

Appendix H
Horse Ranch Creek HEC-1 Computer Output

```

*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
*   JUN 1998 *
*   VERSION 4.1 *
*
* RUN DATE 26JUN09 TIME 09:55:07 *
*
*****

```

J-15956
Meadowood VTM-
Horse Ranch Creek
Watershed

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS *
* HYDROLOGIC ENGINEERING CENTER *
*   609 SECOND STREET *
*   DAVIS, CALIFORNIA 95616 *
*   (916) 756-1104 *
*
*****

```

```

X   X  XXXXXXXX  XXXXX      X
X   X  X        X   X      XX
X   X  X        X          X
XXXXXXX XXXX   X          XXXXX X
X   X  X        X          X
X   X  X        X   X      X
X   X  XXXXXXXX  XXXXX      XXX

```

THIS PROGRAM REPLACES ALL PREVIOUS VERSIONS OF HEC-1 KNOWN AS HEC1 (JAN 73), HEC1GS, HEC1DB, AND HEC1KW.

THE DEFINITIONS OF VARIABLES -RTIMP- AND -RTIOR- HAVE CHANGED FROM THOSE USED WITH THE 1973-STYLE INPUT STRUCTURE. THE DEFINITION OF -AMSKK- ON RM-CARD WAS CHANGED WITH REVISIONS DATED 28 SEP 81. THIS IS THE FORTRAN77 VERSION
NEW OPTIONS: DAMBREAK OUTFLOW SUBMERGENCE , SINGLE EVENT DAMAGE CALCULATION, DSS:WRITE STAGE FREQUENCY,
DSS:READ TIME SERIES AT DESIRED CALCULATION INTERVAL LOSS RATE:GREEN AND AMPT INFILTRATION
KINEMATIC WAVE: NEW FINITE DIFFERENCE ALGORITHM

$$Q_{100} = 8951 \text{ cfs}$$

LINE ID.....1.....2.....3.....4.....5.....6.....7.....8.....9.....10

*DIAGRAM

*** FREE ***

```

1 ID J-15956; MEADOWOOD VTM - HORSE RANCH CREEK WATERSHED
2 ID BASIN 2: 100-YEAR STORM EVENT (SCENARIO D: N-BAR = 0.050)
3 ID FN: HRC2e00D.HC1 JUNE 25, 2009
4 IT 5 01JAN90 1200 300
5 IO 1 2

6 KK HRC_B2
7 KM NESTED STORM PER COUNTY OF SAN DIEGO HYDROLOGY MANUAL
8 KM COPYRIGHT 2003 RICK ENGINEERING COMPANY
9 KM FOR THIS DATA TO BE USED PROPERLY IN HEC-1,
10 KM THE 1DATE1 VARIABLE MUST BE 01JAN90 AND THE 1TIME1
11 KM VARIABLE MUST BE 1200 ON THE IT CARD.
12 KM THE FOLLOWING IT CARD IS SUGGESTED TO BE USED IN
13 KM YOUR DATA SET:
14 KM IT 5 01JAN90 1200 300
15 KM 6HR RAINFALL IS 3.6 INCHES
16 KM 24HR RAINFALL IS 6.1 INCHES
17 KM DAR30 = .886998
18 KM DAR60 = .937741
19 KM DAR180 = .966454
20 KM DAR360 = .976651
21 KM DAR1440 = .98303
22 KM BASIN AREA IS 11.97 SQUARE MILES
23 IN 5 01JAN90 1200 300
24 PI .00801 .00805 .00806 .0081 .00812 .00815 .00817 .00821 .00823 .00826
25 PI .00828 .00832 .00834 .00838 .0084 .00844 .00846 .0085 .00852 .00856
26 PI .00858 .00862 .00864 .00868 .0087 .00875 .00877 .00881 .00884 .00888
27 PI .0089 .00895 .00897 .00902 .00904 .00909 .00911 .00916 .00919 .00924
28 PI .00926 .00931 .00934 .00939 .00942 .00947 .0095 .00955 .00958 .00963
29 PI .00966 .00972 .00975 .0098 .00983 .00989 .00992 .00998 .01002 .01008
30 PI .01011 .01017 .01021 .01027 .0103 .01037 .01041 .01047 .01051 .01058
31 PI .01062 .01069 .01073 .0108 .01084 .01092 .01095 .01103 .01107 .01116
32 PI .0112 .01128 .01132 .01141 .01145 .01154 .01159 .01168 .01172 .01182
33 PI .01187 .01196 .01201 .01212 .01217 .01227 .01232 .01243 .01249 .0126
34 PI .01265 .01277 .01283 .01295 .01301 .01313 .0132 .01333 .01339 .01353
35 PI .0136 .01374 .01381 .01395 .01403 .01418 .01426 .01442 .0145 .01466
36 PI .01475 .01492 .01501 .01519 .01528 .01547 .01557 .01577 .01587 .0160
37 PI .01619 .01642 .01653 .01676 .01688 .01713 .01726 .01752 .01766 .0179
38 PI .01808 .01838 .01853 .01847 .01862 .01893 .01909 .01942 .01959 .0199
39 PI .02014 .02053 .02073 .02116 .02138 .02185 .02209 .0226 .02287 .02344
40 PI .02374 .02437 .0247 .02541 .02578 .02658 .02701 .03047 .0309 .03185
41 PI .03236 .03347 .03407 .0354 .03613 .03775 .03865 .04068 .04182 .04444
42 PI .04595 .04949 .05159 .07013 .07238 .07841 .08254 .08301 .09455 .1388
43 PI .1956 .7011 .11134 .08783 .0751 .05397 .04763 .04307 .03962 .03691
44 PI .03471 .03289 .03136 .02745 .02617 .02505 .02405 .02315 .02234 .0216
45 PI .02094 .02033 .01977 .01925 .01877 .01869 .01823 .0178 .01739 .01701
46 PI .01665 .0163 .01598 .01567 .01538 .0151 .01483 .01458 .01434 .0141
47 PI .01388 .01367 .01346 .01326 .01307 .01289 .01271 .01254 .01238 .0122
48 PI .01206 .01192 .01177 .01163 .0115 .01136 .01124 .01111 .01099 .01088
49 PI .01076 .01065 .01054 .01044 .01034 .01024 .01014 .01005 .00995 .0098
50 PI .00978 .00969 .00961 .00952 .00944 .00936 .00929 .00921 .00914 .0090
51 PI .00899 .00893 .00886 .00879 .00873 .00866 .0086 .00854 .00848 .00842
52 PI .00836 .0083 .00824 .00819 .00814 .00808 .00803 0 0 0
    
```


SCHEMATIC DIAGRAM OF STREAM NETWORK

INPUT

LINE (V) ROUTING (--->) DIVERSION OR PUMP FLOW

NO. (.) CONNECTOR (<---) RETURN OF DIVERTED OR PUMPED FLOW

6 HRC_B2

(***) RUNOFF ALSO COMPUTED AT THIS LOCATION

```

*****
*
* FLOOD HYDROGRAPH PACKAGE (HEC-1) *
* JUN 1998 *
* VERSION 4.1 *
*
* RUN DATE 26JUN09 TIME 09:55:07 *
*
*****

```

```

*****
*
* U.S. ARMY CORPS OF ENGINEERS
* HYDROLOGIC ENGINEERING CENTER
* 609 SECOND STREET
* DAVIS, CALIFORNIA 95616
* (916) 756-1104
*
*****

```

J-15956; MEADOWOOD VTM - HORSE RANCH CREEK WATERSHED
 BASIN 2: 100-YEAR STORM EVENT (SCENARIO D: N-BAR = 0.050)
 FN: HRC2e00D.HC1 JUNE 25, 2009

5 IO OUTPUT CONTROL VARIABLES

```

IPRNT      1 PRINT CONTROL
IPLLOT     2 PLOT CONTROL
QSCAL      0. HYDROGRAPH PLOT SCALE

```

IT HYDROGRAPH TIME DATA

```

NMIN       5 MINUTES IN COMPUTATION INTERVAL
IDATE      1JAN90 STARTING DATE
ITIME      1200 STARTING TIME
NQ         300 NUMBER OF HYDROGRAPH ORDINATES
NDDATE     2JAN90 ENDING DATE
NDTIME     1255 ENDING TIME
ICENT      19 CENTURY MARK

```

