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GOVERNOR



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
869 PUNCHBOWL STREET
HONOLULU, HAWAII 96813-5097

JAN 7 2000

Rec'd 14-00-



KAZU HAYASHIDA
DIRECTOR

DEPUTY DIRECTORS
BRIAN K. MINAAI
GLENN M. OKIMOTO

IN REPLY REFER TO:

HWY-K 000018

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
State Office Tower
235 S. Beretania Street, 7th Floor
Honolulu, Hawaii 96813-2437

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact for Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii
Federal-Aid Project No. FLH-0560(11)

The Department of Transportation has reviewed the comments received during the 30-day public comment period which began on November 23, 1999. We have determined that this project will not have significant environmental effects and have issued a Finding of No Significant Impact. Please publish this notice in the January 23, 2000 issue of *The Environmental Notice*.

We have enclosed a completed Office of Environmental Quality Control Notice Form and four copies of the Final Environmental Assessment.

Please call Steven Kyono, Kauai District Office at (808) 274-3111, if you have any questions.

Very truly yours,

A handwritten signature in cursive script that reads "Kazu Hayashida".

KAZU HAYASHIDA
Director of Transportation

Enclosure

JAN 23 2000

FILE COPY

2000-01-23-KA-FEA-Hanalei Bridge
Repair Work

**FINAL
ENVIRONMENTAL ASSESSMENT
KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE
METAL MEMBERS, HANALEI BRIDGE
Hanalei District, Kauai, Hawaii**



Prepared for:

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION-KAUAI DISTRICT
LIHUE, HAWAII**

Prepared by:

Wilson Okamoto & Associates, Inc.

January 2000

Final Environmental Assessment

**KUHIO HIGHWAY
REMOVE/REPAIR/REPLACE METAL MEMBERS
HANALEI BRIDGE**

Hanalei District, Kauai, Hawaii

Federal-Aid Project No. FLH-560 (11)

Prepared for:
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
Kauai District
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766
Contract No. 43812

Prepared by:
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOA: 6196-01

January 2000

SUMMARY

Proposing Agency: State of Hawaii
Department of Transportation,
Highways Division, Kauai District
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766

Accepting Agency: State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

EA Preparer: Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Contact: John L. Sakaguchi, Senior Planner
Tel: (808) 946.2277; Fax: (808) 946.2253

Project Location: Hanalei, Kauai, Hawaii

Recorded Fee Owner: State of Hawaii

Tax Map Key: N/A

Area: N/A

State Land Use Classification: Conservation

County Zoning: N/A

Proposed Action: Removal of the deteriorated existing Pratt trusses on the Hanalei Bridge and replacement with similar appearing Pratt trusses at the same location and retention of the one-lane bridge crossing of the Hanalei River. The existing Pratt trusses must be removed and replaced to ensure continued access to Hanalei and other North Shore communities and to the Na Pali Coast recreation area. Kuhio Highway and the Hanalei Bridge provide the sole means of road access to these areas.

Impacts: No significant adverse impacts are anticipated from the removal and replacement of the Pratt trusses. On August 9, 1978, the Hanalei Bridge was determined eligible for inclusion in the National Register of Historic Places

TABLE OF CONTENTS

PREFACE	iv
1. INTRODUCTION.....	1 - 1
1.1 Introduction and Project Location	1 - 1
1.2 Project Background and History	1 - 1
1.3 Project Objectives and Purpose	1 - 5
1.4 Project Need.....	1 - 5
1.5 Project Description	1 - 10
1.6 Vehicle Weight Scale	1 - 13
1.7 Project Cost.....	1 - 13
1.8 Project Schedule	1 - 14
1.9 Short-term Debris Enclosure Project.....	1 - 14
2. DESCRIPTION of EXISTING ENVIRONMENT, IMPACTS and MITIGATION MEASURES	2 - 1
2.1 Geology and Topography.....	2 - 1
2.1.1 Existing Environment.....	2 - 1
2.1.2 Impacts and Mitigation Measures.....	2 - 1
2.2 Soils.....	2 - 1
2.2.1 Existing Environment.....	2 - 1
2.2.2 Impacts and Mitigation Measures.....	2 - 1
2.3 Surface Water, Flood Hazard and Wetlands	2 - 2
2.3.1 Existing Environment.....	2 - 2
2.3.2 Impacts and Mitigation Measures.....	2 - 4
2.4 Flora and Fauna	2 - 5
2.4.1 Existing Environment.....	2 - 5
2.4.2 Impacts and Mitigation Measures.....	2 - 6
2.5 Air Quality.....	2 - 7
2.5.1 Existing Environment.....	2 - 7
2.5.2 Impacts and Mitigation Measures.....	2 - 8
2.6 Traffic	2 - 8
2.6.1 Existing Environment.....	2 - 8

2.6.2 Impacts and Mitigation Measures.....	2 - 9
2.7 Noise	2 - 9
2.7.1 Existing Environment.....	2 - 9
2.7.2 Impacts and Mitigation Measures.....	2 - 10
2.8 Archaeological and Historic Resources	2 - 10
2.8.1 Existing Environment.....	2 - 10
2.8.2 Impacts and Mitigation Measures.....	2 - 13
2.9 Infrastructure	2 - 13
2.9.1 Water Service.....	2 - 13
2.9.2 Electrical Service.....	2 - 14
2.10 Socioeconomic Characteristics.....	2 - 14
2.10.1 Existing Conditions.....	2 - 14
2.10.2 Impacts and Mitigation Measures.....	2 - 15
3. RELATIONSHIP to PLANS, POLICIES and CONTROLS.....	3 - 1
3.1 Hawaii State Plan	3 - 1
3.2 Land Use Plans and Policies.....	3 - 2
3.2.1 State Land Use District.....	3 - 2
3.2.2 County of Kauai General Plan.....	3 - 2
3.2.3 North Shore Development Plan.....	3 - 3
3.2.4 County of Kauai Zoning.....	3 - 4
3.2.5 County of Kauai Special Management Area	3 - 4
4. ALTERNATIVES to the PROPOSED ACTION	4 - 1
4.1 Alternative A: No Action.....	4 - 1
4.2 Other Alternatives.....	4 - 1
4.2.1 Alternative B(1): Repair Pratt and Warren Trusses.....	4 - 1
4.2.2 Alternative B(2): Remove Pratt Trusses and Repair Warren Trusses	4 - 2
4.2.3 Alternative D: Construct two-lane Concrete Replacement Bridge.....	4 - 3
5. DETERMINATION	5 - 1

6. CONSULTED PARTIES..... 6 - 1
6.1 Pre-Assessment Consultation 6 - 1
6.2 Agencies and Organizations to be Consulted on the Draft EA..... 6 - 1

7. REFERENCES..... 7 - 1

APPENDICES

- Appendix A - Inventory Nomination Form
- Appendix B - Public Informational Meeting (August 3, 1998)
- Appendix C - Public Informational Meeting (March 11, 1999)
- Appendix D - Pre-Assessment Consultation Letters
- Appendix E - Draft Environmental Assessment Comment Letters
- Appendix F - FHWA Coordination

LIST OF FIGURES

Figure 1.1 Project Site Map..... 1 - 15
Figure 1.2 Existing Elevation..... 1 - 16
Figure 1.3 Existing Section..... 1 - 17
Figure 1.4 Proposed Elevation..... 1 - 18
Figure 1.5 Proposed Section 1 - 19

LIST OF PHOTOGRAPHS

Photo 1.1..... 1 - 20
Photo 1.2..... 1 - 21
Photo 1.3 1 - 22
Photo 1.4 1 - 22
Photo 1.5..... 1 - 23
Photo 1.6..... 1 - 23
Photo 1.7..... 1 - 24
Photo 1.8 1 - 24

PREFACE

Chapter 343, Hawaii Revised Statutes (HRS), as amended, Environmental Impact Statements, requires that a government agency or a private developer proposing to undertake a project consider the potential environmental impacts of the proposed project by preparing an assessment. Among the criteria set forth in Chapter 343, HRS, for preparation of an environmental assessment is the use of public funds for a project. The removal and replacement of the Hanalei Bridge Pratt trusses will be undertaken with funds provided by the U.S. Department of Transportation, Federal Highway Administration (FHWA), and by the State of Hawaii, Department of Transportation, Highways Division-Kauai District (DOT).

This Environmental Assessment (EA) has been prepared to meet the requirements of Chapter 343, HRS, as amended, and Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules.

A Finding of No Significant Impact (FONSI) has been determined for the project.

1. INTRODUCTION

1.1 Introduction and Project Location

The Hanalei Bridge crosses the Hanalei River at mile post 1.19 on Kuhio Highway (Kauai Belt Road) Route 560, in the Hanalei District on the North Shore of Kauai. Originally fabricated in 1912 by Hamilton & Chambers Company of New York and erected by Honolulu Iron Works, the Hanalei Bridge is a one-lane, single span, steel truss bridge with timber deck and reinforced concrete and masonry abutments. The Bridge has a total length of 113 feet, a 17-foot wide horizontal clearance at the deck, a 15-foot high vertical clearance from the travel deck, and a posted load limit of 15 tons. Kuhio Highway and the Hanalei Bridge, both under the control of the State of Hawaii, Department of Transportation, Highways Division-Kauai District (DOT), provide the sole road access to Hanalei and other North Shore communities west of Hanalei and to the Na Pali Coast recreation area. On August 9, 1978, the U.S. Secretary of the Interior determined that the Hanalei Bridge was eligible for inclusion in the National Register of Historic Places. Figure 1.1 shows the Hanalei Bridge project site map. (All figures are shown at the end of this chapter.)

1.2 Project Background and History

As previously stated, the Hanalei Bridge was originally erected in 1912. In 1934, the Bridge was upgraded and, in 1967, a major upgrade included the addition of Warren trusses to the outside of the Pratt trusses. (Post tension roads were also added in 1967 to increase the capacity of the floor beams.) In 1973, major repairs were made to the Bridge by strengthening the members and connections with welded plates. A comparison of the 1966 design plans and the 1973 plans also indicate several members were added to the original Pratt trusses sometime between these major repairs. In 1980, repairs were made to the Bridge including replacement of structural steel and welding of members (Project No. 56D-01-81M). In 1982, the Bridge was painted (Project No. 56D-02-82M). In 1988, rehabilitation repairs were made to the Hanalei Bridge (Project No. 56D-01-87M).

In May 1972, notices were published in the local newspapers regarding the DOT's plans for improving the Hanalei Bridge and giving the public the opportunity to request a public hearing. Several requests were made for such a public hearing. However, these requests were subsequently rescinded. As a result, the DOT began to acquire the necessary rights-of-way for a new bridge to be located approximately 500 feet downstream from the existing Hanalei Bridge. Since, at that time, the U.S. Department of the Interior, Fish and Wildlife Service was acquiring property for the Hanalei National Wildlife Refuge (HNWR), the DOT coordinated that right-of-way acquisition with the establishment of the Refuge boundary.

In May 1974, the DOT held a public informational meeting to discuss roadway improvements from Kalihiwai to Hanalei which included replacement of the Hanalei Bridge. Subsequently, in May 1975, a Draft Environmental Impact Statement (EIS) was issued for review and comment by the U.S. Department of Transportation, Federal Highway Administration (FHWA) and the DOT. In August 1975, a public hearing was held to solicit comments regarding the Draft EIS. The major concern expressed at the public hearing was that a new highway and Bridge would induce growth to the North Shore of Kauai and the quality of life enjoyed by its residents would thereby be lost. Also, there was concern that an improved highway would allow more tourists, and especially tour buses, into Hanalei. However, the County of Kauai Planning Department and Department of Public Works supported the improvements.

The scope of the Draft EIS was challenged on the grounds that it did not discuss the highway improvement plans for the entire North Shore. As a result, a new Draft EIS was prepared with an expanded project area which extended from Kalihiwai to Haena and included replacement of the Hanalei Bridge and the other one-lane bridges located between Hanalei and Haena.

In October 1975, the second phase of the environmental review was initiated with a public informational meeting in Hanalei, at which the revised highway improvements were discussed. Subsequently, in March 1976, an EIS Preparation Notice was issued by the DOT under State of Hawaii rules and

regulations. The public comments expressed the same concerns over uncontrolled growth on the North Shore. In addition, there were a number of comments in favor of retaining the appearance of the existing bridges, especially the Hanalei Bridge which the commenters felt had become a landmark identified with the rural character of the North Shore.

As result of these comments, in February 1977, the FHWA and DOT issued another Draft EIS to address the environmental concerns for the project from Kalihiwai to Haena. In April 1977, two public hearings, one in Hanalei and one in Lihue, were held to discuss the project. Again, the commenters reiterated the community's desire to preserve the rural lifestyle of Hanalei and the North Shore. However, *not all commenters were willing to accept a substandard highway system and support was expressed for improving the highway and bridges.* In addition, a number of commenters raised the issue of the historical significance of the bridges, and requested that they be nominated to the National Register of Historic Places.

In November 1976, the Kauai Historical Society prepared a National Register of Historic Places Inventory - Nomination Form for the Hanalei Bridge. In June 1978, the FHWA made a formal request to the Keeper of the National Register for a determination of eligibility to the National Register of Historic Places for all the North Shore bridges including the Hanalei Bridge. On August 9, 1978, the Secretary of the Interior determined that the Hanalei, Waioli, and Waipa bridges, two bridges west of Hanalei, were eligible for inclusion on the National Register of Historic Places. Appendix A contains the Inventory Nomination Form for the Hanalei Bridge.

With that determination of eligibility, and with FHWA's participation in the project, it became necessary to initiate the requirements set forth in Section 106 of the National Historic Preservation Act and the provisions of 36 Code of Federal Regulations (CFR) Part 800, Protection of Historic Properties.

In November 1979, the DOT decided to undertake maintenance repair of several of the one-lane bridges, and to widen the highway from Kalihiwai to Princeville.

With this decision, it became unnecessary to complete the Section 106 review as the project proposed by the DOT no longer included replacement of the one-lane bridges, including the Hanalei Bridge.

Ultimately, in June 1980, the FHWA and DOT jointly issued a Final EIS to address recommended improvements for the section of Kuhio Highway from Kalihiwai to Princeville. The EIS indicated "until issues raised by the Section 106 process established by the Advisory Council on Historic Preservation are resolved, in addition to clearances pursuant to the Endangered Species Act, and Executive Orders on Floodplain Management and Wetlands Management, a recommended action cannot be proposed for the Hanalei, Waioli or Waipa bridges. Likewise, until final plans for the Hanalei Bridge are agreed upon, it is premature to propose changes to the highway section from Princeville to Hanalei Town."

In June 1982, the FHWA published a Notice of Intent to prepare an EIS in the Federal Register for the project entitled "Kauai Belt Road, Hanalei Bridge and Approaches". In April 1983, the DOT published an EIS Preparation Notice for the same project under State of Hawaii rules. As a result of these notices and the concerns raised by various community groups, the DOT began a process of mediation with these groups to resolve the issue of replacing the Hanalei Bridge.

In 1988, as a result of the mediation process, the DOT agreed to perform additional repairs to the Bridge to strengthen various members and to separate the floor beam connections between the Pratt and Warren trusses. Separation of the trusses would transfer a greater percentage of the live loads from the older Pratt trusses to the newer Warren trusses. At that time, prior to undertaking the repairs, a bridge inspection was conducted to determine the condition of the members and to set forth the needed repairs. In addition, a load test using a weighted truck was undertaken to determine the distribution of the loads between the Pratt and Warren trusses.

In addition, the inspection also included the:

- o approach roadway/guardrails;
- o timber deck;
- o abutments and wingwalls;
- o railings;
- o superstructure - Warren trusses;
- o superstructure - Pratt trusses; and,
- o abutments - using divers to inspect underwater portions.

The inspection was conducted to meet the requirements of 23 CFR Highways - Part 650, Subpart C - National Bridge Inspection Standards (NBIS) for periodic inspection of bridges located on public roads subject to public use. The Bridge was then rated as to its safe load carrying capacity according to the procedures set forth in the Manual for Condition Evaluation of Bridges, 1994 published by the American Association of State Highway and Transportation Officials (AASHTO). The results of the inspection and load test were documented in the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Bridge Inspection, Load Testing Report, and Alternatives Analysis, February 1999.

The inspection showed that the Pratt trusses are in serious condition, due to extensive deterioration and corrosion and major losses of cross section of the structural members. The top chords, bottom chords, sway bracings, end portals, and diagonal members have experienced serious corrosion and loss of cross sectional area. Further, previous welding repairs made to the bottom chord and diagonal members have left the Pratt trusses more susceptible to fatigue failures. As a result of the extensive deterioration and corrosion and the extensive welding repairs to fracture critical members, the Pratt trusses no longer transmit loads according to design criteria and no longer have a reliable and defined load carrying system. Photographs of the Bridge including those taken at the time of the inspection to document the condition of the Bridge are at the end of this chapter.

In addition, the inspection also included the:

- o approach roadway/guardrails;
- o timber deck;
- o abutments and wingwalls;
- o railings;
- o superstructure - Warren trusses;
- o superstructure - Pratt trusses; and,
- o abutments - using divers to inspect underwater portions.

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The inspection showed that the Pratt trusses are in serious condition, due to extensive deterioration and corrosion and major losses of cross section of the structural members. The top chords, bottom chords, sway bracings, end portals, and diagonal members have experienced serious corrosion and loss of cross sectional area. Further, previous welding repairs made to the bottom chord and diagonal members have left the Pratt trusses more susceptible to fatigue failures. As a result of the extensive deterioration and corrosion and the extensive welding repairs to fracture critical members, the Pratt trusses no longer transmit loads according to design criteria and no longer have a reliable and defined load carrying system. Photographs of the Bridge including those taken at the time of the inspection to document the condition of the Bridge are at the end of this chapter.

The inspection showed the approach guardrails on both sides are deficient according to current design standards set forth in AASHTO National Cooperative Highway Research Program (NCHRP) Report 350. The approach guardrails lack adequate length and strength to shield vehicles from blunt and steep slope hazards at each bridge approach. Further, the guardrails do not provide adequate transition from the roadway to the Bridge and the ends of the guardrails do not adequately protect the trusses from collision damage from vehicles.

The inspection noted that the Bridge does not have railings capable of resisting impact with vehicles as specified by AASHTO and that they do not protect the trusses from impact by vehicles. The existing railings consist of horizontal and vertical 1¼-inch diameter pipes supported by the Warren trusses and serve primarily as pedestrian railings. The spacing of the pipes does not meet current Federal standards used by the DOT which require pedestrian railings to be spaced so that a 6-inch diameter sphere does not pass through the openings.

The inspection indicated that the Warren trusses appeared to be in satisfactory condition. The top chords, bottom chords, diagonals, connection bolts, and gusset plates show some loss of cross section from corrosion. The floor beams are in satisfactory condition. The Bridge is considered to be fracture critical as the bottom chord members and diagonals of the Warren trusses are in tension and there are only two main load-carrying elements.

As part of the August 1998 inspection, a chemical analysis was made of steel samples taken from the floor beams and bottom chords of the Pratt trusses. A comparison of the results of the chemical analysis and the composition of the A36 and A572 steel, modern steels used in current bridge construction, showed the steel in the original Pratt trusses contained a higher carbon content (0.36 percent and 0.33 percent) than either the A36 (0.26 percent) or A572 (0.21 percent) steels. Modern steels contain an upper limit of 0.30 percent carbon to provide suitable welding and notch toughness qualities. Further, the chemical analysis showed the Pratt trusses contain lower amounts of manganese and

copper than the modern steels. Manganese and copper are used to improve the corrosion resistance of steels.

In addition, at the time of the August 1998 inspection, another load test using a weighted truck was undertaken to determine the distribution of the loads between the Pratt and Warren trusses. The 1988 modifications to the Hanalei Bridge had attempted to limit the amount of load carried by the Pratt trusses by removing the bolts connecting the floor beams to the trusses. The results of the 1998 load test showed that the Pratt trusses remain a part of the live load carrying structural system. The load test results were compared to a computer simulation of the load to determine the load distribution between the Pratt and Warren trusses. This analysis indicated that the Pratt trusses carry about 37 to 45 percent of the live load and the Warren trusses carry approximately 55 to 63 percent of the live load, depending on the placement of the load.

At the time of the inspection and load test, an underwater inspection of the Bridge was also conducted. The underwater inspection showed the Haena-side (west) abutment is well above the normal water level, with an approximately 10-foot wide earth embankment between the abutment face and the edge of the River. The Lihue-side (east) abutment is the only structural element of the Bridge contacting the water. As part of the 1988 repairs, rip rap was placed in the water upstream of the Lihue-side abutment to protect against undercutting and scouring. The underwater inspection showed no extensive deterioration of the underwater portions of the abutments. At the time of the underwater inspection, the depth of the Hanalei River midway between the abutments was approximately 12 feet.

The overall conclusion of the inspection and load test was that the Pratt trusses have experienced extensive deterioration and corrosion, and, that the extensive welding repairs to fracture critical members have left the Pratt trusses more susceptible to fatigue failures. Further, the Pratt trusses no longer transmit loads according to design criteria and no longer have a reliable and defined load carrying system.

As a result of the inspection and load test, on March 11, 1999, a second public informational meeting was held at the Hanalei Elementary School to present the results of the inspection and load test and to discuss alternatives for a long-term solution for a bridge crossing the Hanalei River. About 26 community members attended the meeting.

The five long-term alternatives presented at the meeting included:

- o Alternative A Do nothing;
- o Alternative B(1) Repair Pratt and Warren trusses;
- o Alternative B(2) Remove Pratt trusses and repair Warren trusses;
- o Alternative C Install new Pratt trusses and repair Warren trusses; and,
- o Alternative D Construct a two-lane concrete replacement bridge.

Except for Alternative D, all of the alternatives would have retained the one-lane configuration for the Hanalei Bridge.

The discussions and comments at the public informational meeting indicated an overwhelming support for Alternative C, removing the existing Pratt trusses and replacing them with new Pratt trusses of similar appearance and retaining the one-lane configuration for the Bridge. The comments at the public informational meeting indicated preserving the look of the Hanalei Bridge, including its one-lane configuration, was a major consideration in the support of Alternative C. Further, the commenters felt, as had been previously expressed in the 1970's and 1980's, that the Hanalei Bridge was the "gateway" to the rural lifestyle characteristic of the North Shore. Retaining the Hanalei Bridge as this gateway was felt to be an integral part of the unique character and sense of the North Shore to both residents and visitors. Appendix C contains information about the March 11, 1999 public informational meeting.

1.5 Project Description

Based on the findings of the August 1998 inspection and load test and the results of the March 11, 1999 public informational meeting, the DOT is proposing to remove and replace the existing Pratt trusses with new Pratt trusses of similar appearance and to retain the one-lane timber deck configuration of the Hanalei Bridge.

The replacement Pratt trusses and other associated repairs would be made to the Bridge superstructure and would be designed to meet AASHTO design standards for bridges as set forth in the 1998 AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications. The replacement Pratt trusses would be constructed of steel and be of similar appearance as the existing Pratt trusses. The replacement trusses would include the following elements:

- o Top chords;
- o Portal frames;
- o Top chord sway bracings;
- o Diagonal members connecting the top and bottom chords;
- o Vertical members;
- o Bottom chords; and
- o Bottom chord sway bracings.

The replacement steel members will have similar dimensions and appear similar to the existing members. The overall height of the replacement top chord will be approximately 21 feet 6 inches from the top of the travel deck wearing surface, the same dimension as the existing Bridge. Thus, the general appearance of the replacement Pratt trusses will be very similar to the existing trusses.

The original Bridge was constructed using pins, rivets, and bars to connect the members. The replacement Pratt trusses would use high strength bolted connections rather than rivets, as bolting is more cost effective. In addition, structural rivets are no longer used in modern steel bridge construction such that

the 1998 AASHTO Bridge Design Specifications do not list load values for rivets. Lastly, inspection of riveted connections is difficult to perform due to the lack of qualified inspectors. Pins and eyebar connections will be used in the replacement Pratt trusses, as found in the original construction.

The replacement Pratt trusses would be designed with the capacity to act together with the Warren trusses to support a wider structure, if one is needed in the future. Figure 1.2 shows the elevation of the existing Hanalei Bridge. Figure 1.3 shows a section of the existing Bridge. Figure 1.4 shows the elevation of the proposed Hanalei Bridge. Figure 1.5 shows a section of the proposed Bridge. (See figures at the end of this chapter.)

As shown in Figure 1.2, the four 1-inch diameter end rods will not be replaced as a comparison of the 1966 plans for Warren trusses and the 1973 maintenance plans show these rods were added sometime between 1966 and the 1973 repairs of the Bridge. The 1966 plans do not show these rods. Yet, the rods appear on the 1973 plans, which would indicate they were added between 1966 and 1973 and were not part of the original Pratt trusses. Since these end rods are not necessary, they are not included as part of the replacement Pratt trusses.

As shown in Figure 1.5, the end portals and the sway bracings in the replacement trusses will have a vertical clearance of about 17 feet 6 inches from the top of the travel deck wearing surface, about 2 feet 6 inches higher than the original design. Current AASHTO design standards for steel bridges require a vertical clearance of 17 feet 6 inches to prevent damage from vehicles with high clearance. As previously stated and as shown in Figure 1.5, the overall height and appearance of the top chord will not change.

Other associated work on the Bridge superstructure includes:

- o Temporary bracing for the Warren trusses;
- o Replacing the 6-inch by 12-inch timber deck members;
- o Replacing the 2-inch by 12-inch timber wearing surface;

- o Replacing the pedestrian railings;
- o Repairing the Warren trusses;
- o Painting the Pratt and Warren trusses; and,
- o Removing the 1912 plaque and remounting it on one of the replacement Pratt trusses.

The one-lane 17-foot wide horizontal clearance at the deck would be retained. In addition, although the replacement Pratt trusses working together with the Warren trusses would have a rated capacity for 2 lanes of HS20-44 loading, the timber stringers and deck would be rated at H15-44, the same as the existing 15-ton posted load limit on the Bridge. (The H designation is used by AASHTO to designate the total loading for bridge design purposes.) Thus, aside from the vertical clearance of the portal frames for the replacement Pratt trusses, the overall visual appearance and the rated load of the replacement Pratt trusses would be similar to the existing Pratt trusses. The one-lane configuration of the Bridge will also retained as part of the overall appearance of the Bridge.

Community members have commented that the Hanalei Bridge was painted black at one time and requested that the replacement Pratt trusses be painted black. Thus, the replacement trusses and the Warren trusses will be painted black.

The 1912 plaque will be removed and remounted on the replacement Pratt trusses, as requested by community member. Another plaque noting the Bridge's status on the National Register of Historic Places could be designed and mounted on the replacement trusses at some time in the future.

Based on the results of the underwater inspection, there will be no work on either abutment or other work which might affect the Hanalei River. The design specifications for the project will set forth that the contractor is to prevent debris and other materials from removal and replacement work from entering the Hanalei River.

