

J.S. Young, C. K. Kuan, R. Wong
J.N. S. S. S. S.
E. Nishihara

J.S. Young, C. K. Kuan, R. Wong
J.N. S. S. S. S.
E. Nishihara

NOTE TO RESIDENT ENGINEER: Center Line shall be staked with Spirals as shown on Plans. Cross Sections are based on Base Line graphically Spiraled. Location, length, and invert of culverts as shown on these Plans are to be verified after roadway has been cleared and to be adjusted if necessary for the various items of quantity.

Curve Data #1
 $\Delta = 30^\circ 05' 34.0''$
 $R = 144.15'$
 $L = 12^\circ 54' 54.0''$
 $C = 444.87'$
 $Cc = 228.63'$
 $Lc = 698.20'$

Curve Data #2
 $\Delta = 122^\circ 20' 35''$
 $R = 450.00'$
 $L = 249.13'$
 $C = 788.46'$
 $Cc = 228.63'$
 $Lc = 698.20'$

Spiral Curve Data
 $\Delta = 16^\circ 01' 30.5''$
 $R = 250.00'$
 $L = 249.13'$
 $C = 788.46'$
 $Cc = 228.63'$
 $Lc = 698.20'$
 $L.T. = 187.36'$
 $S.T. = 23.97'$
 $K = 124.67'$
 $Ts = 942.28'$

P.L. Sta. 17+20
Install 60" Conc. Pipe Culvert 115 ft. long
Estimated Quantities
Class B-1 Conc. 35 cy
Reinf. Steel 214.9 #
Struc. Exc. 200 cy
Uncl. Exc. 480 cy
G.R. Paving 150 sq. yd.
G.R. R.C. Pipe 115 L.F.

P.L. Sta. 19+25
Install 6'x6' to 4'x4' Conc. Box Culvert 133 ft. long
Estimated Quantities
Class B-1 Conc. 112 cy
Reinf. Steel 16,743 #
Struc. Exc. 430 cy
Uncl. Exc. 246 cy
G.R. Paving 124 sq. yd.

P.L. Sta. 20+50
Install 8'x6' to 6'x4' Conc. Box Culvert 135 ft. long
Estimated Quantities
Class B-1 Conc. 153 cy
Reinf. Steel 23,591 #
Struc. Exc. 311 cy
Uncl. Exc. 114 cy
G.R. Paving 114 sq. yd.

P.L. Sta. 26+10
Install 8'x6' to 4'x3' Conc. Box Culvert 232 ft. long
Estimated Quantities
Class B-1 Conc. 230 cy
Reinf. Steel 28,310 #
Struc. Exc. 129 cy
Uncl. Exc. 102 cy
G.R. Paving 102 sq. yd.

Curve Data #3
 $\Delta = 31^\circ 08' 30''$
 $R = 1000.00'$
 $L = 278.86'$
 $C = 536.86'$
 $Cc = 190.74'$
 $Lc = 543.52'$

Spiral Curve Data
 $\Delta = 10^\circ 04' 42.5''$
 $R = 350.00'$
 $L = 342.52'$
 $C = 614.30'$
 $Cc = 20.48'$
 $Lc = 1101.74'$
 $L.T. = 233.71'$
 $S.T. = 117.01'$
 $K = 174.82'$
 $Ts = 453.48'$

NOTE: H.E. Co. power lines are 10 feet above finish grade at Sta. 11+83.
NOTE: This Project - Job No. 31-52 consist principally of rough grading and installing concrete pipe and box culverts. No work above subgrade is required.

