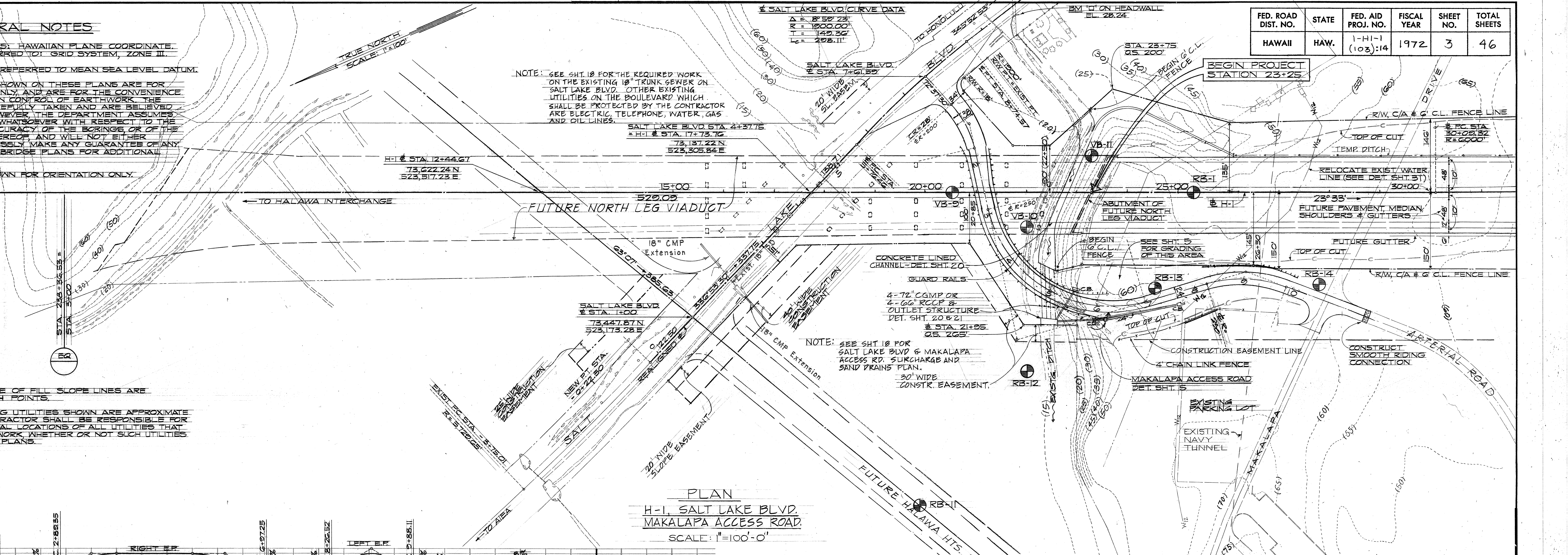
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H1-1 (103):14	1972	3	46

GENERAL NOTES

1. ORIGIN OF AZIMUTHS: HAWAIIAN PLANE COORDINATE. COORDINATES REFERRED TO: GRID SYSTEM, ZONE III.
2. BENCH MARKS ARE REFERRED TO MEAN SEA LEVEL DATUM.
3. THE BORING DATA SHOWN ON THESE PLANS ARE FOR DESIGN PURPOSES ONLY, AND ARE FOR THE CONVENIENCE OF THE ENGINEER IN CONTROL OF EARTHWORK. THE BORINGS WERE CAREFULLY TAKEN AND ARE BELIEVED TO BE RELIABLE, HOWEVER, THE DEPARTMENT ASSUMES NO RESPONSIBILITY WHATSOEVER WITH RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE BORINGS, OR OF THE INTERPRETATION THEREOF, AND WILL NOT EITHER IMPLIEDLY OR EXPRESSLY MAKE ANY GUARANTEE OF ANY OF THE SAME. SEE BRIDGE PLANS FOR ADDITIONAL BORINGS.
4. TOPOGRAPHY IS SHOWN FOR ORIENTATION ONLY.
5. TOP OF CUT AND TOE OF FILL SLOPE LINES ARE THEORETICAL CATCH POINTS.
6. LOCATION OF EXISTING UTILITIES SHOWN ARE APPROXIMATE ONLY AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACTUAL LOCATIONS OF ALL UTILITIES THAT SHALL AFFECT HIS WORK, WHETHER OR NOT SUCH UTILITIES ARE SHOWN ON THE PLANS.

