RONALD J. TENPAS
Acting Assistant Attorney General
Environment and Natural Resources
Division
United States Department of Justice
Washington, D.C. 20530
ROBERT D. MULLANEY
Environmental Enforcement Section
United States Department of Justice
301 Howard Street, Suite 1050
San Francisco, California 94105
Telephone: (415) 744-6491
Facsimile: (415) 744-6476
E-mail: robert.mullaney@usdoj.gov
EDWARD H. KUBO, JR. 2499
United States Attorney
District of Hawai`i
THOMAS HELPER 5676
Assistant United States Attorney
Room 6-100, PJKK Federal Building
300 Ala Moana Boulevard
Honolulu, Hawai`i 96850
Telephone: (808) 541-2850
Facsimile: (808) 541-2958

Attorneys for Plaintiff United States of America

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 C

APPENDIX C

TO CONSENT DECREE

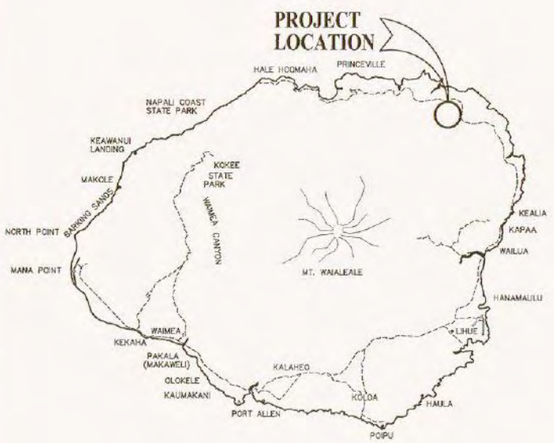
CONSTRUCTION PLANS FOR:

KALOKO RESERVOIR

LOCATED AT:

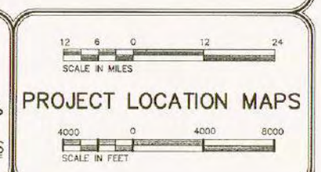
PILAA, KAUA'I, HAWAI'I

TAX MAP KEY: 5-1-02:01



ISLAND OF KAUAI

HAWAIIAN ISLANDS



PROJECT LOCATION MAPS

LOCATION MAP

PREPARED FOR:

PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawai'i 96814

PREPARED BY:

BELT COLLINS
H A W A I I
ENGINEERING • PLANNING • LANDSCAPE ARCHITECTURE • ENVIRONMENTAL CONSULTING
2153 North King Street, Suite 200
Phone: (808)521-5361 Fax: (808)538-7819

INDEX OF DRAWINGS:

SHT. NO.	DESCRIPTION
CIVIL	
C-1	TITLE, INDEX AND LOCATION MAPS
C-2	GENERAL SITE PLAN
C-3	CONSTRUCTION NOTES
C-4	SITE AND EROSION CONTROL PLAN
C-5	GRADING PLAN
C-6	SECTIONS

APPROVED BY:

PLANNING DIRECTOR, PLANNING DEPARTMENT, COUNTY OF KAUAI	DATE
CHIEF ENGINEER, DEPARTMENT OF PUBLIC WORKS COUNTY OF KAUAI (NON-DEDICABLE ROADS)	DATE
MANAGER AND CHIEF ENGINEER, DEPARTMENT OF WATER SUPPLY COUNTY OF KAUAI	DATE
DEPARTMENT OF LAND & NATURAL RESOURCES STATE OF HAWAII	DATE

APPENDIX C

LATEST REVISION: △
DATE:

TMK: 5-1-02:01

PROJECT TITLE: KALOKO RESERVOIR
PROJECT LOCATION: PILAA, KAUAI, HAWAII

REV DATE: JULY 20, 2005
PROJECT NO. (BCH)2002.33.2601 DATE: JUNE 24, 2003

FILE	POCKET	FOLDER	NO.

SHEET C-1 of 6 Sheets

Trim: 22"x36"

HALF SIZE TRIM LINE FOR 11"x17"

Wed, 27 Jul 2005 - 2:48pm
M:\Kaloko Reservoir\20223260\CAD\Sheets\C-01-072005.dwg

GENERAL NOTES:

1. ALL EXISTING UTILITIES, WHETHER OR NOT SHOWN ON THE PLANS, SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR UNLESS SPECIFIED ON THE PLANS TO BE ABANDONED.

2. ALL CONSTRUCTION WORKS SHALL BE PERFORMED IN ACCORDANCE WITH THE HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORKS CONSTRUCTION, 1994, ISSUED BY THE STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, HIGHWAYS DIVISION.

3. THE CONTRACTOR SHALL PROVIDE, INSTALL AND MAINTAIN NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES AND OTHER PROTECTIVE FACILITIES AND TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION OF THE WORK AND CONVENIENCE AND THE SAFETY OF PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES AND PRECAUTIONS TO BE TAKEN SHALL CONFORM TO THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS, FEDERAL HIGHWAY ADMINISTRATION, 2000, AND ITS AMENDMENTS".

4. THE CONTRACTOR SHALL SO CONDUCT HIS OPERATIONS AS TO OFFER THE LEAST POSSIBLE OBSTRUCTION AND INCONVENIENCE TO THE PUBLIC AND HE SHALL HAVE UNDER CONSTRUCTION NO GREATER LENGTH OR AMOUNT OF WORK THAT HE CAN PROSECUTE PROPERLY WITH DUE REGARD TO THE RIGHTS OF THE PUBLIC.

5. REPAIR OF DAMAGED PAVEMENT AND SHOULDERS SHALL BE INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS. ALL UNAPPROVED WORK SHALL BE CONSIDERED UNACCEPTABLE AND SHALL BE REWORKED AND CORRECTED AS DIRECTED BY THE DEPARTMENT OF PUBLIC WORKS.

6. THE CONTRACTOR SHALL PROVIDE TO THE ENGINEER "AS BUILT" DRAWINGS OF ALL NEW IMPROVEMENTS UPON COMPLETION OF WORK.

7. ENVIRONMENTAL POLLUTION CONTROL: CONTRACTOR SHALL KEEP THE PROJECT AND SURROUNDING AREAS FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH.