PLAN
Scale: 1" = 100'

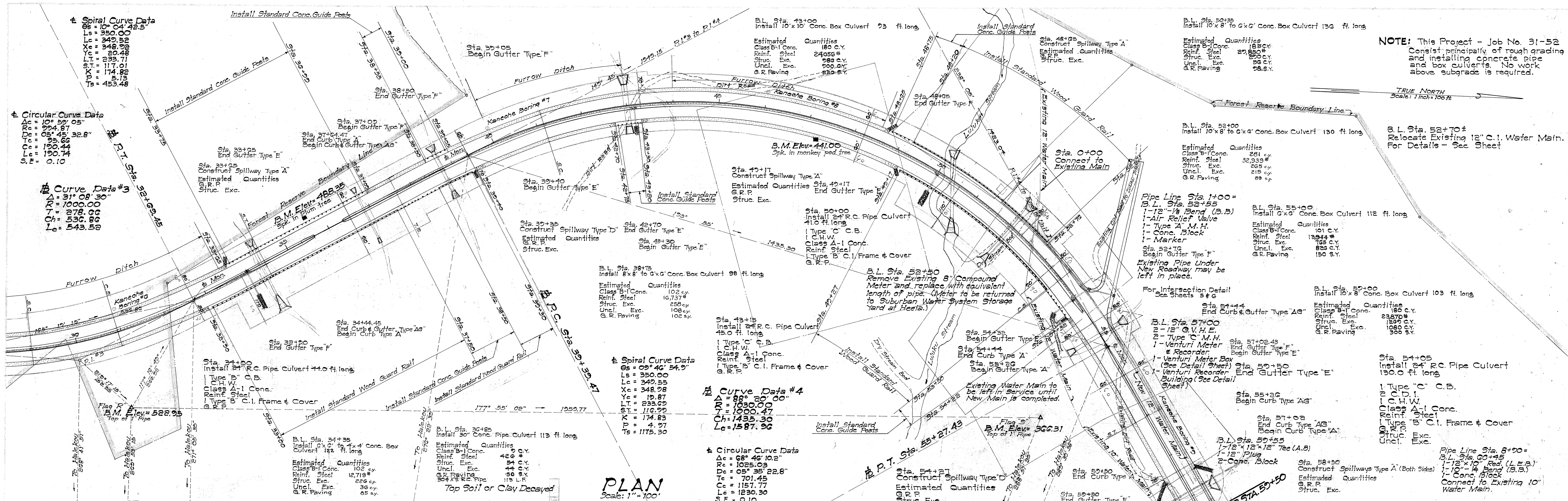
PROFILE
Hor. 1" = 100'
Vert. 1" = 10'

DEPARTMENT OF PUBLIC WORKS CITY AND COUNTY OF HONOLULU BUREAU OF PLANS JOB No. 31-52 KALIHU TUNNEL KANEHOE APPROACH ROAD SECTION B Kanehoe, Koolaupeke, OAHU, T.H.		
ENGINEER - S.H. S.W.	DATE - September 15, 1952	
DRAFTSMAN - J.S.	CHECKED BY - S.H. S.W.	
SCALE - 1" = 100'	TRACER - J.S.	
APPROVED - [Signature]	BUREAU ENGINEER	
W.S.	PROFILE	C.B.
CR. SEC.	F.B.	S.B.
W.M. BY:	F.W. BY:	S.B.Y.