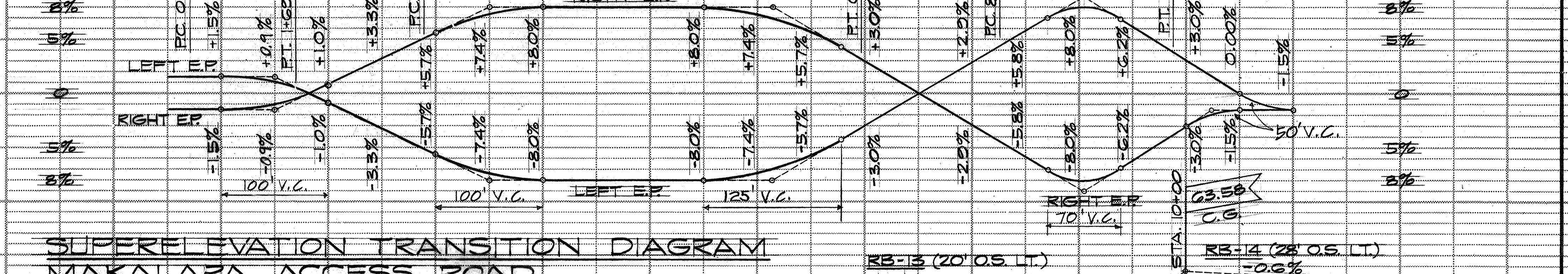
NOTE: SEE SHT. 18 FOR THE REQUIRED WORK ON THE EXISTING 18" TRUNK SEWER ON SALT LAKE BLVD. OTHER EXISTING UTILITIES ON THE BOULEVARD WHICH SHALL BE PROTECTED BY THE CONTRACTOR ARE ELECTRIC, TELEPHONE, WATER, GAS AND OIL LINES.

NOTE: SEE SHT 18 FOR SALT LAKE BLVD & MAKALAPA ACCESS RD. SURCHARGE AND SAND DRAINS PLAN.

