Note

1) See sheet 10 for Plan & Profile of Malakole Road.

2) The Contractor shall be responsible for coordinating the relocation of power poles with the H.E. Co.

3. The Contractor shall adjust the tops of all valve and air relief manholes on the existing B.W.S. water line so that they are flush with the finished pavement or shoulder. See sheet 26 for details.

4. All construction work shall be done in accordance with the Standard Details and Specifications of the Dept. of Public Works, City & County of Honolulu.

5. Bench Marks shall be established on new street monuments and data submitted to the Division of Engineering, D.P.W.

6. See sheet 27 for Detail of Water Line Extension at Malakole & Access Road. (Also Details of Type "X" Valve Boxes)

Note: Ditch to be constructed approx. 85' beyond P.T. along extension to tangent. See sheet 12 for profile Ditch "B"

SPECIAL NOTE: The Drainage System for this Access Road is based on a Highway type of usage and assumes that the Runoff onto Abutting Properties is permissible. The Storm Drainage System as shown on these Construction Drawings is approved contingent upon provisions for Future Improvements, meeting City & County Storm Drainage Standards, by the Owner at his cost in the event that the Development of these Abutting Properties make this necessary.

REV.	DATE	BRIEF	MADE BY	APPR'D
5	4/13/61	Delete Type "X" M.H. and replace with Valve Boxes	RY	

Acting DIRECTOR, DIVISION OF ENGINEERING 11/17/60 DATE

APPROVED ASST. CHIEF ENGINEER, BWS DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
BEGINNING TO STA 10+00

Plans By
Harland Bartholomew & Associates

APPROVED: DATE

REGISTERED ENGINEER
CERTIFICATE NO 90

SHEET 2 OF 27

℄ CURVE DATA
Δ = 53°35'
Δ/2 = 26°47'30"
R = 2000.00'
T = 1009.91'
C = 1802.99'
L = 1870.91'

LOCATION PLAN
Scale: 1"= 40'

INBOUND LANE
PROFILE
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

OUTBOUND LANE
PROFILE
Scale: Horiz. 1"= 40'
Vert. 1"= 4'

Acting
DIRECTOR, DIVISION OF ENGINEERING 11/17/60
DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA. 10+00 TO STA. 22+00

Plans By
Harland Bartholomew & Associates

APPROVED
Jun 20/60
DATE

REGISTERED ENGINEER
CERTIFICATE NO 901

SHEET 3 OF 27

NOTE:
See sheet 13 for details of Inlet Box No.1, Outlet Box No.1, Concrete Flume Section, and Diversion Wall.

℄ CURVE DATA
Δ = 53°35'
Δ/2 = 26°47'30"
R = 2000.00'
T = 1009.91'
C = 1802.00'
L = 1870.41'

Acting DIRECTOR, DIVISION OF ENGINEERING 11/17/60
DATE

APPROVED:
July 18, 1960

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA. 22+00 TO STA. 34+00

Plans By
Harland Bartholomew & Associates
APPROVED: Jan 20/60
DATE
John C. Harris
REGISTERED ENGINEER
CERTIFICATE NO. 901

REVISION NO. 1
Delete 24 RCP and headwalls at sta 40+50

NOTE:
See sheet 11 for plan of relocated bldgs

The contractor shall provide material to fill local depression and/or grade the area to drain away from the roadway. All work shall be performed under the direction and approval of the Engineer.

LOCATION PLAN
Scale: 1" = 40'

INBOUND LANE
PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

OUTBOUND LANE
PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

REV.	DATE	BRIEF	MADE BY	APPR'D
①	12/14/60	Delete 24" RCP at sta. 40+50 and provide fill and swale	R.Y.	12/21/60

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA. 34+00 TO STA. 46+00

Acting DIRECTOR, DIVISION OF ENGINEERING 11/17/60
DATE

Plans By
Harland Bartholomew & Associates

APPROVED: June 26/60
DATE

REGISTERED ENGINEER
CERTIFICATE NO. 901

SHEET 5 OF 27

Acting
DIRECTOR, DIVISION OF ENGINEERING
11/17/60
DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA. 46+00 TO STA. 58+00

Plans By
Harland Bartholomew & Associates

APPROVED:
Jan 26/60
DATE

REGISTERED ENGINEER
CERTIFICATE NO. 901

SHEET 6 OF 27

Notes:
1. See sheet 13 for details of Types "A" and "B" Headwalls, Inlet Box No.2, Outlet Box No.2, and Junction Box.
2. See sheet 10 for "Plan and Profile of Road "A".
3. Remove existing 18" RCP at sta. 60+37 and dispose of pipe as directed by the Engineer.