   ENVIRONMENTAL POLLUTION CONTROLS SHALL BE DONE AT THE CONTRACTOR'S OWN EXPENSE.

8. RESTORATION: THE CONTRACTOR SHALL EXERCISE EXTREME CARE TO AVOID DAMAGING ABUTTING IMPROVEMENTS. HE SHALL RESTORE ANY DAMAGE CAUSED BY HIS OPERATION TO THE CONDITION IT WAS PRIOR TO THE DAMAGE. LAWNS, TREES AND SHRUBBERY SHALL BE CAREFULLY REPLANTED.

GRADING NOTES:

1. THE CONTRACTOR SHALL REMOVE ALL SILT AND DEBRIS RESULTING FROM HIS WORK AND DEPOSITED IN DRAINAGE FACILITIES, ROADWAYS AND OTHER AREAS. THE COST INCURRED FOR ANY NECESSARY REMEDIAL ACTION SHALL BE AT NO ADDITIONAL COST TO THE COUNTY OF KAUAI.

2. ANY REMAINING SEDIMENT AND DEBRIS IN WATERWAYS AND DRAINAGE FACILITIES SHALL BE REMOVED UPON COMPLETION OF GRADING OPERATIONS.

3. THE CONTRACTOR AT HIS OWN EXPENSE SHALL KEEP THE PROJECT AREA AND SURROUNDING AREA FREE FROM DUST NUISANCE. THE WORK SHALL BE IN CONFORMANCE WITH THE AIR POLLUTION CONTROL STANDARDS AND REGULATIONS OF THE STATE DEPARTMENT OF HEALTH AND THE GRADING ORDINANCE OF THE COUNTY OF KAUAI.

4. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF CHAPTER 55. "WATER POLLUTION CONTROL" AND CHAPTER 54. "WATER QUALITY STANDARDS" CONTAINED IN THE PUBLIC HEALTH REGULATIONS, STATE DEPARTMENT OF HEALTH, AND ALL SUBSEQUENT AMENDMENTS.

5. WHERE EXISTING GROUND IS STEEPER THAN 5 HORIZONTAL TO 1 VERTICAL, (5:1) BENCHING AND KEYING ARE REQUIRED TO PROPERLY BOND THE NEW FILL TO THE SLOPE. SEE SECTION AA ON SHEET C-5.

6. NO GRADING WORK SHALL BE DONE ON SATURDAYS, SUNDAYS AND HOLIDAYS AT ANYTIME WITHOUT PRIOR NOTICE TO THE OWNER'S REPRESENTATIVE AND A WRITTEN PERMISSION FROM THE COUNTY ENGINEER AND STATE DEPT. OF HEALTH.

7. THE LIMITS OF THE GRADED AREA SHALL BE FLAGGED BEFORE THE COMMENCEMENT OF THE GRADING WORK.

8. ALL GRADING GRUBBING AND STOCKPILING WORK SHALL BE DONE IN ACCORDANCE WITH THE COUNTY OF KAUAI ORDINANCE NO. 808 AND THE CONTRACT SPECIFICATIONS.

9. FOR EROSION AND SEDIMENT CONTROL NOTES. SEE THIS SHEET.

10. IN ACCORDANCE WITH CHAPTER 6.1 AIR POLLUTION CONTROL, GRUBBED MATERIAL ON THE PROJECT SITE SHALL NOT BE PERMITTED. GRUBBED MATERIAL SHALL BE DISPOSED OF OFF-SITE.

11. ISSUANCE OF A GRADING GRUBBING OR STOCKPILING PERMIT SHALL BE DEEMED TO INCLUDE THE RIGHT OF THE COUNTY ENGINEER OR HIS REPRESENTATIVE TO ENTER UPON THE PROPERTY TO INSPECT OPERATIONS.

12. HOURS OF OPERATION - 7:00 A.M. TO 7:00 P.M. DAILY EXCEPT SATURDAYS, SUNDAYS AND HOLIDAYS AND AS AUTHORIZED IN WRITING BY THE COUNTY ENGINEER.

13. THE PERMITTEE SHALL NOTIFY THE DIVISION OF ENGINEERING INSPECTIONS SECTION, FIVE (5) DAYS BEFORE THE PERMITTEE OR HIS AGENT BEGINS ANY GRADING, GRUBBING OR STOCKPILING.

14. THE PERMITTEE OR HIS AGENT SHALL NOTIFY THE DIVISION OF ENGINEERING INSPECTION SECTION, WHEN THE OPERATIONS ARE READY FOR FINAL INSPECTION.

15. A FINAL AS-BUILT PLAN SHALL BE SUBMITTED TO THE DIVISION OF ENGINEERING INSPECTION SECTION.

16. ALL GRADING OPERATIONS SHALL BE PERFORMED IN CONFORMANCE WITH THE APPLICABLE PROVISIONS OF THE GRADING ORDINANCE TO PREVENT VIOLATION OF THE STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, WATER POLLUTION CONTROL AND WATER QUALITY STANDARDS (11-54, 11-55) DUE TO EROSION AND RUNOFF TO STATE WATERS.

17. GRUBBED MATERIAL, DEMOLITION WASTES AND CONSTRUCTION WASTES SHALL BE DISPOSED OF IN ACCORDANCE TO THE SEDIMENT AND EROSION CONTROL ORDINANCE TO PREVENT VIOLATION OF THE STATE DEPARTMENT OF HEALTH SOLID WASTES MANAGEMENT PERMIT. OPEN BURNING IS PROHIBITED. THE CONTRACTOR SHALL INFORM THE COUNTY ENGINEER OF THE LOCATION OF DISPOSAL SITES. THE DISPOSAL SITE SHALL COMPLY WITH THE SEDIMENT AND EROSION CONTROL ORDINANCE NO. 808.

18. EARTHWORK QUANTITIES ARE:
    GRADED AREA = 4.2 ACRES
    EXCAVATION = 15,300 CY
    EMBANKMENT = 15,300 CY
    EARTHWORK QUANTITIES ARE FOR GRADING PERMIT ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING HIS OWN QUANTITIES.