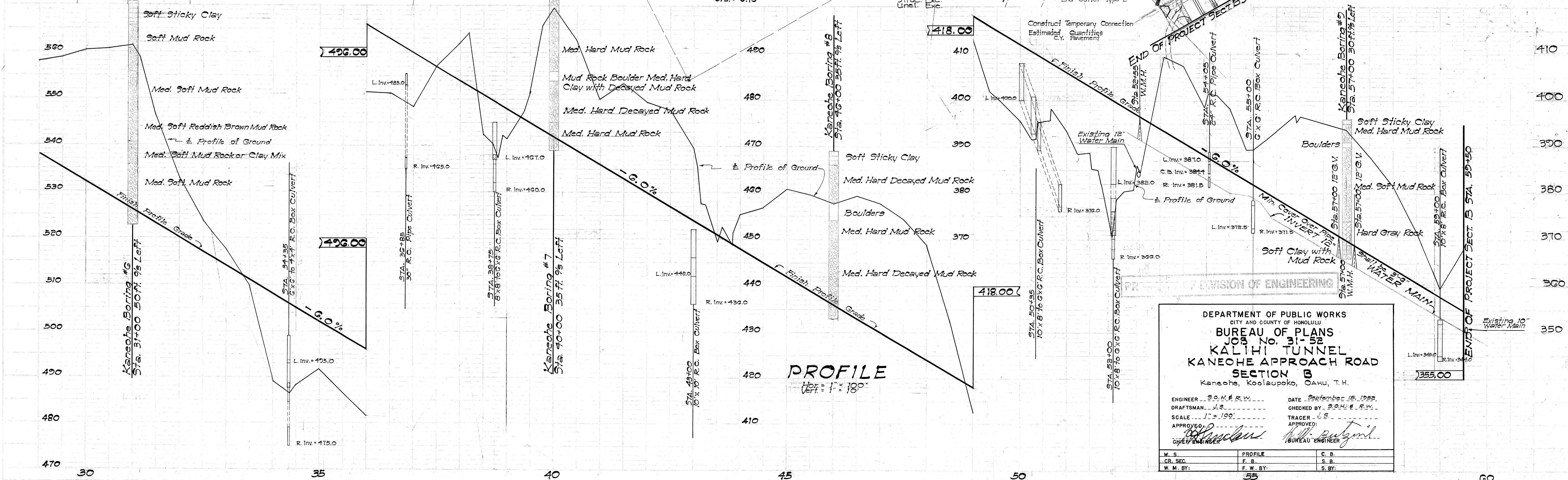
FILE POCKET FOLDER No. 5

Sheet No. 3 of 66 Sheets

U.S. Young, C. Kulas, R. Wang
J.N.S.
E. Nishihara



PLAN
Scale: 1" = 100'