Since Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei, the Bridge will remain in service during the removal and replacement activities. The contractor is to perform the work to minimize traffic delays. No slow down of traffic will be allowed between 6:00 am to 8:00 am and from 3:30 pm to 6:30 pm. The contractor will be allowed to close the Bridge to traffic from Sunday to Thursday between the hours of 10:00 pm and 5:00 am the following day. During this period, the contractor is to provide police officers at both approaches to the Bridge to control traffic. Emergency vehicles will be allowed to cross the Bridge at all times.

1.6 Vehicle Weight Scale

During the March 11, 1999 public informational meeting, community members expressed their concern that vehicles and equipment using the Bridge have exceeded the posted 15-ton load limit, and requested a weight scale be placed on the Lihue-side approach to the Bridge. The request was to include an alarm and light warning system which would be set off when the posted weight limit was exceeded. Use of a camera system to visually record the event was also discussed. It was felt that even though the offender could not be cited, public pressure would be effective in keeping overweight vehicles off the Bridge.

Since this project is partially funded by the FHWA, mandatory safety features are included. However, new features such as a vehicle weight scale are not included in the funding and can be considered in a future project. Notwithstanding this consideration, Hawaii Revised Statutes 291-39, Traffic Violations, Enforcement, does not specifically address enforcement by electronic means in the absence of a Motor Carrier Safety Officer or police officer.

1.7 Project Cost

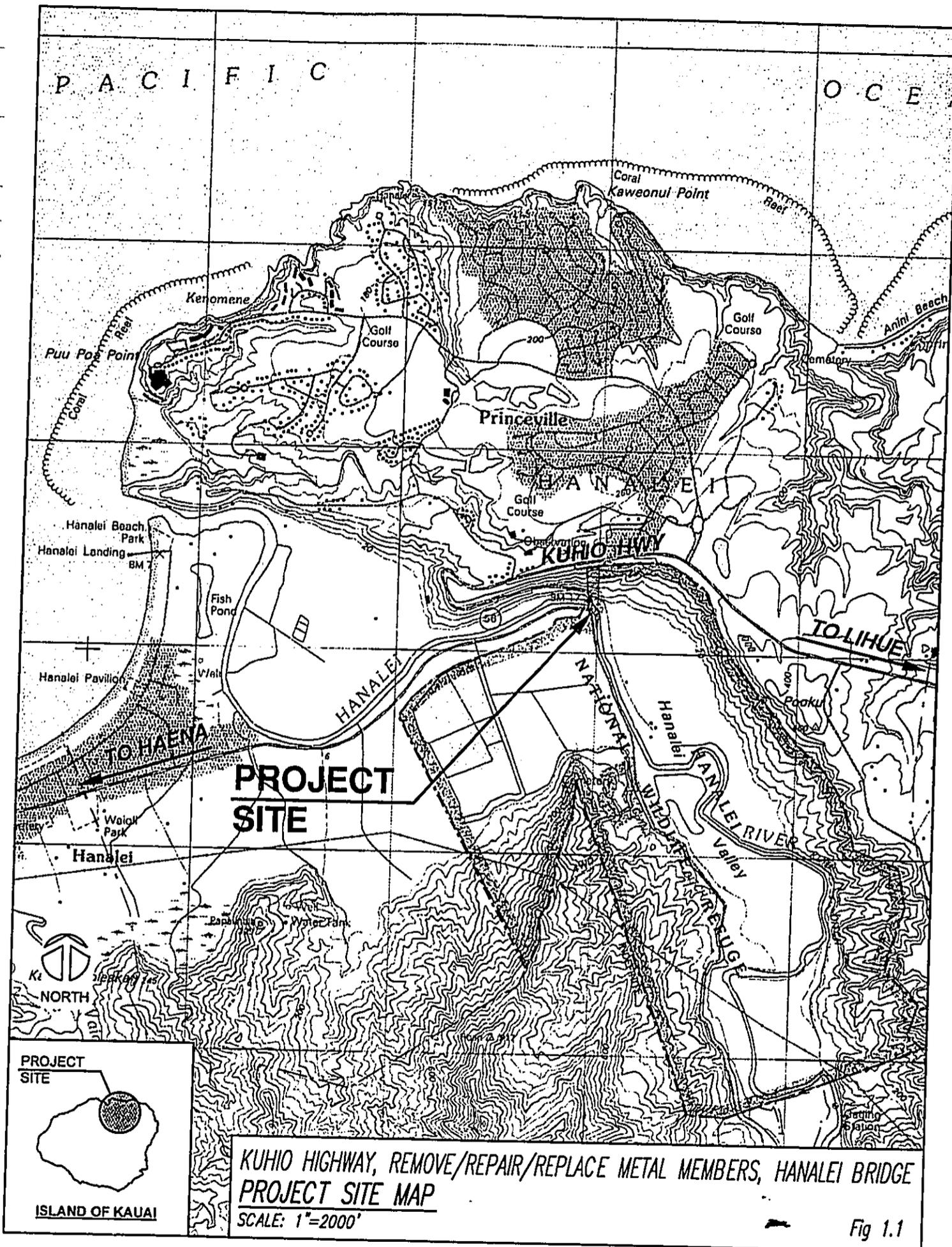
The preliminary construction budget for the Hanalei Bridge project is \$2.0 million. The project would be designed and constructed using FHWA and DOT funds.

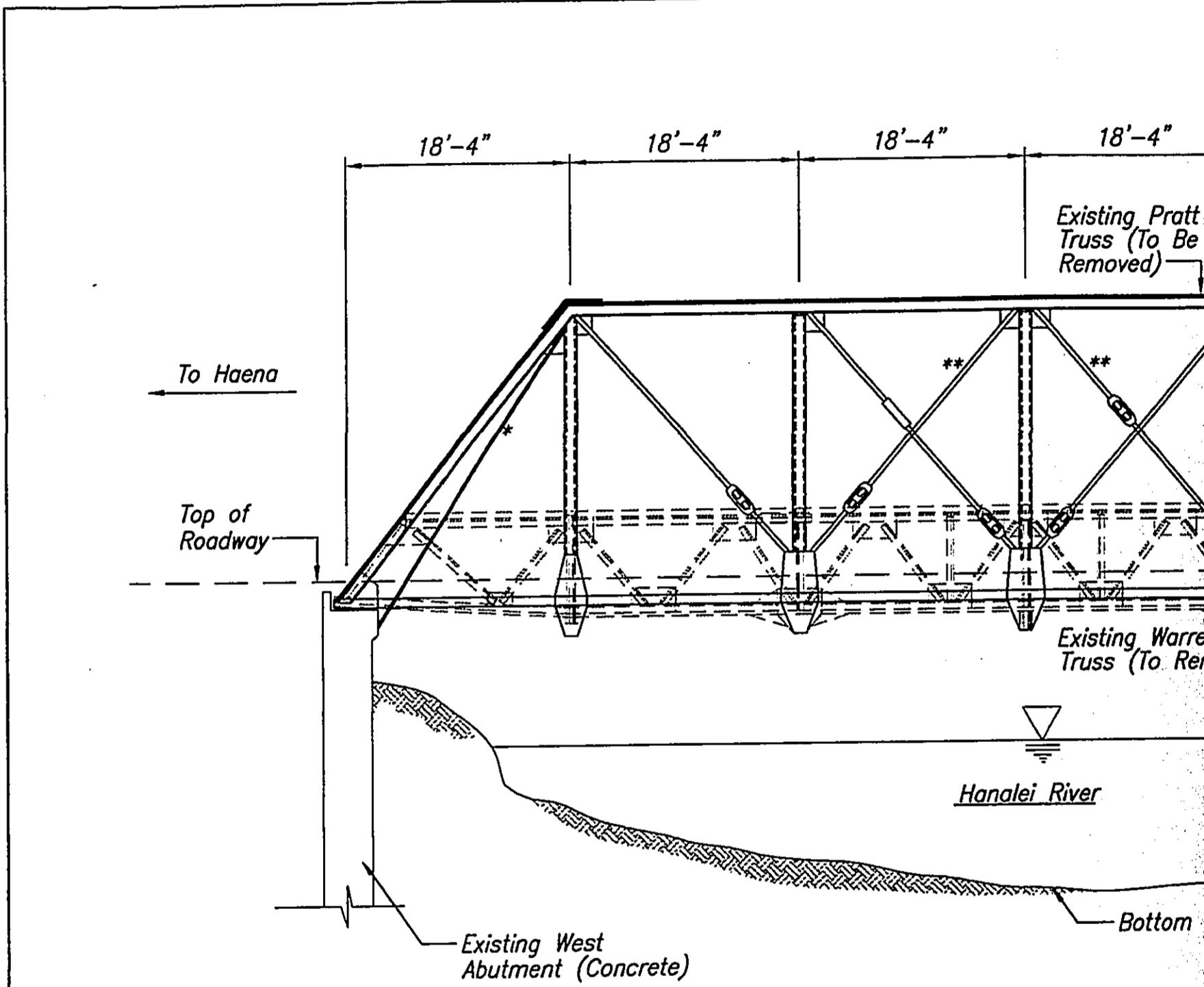
1.8 Project Schedule

The DOT is scheduled to receive bids in February 2000 for construction of the replacement Pratt trusses. Construction is estimated to begin in May 2000 and should require approximately 14 months to complete.

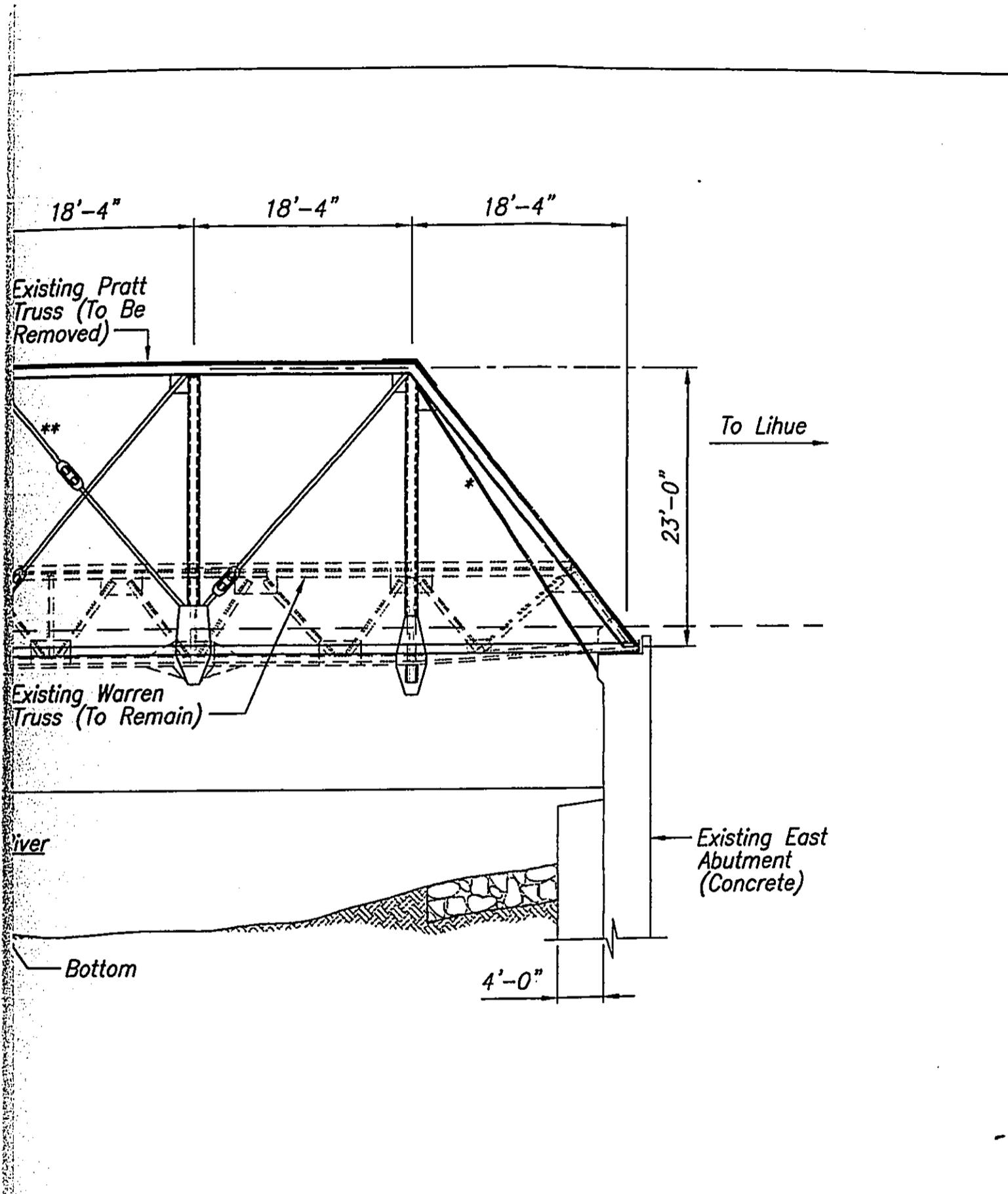
1.9 Short-term Debris Enclosure Project

Based on the findings of the August 1998 inspection, in May 1999, the DOT undertook a Short-term Debris Enclosure project to wrap the existing top chord and sloping end posts of the Pratt trusses with galvanized wire mesh to prevent debris from falling on the travel deck. The Short-term Debris Enclosure project was intended as an interim repair until replacement of the Pratt trusses can be undertaken and will not obviate the long-term need to replace the Pratt trusses.

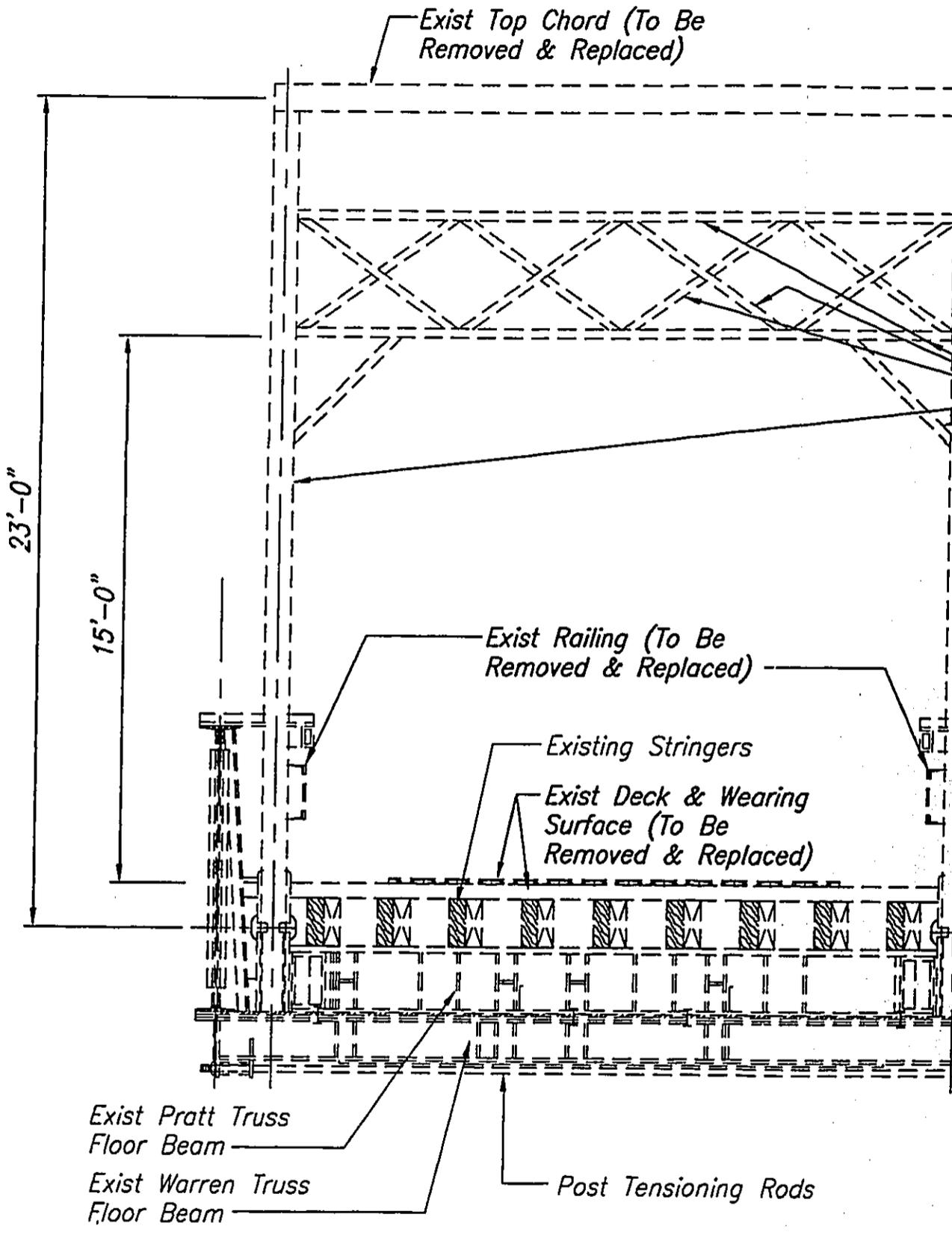




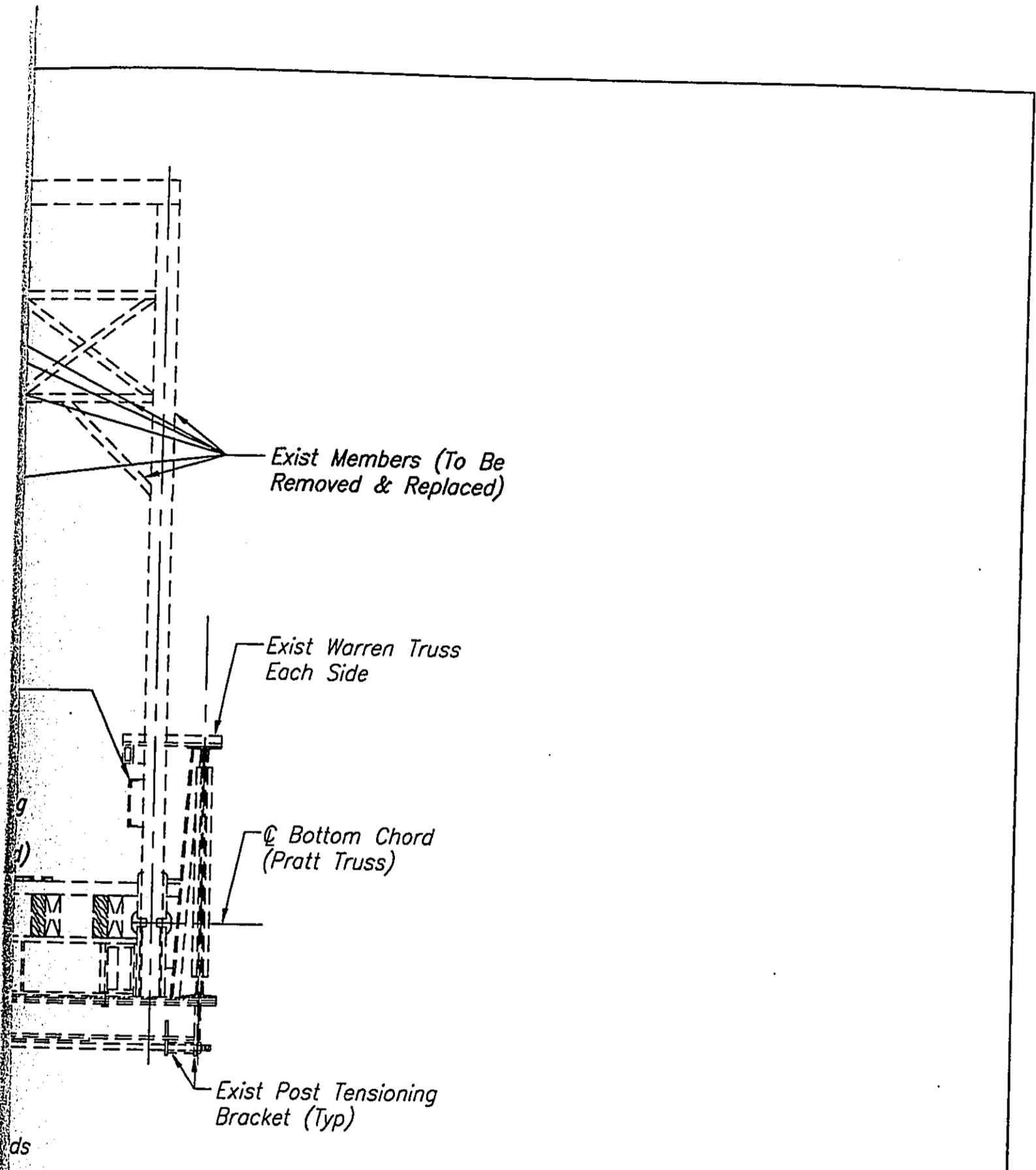
N:\DWG\6196-01\FIGURE\FIG15D



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
EXISTING ELEVATION - LOOKING DOWNSTREAM
 SCALE: 3/32"=1'-0" Fig 1.2

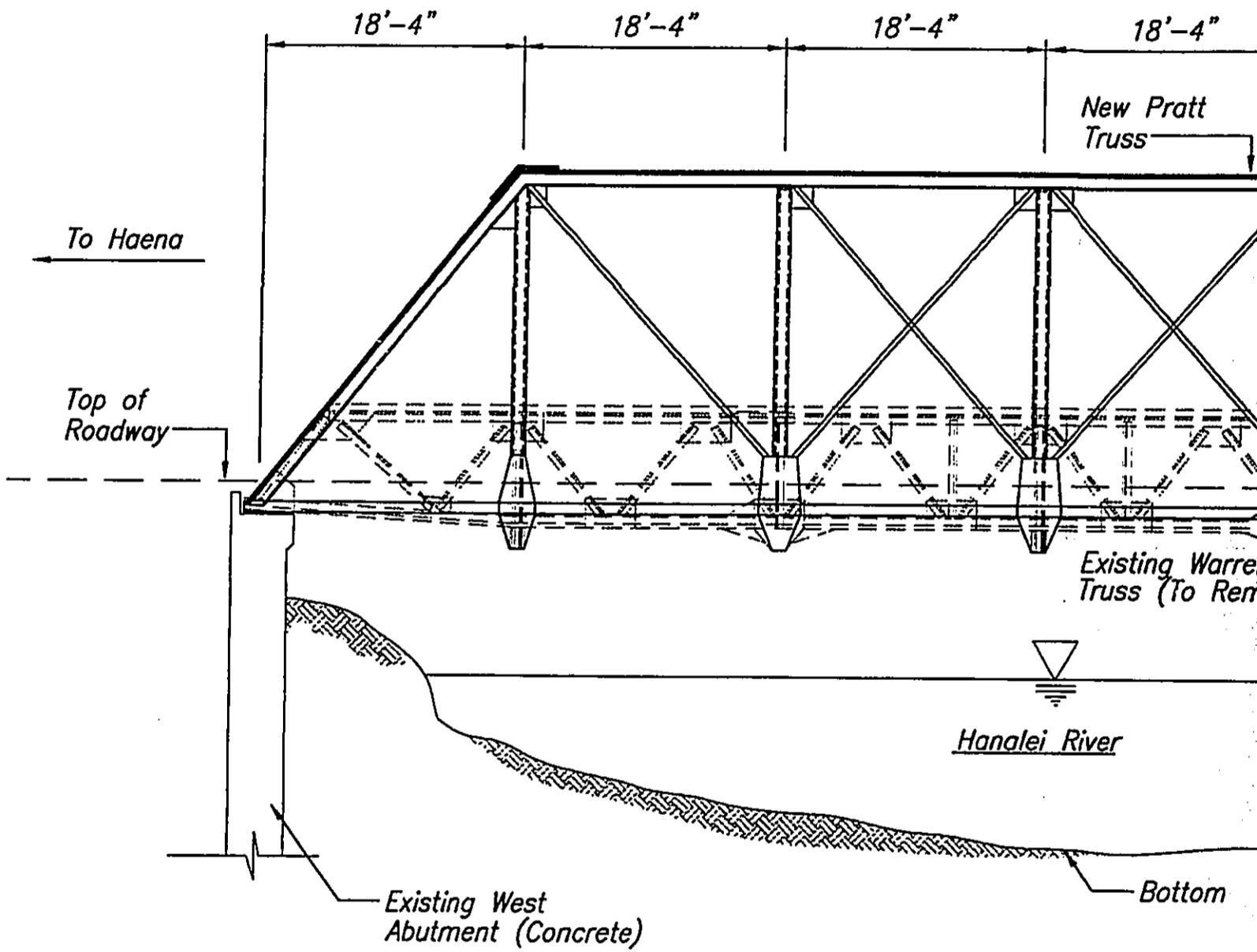


N:\DWG\6196-01\FIGURE\FIG5C

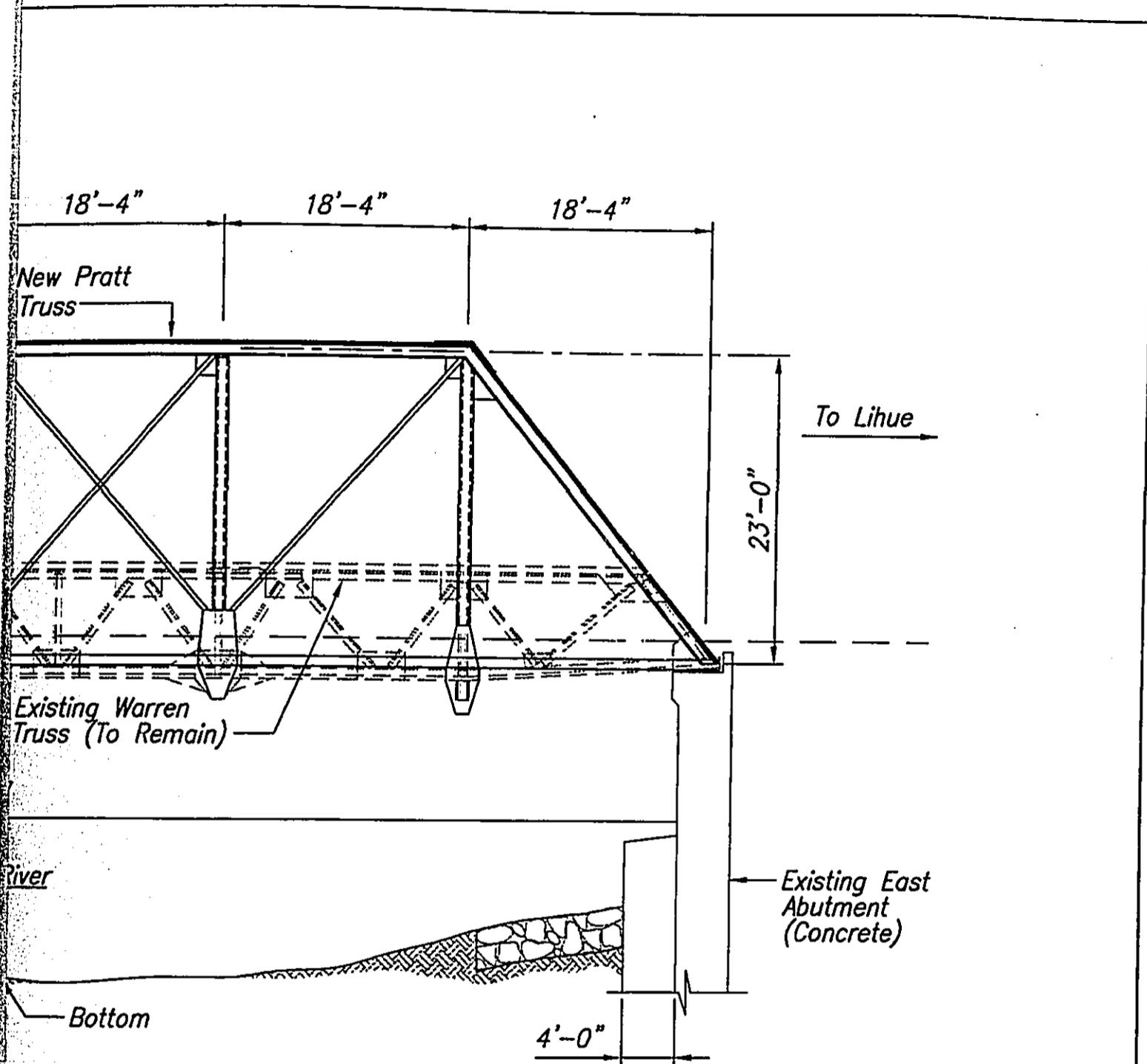


KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
END PORTAL - EXISTING
 SCALE: 1/4"=1'-0"