19. THE COUNTY SHALL BE INFORMED OF THE LOCATION OF THE DISPOSAL SITE FOR THE EXCESS MATERIAL FROM THIS PROJECT WHEN THE APPLICATION FOR A GRADING PERMIT IS MADE. THE DISPOSAL SITE SHALL COMPLY WITH THE SEDIMENT AND EROSION CONTROL ORDINANCE NO. 808.

TEMPORARY DUST AND EROSION CONTROL NOTES:

1. THE CONTRACTOR SHALL CONDUCT HIS OPERATIONS SO THAT EXCAVATION, EMBANKMENT AND IMPORTED MATERIAL SHALL BE DAMPENED TO PREVENT DUST PROBLEMS.

2. IN APPLYING FOR A GRADING PERMIT, THE CONTRACTOR SHALL SUBMIT PLANS, SCHEDULES AND/OR WRITTEN MEASURES WHICH PROVIDE FOR DUST CONTROL. THE DUST CONTROL MEASURES SHALL CONTAIN POSITIVE STATEMENTS WHICH REQUIRE ACTION OR WORK THAT PREVENT DUST PROBLEMS. NO PERMITS WILL BE ISSUED UNLESS THE COUNTY IS ASSURED THAT DUST PROBLEMS WILL BE MINIMIZED.

3. TEMPORARY VEGETATIVE COVER SHALL BE PLANTED WITHIN A PERIOD OF THIRTY (30) CALENDAR DAYS AFTER THE SITE HAS BEEN GRADED OR IF FINAL GRADING OF THE SITE WILL BE SUSPENDED FOR MORE THAN THIRTY (30) CALENDAR DAYS.

4. TEMPORARY VEGETATIVE COVER SHALL CONSIST OF 40 LBS. COMMON RYE GRASS SEED PER ACRE, 400 LBS. PER ACRE 10-10-10 OR EQUIVALENT FERTILIZER WORKED INTO SEED BED BEFORE PLANTING. TEMPORARY SPRINKLER SYSTEM TO BE INSTALLED CONCURRENTLY WITH ALL PLANTINGS. PLANTING AND MAINTENANCE SHALL CONFORM TO THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORK CONSTRUCTION, 1994".

5. THE CONTRACTOR, AT HIS OWN EXPENSE, SHALL PROVIDE EFFECTIVE MEASURES FOR THE CONTROL OF FUGITIVE DUST EMISSIONS FROM THE PROJECT AND SURROUNDING AREAS CAUSED BY HIS OPERATIONS. THESE MEASURES SHALL MEET THE REQUIREMENTS OF STATE ADMINISTRATIVE RULES, DEPARTMENT OF HEALTH, AIR POLLUTION CONTROL (11-60).

PERMANENT EROSION CONTROL MEASURES:

1. THE CONTRACTOR SHALL GRASS THE ENTIRE GRADED SITE. THE GRASS SHALL BE PLANTED, FERTILIZED, AND MAINTAINED IN ACCORDANCE WITH THE "HAWAII STANDARD SPECIFICATIONS FOR ROAD, BRIDGE AND PUBLIC WORK CONSTRUCTION, 1994".

2. THE CONTRACTOR SHALL GRASS ALL EXPOSED AREAS THAT HAVE BEEN CONSTRUCTED TO FINAL GRADES WITHIN A PERIOD OF THIRTY (30) CALENDAR DAYS.

ENVIRONMENTAL PROTECTION NOTES:

1. IN ACCORDANCE WITH CHAPTER 11-60.1.1, AIR POLLUTION CONTROL, TITLE 11, STATE ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT EFFECTIVE CONTROL MEASURES ARE PROVIDED TO MINIMIZE OR PREVENT ANY VISIBLE DUST EMISSION CAUSED BY THE CONSTRUCTION WORK FROM IMPACTING THE SURROUNDING AREAS INCLUDING THE OFF-SITE ROADWAYS USED TO ENTER/EXIT THE PROJECT. THESE MEASURES INCLUDE BUT ARE NOT LIMITED TO THE USE OF WATER WAGONS, SPRINKLER SYSTEMS, DUST FENCES, ETC.

2. IN ACCORDANCE WITH CHAPTER 11-55, WATER POLLUTION CONTROL AND CHAPTER 11-54, WATER QUALITY STANDARDS, TITLE 11, STATE ADMINISTRATIVE RULES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT THE BEST MANAGEMENT PRACTICE (BMP) TO MINIMIZE OR PREVENT THE DISCHARGE OF SEDIMENTS, DEBRIS, AND OTHER WATER POLLUTANT INTO STATE WATERS IS PROVIDED.

3. IN ACCORDANCE WITH CHAPTER 11-58, SOLID WASTE MANAGEMENT CONTROL, TITLE 11, STATE ADMINISTRATIVE RULES, THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING THAT GRUB MATERIAL, DEMOLITION WASTE AND CONSTRUCTION WASTE GENERATED BY THE PROJECT ARE DISPOSED OF IN A MANNER OR AT A SITE APPROVED BY THE STATE DEPARTMENT OF HEALTH. DISPOSAL OF ANY OF THESE WASTES BY BURNING IS PROHIBITED.

Rev	Date	Description	Eng	App
△				
△				
△				

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

PAUL P. WALLRABENSTEIN, JR. LICENSED PROFESSIONAL ENGINEER No. 2435-C HAWAII, U.S.A.

Planning • Civil Engineering
Landscape Architecture
Environmental Consulting
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T/808 521 5361 • F/808 538 7819
www.beltcollins.com

Consultant:

Client:
PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawaii 96814

KALOKO RESERVOIR

CONSTRUCTION NOTES

Designed By: P.P.W. Drawn By: J.T., G.Y.
Project No: 2002.33.2601 (D01) Date: JUNE 24, 2003

Approved By:

Date
Date
Date

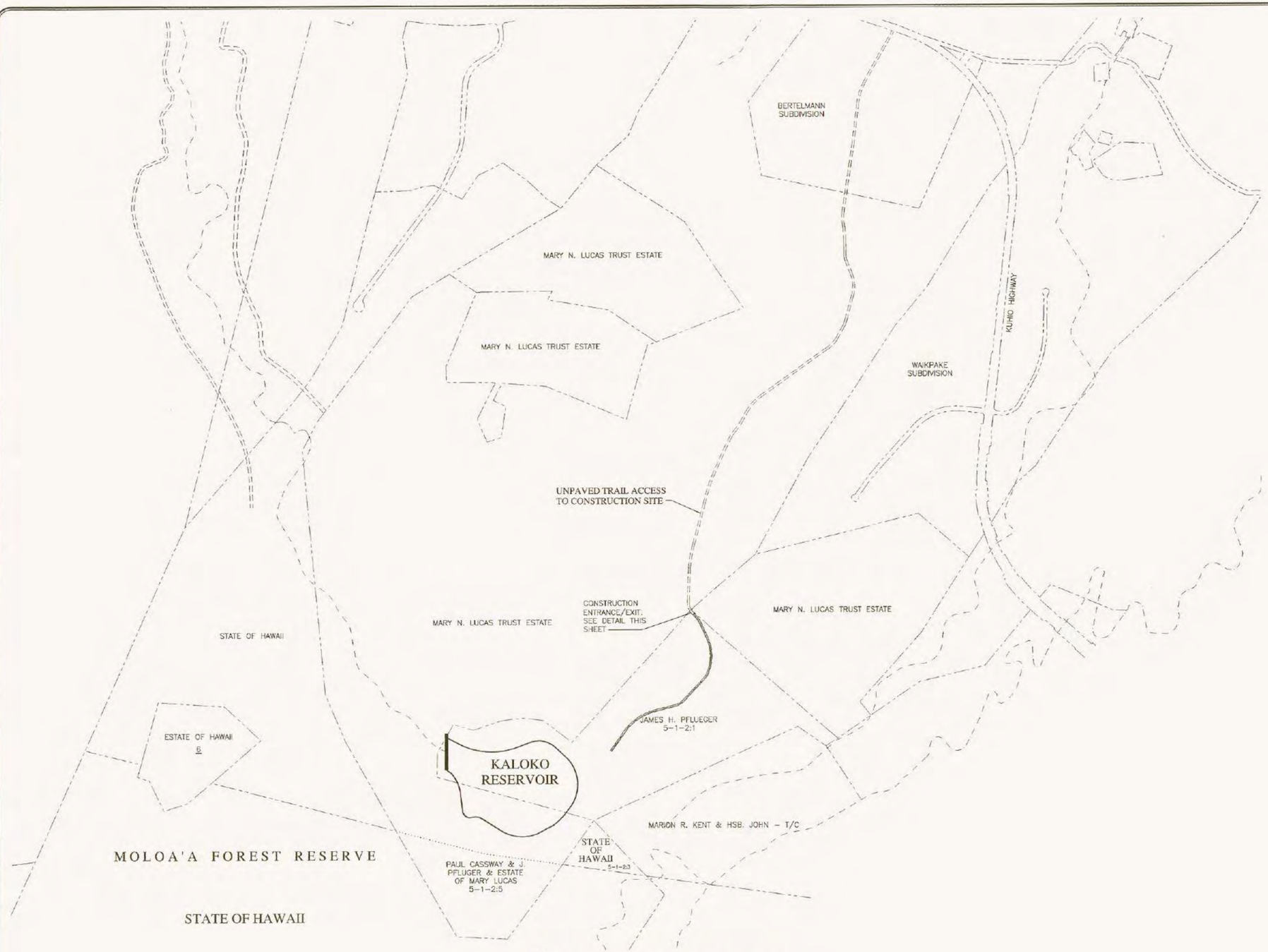
FILE	POCKET	FOLDER	NO.

Trim: 22"x36"

SHEET C-2 of 6 Sheets

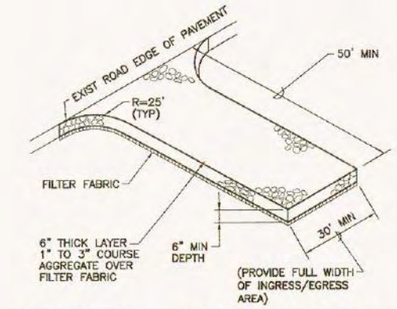
HALF SIZE TRIM LINE FOR 11"x17"

Wed, 27 Jul 2005 - 3:08pm
M:\Kaloko Reservoir\2002\33.2601\CADD\Sheets\C-02.dwg



GENERAL SITE PLAN

SCALE: 1"=600'



STABILIZED CONSTRUCTION ENTRANCE/EXIT DETAIL

NOT TO SCALE

Rev	Date	Description	Eng	App
△				
△				
△				

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

PAUL P. WALLRABENSTEIN, JR. LICENSED PROFESSIONAL ENGINEER No. 2435-C HAWAII, U.S.A.

Planning • Civil Engineering
Landscape Architecture
Environmental Consulting
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T/808 521 5361 • F/808 536 7819
www.beltcollins.com

Consultant:

Client:
PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawaii 96814

KALOKO RESERVOIR

GENERAL SITE PLAN

Designed By: P.P.W. Drawn By: J.T., G.Y.
Project No. 2002.33.2601 (001) Date: JUNE 24, 2003