```

COMPUTATION INTERVAL .08 HOURS
TOTAL TIME BASE 24.92 HOURS

```

ENGLISH UNITS

```

DRAINAGE AREA      SQUARE MILES
PRECIPITATION DEPTH INCHES
LENGTH, ELEVATION  FEET
FLOW               CUBIC FEET PER SECOND
STORAGE VOLUME     ACRE-FEET
SURFACE AREA       ACRES
TEMPERATURE        DEGREES FAHRENHEIT

```

6 KK

```

*****
*
* HRC_B2 *
*
*****

```

NESTED STORM PER COUNTY OF SAN DIEGO HYDROLOGY MANUAL
 COPYRIGHT 2003 RICK ENGINEERING COMPANY
 FOR THIS DATA TO BE USED PROPERLY IN HEC-1,
 THE 1DATE1 VARIABLE MUST BE 01JAN90 AND THE 1TIME1
 VARIABLE MUST BE 1200 ON THE IT CARD.
 THE FOLLOWING IT CARD IS SUGGESTED TO BE USED IN

.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01
.01	.01	.01	.01	.01	.01	.01	.01	.01	.01

57 LS SCS LOSS RATE
 STRTL .25 INITIAL ABSTRACTION
 CRVNBR 89.00 CURVE NUMBER
 RTIMP .00 PERCENT IMPERVIOUS AREA

58 UD SCS DIMENSIONLESS UNITGRAPH
 TLAG 1.18 LAG

UNIT HYDROGRAPH
 73 END-OF-PERIOD ORDINATES

96.	261.	490.	779.	1125.	1526.	2040.	2617.	3210.	3724.
4124.	4438.	4631.	4699.	4712.	4680.	4514.	4309.	4084.	3831.
3546.	3225.	2842.	2488.	2168.	1943.	1736.	1546.	1385.	1251.
1134.	1016.	913.	817.	720.	647.	583.	519.	467.	419.
371.	333.	298.	263.	238.	214.	190.	172.	154.	137.
124.	111.	98.	89.	79.	70.	63.	57.	51.	47.
43.	40.	36.	32.	28.	24.	21.	18.	14.	11.
8.	5.	2.							

HYDROGRAPH AT STATION HRC_B2

DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP	Q	DA	MON	HRMN	ORD	RAIN	LOSS	EXCESS	COMP	Q
1	JAN	1200	1	.00	.00	.00	0.	*	2	JAN	0030	151	.02	.00	.02	1138.	
1	JAN	1205	2	.01	.01	.00	0.	*	2	JAN	0035	152	.02	.00	.02	1155.	
1	JAN	1210	3	.01	.01	.00	0.	*	2	JAN	0040	153	.02	.00	.02	1172.	
1	JAN	1215	4	.01	.01	.00	0.	*	2	JAN	0045	154	.02	.00	.02	1189.	
1	JAN	1220	5	.01	.01	.00	0.	*	2	JAN	0050	155	.02	.00	.02	1207.	
1	JAN	1225	6	.01	.01	.00	0.	*	2	JAN	0055	156	.02	.00	.02	1225.	
1	JAN	1230	7	.01	.01	.00	0.	*	2	JAN	0100	157	.02	.00	.02	1243.	
1	JAN	1235	8	.01	.01	.00	0.	*	2	JAN	0105	158	.02	.00	.02	1262.	
1	JAN	1240	9	.01	.01	.00	0.	*	2	JAN	0110	159	.02	.00	.02	1282.	
1	JAN	1245	10	.01	.01	.00	0.	*	2	JAN	0115	160	.02	.00	.02	1301.	
1	JAN	1250	11	.01	.01	.00	0.	*	2	JAN	0120	161	.02	.00	.02	1322.	
1	JAN	1255	12	.01	.01	.00	0.	*	2	JAN	0125	162	.02	.00	.02	1343.	
1	JAN	1300	13	.01	.01	.00	0.	*	2	JAN	0130	163	.02	.00	.02	1365.	
1	JAN	1305	14	.01	.01	.00	0.	*	2	JAN	0135	164	.02	.00	.02	1387.	
1	JAN	1310	15	.01	.01	.00	0.	*	2	JAN	0140	165	.03	.00	.02	1411.	
1	JAN	1315	16	.01	.01	.00	0.	*	2	JAN	0145	166	.03	.00	.02	1435.	
1	JAN	1320	17	.01	.01	.00	0.	*	2	JAN	0150	167	.03	.00	.02	1461.	
1	JAN	1325	18	.01	.01	.00	0.	*	2	JAN	0155	168	.03	.00	.02	1487.	
1	JAN	1330	19	.01	.01	.00	0.	*	2	JAN	0200	169	.03	.00	.03	1515.	
1	JAN	1335	20	.01	.01	.00	0.	*	2	JAN	0205	170	.03	.00	.03	1544.	
1	JAN	1340	21	.01	.01	.00	0.	*	2	JAN	0210	171	.03	.00	.03	1575.	
1	JAN	1345	22	.01	.01	.00	0.	*	2	JAN	0215	172	.03	.00	.03	1608.	
1	JAN	1350	23	.01	.01	.00	0.	*	2	JAN	0220	173	.03	.00	.03	1643.	
1	JAN	1355	24	.01	.01	.00	0.	*	2	JAN	0225	174	.03	.00	.03	1681.	

1 JAN 1400	25	.01	.01	.00	0.	*	2 JAN 0230	175	.04	.00	.03	1721.
1 JAN 1405	26	.01	.01	.00	0.	*	2 JAN 0235	176	.04	.00	.03	1765.
1 JAN 1410	27	.01	.01	.00	0.	*	2 JAN 0240	177	.04	.00	.03	1812.
1 JAN 1415	28	.01	.01	.00	0.	*	2 JAN 0245	178	.04	.00	.03	1862.
1 JAN 1420	29	.01	.01	.00	0.	*	2 JAN 0250	179	.04	.01	.04	1915.
1 JAN 1425	30	.01	.01	.00	0.	*	2 JAN 0255	180	.04	.01	.04	1972.
1 JAN 1430	31	.01	.01	.00	0.	*	2 JAN 0300	181	.04	.01	.04	2032.
1 JAN 1435	32	.01	.01	.00	0.	*	2 JAN 0305	182	.05	.01	.04	2095.
1 JAN 1440	33	.01	.01	.00	0.	*	2 JAN 0310	183	.05	.01	.04	2162.
1 JAN 1445	34	.01	.01	.00	0.	*	2 JAN 0315	184	.05	.01	.05	2233.
1 JAN 1450	35	.01	.01	.00	0.	*	2 JAN 0320	185	.07	.01	.06	2310.
1 JAN 1455	36	.01	.01	.00	1.	*	2 JAN 0325	186	.07	.01	.07	2394.
1 JAN 1500	37	.01	.01	.00	1.	*	2 JAN 0330	187	.08	.01	.07	2488.
1 JAN 1505	38	.01	.01	.00	2.	*	2 JAN 0335	188	.08	.01	.07	2592.
1 JAN 1510	39	.01	.01	.00	3.	*	2 JAN 0340	189	.08	.01	.08	2708.
1 JAN 1515	40	.01	.01	.00	5.	*	2 JAN 0345	190	.09	.01	.09	2839.
1 JAN 1520	41	.01	.01	.00	7.	*	2 JAN 0350	191	.14	.01	.13	2991.
1 JAN 1525	42	.01	.01	.00	10.	*	2 JAN 0355	192	.20	.01	.18	3173.
1 JAN 1530	43	.01	.01	.00	13.	*	2 JAN 0400	193	.70	.04	.66	3438.
1 JAN 1535	44	.01	.01	.00	16.	*	2 JAN 0405	194	.11	.01	.11	3770.
1 JAN 1540	45	.01	.01	.00	20.	*	2 JAN 0410	195	.09	.00	.08	4163.
1 JAN 1545	46	.01	.01	.00	25.	*	2 JAN 0415	196	.08	.00	.07	4613.
1 JAN 1550	47	.01	.01	.00	31.	*	2 JAN 0420	197	.05	.00	.05	5111.
1 JAN 1555	48	.01	.01	.00	36.	*	2 JAN 0425	198	.05	.00	.05	5656.
1 JAN 1600	49	.01	.01	.00	43.	*	2 JAN 0430	199	.04	.00	.04	6265.
1 JAN 1605	50	.01	.01	.00	49.	*	2 JAN 0435	200	.04	.00	.04	6896.
1 JAN 1610	51	.01	.01	.00	57.	*	2 JAN 0440	201	.04	.00	.04	7504.
1 JAN 1615	52	.01	.01	.00	64.	*	2 JAN 0445	202	.03	.00	.03	8025.
1 JAN 1620	53	.01	.01	.00	72.	*	2 JAN 0450	203	.03	.00	.03	8431.
1 JAN 1625	54	.01	.01	.00	80.	*	2 JAN 0455	204	.03	.00	.03	8730.
1 JAN 1630	55	.01	.01	.00	89.	*	2 JAN 0500	205	.03	.00	.03	8902.
1 JAN 1635	56	.01	.01	.00	98.	*	2 JAN 0505	206	.03	.00	.03	8951.
1 JAN 1640	57	.01	.01	.00	106.	*	2 JAN 0510	207	.03	.00	.02	8916.
1 JAN 1645	58	.01	.01	.00	115.	*	2 JAN 0515	208	.02	.00	.02	8803.
1 JAN 1650	59	.01	.01	.00	124.	*	2 JAN 0520	209	.02	.00	.02	8576.
1 JAN 1655	60	.01	.01	.00	134.	*	2 JAN 0525	210	.02	.00	.02	8295.
1 JAN 1700	61	.01	.01	.00	143.	*	2 JAN 0530	211	.02	.00	.02	7976.
1 JAN 1705	62	.01	.01	.00	152.	*	2 JAN 0535	212	.02	.00	.02	7617.
1 JAN 1710	63	.01	.01	.00	162.	*	2 JAN 0540	213	.02	.00	.02	7222.
1 JAN 1715	64	.01	.01	.00	171.	*	2 JAN 0545	214	.02	.00	.02	6793.
1 JAN 1720	65	.01	.01	.00	181.	*	2 JAN 0550	215	.02	.00	.02	6329.
1 JAN 1725	66	.01	.01	.00	191.	*	2 JAN 0555	216	.02	.00	.02	5886.
