

BRIDGE SHEET INDEX

SHEET NO.	BRIDGE SHEET TITLE	SHEET NO.	BRIDGE SHEET TITLE	SHEET NO.	BRIDGE SHEET TITLE
1	GENERAL NOTES	50	TOP SLAB REINFORCEMENT SPAN 9	96	TRAFFIC BARRIER DETAILS
2	LAYOUT PLAN AND PROFILE	51	TOP SLAB REINFORCEMENT PLAN SPANS 5A & 6A	97	GRATE INLET
3	LAYOUT PLAN AND PROFILE	52	TYPICAL CROSS SECTION SPANS 1 & 2 AND P/T INTERFERENCE DETAILS	98	EXPANSION JOINT SYSTEM
4	LAYOUT PLAN AND PROFILE	53	TYPICAL CROSS SECTION SPANS 3 & 4	99	EARTHQUAKE RESTRAINERS AND BUMPERS
5	LAYOUT PLAN AND PROFILE	54	TYPICAL CROSS SECTION SPANS 5-9, 5A-6A AND TRANSVERSE P/T NOTES	100	MISCELLANEOUS DETAILS
6	FOOTING LAYOUT	55	END DIAPHRAGM PIER 1	101	RETAINING WALL NB 253+51 TO 259+33 RT
		56	END DIAPHRAGM PIERS 10 AND 7A	102	RETAINING WALL SB 177+90 RT to NB 279+41 LT
	SOUTHBOUND/CENTRAL BUSINESS DISTRICT TO SOUTHBOUND	57	HINGE PLAN	103	RETAINING WALL NB 278+61 TO 281+32 RT
		58	HINGE SECTIONS AND DETAILS	104	RETAINING WALL DETAILS
7	PIER 1	59	HINGE SECTIONS AND DETAILS	105	RETAINING WALL DETAILS
8	PIER 1 DETAILS	60	HINGE SECTIONS AND DETAILS	106	RETAINED EARTH WALL DETAILS
9	PIER 2	61	HINGE SECTIONS AND DETAILS	107	RETAINED EARTH WALL DETAILS
10	PIER 3	62	HINGE SECTIONS AND DETAILS	108	RETAINED EARTH WALL DETAILS
11	PIER 4			109	REINFORCED EARTH WALL DETAILS
12	PIER 4 DETAILS		NORTHBOUND	110	REINFORCED EARTH WALL DETAILS
13	PIER 5	63	PIER 1	111	REINFORCED EARTH WALL DETAILS
14	PIER 6	64	PIER 1 DETAILS	112	RETAINING WALL SB STA 173+09.28 TO 181+10
15	PIER 7	65	PIERS 2, 3, 4	113	SPECIAL RETAINING WALL SB STA 176+76.28 TO 177+37.28
16	PIER 8	66	PIERS 2, 3, 4 DETAILS	114	NOT USED
17	PIER 9	67	PIER 5	115	NOT USED
18	PIER 10	68	PIER 6		
19	PIER 10 DETAILS	69	PIERS 7, 8		BAR LISTS
20	PIER 6A	70	PIER 9	116	BAR LIST
21	PIER 7A	71	PIER 10	117	BAR LIST
22	PIER 7A DETAILS	72	PIER 11	118	BAR LIST
23	FRAMING PLAN SPAN 1	73	PIER 12	119	BAR LIST
24	FRAMING PLAN SPAN 2	74	PIER 13	120	BAR LIST
25	FRAMING PLAN SPAN 3	75	PIER 14	121	BAR LIST
26	FRAMING PLAN SPAN 4	76	PIER 14 DETAILS	122	BAR LIST
27	FRAMING PLAN SPANS 5 & 6	77	FRAMING PLAN AT ABUTMENT, KEY PLAN	123	BAR LIST
28	FRAMING PLAN SPANS 7 & 8	78	FRAMING PLAN TYPICAL PIER AND HINGED PIER	124	BAR LIST
29	FRAMING PLAN SPAN 9	79	BOTTOM SLAB REINFORCEMENT PLAN AT ABUTMENT AND CAMBER DIAGRAM		
30	FRAMING PLAN SPANS 5A & 6A	80	BOTTOM SLAB REINFORCEMENT PLAN TYPICAL PIER AND HINGED PIER		CROSS SECTIONS FOR INFORMATION ONLY
31	BOTTOM SLAB REINFORCEMENT PLAN SPANS 1 & 2	81	WEB ELEVATION AT ABUTMENT, TYPICAL PIER AND HINGED PIER	125	CROSS SECTION KEY MAP
32	BOTTOM SLAB REINFORCEMENT PLAN SPANS 3 & 4	82	TENDON PROFILES	126	CROSS SECTION 123
33	BOTTOM SLAB REINFORCEMENT PLAN SPANS 5 & 6	83	POST-TENSIONING NOTES	127	CROSS SECTION 124
34	BOTTOM SLAB REINFORCEMENT PLAN SPANS 7 & 8	84	TOP SLAB REINFORCEMENT PLAN AT ABUTMENT AND TYPICAL PIER	128	CROSS SECTION 125
35	BOTTOM SLAB REINFORCEMENT PLAN SPAN 9	85	TOP SLAB REINFORCEMENT PLAN HINGED PIER	129	CROSS SECTION 126
36	BOTTOM SLAB REINFORCEMENT PLAN SPANS 5A & 6A	86	TYPICAL CROSS SECTION, TRANSVERSE P/T NOTES, P/T INTERFERENCE DETAILS	130	CROSS SECTIONS 127 & 127-1
37	WEB ELEVATION AND TENDON PROFILE SPANS 1 & 2	87	END DIAPHRAGM PIERS 1 & 14	131	CROSS SECTIONS 128 & 129
38	WEB ELEVATION AND TENDON PROFILE SPANS 3 & 4	88	HINGE PLAN	132	CROSS SECTIONS 129-1 & 130
39	WEB ELEVATION AND TENDON PROFILE SPANS 5 & 6	89	HINGE SECTIONS AND DETAILS	133	CROSS SECTIONS 131 & 131-1
40	WEB ELEVATION AND TENDON PROFILE SPANS 7 & 8	90	HINGE SECTIONS AND DETAILS	134	CROSS SECTIONS 132 & 132-1
41	WEB ELEVATION AND TENDON PROFILE SPAN 9	91	HINGE SECTIONS AND DETAILS	135	CROSS SECTIONS 133 & 161
42	WEB ELEVATION AND TENDON PROFILE SPANS 5A & 6A			136	CROSS SECTIONS 161-1 & 134
43	POST-TENSIONING NOTES		MISCELLANEOUS	137	CROSS SECTIONS 134-1 & 134-2
44	TOP SLAB REINFORCEMENT PLAN SPAN 1			138	CROSS SECTIONS 135 & 135-1
45	TOP SLAB REINFORCEMENT PLAN SPAN 2	92	CONSTRUCTION SEQUENCE - SB	139	CROSS SECTIONS 136 & 136-1
46	TOP SLAB REINFORCEMENT PLAN SPAN 3	93	CONSTRUCTION SEQUENCE - NB	140	CROSS SECTIONS 136-2 & 136-3
47	TOP SLAB REINFORCEMENT PLAN SPAN 4	94	POST-TENSIONING DETAILS	141	CROSS SECTIONS 136-4 & 136-5
48	TOP SLAB REINFORCEMENT PLAN SPANS 5 & 6	95	BEARING DETAILS	142	CROSS SECTIONS 136-6 & 136-7
49	TOP SLAB REINFORCEMENT PLAN SPANS 7 & 8			143	CROSS SECTION 136-8

DRAWN BY: BJA		REGION NO.		STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	   		SR 705	
DESIGN BY: WEW		10		WASH	1-705-3(665)					21ST ST. TO SCHUSTER PARKWAY	
CHECKED BY: JSG										STAGE 2	
		JOB NUMBER						33000000		BRIDGE SHEET INDEX	
		CONTRACT NO.								40 OF 181 SHEETS	
DATE		REVISION		BY APP'D						SR 705/4	

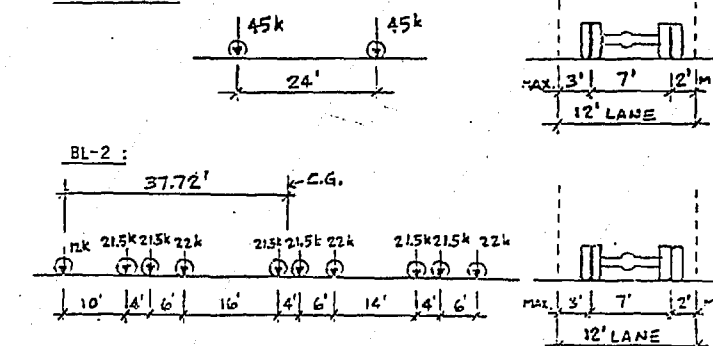
GENERAL NOTES

- ALL MATERIAL AND WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF THE STATE OF WASHINGTON, DEPARTMENT OF TRANSPORTATION, STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND MUNICIPAL CONSTRUCTION, DATED 1984.
- THESE STRUCTURES HAVE BEEN DESIGNED IN ACCORDANCE WITH THE REQUIREMENTS FOR SERVICEABILITY AND LOAD FACTOR DESIGN, 1977 AASHTO SPECIFICATIONS AND INTERIM SPECIFICATIONS THROUGH 1982, EXCEPT FOR SEISMIC DESIGN.
- THE SEISMIC DESIGN OF THESE STRUCTURES IS IN ACCORDANCE WITH ATC-6 SEISMIC DESIGN GUIDELINES FOR HIGHWAY BRIDGES, OCTOBER 1981.
- LOADING

THE BRIDGES HAVE BEEN DESIGNED FOR HS-20 LOADING OR 2-24^k AXLES ON 4' CENTERS.

THE BRIDGES HAVE ALSO BEEN DESIGNED FOR OVERLOAD VEHICLES AS SHOWN BELOW AND OPERATING ON ONE LANE OF THE STRUCTURES.

SINGLE AXLE



- THESE BRIDGES HAVE BEEN DESIGNED TO BE POST-TENSIONED, CAST-IN-PLACE CONCRETE BOX GIRDER STRUCTURES USING CONTINUOUSLY SHORED CONSTRUCTION. THE BOX GIRDERS ARE POST-TENSIONED LONGITUDINALLY AND THE DECK SLAB IS POST-TENSIONED TRANSVERSELY.
- THE CONSTRUCTION SEQUENCE SHALL ADHERE TO THE SEQUENCE SHOWN ON THE PLANS.
- FOOTING ELEVATIONS AND SUBSTRUCTURE DETAILS ARE SUBJECT TO CHANGE DEPENDING UPON FOUNDATION MATERIAL ENCOUNTERED. REINFORCING STEEL FOR THE FOOTINGS, COLUMNS, ABUTMENT WALLS, WING WALLS, AND RETAINING WALLS SHALL NOT BE CUT UNTIL FINAL FOOTING ELEVATIONS HAVE BEEN DETERMINED IN THE FIELD, AND SUBSTRUCTURE DETAILS HAVE BEEN MODIFIED AS REQUIRED.
- DESIGN PRESSURES FOR BRIDGE SPREAD FOOTING FOUNDATIONS ARE AS FOLLOWS:

PIERS	WORKING DESIGN PRESSURE KIPS/SF	SEISMIC DESIGN PRESSURE KIPS/SF
SB: 1	5	10
SB: 2, 3	15	30
CBD-S: 6A, 7A	15	30
NB: 1, 3, 4	15	30
NB: 2	7	15

- EACH PILE SHALL BE DRIVEN WITH TIP REINFORCING TO THE LOAD CAPACITY SHOWN ON THE PLANS.
- PILES SHALL BE DRIVEN TO THE PILE TIP ELEVATION WHERE SHOWN ON THE PLANS.

- THE CONCRETE IN ALL FOOTINGS, PEDESTALS, AND RETAINING WALLS SHALL BE CLASS "B" MIX. THE CONCRETE IN THE SUPERSTRUCTURE SHALL BE CLASS "EX" MIX (f' = 5000 PSI). SUPERSTRUCTURE IS DELINEATED FROM THE SUBSTRUCTURE BY AN ARCHITECTURAL FEATURE SHOWN ON THE PLANS. ALL OTHER CAST-IN-PLACE CONCRETE SHALL BE CLASS "AM" MIX, EXCEPT WHERE SPECIFICALLY SHOWN OTHERWISE ON THE PLANS.

- UNLESS OTHERWISE SHOWN ON THE PLANS, CONCRETE COVER MEASURED FROM THE FACE OF THE CONCRETE TO THE FACE OF ANY REINFORCING BAR SHALL BE

2-1/2"	AT THE TOP OF THE ROADWAY SLAB
1-1/2"	OTHER EXTERIOR SURFACES
1"	INTERIOR SURFACES OF THE BOX GIRDER
3"	SURFACES OF FOOTINGS

- THE EXTERIOR SURFACE OF THE TRAFFIC BARRIERS, THE RETAINING WALLS, AND PIERS SB 1 AND 10, CBD-S 7A, AND NB 1 AND 14 SHALL HAVE A FRACTURED FIN SURFACE. THE EXTENT OF THE FRACTURED FIN SURFACE IS SHOWN ON THE PLANS.

- ANY HORIZONTAL OR VERTICAL CONSTRUCTION JOINT IN A FLAT SURFACE SHALL INCORPORATE THE POUR STRIP DETAIL SHOWN ON BRIDGE SHEET 84 & 86.

- THE EXTERIOR SURFACES OF THE SUPERSTRUCTURE, THE PIERS, THE RETAINING WALLS, AND THE TRAFFIC BARRIER SHALL RECEIVE PIGMENTED SEALER. THE EXTENT OF THE PIGMENTED SEALER IS SHOWN ON THE PLANS.

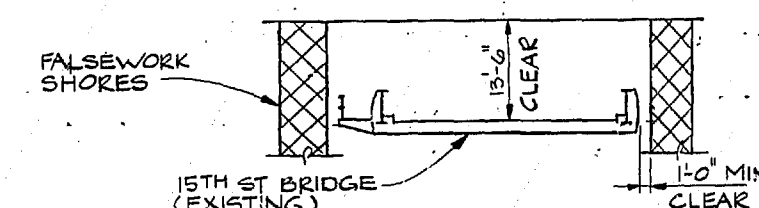
- ALL FALSEWORK, SHORING, EXCAVATION, AND ANY OTHER CONSTRUCTION ACTIVITY NEAR THE PRAIRIE LINE AND B.N. MAINLINE TRACKS SHALL ADHERE TO THE RAILROAD CLEARANCES SHOWN ON THIS SHEET.

- THE FOLLOWING LEGEND HAS BEEN USED TO IDENTIFY SECTIONS AND DETAILS:

	IDENTIFIES SECTION VIEW OR DETAIL
	TAKEN OR SHOWN ON BRIDGE SHEET 12

- SHORING OVER THE EXISTING 15TH STREET BRIDGE SHALL BEAR DIRECTLY ON THE GROUND OR ON PILES DRIVEN IN THE GROUND. SHORING LOADS SHALL NOT PASS THROUGH THE EXISTING 15TH STREET BRIDGE.

- TEMPORARY CONSTRUCTION CLEARANCE OVER 15TH STREET SHALL BE A MINIMUM OF 13 FT 6 IN. SEE CROSS SECTION BELOW:



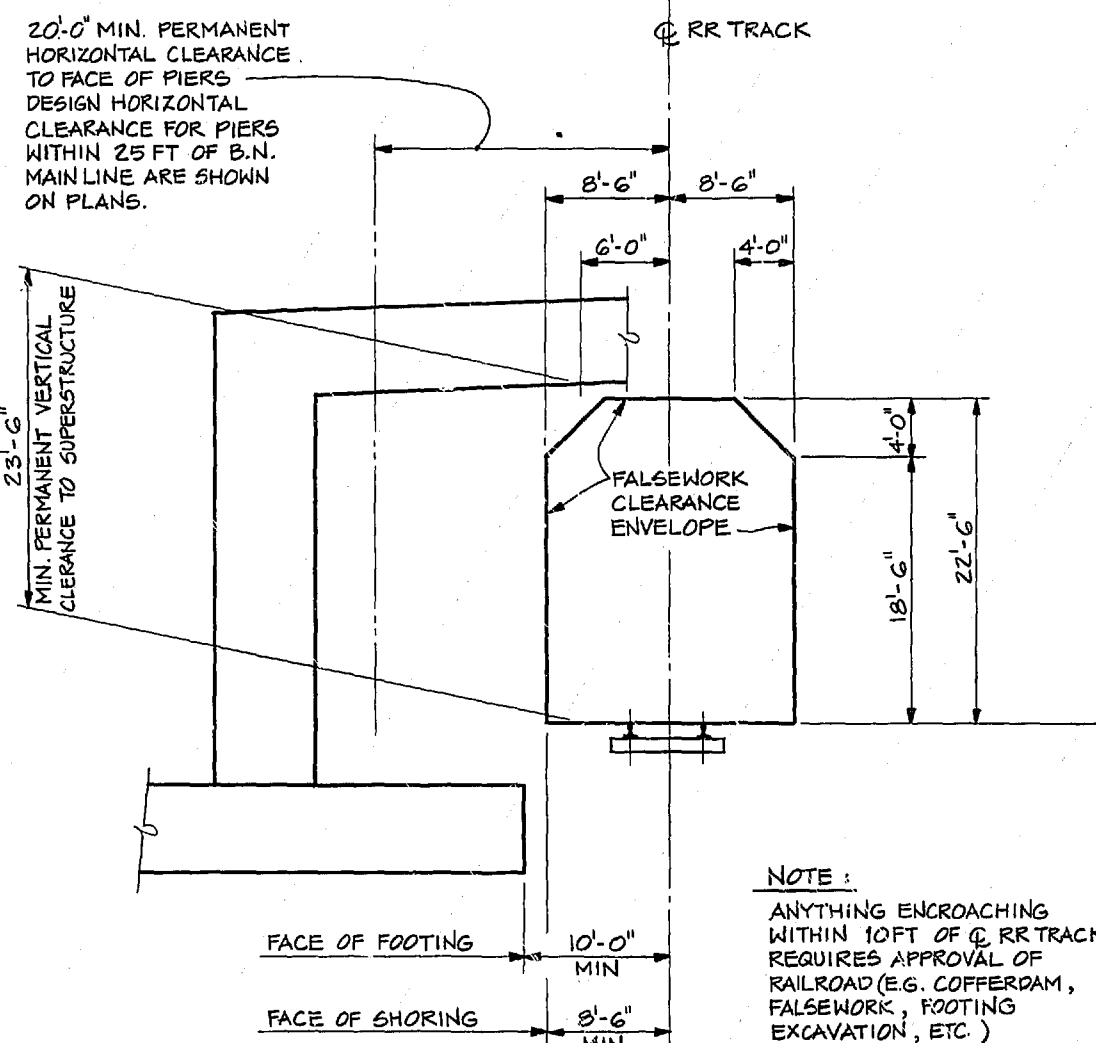
- EXISTING RETAINING WALL ALONG THE PRAIRIE LINE FROM APPROXIMATE STATION 53+18 TO APPROXIMATE STATION 57+50 SHALL NOT BE DISTURBED DURING CONSTRUCTION OF THE BRIDGE PIERS OR SUPERSTRUCTURE. FALSEWORK AND PIER EXCAVATIONS AND CONSTRUCTION SHALL BE PLANNED SO THAT THIS RETAINING WALL IS NOT DISTURBED. ANY DAMAGE TO THIS WALL BECAUSE OF THE CONSTRUCTION SHALL BE RESTORED TO ITS ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.

- THE FOLLOWING INDICATES LOCATION OF SOIL BORINGS AND



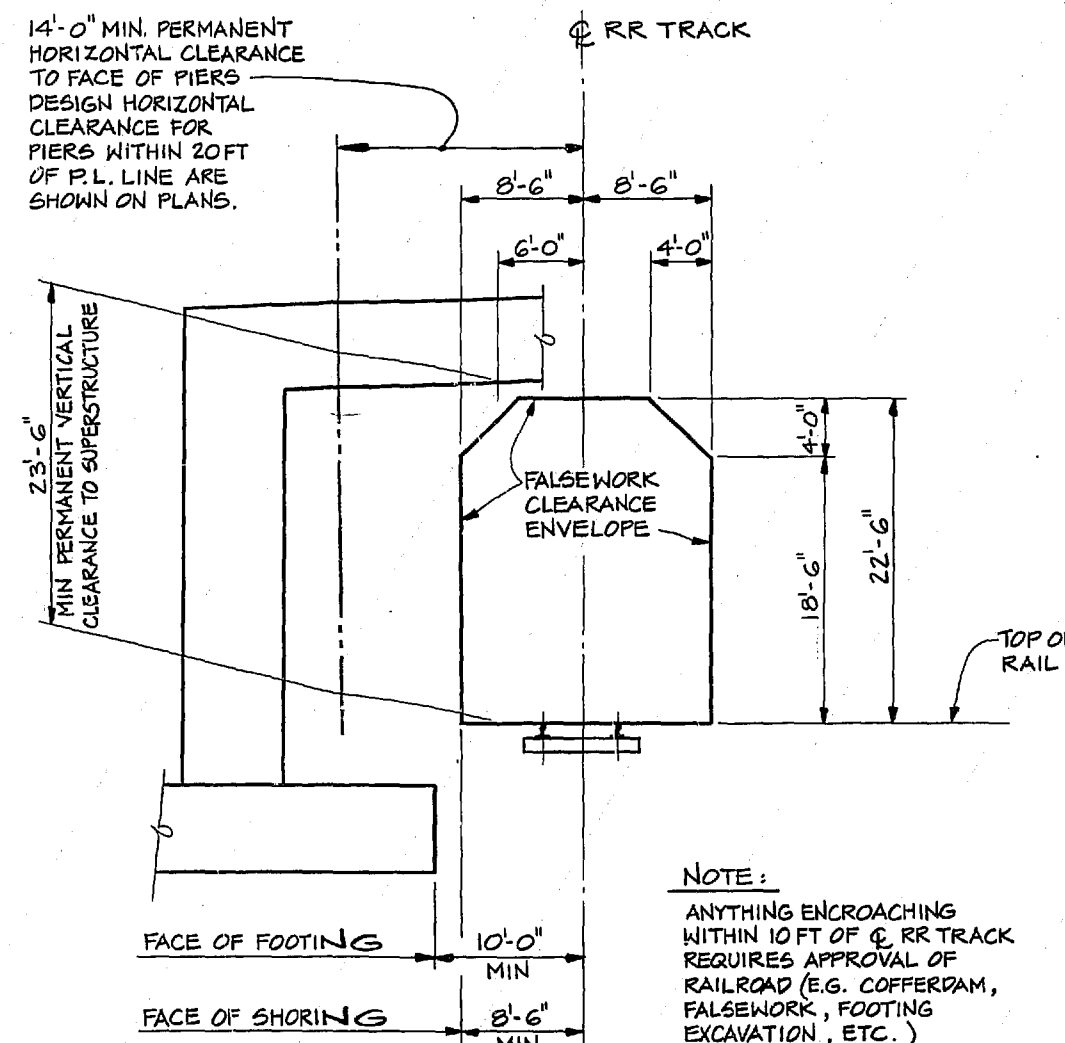
THEIR DESIGNATION. SEE SPECS FOR SOIL BORING DATA.

- INDICATES MARK IS AN EPOXY-COATED REINFORCING BAR.



B.N. MAIN LINE TRACK HORIZONTAL AND VERTICAL CLEARANCES

NOTE:
ANYTHING ENCROACHING WITHIN 10 FT OF RR TRACK REQUIRES APPROVAL OF RAILROAD (E.G. COFFERDAM, FALSEWORK, FOOTING EXCAVATION, ETC.)



PRAIRIE LINE TRACK HORIZONTAL AND VERTICAL CLEARANCES

NOTE:
ANYTHING ENCROACHING WITHIN 10 FT OF RR TRACK REQUIRES APPROVAL OF RAILROAD (E.G. COFFERDAM, FALSEWORK, FOOTING EXCAVATION, ETC.)

DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 1	TOTAL SHEETS 1
DESIGN BY: WEW	JOB NUMBER 84W065				
CHECKED BY: JSG	CONTRACT NO. 2747				
DATE 5-23-84	BY APP'D SKA				
CHANGED NOTES	REVISION				

APR 23 1984 APPROVED

ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS

Washington State Department of Transportation

33000001

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

GENERAL NOTES

SHEET 41 OF 181 SHEETS

SR 705

PTS. OF MIN. VERT. CLR.
 SB 166+65.86 (30.86' LT) : S.A. 1493.84 (3.57' RT)
 SB 172+37.84 (3.75' LT) : PL 53+06.05 (6' RT)
 SB 168+47.19 (4.75' RT) : EX. 15TH 4+68.95 (3' RT)

BRIDGE UNDER CONST.
(BY OTHERS)EXISTING RAILWAY
TO BE REMOVED
(BY OTHERS)

SR-705

*GRATE INLET TYPE 2 (B-4c)
SB 165+15SB 168+25
SIGN BRIDGE
(BY OTHERS)

SB 168+43

CDB-S 1+45

CDB-S 2+25

SB 173+00

BRIDGE GRATE INLET
SB 177+90

SB 177+80

*GRATE INLET TYPE 2 (B-4c)
SB 178+25EXIST. BLDG
TO BE REMOVED
THIS CONTRACTBACK OF PAVEMENT
SEAT PIER 10EXIST. FOUNDATION WALL
TO BE REMOVED
(177+50 TO 178+70)
THIS CONTRACTEXIST. RETAINING WALL
(TO REMAIN)

PIER 8

HC-32/32A

SB 177+80

SB 179+00

ON RETAINING WALL

CURVE DATA

SB LINE		
P.I.	SB 165+62.32	SB 175+88.27
Δ	10° 27' 27" RT.	15° 53' 41" LT.
R	3000'	2800'
T	274.54'	390.89'
L	547.55'	776.76'
S	0.041/FT.	0.041/FT.
BK. TAN	N 5° 52' 28" W	N 4° 34' 58" E

PLAN
1"=50'

ELEVATION

GRADE ELEVATIONS SHOWN ARE FINISH
GRADES ON SB LINE AND ARE EQUAL TO PROFILE GRADE
EXCEPT P.V.C.'SSUPERELEVATION DIAGRAM
SB LINEDATUM
NAT'L GEOD. VERT.
DATUM OF 1929SCALE IN FEET
20 40 60 80 100NOTE: ALL TAPERS IN PLAN ARE LINEAR
UNLESS NOTED OTHERWISE.

CAST-IN-PLACE POST-TENSIONED
BOX GIRDER BRIDGE
LOADING: HS-20
OR
TWO 24K AXLES @ 4' CTRS

DRAWN BY: BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 2	TOTAL SHEETS 181
DESIGN BY: WEW	JOB NUMBER 84W056	DATE 5-23-84	CONTRACT NO. 2747	BY APP'D	
CHECKED BY: JSG	REVISION	DATE			
5-20-84 Rev. & Del. J.B. Notes					
5-23-84 SIGN BRIDGE BY OTHERS					

APR 23 1984
APPROVEDASAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1000 1ST AVENUE, SUITE 200
SEATTLE, WASH. 98101
(206) 461-1100Washington State
Department of Transportation

33000002

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
SB LINE AND CBD - S LINE BRIDGE
LAYOUT PLAN AND PROFILE
SB LINE 165+45.00 TO 177+90.00

2
SHEET
42
OF
181
SHEETS

PT OF MIN. VERT. CLR.
CBD-S 1+32.99 (7.84' LT.) PL 5+89.91 (6' RT.)

SEC. 4, T. 20N., R. 3E., W. M.

*NOT INCLUDED IN BRIDGE QUANTITIES

SR 705

BRIDGE GRATE INLET
CBD-S 4+54

CBD-S 5+80.70 RT.

BRIDGE UNDER CONSTR
(BY OTHER)

FOR LEFT CURBLINE OFFSETS AND ELEVATIONS,
SEE TABLE THIS SHEET

CBD-S 0+05

CBD-S 1+45

CBD-S 2+85

CBD-S 4+45
JUNCTION BOX (TYP)

CBD-S 4+06.49
P.C.C.

WINGWALK

10' SH

14.5'

9.5'

4.5'

1.5'

0.5'

0.5'

0.5'

0.5'

0.5'

0.5'

0.5'

0.5'

0.5'

0.5'

*GRATE INLET TYPE 2
CBD-S 3+85

REMOVE EXIST. WALL
THIS CONTRACT

HC-45/45D
BACK OF PAVEMENT SEAT
PIER 7A

CLOSURE WALL TO
EXISTING RETAINING WALL

FACE OF HINGE DIAPHRAGM
STRUCTURE 3

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

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CBD-S 1+89.47 P.O.C. =
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P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 2+30.92

CBD-S 1+89.47 P.O.C. =
P.L. 53+46.38 P.O.C.

CBD-S 0+80.84 P.C.

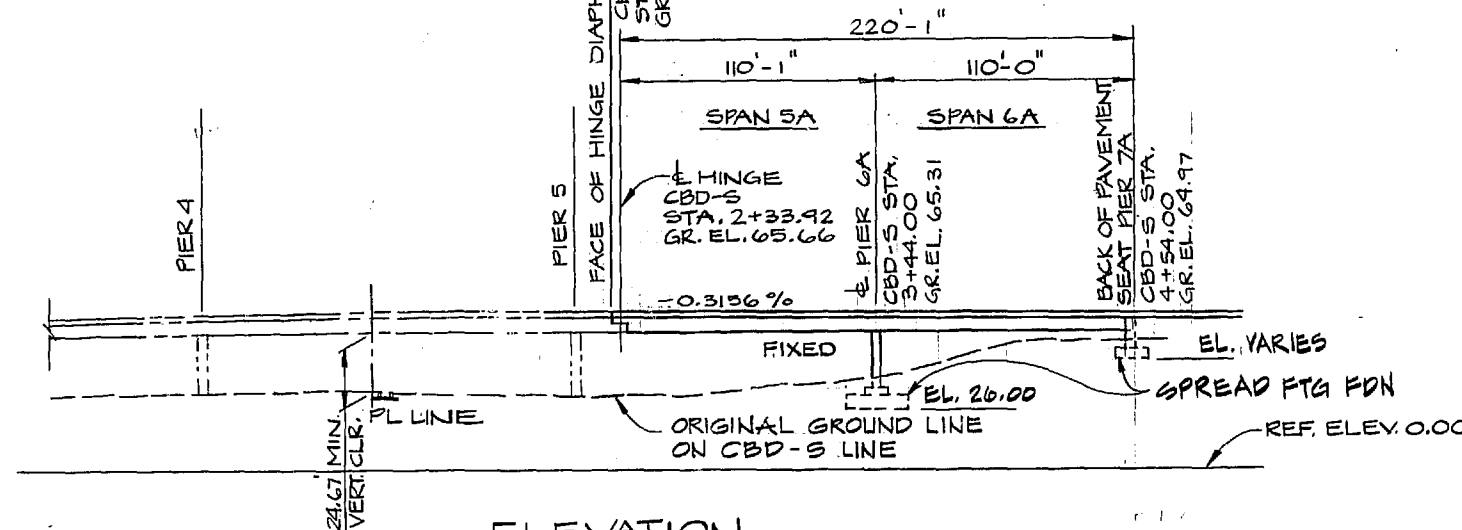
CURVE DATA		
CBD-S LINE		
PI	CBD-S 2+44.00	CBD-S 4+99.56
Δ	9° 01' 41" LT.	49° 54' 33" LT.
R	2046.75'	200'
T	163.16'	93.07'
L	325.65'	174.22'
S	—	0.04'/FT.
BK. TAN	N 3° 26' 13" E	N 5° 35' 28" W

TABLE OF LEFT CURBLINE OFFSETS & ELEVATIONS

SB STATION	PROFILE ELEV.	LEFT OFFSET	LEFT ELEV.
168+35.30	60.62	41.04	61.77
168+40.00	60.75	41.10	61.85
168+45.00	60.89	41.17	61.94
168+50.00	61.03	41.25	62.02
168+55.00	61.17	41.34	62.11
168+60.00	61.30	41.43	62.19
168+65.00	61.44	41.53	62.27
168+70.00	61.57	41.64	62.40
168+75.00	61.70	41.75	62.53
168+80.00	61.83	41.87	62.66
168+85.00	61.95	41.99	62.79
168+90.00	62.08	42.12	62.92
168+95.00	62.20	42.26	63.05
169+00.00	62.32	42.40	63.17
169+05.00	62.44	42.55	63.29
169+10.00	62.56	42.71	63.41
169+15.00	62.68	42.87	63.53
169+20.00	62.79	43.04	63.65
169+25.00	62.90	43.21	63.77
169+30.00	63.01	43.39	63.88
169+35.00	63.12	43.58	63.99
169+40.00	63.23	43.77	64.11
169+45.00	63.34	43.97	64.22
169+50.00	63.44	44.18	64.32
169+55.00	63.54	44.39	64.43
169+60.00	63.64	44.61	64.54
169+65.00	63.74	44.84	64.64
169+70.00	63.84	45.07	64.74
169+75.00	63.94	45.31	64.84
169+80.00	64.03	45.55	64.94

SB STATION	PROFILE ELEV.	LEFT OFFSET	LEFT ELEV.
169+85.00	64.12	45.80	65.04
169+90.00	64.21	46.06	65.13
169+95.00	64.30	46.32	65.23
170+00.00	64.39	46.59	65.32
170+05.00	64.47	46.87	65.41
170+10.00	64.56	47.16	65.50
170+15.00	64.64	47.46	65.59
170+20.00	64.72	47.78	65.63
170+25.00	64.80	48.11	65.66
170+30.00	64.87	48.45	65.67
170+35.00	64.95	48.81	65.69
170+40.00	65.02	49.17	65.70
170+45.00	65.09	49.56	65.71
170+50.00	65.16	49.95	65.72
170+55.00	65.23	50.36	65.73
170+60.00	65.30	50.77	65.73
170+65.00	65.36	51.21	65.73
170+70.00	65.42	51.65	65.73
170+75.00	65.48	52.11	65.72
170+80.00	65.54	52.58	65.71
170+85.00	65.60	53.06	65.70
170+90.00	65.66	53.56	65.69
170+95.00	65.71	54.07	65.67
171+00.00	65.76	54.59	65.65
171+05.00	65.81	55.13	65.62
171+10.00	65.86	55.67	65.60
171+15.00	65.91	56.24	65.57
171+20.00	65.96	56.81	65.53
171+25.00	66.00	57.40	65.50
171+30.00	66.04	58.00	65.46
171+35.00	66.08	58.61	65.41
171+38.67	66.11	59.06	65.38

PLAN
1"=50'



GRADE ELEVATIONS SHOWN ARE FINISH
GRADES ON CBD-S LINE AND ARE EQUAL TO PROFILE GRADE

SUPERELEVATION DIAGRAM
CBD-S LINE

CAST-IN-PLACE POST TENSIONED
BOX GIRDER BRIDGE

LOADING: HS-20

OR

TWO 24K AXLES @ 4' CTRS.

DATUM
NAT'L GEOD. VERT.
DATUM OF 1929

20 100 20 40 60 80 100
SCALE IN FEET

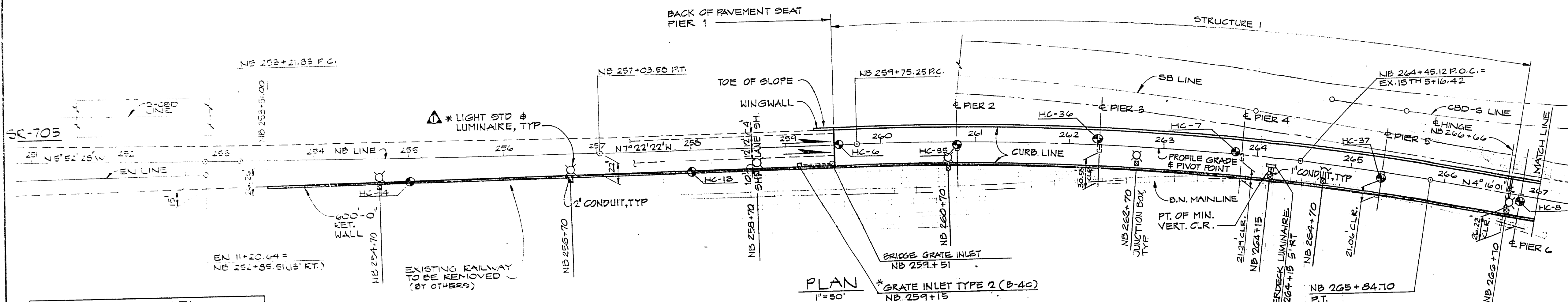
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DESIGN BY: WEW	JOB NUMBER 841NO 56				
CHECKED BY: JSG	CONTRACT NO. 2747				
DATE 5/30/84	Rev. & Del. J.B. Notes				
REVISION	BY APP'D				

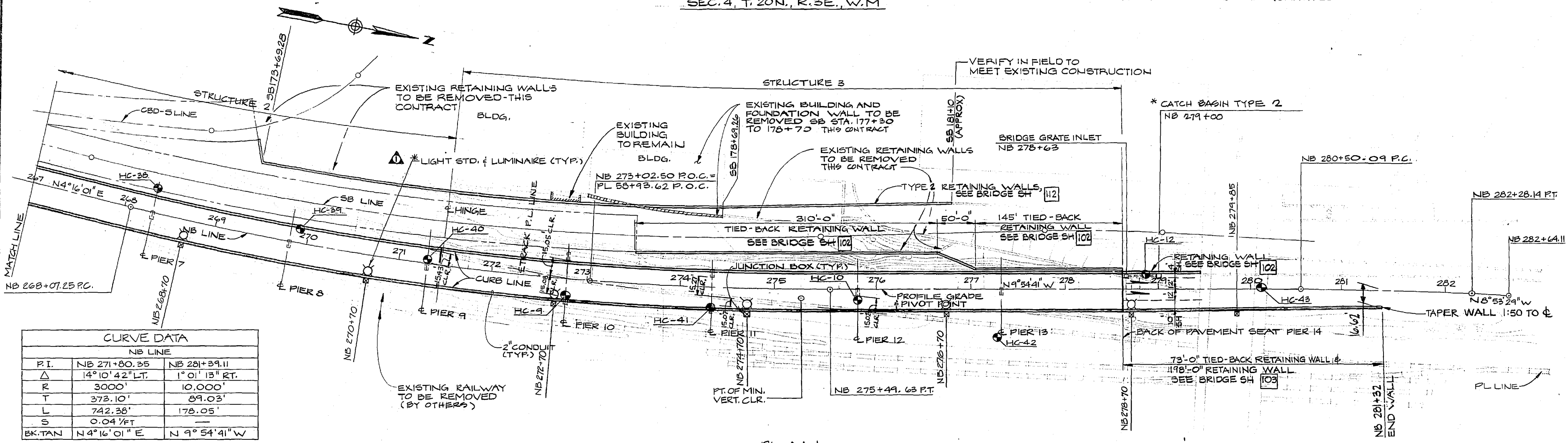
Washington State
Department of Transportation

33000003

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
SB LINE AND CBD - S LINE BRIDGE
LAYOUT PLAN AND PROFILE
CBD-S LINE 0+00.00 TO 4+54.00

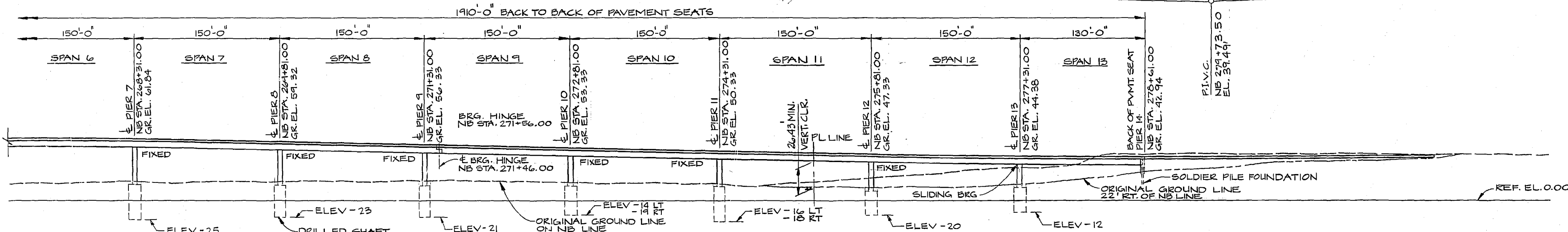
SR 705





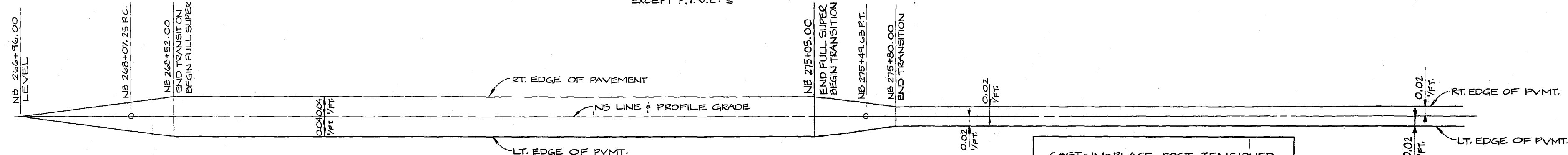
CURVE DATA	
NB LINE	
P.I.	NB 271+80.35 NB 281+39.11
Δ	14° 10' 42" LT. 1° 01' 13" RT.
R	3000' 10,000'
T	373.10' 89.03'
L	742.38' 178.05'
S	0.04 1/2%
BK. TAN	N 4° 16' 01" E N 9° 54' 41" W

PLAN
1" = 50'



ELEVATION
1" = 10'

GRADE ELEVATIONS SHOWN ARE FINISH GRADES ON NB LINE AND ARE EQUAL TO PROFILE GRADE EXCEPT P.I.V.C.'S



SUPERELEVATION DIAGRAM
NB LINE

CAST-IN-PLACE POST TENSIONED
BOX GIRDER BRIDGE
LOADING: HS-20
OR
TWO 24' AXLES @ 4' CTRS.

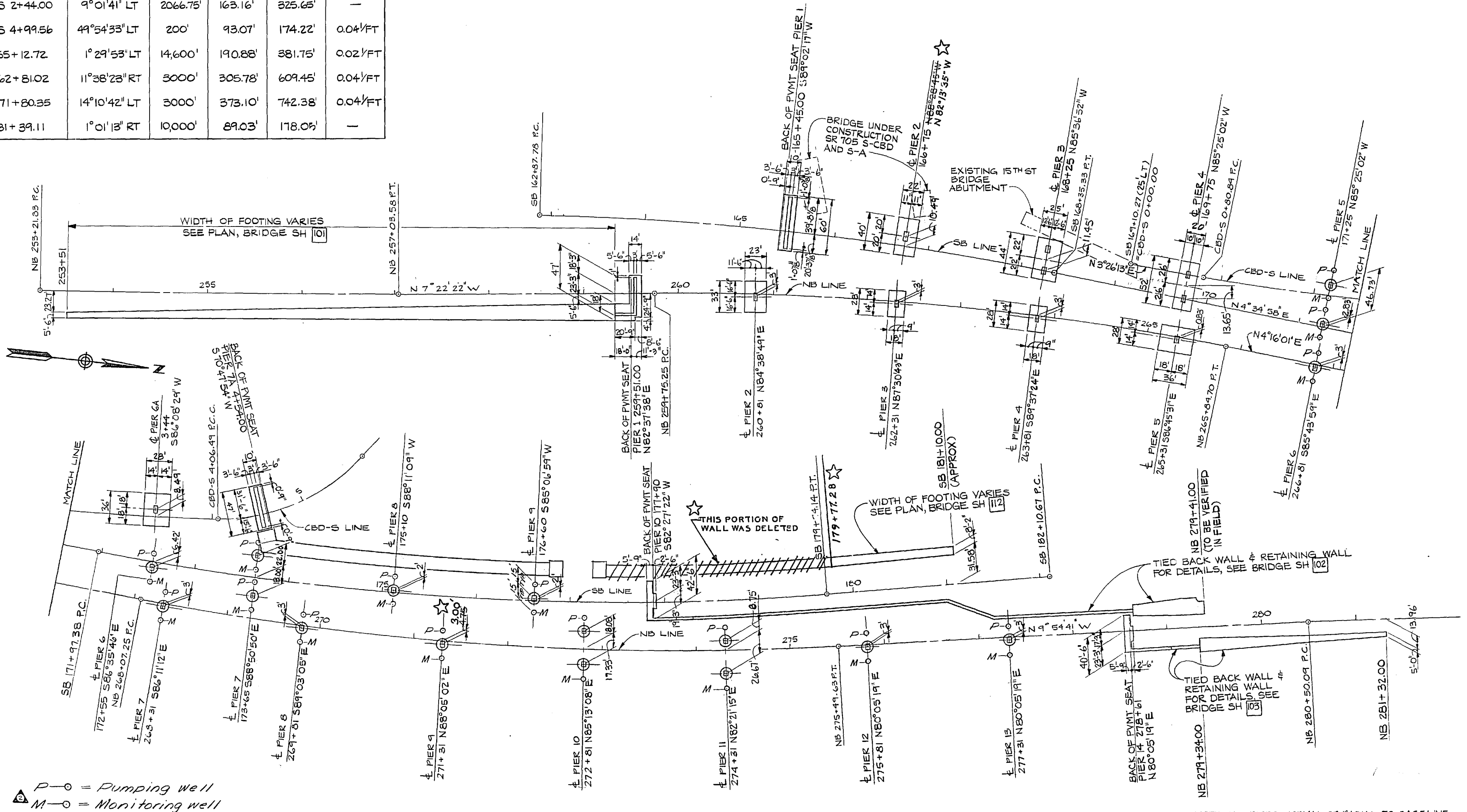
DATUM
NAT'L GEOD. VERT.
DATUM OF 1929

20 0 20 40 60 80 100
SCALE IN FEET

DRAWN BY: BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 5	TOTAL SHEETS 45
DESIGN BY: WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	APPROVED	Washington State Department of Transportation	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE
CHECKED BY: JSG	DATE 5-23-84	REVISION	BY APP'D	33000005	LAYOUT PLAN AND PROFILE NB LINE 267+00.00 TO 278+61.00

CURVE DATA

P.I. STATION	Δ	R	T	L	S
SB 165+62.32	10°27'27" RT	3000'	274.54'	547.55'	0.04 1/2 FT
SB 175+88.27	15°53'41" LT	2800'	390.89'	776.76'	0.04 1/2 FT
CBD-S 2+44.00	9°01'41" LT	2066.75'	163.16'	325.65'	—
CBD-S 4+99.56	49°54'33" LT	200'	93.07'	174.22'	0.04 1/2 FT
NB 255+12.72	1°29'53" LT	14,600'	190.88'	381.75'	0.02 1/2 FT
NB 262+81.02	11°38'23" RT	3000'	305.78'	609.45'	0.04 1/2 FT
NB 271+80.35	14°10'42" LT	3000'	373.10'	742.38'	0.04 1/2 FT
NB 281+39.11	1°01'13" RT	10,000'	89.03'	178.06'	—



P-O = Pumping well
M-O = Monitoring well

NOTE: ALL PIERS NORMAL OR RADIAL TO BASELINE.

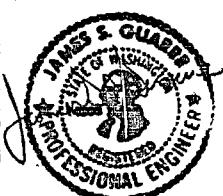
AS BUILT CHANGES 11-26-90

DRAWN BY: BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 46	TOTAL SHEETS 181
DESIGN BY: WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE 7-5-84	REVISION	BY APP'D
CHECKED BY: JSG	7-5-84 Add Pumping & Monitoring Wells	AWB MML	5-23-84 ADDED NOTE	SKA	



APRIL 23, 1984
APPROVED

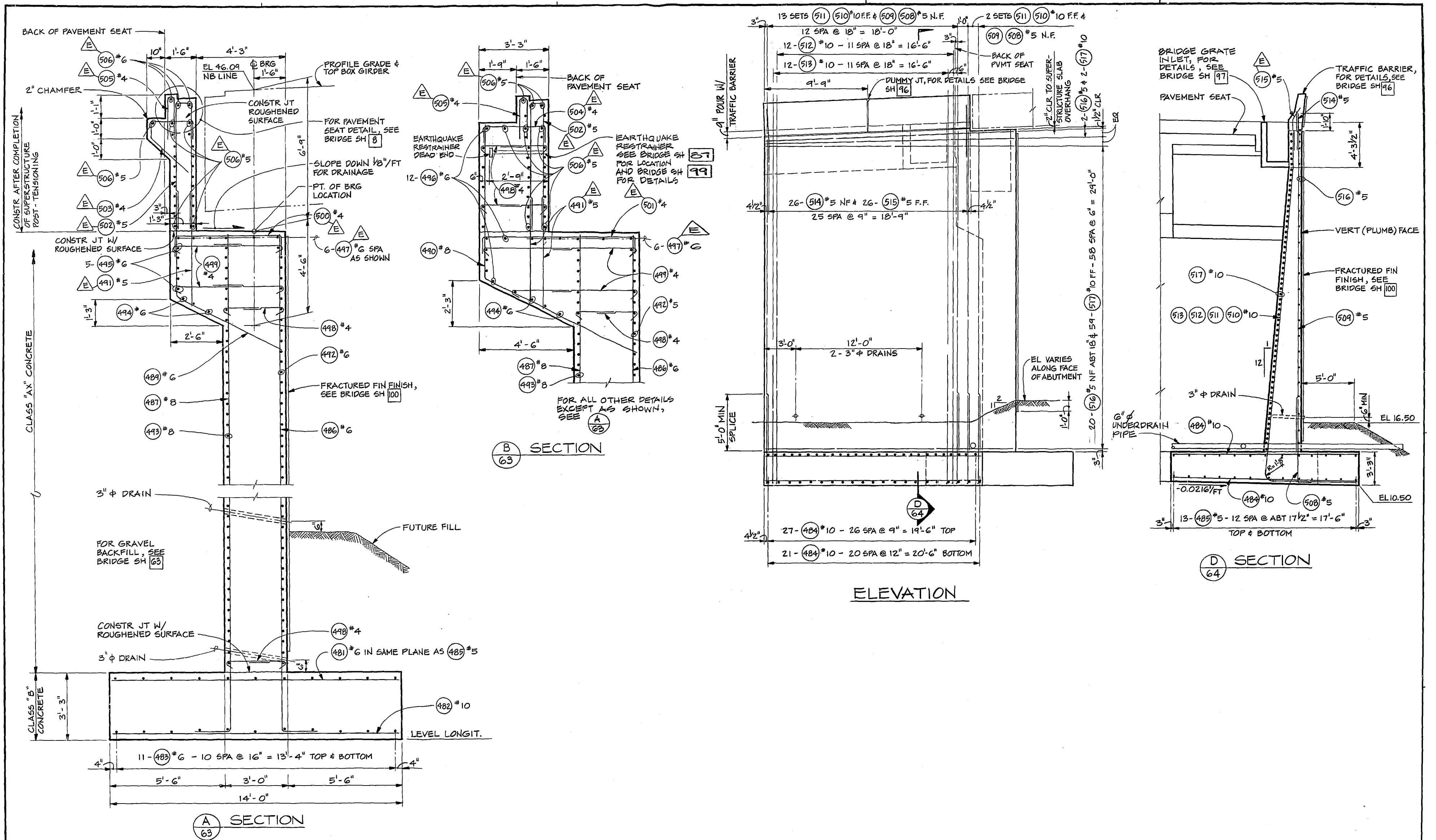
ADAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS



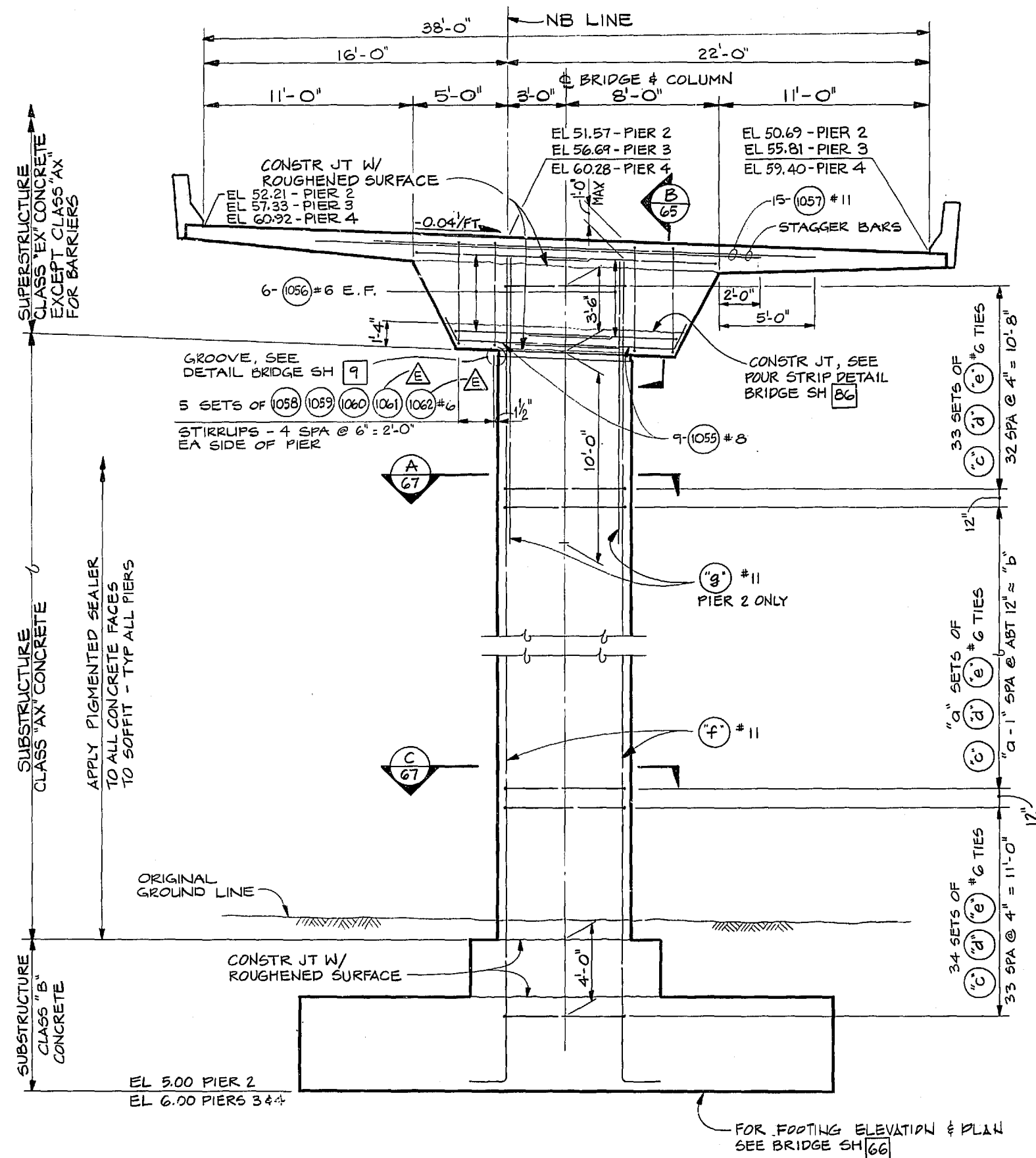
Washington State
Department of Transportation

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

FOOTING LAYOUT



DRAWN BY: BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 109	TOTAL SHEETS 181		SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE	NB-PIER 1 DETAILS	64 SHEET 109 OF 181 SHEETS
DESIGN BY: WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	APRIL 23, 1984 APPROVED	ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS	33000064				
CHECKED BY: JSG	DATE	REVISION	BY APP'D						

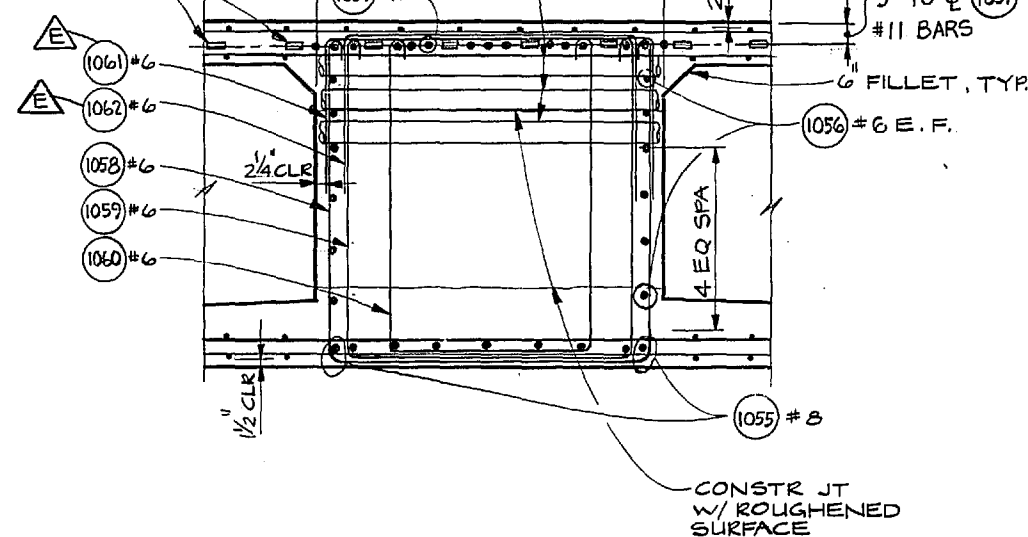


ELEVATION - PIERS 2,3 & 4

LOOKING AHEAD ON STATION

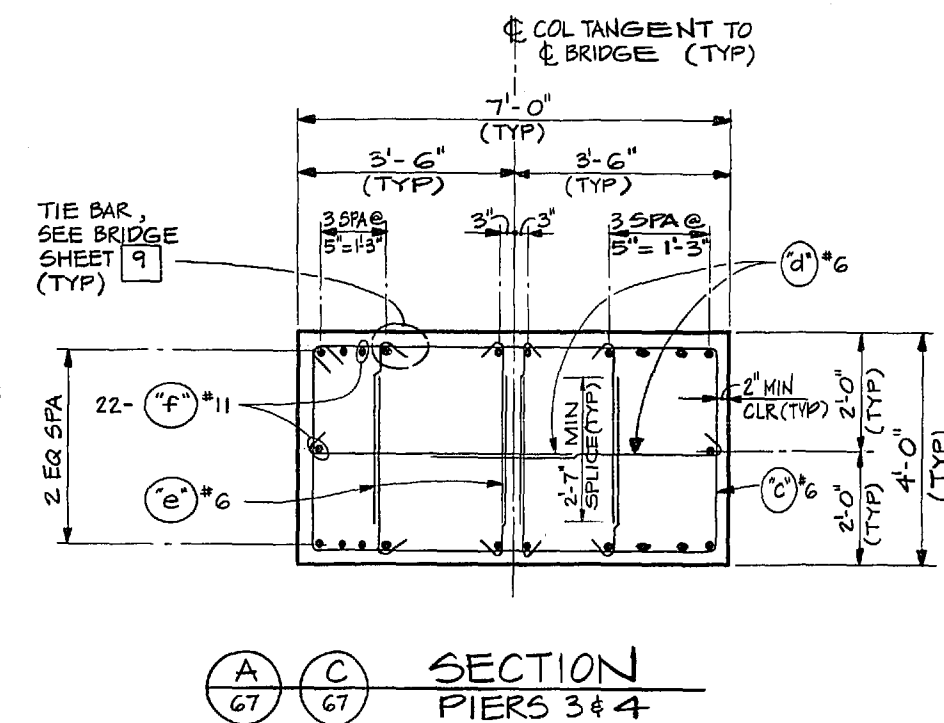
TYPICALLY ALL PIER ELEVATIONS SHOWN ON SUPERSTRUCTURE ARE FINISHED GRADES, SEE CAMBER DIAGRAM ON BRIDGE SH 79 FOR ADJUSTMENTS

APPROX LOCATION OF TRANSVERSE P/T DUCTS

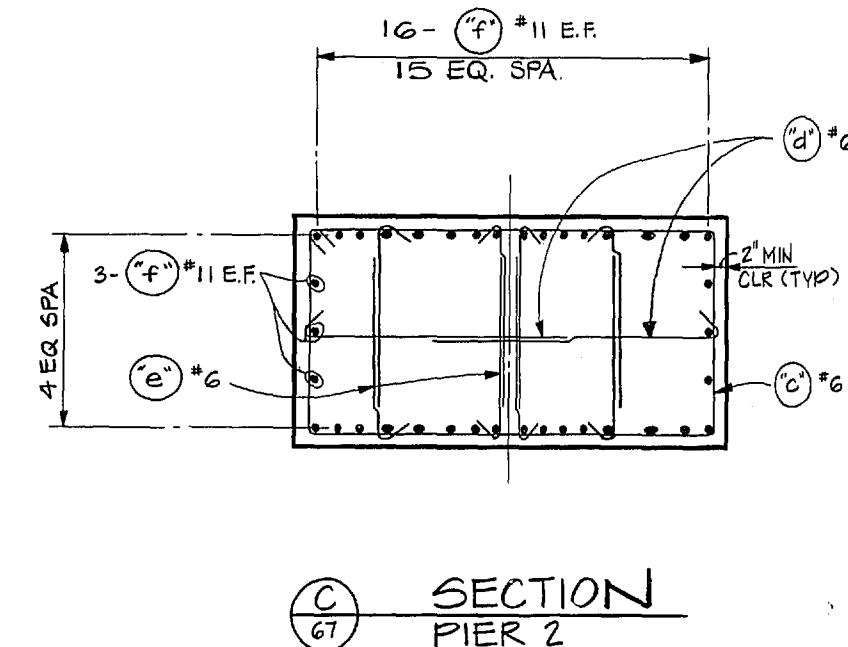


SECTION

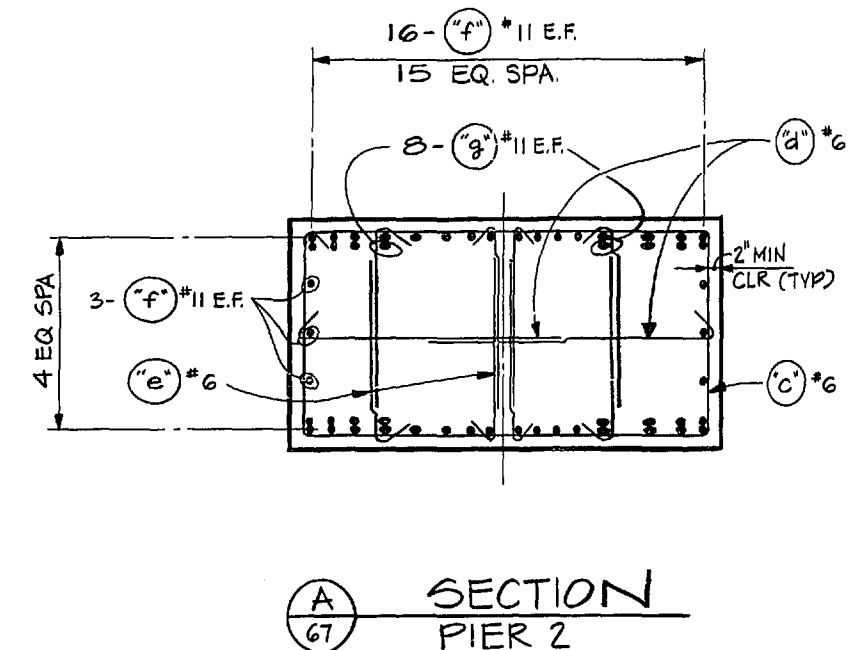
	PIER NO.		
	2	3	4
NO. OF TIES "a"	17	22	25
DIMENSION "b"	15'-3 3/8"	20'-4 1/8"	23'-11 7/8"
BAR MARK "c"	523	542	562
BAR MARK "d"	524	543	563
BAR MARK "e"	525	544	564
BAR MARK "f"	521	541	561
BAR MARK "g"	522		



SECTION PIERS 3 & 4

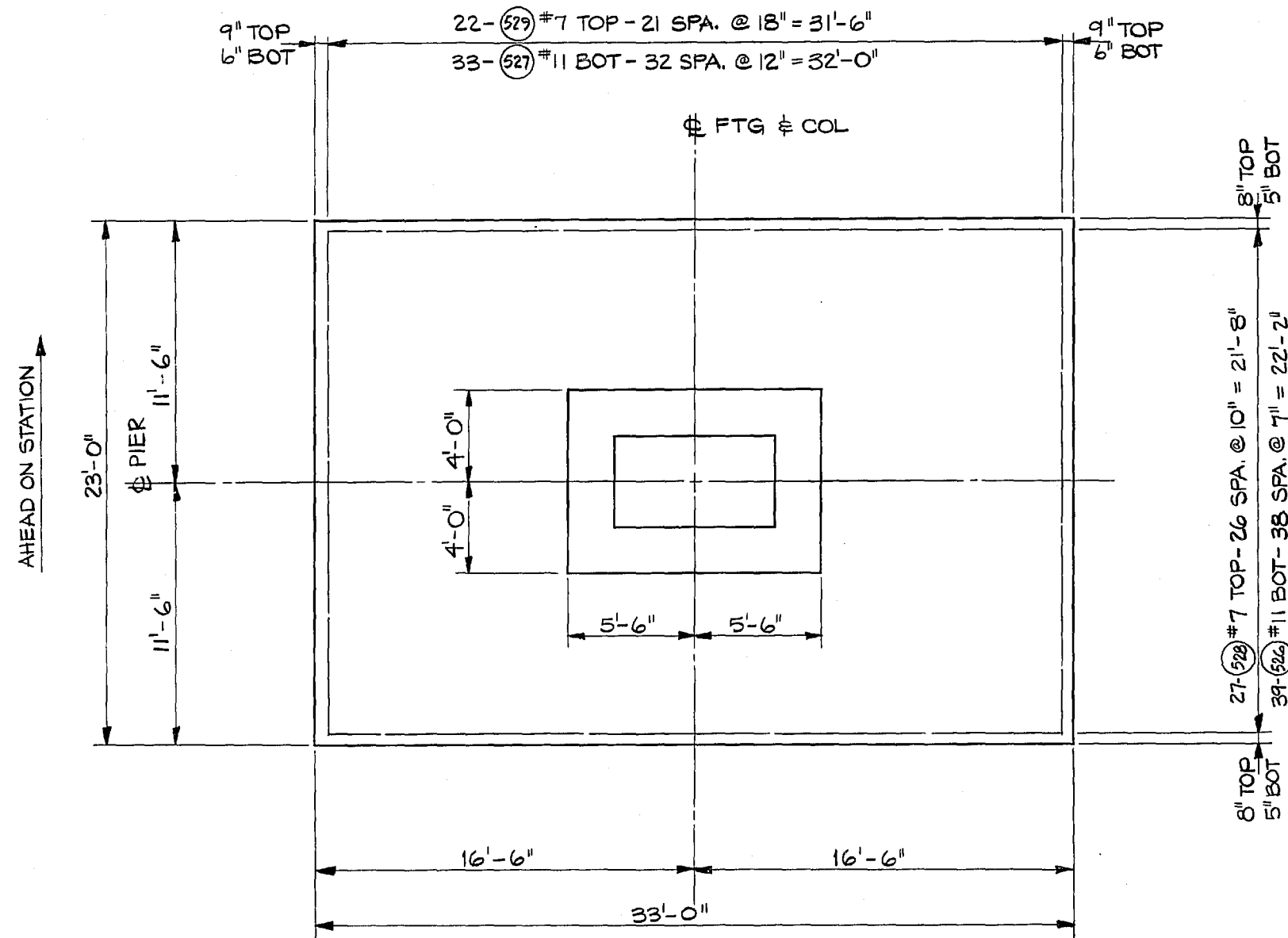


SECTION PIER 2

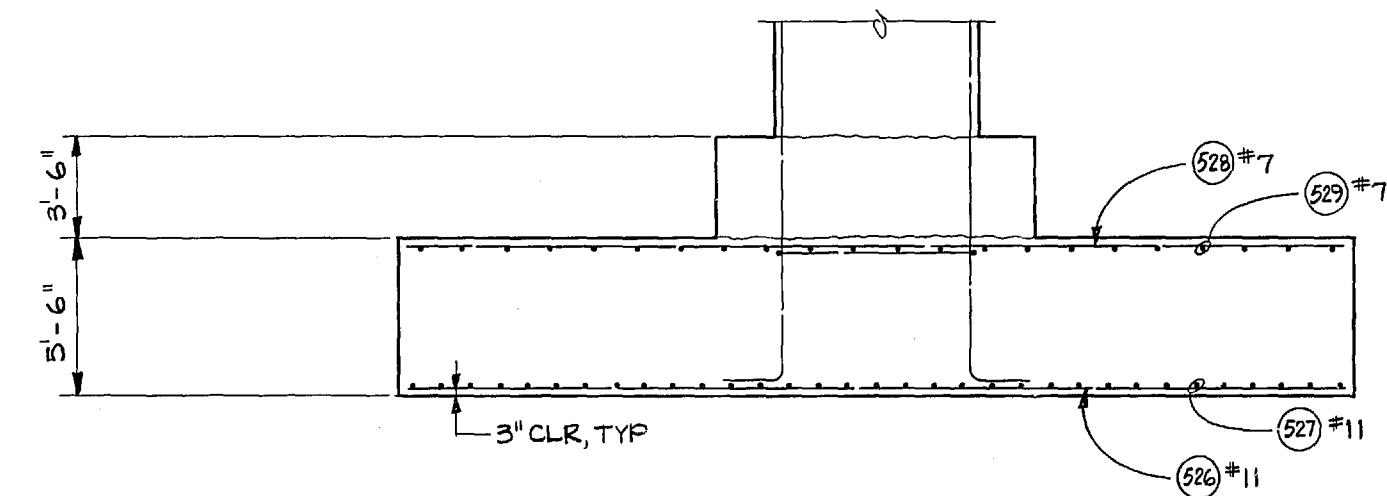


SECTION PIER 2

DRAWN BY: KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 65	TOTAL SHEETS 105	Washington State Department of Transportation 33000065	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB-PIERS 2,3,4	65 SHEET 105 OF 181
DESIGN BY: SKA, GG	JOB NUMBER 84 W056	CONTRACT NO. 2747	DATE	REVISION	BY APP'D			
CHECKED BY: WEW								