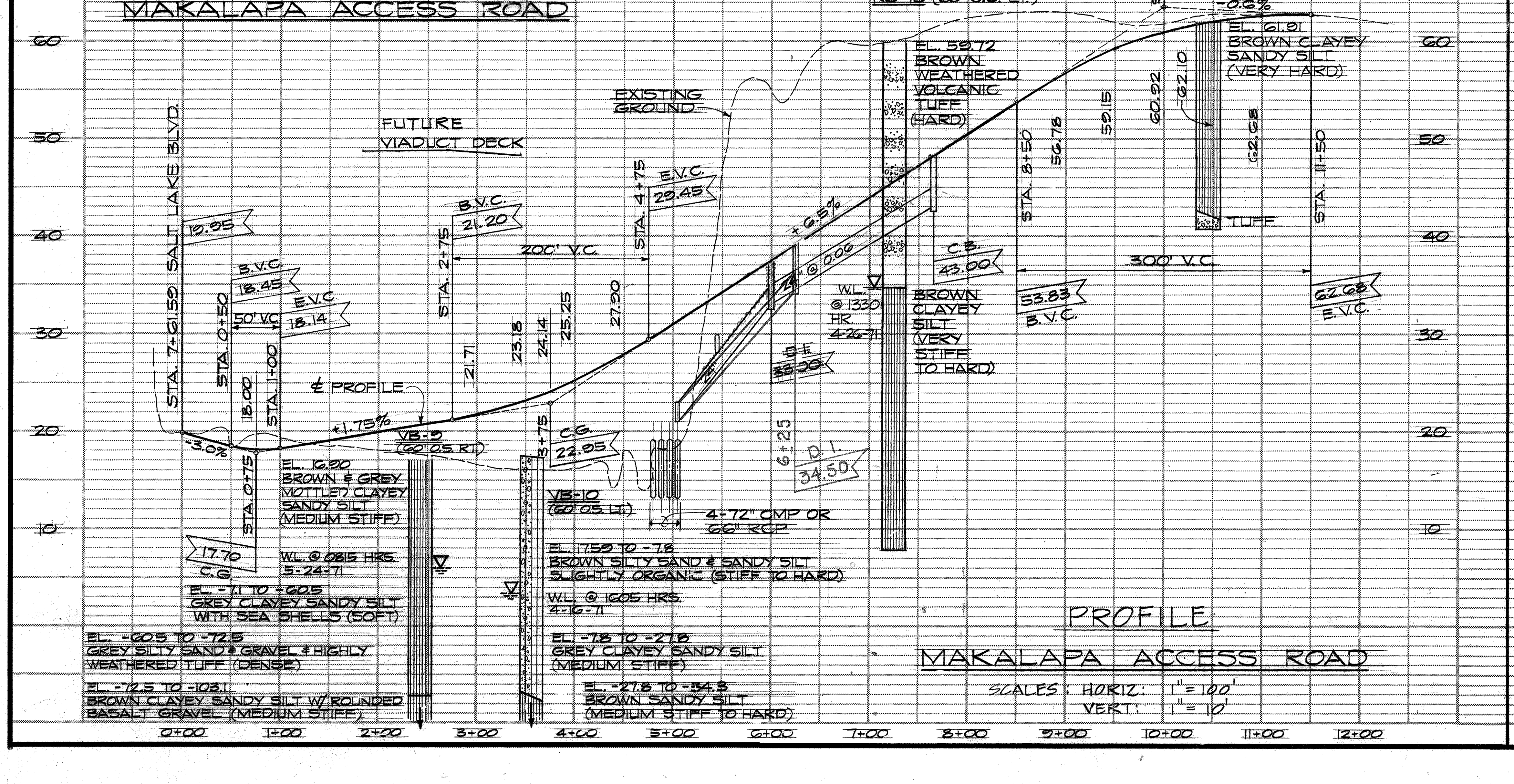

TRUE NORTH
SCALE: 1"=100'
BM "O" ON HEADWALL EL. 28.24
℄ SALT LAKE BLVD. CURVE DATA
Δ = 8°59'23"
R = 1000.00'
T = 143.32
Lc = 298.11'
TO HONOLULU
SALT LAKE BLVD. ℄ STA. 7+61.59
20' WIDE SL. EASEM'T.
STA. 23+75 O.S. 200'
BEGIN C.L. FENCE
BEGIN PROJECT STATION 23+25
SALT LAKE BLVD. STA. 4+37.75 = H-1 ℄ STA. 17+73.76
73,137.22 N
523,305.84 E
H-1 ℄ STA. 12+44.67
73,622.24 N
523,517.23 E
15+00
529.09
20+00
25+00
FUTURE NORTH LEG VIADUCT
← TO HALAWA INTERCHANGE
VB-9
VB-10
VB-11
RB-1
RB-12
RB-13
RB-14
℄ R=250'
20+85
ABUTMENT OF FUTURE NORTH LEG VIADUCT
℄ H-1
23°33'
FUTURE PAVEMENT, MEDIAN, SHOULDERS & GUTTERS
FUTURE GUTTER
TOP OF CUT
TEMP. DITCH
RELOCATE EXIST. WATER LINE (SEE DET. SHT. 31)
R/W, C/A & 6' C.L. FENCE LINE
℄ P.C. STA. 30+09.37 R=2000'
BEGIN C.L. FENCE
SEE SHT. 5 FOR GRADING OF THIS AREA
CONCRETE LINED CHANNEL - DET. SHT. 20
GUARD RAILS
4-72" CGMP OR 4-66" RCCP & OUTLET STRUCTURE DET. SHT. 20 & 21
℄ STA. 21+95 O.S. 265'
30' WIDE CONSTR. EASEMENT.
CONSTRUCTION EASEMENT LINE
4' CHAIN LINK FENCE
MAKALAPA ACCESS ROAD DET. SHT. 5
CONSTRUCT SMOOTH RIDING CONNECTION
ARTERIAL ROAD
DRIVE
EXISTING PARKING LOT
EXISTING NAVY TUNNEL
MAKALAPA
EXIST. DITCH
18" CMP Extension
SALT LAKE BLVD. ℄ STA. 1+00
73,447.87 N
523,173.28 E
NEW P.T. STA. 7+22.80
EXIST. P.C. STA. 3+75.01 R=5,729.58'
20' WIDE CONSTRUCTION EASEMENT
20' WIDE SLOPE EASEMENT
SALT LAKE BLVD. (REALIGNED)
TO AIEA
FUTURE HALAWA HTS. RD.
STA. 23+36.53 = STA. 3+00
EQ

