

JOHN WAIHEE
GOVERNOR



JOSEPH K. CONANT
EXECUTIVE DIRECTOR

STATE OF HAWAII
DEPARTMENT OF BUDGET AND FINANCE
HOUSING FINANCE AND DEVELOPMENT CORPORATION
677 QUEEN STREET, SUITE 300
HONOLULU, HAWAII 96813
FAX (808) 587-0600

RECEIVED
'93 SEP -3 P12 03
IN REPLY REFER TO:

QUALITY CONTROL 93:DEV/4145

August 26, 1993

Mr. Brian J. J. Choy, Director
Office of Environmental Quality Control
220 S. King Street, 4th Floor
Honolulu, HI 96813

Dear Mr. Choy:

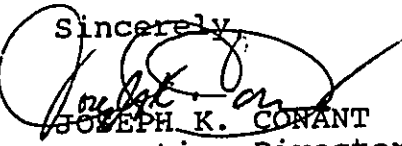
SUBJECT: Negative Declaration for Hanapepe Drainage Improvement
Project, TMK: 1-8-08:45, Hanapepe, Kauai, Hawaii

The Housing Finance and Development Corporation has reviewed the comments received during the 30-day public comment period which began on July 8, 1993. The agency has determined that this project will not have significant environmental effect and has issued a negative declaration. Please publish this notice in the September 8, 1993, OEQC Bulletin.

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA.

Please contact Dean Shigemura, Assistant Project Coordinator, at 587-0540, if you have any questions.

Sincerely,


JOSEPH K. CONANT
Executive Director

Encs.



1993-09-23-RA-PEA-Hanapepe Drainage Improvement

SEP 23 1993

ENVIRONMENTAL ASSESSMENT
FOR THE
HANAPEPE DRAINAGE IMPROVEMENT PROJECT

PREPARED FOR
HOUSING FINANCE AND DEVELOPMENT CORPORATION
STATE OF HAWAII

PREPARED BY
AVERY H. YOUN AND ASSOCIATES
ARCHITECTURE, PLANNING AND LAND USE

MAY, 1993

ENVIRONMENTAL ASSESSMENT FOR THE
HANAPEPE DRAINAGE IMPROVEMENT PROJECT

APPLICANT: Housing Finance and Development Corporation
State of Hawaii

LANDOWNER: State of Hawaii

LOCATION: Hanapepe, Kauai, at the intersection of Hanapepe Road and Kaumualii Highway and through the Hanapepe Drainage Project channel located between Kaumualii Highway and the former Hanapepe Beach Road (T.M.K.: 1-8-08:45), and continuing through to Hanapepe Bay.

REQUEST: Development of drainage improvements to accomodate peak discharge that would arise from a 100 year storm in the area with attention to the potential impact generated from the Hanapepe Cliffside project.

APPROVING AGENCY: Housing Finance and Development Corporation.

I. PROPOSED ACTION:

The applicant proposes the following improvements:

- A. Provision of one or two 6' x 11' box culverts across Hanapepe Road at its intersection with Kaumualii Hwy., and extending approximately 600' to Area A noted on Plate III.
- B. Expand the culvert headworks across Kaumualii Highway by providing three additional 6.5' x 10' box culverts in the vicinity of it's intersection with Hanapepe Road.

Future improvements include:

- C. Excavate and improve the earthen drainage channel (T.M.K.: 1-8-08:45) to a 50 feet width.
- D. Expand the out flow structure across Puolo Road to Hanapepe Bay by providing an additional 7' x 13' box culvert, making it a four-cell culvert.

Because State funds and lands are being utilized for this project, an environmental assessment is required by Chapter 343, HRS, Relating to Environmental Impact Statements.

II. DESCRIPTION OF TECHNICAL, ECONOMIC, SOCIAL AND ENVIRONMENTAL CHARACTERISTICS

A. TECHNICAL CHARACTERISTICS

The implementation of the 62 acre Hanapepe Cliffside Project raised concerns from the County and the public that the development would generate drainage problems to Hanapepe town below. The drainage report prepared by the design engineer for the project concluded that

drainage problems existed within Hanapepe long before the inception of the Hanapepe Cliffside Project. It further concluded that the proposed development would have a minimal impact, if any, on the total storm run off from the relevant tributary area, which covers 2069 acres. The 62 acre cliffside project represents only 3% of the total drainage basin.

The OFFSITE DRAINAGE REPORT for the CLIFFSIDE AT HANAPEPE was prepared by Portugal and Associates, Inc. and provided findings and recommendations for off-site drainage improvements based on a 50 year storm as required by the Department of Public Works, County of Kauai.

Plate I is a location map and also shows the Tributary Areas A and B that will affect this drainage project. Plate II is a blow-up of Tributary Area B as well as the existing drainage facilities located within the Project Area. Plate III delineates the proposed drainage improvements and it's locations. Plate IV is a blow-up of the Kaumualii Highway/Hanapepe Road intersection showing more details of a portion of the proposed improvements.

The Drainage Report further produced the following FINDINGS:

1. At the inlet side of the 5' x 6' conc. culvert across Moi Road, the calculated increase in run-off due to development is 83 CFS. The calculated run-off prior to, and after, development is 345 CFS and 428 CFS, respectively.

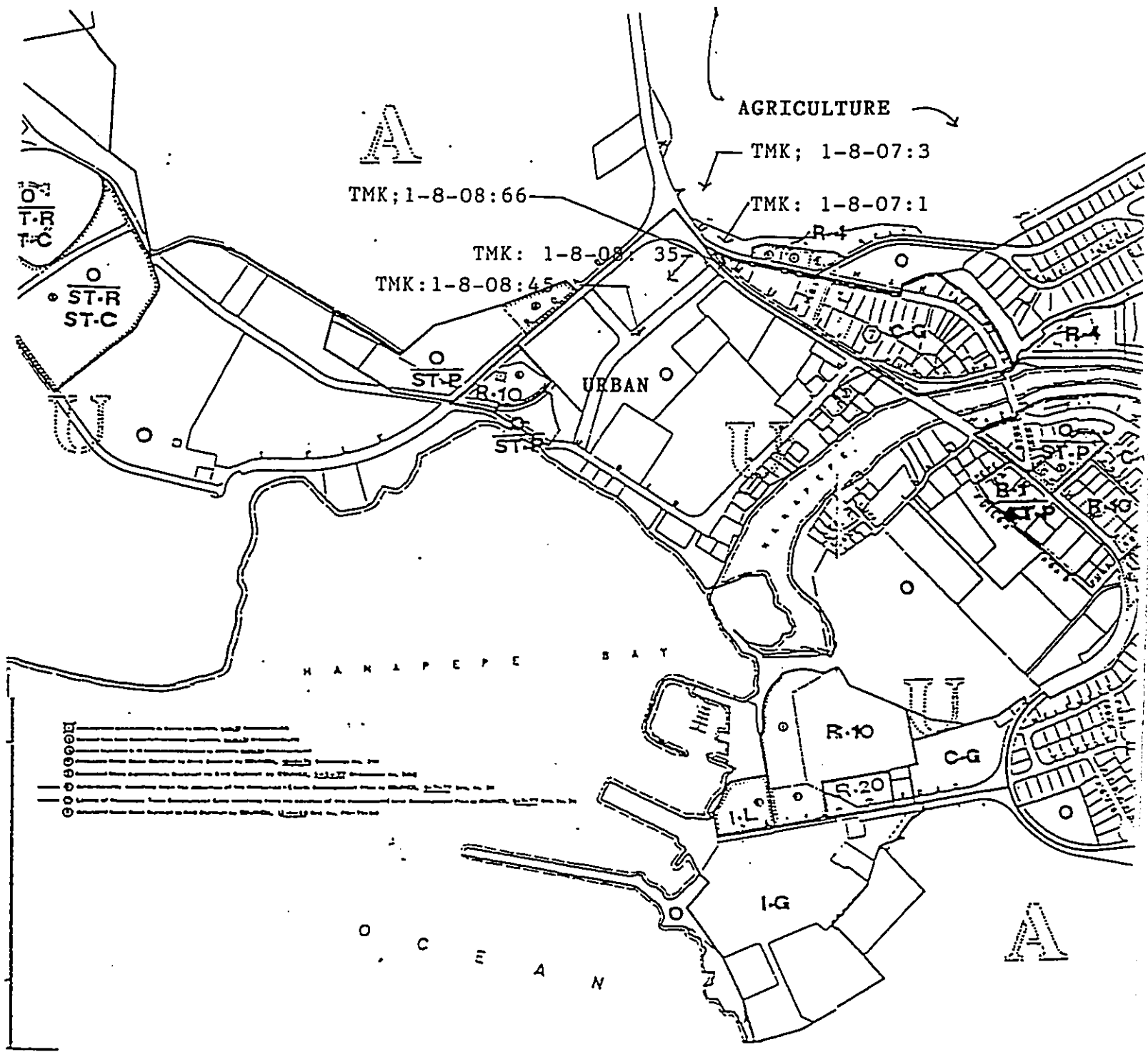
The capacity of the existing 5' x 6' culvert is 480 CFS, which is adequate to handle the flows prior to, and after development.