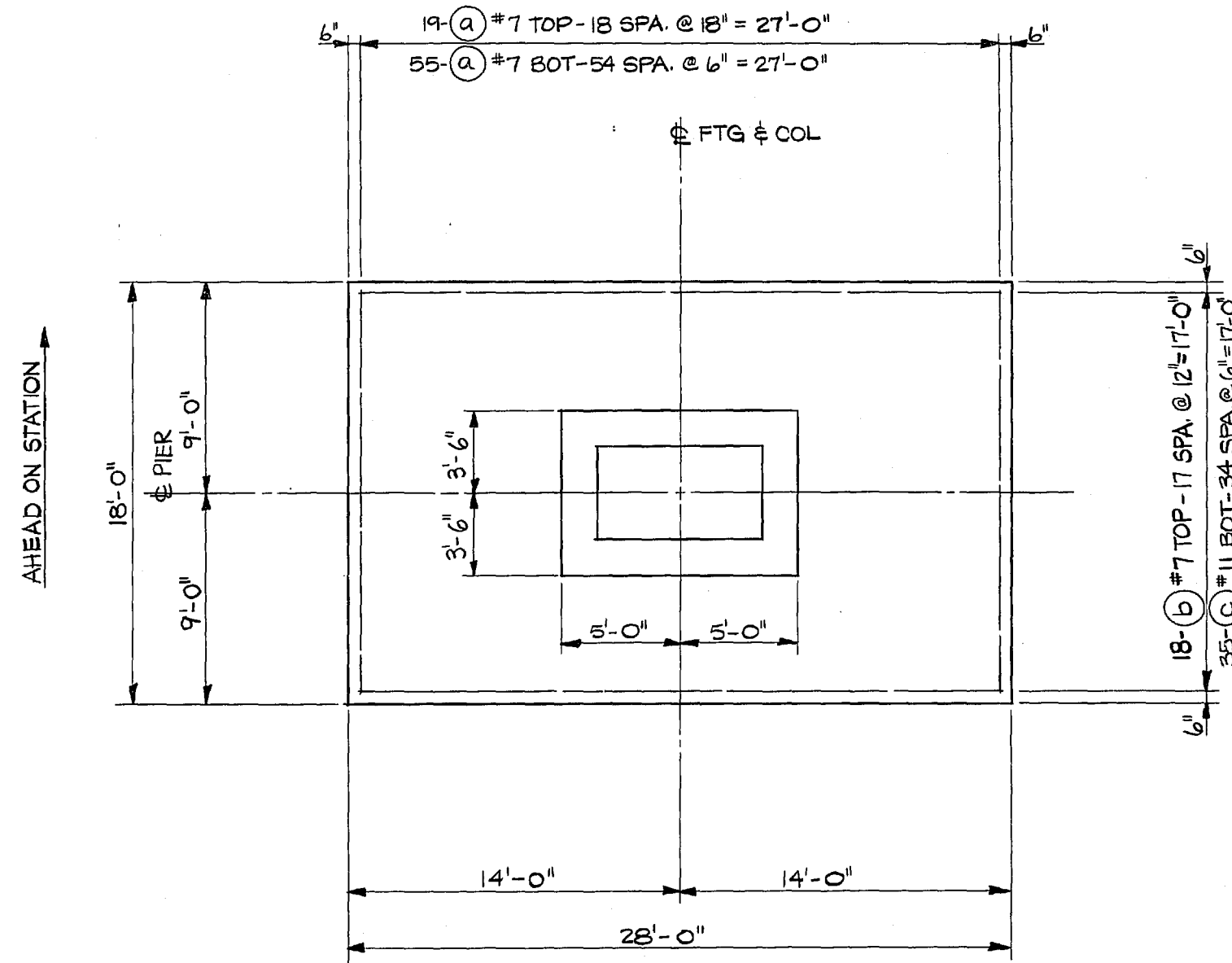


PLAN

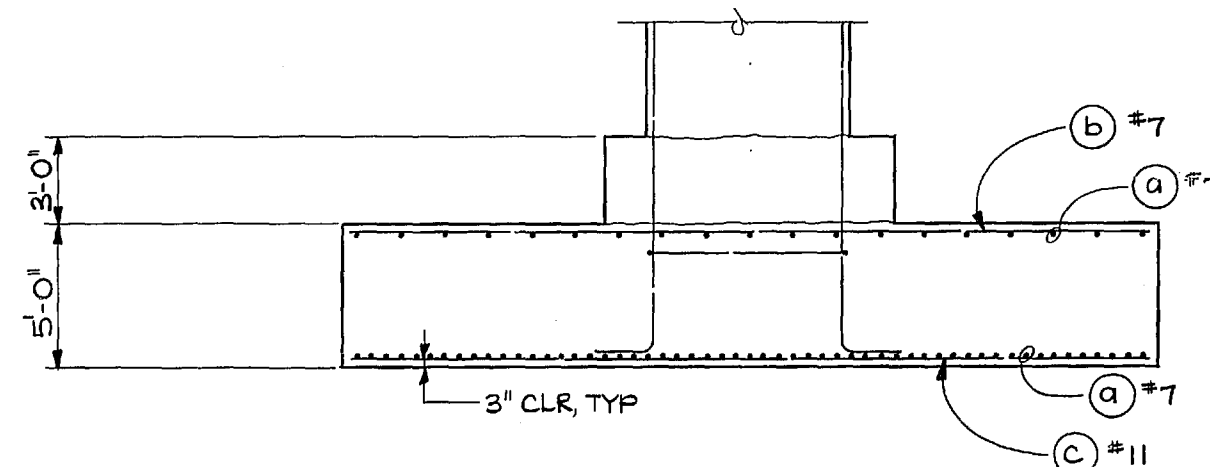


ELEVATION

FOOTING - PIER 2



PLAN



ELEVATION

FOOTING - PIERS 3 & 4

	PIER NO.	
	3	4
BAR MARK "a"	547	567
BAR MARK "b"	546	566
BAR MARK "c"	545	565

DRAWN BY: KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 106	TOTAL SHEETS 181
DESIGN BY: GZ	JOB NUMBER 84W056				
CHECKED BY: WEW	CONTRACT NO. 2747				
DATE	REVISION	BY	APP'D		

APRIL 23, 1984

APPROVED

ASAM ENGINEERS INCORPORATED

CONSULTING ENGINEERS

1000 1ST AVENUE, SUITE 200

SEATTLE, WASHINGTON 98101

Washington State

Department of Transportation

33000036

SR 705

21ST ST. TO SCHUSTER PARKWAY

STAGE 2

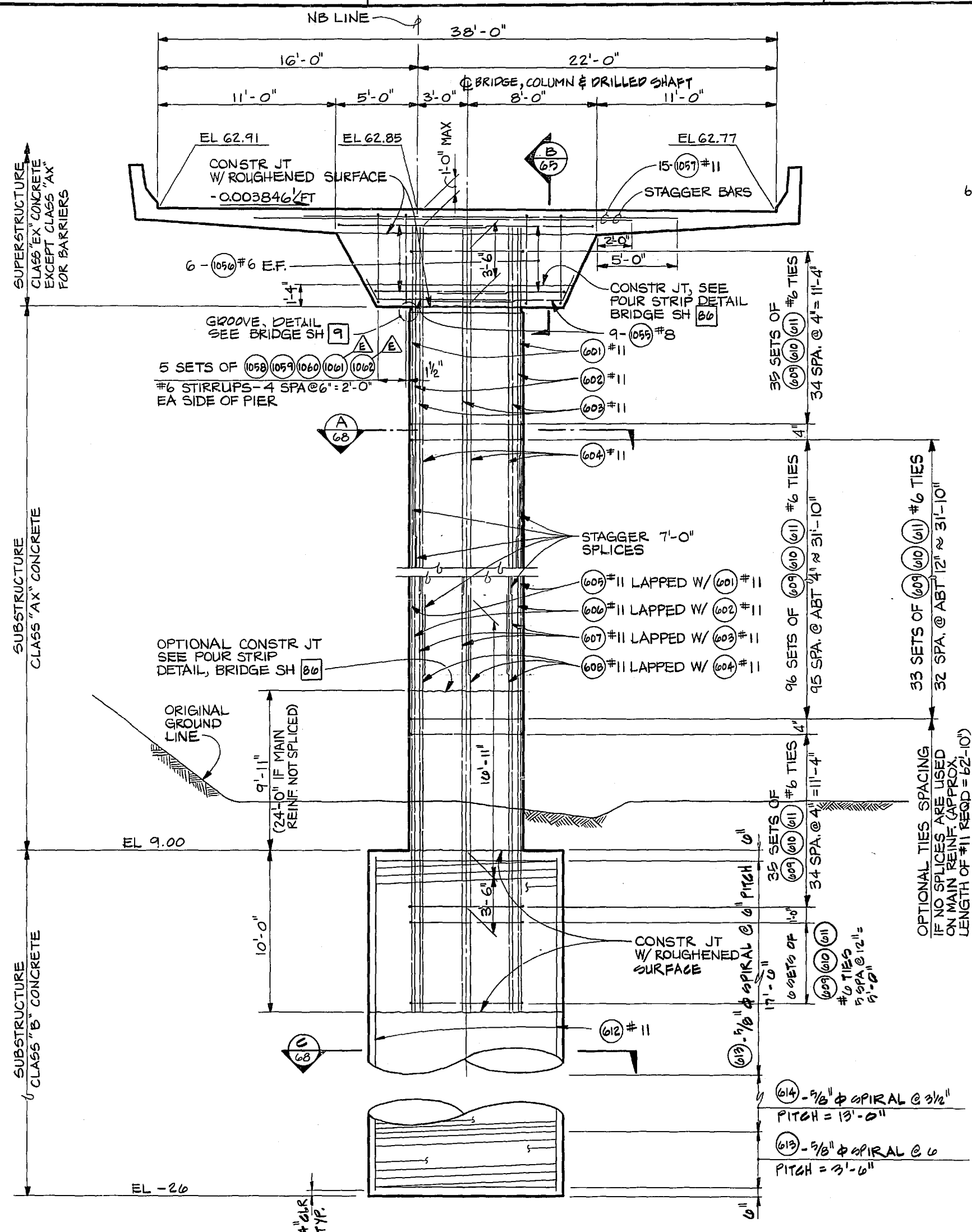
NB LINE BRIDGE

66

SHEET 106

181

SHEETS

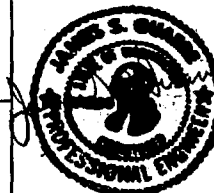


DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 68	TOTAL SHEETS 181
DESIGN BY: GG, SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE	REVISION	BY APP'D
CHECKED BY: WEW					



APRIL 23, 1984
APPROVED

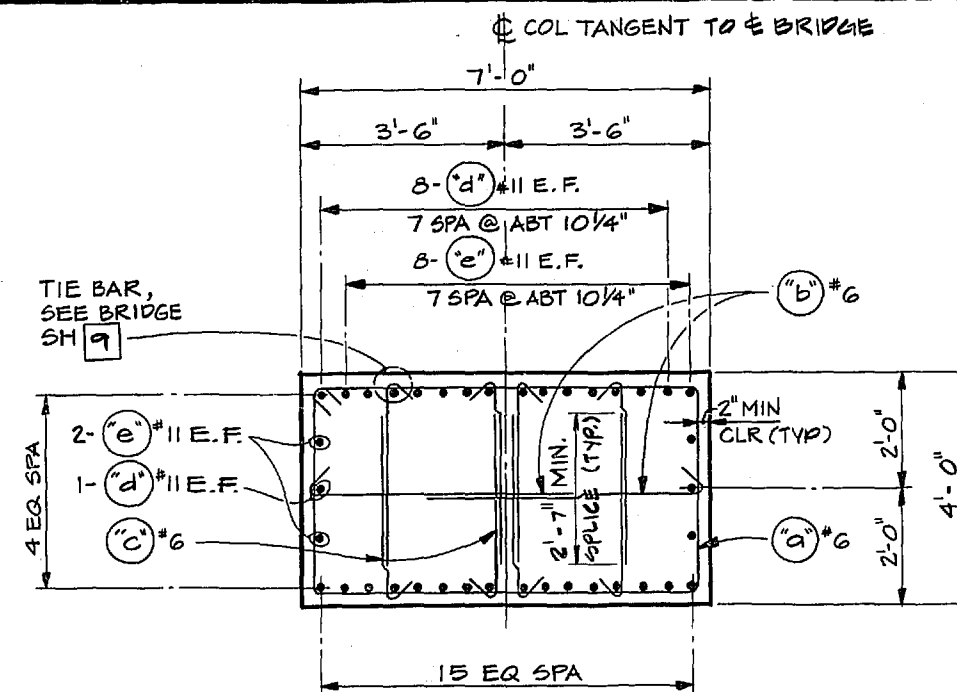
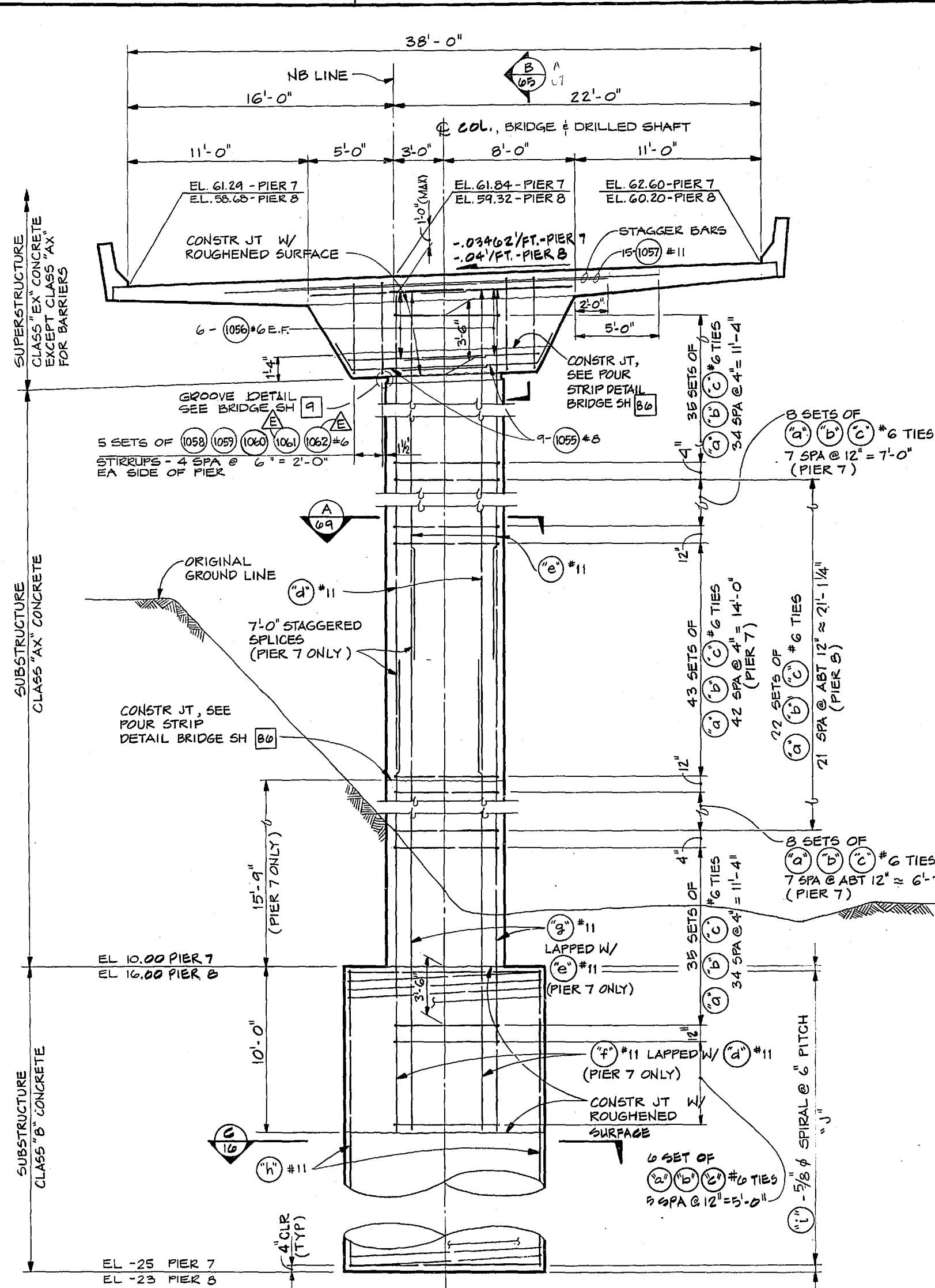
ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1000 12TH STREET, SUITE 200
SEATTLE, WASHINGTON 98101



Washington State
Department of Transportation
38000058

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE
NB - PIER 6

68
108
181
SHEETS



A SECTION

	PIER NO.	
	7	8
BAR MARK "a"	025	042
BAR MARK "b"	026	043
BAR MARK "c"	027	044
BAR MARK "d"	021	041
BAR MARK "e"	022	041
BAR MARK "f"	023	
BAR MARK "g"	024	
BAR MARK "h"	028	045
BAR MARK "i"	029	046
DIMENSION "j"	34'-0"	38'-0"

ELEVATION - PIERS 7 & 8

LOOKING AHEAD ON STATION

DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 109	TOTAL SHEETS 181
DESIGN BY: G.G. SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE APRIL 23, 1984	APPROVED	
CHECKED BY: W.E.W.	REVISION	BY APP'D			



APRIL 23, 1984

ABAM ENGINEERS INCORPORATED

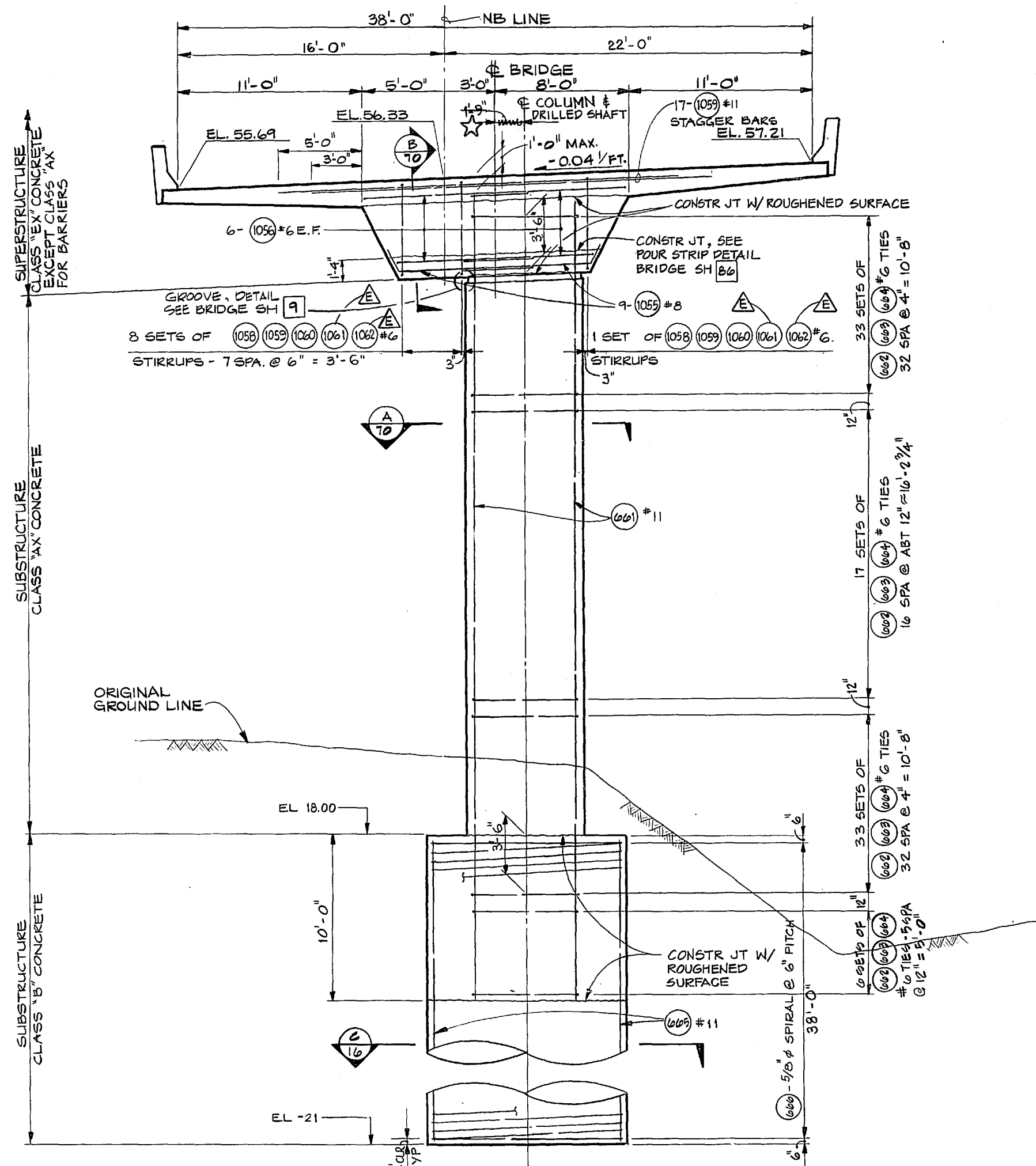


Washington State Department of Transportation

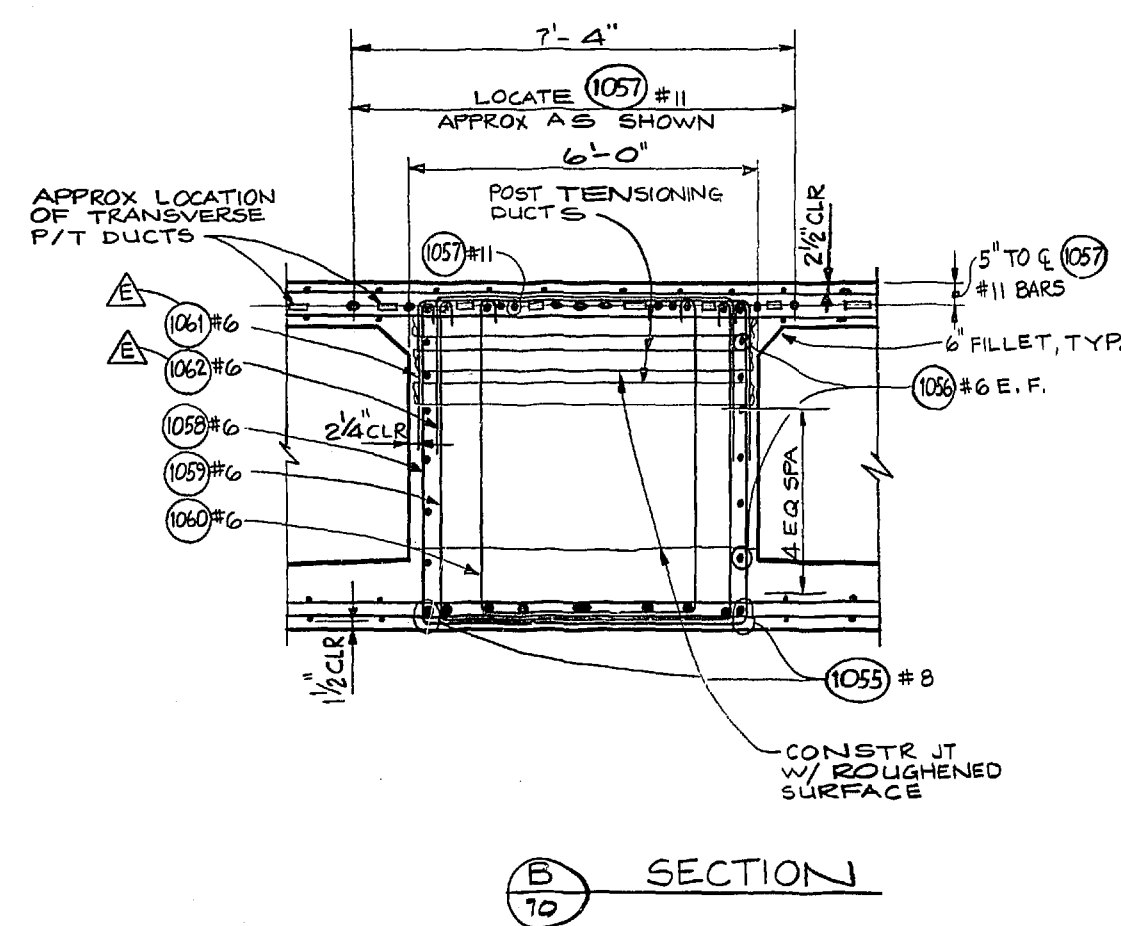
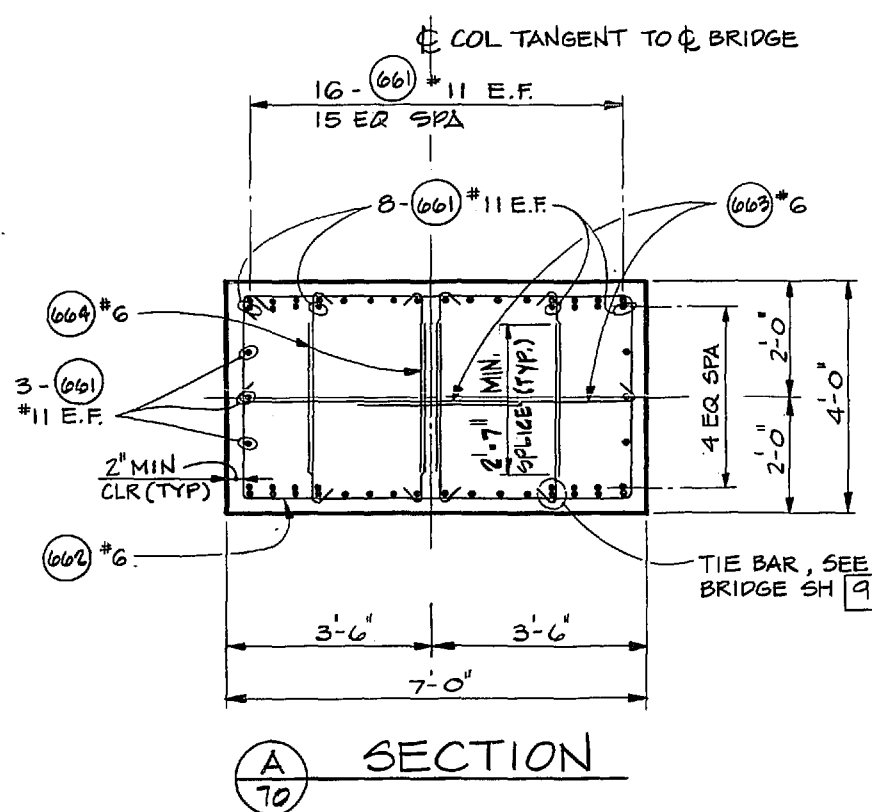
33000069

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

NB - PIERS 7 & 8



ELEVATION - PIER 9
LOOKING AHEAD ON STATION



DRAWN BY: TKT & BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 70	TOTAL SHEETS 181
DESIGN BY: GG, SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE	REVISION	BY/APP'D
CHECKED BY: WEW					



APRIL 23, 1984
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1000 10TH AVENUE, SUITE 100
SEATTLE, WASHINGTON 98101
(206) 461-1100



Washington State
Department of Transportation

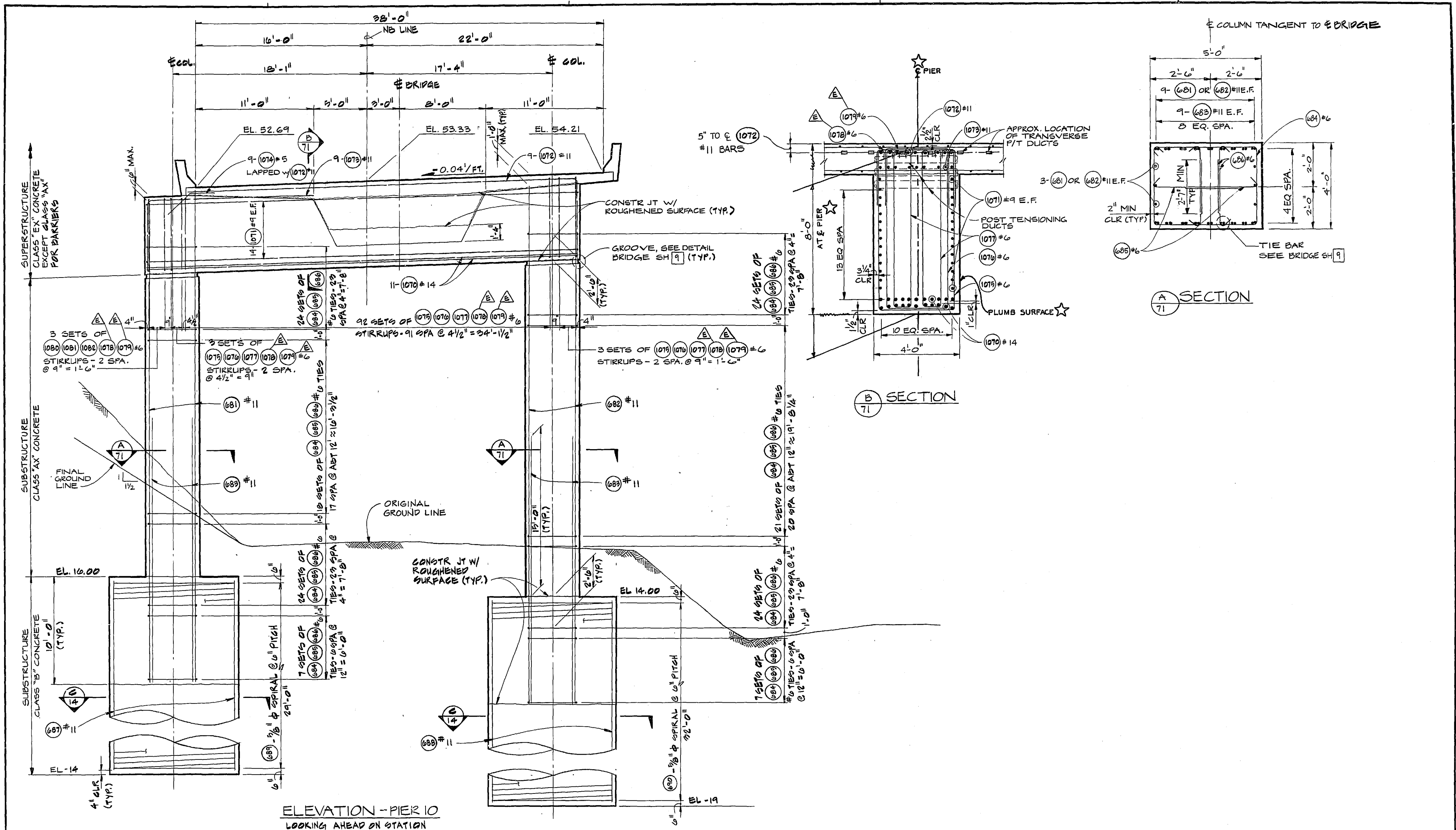
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★ AS BUILT CHANGE 11-26-90

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

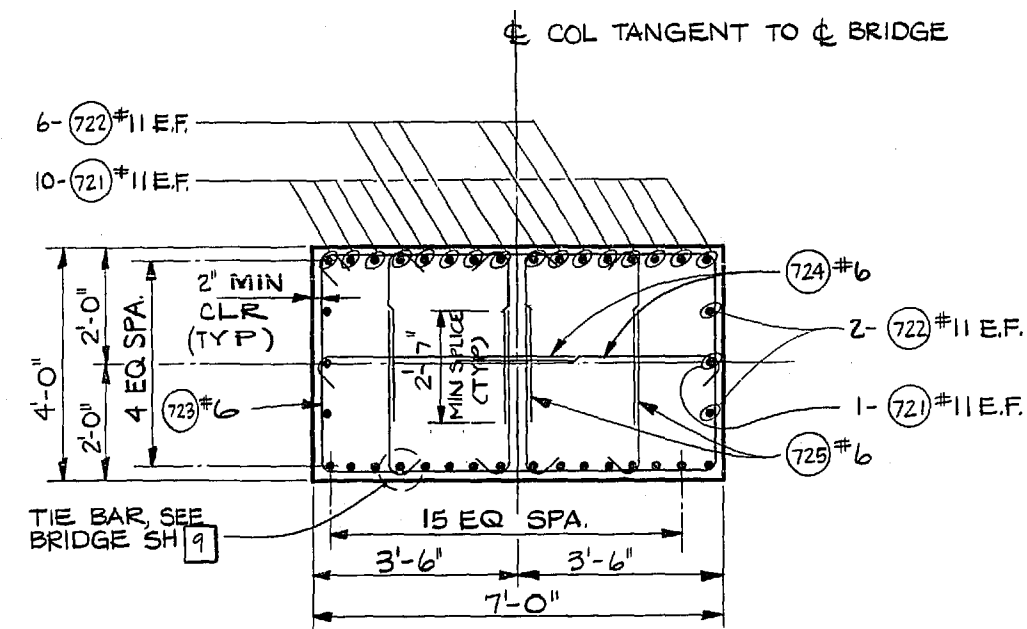
NB - PIER 9

SHEET
110
OF
181
SHEETS



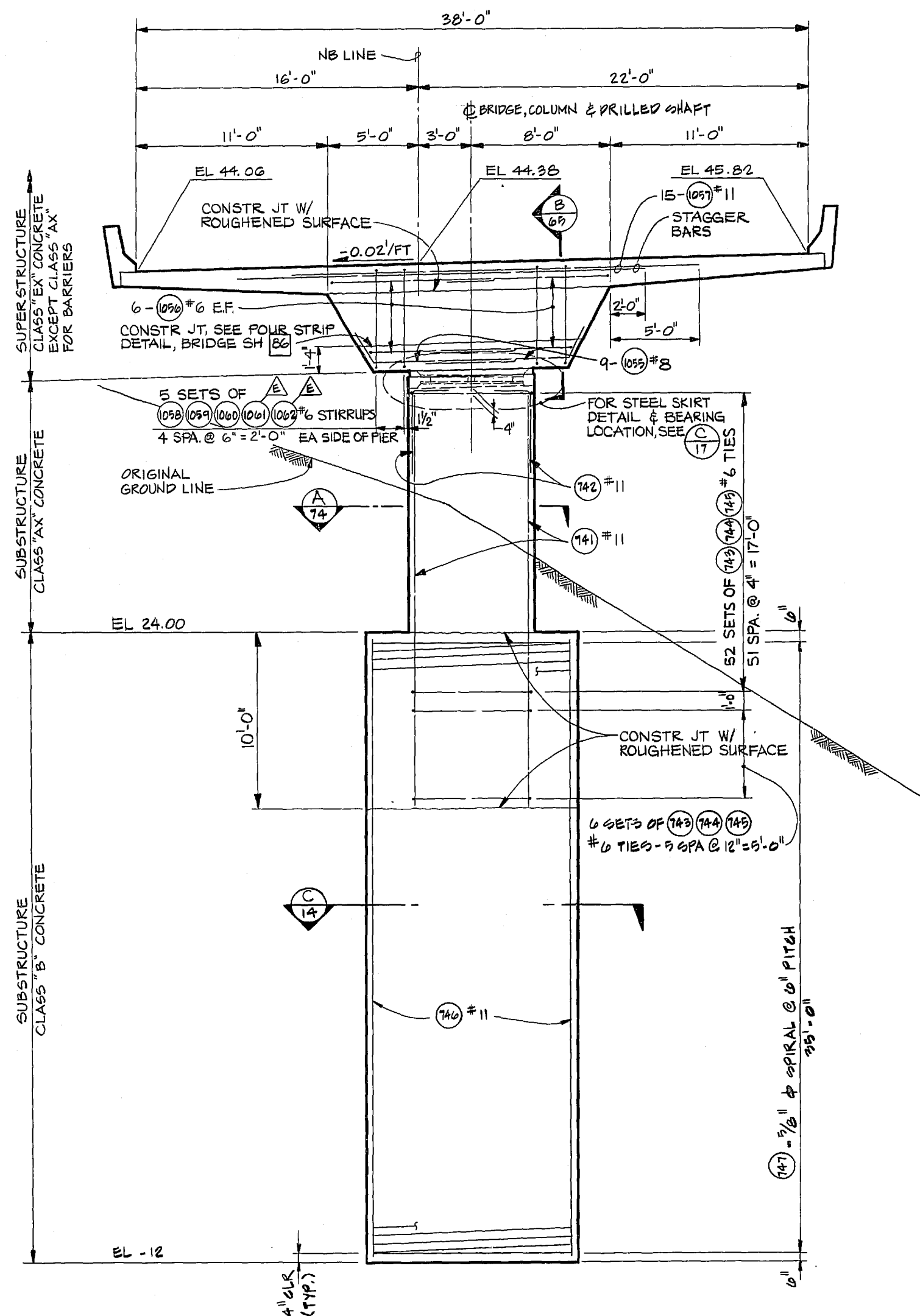
☆ AS BUILT CHANGE 11-26-90

DRAWN BY : TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 71	TOTAL SHEETS 131
DESIGN BY : G.G. SKA	JOB NUMBER 01W056	CONTRACT NO. 2747	APR 23, 1984	APPROVED	ASBAM ENGINEERS INCORPORATED
CHECKED BY : WEW	DATE	REVISION	BY	APP'D	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
					33000071
					SR 705
					21ST ST. TO SCHUSTER PARKWAY
					STAGE 2
					NB LINE BRIDGE
					NB - PIER 10



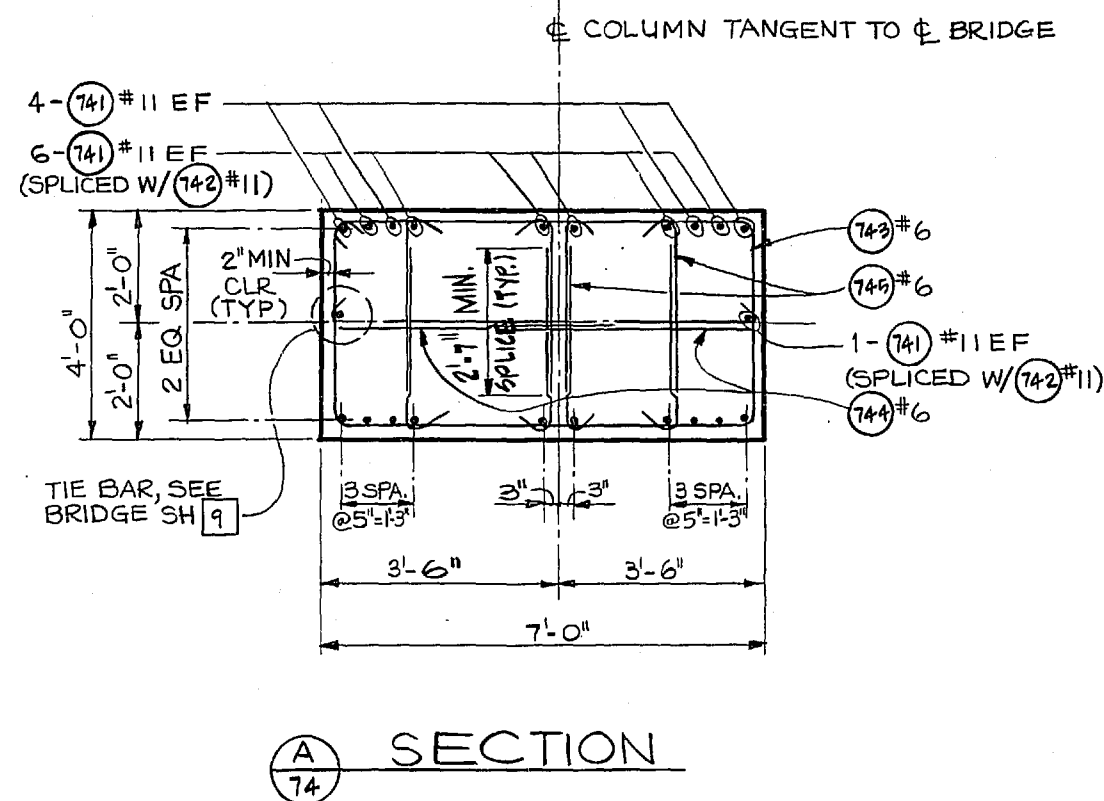
ELEVATION - PIER 12
LOOKING AHEAD ON STATION

 APRIL 23, 1984 APPROVED	 ASAM ENGINEERS INCORPORATED CONSULTING ENGINEERS 202 MONROVIA AVE. SUITE 200 CHICAGO, IL 60604	  Washington State Department of Transportation	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE	73
		- 33600073 -	NB-PIER 12	SHEET 113 OF 187 SHEET



ELEVATION - PIER 13

LOOKING AHEAD ON STATION



DRAWN BY: TKT		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 114	TOTAL SHEETS 181
DESIGN BY: GG, SKA		JOB NUMBER 84W056				
CHECKED BY: WEW		CONTRACT NO. 2747				
DATE	REVISION	BY/APP'D				



APRIL 23, 1984
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
WASHINGTON STATE
FEDERAL AID PROJECT NO. 1-705-3(665)



Washington State
Department of Transportation

33000074

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

NB - PIER 13

74

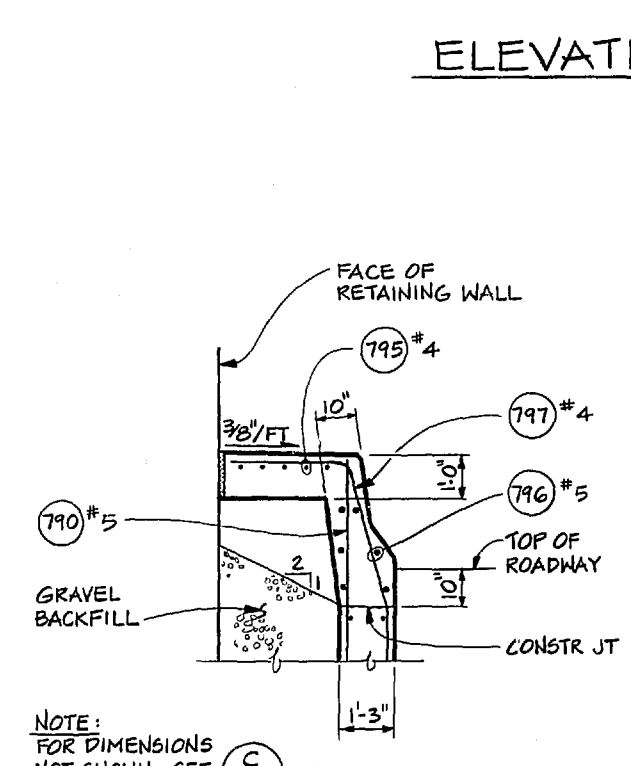
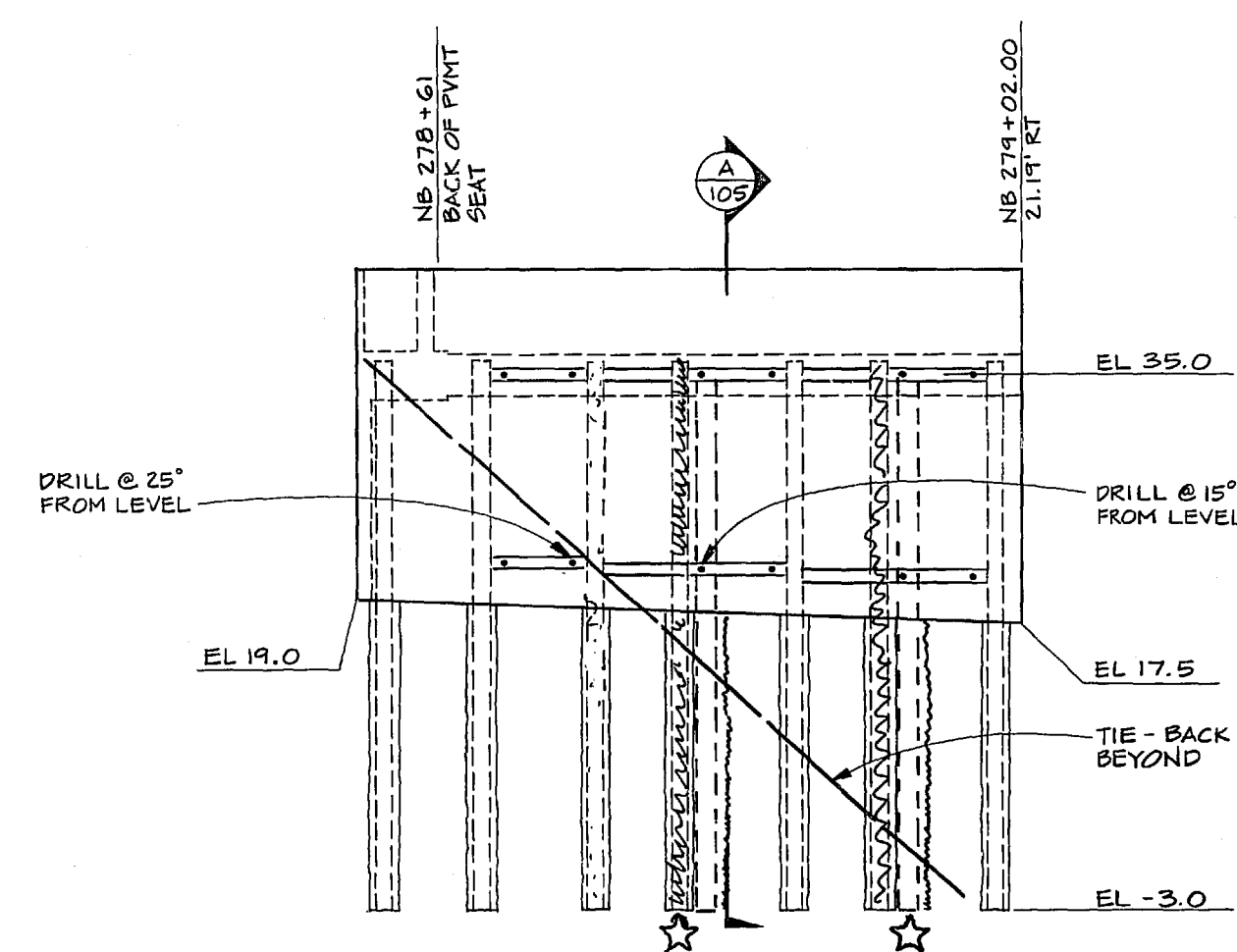
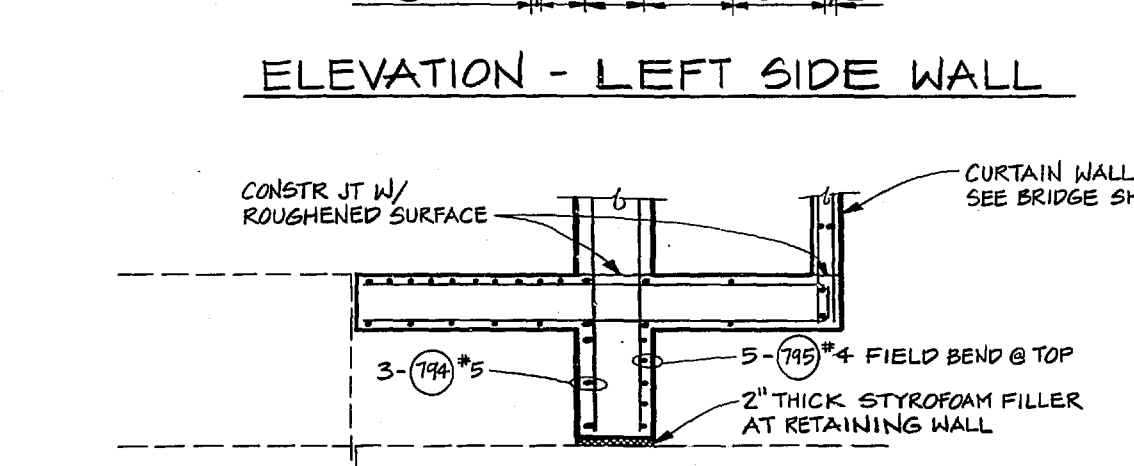
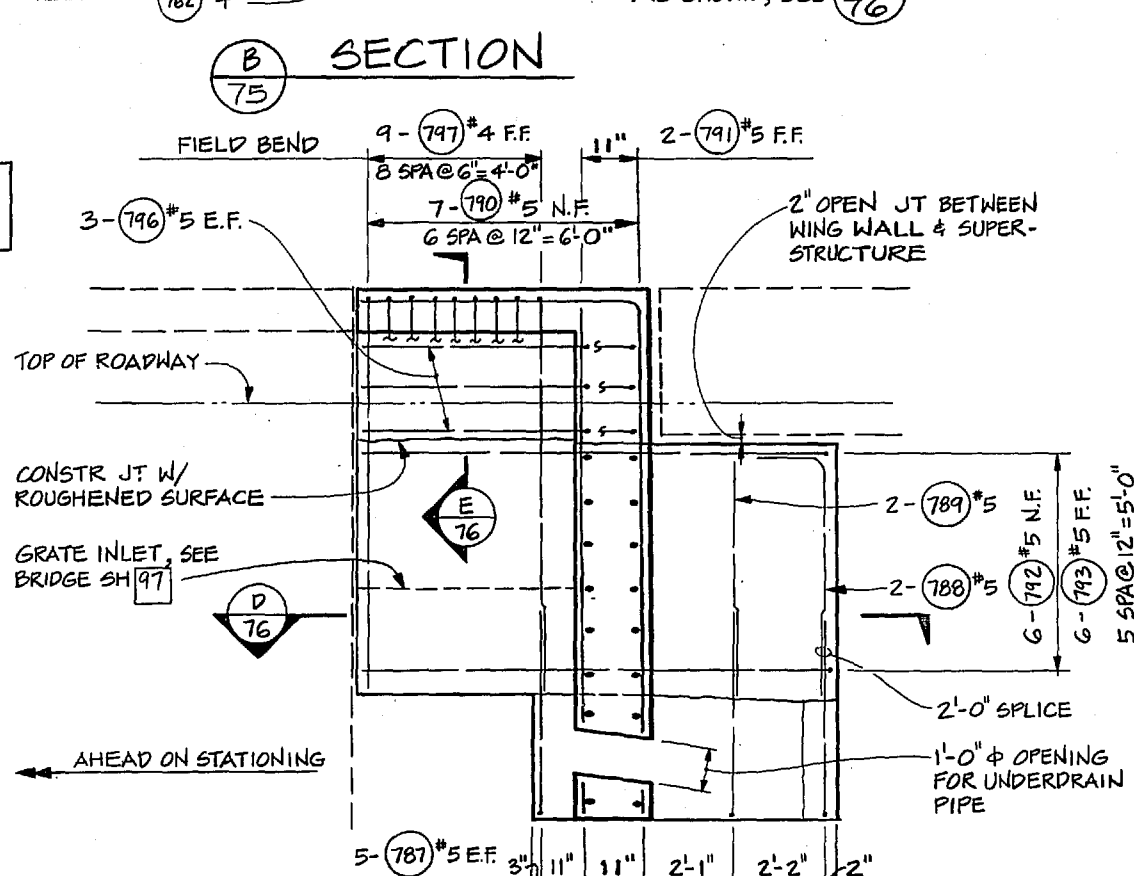
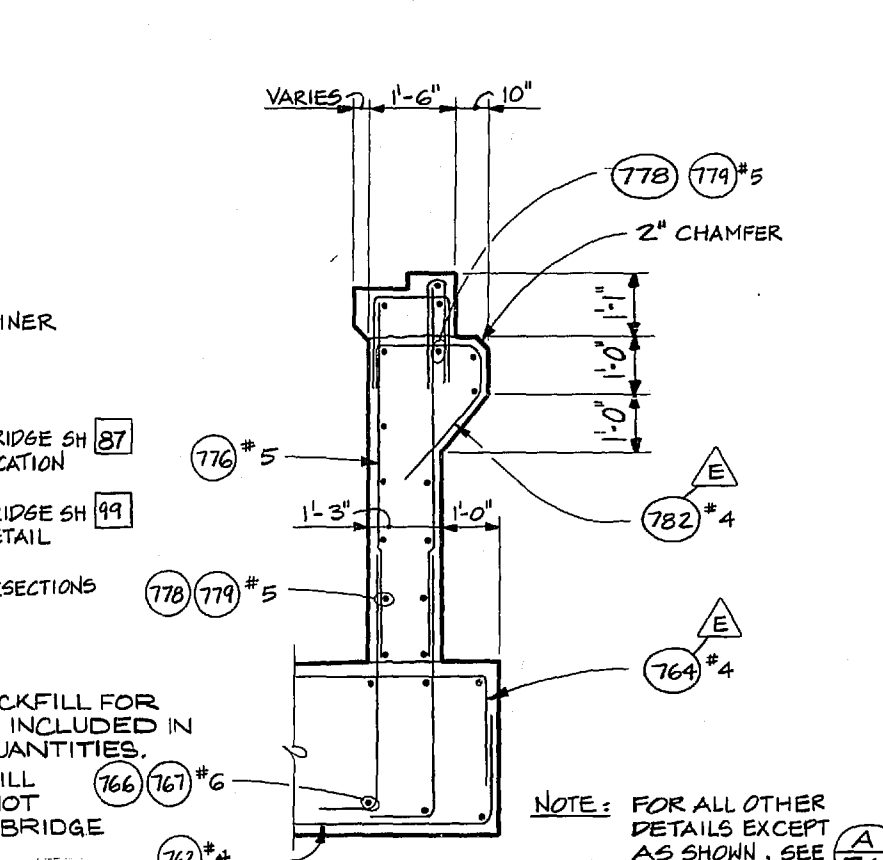
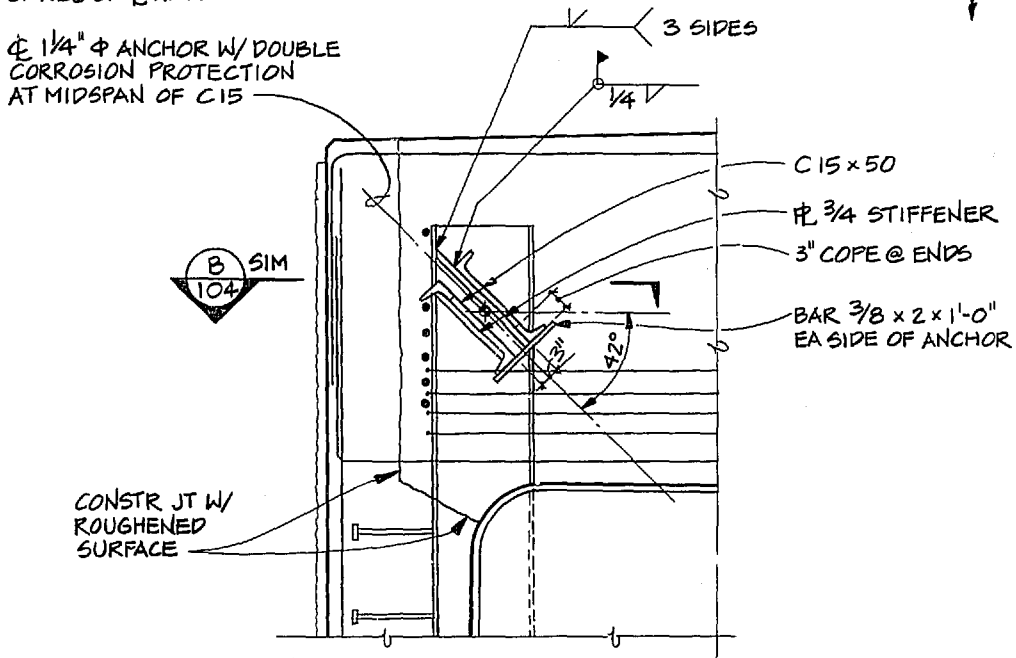
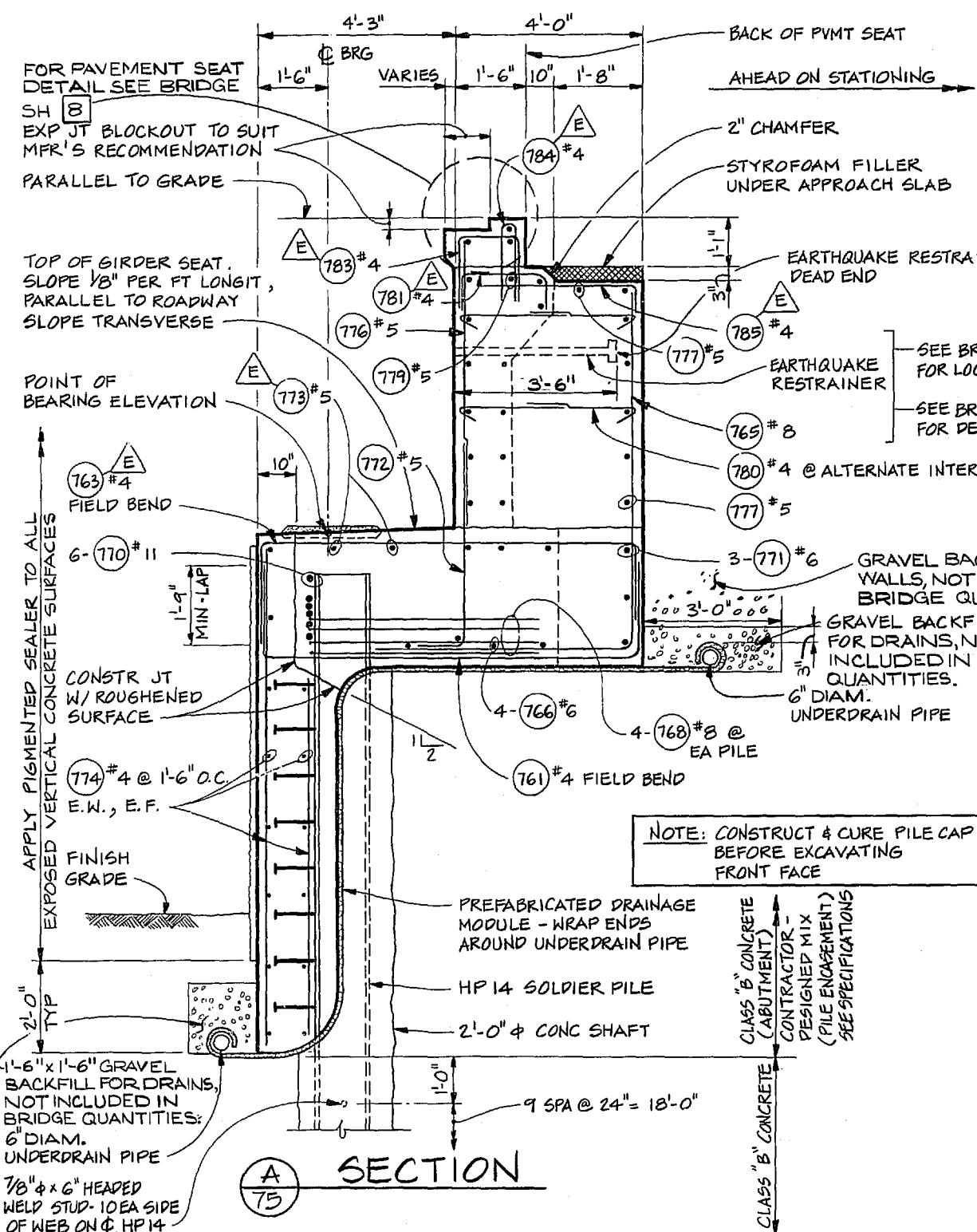
SHEET

114

OF

181

SHEETS



SECTION C

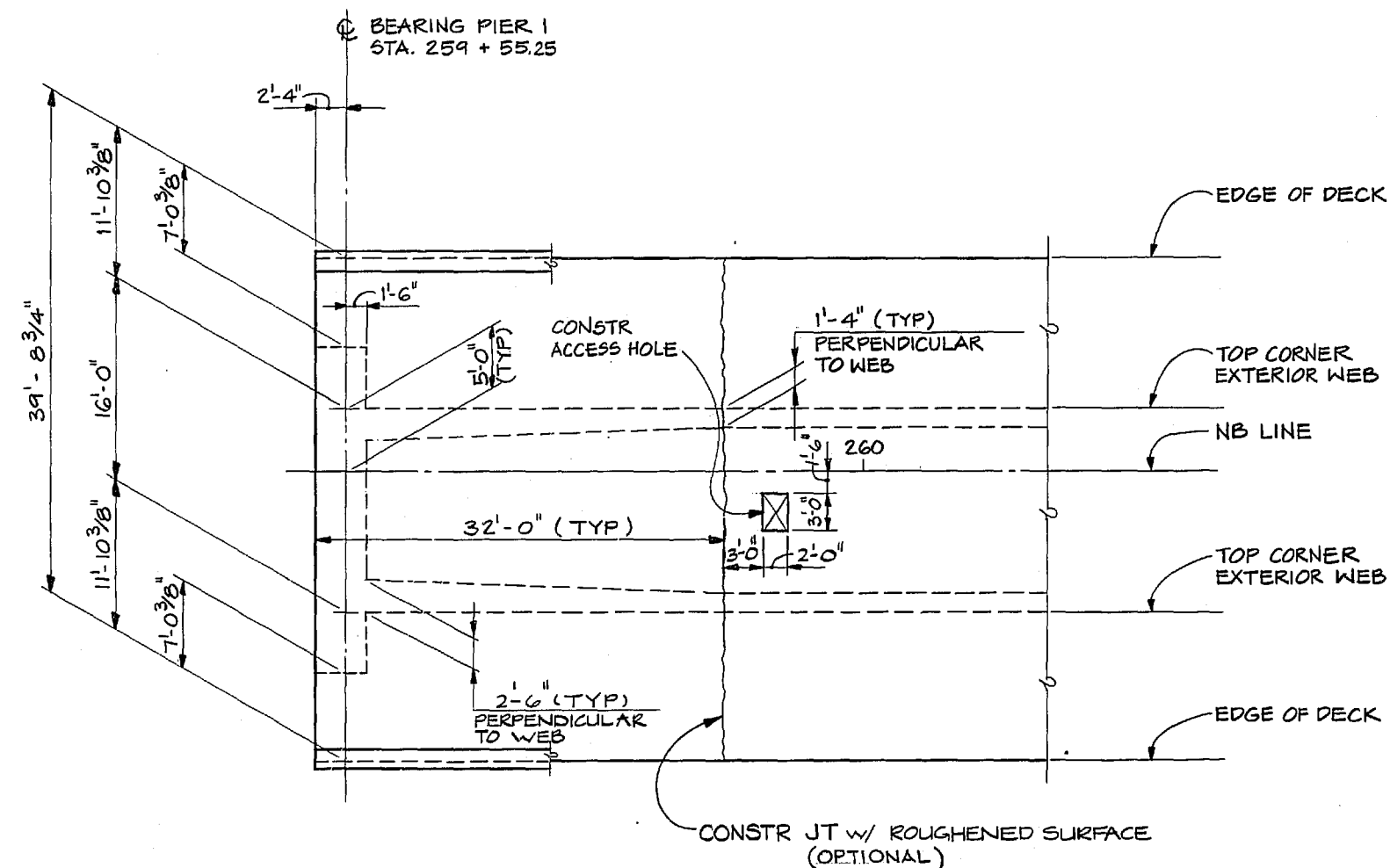
DATE: _____

REVISION: _____

BY: _____

APP'D: _____

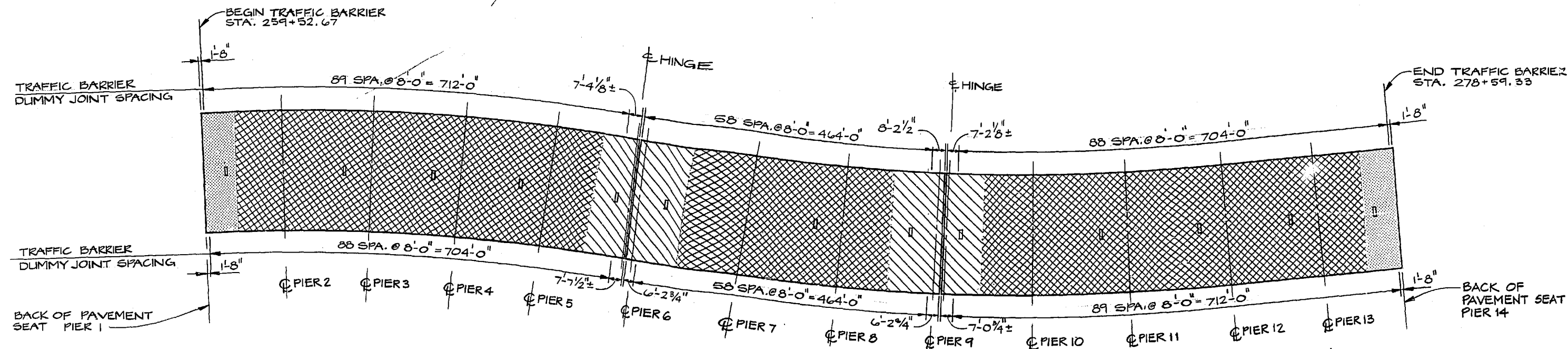
DRAWN BY: TKT DESIGN BY: JUG CHECKED BY: WEW	REGION NO. 10 STATE WASH FED. AID PROJ. NO. 1-705-3(665) JOB NUMBER 84W056 CONTRACT NO. 2747	SHEET NO. 116 TOTAL SHEETS 181	APRIL 23, 1984 APPROVED	ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS	JAMES S. GUNDEL PROFESSIONAL ENGINEER	Washington State Department of Transportation 33000076	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB-PIER 14 DETAILS	76 SHEET 116 OF 181 SHEETS
--	--	-----------------------------------	----------------------------	--	--	--	---	---



FRAMING PLAN AT ABUTMENT

PIER 1 SHOWN, PIER 14 OPPOSITE HAND

LONGIT. DIMENSIONS DO NOT INCLUDE EFFECTS OF SHRINKAGE, ELASTIC SHORTENING AND CREEP



KEY PLAN

LONGIT. DIMENSIONS DO NOT INCLUDE EFFECTS OF SHRINKAGE, ELASTIC SHORTENING AND CREEP

LEGEND

- ABUTMENT
- TYPICAL PIER
- HINGED PIER

DRAWN BY : TKT				REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 117	TOTAL SHEETS 181
DESIGN BY : SKA				JOB NUMBER 84W056				
CHECKED BY : WEW				CONTRACT NO. 2747				
DATE	REVISION	BY	APP'D					