PLAN
H-1, SALT LAKE BLVD. MAKALAPA ACCESS ROAD

SCALE: 1"=100'-0"



SUPERELEVATION TRANSITION DIAGRAM MAKALAPA ACCESS ROAD


RB-13 (20' O.S. LT.)
RB-14 (28' O.S. LT.)
EL. 58.72 BROWN WEATHERED VOLCANIC TUFF (HARD)
EL. 61.81 BROWN CLAYEY SANDY SILT (VERY HARD)
EXISTING GROUND
FUTURE VIADUCT DECK
STA. 7+61.50 SALT LAKE BLVD.
STA. 0+50
STA. 1+00
STA. 0+75
STA. 2+75
STA. 4+75
STA. 8+50
STA. 11+50
B.V.C. 18.45
E.V.C. 18.14
B.V.C. 21.20
E.V.C. 29.45
B.V.C. 53.83
E.V.C. 62.68
200' V.C.
300' V.C.
50' V.C.
℄ PROFILE
+1.75%
+6.5%
-3.0%
-0.6%
C.G. 17.70
C.G. 22.85
C.G. 43.00
C.G. 33.00
D.I. 34.50
VB-9 (20' O.S. RT.)
VB-10 (60' O.S. LT.)
EL. 16.90 BROWN & GREY MOTTLED CLAYEY SANDY SILT (MEDIUM STIFF)
W.L. @ 0815 HRS. 5-24-71
EL. -7.1 TO -60.5 GREY CLAYEY SANDY SILT WITH SEA SHELLS (SOFT)
EL. -60.5 TO -72.5 GREY SILTY SAND & GRAVEL & HIGHLY WEATHERED TUFF (DENSE)
EL. -72.5 TO -103.1 BROWN CLAYEY SANDY SILT W/ ROUNDED BASALT GRAVEL (MEDIUM STIFF)
EL. 17.59 TO -7.8 BROWN SILTY SAND & SANDY SILT SLIGHTLY ORGANIC (STIFF TO HARD)
W.L. @ 1605 HRS. 4-12-71
EL. -7.8 TO -27.8 GREY CLAYEY SANDY SILT (MEDIUM STIFF)
EL. -27.8 TO -34.3 BROWN SANDY SILT (MEDIUM STIFF TO HARD)
4-72" CMP OR 66" RCP
W.L. @ 1330 HR. 4-26-71
BROWN CLAYEY SILT (VERY STIFF TO HARD)
TUFF
0+00
1+00
2+00
3+00
4+00
5+00
6+00
7+00
8+00
9+00
10+00
11+00
12+00