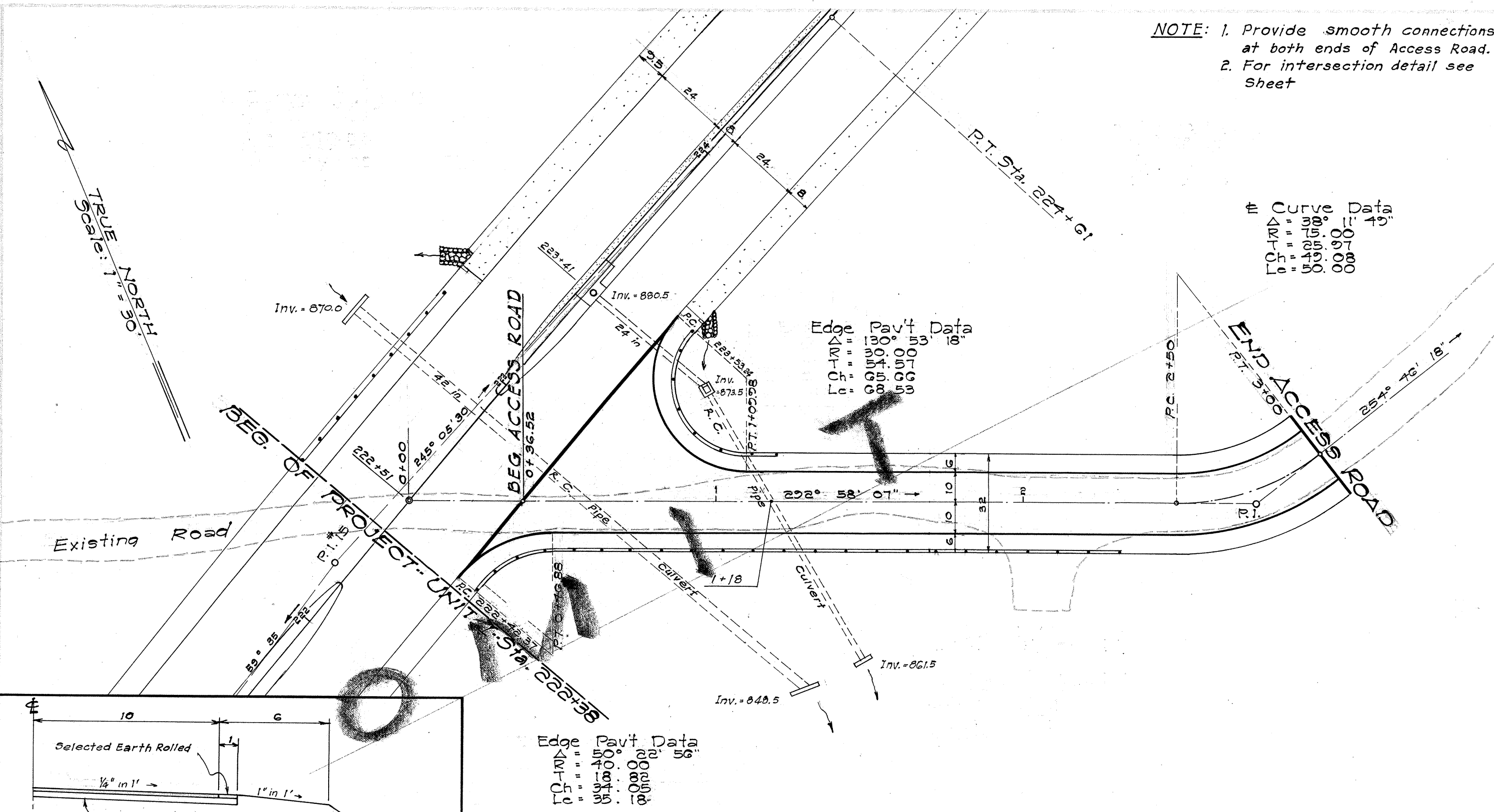


PROFILE
V.P. = 1" = 180'