APR 23 1984
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS

JAMES S. ORANGE
PROFESSIONAL ENGINEER

Washington State
Department of Transportation

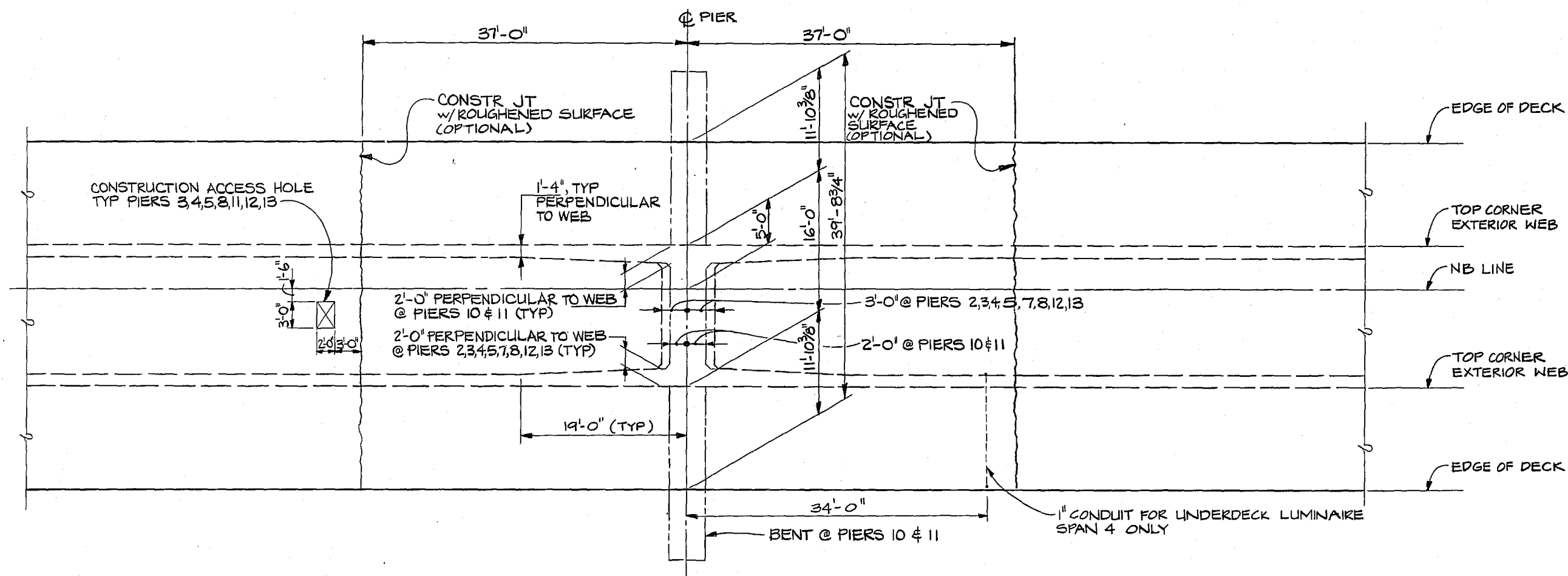
33000077

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

DOT FORM 221-012
Revised 9/82

SR 705/14

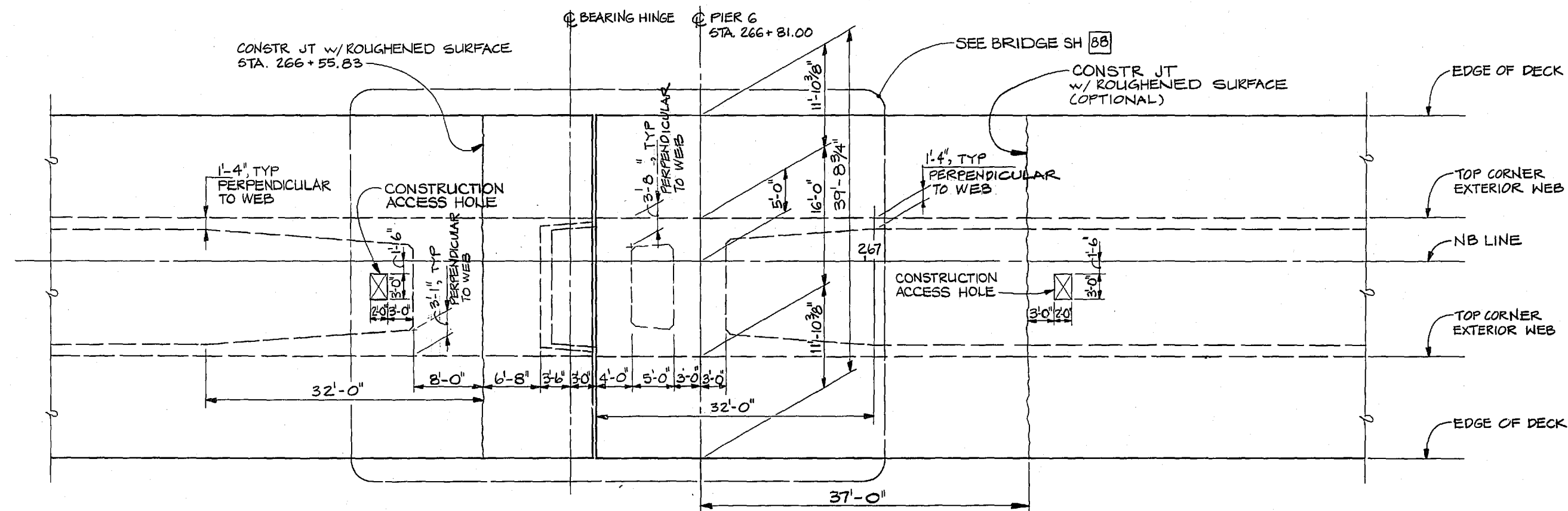
1/22/84



FRAMING PLAN - TYPICAL PIER

PIERS 2,3,4,5,7,8,10,11,12,13

LONGIT. DIMENSIONS DO NOT INCLUDE EFFECTS OF SHRINKAGE, ELASTIC SHORTENING AND CREEP

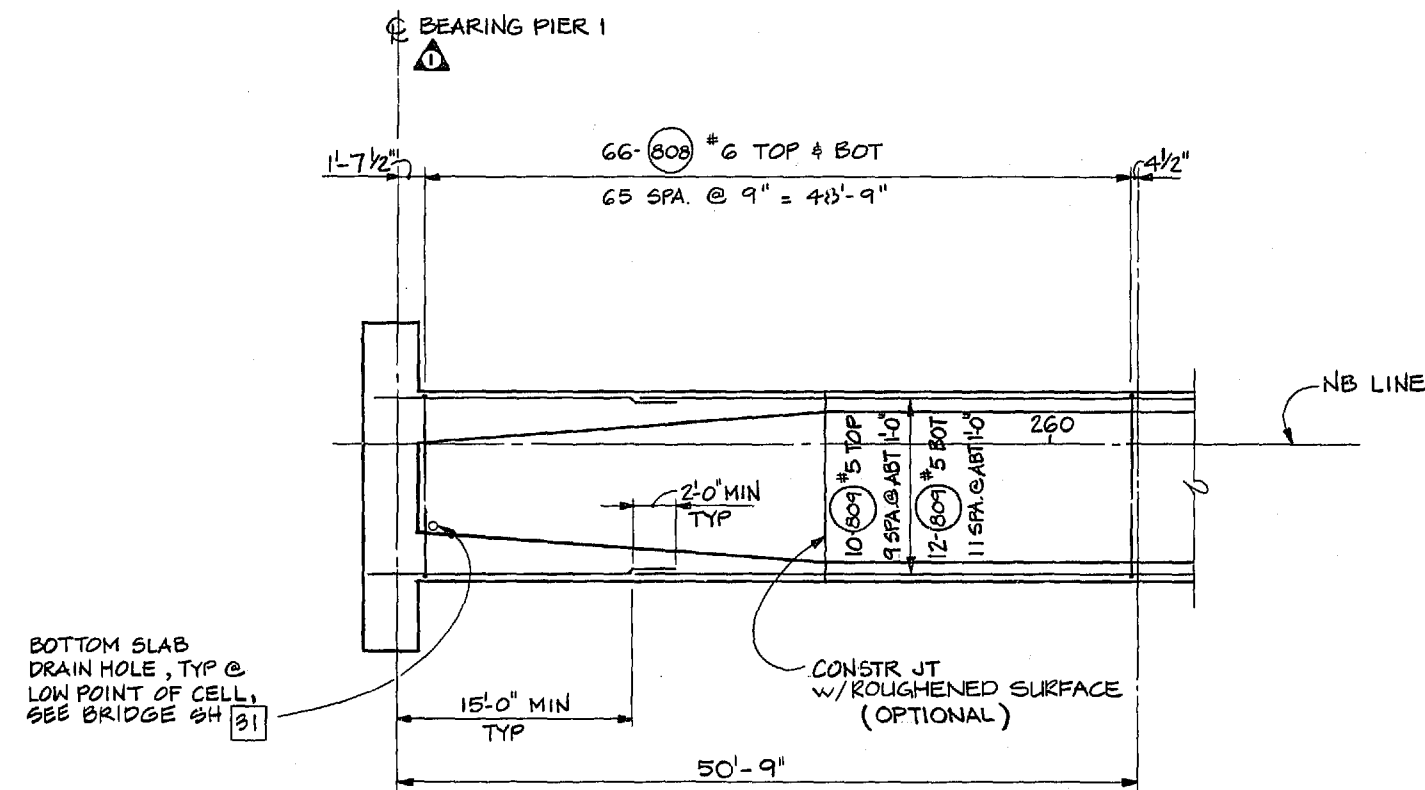


FRAMING PLAN - HINGED PIER

PIER 6 SHOWN, PIER 9 OPPOSITE HAND

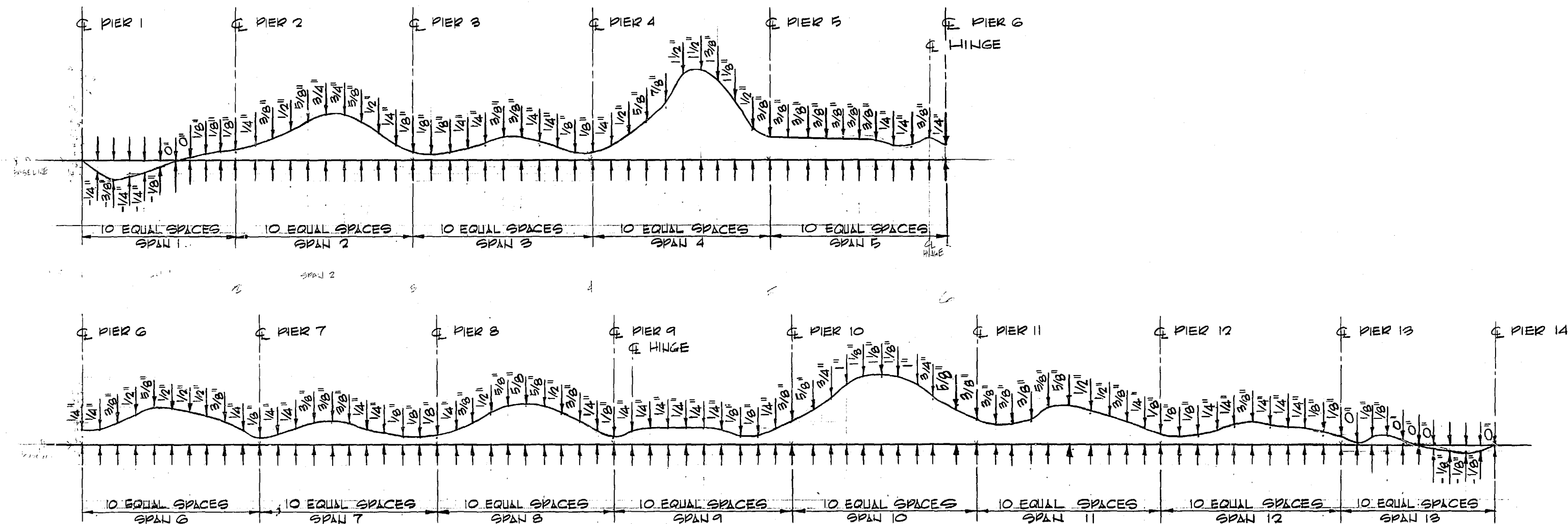
LONGIT. DIMENSIONS DO NOT INCLUDE EFFECTS OF SHRINKAGE, ELASTIC SHORTENING AND CREEP

DRAWN BY : TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 118	TOTAL SHEETS 181	Washington State Department of Transportation 33000078	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB - FRAMING PLANS TYPICAL PIER & HINGED PIER	78 SHEET 118 OF 181 152/183
DESIGN BY : SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	APPROVED	APPROVED				
CHECKED BY : WEW								
DATE	REVISION	BY	APP'D					



BOTTOM SLAB REINFORCEMENT PLAN @ ABUTMENT

PIER 1 SHOWN, PIER 14 OPPOSITE HAND

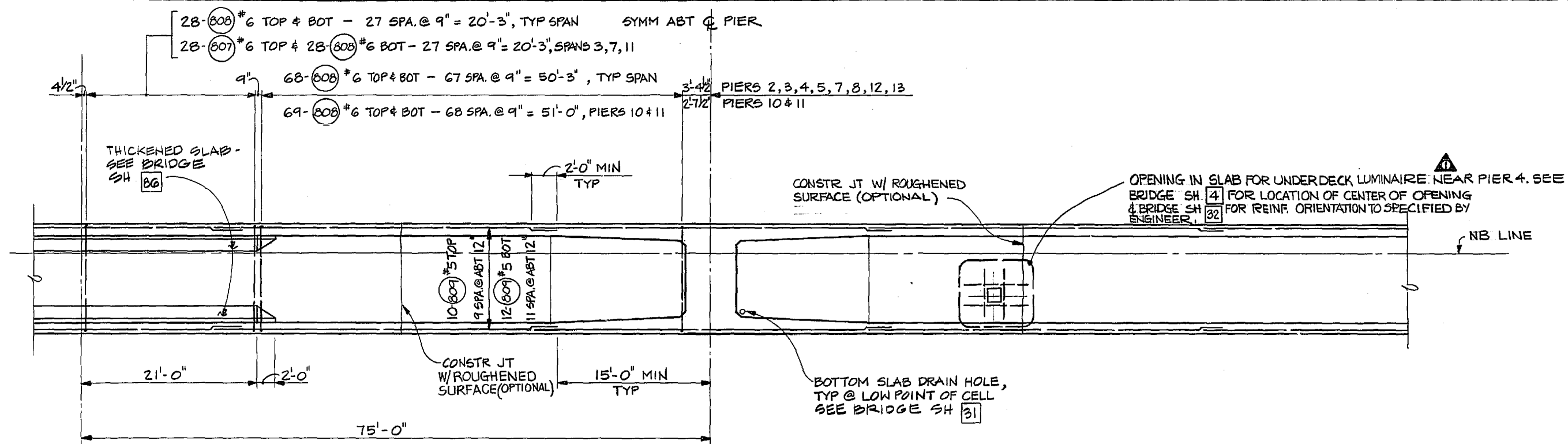


CAMBER DIAGRAM

CAMBER DIAGRAM SHOWS DEAD LOAD PLUS POST-TENSION CAMBER ONLY AND SHOULD BE MODIFIED BY THE AMOUNT OF TAKE UP ANTICIPATED IN THE FALSEWORK.

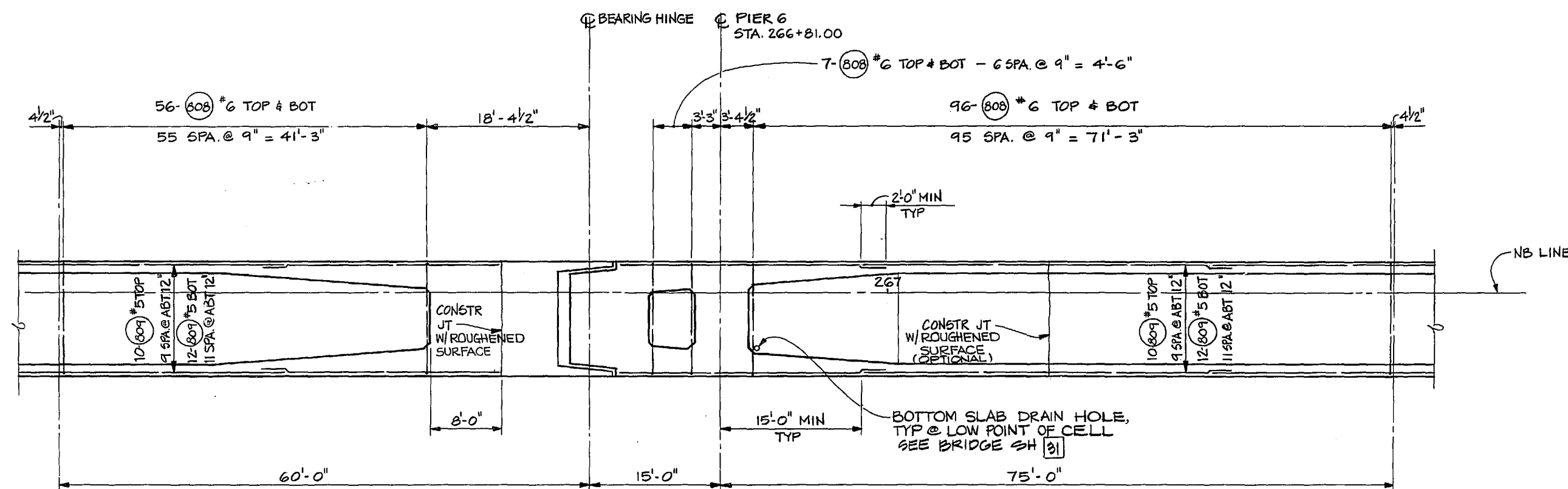
ELEVATIONS SHOWN ON THE SUPERSTRUCTURE ARE FINAL GRADES AND ARE TO BE ADJUSTED BY THE VALUES SHOWN ON THE CAMBER DIAGRAM.

DRAWN BY : TKT		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	 Washington State Department of Transportation 33000079	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB-BOTTOM SLAB REINFORCEMENT PLAN @ ABUTMENT & CAMBER DIAGRAM	79 SHEET 119 OF 181 SHEETS
DESIGN BY : SKA, JPB		10	WASH	1-705-3(665)					
CHECKED BY : WEW		JOB NUMBER							
DATE		REMOVED STATION	SKA	CONTRACT NO.					
DATE		REVISION	BY	APP'D	2747				



BOTTOM SLAB REINFORCEMENT PLAN @ TYP. PIER

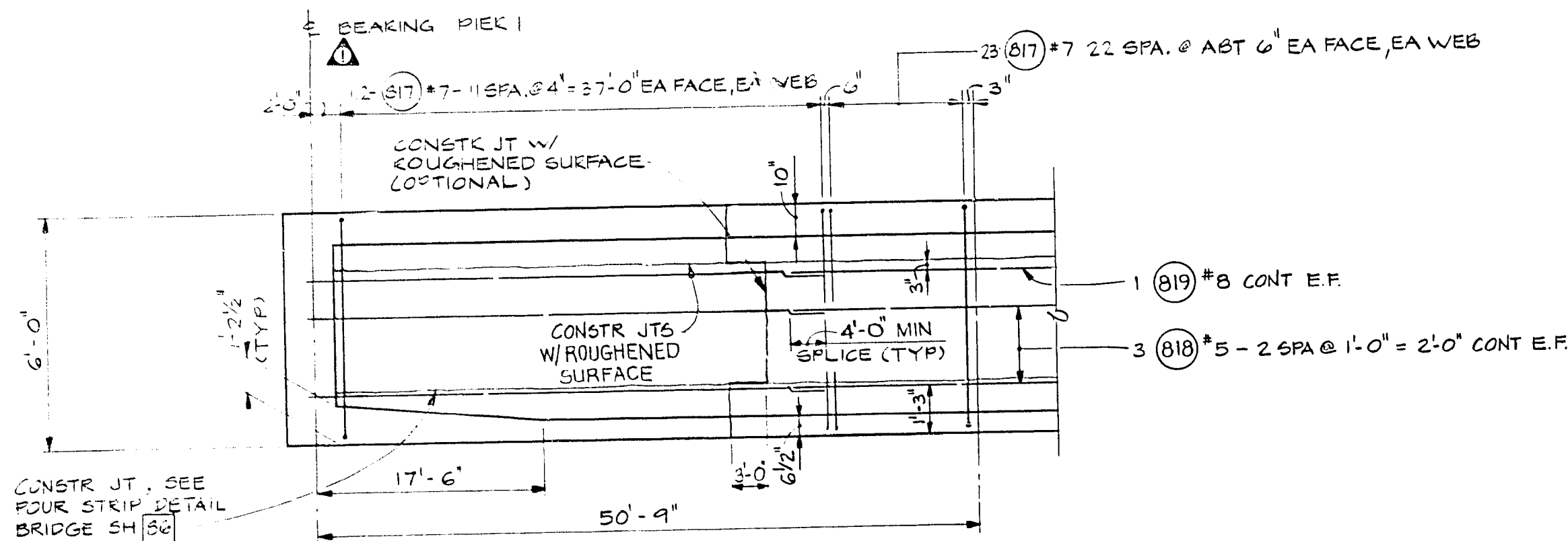
PIERS 2, 3, 4, 5, 7, 8, 10, 11, 12, 13



BOTTOM SLAB REINFORCEMENT PLAN @ HINGED PIER

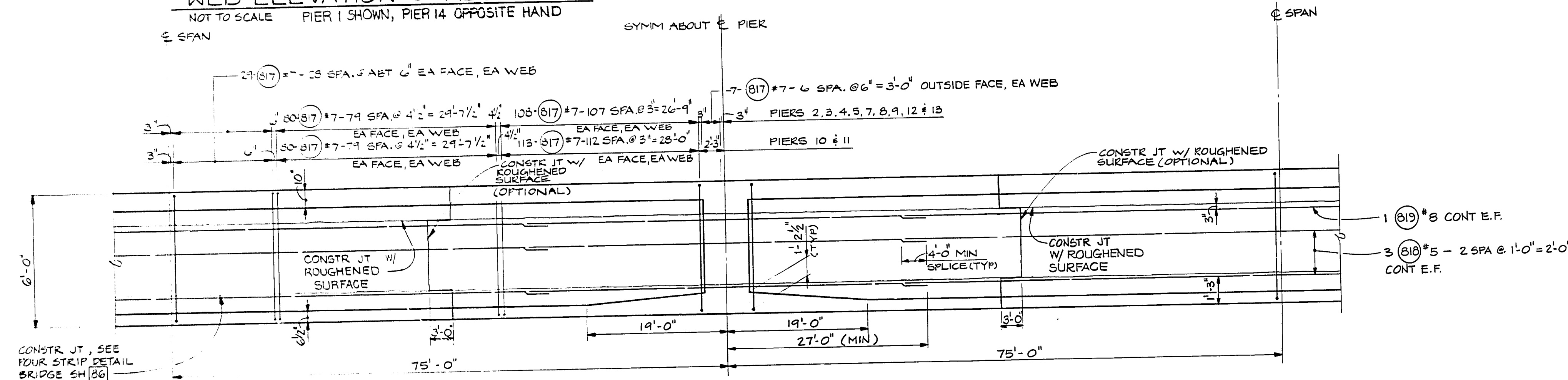
PIER 6 SHOWN, PIER 9 OPPOSITE HAND

DRAWN BY : TKT		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 120	TOTAL SHEETS 181	Washington State Department of Transportation 33600080	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB-BOTTOM SLAB REINFORCEMENT PLANS TYPICAL PIER & HINGED PIER	80 SHEET 120 OF 181 152/180
DESIGN BY : SKA		JOB NUMBER 84W056	CONTRACT NO. 2747	DATE 6-20-84	REVISION	BY APP'D SKA			
CHECKED BY : WEW									
REVISOR									



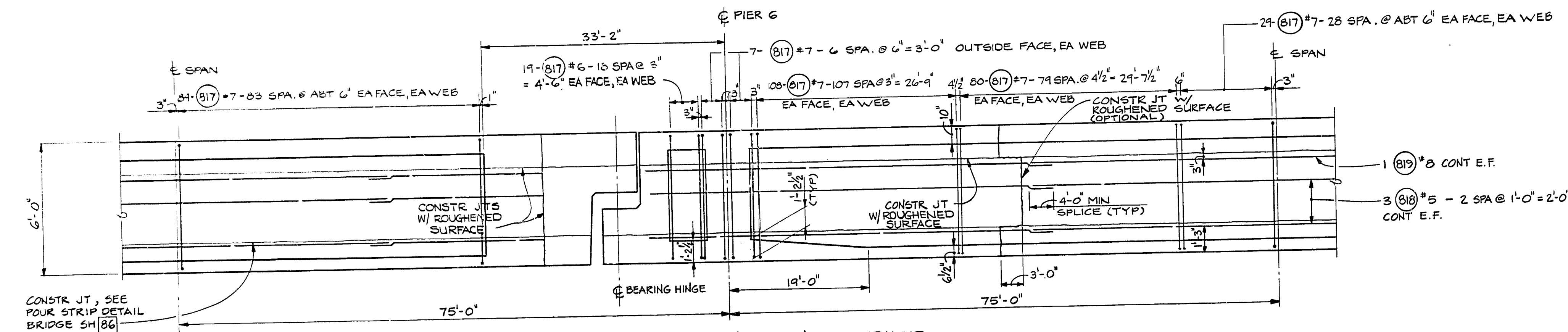
WEB ELEVATION @ ABUTMENT

NOT TO SCALE PIER 1 SHOWN, PIER 14 OPPOSITE HAND



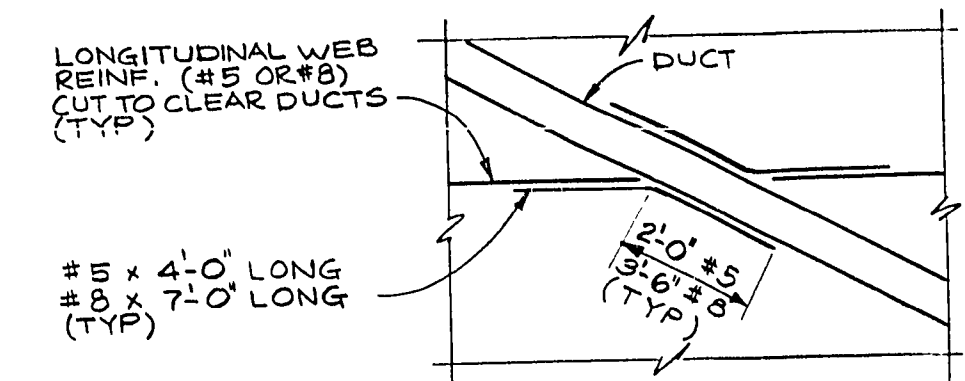
WEB ELEVATION @ TYPICAL PIER

NOT TO SCALE PIERS 2, 3, 4, 5, 7, 8, 10, 11, 12, 13



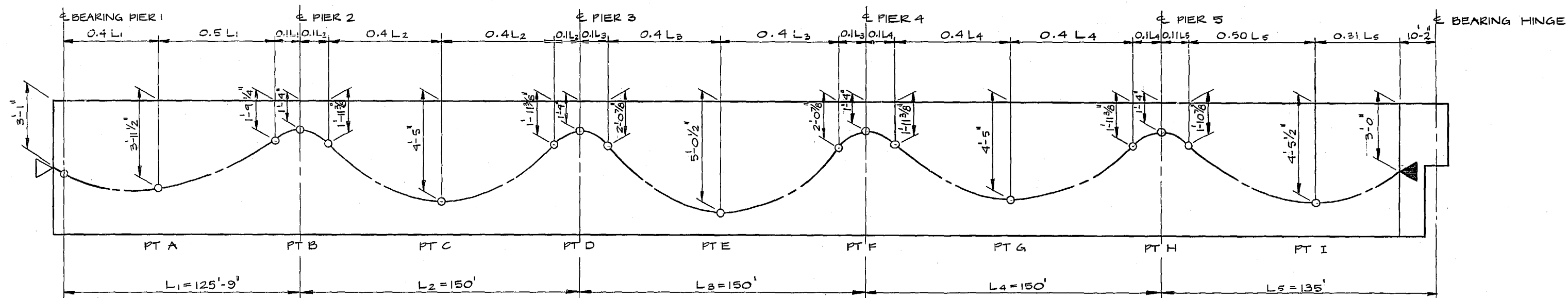
WEB ELEVATION @ HINGED PIER

NOT TO SCALE PIER 6 SHOWN, PIER 9 OPPOSITE HAND

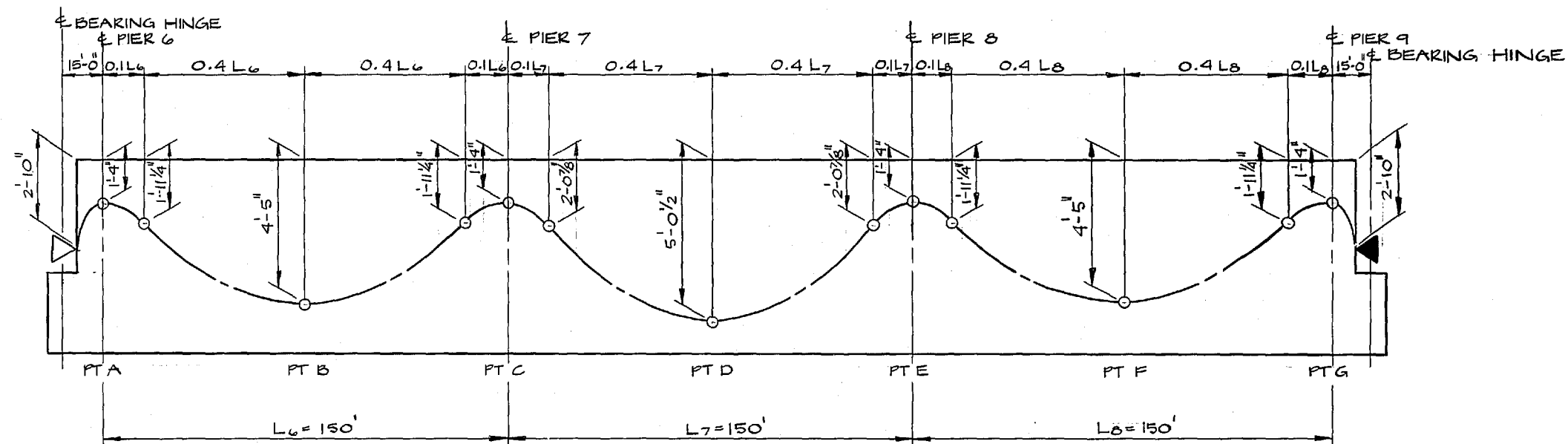


ELEVATION
MODIFICATION OF MILD WEB REINF
FOR CLEARANCE OF DUCTS
NOT INCLUDED IN QUANTITIES

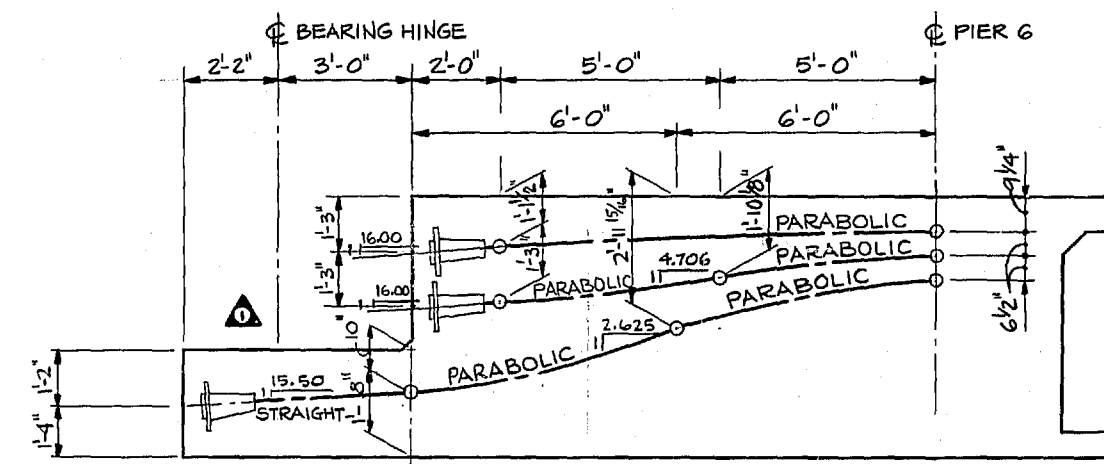
DRAWN BY: TKT		REGION NO. 10		STATE WASH		FED. AID PROJ. NO. 1-705-3(665)		SHEET NO. 81		TOTAL SHEETS 121		SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE		81	
DESIGN BY: SKA		JOB NUMBER 84W056		CONTRACT NO. 2747		APRIL 23, 1984 APPROVED		ALBAM ENGINEERS INCORPORATED CONSULTING ENGINEERS		WASHINGTON STATE Department of Transportation		NB - WEB ELEVATIONS @ ABUTMENT, TYPICAL PIER & HINGED PIER		121 OF 181 SHEETS	
CHECKED BY: WEW		DATE 5-23-84		REVISION REMOVED STATION		BY APP'D SKA		33000031		SR 705/4					



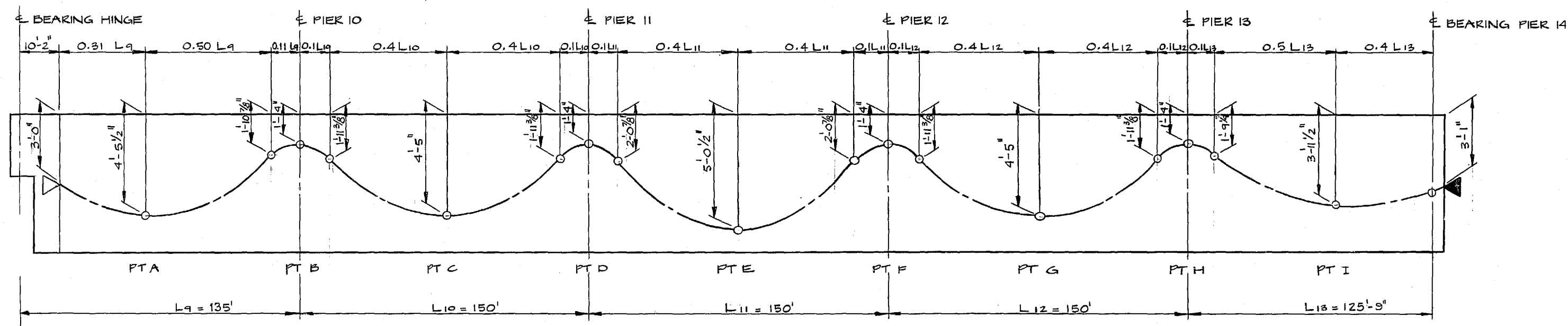
LONGITUDINAL TENDON PROFILE - STRUCTURE 1



LONGITUDINAL TENDON PROFILE - STRUCTURE 2



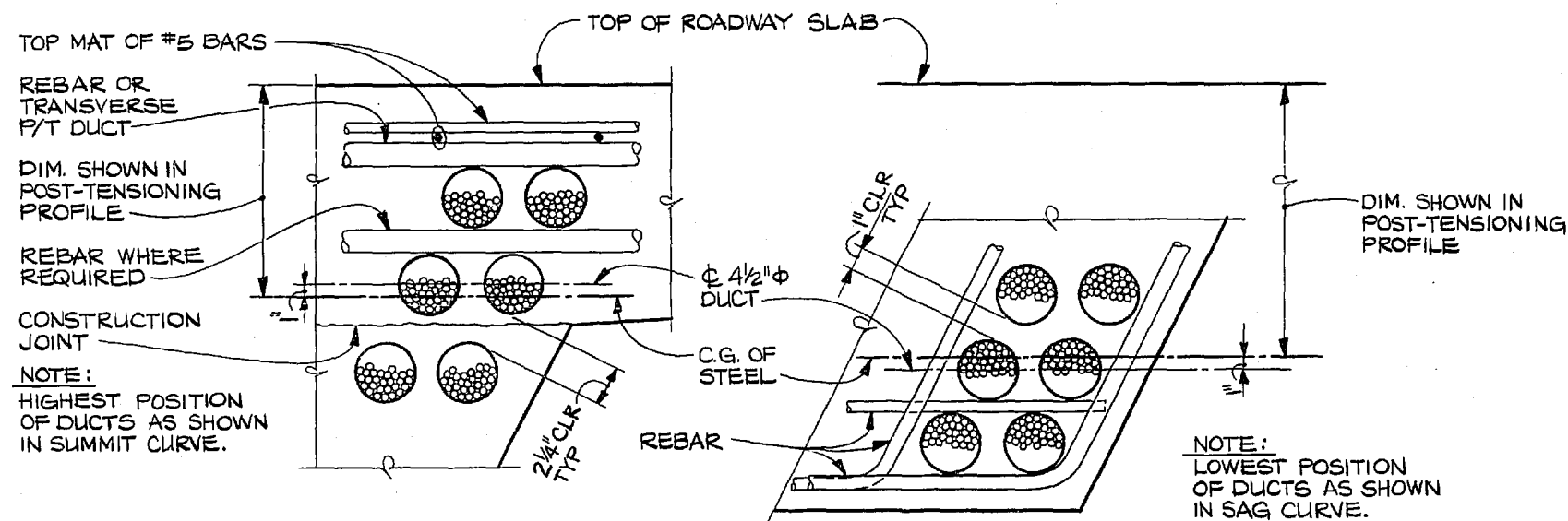
LONGITUDINAL TENDON PROFILE - PIER 6 TO HINGE
HINGE TO PIER 9 OPPOSITE HAND



LONGITUDINAL TENDON PROFILE - STRUCTURE 3

▶ END STRESSED FIRST
▷ END STRESSED LAST

DRAWN BY: BJA		REGION NO. 10		STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO.	TOTAL SHEETS	 Washington State Department of Transportation 33000032	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB - TENDON PROFILES	82 SHEET 122 OF 181 SHEETS
DESIGN BY: SKA		JOB NUMBER 84W056		CONTRACT NO. 2747		 ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS APRIL 23, 1994 APPROVED				
CHECKED BY: WEW		DATE 5-23-84		BY APP'D		 JAMES S. OLAMEN JULY 1, 1980 PROFESSIONAL ENGINEER				
REVISION		P/T ANCHORS								



CASE OF TENDON
IN SUMMIT CURVE
28 STRAND TENDON

CASE OF TENDON
IN SAG CURVE
28 STRAND TENDON

STRAND LOCATION
1/2" ϕ , 270° STRANDS

POST-TENSIONING NOTES

- CONCRETE FOR THE SUPERSTRUCTURE SHALL HAVE A MINIMUM 28-DAY STRENGTH OF 5000 PSI. THE MINIMUM COMPRESSIVE STRENGTH AT THE TIME OF TRANSVERSE OR LONGITUDINAL POST-TENSIONING SHALL BE 4500 PSI.
- STRANDS ARE ASSUMED TO BE 1/2-IN. DIAMETER, ASTM A 416, GRADE 270. DESIGN IS BASED ON A CURVATURE COEFFICIENT $m = 0.25$ AND A FRICTION WOBBLE COEFFICIENT $K = 0.0002$. ALL ADDITIONAL LOSSES AFTER ANCHOR SET ARE ESTIMATED TO BE 33 KSI.
- TENDONS SHALL HAVE PARABOLIC PROFILES.
- STRESSING SEQUENCE OF TENDON GROUPS SHALL BE AS FOLLOWS:
 - TRANSVERSE DECK TENDONS
 - LONGITUDINAL TENDONS
 - TRANSVERSE DECK TENDONS AT DECK OPENINGS
- TRANSVERSE PRESTRESSING SHALL REMAIN 50 FT BEHIND THE LEADING FACE OF THE TOP SLAB POUR.
- VERTICAL POSTS AND CROSS BRACING SUPPORTED OFF THE BOTTOM SLAB AND NOT WITHIN 18-IN. FROM THE TOP OF THE WEB WALL SHALL NOT BE REMOVED BEFORE THE DECK SLAB HAS BEEN PRESTRESSED TRANSVERSELY.
- STRESSING SEQUENCE WITHIN EACH TENDON GROUP SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- ELONGATIONS ARE BASED ON A MODULUS OF ELASTICITY OF 28,000 KSI FOR THE PRESTRESSING TENDONS.
- DUCT AREA SHALL BE AT LEAST TWICE THE NET AREA OF PRESTRESSING STEEL.
- CONCRETE IN ENCASEMENTS AT POST-TENSIONING ANCHORAGE IS TO BE CLASS AX CONCRETE.
- DESIGN IS BASED ON THE TENDON INFORMATION GIVEN IN THE PRESTRESS DATA TABLE. THE ENGINEER WILL CONSIDER ALTERNATE TENDON SIZES IF PROPOSED BY THE CONTRACTOR.
- NUMBER STRANDS PER TENDON SHOWN BASED UPON NUMBER OF TENDON PATHS SHOWN IN PLANS.
- POINTS OF FINAL DESIGN LOAD ARE SHOWN ON THE LONGITUDINAL TENDON PROFILE DRAWING.
- FOR ADDITIONAL REQUIREMENTS ON TRANSVERSE PRESTRESSING IN DECK SLAB, SEE BRIDGE SHEET 86 AND 100.
- HORIZONTAL CURVES OF TENDONS SHALL HAVE A MINIMUM RADIUS OF 200 FT. MINIMUM COVER FROM FACE OF WEB TO TENDON DUCT SHALL BE 2 IN. AT THE LEVEL OF THE DUCT.
- DIMENSIONS FOR THE BOX GIRDER LONGITUDINAL POST-TENSIONING SHOWN ON THE PLANS DO NOT ALLOW FOR THE USE OF STANDARD SQUARE BEARING PLATE ANCHORAGES. RECTANGULAR BEARING PLATE ANCHORAGES ARE REQUIRED. FURTHERMORE, SPECIAL BEARING PLATE ANCHORAGES WILL BE REQUIRED FOR THE EXTERIOR TENDONS ANCHORED IN THE HINGE SEATS.

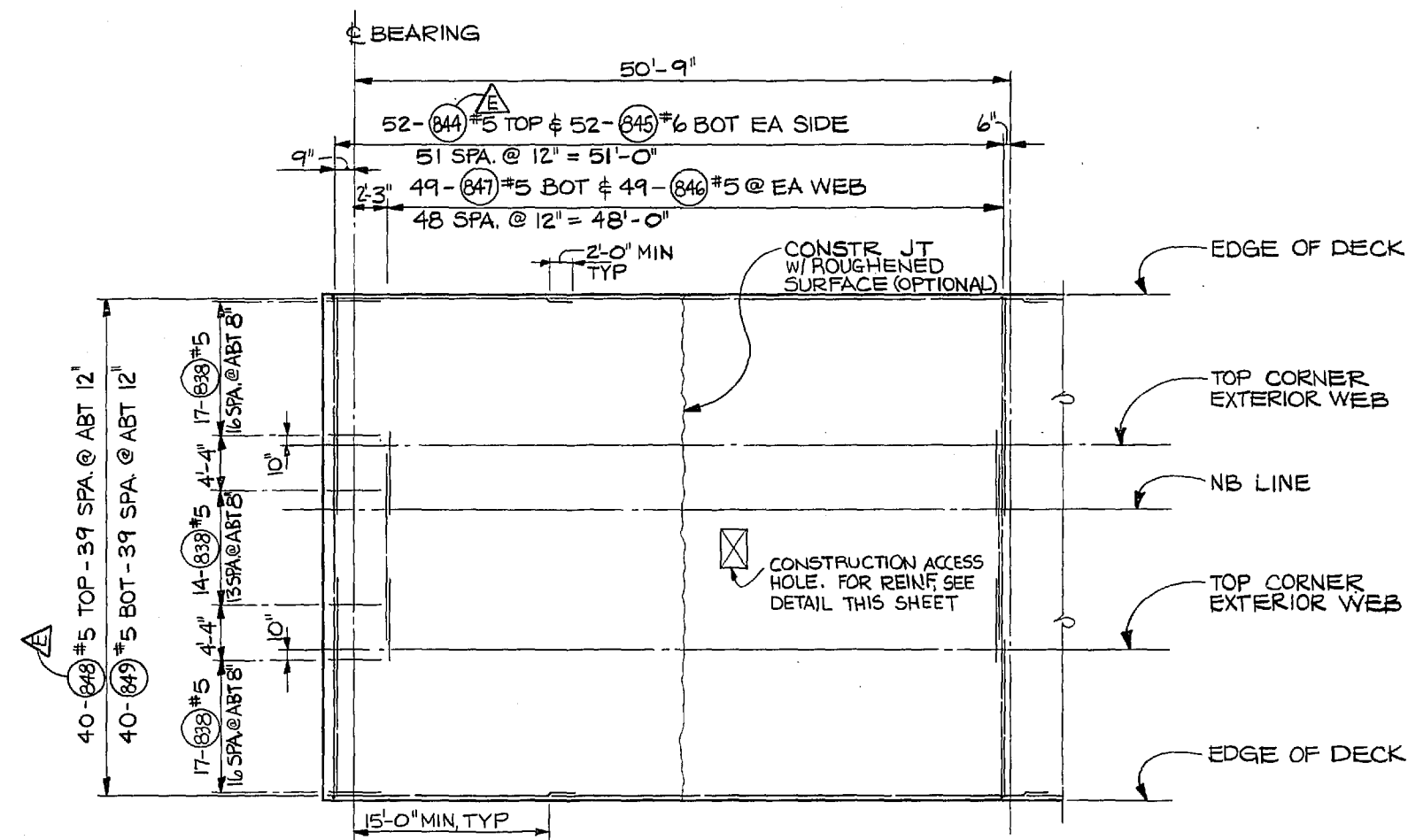
LONGITUDINAL PRESTRESS DATA

TENDON PATH	NUMBER OF STRANDS	ANCHOR SET (IN.)	JACKING LOAD (KIPS) *	TRANSFER LOAD (KIPS) LEFT / RIGHT	FINAL DESIGN LOAD (KIPS)									ELONGATION (IN.)		TENDON LENGTH USED FOR ELONGATION CALCULATIONS (FT) **	MAX DUCT O.D.(IN)	NO. OF STRANDS PER TENDON	REMARKS
					PT A	PT B	PT C	PT D	PT E	PT F	PT G	PT H	PT I	END JACKED FIRST	END JACKED LAST				
STRUCTURE 1, EXTERIOR WEBS STA. 259+51.00 TO STA. 266+66.00	336 (2 WEBS)	0.625	10417	9156 / 8927	7709	7927	7344	6813	6229	6698	7229	7792	7490	47 7/8	6 1/4	702.25	4 1/2	28	
STRUCTURE 2, EXTERIOR WEBS STA. 266+66.00 TO STA. 271+46.00	336 (2 WEBS)	0.625	10417	7625 / 7812	6677	7240	6917	6334	6927	7365	6740			31 7/8 / 32 5/8	3 3/4 / 3 3/4	472.67 / 483.00	4 1/2	28	
STRUCTURE 3, EXTERIOR WEBS STA. 271+46.00 TO STA. 278+61.00	336 (2 WEBS)	0.625	10417	8906 / 9208	7479	7781	7209	6667	6386	6979	7479	8011	7719	46 3/8	8 1/8	702.25	4 1/2	28	

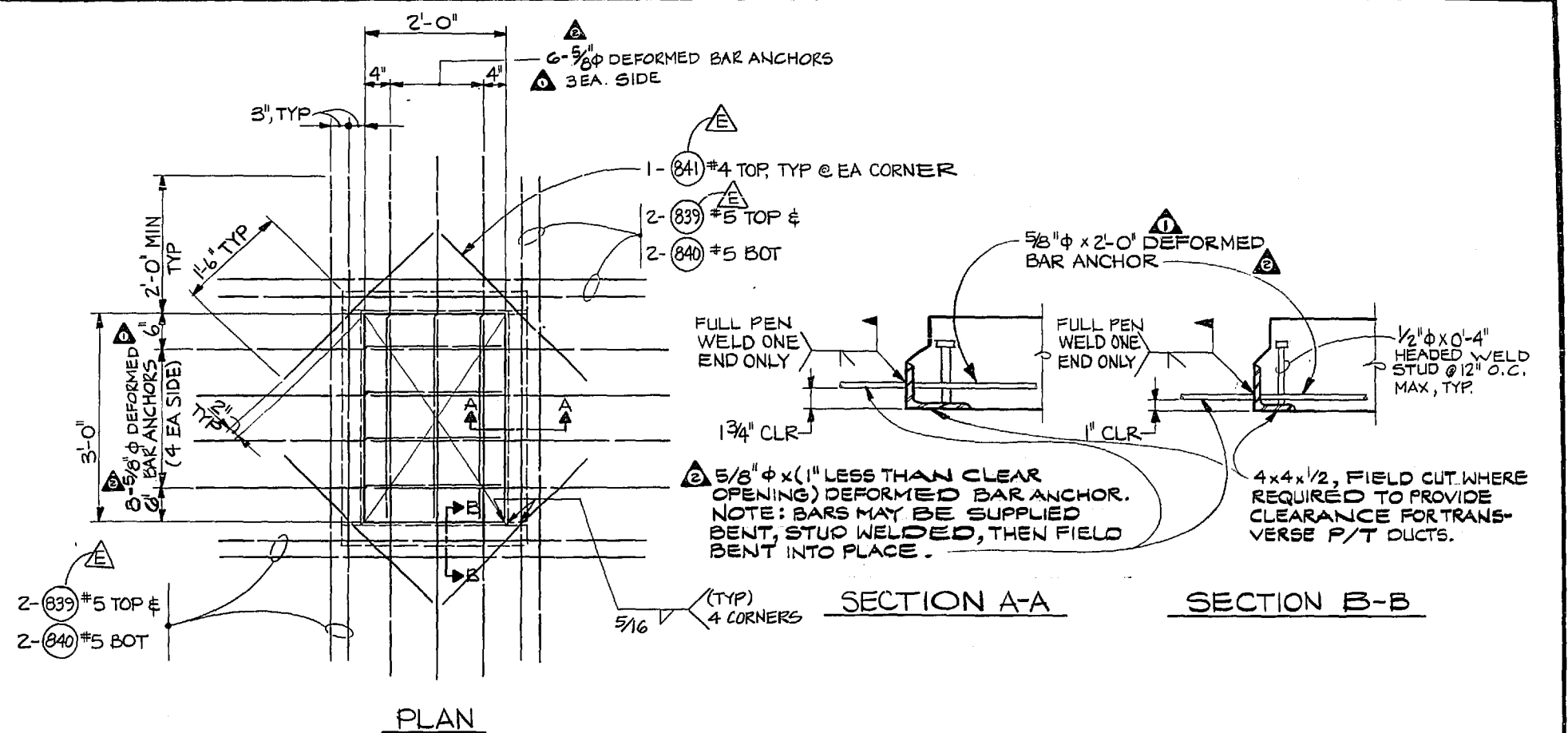
* TRANSFER LOAD IN FORCE APPLIED TO CONCRETE IMMEDIATELY AFTER ANCHOR SET.

** TENDON LENGTHS USED FOR ELONGATION CALCULATION ARE PLAN DIMENSIONS ALONG SURVEY LINE FROM ANCHOR PLATE TO ANCHOR PLATE. WHERE TWO DIMENSIONS ARE GIVEN THE LOWER VALUE INCLUDES AN ADDITIONAL 5'-2" FOR THE LOWER TENDON AT THE HINGE.

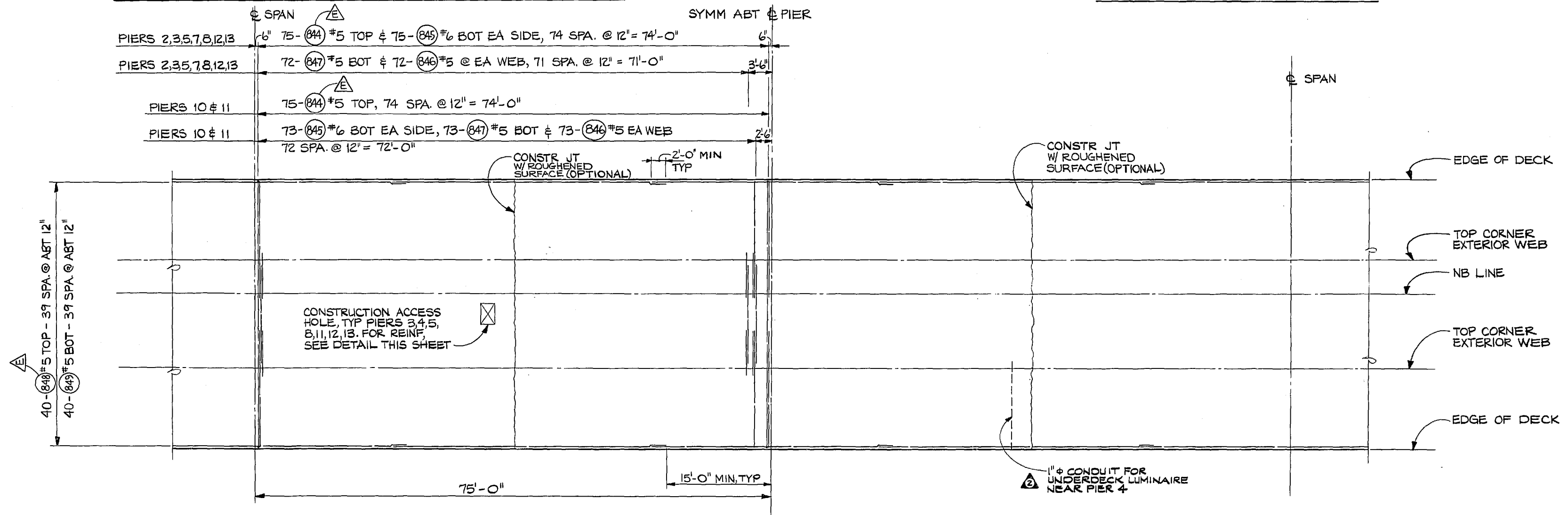
DRAWN BY: KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 123	TOTAL SHEETS 181
DESIGN BY: SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	APRIL 23, 1994 APPROVED	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE
CHECKED BY: WEW	DATE 5-23-94	ADDED NOTE 16.	REVISION	BY APP'D	83
NB - POST TENSIONING NOTES					83



TOP SLAB REINFORCEMENT PLAN @ ABUTMENT



ACCESS HOLE DETAILS



TOP SLAB REINFORCEMENT PLAN @ TYPICAL PIER

PIERS 2, 3, 4, 5, 7, 8, 10, 11, 12, 13

DRAWN BY: KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 84	TOTAL SHEETS 124
DESIGN BY: SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE 5-23-84	REVISION	BY APP'D
CHECKED BY: WEW	6-20-84	CHANGED CALLOUT, ADD CONDUIT	SKA		
	5-23-84	CHANGED CALLOUT	SKA		



APRIL 23, 1984
APPROVED

ASAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
200 SOUTH 20TH STREET SUITE 200
SEATTLE, WASH. 98104
(206) 461-1100



Washington State
Department of Transportation

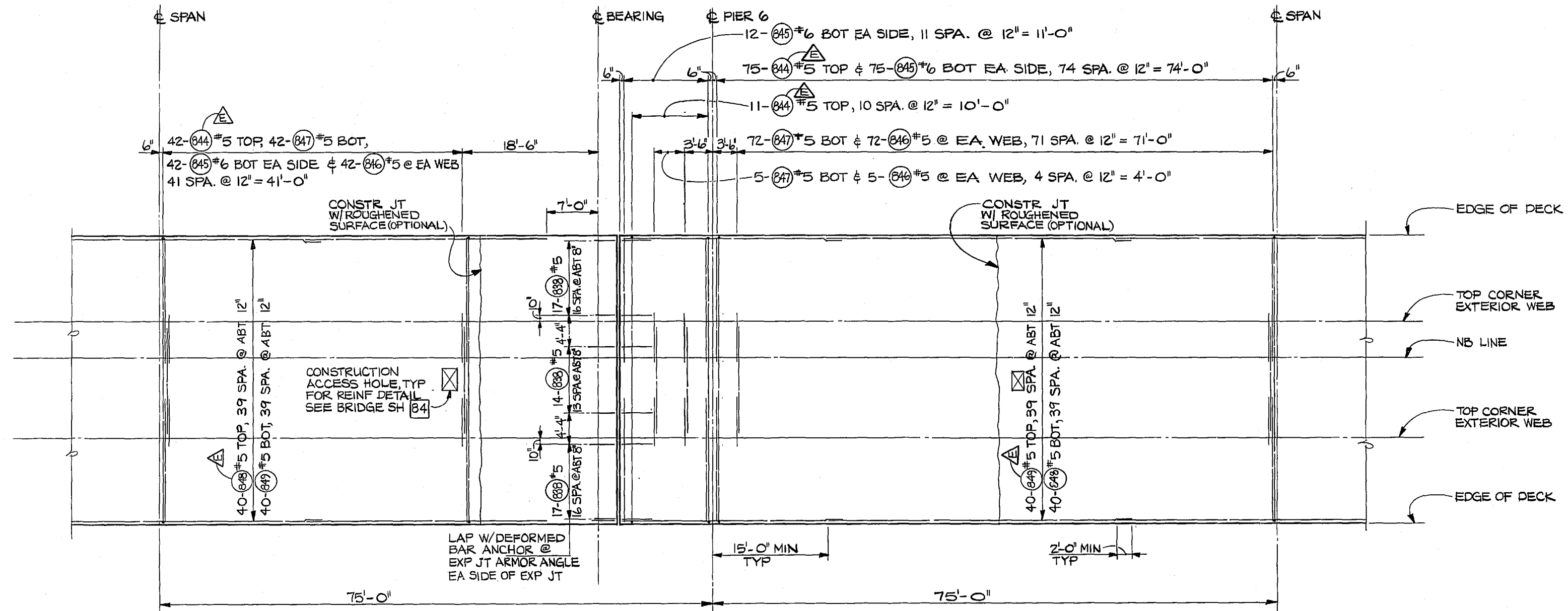
33000054

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

NB-TOP SLAB REINFORCEMENT PLAN
ABUTMENT & TYPICAL PIER

84

SHEET
124
OF
181
SHEETS



TOP SLAB REINFORCEMENT PLAN @ HINGED PIER
PIER 9 SAME, EXCEPT OPPOSITE HAND

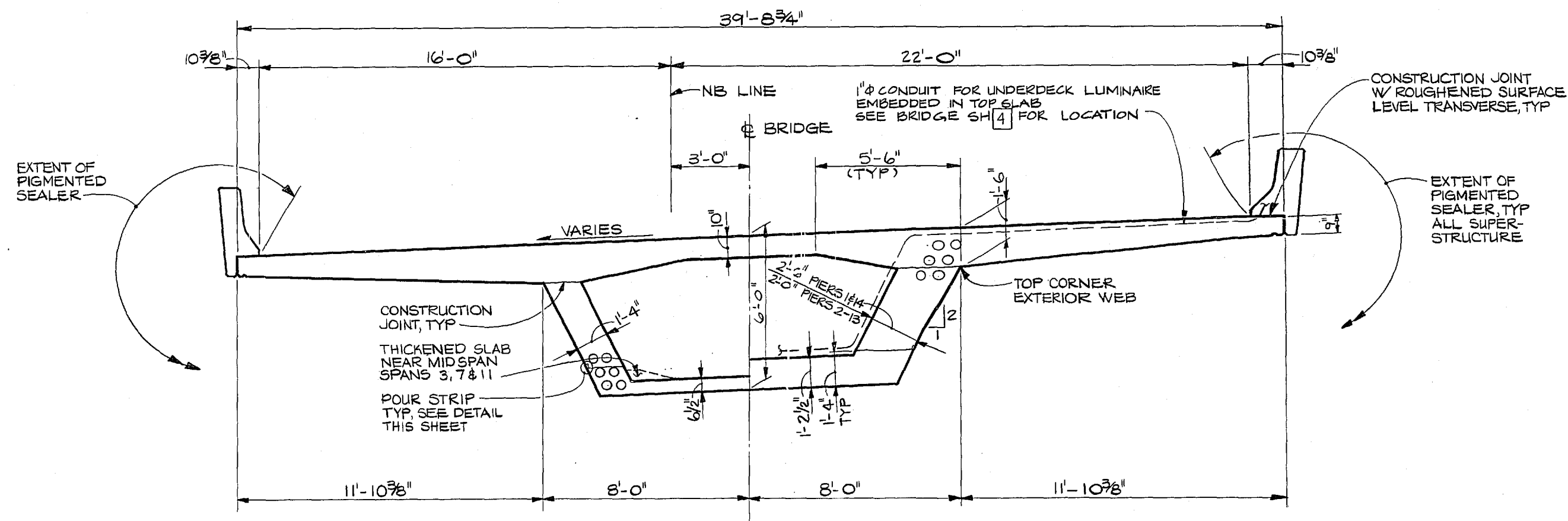
DRAWN BY: KMP		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 85	TOTAL SHEETS 125
DESIGN BY: SKA		JOB NUMBER 84W056		APRIL 23, 1984 APPROVED		
CHECKED BY: WEW		CONTRACT NO. 2747		ASAM ENGINEERS INCORPORATED CONSULTING ENGINEERS		
DATE	REVISION	BY	APP'D	WASHINGTON STATE Department of Transportation 33000035		

DOT FORM 221-012 Revised 9/82

SR 705/4

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE
NB-TOP SLAB REINFORCEMENT PLAN
HINGED PIER

85
125
OF
181
SHEETS

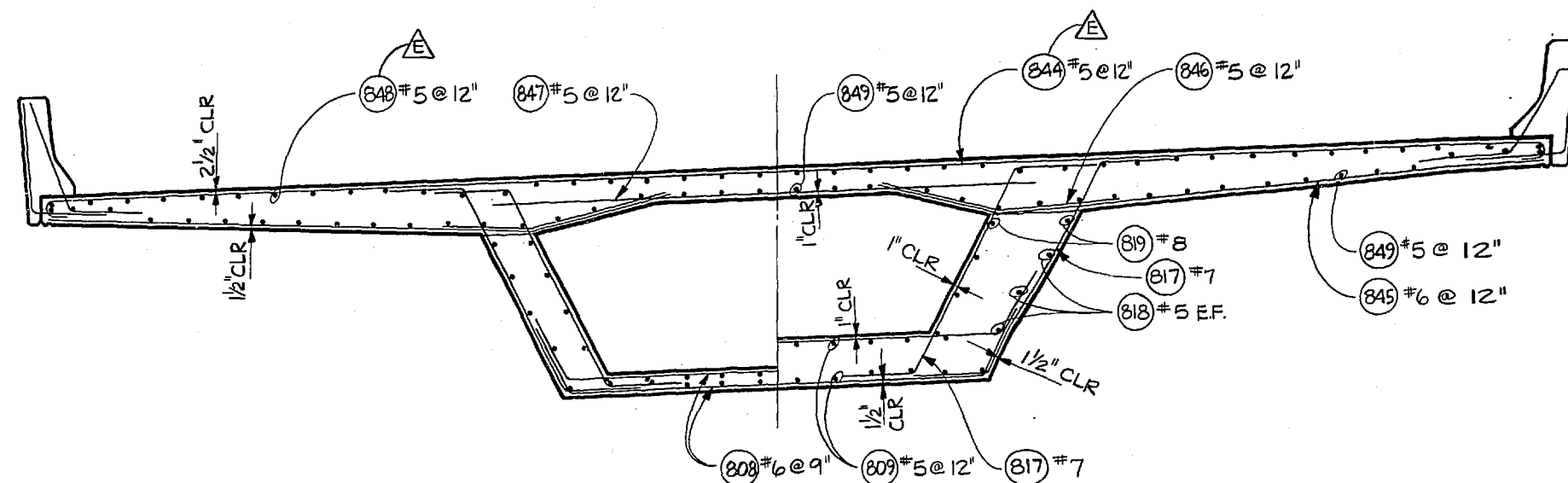


NEAR MIDSPAN

NEAR PIER

TYPICAL SECTION - CONCRETE DIMENSION

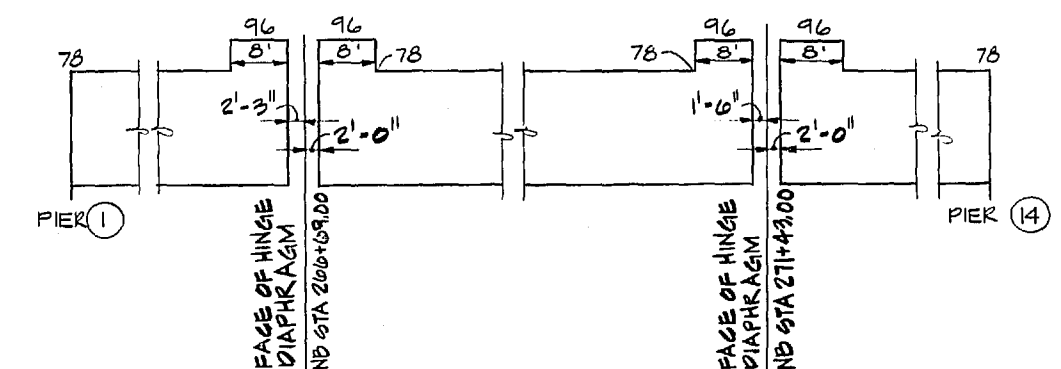
LOOKING AHEAD ON STATION



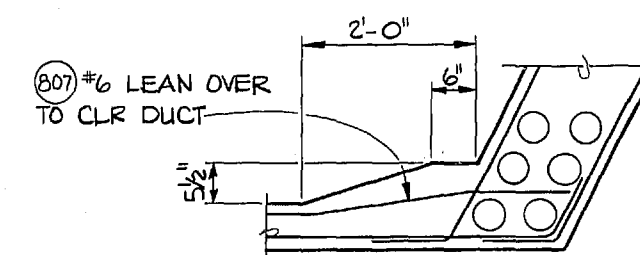
TYPICAL SECTION - REINFORCEMENT

LOOKING AHEAD ON STATION

- TRANSVERSE PRESTRESS NOTES
1. THE CENTER OF GRAVITY OF PRESTRESSING STEEL SHALL BE 4-3/4 IN. FROM THE TOP OF THE ROADWAY SLAB, ACROSS THE WIDTH OF THE ROADWAY SLAB.
 2. TENDONS SHALL BE LOCATED PERPENDICULAR TO THE CENTERLINE OF THE BRIDGE STRUCTURE.
 3. STRESS EVERY OTHER TENDON FROM OPPOSITE SIDES OF THE ROADWAY SLAB, EXCEPT WITHIN 10 FT OF THE FACE OF THE HINGE DIAPHRAGM, WHERE SPACE DOES NOT PERMIT JACKING CLEARANCE.
 4. SEE BRIDGE SHEETS 82 AND 100 FOR ADDITIONAL REQUIREMENTS FOR TRANSVERSE PRESTRESSING.
 5. THE FINAL EFFECTIVE FORCES IN KIPS PER FOOT OF LENGTH OF ROADWAY SLAB, AFTER ALL LOSSES, ARE SHOWN IN THE TRANSVERSE POST-TENSIONING DIAGRAMS BELOW.
 6. MAXIMUM TENDON SPACING SHALL BE 2 FT 8 IN. ON CENTER.