1 JAN 1730	67	.01	.01	.00	200.	*	2 JAN 0600	217	.02	.00	.02	5477.
1 JAN 1735	68	.01	.01	.00	210.	*	2 JAN 0605	218	.02	.00	.02	5133.
1 JAN 1740	69	.01	.01	.00	219.	*	2 JAN 0610	219	.02	.00	.02	4812.
1 JAN 1745	70	.01	.01	.00	229.	*	2 JAN 0615	220	.02	.00	.02	4516.
1 JAN 1750	71	.01	.01	.00	239.	*	2 JAN 0620	221	.02	.00	.02	4251.
1 JAN 1755	72	.01	.01	.00	248.	*	2 JAN 0625	222	.02	.00	.02	4011.
1 JAN 1800	73	.01	.01	.00	258.	*	2 JAN 0630	223	.02	.00	.02	3792.
1 JAN 1805	74	.01	.01	.00	268.	*	2 JAN 0635	224	.02	.00	.02	3583.
1 JAN 1810	75	.01	.01	.00	277.	*	2 JAN 0640	225	.02	.00	.02	3391.
1 JAN 1815	76	.01	.01	.00	287.	*	2 JAN 0645	226	.02	.00	.01	3212.
1 JAN 1820	77	.01	.01	.01	297.	*	2 JAN 0650	227	.02	.00	.01	3042.
1 JAN 1825	78	.01	.01	.01	306.	*	2 JAN 0655	228	.01	.00	.01	2893.
1 JAN 1830	79	.01	.01.	.01	316.	*	2 JAN 0700	229	.01	.00	.01	2757.
1 JAN 1835	80	.01	.01	.01	325.	*	2 JAN 0705	230	.01	.00	.01	2628.
1 JAN 1840	81	.01	.01	.01	335.	*	2 JAN 0710	231	.01	.00	.01	2512.
1 JAN 1845	82	.01	.01	.01	345.	*	2 JAN 0715	232	.01	.00	.01	2404.
1 JAN 1850	83	.01	.01	.01	354.	*	2 JAN 0720	233	.01	.00	.01	2302.
1 JAN 1855	84	.01	.01	.01	364.	*	2 JAN 0725	234	.01	.00	.01	2210.

1 JAN 1900	85	.01	.01	.01	373.	*	2 JAN 0730	235	.01	.00	.01	2124.
1 JAN 1905	86	.01	.01	.01	383.	*	2 JAN 0735	236	.01	.00	.01	2043.
1 JAN 1910	87	.01	.01	.01	392.	*	2 JAN 0740	237	.01	.00	.01	1971.
1 JAN 1915	88	.01	.01	.01	402.	*	2 JAN 0745	238	.01	.00	.01	1903.
1 JAN 1920	89	.01	.01	.01	412.	*	2 JAN 0750	239	.01	.00	.01	1839.
1 JAN 1925	90	.01	.01	.01	421.	*	2 JAN 0755	240	.01	.00	.01	1781.
1 JAN 1930	91	.01	.01	.01	431.	*	2 JAN 0800	241	.01	.00	.01	1726.
1 JAN 1935	92	.01	.01	.01	440.	*	2 JAN 0805	242	.01	.00	.01	1674.
1 JAN 1940	93	.01	.01	.01	450.	*	2 JAN 0810	243	.01	.00	.01	1627.
1 JAN 1945	94	.01	.01	.01	459.	*	2 JAN 0815	244	.01	.00	.01	1582.
1 JAN 1950	95	.01	.01	.01	469.	*	2 JAN 0820	245	.01	.00	.01	1540.
1 JAN 1955	96	.01	.01	.01	479.	*	2 JAN 0825	246	.01	.00	.01	1501.
1 JAN 2000	97	.01	.01	.01	488.	*	2 JAN 0830	247	.01	.00	.01	1463.
1 JAN 2005	98	.01	.01	.01	498.	*	2 JAN 0835	248	.01	.00	.01	1428.
1 JAN 2010	99	.01	.01	.01	508.	*	2 JAN 0840	249	.01	.00	.01	1396.
1 JAN 2015	100	.01	.00	.01	517.	*	2 JAN 0845	250	.01	.00	.01	1366.
1 JAN 2020	101	.01	.00	.01	527.	*	2 JAN 0850	251	.01	.00	.01	1337.
1 JAN 2025	102	.01	.00	.01	537.	*	2 JAN 0855	252	.01	.00	.01	1310.
1 JAN 2030	103	.01	.00	.01	547.	*	2 JAN 0900	253	.01	.00	.01	1285.
1 JAN 2035	104	.01	.00	.01	556.	*	2 JAN 0905	254	.01	.00	.01	1260.
1 JAN 2040	105	.01	.00	.01	566.	*	2 JAN 0910	255	.01	.00	.01	1236.
1 JAN 2045	106	.01	.00	.01	576.	*	2 JAN 0915	256	.01	.00	.01	1214.
1 JAN 2050	107	.01	.00	.01	586.	*	2 JAN 0920	257	.01	.00	.01	1192.
1 JAN 2055	108	.01	.00	.01	596.	*	2 JAN 0925	258	.01	.00	.01	1170.
1 JAN 2100	109	.01	.00	.01	606.	*	2 JAN 0930	259	.01	.00	.01	1150.