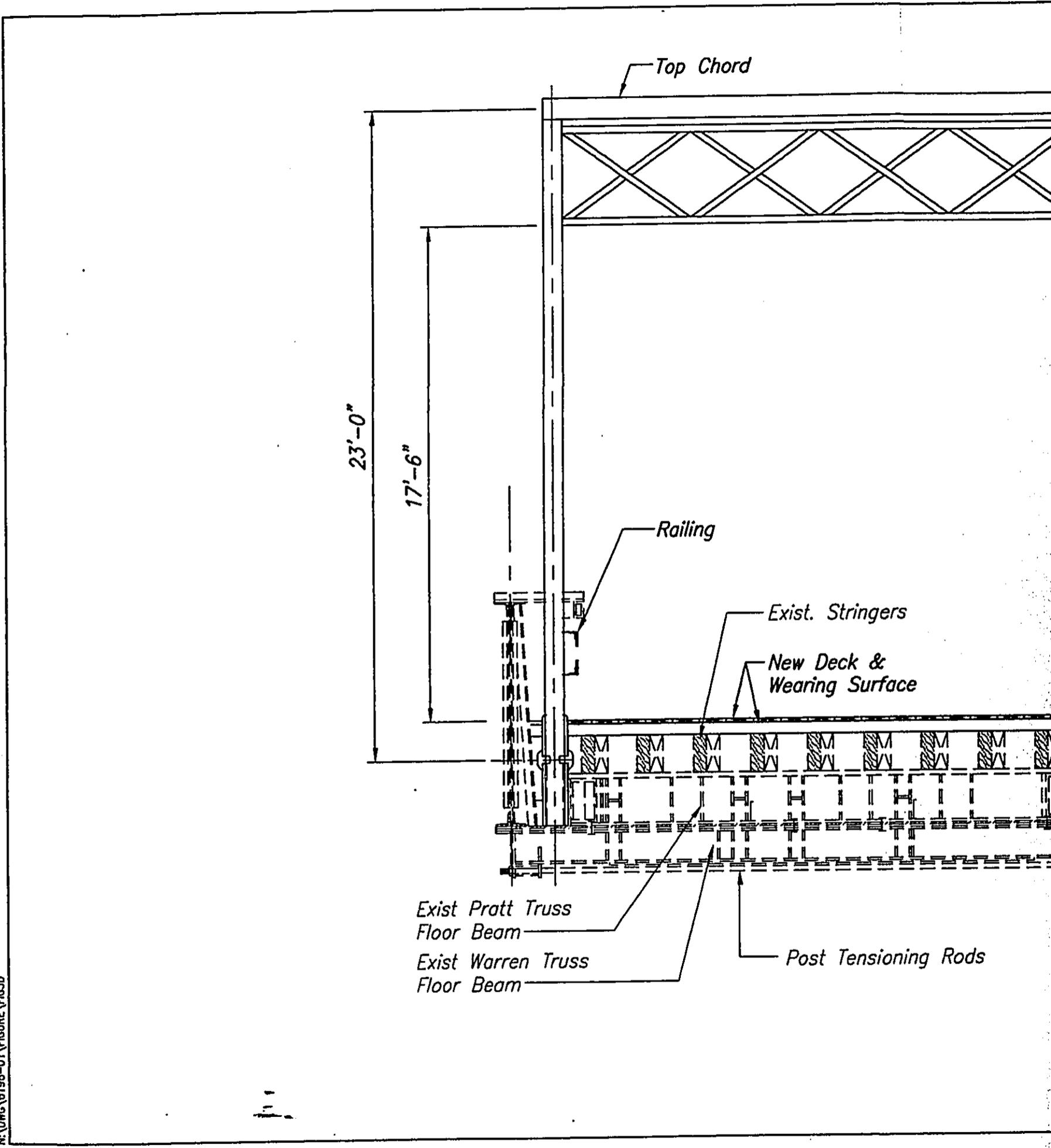
Fig 1.3



N:\DWG\6196-01\FIGURE\FIG15C



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
PROPOSED ELEVATION - LOOKING DOWNSTREAM
 SCALE: 3/32" = 1'-0" Fig 1.4



Top Chord

23'-0"

17'-6"

Railing

Exist. Stringers

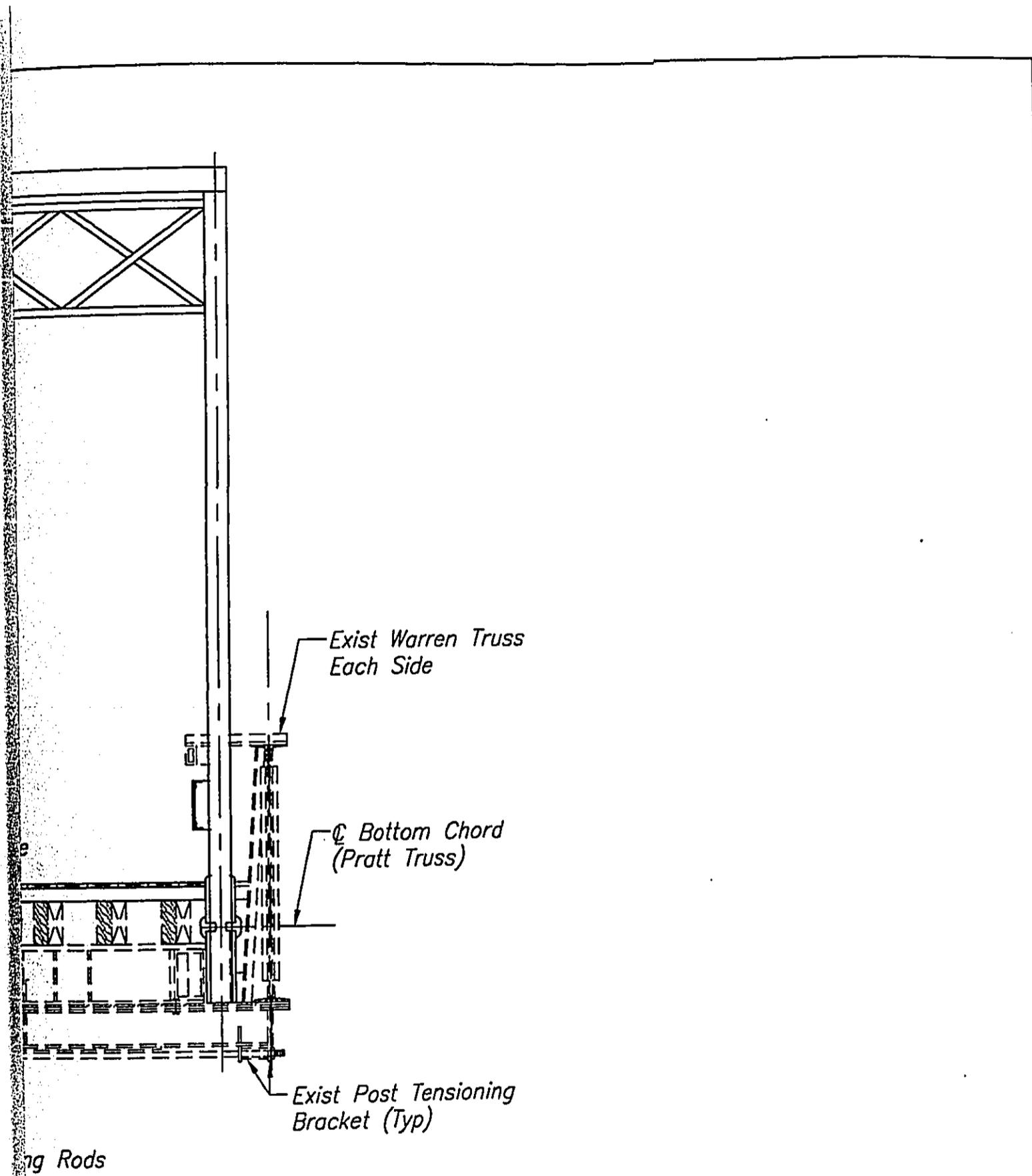
New Deck & Wearing Surface

Exist Pratt Truss Floor Beam

Exist Warren Truss Floor Beam

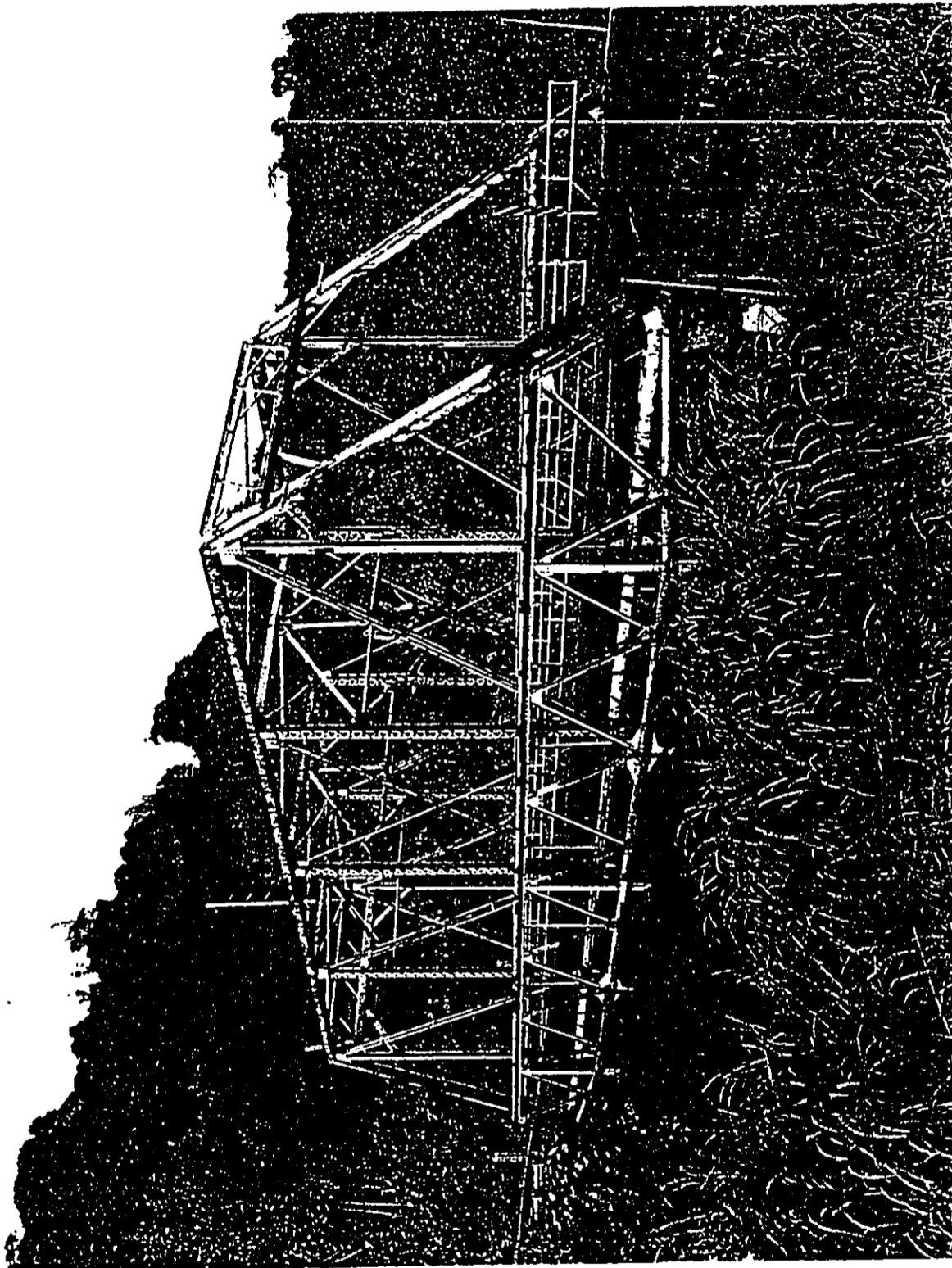
Post Tensioning Rods

N:\DWG\6198-01\FIGURE\FIGSD



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
END PORTAL - PROPOSED
 SCALE: 1/4"=1'-0"

Fig 1.5



Side view of Hanalei Bridge from Hanalei approach

Photo 1.1

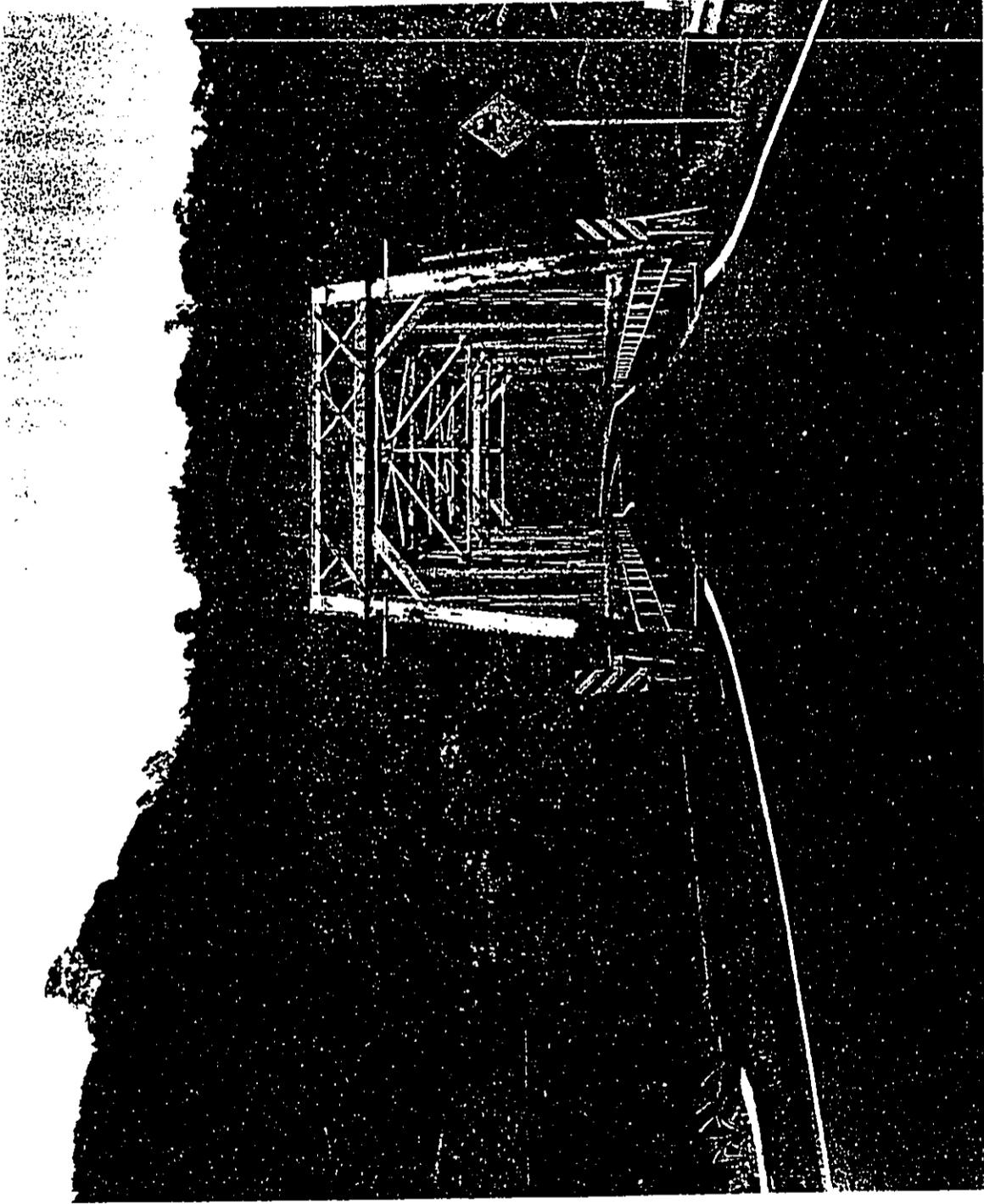
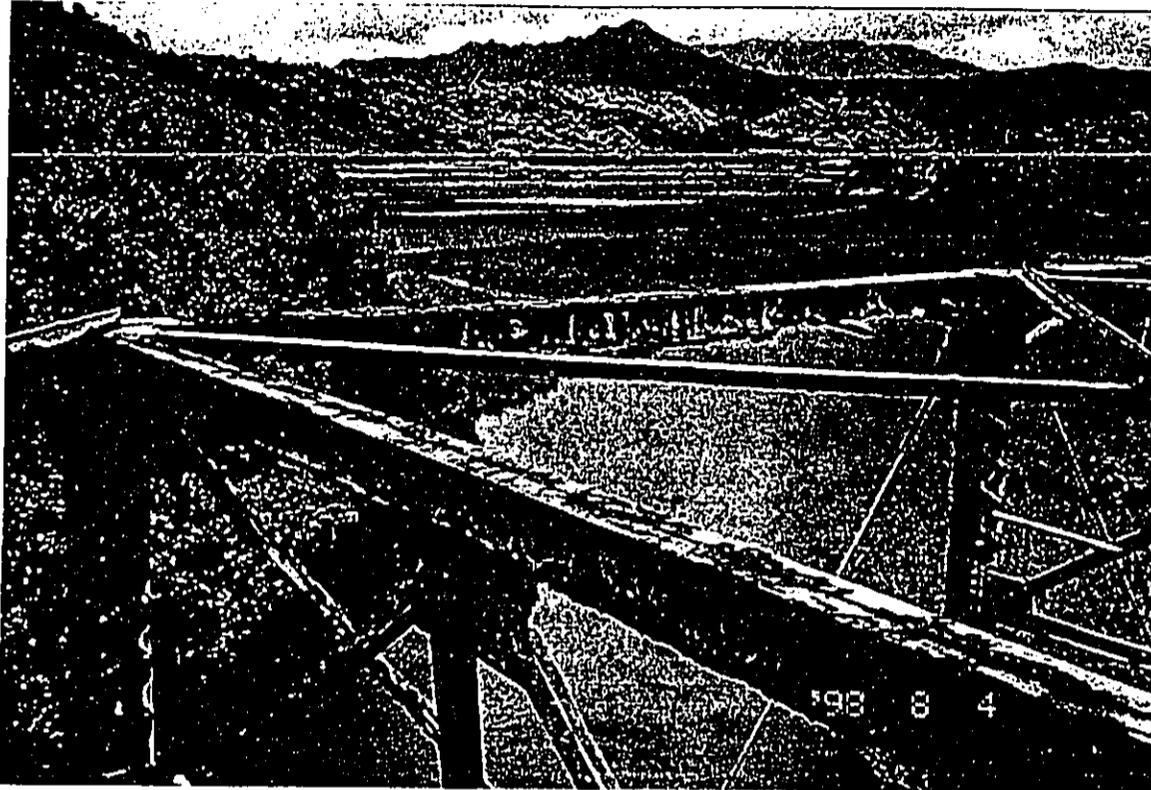