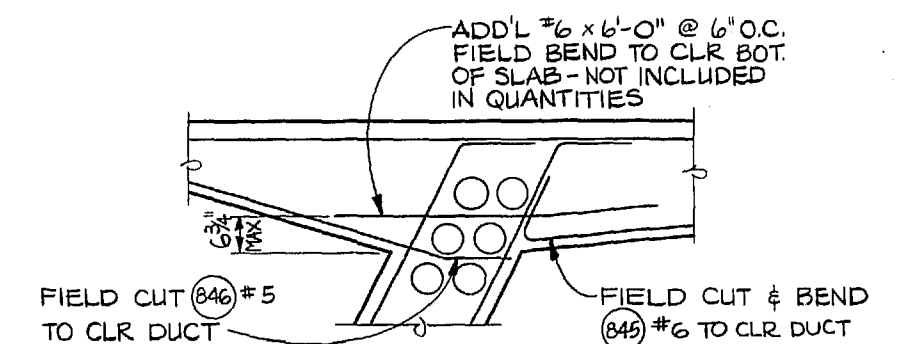


TRANSVERSE POST-TENSIONING DIAGRAM



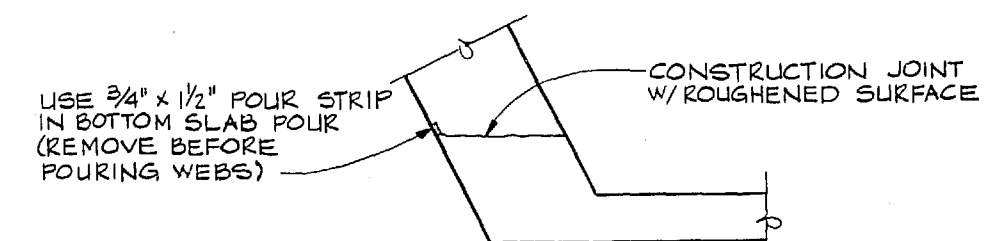
WEB NEAR MIDSPAN
SPANS 3,7,11

SPANS 3,7,11



WEB NEAR PIER

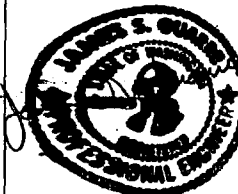
DUCT INTERFERENCE DETAILS



DRAWN BY: KMP						REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
DESIGN BY: SEA						10	WASH	1-705-3(665)		
CHECKED BY: WEW						JOB NUMBER				
						84 W056				
						CONTRACT NO.				
						2747				
	DATE		REVISION		BY/APP'D					

APRIL 23, 1964
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEER
800 SOUTH SOUTH STREET, SUITE 200
FEDERAL WAY, WASHINGTON 98003



**Washington State
Department of Transportation**

33000086

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

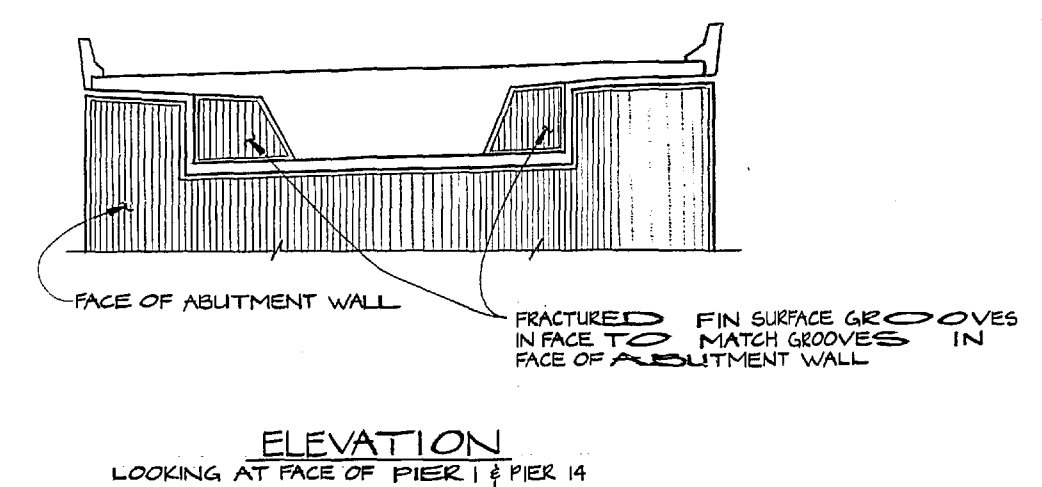
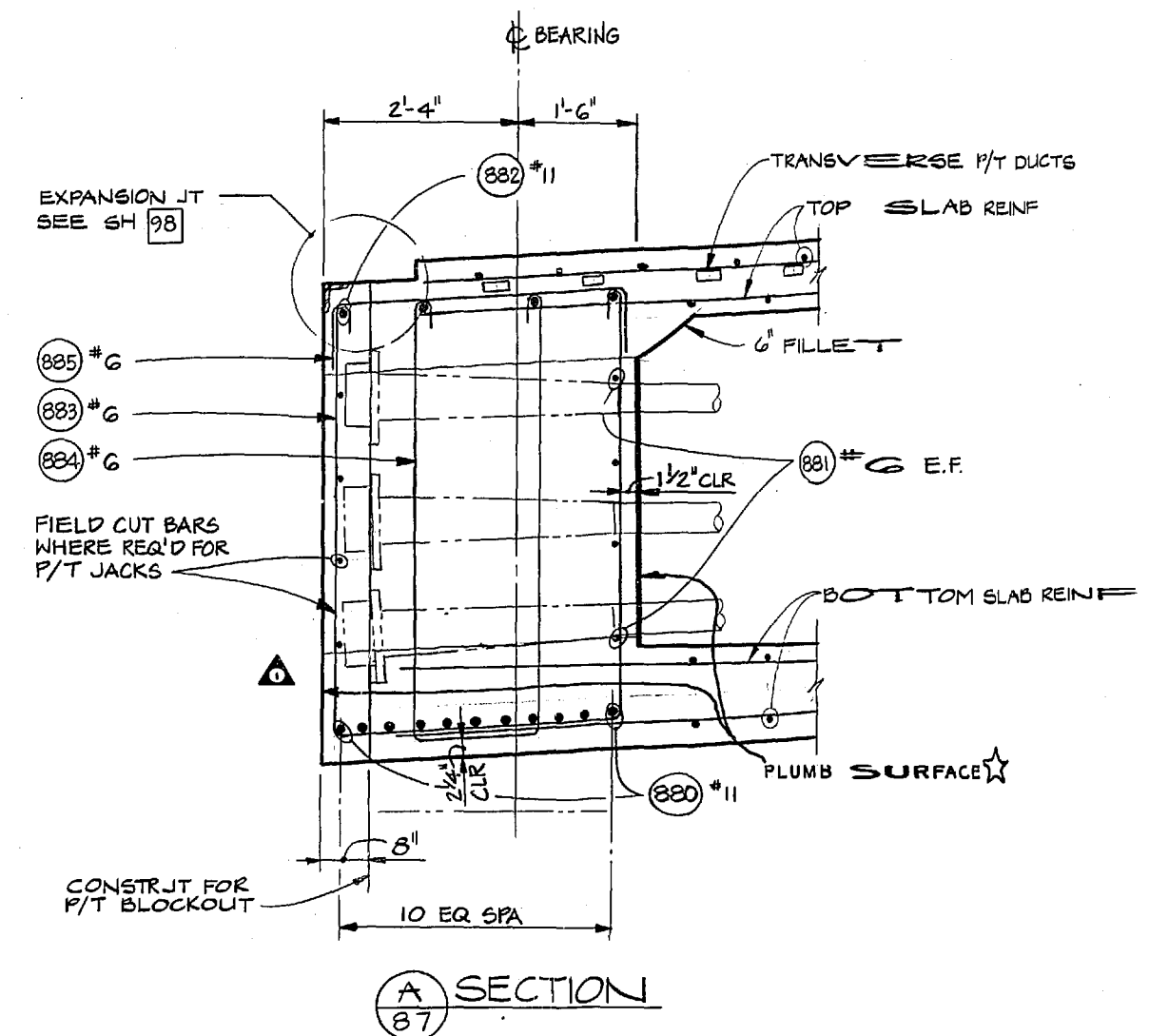
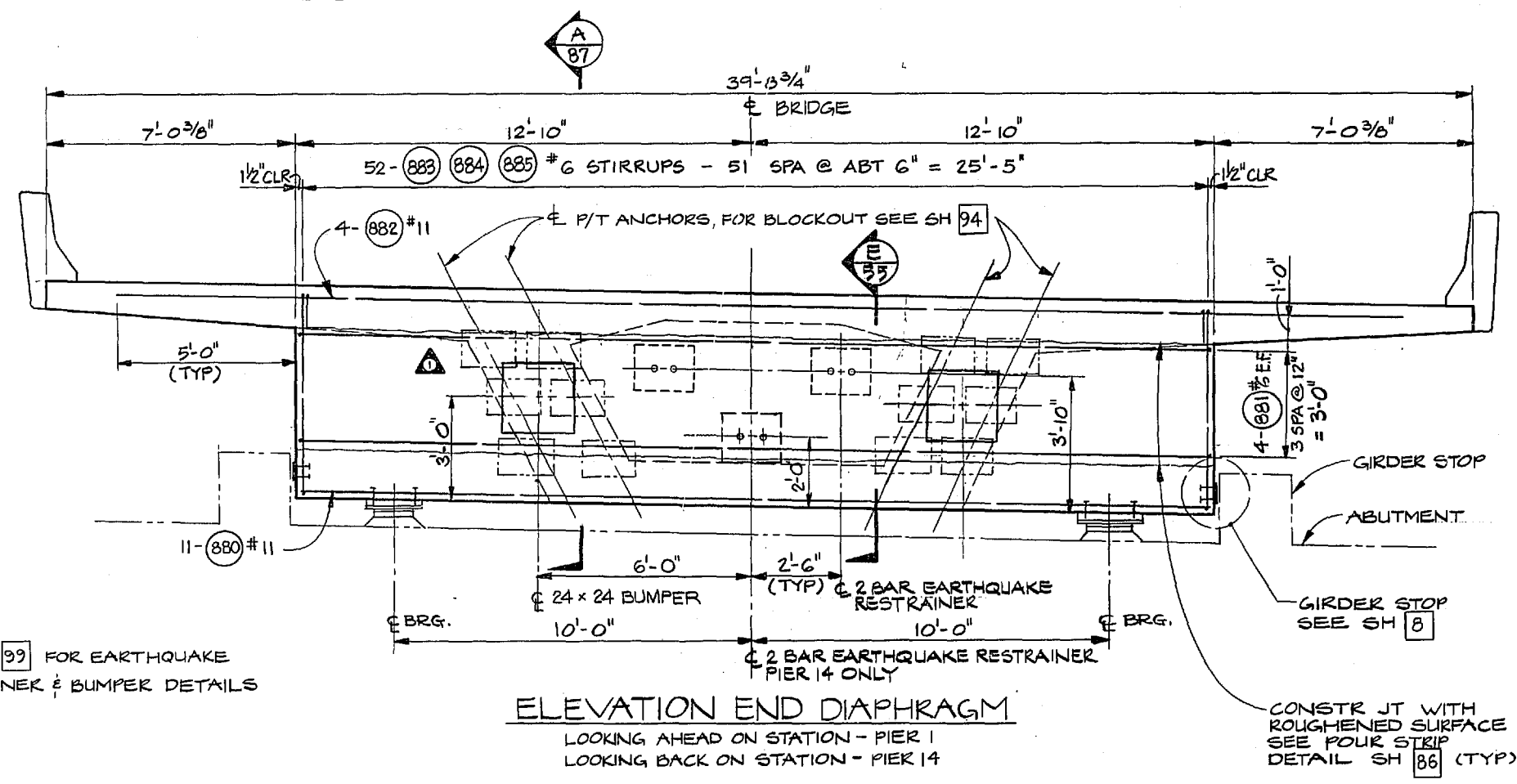
NB-TYPICAL CROSS SECTION
TRANVERSE P/T NOTES, P/T INTERFERENCE DETAILS

36 |

126
OF
81

SR 705/
4

2/174
152/175



DRAWN BY: BJA		REGION NO. 10		STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 87	TOTAL SHEETS 127
DESIGN BY: SKA		JOB NUMBER 84W056		CONTRACT NO. 2747		DATE 5-23-84	
CHECKED BY: WEW		BY APP'D		REVISION		P/T ANCHORS	

Washington State
Department of Transportation

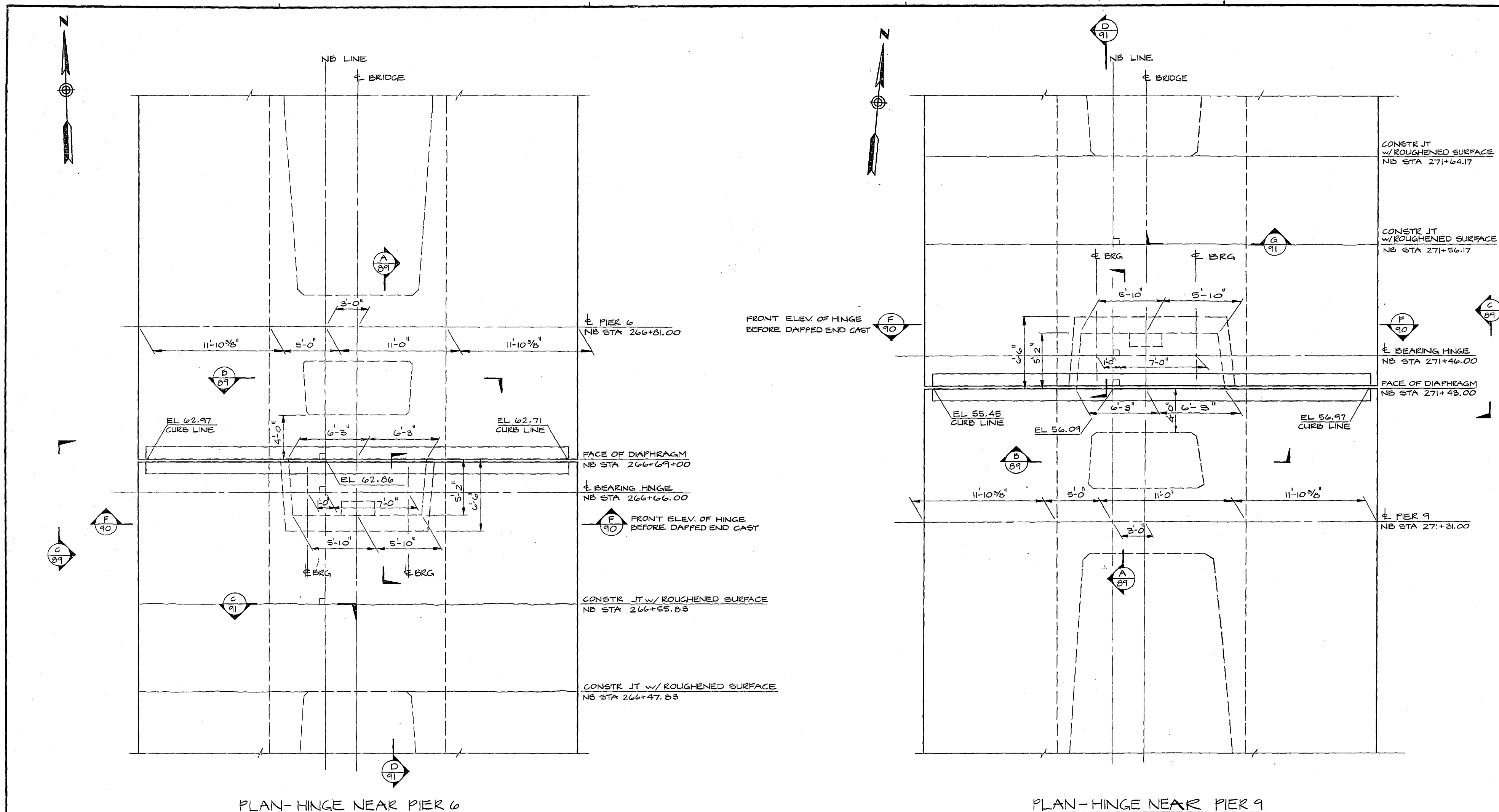
33000057

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

NB - END DIAPHRAGM PIER 1 & 14

87

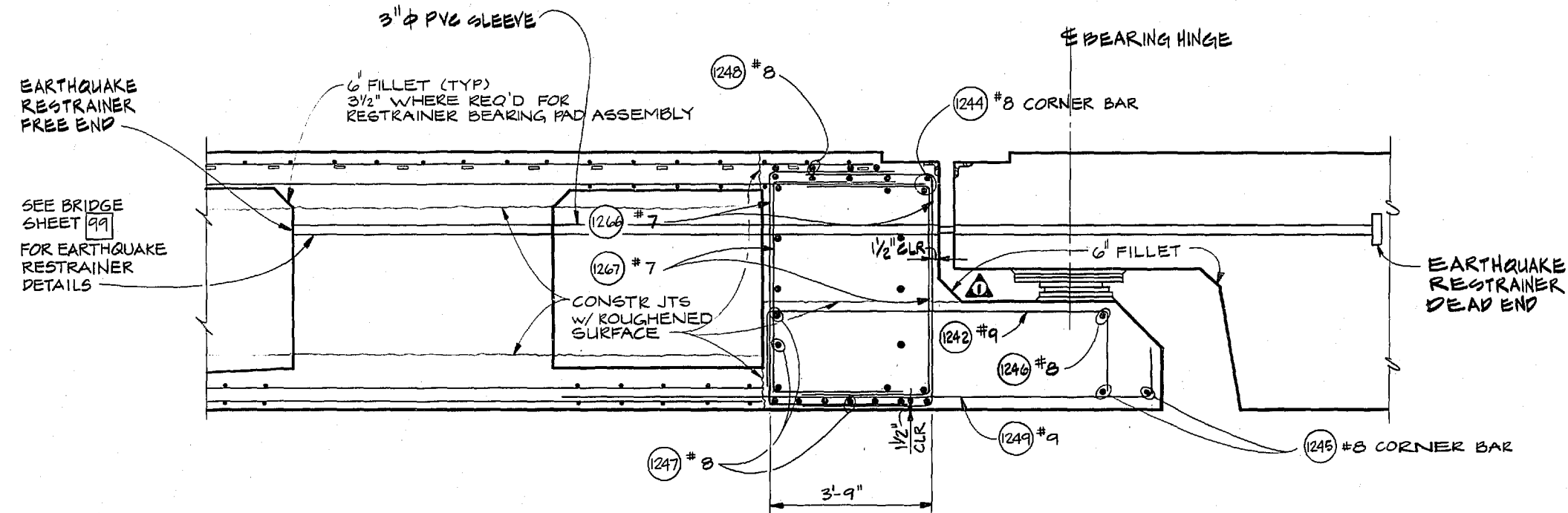
SHEET 127 OF 181 SHEETS



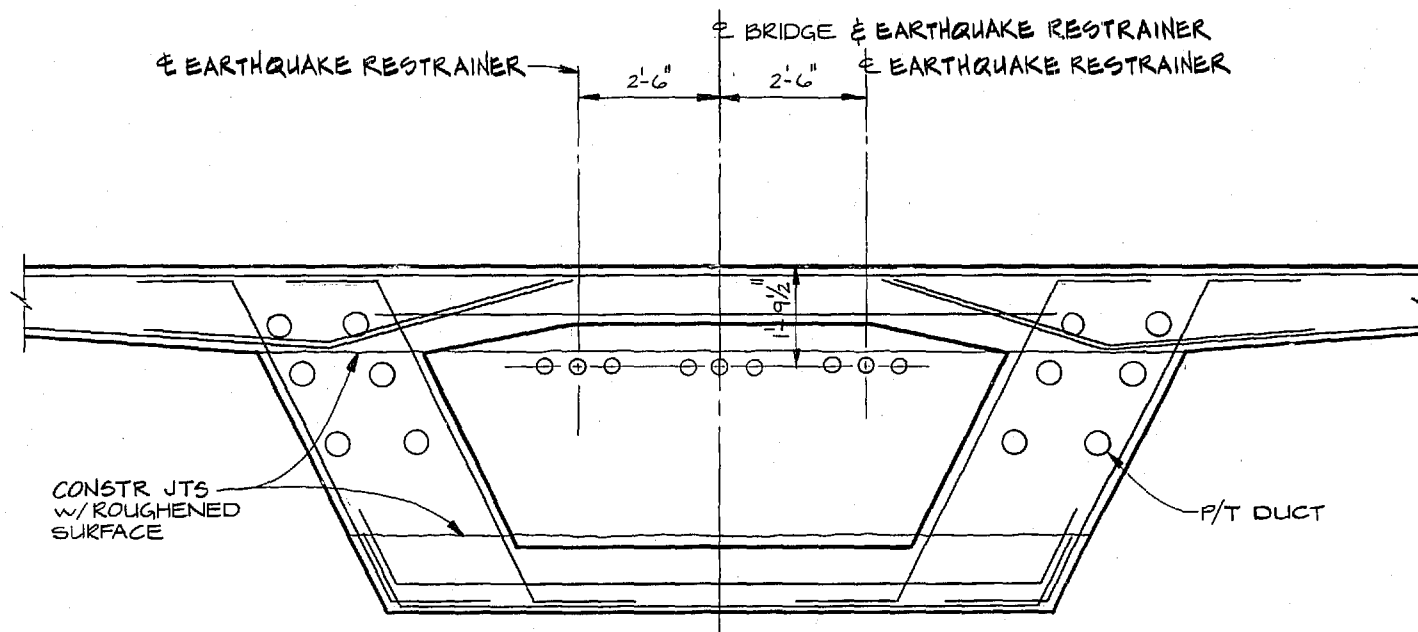
PLAN-HINGE NEAR PIER 6

PLAN-HINGE NEAR PIER 9

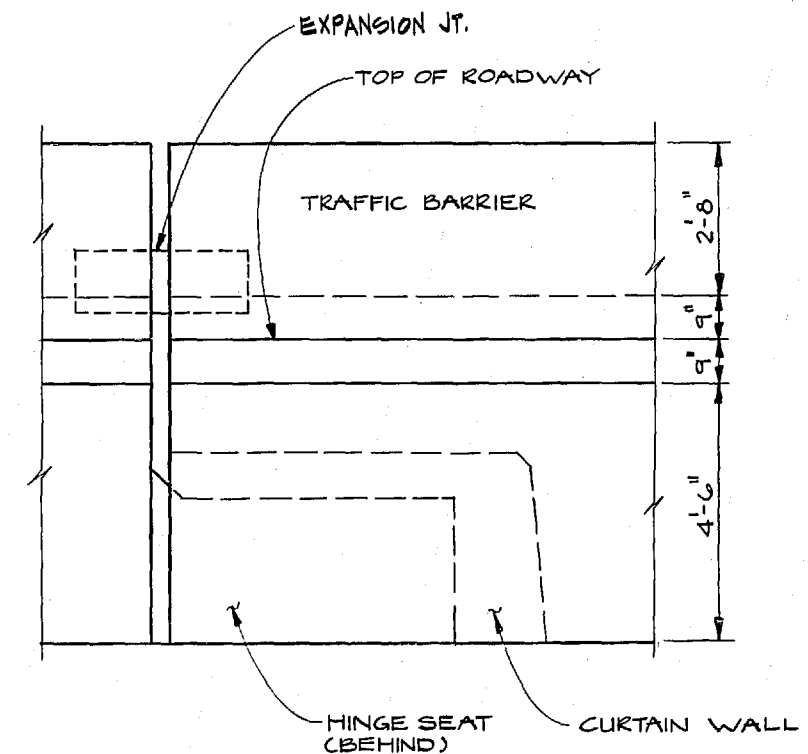
DRAWN BY: BJA		REGION NO. 10		STATE WASH		FED. AID PROJ. NO. F-105-3(665)		SHEET NO. 128		TOTAL SHEETS 181		SR 705		21ST ST. TO SCHUSTER PARKWAY		STAGE 2		NB LINE BRIDGE		88	
DESIGN BY: SKA		JOB NUMBER 84 WD 56		CONTRACT NO. 2747		APRIL 23, 1984		APPROVED		ABAM ENGINEERS INCORPORATED		Washington State Department of Transportation		33000038		NB-HINGE PLAN		152/172		SHEET 128 OF 181 SHEETS	
CHECKED BY: WEW		DATE		REVISION		BY APP'D															



A SECTION
88

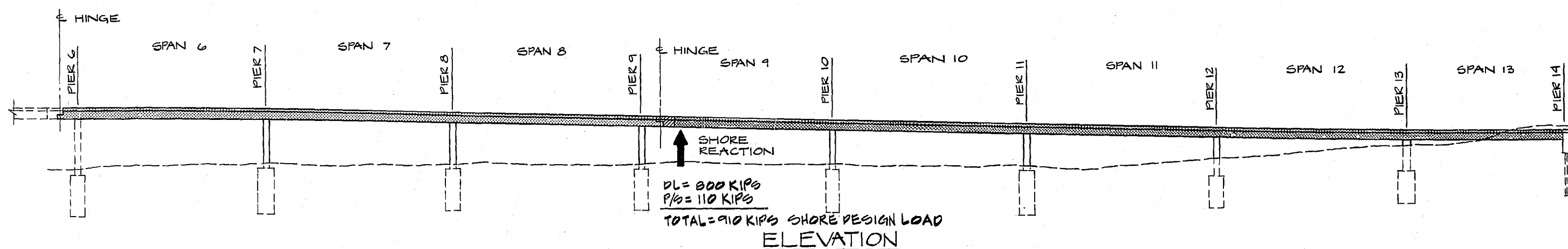
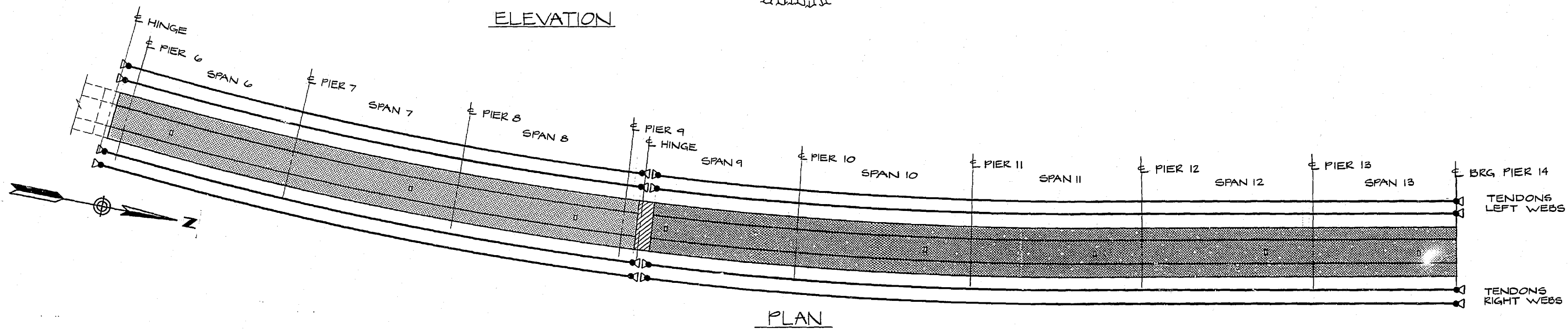
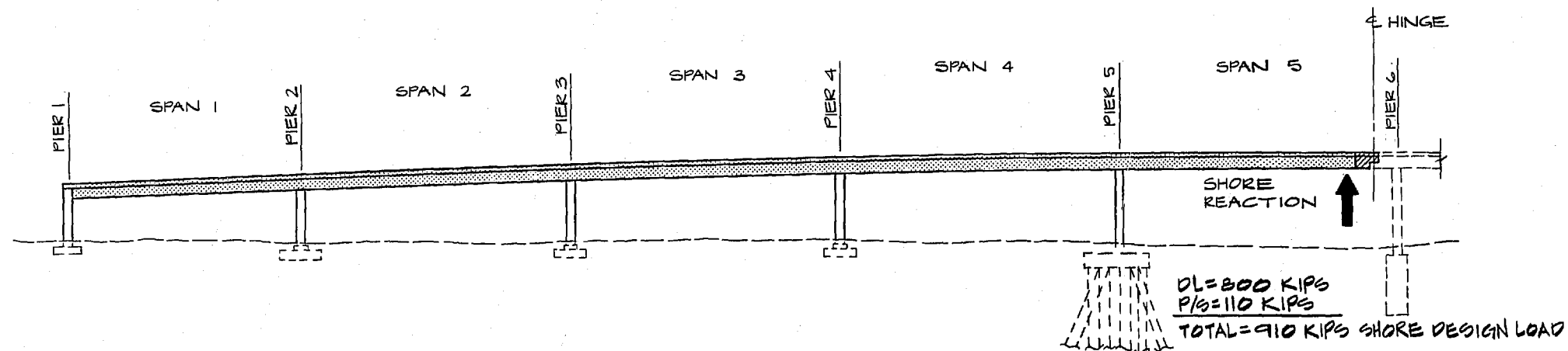
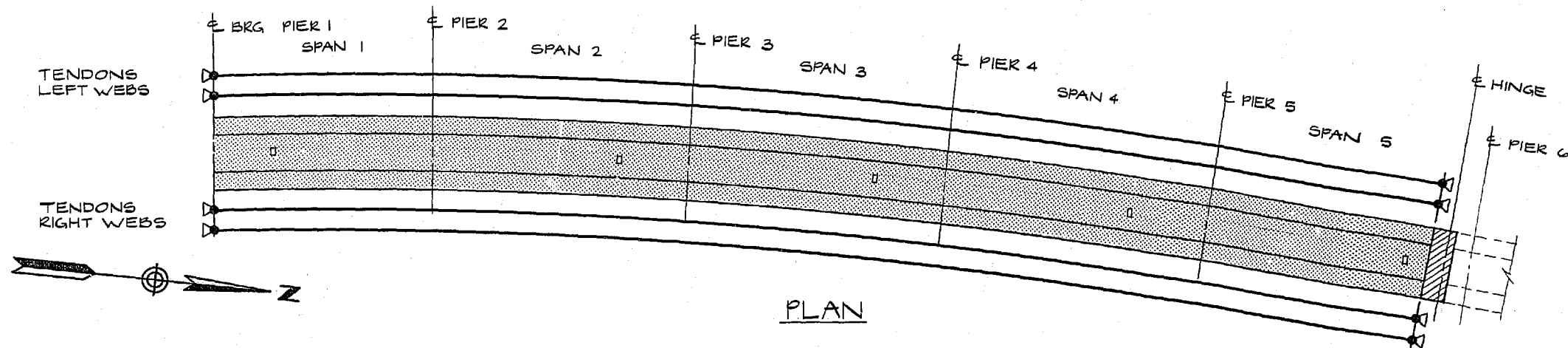


B SECTION
88



C SECTION
88

DRAWN BY: BJA	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 89	TOTAL SHEETS 129	 Washington State Department of Transportation 33000039	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE NB-HINGE SECTIONS AND DETAILS	SHEET 129 OF 181 752/171
DESIGN BY: SKA	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE 5-23-84	REVISION	BY APP'D			
CHECKED BY: WEW	5-23-84 ADDED 6" FILLET							
APRIL 23, 1984 APPROVED								



GENERAL NOTES

1. THE CONSTRUCTION SEQUENCES SHOWN ON THIS SHEET ARE PRESENTED TO DEPICT TO THE CONTRACTOR THE SEQUENCE OF CONSTRUCTING THE BRIDGE SUPERSTRUCTURE AS DESIGNED. THE SEQUENCE DOES NOT DEFINE THE SEQUENCE OF INSTALLING EARTHQUAKE RESTRAINTERS, CONSTRUCTING ABUTMENT BACK WALLS, INSTALLING EXPANSION JOINTS, AND OTHER MISCELLANEOUS CONSTRUCTION ITEMS THAT ARE SHOWN ELSEWHERE ON THE PLANS.
2. POST-TENSIONING IN THE SEQUENCE NOTES SHOWN BELOW REFER TO THE LONGITUDINAL POST-TENSIONING TENDONS. SEE BRIDGE SHEET 03 FOR ADDITIONAL REQUIREMENTS ON THE PRESTRESSING SEQUENCE.
3. CONCRETE SHALL BE PLACED IN CONSTRUCTION ACCESS HOLES IN THE DECK SLAB AS SOON AS THE CONSTRUCTION REQUIRING ACCESS TO THE CELL IS COMPLETE. THE SHORING SHALL NOT BE RELEASED FROM THE SPAN, INCLUDING THE ACCESS HOLE UNTIL THE CONCRETE PLACED IN THE HOLE HAS REACHED A STRENGTH OF 3000 PSI.
4. FALSEWORK IN THE BRIDGE STRUCTURES SHALL BE RELEASED IN THE SEQUENCE SHOWN ON THIS SHEET. FALSEWORK SHALL BE CAREFULLY RELEASED TO PREVENT IMPACT OR UNDUE STRESS IN THE STRUCTURE.
5. CONCRETE IN TRAFFIC BARRIERS SHALL BE PLACED AFTER FALSEWORK HAS BEEN RELEASED FOR THE SPAN SUPPORTING THE TRAFFIC BARRIER AND FOR ADJACENT SPANS.
6. SHORE REACTION AT CONSTRUCTION JOINT NEAR THE HINGE FOR SPANS 5 AND 9 SHALL BE DESIGNED TO SUPPORT THE VERTICAL LOADS DUE TO DEAD LOADS AND PRESTRESSING SHOWN ON THIS SHEET.

CONSTRUCTION SEQUENCE NORTH TO SOUTH

1. SHORE SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK.
2. CAST SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK.
3. POST-TENSION SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK. USE TENDON LENGTHS SHOWN AND STRESS FROM ENDS AS SHOWN.
4. UNSHORE SPANS 1, 2, 3, AND 4.
5. SHORE SPANS 5 FROM HINGE, 6, 7, 8, AND 9 TO HINGE.
6. CAST SPANS 5 FROM HINGE, 6, 7, 8, AND 9 TO HINGE.
7. POST-TENSION SPANS 5 FROM HINGE, 6, 7, 8, AND 9 TO HINGE. USE FULL LENGTH TENDONS AND STRESS FROM ENDS AS SHOWN.
8. LAST HINGE BLOCK IN SPAN 9 AND STRESS HINGE BLOCK TO STRUCTURE.
9. UNSHORE SPANS 4, 5, 6, 7, AND 8.
10. CAST HINGE BLOCK AND STRESS HINGE BLOCK TO STRUCTURE.

10. SHORE SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13.
11. CAST SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13.
12. POST-TENSION SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13. USE FULL LENGTH TENDONS AND STRESS FROM ENDS AS SHOWN.
13. CAST HINGE BLOCK IN SPAN 9 AND STRESS HINGE BLOCK TO STRUCTURE.
14. UNSHORE SPANS 9, 10, 11, 12, AND 13.

CONSTRUCTION SEQUENCE SOUTH TO NORTH

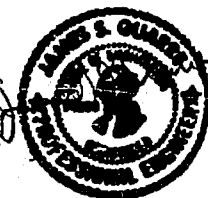
1. SHORE SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13.
2. CAST SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13.
3. POST-TENSION SPANS 9 FROM HINGE BLOCK, 10, 11, 12, AND 13.
4. UNSHORE SPANS 10, 11, 12, AND 13.
5. SHORE SPANS 5 FROM HINGE, 6, 7, 8, AND 9 TO HINGE.
6. CAST SPANS 5 FROM HINGE, 6, 7, 8, AND 9 TO HINGE.
7. POST-TENSION SPANS 5 FROM HINGE, AND 6, 7, 8 AND 9 TO HINGE. USE TENDON LENGTHS SHOWN AND STRESS FROM ENDS AS SHOWN.
8. CAST HINGE BLOCK IN SPAN 9 AND STRESS HINGE BLOCK TO STRUCTURE.
9. UNSHORE SPANS 6, 7, 8, AND 9.
10. SHORE SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK.
11. CAST SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK.
12. POST-TENSION SPANS 1, 2, 3, 4, AND 5 TO HINGE BLOCK. USE FULL LENGTH TENDONS AND STRESS FROM ENDS AS SHOWN.
13. CAST HINGE BLOCK IN SPAN 5 AND STRESS HINGE BLOCK TO STRUCTURE.
14. UNSHORE SPANS 1, 2, 3, 4, AND 5.

DRAWN BY: BJA	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
DESIGN BY: SKA	10	WASH	1-705-3(665)		
CHECKED BY: WEW	JOB NUMBER				
	84W056				
	CONTRACT NO.				
	2747				
DATE	REVISION	BY	APP'D		



APRIL 23, 1984
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
PROFESSIONAL ENGINEERS LICENSE NO. 10000
WASHINGTON STATE



Washington State
Department of Transportation

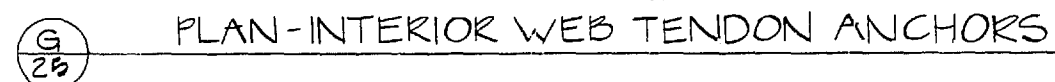
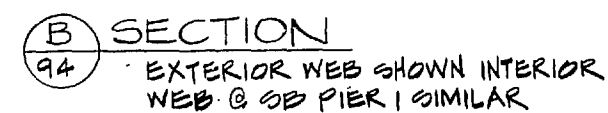
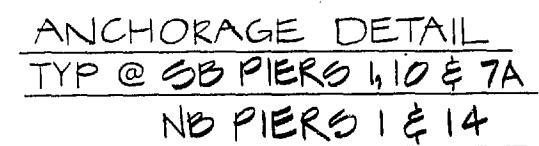
33000033

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
NB LINE BRIDGE

NB CONSTRUCTION SEQUENCE

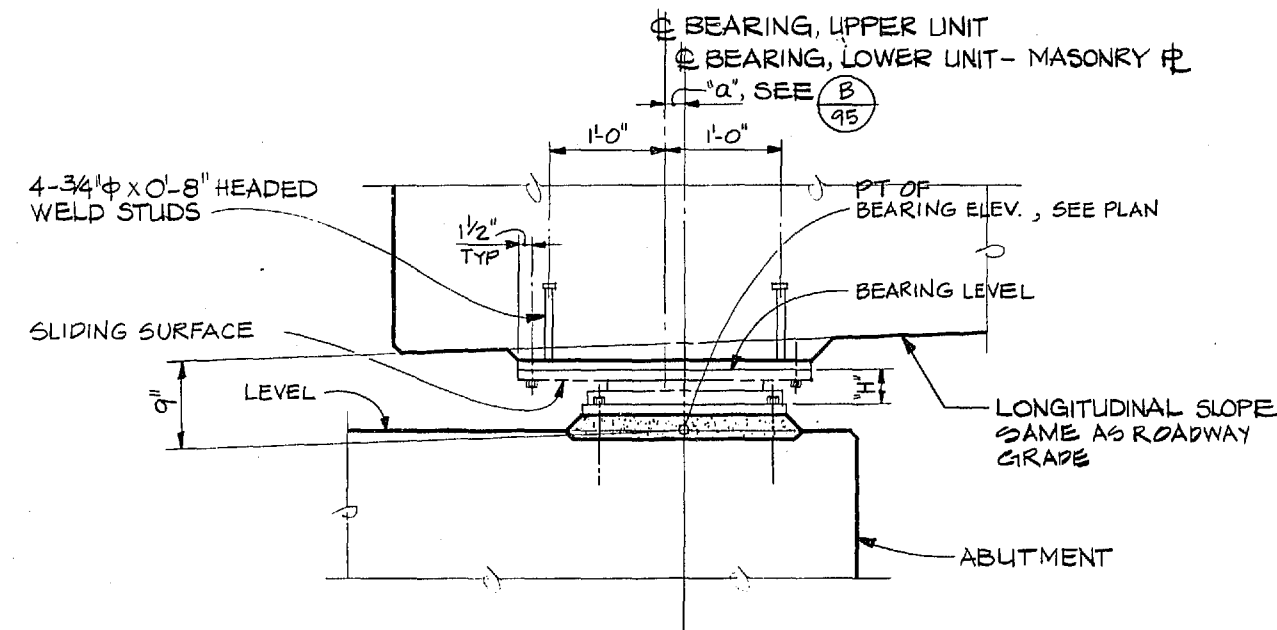
93

SHEET
133
OF
181
SHEETS

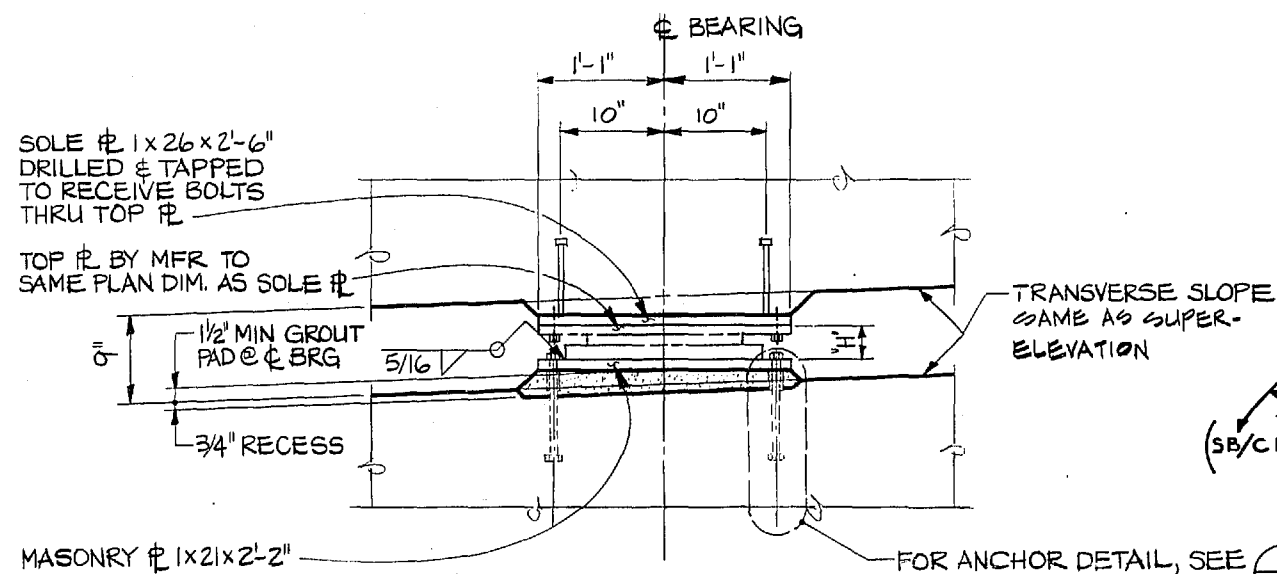
DOT FORM 221-012
Revised 9/82

SR 705/5

152/166

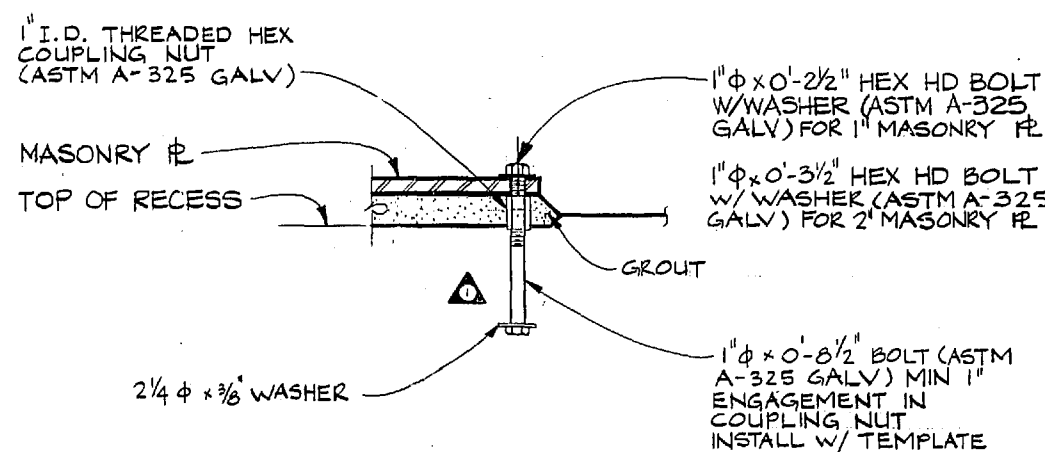


LONGITUDINAL SECTION

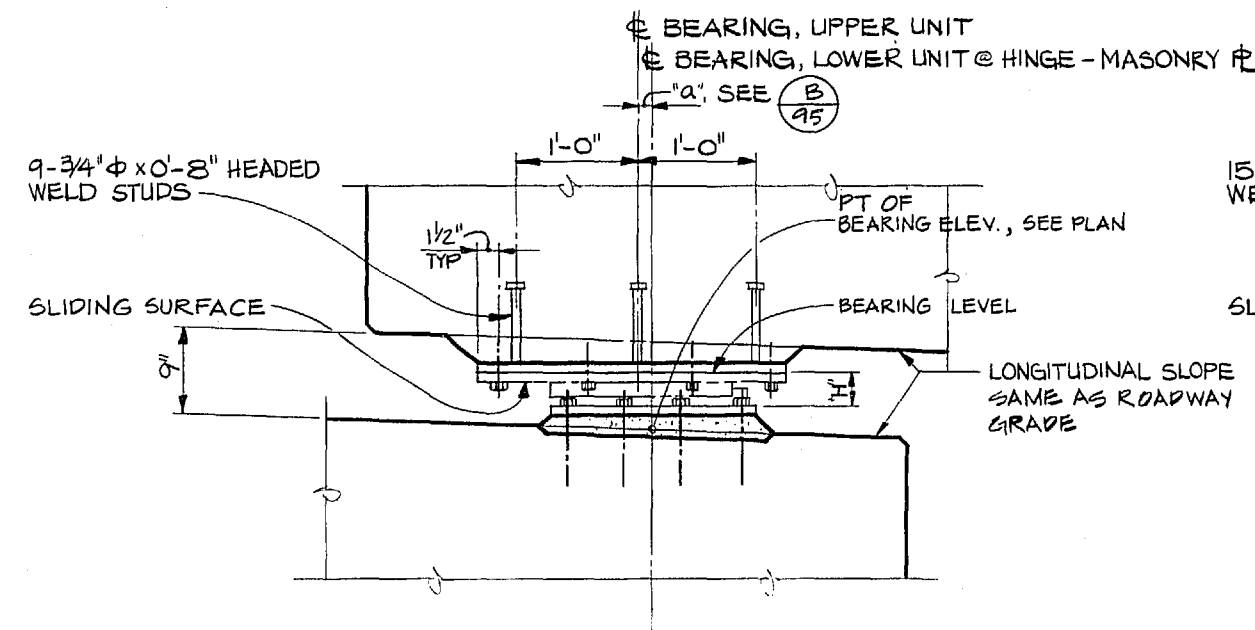


TRANSVERSE SECTION

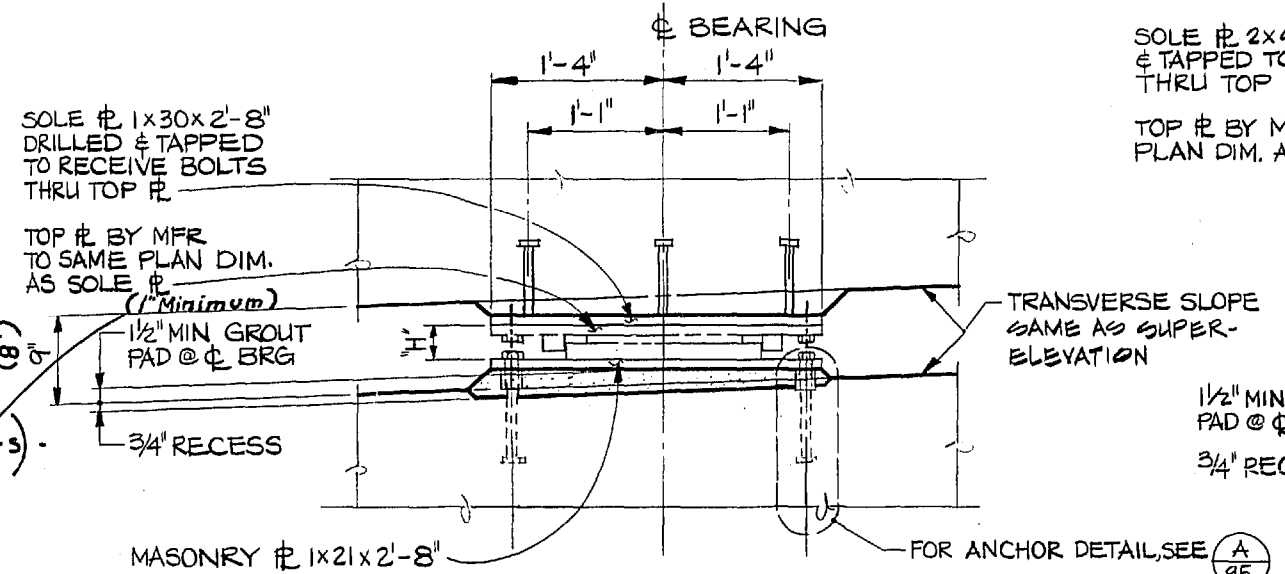
DETAIL - BEARING @ SB, CBD-S PIER 1, 10, 7A NB PIER 1 & 14



DETAIL - ANCHOR BOLT



LONGITUDINAL SECTION



TRANSVERSE SECTION

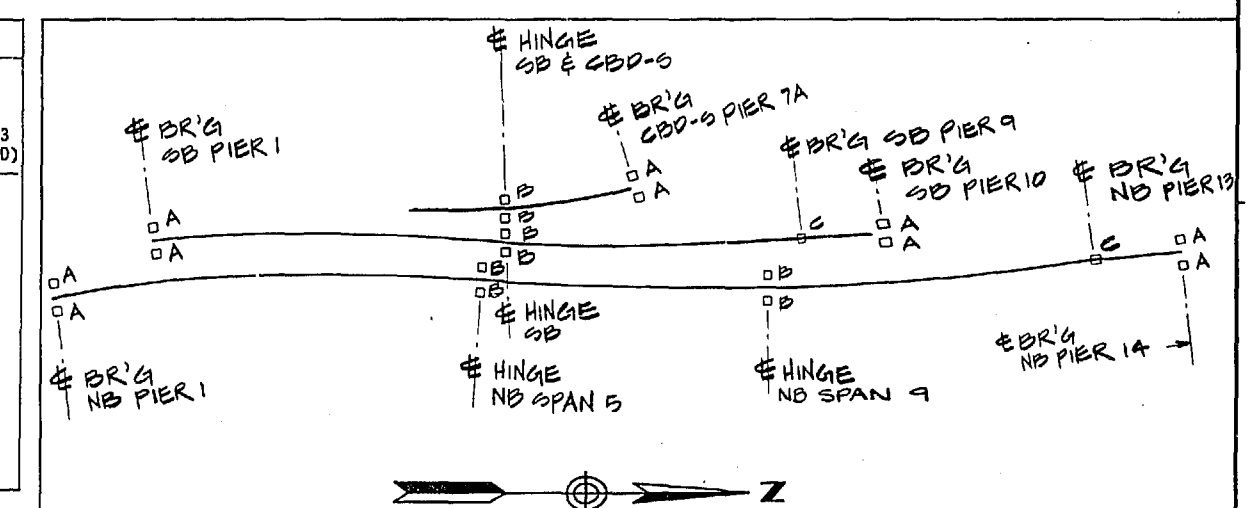
DETAIL - HINGE BEARING @ SB, CBD-S, & NB

BEARING NOTES

1. DESIGN REQUIREMENTS FOR BEARINGS ARE AS FOLLOWS:

DESIGN REQUIREMENT	BEARING LOCATION		
	(A) SB, CBD-S PIERS 1, 10, 7A NB PIER 1 & 14 (10 REQUIRED)	(B) HINGE SB, CBD-S & NB (8 REQUIRED)	(C) SB PIER 9 NB PIER 13 (2 REQUIRED)
PERMANENT VERTICAL LOAD - KIPS	550	550	1800
MAXIMUM VERTICAL LOAD - KIPS	700	700	2300
MAXIMUM LONGITUDINAL MOVEMENT - IN.	±4.5	±4.5	±3.5
MAXIMUM TRANSVERSE MOVEMENT - IN.	±1.0 NONGUIDED	GUIDED	GUIDED
MAXIMUM ANGLE OF ROTATION - RADIANS	0.02	0.02	0.02
MAXIMUM TRANSVERSE LOAD - KIPS (BEFORE YIELDING)	--	200	570

- BEARINGS SHALL BE DESIGNED TO BE REMOVABLE AND REPLACEABLE.
- "H" VARIES WITH MANUFACTURE OF BEARING.
- ALL BEARINGS SHALL BE INSTALLED IN A LEVEL PLANE.
- COEFFICIENT OF FRICTION BETWEEN SLIDING SURFACES SHALL NOT EXCEED 3%.



KEY PLAN

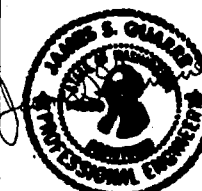
AS BUILT CHANGE 11-26-90

DRAWN BY : KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 95	TOTAL SHEETS 135
DESIGN BY : WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE 5-23-84	REVISION ANCHOR BOLT DETAIL	BY APP'D



APRIL 23, 1984 APPROVED

ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS



Washington State Department of Transportation

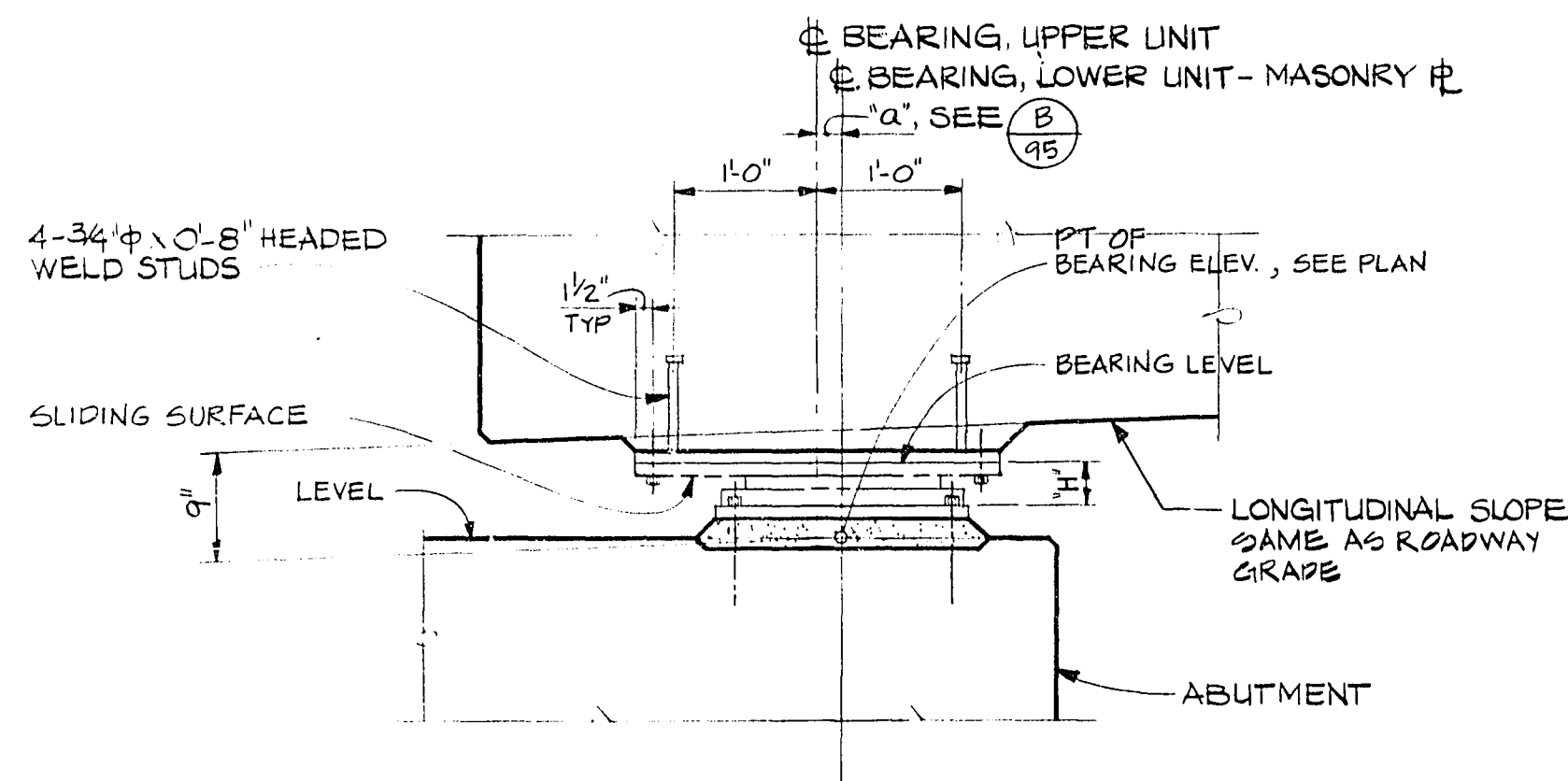
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SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2

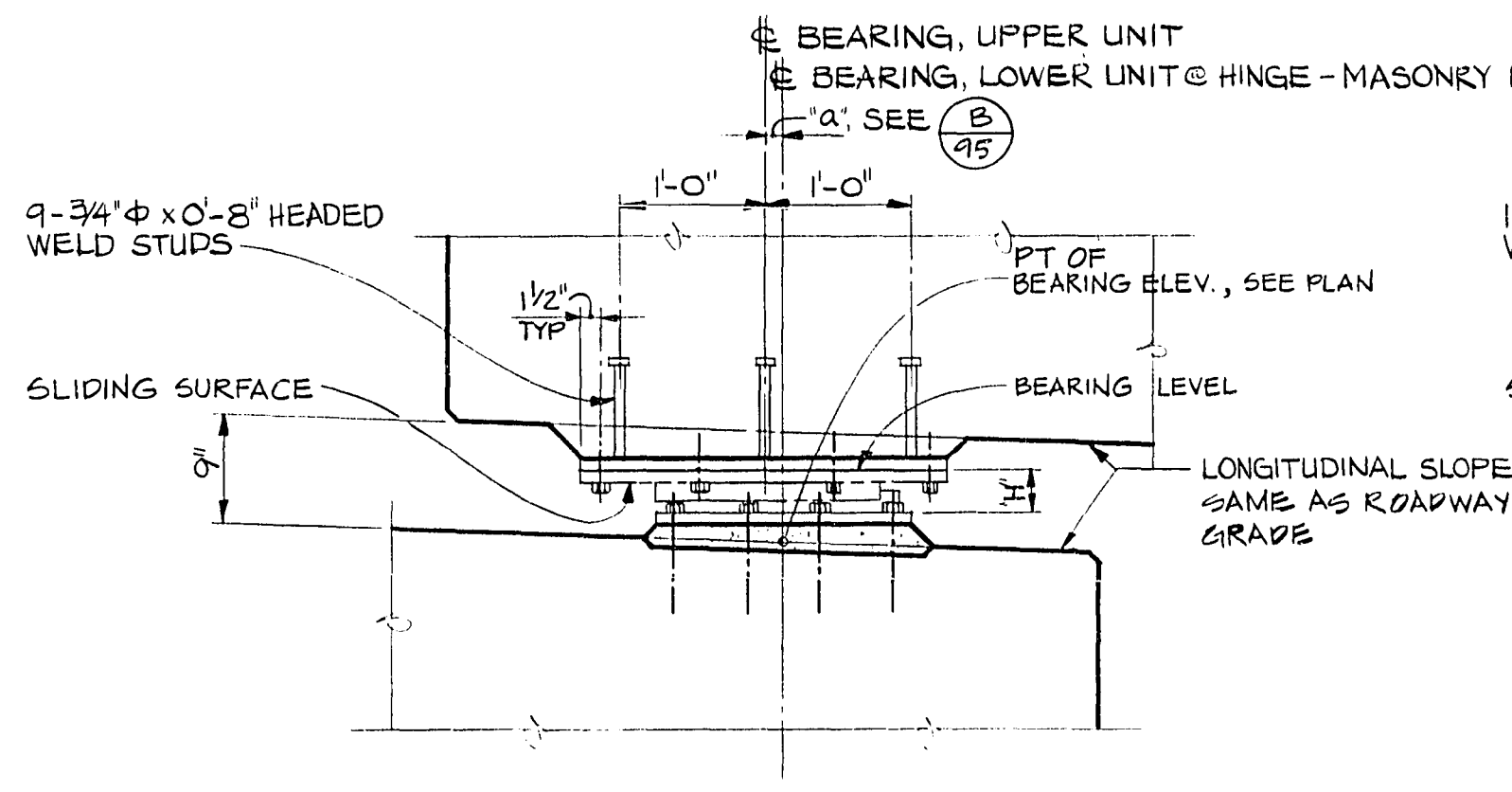
BEARING DETAILS

95

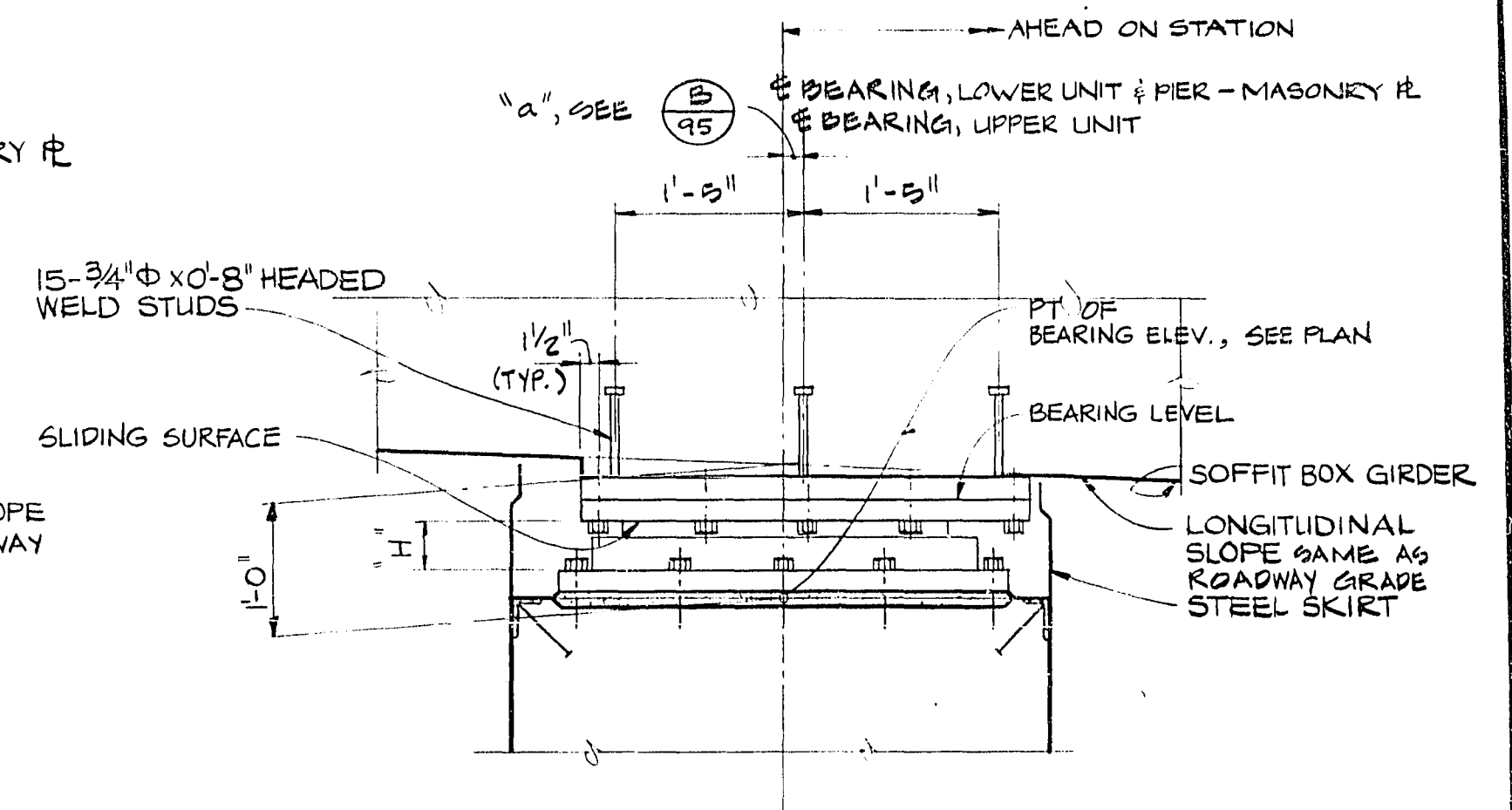
SHEET 135 OF 181 SHEETS



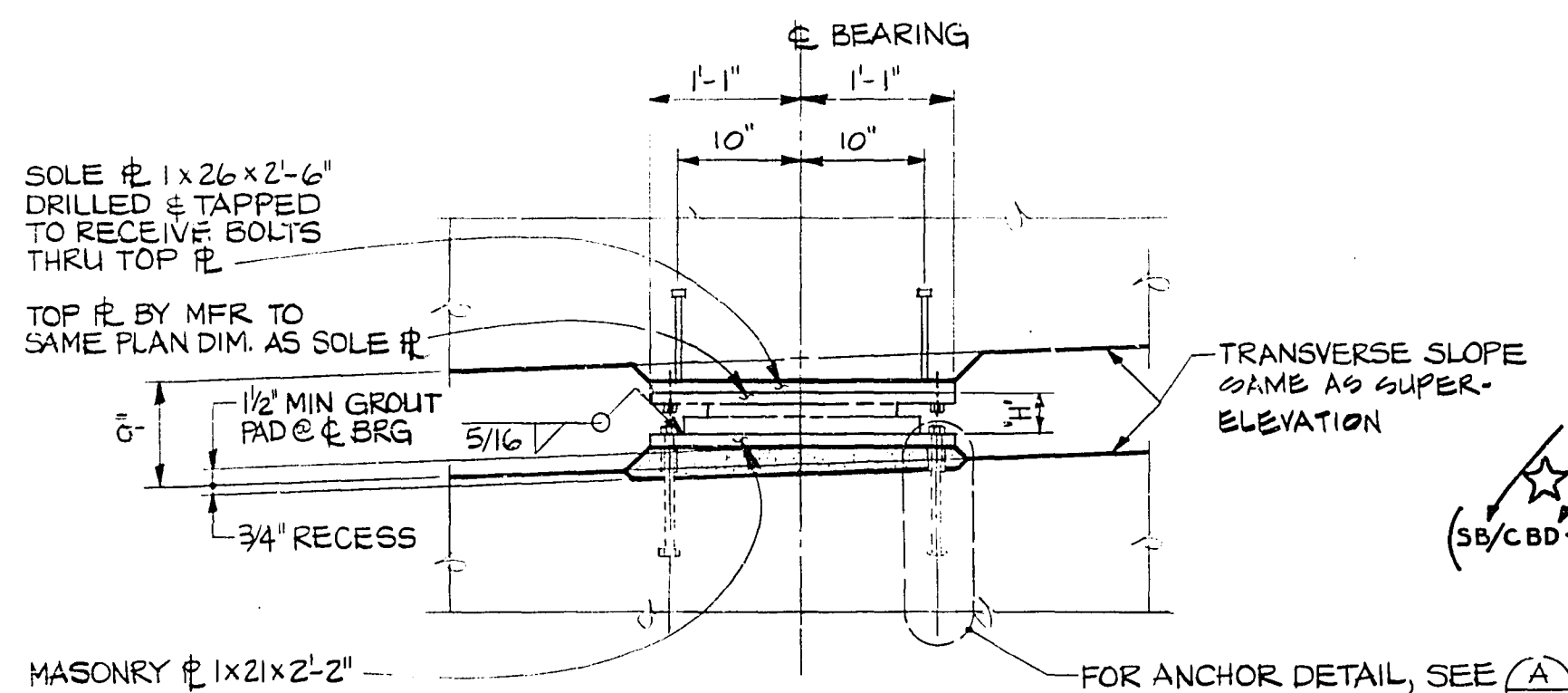
LONGITUDINAL SECTION



LONGITUDINAL SECTION

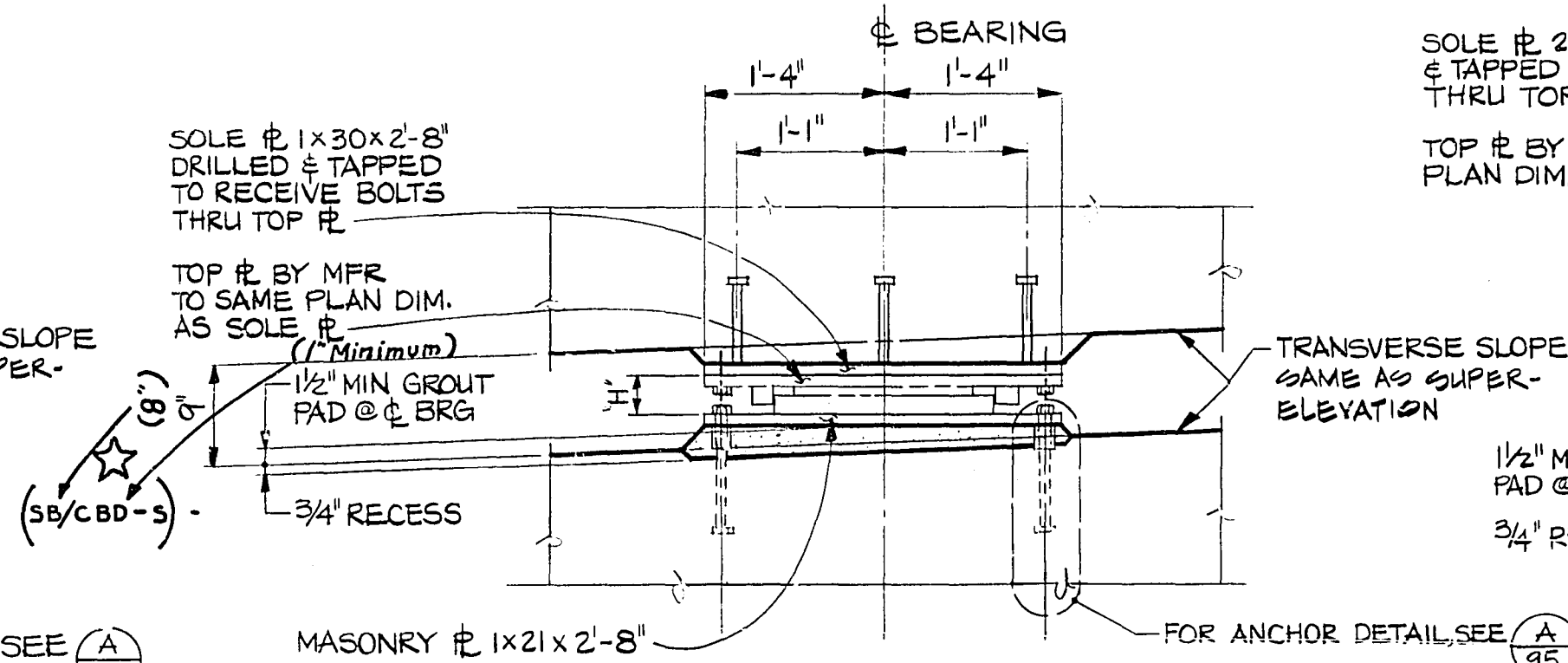


LONGITUDINAL SECTION



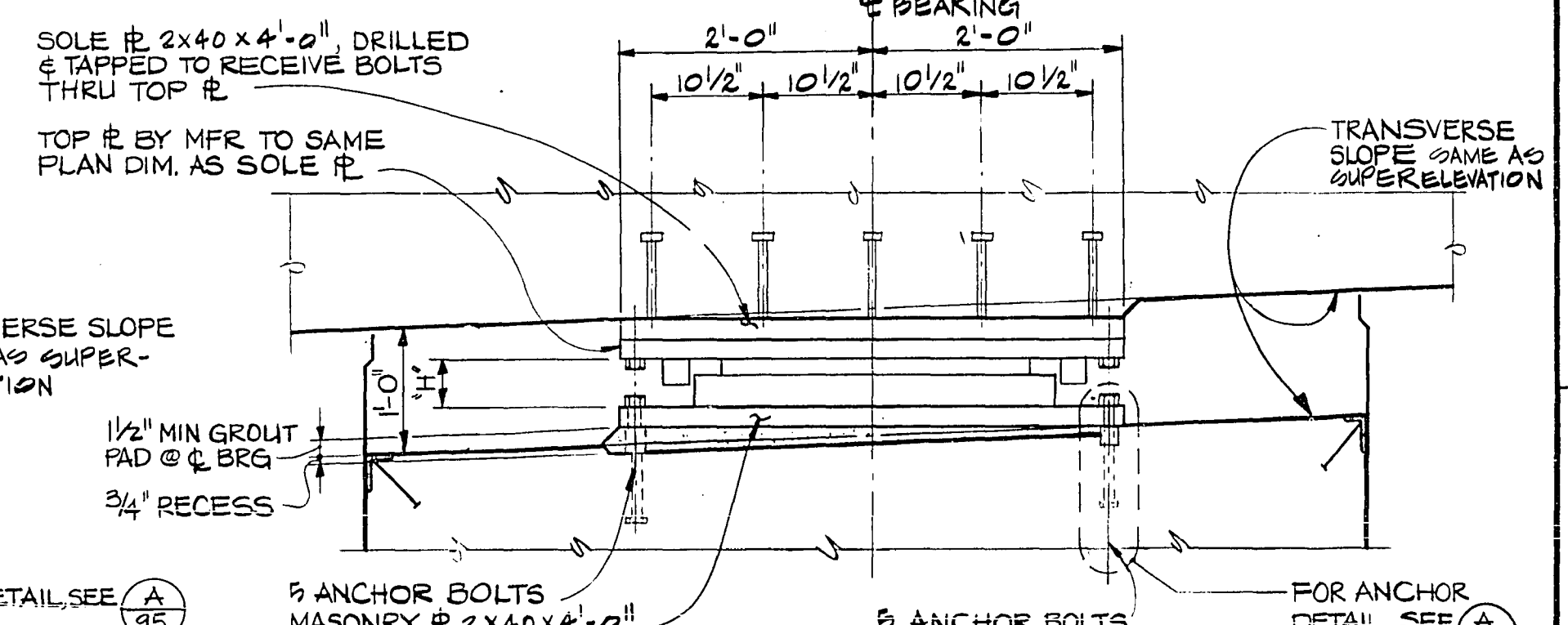
TRANSVERSE SECTION

DETAIL - BEARING @ SB, CBD-S PIER 1, 10, 7A NB PIER 1 & 14



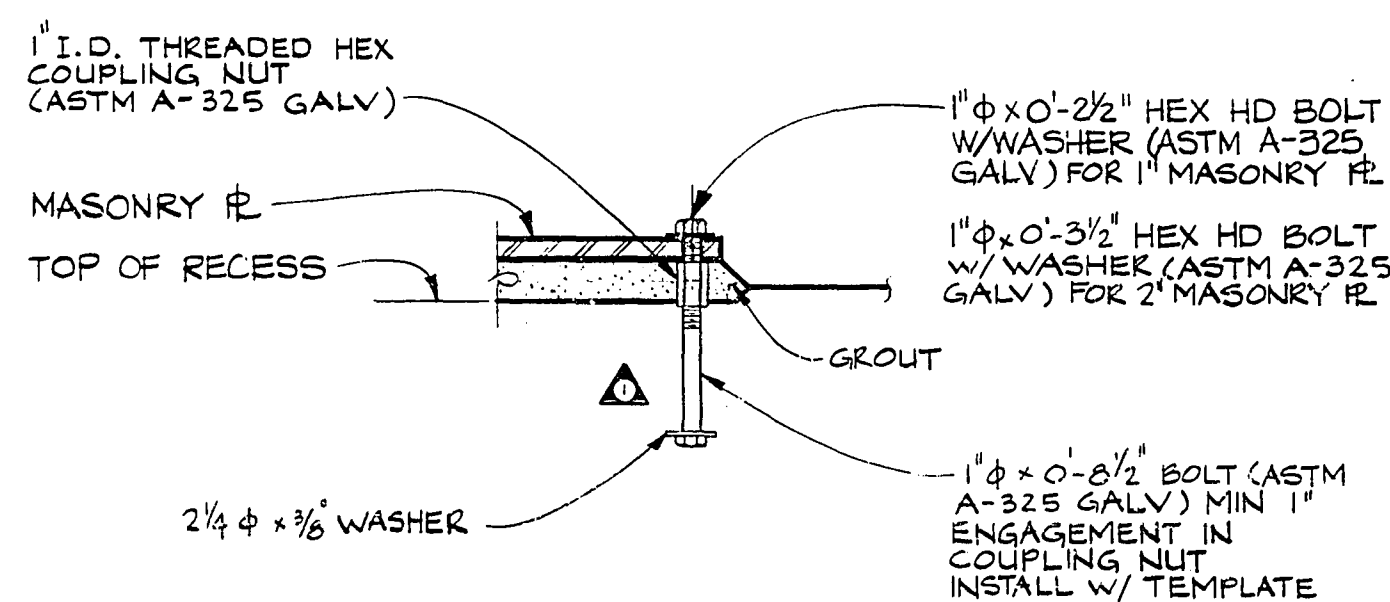
TRANSVERSE SECTION

DETAIL - HINGE BEARING @ SB, CBD-S, & NB



TRANSVERSE SECTION

DETAIL - BEARING @ SB PIER 9 NB PIER 13



DETAIL - ANCHOR BOLT

INSTALLATION OFFSET BEFORE LONGIT. POST TENSIONING

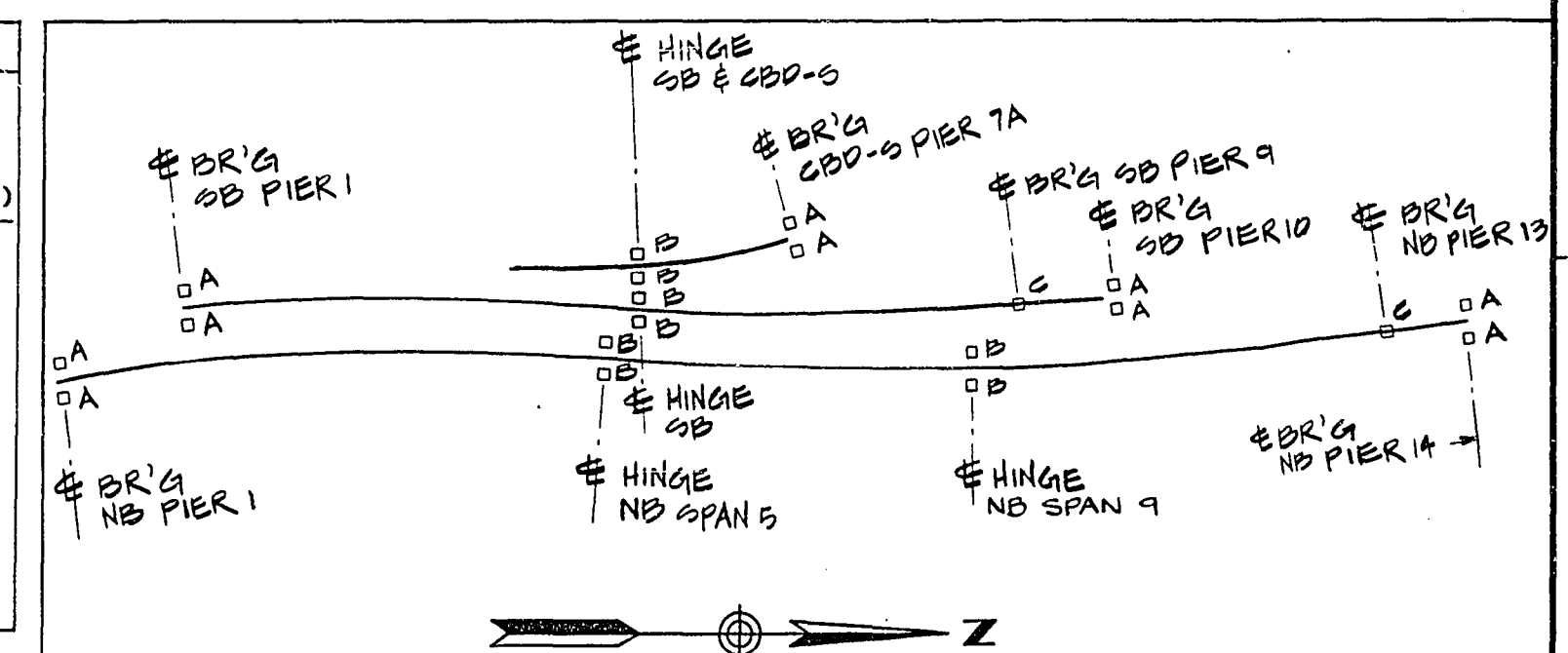
SB & CBD-S		NB	
PIER	"a" INCHES	PIER	"a" INCHES
1	2	1	2
7A	1 1/2	14	2 1/2
9	1 1/2	PIER 13	2
10	2	HINGE STRUCT 1-2	2 1/2
HINGE SB-SB	1 1/2	HINGE STRUCT 2-3	2
HINGE SB-CBD-S	1		

BEARING NOTES

1. DESIGN REQUIREMENTS FOR BEARINGS ARE AS FOLLOWS:

DESIGN REQUIREMENT	BEARING LOCATION		
	(A) SB, CBD-S PIER 1, 10, 7A NB PIER 1 & 14 (10 REQUIRED)	(B) HINGE SB, CBD-S & NB (8 REQUIRED)	(C) SB PIER 9 NB PIER 13 (2 REQUIRED)
PERMANENT VERTICAL LOAD - KIPS	550	550	1800
MAXIMUM VERTICAL LOAD - KIPS	700	700	2300
MAXIMUM LONGITUDINAL MOVEMENT - IN.	±4.5	±4.5	±3.5
MAXIMUM TRANSVERSE MOVEMENT - IN.	±1.0 HONGUIDED	GUIDED	GUIDED
MAXIMUM ANGLE OF ROTATION - RADIANS	0.02	0.02	0.02
MAXIMUM TRANSVERSE LOAD - KIPS (BEFORE YIELDING)	--	200	570

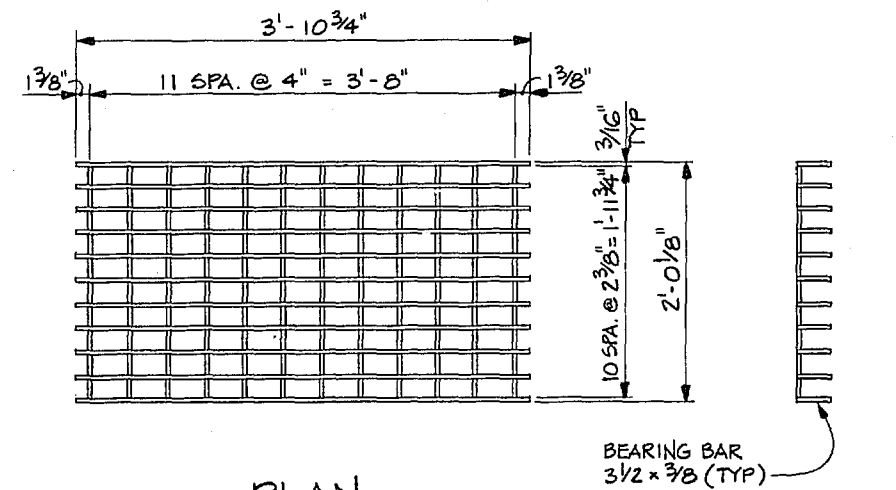
- BEARINGS SHALL BE DESIGNED TO BE REMOVABLE AND REPLACEABLE.
- "H" VARIES WITH MANUFACTURE OF BEARING.
- ALL BEARINGS SHALL BE INSTALLED IN A LEVEL PLANE.
- COEFFICIENT OF FRICTION BETWEEN SLIDING SURFACES SHALL NOT EXCEED 3%.



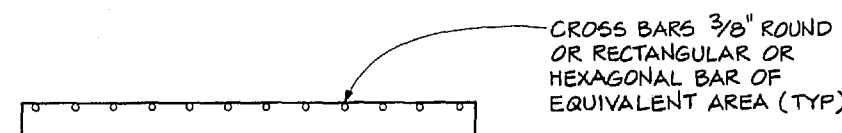
KEY PLAN

AS BUILT CHANGE 11-26-90

DRAWN BY : KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 95	TOTAL SHEETS 135
DESIGN BY : WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	APRIL 23, 1984 APPROVED	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2
CHECKED BY : JSG	DATE 5-23-84	REVISION	BY APP'D	330000095	BEARING DETAILS

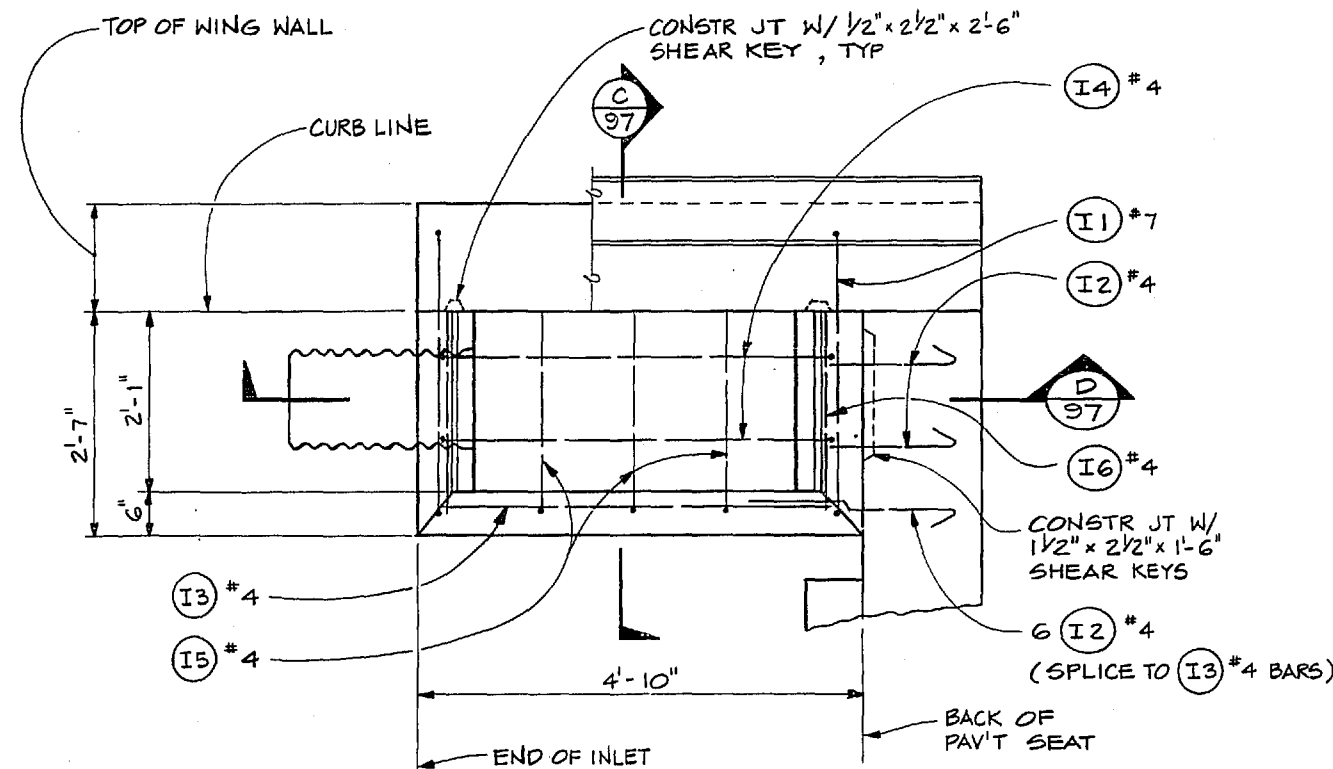


PLAN



ELEVATION

GRATE DETAILS



PLAN - BRIDGE GRATE INLET

BAR LIST				BENDING DIAGRAM (ALL DIMENSIONS ARE OUT TO OUT)	
MARK	SIZE	LENGTH			
I 1	7	5'-5"			
I 2	4	2'-6"			
I 3	4	4'-2"			
I 4	4	1'-8"			
I 5	4	7'-5"			
I 6	4	2'-4"	STR		

NOTE:
ALL REINFORCING SHALL CONFORM TO A.S.T.M. A-615, GR 60

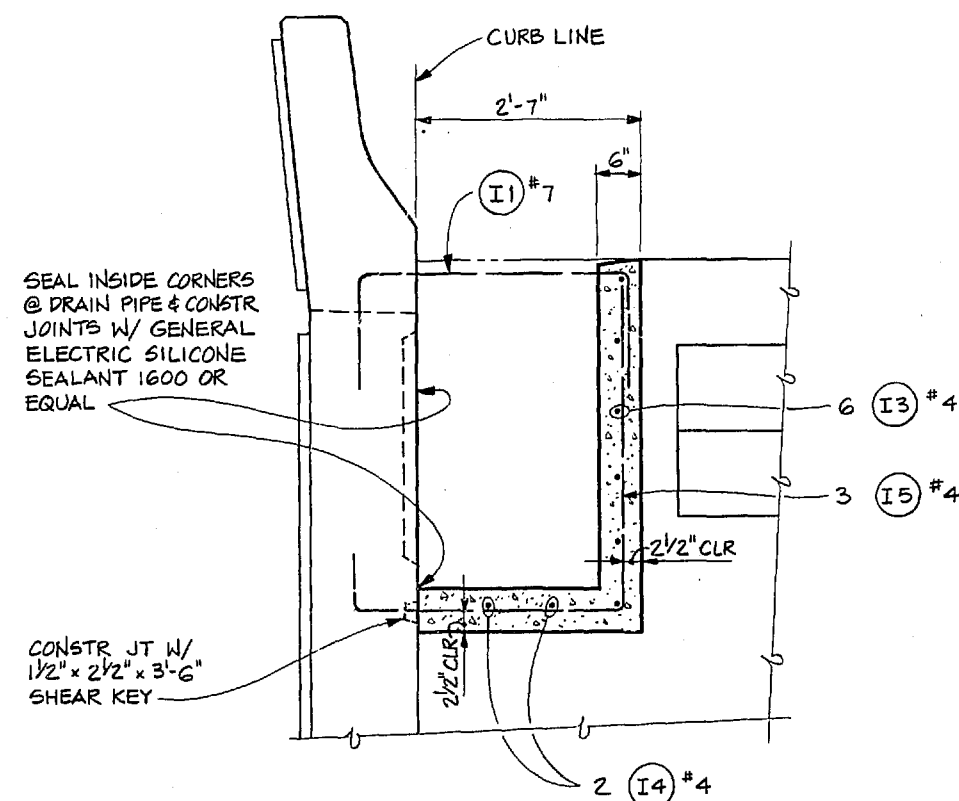
NOTES:

1. ANGLES SHALL BE SET SO THAT EACH BEARING BAR OF PREFABRICATED GRATE SHALL HAVE FULL BEARING ON BOTH ENDS.
2. THE FINISH TOP OF CONCRETE SHALL BE EVEN WITH THE GRATE SURFACE.
3. ALL EXPOSED CONCRETE EDGES SHALL BE FINISHED WITH A ONE HALF (1/2) INCH RADIUS EDGER TOOL EXCEPT AS NOTED.
4. THE GRATE SHALL BE SET PARALLEL TO THE TRANSVERSE ROADWAY SLOPE AND PARALLEL TO LONGITUDINAL GRADE.
5. SEE THE STANDARD SPECIFICATIONS FOR FURTHER REQUIREMENTS.

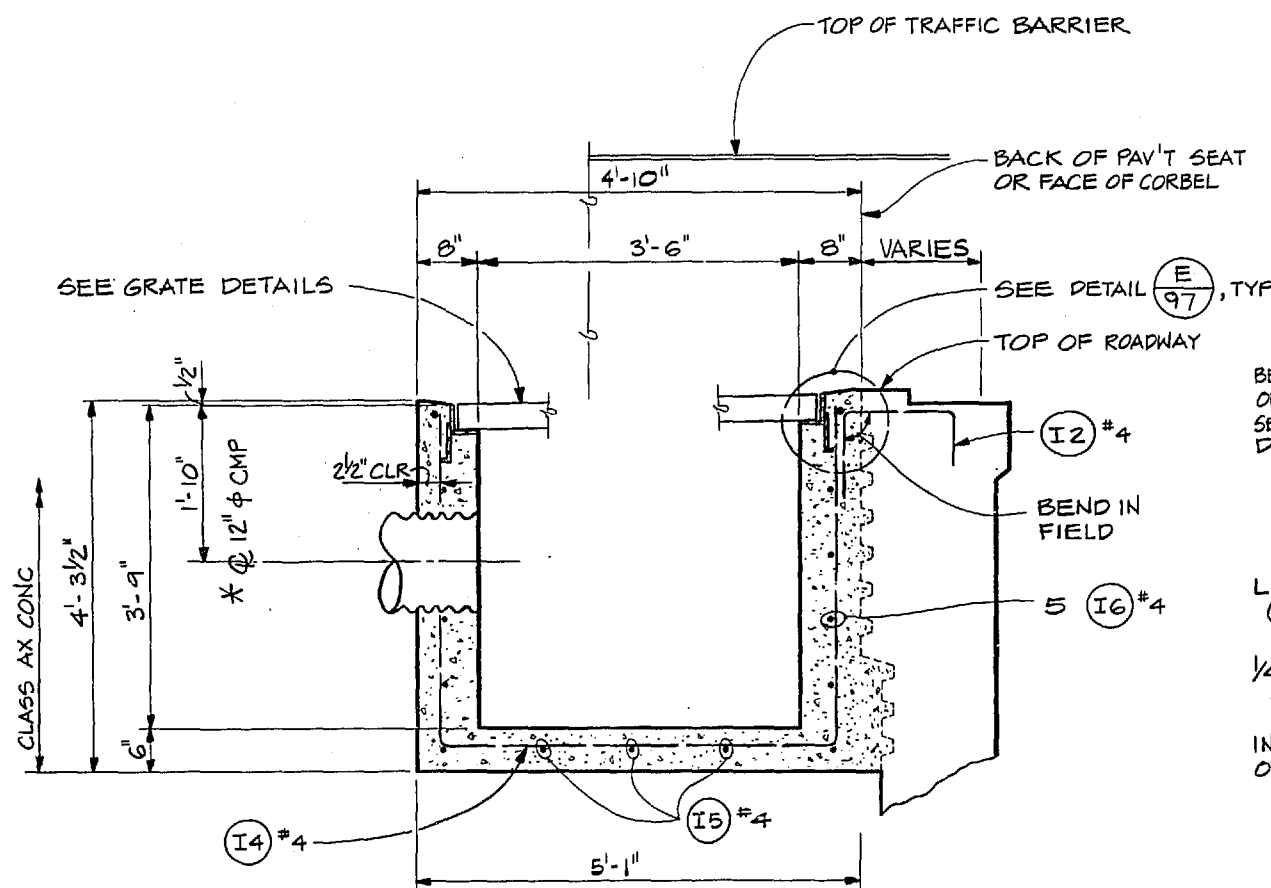
APPROX. QUANTITIES - ONE INLET - NO SKEW

CONCRETE CLASS AX	1.0	CU YDS
STEEL REINFORCING BARS	95	LBS
STRUCTURAL CARBON STEEL *	252	LBS

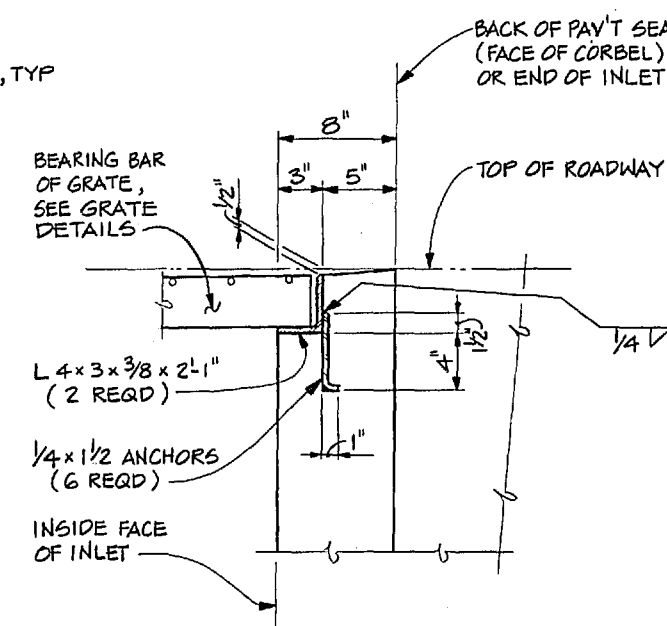
* INCLUDES GRATE ANGLES & ANCHORS



C SECTION



D SECTION



E DETAIL

* 12" φ CMP NOT INCLUDED IN BRIDGE QUANTITIES

DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 97	TOTAL SHEETS 137
DESIGN BY: WEW	JOB NUMBER 84W056				
CHECKED BY: JSG	CONTRACT NO. 2747				
DATE	REVISION	BY	APP'D		

DOT FORM 221-012
Revised 9/82

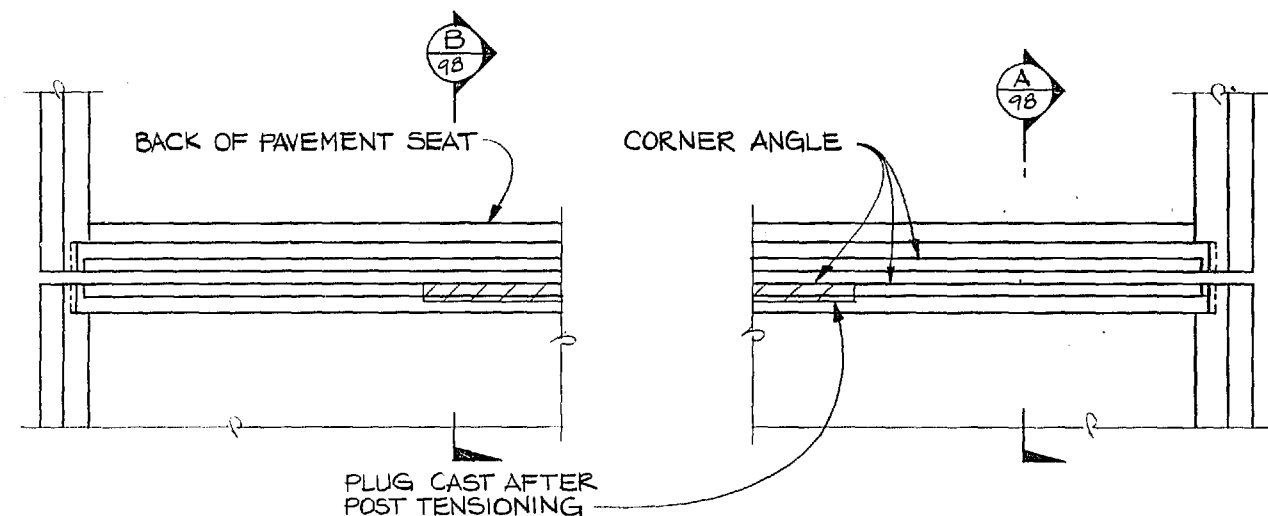
APRIL 23, 1989
APPROVED

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1000 10TH AVE. S.W. SUITE 200
SEATTLE, WA 98101

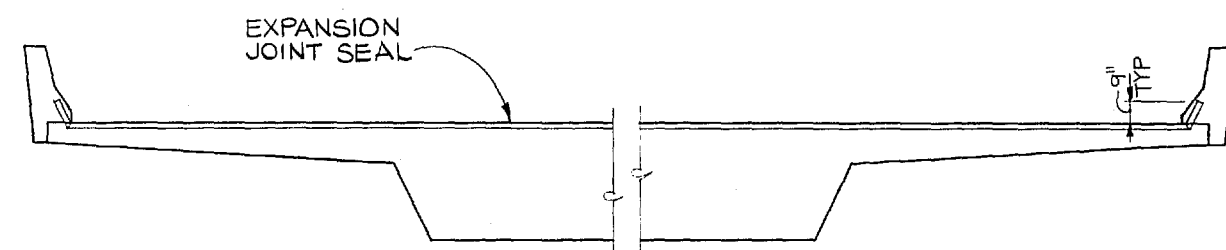
Washington State
Department of Transportation
33000037

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
BRIDGE GRATE INLET

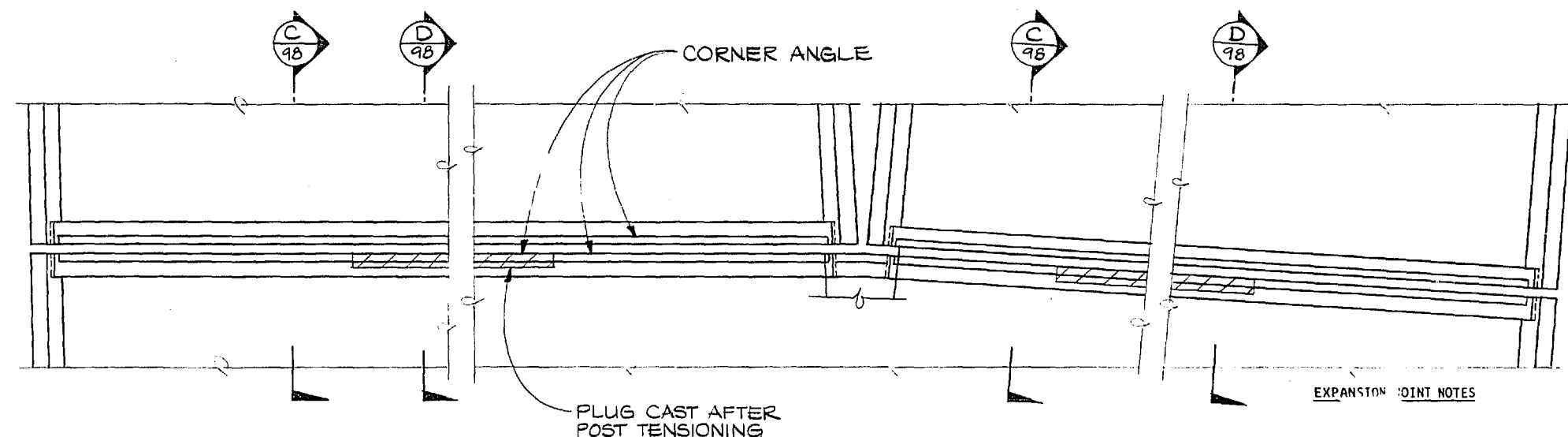
97
SHEET
137
OF
138
SHEETS



PLAN @ PIERS



SECTION @ EXPANSION JOINT



PLAN @ HINGE

TYPE A EXPANSION JOINT - HINGE NB STA. 266+66
 TYPE B EXPANSION JOINT - HINGE SB STA. 171+45.00
 TYPE C EXPANSION JOINT - HINGE CBD-5 STA. 2+33.92
 HINGE NB STA. 271+46.00

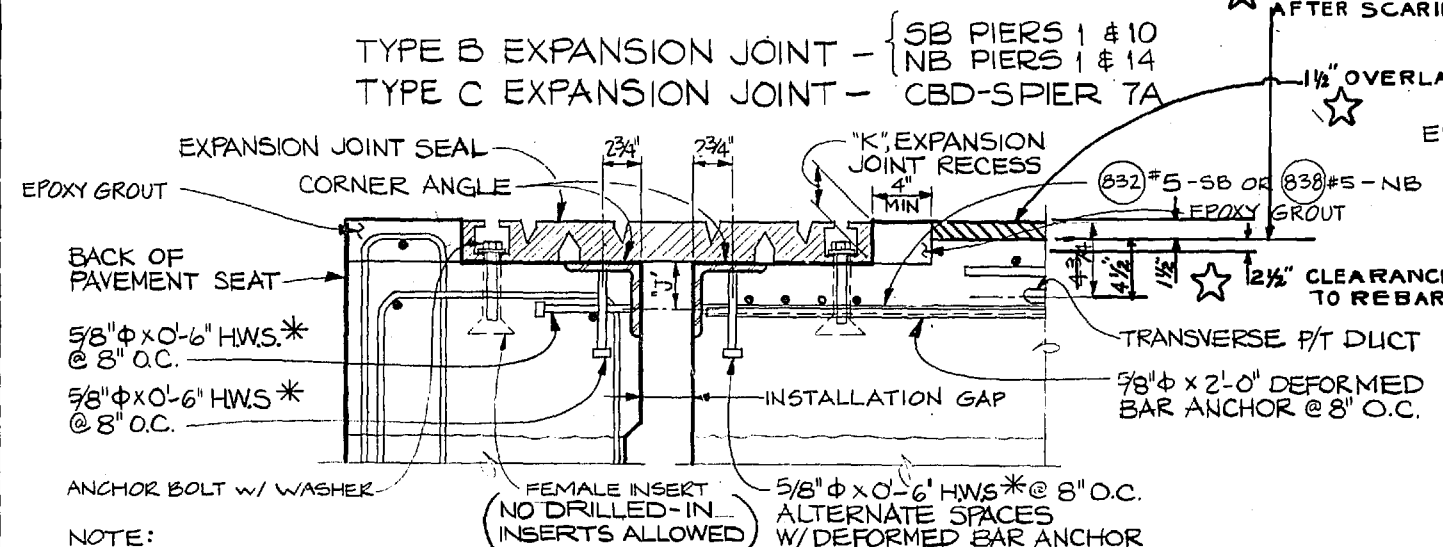
EXPANSION JOINT	EXPANSION JOINT RECESS "K"	DEFORMED BAR OR HEADED WELD STUD DIM. "J"	CORNER ANGLE
TYPE A	3 3/16" *	2 1/4" 3"	4x4 x 1/2
TYPE B	3 1/16" *	3 1/4" 3 3/4"	5x5 x 1/2
TYPE C	2 3/16" *	3 1/4" 3"	5x5 x 1/2

* CONTRACTOR SHALL VERIFY DIMENSIONS PROVIDED IN THIS TABLE W/ EXPANSION JOINT SUPPLIER.

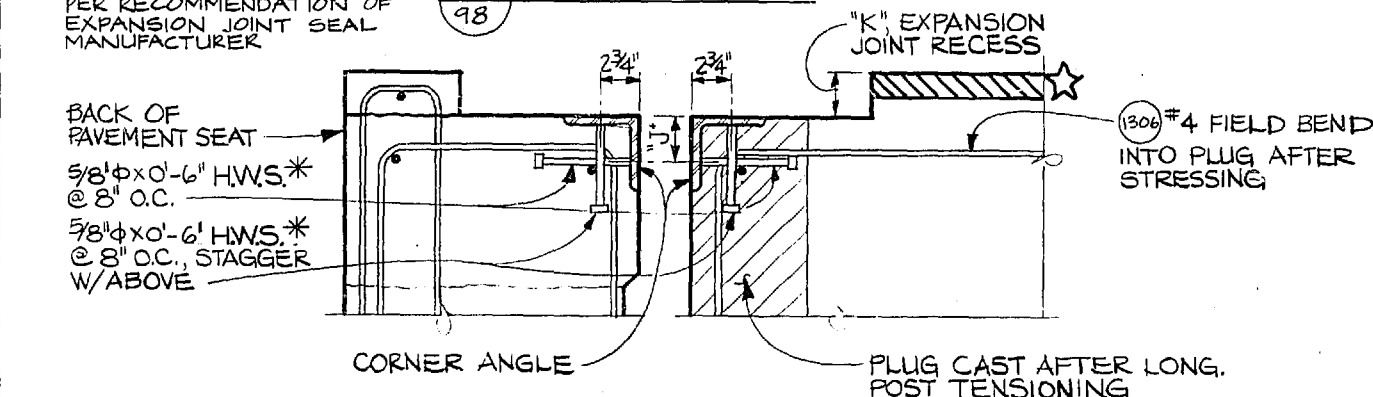
★ F/T DUCT BELOW 5/8" DEFORMED BAR ANCHOR

★ TOP OF ROADWAY SLAB AFTER SCARIFICATION

TYPE B EXPANSION JOINT - SB PIERS 1 & 10
 TYPE C EXPANSION JOINT - NB PIERS 1 & 14
 CBD-SPER 7A

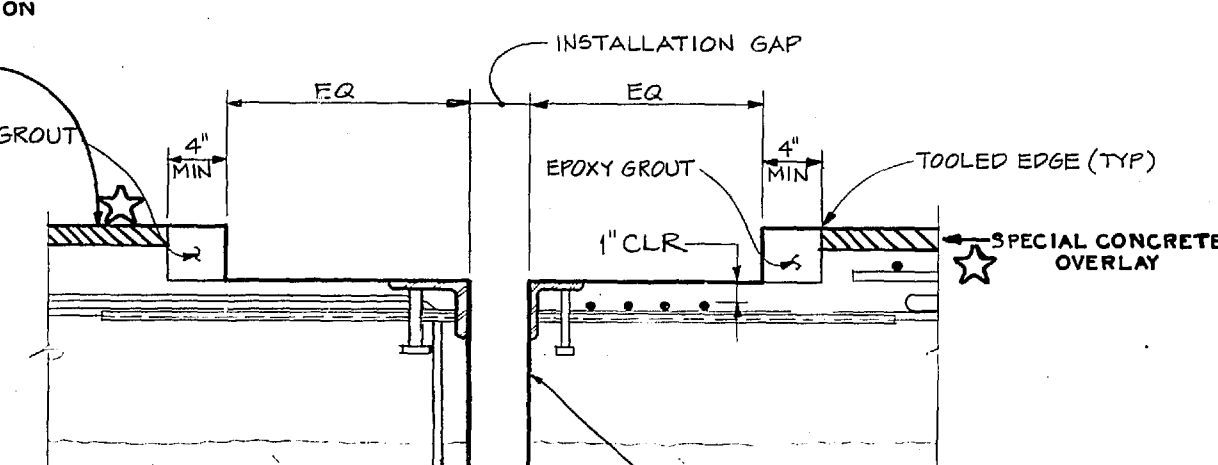


SECTION A



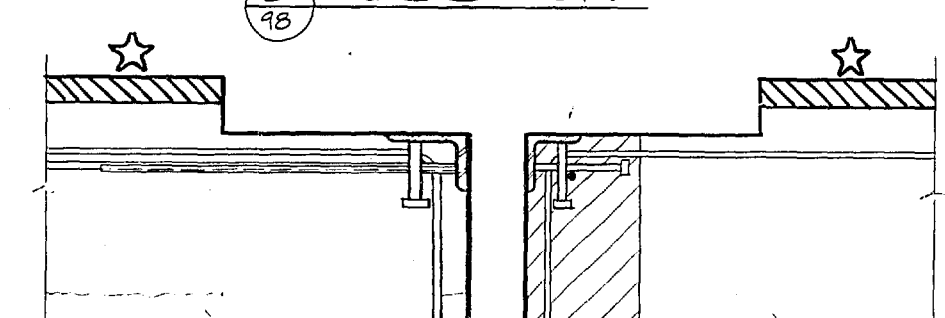
SECTION B

DRAWN BY: KMP	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 98	TOTAL SHEETS 138
DESIGN BY: WEW	JOB NUMBER 84W056	CONTRACT NO. 2747	DATE	REVISION	BY APP'D
CHECKED BY: JSG					



FOR SIMILAR NOTES, SEE SECTION A

SECTION C



FOR SIMILAR NOTES, SEE SECTION B

SECTION D

★ AS BUILT CHANGES 11-26-90

- THE EXPANSION JOINT SYSTEM SHALL BE TRANSFLEX EXPANSION JOINT SEAL MODEL NOS. 900 (TYPE A), 650 (TYPE B), AND 400A (TYPE C) MANUFACTURED BY GENERAL TIRE ENGINEERING CONSTRUCTION PRODUCTS 1218 GARFIELD STREET WABASH, IN 46692
- THE CONTRACTOR SHALL SUBMIT A DETAILED INSTALLATION PROCEDURE FOR THE EXPANSION JOINT TO THE ENGINEER FOR APPROVAL. THE INSTALLATION PROCEDURE SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE DIMENSIONS AND DIMENSIONAL TOLERANCES OF THE EXPANSION JOINT BLOCKOUTS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. THE INSTALLATION PROCEDURE SHALL SHOW THESE TOLERANCES AND THE METHODS PROPOSED TO ACHIEVE THEM.
- THE SHEAR STUDS TO ANCHOR THE EXPANSION JOINT SHALL BE COORDINATED WITH THE ARMOR ANGLE AND REINFORCEMENT.
- THE EXPANSION JOINT IS TO BE MOUNTED ON THE FACE OF THE TRAFFIC BARRIER AS RECOMMENDED BY THE MANUFACTURER AND SUBJECT TO THE ENGINEER'S APPROVAL.
- THE INSTALLATION DIMENSIONS INCLUDE THE FOLLOWING CALCULATED MOVEMENTS OF THE BRIDGE AFTER INSTALLATION OF THE EXPANSION JOINT DUE TO CREEP AND SHRINKAGE AND TEMPERATURE.

LOCATION	EXPANSION JOINT MOVEMENTS (INCHES)			
	INSTALLATION GAP			
	@ 80°F	@ 50°F	@ 20°F	
SB PIER 1	2.8	3.5	4.2	6.7
SB PIER 10	2.7	3.5	4.3	7.2
CBD-5 PIER 7A	3.3	3.5	3.7	4.6
SB HINGE SB STA 171+45.00	3.4	4.5	5.6	9.1
SB HINGE CBD-5 STA 2+30.92	3.7	4.5	5.4	7.6
NB PIER 1	2.8	3.5	4.2	6.6
NB PIER 14	2.6	3.5	4.4	7.5
NB HINGE STA 266+66	3.0	4.5	6.0	10.8
NB HINGE STA 271+46	3.4	4.5	5.6	9.1

EXPANSION JOINT INSTALLATION SEQUENCE NOTES

- POUR DECK SLAB WITH BLOCKOUT AND/OR ARMOR ANGLE.
 - COMPLETE TRANSVERSE AND LONGITUDINAL POST-TENSIONING.
 - PLACE CONCRETE PLUG OVER LONGITUDINAL POST-TENSIONING ANCHORS. PROVIDE BLOCKOUT AND PLACE ARMOR ANGLE INTO THE PLUG.
 - COMPLETE ABUTMENT WALL TO BACK OF PAVEMENT SEAT WITH BLOCKOUT AND ARMOR ANGLE
- OR
- COMPLETE HINGE BLOCK POUR WITH BLOCKOUT AND ARMOR ANGLE.
- SET INSTALLATION GAP PER TABLE ABOVE. LINEARLY INTERPOLATE FOR INSTALLATION TEMPERATURE BETWEEN VALUES IN TABLE.
- POUR TRAFFIC BARRIER WITH BLOCKOUT PER MANUFACTURER RECOMMENDATIONS.
 - PLACE AND SECURE EXPANSION JOINT. PLACE EPOXY GROUT.



APRIL 23, 1991
 APPROVED

ABAM
 ENGINEERS INCORPORATED
 CONSULTING ENGINEERS
 400 SOUTH 10TH STREET SUITE 200
 TACOMA, WASH. 98402-1000
 (206) 461-1100



Washington State
 Department of Transportation

- 33000098

SR 705
 21ST ST. TO SCHUSTER PARKWAY
 STAGE 2

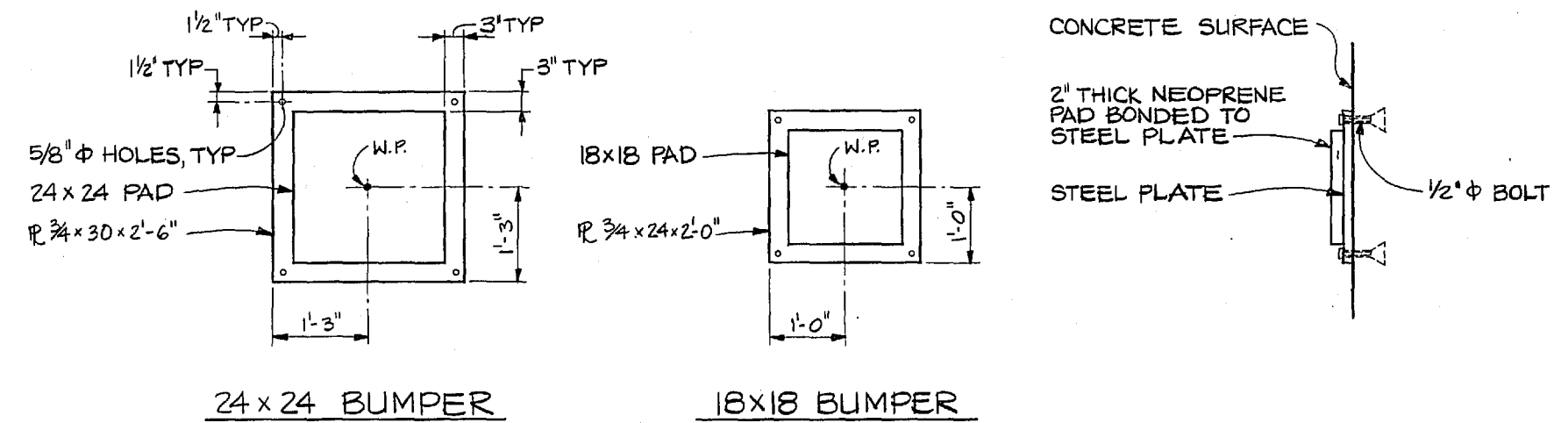
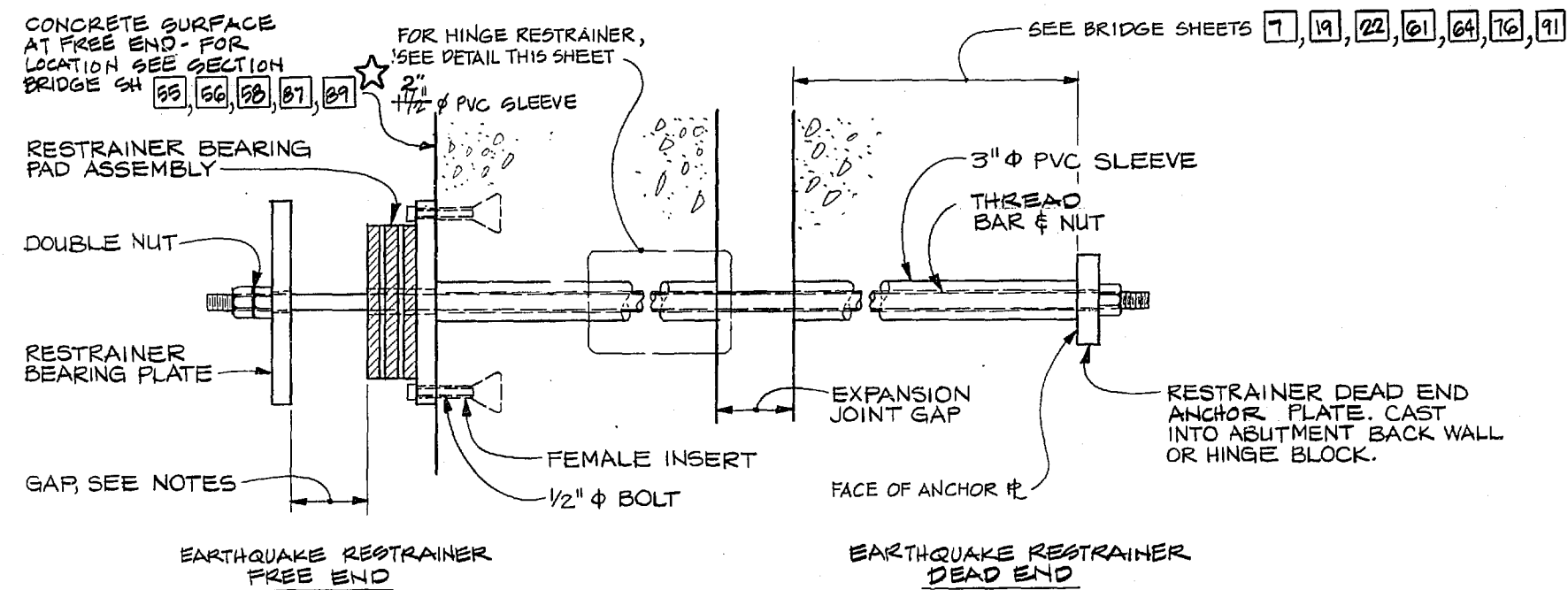
EXPANSION JOINT SYSTEM

98

SHEET
 138
 OF
 181
 SHEETS

SR 705/4

15/1/92



NOTES

GENERAL

ALL TENSION RESTRAINERS ARE TWO-, THREE-, OR FOUR-BAR RESTRAINERS AS NOTED ON
END DIAPHRAGM DRAWINGS. ALL COMPRESSION RESTRAINERS ARE 24 X 24 OR 18 X 18 AS
NOTED ON THE END DIAPHRAGM DRAWINGS. SEE BRIDGE SHEETS, 55, 56, 59, 87, & 90

MATERIALS

1. ELASTOMERIC BEARING PADS
 - A. PER SECTION 9-06.21 OF STANDARD SPECIFICATIONS
 - B. 50 DUROMETER HARDNESS
2. STEEL PLATES
 - A. ASTM A 36
 - B. ZINC METALLIZED PER AWS SPECIFICATION C2.2-67, METALLIZING WITH ALUMINUM AND ZINC FOR PROTECTION OF IRON AND STEEL OR HOT DIPPED GALVANIZED PER ASTM A-123
3. PVC SLEEVES
 - A. PER SECTION 9-15.1(2) OF STANDARD SPECIFICATIONS
 - B. SCHEDULE 40
4. BOLTS AND INSERTS
 - A. 1/2-INCH-DIAMETER DAYTON SURE-GRIP F42 LOOP FERRULE INSERT OR APPROVED EQUAL, STAINLESS STEEL
 - B. STAINLESS STEEL BOLTS PER ASTM F 593, TYPE 316.
5. EARTHQUAKE RESTRAINER BARS SHALL BE 1-3/8-INCH-DIAMETER TYPE II ASTM A 722 THREAD BARS WITH BAR AREA OF 1.58 SQUARE INCHES AND F_y 150 KSI. THESE THREAD BARS SHALL BE ZINC METALLIZED PER AWS SPECIFICATION C2.2-67, METALLIZING WITH ALUMINUM AND ZINC FOR PROTECTION OF IRON AND STEEL.

INSTALLATION - TENSION RESTRAINERS

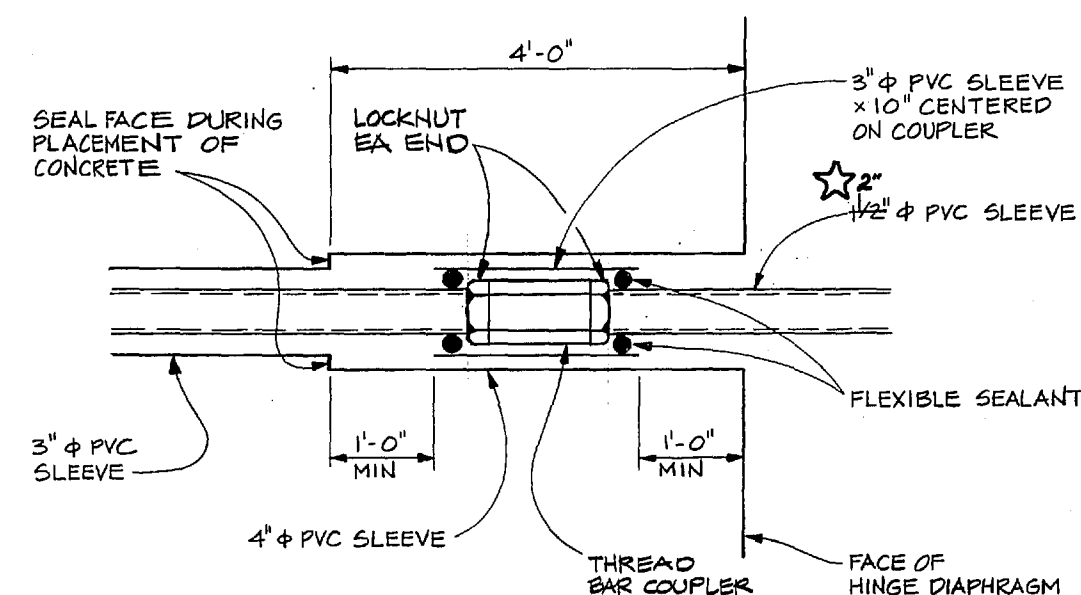
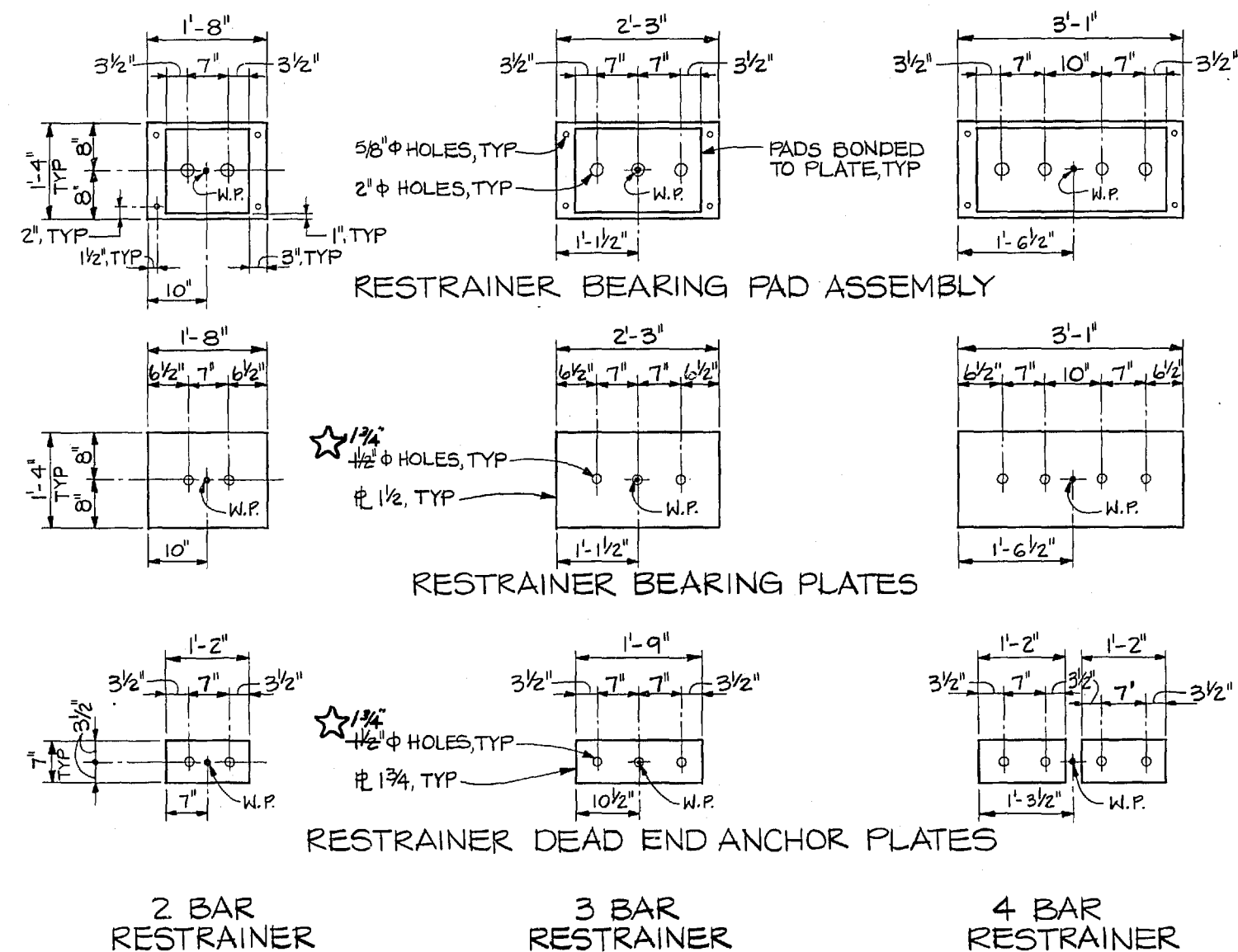
1. CAST 3-INCH-DIAMETER PVC SLEEVE INTO END DIAPHRAGM OR HINGE DIAPHRAGM AND CROSSBEAM. PLACE 2-1/2-INCH-DIAMETER STEEL PIPE INSIDE PVC SLEEVES TO ACCURATELY LOCATE AND STIFFEN SLEEVES DURING PLACEMENT OF CONCRETE. PLACE INSERTS INTO CONCRETE AS SHOWN.
2. INSERT THREAD BAR WITH 1-1/2-INCH-DIAMETER PVC SLEEVE THROUGH 3-INCH-DIAMETER SLEEVE DESCRIBED ABOVE AND THROUGH 3-INCH-DIAMETER SLEEVE IN ABUTMENT BACK WALL OR HINGE BLOCK TO DEAD-END ANCHOR PLATES. CAST ABUTMENT BACK WALL OR HINGE BLOCK.
3. INSTALL RESTRAINER BEARING PAD ASSEMBLY. SECURE ASSEMBLY TO CONCRETE SURFACE.
4. INSTALL RESTRAINER BEARING PLATE. PROVIDE GAP BETWEEN RETRAINER BEARING PLATE AND RESTRAINER BEARING PAD ASSEMBLY, AS SHOWN BELOW:

<u>LOCATION</u>	<u>GAP @ 50° (INCHES)</u>
PIER 1	4.0
PIER 10	4.0
CBD-S PIER 7A	2.0
SB HINGE SB STA 171+45.00	5.0
SB HINGE CBD-S STA 2+30.92	4.0
NB PIER 1	4.0
NB PIER 14	4.0
NB HINGE STA 266+66	7.0
NB HINGE STA 271+46	5.0

5. SECURE DOUBLE NUT TO LOCK OFF GAP.

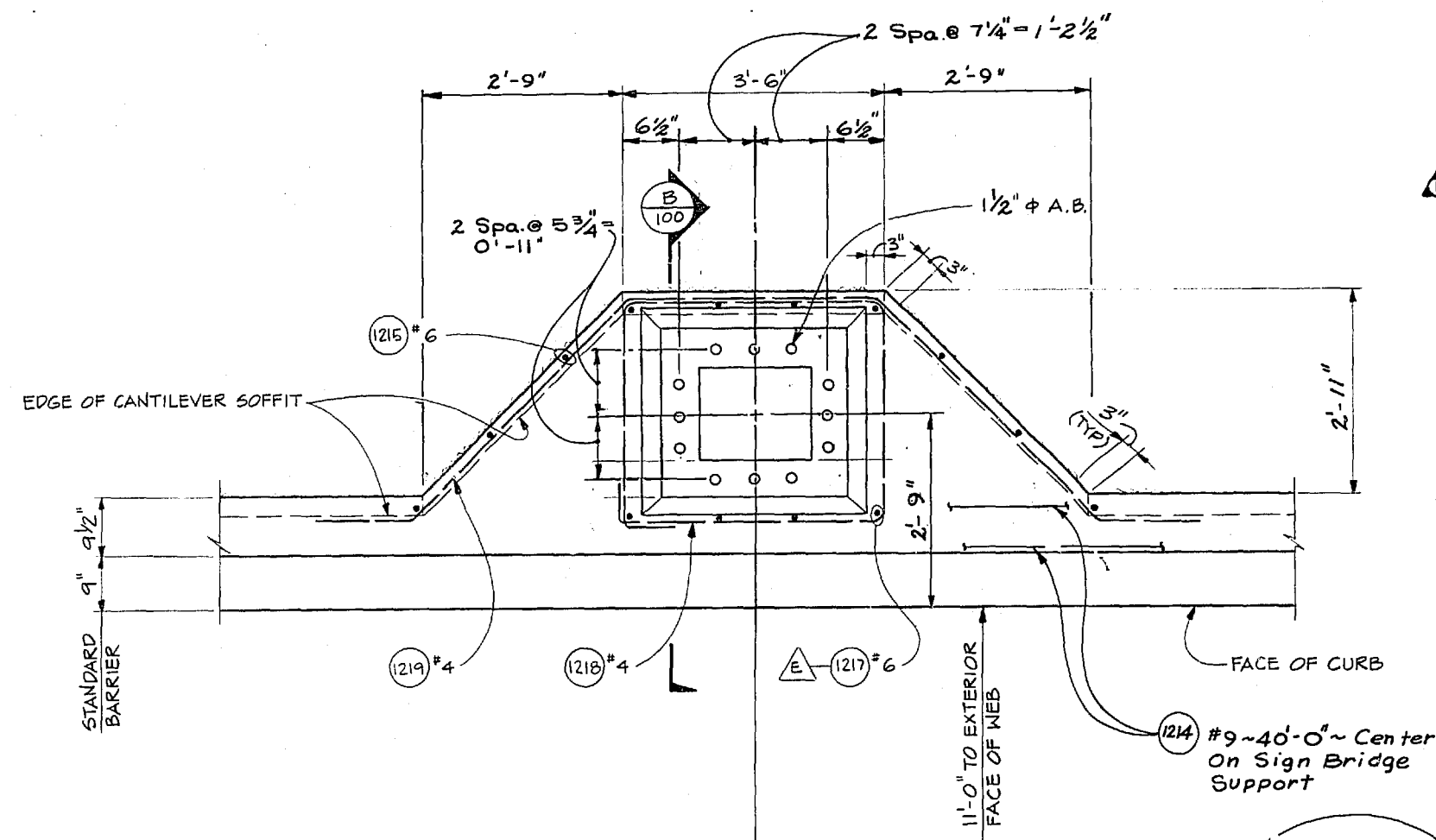
INSTALLATION - COMPRESSION RESTRAINERS

1. SECURE INSERTS IN END DIAPHRAGM OR INTO POST-TENSIONING PLUG.
2. SECURE BUMPER ASSEMBLY BEFORE INSTALLATION OF EXPANSION JOINT.