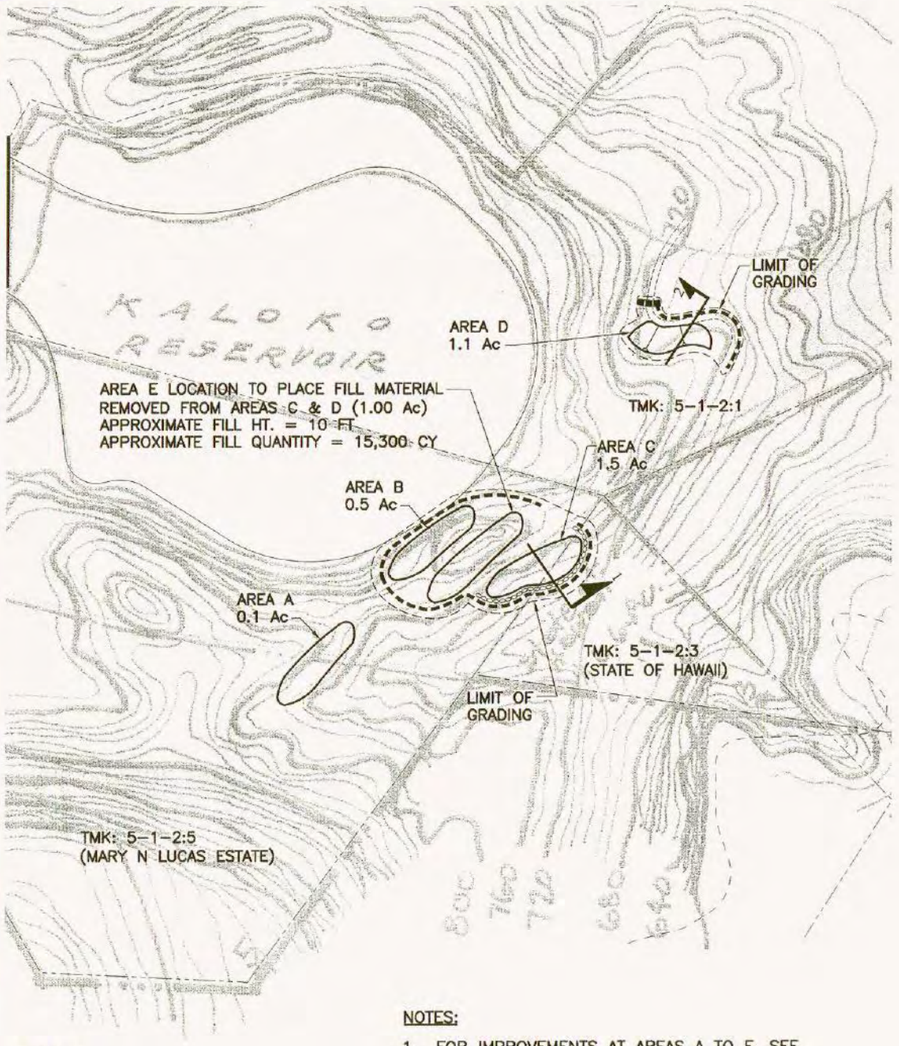
Approved By:

Date
Date
Date

FILE	POCKET	FRAMES	NO.

Trim: 22"x36"

SHEET C-3 of 6 Sheets



LEGEND:

- SILT FENCE
- ROCK BERM
- ROCK CHECK DAM
- LIMITS OF GRADING
- FROM TAX MAP KEY PLANS

NORTH

SITE AND EROSION CONTROL PLAN

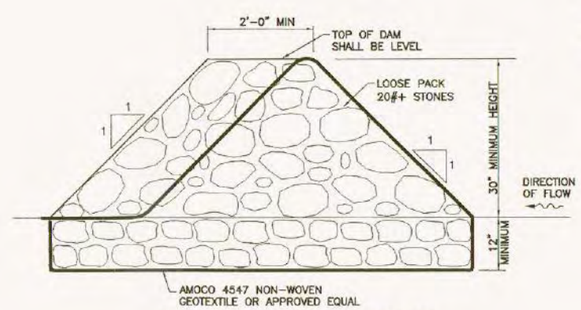
SCALE: 1"=200'

NOTES:

1. FOR IMPROVEMENTS AT AREAS A TO E, SEE AREA NOTES THIS SHEET AND TYPICAL SECTIONS 1, 2 AND 3 ON SHEET C-6.
2. SILT FENCE, ROCK BERM AND ROCK CHECK DAM SHALL BE REMOVED AFTER STABILIZATION (GROW-IN).

EROSION CONTROL AND BEST MANAGEMENT PRACTICE NOTES:

1. CLEARING, GRUBBING AND GRADING SHALL BE HELD TO THE MINIMUM NECESSARY. GRADING AND GRUBBING SHALL BE SEQUENCED TO MINIMIZE THE EXPOSURE TIME OF CLEARED SURFACE AREA. DISTURBED AREA SHALL NOT EXCEED 20 CONTIGUOUS ACRES, AND THERE SHALL NOT BE MORE THAN TWO INDIVIDUAL 20 ACRE DISTURBED AREAS IN ANY ONE OF THE MAJOR DRAINAGE AREAS, AT ANY ONE TIME. A MINIMUM BUFFER OF 200 FEET OF STABILIZED AREA SHALL SEPARATE THE 20 ACRE DISTURBED AREAS.
2. INSTALL SILT FENCE AND ROCK CHECK DAMS WHERE INDICATED ON THIS SHEET.
3. CONSTRUCTION ENTRANCES AND ROADWAYS SHALL BE COVERED WITH COMPACTED #2 ROCK OR COMPACTED ROAD BASE COURSE.
4. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IN PLACE AND FUNCTIONAL BEFORE GRADING AND GRUBBING OPERATIONS BEGIN. THESE MEASURES SHALL BE PROPERLY CONSTRUCTED AND MAINTAINED THROUGHOUT THE GRADING AND GRUBBING PERIOD.
5. ALL CONTROL MEASURES SHALL BE CHECKED AND REPAIRED AS NECESSARY, FOR EXAMPLE, WEEKLY IN DRY PERIODS AND WITHIN TWENTY-FOUR HOURS AFTER ANY RAINFALL OF 0.5 INCHES OR GREATER WITHIN A 24-HOUR PERIOD. DURING PROLONGED RAINFALL, DAILY CHECKING IS NECESSARY. THE PERMITTEE SHALL MAINTAIN RECORDS OF CHECKS AND REPAIRS.
6. IF HEAVY RAINS ARE PROJECTED DURING A WORKDAY, ALL CONTROL STRUCTURES WILL BE INSPECTED IMMEDIATELY AND REINFORCED AS NECESSARY.
7. ALL SILT FENCE AND ROCK CHECK DAMS WILL REMAIN IN PLACE UNTIL VEGETATION IS ESTABLISHED.
8. FERTILIZER AND PESTICIDE APPLICATION SHALL NOT OCCUR IF HEAVY RAINS ARE ANTICIPATED DURING THE WORKDAY, OR DURING HEAVY RAINS.
9. THE PERMITTEE SHALL MAINTAIN RECORDS OF THE DURATION AND ESTIMATED VOLUME OF STORM WATER DISCHARGE(S).
10. A SPECIFIC INDIVIDUAL SHALL BE DESIGNATED TO BE RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS ON EACH PROJECT SITE.
11. GOOD HOUSEKEEPING PRACTICES SHALL BE MAINTAINED FOR STORAGE OF HAZARDOUS CHEMICALS, SUCH AS PESTICIDES AND FERTILIZER, TO PREVENT SPILLAGE FROM OCCURRING AND FLOWING INTO WATERCOURSES. ALL SPILLS SHALL BE STOPPED AND CLEANED UP WITH PROPER ABSORBENT MATERIAL. ABSORBENT MATERIAL SPILL KITS SHALL BE MAINTAINED ON-SITE.
12. SANITARY AND SEPTIC WASTES SHALL BE COLLECTED FROM ON-SITE FACILITIES ON A REGULAR BASIS BY A LICENSED HAULER. SANITARY AND SEPTIC FACILITIES SHALL NOT BE LOCATED NEAR WATERCOURSES.
13. VEHICLE AND EQUIPMENT MAINTENANCE AND FUELING SHALL BE DONE OFF-SITE (WHERE AT ALL POSSIBLE).
14. DUST CONTROL WITH WATER SPRAY (BY TRUCK OR TEMPORARY SPRINKLERS) SHALL BE INSTALLED AS NEEDED. DO NOT OVERWATER.
15. CONTRACTORS AND SUBCONTRACTORS SHALL BE TRAINED ON THE BEST MANAGEMENT PRACTICES.
16. SILT FENCE AND ROCK CHECK DAM FABRIC SHALL BE CLEARED OF SILT IMMEDIATELY FOLLOWING THE END OF ANY RAINFALL THAT CAUSES SILT BUILDUP ON THE FABRIC.