2. The 90-inch diameter corrugated metal pipe culvert along Moi Road, which forms a part of the closed conduit system, is adequate to handle the 50-year storm flows, prior to and after development.
3. At the inlet side of the arch culvert across Hanapepe Road, the calculated increase in run off due to development is 108 CFS. The calculated run-off prior to, and after, development is 383 CFS and 491 CFS, respectively.

The capacity of the arch pipe culvert under existing conditions is only 320 CFS. It is evident from above that the culvert cannot handle the 50-year storm flows before and after development.

The capacity of 320 CFS, however, has been calculated with tailwater conditions at elevation 11.4 feet, which very likely occurs as explained hereinafter.

4. At the inlet side of the twin-cell box culvert across Kaumualii Highway, which is the confluence point of the run-off from the A & B tributary areas, certain events are influenced by conditions on the downstream end of the culvert and the earth channel, which in turn affect the capacity of the arch culvert on the upstream side of this particular inlet.
5. The earth channel, which was originally designed with a 10-foot base and 2:1 side



1. The boundaries of the State Land Use Districts are shown by a solid line.

 2. The boundaries of the County Land Use Districts are shown by a dashed line.

 3. The boundaries of the State Land Use Districts are shown by a solid line.

 4. The boundaries of the County Land Use Districts are shown by a dashed line.

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 7. The boundaries of the State Land Use Districts are shown by a solid line.