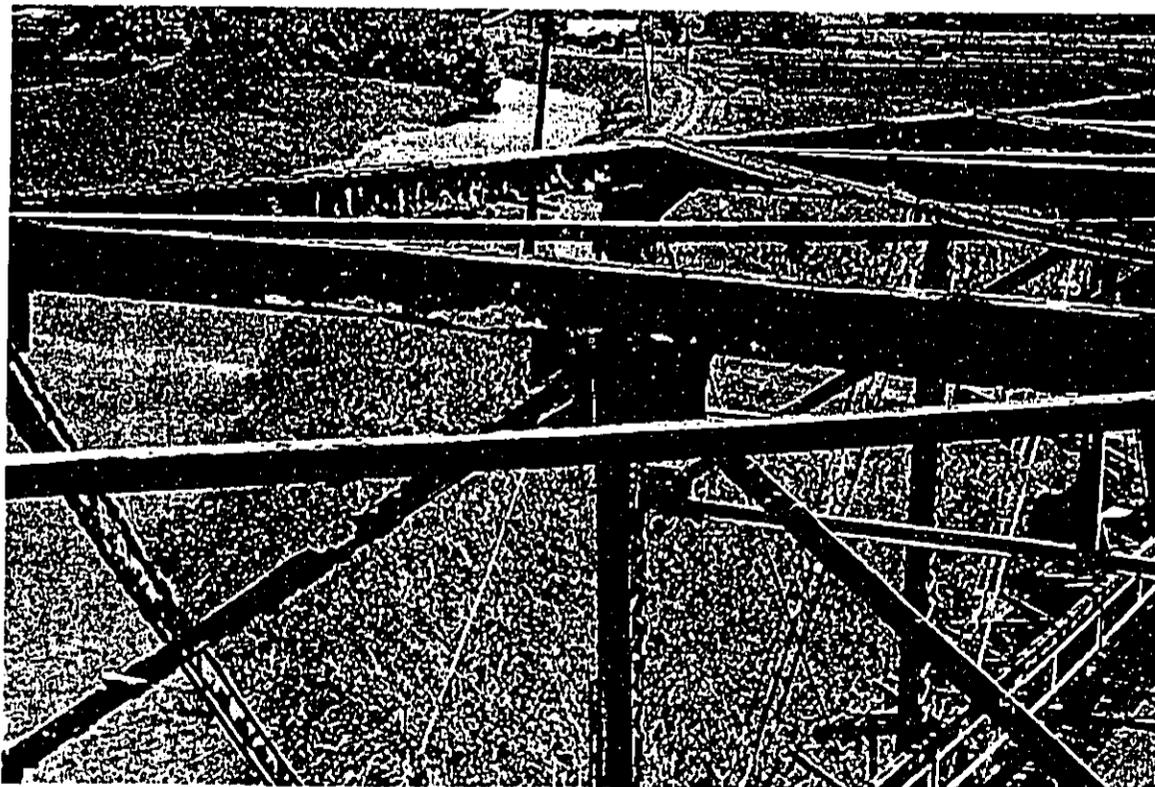
Photo 1.2

Elevation view of Hanalei Bridge from Hanalei approach



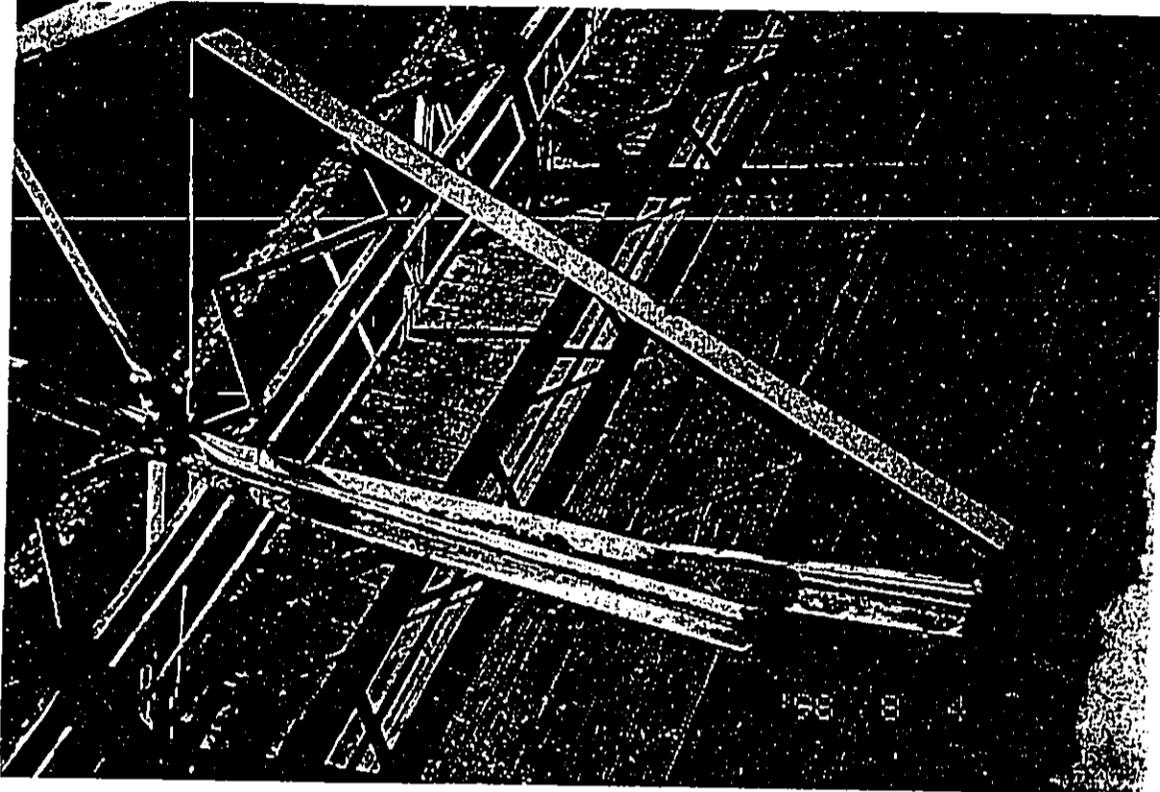
View of top chord showing deterioration

Photo 1.3



View of top chord also showing extensive corrosion

Photo 1.4



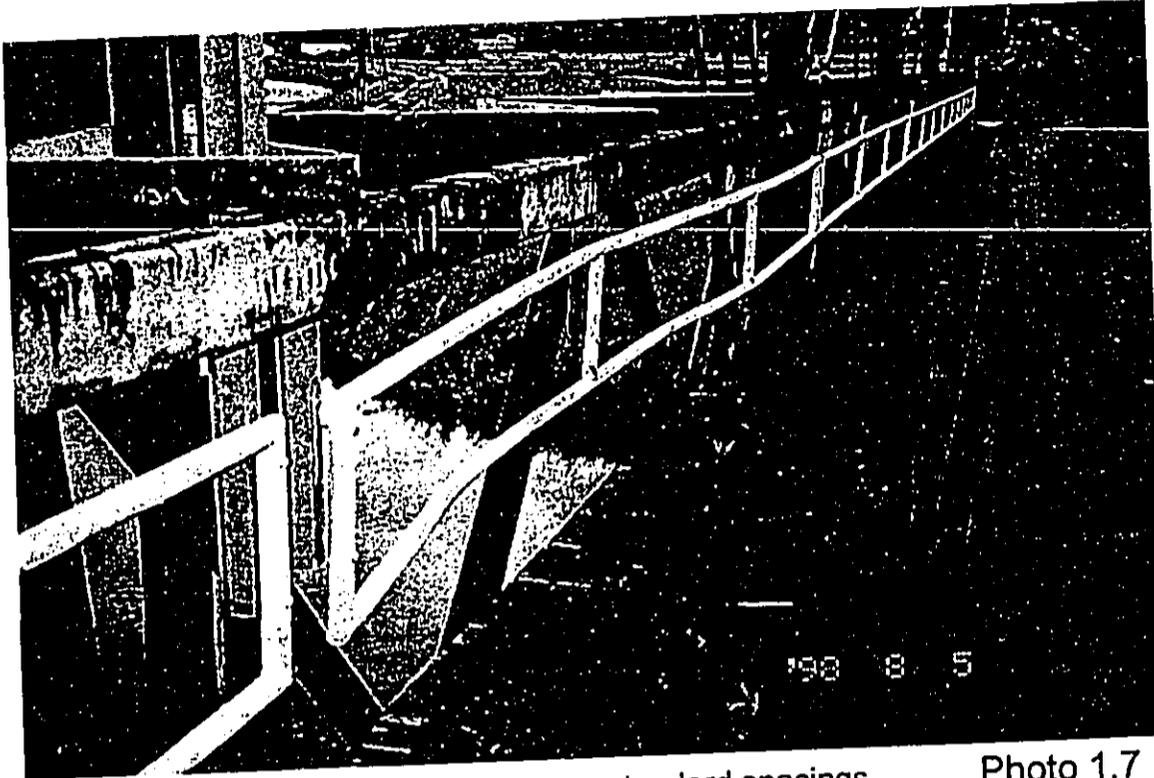
View of damaged sway bracing

Photo 1.5



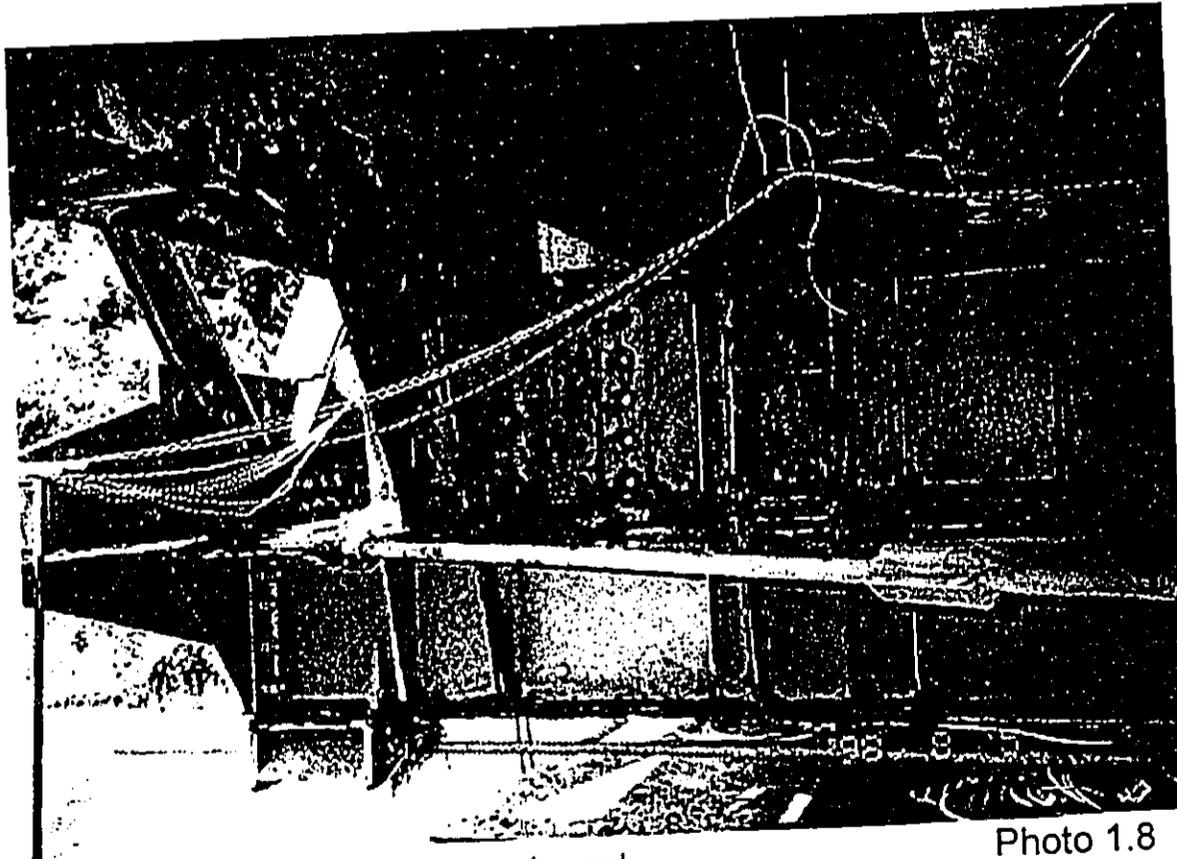
View of top chord

Photo 1.6



View of pedestrian railing showing non-standard spacings

Photo 1.7



View of floor beams and post tension rod

Photo 1.8

2. DESCRIPTION of EXISTING ENVIRONMENT, IMPACTS and MITIGATION MEASURES

2.1 Geology and Topography

2.1.1 Existing Environment

The geology of the area surrounding the Hanalei Bridge is a result of deposition (volcanoes, corals and water) and erosion. The Hanalei Bridge is located in bottom land related to the Hanalei River.

2.1.2 Impacts and Mitigation Measures

Construction of the replacement Pratt trusses would involve work on the deck and superstructure of the Bridge. This construction would not require subsurface excavation. Thus, there would be no adverse impacts to the geology or topography of this area of Kauai.

2.2 Soils

2.2.1 Existing Environment

The soil found on the bottom land flood plain of the Hanalei River is Hanalei silty clay. This is a poorly-drained soil formed in alluvium and limited by a high water table.

The Hanalei Bridge is a structure within the existing State highway right-of-way. As a result, it does not encompass prime and unique farmlands.

2.2.2 Impacts and Mitigation Measures

Construction of the project would not require disturbance to the soils near the Bridge. Thus, there would be no adverse impacts to the soils of this area of Kauai.

Work related to the removal and replacement of the Pratt trusses will be confined to the superstructure of the Bridge. As a result, the removal and replacement will not have an adverse effect to prime and unique farmlands.

2.3 Surface Water, Flood Hazard and Wetlands

2.3.1 Existing Environment

The Hanalei Bridge is located about 2.25 river miles from the mouth of the Hanalei River which drains an area of 20.8 square miles including the Hanalei Valley. The Hanalei River flows to Hanalei Bay which is classified in Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 54, Water Quality, Section 11-54-06(a), embayments, as Class AA, water areas to be protected. Upstream from the Hanalei Bridge, the Hanalei River is classified in Section 11-54-05.1(a), inland water areas to be protected, as Class 1.a., inland waters in State and Federal fish and wildlife refuges.

Over the years, the Hanalei Valley and the areas downstream of the Bridge have been subject to flooding from the Hanalei River. At times, this flooding has overtopped portions of Kuhio Highway between the Bridge and Hanalei, requiring temporary closure of this segment of the highway. The Bridge inspection found debris from previous flooding stuck to the post tension rods below the floorbeams. Although it is not possible to determine how long ago the debris was deposited, the presence of debris shows that at some time in the past, flood waters have reached the bottom of the Bridge.

A Flood Insurance Rate Map (FIRM) has been prepared by the Federal Emergency Management Agency (FEMA) (Community Panel 150002 0035 C, March 4, 1987) for the area near the Hanalei Bridge. The FIRM shows that the Hanalei Bridge is located in the floodway area of Zone AE defined as "base flood elevation determined". The FIRM also shows the base flood elevation line at the Bridge is 15 feet mean sea level (msl). See Appendix D.

The Department of the Army, U.S. Army Engineer District, Honolulu (Corps of Engineers) has prepared a Flood Plain Re-Analysis study for the Hanalei River. The study was undertaken to address issues related to recent major encroachments (an earthen roadway berm and four ponds) that have occurred in the Hanalei River flood plain. Based on this analysis, the base flood elevation line at the Hanalei Bridge appears to be about 16.2 feet msl, a 1.2-foot increase. See Appendix E.

At this time, the study has been sent by the Corps of Engineers to the Federal Emergency Management Agency (FEMA) for review and concurrence. Thus, the Re-Analysis is still considered a draft study by the Corps of Engineers. Pending FEMA review and concurrence of the revised base flood elevation, the existing flood hazard areas as shown in Appendix D remains unchanged.

There are three definitions to be considered related to the FIRM: These are: 1) Base flood is defined as the flood that has a 1-percent probability of being equaled or exceeded in any given year; 2) Floodplain is the area affected by the base flood; and 3) Floodway is delineated for that part of the 100-year floodplain that conveys flow. The 100-year floodway is also defined as the channel of a stream, plus any adjacent floodplain areas, that must be kept clear of encroachments so that the entire 100-year discharge can be conveyed with no greater than a 1.0-foot increase in the base flood elevation. For construction of new encroachments, FEMA has stated there is to be no increase in the base flood elevation. The base flood is also called the 100-year flood.

Presidential Executive Order 11988, Floodplain Management, May 24, 1977 was issued to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practical alternative. Under Executive Order 11988, each Federal agency has the responsibility to evaluate the potential effects of any actions it may take in a floodplain. Further, if any agency has determined to, or proposes to, conduct support, or allow an action to be located in a floodplain, the agency shall

consider alternatives to avoid adverse effects and incompatible development in the floodplains.

To date, a wetlands delineation map has not been prepared to identify the wetlands within the Hanalei National Wildlife Refuge (HNWR) which lies upstream of the Hanalei Bridge. However, taro is grown in the fields within the HNWR.

Further discussion of the Hanalei River is in Section 2.10.

2.3.2 Impacts and Mitigation Measures

Removal and replacement of the Pratt trusses will not affect flows of the Hanalei River. Construction activities related to the replacement trusses will occur on the superstructure of the Bridge and will not involve work to the abutments within the waterway of the Hanalei River.

The U.S. Department of Transportation, United States Coast Guard has reviewed the plans for the project. The Coast Guard has indicated the project would come under 33 CFR Part 115.70, wherein the Coast Guard has given advanced approval to the locations and plans of bridges to be constructed across reaches of waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes, and small motorboats. The Hanalei Bridge project meets this criteria for advanced approval, so a Coast Guard permit is not required. Appendix D (page D - 7) contains the Coast Guard letter. See also Appendix E.

The project will involve work on the superstructure and deck of the Bridge. There will be no change to the abutments or to the vertical clearance between the floor beams and the Hanalei River which could adversely affect the floodplain or floodway established by the FIRM. Further, as discussed in Chapter 4.0, there are no other feasible alternatives to replacement of the Pratt trusses which can be considered. Thus, the project would not conflict with Executive Order 11988.

The Hanalei Bridge is located downstream from the taro fields and other agricultural uses in the HNWR. Replacement of the Pratt trusses will not affect flows in the Hanalei River which could adversely affect upstream uses within the HNWR.

2.4 Flora and Fauna

2.4.1 Existing Environment

The vegetation near the Hanalei Bridge is primarily introduced species of shrubs and trees that form dense thickets. Guava, java plum and mango are the dominant members of this introduced vegetation type. Hau bush, a native plant, is also a dominant species. An endangered plant species, *Cyperus trachysantos* (*Puukaa*) has been planted in the HNWR which is upstream from the Hanalei Bridge.

Wildlife of the area near the Hanalei Bridge is predominately non-native. Mammals include rats, feral cats, and some feral pigs. A number of introduced bird species can be found near the Bridge. However, there are no native forest birds at the low elevation of the Bridge.

The HNWR, which lies upstream of the Hanalei Bridge, contains populations of four species of waterbirds that are listed as endangered by the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544) and 50 CFR Part 17.11 Subpart B, October 31, 1998, and the State of Hawaii Department of Land and Natural Resources (DLNR) under Chapter 195D, HRS, as amended and Hawaii Administrative Rules Title 13, Subtitle 5, Part 2, Chapter 124, February 20, 1998. The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian common moorhen, (*Glinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are an important habitat for these species. The superstructure of the Hanalei Bridge

does not provide habitat, nesting, breeding, or feeding grounds for these listed species. See Appendix D, page D - 9.

The Hawaiian hoary bat (*Lasiurus cinereus semotus*), another endangered species, is also reportedly found in the area of the Hanalei Bridge. This species is typically found in forest areas. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding grounds for this listed species.

Previous studies have shown that the Hanalei River is an important habitat for the oopu nakea. Spawning of this species occurs primarily from mid-August to late December. The spawning area extends from approximately 600 feet below the Bridge to about one mile upstream. After hatching, the fry are washed out to sea and after about six months, the oopu fingerlings return to the Hanalei River and migrate upstream. The main return of the young occurs from mid-autumn to early summer.

2.4.2 Impacts and Mitigation Measures

Construction of the replacement Pratt trusses will not require removal of vegetation near the Hanalei Bridge. The project will be confined to the superstructure of the Bridge. Thus, there will be no adverse effects to the vegetation of this area of Kauai.

Construction work related to replacement of the Pratt trusses will occur to the superstructure of the Bridge. The endangered plant species, *Cyperus trachysantos* (*Puukaa*) is found in the HNWR. The project is not likely to create adverse effects to this species.

Work related to the replacement Pratt trusses will occur on the Hanalei Bridge. There may be some short-term disturbance related to noise and other work during the construction period. The removal and replacement work could cause the listed species to avoid the area of the Bridge while work is ongoing. If night work occurs, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once construction is complete, there

should be no adverse effects to the wildlife of near the Bridge, including the four species of waterbirds listed as endangered by the USFWS and the DLNR and that inhabit the HNWR. Overall, the project may affect the listed species. However, the removal and replacement of the Pratt trusses is not likely to adversely effect the listed species. See Appendix D, page D - 9.

As part their participation in the Hanalei Bridge project, the FHWA has consulted USFWS as required by Section 7 of the Endangered Species Act of 1973, (16 USC 1531), as amended. The necessary consultation included a request by the FHWA that the USFWS concur that the Hanalei Bridge project is not likely to adversely affect listed endangered species. The UFWS replied to the FHWA request and concurred that the Hanalei Bridge project is not likely to affect the listed species. See Appendix F.

The project will involve work on the superstructure and deck of the Bridge. There will be no work within the waterway of the Hanalei River. As previously stated, the contractor is to prevent debris and other materials from removal and replacement work from entering the Hanalei River. Thus, there should be no adverse effects to the water quality of the Hanalei River or to the habitat of the oopu nakea. Similarly, there should be no adverse effect to invertebrates which may be in the Hanalei River.

2.5 Air Quality

2.5.1 Existing Environment

Although the Princeville and Hanalei areas have residential and commercial developments, there are no significant sources of air pollution near the Hanalei Bridge. Vehicle traffic traveling on Kuhio Highway would contribute non-point sources of air pollution. However, the relatively low volume of traffic on Kuhio Highway would not be a significant source of air pollution.

2.5.2 Impacts and Mitigation Measures

Removal of the Pratt trusses and other construction-related activities would cause an increase in pollutants related to dust and exhaust from equipment. Once construction has been completed, the level of air pollution should return to current levels and will be primarily related to traffic volumes on Kuhio Highway.

2.6 Traffic

2.6.1 Existing Environment

In the vicinity of Hanalei Bridge, Kuhio Highway is classified as a two-lane rural roadway with a curvilinear alignment running along the northern coastline of the island. Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei. The Hanalei Bridge is one of seven one-lane bridges that cross streams intersecting with Kuhio Highway. Stop/yield signs on both approaches to the Hanalei Bridge control vehicular traffic, which allow individual vehicular movements.

Vehicular traffic using the Hanalei Bridge is primarily characterized as regional trips destined to and from Hanalei Town and other areas west of the bridge. Two-directional traffic volume is relatively low on Kuhio Highway on either side of the Hanalei Bridge. The DOT traffic survey conducted in June 1997 shows a total of approximately 8,223 vehicles per day crossing Hanalei Bridge on a typical weekday, with 4,224 vehicles travelling westbound towards Hanalei Town and 3,999 vehicles travelling eastbound towards Princeville and Lihue.

In addition to two-directional traffic volumes, peak-hour traffic data were collected in June 1997. This data show that the peak hour occurred between 1:30 to 2:30 pm when a total of 753 vehicles were counted on the Lihue approach to the Hanalei Bridge.

2.6.2 Impacts and Mitigation Measures

Removal of the Pratt trusses and other construction-related work would cause minor disruptions to the movement of traffic over the Hanalei Bridge. Construction activities will be planned and phased to allow continuous vehicle access to the Bridge. Adequate sight distances at the Bridge approaches during construction will be provided to allow safe vehicular traffic movements. Once construction activities are complete, traffic conditions should return to normal operations.

As previously discussed, the Hanalei Bridge will remain in service during the removal and replacement activities. The contractor is to perform the work to minimize traffic delays. No slow down of traffic will be allowed between 6:00 am to 8:00 am and from 3:30 pm to 6:30 pm. The contractor will be allowed to close the Bridge to traffic from Sunday to Thursday between the hours of 10:00 pm and 5:00 am the following day. (Public notices regarding closures of the Bridge will be placed in local newspapers and announced on local radio and television stations. In addition, local businesses will be individually notified of impending Bridge closures.)

During night construction work, the contractor is to provide a police officer at both approaches to the Bridge to control traffic. Emergency vehicles will be allowed to cross the Bridge at all times.

2.7 Noise

2.7.1 Existing Environment

The area near the Hanalei Bridge can be described as rural and agricultural, which is characterized by relatively low noise levels. Developed areas, residential and commercial, occur on both sides of the Bridge: at Princeville, about 0.6 road miles to the east; and at Hanalei, about 1.3 road miles to the west. The primary noise source in this area of Kauai would be from vehicle traffic along Kuhio Highway, including those crossing the Hanalei Bridge.

2.7.2 Impacts and Mitigation Measures

Construction work necessary to remove and replace the Pratt trusses would create noise impacts during the construction period. However, once construction is complete, noise levels in the area should not increase as a result of the replacement trusses.

2.8 Archaeological and Historic Resources

2.8.1 Existing Environment

As previously discussed, on August 9, 1978, the Secretary of the Interior determined that the Hanalei Bridge was eligible for inclusion on the National Register of Historic Places. Prior to the determination, the Kauai Historical Society prepared a National Register of Historic Place Nomination Form to document information and data related to the Hanalei Bridge. See Appendix A, page A - 1. The Nomination Form, which was submitted by the FHWA, states, "The Hanalei Bridge is one the first examples of the progressive American highway system at work in Hawaii, on Kauai's North Shore. It is also one of the last remaining examples of the first use of formal engineering expertise and industrial technological experience in American bridge making by the Territorial Government, in the first decade following United States annexation of Hawaii."

The Nomination Form further states, "The construction of improved, modern vehicular roads on Kauai in 1911-1912, especially the up-to-date replacement of older, weak, timber bridges by steel trusses and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications, and helped stimulate the economic and social growth of the then relatively isolated North Shore of the island."

The Hanalei Bridge is also discussed in the State of Hawaii Historic Bridge Inventory and Evaluation dated May 1996. This document notes that the Hanalei Bridge is considered the gateway to the Hanalei Valley and an integral part of the historic transportation system on Kauai and played a major role in the development of Kauai's belt road plan by connecting the northwest and north

sides of the island. It is also the oldest surviving American metal truss bridge in Hawaii and is a rare surviving bridge that was fabricated by Hamilton & Chambers Company. The document also states the Hanalei Bridge shows the County's efforts to provide a permanent design for crossing the Hanalei River and that the single span of 110 feet was remarkable for Kauai at that time.

On May 18, 1999, the Advisory Council on Historic Preservation (Advisory Council) published 36 CFR Part 800 as its final rule to replace previous regulations in order to implement the 1992 amendments to the National Historic Preservation Act of 1966. (See May 18, 1999 Federal Register Vol. 64, No. 95.) The final rule, which became effective on June 17, 1999, identifies the process by which Federal agencies consider the effects of their undertakings on historic properties and provides the Advisory Council with an opportunity to comment with regard to the undertaking as required by Section 106 of the National Historic Preservation Act of 1966, as amended.

Since the Hanalei Bridge has been determined to be eligible for inclusion on the National Register of Historic Places, replacement of the Pratt trusses meets the definition of an "undertaking" as set forth in 36 CFR Part 800.16. Undertaking is defined as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency."

According to 36 CFR 800.4, if the Agency Official finds that a historic property is present but the undertaking will have no effect on it, the Agency Official shall provide documentation of the finding to the State Historic Preservation Officer (SHPO). (Agency Official is defined as the Federal official who has the effective decision-making authority for an undertaking. For Hawaii, the SHPO is the State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division.) The documentation to support the finding of no adverse effect includes:

- 1) A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps and drawings, as necessary;

- 2) A description of steps taken to identify historic properties;
- 3) A description of the affected historic properties, including information on the characteristics that qualify them for the National Register;
- 4) A description of the undertaking's effects on historic properties;
- 5) An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects; and
- 6) Copies or summaries of any views provided by consulting parties and the public.

The State has submitted historic documentation information, including 8-inch by 10-inch archival quality, black and white photographs and previous documentation from the State of Hawaii Historic Bridge Inventory and Evaluation, to the FHWA.

The Hanalei National Wildlife Refuge Historic and Archaeological District, which lies adjacent to the upstream side of the Bridge, has been determined eligible for the National Register of Historic Places. The HNWR Historic and Archaeological District contains a number of archaeological sites including agricultural, habitation, and agricultural and habitation sites. The data from these sites indicate that the Hanalei Valley has been continuously occupied for over 1,300 years. Dispersed carbon recovered from one of the sites provides evidence for the earliest habitation known on Kauai and is within the earliest range of dated habitation throughout the Hawaiian islands. The Historic and Archaeological District holds the potential to address a variety of important questions regarding prehistoric and historic Hawaiian culture.

2.8.2 Impacts and Mitigation Measures

As previously described, public informational meetings were held in Hanalei on August 3, 1998 and on March 11, 1999. Meeting notes and related information about those meetings were provided to the State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division (HPD). In addition, meetings and discussions were conducted with the HPD regarding the removal and replacement of the Pratt trusses. The meetings also presented the results of the August 1998 inspection and load test which documented the need to remove and replace the Pratt trusses. It was also stressed that Kuhio Highway and the Hanalei Bridge are the sole access to Hanalei and other communities west of Hanalei.

In addition, the meetings also discussed the overwhelming support by the Hanalei community, as expressed in the March 1999 public informational meeting, for the removal and replacement of the Pratt trusses and retention of the one-lane configuration of the Hanalei Bridge. Lastly, the meetings presented information that the new Pratt trusses would have a similar appearance to the existing Pratt trusses.

Based on this information, the HPD has concurred that removal and replacement of the Pratt trusses will result in "no historic properties adversely affected". See Appendix D page D - 17. See also Appendix E for Draft EA comments from the HPD.

2.9 Infrastructure

2.9.1 Water Service

Existing Environment

There is no water service to the Bridge. There are no water lines connected to the Bridge.

Impacts and Mitigation Measures

The project will not create adverse impacts to the water service infrastructure to the area near the Bridge.

2.9.2 Electrical Service

Existing Environment

There is no electrical service to the Bridge. There are no electrical lines connected to the Bridge.

Impacts and Mitigation Measures

The project will not create adverse impacts to the electrical service infrastructure to the area near the Bridge.

2.10 Socioeconomic Characteristics

2.10.1 Existing Conditions

As of July 1, 1995, the State of Hawaii Department of Business, Economic Development & Tourism (DBEDT) estimated that the County of Kauai had a population of 55,983 persons, which represents an increase of 9.4 percent over the April 1, 1990 census population of 51,177 persons. The July 1, 1995 estimates for the Hanalei District, which includes Princeville and Kilauea, show a population of 5,404 persons, an increase of 16.7 percent from the April 1, 1990 population of 4,631 persons. The DBEDT data show that the Hanalei District is the fastest growing of the five districts on Kauai.

Despite these population figures, the North Shore of Kauai has long been considered a rural area by its residents, and that the one-lane bridges of the area, including the Hanalei Bridge, typify this rural character and lifestyle. As expressed a number of times over the years, the one-lane Hanalei Bridge is the

gateway or entry to this rural character and the Bridge's setting adjacent to the Hanalei National Wildlife Refuge and its taro fields are important to the residents and visitors to this area of Kauai.

The role of the Hanalei River is also an integral part of this rural character as evidenced by its designation in August 1998 for participation in the American Heritage Rivers program by the President of the United States. The Hanalei River is one of only 14 rivers in the U.S. with this designation. The American Heritage Rivers program is a Federal program to fight pollution, protect watersheds, and improve recreational opportunities on rivers in the U.S.

The Hanalei River is not designated as a Wild and Scenic River.

2.10.2 Impacts and Mitigation Measures

The project will retain the Bridge's present one-lane configuration and appearance. Retention of the one-lane configuration and appearance would be consistent with the community's desire to preserve the rural lifestyle of Hanalei and the North Shore. The replacement Pratt trusses and one-lane configuration would continue the Hanalei Bridge's role as the gateway or entry to the North Shore and its rural character.

The underwater inspection showed no extensive deterioration of the underwater portions of the abutments. As a result, there will be no work to the abutments which could affect the Hanalei River, including recreational activities in the River. Thus, project will not create adverse effects to the Hanalei River which has been designated as an American Heritage River.

The Hanalei Bridge is a structure. Replacement of the Pratt trusses does not involve activities beyond the structure and would not require relocation of persons or property affected by the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970.

The Hanalei River is not designated as a Wild and Scenic River. Thus, there will be no adverse impact to a Wild and Scenic River.

Recreational kayaking and small boats traverse the Hanalei River. The debris platform will prevent debris and other material from affecting the boaters.