Relocated Cattle Corral (See sheet 11 for details)
KEEP RIGHT
1-Gate Valve with 2 Manholes
Existing 21" RCP to be removed
Air Relief Valve
Existing Valve
DMH 3
178'-18" RCP S=0.002
PC STA 59+51.90 (Rt. Edge of Pavt.)
Type "B" Headwall Elev. Top=62.0 Elev. Inv.=58.6
CURVE DATA (Rt. Edge of Pavt.)
Δ=19°25'47.3"
Δ/2=9°42'53.7"
R=458.32'
T=78.46'
C=154.68'
L=155.42'
Grade towards inlet of 3-48" RCP
Type "A" Headwall Elev. Top=61.4 Elev. Inv.=56.9
Q=246 C.F.S. V=7.0 F.P.S. Df=4.0
Existing 20" Water Main
78'-24" RCP S=0.0237
DMH 4 Elev. Top=62.6 Elev. Inv.=56.87
Property Line
Shoulder
Lt. Edge of Pavement
Rt. Edge of Pavement
57'-24" RCP S=0.00275
100'-48"(3) RCP S=0.004
Q=1.4 C.F.S. V=0.8 F.P.S. Df=0.57
Sta 59+57
78 LF 12" C.I. Pipe (Lead Joint)
1-12" 1/8 Bend (Reuse)
1-12" Flap Valve, Bell end
1-Concrete Reaction Block.
Existing power poles & line
Provide Swale (conc. or rock lined)
Type B Headwall Elev. Top=58.3 Elev. Inv.=55.3
Q=14 C.F.S. V=0.45 F.P.S. Df=Varies (2 to 4)
Type "A" Headwall Elev. Top=61.0 Elev. Inv.=59.0
Existing Irrigation Ditch
12" C.I. pipe
Reinf. conc. wall
Flap Valve
Conc. floor
PLAN
NOTE: Subject to revision in field
ELEVATION
HD WALL DET. AT END OF WASHOUT LINE
Not to scale
STA 58+50 END OF DIVIDED HIGHWAY
40' R/R Easement
225°14'
CURVE DATA (Rt. Edge of Pavt.)
Δ=10°48'47.3"
Δ/2=5°24'33.7"
R=794.00'
T=75.27'
C=149.87'
L=150.10'
PT STA 62+50 (Rt. Edge of Pavt.)
℄ CURVE DATA
Δ=37°32'
Δ/2=18°46'
R=2000.00'
T=679.56'
C=1286.86'
L=1310.16'
Mon. to Mon. Az. 213°00'58" Dist. 846.53'
STA 0+00 ROAD "A" = STA 64+50 ACCESS RD.
R R
DIVIDED HIGHWAY AHEAD
Install C&C Mon.
STOP
R=40'
R=40'
60'-18" RCP S=0.005
Type "A" Headwall Elev. Top=63.2 Elev. Inv.=60.7
ROAD "A"
Sta 0+65
Relocated Flume
Type "A" Headwall Elev. Top=63.6 Elev. Inv.=61.0
DETAIL "A" See sheet 10
187°42'
LOCATION PLAN
Scale: 1"=40'
Existing concrete flume to be relocated outside property line by others
Existing 18" RCP to be abandoned
Existing Road
Outlet Box No.2 Elev. Top=71.0 Elev. Inv.=65.8
Existing concrete flume to remain
40'-24" RCP S=0.0025
Junction Box
Inlet Box No.2 Elev. Top=71.5 Elev. Inv.=66.2
DMH 5 Elev. top=70.0 Elev. inv.=66.0
True North
1"=40'-0"
℄ of existing ditch
P.T. Sta. 69+07.18
INBOUND LANE
OUTBOUND LANE (FUTURE)
187°42'
Existing 20" Water Main
Existing Bldg. to remain

REVISION 4: DELETE JUNCTION BOX AND INSTALL STANDARD STORM DRAINAGE MANHOLE

4	3/28/61	Delete Junction Box and install DMH-5	RY&RS
REV.	Date	BRIEF	Made by

APPROVED
ASST. CHIEF ENGINEER, BWS DATE

APPROVED:
By Ewa Plantation
Treasurer, Castle & Cooke

Acting
DIRECTOR, DIVISION OF ENGINEERING
11/17/60
DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA 58+00 TO STA 70+80

Plans By
Harland Bartholomew & Associates
APPROVED
June 20
DATE
REGISTERED ENGINEER
CERTIFICATE NO.

SHEET 7 OF 27

LOCATION PLAN
Scale: 1" = 40'

INBOUND LANE PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

(FUTURE)
OUTBOUND LANE PROFILE
Scale: Horiz. 1" = 40'
Vert. 1" = 4'

Acting DIRECTOR, DIVISION OF ENGINEERING 11/17/60
DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

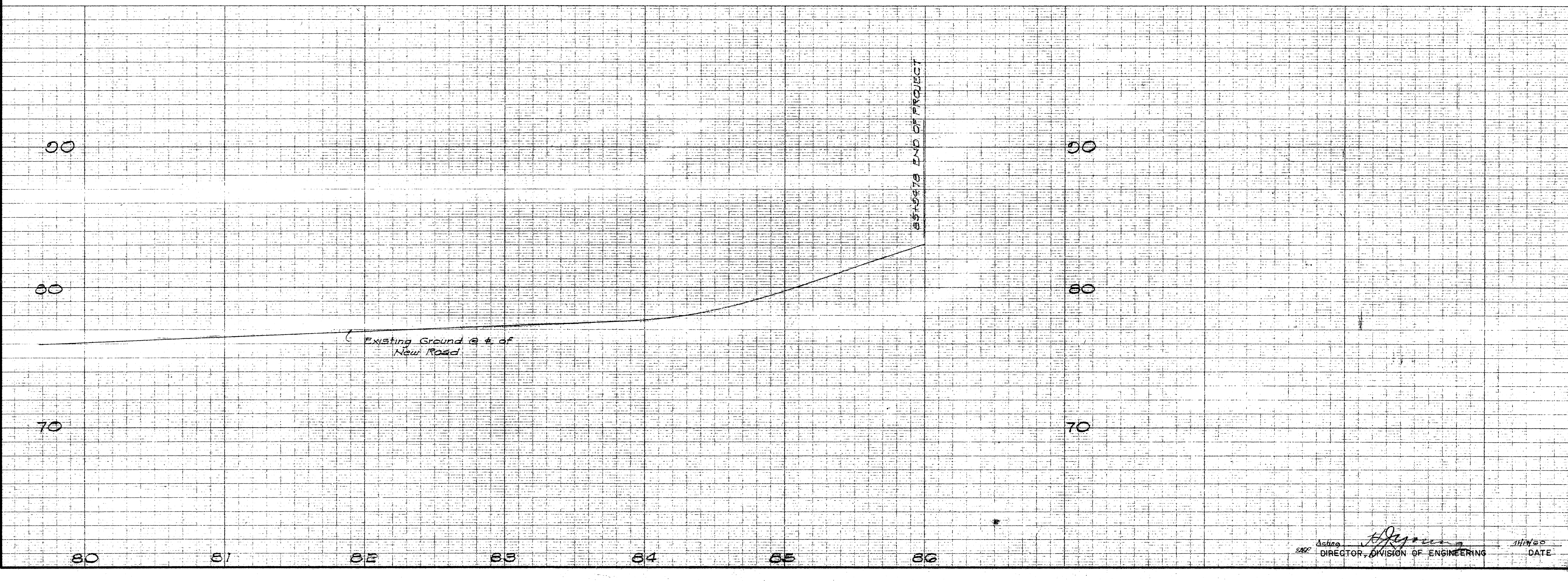
PLAN & PROFILE
STA 70+00 TO STA 80+00

Plans By
Harland Bartholomew & Associates
APPROVED:
DATE
REGISTERED ENGINEER
CERTIFICATE NO 901

SHEET 8 OF 27

True North
1" = 40'-0"
¢ CURVE DATA
Δ = 2°00'
Δ/2 = 1°00'
R = 5745.48
T = 100.29
C = 200.55
L = 200.56
P.C. 81+51.72
PT. 83+52.28
Property Line
New Asphaltic Concrete Pavement. See Sheet 15, Typical Road Section for Details.
108'
40'
80
187°42'
81
82
83
84
85
86
¢ Future Road
Existing 20" Water Main
Existing Edge of Pavement
¢ of New Road
Provide Smooth Connection to Ex. Edge of Pavement
Power Pole
New Asphaltic Concrete Pavement
Property Line
P.C. 83+52.28
¢ CURVE DATA
Δ = 2°00'
Δ/2 = 1°00'
R = 5745.48
T = 100.29
C = 200.55
L = 200.56
PT. 85+52.83
Power Poles
LIMITS OF WORK UNDER THIS PROJECT
¢ of Ditch
FARRINGTON HIGHWAY
Existing Box Culvert
LOCATION PLAN
Scale: 1" = 40'
Left E.P. P.C.C. 259.74.73
THE JAMES CAMPBELL INDUSTRIAL PARK (Relocate)
¢ CURVE DATA
Δ = 83°24'00"
R = 500.00
T = 445.48'
C = 665.23
Lc = 727.80
LIMITS OF WORK UNDER THIS PROJECT
85+52.28
R = 120'
H C & D (Relocate)
STANDARD OIL Co. OF CALIFORNIA WESTERN OPERATION, INC HAWAIIAN REFINERY (Relocate)
R = 40'
Easement 31 (40 ft. Wide) Owner - James Campbell Trust Estate Easement in favor of Hawaiian Electric Co. Ltd. and Hawaiian Telephone Co.
A
B
C
To be relocated
C = 86'
259
A.C. Roll Curb
Stripe A.C. Roll and Traffic Island.
13'
108.8'
85
187°42'
1' Offset
11'
63.0'
Relocate Ex. Stop Sign
Ex. Hd Wall
D
Conc. Lined Ditch
Ex. W-3 Reflector
Inv. 76.03
Ex. 4x2' Box Culvert
Inv. 78.30
E
STOP AHEAD
W-13
PT. 85+52.28
Demolish Ex. Conc. Headwall and Extend 4x2' Conc. Box Culvert and Construct Conc. Headwall
85+94.78
R = 120'
C = 80'
Ex. Rock Wall (D.R.M.) and Conc. Hd. Wall
Ex. Wooden Guard Rail w/Conc. Posts
Dirt Ditch
258
F
Stop Ahead sign to be installed by others
LIMITS OF WORK UNDER THIS PROJECT
Install Metal Guard Rail w/Conc. Post. 110 L.F.
R = 200'
Note: All work shown beyond the project limits shall be done by others unless otherwise noted.

	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ
Δ	120.00'	40.00'	200.00'	120.00'	40.00'	200.00'
R	16°-30'	52°41'	20°27'	18°-57'	36°-48'	14°-30'
T	17.6'	19.8'	36.1'	20.0'	13.3'	25.4'
L	34.9'	36.8'	71.4'	39.7'	25.7'	50.6'



Acting
DIRECTOR, DIVISION OF ENGINEERING
11/17/60
DATE

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
STA. 80+00 TO END

Plans By
Harland Bartholomew & Associates

APPROVED:
DATE

REGISTERED ENGINEER
CERTIFICATE NO. 901

SHEET 9 OF 27

Note: See sheet 12 for profile of Ditch "A" and culvert.
To Ponding Area
P.T. 3+17.08
℄ CURVE DATA
Δ = 45°00'
Δ/2 = 22°30'
R = 200.00
T = 82.84
C = 153.07
L = 157.08
P.C. 1+60
TRUE NORTH
1" = 40'-0"
Property Line
Edge of Pavement
Medial Curb
Edge of Pavement
Property Line
Grade area towards inlet of 2-36" RCP
Type "A" Headwall Elev. Top = 12.5 Elev. Inv. = 7.4
Type "A" Headwall Elev. Top = 12.7 Elev. Inv. = 7.8
℄ of Ditch "A" - 10' Wide Rectangular Open Ditch, S = 0.003
284' - (2) 36" RCP S = 0.0013
Sta 0+00 (Ditch "A")
Remove existing pavement and repave as shown.
0+00 ACCESS RD
Edge of Existing Pavement
℄ of Road R/W
Edge of Existing Pavement
Reflectorized Barricade - See this sheet for details.
Make transition to existing Malakole Rd. in 150 ft.
Make transition to existing Malakole Rd. in 150 ft.
10'-0"
18'-0"
10'-0"
℄ of Road
1'-0"
Slope 1:4
Slope 3/4" per 12"
Slope 1/4" per 12"
2" A.C. Pavement
Existing Ground Line
6" Coral Base Course
STOP
TRUE NORTH
1" = 40'-0"
Property Line
Edge of Pavement
Edge of Pavement
EXISTING ROAD
Property Line
STA 0+00 ROAD "A"
STA 64+50 ACCESS ROAD
R = 40'
R = 30'
Type "A" Headwall Elev. Top = 63.5 Elev. Inv. = 61.0
60' - 18" RCP S = 0.005
Irrigation Culvert
Type "A" Headwall Elev. Top = 63.2 Elev. Inv. = 60.7
R = 40'
New 40' Road Easement
℄ CURVE DATA
Δ = 19°28'30"
Δ/2 = 9°44'15"
R = 500.00
T = 85.80
C = 169.13
L = 169.95
P.T. 2+55.01
Remove existing pavement
Existing 1" water line to remain
Existing Conc. Flume
Existing Irrigation Ditches
Existing 18" Pipe
Shaded portion of existing pavement to be removed and repaved
CANE FIELD
STOP AHEAD
Butt Joints to be left open approximately 1/2" spaced every other post.
4"x8"x20'-0" Rough Douglas Fir railing painted 2 coats of white paint.
1/2"φ Galv. Carriage bolts, countersunk on front face.
1" Bevel
8'-0"
10'-0" o.c.
E/P
5'-10"
2'-6"
2'-6"
3 Yellow reflectors bolted to horizontal rail every 10 ft. (Use 2-3/8"φ bolt.)
8"x8" Rough salt treated Douglas Fir 10'-0" o.c. Paint with 2 coats of white paint.
CANE FIELD

PLAN
MALAKOLE-ACCESS ROAD
Scale 1" = 40'-0"

TYPICAL SECTION
(MALAKOLE RD. & ROAD "A")
Scale 3/16" = 1'-0"

BARRICADE
Not to Scale

PLAN
ROAD "A"
Scale 1" = 40'-0"

℄ Access Rd. & Malakole Rd.
E.V.C. 12.60
P.I.V.C. 13.00
B.V.C. 13.00
P.I.V.C. 13.60
E.V.C. 13.07
10.30
100' V.C.
100' V.C.
+0.04%
+3.2%
-1.07%
Provide smooth riding connection to existing road.
℄ of New Road
Provide smooth riding connection to existing road.
Existing Road
64+50 Access Rd. 0+00 Road "A"
B.V.C. 65.35
P.I.V.C. 65.00
E.V.C. 65.67
67.00
100' V.C.
Provide smooth riding connection from Road "A" to Main Access Road.
Access Rd. 24' Pav't.
-0.30%
+1.35%
Provide smooth riding connection from Road "A" to existing road.
Existing Ground Line
18" RCP
20
10
70
60
0
1
2
3

NEW PROFILE OF
MALAKOLE ROAD
Scale Horiz. 1" = 40'-0"
Vert. 1" = 4'-0"

PROFILE
ROAD "A"
Scale Horiz. 1" = 40'-0"
Vert. 1" = 4'-0"

Acting ___________ 11/17/60
DIRECTOR, DIVISION OF ENGINEERING DATE

APPROVED: H.B. Clark
By Ewa Plantation
Treasurer, Castle & Cooke

TRUSTEES OF
THE ESTATE OF JAMES CAMPBELL
HONOLULU, HAWAII

JAMES CAMPBELL INDUSTRIAL PARK
MAIN ACCESS ROAD

PLAN & PROFILE
MALAKOLE RD. & ROAD "A"

Plans By
Harland Bartholomew & Associates
APPROVED: Jan 20/60 DATE
REGISTERED ENGINEER CERTIFICATE NO. 901

SHEET 10 OF 27

BRUNING PLAN PROFILE PLATE A