1 JAN 2105	110	.01	.00	.01	616.	*	2 JAN 0935	260	.01	.00	.01	1131.
1 JAN 2110	111	.01	.00	.01	626.	*	2 JAN 0940	261	.01	.00	.01	1112.
1 JAN 2115	112	.01	.00	.01	637.	*	2 JAN 0945	262	.01	.00	.01	1094.
1 JAN 2120	113	.01	.00	.01	647.	*	2 JAN 0950	263	.01	.00	.01	1076.
1 JAN 2125	114	.01	.00	.01	657.	*	2 JAN 0955	264	.01	.00	.01	1060.
1 JAN 2130	115	.01	.00	.01	668.	*	2 JAN 1000	265	.01	.00	.01	1044.
1 JAN 2135	116	.01	.00	.01	678.	*	2 JAN 1005	266	.01	.00	.01	1029.
1 JAN 2140	117	.01	.00	.01	689.	*	2 JAN 1010	267	.01	.00	.01	1017.
1 JAN 2145	118	.01	.00	.01	700.	*	2 JAN 1015	268	.01	.00	.01	1004.
1 JAN 2150	119	.01	.00	.01	710.	*	2 JAN 1020	269	.01	.00	.01	993.
1 JAN 2155	120	.01	.00	.01	721.	*	2 JAN 1025	270	.01	.00	.01	981.
1 JAN 2200	121	.01	.00	.01	732.	*	2 JAN 1030	271	.01	.00	.01	971.
1 JAN 2205	122	.01	.00	.01	743.	*	2 JAN 1035	272	.01	.00	.01	960.
1 JAN 2210	123	.01	.00	.01	754.	*	2 JAN 1040	273	.01	.00	.01	950.
1 JAN 2215	124	.02	.00	.01	766.	*	2 JAN 1045	274	.01	.00	.01	940.
1 JAN 2220	125	.02	.00	.01	777.	*	2 JAN 1050	275	.01	.00	.01	930.
1 JAN 2225	126	.02	.00	.01	789.	*	2 JAN 1055	276	.01	.00	.01	921.
1 JAN 2230	127	.02	.00	.01	800.	*	2 JAN 1100	277	.01	.00	.01	912.
1 JAN 2235	128	.02	.00	.01	812.	*	2 JAN 1105	278	.01	.00	.01	903.
1 JAN 2240	129	.02	.00	.01	824.	*	2 JAN 1110	279	.01	.00	.01	895.
1 JAN 2245	130	.02	.00	.01	836.	*	2 JAN 1115	280	.01	.00	.01	886.
1 JAN 2250	131	.02	.00	.01	848.	*	2 JAN 1120	281	.01	.00	.01	878.
1 JAN 2255	132	.02	.00	.01	861.	*	2 JAN 1125	282	.01	.00	.01	870.
1 JAN 2300	133	.02	.00	.01	873.	*	2 JAN 1130	283	.01	.00	.01	863.
1 JAN 2305	134	.02	.00	.01	886.	*	2 JAN 1135	284	.01	.00	.01	855.
1 JAN 2310	135	.02	.00	.01	899.	*	2 JAN 1140	285	.01	.00	.01	848.
1 JAN 2315	136	.02	.00	.01	912.	*	2 JAN 1145	286	.01	.00	.01	841.
1 JAN 2320	137	.02	.00	.01	926.	*	2 JAN 1150	287	.01	.00	.01	834.
1 JAN 2325	138	.02	.00	.01	939.	*	2 JAN 1155	288	.01	.00	.01	827.
1 JAN 2330	139	.02	.00	.01	953.	*	2 JAN 1200	289	.00	.00	.00	820.
1 JAN 2335	140	.02	.00	.01	967.	*	2 JAN 1205	290	.00	.00	.00	811.
1 JAN 2340	141	.02	.00	.01	981.	*	2 JAN 1210	291	.00	.00	.00	801.
1 JAN 2345	142	.02	.00	.01	996.	*	2 JAN 1215	292	.00	.00	.00	789.
1 JAN 2350	143	.02	.00	.01	1010.	*	2 JAN 1220	293	.00	.00	.00	774.
1 JAN 2355	144	.02	.00	.01	1025.	*	2 JAN 1225	294	.00	.00	.00	756.

2 JAN 0000	145	.02	.00	.01	1041.	*	2 JAN 1230	295	.00	.00	.00	735.
2 JAN 0005	146	.02	.00	.01	1056.	*	2 JAN 1235	296	.00	.00	.00	709.
2 JAN 0010	147	.02	.00	.01	1072.	*	2 JAN 1240	297	.00	.00	.00	679.
2 JAN 0015	148	.02	.00	.02	1088.	*	2 JAN 1245	298	.00	.00	.00	645.
2 JAN 0020	149	.02	.00	.02	1104.	*	2 JAN 1250	299	.00	.00	.00	609.
2 JAN 0025	150	.02	.00	.02	1121.	*	2 JAN 1255	300	.00	.00	.00	570.

*

TOTAL RAINFALL = 5.99, TOTAL LOSS = 1.26, TOTAL EXCESS = 4.72

PEAK FLOW (CFS)	TIME (HR)	MAXIMUM AVERAGE FLOW			
		6-HR	24-HR	72-HR	24.92-HR