3. RELATIONSHIP to PLANS, POLICIES and CONTROLS

3.1 Hawaii State Plan

The Hawaii State Planning Act (Chapter 226, Hawaii Revised Statutes) sets forth the Hawaii State Plan, adopted in 1978 and revised in 1988. The Hawaii State Plan serves as a guide for the future long-range development of the State and identifies goals, objectives, and priorities. The Hanalei Bridge project supports and is consistent with the following State Plan objectives and policies:

Section 226-12 Objective and policies for the physical environment - scenic, natural beauty, and historic resources

(b) (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

The Hanalei Bridge project will involve replacement of the existing Pratt trusses with Pratt trusses of similar appearance and retention of the one-lane configuration of the Bridge. The appearance and one-lane function of the Hanalei Bridge have long been identified by the community as the "gateway" to Hanalei.

Section 226-14 Objective and policies for facility systems - in general.

(a) (1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.

The Hanalei Bridge and the other one-lane bridges on Kuhio Highway have long been considered as typifying the rural setting, character and lifestyle of the North Shore. The County of Kauai North Shore Development Plan (DP) Ordinance adopted in 1985 was based on the 1980 North Shore Development Plan Update Report. The DP Ordinance states, "It is desirable that the one-lane Hanalei

Bridge be restored and maintained." However, the 1985 Update recommended replacement of the Hanalei Bridge and a number of the other bridges.

Section 226-17 Objectives and policies for the facility systems - transportation.

(b) (10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.

During the March 11, 1999 public informational meeting, there was overwhelming support for replacement of the existing Pratt trusses with trusses similar in design appearance as the existing trusses and to maintain the one-lane configuration of the Bridge.

3.2 Land Use Plans and Policies

3.2.1 State Land Use District

The Hawaii Land Use Law of Chapter 205, Hawaii Revised Statutes, classifies all land in the State into four land use districts: Urban, Agriculture, Conservation, and Rural. The Hanalei Bridge is located in the Conservation District classification. The project is consistent with the Conservation District classification, as no change in use will occur.

3.2.2 County of Kauai General Plan

The General Plan for the County of Kauai was adopted in 1971 and was updated by Ordinance 461 which was adopted on June 21, 1984. The County is currently in the process of preparing another update which will serve as a guide to the future of Kauai.

The adopted General Plan includes a number of goals which were based on the findings and input from the Citizens Advisory Committee. The relevant General Plan goals related to the project are:

To maintain the concept of Kauai as the "The Garden Isle"; thus, insisting any growth be in consonance with the unique landscape and environmental character of the island.

To recognize those aspects of the island and its people which are historically and culturally significant, and to maintain and enhance such aspects as a continuing expression of the island's physical and social structure.

The replacement Pratt trusses will be consistent with these goals as the new trusses will be of similar appearance and the Bridge will retain its one-lane configuration. These aspects of the Bridge will preserve the unique rural character of the North Shore.

As part of this process of updating its General Plan, the Kauai 2020 Vision Statement has been prepared and circulated for comment. The Vision Statement has a number of issues for Kauai and notes that "rural roads retain their country character and one-lane bridges have been preserved, both for their historic value and because they slow traffic".

Retaining the one-lane configuration of the Bridge would also be consistent with the 2020 Vision Statement expressed in the County's General Plan Update currently under preparation.

3.2.3 North Shore Development Plan

The current Development Plan Ordinance for the County of Kauai was adopted in 1985 as an update of the original 1972 Development Plan. The 1985 update was based on the 1980 North Shore Development Plan Update Report. Goal B of the Update Report is "to preserve the special rural charm of the North Shore Planning Area." One of the objectives of Goal B is "to provide for the development of man-made features that do not visually overwhelm the existing small structures and the prevailing plant materials and soft groundcover."

The replacement Pratt trusses will have a similar design and appearance as the existing Hanalei Bridge and the one-lane configuration of the Bridge will be maintained. The replacement Pratt trusses will be consistent with Goal B of the North Shore Development Plan Update.

3.2.4 County of Kauai Zoning

The County of Kauai Code Chapter 8, Comprehensive Zoning Ordinance, sets forth regulations to standards for land development and construction of buildings and other structures in the County of Kauai. Utilizing the findings and analysis of the General Plan, the Comprehensive Zoning Ordinance establishes land use districts and delineates the respective types of permitted uses and the development that can take place in those districts. The Hanalei Bridge does not have a zoning designation.

3.2.5 County of Kauai Special Management Area

The Coastal Zone Management Act contains the general objectives and policies upon which all counties within the State have structured specific legislation which created Special Management Areas (SMA). Any development within the Special Management Area boundary requires a SMA Use Permit which is administered by the County of Kauai Planning Commission.

The County of Kauai Planning Department has determined that the Hanalei Bridge is not located within the Special Management Area and will not require a Use Permit. Thus, it will not affect the coastal zone of Kauai. Appendix D page D -16 shows the County of Kauai Planning Department determination.

4. ALTERNATIVES to the PROPOSED ACTION

4.1 Alternative A: No Action

Under the Alternative A No Action, no improvements would be made to the Bridge and the present condition of the Pratt trusses would be allowed to deteriorate further. Corrosion of the members would continue, eventually resulting in a reduction in the load capacity of the Bridge. The various members could experience failures and falling debris could pose a hazard to vehicles traveling on the Bridge. Ultimately, with the No Action alternative, there could be failures to a number of members which would adversely affect the ability of the Bridge to carry its assigned load.

Since the Hanalei Bridge provides the only access to Hanalei and other North Shore communities; its continued use must be maintained for residents of these areas. Thus, the No Action alternative is not a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2 Other Alternatives

4.2.1 Alternative B(1): Repair Pratt and Warren Trusses

Alternative B(1) would involve repair of both the Pratt and Warren trusses and would also entail associated repairs to include: replacing the timber deck; replacing the travel surface; adding posts to the pedestrian railings; and painting both trusses. The badly deteriorated top chord members have experienced extensive loss of cross sectional area which would cause major problems for any attempts to repair the Bridge. Cleaning and surface preparation of the members by hand grinding, light blasting by water, or other means would likely result in further damage. The additional damage and reduction in size of the members from cleaning operations could result in insufficient member cross-sectional area and subsequent local failures.

In addition, the existing Pratt trusses would require a labor intensive effort to strengthen members to correct the current overstressing condition. Despite this effort, the Bridge's long-term ability to provide access to Hanalei and to other North Shore communities would remain uncertain. Further, since some members of the Pratt trusses would remain, maintenance operations would need to be more frequent and probably more extensive than if more modern steels were used. There is also uncertainty as to the durability of the necessary repairs.

Since there is uncertainty as to the results of repairs to the Pratt trusses, and since the Hanalei Bridge must provide access to Hanalei and to other North Shore communities, use of Alternative B(1) is not considered a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2.2 Alternative B(2): Remove Pratt Trusses and Repair Warren Trusses

Alternative B(2) is a variation of Alternative B(1). Similar to Alternative B(1), the Pratt trusses would be separated from the Warren trusses. With the separation of the two truss systems, the Pratt trusses would no longer carry any live load and, thus, would no longer be needed. As a result, Alternative B(2) would permanently remove the Pratt trusses and leave the Warren trusses and floor beam system to serve as the bridge across the Hanalei River. Additional repairs would be made to the Warren trusses and to the guardrails, railings, and deck. The one-lane configuration of the Bridge would remain.

Although the least costly among the alternatives, removal of the Pratt trusses would result in a greatly altered appearance to the Bridge as the top chords and vertical members, distinctive visual elements, would no longer be present. Thus, the community members attending the March 11, 1999 public informational meeting did not favor Alternative B(2). As a result, Alternative B(2) is not considered a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2.3 Alternative D: Construct two-lane Concrete Replacement Bridge

Alternative D would construct a two-lane 40-foot wide concrete bridge adjacent to the existing Hanalei Bridge. The new concrete bridge would be designed to conform to current standards for this type of bridge and would be constructed with prestressed concrete girders with cast in-place deck slab. The bridge rails would be similar to jersey barriers used on most modern highways and would be about 3 feet high from the travel surface.

Alternative D would require realignment of both approaches, acquisition of additional right-of-way, and new abutments on each bank of the Hanalei River. There would be several advantages to Alternative D including use of concrete which is more resistant to corrosion than steel, thereby reducing future inspection, maintenance and repair costs.

The construction and right-of-way acquisition costs of Alternative D would be significantly higher than the other alternatives. Removal of the existing Bridge would create an adverse effect to the historic structure. Most likely, an Environmental Impact Statement would be required for Alternative D.

Notwithstanding these considerations, a two-lane concrete bridge would not preserve the Hanalei Bridge as the one-lane gateway to the North Shore communities. The two-lane concrete bridge is also not consistent with the 2020 Vision Statement in the Kauai General Plan Update which includes retaining the one-lane configuration of the Hanalei Bridge. Lastly, the community members attending the March 11, 1999 public informational meeting did not favor Alternative D. As a result, Alternative D is not considered a reasonable and feasible alternative to replacement of the Pratt trusses

5. DETERMINATION

Short-term construction impacts include disruption of traffic near the project site, decline in air quality from construction activities, and increase in noise levels. Once construction has been completed, the short-term adverse impacts will no longer occur.

Based on analysis of the anticipated impacts, a Finding of No Significant Impact (FONSI) has been determined for the proposed Hanalei Bridge project. The significance criteria to make this determination are set forth below and in Hawaii Administrative Rules Title 11, State of Hawaii, Department of Health, Chapter 200, Environmental Impact Statement Rules.

- 1) *Involve an irrevocable commitment to loss or destruction of any natural or cultural resources;*

The State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division has concurred that the removal and replacement of the Pratt trusses will result in "no historic properties adversely affected". Thus, there will be no loss or destruction of cultural resources.

- 2) *Curtail the range of beneficial uses of the environment;*

Kuhio Highway and the Hanalei Bridge are the sole access to Hanalei and other North Shore communities. Replacement of Pratt trusses will permit continued access to these communities. The proposed replacement will involve only work on the superstructure of the Bridge. Thus, the Hanalei Bridge project will not curtail the beneficial uses of the environment.

- 3) *Conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;*

The Hanalei Bridge project will not involve actions or activities which would adversely affect natural resources of the project site. Replacement of the Pratt trusses will be consistent with the guidelines of Chapter 344, HRS, as it will provide a public facility to which is needed to reach Hanalei and other North Shore communities. As such, the Hanalei Bridge project will not conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS.

- 4) *Substantially affect the economic or social welfare of the community or state;*

Kuhio Highway and the Hanalei Bridge are the sole access used by residents and visitors to Kauai to reach Hanalei and other North Shore communities west of Hanalei. The Hanalei Bridge is needed to maintain the social welfare of these communities.

- 5) *Substantially affect public health;*

The Bridge is part of the highway transportation system which is needed to protect the public health of the residents and visitors on Kauai. Previous welding repairs made to the bottom chord and diagonal members have left the Pratt trusses more susceptible to fatigue failures. As a result of the extensive deterioration and corrosion and the extensive welding repairs to fracture critical members, the Pratt trusses no longer transmits loads according to design criteria and no longer has a reliable and defined load carrying system. Thus, replacement of the Pratt trusses will not have an adverse effect on public health.

- 6) *Involve substantial secondary impacts, such as population changes or effects on public facilities;*

The replacement Pratt trusses will retain the existing one-lane configuration and 15-ton load capacity of the Hanalei Bridge. Thus, the Hanalei Bridge Project will not create secondary impacts, such as population changes or effects on public facilities.

7) *Involve a substantial degradation of environmental quality;*

The Hanalei Bridge Project is anticipated to result in short-term impacts to noise, air quality and traffic in the immediate vicinity of the Bridge. The Bridge site does not provide habitat for any Federal or State listed or candidate threatened or endangered species of flora or fauna. The State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division has concurred that the Hanalei Bridge Project will result in "no historic properties adversely affected". As a result, the proposed project will not result in a substantial degradation of environmental quality.

8) *Have a cumulative effect upon the environment or involves a commitment for larger actions;*

The Hanalei Bridge Project does not involve a commitment to further actions to other DOT related projects. As a result, the proposed project will not have a cumulative effect upon the environment.

9) *Affect a rare, threatened or endangered species;*

The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding grounds for the Federal or State listed or candidate threatened or endangered species of flora or fauna. Thus, replacement of the Pratt trusses will not affect any threatened or endangered species.

10) *Detrimentially affect air or water quality or ambient noise levels;*

Construction of the proposed project would increase noise and exhaust emission levels in the immediate vicinity of the project site during the construction work. Once complete, ambient noise level and air quality should return to existing levels.

- 11) *Affects or likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geographically hazardous land, estuary, fresh water or coastal water,*

The March 4, 1987 Flood Insurance Rate Map, Community-Panel Number 150002 0035 C, shows that the Hanalei Bridge is located in the floodway area of Zone AE defined as "base flood elevation determined". The FIRM also shows the base flood elevation line at the Bridge is 15 feet. Replacement of the Pratt trusses will involve work on the superstructure of the Bridge. There will be no change to the abutments or to the vertical clearance between the floor beams and the Hanalei River which could adversely affect the floodplain or floodway established by the FIRM. Thus, although located in the floodway, the Hanalei Bridge Project would not create an adverse effect to an environmentally sensitive area.

- 12) *Substantially affect scenic vistas and viewplanes identified in county or state plans or studies;*

The Hanalei Bridge is located in the broad plain of the Hanalei Valley. Retention of the existing "look" of the Hanalei Bridge including the Pratt trusses and one-lane configuration are important considerations to the North Shore community. The replacement Pratt trusses will be of similar design as the existing trusses to retain the "look" of the Hanalei Bridge.

- 13) *Require substantial energy consumption.*

The Hanalei Bridge project is to replace the existing Pratt trusses which can no longer carry their assigned load, and to perform associated maintenance repairs to the Bridge. Thus, the Hanalei Bridge project will not create a substantial increase in energy consumption over existing levels of usage.

Based on these findings and assessment of potential impacts, a Finding of No Significant Impact (FONSI) is determined.

6. CONSULTED PARTIES

6.1 Pre-Assessment Consultation

The following agencies were consulted during the pre-assessment phase of the Draft Environmental Assessment. Each agency was sent a copy of a project summary and a request for their written comments on the project. All written comments and responses are reproduced in Appendix D.

U.S. Army, Corps of Engineers, Pacific Ocean Division
U.S. Department of the Interior, Fish and Wildlife Service
State of Hawaii, Department of Health, Clean Water Branch
State of Hawaii, Department of Land and Natural Resources
County of Kauai, Planning Department

A Documented Categorical Exclusion was submitted to the U.S. Department of Transportation, Federal Highway Administration (FHWA) in August 1999. It was approved by the FHWA on September 13, 1999.

6.2 Agencies and Organizations to be Consulted on the Draft EA

The following is a list of agencies and organizations consulted as part of the Draft Environmental Assessment. A total of 13 comments were received on the Draft EA, as shown by (✓). Of those comments, there was one substantive comment, as shown by (✓✓). Copies of the comments and responses received during the review period are included in Appendix E.

Federal

- U.S. Department of Agriculture, Natural Resource Conservation Service
- ✓ U.S. Army, Corps of Engineers, Pacific Ocean Division
- ✓ U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of the Interior, Fish and Wildlife Service, Hanalei National Wildlife Refuge

Federal (continued)

- ✓ U.S. Department of the Interior, Geological Survey
- U.S. Department of Transportation, Federal Highway Administration
- ✓ U.S. Department of Transportation, United States Coast Guard

State of Hawaii Agencies

- ✓ Department of Accounting and General Services
- Department of Agriculture
- Department of Business, Economic Development and Tourism
- DBED&T - State Energy Office
- Department of Hawaiian Home Lands
- ✓ Department of Health
- Department of Health, Clean Water Branch
- Department of Health, Environmental Management Division
- Department of Land and Natural Resources
- ✓ Department of Land and Natural Resources, State Historic Preservation Division
- ✓ Department of Land and Natural Resources, Water Resource Management
- ✓ Office of Environmental Quality Control
- ✓ Office of Hawaiian Affairs
- University of Hawaii Water Resources Research Center
- University of Hawaii Environmental Center
- Princeville Public Library

County of Kauai Agencies

- Fire Department
- Planning Department
- Department of Parks and Recreation
- ✓✓ Department of Public Works
- Police Department

- ✓ Department of Water Supply

Kauai Organizations

- Kauai Museum
- ✓ Hanalei Roads Committee
- Hanalei Business Association
- Hanalei Heritage River Office

7. REFERENCES

36 Code of Federal Regulations Part 800. Advisory Council on Historic Preservation. Federal Register Vol. 64, No. 95. May 18, 1999.

County of Kauai. *General Plan Update*. 1982.

County of Kauai. *North Shore Development Plan Update*. December 1980.

Federal Emergency Management Agency Federal Insurance Administration. *Appeals, Revisions, and Amendments to National Flood Insurance Program Maps. A Guide for Community Officials*. December 1993.

Juvik, Sonia P. and Juvik, James O. *Atlas of Hawaii, Third Edition*. Prepared for University of Hawaii at Hilo, Department of Geography. 1998.

Neal, Julia. *U.S. Department of Interior National Park Service, National Register of Historic Places Inventory – Nomination Form, Hanalei Bridge – Kuhio Highway (Bridge Number 40)*. November 10, 1976.

Office of the Governor, Office of State Planning. *State Land Use District Boundary Review, Kauai Executive Summary*. March 1992.

Spencer Mason Architects. *State of Hawai'i Historic Bridge Inventory and Evaluation*. May 1996.

State of Hawaii, Department of Transportation, Highways Division, Planning Branch. *Traffic Survey Data (Individual Stations); Island of Kauai..* 1997.

U.S. Department of Transportation Federal Highway Administration and State of Hawaii Department of Transportation. *Kauai Belt Road Kalihiwai to Haena, FAP 56, Kauai, Hawaii, Final Environmental Impact Statement, FHWA-HI-EIS-76-03-F*. June 1980.

Weisler, Marshall. *U.S. Department of Interior National Park Service, National Register of Historic Places Inventory – Nomination Form, Hanalei National Wildlife Refuge Historic and Archaeological District.* 10 August 1983.

Wilson Okamoto & Associates, Inc. and Abba Lichtenstein, P.E., Dr.Eng. *Bridge Inspection, Load Testing, and Alternatives Analysis, Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge,* February 1999.



APPENDIX A

Inventory Nomination Form

Form No. 10-300 (Rev. 10-1-79)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

Post-It Fax Note 7671

6196-01

Date	8/3	# of pages	6
To	John Sakaguchi	From	Tampa
Co./Dept.	U	Co.	DLNR
Phone #		Phone #	581-0000 M60
Fax #	946-2253	Fax #	FILE

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

CC: DOT-IC
AL

1 NAME

HISTORIC Hanalei Bridge -- Kuhio Highway (Bridge Number: 40).

AND/OR COMMON

2 LOCATION

STREET & NUMBER

CITY, TOWN

Hanalei

STATE

Hawaii

VICINITY OF
CODE

96714

NOT FOR PUBLICATION
CONGRESSIONAL DISTRICT

COUNTY

Kauai

CODE

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> MUSEUM
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> PARK
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> ENTERTAINMENT
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> GOVERNMENT
		<input type="checkbox"/> NO	<input type="checkbox"/> INDUSTRIAL
			<input checked="" type="checkbox"/> TRANSPORTATION
			<input type="checkbox"/> MILITARY
			<input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME

State of Hawaii, Department of Transportation

STREET & NUMBER

869 Punchbowl Street

CITY, TOWN

Honolulu

VICINITY OF

STATE

Hawaii

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

CITY, TOWN

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Bridge Data Sheet

Environmental Impact Statement
released February 23, 1977

DATE

October 20, 1950

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

Department of Transportation

CITY, TOWN

Lihue

STATE

Hawaii

7 DESCRIPTION

CONDITION
 EXCELLENT
 GOOD
 FAIR
 DETERIORATED
 RUINS
 UNEXPOSED

CHECK ONE
 UNALTERED
 ALTERED

CHECK ONE
 ORIGINAL SITE
 MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Hanalei Bridge is a 106-foot, single span, steel through-truss (Pratt Truss) bridge built on reinforced concrete abutments, with a 17-foot roadway deck made of timber planks. The bridge was constructed by the Territory of Hawaii in 1912, built by Hamilton & Chambers of New York. The bridge has been continuously used and maintained since 1912, with repairs in 1934 that strengthened the superstructure.

8 SIGNIFICANCE

PERIOD		AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION		
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE		
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE		
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN		
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER		
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION		
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)		
		<input type="checkbox"/> INVENTION				

SPECIFIC DATES 1912

BUILDER/ARCHITECT Hamilton & Chambers, New York

STATEMENT OF SIGNIFICANCE

The 1912 Hanalei Bridge is one of the first examples of the progressive American highway system at work in Hawaii, on Kauai's North Shore. It is also one of the last remaining examples of the first use of formal engineering expertise and industrial-technological experience in American bridge making by the new Territorial Government, in the first decade following United States annexation of Hawaii.

The construction of improved, modern vehicular roads on Kauai in 1911 - 1912, especially the up-to-date replacement of older, weak, timber bridges by steel truss and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications, and helped stimulate the economic and social growth of the then relatively isolated North Shore of the island.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

The Garden Island Newspaper Kauai Historical Society Files
 File of the County Clerk, County Building, Kauai
 Department of Transportation Descriptions of Bridges
 State Building, Lihue, Kauai, Hi.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____
 UTM REFERENCES

A	0,4	45,068,2	2,415,616,2,4	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME/TITLE

Julia Neal, Director, Historic Buildings Kauai, Project Nov. 10, 1976

ORGANIZATION

DATE

Kauai Historical Society

STREET & NUMBER

TELEPHONE

P. O. Box 1778

245-6931

CITY OR TOWN

STATE

Lihue,

Hawaii 96766

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL _____

STATE _____

LOCAL _____

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE _____

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST _____ DATE _____

KEEPER OF THE NATIONAL REGISTER

Advisory
Council On
Historic
Preservation

May 14
1979

1522 K Street NW.
Washington D.C.
20005

MAY 10 1979

Honorable Cec Heftel
House of Representatives
Washington, D.C. 20515

Dear Mr. Heftel:

This is in response to your letter of April 20 to Louis Wall of the Council's Western Office concerning correspondence you received from Hays A. McLellan with regard to the Hanalei River Bridge. The Hanalei, Waioli, and Waipa Bridges were determined eligible for the National Register of Historic Places by the Secretary of the Interior on August 9, 1978. By letter of February 16, 1979, the Federal Highway Administration (FHWA), pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320), requested Council comment on its proposed assistance with the Hawaii Division of Land Transportation proposal to replace the bridges and improve the Kauai Belt Road between Kalihwai and Haena.

In accordance with the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800), an onsite inspection was made and public information meeting held on March 22, 1979. Mr. McLellan spoke at the public information meeting and his comments are included in the official record of that meeting which was made by FHWA and submitted to the Council by letter of April 16, 1979. After carefully reviewing the transcript of the public information meeting and the other material submitted by FHWA, we have requested FHWA to provide the Council additional information on three issues. A copy of our response is enclosed for your information.

Your interest in this matter and assistance in the preservation of Kauai's historic bridges is appreciated. If we can be of further assistance, please call Louis S. Wall at 303-234-4946.

Since Mr. McLellen also addressed his letter to Senators Matsunaga and Inouye, we are providing them with a copy of this letter.

Sincerely,

Robert R. Garvey, Jr.
Executive Director

Enclosure

Robert R. Garvey, Jr.

cc:

Senator Matsunaga, Attn: Syd Rosen

Senator Inouye

✓ SHPO-HI

FLO-DOT (Davenport)

DOT (crecco)

FHWA-Hawley, Region 9

FHWA-Segawa, Hawaii Division



APPENDIX B

**Public Informational Meeting
(August 3, 1998)**

Campaign organized to preserve Hanalei's scenic roads, bridges

BY CHRIS COOK
Business Editor

HANALEI — A committee that succeeded in saving the Hanalei ridge in the 1980s is now looking to preserving the scenic bridges and highway from Hanalei to Ke'e coast.

"We're going to look at making the whole road a scenic road in coordination with the Hanalei Community Association," said

Carol Wilcox of the Hanalei Roads Committee.

The 1997 session of the Legislature set aside \$5.5 million in Capital Improvement Project funds for replacement of the historic Waipa and Waikoko bridges located just past Hanalei. The plan has met with opposition in the community.

Preserving the Waipa Bridge and plans for enhancing the state's park at Ha'ena are two issues bringing attention to preservation of the

scenic coastal highway and its bridges.

The committee is made up of members of the former North Shore Belt Road Citizens Advisory Committee, which was formed in the 1970s to save the landmark Hanalei Bridge.

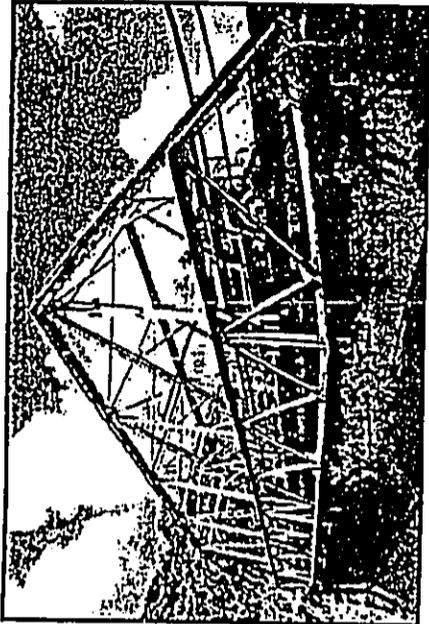
Wilcox said the committee has asked to be placed on the agenda of the July Hanalei Community Association meeting.

A federal program funded in the

early 1990s that supports the preservation of scenic highways may be a source of funds for preserving the North Shore bridges and roads.

Wilcox said the state Department of Transportation has received \$200,000 in federal funds from the National Scenic Byways Program to plan and design a scenic highway program within Hawaii.

(See Roads on Page 2)



HANALEI BRIDGE, built in 1912, serves as the gateway to the scenic highway that leads to the end of the road at Ke'e Beach. There is an effort afoot to find funds to preserve the coastal stretch of highway and its many one-lane bridges.

Roads

(Continued from Page 1)

There were no federal funds allocated for the program in federal fiscal year 1997, said DOT spokesperson Marilyn Kali, adding that future funding is uncertain.

"If the program is to proceed, it must be tied into economic development," Kali said. "They want scenic enhancements on routes that have bed and breakfasts and other tourist accommodations, and are also able to handle traffic."

"We've had the most interest (in scenic byways funds) from the community and staff on Kauai," she said.

"It's a logical place to start the program if and when we get the plan completed. We're only half

way through planning." The money is part of Hawaii's \$100 million annual share of federal Intermodal Surface Transportation Efficiency Act (ISTEA) funds. The funds go to each state to improve interstate highways, for surface transportation programs, to construct bikeways and other highway-related areas.

Examples of current ISTEA-funded projects in Hawaii include improvements along the Ala Wai Canal adjacent to the new Hawaii Convention Center and a park along Kalamanaole Highway on O'ahu's south shore.