ROCK BERM DETAIL

NOT TO SCALE

AREA NOTES:

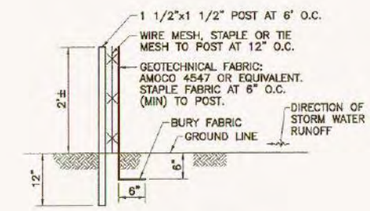
1. •AREA A – HYDROMULCH EXPOSED AREAS.

   •AREA B – PLACE SILT FENCE, SCARIFY AND COMPACT 6" LAYER OF EXISTING GROUND TO 90% OF ASTM D1557 USING TRACKED EQUIPMENT AND HYDROMULCH.

   •AREA C – PLACE SILT FENCE & ROCK BERMS, REGRADE PER TYPICAL SECTION 1, COMPACT TO 90% OF ASTM D1557, AND HYDROMULCH.

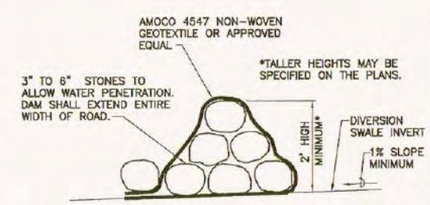
   •AREA D – PLACE SILT FENCE & ROCK BERMS, REGRADE PER TYPICAL SECTIONS 2 AND 3, COMPACT FILL TO 90% OF ASTM D1557, AND HYDROMULCH ALL SLOPES AND EXPOSED SURFACES.

   •AREA E – PLACE SILT FENCE, SCARIFY AND COMPACT 6" LAYER OF EXISTING GROUND, PLACE FILL AND COMPACT TO 90% OF ASTM D1557 USING TRACKED EQUIPMENT AND HYDROMULCH.
2. HYDROMULCH SHALL CONSIST OF GYPSUM, ORGANIC STARCH TACKIFIER, MULCH, CELLULOSE WOOD FIBER, KIKUYU GRASS, RYE GRASS, SUN HEMP, AND FERTILIZER IN A MIXTURE TO BE DETERMINED BY THE ENGINEER.
3. TEMPORARY IRRIGATION SHALL BE AS REQUIRED TO ESTABLISH GRASS.



SILT FENCE DETAIL

SCALE: 3/4"=1'-0"



ROCK CHECK DAM SECTION

NOT TO SCALE

Rev	Date	Description	Eng.	App.
△				
△				
△		REV. JULY 20, 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

PAUL P. WALLRABENSTEIN JR. LICENSED PROFESSIONAL ENGINEER No.2435-C HAWAII, U.S.A.

Planning • Civil Engineering
Landscape Architecture
Environmental Consulting
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T/808 521 5361 • F/808 538 7819
www.beltcollins.com

Consultant:

Client:
PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawaii 96814

KALOKO RESERVOIR

SITE AND EROSION CONTROL PLAN

Designed By: P.P.W. Drawn By: J.T., G.Y.
Project No. 2002.33.2601 (D01) Date: JUNE 24, 2003

Approved By:

Date

Date

Date

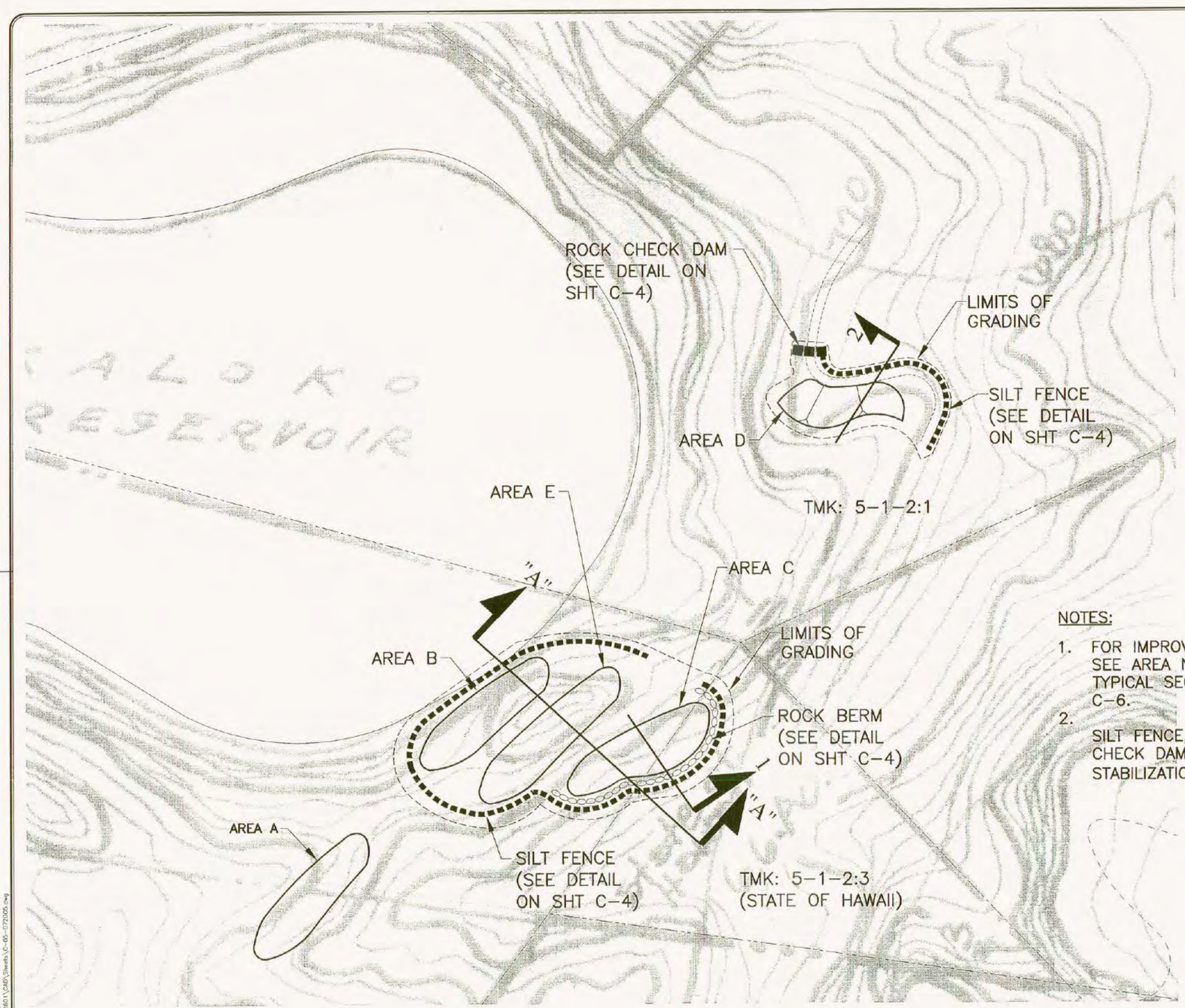
FILE	POCKET	FOLDER	NO.

Trim: 22"x36"

SHEET C-4 of 6 Sheets

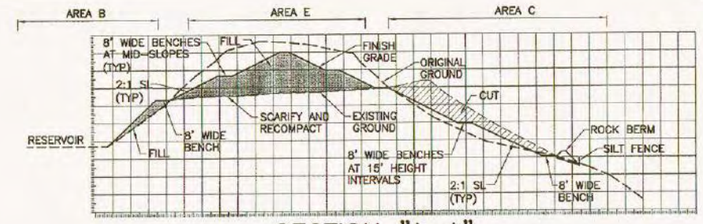
HALF SIZE TRIM LINE FOR 11"x17"

Wed, 27 Jul 2005 - 3:02pm
U:\Kaloko Reservoir\2002\33.2601\CAD\Sheets\C-04-072005.dwg



GRADING PLAN

SCALE: 1"=100'



SECTION "A-A"

SCALES: HORIZ 1"=40'
VERT 1"=40'

AREA NOTES:

1. •AREA A – HYDROMULCH EXPOSED AREAS.

   •AREA B – PLACE SILT FENCE, SCARIFY AND COMPACT 6" LAYER OF EXISTING GROUND TO 90% OF ASTM D1557 USING TRACKED EQUIPMENT AND HYDROMULCH.

   •AREA C – PLACE SILT FENCE & ROCK BERMS, REGRADE PER TYPICAL SECTION 1, COMPACT TO 90% OF ASTM D1557, AND HYDROMULCH.

   •AREA D – PLACE SILT FENCE & ROCK BERMS, REGRADE PER TYPICAL SECTIONS 2 AND 3, COMPACT FILL TO 90% OF ASTM D1557, AND HYDROMULCH ALL SLOPES AND EXPOSED SURFACES.

   •AREA E – PLACE SILT FENCE, SCARIFY AND COMPACT 6" LAYER OF EXISTING GROUND, PLACE FILL AND COMPACT TO 90% OF ASTM D1557 USING TRACKED EQUIPMENT AND HYDROMULCH.

2. HYDROMULCH SHALL CONSIST OF GYPSUM, ORGANIC STARCH TACKIFIER, MULCH, CELLULOSE WOOD FIBER, KIKUYU GRASS, RYE GRASS, SUN HEMP, AND FERTILIZER IN A MIXTURE TO BE DETERMINED BY THE ENGINEER.

3. TEMPORARY IRRIGATION SHALL BE AS REQUIRED TO ESTABLISH GRASS.

EARTHWORKS

TMK	AREA	AREA SIZE (ACRES)	BEFORE (HISTORICAL) EXCAVATION (C.Y.)	BEFORE (HISTORICAL) EMBANKMENT (C.Y.)	AFTER (ADDITIONAL) EXCAVATION (C.Y.)	AFTER (ADDITIONAL) EMBANKMENT (C.Y.)
5-1-2:5	A	0.1	–	0	N/A	–
5-1-2:1	B	0.5	–	2,000	N/A	–
5-1-2:3&1	C	1.5	–	10,000	11,385	–
5-1-2:1	D	1.1	3,500	3,500	3,835	–
5-1-2:1	E	1.0	12,000	0	–	15,220

NOTES:

1. FOR IMPROVEMENTS AT AREAS A TO E, SEE AREA NOTES THIS SHEET AND TYPICAL SECTIONS 1, 2 AND 3 ON SHEET C-6.
2. SILT FENCE, ROCK BERM AND ROCK CHECK DAM SHALL BE REMOVED AFTER STABILIZATION (GROW-IN).

LEGEND:

- SILT FENCE
- ROCK BERM
- ROCK CHECK DAM
- LIMITS OF GRADING
- FROM TAX MAP KEY PLANS

Rev	Date	Description	Eng	App
△				
△				
△		REV. JULY 20, 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

PAUL R. WALTRABENSTEIN, JR. LICENSED PROFESSIONAL ENGINEER No.2435-C HAWAII, U.S.A.