8951.	17.08	(CFS) 4062.	1501.	1445.	1445.
		(INCHES) 3.155	4.663	4.663	4.663
		(AC-FT) 2014.	2977.	2977.	2977.

CUMULATIVE AREA = 11.97 SQ MI

20225 174. 0 LX
20230 175. 0 XX
20235 176. 0 XX
20240 177. 0 XX
20245 178. 0. XX
20250 179. 0. XX
20255 180. 0 XX
20300 181. 0 XX
20305 182.0 XX
20310 183. 0 XX
20315 184. 0 LXX
20320 185. 0 LXXX
20325 186. 0 LXXX
20330 187. 0 XXXX
20335 188. 0 XXXX
20340 189. 0 XXXX
20345 190. 0 LXXXX
20350 191. 0 LXXXXX
20355 192. 0 LXXXXXXXXX
20400 193. 0 LLXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX
20405 194. 0 LXXXXX
20410 195. 0 XXXX
20415 196. 0 XXXX
20420 197. 0 XXX
20425 198. 0 XX
20430 199. 0 XX
20435 200. 0 XX
20440 201. 0 XX
20445 202. 0 XX
20450 203. 0 XX
20455 204. 0 LX
20500 205. 0 X
20505 206. 0 X
20510 207. 0 X
20515 208. 0 X
20520 209. 0 X
20525 210. 0 X
20530 211. 0 X
20535 212. 0 X
20540 213. 0 X
20545 214. 0 X
20550 215. 0 X
20555 216. 0 X
20600 217. 0 X
20605 218. 0 X
20610 219. 0 X
20615 220. 0 X
20620 221. 0 X
20625 222. 0 X
20630 223. 0 X
20635 224. 0 X
20640 225. 0 X
20645 226. 0 X
20650 227. 0 X
20655 228. 0 X
20700 229. 0 X
20705 230. 0 X
20710 231. 0 X
20715 232. 0 X
20720 233. 0 X

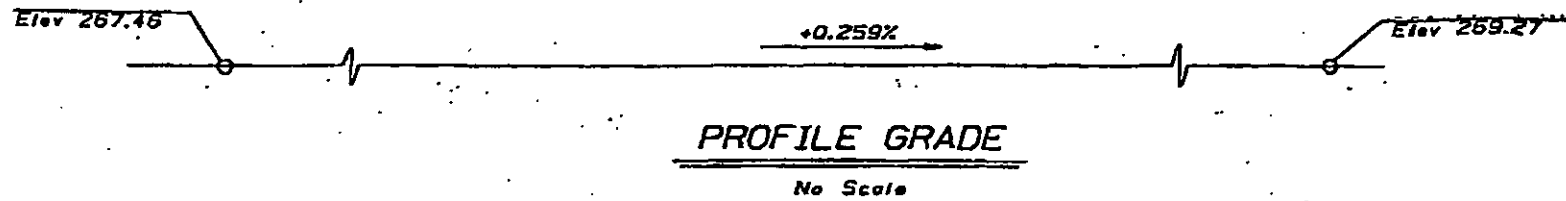
21225 294.	0 .	.	.	.	.	.	.	.	.	.	.	.
21230 295.	0 .	.	.	.	.	.	.	.	.	.	.	.
21235 296.	0 .	.	.	.	.	.	.	.	.	.	.	.
21240 297.	0 .	.	.	.	.	.	.	.	.	.	.	.
21245 298.	0 .	.	.	.	.	.	.	.	.	.	.	.
21250 299.	0 .	.	.	.	.	.	.	.	.	.	.	.
21255 300.	0	-----										

RUNOFF SUMMARY
FLOW IN CUBIC FEET PER SECOND
TIME IN HOURS, AREA IN SQUARE MILES

OPERATION	STATION	PEAK FLOW	TIME OF PEAK	AVERAGE FLOW FOR MAXIMUM PERIOD			BASIN AREA	MAXIMUM STAGE	TIME OF MAX STAGE
				6-HOUR	24-HOUR	72-HOUR			
HYDROGRAPH AT	HRC_B2	8951.	17.08	4062.	1501.	1445.	11.97		

*** NORMAL END OF HEC-1 ***

Appendix I
Horse Ranch Creek Hydraulic Backup Information



Location	Design Loading (Service Load)	Specified Tip Elev.	Probable Tip Elev.
Abutment 1	45 ton	218.0	212.0
Bent 2	70 ton	194.0	188.0
Bent 3	70 ton	192.0	185.0
Abutment 4	45 ton	197.0	191.0

Precast Prestressed option used

Robert Gee
REGISTERED ENGINEER - CIVIL

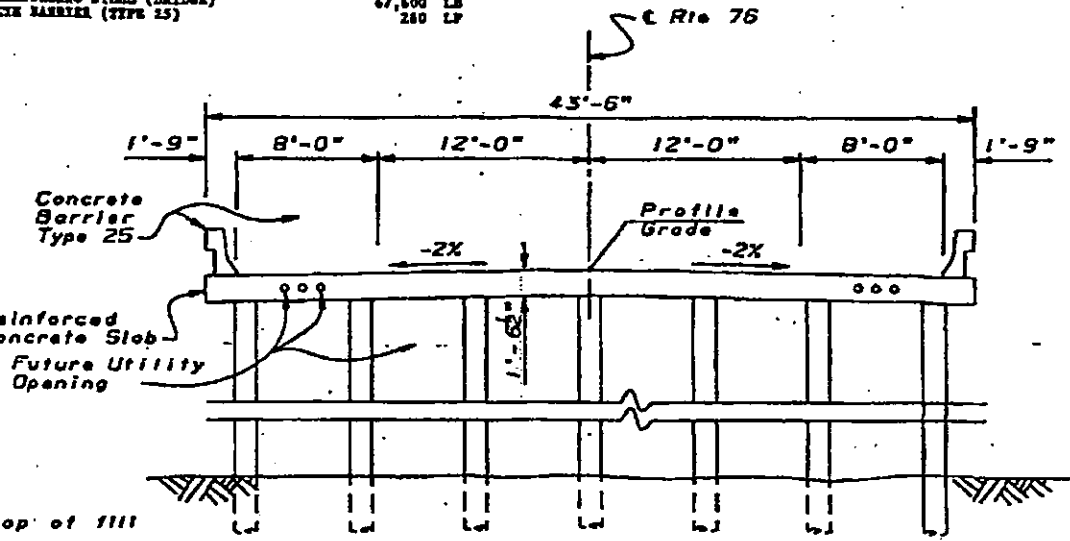
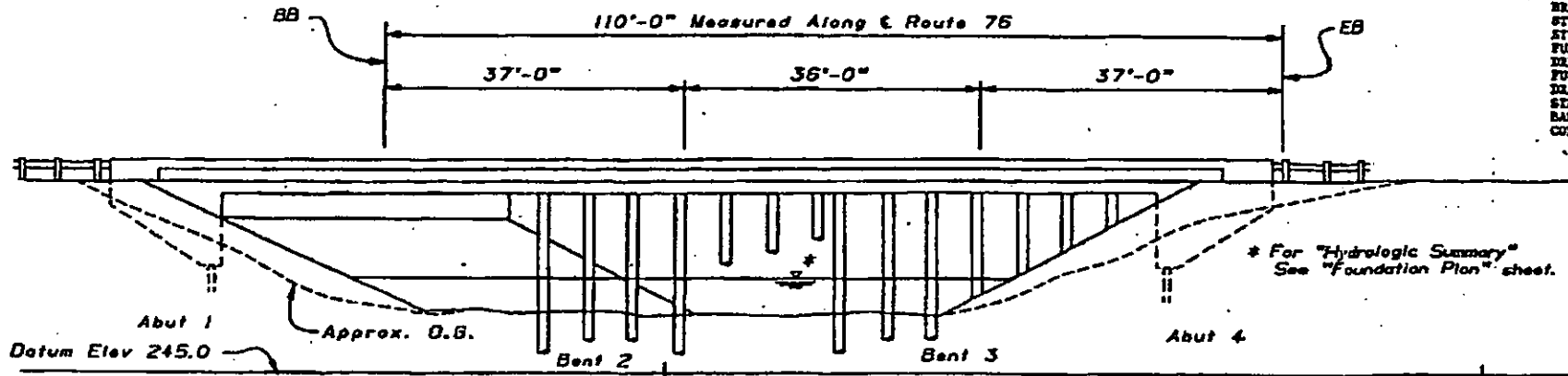
Herbert Gee
No. 47308
Exp. 12-31-95
CIVIL
STATE OF CALIFORNIA

7-10-85
PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

QUANTITIES

DESCRIPTION	LIST	AMT
BRIDGE REMOVAL	242	CY
STRUCTURE EXCAVATION (BRIDGE)	116	CY
STRUCTURE BACKFILL (BRIDGE)	1,010	LF
FURNISH PILING (CLASS 70)	26	EA
DRIVE PILE (CLASS 70)	684	LF
FURNISH PILING (CLASS 45)	16	EA
DRIVE PILE (CLASS 45)	16	EA
STRUCTURAL CONCRETE, BRIDGE	404	CY
BAR REINFORCING STEEL (BRIDGE)	67,600	LB
CONCRETE MARRIAGE (TYPE 25)	280	LF



TYPICAL SECTION
1"=5'-0"

INDEX TO PLANS

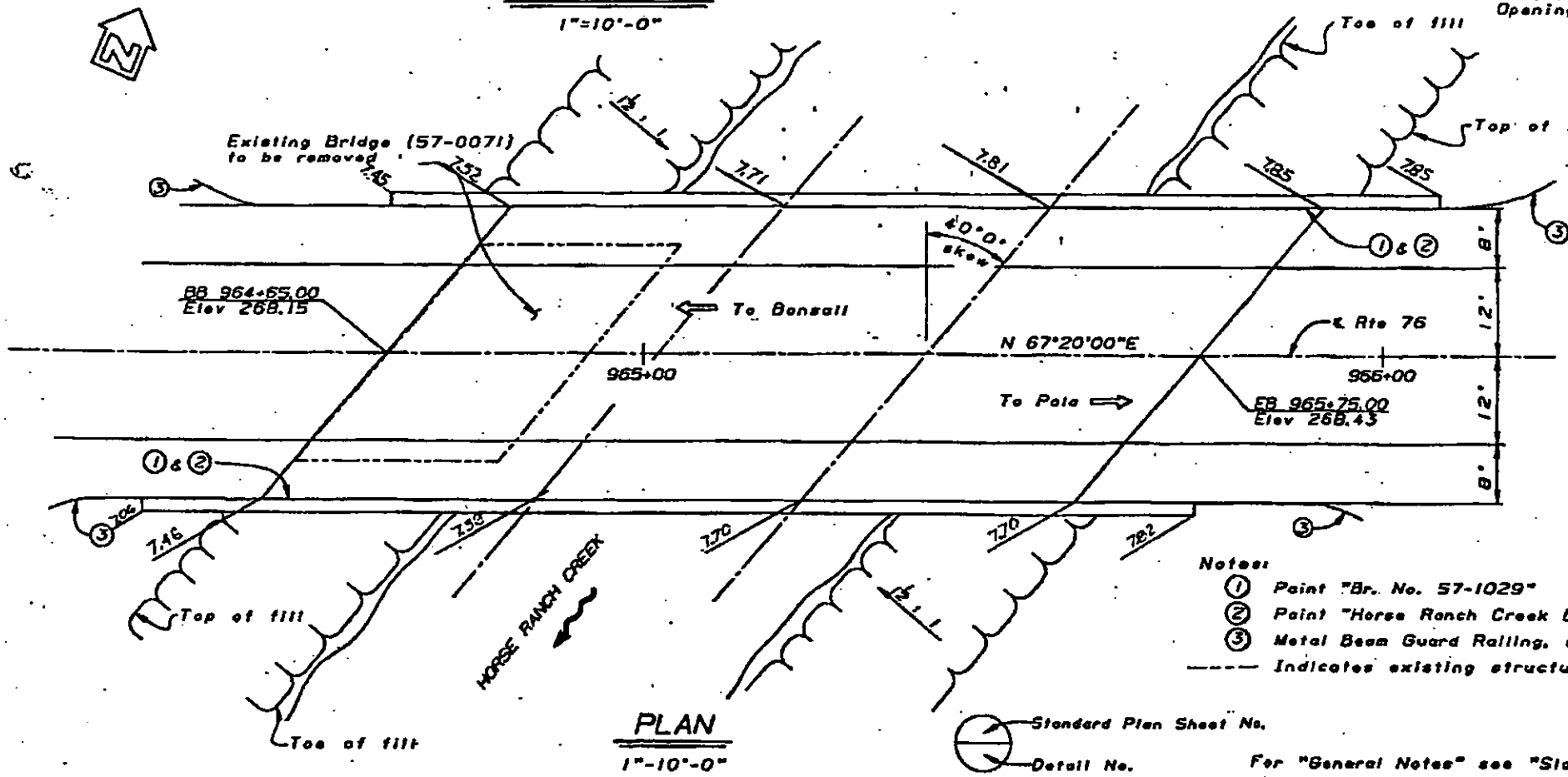
NO AS BUILT CHANGES
AS BUILT
CORRECTIONS BY Mohamed Fouad
CONTRACT NO. 11-055301
DATE 6-17-96

SHEET NO.	TITLE
1	GENERAL PLAN