So far more than 40 states have created scenic highway programs. About 35,000 miles of highway on the Mainland have been designated as scenic highways. Two ex-

amples of designated scenic byways are the Great River Road that runs through 10 states in the Mississippi River Valley, and the Old West Trail that passes through the Dakotas, Montana, Nebraska and Wyoming.

The National Scenic Byways Program designates and protects roads that provide an enjoyable travel experience. Initial funding for the program expires this year, but federal funding for the program has been renewed, extending the program past this year, said Barbara Robeson of Ha'ena, who served on the belt road committee with Wilcox.

The program is described in the Surface Transportation Policy Project Bulletin, which is published by a watchdog group that monitors

highway programs in the United States. The organization's newsletter states that Congress authorized \$80 million in funding for the program and created a Scenic Byways Advisory Committee. The committee is setting up standards that must be met for highways to qualify for the program.

The ISTEA-funded program is designating stretches of highways as "All American Roads." The program is limited to roads that meet high standards for quality and those that need protection of historic resources and scenic views. The spectacular vistas and historic significance of the stretch of highway from Hanalei Bridge to Ke'e Beach may make it eligible to become an All American Road.

The North Shore Belt Road Citizens Advisory Committee was formed in mid-1970s to save the landmark Hanalei Bridge. The group succeeded and in the mid-1980s the Hanalei Bridge was repainted and rusted out metal supports were rewelded and replaced. The state Department of Transportation had proposed erecting a modern concrete two-lane bridge to replace the aging, double-truss bridge.

The Hanalei Bridge is actually two bridges. The top truss bridge, the one that gives the bridge its distinctive look of overhead steel beams and supports, was erected in 1912 by a New York bridge building company. The second, lower truss, which was erected in 1967, wraps around the bottom of the older bridge and holds up the entire structure. Its

sides are only about four feet high. Today the top truss is noticeably rusting away and bears very little of the weight of cars and trucks crossing the bridge.

Altogether the two trusses are rated at a carrying capacity of 15 tons.

In September 1991 Conde Nast Traveler identified the Hanalei Bridge as one of the most dangerous in the United States, probably relying more on looks than engineering facts.

The Hanalei Community Association has lobbied state and local officials to put an end to trucks carrying oversized loads across the bridge. The practice became common during the recovery of the North Shore from Hurricane 'Iniki in 1992 and 1993, and still occurs.



BENJAMIN CAYBTANO
Governor

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KALIA

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Fred



KAZU HAYASHIDA
Director

NEWS RELEASE

Contact: Marilyn Kali
email: mkali@hula.net

Department of Transportation

Phone: (808) 587-2160, Fax: (808) 587-2313
www.hawaii.gov/dot

July 14, 1998

98-109

The state Department of Transportation will hold a public information meeting on the Hanalei Bridge Inspection and Repair Project on Monday, August 3.

All interested parties are urged to attend the 7 p.m. meeting at the Hanalei School Cafetorium.

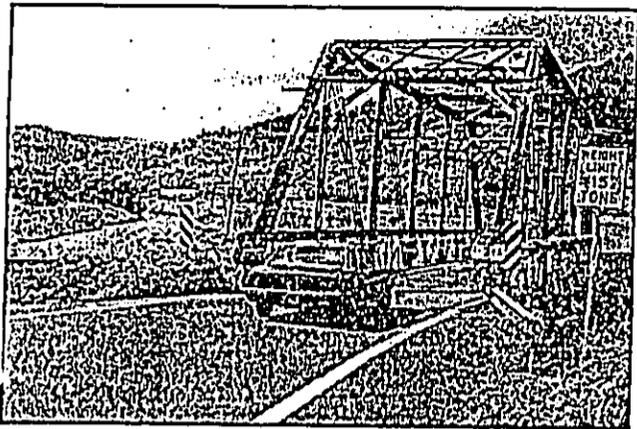
Beginning Monday, July 27 until Wednesday, August 12, the Hanalei Bridge will be periodically closed to traffic to allow inspection and load testing daily from 8 a.m. until 3 p.m. and nightly from 11:30 p.m. until 5 a.m.

Motorists are urged to use caution when driving through the work area and to allow for extra travel time.

###

Post-It Fax Note	7871	Date	6/26/98
To	MYRON OKUBO	From	Fred Reyes
Co/Dept.	Wilson Okamoto	Co.	Hawaii DOT-Kali
Phone #	946-2277	Phone #	274-3111
Fax #	946-2253	Fax #	274-3116

B-2



Rust threatens the landmark Hanalei bridge

Preservation options studied

By Jan TenBruggencate
Advertiser Kauai Bureau

LIHUE, Kauai — The oldest trusses on the historic Hanalei bridge are rusting badly, and state highways officials will begin load-testing tomorrow to determine their options for preserving the bridge.

The old bridge in the lush valley of taro farms is a Kauai landmark. It is the only bridge crossing the Hanalei River and the sole route connecting the North Shore communities, including Hanalei and Haena, to the rest of Kauai.

"I think for people who live here and for visitors, it's where you slow down when you come to Hanalei. It's a symbol of why people love the North Shore," said Barbara Robeson, a Wainiha resident.

The overhead steel framework on the 1912 bridge is its original structural support, called a Pratt Truss. It was strengthened during the 1960s with the addition of a lower-profile Warren Truss.

During the 1980s, highways officials determined that the aged Pratt Truss was no longer able to carry much weight, and it was disconnected from the rest of the bridge, leaving the Warren Truss to support the load.

"The Pratt Truss was separated and remains there only for aesthetic purposes," said Kauai District state highways engineer Steve Kyono. "It is basically carrying only its own dead load."

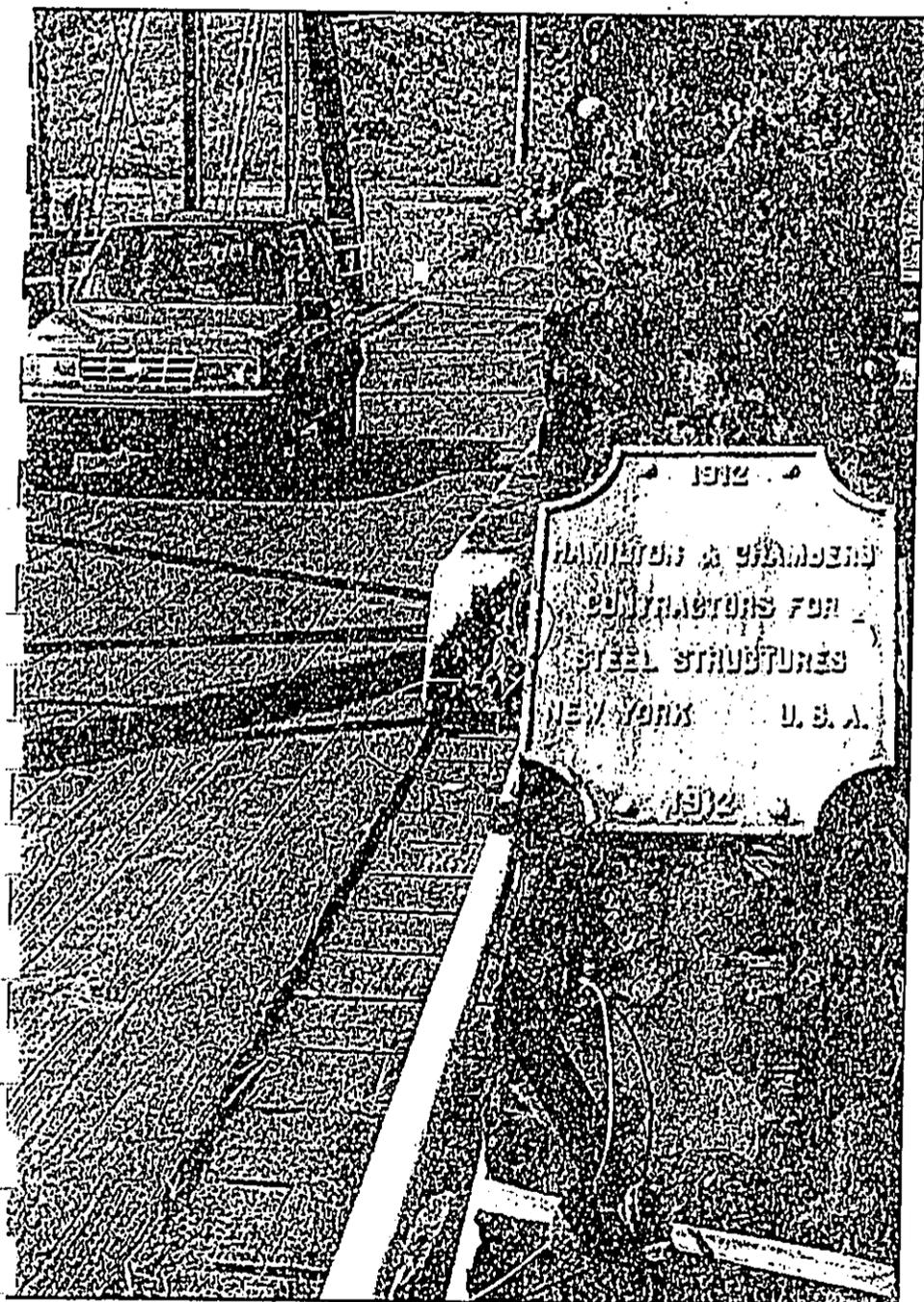
The overhead steel beams are so rusted, there are reports of chunks of rust occasionally falling on cars.

Highways engineers will test the bridge weekdays through Aug. 12 to determine whether it can safely carry its rated load of 15 tons, and to determine the cost of maintaining it.

About 2,000 people live beyond the bridge, but there is also a lot of visitor traffic. A state highways traffic count in June 1997 found 8,500 cars crossed Hanalei Bridge in a 24-hour period.

Preserving the bridge is a serious issue for many Hanalei residents. Robeson said a Hanalei Community Association survey last year found 92 percent of 300 respondents want the bridge preserved.

The Department of Transportation has scheduled an informational meeting on its inspection and testing program at 7 p.m. Aug. 3 at Hanalei School cafeteria.



Photographs by Jan TenBruggencate / The Honolulu Advertiser

Top: Connecting Hanalei with the rest of Kauai, the bridge is a landmark symbolizing the area's rustic charm. Above: The Hanalei Bridge, built in 1912, is rusting badly. The original Pratt Truss remains as a historic footnote, with the bridge supported by a truss installed in the 1960s.

ly will be added to the complex.

Rust threatens historic bridge

LIHUE — State highways officials will begin tests Monday to determine their options for preserving the historic Hanalei Bridge on Kauai.

Highway engineers will test the bridge weekdays through Aug. 12 to determine if it can safely carry its rated load of 15 tons, and to determine the cost of maintaining it.

The bridge's overhead steel beams are rusting badly, and there have been reports that chunks of rust occasionally fall on cars.

It is the only bridge crossing the Hanalei River, and the sole connection of the communities of Hanalei and Haena to the rest of Kauai. About 2,000 people live beyond the bridge.

A state highways traffic count in June 1997 found 8,500 cars crossed the Hanalei Bridge in a 24-hour period.

The Department of Transportation will hold an informational meeting on its inspection and testing program on Aug. 3 at Hanalei School cafeteria.

GARDEN ISLAND JULY 29, 1998

**NOTICE
PUBLIC INFORMATIONAL MEETING &
UPCOMING BRIDGE WORK**

Notice is hereby given that the Department of Transportation, State of Hawaii, has scheduled a public informational meeting on August 3, 1998, Monday, at 7 p.m., for the project to perform load testing and inspections of the Hanalei Bridge.

The meeting will be held at:

Hanalei Elementary School Cafetorium
5-5415 Kuhio Highway
Hanalei, Kauai, Hawaii

The purpose of the informational meeting is to:

- 1) Inform the public about the project which begins July 27, 1998. Periodic closures of the bridge for up to thirty (30) minutes may be expected for work nightly from 11:30 p.m. until 5 a.m.;
- 2) discuss projected short-term repairs to the Hanalei Bridge, including a summary of the previous repairs and;
- 3) Field questions and solicit comments regarding this project.

An additional public informational meeting will be scheduled in the near future to present findings of the inspections and load testing, discuss the short-term repair schedule, and to study a range of alternatives for a long-term crossing of the Hanalei River. Preservation and restoration of the existing Bridge will be the baseline alternative for the long-term study.

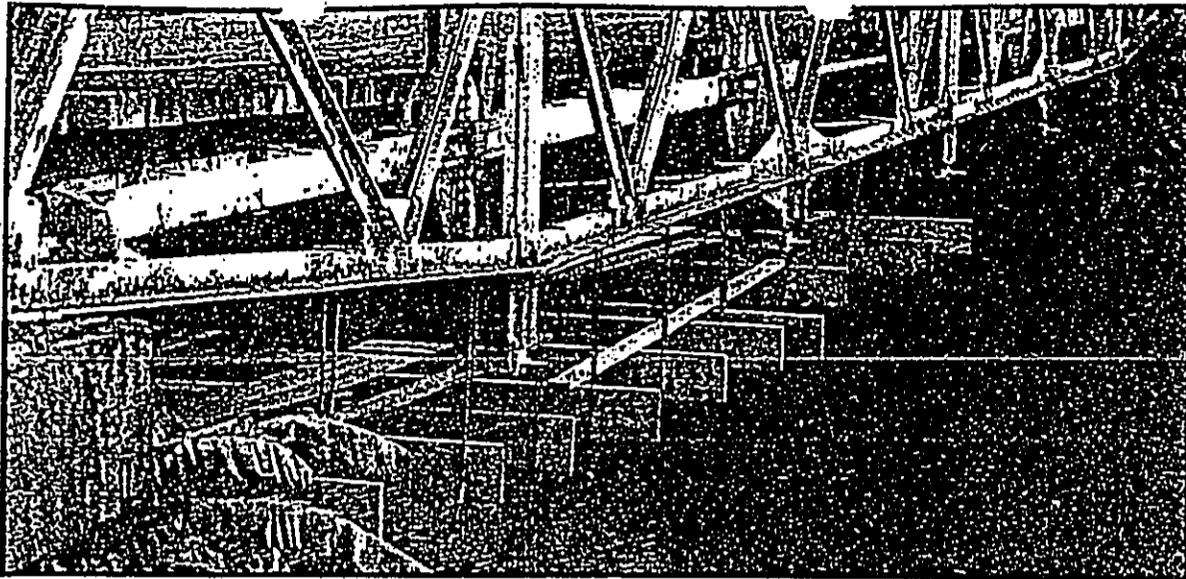
Persons requiring special accommodations (i.e. large print materials or sign language interpreter) are asked to provide their request at least seventy-two (72) hours prior to the meeting.

All interested parties are urged to attend. For additional information please call the State Department of Transportation, Kauai District Office at 274-3111.

KAZU HAYASHIDA
Director of Transportation

(July 29 & 31, 1998)

GARDEN ISLAND JULY 31, 1998



HISTORIC HANALEI BRIDGE is undergoing structural tests. State transportation department engineers and consultants are using this wooden platform under the bridge to study the trusses that support the bridge. (Photo by Chris Cook)

Hanalei Bridge meeting set

DOT will talk about condition of rusting bridge

By CHRIS COOK
Business Editor

HANALEI — The state transportation department will hold a 7 p.m. meeting Monday at Hanalei School to talk to the community about work on the Hanalei Bridge.

The DOT began last week to examine the covered bridge structure with an eye toward determining how to maintain the character of the historic bridge while keeping

the cost of upkeep at a reasonable level.

A second meeting will be scheduled after analysis of the study is complete, said Steve Kyono, the DOT's district highway engineer for Kaua'i.

Preserving the bridge is a long-time project of the Hanalei community. A recent Hanalei Community Association survey showed 92 percent of 300 residents surveyed supported preserving the bridge.

"The bridge makes a statement of entry into Hanalei," Kyono said. "It has historic value, cultural value, and there's a lot of things attached to the bridge that make it special to people," he said.

Kyono said the meetings are to

determine "what the community is thinking." He said an environmental impact statement and major repair work on the bridge is still a ways off.

Engineers will use a platform constructed under the bridge this week to take test samples of the aging structure, said Kyono.

"We're in the assessment stage, figuring out what the condition is, and documenting its physical condition."

He said engineers will use a truck loaded carefully with a pre-weighed cargo to check the effect of the weight on the bridge.

That will determine if the bridge still has a 15-ton carrying capacity, Kyono said.

(See Bridge on Page 2)

Bridge

(Continued from Page 1)

He said consultants including national historic bridge expert Abba Lichenstein will take part in the DOT study.

The study is intended to produce short-term solutions for maintaining the bridge, and start long-term planning for its future.

Kyono said the state spent over \$700,000 about 10 years ago to maintain the bridge.

Now, with tighter state budgets, Kyono said funding to do major work on the bridge each decade will be hard to come by. He said funding to maintain the bridge comes from a budget that pays for statewide work on paving roads, culvert repairs, drainage, and other maintenance work.

The landmark gateway to Hanalei and towns to the west is actually two bridges.

A Pratt Truss was constructed in 1912 and makes up the section of the bridge motorists drive under. The truss is now in place to keep

the historic look of the bridge and supports only its own weight. Rusted chunks from the truss occasionally fall off and hit passing vehicles.

A Warren Truss built under and around the aging Pratt Truss was built in 1967.

In the 1980s, the older bridge was detached from the newer bridge. The Warren Truss now carries the weight of vehicles crossing the bridge.

GARDEN ISLAND JULY 31, 1998

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KAZU HAYASHIDA
Director of Transportation

(July 29 & 31, 1998)

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9/23/98

CC: DOT-K

VIA FAX

**HANAIEI BRIDGE MEETING
AUGUST 3, 1998
7 TO 9 PM
HANAIEI ELEMENTARY SCHOOL**

The meeting opened with a welcome by Alice Paet-AhSing of Resolutions Hawai'i who would serve as facilitator for the meeting and Steve Kyono Department of Transportation District Engineer for Kauai.

Steve Kyono presented the purpose and scope of the meeting. The purpose was to share information and receive public comments regarding,

- The condition and situation of the bridge
- The maintenance needs in the short-term
- Financing options

The discussion of options for a long-term solution for the bridge will take place at the next meeting after completion of the load test and inspection.

Myron Okubo a structural engineer with Wilson Okomoto & Associates described the work tasks that would be performed regarding the short-term maintenance needs of the bridge.

- Adequacy of load handling on the bridge (load capacity and load testing)
- Preparation of documents for the short-term repairs
- Gather input for the discussion regarding long-term options for crossing the river

Dr. Abba Lichtenstein gave a slide show on the previous inspection and repair of the bridge. The description included where the parts came from, how it was built and the problem areas on the bridge. Some of the goals of the short-term work tasks were presented as,

- Determining the relationship between the Pratt and Warren trusses
- Determining why the Pratt truss is corroding faster than the Warren truss (possible through chemical analysis of the steel)
- Determining if integrity can be retained, given the condition of the Pratt truss and, if not, what the next steps might be

The following public comments and questions were received. (C: denotes comment, Q: questions and A: answers to questions)

- C: The bridge needs to be kept in its current form and repaired.
- C: There needs to be a maintenance schedule established for the bridge which includes projections of what needs to be done, when it needs to be done, what has been done and some assurance that the maintenance was indeed done.

- Q: What is the attitude of US Department of Transportation toward use of ISTEA funds for preservation of the bridge?
- A: Previously ISTEA funds have been used to improve the bridge. The new ISTEA may provide for maintenance activities.
- C: The bridge has both monetary and aesthetic value.
- Q: Is the bridge eligible for the National Register of Historic Places?
- A: Yes, the bridge was determined eligible for the National Register in 1978.
- Q: How long before it can be placed on the register?
- A: It is currently being treated the same as if it was listed on the Register.
- C: The bridge is an anchor for the community.
- C: Deterioration has increased over the last three years because of flooding.
- Q: Does the bridge qualify for restoration under the National Register?
- A: Restoration or repair must be reviewed by the US Department of Interior and the State Historic Preservation Division.
- C: The 1912 truss qualifies for the National Register.
- C: Any plan needs to keep the visual characteristics of the bridge.
- Q: The local papers have reported that the old truss is separated from the new one -- is this true?
- A: Vehicle loads are supposed to be carried by the Warren truss. However, the Pratt truss provides a brace for the Warren truss.
- Q: Are there any indications that the two trusses have been rusted together?
- A: Yes although the bolts were removed, the trusses are probably so rusted together that it is more like they are glued.
- C: There is a weight capacity concern especially for emergency vehicles i.e. a fire truck weighs 18 to 20 tons.
- Q: What is the source of funding for the present project?
- A: State highways funds.
- Q: If overloaded trucks go over the bridge what is the fail safe?
- A: A 30% overload occasionally has typically not been a problem for other bridges.
- C: I don't want to be isolated for days because an overloaded truck has closed the bridge.

- C: We need to have a way to keep local companies in compliance with the weight limit on the bridge.
- C: We need a system to enforce the weight limit.
- Q: Are there any federal funds for restoration of the bridge?
A: Funds may be available for restoration under TEA-21. This will be checked.
- Q: Was the bridge inspected after Iniki?
A: Yes, there are annual inspections.
- C: There may be possible funding due to Hanalei River's designation as an American Heritage River.
- Q: Is there documentation regarding the number of accidents on the bridge?
A: Yes, if the accidents are reported.
- Q: Based on the number of accidents should we be concerned about the safety of the current configuration of the bridge?
A: Yes there should be a concern if the number of accidents is high.
- Q: Is the bridge inspected after flooding, besides the annual inspections?
A: If the State is notified that flooding has taken place then it is inspected.
- Q: Is there a difference between flood and rain corrosion?
A: The pH is probably different and the silt may have an added affect.
- C: Ten years ago a temporary restoration was done.
- C: We need to look at the whole road and bridge as one piece and develop a 25-year plan to resolve the issues of the road and bridge.
- Q: Can rivets be used instead of bolts for repair?
A: Rivets would not be as practical as bolts for restoration or repair.
- Q: What is the purpose of the load testing?
A: To assess the stress capacity and the load each truss holds.
- Q: Are you going to replace the bridge if it is too far-gone?
A: Yes it will need to be replaced if the integrity is gone.
- C: The bridge is important in part because it says two things to individuals entering the Hanalei area - change your speed and change your attitude.
- Q: Is the existing hybrid bridge historical or just the part that is 1912?
A: The 1912 truss is historical.

Q: Our concern is what look a new bridge would take – could it look like the old or would it have to change is a concern?

A: That will have to be part of the long-term discussion if replacement becomes one of the options.

Q: Is it possible to rebuild part of the hybrid bridge to make a functional bridge?

A: Rebuilding the 1912 bridge is not an option if it is not safe.

Q: Is it possible to remove the top half of the truss?

A: Probably not.

Q: Is there a traffic study being done as part of this project?

A: No, there is existing data from traffic counts and there may be a need to consider a study in the future.

There being no more questions or comments the meeting was closed.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT: _____

History of Bridge? at next meeting.

exception to load limit? for ag. office?

what have other communities done to
repair bridge?

Can Pratt + Truss be constructed
of recycled plastic? to look
like metal.

Do we need the Pratt truss.

has any other town eliminated
the Pratt truss + kept
the old lane bridge look
with shorter sides?

Please fold and staple to mail.

PUBLIC INFORMATIONAL MEETING
HANAIEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS

Hanaiei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT:

Preserving and maintaining the Bridge is ~~more~~ more than the physical entrance to Hanalei. It's the place where people (residents & visitors) slow down, change their pace, and enjoy the many attributes / characteristics of the Valley and Road to Kēeo Hanalei. It is a scenic and historic area that should be looked at in a large picture of preservation for the future. The Bridge is the symbol of all these attributes.

The community decision should in part be based on what Hanalei would look and be like, if the bridge was replaced, widened, and the weight limit increased.

Please fold and staple to mail.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT:

Can we repair with 'Corten Steel'?
This is steel that rusts & seals itself
off from further corrosion. Power line
towers in inaccessible use this steel.
(or some similar type of steel)
There must be a planned preventive
maintenance plan.

The value of the bridge is not just
the cost of short or long term repair.
It is the value of the rural
ambiance of the North Shore and
the visitor attraction to this
rural area.

Can you use "Vacublasters" over the
river? These are self contained sand
blasters that at the same time vacuum
the spent material & paint dust etc.

Please fold and staple to mail.

6196-01

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

1998

COMMENT:

Please find enclosed
the sketches for the
possible New Bridge
plus the causeway
design & how affect to
the Hanalei Town -
Reason for the causeway type
is, as not to accelerate the
flow during flood stage -
creating potential washouts
plus allowing silt deposition
in the fields and reduced
in the Ocean

[Handwritten initials]
cc: DOT-K
VIA MAIL
8/20/98
RH

Please fold and staple to mail.

[Handwritten signature]

August 17, 1998

An Address to the Public!

O' Hanalei Bridge

The three options !

The first option:

Repair the current Hanalei River Bridge.

Not a very good solution for the tax payers, to spend resources for that Bridge. Due to the advanced deterioration, unsafe approach conditions, and inadequate to handle, the now days traffic. Since the repairs can be of a temporary nature solely, we will need more money again in the future. Lets face this, we, the tax payers are short on resources.

The second option:

To build a new Bridge. A Bridge safe for the now days traffic requirements. With safe approaches, and adequate deck space. A Bridge suitable for the acidic environment, as well as the always rapid temperature changes. Paints are unsatisfactory for hot sunshine, then *north shore* rain squalls, meaning continuously rapid temperature changes.

There are historical, preserved Bridges in America, and even elsewhere in the World. Nevertheless they all have alternative crossings either up or down stream.

Keep the old Bridge as a "no load Bridge" for foot traffic, bicycles, photography, etc. The repair requirements will be minimal. Nonetheless is that old Bridge really such a beauty ?

We may also be able to donate the old Bridge to a Group, interested in such things. A Group interested to preserve old things in the private sector realm. However there will be questions, in regard to insurance, liability etc.

Opinion of the writer = say the Bridge would be a beauty, example a covered wooden bridge with a architecture of its own, then the Bridge may have a great value for generations to come. However this Bridge is a miss match mess.

The safety is a primary concern to the general public, the tax payers, and the, "need to travel" Public. Due to the conditions of the now days constructed commercial places in Hanalei, demanding a greater traffic flow. (This on both sides of the Road in Hanalei.)

Should there be an emergency, requiring a mass evacuation, then the current Bridge is obsolete. This also is including the Fire trucks, which are heavier than the Bridge load capacity. We must bare indisputable facts in mind.

Also, should the current Bridge fail, then again what alternatives are there available?. Supply - rescue- by air? A very costly thing. Where would that money come from. The tax payer.!!!

Lets apply the tax dollar wisely, for things to last, and serve all the public, mutually and fair to all.

The third option:

Find a old girder Bridge from the Railroads. Dismantle that, transport that to Kauai and reinstall that here, also very expensive, plus an impractical solution. Steel is not suitable for our acidic area, sorry - can man kind change the settings?.