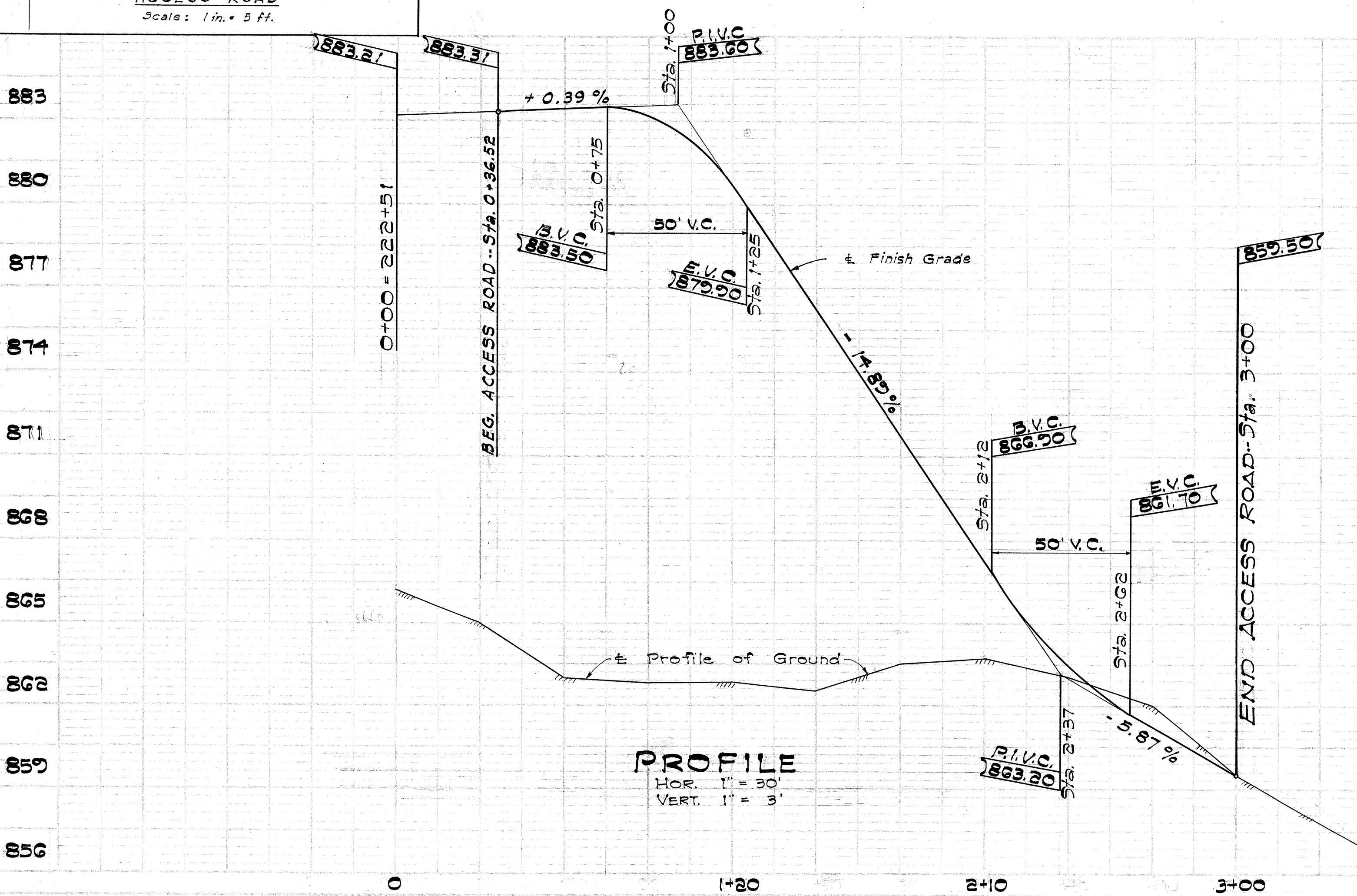
DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
BUREAU OF PLANS
JOB No. 31-52
KALIHI TUNNEL
KANOHE APPROACH ROAD
SECTION B
Kanoehe, Koolauapoko, OAHU, T.H.

ENGINEER: S.O.M. & R.W. DATE: September 15, 1988
DRAFTSMAN: J.N.S. CHECKED BY: S.O.M. & R.W.
SCALE: 1" = 100' TRACER: J.S.
APPROVED: [Signature] APPROVED: [Signature]
SUPERVISOR: [Signature] BUREAU ENGINEER: [Signature]