PROFILE
MAKALAPA ACCESS ROAD

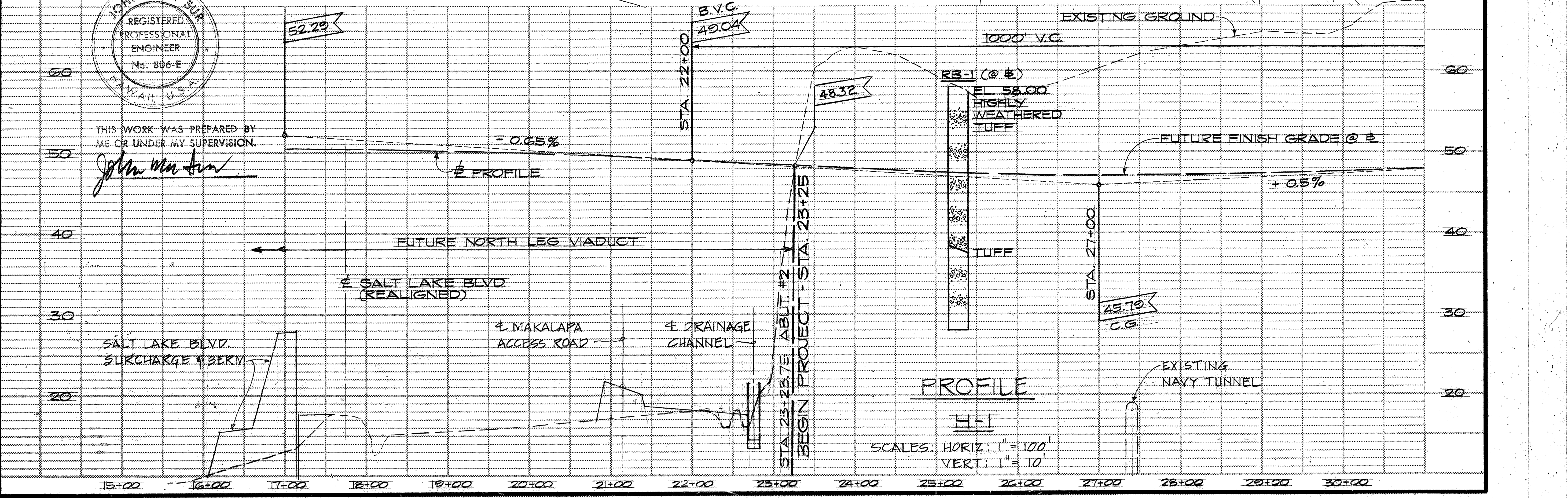
SCALES: HORIZ: 1"=100'
VERT: 1"=10'

JOHN B. K. SUR & ASSOCIATES, INC.

JOHN B. K. SUR
REGISTERED PROFESSIONAL ENGINEER
No. 806-E

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

John Mu Sur



PROFILE
H-1

SCALES: HORIZ: 1"=100'
VERT: 1"=10'

PLAN
NOTE BOOK
NO.
SURVEYED.
PLOTTED.
ALIGNMENT CHECKED.
RT. OF WAY CHECKED.
BY
DATE

PROFILE
NOTE BOOK
NO.
SURVEYED.
PLOTTED.
GRADES CHECKED.
B. M.S NOTED.
STRUCTURE NOTAT'NS CH'KD.
BY
DATE

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1 (103):14	1972	4	46

PLAN	BY	DATE
SURVEYED.		
PLOTTED.		
ALIGNMENT CHECKED.		
RT. OF WAY CHECKED.		
NOTE BOOK		
NO.		