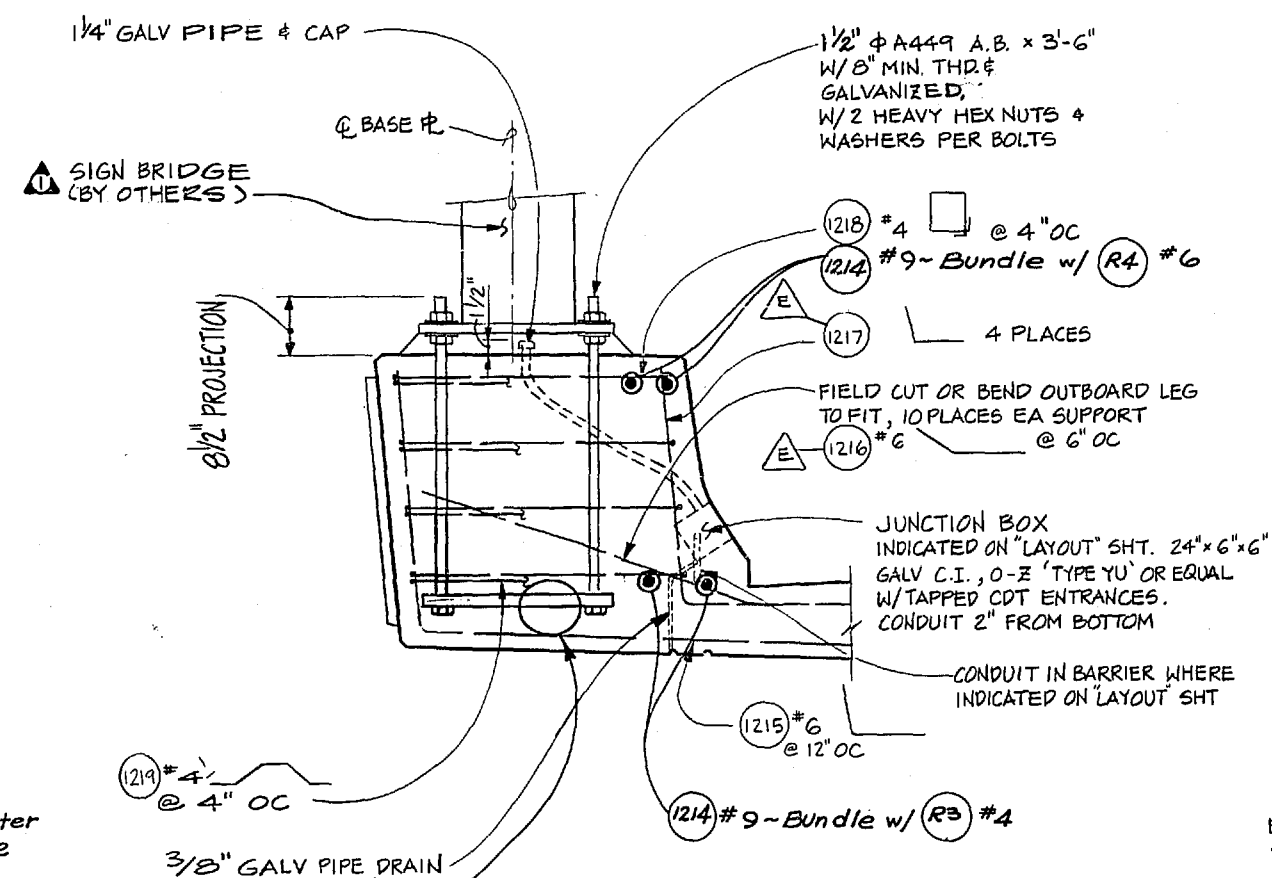


☆ AS BUILT CHANGES 11-26-90

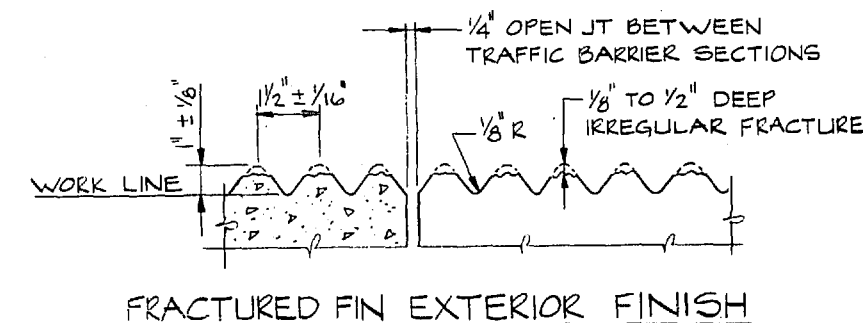
DRAWN BY: KMP			REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	  		SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2		99	
DESIGN BY: SKA			10	WASH	1-705-3(665)			  		33000099		SHEET 139 OF 181 SHEETS	
CHECKED BY: WEW			JOB NUMBER		84W056			ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS 700 SOUTH 10TH STREET, SUITE 100 TACOMA, WASHINGTON 98402 (206) 835-4100		EARTHQUAKE RESTRAINERS & BUMPERS			
			CONTRACT NO.		2747			APR 16 1992 APPROVED					
DATE			REVISION		BY	APP'D							



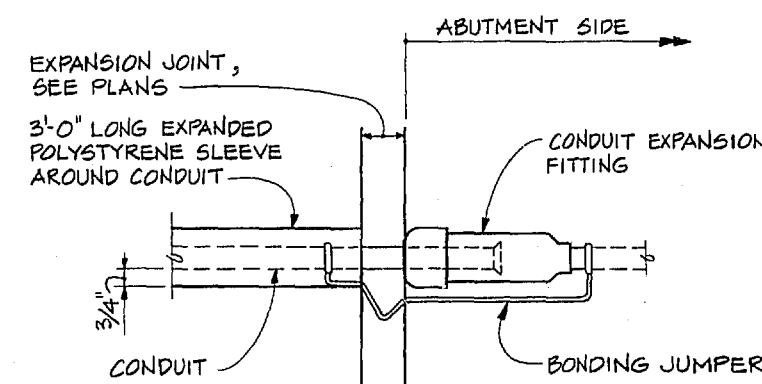
DETAIL - SIGN BRIDGE SUPPORT



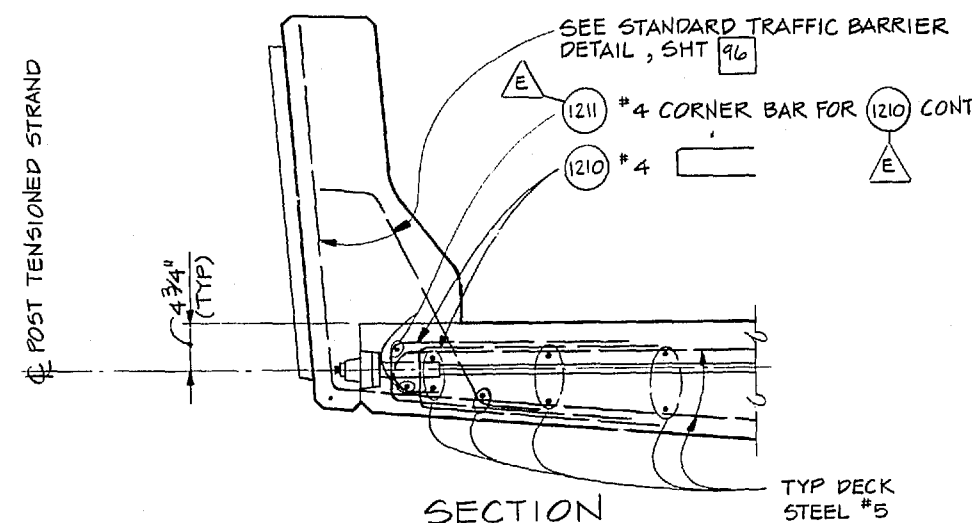
ADDITIONAL REINFORCING AT SIGN BRIDGE SUPPORT



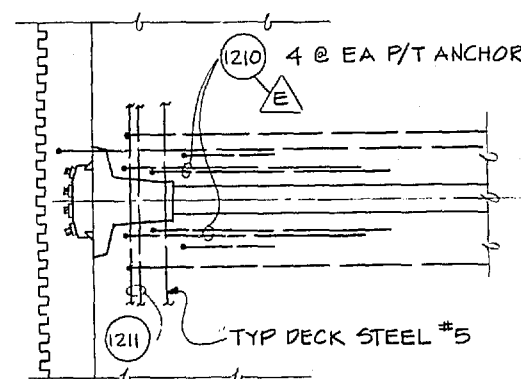
FRACTURED FIN EXTERIOR FINISH



CONDUIT EXPANSION FITTING - TYPE 2
CONDUIT FITTING - O-Z TYPE AX OR EQUAL

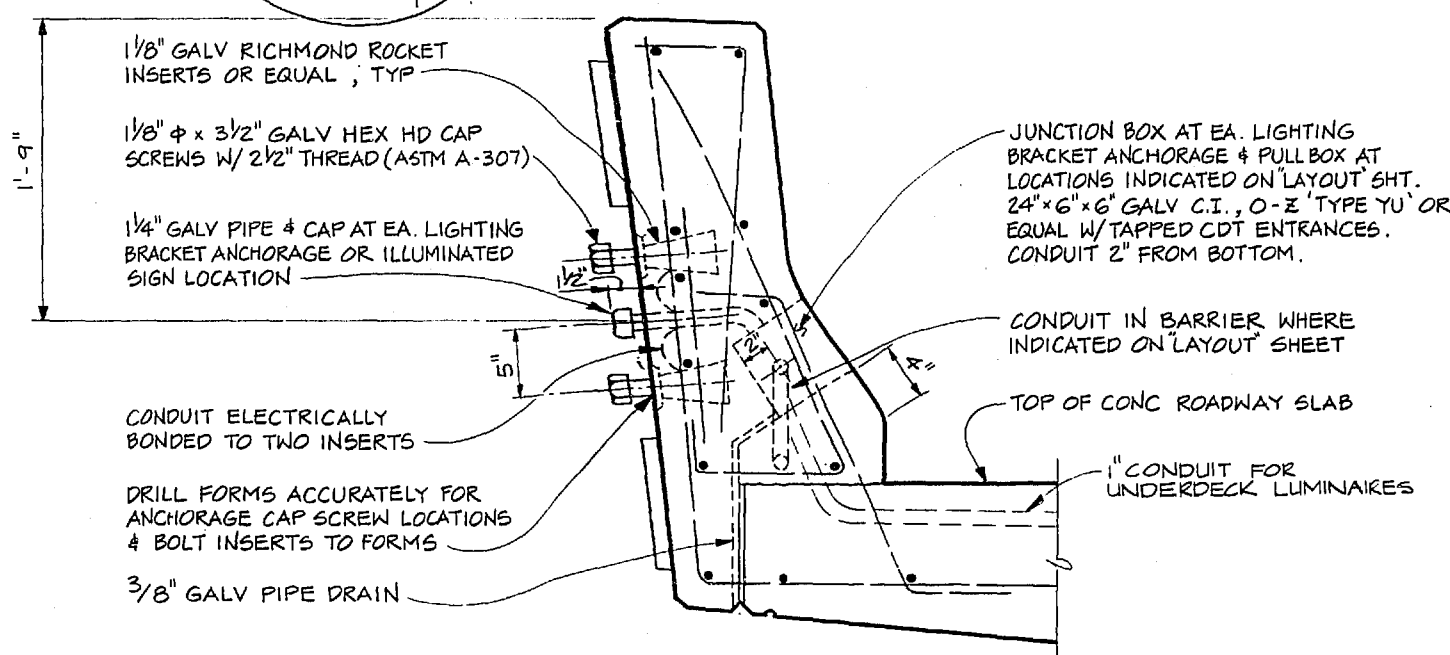


SECTION



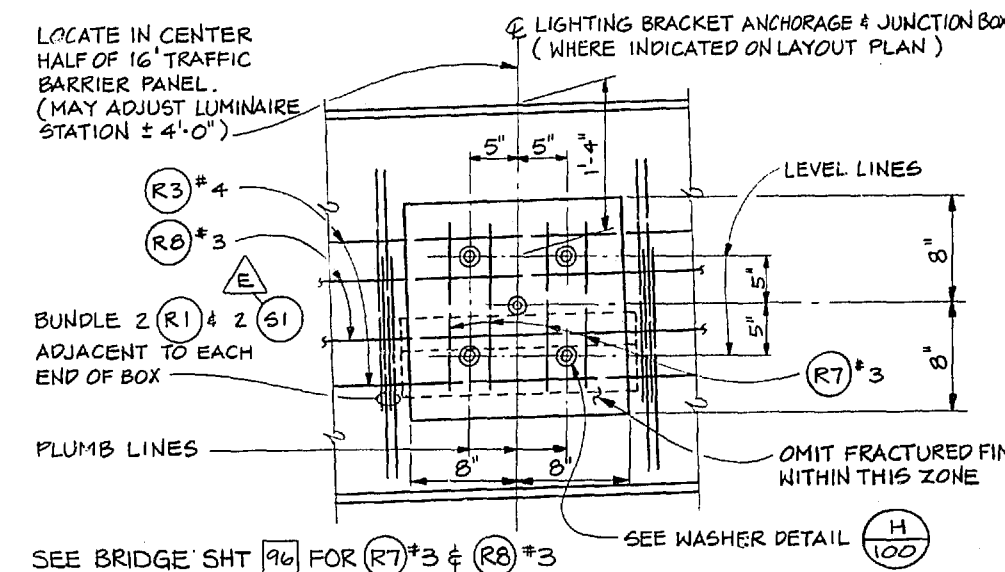
PLAN

DETAIL - TRANSVERSE POST-TENSIONING ANCHORAGE

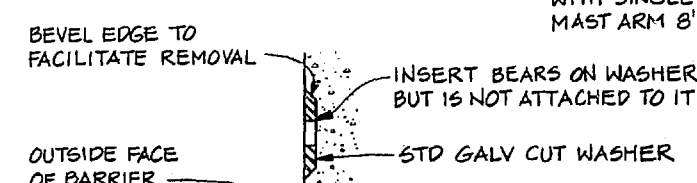


SECTION - LIGHTING BRACKET ANCHORAGE & CONDUIT

INSTALL #12 GALV IRON PULL WIRE IN ALL CONDUITS RUNS. ALL CONDUIT SHALL BE GALVANIZED RIGID CONDUIT OF SIZE INDICATED ON LAYOUT SHT. INSTALL ALL CONDUIT RUNS TO DRAIN TO A BRIDGE END OR PROVIDE DRAIN AT ANY LOW POINT IN CONDUIT RUN ON BRIDGE. AS AN ALTERNATE, THE USE OF RIGID NON-METALIC PVC (GRADE 40) CONDUIT MAY BE ALLOWED. IF THE CONTRACTOR ELECTS TO USE THIS ALTERNATE, HE SHALL SUBMIT MODIFIED DETAILS TO THE ENGINEER FOR APPROVAL.

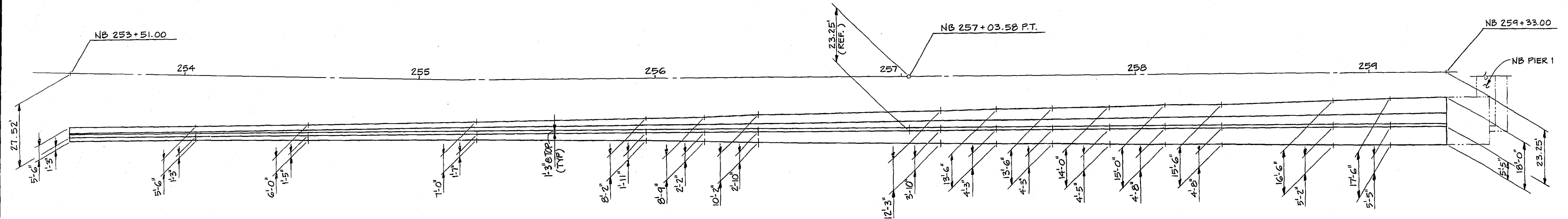


ELEV. - LIGHTING BRACKET ANCHORAGE

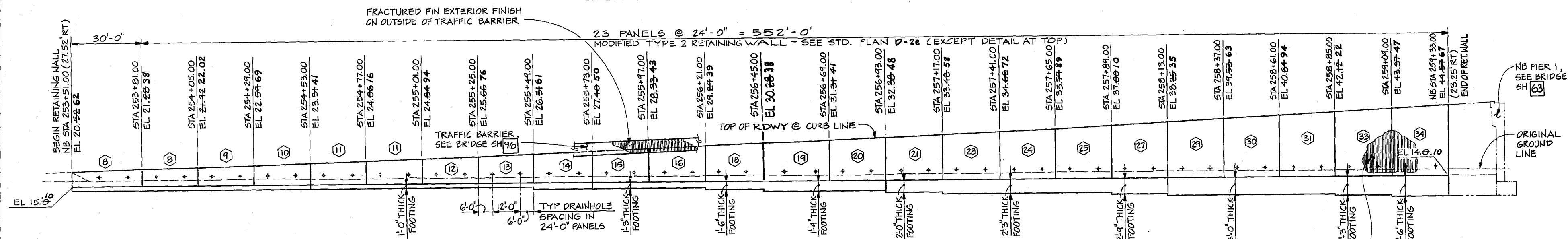


WASHER DETAIL

DRAWN BY : TKT	REGION NO. : 10	STATE : WASH	FED. AID PROJ. NO. : 1-705-3(665)	SHEET NO. : 100	TOTAL SHEETS : 140
DESIGN BY : JJA, CSB	JOB NUMBER : 84W056	CONTRACT NO. : 2747	DATE : 5-23-84	CHANGED CALLOUT : BY APP'D	REVISION : 1
CHECKED BY : WEW	DATE : 5-23-84	CHANGED CALLOUT : BY APP'D	REVISION : 1	DATE : 5-23-84	CHANGED CALLOUT : BY APP'D

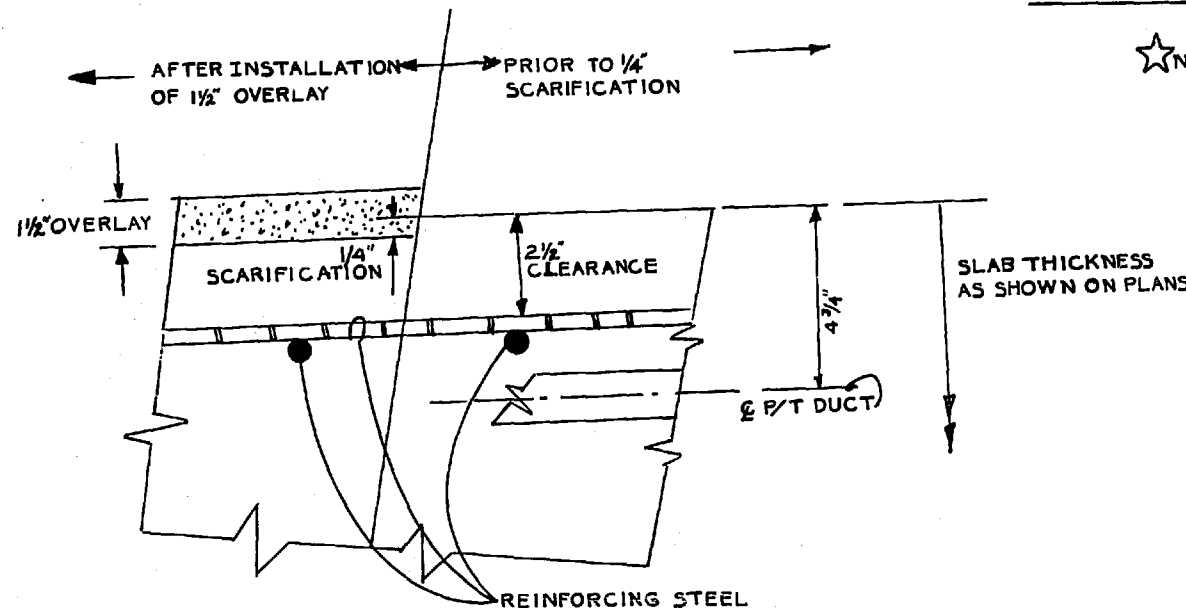


PLAN - RETAINING WALL

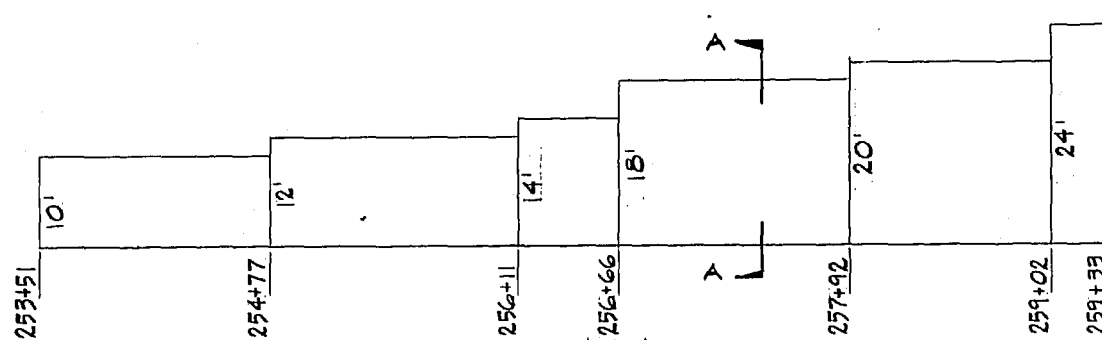


ELEVATION - RETAINING WALL*

★ NOTE ELEVATION CHANGES FULL LENGTH OF WALL



OVERLAY DETAIL NO SCALE



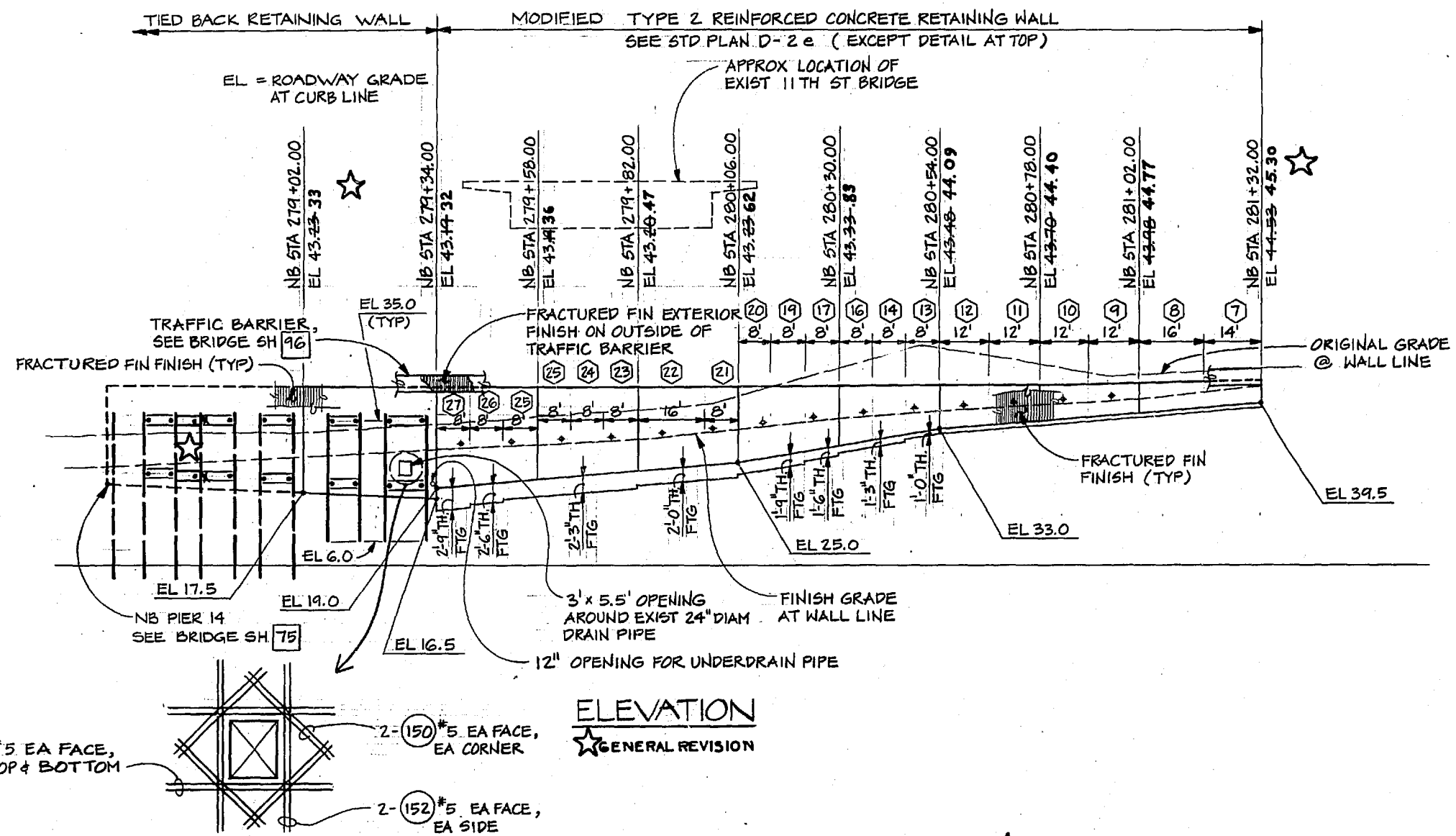
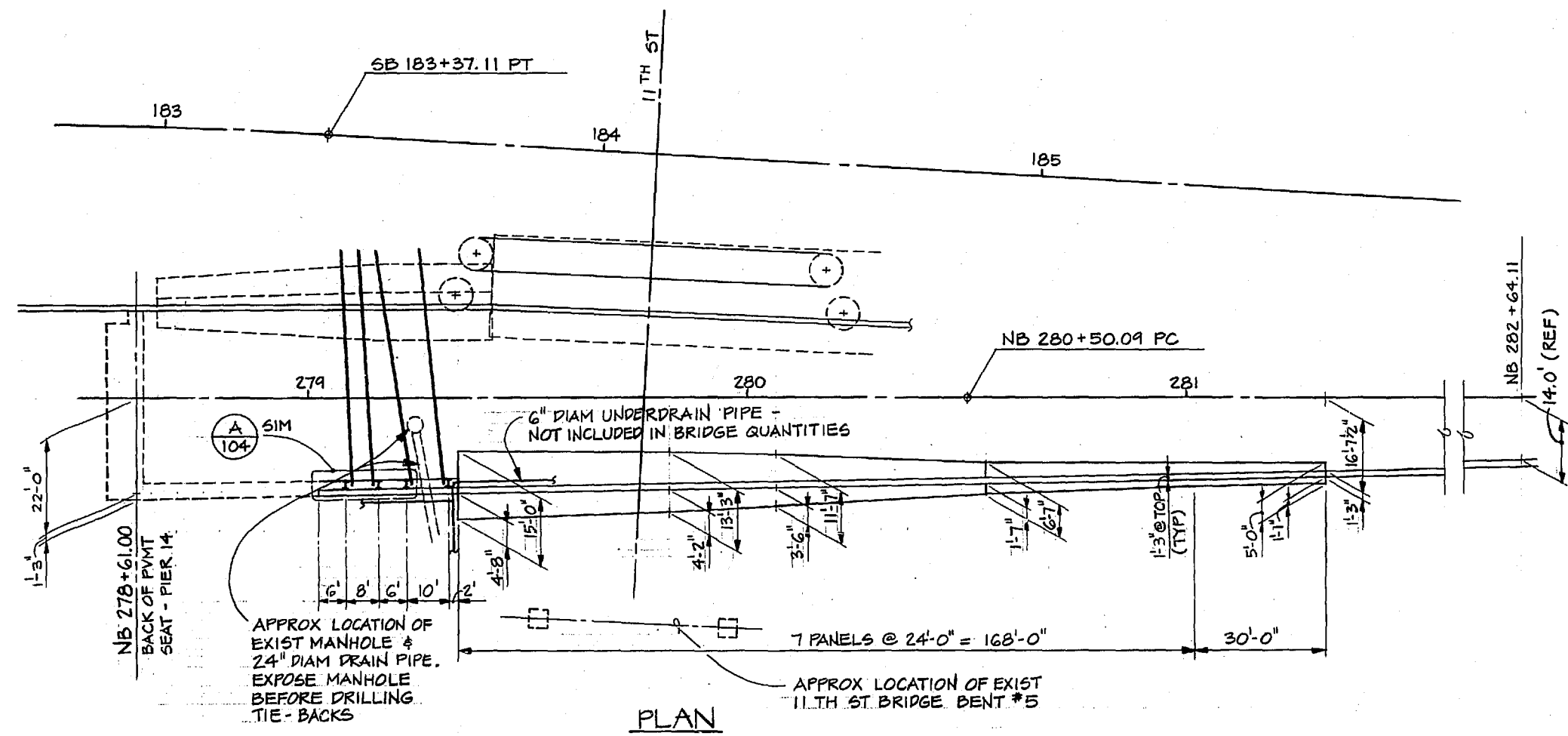
★ RETAINED EARTH WALL LIMITS OF BACKFILL INCLUDED WITH RETAINING WALL

NOTE:
SEE BRIDGE SHEETS 106 THRU 111
FOR OTHER OPTIONS FOR THIS WALL.

★ REINFORCED CONCRETE RETAINING WALL BACKFILL
ACCORDING TO STATE STANDARD PLAN D-4

★ AS BUILT CHANGES 11-26-90

DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 141	TOTAL SHEETS 181
DESIGN BY: JJG	JOB NUMBER 84W056	CONTRACT NO. 2747	APPROVED APRIL 23, 1994	WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2
CHECKED BY: WEW	DATE	REVISION	BY APP'D	RETAINING WALL NB 253+51.00 TO 259+33.00 RT	101



2- (151) #5 EA FACE, TOP & BOTTOM
 2- (150) #5 EA FACE, EA CORNER
 2- (152) #5 EA FACE, EA SIDE

ELEVATION
 ☆ GENERAL REVISION

☆ AS BUILT CHANGES 11-26-90

DRAWN BY: TKT		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
DESIGN BY: JJG		10	WASH	1-705-3(665)		
CHECKED BY: WEW		JOB NUMBER		84W056		
		CONTRACT NO.		2747		
DATE	REVISION	BY	APP'D			

APPROVED
APR 23 1994

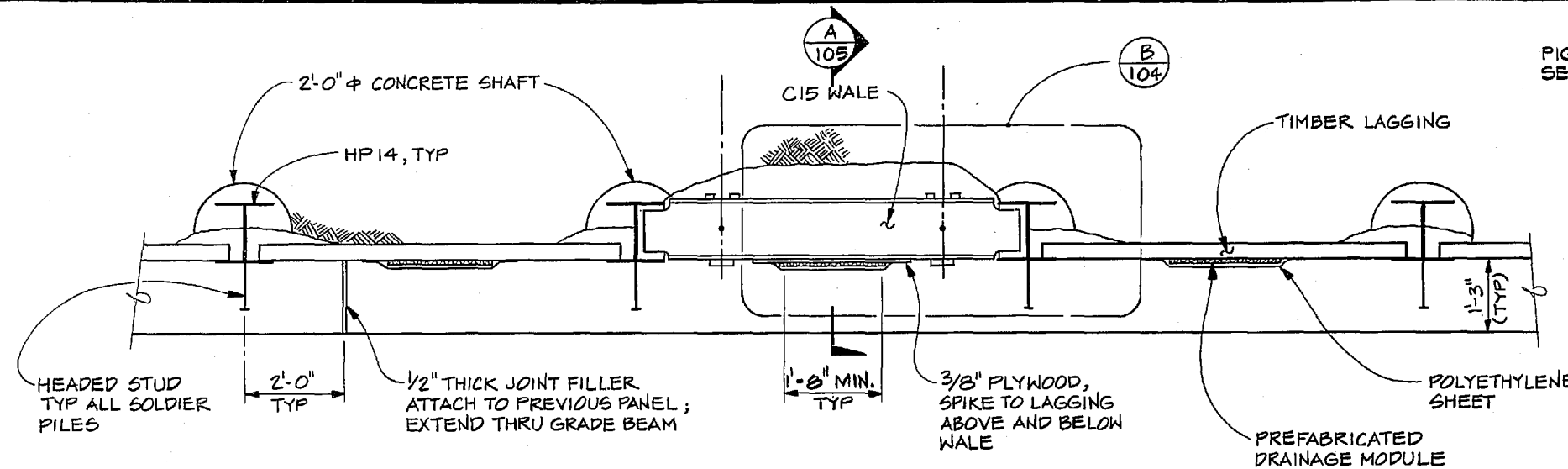
ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS

Washington State
Department of Transportation

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

33000103

RETAINING WALL NB 278+61.00 TO 281+32.00 RT

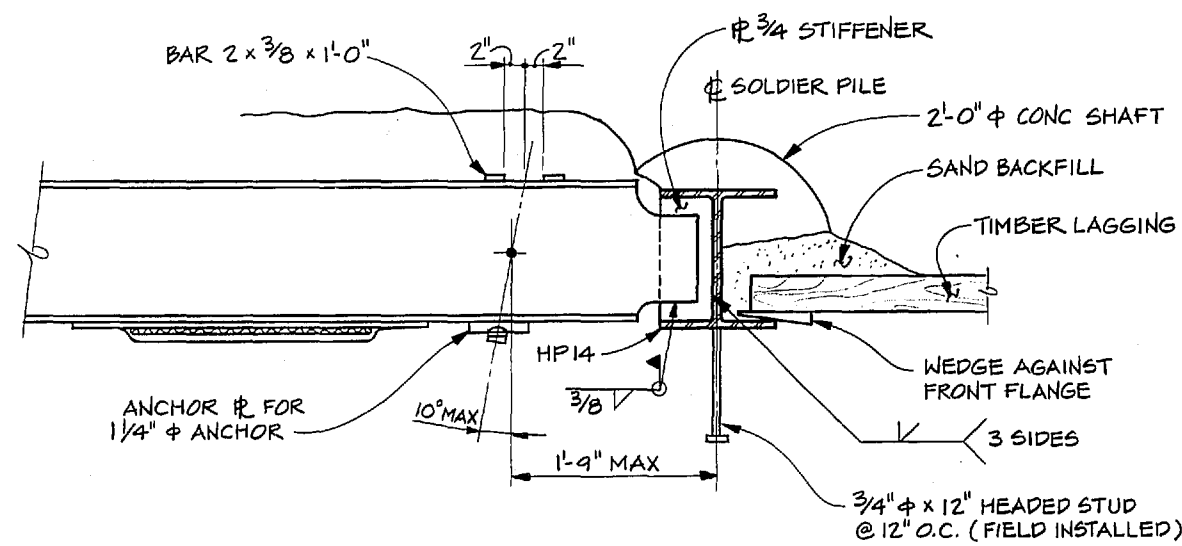


AT BAY WITH VERTICAL JOINT

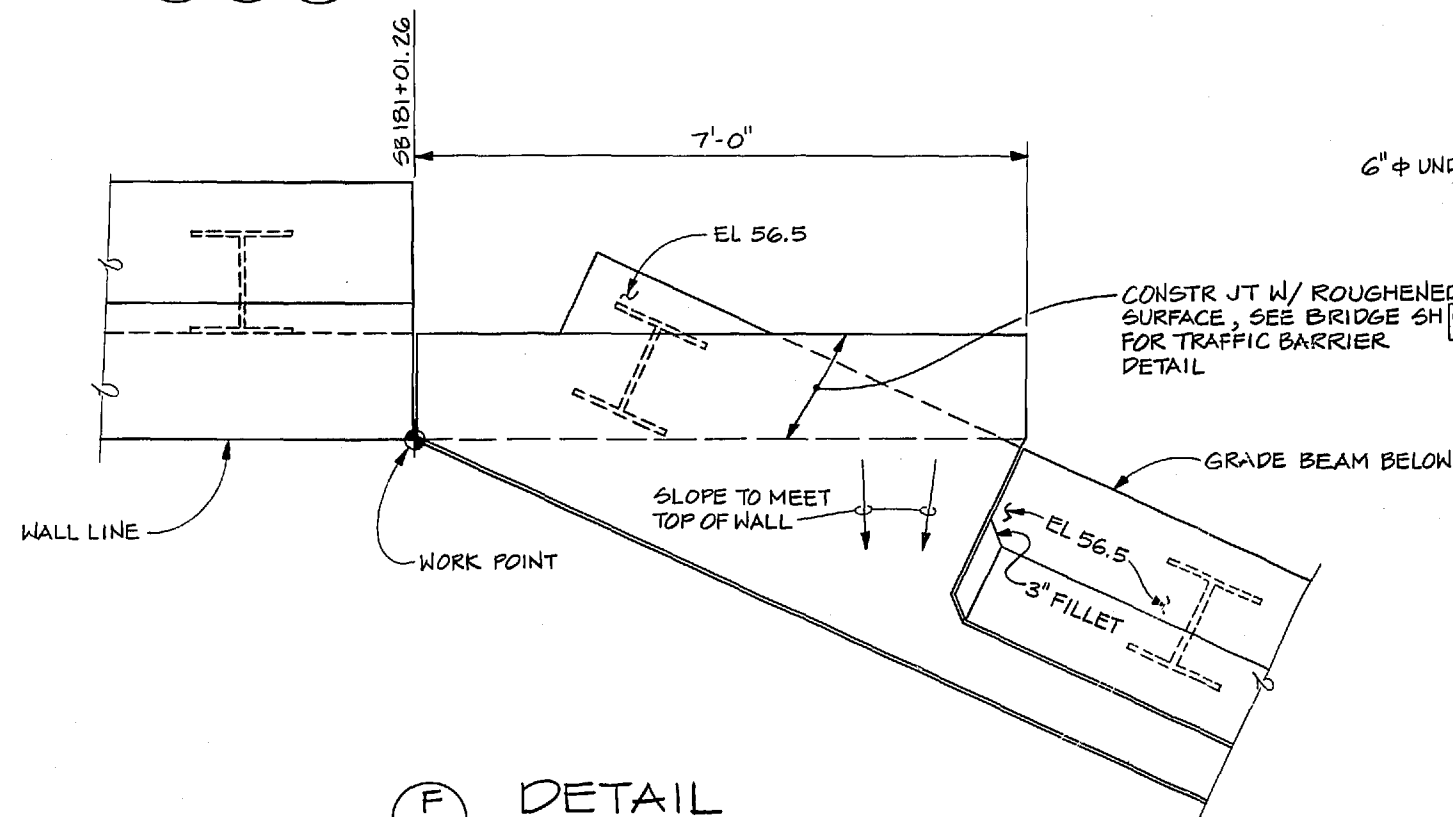
AT BAY WITH TIE-BACK ANCHORS

AT INTERMEDIATE BAY

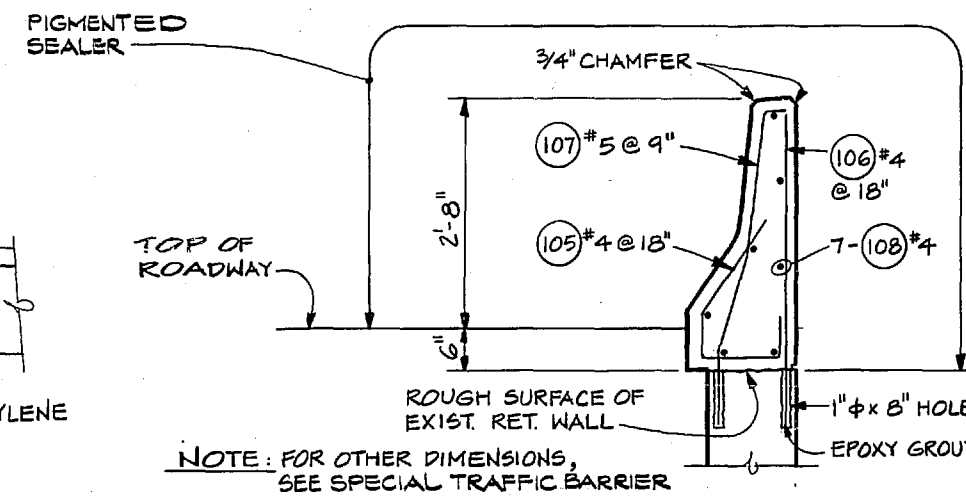
COMPOSITE PLAN



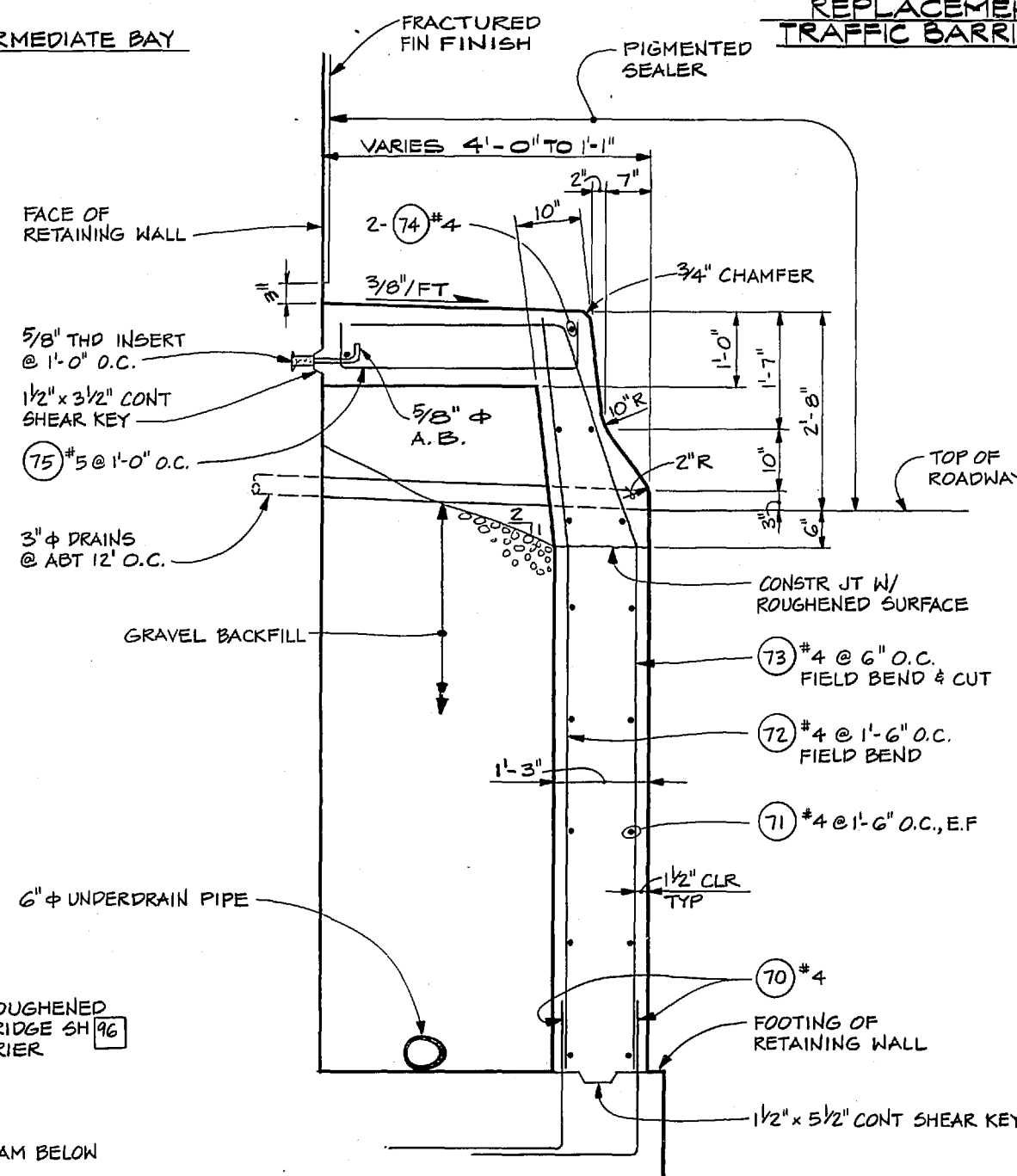
DETAIL



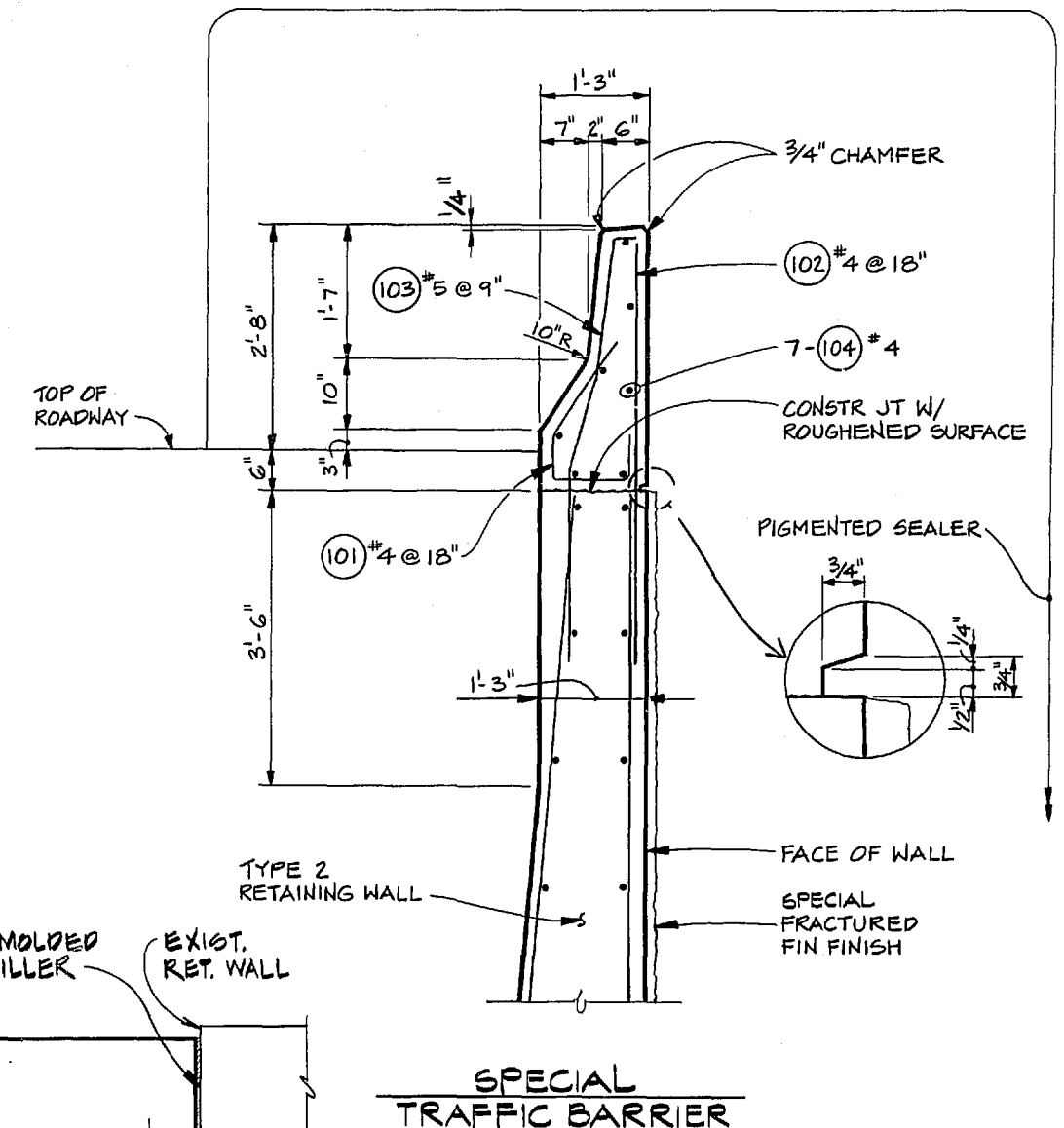
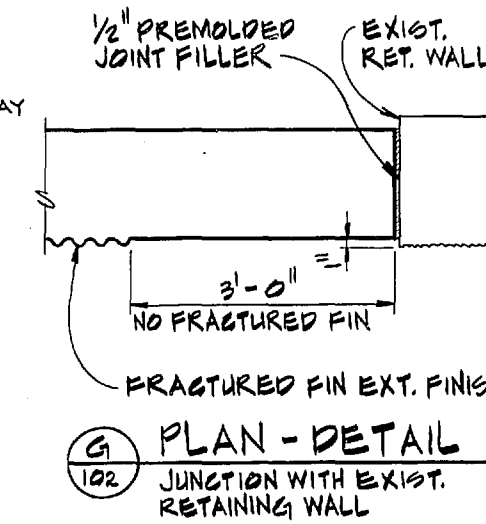
DETAIL



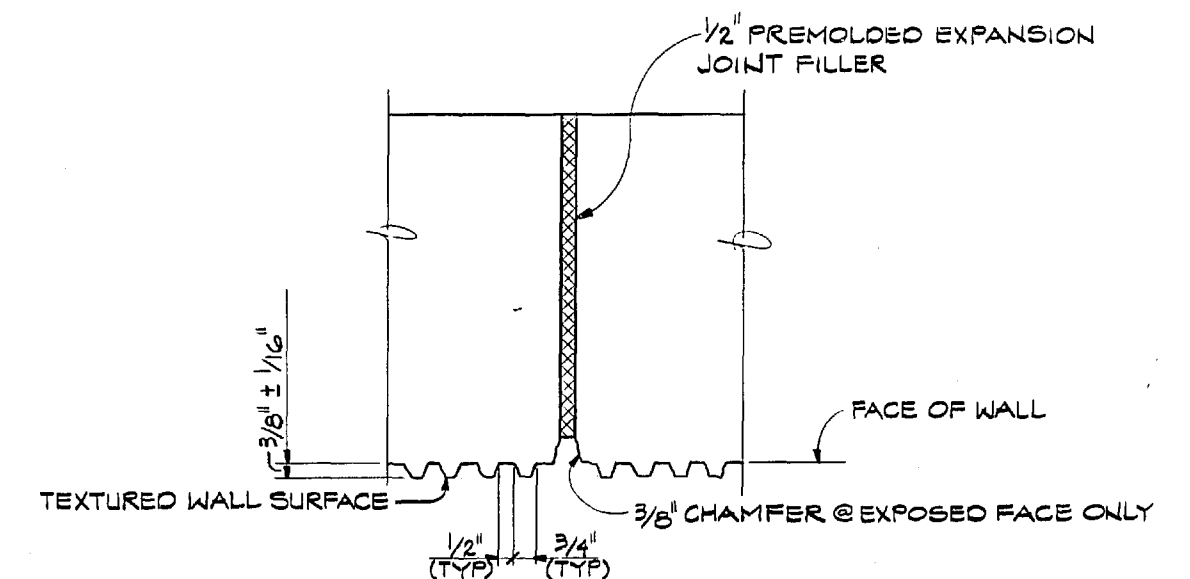
REPLACEMENT TRAFFIC BARRIER



SECTION

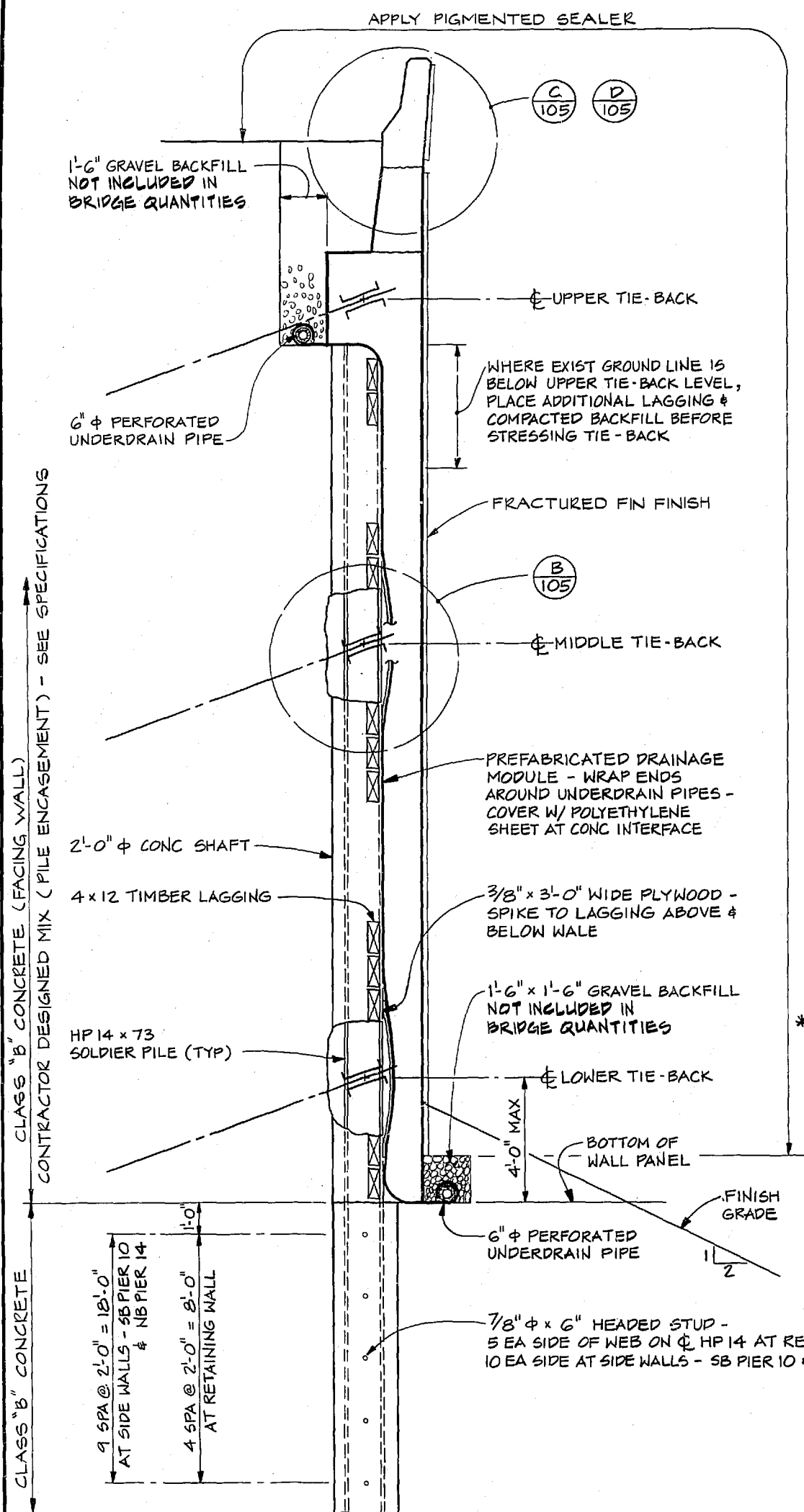


SPECIAL TRAFFIC BARRIER

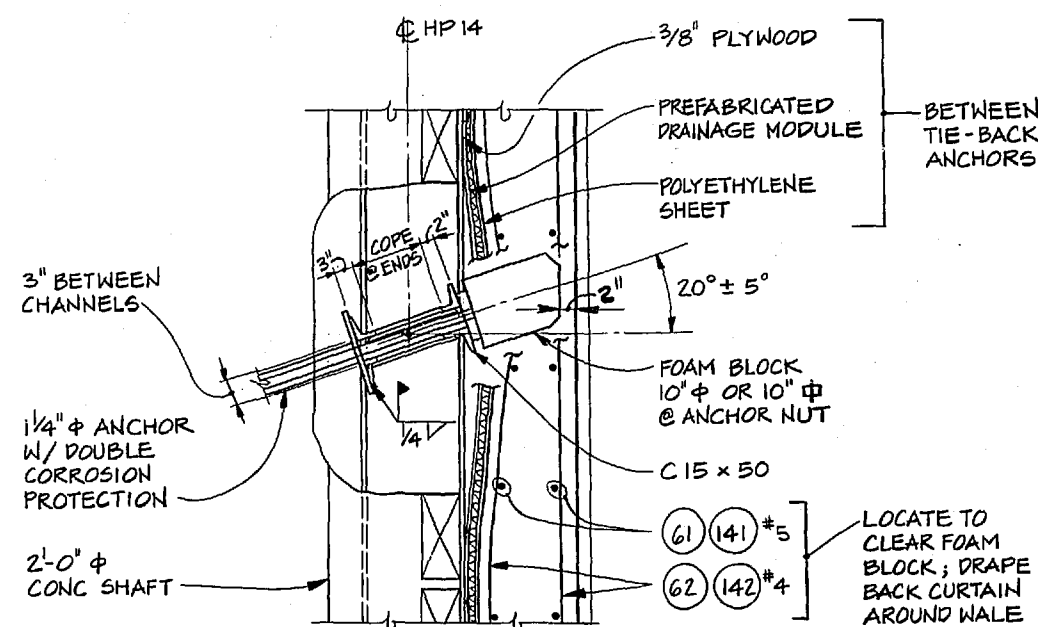


SPECIAL FRACTURED FIN SURFACE

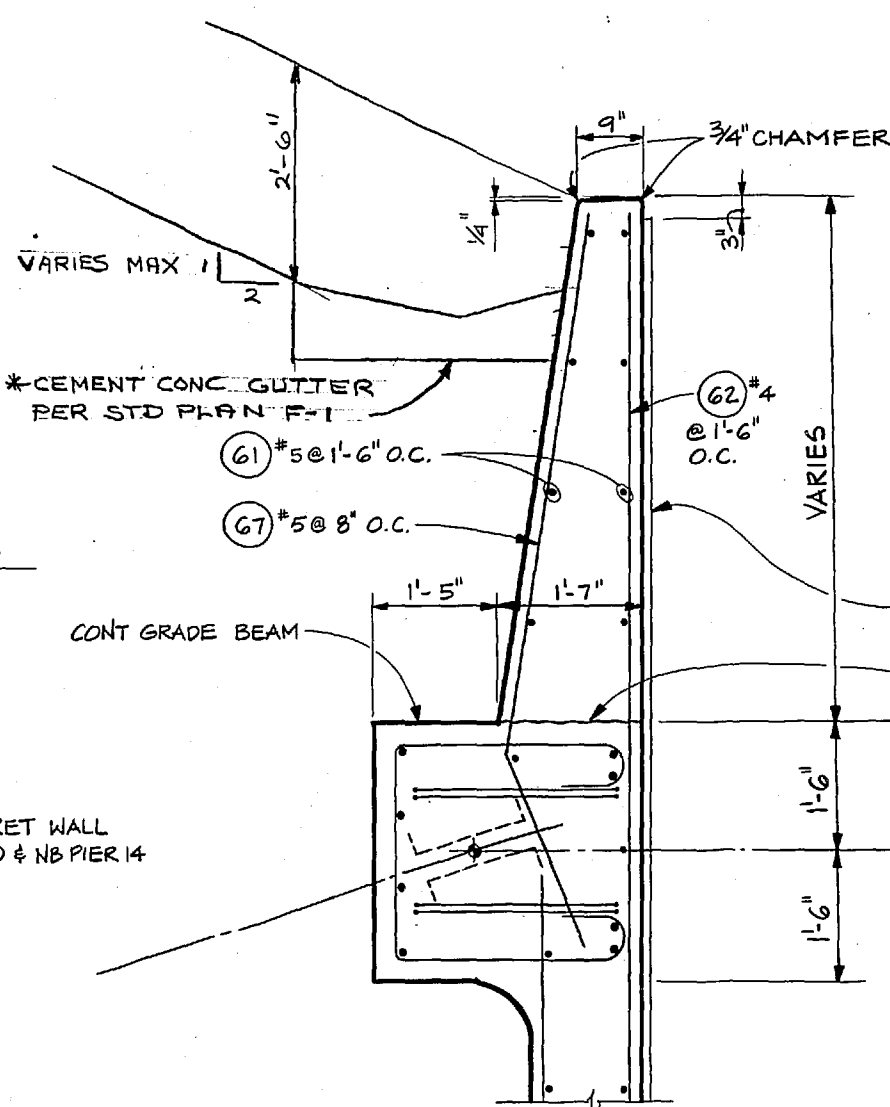
DRAWN BY: TKT	REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 104	TOTAL SHEETS 144
DESIGN BY: JJG	JOB NUMBER 84W056	CONTRACT NO. 2747	APRIL 23 1984 APPROVED	WASHINGTON STATE Department of Transportation	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2
CHECKED BY: WEW	DATE	REVISION	BY APP'D	RETAINING WALL DETAILS	152/156



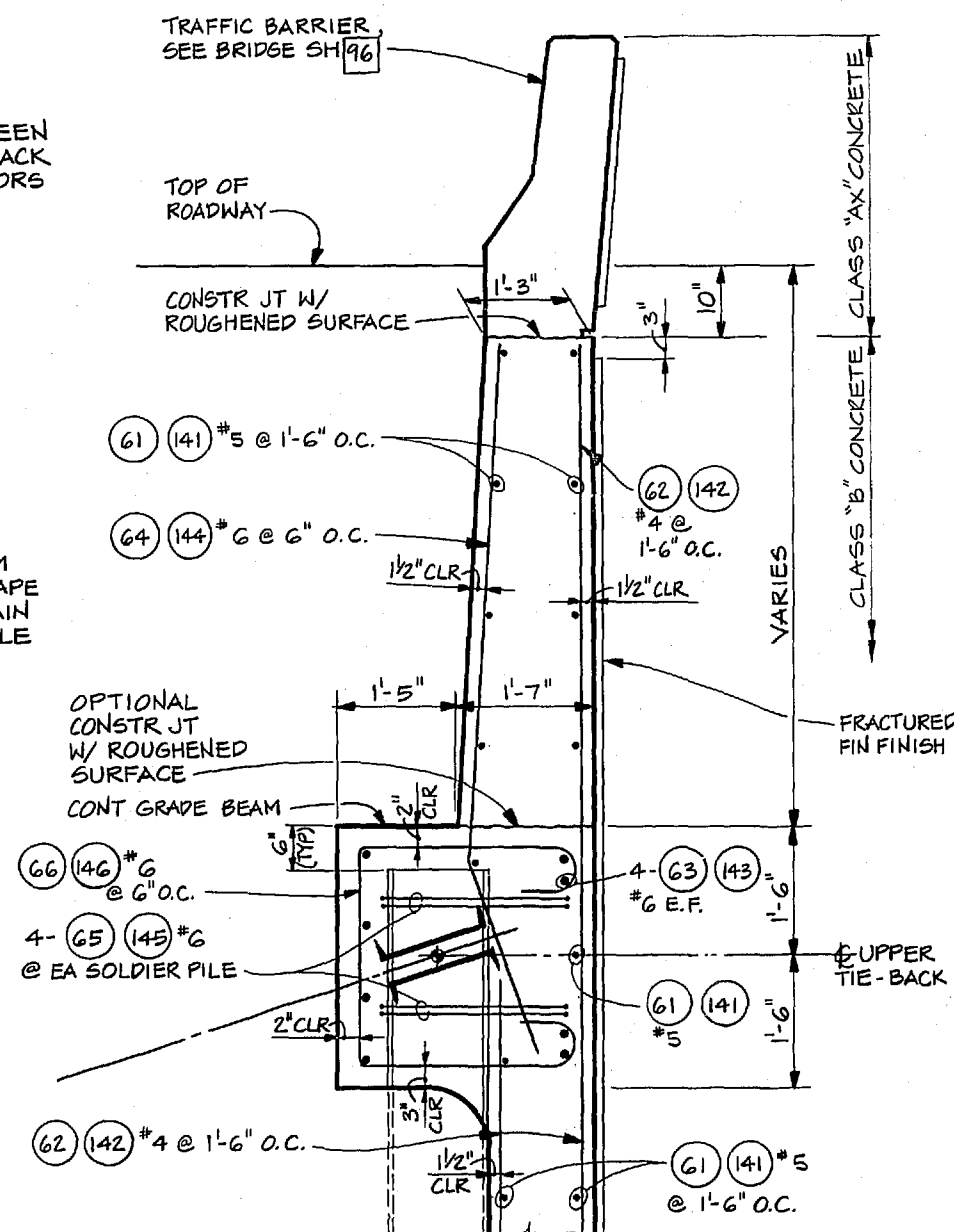
A **A** **A**
19 76 104
TYPICAL SECTION
TIE-BACK RET. WALL



B **105**
DETAIL - MIDDLE & LOWER TIE-BACK
UPPER TIE-BACK SIMILAR



C **105**
SECTION @ TOP OF WALL
SB STA 181+01.26 TO NB STA 278+65.83



D **105**
SECTION @ TOP OF WALL
SB STA 177+90 TO STA 181+01.26
NB STA 278+61 TO STA 279+34

ANCHOR SCHEDULE

Station	Total Length*	Grout Zone	Design Load
Top Row (E1. 55.0)			
SB 177 + 90	64'	38'	95 k
SB 178 + 50	64'	38'	94 k
SB 179 + 00	63'	36'	89 k
SB 179 + 54	58'	33'	82 k
SB 179 + 65	65'	40'	101 k
SB 180 + 00	61'	37'	93 k
SB 180 + 50	53'	31'	77 k
SB 181 + 00	47'	26'	66 k
Top Row (E1. 50.0)			
NB 277 + 17	43'	25'	63 k
NB 277 + 50	44'	26'	64 k
NB 278 + 00	44'	26'	65 k
NB 278 + 46	39'	22'	55 k
NB 278 + 66	42'***	21'	51 k
Middle Row (E1. 43.0)			
SB 177 + 90	48'	24'	89 k
SB 178 + 50	44'	21'	79 k
SB 179 + 00	40'	19'	69 k
SB 179 + 54	35'	16'	58 k
Bottom Row (E1. varies)			
SB 177 + 90	34'	18'	68 k
SB 178 + 50	36'	19'	71 k
SB 179 + 00	33'	17'	64 k
SB 179 + 54	30'	15'	52 k
SB 179 + 65	38'	23'	84 k
SB 180 + 00	36'	21'	79 k
SB 180 + 50	35'	19'	72 k
SB 181 + 00	33'	18'	66 k
SB 277 + 17	26'	15'	45 k
NB 277 + 50	26'	15'	46 k
NB 278 + 00	26'	15'	48 k
NB 278 + 46	26'	15'	41 k
NB 278 + 66	27'***	15'	39 k

* Measured from wall line
** Includes allowance for Type 3 retaining wall excavation: 1 ft from back of footing and 1:1 back slope

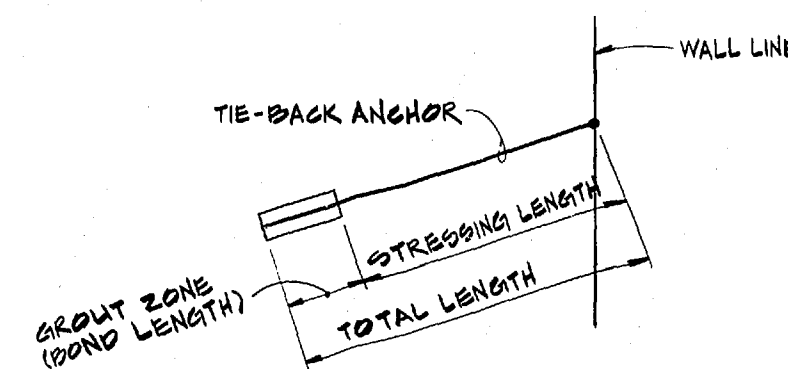
NB RT.

Station	Total Length*	Grout Zone	Design Load
Top Row (E1. 35.0)			
NB 278 + 61	41'	24'	59 k
NB 279 + 00	45'	27'	66 k
NB 279 + 30	53'***	28'	69 k
Bottom Row (E1. varies)			
NB 278 + 61	26'	15'	35 k
NB 279 + 00	26'	15'	40 k
NB 279 + 30	28'***	15'	43 k

* Measured from wall line
** Includes allowance for Type 2 retaining wall excavation: 1 ft from back of footing and 1:1 back slope

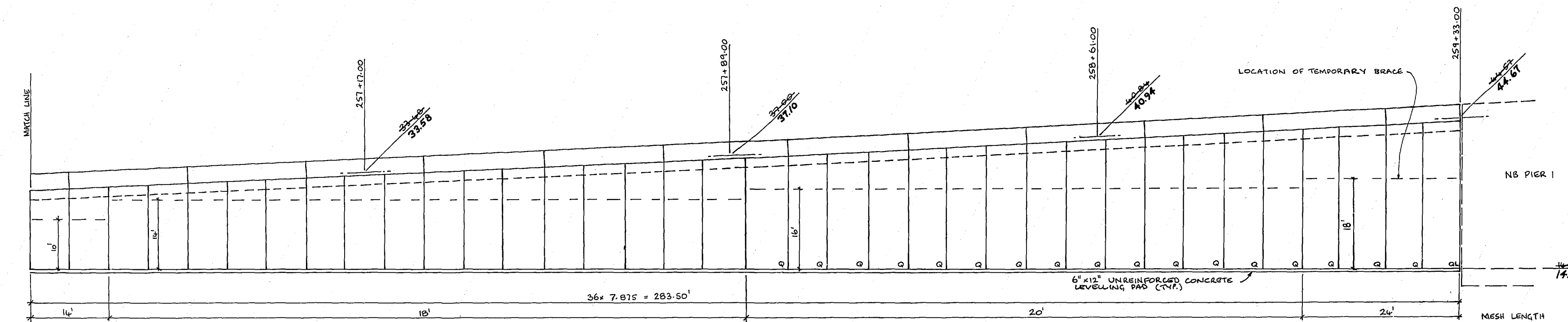
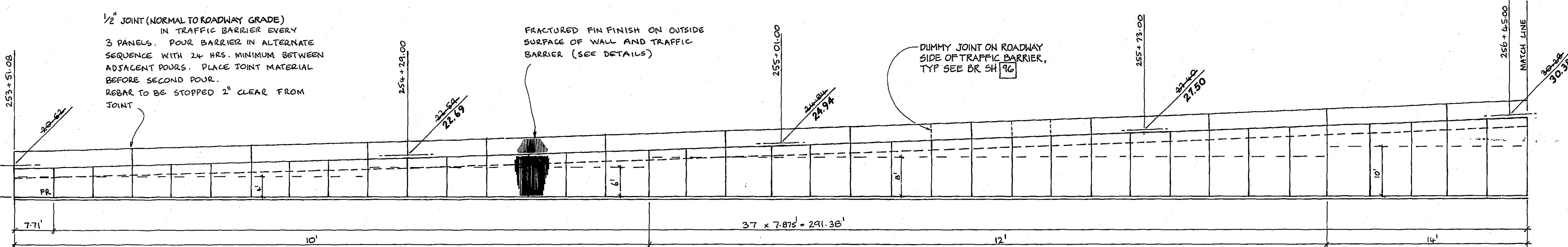
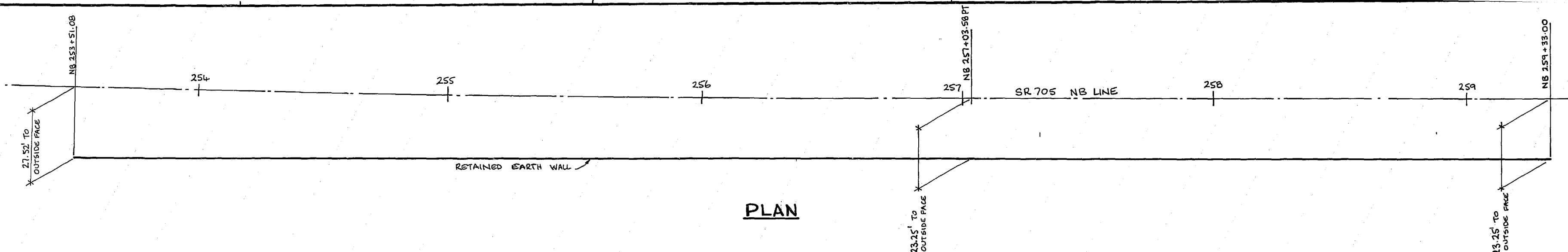
NOTES

1. ALL ANCHORAGES (GROUT ZONES) ARE MINIMUM 12-INCH DIAMETER.
2. ANCHOR REQUIREMENTS VARY LINEARLY BETWEEN STATIONS LISTED.



