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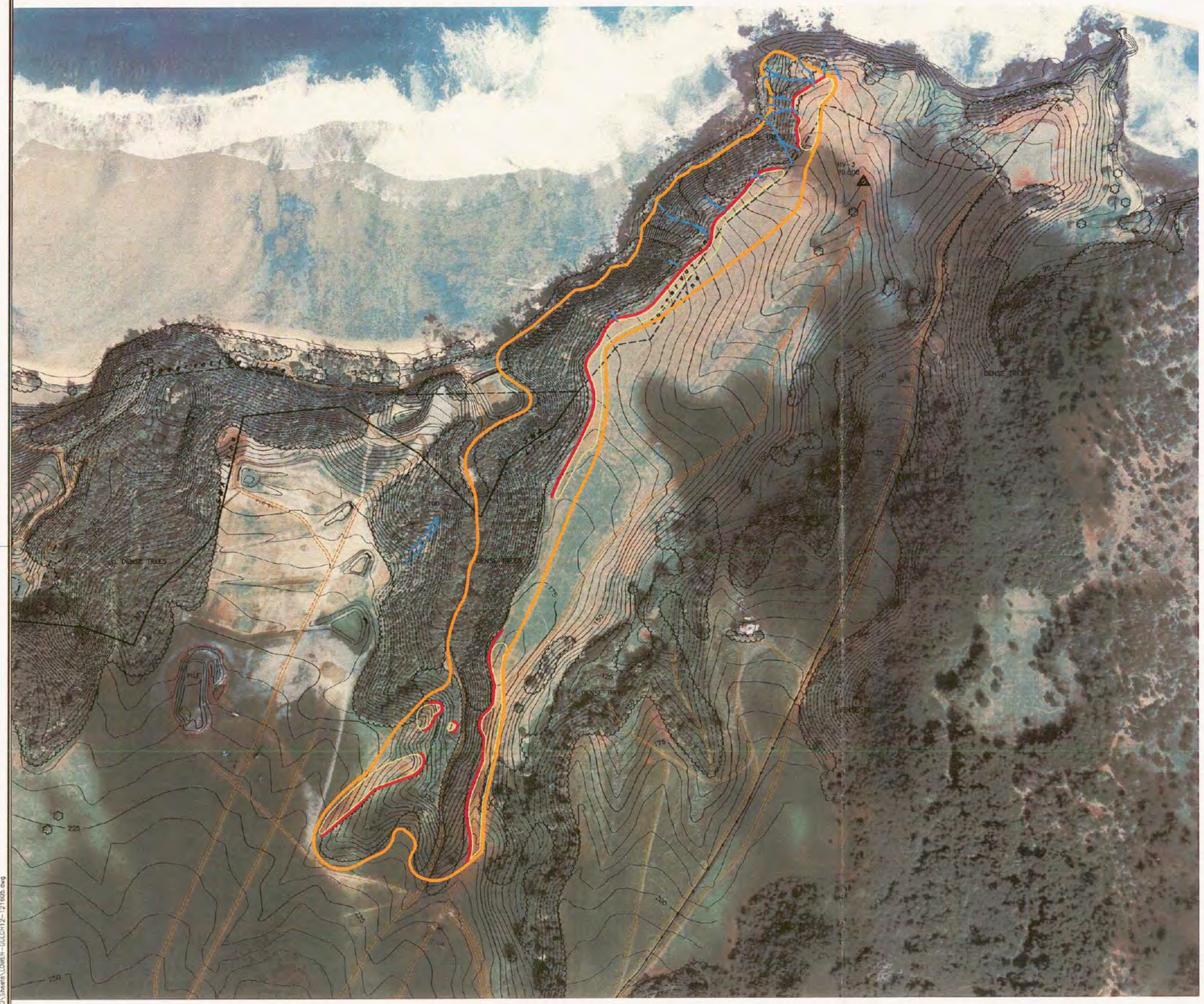
IN THE UNITED STATES DISTRICT COURT

FOR THE DISTRICT OF HAWAI`I

UNITED STATES OF AMERICA, and DEPARTMENT OF HEALTH, STATE OF HAWAI`I, Plaintiffs,  v.  JAMES H. PFLUEGER; PFLUEGER PROPERTIES; AND PILA`A 400 LLC, Defendants.	NO. CV 06-00140 BMK FIRST AMENDED CONSENT DECREE; APPENDIX D

APPENDIX D

TO CONSENT DECREE

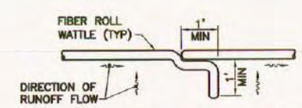


NOTES:

1. PLACE FIBER ROLL WATTLES (9-INCH DIAMETER ROLANKA COCONUT (COIR) FIBER WATTLES OR APPROVED EQUIVALENT) WITHIN THE INDICATED BOUNDARY. MINIMUM 9" HIGH, ALL ABOVE GROUND, STAKED INTO GROUND WITH HARDWOOD STAKES, OVERLAPPED END TO END (OVERLAPPED ONE FOOT AT ENDS) IN A CONTINUOUS LINE ALONG DOWNSLOPE EDGES OF EXPOSED (NON-VEGETATED) AREAS AS INDICATED. FIBER ROLL WATTLES ALONG THIS PERIMETER SHOULD FURTHER BE INSTALLED SO THAT, AT INTERVALS APPROPRIATE TO THE SLOPE, THE DOWNSLOPE ENDS OF THE FIBER ROLL WATTLES ARE TURNED UPSLOPE TO FORM A "J" THAT WILL RETARD FLOW ALONG THE FIBER ROLL WATTLES. SEE DETAIL THIS SHEET.
2. PLACE FIBERROLL (9-INCH DIAMETER ROLANKA COIR FIBER WATTLES OR APPROVED EQUIVALENT) WATTLES, WITHIN THE INDICATED BOUNDARY, ALL ABOVE GROUND, STAKED INTO GROUND, TRANSVERSE TO THE CENTERLINE OF DRAINAGEWAYS, MINIMUM 10 FEET LONG.
3. A FIELD TEAM CONSISTING OF THE ENGINEER AND AT LEAST ONE REPRESENTATIVE FROM THE EPA/DOH SHALL LOCATE THE WATTLES IN THE FIELD AND QUANTITY AND LOCATION OF NATIVE SHRUB PROPAGATION.
4. NO WATTLES SHALL BE PLACED WITHIN 75 FEET OF THE SHORELINE.
5. VEHICLES SHALL NOT TRAVERSE EXPOSED (NON-VEGETATED) AREAS AND PATHWAYS.
6. EXPOSED (NON-VEGETATED) AREAS AS SHOWN ON PLAN AND MAP WILL BE GRASSED WITH GRASSES AVAILABLE ON (OR OFF) THE PROPERTY AS APPROPRIATE. NO SOIL PREPARATION WILL BE DONE. GRASS PROPAGATION SHALL CONSIST OF LAYING A MAT OF THE DESIRED GRASS ON THE EXPOSED AREAS TO BE GRASSED, FOLLOWED BY TEMPORARY IRRIGATION AS NEEDED UNTIL THE GRASS IS ESTABLISHED.
7. RECOGNIZING THAT GRADING IS NOT ALLOWED WITHIN THE CONSERVATION DISTRICT, HAND DRESSING SHOULD BE PERFORMED TO THE EXTENT PERMISSIBLE IN ORDER TO PROVIDE INTIMATE CONTACT OF THE FIBER ROLL WATTLES WITH THE SUBGRADE. FIBER ROLL WATTLES SHOULD BE STAKED AT INTERVALS SUFFICIENT TO ENSURE SUCH INTIMATE CONTACT. FIBER ROLL WATTLES SHOULD BE INSTALLED BEFORE AREAS UPGRADIENT FROM THEM ARE REGRASSED.
8. THE PROCESS USED FOR ACQUISITION OF GRASS USED IN THE GRASS GROWING PROCESS TO THE EASTERN PLATEAU WILL NEITHER CREATE NEW NOR EXACERBATE EXISTING EROSIONAL PROBLEMS IN AREAS WHERE GRASS IS ACQUIRED FROM OR WHERE GRASS IS PROPAGATED. THE PROPAGATED GRASS WILL BE WATERED UNTIL SUCH TIME THAT THE PROPAGATED GRASSES ARE ESTABLISHED TO THE POINT THAT THEIR LONG TERM SURVIVAL IS ASSURED. EFFORTS TO PROVIDE WATER NEED NOT EXTEND TO THE POINT OF HAVING TO APPLY FOR ANY ADDITIONAL PERMITS.
9. IN ADDITION TO GRASSES, NATIVE SHRUBS SUCH AS ILIMA AND NAUPAKA SHALL BE PROPAGATED TO THE EXTENT PERMISSIBLE UNDER CONSERVATION DISTRICT RULES. THE QUANTITY AND LOCATION OF NATIVE SHRUB PLANTING IS TO BE DECIDED BY THE FIELD TEAM. SEE DETAIL FOR SHRUB PROPAGATION. ILIMA AND NAUPAKA SHALL BE PROPAGATED IN A RATIO OF 25% ILIMA AND 75% NAUPAKA. FOR AREAS NOT EXPOSED TO DIRECT RAINFALL, ILIMA PROPAGATION IS PREFERRED.

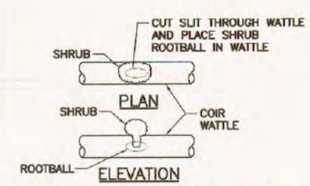
LEGEND:

- UNPAVED ROAD
- FENCE
- INDEX, INTERMEDIATE CONTOUR
- APPROXIMATE CONTOUR
- TREE, TREELINE, BRUSH
- EXISTING SHORELINE
- BOUNDARY OF AREA WITHIN WHICH WATTLES WILL BE PLACED
- LINE OF WATTLES (END TO END, SEE NOTE 1)
- ASSUMED DRAINAGEWAY CENTERLINE (SEE NOTE 2)
- EXPOSED AREAS TO BE GRASSED



FIBER ROLL WATTLE OVERLAP DETAIL

NOT TO SCALE



SHRUB PROPAGATION DETAIL

NOT TO SCALE

Rev	Date	Description	Eng	App
△				
△		CONSENT DECREE VERSION: DECEMBER 16, 2005		
△		REV. DECEMBER 16, 2005		
△		REV. APRIL 15, 2005		
△		REVISED: JANUARY 24, 2005		

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

APRIL 30, 2006
EXPIRATION DATE OF THE LICENSE

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PILA'A 400
REMEDIATION PLAN - PACKAGE 2

EASTERN PLATEAU
(BETWEEN GULCH 1 AND 2)
REMEDIATION PLAN

Designed By: C.K.L. Drawn By: C.K.L., G.Y.
Project No. 2004.33.1900 Date: MARCH, 2004

Approved By:

Date
Date
Date

FILE	POCKET	FOLDER	NO.

NORTH

EASTERN PLATEAU
(BETWEEN GULCH 1 AND 2)
REMEDIATION PLAN

SCALE: 1"=200'

APPENDIX D

Trim: 22"x36"

SHEET 1 of 1 Sheets