MAKALAPA ELEMENTARY SCHOOL
BM - C&C MON. AT INTERSECTION OF SALT LAKE BLVD. & ALA OLI ST. EL. 71.22
RADFORD HIGH SCHOOL
GYM
EXTEND TRACK & RELOCATE BASEBALL BACKSTOP & FOOTBALL GOAL POSTS SEE DET. SHT. 32. (SEE CONSTRUCTION EASEMENT)
TRUE NORTH SCALE: 1"=100'
MAKALAPA DRIVE
℄ P.C. STA. 30+09.32 ℄ R=6,000.00 - 13°33'00"
℄ R=150'
CONSTRUCTION EASEMENT
TOP OF CUT
R/W C/A & FENCE LINE
SEE SHT. 32 FOR DETAILED PLAN OF FENCING AND GATE
CUT DRAINAGE DITCH
END OF C.L. FENCE
20' CONSTRUCTION EASEMENT
℄ P.T. STA. 43+35.77 ℄ R=6,000.00 - 00°53'
CUT INTERIM DRAINAGE DITCH
R/W & C/A LINE
GRADE EXISTING DITCH FROM EL. 27.85 TO INVERT OF EXISTING 48" CULVERT
Inv.=28.0
CONSTRUCTION EASEMENT
Inv.=30.20
EXIST. 48" CULVERT
EXISTING TWIN 4.5' x 7.5' BOX CULVERT
FUTURE GUTTER
℄ STA. 33+50 PEDESTRIAN OVERPASS
30+00
23°33'
5,444.90' (P.I. TO P.I.)
RB-2
RB-3
RB-15
RB-4
RB-5
RB-6
RB-7
RB-8
RB-9
RB-10
35+00
TOE OF SURCHARGE
DITCH ON TOP OF SURCHARGE
TOP OF CUT
INV. 27.85
FUTURE GRADING
8' CLEAR
40+00
H-1 BASELINE
FUTURE PAVEMENT MEDIAN & SHOULDERS
45+00
Sta. 51+50
50+00
DIVERT DITCH
TOE OF SURCHARGE
SUBGRADE DAYLIGHT LINE
55+00
60+00
P.I. No. 1
10°53'00" → 3524.15' (P.I. TO ℄ PLANTATION DR.)
Move
INSTALL 24" CMP, 24" RCP CL. IV OR 24" ACP CL. IV FOR INTERIM DRAINAGE
END OF PROJECT STATION 55+00
HALE KEIKI SCHOOL
FUTURE PEDESTRIAN OVERPASS
FUTURE GUTTER
R/W C/A & FENCE LINE
END OF C.L. FENCE, STA. 36+00
DITCH ON TOP OF SURCHARGE
DIVERT DITCH
INV. 30.10
TOP OF CUT
END OF SUBGRADE EMBANKMENT
FUTURE GRADING
CONSTRUCTION EASEMENT
300'
R/W & C/A LINE
CUT DRAINAGE DITCH
20' CONSTRUCTION EASEMENT
TOE OF TEMP BERM
CUT INTERIM DRAINAGE DITCH
Inv.=31.90
EXISTING NAVY ELEC. LINE TO BE RELOCATED IN FUTURE PROJECT.
EXISTING DITCH
ARTERIAL ROAD
℄ R=100'
H-1 BASELINE CURVE DATA
Δ=12°40'
R=6,000.00'
T=665.94'
C=1,323.75'
L=1,326.45'
MAKALAPA CRATER
ULITHI ROAD
MAKALAPA DRIVE
RADIO TOWER
(30) (35) (40) (45) (50) (55) (60)

PLAN
SCALE: 1"=100'

