

FINAL COST AND SUMMARY REPORT

KALANIANA'OLE HIGHWAY
Project No. F 15(3)

J. M. TANAKA, Contractor
Job No. 5436

Sheet 1 of 4 Sheets

Item No.	Item	Unit	Unit Price	QUANTITY		AMOUNT		OVERRUN		UNDERRUN	
				Contract	Final	Contract	Final	Quantity	Amount	Quantity	Amount
	<u>ROADWAY:</u> 48 ft. Divided Highway 2" Asphalt Concrete Pavement; Sta. 210+10 to Sta. 267+99; Sta. 269+03 to Sta. 286+02; Sta. 287+24 to Sta. 310+22.17										
2001	Unclassified Excavation	cu. yd.	\$ 0.36	590,000	694,993	\$ 212,400.00	\$ 250,197.48	104,993	\$ 37,797.48		
2002	Unclassified Excavation for Structures other than at Bridges	cu. yd.	2.39	1,650	1,174	3,943.50	2,805.86			476	\$ 1,137.64
2005	Furrow Ditches	lin. ft.	0.22	6,400	300	1,408.00	66.00			6,100	1,342.00
2008	Station Yard Overhaul	sta. yd.	0.009	1,235,000	1,329,160	11,115.00	11,962.44	94,160	847.44		
2009	Mile Yard Overhaul	mi. yd.	0.16	20,000	16,115	3,200.00	2,578.40			3,885	621.60
2010	Hand Trimming Rounded Cut Slopes	lin. ft.	0.30	14,500	10,445	4,350.00	3,133.50			4,055	1,216.50
2011	Compacting Original Ground	sq. yd.	0.10	6,200	5,171	620.00	517.10			1,029	102.90
2013	Sprinkling	M gals.	2.75	1,750	984	4,812.50	2,706.00			766	2,106.50
2014	Mineral Aggregate	ton	3.96	26,000	22,999.68	102,960.00	91,078.73			3,000.32	11,881.27
2015	Filler	ton	4.73	7,200	4,932.49	34,056.00	23,330.68			2,267.51	10,725.32
2016	Liquid Asphaltic Primer	gal.	0.10	24,000	14,457	2,400.00	1,445.70			9,543	954.30
2030	Asphalt Concrete Surface Course	ton	9.62	7,650	7,405.79	73,593.00	71,243.70			244.21	2,349.30
2032	Class B-1 Concrete	cu. yd.	57.80	70	70	4,046.00	4,046.00	0	0	0	0
2033	Class A-1 Concrete other than in Bridges	cu. yd.	53.50	200	190.49	10,700.00	10,191.22			9.51	508.78
2039	Reinforcing Steel other than in Bridges	lb.	0.105	19,000	18,593	1,995.00	1,952.27			407	42.73
2042	Cement Rubble Masonry Paving	cu. yd.	30.00	135	110.38	4,050.00	3,311.40			24.62	738.60
2051	24" Concrete Pipe Culvert	lin. ft.	5.80	976	800	5,660.80	4,640.00			176	1,020.80
2055	36" Concrete Pipe Culvert	lin. ft.	9.33	1,264	1,300	11,793.12	12,129.00	36	335.88		
2061	30" Concrete Pipe Culvert	lin. ft.	8.00	608	780	4,864.00	6,240.00	172	1,376.00		
2081	Resetting Lava Rock Curb	lin. ft.	0.75	250	233	187.50	174.75			17	12.75
2089	Standard Wood Guard Rail	lin. ft.	1.95	8,500	8,715	16,575.00	16,994.25	215	419.25		
2093	Relaying Culvert Pipe	lin. ft.	3.75	85	0	318.75	0			85	318.75
2095	Warning Signs	each	40.00	19	25	760.00	1,000.00	6	240.00		
2095A	Regulatory Signs	each	35.00	30	24	1,050.00	840.00			6	210.00
2109	Standard C & C Street Survey Monuments	each	39.80	13	13	517.40	517.40	0	0	0	0
2111	Federal Aid Markers	each	33.00	2	2	66.00	66.00	0	0	0	0
2112	Additional Number Plate for Federal Aid Marker	each	7.00	1	0	7.00	0			1	7.00
2173	Untreated Timber	MBM	200.00	2	2	400.00	400.00	0	0	0	0
2180	Sodded Medial Strip	sq. ft.	0.042	137,000	133,760	5,754.00	5,617.92			3,240	136.08
2182	Type B Manhole Frame and Cover	each	44.00	9	9	396.00	396.00	0	0	0	0
2187	Type C Cast Iron Frame and Grating	each	77.00	1	0	77.00	0			1	77.00
2201	Reconstructed Wood Guard Rail	lin. ft.	0.50	260	0	130.00	0			260	130.00
2204	Transplanting Certain Trees and Vines	lump sum	745.00	1		745.00	745	0	0	0	0
2205	Vertical Holes (Sand Drains)	lin. ft.	2.42	9,500	8,521	22,990.00	20,620.82			979	2,369.18
2206	Roadside Improvements - An Allowance of					1,000.00	509.74				490.26

Item No.	Item	Unit	Unit Price	QUANTITY		AMOUNT		OVERRUN		UNDERRUN	
				Contract	Final	Contract	Final	Quantity	Amount	Quantity	Amount
2207	Portland Cement Concrete Pavement	cu.yd.	\$ 26.80	170	191.60	\$ 4,556.00	\$ 5,134.88	21.60	\$ 578.88		\$
2209	Metal Guard Railing	lin.ft.	3.10	300	316	930.00	979.60	16	49.60		
2210	Cast-in-Place Concrete Median Strip Curb, Type A	lin.ft.	1.79	14,200	14,754	25,418.00	26,409.66	554	991.66		
2211	Cast-in-Place Concrete Median Strip Curb, Type B	lin.ft.	2.11	1,800	2,077	3,798.00	4,382.47	277	584.47		
2212	Cast-in-Place Concrete Median Strip Curb, Type C	lin.ft.	3.19	120	125	382.80	398.75	5	15.95		
2213	Cast-in-Place Concrete Median Strip Curb & Gutter, Type D	lin.ft.	2.81	5,300	5,899	14,893.00	16,576.19	599	1,683.19		
2214	Cast-in-Place Concrete Curb and Gutter, Type E	lin.ft.	4.53	6,100	6,816	27,633.00	30,876.48	716	3,243.48		
2215	Sand Backfill (Sand Drains)	cu.yd.	1.90	1,000	646	1,900.00	1,227.40			354	672.60
2216	Sand Backfill (Sand Blanket)	cu.yd.	0.95	9,100	8,526	8,645.00	8,099.70			574	545.30
2217	Sand Backfill (Swamp Fill)	cu.yd.	0.97	29,600	16,600	28,712.00	16,102.00			13,000	12,610.00
2218	4" x 4" Untreated Timber Piles	lin.ft.	0.38	1,400	1,120	532.00	425.60			280	106.40
2219	Cast-in-Place Concrete Curb and Gutter, Type F	lin.ft.	4.98	800	530	3,984.00	2,639.40			270	1,344.60
2220	Sand Backfill (Navy Property)	cu.yd.	0.47	20,800	13,340	9,776.00	6,269.80			7,460	3,506.20
2221	2" Electric Conduit	lin.ft.	0.98	360	382	352.80	374.36	22	21.56		
TOTAL - ROADWAY (48 ft. Divided Highway)						\$680,453.17	\$671,353.65		\$ 48,184.84		\$ 57,284.36
ROADWAY: Non-Participating											
2032	Glass B-1 Concrete	cu.yd.	57.80	0	4	\$ 0	\$ 231.20	4	\$ 231.20		\$
2094	Moving Existing Pipe Lines	lin.ft.	0.80	3,400	1,784	2,720.00	1,427.20			1,616	1,292.80
2208	Unclassified Excavation for Water Mains	cu.yd.	1.15	800	1,392	920.00	1,600.80	592	680.80		
TOTAL - ROADWAY (Non-Participating)						\$ 3,640.00	3,259.20		\$ 912.00		\$ 1,292.80
BRIDGE: Kahanaiki (Reinforced Concrete) Sta. 267+99 to Sta. 269+03											
2003	Unclassified Excavation for Structures at Bridges	cu.yd.	1.49	320	1,913	\$ 476.80	\$ 2,850.37	1,593	\$ 2,373.57		
2030	Asphalt Concrete Surface Course	ton	9.62	35	31.20	336.70	300.14			3.80	\$ 36.56
2034	Glass A-1 Concrete in Bridges	cu.yd.	55.00	1,110	1,074.35	61,050.00	59,089.25			35.65	1,960.75
2040	Reinforcing Steel in Bridges	lb.	0.10	200,300	200,269	20,030.00	20,026.90			31	3.10
2070	16" x 16" Precast Concrete Piles, 50 ft. long	each	346.50	24	24	8,316.00	8,316.00	0		0	
2072	18" x 18" Precast Concrete Piles, 65 ft. long	each	451.10	24	24	10,826.40	10,826.40	0		0	
2073	18" x 18" Precast Concrete Piles, 70 ft. long	each	485.00	40	40	19,400.00	19,400.00	0		0	
2217	Sand Backfill (Swamp Fill)	cu.yd.	0.97	1,130	791	1,096.10	767.27			339	328.83
TOTAL - BRIDGE (Kahanaiki - Reinforced Concrete)						\$121,532.00	\$121,576.33		\$ 2,373.57		\$ 2,329.24

Item No.	Item	Unit	Unit Price	QUANTITY		AMOUNT		OVERRUN		UNDER RUN	
				Contract	Final	Contract	Final	Quantity	Amount	Quantity	Amount
	BRIDGE: Maunawili (Reinforced Concrete) Sta. 286+02 to Sta. 287+24										
2003	Unclassified Excavation for Structures at Bridges	cu.yd.	\$ 1.49	280	863.50	\$ 417.20	\$ 1,286.62	583.50	\$ 869.42		
2030	Asphalt Concrete Surface Course	ton	9.62	40	34.48	384.80	331.70			5.52	\$ 53.10
2034	Class A-1 Concrete in Bridges	cu.yd.	55.00	970	959.70	53,350.00	52,783.50			10.30	566.50
2040	Reinforcing Steel in Bridges	lb.	0.10	163,700	167,247	16,370.00	16,724.70	3,547	354.70		
2069	16" x 16" Precast Concrete Piles 45 ft. long	each	311.85	8	8	2,494.80	2,494.80	0		0	
2071	16" x 16" Precast Concrete Piles, 55 ft. long	each	381.15	20	20	7,623.00	7,623.00	0		0	
2074	18" x 18" Precast Concrete Piles, 75 ft. long	each	520.50	36	36	18,738.00	18,738.00	0		0	
2075	18" x 18" Precast Concrete Piles, 85 ft. long	each	589.90	20	20	11,798.00	11,798.00	0		0	
2217	Sand Backfill (Swamp Fill)	cu.yd.	0.97	670	460	649.90	446.20			210	203.70
	TOTAL - BRIDGE (Maunawili - Reinforced Concrete)					\$111,825.70	\$112,226.52		1,224.12		\$ 823.30
	ROADWAY: Extras (Participating) Extra Work Order No. 1 (Deleted by E.W.O. No. 2) Extra Work Order No. 2										
2222	6" Open Joint Drains	lin.ft.	3.35		1,100		\$ 3,685.00	1,100	\$ 3,685.00		
2223	12" Open Joint Drains	lin.ft.	5.17		590		3,050.30	590	3,050.30		
	Extra Work Order No. 3										
2224	Cast-in-Place Concrete Curb & Gutter, Type G	lin.ft.	2.33		420		978.60	420	978.60		
	Extra Work Order No. 4 (Force Account)										
2225	Special Excavation						10,906.02		10,906.02		
	TOTAL - ROADWAY (Extras - Participating)						\$ 18,619.92		\$ 18,619.92		
	ROADWAY: Extras (Non-Participating) Extra Work Order No. 3										
2118	Plain Concrete Sidewalk	sq. ft.	0.44		1,480		651.20	1,480	651.20		
	TOTAL - ROADWAY (Extras - Non-Participating)						\$ 651.20		\$ 651.20		

S U M M A R Y

			<u>Overrun</u>	<u>Underrun</u>
ROADWAY - 48 ft. Divided Highway	\$ 680,453.17	\$ 671,353.65	\$ 48,184.84	\$ 57,284.36
ROADWAY - Non-Participating	3,640.00	3,259.20	912.00	1,292.80
BRIDGE - Kahanaiki	121,532.00	121,576.33	2,373.57	2,329.24
BRIDGE - Maunawili	111,825.70	112,226.52	1,224.12	823.30
ROADWAY - Extras (Participating)		18,619.92	18,619.92	
ROADWAY - Extras (Non-Participating)		651.20	651.20	
GRAND TOTAL	\$ 917,450.87	\$ 927,686.82	\$ 71,965.65	\$ 61,729.70

Computed and Checked:

Edwin K. Stone
Edwin K. Stone
Project Engineer

Recommended:

R. W. Hendry
R. W. Hendry
Highway Construction Engineer

Accepted:

James M. Tanaka
J. M. Tanaka
Contractor

Recommended:

Lawrence Felix
Lawrence Felix
Section Engineer

Approved:

R. M. Belt
R. M. Belt
Territorial Highway Engineer

TABULATION OF BIDS
KALANIANAOLE HIGHWAY
FEDERAL AID PROJECT NO. F 15(3)
DISTRICT OF KOOLAPOKO - ISLAND OF OAHU
JOB NO. 5496
(Opened Wednesday, December 21, 1949)

First Advertised in Honolulu Star-Bulletin
Issue of November 22, 1949

Item No.	Item	Unit Used	Quantity	J. M. TANAKA		MOSES AKIONA		HAWAIIAN DREDGING CO., LTD.		TERRITORIAL CONTRACTOR		JAS. W. GLOVER, LTD.		E. E. BLACK, LIMITED		Pacific Construction Co.		OAHU CONSTRUCTION CO., LTD.		TERRITORY OF HAWAII	
				Bid Bond = \$2,500 + 2o/o		Bid Bond = \$2,500 + 2o/o		Proposal Bond = \$21,500		Proposal Bond = \$21,500		Bid Bond = \$2,500 + 2 o/o		Bid Bond = \$2,500 + 2 o/o		Bid Bond = \$25,000.00		Bid Bond = \$2,500 + 2 o/o			
				Price	Amount	Price	Amount	Price	Amount	Price	Amount	Price	Amount	Price	Amount	Price	Amount	Price	Amount	Price	Amount
2001	Unclassified Excavation	c. y.	590,000	0.36	212,400.00	0.33	194,700.00	0.373	220,070.00	0.39	230,100.00	0.425	250,750.00	0.39	230,100.00	0.32	188,800.00	0.44	259,600.00	0.40	236,300.00
2002	Unclassified Excavation for Structures Other than at Bridges	c. y.	1,650	2.39	3,943.50	2.20	3,630.00	2.55	4,207.50	1.95	3,217.50	2.85	4,702.50	2.70	4,455.00	2.00	3,300.00	2.65	4,372.50	3.00	4,350.00
2003	Unclassified Excavation for Structures at Bns.	c. y.	600	1.49	894.00	2.70	1,620.00	3.00	1,800.00	2.48	1,488.00	3.25	1,950.00	2.70	1,620.00	3.10	1,860.00	2.75	1,650.00	4.00	2,400.00
2005	Furrow Ditches	lin. ft.	6,400	0.22	1,408.00	0.18	1,152.00	0.25	1,600.00	0.21	1,344.00	0.19	1,216.00	0.20	1,280.00	0.18	1,152.00	0.20	1,280.00	0.25	1,500.00
2008	Station Yard Overhaul	sta. yd.	1,235,000	0.009	11,115.00	0.01	12,350.00	0.01	12,350.00	0.0085	10,497.50	0.01	12,350.00	0.009	11,115.00	0.015	18,525.00	0.014	17,290.00	0.01	12,350.00
2009	Mile Yard Overhaul	mi. yd.	20,000	0.16	3,200.00	0.20	4,000.00	0.16	3,200.00	0.11	2,200.00	0.15	3,000.00	0.15	3,000.00	0.265	5,300.00	0.27	5,400.00	0.15	3,000.00
2010	Hand Trimming Rounded Cut Slopes	lin. ft.	14,500	0.30	4,350.00	0.26	3,770.00	0.315	4,567.50	0.26	3,770.00	0.29	4,205.00	0.24	3,480.00	0.25	3,625.00	0.35	5,075.00	0.30	4,350.00
2011	Compacting Original Ground	sq. yd.	6,200	0.10	620.00	0.09	558.00	0.07	434.00	0.09	558.00	0.075	465.00	0.09	558.00	0.08	496.00	0.095	589.00	0.10	620.00
2013	Sprinkling	M. gal.	1,750	2.75	4,812.50	1.80	3,150.00	2.65	4,637.50	1.85	3,237.50	2.50	4,375.00	1.42	2,485.00	2.00	3,500.00	3.20	5,600.00	3.00	5,250.00
2014	Mineral Aggregate	ton	26,000	3.96	102,960.00	3.75	97,500.00	3.88	100,880.00	3.80	98,800.00	4.00	104,000.00	4.18	108,680.00	4.05	105,300.00	4.55	118,300.00	4.50	117,000.00
2015	Filler	ton	7,200	4.73	34,056.00	3.95	28,440.00	3.88	27,936.00	4.65	33,480.00	4.70	33,840.00	4.96	35,712.00	4.92	35,424.00	4.96	35,712.00	5.00	36,300.00
2016	Liquid Asphaltic Primer	gal.	24,000	0.10	2,400.00	0.11	2,640.00	0.11	2,640.00	0.11	2,640.00	0.12	2,880.00	0.11	2,640.00	0.11	2,640.00	0.11	2,640.00	0.12	2,880.00
2030	Asphalt Concrete Surface Course	ton	7,725	9.62	74,314.50	9.50	73,387.50	9.25	71,456.25	9.54	73,696.50	9.36	72,306.00	9.35	72,228.75	9.69	74,391.75	9.69	74,391.75	11.00	84,375.00
2032	Class "B-1" Concrete	c. y.	70	57.80	4,046.00	60.00	4,200.00	69.00	4,830.00	48.55	3,398.50	54.20	3,794.00	62.80	4,396.00	51.50	3,611.50	64.45	4,500.00	50.00	3,500.00
2033	Class "A-1" Concrete Other than in Bridges	c. y.	200	53.50	10,700.00	64.00	12,800.00	63.75	12,750.00	58.15	11,630.00	54.35	10,870.00	58.32	11,664.00	56.00	11,200.00	67.20	11,440.00	55.00	11,300.00
2034	Class "A-1" Concrete in Bridges	c. y.	2,080	55.00	114,400.00	66.00	137,280.00	59.10	122,928.00	58.25	121,160.00	62.40	129,792.00	60.68	126,214.40	55.00	114,400.00	65.00	136,864.00	67.50	140,100.00
2039	Reinforcing Steel other than in Bridges	lb.	13,000	0.105	1,365.00	0.11	1,430.00	0.105	1,365.00	0.104	1,376.00	0.105	1,395.00	0.11	1,430.00	0.105	1,365.00	0.105	1,395.00	0.11	1,430.00
2040	Reinforcing Steel in Bridges	lb.	364,000	0.10	36,400.00	0.12	43,680.00	0.10	36,400.00	0.099	36,096.00	0.0975	35,490.00	0.10	36,400.00	0.10	36,400.00	0.10	36,400.00	0.11	40,940.00
2042	Cement Rubble Masonry Paving	c. y.	135	30.00	4,050.00	26.00	3,510.00	30.00	4,050.00	30.30	4,090.50	29.70	4,009.50	28.75	3,881.25	39.25	5,298.75	39.65	5,252.75	30.00	4,050.00
2151	24" Concrete Pipe Culvert	lin. ft.	976	5.80	5,660.80	7.00	6,832.00	6.20	6,051.20	6.06	5,914.56	6.00	5,856.00	5.60	5,465.60	7.50	7,320.00	5.80	5,660.80	10.00	9,760.00
2054	24" Cast-in-Place Circular Concrete Pipe Culvert	lin. ft.	976	10.00	9,760.00	11.00	10,736.00	8.00	7,808.00	11.00	10,736.00	10.00	9,760.00	6.00	5,856.00	8.00	7,808.00	10.00	9,760.00	10.00	9,760.00
2055	36" Concrete Pipe Culvert	lin. ft.	1,264	9.33	11,793.12	12.00	15,168.00	9.90	12,513.60	10.60	13,398.40	9.57	12,096.48	10.85	13,714.40	14.00	17,696.00	9.65	12,197.60	15.00	18,960.00
2056	36" Cast-in-Place Circular Concrete Pipe Culvert	lin. ft.	1,264	19.00	24,016.00	23.00	29,072.00	12.00	15,168.00	17.50	22,120.00	15.00	18,960.00	11.00	13,714.40	15.00	19,900.00	15.75	19,900.00	12.00	15,168.00
2061	30" Concrete Pipe Culvert	lin. ft.	608	8.00	4,864.00	9.00	5,472.00	7.85	4,772.80	8.36	5,082.88	7.63	4,639.04	8.45	5,137.60	12.00	9,760.00	7.60	6,128.00	12.00	9,760.00
2064	30" Cast-in-Place Circular Concrete Pipe Culvert	lin. ft.	608	17.00	10,336.00	12.00	7,296.00	9.00	5,472.00	15.00	9,120.00	12.00	7,296.00	9.00	5,472.00	13.00	7,904.00	13.50	8,208.00	13.50	8,208.00
2069	16" x 16" Precast Concrete Piles 45'-0" long	each	8	311.85	2,494.80	290.00	2,320.00	285.50	2,284.00	333.45	2,667.60	325.00	2,600.00	308.51	2,468.08	480.00	3,900.00	300.00	2,400.00	300.00	2,400.00
2070	16" x 16" Precast Concrete Piles 50'-0" long	each	24	346.50	8,316.00	322.00	7,728.00	316.00	7,584.00	372.50	8,940.00	350.00	8,400.00	334.96	8,039.04	530.00	12,720.00	315.00	8,760.00	330.00	7,920.00
2071	16" x 16" Precast Concrete Piles 55'-0" long	each	20	381.15	7,623.00	400.00	8,000.00	345.50	6,910.00	414.70	8,294.00	400.00	8,000.00	368.33	7,366.60	585.00	11,700.00	319.00	7,980.00	385.00	7,700.00
2072	18" x 18" Precast Concrete Piles 55'-0" long	each	24	451.10	10,826.40	600.00	14,400.00	485.50	11,652.00	600.60	14,414.40	525.00	12,600.00	484.17	11,620.08	735.00	17,640.00	510.00	12,480.00	585.00	14,940.00
2073	18" x 18" Precast Concrete Piles 70'-0" long	each	40	485.00	19,400.00	750.00	30,000.00	522.00	20,880.00	667.80	26,712.00	570.00	22,800.00	520.79	20,311.08	800.00	32,000.00	519.00	22,360.00	620.00	24,000.00
2074	18" x 18" Precast Concrete Piles 75'-0" long	each	36	520.50	18,738.00	925.00	33,300.00	558.50	20,106.00	750.00	27,000.00	600.00	21,600.00	567.53	20,431.08	860.00	30,960.00	518.00	21,520.00	670.00	24,120.00
2075	18" x 18" Precast Concrete Piles 85'-0" long	each	20	589.50	11,790.00	1,225.00	24,500.00	630.50	12,610.00	884.00	17,680.00	675.00	13,500.00	655.25	13,105.00	975.00	19,500.00	616.00	13,520.00	750.00	15,000.00
2081	Resetting Lava Rock Curb	lin. ft.	250	0.75	187.50	1.30	325.00	0.75	187.50	0.95	237.50	0.55	137.50	0.94	235.00	1.20	300.00	0.73	182.50	0.75	187.50
2089	Standard Wood Guard Rail	lin. ft.	8,500	1.95	16,575.00	2.40	20,400.00	2.42	20,570.00	2.05	17,425.00	2.									