 8. The boundaries of the County Land Use Districts are shown by a dashed line.

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STATE LAND USE DISTRICTS

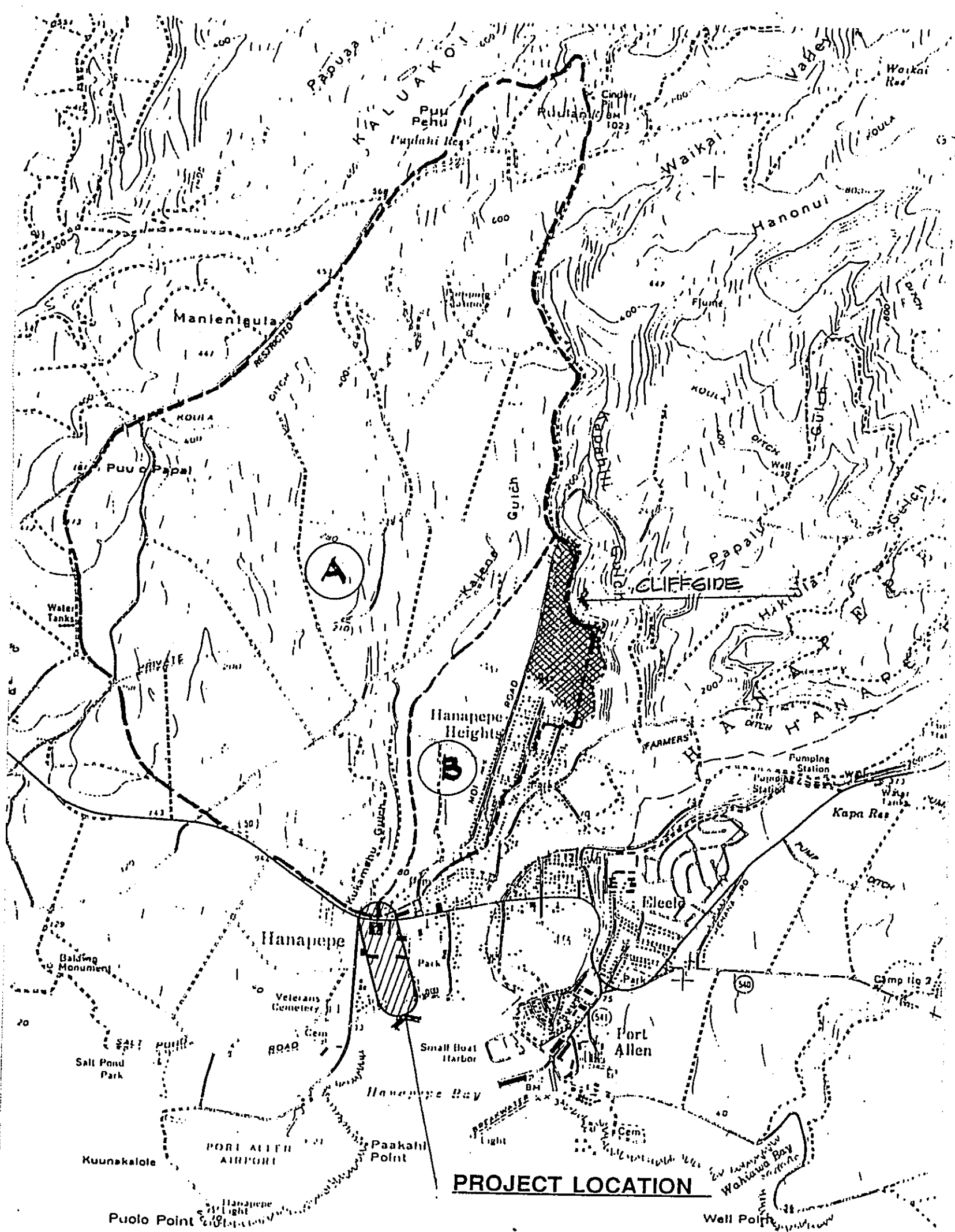


PLATE I
TRIBUTARY AREAS A AND B AND PROJECT LOCATION

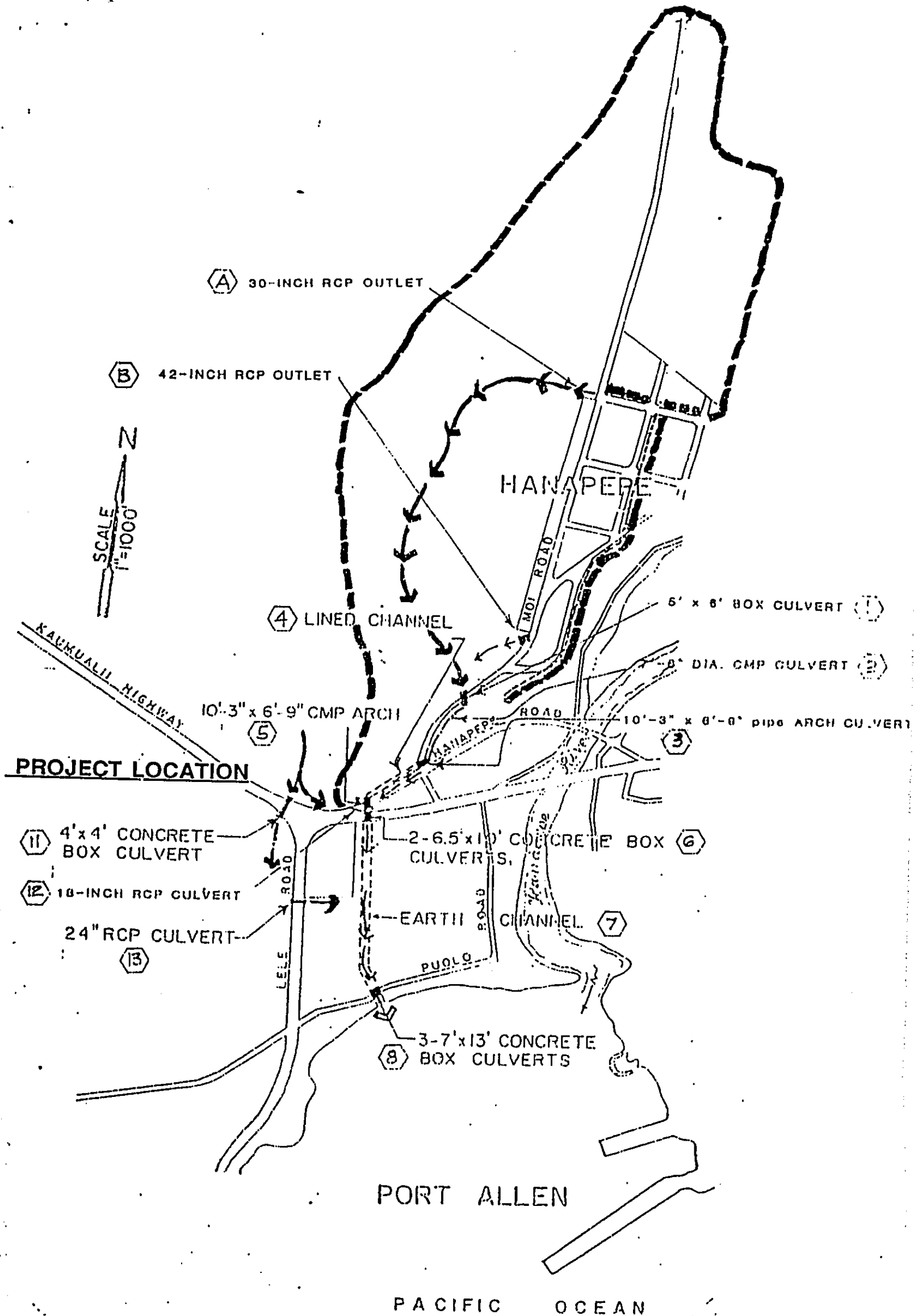


PLATE II
EXISTING OFF-SITE DRAINAGE INFRASTRUCTURES

CONSTRUCTION COST ESTIMATES

1.	SINGLE CULVERT FROM AREA 'A'	\$900,000.00
	DOUBLE CULVERT FROM AREA 'A'	\$1,700,000.00
2.	EXPAND CULVERT HEADWORKS	\$400,000.00
3.	(FUTURE) - IMPROVE EARTH CHANNEL	\$472,000.00
4.	(FUTURE) - EXPAND OUTFLOW CHANNEL	\$280,000.00

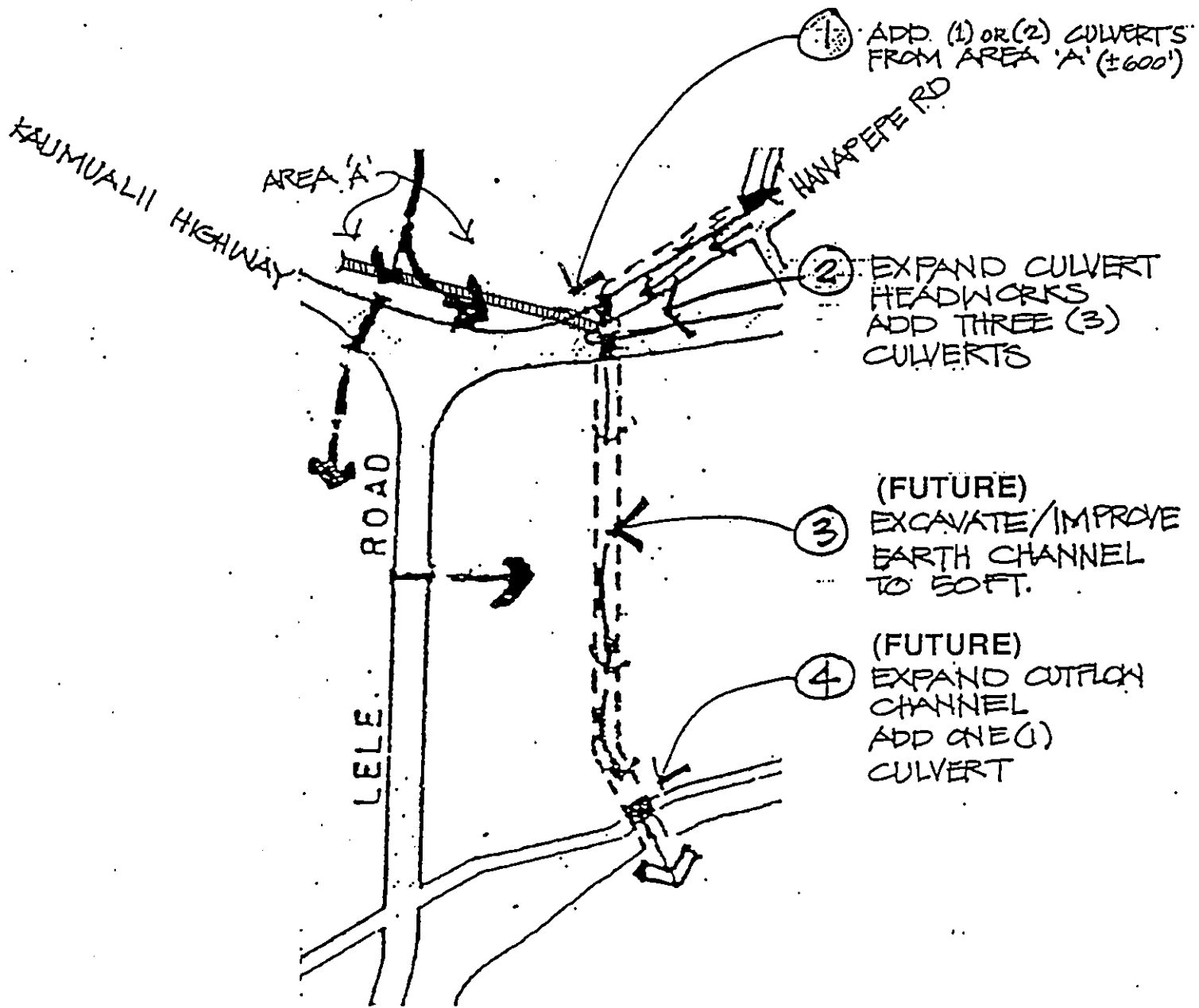
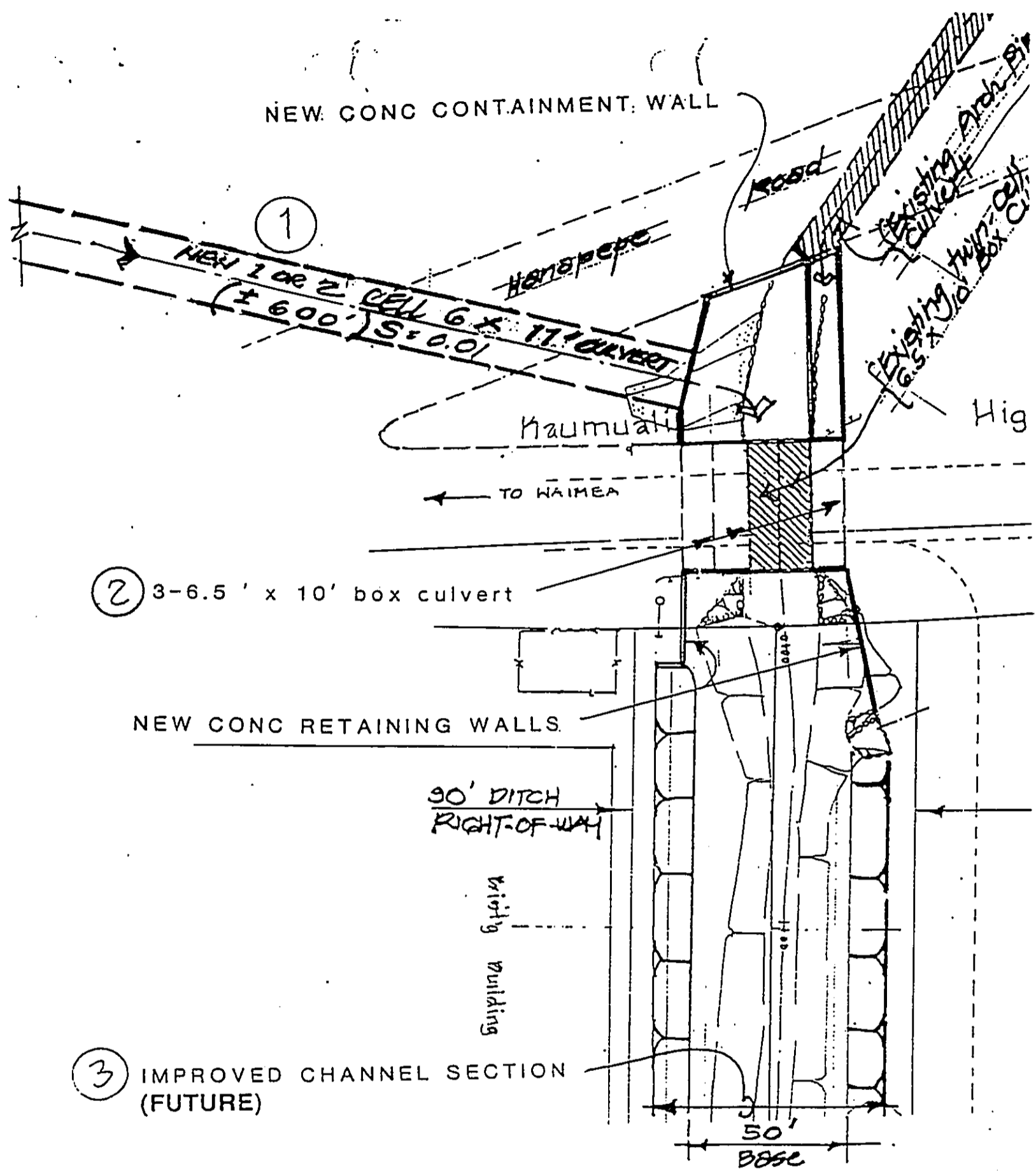