Please note:

The writer has not developed Hanalei, neither has He built all the many cars, with out of consideration of an alternative, "an land preserving transportation system". But is a neutral, observing situations, and conditions. Proposing, hopefully sound solutions to the current times, as well as time still to come.

A new Bridge, ("The gateway to Hanalei ", designed exquisite and with purpose) does not mean- more development- more development- more development in Hanalei, and outbound. If there is a consideration, in regard to "heavy trucks - busses", then we can write laws - baring them to come in to Hanalei. Yet the safety for other traffic would be undiminished. To approve expansion of other commercial, residential buildings would be for the Planing Department to resolve.

Hanalei, to whom do you belong? What is your domain? They are estimable questions. Can we ask, say the federal government for monetary help, but would like to be unconstrained, or autonomous?

Historical, where is cave man?, has he not transposed?, - have you looked in the mirror lately?.

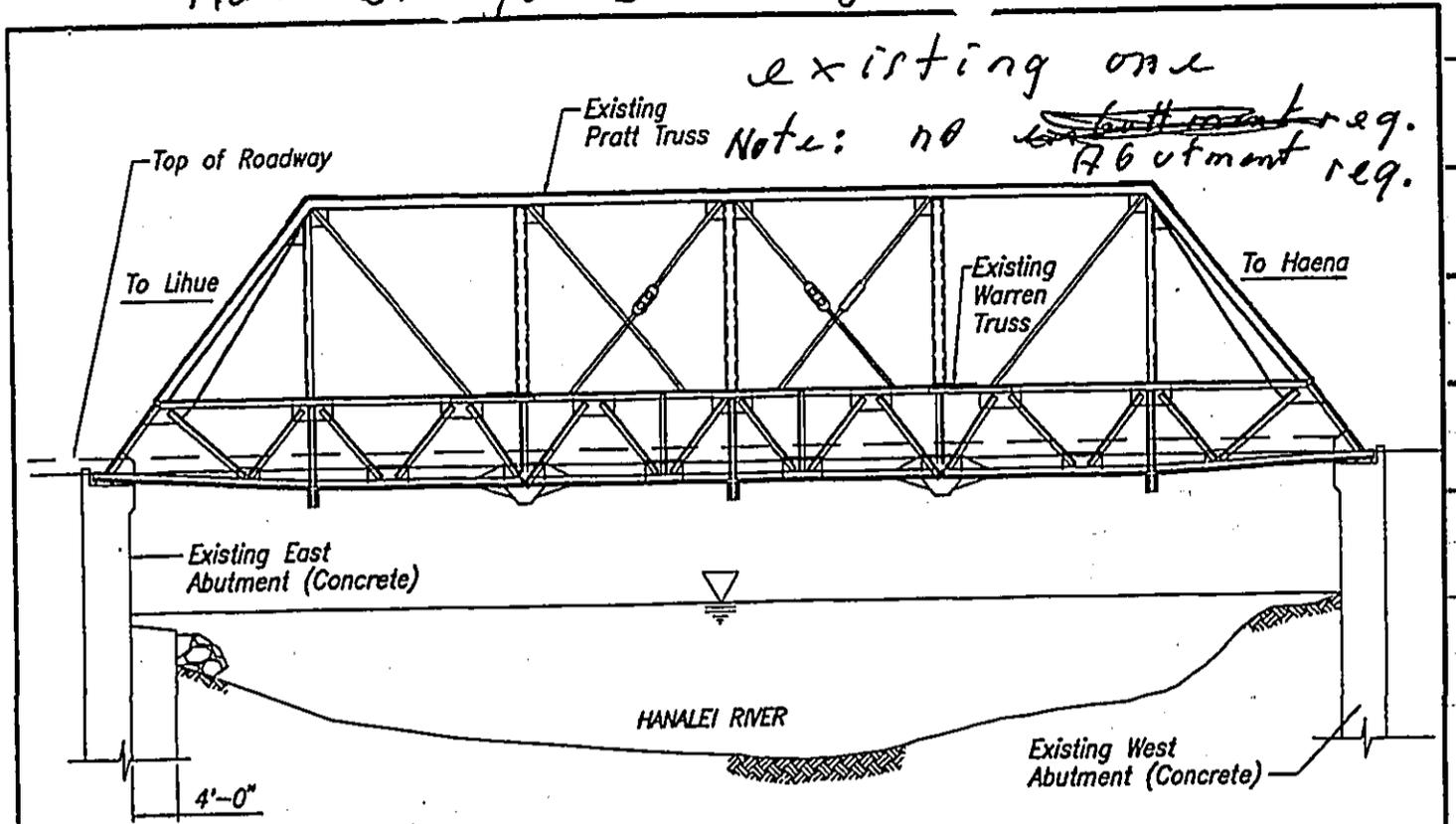
Thank you so much - The writer of HARTBEAT

Rudy

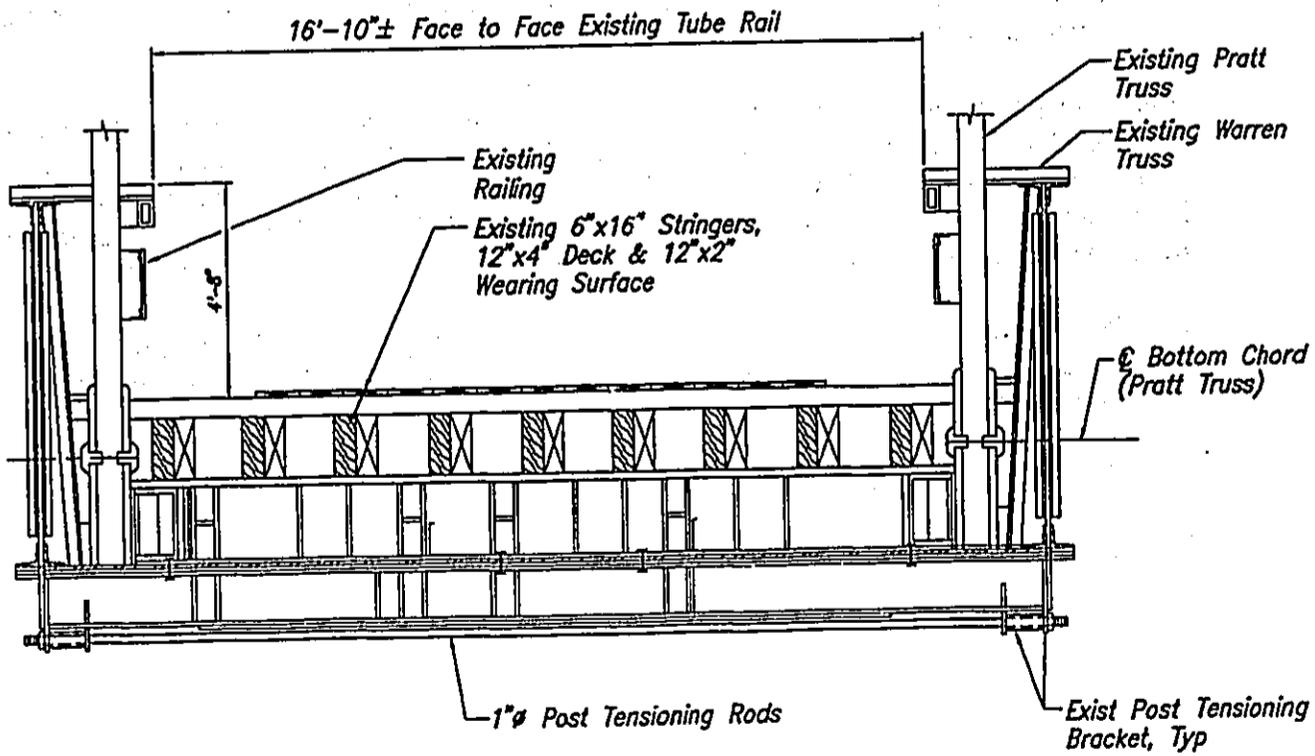
New Bridge just upstream to the

existing one

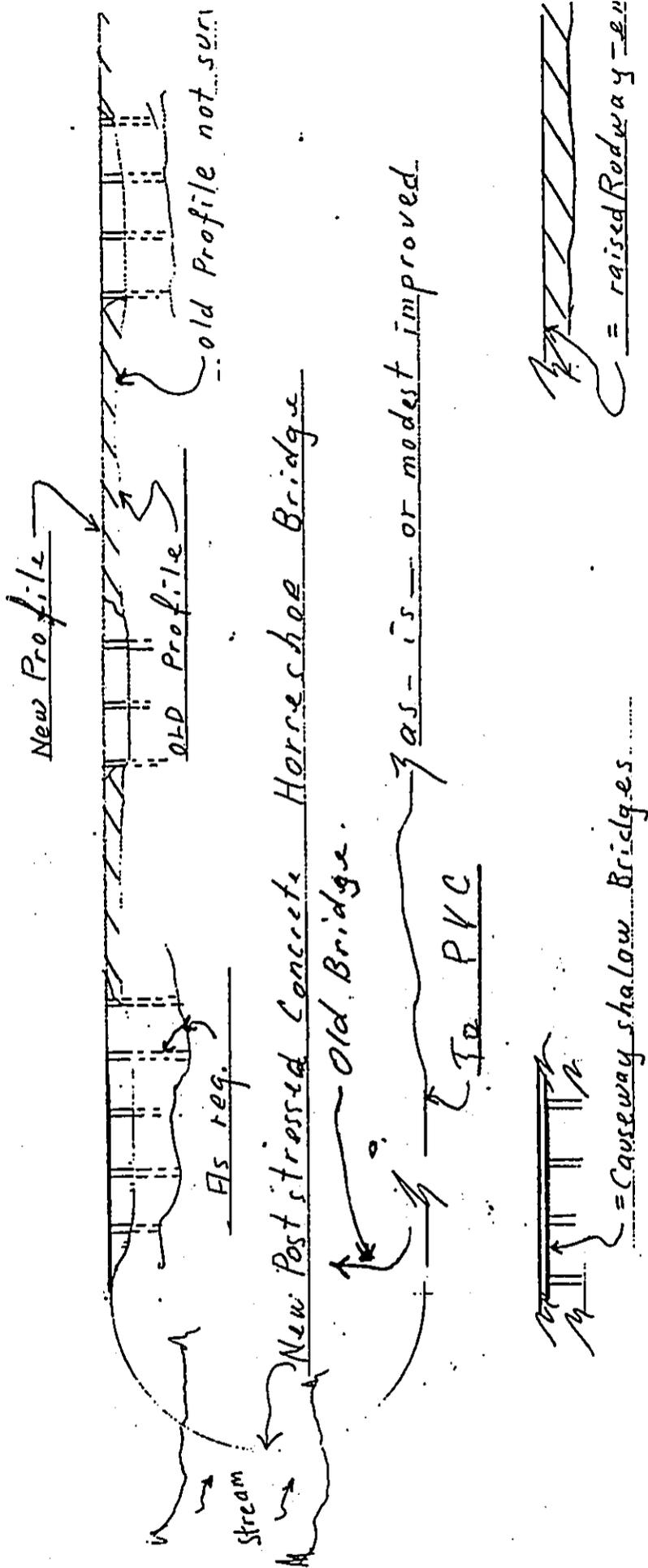
Note: no ~~abutment~~ req.
 Abutment req.



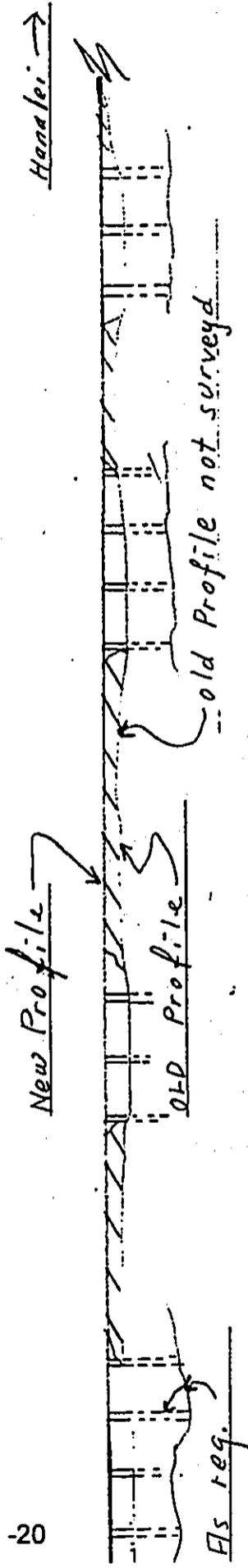
ELEVATION - LOOKING UPSTREAM



SECTION THROUGH BRIDGE



Causeway	
SCALE: 1"=100'	APPROX
DATE: 1-28-97	



Old Profile not surveyed

stressed concrete Horseshoe Bridge
Old Bridge

gas-is-or modest improved

to PVC



Causeway shallow Bridges

Causeway Bridge - Hanalei Town	
SCALE: N01:1	APPROVED BY:
DATE: 1-28-97	REVISIONS:
	DRAWN BY: RN
	REVISIONS:

as req. - to be non intrusive to the stream

Approach

Old Bridge

Hanalei Stream

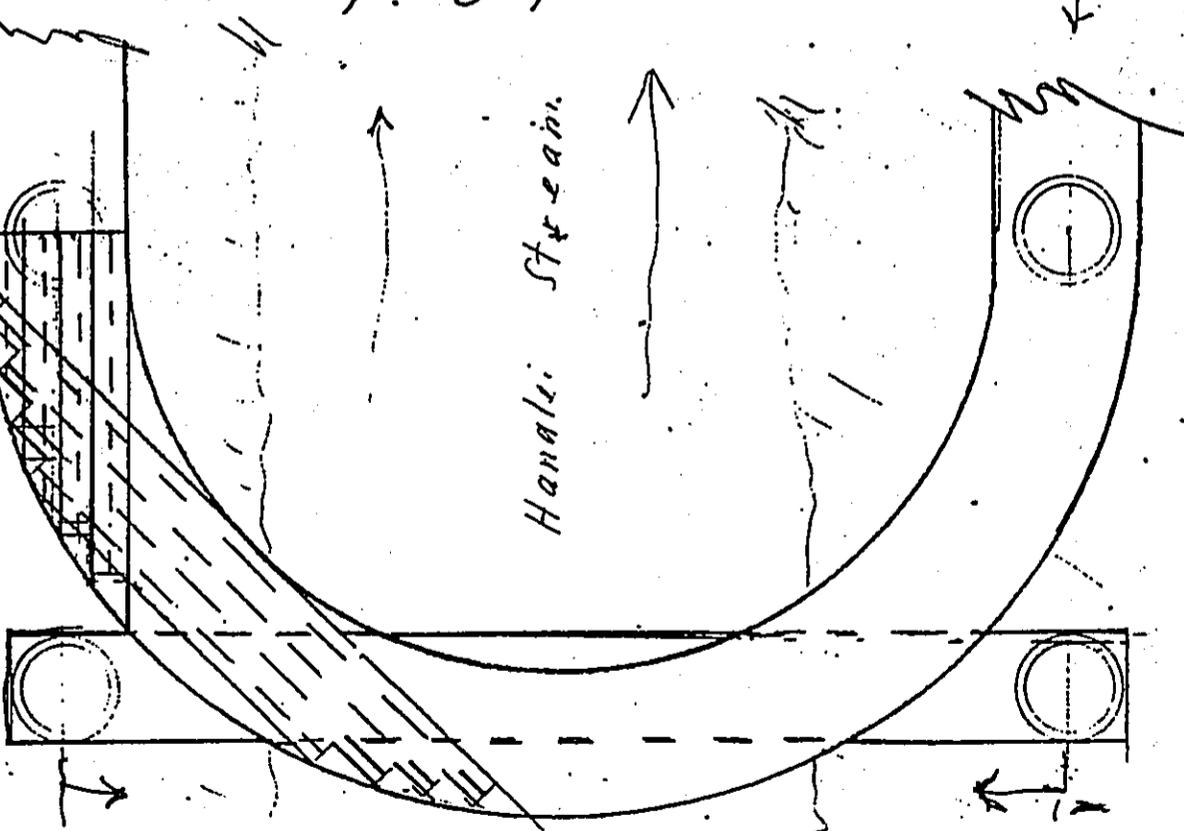
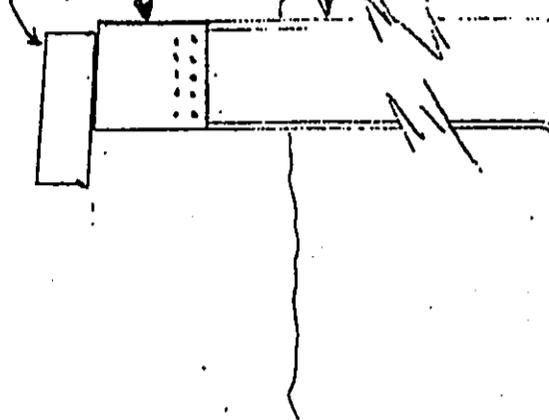
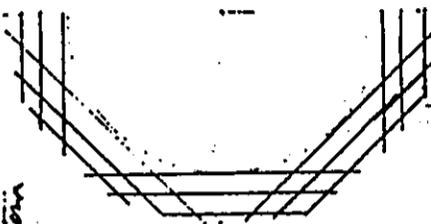
Approach

No embankments req.

Bridg. Deck - notes:

prestressed main carrier beam

Pipe columns



SCALE: NCL	APPROVED BY	DRAW
DATE: 8-27-96		RA
5-section - Poststressed 180		
Hanalei Bridge		DRAW
		1

WEDNESDAY
August 5, 1998

See weather on Page 2

Tahiti
Fete '98
is here!



Page 5-C

Hanalei Bridge
closes tonight
for evaluation

AUG 1 U 1998

The Star-Bulletin

11
WT
19
1101

Bridge

(Continued from Page 1)

Hanalei Bridge closes tonight for tests

Engineers will try to read future of historic, rusting N.S. gateway

By ANTHONY SOMMER
Staff Writer

HANALEI — The Hanalei Bridge will be closed to all but emergency traffic from 11 p.m. Wednesday to 5 a.m. Thursday while engineers use heavy trucks, micrometers and computers to test the strength of the 86-year-old structure.

At a public meeting Monday night, Department of Transportation officials and consultants said the testing is only the first step in determining the future of the struc-

ture originally constructed in 1912. District Engineer Steve Kyono said the department is looking for both short-term (three to five years) and long-term solutions that will preserve the historic quality of the bridge while still providing a reliable traffic link to the North Shore.

Even a solution as simple as a paint job would cost hundreds of thousands of dollars because of the need to build a plastic cocoon around the structure to protect the river and wetlands, Kyono said. Close-up photographs taken during the past week show that ul-

timately the bridge will need a lot more than paint. "There is a lot of corrosion," said Al Lichtenstein, a civil engineer and historian who has worked on the bridge as a consultant for the past decade.

Lichtenstein said the bridge is a hybrid structure actually made up of two different designs built decades apart. The original 1912 bridge used a Pratt truss. In 1967 the Pratt truss was declared unsafe and a completely different structure called a Warren truss was built underneath it.

Lichtenstein said the two were designed to work independently with the newer Warren truss carry-

ing 90 percent of the load and the older Pratt truss only 10 percent. Part of the testing to be done this week will be to determine whether that situation has changed.

Lichtenstein said rust appears to have glued the two structures together, which would change the load-bearing characteristics. He said little, if any traffic, other than emergency vehicles, will be allowed through the bridge after 11 p.m. Wednesday because it takes almost an hour to recalibrate all the testing equipment if the truck being used for testing is moved.

Money remains the largest obstacle, both Kyono and (See Bridge on Page 2)

Lichtenstein agreed. Many of the 75 area residents who attended the meeting suggested seeking federal funding but Lichtenstein told them they would have to compete with 60,000 bridges nationwide that are in need of repairs.

No one discussed the possibility of raising money locally.

Lichtenstein said that because the bridge has been declared eligible for the National Register of Historic Places it cannot simply be torn down and replaced by a new structure.

Nor, he said, is there funding to create a replica of the existing bridge.

"We're not going to dismantle the bridge and start from scratch, that's period," he said. "You're not going to find enough money to do it."

Kyono said another meeting will be scheduled, probably this fall, to discuss the engineers' findings and some alternative solutions.

F.Y.I. to Wilson Okamoto

0096-01

Michael Daly

Po Box 1623 - Hanalei - Hawaii - 96714
Phone 808-8266404

Mr Steven Kyono
District Engineer
State Department of Transportation
3060 Cinn. Street
Lihue Hawaii 96766

Post-It® Fax Note	7671	Date	9/18/98	# of pages	1
To	MYRON OKUBO	From	Fred Reyes		
Co./Dept.	Wilson Okamoto	Co.	Hawaii DOT-Kauai		
Phone #	946-2277	Phone #	274-3111		
Fax #	946-2253	Fax #	274-3116		

September 14, 1998.

Dear Mr Kyono,

I am pleased to be writing to you with regard to concerns facing the Hanalei Bridge which crosses the Hanalei River recently acclaimed through Mr Clinton and the office of the President of the United States of America as an American Heritage River.

The concerns associated with the Hanalei Bridge which I would like to have you aware of in ^{the} ~~this~~ letter are in part categorized in the following Concerns List: ←(a later)

- Safety,
- function, environment and community,
- aesthetics and philosophy,
- costs, economy and contractual ethics,
- evolution and heritage.

Certainly any project that can understand these appreciable qualities and create a form of truth and trust is worthy of the name 'bridge'. The input of the community through the government being owned or one with community will be the most significant inter crossing of this project. It is important that all documentation regarding this renewal project be internet posted without discrimination immediately upon your Department's receiving or creating such documentation.

I would ask that the Charette Process be implemented to facilitate the concerns of the Hanalei Bridge project.

Mahalo, love all ways
Michael



APPENDIX C

Public Informational Meeting
(March 11, 1999)

THURSDAY

March 4, 1999

See weather on Page 2

The Garden

**Bridge upgrade
to be discussed**

**Sta
ra**

HANAIEI — Results of last August's inspections to the Hanalei bridge will be released March 11 at a public information meeting about a proposed Kuhio Highway project to improve the bridge.

The meeting is at 7 p.m. at the Hanalei Elementary School cafeteria. For more information or for requests to accommodate disabilities, call the Kauai District Highways office at 274-3111.

State to discuss Lihue bridge plan

LIHUE, Kauai — The state Department of Transportation will discuss its plans to rehabilitate the Hanalei Bridge.

Proposed improvements will be explained at a public meeting at 7 p.m. March 11 at the Hanalei Elementary School Cafeteria.

PUBLIC INFORMATION MEETING

The State Department of Transportation
will hold

A Public Information Meeting

to discuss the proposed project: **Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge.**

Discussion includes the results from the
inspections and load tests performed in August, 1998

Thursday, March 11, 1999
Hanalei Elementary School Cafetorium
5-5415 Kuhio Highway
Hanalei, Kauai
7:00 PM

Persons requiring special accommodations (i.e., large print
materials or sign language interpreter) are asked to provide their
request at least seventy-two (72) hours prior to the meeting.

For information, call the Department of Transportation
Highways Division at 274-3111

KAZU HAYASHIDA
Director of Transportation

(March 4 & 9, 1999)

9-A-THE GARDEN ISLAND-TUESDAY, MARCH 9, 1999

PUBLIC INFORMATION MEETING

The State Department of Transportation
will hold

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materials or sign language interpreter) are asked to provide their
request at least seventy-two (72) hours prior to the meeting.

For information, call the Department of Transportation
Highways Division at 274-3111

KAZU HAYASHIDA
Director of Transportation

(March 4 & 9, 1999)

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge
Hanalei Elementary School Cafetorium
March 11, 1999 7:00 pm to 9:00 pm

Attendees: 26 public members; see attached list

The informational meeting opened was opened by Steve Kyono, District Engineer, State of Hawaii Department of Transportation, Highways Division, Kauai District (HDOT), who presented the project team.

Myron Okubo, Project Manager, Wilson Okamoto & Associates, Inc., stated the purpose of the meeting was to:

- o Present the results of the bridge inspection and load testing,
- o Discuss the short-term objectives (determine the adequacy of the existing bridge and identify repairs to damaged/deteriorated members;
- o Present the long-term objective (develop guidelines of long-term crossing of the Hanalei River)

Mr. Okubo presented the following:

- o Results of the bridge inspection; including condition of the approach roadway/guardrails; waterway; the deck; abutments; railings; Warren trusses; Pratt truss; the load tests; and the bridge ratings.
- o Long-term alternatives
 - o Alternative A "Do Nothing"
 - o Alternative B(1) Repair of Pratt and Warren trusses
 - o Alternative B(2) Remove Pratt truss and Repair Warren trusses
 - o Alternative C Install new Pratt truss and Repair Warren trusses
 - o Alternative D Concrete replacement bridge

Mr. Okubo stated that Alternative A is considered unacceptable due to the extensive and rapidly deteriorating condition of the Pratt truss. For the same reasons, Alternative B(1) is considered infeasible. Alternative B(2) would likely result in a finding of an "adverse effect" by the Federal Highway Administration and the State Historic Preservation Office (SHPO) due to the significant change in the appearance of the Bridge.

Dr. Abba Lichtenstein, subconsultant to Wilson Okamoto, presented Alternative C as the preferred alternative for the following reasons:

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- o The new Pratt truss will be load carrying, as originally designed. The bridge will have two main load paths and will not be considered fracture critical. Collapse due to member failure would be avoided.
- o The new Pratt truss will be similar in appearance and in the same position as the old truss. The concept of a replacement truss has been discussed with the SHPO who had indicated a preliminary opinion that it would probably be "no adverse effect".
- o The new Pratt truss would be designed to take the load of a 24-foot wide roadway which will allow widening in the future, if desired.

Mr. Okubo stated Alternative D is considered too costly, is not harmony with the ambience of the North Shore, and is not desired by most of the area residents.

The following public comments and questions were received. (C: denotes comment; Q denotes question; A denotes answer to the question).

C: Mr. Kyono stated the findings of the inspection are not new to HDOT, since deterioration of the Bridge has been visible. Further, the findings of potential failure of members should not be alarming. The entire Bridge will not collapse. The Pratt truss carries 40% of the load and the new Warren trusses carry 60% of the load.

Q: What will the HDOT do?