2	DECK CONTOURS
3	FOUNDATION PLAN
4	ABUTMENT DETAILS
5	BENT DETAILS & TYPICAL SECTION
6	TOP & BOTTOM SLAB REINFORCEMENT
7	SLAB BRIDGE PILE DETAILS
8	SLAB REINFORCEMENT DETAILS
9	LOG OF TEST BORINGS 1 OF 2
10	LOG OF TEST BORINGS 2 OF 2

STANDARD PLANS DATED JULY 1992

ABBREVIATION	DESCRIPTION
A10A	ABBREVIATIONS
A52C	LIMITS OF PAYMENT FOR EXCAVATION AND BACKFILL - BRIDGE
B0-1	BRIDGE DETAILS
B0-3	BRIDGE DETAILS
B2-5	PILE DETAILS CLASS 45 AND CLASS 70
B11-53	CONCRETE BARRIER TYPE 25

- Notes:
- ① Point "Br. No. 57-1029"
 - ② Point "Horse Ranch Creek Bridge"
 - ③ Metal Beam Guard Railing, see "Road Plans"
- Indicates existing structure



PLAN
1"=10'-0"

Standard Plan Sheet No. _____
Detail No. _____
For "General Notes" see "Slab Reinforcement Details" sheet.

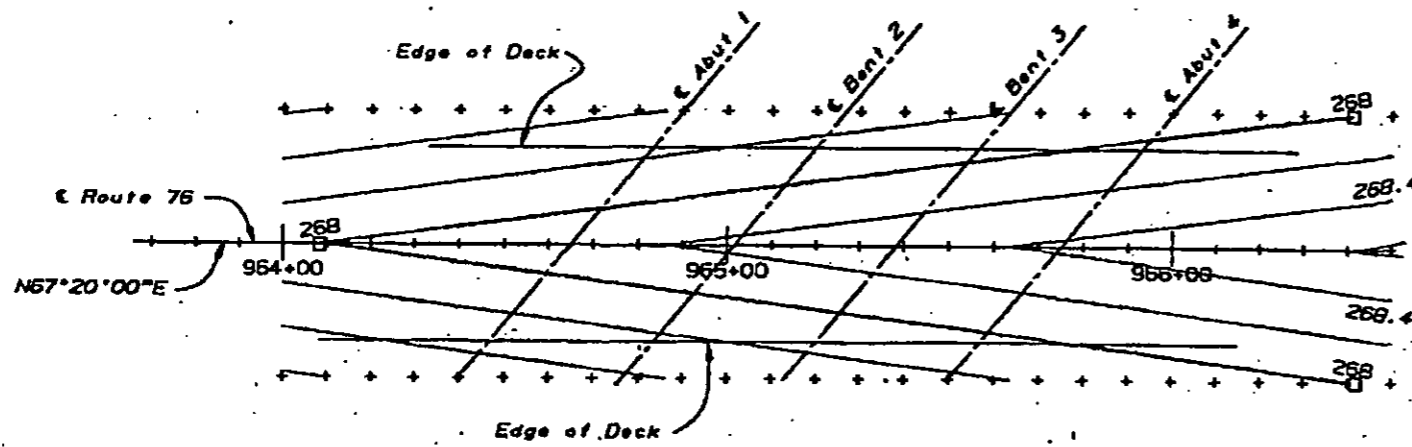
DESIGN BY Ed Warren	CHECKED N. Gee	LOAD FACTOR DESIGN	LIVE LOADING: HIGHWAY AND ALTERNATIVE AND PERMIT DESIGN LOAD	STATE OF CALIFORNIA	DIVISION OF STRUCTURES	DESIGN NO. 57-1029	HORSE RANCH CREEK BRIDGE
DETAILS BY Bruno Jenke 10-93	CHECKED N. Gee	LAYOUT	BY Ed Warren	DEPARTMENT OF TRANSPORTATION	STRUCTURE DESIGN 7	POST MILE 17.75	
QUANTITIES BY M.K. Brady	CHECKED Ed Warren	SPECIFICATIONS	BY Ed Warren	CU 11	EA 055301	REVISION DATES (INDICATING SHEET NO.)	SHEET 1 OF 10



REGISTERED ENGINEER - CIVIL
 7-10-95
 PLANS APPROVAL DATE

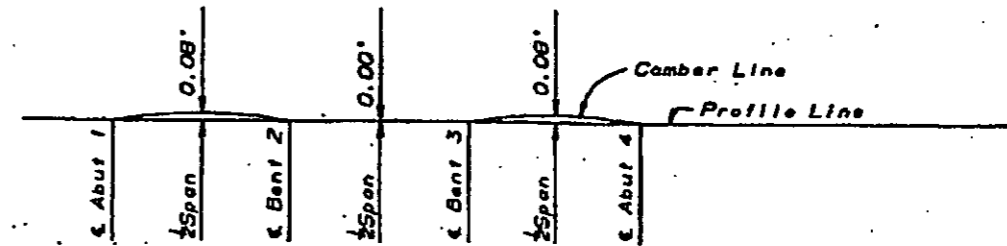
REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA
 CIVIL
 No. 47305
 Exp. 12-31-98

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.



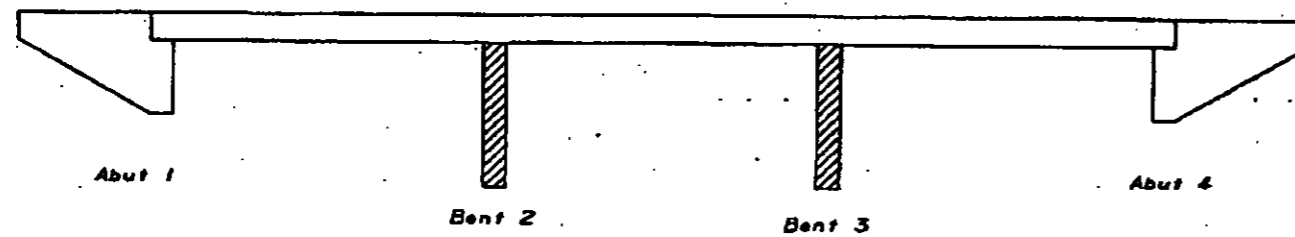
Notes:
 □ - Indicates even foot contours
 + - 10' intervals
 Contours do not include camber

PLAN
 1" = 20'



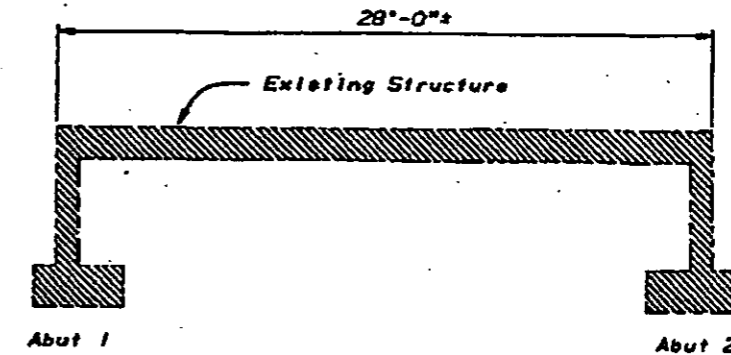
Notes: Does not include allowance for falsework settlement

CAMBER DIAGRAM
 NO SCALE



CONCRETE TYPE LIMITS
 NO SCALE

□ Structural Concrete Bridge.
 ▨ Pile Extension see "Slab Bridge Pile Details" sheet.



LIMITS OF BRIDGE REMOVAL
 NO SCALE

▨ Remove existing superstructure, abutments & wingwalls.

NO AS BUILT CHANGES
AS BUILT

CORRECTIONS BY Mohamed Fouad

CONTRACT NO. 11-055301

DATE 6-17-98

DESIGN	ED WARREN	CHECKED	N. GEE
DETAILS	ED WARREN	CHECKED	N. GEE
QUANTITIES	M.K. GRADY	CHECKED	ED WARREN

STATE OF CALIFORNIA
 DEPARTMENT OF TRANSPORTATION

DIVISION OF STRUCTURES
 STRUCTURE DESIGN 7

DRAWING NO.
 57-1029
 POST MILE
 17.75

HORSE RANCH CREEK BRIDGE
 DECK CONTOURS

06 000 0300 0000 4/98

ORIGINAL SCALE IN INCHES FOR REDUCED PLANS

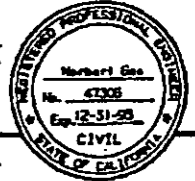
CU 11
 EA 055301

DISREGARD PRINTED BEARING EARLIER REVISION DATES

REVISION DATES (PRELIMINARY STAGE ONLY)

1	2	3	4	5	6	7	8	9	10
---	---	---	---	---	---	---	---	---	----

SHEET 2 OF 10

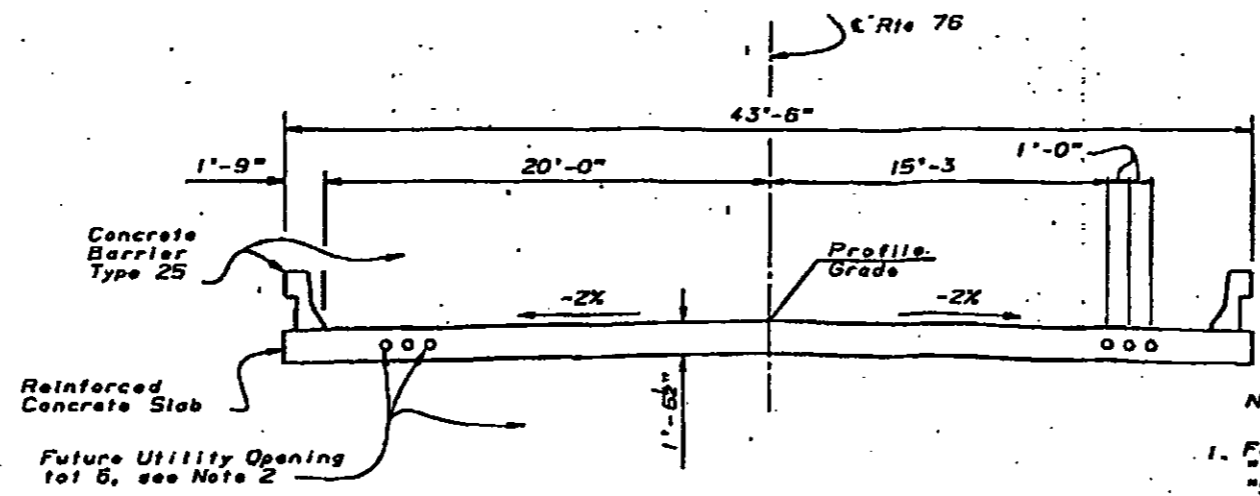


 REGISTERED ENGINEER - CIVIL

 7-10-95

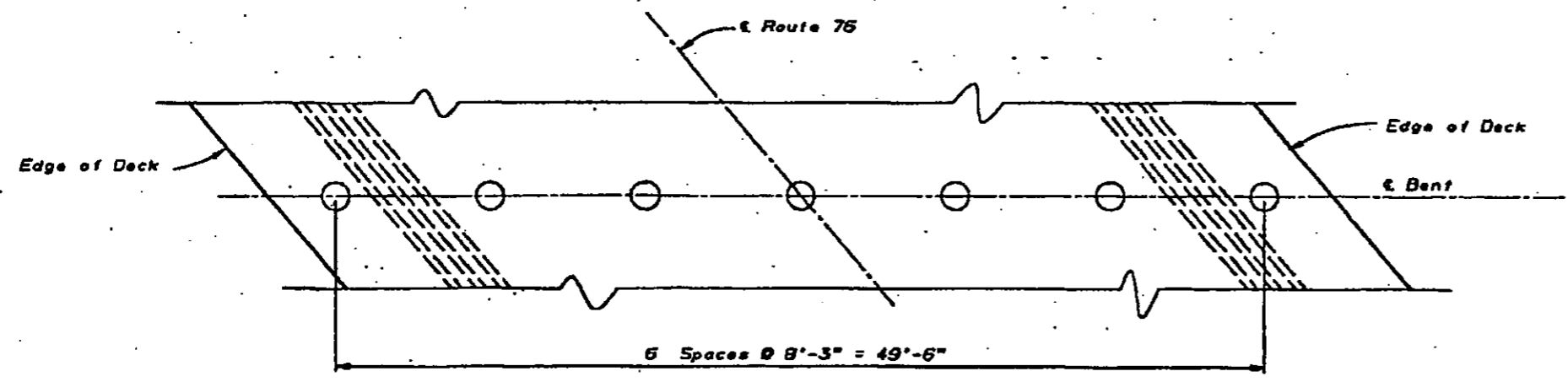
 PLANS APPROVAL DATE