CONSTRUCT SURCHARGE FILL (5 FT. HIGH) & TEMPORARY BERM SEE SHT 18
FUTURE ℄ PEDESTRIAN OVERPASS
RB-15 (42' O.S. RT.)
EL. 69.14
GREY VOLCANIC TUFF FRACTURED, SLIGHTLY WEATHERED (HARD)
RB-3 (@ ℄)
EL. 54.3
BROWN SANDY SILT & MISC. FILL (LOOSE)
W.L. @ 1510 HR. 5-14-71
GREY CLAYEY SANDY SILT (SOFT TO MEDIUM STIFF)
GREY WEATHERED TUFF (HARD)
RB-5 (@ ℄)
EL. 51.26
BROWN SILTY SAND WITH MISCELLANEOUS FILL (LOOSE)
W.L. @ 0900 HR. 4-27-71
GREY CLAYEY SANDY SILT SOME SHELL FRAGMENT (MEDIUM STIFF)
LIGHT TAN & GREY MOTTLED CORAL (HARD)
C.G. 50.75
STA. 37+00
2:1
+0.50%
5' Depth Of Fill Removed And Back Filled With Tuff Mat.
STA. 32+00
48.20 B.V.C.
1,000' V.C.
Exist. Ground
FUTURE FINISH GRADE @ BASELINE
5'
-0.50%
RB-6 (56' O.S. RT.)
EL. 37.42
MISCELLANEOUS FILL (LOOSE)
W.L. @ 1600 HR. 5-4-71
GREY TO DARK BROWN CLAYEY SANDY SILT (MEDIUM STIFF) TO EL. -15.1
EL. -15.1 TO -17.6 LIGHT TAN CEMENTED CORAL & SAND
EL. -17.6 TO -18.6 LIGHT TAN & GREY MOTTLED CLAYEY SANDY SILT (VERY STIFF TO HARD)
STA. 42+00
48.20 E.V.C.
RB-7 (10' O.S. RT.)
EL. 32.00
BROWN ORGANIC SANDY SILT (SOFT)
W.L. @ 1310 HR. ON 5-5-71
GREY TO DARK BROWN CLAYEY SANDY SILT (MEDIUM) TO EL. -4.0
EL. -4.0 TO -18.0 LIGHT BROWN CLAYEY SANDY SILT WITH SOME CORAL FRAGMENTS (VERY STIFF TO HARD)
EL. -18.0 TO -19.0 BROWN & GREY MOTTLED CLAYEY SANDY SILT (DECOMPOSED BASALT) (VERY STIFF TO HARD)
EXISTING GROUND
RB-8 (70' O.S. RT.)
EL. 31.02
BROWN ORGANIC SANDY SILT (SOFT)
W.L. @ 1000 HR. 5-5-71
GREY TO DARK BROWN CLAYEY SANDY SILT (MEDIUM STIFF)
EL. -1.0 TO -15.0 LIGHT TAN CLAYEY SANDY SILT (STIFF TO VERY STIFF)
RB-9 (80' O.S. LT.)
EL. 36.71
BROWN ORGANIC SANDY SILT (SOFT)
W.L. @ 1535 HR. 5-6-71
GREY TO DARK BROWN CLAYEY SANDY SILT (MEDIUM STIFF) TO EL. 2.2
EL. 2.2 TO -1.3 BROWN & GREY MOTTLED SANDY SILT (DECOMPOSED BASALT) (VERY STIFF TO VERY HARD)
EL. -1.3 TO -19.3 BROWN CLAYEY SANDY SILT (VERY STIFF TO VERY HARD)
24" CULVERT
STA. 47+00
43.20 B.V.C.
Sta. 52+00 End Surcharge
2:1
END OF PROJECT STA. 55+00
RB-10 (100' O.S. RT.)
EL. 50.63
TUFF, BASALT & CORAL FRAGMENTS MIXED WITH BROWN SANDY SILT TO SILTY SAND
BROWN CLAYEY SANDY SILT WITH TUFF & BASALT FRAGMENTS (STIFF)
WEATHERED TUFF WITH SEAMS OF BROWN SANDY SILT
C.G. 40.70
STA. 57+00
1,000' V.C.
-1.25%
80 70 60 50 40 30 20 10
30+00 35+00 40+00 45+00 50+00 55+00 60+00

PROFILE
SCALES: HORIZ: 1"=100'
VERT: 1"=10'

PROFILE	BY	DATE
SURVEYED.		
PLOTTED.		
GRADES CHECKED.		
B. M.'S NOTED.		
STRUCTURE NOTAT'NS CH'KD		
NOTE BOOK		
NO.		

JOHN B. K. SUR & ASSOCIATES, INC.

JOHN B. K. SUR
REGISTERED PROFESSIONAL ENGINEER
No. 806-E
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.