TIE-BACK DETAIL

DRAWN BY: TKT		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 105	TOTAL SHEETS 145
DESIGN BY: JJG		JOB NUMBER 84W056		APRIL 23 1984 APPROVED		
CHECKED BY: WEW		CONTRACT NO. 2747		WASHINGTON STATE DEPARTMENT OF TRANSPORTATION		
DATE	REVISION	BY	APP'D	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2		
				RETAINING WALL DETAILS		



WALL ELEVATION ★ GENERAL REVISION

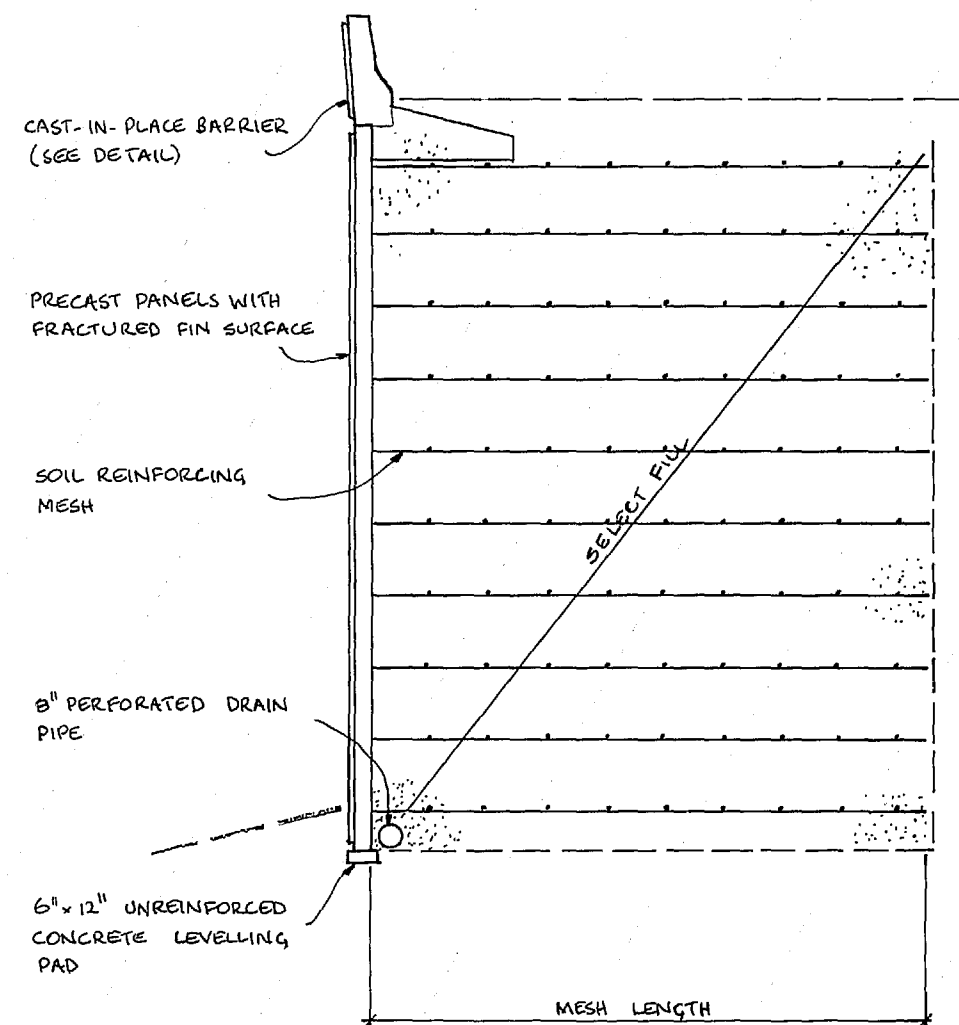
- NOTES:
1. UNDESIGNATED PANELS ARE TYPE 'P' PANELS.
 2. REINFORCING QUANTITIES ARE NOT INCLUDED IN BAR LISTS ON BRIDGE SHEETS 116 THRU 124



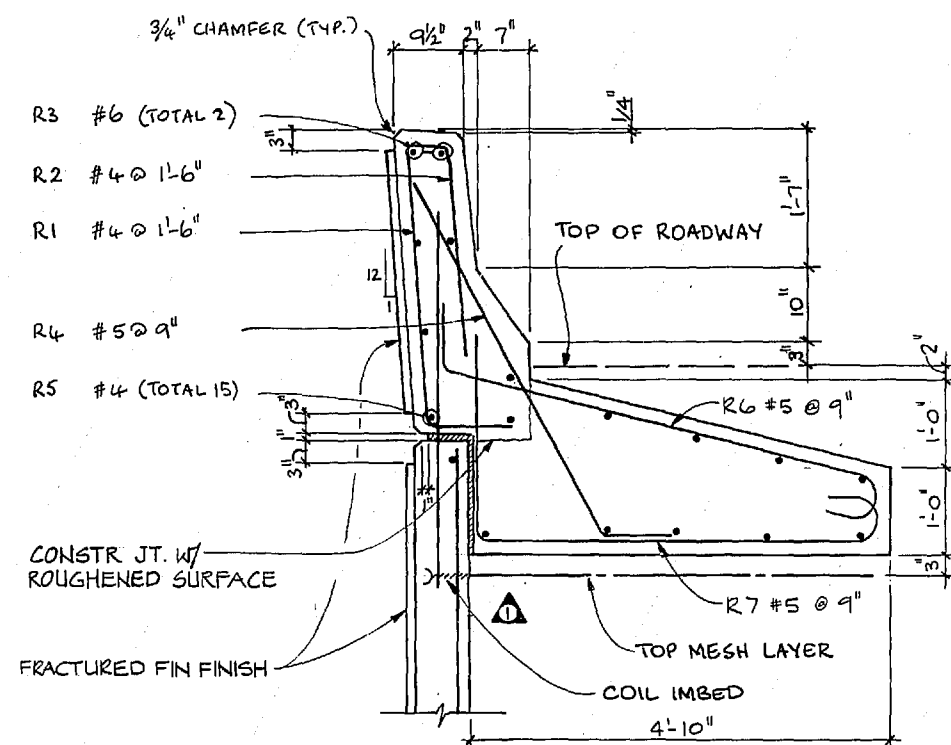
JOHN W. PARKIN
ENGINEERING CONSULTANT
28208 N.E. 72nd AVENUE
BATTLE GROUND, WA 98604 (206) 887-7272

★ AS BUILT CHANGES 11-26-90

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	Washington State Department of Transportation 33000106	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 RETAINED EARTH WALL-NB STA 253+51 TO 259+33 LAYOUT	106 SHEET 146 OF 181 SHEETS
JOB NUMBER	WASH	1-705-3(665)					
CONTRACT NO.							
DATE	REVISION	BY APP'D					



TYPICAL SECTION



TRAFFIC BARRIER DETAILS

TRAFFIC BARRIER BAR LIST

MARK	SIZE	LENGTH	BENDING DIAGRAM (ALL DIMENSIONS ARE OUT-TO-OUT)	
R1	4	4'-3"		STR
R2	4	3'-0"		
R3	6	∞		
R4	5	5'-2"		
R5	4	∞		STR
R6	5	6'-7"		
R7	5	7'-5"		

ESTIMATE OF QUANTITIES

ITEM	UNIT	QUANTITY
PRECAST OR TILT-UP WALL PANELS	SQ. FT.	9433
CONCRETE IN PRECAST WALL PANELS	CU. YDS.	206
REINFORCING STEEL IN PRECAST WALL PANELS	LBS.	12030
CONCRETE LEVELLING PAD	SF.	583
CAST-IN-PLACE TRAFFIC BARRIER	SF.	583
SOIL REINFORCING MESH SWII	SF.	14400
SELECT BACKFILL	CU. YDS.	5740

JOHN W. PARKIN
ENGINEERING CONSULTANT
28209 N.E. 72nd AVENUE
BATTLE GROUND, WA 98604 (206) 887-7272



Washington State
Department of Transportation

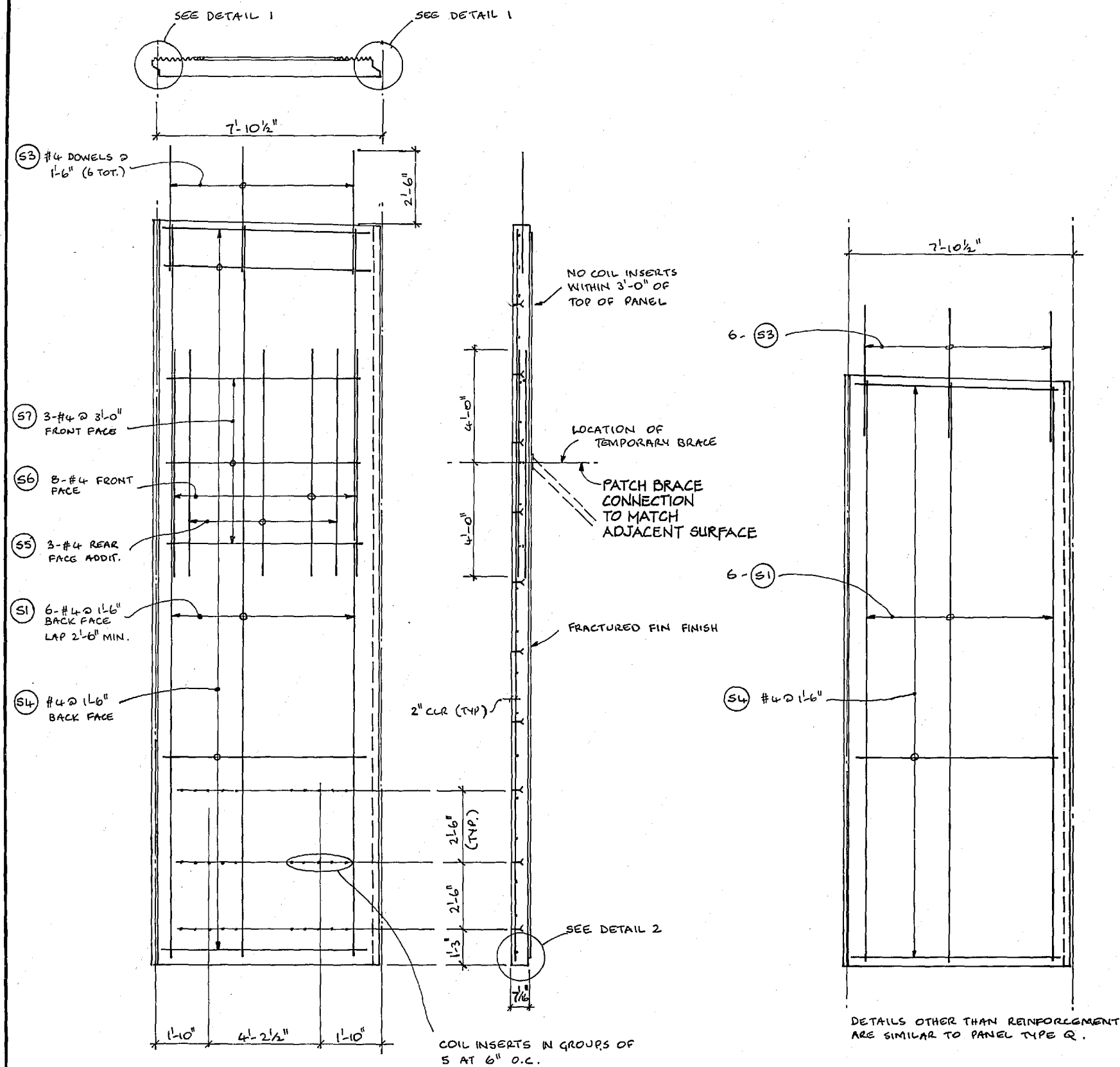
33000107

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

RETAINED EARTH WALL - NB STA 253+51 TO 259+83
DETAILS

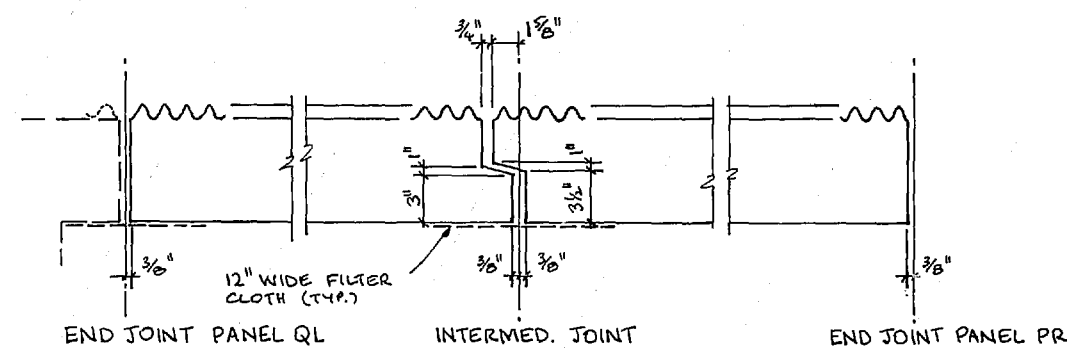
107

SHEET
147
OF
181
SHEETS

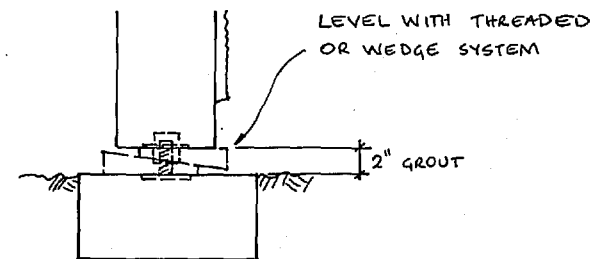


PANEL TYPE Q

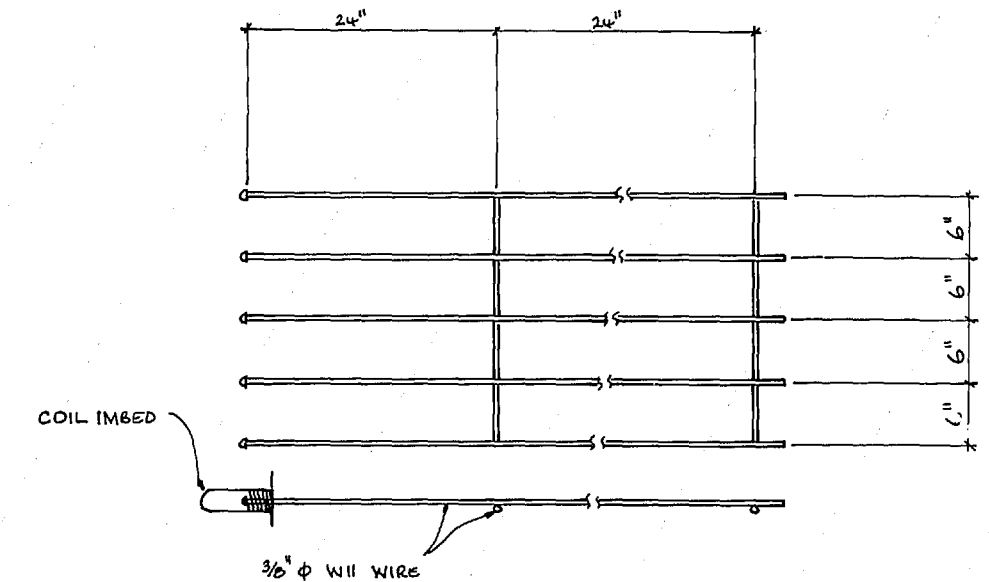
PANEL TYPE P



JOINT DETAIL 1

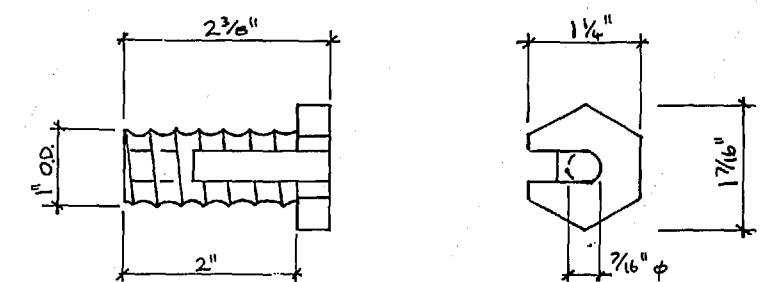


BASE DETAIL 2

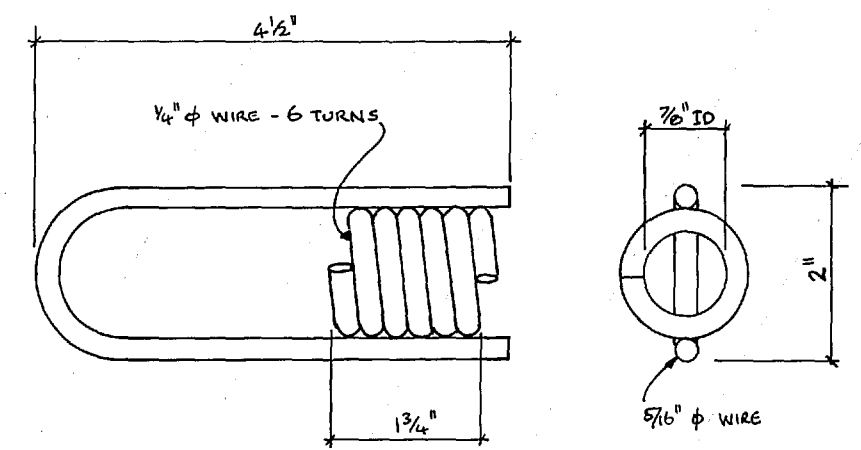


SOIL REINFORCING MESH DETAIL

NOTE: MESH LENGTHS SHOWN ON THESE DRAWINGS ARE PRELIMINARY AND MAY BE ADJUSTED FOLLOWING TESTING WITH ACTUAL SELECT FILL MATERIAL. FINAL LENGTHS ARE TO BE SHOWN ON SUPPLIER'S SHOP DRAWINGS.



COIL BOLT DETAIL



COIL IMBED DETAIL

NOTE:
1. PANELS MUST BE LIFTED FROM THE CASTING POSITION BY USING STEEL STRONGBACKS ATTACHED TO THE COIL IMBEDS. MAXIMUM SPACING OF ATTACHMENTS 10'-0", MAXIMUM EDGE DISTANCE TO ATTACHMENTS 4'-0".

JOHN W. PARKIN
ENGINEERING CONSULTANT
28209 N.E. 72nd AVENUE
BATTLE GROUND, WA 98004 (206) 887-7272

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
10	WASH	1-705-3(665)		
JOB NUMBER	84W056			
CONTRACT NO.	2747			
DATE	REVISION	BY	APP'D	



APR 25 1984
APPROVED



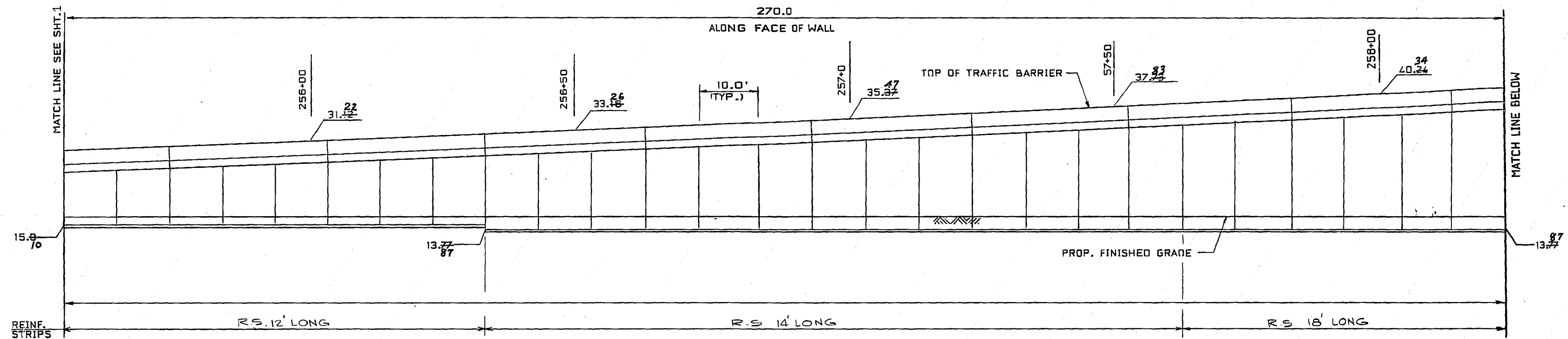
Washington State
Department of Transportation

- 33000108

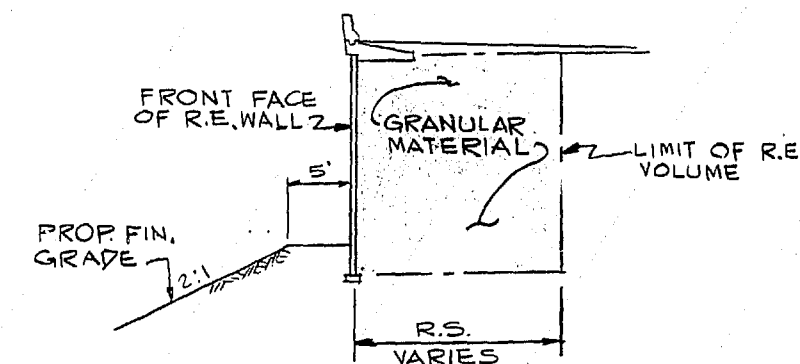
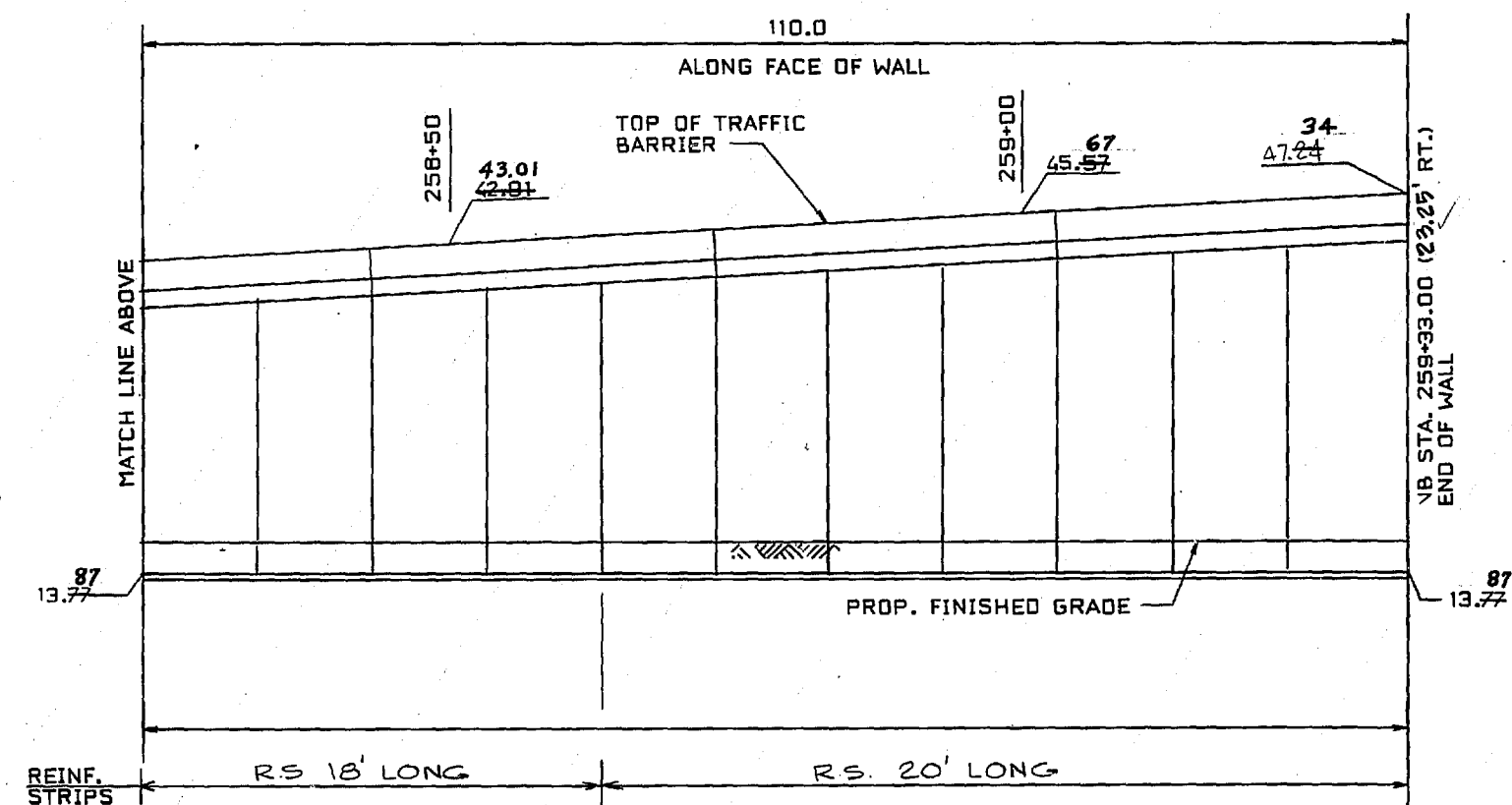
SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

RETAINED EARTH WALL - NB STA 253+51 TO 259+33
PANEL DETAILS

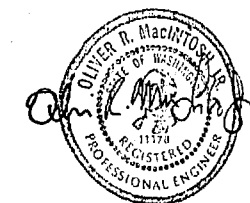
108
SHEET
198
OF
181
SHEETS



★ ELEVATION - FRONT FACE
GENERAL REVISION



TYPICAL SECTION THRU WALL



★ AS BUILT CHANGES 11-26-90

The Reinforced Earth Company
Rosslyn Center, 1700 North Moore Street, Arlington, Virginia 22209
(703) 527-3434

DESIGNED BY: J.S.
PROJ. ENGR: R.S.
CHECKED BY: R.S.

DATE
2-21-84

"REINFORCED EARTH" IS THE REGISTERED TRADEMARK OF THE REINFORCED EARTH COMPANY.

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DRAWN	CHECKED	PROJ. ENGR.	DIST. ADM.	DATE	REVISION	BY	APP'D	REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
								10	WASH	1-705-3(665)		
								JOB NUMBER				
								04 W056				
								CONTRACT NO.				
								2747				



APR 23 1984
APPROVED



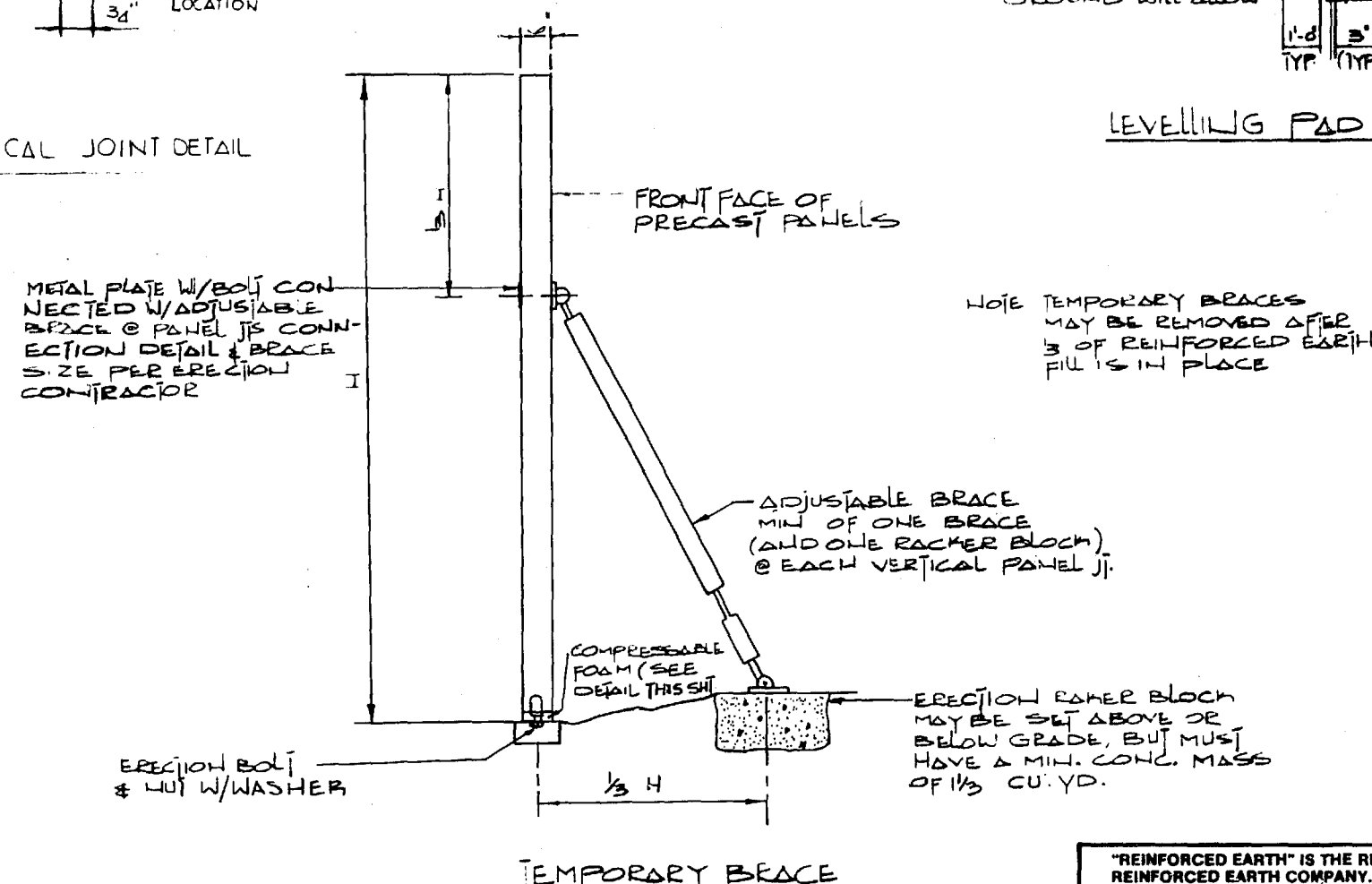
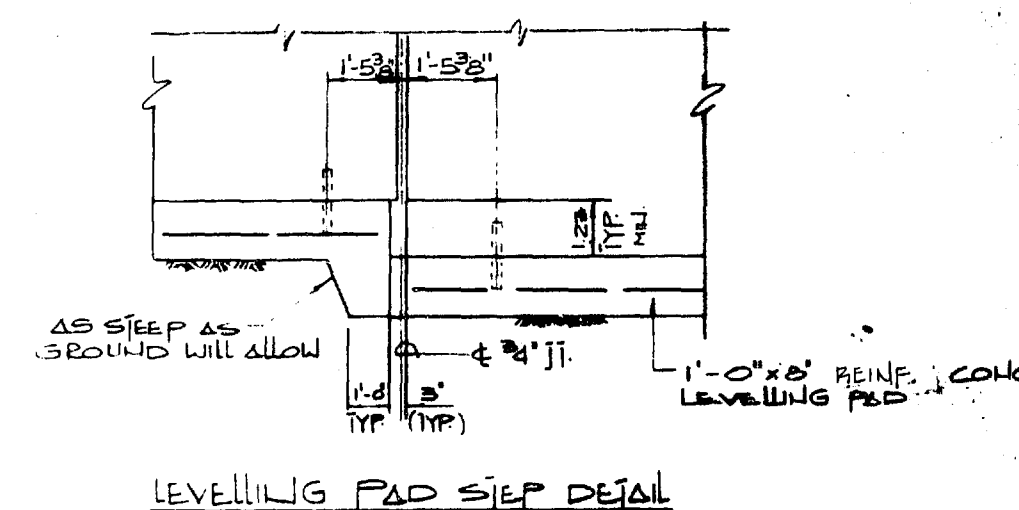
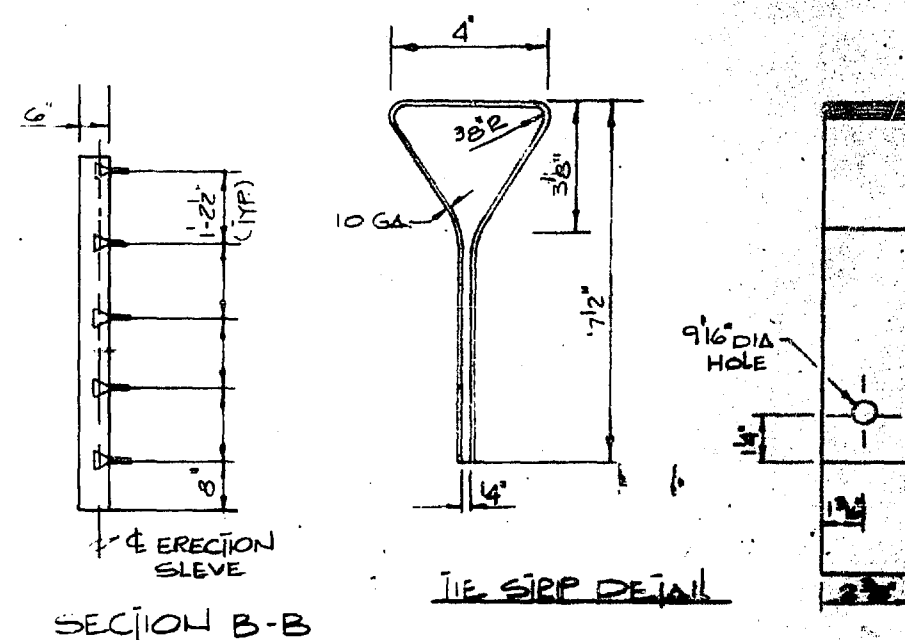
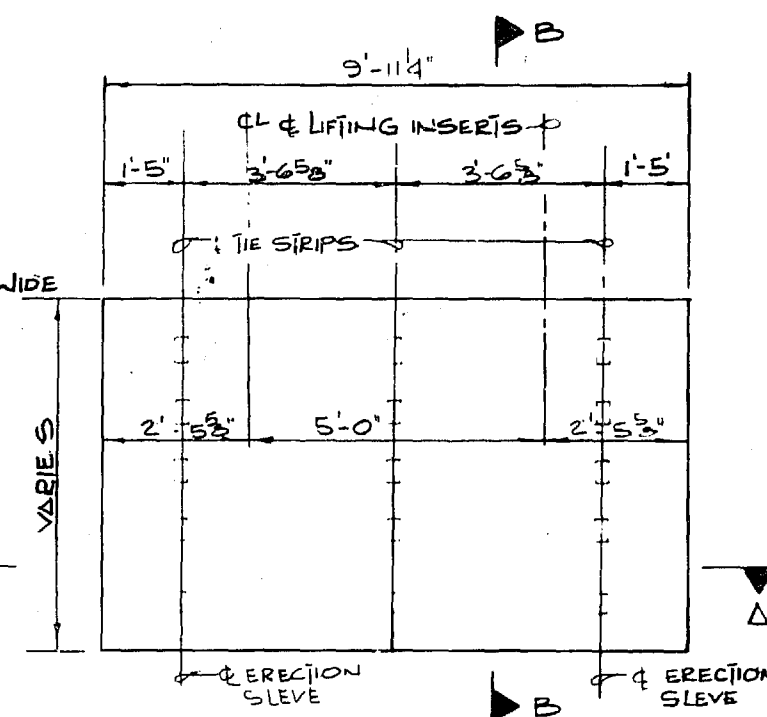
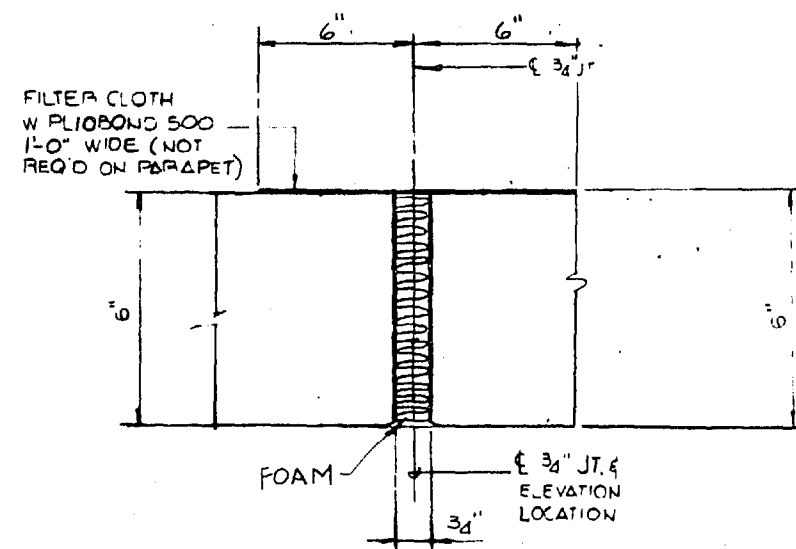
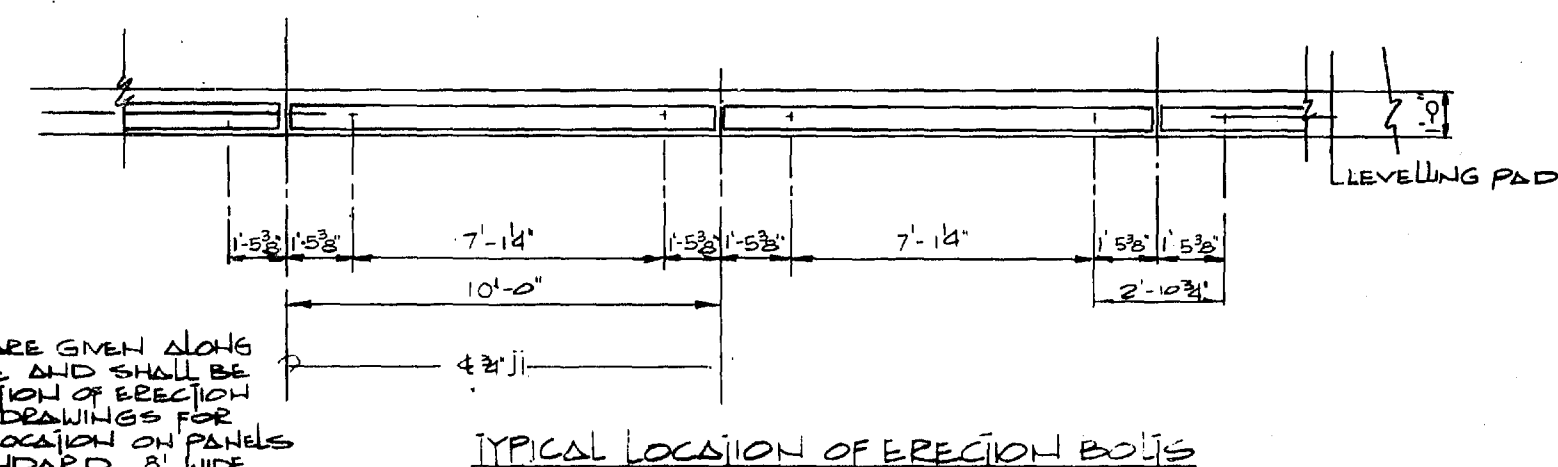
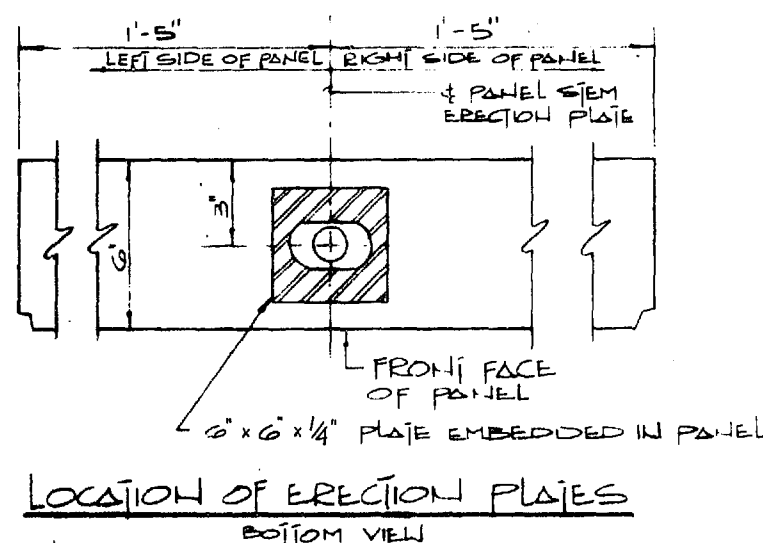
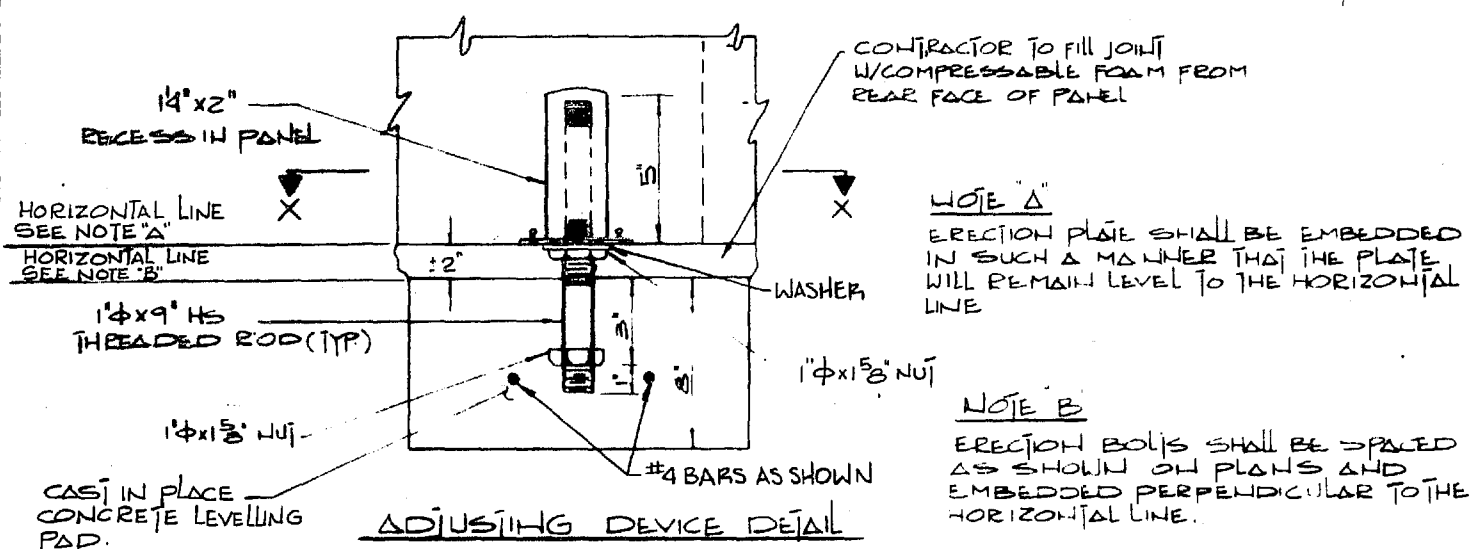
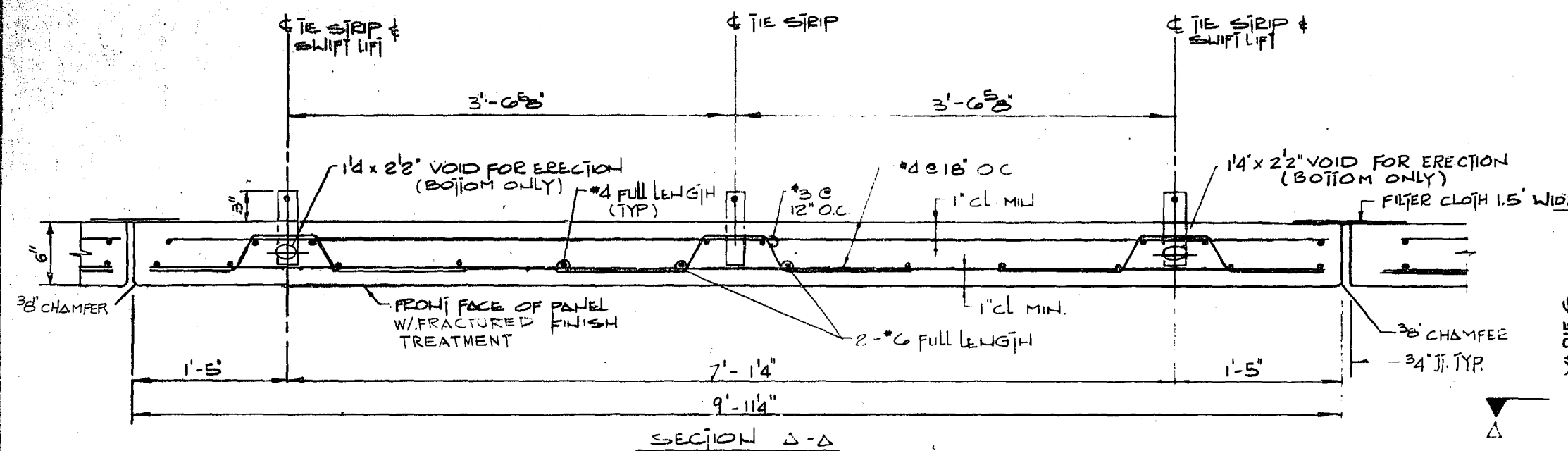
Washington State
Department of Transportation.

33000110

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

REINFORCED EARTH WALL NB 253+51 TO 259+33
ELEVATION & TYPICAL SECTION

110
SHEET
150
OF
181
SHEETS



NOTE:
ALL DISTANCE ARE GIVEN ALONG
HORIZONTAL LINE AND SHALL BE
USED FOR LOCATION OF ERECTION
BOLT. SEE SHOP DRAWINGS FOR
ERECTION BOLT LOCATION ON PANELS
OTHER THAN STANDARD 8' WIDE
UNITS.

"REINFORCED EARTH" IS THE REGISTERED TRADEMARK OF THE REINFORCED EARTH COMPANY.

This drawing contains information proprietary to The Reinforced Earth Company, and is being furnished for the use of WASH. D.C.T. _____ only in connection with this project and the information contained herein is not to be transmitted to any other organization unless specifically authorized in writing by The Reinforced Earth Company. The Reinforced Earth Company is exclusive licensee in the United States under patents issued to Henri Vidal, and the furnishing of this drawing does not constitute an express or implied license under the Vidal patents.

									SHEET NO.	TOTAL SHEETS
DRAWN L.R.							STATE	FED. AID PROJ. NO.		
CHECKED R.S.							JOB NUMBER			
PROJ. ENGR. P.G.							84W056			
DIST. ADM.							CONTRACT NO.			
	DATE	REVISION				BY APP'D				

DIVISION OF HIGHWAYS



APR 23 1984
APPROVED

 Washington State
Department of Transportation

- 3300011

**SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2**

REINFORCED EARTH WALL NB 253+51 TO 259+33
STANDARD PANEL DETAILS

11
SHEP
15
OF
18
SHEP

K-E DOT FORM 221-011
Revised 6/83

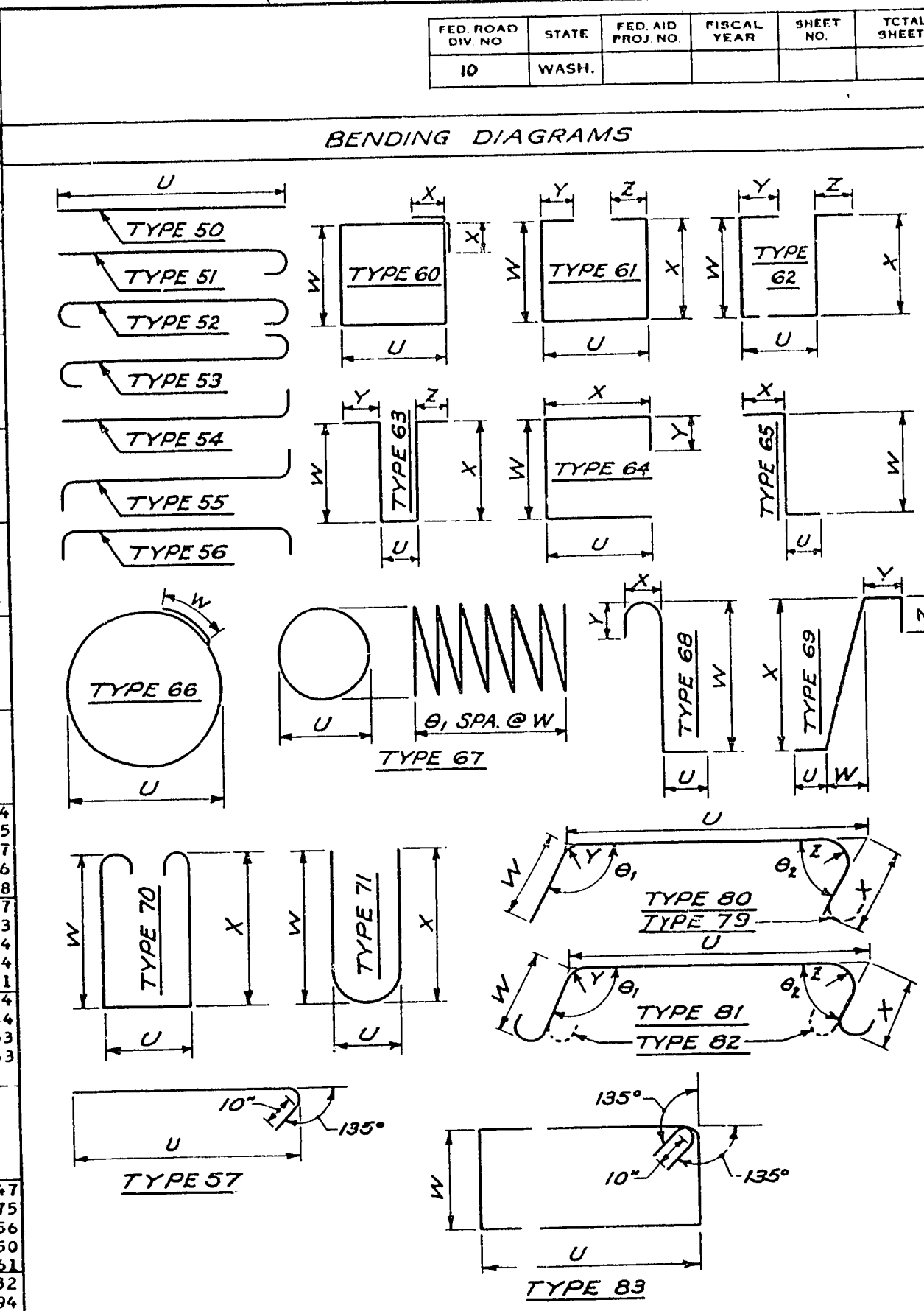
R.E. 1368

SR 705/
4

152149

[illegible]

S = Bar is included in substructure quantities.												E = Bar is to be epoxy coated															
F = Bar to be field welded.												V = Bar dimensions vary between dimensions shown on this line and the following line.															
T = Tie or Stirrup																											
MARK NO.	LOCATION	SIZE	REQ'D NO	BEND TYPE	TIE OR STIR	FIELD WELD	SUBSTR.	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (Out to out)												LENGTH		WEIGHT Lbs.		
											U		W		X		Y		Z		θ_1, θ_2		Ft.	In.			
											Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Deg.	Deg.					
PIER 5																											
581	NB PIER 5 COLUMN	11	90	54			S			60	0.0																29487
582	NB PIER 5 COLUMN	11	10	50			S			20	0.0																1063
583	NB PIER 5 COLUMN	6	101	83	T		S			6	3.0	3	7.0														3235
584	NB PIER 5 COLUMN	6	202	57	T		S			4	6.0																1694
585	NB PIER 5 COLUMN	6	202	57	T		S			3	2.0																5155
586	NB PIER 5 FOOTING	11	47	50			S			27	6.0																6867
587	NB PIER 5 FOOTING	11	55	50			S			35	6.0																10374
588	NB PIER 5 FOOTING	9	47	50			S			27	6.0																4395
589	NB PIER 5 FOOTING	11	55	50			S			35	6.0																10374
590	NB PIER 5 PILE TOP	9	92	51			S			2	5.0																1147
PIER 6																											
601	NB PIER 6 COLUMN	11	14	50			S			21	10.0																162
602	NB PIER 6 COLUMN	11	14	50			S			28	10.0																214
603	NB PIER 6 COLUMN	11	18	50			S			35	10.0																342
604	NB PIER 6 COLUMN	11	18	50			S			42	10.0																409
605	NB PIER 6 COLUMN	11	14	54			S			47	11.0																368
606	NB PIER 6 COLUMN	11	14	54			S			40	11.0																316
607	NB PIER 6 COLUMN	11	18	54			S			33	11.0																340
608	NB PIER 6 COLUMN	11	18	54			S			26	11.0	3	7.0														273
609	NB PIER 6 COLUMN	6	172	83	T		S			6	7.0																568
610	NB PIER 6 COLUMN	6	344	57	T		S			4	8.0																297
611	NB PIER 6 COLUMN	6	1376	57	T		S			3	2.0																878
612	NB PIER 6 DRILLED SHAFT	11	72	50			S			34	4.0																1313
613	NB PIER 6 DRILLED SHAFT	5	1	67	T		S			11	4.0																155
614	NB PIER 6 DRILLED SHAFT	5	1	67	T		S			11	4.0																166
PIER 7																											
621	NB PIER 7 COLUMN	11	18	50			S			35	0.0																334
622	NB PIER 7 COLUMN	11	20	50			S			28	0.0																297
623	NB PIER 7 COLUMN	11	18	50			S			33	0.0																315
624	NB PIER 7 COLUMN	11	20	50			S			40	0.0																421
625	NB PIER 7 COLUMN	6	135	83	T		S			6	7.0	3	7.0														446
626	NB PIER 7 COLUMN	6	270	57	T		S			4	8.0																233
627	NB PIER 7 COLUMN	6	1080	57	T		S			3	2.0																689
628	NB PIER 7 DRILLED SHAFT	11	54	50			S			34	4.0																985
629	NB PIER 7 DRILLED SHAFT	5	1	67	T		S			11	4.0																255
PIER 8																											
641	NB PIER 8 COLUMN	11	38	50			S			52	6.0																105
642	NB PIER 8 COLUMN	6	98	83	T		S			6	7.0	3	7.0														32
643	NB PIER 8 COLUMN	6	196	57	T		S			4	8.0																161
644	NB PIER 8 COLUMN	6	784	57	T		S			3	2.0																50
645	NB PIER 8 DRILLED SHAFT	11	54	50			S			38	4.0																109
646	NB PIER 8 DRILLED SHAFT	5	1	67	T		S			11	4.0																28
PIER 9																											
661	NB PIER 9 COLUMN	11	54	50			S			47	7.0																136
662	NB PIER 9 COLUMN	6	89	83	T		S			6	7.0	3	7.0														29
663	NB PIER 9 COLUMN	6	178	57	T		S			4	8.0																15
664	NB PIER 9 COLUMN	6	712	57	T		S			3	2.0																45
665	NB PIER 9 DRILLED SHAFT	11	54	50			S			38	4.0																109
666	NB PIER 9 DRILLED SHAFT	5	1	67	T		S			11	4.0																28
STEEL REINFORCING BAR QUANTITIES NOT INCLUDED IN THIS BAR LIST																											
TRAFFIC BARRIER																											
TR. BARR.(EPOXY COATED)																											
BRIDGE GRATE INLET																											



NOTES:

1. All reinforcing bars on this sheet shall be A.S.T.M. A-615. Grade 60 unless shown otherwise.
2. Reinforcing for traffic barrier is not shown in this Bar List. See Traffic Barrier sheet.
3. Bend for transverse bars due to roadway crown condition have not been shown. These bars shall be bent as required to conform to the configuration of the structure.

SR	JOB NO.	Bridge Design Engineer				FED. AID PROJ. NO. 1-705-3(665)	SHEET NO.	TOTAL SHEETS	  	Washington State Department of Transportation	- 33000120	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE
		Supervisor										
		Reviewed By										
		Designed By										
		Checked By										
		Detailed By										
		Architect										
Preliminary Plan By		DATE	REVISION	BY	APPD	JOB NUMBER 84W056	CONTRACT NO. 2747	APRIL 23, 1984 APPROVED	ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS 200 SOUTH 34TH ST. SUITE 200 SEATTLE, WA 98104 (206) 461-1100	BAR LIST		
K-E DOT FORM 221-013												

SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 NB LINE BRIDGE BAR LIST

Bridge Design Engineer: [Signature] Supervisor: [Signature] Reviewed By: [Signature] Designed By: [Signature] Checked By: [Signature] Detailed By: [Signature] Architect: [Signature] Preliminary Plan By: [Signature]

DOT FORM 221-013 Revised 6/80

Washington State Department of Transportation 33000121

APRIL 23, 1989 APPROVED

ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS

SR 705/4

122 SHEET 160 OF 181 SHEETS

S=Bar is included in substructure quantities. F=Bar to be field welded. T= Tie or StIRRup										E= Bar is to be epoxy coated V= Bar dimensions vary between dimensions shown on this line and the following line.										S=Bar is included in substructure quantities F= Bar to be field welded. T= Tie or StIRRup										E= Bar is to be epoxy coated V= Bar dimensions vary between dimensions shown on this line and the following line.										FED. ROAD DIV. NO. 10 STATE WASH. FED. AID PROJ. NO. 1-705-3(665) FISCAL YEAR 1984 SHEET NO. 123 TOTAL SHEETS 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S- Bar is included in substructure quantities.												E= Bar is to be epoxy coated														
F= Bar to be field welded.												V= Bar dimensions vary between dimensions shown on this line and the following line.														
T= Tie or StIRRup.																										
MARK NO.	LOCATION	SIZE	NO.	REQ'D	BEND TYPE	TIE OR STIR	FIELD WELD	SUBSTR.	EPOXY COAT	VARIES	NO. EACH	DIMENSIONS (Out to out)										LENGTH		WEIGHT		
												U		W		X		Y		Z		θ ₁	θ ₂	Ft.	In.	Lbs.
												Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Ft.	In.	Deg.	Deg.			
SUPERSTRUCTURE																										
NB																										
HINGE PIER 6																										
1241	BAR FIELD BENT INTO P/T PLUG	4	68	50							5	0.0										5	0.	227		
1242	SEAT TOP SLIDE	9	9	56							7	10.0										10	5.	319		
1243	SEAT TOP ANCHOR	9	32	56							8	3.0										15	10.	1179		
1244	DIAPH CORNER	8	2	50							7	0.0										7	0.	37		
1245	SEAT CORNER	8	2	50							9	0.0										9	0.	48		
1246	SEAT CORNER	8	1	50							11	6.0										11	6.	31		
1247	DIAPH BOT-MIDDLE	8	17	50							11	3.0										11	3.	511		
1248	DIAPH TOP	8	10	50							26	0.0										26	0.	694		
1249	SEAT BOT	9	36	54							12	8.0										14	0.	1714		
1250	SEAT STIRRUP	6	18	96	T						1	1.0		1.5	2	3.0		1	0.0			7	8.	207		
1251	SEAT STIRRUP	6	18	61	T						2	6.0	2	3.0	2	3.0	1	0.0	1	0.0		8	4.	225		
1252	SEAT STIRRUP	6	9	61	T						3	6.0	2	3.0	2	3.0	1	0.0	1	0.0		9	4.	126		
1253	SEAT STIRRUP	6	9	80	T						8	0.0	0	0	1	0.0					63	8	8.	117		
1254	SEAT CAP	6	20	61	T						1	0.0	5	0.0	5	0.0						10	8.	320		
1255	SEAT P/T ANCHOR	5	4	96	T						2	10.0	1	1.5	2	3.0		0	10.0			8	7.	36		
1256	SEAT STIRRUP	5	4	80	T						4	1.0	10.0	10.0			2.5		2.5	90	63	5	4.	22		
1257	P/T ANCHOR TIE BACK BAR	5	72	71	T						3	3.0	5	0.0	5	0.0						10	6.	788		
1258	P/T ANCHOR	6	12	61	T						1	0.0	5	0.0	5	0.0						12	11.	233		
1259	P/T ANCHOR	6	24	61	T						1	0.0	5	0.0	5	0.0						10	8.	385		
1260	P/T ANCHOR	6	70	80	T						1	10.0	5	0.0	5	0.0		3.0	3.0	117	63	10	7.	1113		
1261	P/T ANCHOR	6	20	80	T						2	10.0	5	0.0	5	0.0		3.0	3.0	117	63	12	5.	373		
1262	END STIRRUP	7	14	69							1	2.0	2	9.0	5	6.0	1	2.0				8	3.	236		
1264	DIAPH END STIRRUP	7	32	61							6	0.0	2	8.0	2	8.0						11	0.	719		
1265	DIAPH END STIRRUP	7	32	61							5	7.0	2	8.0	2	8.0						10	7.	692		
1266	DIAPH STIRRUP	7	40	61							5	4.0	2	7.0	2	7.0						10	2.	831		
1267	DIAPH STIRRUP	7	40	61							5	0.0	2	7.0	2	7.0						9	10.	804		
1268	DAPPED END FLEX	8	25	50							12	6.0										12	6.	834		
1269	DAPPED END LONG DECK	5	40	50							11	0.0										11	0.	459		
1270	DAPPED END LONG DECK	5	40	50							12	6.0										12	6.	521		
1271	DAPPED END HANGER BAR	8	34	69							3	1.0	6.0	5	4.0	3	1.0					11	2.	1014		
1272	DAPPED END FLEX	8	20	50							14	3.0										14	3.	761		
1273	DAPPED END TRANS DECK	5	21	52							39	5.5										40	8.	891		
1274	DAPPED END TRANS DECK	6	42	50							21	0.0										21	0.	1325		
1275	DAPPED END LEG STIRRUP	4	26	71	T						4	0.0	5	0.0	5	0.0						10	1.	175		
1276	DAPPED END STIRRUP	6	140	69	T						1	0.0	1	2.5	2	5.0	1	0.0				4	6.	946		
1277	DAPPED END STIRRUP	6	10	65	T						1	0.0	2	5.0	1	0.0						4	1.	61		
1278	DAPPED END TRANS	7	316	69							9	0.0	6.0	1	0.0							10	0.	6459		
1279	DAPPED END TRANS	7	42	50							15	6.0										15	6.	1331		
1280	DAPPED END STIRRUP	6	232	69	S						1	0.0	2	10.0	5	8.0	1	0.0				8	1.	2817		
1281	DAPPED END CORNER BAR	8	2	50							11	3.0										11	3.	60		
HINGE PIER 9																										
1241	BAR FIELD BENT INTO P/T PLUG	4	68	50							5	0.0										5	0.	227		
1242	SEAT TOP SLIDE	9	9	56							7	10.0										10	5.	319		
1243	SEAT TOP ANCHOR	9	32	56							8	3.0										10	10.	1179		
1244	DIAPH CORNER	8	2	50							7	0.0										7	0.	37		
1245	SEAT CORNER	8	2	50							9	0.0										9	0.	48		
1246	SEAT CORNER	8	1	50							11	6.0										11	6.	31		
1247	DIAPH BOT-MIDDLE	8	17	50							11	3.0										11	3.	511		
1248	DIAPH TOP	8	10	50							26	0.0										26	0.	694		
1249	SEAT BOT	9	36	54							12	8.0										14	0.	1714		
1250	SEAT STIRRUP	6	18	96	T						1	1.0		1.5	2	3.0		1	0.0			7	2.	194		
1251	SEAT STIRRUP	6	18	61	T						1	10.0	2	3.0	2	3.0	1	0.0	1	0.0		7	8.	207		
1252	SEAT STIRRUP	6	18	61	T						2	6.0	2	3.0	2	3.0	1	0.0	1	0.0		8	4.	225		
1253	SEAT STIRRUP	6	9	61	T						3	6.0	2	3.0	2	3.0	1	0.0	1	0.0		9	4.	126		
1254	SEAT CAP	6	9	80	T						8	0.0	0	0	1	0.0					63	8	8.	117		
1255	SEAT P/T ANCHOR	6	20	61	T						1	0.0	5	0.0	5	0.0						10	8.	320		
1256	SEAT STIRRUP	5	4	96	T						2	10.0	1	1.5	2	3.0		0	10.0			8	7.	36		
1257	SEAT STIRRUP	5	4	80	T						4	1.0	10.0	10.0			2.5		2.5	90	63	5	4.	22		
1258	P/T ANCHOR TIE BACK BAR	5	72	71	T						4	1.0	5	0.0	5	0.0						10	6.	788		
1259	P/T ANCHOR	6	12	61	T						3	3.0	5	0.0	5	0.0						12	11.	233		
1260	P/T ANCHOR	6	24	61	T						1	0.0	5	0.0	5	0.0						10	8.	385		
1261	P/T ANCHOR	6	70	80	T						1	10.0	5	0.0	5	0.0		3.0	3.0	117	63	10	7.	1113		
1262	P/T ANCHOR	6	20	80	T						2	10.0	5	0.0	5	0.0		3.0	3.0	117	63	12	5.	373		
1263	END STIRRUP	7	14	69							1	2.0	2	9.0	5	6.0	1	2.0				8	3.	236		
1264	DIAPH END STIRRUP	7	32	61							6	0.0	2	8.0	2	8.0						11	0.	719		
1265	DIAPH END STIRRUP	7	32	61							5	7.0	2	8.0	2	8.0						10	7.	692		
1266	DIAPH STIRRUP	7	40	61							5	4.0	2	7.0	2	7.0						10	2.	831		
1267	DIAPH STIRRUP	7	40	61							5	0.0	2	7.0	2	7.0						9	10.	804		
1268	DAPPED END FLEX	8	25	50							12	6.0										12	6.	834		
1269	DAPPED END LONG DECK	5	40	50							11	0.0										11	0.	459		
1270	DAPPED END LONG DECK	5	40	50							12	6.0										12	6.	521		
1271	DAPPED END HANGER BAR	8	34	69							3	1.0	6.0	5	4.0	3	1.0					11	2.	1014		
1272	DAPPED END FLEX	8	20	50							14	3.0										14	3.	761		
1273	DAPPED END TRANS DECK	5	21	52							39	5.5										40	8.	891		
1274	DAPPED END TRANS DECK	6	42	50							21	0.0										21	0.	1325		
1275	DAPPED END LEG STIRRUP	4	26	71	T						4	0.0	5	0.0	5	0.0						10	1.	175		
1276	DAPPED END STIRRUP	6	140	69	T						1	0.0	1	2.5	2	5.0	1	0.0				4	6.</			

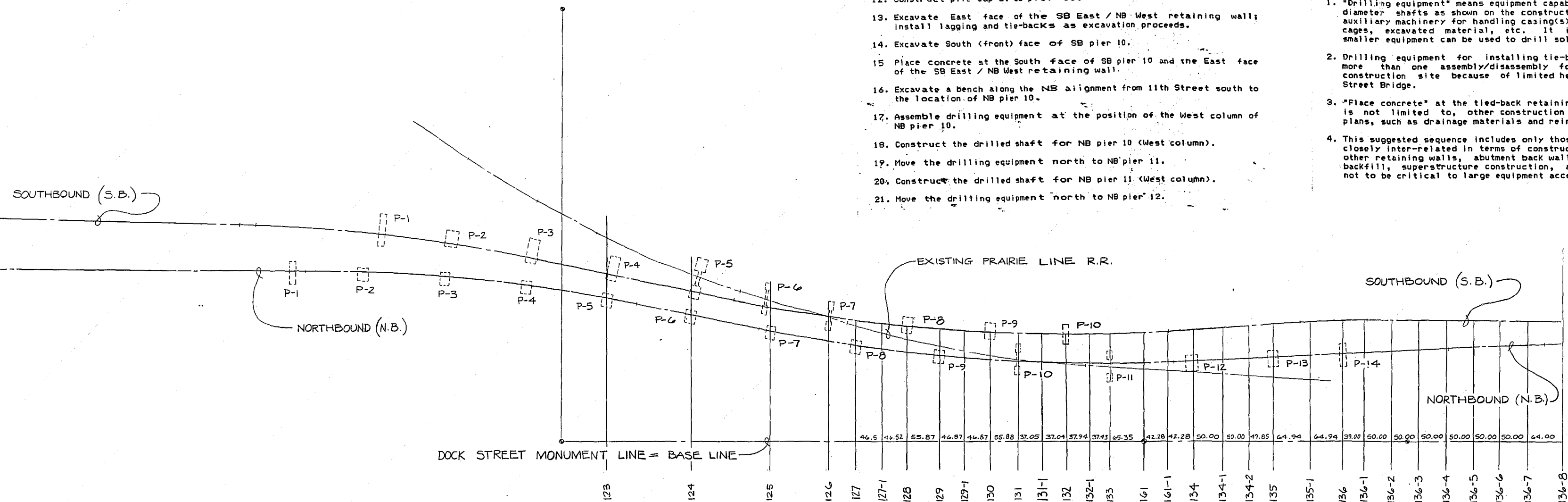
SUGGESTED CONSTRUCTION SEQUENCE - SUBSTRUCTURE NORTH OF 15TH ST.

1. Excavate a bench approximately along the SB alignment from 11th Street south to SB pier 8.
2. Assemble drilling equipment at the position of SB pier 8.
3. Construct the drilled shaft for SB pier 8.
4. Move drilling equipment north to SB pier 9.
5. Construct the drilled shaft for SB pier 9.
6. Dismantle drilling equipment and move to other drilled shaft locations on site (disassembly is required for clearance under the 11th Street Bridge).
7. Demolish existing retaining walls along the East side of the SB roadway and the West side of the NB roadway.
8. Excavate a bench along the East side of the SB roadway at the level of the bottom of footings of the demolished retaining walls.
9. Drill holes, and install concrete and HP shapes, for the soldier piles for SB pier 10 and the tied-back retaining wall along the East side of the SB roadway / West side of the NB roadway.
10. Install tie-backs at SB pier 10.
11. Install upper tie-backs for the SB East / NB West retaining wall.
12. Construct pile cap at SB pier 10.
13. Excavate East face of the SB East / NB West retaining wall; install lagging and tie-backs as excavation proceeds.
14. Excavate South (front) face of SB pier 10.
15. Place concrete at the South face of SB pier 10 and the East face of the SB East / NB West retaining wall.
16. Excavate a bench along the NB alignment from 11th Street south to the location of NB pier 10.
17. Assemble drilling equipment at the position of the West column of NB pier 10.
18. Construct the drilled shaft for NB pier 10 (West column).
19. Move the drilling equipment north to NB pier 11.
20. Construct the drilled shaft for NB pier 11 (West column).
21. Move the drilling equipment north to NB pier 12.

22. Construct the drilled shaft for NB pier 12.
23. Move the drilling equipment north to NB pier 13.
24. Construct the drilled shaft for NB pier 13.
25. Dismantle drilling equipment and move to other drilled shaft locations on site (disassembly is required for clearance under the 11th Street Bridge).
26. Drill holes, and install concrete and HP shapes, for soldier piles at NB pier 14 and the tied-back retaining wall along the East side of the NB roadway.
27. Install tie-back at NB pier 14.
28. Install upper tie-backs at the NS East retaining wall.
29. Construct pile cap for NB pier 14.
30. Excavate the East face of the NB East retaining wall; install lagging and tie-backs as excavation proceeds.
31. Excavate the South (front) face of NB pier 14.
32. Place concrete at the South face of NB pier 14 and the NB East tied-back retaining wall.

NOTES:

1. "Drilling equipment" means equipment capable of drilling 12-foot diameter shafts as shown on the construction plans; along with auxiliary machinery for handling casing(s) if needed, reinforcing cages, excavated material, etc. It is assumed that other, smaller equipment can be used to drill soldier piles.
2. Drilling equipment for installing tie-backs may also require more than one assembly/disassembly for moving about the construction site because of limited headroom under the 11th Street Bridge.
3. "Place concrete" at the tied-back retaining walls includes, but is not limited to, other construction features shown on the plans, such as drainage materials and reinforcing.
4. This suggested sequence includes only those items believed to be closely inter-related in terms of construction access. Columns, other retaining walls, abutment back walls, drainage structures, backfill, superstructure construction, and the like are assumed not to be critical to large equipment access.

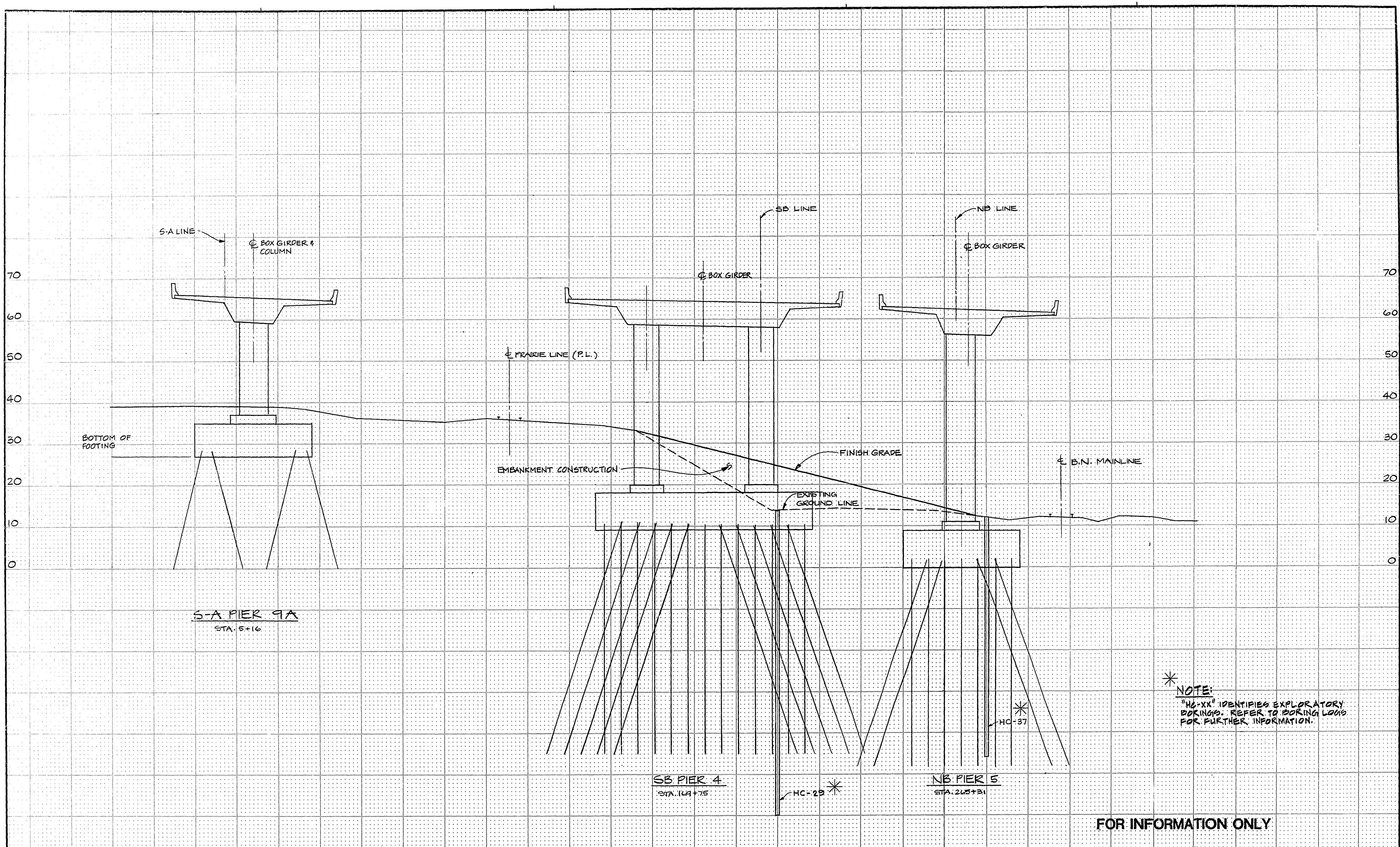


NUMBERS REFER TO CROSS SECTION DESIGNATION.

PROJECT
NORTH
1"=100'

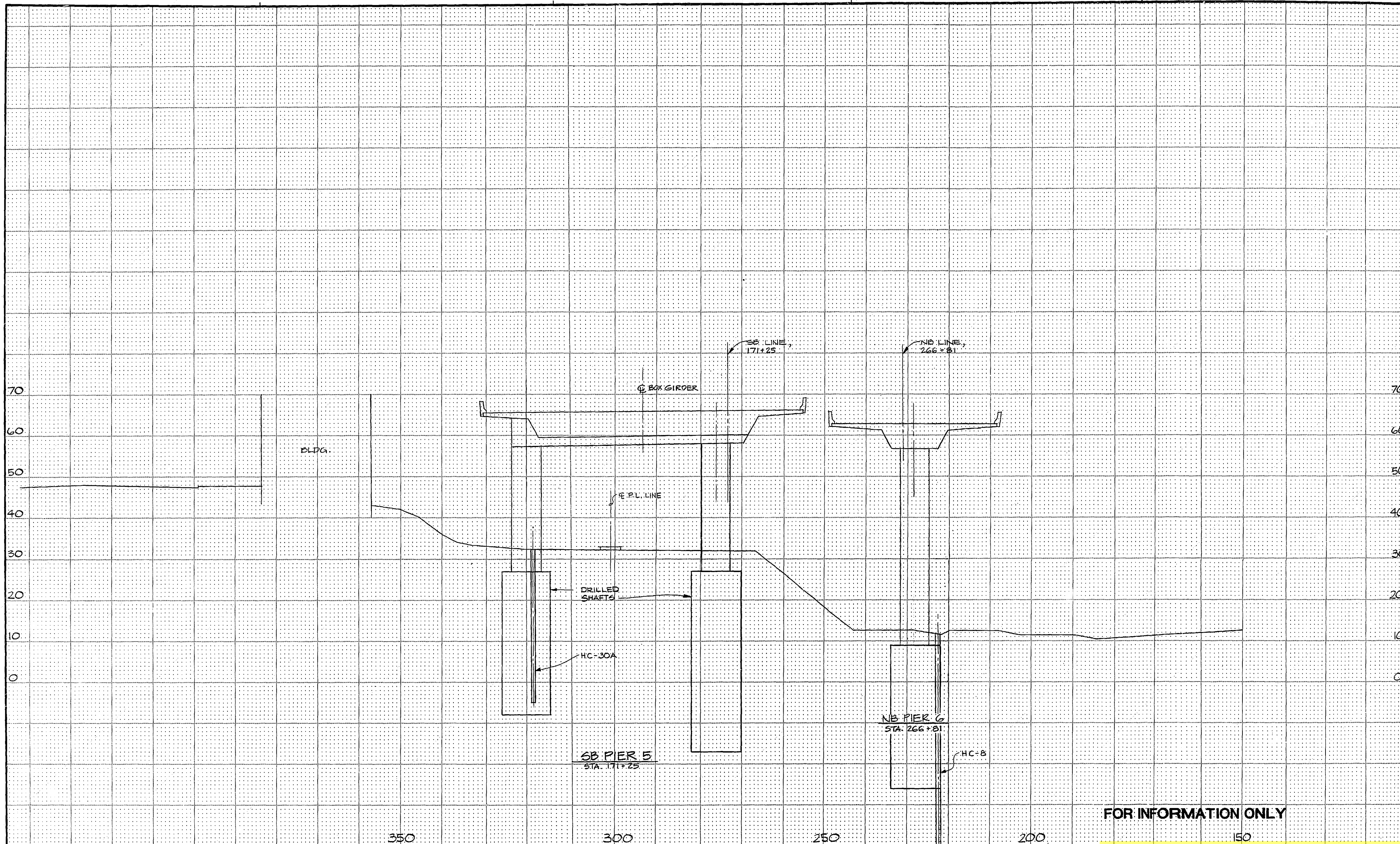
FOR INFORMATION ONLY

REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS	SITTS & HILL ENGINEERS CIVIL, STRUCTURAL & SURVEYING 2901 50 400 TACOMA WA 98403	JAMES S. QUINN REGISTERED PROFESSIONAL ENGINEER	Washington State Department of Transportation	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2	125
10	WASH	1-705-3(665)							
JOB NUMBER 84W056					33000124				
CONTRACT NO. 2747					CROSS SECTION KEY MAP				
DATE	REVISION	BY	APP'D		SE 705/14				



FOR INFORMATION ONLY

DRAWN		REGION NO. 10		STATE WASH		FED. AID PROJ. NO. 1-705-3 (665)		SHEET NO. 126		TOTAL SHEETS 181	
CHECKED		JOB NUMBER 84W056		CONTRACT NO. 2747		APPROVED		APRIL 23, 1984		WASHINGTON STATE DEPARTMENT OF TRANSPORTATION	
PROJ. ENGR.		DATE		REVISION		BY APP'D		SR 705		21ST ST. TO SCHUSTER PARKWAY	
DIST. ADM.								STAGE 2		CROSS SECTION 123	



FOR INFORMATION ONLY

DRAWN		REGION NO.	10	STATE	WASH	FED. AID PROJ. NO.	1-705-3(665)	SHEET NO.		TOTAL SHEETS	
CHECKED		JOB NUMBER	84W066								
PROJ. ENGR.		CONTRACT NO.	2747								
DIST. ADM.		DATE		REVISION		BY	APP'D				



APR 23 1994
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ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
10000 10TH AVENUE, SUITE 200
SEASIDE, WASH. 98138
(206) 535-1100



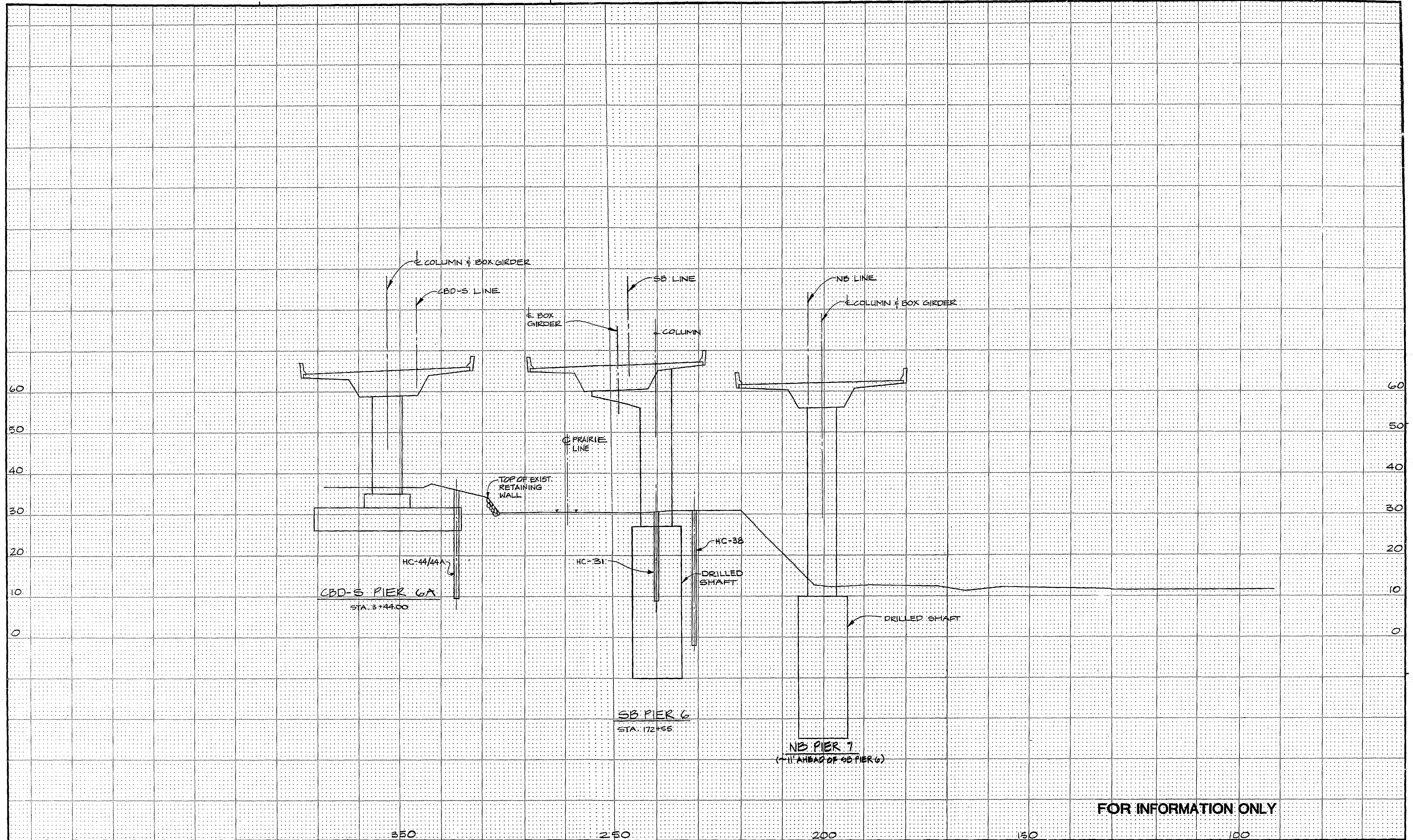
Washington State
Department of Transportation

- 33000126

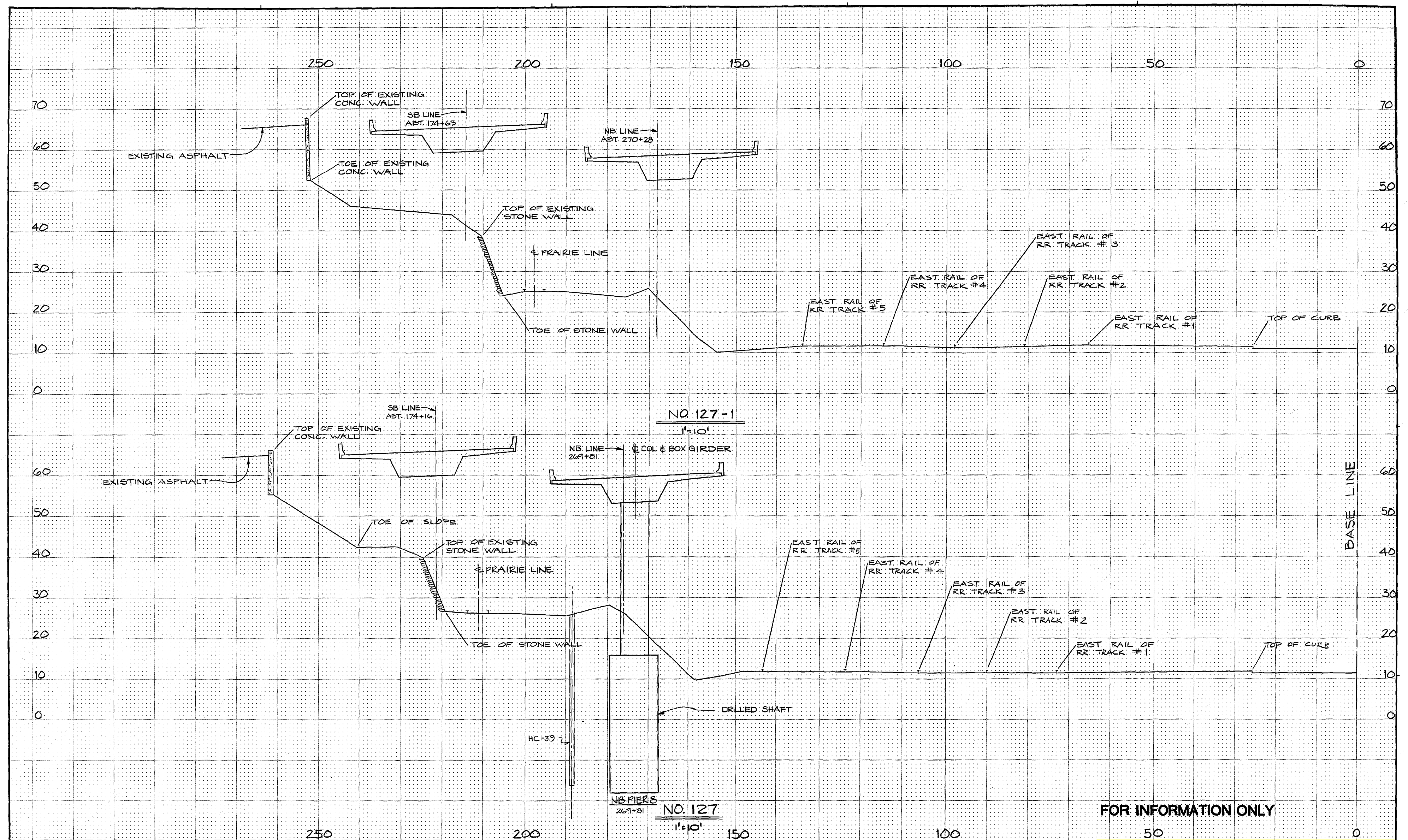
SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
CROSS SECTIONS T24

127
SHEET
165
OF
181
SHEETS

SR 705
1/4



DRAWN		REGION NO. 10		STATE WASH		FED. AID PROJ. NO. 1-705-3(665)		SHEET NO. 128		TOTAL SHEETS 181	
CHECKED		JOB NUMBER 84W056		CONTRACT NO. 2747		APPROVED		APRIL 23, 1981		APPROVED	
PROJ. ENGR.		DATE		REVISION		BY APP'D		Washington State Department of Transportation		SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2	
DIST. ADM.		DATE		REVISION		BY APP'D		- 33000127		CROSS SECTION 125	



DRAWN <i>D.J.A.</i>		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
CHECKED		10	WASH	1-705-3(665)		
PROJ. ENGR.		JOB NUMBER				
DIST. ADM.		84W056				
		CONTRACT NO.				
		2747				
DATE	REVISION	BY	APP'D			



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7/14/73
7/19/73



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ENGINEERS INCORPORATED
CONSULTING ENGINEERS
100 AVENUE D, SUITE 200
FEDERAL CENTER BUILDING
EDMUNDS, WASH.



WASHINGTON STATE
Department of Transportation

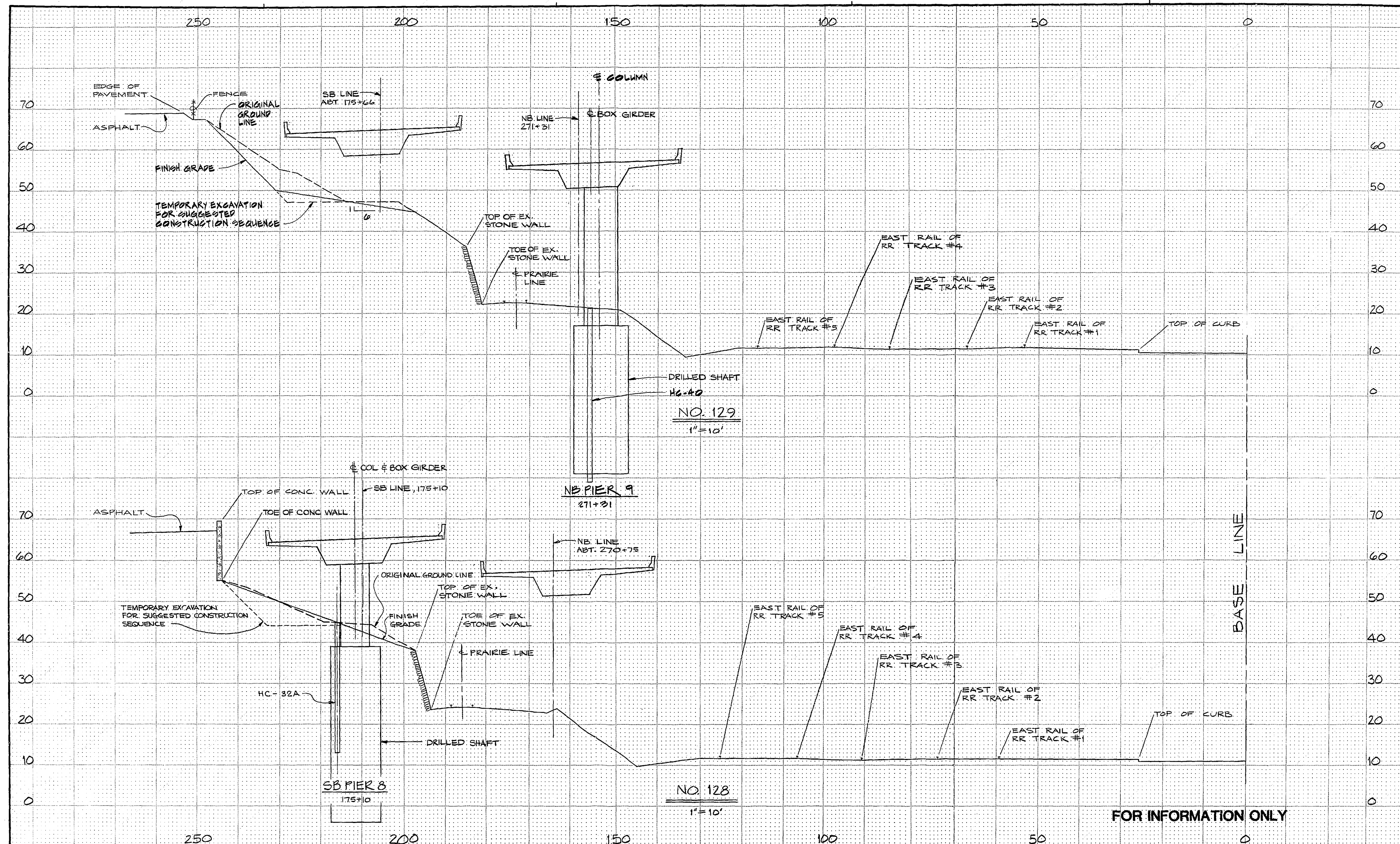
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SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

CROSS SECTIONS 127 & 127-1

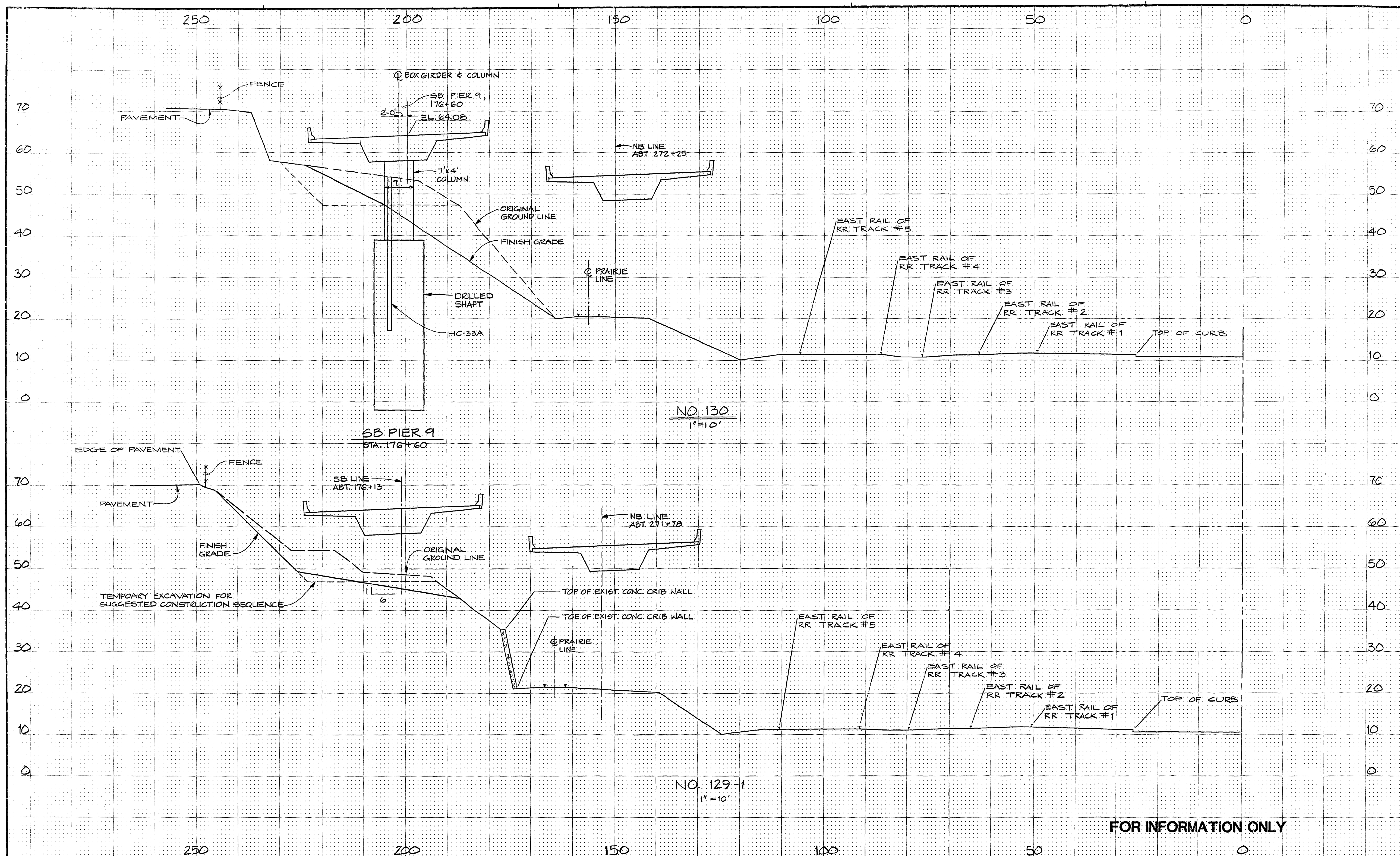
130

SHEET
168
OF
188
SHEETS



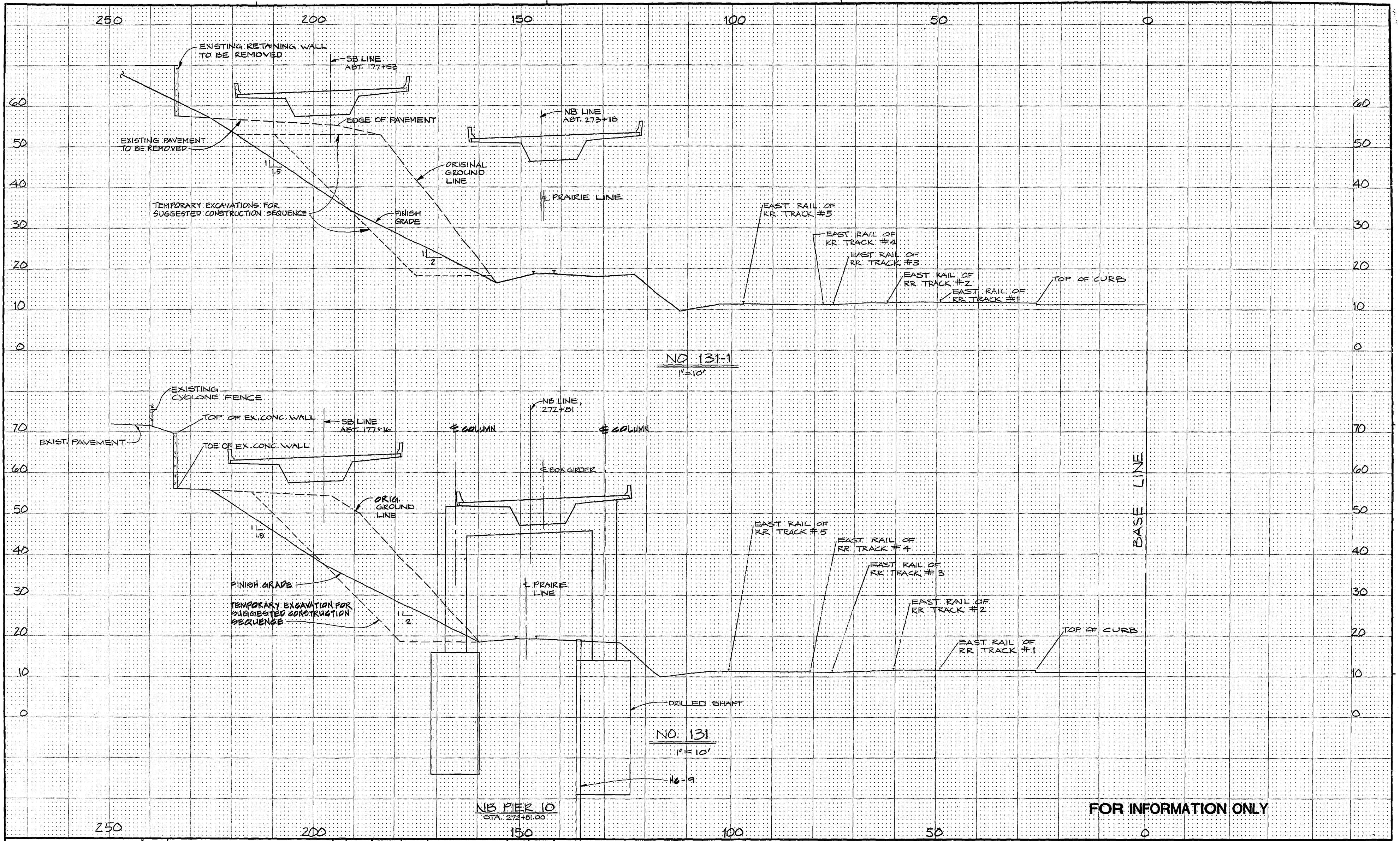
FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10	STATE WASH.	FED. AID PROJ. NO. 1-705-3(669)	SHEET NO. 131	TOTAL SHEETS 181
CHECKED		JOB NUMBER 84W056		DATE 4/23/89		
PROJ. ENGR.		CONTRACT NO. 2747		APPROVED		
DIST. ADM.		BY APP'D		SITTS & HILL ENGINEERS		
DATE		REVISION		WASHINGTON STATE DEPARTMENT OF TRANSPORTATION		



FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10	STATE FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 132	TOTAL SHEETS 132	 	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 CROSS SECTIONS 129-1 & 130	SHEET 132 OF 132 152/130
CHECKED	PROJ. ENGR.	JOB NUMBER 89W056	CONTRACT NO. 2747					
DIST. ADM.	DATE	REVISION	BY APP'D					



FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10	STATE WASH.	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 17	TOTAL SHEETS 18
CHECKED	PROJ. ENGR.	JOB NUMBER 84W056	APPROVED			
DIST. ADM.	DATE	CONTRACT NO. 2747	APPROVED			
REVISION		BY APP'D	APPROVED			

DOT FORM 221-029
Revised 9/82

Washington State
Department of Transportation

33000132 -

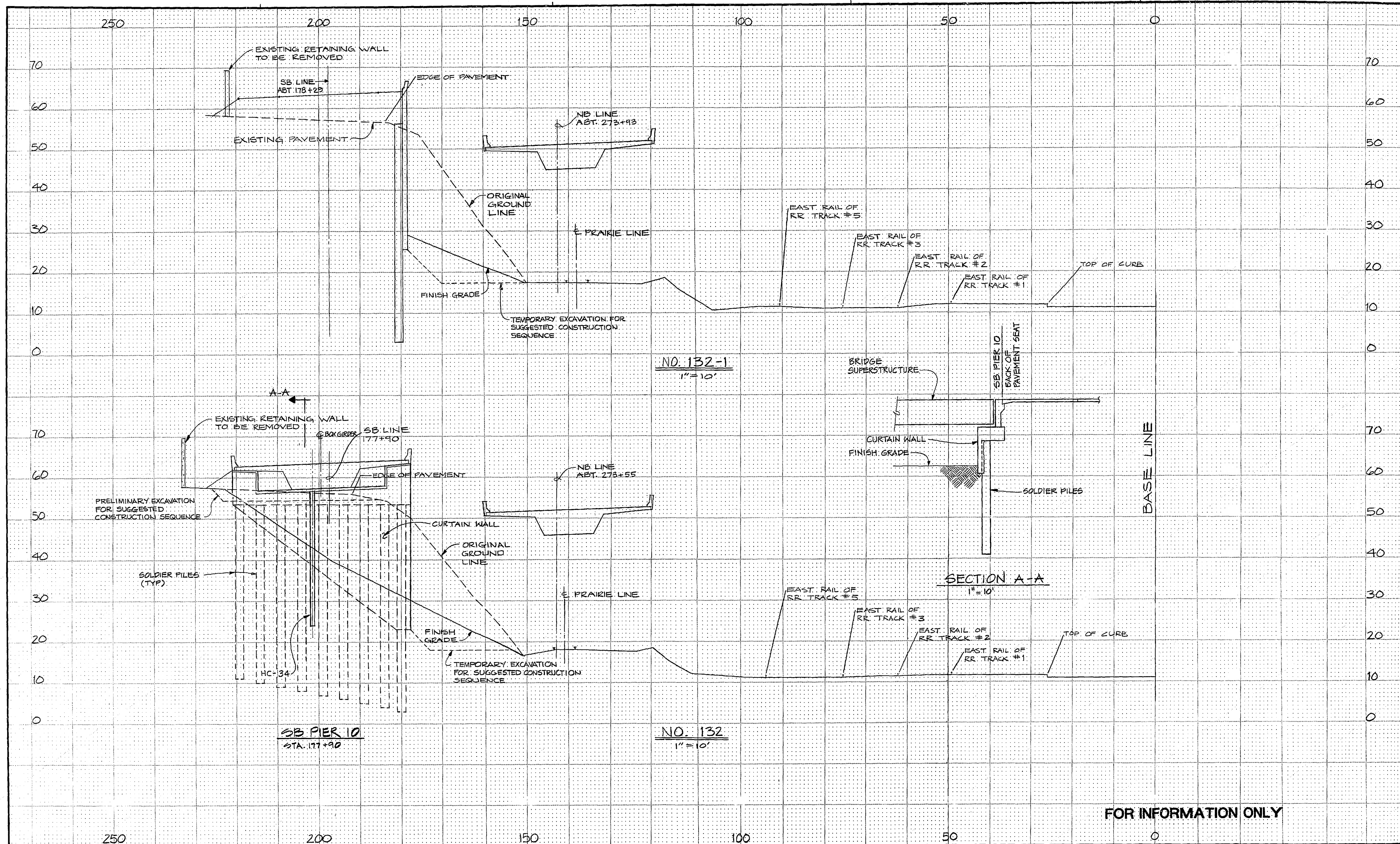
SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

CROSS SECTIONS 131 & 131-1

133

SHEET 17 OF 18

SR 705/4
152129
11:3



FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10		STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 132	TOTAL SHEETS 134
CHECKED		JOB NUMBER 84 W056		CONTRACT NO. 2747		APPROVED	
DIST. ADM.		DATE		REVISION		BY APP'D	

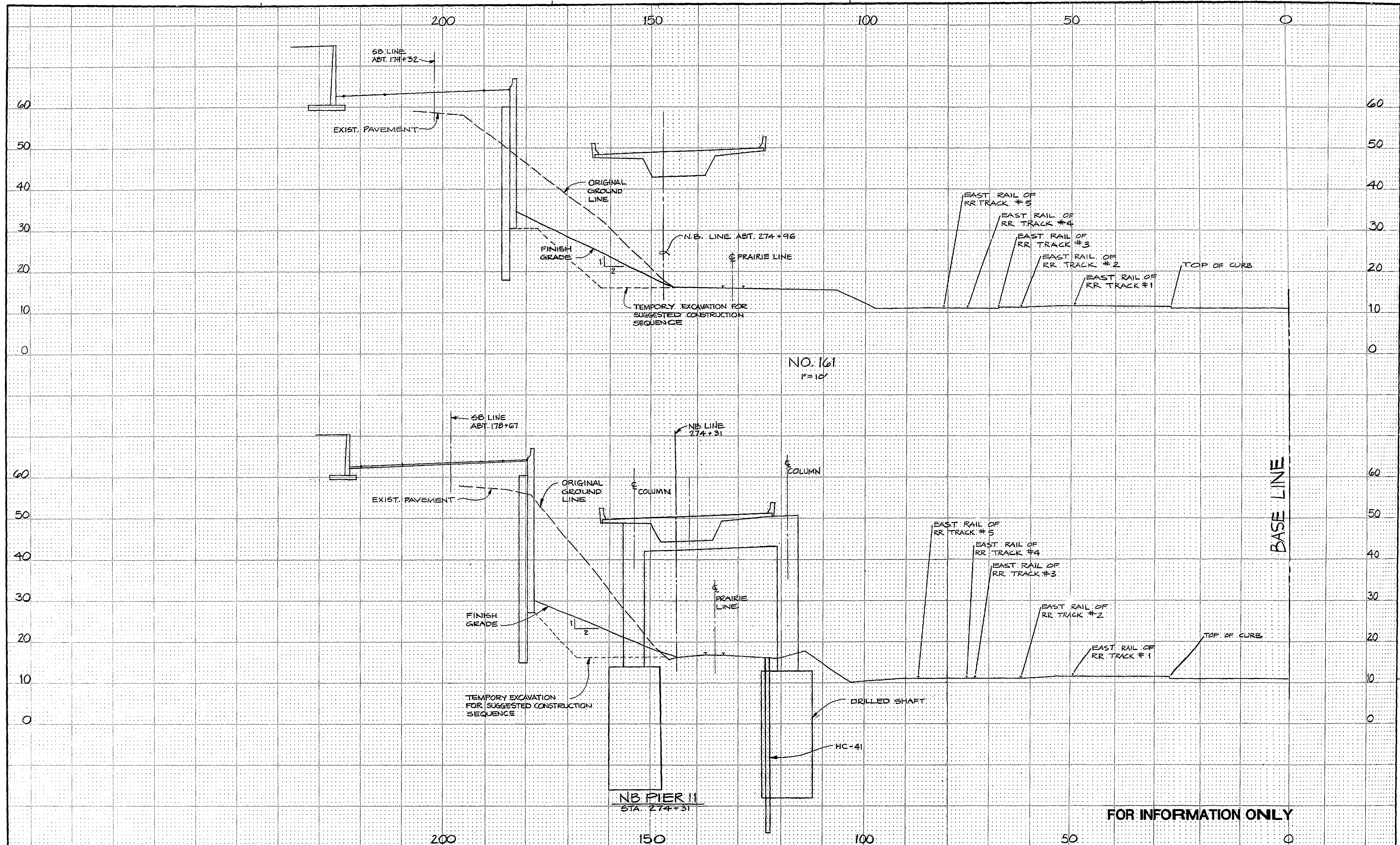
SITTIS & HILL ENGINEERS
 CIVIL, STRUCTURAL & SURVEYING
 2901 SO. 40TH TACOMA, WA 98409

ABAM
 ENGINEERS INCORPORATED
 CONSULTING ENGINEERS
 1000 1ST AVENUE, SUITE 200
 SEATTLE, WA 98101

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 33000133 -

SR 705
 21ST ST. TO SCHUSTER PARKWAY
 STAGE 2
 CROSS SECTIONS 132 & 132-1

134
 SHEET
 172
 OF
 181
 SHEETS



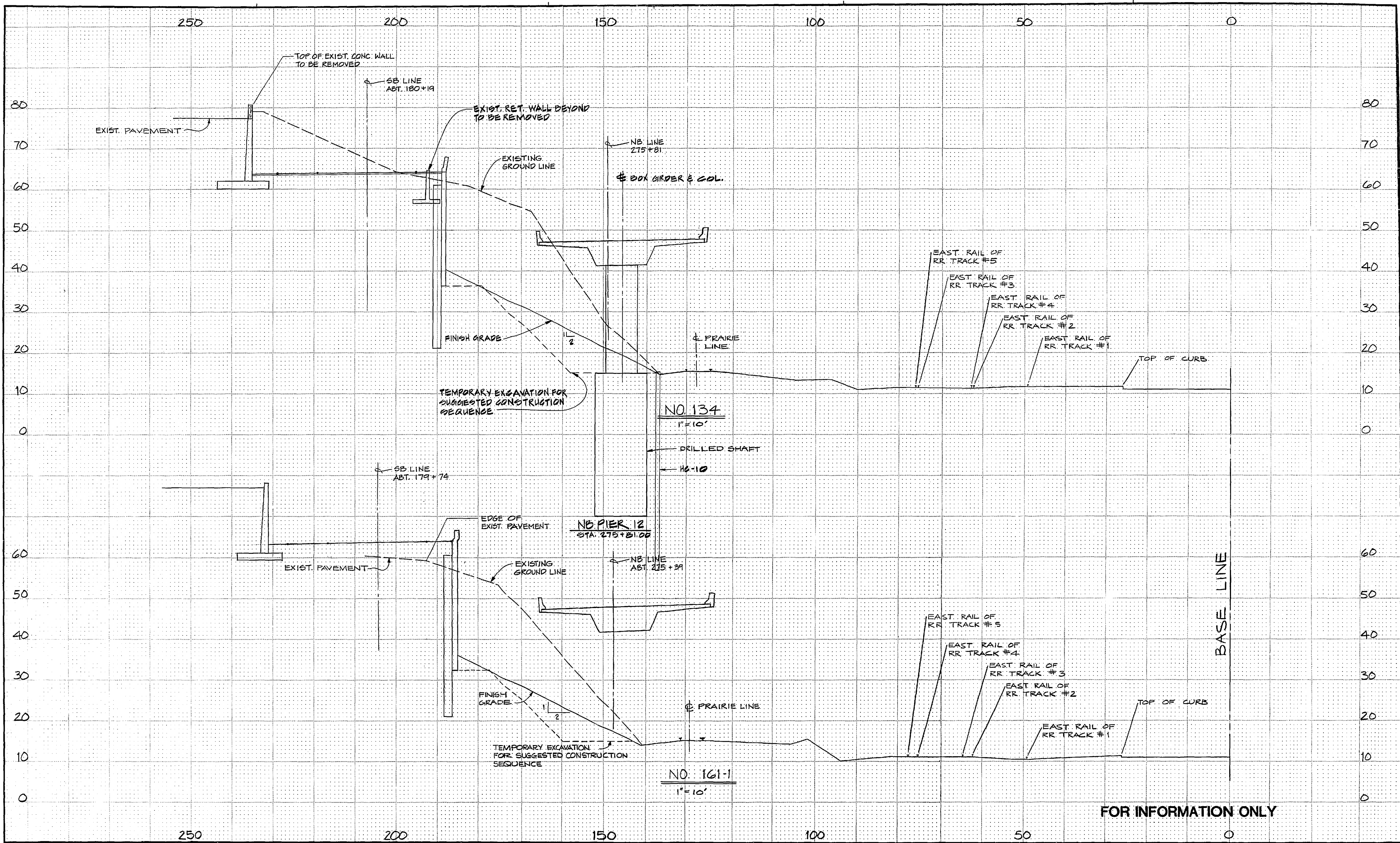
DRAWN D.J.A.		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 135	TOTAL SHEETS 181
CHECKED		JOB NUMBER 84W056		APPROVED		
PROJ. ENGR.		CONTRACT NO. 2747		APPROVED		
DIST. ADM.		DATE		REVISION		
BY APP'D		DATE		REVISION		

SITTS & HILL ENGINEERS
CIVIL, STRUCTURAL & SURVEYING
2801 5th AVE. TACOMA, WA 98409

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
1000 1st AVE. SE. TACOMA, WA 98402

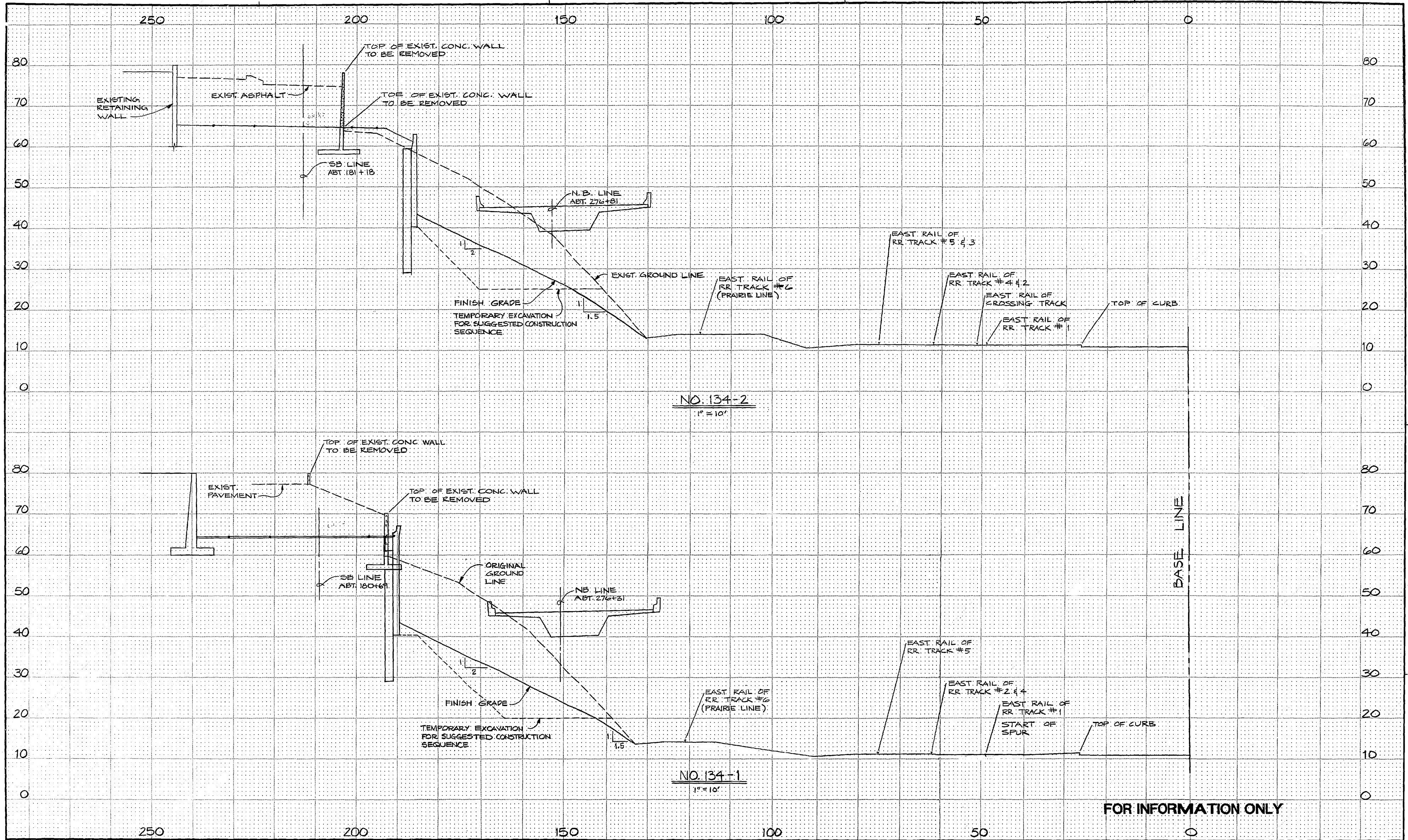
Washington State
Department of Transportation
33000134 -

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
CROSS SECTIONS 133 & 161

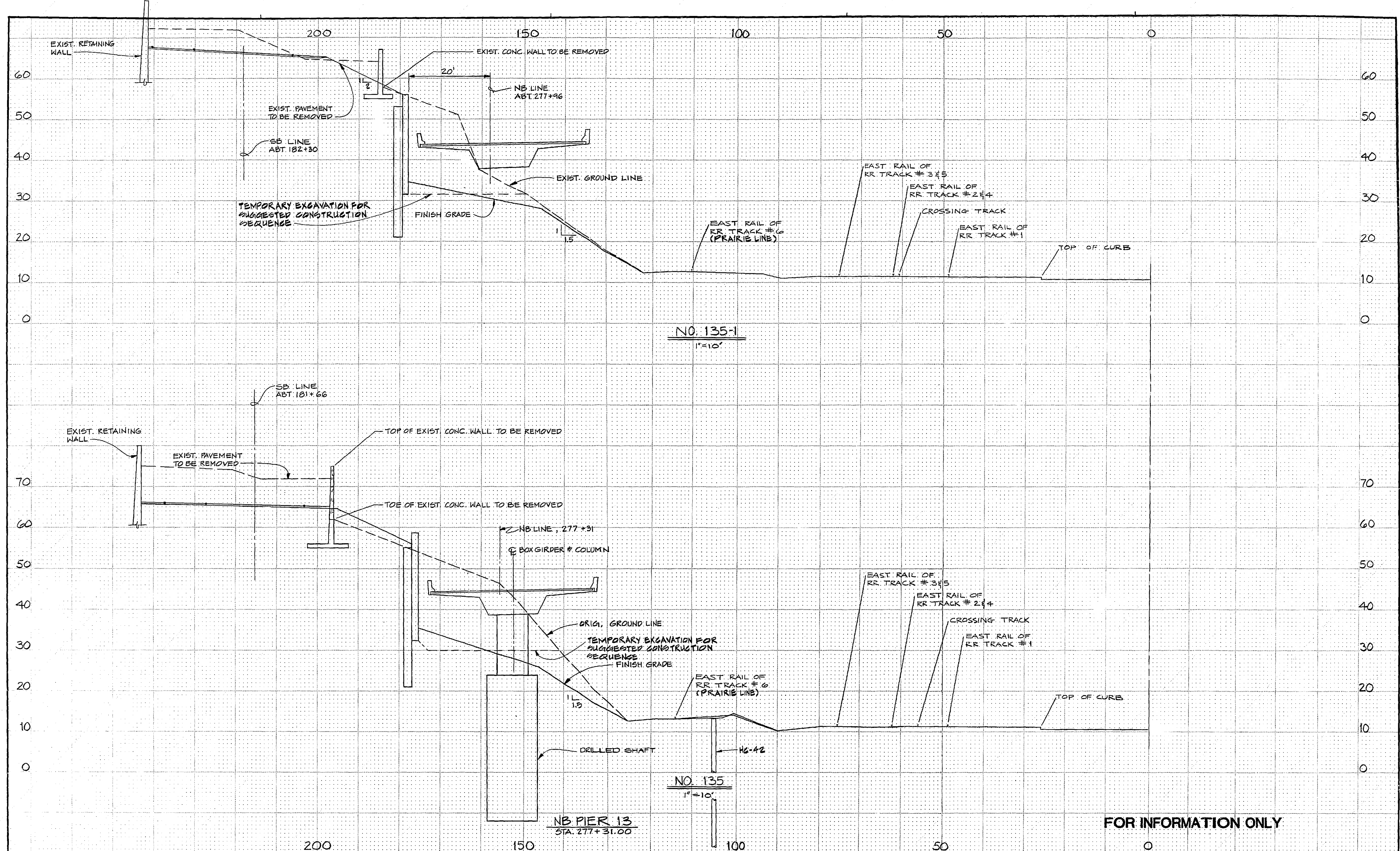


FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10	STATE WASH.	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 136	TOTAL SHEETS 181
CHECKED		JOB NUMBER 84W056		APRIL 23, 1984 APPROVED		
PROJ. ENGR.		CONTRACT NO. 2747		SITTS & HILL - ENGINEERS CIVIL STRUCTURAL & SURVEYING 2901 50' 40th TACOMA WA 98409		
DIST. ADM.				Washington State Department of Transportation 33000135 -		
DATE	REVISION	BY	APP'D	SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 CROSS SECTIONS 161-1 & 134		



DRAWN D. J. A.		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 137	TOTAL SHEETS 175
CHECKED		JOB NUMBER 84W056		SITTS & HILL ENGINEERS CIVIL, STRUCTURAL & SURVEYING 2901 SO. 40TH TACOMA WA 98409		
PROJ. ENGR.		CONTRACT NO. 2747		ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS 1000 1ST AVE. SE. TACOMA WA 98402		
DIST. ADM.		DATE		WASHINGTON STATE Department of Transportation - 33000136		
REVISION		BY APP'D		SR 705 21ST ST. TO SCHUSTER PARKWAY STAGE 2 CROSS SECTIONS 134-1 & 134-2		



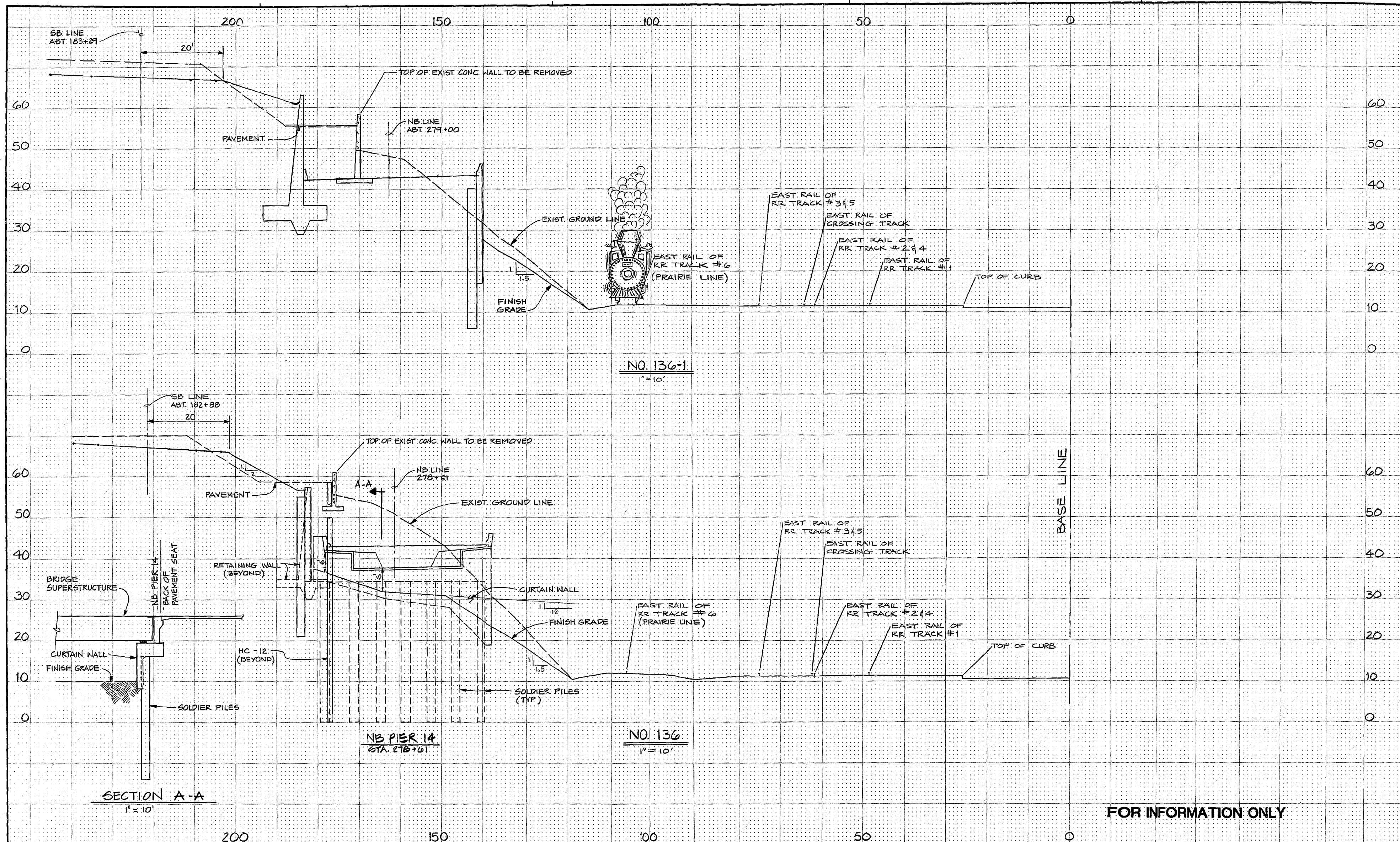
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DRAWN D.J.A.		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 135	TOTAL SHEETS 138
CHECKED		JOB NUMBER 84W 056		APRIL 23, 1984 APPROVED		
PROJ. ENGR.		CONTRACT NO. 2747		SITTS & HILL ENGINEERS CIVIL STRUCTURAL & SURVEYING 2991 SO 40TH TACOMA WA 98409		
DIST. ADM.				ABAM ENGINEERS INCORPORATED CONSULTING ENGINEERS 200 SOUTH 20TH STREET SUITE 200 TACOMA WA 98409		
DATE	REVISION	BY	APP'D	Washington State Department of Transportation 33000137		

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2
CROSS SECTIONS 135 & 135-1

138
SHEET 176 OF 181
SHEETS 154/124

SR 705/4



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DRAWN D.J.A.		REGION NO. 10	STATE WASH.	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO.	TOTAL SHEETS
CHECKED		JOB NUMBER 0414055		APPROVED		
PROJ. ENGR.		CONTRACT NO. 2747		APPROVED		
DIST. ADM.		DATE		REVISION		
		BY APP'D				

Washington State
Department of Transportation

33000138

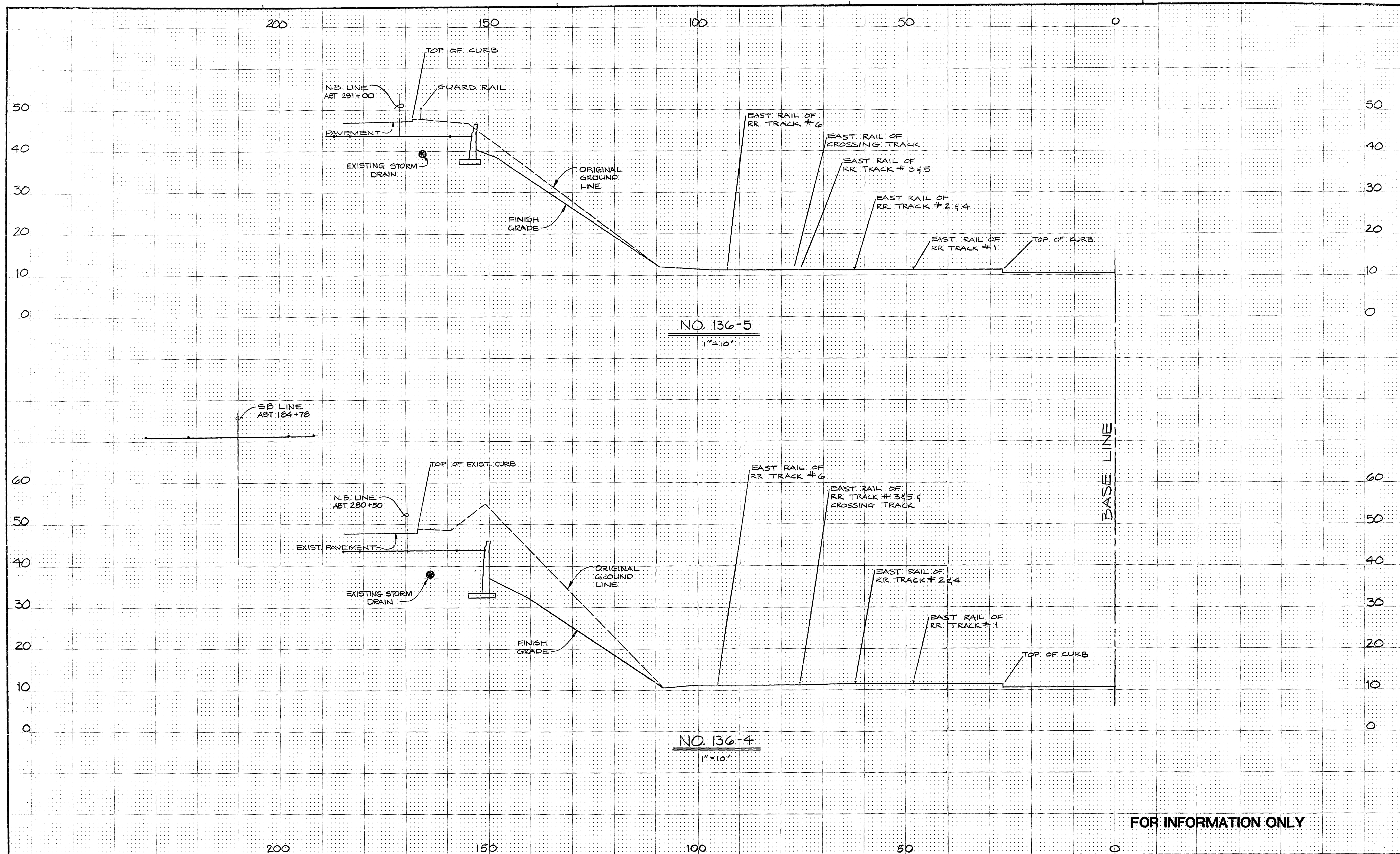
SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

CROSS SECTIONS 136 & 136-1

139

SHEET 177 OF 181 SHEETS

152/123



FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10		STATE WASH.	FED. AID PROJ. NO. 1-705-3665	SHEET NO. 14	TOTAL SHEETS 18
CHECKED		JOB NUMBER 84W056		APPROVED			
PROJ. ENGR.		CONTRACT NO. 2747		APPROVED			
DIST. ADM.				APPROVED			
DATE	REVISION	BY	APP'D				

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Revised 9/82

SITTS & HILL ENGINEERS
CIVIL, STRUCTURAL & SURVEYING
2901 SO. 40th TACOMA WA 98409

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
100 SOUTH 1ST STREET, SUITE 200
SEATTLE, WA 98104

James S. Quinn
Professional Engineer

Washington State
Department of Transportation

33000140

SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

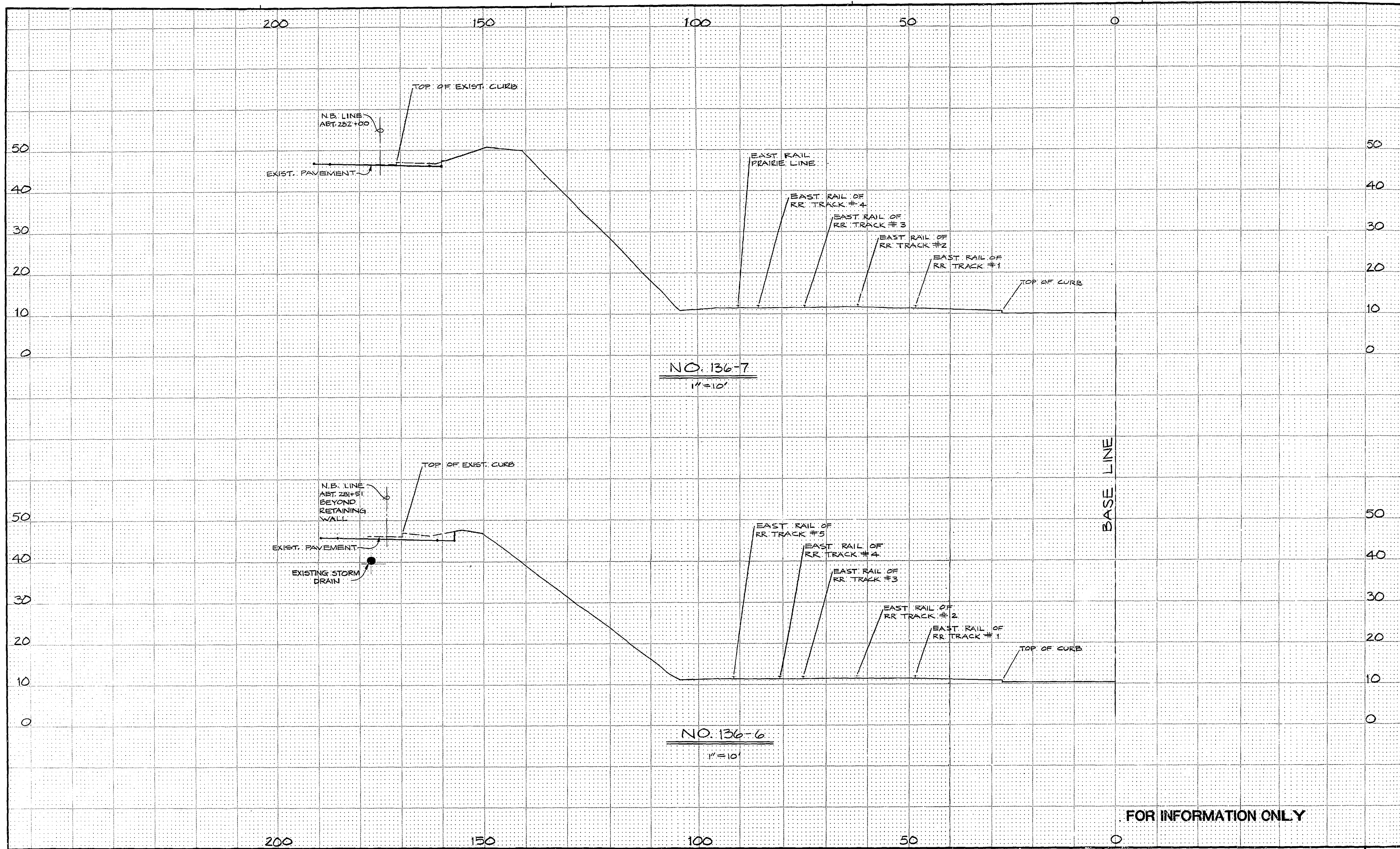
CROSS SECTIONS 136-4 & 136-5

141

SHEET 179 OF 181 SHEETS

SR 705/4

150/121



FOR INFORMATION ONLY

DRAWN D.J.A.		REGION NO. 10	STATE WASH	FED. AID PROJ. NO. 1-705-3(665)	SHEET NO. 142	TOTAL SHEETS 180
CHECKED		JOB NUMBER BAW056		SITTS & HILL ENGINEERS CIVIL, STRUCTURAL & SURVEYING 2901 SO. 40TH TACOMA WA 98409		
PROJ. ENGR.		CONTRACT NO. 2747		APR 23 1989 APPROVED		
DIST. ADM.		DATE		REVISION		BY APP'D

Washington State
Department of Transportation

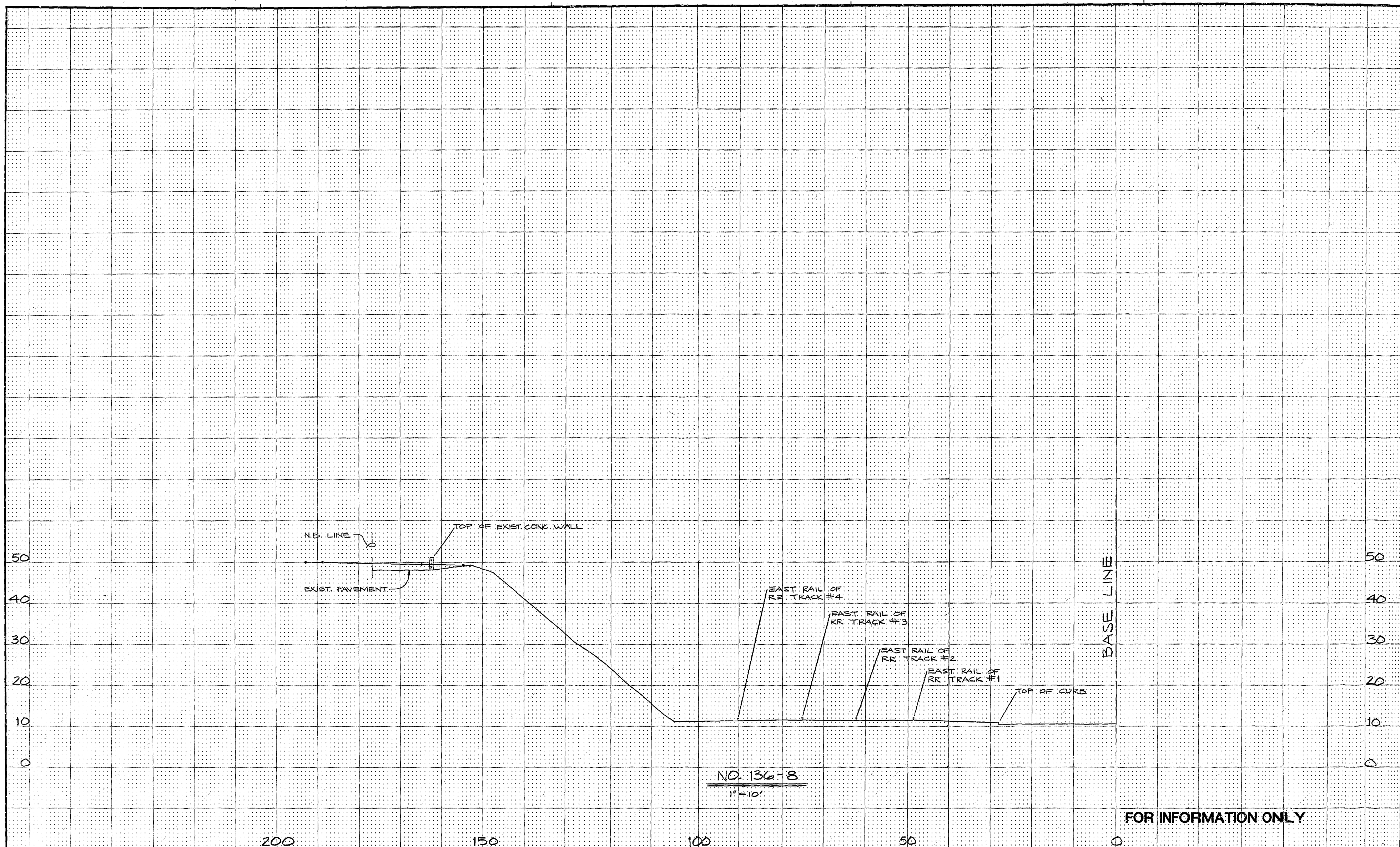
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SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

CROSS SECTIONS 136-6 & 136-7

142

SHEET 180 OF 181



DRAWN <u>D.J.A.</u>		REGION NO.	STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
CHECKED		10	WASH	1-705-3(665)		
PROJ. ENGR.		JOB NUMBER				
DIST. ADM..		84W056				
DATE		CONTRACT NO.				
REVISION		2747				
BY APP'D						



APRIL 23, 1984
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SITTS & HILL ENGINEERS
CIVIL, STRUCTURAL & SURVEYING
2901 50. 40th TACOMA WA 98409

ABAM
ENGINEERS INCORPORATED
CONSULTING ENGINEERS
900 ROCKY HILL STREET, SUITE 200
TACOMA WA 98401
(206)443-4110



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SR 705
21ST ST. TO SCHUSTER PARKWAY
STAGE 2

CROSS SECTION 136-8

143

SHEET 181 OF 181 SHEETS