PLATE III

OFF-SITE DRAINAGE IMPROVEMENTS REQUIRED
TO HANDLE 100 YEAR STORM RUN-OFF



NEW CONC CONTAINMENT WALL

①

NEW 2 OR 2 CELL 6 x 17' CULVERT
(± 600') S=0.01

Kaumualii

TO WAIMEA

② 3-6.5' x 10' box culvert

NEW CONC RETAINING WALLS

30' DITCH
RIGHT-OF-WAY

Right Building

③ IMPROVED CHANNEL SECTION
(FUTURE)

50'
BASE

PLATE IV

HANAPEPE RD./KA'UMUALII HWY. IMPROVEMENTS

slopes on a 0.002 ft/ft slope is overgrown with vegetation and the bottom silted up and scoured at certain sections of the channel. The effective carrying capacity of the channel has been greatly reduced. The estimated capacity of the channel is 600 CFS.

6. Since the channel can discharge only 600 CFS, the headwaters on the upstream side of the culvert will build up to the maximum allowable headwater elevation of 11.40'.
7. This headwater elevation of 11.40' becomes the tailwater elevation of the arch pipe culvert across Hanapepe Road, which reduces its carrying capacity to 320 CFS.

The Drainage Report further made the following CONCLUSIONS:

1. The existing system identified as ①②③ and ④ (see Plate II) is adequate to handle the storm flows for a 10-year and 50-year storm, before and after development. It cannot, however, handle the flows for a 100-year storm, before and after development.
2. The existing arch pipe culvert identified as ⑤ cannot, under existing conditions, handle the flows for 50-year and 100-year storms, before and after development. It can, however, handle the flows for a 10-year storm before and after development.
3. At the inlet side of the structure identified as ⑥, being the confluence point of tributary areas A & B, there is no increase in run-off due to the development, due to the difference in peak times for maximum discharge from the watershed areas A & B.
4. The fact, however, remains that the drainage structures identified as ⑥ & ⑦, which is the earth channel are not adequate to handle storm flows for a 10-year, 50-year or 100-year storm. The development is not impacting at all on this portion of the system.

Finally, the report concluded with the following recommendations which are intended to upgrade a segment of the system to handle at least 50-year storm flows. It should be noted that this particular segment, which is not impacted at all by the development, is inadequate to handle even 10-year storm flows.

- a. Improve earth channel identified as ⑦ by widening it to the following specifications:

Base: 50' wide
Side Slopes: 2 to 1
Flow Depth: 6'
Capacity: 2400 CFS
- b. Provide Triple-Cell, 6.5' x 10' x 44' long, complete with headwalls, across Kaunualii Highway (See Plate IV).

- c. Provide reinforced concrete culvert across Hanapepe Road (See Plate IV).
- d. Clean existing lined ditch identified as 4 along Hanapepe Road.

It was noted that implementation of these recommendations is beyond scope of the Drainage Report. In January of 1990, an ASSESSMENT OF THE DRAINAGE SITUATION FOR THE HANAPEPE CLIFFSIDE PROJECT (HANAPEPE HEIGHTS III) was prepared for the Housing Finance and Development Corporation by M & E Pacific, Inc. The report focused on (1) the peak discharge that would arise from a 100-year storm with attention to the potential impact of the proposed Cliffside development, (2) the resulting flows, and (3) the suggested approach to implementing mitigating measures. As compared to the previous report it should be noted that its conclusions were based on a 50-year storm as compared to a 100-year storm for this latter report. For a 100-year storm with a duration of 24 hours, the corresponding precipitation is 12". By comparison, a 50-year recurrence interval is 11", which is not much different.

An excerpt from the introduction to the report highlights its conclusion.

"Our conclusion is that the proposed Cliffside Project will have negligible impact on the total drainage problem at Hanapepe, if it does at all. The 100-year storm event has a peak discharge of 2218 cubic feet per second with the Cliffside development. Without the development, under present conditions, the peak discharge is 2228 cubic feet per second.

The existing drainage facilities according to our estimate have a maximum capacity of 1000 cubic feet per second, not enough to handle the extreme storms expected. Improvements are necessary to increase the capacity and effectiveness of the drainage facilities. Alternative measures and their cost-effectiveness are described in this report to guide policy decisions."

The conclusion that developing the project would lessen the peak discharge should be further clarified. This phenomenon occurs because of the time of concentration, or in this case, the time to peak. The Hillside project site has a time to peak at 640 minutes at the culvert crossing Kaumualii Highway. The most distant point in the drainage basin has a peaking time of 750 minutes. The peak discharge from the Hillside Project would have passed by the time the major part of the storm runoff appears at the critical juncture with a flow of 2218 cfs, at 710 minutes. Both engineering reports by independent firms conclude that the drainage impact from the Cliffside Project is inconsequential and that the drainage improvements now proposed will accommodate drainage problems that existed long before the inception of the Hillside Project.

THE DRAINAGE FACILITIES

Based on the projected flows of 2218 cfs, it is clear that the existing drainage facilities at Ka'umualii Highway cannot handle the runoff from a 100 year storm, since its capacity is

estimated at 1000 cfs. A discharge of 2400 cfs has been used as the reference for the 100 year storm and to determine required culvert sizes. Portugal and Associates suggested that the head works at Kaumualii Highway be expanded from two 6.5 x 10-foot cells to five cells, the earth-lined channel be expanded to a 50' bottom width, and a twin cell 6.5 x 10-foot culvert be built across the Hanapepe Road at the intersection with Ka'umualii Highway to intercept flows from Drainage Area A. M & E Pacific, Inc., further recommended that an additional 7' x 13' culvert be provided at Puolo Road. D05 ✓

M & E Pacific, Inc., further recommended that the outfall structure to Hanapepe Bay at Puolo Road be expanded by adding at least one more culvert cell, making it a four-cell culvert, each cell being 7' x 13'. It should be noted that the construction plans for the project prepared by Kodani and Associates, have changed the twin-cell 6.5 x 10-foot culvert across Hanapepe Road to a twin cell 6 x 11 foot culvert.

B. ECONOMIC CHARACTERISTICS

The total estimated construction cost breakdown is provided as follows:

1.	Addition of a 6' x 11' box culvert across Hanapepe Road:	\$900,000.00
	Option: Provision of 2-6' x 11' culverts:	(\$1,700,000.00)
2.	Provide three 6.5' x 10' box culverts across Ka'umaulii Hwy:	\$400,000.00
	TOTAL AMOUNT with single culvert under Hanapepe Rd.	\$1,300,000.00
	TOTAL AMOUNT with double culvert under Hanapepe Rd.	(\$2,100,000.00)

Future Improvements:

3.	Excavate Earthen Channel to 50' width:	\$472,000.00
4.	Provide an additional 7' x13' box culvert at outflow channel:	\$275,333.00
	TOTAL AMOUNT of Future Improvements (1993 dollars)	\$747,333.00

Economic benefits resulting from this project will be primarily short term, since it will provide construction jobs temporarily until completion of the project. Long term economic benefits would be considered latent, in that it would be realized by surrounding residents and merchants in the form of minimized flood losses that would be the result of these drainage improvements. No adverse economic conditions are likely to occur as a result of this project.

C. SOCIAL CHARACTERISTICS

Relative to the drainage project itself, it will not affect the social fabric of the community. It will reduce the threat of flooding from drainage basins A & B but will give residents living in the vicinity only a minimal sense of added security because the major flooding concern of Hanapepe residents does not relate to this area but comes from the Hanapepe River itself. Social impacts such as crime, population increases, ethnic relations, etc., are not usually generated by a drainage project of this scale. Impacts if any, would take place during the construction period only, whereby such actions as traffic jams, detours, dust and noise may cause temporary discomfort to the residences.

Social impacts to the Hanapepe/Eleele communities would be generated more from the cliffside project itself rather than from drainage improvements. With the addition of 305 additional lots to the community as many as 1000 people will be added to the population and will affect the social fabric of that community. Immediately visible will be the increase in traffic along Hanapepe and Moi Roads. Other factors accompanying population growth in a community include additional taxation of public services and usage of public facilities such as parks; increased school enrollment; and social transition caused by the introduction of new lifestyles, ethnicities and social background brought in by the new residents.

These factors however are previous concerns addressed during the early stages of the cliffside development and should not be affiliated with the drainage improvements now being implemented.

D. ENVIRONMENTAL CHARACTERISTICS

1. Flora and Fauna: The project site is part of an existing drainage system. No indigenous native endangered plants or animal species are known to exist within the drainage system. Some removal of Kiawe trees and haole koa may be necessary at the headwall portion of the culverts that will cross Hanapepe Road. Within the drainage channel itself, it contains mainly noxious exotic weeds and grasses.
2. Historical and Archaeological: Similarly, no historic or archaeological sites are known to exist within the project area itself, however, in light of the excavation proposed to construct this project, the possibility of unearthing ancient Hawaiian skeletal remains or artifacts does exist. If any such remains are found during excavation, the proper procedures as required by law will be followed, and a qualified archaeologist will be contacted to review site conditions and to make appropriate recommendations.
3. Scenic: Of scenic value would probably be views towards Hanapepe Bay, however, this project will not impact nor obstruct any such views that may exist.
4. Noise and Air Quality: There will be noise and dust generated during the construction period, however, such impacts will be limited to daylight working hours only, and due care will be exercised to minimize the inconvenience to neighboring residents and merchants through effective dust control methods.
5. Water Quality: The purpose of a drainage project is to control run-off on its path to the ocean so that it does not cause damage to property or endanger human life. With or without drainage improvements, the run-off will still enter Hanapepe Bay whenever a storm occurs. The impact of this project to water quality within the bay will be no different than the impact resulting should no improvements be made. The difference

being that this project will result in a more controlled dispersal of run-off into the bay, or a point source as compared to a non-point source. It should be noted here however, that the major source of impact to water quality will not be generated from this project, but from the Hanapepe River which drains into Hanapepe Bay

however, that the major source of impact to water quality will not be generated from this project, but from the Hanapepe River which drains into Hanapepe Bay approximately 1000 feet away from this project's outfall.

III. SUMMARY DESCRIPTION OF AFFECTED ENVIRONMENT

The proposed project is expected to generate only temporary impacts such as dust and noise during the period of construction. Temporary inconveniences such as road detours and traffic jams will occur also during the same period.

IV. IDENTIFICATION AND SUMMARY OF MAJOR IMPACTS, ALTERNATIVES CONSIDERED IF ANY, AND MITIGATION MEASURES PROPOSED

Dust and Noise: During the construction period, dust control measures utilizing sprinkler systems if necessary and frequent watering of the affected roadways will be implemented. Noise impacts will be temporary also during the construction period, and can be controlled through limiting time of operation to daylight hours only.

Traffic: Although no increase in traffic will be generated from this project itself, there will be inconveniences during the construction period such as detours, alternating one-way traffic and traffic jams. Other than these two factors mentioned above, no other major impacts are anticipated from this project. The project itself is considered a mitigation measure in that it will accommodate the 100 year storm run-off from drainage areas A and B, which includes the Cliffside Development, and will definitely be a public improvement. The resultant factor is that it will minimize flood risk and damage to residents and merchants in this vicinity of Hanapepe Town.

V. DETERMINATION

An environmental impact statement is not needed since no major adverse environmental impacts will be generated from this drainage project. Furthermore, the impacts identified are minor and temporary only, lasting through the construction period. Based on the foregoing assessment, it has been determined that a negative declaration will be filed.

VI. FINDINGS AND REASONS SUPPORTING DETERMINATION

- A. The proposed project will not involve an irrevocable commitment to loss or destruction to any natural or cultural resources;
- B. The proposed project will not curtail the range of beneficial uses of the environment;
- C. The proposed project will not conflict with the State's long-term environmental policies or goals and guidelines as expressed in Ch. 344, HRS, and any revisions thereof and amendments thereto, court decisions or executive orders;

- D. The proposed project will not substantially affect the economic or social welfare of the community or State;
- E. The proposed project will not substantially affect public health;
- F. The proposed project will not involve substantial secondary impacts, such as population changes or effects on public facilities;
- G. The proposed project will not involve a substantial degradation of environmental quality.
- H. The proposed project will not have a cumulative effect upon the environment nor will it involve a commitment for larger actions;
- I. The proposed project will not substantially affect any rare, threatened or endangered species of flora or fauna or it's habitat; No endangered species of flora or fauna have been discovered or are known to exist in the project site;
- J. The proposed project will not detrimentally affect air or water quality or ambient noise levels;
- K. The proposed project is located in an environmentally sensitive area, (flood plain, tsunami zone, coastal waters, etc.) however, it is not considered detrimental and will be an improvement to the sensitive area;

For the reasons above, the proposed project will not generate any significant adverse environmental effects and is in compliance with the context of chapter 343, Hawaii Revised Statutes and Section 11-200-12 of the State Administrative Rules.

VII. LIST OF PERMITS AND APPROVALS REQUIRED:

<u>Work Item</u>	<u>Permits Required</u>
1. Provide Culverts from Area A	<ul style="list-style-type: none"> a. Road Permit for construction within a County right-of-way b. Permit for construction within a State right-of-way c. Grading permit
2. Expand Culvert Headworks (Kaumualii Highway)	<ul style="list-style-type: none"> a. Permit for construction within a State right-of-way
3. (Future) Improve Earth Channel	<ul style="list-style-type: none"> a. Special Management Area Use Permit b. Grading Permit c. DA Permit (Corps of Engineers)
4. (Future) Expand Outflow Channel	<ul style="list-style-type: none"> a. Special Management Area Use Permit b. Road Permit for construction within a County right-of-way c. DA Permit (Corps of Engineers)

VIII. COMMENTS AND RESPONSES TO COMMENTS FROM
REVIEW AGENCIES

RECEIVED
U.F.D.C.

JUN 30 12 50 PM '93

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
KAUAI DISTRICT
3080 Ewa Street, Room 205
Lihua, Hawaii 96788KEX B. JOHNSON
DIRECTORDEPUTY DIRECTORS:
JOYCE T. OMINE
AL PANG
JEANNE K. SCHUL
CALVIN M. TSUO

IN REPLY REFER TO

HWY-KE 4.8773

June 25, 1993

Joseph K. Conant, Executive Director
Housing Finance & Development Corporation
Department of Budget & Finance
State of Hawaii
677 Queen Street, Ste. 300
Honolulu, HI 96813

Attn: Mr. Dean Shigemura

Dear Mr. Conant:

SUBJECT: HANAPEPE DRAINAGE IMPROVEMENT PROJECT (TMK:1-8-8:45)

Review of the draft Environmental Assessment for the Hanapepe Drainage Project have been completed.

Our comments/corrections to the draft EA are as follows:

Page 1: Item A of Proposed Actions

Sheet 9 of the EA refers to construction of twin 6' x 11' box culvert crossing Hanapepe Road in lieu of a single 6' x 11' box culvert as indicated in Item A. This should be clarified.

Page 2: Item 4 of Findings (from Drainage Report)

Paragraph should be simplified/clarified. Possible clarification is attached.

Page 8: Correct Spelling as IndicatedPage 9: Paragraph 1

Clarify/correct last sentence of Paragraph 1.

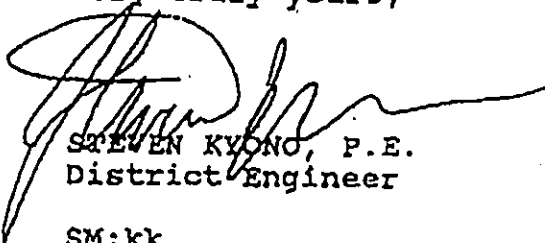
Our comments/corrections are marked in red on the attached copy of the draft Environmental Assessment.

Joseph K. Conant
June 25, 1993
Page 2

HWY-KE 4.8773

If you have any questions, please call Steve Morikawa at 241-3461.

Very truly yours,



STEVEN KYONO, P.E.
District Engineer

SM:kk

Encl:

AVERY H. YOUN, ARCHITECT
3501 RICE ST. STE. 203
LIHUE, HAWAII 96766

August 20, 1993

Mr. Steve Kyono
Department of Transportation
Highways Division
3060 Eiwa St. Room 205
Lihue, Hawaii 96766

Re: Hanapepe Drainage Improvement Project Environmental Assessment

Dear Steve,

Thank you for your review comments on the subject assessment. In addressing your concerns, we have amended Item A of page 1 to mention the twin culverts proposed.

For page 2, item 4, the paragraph relating to culvert size recommendations have been clarified in the final report. Similarly, your concerns on spelling and clarity on pages 8 and 9 have also been corrected.

I thank you for your comments since the changes we've made in response has clarified the assessment report.

Sincerely,



Avery H. Youn, Architect

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JUL 12 7 12 AM '93

DEPARTMENT OF WATER
COUNTY OF KAUAI
P.O. BOX 1206
LILIE, HAWAII 96746-5206
PHONE NO: (808) 245-6906 FAX NO. 245-5813

July 6, 1993

Mr. Dean Shigemura
Assistant Project Coordinator
Department of Budget & Finance
HOUSING FINANCE
AND DEVELOPMENT CORPORATION
677 Queen Street, Suite 300
Honolulu, HI 96813

Re: Hanapepe Drainage Improvement Project - Your Reference
No. 93:DEV/2784

We have no objections to this project; however, please submit
the construction plans for review and approval prior to
actual implementation of this project.

Raymond H. Sato
Raymond H. Sato
Manager and Chief Engineer

KFS:rw

RECEIVED
A.F.O.C.

UNITED STATES
DEPARTMENT OF AGRICULTURE
SOIL
CONSERVATION
SERVICE

P. O. BOX 50004
HONOLULU, HI
96850-0001

July 9, 1993


Mr. Joseph K. Conant
Department of Budget and Finance
Housing Finance and Development Corporation
577 Queen Street, Suite 300
Honolulu, Hawaii 96813

Dear Mr. Conant:

Subject: Hanapepe Drainage Improvement Project
Environmental Assessment

We have completed our review of the Environmental Assessment and have no major concerns. To prevent water quality impairment of Hanapepe Bay during construction, we recommend the installation of management practices to minimize the risk of excavated material eroding into the existing drainageways.

Thank you for the opportunity to provide comment on this project which will undoubtedly reduce the flooding problems of Hanapepe.


NATHANIEL R. CONNER
State Conservationist
ACTING FOR

AVERY H. YOUN, ARCHITECT
3501 RICE ST. STE. 203
LIHUE, HAWAII 96766

August 20, 1993

Mr. Nathaniel Conner
United States Dept. of Agriculture
Soil Conservation Service
PO Box 50004
Honolulu, HI 06850-0001

Re: Hanapepe Drainage Improvement Project Environmental Assessment

Dear Sir:

Thank you for your review comments on the subject assessment. Please be assured that construction techniques utilized for the project will be in accordance to the Grading Ordinance of the County of Kauai, and required measures to control erosion, runoff and excavated material from entering Hanapepe Bay will be closely followed and monitored by State and County agencies.

Thank you for your comments.

Sincerely,


Avery H. Youn, Architect

DOCUMENT CAPTURED AS RECEIVED



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JUL 10 1993
12 11 PM '93
REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FORT SHAFTER, HAWAII 96858-5440



July 9, 1993

Planning Division

Mr. Joseph K. Conant, Executive Director
Department of Budget and Finance
State of Hawaii
577 Queen Street, Suite 300
Honolulu, Hawaii 96813

Dear Mr. Conant:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment for the Hanapepe Drainage Improvement Project, Maui (TMK 1-3-2: 45). The following comments are provided pursuant to Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1950 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. A DA permit is required for the proposed improvements. Please contact our Operations Division for further information regarding permit requirements at 438-9258 and refer to file 2093-068.

b. According to the enclosed Federal Emergency Management Agency's Flood Insurance Rate Map, panel number 150002-0190C dated March 4, 1987, the project area is located in Zone X (unshaded; areas determined to be outside of the 500-year flood plain), Zone X (shaded; areas determined to be within the 500-year flood plain), and Zone AE (areas within the 100-year flood plain with a base flood elevation of 10 feet above mean sea level).

Sincerely,

Y. M. Cheung, P.E., M.A.S.E.
Director of Engineering

Enclosure

DOCUMENT CAPTURED AS RECEIVED

... ..