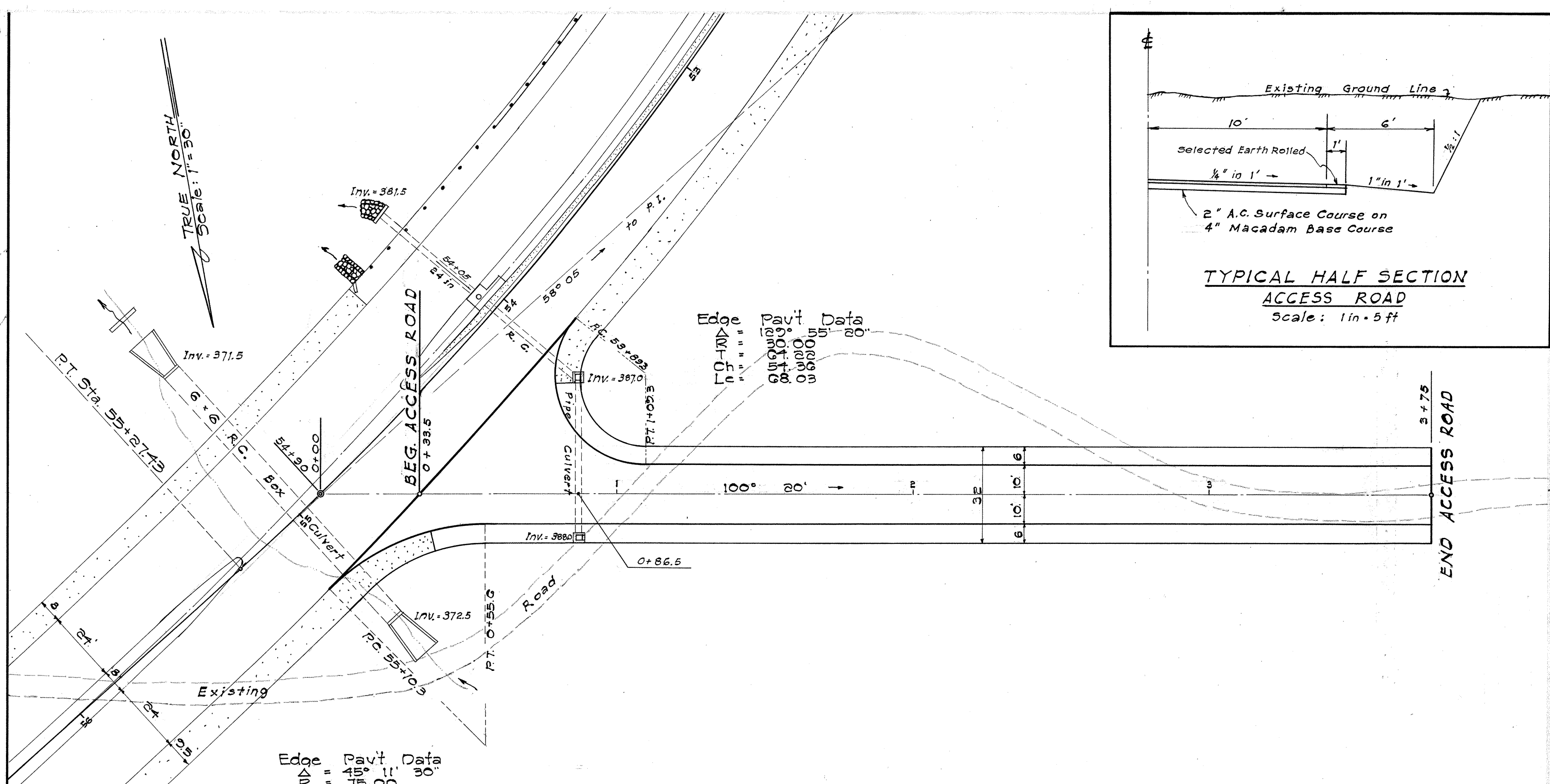
W.S.	PROFILE	C.B.
CR. SEC.	F.B.	S.B.
W.M. BY:	F.W. BY:	S. BY:



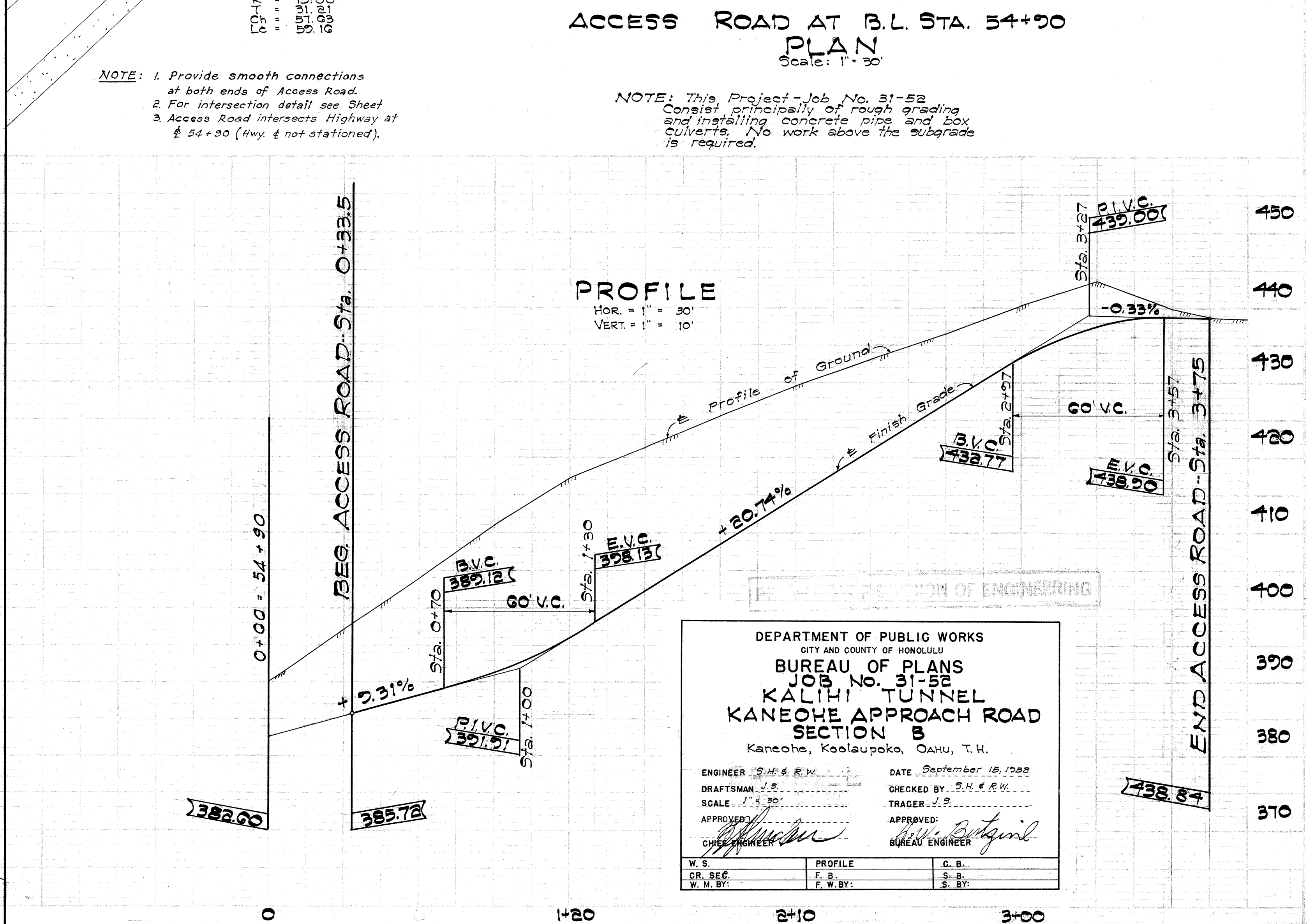
ACCESS ROAD AT STA. 222+51
PLAN
Scale: 1" = 30'



PROFILE
HOR. 1" = 30'
VERT. 1" = 3'



ACCESS ROAD AT B.L. STA. 54+90
PLAN
Scale: 1" = 30'



PROFILE
HOR. 1" = 30'
VERT. 1" = 10'

DEPARTMENT OF PUBLIC WORKS
CITY AND COUNTY OF HONOLULU
BUREAU OF PLANS
JOB No. 31-52
KALIHU TUNNEL
Kaneohe Approach Road
SECTION B
Kaneohe, Koolau, OAHU, T.H.

ENGINEER: S.H. & R.W. DATE: September 15, 1932
DRAFTSMAN: J.S. CHECKED BY: S.H. & R.W.
SCALE: 1" = 30' TRACED BY: J.S.
APPROVED: [Signature] BUREAU ENGINEER

W.S.	PROFILE	C.B.
CR. SEC.	F.B.	S.B.
W.M. BY:	F.W. BY:	S. BY: