STANDARD PLANS SUMMARY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99D-01-97M	2001	2	9

STANDARD PLAN NO.	TITLE	DATE
B-01	Notes and Miscellaneous Details	07/01/86
B-02		
B-03	Typical Structure Excavation and Backfill Pay Limits	07/01/86
B-04		
B-05		
B-06	Concrete Box Girder	07/01/86
B-07	Concrete Box Girder	07/01/86
B-08	Concrete Box Girder	07/01/86
B-09		
B-10		
B-11		
B-12	Prestressed Concrete Piles	r07/16/90
B-13	Prestressed Concrete Piles	r07/16/90

D-01 ●	Chain Link Fence With Toprail	r03/06/87
D-02 ●	Chain Link Fence Without Toprail	r07/26/90
D-03	Wire Fence With Metal Posts	07/01/86
D-04	Typical Details of Curbs and/or Gutters	07/01/86
D-05	Typical Details of Reinforced Concrete Drop Driveway	07/01/86
D-06	Centerline and Reference Survey Monument	07/01/86
D-07	Street Survey Monument	07/01/86
D-08	Landscaping Shrub and Tree Planting	07/01/86
D-09	Field Office	07/01/86
D-10	Field Office	07/01/86
D-11	Project Site Laboratory	07/01/86
D-12	Project Site Laboratory	07/01/86
D-13	Field Office & Project Site Laboratory	07/01/86

H-01	Type A, B, C and D Catch Basin	07/01/86
H-02	Type A1, B1, C1 and D1 Catch Basin	07/01/86
H-03	Type A2, B2, C2 and D2 Catch Basin	07/01/86
H-04	Typical Reinforcing Details for Catch Basins	07/01/86
H-05	Type A, B and C Storm Drain Manhole	07/01/86
H-06	Type D and E Storm Drain Manhole	07/01/86
H-07	Type F Storm Drain Manhole	07/01/86
H-08	Catch Basin and Manhole Casting	07/01/86
H-09	Type A-9 and A-9P Frames and Grates	07/01/86
H-10	Type A-9B Frames and Grates	07/01/86
H-11	Type 61614 and 61214 Grated Drop Inlet	07/01/86
H-12	Type 61616 Grated Drop Inlet	07/01/86
H-13	61214, 61614 & 61616 Steel Frames and Grates	07/01/86
H-14	61214B Steel Frame and Grates	07/01/86
H-15	61614B Steel Frame and Grates	07/01/86
H-16	Concrete and Cement Rubble Masonry Structures	r10/16/90
H-17	Inlet Structures	r10/16/90
H-18	Flared End Section for Culverts	07/01/86
H-19	Outlet Structures	r02/15/91
H-20	Concrete Spillway Inlet	07/01/86
H-21	18" Slotted C.M.P. Drain	07/01/86
H-22	C.M.P. Coupling Details Standard Joint	r10/16/90
H-23	Hat Shaped Coupling Band	r10/16/90

STANDARD PLAN NO.	TITLE	DATE
TE-01	Miscellaneous Sign Details	07/01/86
TE-02	Galvanized Flanged Channel Sign Post Mounting	07/01/86
TE-03	Galvanized Square Tube Sign Post Mounting	07/01/86
TE-04	Regulatory Signs	r09/01/87
TE-05	Warning Signs	07/01/86
TE-06	Miscellaneous Signs	r11/03/89
TE-07	Reserved	07/01/86
TE-08 ●	Construction Signs	r09/01/87
TE-09	Miscellaneous Intersection Signs	r03/06/87
TE-10	Reserved	07/01/86
TE-11	Bike Route Sign and Supplementary Plates	07/01/86
TE-12	State Route Marker and Auxiliary Markers	07/01/86
TE-13	Interstate Route Marker	07/01/86
TE-14	State Route Marker and Border Detail for Guide Signs	07/01/86
TE-15	Route Marker Assemblies	07/01/86
TE-16	Miscellaneous Reflector Markers	07/01/86
TE-17	Type II Object Markers	07/01/86
TE-18	Mileposts	07/01/86
TE-19	Reserved	07/01/86
TE-20	Overhead Sign Supports	07/01/86
TE-21	Overhead Sign Support, Box Truss Type, Aluminum	07/01/86
TE-22	Foundation Details and Schedules	07/01/86
TE-23	Supports for Ground Mounted Guide Sign	r11/03/89
TE-24	Breakaway Sign Supports for Ground Mounted Guide Signs	07/01/86
TE-25	Laminated Aluminum Sign Panels (Overhead)	07/01/86
TE-26	Laminated Aluminum Sign Panels (Ground Mounted)	07/01/86
TE-27	Solid Aluminum Extruded Sign Panel and Accessory Details	07/01/86
TE-28	Guide Signs Luminaire Mountings	07/01/86
TE-29	Reserved	07/01/86
TE-30	Raised Pavement Markers and Striping	r05/09/90
TE-31	Miscellaneous Pavement Markings	r05/09/90
TE-32	Miscellaneous Pavement Markings	r05/09/90
TE-33	Miscellaneous Pavement Markings	r11/03/89
TE-34	Reserved	07/01/86
TE-35	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-36	Pavement Alphabets, Numbers & Symbols	07/01/86
TE-37	Reserved	07/01/86
TE-38	Traffic Signal System, Miscellaneous Details	r11/03/89
TE-39	Traffic Signal System, Miscellaneous Details	07/01/86
TE-40	Loop Detectors	r11/03/89
TE-41	Pullboxes	07/01/86
TE-42	Type III Traffic Signal Standard	07/01/86
TE-43	Concrete Pullbox (2' x 3')	07/01/86
TE-44	Reserved	07/01/86

STANDARD PLAN NO.	TITLE	DATE
TE-45	Reserved	07/01/86
TE-46	Reserved	07/01/86
TE-47	Reserved	07/01/86
TE-48	Reserved	07/01/86
TE-49	Reserved	07/01/86
TE-50	Metal Guardrail	r03/06/87
TE-51	Metal Guardrail	r09/01/87
TE-52	Metal Guardrail with Rubrail	r11/03/89
TE-53	Metal Guardrail with Rubrail at Obstruction	r09/01/87
TE-54	Beam Type Guardrail with Rubrail at Obstruction (Shoulder Installation)	r11/03/89
TE-55	Metal Guardrail Connection to Concrete Barrier	r11/03/89
TE-56	Concrete Barrier Transition	07/01/86
TE-57	Guardrail Type 3, Thrie Beam	r11/03/89
TE-57A	Guardrail Type 3, Modified Thrie Beam	11/03/89
TE-58	Approach End Flare, One & Two Way Roadway	07/01/86
TE-59	Trailing End Flare, One & Two Way Roadway	r11/03/89
TE-60	Anchor Block Details	07/01/86
TE-61	Breakaway Cable Terminal (BCT)	r11/03/89
TE-62	Breakaway Cable Terminal (BCT)	r09/01/87
TE-63	Guardrail Type 4 (Rigid Barrier)	r09/01/87
TE-64 ●	Portable Concrete Barrier	r11/03/89
TE-65	Guardrail Type 4, Miscellaneous	r09/01/87
TE-66	Barricades	07/01/86
TE-67	Delineation & Pavement Markings at Bridges	07/01/86

NOTES:

STANDARD PLANS APPLICABLE TO THIS PROJECT ARE INDICATED BY A "●" NEXT TO THE STANDARD PLAN NO. (D-07 ●)

DATE	REVISION
02/15/91	REVISED H-19
10/16/90	REVISED H-16,H-17, H-22 & H-23
07/26/90	REVISED D-02
07/16/90	REVISED B-12,B-13
05/09/90	REVISED TE-30,TE-31 & TE-32
11/03/89	REVISED TE-06,TE-23, TE-30, TE-31, TE-32, TE-33, TE-38, TE-40, TE-52, TE-54, TE-55, TE-57, TE-59, TE-61, TE-64, TE-68 & TE-69, ADDED TE-57A
09/01/87	REVISED TE-04,TE-06, TE-08, TE-32, TE-51, TE-53, TE-54, TE-55, TE-57, TE-59, TE-62, TE-63, TE-65 & TE-69
03/06/87	REVISED D-01, TE-09, TE-40, TE-50, TE-51, TE-57, TE-59, TE-61, TE-63 & TE-64

CRAIG H. MURAKAMI
LICENSED PROFESSIONAL ENGINEER
NO. 9763-C
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD PLANS SUMMARY

KAMEHAMEHA HIGHWAY SLOPE PROTECTION
VICINITY OF WAIHONA STREET
Project No. 99D-01-97M

Date: January 2001

SHEET No. 2 OF 9 SHEETS

2

ORIGINAL PLANS | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

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FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99D-01-97M	2001	3	9

GENERAL NOTES:

1. The scope of work consists of constructing slope protection netting along the slopes of Kamehameha Highway between Kuala Street and Waihona Street.

2. The exact limits of the slope protection netting and locations of the rock bolts shall be determined in the field by the engineer.

3. The Contractor's attention is directed to Subsection 107.13 "Public Convenience and Safety" and to Section 645-"Traffic Control of the Special Provisions."

4. Portable concrete barriers and inertial barrels shall be placed along the edge of the work zone to protect pedestrians, and vehicles from falling rock during the construction activity. Portable barriers and inertial barrels shall be considered incidental to the various contract items. After construction is completed, the inertial barrels shall become property of the State of Hawaii and transported to an area designated by the engineer.

5. Portable Concrete Barrier:

Portable concrete barriers will be furnished by the State. Interlocking pins are to be furnished by the Contractor at no cost to the State. Transporting, placing, maintaining, relocating and return of portable barriers shall be considered incidental to the various items of work. Relocation shall be done with the approval of the Engineer. See Section 645, TRAFFIC CONTROL DEVICES of the Special Provisions. Install steady burn amber lamps on portable concrete barrier @ 20.0' o.c. Installing, maintaining and changing batteries of the Portable Mounted Steady Burn Amber Lamps shall be considered incidental to the various contract items.

6. Inertial Barrel:

Typical layout will vary based on speed and manufacturer of system used. Installation shall conform to Manufacturer's recommendations and Roadside Design Guide. Ends of portable barriers shall be protected with Inertial Barrels as directed by the Manufacturer.

7. The Contractor shall place construction signs with two posts 500 feet before and after construction activity and as directed in Section 645 of the Special Provisions.

8. Any damage to adjacent property and within the project area shall be repaired to match existing conditions at no cost to the State.

9. At the end of each working day, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic as directed by the engineer.

10. Work shall be performed only between the hours of 8:00 a.m. and 3:30 p.m., Monday through Friday, except holidays, unless otherwise permitted by the District Engineer.

11. Surfaces shown in the Typical Section are for representation purposes only and not intended to depict any specific locations.

12. Stakeout/layout for slope protection netting and the locations of the rock bolts shall be performed by a surveyor, licensed in the State of Hawaii, at the contractors expense.

13. Prior to construction, the Contractor shall submit BMP's for this project to the Engineer at no cost to the State.

GENERAL NOTES: (cont.)

14. Prior to construction, the Contractor shall submit a detailed schedule of work to include approximate personnel counts and vehicle types that will be entering Manana Housing area on a daily basis. Information shall be provided to the Provost Marshall Office (PMO) at Camp Smith. Badge and vehicle passes are to be obtained from this office. The Contractor shall adhere to all base rules and regulations regarding installation security, ingress, egress, safety and sanitation as may be prescribed from time to time by the Installation. Points of contact can be reached at 477-8738 or 477-8739 or 477-8742. Regulations include those in the Navy Real Estate License Agreement found in the Special Provisions.

15. All lanes shall be open to traffic and allow traffic to flow at the normal posted speed limit during morning peak hours from 6:30 a.m. to 8:00 a.m., during afternoon peak hours from 3:30 p.m. to 6:00 p.m., and during off work hours. The contractor may close only one lane of traffic from 8:00 a.m. to 3:30 p.m.. Failure of the contractor to open all lanes to traffic during the times specified above shall result in assessment of liquidated damages as specified in Section 108.08 of the Special Provisions.

16. For entry to Manana Housing area, contact Mr. Dennis Pacht, Pacific Division, Naval Facilities Engineering Command, at 474-5930.

17. Dust barrier as shown on Plan sheet no. 4 shall be considered incidental to the various contract items. Contractor shall install, maintain, and remove dust barrier. Contractor shall coordinate with the Engineer as to the exact location of the dust barrier.

18. The approximate location of existing sewer and drainlines are located within the unpaved access road as shown on Plan sheet no. 4. The contractor shall provide adequate sewer and drainline protection during construction. Any damage to these utilities and inconvenience caused by these damages shall be the responsibility of and paid for by the Contractor. Regulations include those in the Navy Real Estate License Agreement found in the Special Provisions.

19. The approximate location of existing sewer and drain manholes are located within the unpaved access road as shown on Plan sheet no. 4. The contractor shall not cross over any manholes in the unpaved areas. Any damage to these utilities and inconvenience caused by these damages shall be the responsibility of and paid for by the Contractor. Regulations include those in the Navy Real Estate License Agreement found in the Special Provisions.

20. Topographic Survey conducted by M&E Pacific, Inc., dated May 27, 1998.

SLOPE PROTECTION NOTES:

1. Steel rock bolts w/double heavy hex nuts shall have a minimum yield strength of 55,000 psi. Steel rock bolts shall be ASTM A615, Grade 60.

2. Steel plates and rings shall be ASTM A572, Grade 42 Steel and shall be galvanized.

3. Steel nuts shall be ASTM A563, Grade A.

4. Concrete shall have a 28 day compressive strength of fc=5,000 psi.

5. The two rock bolts for the vertical wire rope shall be placed 10'+ from top of slope with a spacing of 15' between the two rock bolts.

6. The top supporting 3/4" wire rope shall have a parabolic sag with a maximum deflection of 2' at 25' midspan.

7. Slope protection netting shall be 3-1/4" by 4-1/2" or smaller, 10 gage PVC coated (brown in color) wire mesh.

8. With the written approval of the Engineer, the distance between the upper and lower rock bolts may be reduced to not less than 10' due to the topographic conditions.

9. If soil is encountered during the drilling of the rock bolts, the contractor shall contact the Engineer.

10. The Contractor shall install 3/4" x 1'-0" long rods into the rock slope to anchor the bottom of the netting and as directed by the engineer. The anchor rods shall have a closed loop on one end. The rods shall be completely driven into the slope until only the loop is exposed. The netting shall be attached to the anchor rods with 9 gauge tie wires tied to the loop and bottom wire rope. This work shall be considered incidental to the Slope Protection Netting.

ORIGINAL PLOT DATE
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CERY H. MURAKAMI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

KAMEHAMEHA HIGHWAY SLOPE PROTECTION
VICINITY OF WAIHONA STREET
Project No. 99D-01-97M

Date: January 2001

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	99D-01-97M	2001	4	9

TRUE NORTH
SCALE: 1 in. = 50 Ft.

L E G E N D :

- Maintenance Easement, 1.583 ac
- Slope Protection Netting (Work Zone)
- Dust Barrier

Manana Housing (Marine Corps)

Contractor shall not use upper route. See specifications for Navy Real Estate License Agreement requirements.

Access to site

Approx. location of existing sewer manhole (typ). See General Note Nos. 18 and 19 on plan sheet no. 3.

Note:
Contractor shall use proper care as not to damage existing manholes and utility lines along the access route and within the project. Any damages to the existing facilities shall be paid for by the contractor. See General Note Nos. 18 and 19 on plan sheet no. 3.

Approx. location of existing sewerline (typ). See General Note Nos. 18 and 19 on plan sheet no. 3.

ACACIA ROAD

302°15'37" 7.12

89.81

300°28'15.5" 60.26

75°19'27" 27.46 R=20.00

31°58' 48.28

74°13'30" 89.04 R=66.20

76°18'30" 100.64 R=78.00

300°06'30" 232.15

212°15'37"

S8

116.29

104.90

405.97

216.10'

36.08'

133.03

137.52

14.43'

approx. location of gate. gate shall be locked during non-working hours

approx. location of gate

Limits of maintenance easement (No work in this area, used for access only)

23°54' 80.40

107°25' 58.30

Contractor shall install a minimum 12' high dust barrier. See General Notes.

234°52'41"

R=360.65'

R=360.65'

316°41'41"

Approx. location of existing drainline (typ). See General Note Nos. 18 and 19 on plan sheet no. 3.

Construction access route to work site

easement 2C for buffer zone (50' wide)

275°47'11" 545.14'

existing fenceline shall remain and not be used as a dust barrier.

D24

D10

S8

S8

S8

State of Hawaii Department of Hawaiian Home Lands

Approx. location of existing drain manhole (typ). See General Notes sheet no. 3.

132.45

197.25'

218.80

17.25'

approx. location of fence opening

Maintenance Easement

approx. location of abandoned underground bunker

107°25' 545.00

Graphical Scale:

1" = 50' 50' 25' 0 50' 100'

K A M E H A M E H A H I G H W A Y

Sta. 43+10

Sta. 49+00

Sta. 49+13.26

State Highway Right-of-Way

Limits of Slope Protection Netting (Work Zone)

VICINITY MAP
Scale: 1" = 50'

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

VICINITY MAP

KAMEHAMEHA HIGHWAY SLOPE PROTECTION
VICINITY OF WAIHONA STREET
Project No. 99D-01-97M

Date: January 2001

SHEET No. 4 OF 9 SHEETS

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ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
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