ZONE V Local flood with average return (base flood), or less than average return

ZONE VE Coastal flood with average return (base flood), or less than average return

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

ZONE Y Areas of 100 year floods; areas of 100 year 1500 ft high average depths of less than 1 foot or with average area less than 1 square mile and areas protected by levees from 100 year floods

OTHER AREAS

ZONE X Areas determined to be subject to

ZONE D Areas in which flood heights are

Legend:

- Flood Boundary
- Community Boundary
- Zone D Boundary
- Boundary, including Special Flood Hazard Zone, and Boundary (includes Zone D boundary)
- Base Flood Elevation Level: Elevation in Feet
- 100 Year Elevation Line
- Base Flood Elevation in Feet
- Elevation Reference Table

BASED ON THE NATIONAL COASTAL FLOODING DATA OF 1925

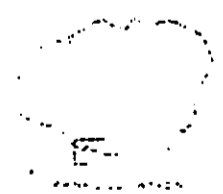
NOTES

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

KAUAI COUNTY,
HAWAII

PANEL 190 OF 235
SEE MAP INDEX FOR PANELS NOT PRINTED



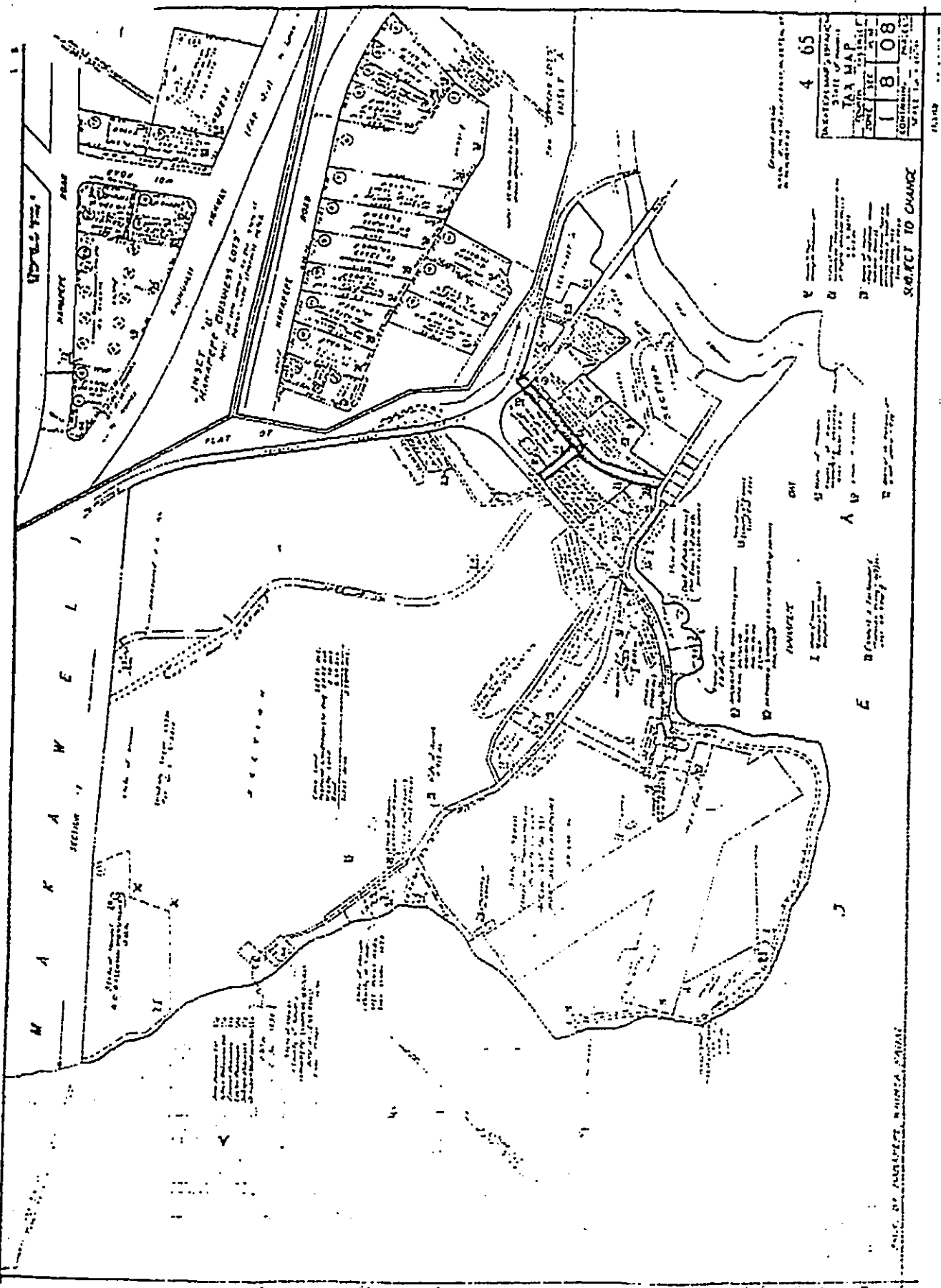
COMMUNITY PANEL NUMBER
150007 0100 0

MAP REVISED
MARCH 4, 1987

U.S. DEPARTMENT OF COMMERCE
NATIONAL FLOOD INSURANCE PROGRAM

150007 0100 0

DOCUMENT CAPTURED AS RECEIVED



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TAX MAP

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SUBJECT TO CHANGE

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

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AVERY H. YOUN, ARCHITECT
3501 RICE ST. STE. 203
LIHUE, HAWAII 96766

August 20, 1993

Mr. Kisuk Cheung, P.E.
Director of Engineering
Department of the Army
U.S. Army District
Fort Shafter, HI 96858-5440

Re: Hanapepe Drainage Improvement Project Environmental Assessment

Dear Sir:

Thank you for your review comments on the subject assessment. We are aware that Department of Army (DA) Permits are required, however it applies only to the two future work item, which are widening of the drainage channel and provision of a culvert across Puolo Road. It is these two items also which will only be affected by the flood zone, these of which are the culvert and only a small portion of the drainage channel improvements. According to the flood maps, thses will fall into the AE zone. Please be assured that when these two project items are implemented in the future, the proper DA permits will be secured and all requirements for construction within the 100 year flood zone will be followed.

Thank you for your comments.

Sincerely,



Avery H. Youn, Architect



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OFFICE OF STATE PLANNING

Office of the Governor

MAILING ADDRESS: P.O. BOX 3540, HONOLULU, HAWAII 96811-3540
STREET ADDRESS: 280 SOUTH HOTEL STREET, 4TH FLOOR
TELEPHONE: (808) 587-2848, 587-2800

FAX: Director's Office 587-2640
Planning Division 687-2824

Ref. No. C-153

July 22, 1993

MEMORANDUM

TO: Mr. Joseph K. Conant, Executive Director
Housing Finance and Development Corporation

SUBJECT: Draft Environmental Assessment for the Hanapepe Drainage
Improvement Project

We have reviewed the Draft Environmental Assessment for the Hanapepe Drainage Improvement Project and have the following comments.

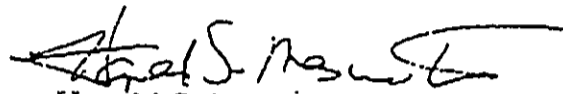
A relevant Coastal Zone Management policy is to: "Promote water quantity and quality planning and management practices which reflect the tolerance of fresh water and marine ecosystems and prohibit land and water uses which violate state water quality standards". In order to comply with this policy, proposed drainage improvement projects should consider additional mitigation measures such as settling ponds in an effort to reduce water quality degradation.

The issue of water quality as discussed in the Draft Environmental Assessment compares the results of development of the drainage project as producing a point source of runoff versus a non-point source runoff without the drainage improvement. Although the net impact of runoff into Hanapepe Bay may be identical with or without the drainage improvements, the quality of the runoff may differ. With the anticipated development of 305 additional lots for the Hanapepe Cliffside project, an increase in impermeable surfaces will likely result. Urban and residential uses may generate man-made types of pollutants such as pesticides, petroleum products, and other chemical agents. These types of pollutants may be concentrated in the drainage channel outfall and may have a detrimental effect on the adjacent coastal ecosystems. Urban and residential runoff

Mr. Joseph K. Conant
Page 2
July 22, 1993

quality should be a concern in the development of this drainage improvement project.

Thank you for the opportunity to review this draft environmental assessment. If you have any questions, please contact Harold Lao at 587-2883.



Harold S. Masumoto
Director

AVERY H. YOUN, ARCHITECT
3501 RICE ST. STE. 203
LIHUE, HAWAII 96766

August 20, 1993

Mr. Harold S. Masumoto
Office of State Planning
PO Box 3540
Honolulu, HI 96811-3540

Re: Hanapepe Drainage Improvement Project Environmental Assessment

Dear Sir:

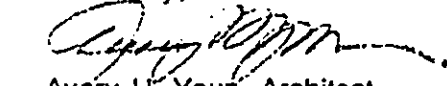
Thank you for your review comments on the subject assessment. We share your concerns relative to improving State water quality standards. You have raised two points in your response that are true and of which we definitely agree with. Firstly, that drainage improvements produce a point source of runoff versus a non-point source; and secondly, that drainage improvements should consider additional mitigation measures such as settling ponds.

In this case, drainage improvements are being provided subsequent to the development of the 305 units at Hanapepe Cliffside, the runoff of which will indirectly flow into existing drainage infrastructure that are inadequate to handle the additional loads. In addition, Drainage Area A, which is under sugar cultivation, adds tremendously to the drainage requirements. The project does collect non-point sources of run-off into a point source, but it is for the purpose of controlling drainage, and in this case, because lower Hanapepe is already urbanized and subject to flooding, these improvements are necessary to minimize risk of damage to private and public properties due to flooding.

Relative to mitigation measures, widening of the drainage channel will also make it function as a holding pond, so such considerations were addressed during the design stages of this project. Although it won't function as a complete holding pond, its size and width will accommodate a large volume of water, its outflow of which will be regulated by the smaller culverts at Puolo Road.

Thank you for your comments.

Sincerely,


Avery H. Youn, Architect

8082466368 KODANI & ASSOCIATES

279 P82 AUG 25 '93 15:48

Keith W. Ahue, Chairperson
BOARD OF LAND AND NATURAL RESOURCES

WAINIE
OFFICE OF HAWAII

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JUL 22 7 54 AM '93



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

P. O. BOX 521
HONOLULU, HAWAII 96808

MEMBER
John P. Keppeler, II
Dona L. Hanaika

AQUACULTURE DEVELOPMENT PROGRAM
AGRICULTURAL RESOURCES CONSERVATION AND ENVIRONMENTAL AFFAIRS
CONSERVATION AND RESOURCES ENFORCEMENT
CONSERVATION AND WILDLIFE
HISTORIC PRESERVATION PROGRAMS
LAND MANAGEMENT
STATE PARKS
WATER AND LAND DEVELOPMENT

REF: OCEA: SSK

JUL 20 1993

FILE NO.: 93-685
DOC. NO.: 3128

MEMORANDUM

TO: The Honorable Joseph K. Conant, Executive Director
Housing Finance and Development Corporation

FROM: Keith W. Ahue, Chairperson *KA*
Board of Land and Natural Resources

SUBJECT: Draft Environment Assessment (DEA) Hanapepe Drainage Improvement Project, Hanapepe, Kauai, TMK: 1-8-08: 45

We have reviewed the DEA information for the proposed drainage project transmitted by your letter dated June 14, 1993, and have the following comments:

Office of Conservation and Environmental Affairs

The Office of Conservation and Environmental Affairs (OCEA) comments that Final EA should provide tax map key (TMK) and State Land Use District information for the project area. The Final EA should also include maps illustrating both the TMK and Land Use Districts boundaries in relation to the project area.

Pg 2a

In addition, should the proposed project involve work on the bed or banks of streams in this area, HFDC should consult with the Commission on Water Resource Management for possible Stream Channel Alteration Permits (SCAP) that may be required.

Memo to J. Conant

- 2 -

File No.: 93-685

Division of Land Management

The Division of Land Management (DLM) comments that a Department of Accounting and General Services (DAGS) survey map dated May 23, 1990, reflects the existence of the Hanapepe Drainage Project established via Executive Order 2714, which abuts TMK: 1-8-08: 35 (former Amfac Site Hanapepe) to the east. Provided the construction activities and drainage improvements do not adversely impact the existing State-owned structure on parcel 35, DLM would have no objections to this project.

We will forward our Aquatic Resources and Historic Preservation Divisions' comments as they become available.

Thank you for the opportunity to comment on this matter.

Please feel free to call Steve Tagawa at our Office of Conservation and Environmental Affairs, at 587-0377, should you have any questions.

COPY

August 18, 1993

MEMORANDUM

LOG NO: 8755
DOC NO: 9308NM31

TO: Roger Evans, OCEA

FROM: Don Hibbard, Administrator
State Historic Preservation Division



SUBJECT: **Historic Preservation Review --Draft EA Hanapepe Drainage
Improvement Project File No. 93-685 (HFDC)
TMK: 1-8-08: 45
Hanapepe, Waimea, Kauai**

We apologize for the delay in sending our response on this project, our staff archaeologist was out of the country. A review of our records indicates that there exists a buried habitation site (cultural deposit) with possible human burials in nearby near Puolo Stream/Road and Hanapepe Bay. Clearly burials are extremely sensitive sites, and some sand areas contain large numbers of yet undiscovered burials.

To ensure that this project has a "no adverse effect" on such sites, a qualified archaeologist must be hired to monitor the activity. This monitor would need to brief the construction crews on the sensitive nature of the significant historic sites in the area. All construction work would have to briefly stop if significant historic sites or burials are found, until agreed upon mitigation is worked out with our office. This monitor would record habitation deposits and burials uncovered, remove samples from habitation deposits as needed, and remove burials as needed. If burials are inadvertently discovered, the contractor shall comply with Chapter 6E-43.6 (H.R.S.).

A report on the results of the work must be submitted to our office for review and approval.

If you have any questions, please call Nancy McMahon 587-0006.

NM:amk

c: HFDC
OEQC

~~Avery Young~~

Clyde Kodani and Associates
M & E Pacific

AVERY H. YOUN, ARCHITECT
3501 RICE ST. STE. 203
LIHUE, HAWAII 96766

August 20, 1993

Mr. Keith W. Ahue, Chairperson
Board of Land and Natural Resources
PO Box 621
Honolulu, HI 96809

Re: Hanapepe Drainage Improvement Project Environmental Assessment

Dear Sir:

Thank you for the review comments from your different Divisions on the subject assessment.

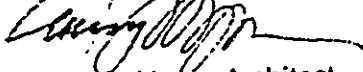
Office of Conservation and Environmental Affairs: All projects will occur within the Urban District except for the first item, the provision of box culverts under Hanapepe Road, of which the majority of the work will take place in the Agriculture District. No work will be performed on the bed or banks of existing streams. Work Item 3 is the widening of an existing drainage channel, not stream, and therefore a Stream Channel Alteration Permit is not required.

Division of Land Management: The former Amfac site adjacent to the drainage channel will not be affected by this project. In fact, the drainage improvements to the channel itself is expected to improve adjoining properties by reducing the risk of flooding.

Historic Preservation: The statement that a qualified archaeologist be hired for the project to ensure that "no adverse effect" occur is a valid one if possible human burials exist near Puolo Stream/Road. This relates to Item 4 of the project, the provision of an additional box culvert under Puolo Road. This project however is slated for a future phase of development and will not be implemented at this time. Also, Puolo Road suffered severe damage from both Hurricanes Iniki and Iwa, and actually is no longer there. Any burials that existed there prior to the hurricanes were probably unearthed at that time. However, during that phase of construction, an archaeologist will be contracted should any human burials or cultural deposits be found at that time.

Thank you for your comments.

Sincerely,



Avery H. Youn, Architect