BeltCollins
Planning • Civil Engineering
Landscape Architecture
Environmental Consulting
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T/808 521 5361 • F/808 538 7819
www.beltcollins.com

Consultant:

Client:
PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawaii 96814

KALOKO RESERVOIR

GRADING PLAN

Designed By: P.P.W. Drawn By: J.T., G.Y.
Project No. 2002.33.2601 (D01) Date: JUNE 24, 2003

Approved By:

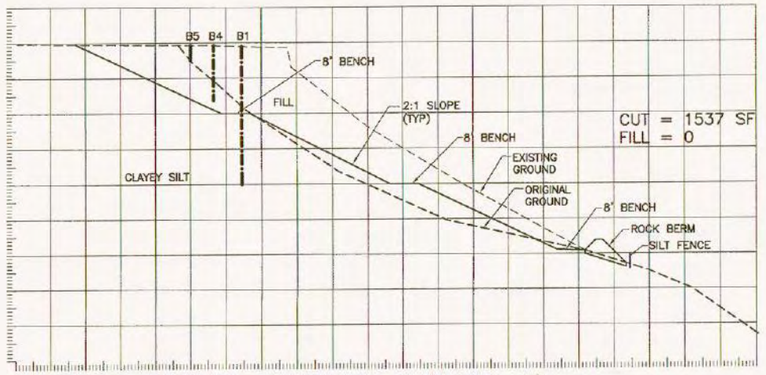
Date
Date
Date

FILE	POCKET	FOLDER	NO.

Trim: 22"x36"

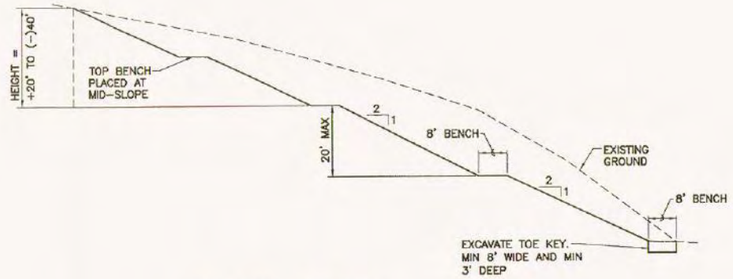
SHEET C-5 of 6 Sheets

HALF SIZE TRIM LINE FOR 11"x17"
Wed, 27 Jul 2005 – 3:04pm
M:\Kaloko Reservoir\2002332601\CAD\Sheets\C-05-072005.dwg



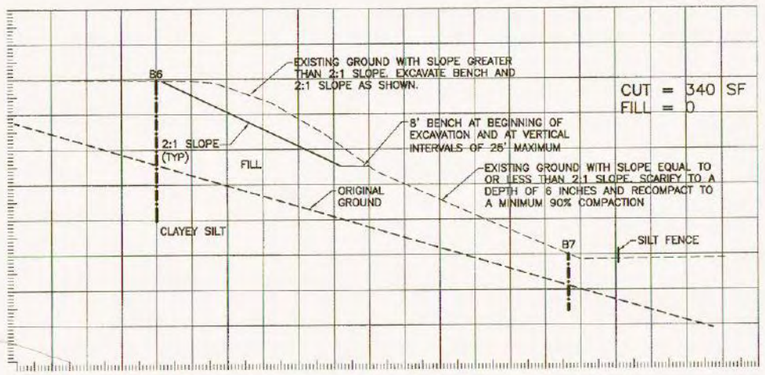
TYPICAL SECTION 1 (AREA C)

SCALES: HORIZ 1"=20'
VERT 1"=20'



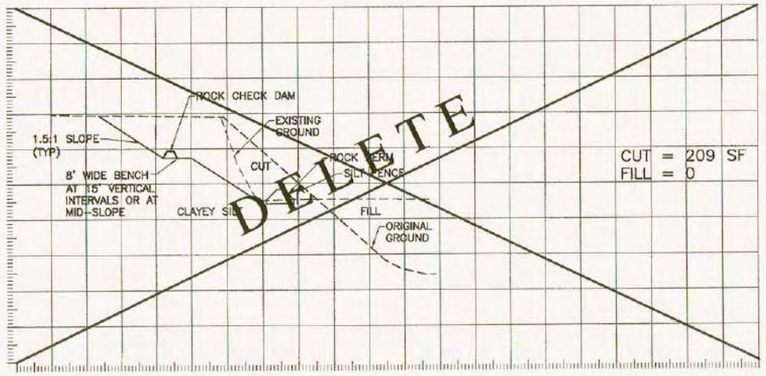
BENCH DETAIL

SCALE: 1"=20'



TYPICAL SECTION 2 (AREA D FILL SLOPE)

SCALES: HORIZ 1"=20'
VERT 1"=20'



TYPICAL SECTION 3 (AREA D CUT SLOPE)

SCALES: HORIZ 1"=20'
VERT 1"=20'

Rev	Date	Description	Eng	App
△				
△				
△		REV. JULY 20, 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

PAUL R. WALLRABENSTEIN, JR. LICENSED PROFESSIONAL ENGINEER No.2435-C HAWAII, U.S.A.

BeltCollins
Planning - Civil Engineering
Landscape Architecture
Environmental Consulting
Belt Collins Hawaii Ltd.
2153 North King Street, Suite 200
Honolulu, Hawaii 96819
T/808 521 5361 • F/808 538 7819
www.beltcollins.com

Consultant:

Client:
PFLUEGER PROPERTIES
1450 South Beretania Street
Honolulu, Hawaii 96814

KALOKO RESERVOIR

SECTIONS

Designed By: P.P.W. Drawn By: J.T., G.Y.
Project No. 2002.33.2601 (001) Date: JUNE 24, 2003

Approved By:

Date
Date
Date

FILE	POCKET	FOLDER	NO.

Trim: 22"x36"

SHEET C-6 of 6 Sheets

HALF SIZE TRIM LINE FOR 11"x17"

Wed, 27 Jul 2005 – 3:05pm
M:\Koloko Reservoir\2002332601\CAD\Sheets\C-06-072005.dwg