The State of California or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

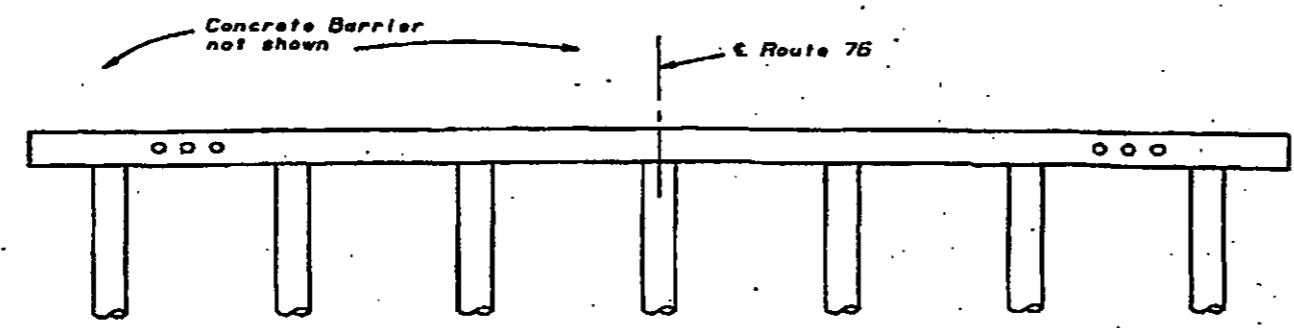


TYPICAL SECTION
 $\frac{1}{4}'' = 1'-0''$

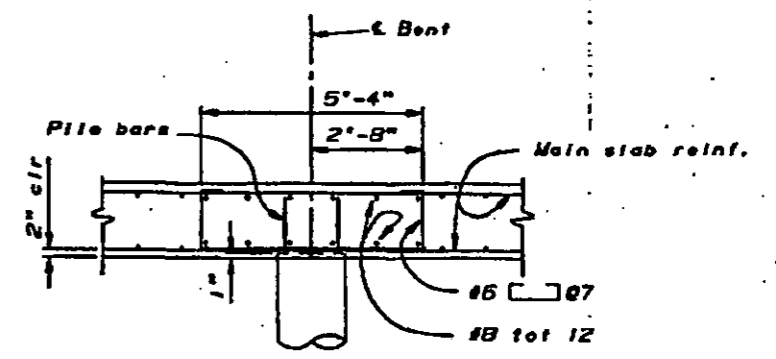
- Notes:
- For details not shown see "Top & Bottom Slab Reinforcement" and "Slab Reinforcement Details" sheets.
 - 5" opening for future utilities. Openings are to be sealed at ends.



PLAN
 $\frac{1}{4}'' = 1'-0''$



ELEVATION
 $\frac{1}{4}'' = 1'-0''$



BENT SECTION
 $\frac{1}{4}'' = 1'-0''$

- Notes: For details not shown see "Slab Bridge Pile Details" and "Slab Reinforcement Details" sheets.

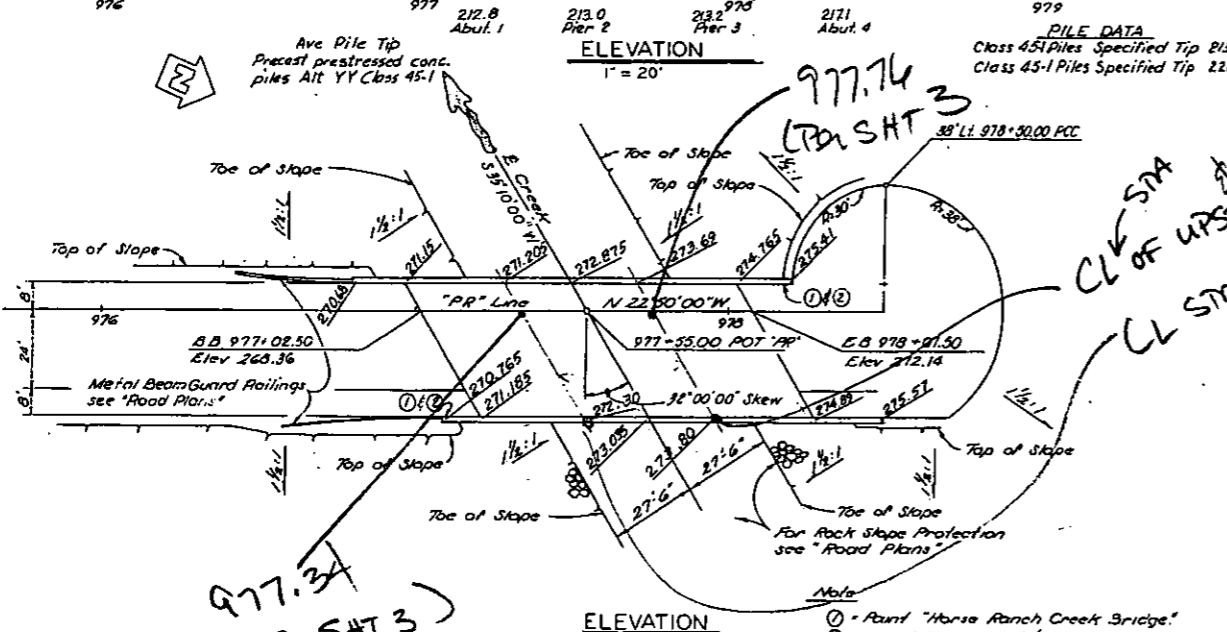
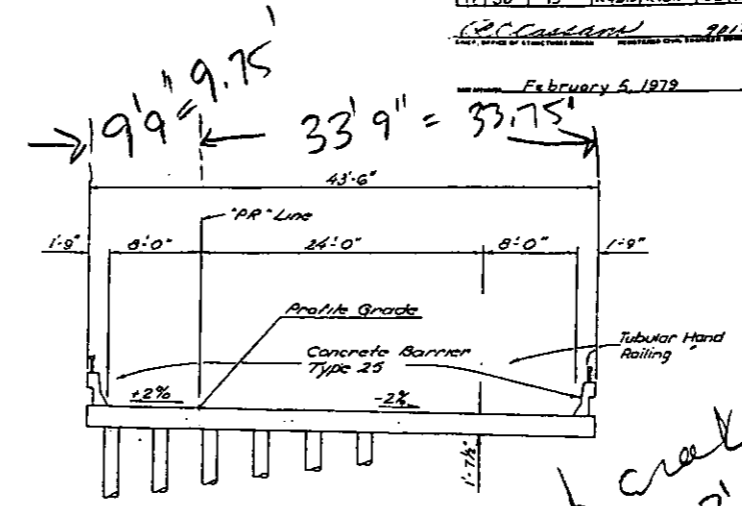
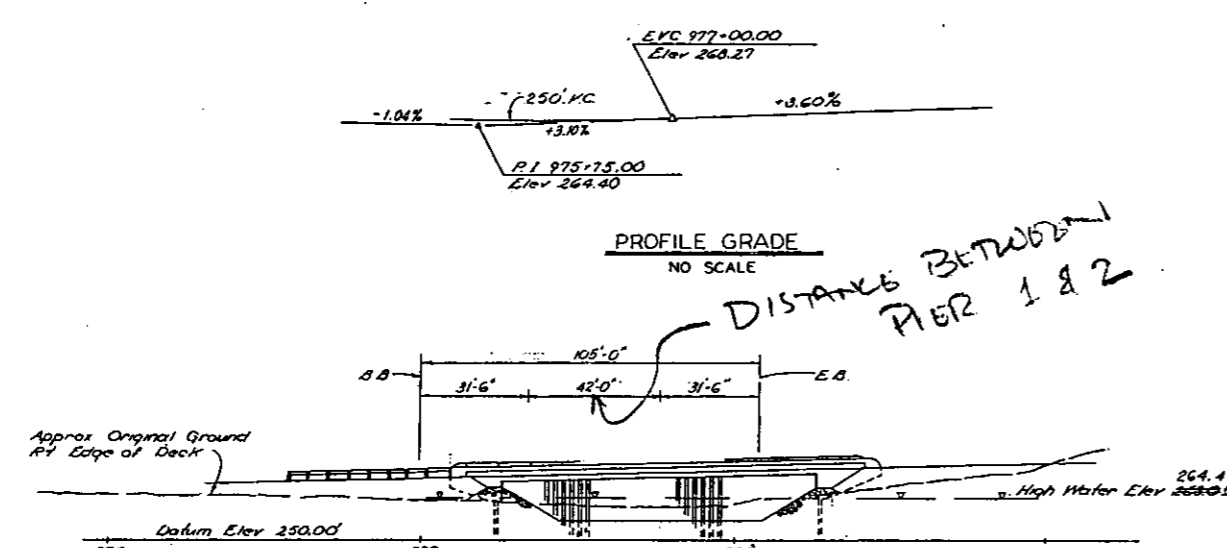
AS BUILT
 CORRECTIONS BY *Yahmed Fouda*
 CONTRACT NO. 11-055304
 DATE 6-17-97

DESIGN BY ED WARREN CHECKED N. GEE DETAILS BY ED WARREN CHECKED N. GEE QUANTITIES BY M.K. Brody CHECKED ED WARREN	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION	DIVISION OF STRUCTURES STRUCTURE DESIGN 7	SHEET NO. 57-1029	HORSE RANCH CREEK BRIDGE BENT DETAILS & TYPICAL SECTION
			POST MILE 17.75	
ORIGINAL SCALE IN INCHES FOR REDUCED PLANS			CU 11 EA 055301	SHEET 5 OF 10

1" = 57.1'
0.7" = 40'
1.7" = 7'

NO.	DATE	BY	REVISED
11	SD	15	R45.9/R46.1
158	2.08		

February 5, 1979



PILE DATA
Class 45-1 Piles Specified Tip 213.0-Abut 1, Pier 2 & Pier 3
Class 45-1 Piles Specified Tip 220.0-Abut 5

APPROXIMATE QUANTITIES
FOREIGN PILING (CLASS 45-1) 1,703 LF
DRIVE PILE (CLASS 45) 32 EA
TUBULAR HANDRAILING 275 LF
CONCRETE BARRIER (TYPE 25) 275 LF

PERMANENT PAY QUANTITIES
STRUCTURE EXCAVATION (BRIDGE) 102 CY
STRUCTURE BACKFILL (BRIDGE) 84 CY
STRUCTURAL CONCRETE (BRIDGE) 348 CY
BAR REINFORCING STEEL (BRIDGE) 61,000 LB

INDEX TO PLANS

INDEX NO.	TITLE
1	GENERAL PLAN
2	DECK CONTOURS
3	FOUNDATION PLAN
4	ABUTMENT & PIER DETAILS
5	PIER PILE DETAILS - CLASS 45-1
6	SLAB SECTION & REINFORCEMENT DETAILS
7	SLAB REINFORCEMENT DETAILS
8	LOG OF TEST BORDERS
STANDARD PLANS DATED JANUARY, 1977:	
662-88	EXCAVATION AND BACKFILL - LIMITS OF PAYMENT (BRIDGE)
80-1	BRIDGE DETAILS
811-51	TUBULAR HAND RAILING
811-93	CONCRETE BARRIER TYPE 25

AS BUILT
CONTRACT NO. 11-095094
DATE 6-15-81

DESIGN SECTION 8 DESIGNER: [Signature] CHECKER: [Signature] DATE: 1/19/82	STATE OF CALIFORNIA DEPARTMENT OF TRANSPORTATION HORSE RANCH CREEK BRIDGE GENERAL PLAN SHEET NO. 8 OF 8
--	--

Piers = DIA = 1'3" (OCTAGONAL)
DECK WIDTH = 43'6"
PIER THICKNESS = 1'7 1/2"
= 1.625'

HAD TO ASSUME ~~BEAD~~ PIER SPACING. THIS INFO WAS NOT ON PLAN SET

AS BUILT PLANS
Contract No. 11-095094
Date Completed _____
Document No. _____

I HEREBY CERTIFY THAT THIS IS A TRUE AND ACCURATE COPY OF THE ABOVE DOCUMENT TAKEN UNDER MY DIRECTION AND CONTROL, ON THIS DATE IN SACRAMENTO, CALIFORNIA PURSUANT TO AUTHORIZATION BY THE DIRECTOR OF TRANSPORTATION.
1-19-82 [Signature]
SUPERVISOR OF HIGHWAY DIVISION

