUT SEE DWG. 2339-7

GENERAL ADMINISTRATION APPROVED
[Signature]
ENGINEER, DEPT. OF HIGHWAYS

169354

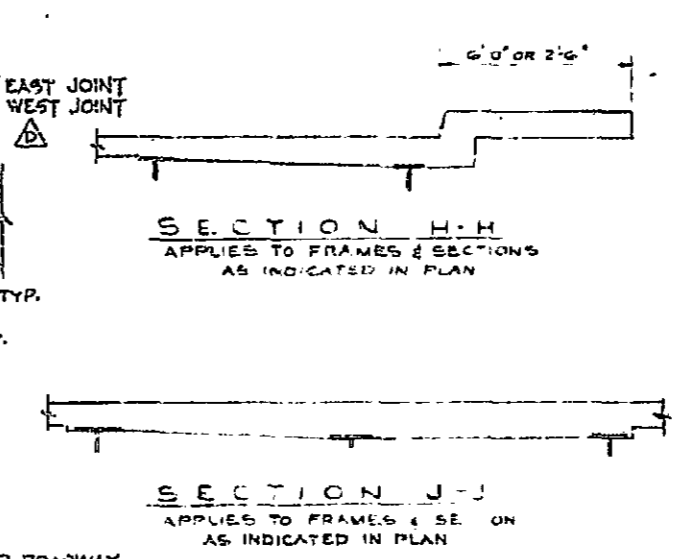
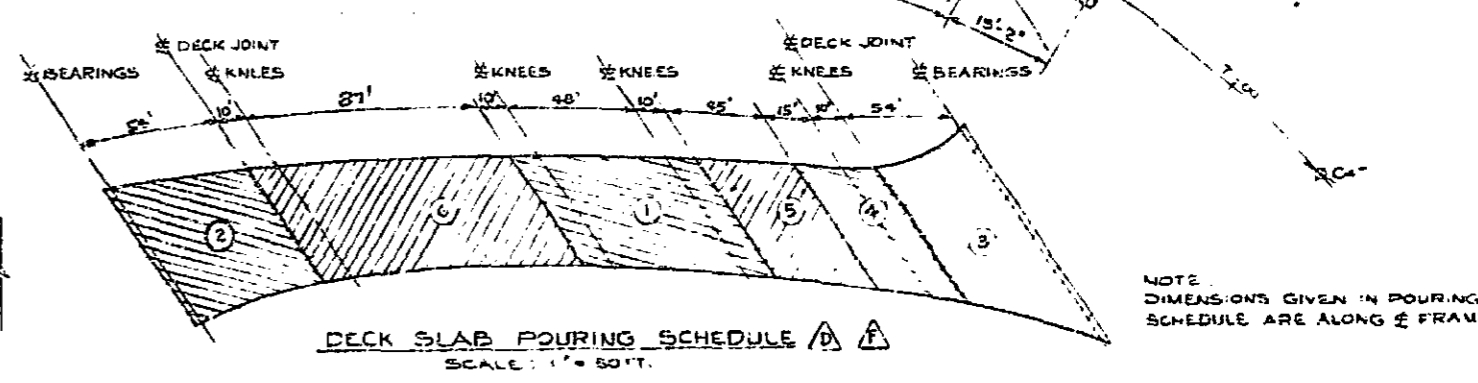
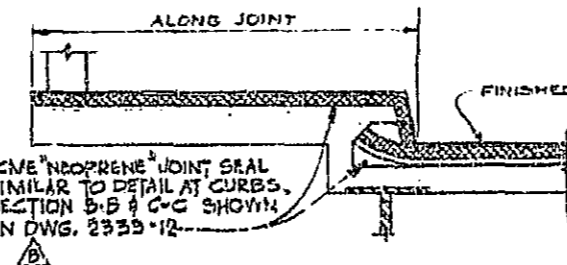
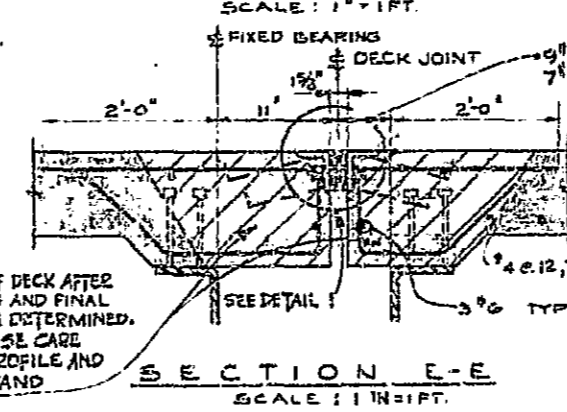
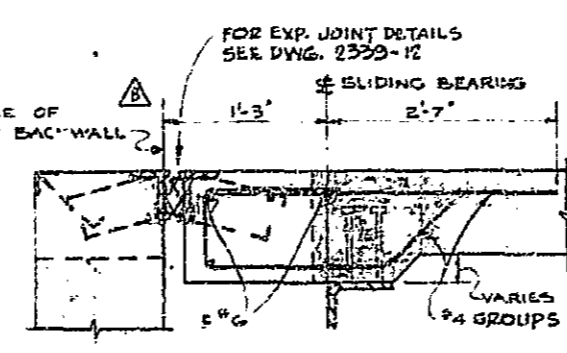
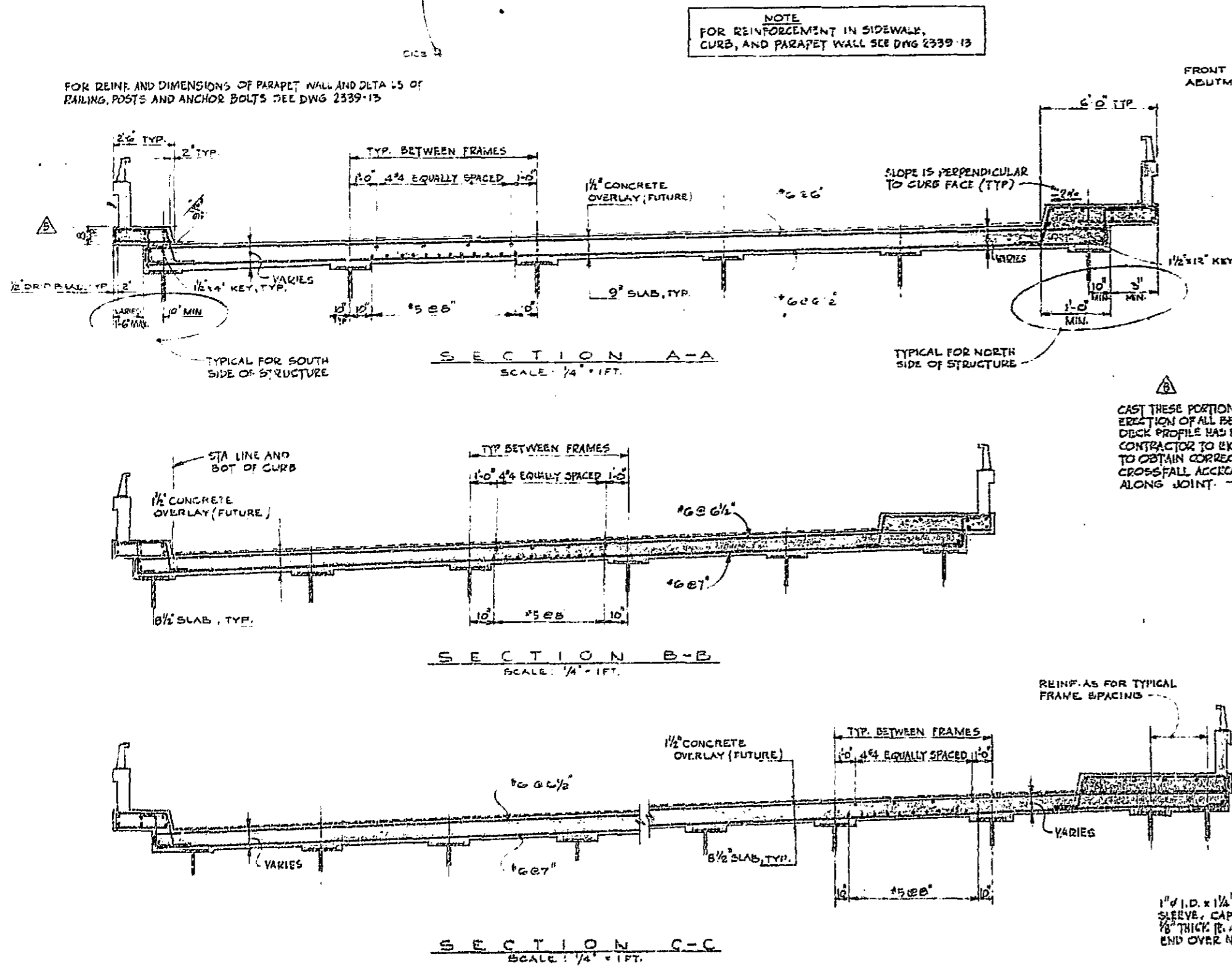
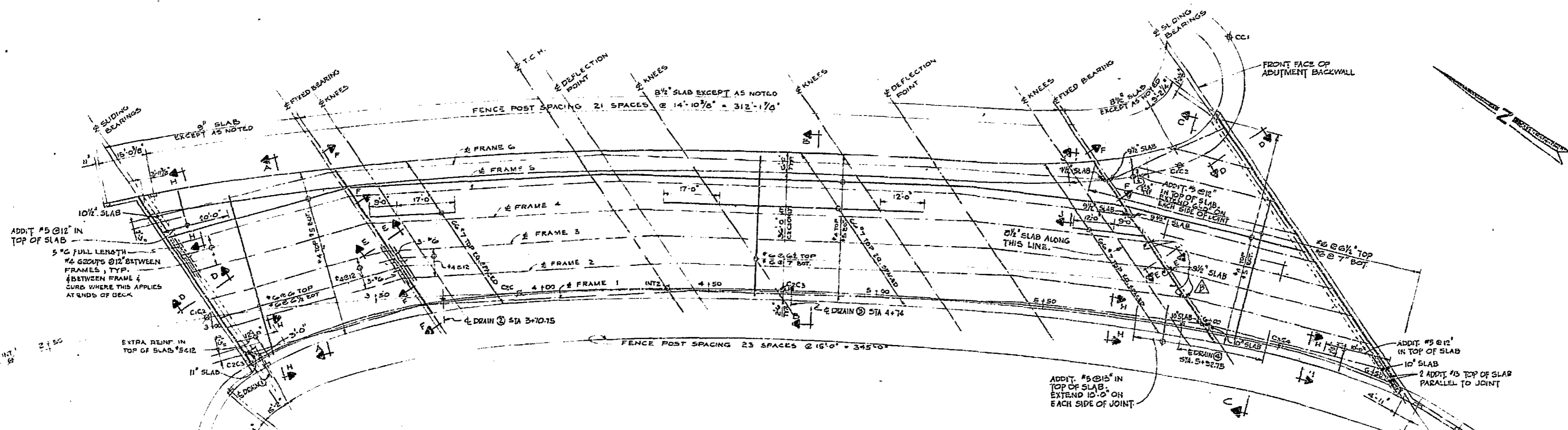
**BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE**

MEMBER GROUP **H. D. LEE & ASSOCIATES** CONSULTING ENGINEERS DRAWING NO. 7013-D-208

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
STEEL DETAILS SHEET #2

D	REVISED AS BUILT	MAR/78	DESIGN	A.R.R.	SCALE: AS SHOWN	DRAWING NO.
C	LIVE LOADING INCREASED TO HS 25	NOV/67	DRAWN	M.K.	FEB/66	APPROVED:
B	SECTION A-A ADDED, BEAMS GA & GB REVISED	MAR/67	CHECKED	T.C.T.		2339-9 16
A						

CANCEL PRINTS BEARING EARLIER LETTERS

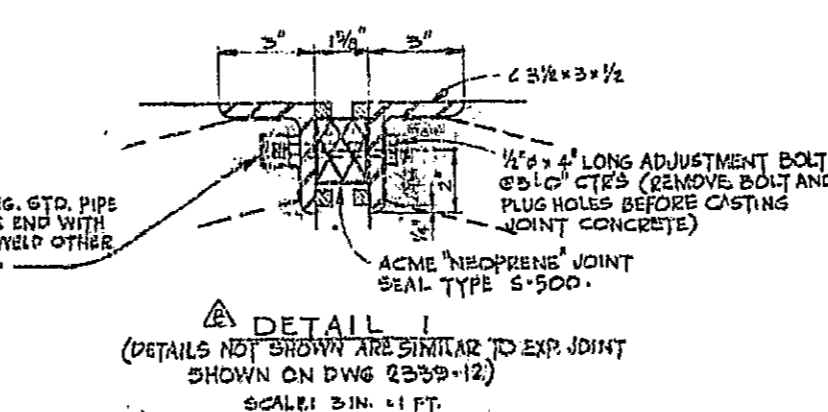


- GENERAL NOTES
- All concrete to have a minimum 28 day compressive strength of 1750 p.s.i.
 - Except where noted otherwise, all exp. set concrete edges to be chamfered and all re-entrant corners shall be filleted as follows:
 Deck slab
 Clear cover to reinforcing bars shall be:
 For deck slab 1" bottom and 2" top.
 For unformed surfaces in contact with reinforcing bars and other surfaces 2".
 - Unless shown otherwise on the drawings, provide clear cover to reinforcing bars shall be:
 For deck slab 1" bottom and 2" top.
 For unformed surfaces in contact with reinforcing bars and other surfaces 2".
 - Reinforcing bars shall be of intermediate grade deformed billet steel conforming to C. A. S. 20.
 - Unless shown otherwise, reinforcing bar splices shall have a minimum lap of 36 bar diameters.
 - Fire ground which reinforcing bars are bent shall have minimum diameters as follows:
 2" dia. for 20, 22, 24, 26, 28, 30, 32, 34, 36, 38, 40, 42, 44, 46, 48, 50, 52, 54, 56, 58, 60, 62, 64, 66, 68, 70, 72, 74, 76, 78, 80, 82, 84, 86, 88, 90, 92, 94, 96, 98, 100, 102, 104, 106, 108, 110, 112, 114, 116, 118, 120, 122, 124, 126, 128, 130, 132, 134, 136, 138, 140, 142, 144, 146, 148, 150, 152, 154, 156, 158, 160, 162, 164, 166, 168, 170, 172, 174, 176, 178, 180, 182, 184, 186, 188, 190, 192, 194, 196, 198, 200, 202, 204, 206, 208, 210, 212, 214, 216, 218, 220, 222, 224, 226, 228, 230, 232, 234, 236, 238, 240, 242, 244, 246, 248, 250, 252, 254, 256, 258, 260, 262, 264, 266, 268, 270, 272, 274, 276, 278, 280, 282, 284, 286, 288, 290, 292, 294, 296, 298, 300, 302, 304, 306, 308, 310, 312, 314, 316, 318, 320, 322, 324, 326, 328, 330, 332, 334, 336, 338, 340, 342, 344, 346, 348, 350, 352, 354, 356, 358, 360, 362, 364, 366, 368, 370, 372, 374, 376, 378, 380, 382, 384, 386, 388, 390, 392, 394, 396, 398, 400, 402, 404, 406, 408, 410, 412, 414, 416, 418, 420, 422, 424, 426, 428, 430, 432, 434, 436, 438, 440, 442, 444, 446, 448, 450, 452, 454, 456, 458, 460, 462, 464, 466, 468, 470, 472, 474, 476, 478, 480, 482, 484, 486, 488, 490, 492, 494, 496, 498, 500, 502, 504, 506, 508, 510, 512, 514, 516, 518, 520, 522, 524, 526, 528, 530, 532, 534, 536, 538, 540, 542, 544, 546, 548, 550, 552, 554, 556, 558, 560, 562, 564, 566, 568, 570, 572, 574, 576, 578, 580, 582, 584, 586, 588, 590, 592, 594, 596, 598, 600, 602, 604, 606, 608, 610, 612, 614, 616, 618, 620, 622, 624, 626, 628, 630, 632, 634, 636, 638, 640, 642, 644, 646, 648, 650, 652, 654, 656, 658, 660, 662, 664, 666, 668, 670, 672, 674, 676, 678, 680, 682, 684, 686, 688, 690, 692, 694, 696, 698, 700, 702, 704, 706, 708, 710, 712, 714, 716, 718, 720, 722, 724, 726, 728, 730, 732, 734, 736, 738, 740, 742, 744, 746, 748, 750, 752, 754, 756, 758, 760, 762, 764, 766, 768, 770, 772, 774, 776, 778, 780, 782, 784, 786, 788, 790, 792, 794, 796, 798, 800, 802, 804, 806, 808, 810, 812, 814, 816, 818, 820, 822, 824, 826, 828, 830, 832, 834, 836, 838, 840, 842, 844, 846, 848, 850, 852, 854, 856, 858, 860, 862, 864, 866, 868, 870, 872, 874, 876, 878, 880, 882, 884, 886, 888, 890, 892, 894, 896, 898, 900, 902, 904, 906, 908, 910, 912, 914, 916, 918, 920, 922, 924, 926, 928, 930, 932, 934, 936, 938, 940, 942, 944, 946, 948, 950, 952, 954, 956, 958, 960, 962, 964, 966, 968, 970, 972, 974, 976, 978, 980, 982, 984, 986, 988, 990, 992, 994, 996, 998, 1000.
 - Notes near face:
 P. 2 denotes top face.
 P. 1 denotes bottom face.
 W. 1 denotes each face.
 W. 2 denotes minimum.
 PROJ. denotes projection.
 R. 10 denotes radius.
 ALT. denotes alternate.
 C. 200 denotes cut out.

APPROXIMATE QUANTITIES

CONCRETE	575 CU. YD.
REINF. STEEL	151,500 LBS.

- NOTES
- FOR STEEL FRAME LAYOUT SEE DWG 2339-7
 - FOR TOP OF DECK ELEVATIONS 'AS BUILT' SEE 2339-B



PROFESSIONAL ENGINEER
W. B. CURRIE
BRITISH COLUMBIA

E	REVISED AS BUILT	12/15/75
D	REVISED POURING SEQUENCE & DING JOINT	12/15/75
C	LIVE LOADING INCREASED TO H-20	NOV/27/75
B	GENERAL REVISION	JUN/27/75
A	GENERAL REVISION	APR/27/75

REVISIONS

169355

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE

MEMBER GROUP
N. D. LEA & ASSOCIATED
CONSULTING ENGINEERS

DRAWING NO.
7013-D-209

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
DECK LAYOUT & SECTIONS

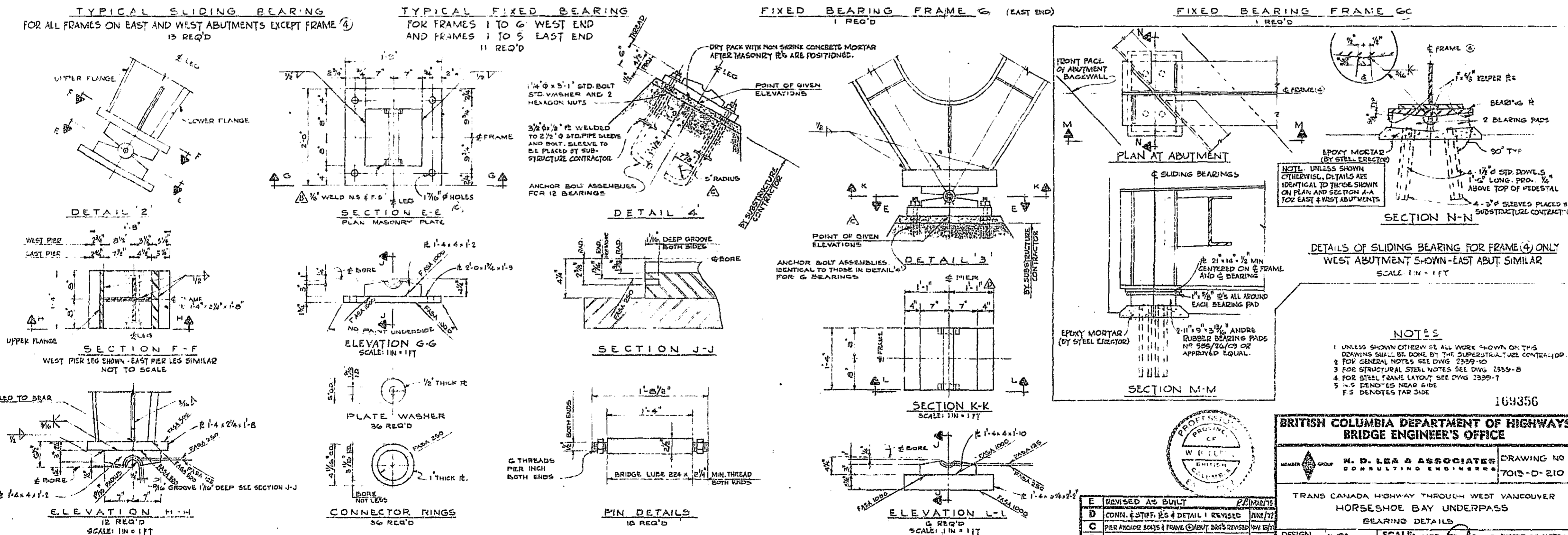
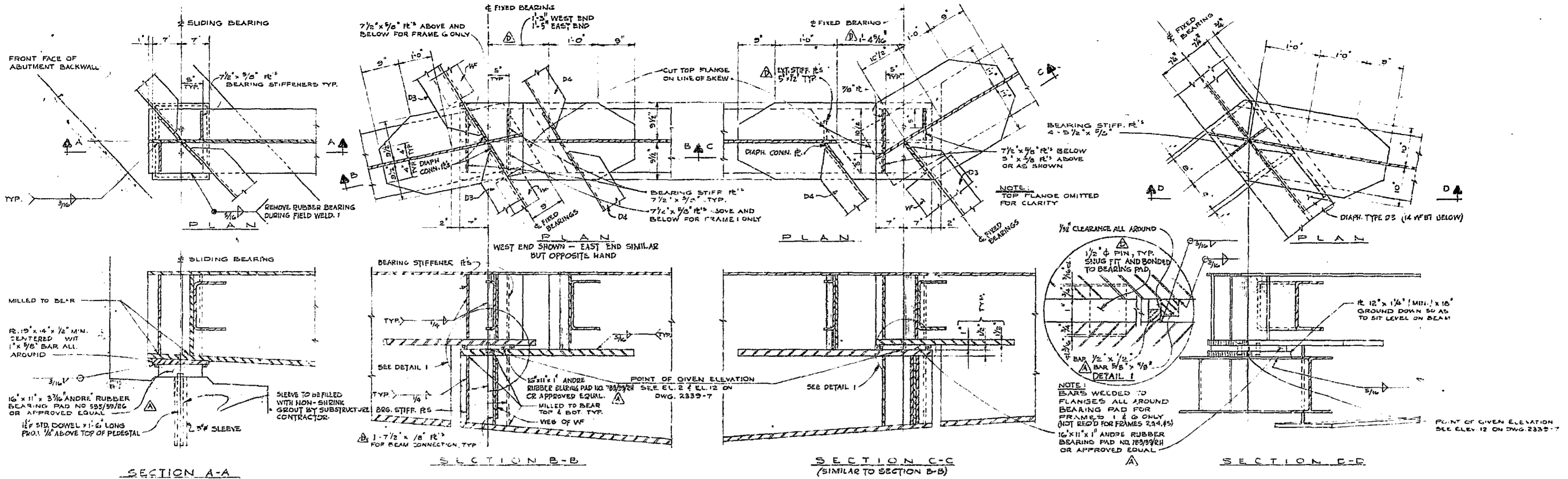
DESIGN: A.P.E.
DRAWN: M.K.
CHECKED: J.C.D.

SCALE: AS NOTED

APPROVED: [Signature]

DRAWING NO.
2339-10 E

CANCEL PRINTS BEARING EXACTLY LETTERS



BEARING DETAILS FOR PIERS

NO.	REVISIONS	DATE
E	REVISED AS BUILT	22 MAR 75
D	CONN. & STIFF. RLS & DETAIL I REVISED	JUNE 72
C	PIER ANCHOR BOLTS & FRAME (ABUT. BRG'S) REVISED	NOV. 67
B	DRAWING CLARIFIED, WELD ADDED	JUNE 71
A	BEARING PADS REVISED	APR 71

**BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
BRIDGE ENGINEER'S OFFICE**

MEMBER **H. D. LEA & ASSOCIATES**
CONSULTING ENGINEERS

DRAWING NO. 7013-D-210

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
BEARING DETAILS

DESIGN: WBC
DRAWN: MK
CHECKED: JST

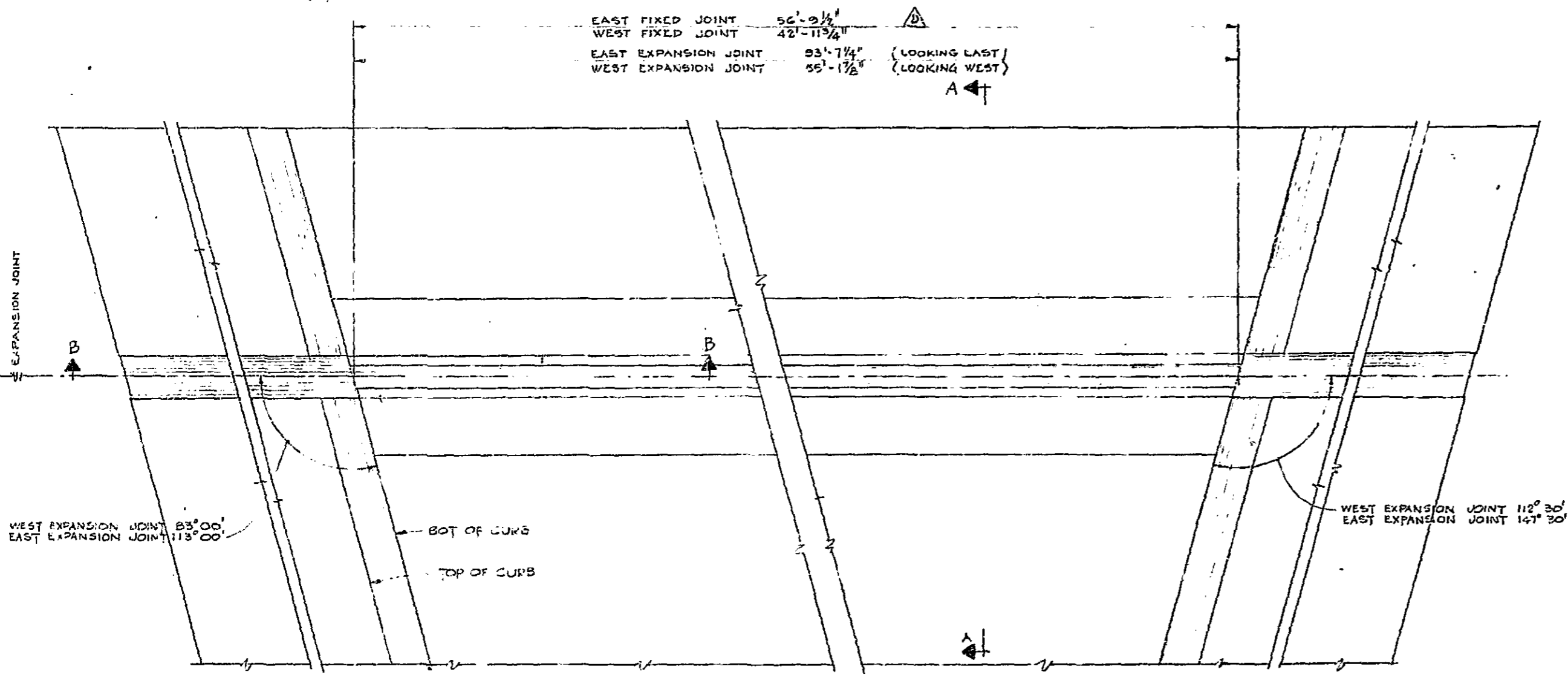
SCALE: NOT TO SCALE EXCEPT AS NOTED.
APPROVED:

CHIEF ENGINEER

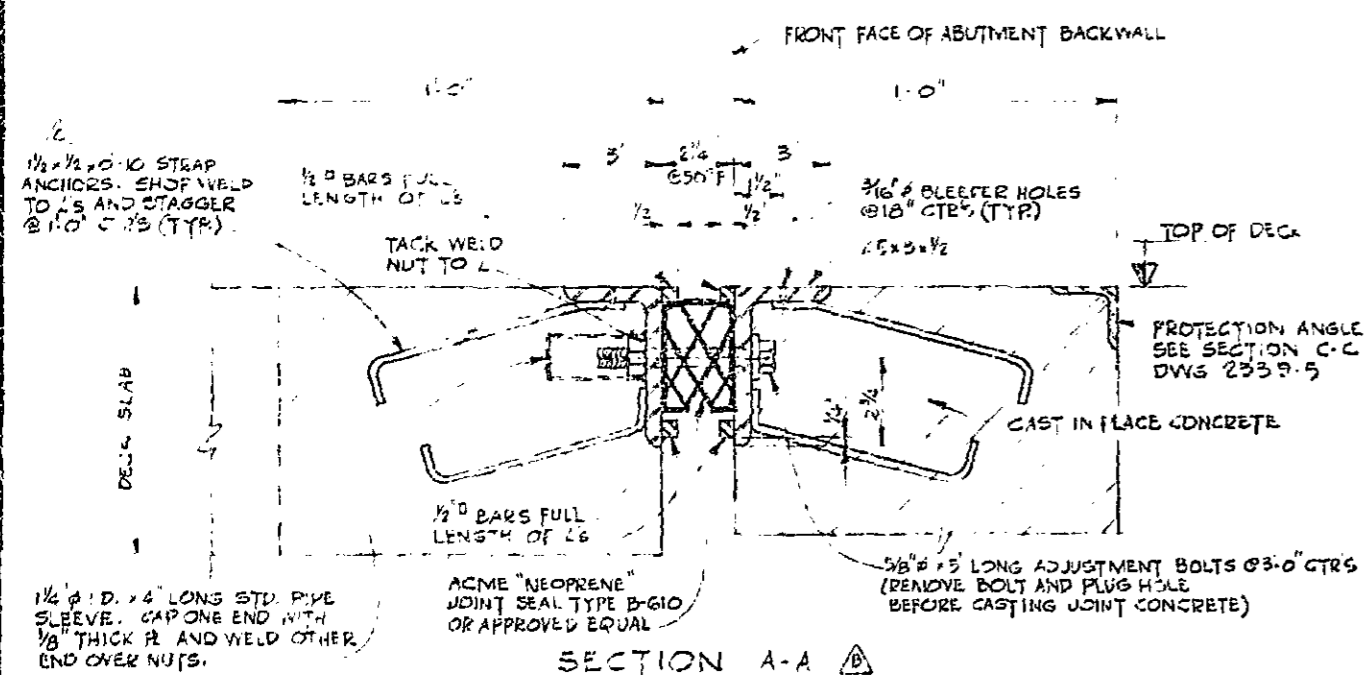
2339-11

CANCEL PRINTS BEARING EARLIER LETTERS.

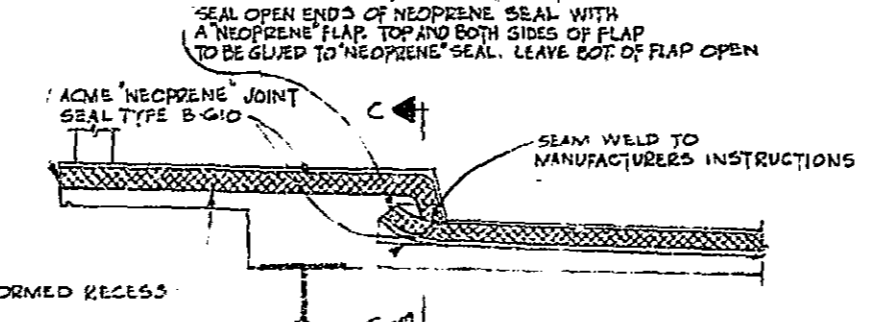
164356



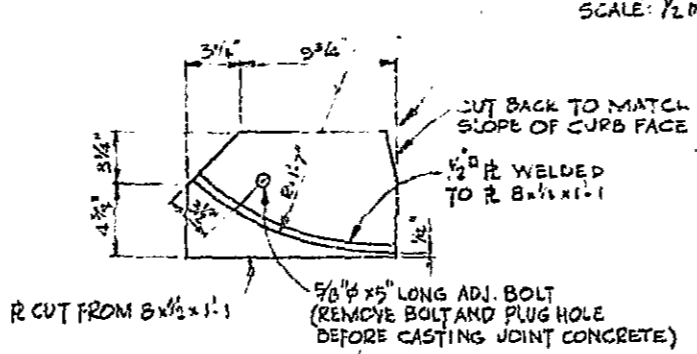
PLAN
 SCALE: 3" = 1'



SECTION A-A



SECTION B-B
 SCALE: 1/2" = 1'

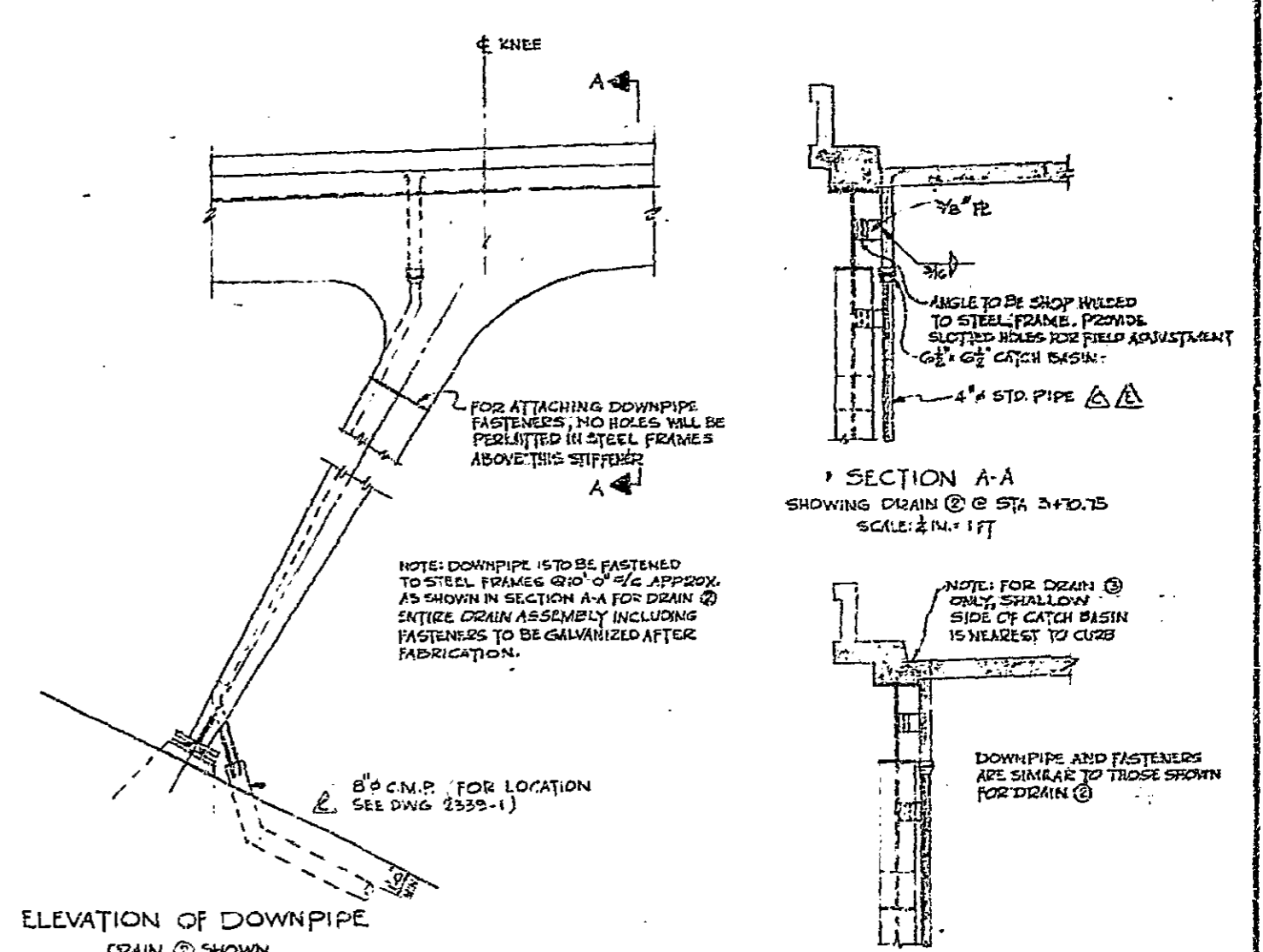


DETAIL AT CURBS
 SCALE: 1/2" = 1'

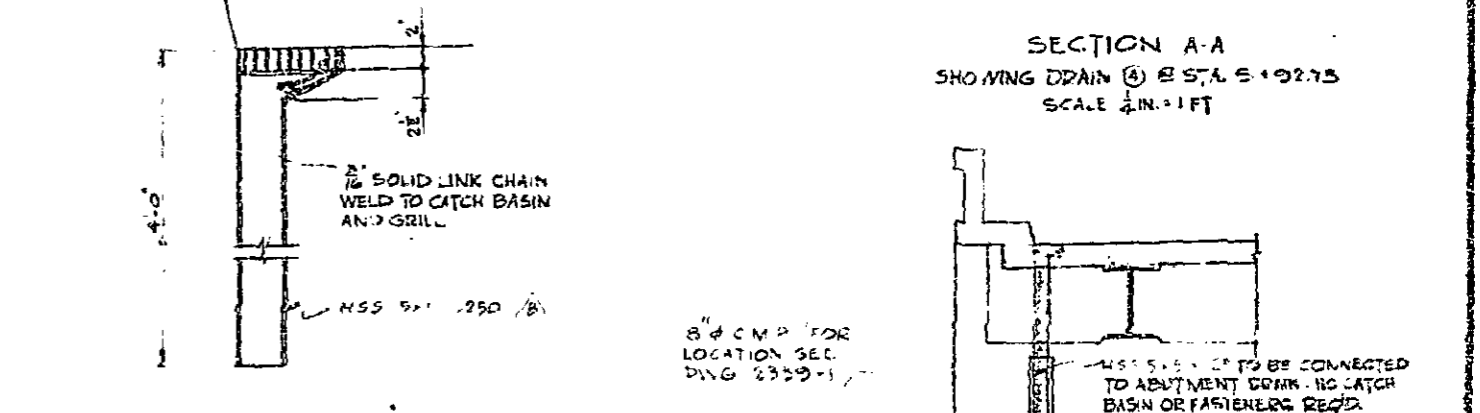
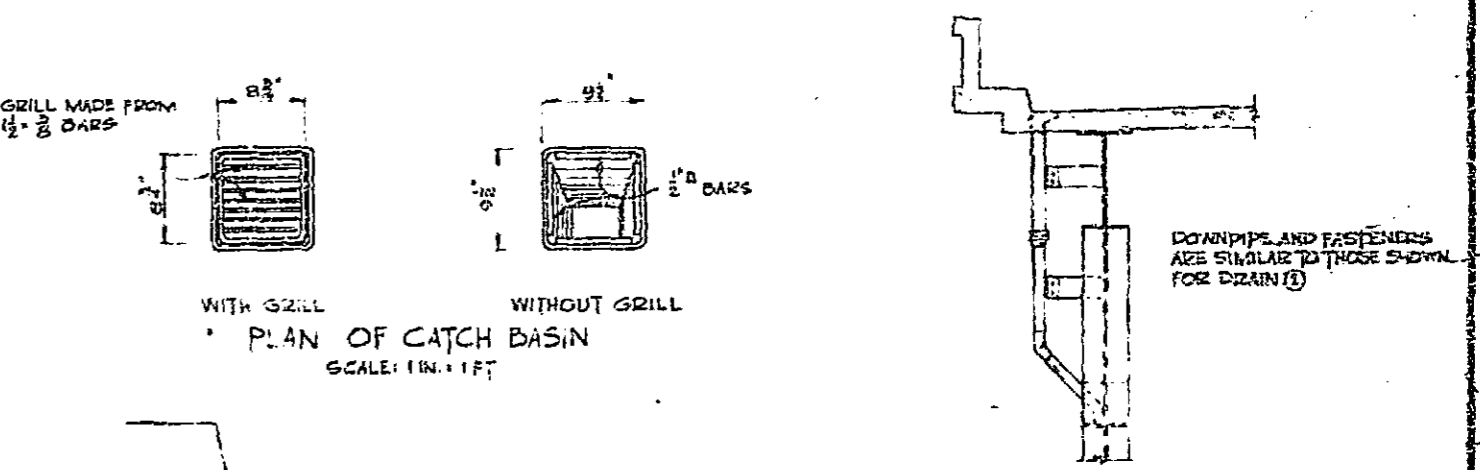
SECTION C-C
 BOTH SIDES OF JOINT SHOWN - OPP. CURB SIMILAR
 SCALE: 1/2" = 1'

EXPANSION JOINT NOTES

1. EXPANSION GAP DIMENSIONS ARE FOR A MEAN DAILY TEMPERATURE OF 50° F.
 INCREASE GAP 1/8" FOR EACH 10° BELOW 50° F.
 DECREASE GAP 1/8" FOR EACH 10° ABOVE 50° F.



SECTION A-A
 SHOWING DRAIN (1) @ STA 4+74
 SCALE: 1/4" = 1'



DECK DRAIN DETAILS
 4 DRAINS REQUIRED

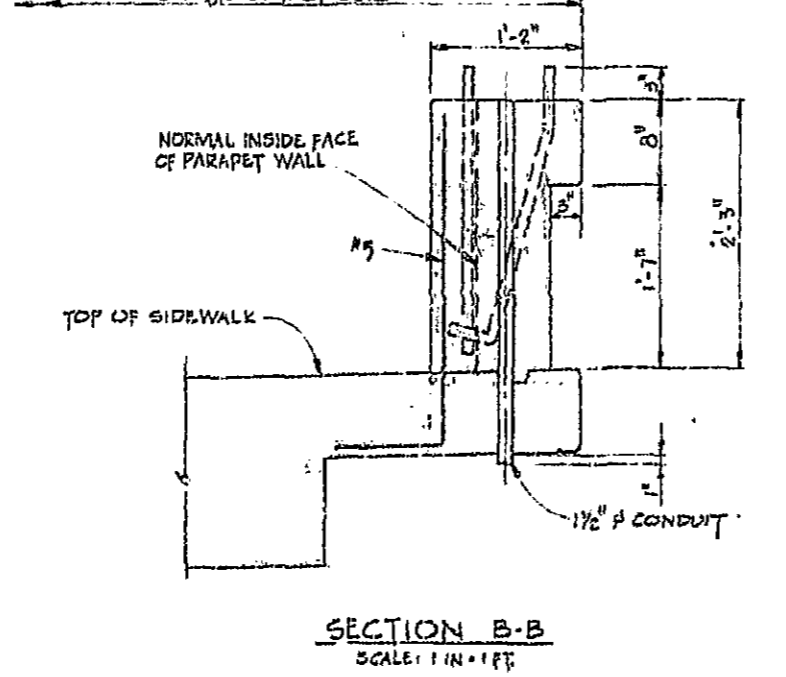
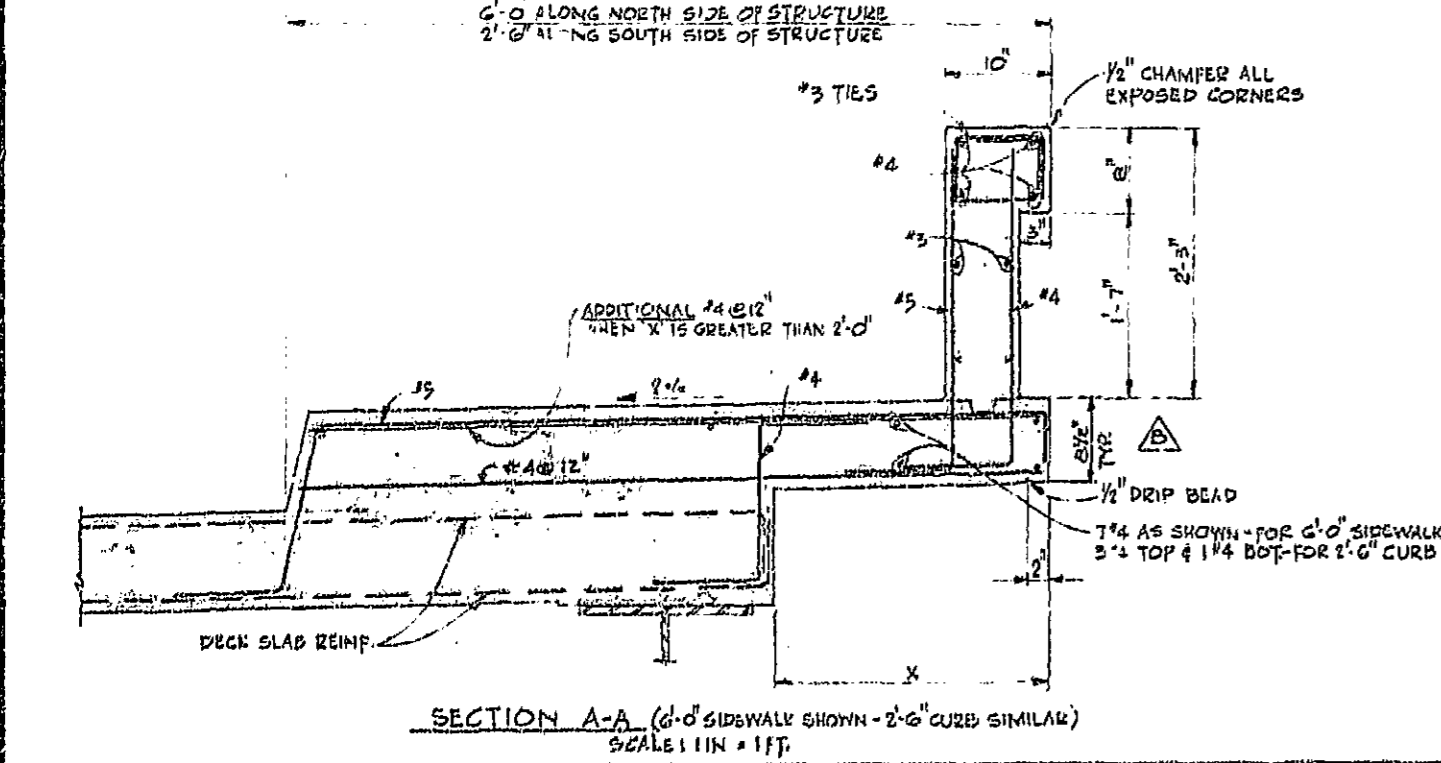
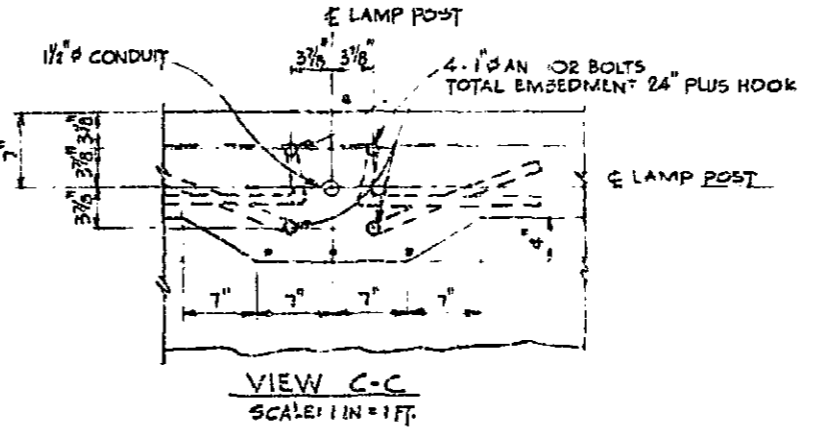
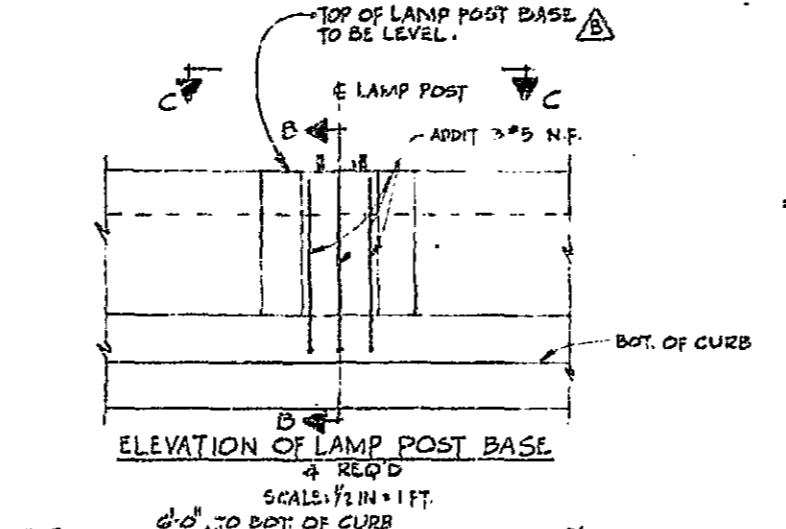
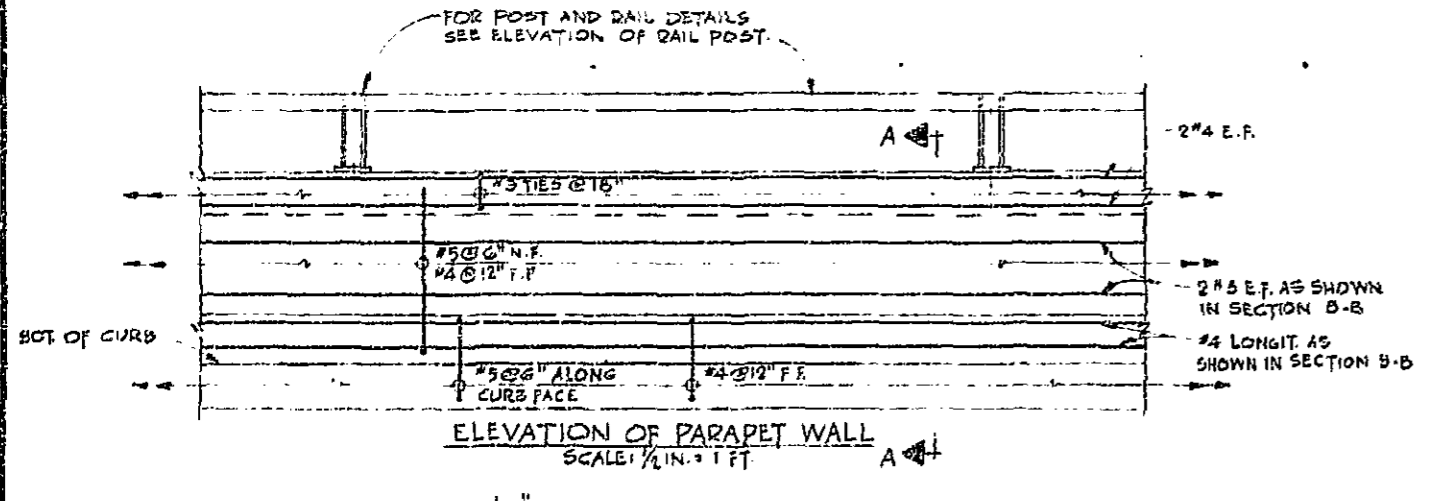
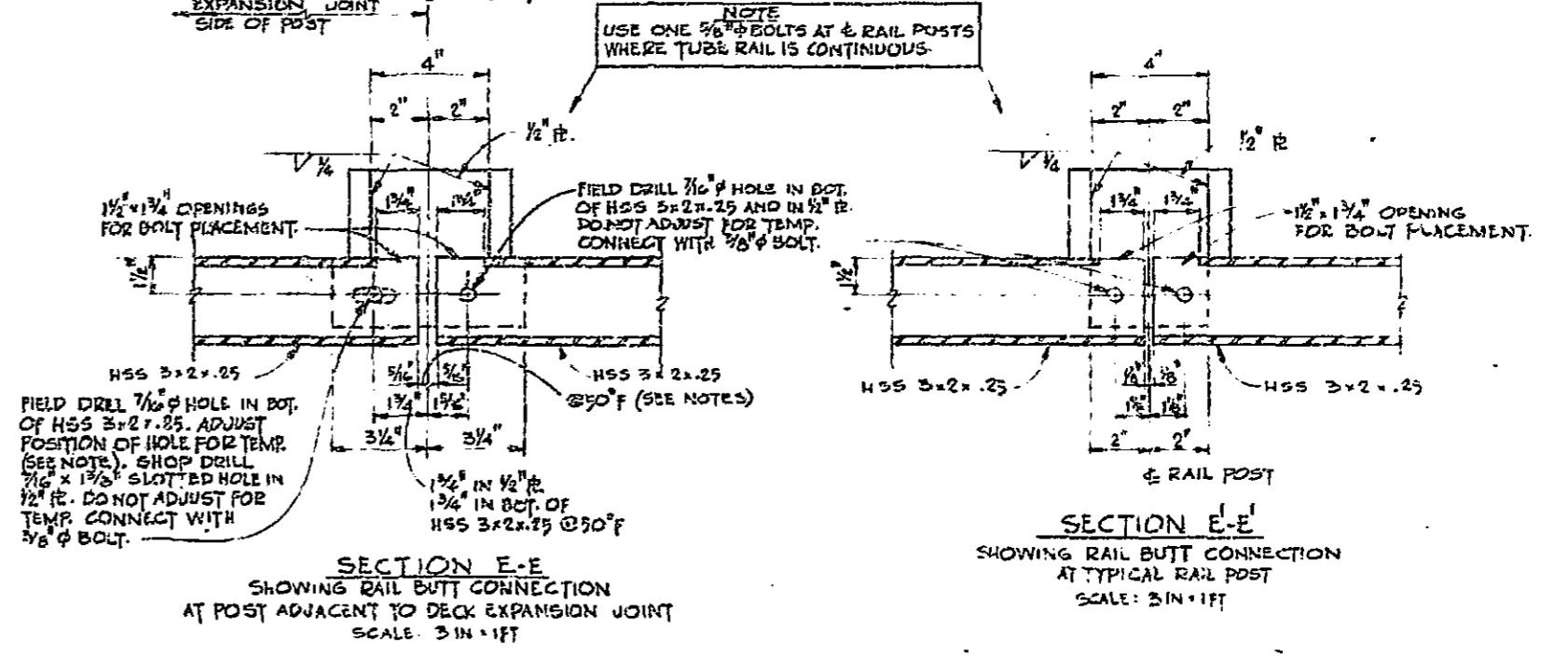
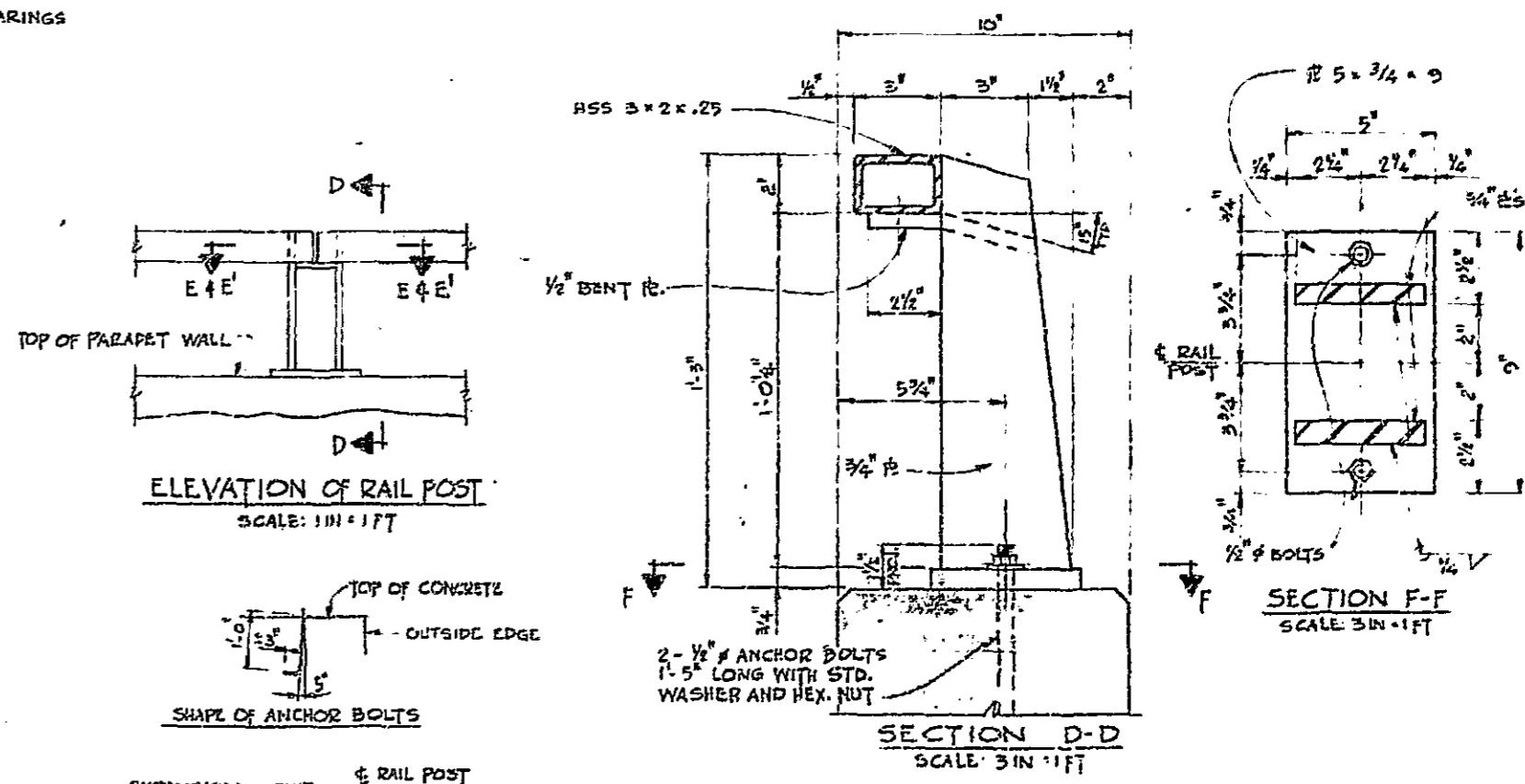
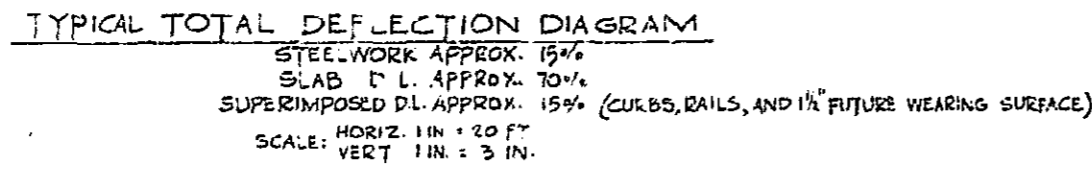
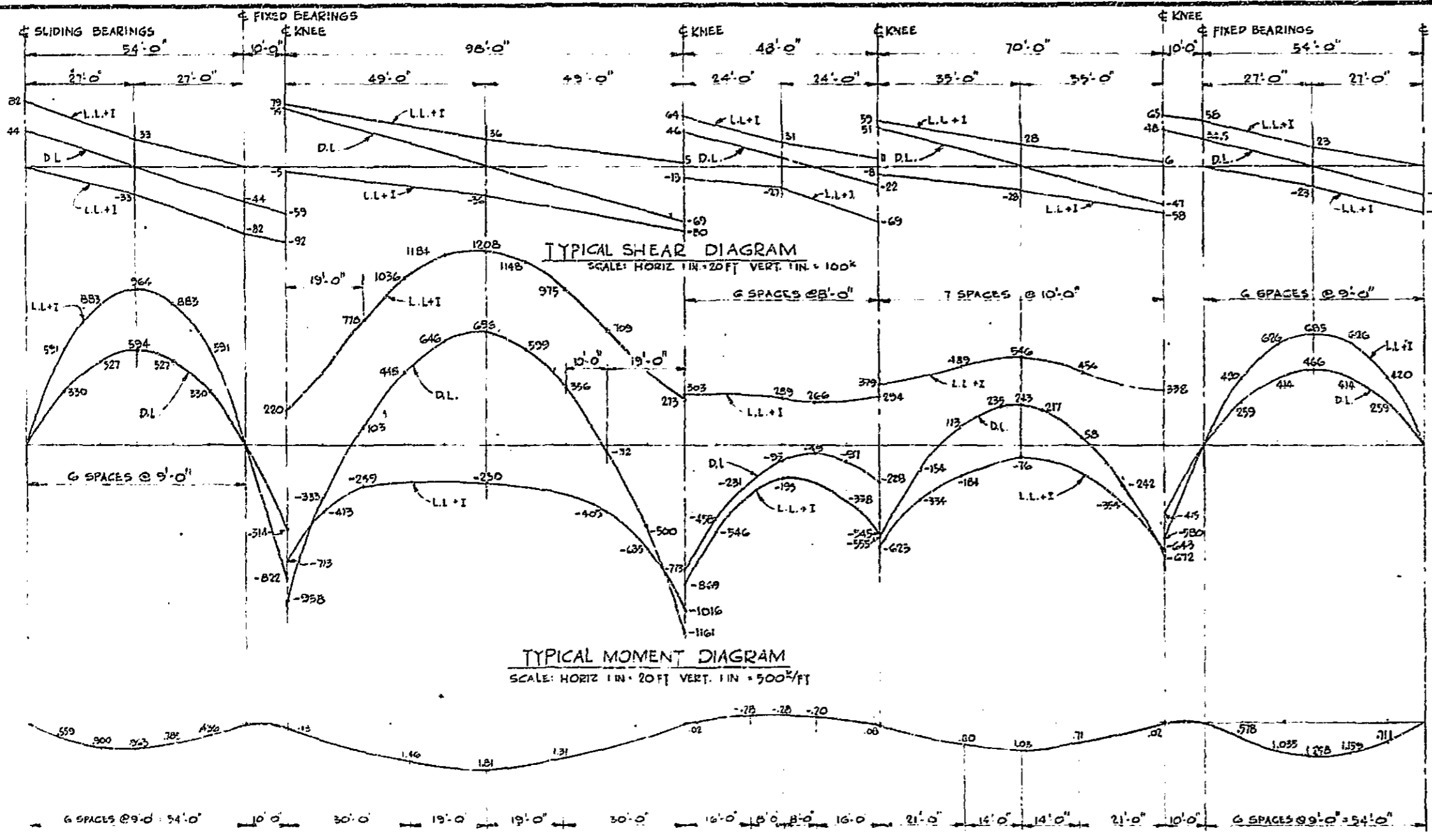
GENERAL CONTRACTOR: J. L. CURRIE & ASSOCIATES

BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
 BRIDGE ENGINEER'S OFFICE

W. B. CURRIE
 BRITISH COLUMBIA ENGINEER

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
 HORSESHOE BAY UNDERPASS
 DETAILS OF EXPANSION JOINTS

NO.	REVISIONS	DATE	BY	CHECKED	APPROVED
D	ADDED FIXED JOINT DIM.	JAN 27/71	JH/27/71		
C	DRAIN DETAILS & EXP. JOINT ANCHORS REV.	JAN 27/71	JH/27/71		
B	EXP. JOINT AND DRAIN DOWNPIPE SIZE REVISED	JAN 27/71	JH/27/71		
A	EXPANSION JOINT - REVISED	APR 27/71	JH/27/71		
E	REVISED AS BUILT		RR/WARTS		



- NOTES**
- 1 ALL RAILINGS, POSTS AND ANCHOR BOLTS TO BE HOT DIPPED GALVANIZED IN ACCORDANCE WITH A.S.T.M. SPECIFICATION A-123-65.
 - 2 RAILINGS SHALL BE CONTINUOUS FOR NOT LESS THAN TWO SPANS AND CONNECTED AT BUTT JOINTS AS INDICATED.
 - 3 FOR LOCATION OF LAMP POSTS SEE DWG. 2339-10
 - 4 DIMENSION OF LAMP POST BASE IS TO BE CONFIRMED PRIOR TO POSITIONING ANCHOR BOLTS AND CONDUIT.
 - 5 EXPANSION GAP SHOWN IN SECTION E-E IS FOR A MEAN DAILY TEMPERATURE OF 50°F. DECREASE GAP 1/8" FOR EACH 10° OVER 50°F. INCREASE GAP 1/8" FOR EACH 10° UNDER 50°F.



BRITISH COLUMBIA DEPARTMENT OF HIGHWAYS
PROVINCE OF BRITISH COLUMBIA
BRIDGE ENGINEER'S OFFICE

N. D. Lea & Associates Ltd.
TRANSPORTATION ENGINEERS

DRAWING NO. 7013-D-212

TRANS CANADA HIGHWAY THROUGH WEST VANCOUVER
HORSESHOE BAY UNDERPASS
STRESS DIAGRAM, LAMP AND RAIL POST DETAILS

DESIGN: W.P.C. JUN/75
DRAWN: E.P. JUN/75
CHECKED: H.P. MAY/75

SCALE: AS NOTED

DRAWING NO. 2339-13 B

REVISIONS

APPROVED: N.D. LEA
ENGINEER

CANCEL PRINTS BEARING EARLIER LETTER.