A: Based on the public statements at the previous Public Informational meeting, there is a strong public sentiment to protect the feel and look of the North Shore. The Hanalei Bridge is the "gateway" which leads to this rural lifestyle. As a result, the HDOT intends to implement Alternative C, pending coordination with the SHPO and other agencies with permit authority. However, prior to implementing Alternative C, HDOT must undertake the "chicken wire" repair project to prevent metal members from falling onto the deck. An alternative to the "chicken wire" repair project is to cut off and remove the Pratt truss before it is replaced. For about one year, or until the replacement Pratt truss can be constructed, the Hanalei Bridge would consist of only the Warren trusses.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- Q: Would cutting off the Pratt truss first save money?
A: Cutting off the existing Pratt truss first may not save money. However, cutting off the existing Pratt truss could save time during construction of the replacement Pratt truss.
- Q: Would cutting off the Pratt truss affect the structural integrity of the Bridge?
A: It would reduce the dead load of the existing Warren trusses.
- C: When asked by Mr. Kyono, which they prefer 1) chicken wire repair or 2) cutting off the Pratt truss prior to construction of the replacement Pratt truss. All of the attendees preferred cutting off the Pratt truss.
- Q: If the Pratt truss is cut off, how much load would the Warren trusses carry?
A: The Warren trusses would carry 100% of the live load. The Warren trusses have capacity to carry this load.
- Q: The Bridge has a 15-ton load limit. If there were an occasional 25-ton load, what would happen to the Warren trusses?
A: The Bridge is designed with H 20 loading. An occasional load of 25 tons would not affect the Bridge.
- C: If the Warren truss is carrying 100% of the load, there will be a need to analyze the effect of an occasional 25-ton load.
- C: The old Lumahai Bridge collapsed from a heavy load. When HDOT announces the replacement project, a statement about the load limit needs to be made. The Kauai community needs to be made aware there is a load limit on the Bridge.
- Q: Can HDOT place a scale on the approach which will set off bells when an overweight load goes over the Bridge?
A: The State does not have enforcement authority over load limits. Legislation needs to be passed to give this authority. Also, HDOT only has one person and one scale to weigh loads. So, even if a scale could be installed, the enforcement question would still remain.
- C: The community can put pressure on those who bring overweight loads over the Bridge.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- Q: Can the design for the replacement truss also include identification of methods to weigh loads before crossing the Bridge.
- A: Yes. Identification of load weighing methods can be included in the design of the replacement truss.
- Q: What about the height limits through tunnels? Doesn't the State enforce a height limit for the Pali Tunnel on Oahu?
- A: The DOT currently only posted a warning sign to vehicles entering the tunnel. This is not enforcement.
- Q: Will permits be required to construct the Pratt truss? Will it take a long time to get the permits?
- A: Yes permits will be necessary. The number and type of permits will be determined prior to design.
- Q: If the chicken wire wrap is used and a member fails, won't the entire member fall to the deck at once, not just a small piece?
- A: No. The chicken wire is a short-term repair and with limited capacity.
- C: The Hanalei Bridge used to be called the Black Bridge. The replacement truss and the entire bridge should be painted black.
- C: Whether to use a chicken wire wrap or to cut off the old Pratt truss is an engineering decision. The State should decide.
- Q: If the Pratt truss is cut off, how many tons will be removed from the weight carried by the Warren truss?
- A: This can be investigated in the design phase.
- Q: Will the replacement Pratt truss carry live load?
- A: Yes. The replacement truss will carry the same live load as the existing Pratt truss.
- Q: If the new Pratt truss can be made to 24 feet wide, will the Warren trusses be changed?
- A: No. The new Pratt truss will be 17 feet wide, the same as existing conditions. The new truss will be designed for a two-lane wide loading so that in the future sometime another lane could be added.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

Q: What is the cost of the replacement Pratt truss? Where will the replacement Pratt truss be fabricated?

A: The preliminary cost estimate for the replacement Pratt truss is \$1.3 million.

A: The replacement Pratt truss will be bid according to existing Federal and State of Hawaii procurement requirements.

Q: Will the replacement Pratt truss be connected to the Warren trusses?

A: Yes. The two truss systems will be connected as they are now.

Q: Will the approaches be changed when the replacement truss is constructed? What about the guardrails?

A: The guardrails will be changed to comply with the latest standards.

A: The approaches must not encroach on the setting of the Bridge.

Q: Will rivets or bolts or welds be used for construction of the replacement truss?

A: This has not been determined. However, welds will not be used.

Q: There have been accidents on the downhill approach to the Bridge. How can the State make drivers slow down?

A: Drivers need to control themselves to slow down on the downhill approach to the Bridge. The State Attorney General has advised HDOT not to install speed bumps on State highways.

Q: Will the scope of the design work include a maintenance plan for the new truss?

Q: Can a preservation plan be included in the scope of the design work?

A: A maintenance and preservation plan will be considered in the scope of the design work.

Q: How will the public be notified regarding the State's decisions regarding the Hanalei Bridge?

A: Newspaper announcements and new releases will be made.

Q: Would it be possible to remove only some of the damaged members and replace them with new members as a short-term fix?

A: Nearly all of the existing Pratt truss members have extensive corrosion damage. Replacing some of the members would add to the cost and not considered feasible. All of the members would be removed at one time.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

Q: Why not weld on new members to replace the damaged members? Or. Cut off the old members and add new ones to replace them?

A: During the chicken wire wrapping process, if loose members are found, they will be removed.

Q: When will the replacement bridge be complete? Is funding for construction available? What steps are involved in building the new truss?

A: The replacement truss should be complete in about two years. Funding is available for construction. The design needs to be completed and necessary permits obtained prior to construction.

Q: Will adding the new truss with a capacity to accommodate another lane jeopardize the one-lane Bridge?

A: The new Pratt truss will be designed keeping in mind the history of the existing truss. The Bridge will remain one lane.

Q: Will the width of the new truss be the same as the existing one?

A: The new truss will have the same width as the existing one.

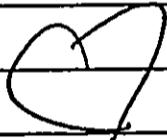
C: The HDOT will be responsive to the public when the replacement truss is designed.

The meeting was closed at 9:00 pm.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, March 11, 1999, 7:00 pm to 9:00 pm

Hanalei

COMMENT: Steve, Abba, Myron, Garrett, Pat, John & Team
You are just the Best. This is a very memorable time in the history of our Bridge, the community and all of you. Thank you for all your interest, sincere concern for our community, and enthusiasm -

 WE LOVE YOU

B.R.

Please fold and staple to mail.

Hanalei Bridge gets new truss in renovations

North Shore community approves a plan to preserve the look of a local landmark

By CHRIS COOK
Business Editor

HANALEI — Look for a rebuilt Hanalei Bridge to be unveiled in about two to three years.

Plans approved by a gathering of the North Shore community Thursday night at Hanalei School call for cutting down the top truss of the historic bridge and replacing it with a newly fabricated duplicate. The work would take about two years once launched.

The Hanalei community rose up about 25 years ago to protect the bridge, which was then threatened

with being replaced by a modern low-rise concrete bridge.

Attending the meeting was Carol Wilcox of the Hanalei Roads committee. Wilcox has worked on preserving the bridge for over 20 years, and is working on a program to preserve scenic corridors along roads and highways in Hawai'i.

The single-lane span is considered the gateway to Hanalei and Ha'ena and a popular symbol of the rural lifestyle of the area.

In the mid-1980s the bridge was sandblasted, repainted and repaired

(See Bridge on Page 2)

Bridge

(Continued from Page 1)

in an attempt to save it. Apparently, welding and other work done then hasn't worked in preserving the upper section of the bridge, which is becoming a danger due to short rusting steel sections falling off.

The gathering of about two dozen residents voted unanimously to go ahead with replacing the rusting circa 1912 Pratt Truss. Overhead sections of the truss give the bridge its distinctive early 1900s look.

It is held up by a Warren truss erected in 1967 to shore up the aging bridge.

Today the Warren truss bears 60 percent of the weight of loads crossing the bridge, and the rusting Pratt truss the other 40 percent, according to figures released by the state at the meeting.

Kaua'i-based state Highways Division district engineer Steve Kyono showed an 18-inch section he found on the way to the meeting.

Options presented by Kyono to keep such debris from falling on crossing vehicles include cutting off the existing Pratt truss from about four foot above the floor of the bridge on up until the duplicate truss can be constructed and erected.

A second option, he said, would be to wrap two layers of chicken wire underneath and around upper sections of the Pratt truss to catch rusted pieces of steel that might fall, offering a short-term safety measure until the aging truss is cut down and a new one erected. That would cost \$25,000 and a bid is ready to go out for the work if that method is chosen, Kyono said.

The bridge is eligible to be on the National Historic Register. That requires concurrence the state historic preservation office when repairs are required.

To help the state preserve the bridge to that standard they invited to the meeting Abba Lichtenstein, a world renowned historic bridge expert from Tenafly, N.J. Lichtenstein said he first began studying the bridge and its structure in 1973.

Lichtenstein said the two trusses would be engineered to work together as part of the restoration, and be sturdy enough to more than handle existing loads.

Kyono said a special area management permit will be required for the historic preservation work, plus possibly permits from the Army Corps of Engineers and the Coast Guard. Consultation with the State Historic Preservation office will be made throughout the project.

He said funding is already secured for the reconstruction, and a U.S.-based contractor who makes the low bid on the project will be awarded the job.

Lichtenstein predicted two years of work lie ahead to complete the project, including the permitting process, at a cost of about \$1.3 million.

Bolts or rivets will be used to erect the restored truss, and no welds will be used in the reconstruction.

An alternative concrete bridge was turned down unanimously by the audience. It would have had a price tag of \$2.6 million.

Matthew Austin, president of Hawaiian Steam Engineering Co., said at the meeting he is ready to rivet the bridge together. Austin has worked riveting boilers of restored plantation train locomotives owned by Grove Farm Co.

The bridge will remain 17 feet wide, but a widening to two lanes will be possible if ever needed in the future, Lichtenstein said.

Corroding historic Kauai bridge may be torn down, replicated

Meanwhile, chicken wire will stop rusted metal from falling

BY ANTHONY SOMMER
Star-Bulletin

HANALEI, Kauai — The original 1912 Hanalei River Bridge is so badly corroded that it must be torn down and replaced as soon as possible, state highway engineers have decided.

The good news is that the landmark structure is mostly there for looks. It rests on top of another, barely conspicuous bridge built in 1967, which is what motorists actually drive on.

Results of engineering studies conducted last August and made public Thursday show the underlying structure is sound, as are the concrete abutments beneath it.

Because the fragile upper structure is a candidate for the National Register of Historic Places, the state has decided to replace it with an exact replica made of more modern steel, Kauai District highway engineer Steve Kyono said.

Like the original, it will be ornamental while the 1967 bridge actually carries the load.

Because the bridge is a federally protected historical site, the rehabilitation will have to be supervised by the State Historical Preservation Office.

Kyono said he has verbal approval to go

ahead with a replica bridge, but written authority will require it to meet exacting specifications.

Several companies on the mainland that specialize in rehabilitating old bridges already have indicated an interest, he said.

Meanwhile, a contract will be awarded later this month to wrap the old bridge in chicken wire to stop rusted pieces of metal from falling on cars and on kayaks in the river. The chicken wire will be used until the old structure is removed.

Engineers said the chicken wire is needed immediately, and displayed several large pieces of rusted metal they found around the bridge during a cursory inspection. The rate of corrosion of the structure is accelerating, they noted, and the danger of falling steel is increasing.

"If you go across that bridge, don't sneeze. That's all I can tell you," said Abba Lichtenstein, a world-renowned authority on historic bridges from Tenafly, N.J., who since 1973 has been an engineering consultant on the bridge.

The bridge is rated at 15 tons and is only 17 feet wide, just enough for one lane. No-growth advocates on Kauai's North Shore see it is a barrier to heavy trucks and construction equipment and have fought any attempt to widen it.

Replacement of the old structure is estimated at \$1.3 million and will take about two years.

Kyono said there is money in the current budget to pay for the project.

State planning to restore Hanalei Bridge

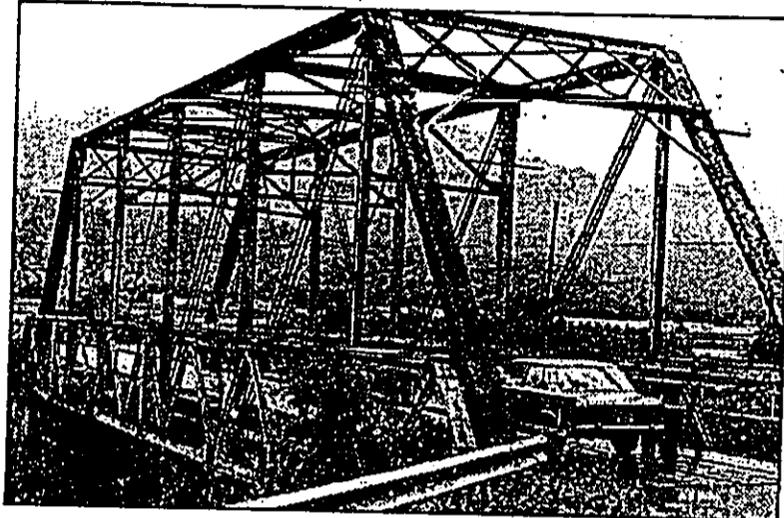
New material to be sturdier

By Jan TenBruggencate
ADVERTISER KAUAI BUREAU

HANALEI, Kauai — The old Hanalei Bridge rumbles as cars roll through its steel framework and over its wooden, one-lane deck.

It has long been such an integral part of the experience of entering Kauai's North Shore that when the State Department of Transportation years ago proposed replacing it with a sweeping concrete structure, the community rose up in opposition.

"It's part of the identity of Hanalei and the character of the rural road system," said Barbara Robeson, one of the Hanalei residents who



Hanalei Bridge, which has weathered years of heavy traffic, will be repaired next year. Engineers plan to use upgraded steel that is less susceptible to rust.

Advertiser
library photo
• 1980

fought its replacement.

The Department of Transportation has joined those who want to save the bridge, and has agreed to perform a major repair job that will completely replace the rusted 1912 Pratt truss, which is the steel cage — 110 feet long, 16 feet wide and 23 feet high — through which cars pass.

The condition of the

truss is so poor that it has been disconnected from the rest of bridge.

The weight of the bridge itself and the cars that cross it are carried by a much newer structure, a Warren truss, which is made up of two low steel structures on either side of the Pratt truss. The Warren was added in 1967 to carry the weight of construction

equipment that needed to cross it to replace the tsunami-damaged Luma-hai Bridge.

"We're going to do a major fix to the bridge," said Steve Kyono, the Kauai state highways district engineer.

The entire Pratt truss will be refabricated. It will be

See HANALEI, B5

Hanalei: Bolts will replace rivets

FROM PAGE B1

faithful to the original design, except that carriage bolts will replace the rivets in the original. The carriage bolts will look like rivets, he said.

The modern steel to be used in the new truss is expected to be less susceptible to rust than the original, and will be coated with the latest in rust preventatives, Kyono said.

"Rust has always been the major

factor. Steel just does not do well in Hawaii," he said.

Design is under way, and the project should go out to bid early next year. Kyono said the cost, to be covered by federal funds, is expected to be between \$1 million and \$1.5 million.

The bridge is eligible for placement on the state and federal lists of historic structures, and the department has sought approval of its plans from the community and from historic preservation agencies.



APPENDIX D

Pre-Assessment Consultation
Letters



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

(6196-01) JS
8/12/99

REPLY TO
ATTENTION OF

August 10, 1999

RECEIVED
AUG 11 1999

Civil Works Technical Branch

WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Pre-Assessment Consultation for the Kuhio Highway Project, Hanalei, Kauai. Due to a lack of information, a thorough evaluation could not be completed at this time. However, any work performed within the 100-year floodplain will have to adhere to the requirements of the Federal Emergency Management Agency. Additionally, the need for a Department of the Army permit could not be determined based on the information submitted to us. We will need to review the Draft Environmental Assessment when it becomes available so that site specific information can be provided to you.

If you require additional information, please feel free to contact Ms. Jessie Dobinchick of my Civil Works Technical Branch staff at 438-8876.

Sincerely,

James Pennaz

James Pennaz, P.E.
Acting Chief, Civil Works
Technical Branch

6196-01
September 22, 1999

Mr. James Pennaz, P.E.
Acting Chief, Civil Works Technical Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comments

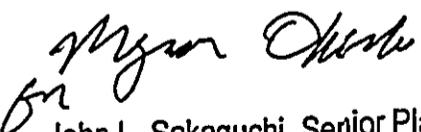
Dear Mr. Pennaz:

Thank you for your August 10, 1999 letter regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. Removal and replacement of the Pratt Trusses will not affect flows of the Hanalei River. Construction activities related to the replacement Trusses will occur on the superstructure of the Bridge and will not involve work to the abutment within the waterway of the Hanalei River. There will be no change to the abutments or the vertical clearance between the floorbeams and the Hanalei River, which could adversely affect the floodplain or floodway established by the Federal Management Emergency Agency.

The State of Hawaii Department of Transportation Highways Division- Kauai District has submitted a Department of the Army permit application to meet the requirements of the Harbors and Rivers Act.

Thank you for your participation in the Environmental Assessment process. If you have questions, please call me at 946.2277.

Sincerely,


John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

6196-01

Handwritten signature/initials

Building T-1
Fort Shafter, HI 96858
Phone: 438-8876
Fax: 841-1581

**US Army Corps of Engineers
Honolulu Engineer District**

CC: DOT HWY-K

Fax

To: John Sakaguchi	From: Jessie Dobinchick
Fax: 948-2253	Date: August 16, 1999
Phone: 946-2277	Pages: 3
Re: Flood Hazard Information	CC:

Urgent
 For Review
 Please Comment
Please Reply
 Please Recycle

•Comments:

John:

Here is the FIRM that shows the project site. Please bear in mind that this is not an official evaluation, but approximate based on the info you sent me.

I haven't received the DA permit info yet; I can fax that to you when it comes in. As mentioned before, we can do a complete evaluation when the document is completed and sent to us for review.

Hope this is of some help to you. Call me if you have any questions.

Jessie Dobinchick

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

KAUAI COUNTY,
HAWAII

PANEL 35 OF 225
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
150002 0035 C

MAP REVISED:
MARCH 4, 1987



Federal Emergency Management Agency

LEGEND

*  **SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (mainly areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (mainly areas of flow on sloping terrain); average depths determined. For areas of elevated (on flood-ing, velocities also determined.

ZONE A99 To be protected from 100-year flood by Coastal Flood protection system under construction; no base elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

*  **FLOODWAY AREAS IN ZONE AE**

*  **OTHER FLOOD AREAS**

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

*  **OTHER AREAS**

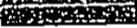
ZONE X Areas determined to be outside 500-year flood plain.

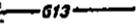
ZONE D Areas in which flood hazards are undetermined.

 Flood Boundary

 Floodway Boundary

 Zone O Boundary

 Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

 Base Flood Elevation Line; Elevation in Feet

 Cross Section Line

 Base Flood Elevation in Feet Where Uniform Within Zone

 Elevation Reference Mark

RM7X
Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small streams (areas outside Special Flood Hazard Areas). Areas not in Special Flood Hazard Areas may be protected by flood control structures.

Elevations of the floodways were computed as an interpolation between cross sections. The floodway widths are provided in the Floodway Report.

Base flood elevations apply only landward of the elevation reference marks as depicted in the Floodway Report.

Adjoining map panels are separately printed.

MAP REPOSITORY
County of Kauai Department of Public Works, 4596 Kalia Road, Honolulu, Hawaii, 96766 (Map available for reference only)

INITIAL IDENTIFICATION:
DECEMBER 20, 1974

FLOOD HAZARD BOUNDARY MAP REVISION:
DECEMBER 20, 1977

FLOOD INSURANCE RATE MAP EFFECTIVE DATE:
NOVEMBER 4, 1981

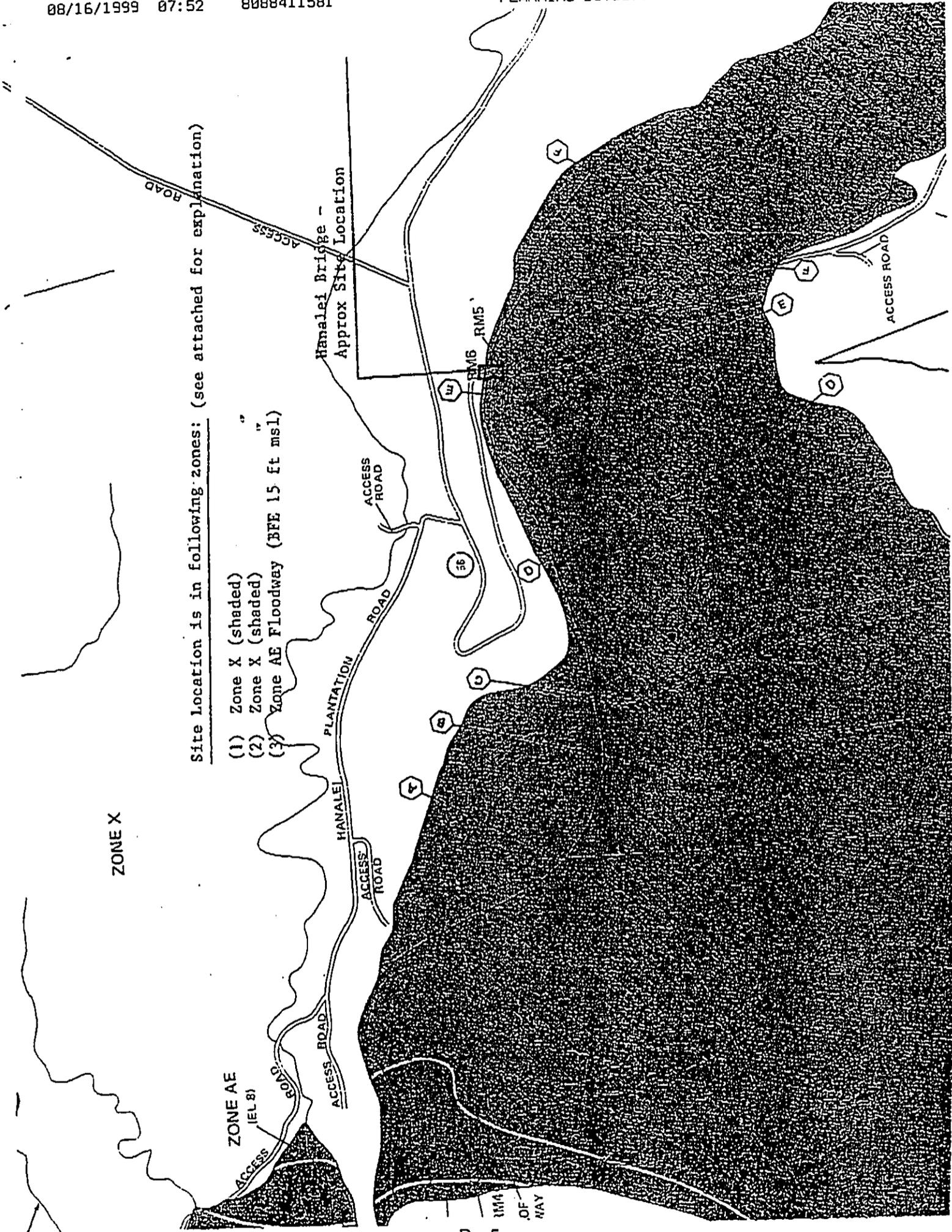
FLOOD INSURANCE RATE MAP REVISION:
Revised March 4, 1987 to change flood plain boundary designations, base flood elevations, incorporate the final features, of map format.

Determine if flood insurance is available, contact your local insurance agent or call the National Flood Insurance Program at 1-800-645-6630.



APPROXIMATE SCALE IN FEET





Site Location is in following zones: (see attached for explanation)

- (1) Zone X (shaded)
- (2) Zone X (shaded)
- (3) Zone AE Floodway (FFE 15 ft msl)



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

6196-61
JSG
10/14/99
MGO -
CC: DOT HWY. -
VIA FAX -

REPLY TO
ATTENTION OF

September 28, 1999

Regulatory Branch

RECEIVED
SEP 30 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. Steven M. Kyono, P.E.
District Engineer, Kauai District
State Highways Division
Department of Transportation
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766

Dear Mr. Kyono:

This responds to your application for a Department of the Army (DA) permit to rehabilitate the existing Hanalei Bridge, Hanalei District, Kauai, Hawaii. Your project description indicates that the proposed rehabilitation project will be limited to work on the bridge superstructure and that there will be no discharge of dredged or fill material into waters of the U.S. Bridge reconstruction which does not involve any discharge of dredged or fill material is normally not regulated by the Corps of Engineers. Your application documents the fact that you have already coordinated this project with the U.S. Coast Guard and have obtained their approval for the work.

Based on the information you provided, I have determined that the proposed work will not require a DA permit. However, I recommend that best management practices be employed during construction to prevent potential discharges from entering waters of the U.S. Should you decide to perform work below the ordinary high water mark of the river, please contact this office for further determination of DA permit requirements.

If you have any questions regarding this determination, please contact Mr. Peter Galloway of my staff at 438-8416 and refer to File No. 990000454.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

U.S. Department
of Transportation

United States
Coast Guard



Commander
Fourteenth Coast Guard District

300 Ala Moana Boulevard
Honolulu, HI 96850-4982
Staff Symbol: oan
Phone: (808) 541-2315
FAX: (808) 541-2309

6196-01

MGO

4/21/99

CC: DOT HWY-K

16590
Serial 32011 VIA FAX
22 APR 1999

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, HI 96826

RECEIVED
APR 26 1999

JS

Dear Mr. Sakaguchi:

WILSON OKAMOTO & ASSOC., INC.

Thank you for informing us of your proposed bridge modification of the Hanalei Bridge.

Under 33 CFR part 115.70, the Commandant of the Coast Guard has given advanced approval to the locations and plans of bridges to be constructed across reaches of waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes and small motorboats. A review of your site plans shows that your project meets the criteria for advanced approval, so a Coast Guard permit is not required provided that full consideration is given to the laws and regulations in enclosure (1). If you have any further questions, please contact my bridge program administrator, LTJG Dan Stulack, at (808) 541-2319.

Sincerely,

T. D. HOOPER
Commander, U. S. Coast Guard
Chief, Aids to Navigation Branch
By direction of the District Commander

Encl: (1) Categorical Exclusion Checklist

CC: CEPOD, VA
FAX 8/19/99
P GALLAGHER

3

**CATEGORICAL EXCLUSION CHECKLIST
FOR
ADVANCE APPROVAL BRIDGE PROJECTS**

Categorically excluded bridge projects are subject to the following orders, regulations and laws:

- a. Section 303 (formerly 4(f)) of the Department of Transportation Act (P.L. 89-670).
- b. Executive Order 11990 – Protection of Wetlands.
- c. Executive Order 11988 – Floodplain Management.
- d. Section 106 of the National Historic Preservation Act (P.L. 89-665) and Executive Order 11593.
- e. Section 401 of the Federal Water Pollution Control Act, as amended (P.L. 92-500).
- f. Fish and Wildlife Coordination Act (P.L. 85-624).
- g. Endangered Species Act (P.L. 93-205).
- h. Coastal Zone Management Act (P.L. 92-583).
- i. Section 309 of the Clean Air Act (P.L. 90-148)
- j. Noise Control Act (P.L. 92-574)
- k. Wild and Scenic Rivers Act of 1968 (P.L. 90-532)
- l. Prime and Unique Farmlands (Council on Environmental Quality Policy dated 16 January 1980).
- m. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646).

6196-01

JS
8/27/99



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3-122
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

CC: DOT HWY-K, VIA
FAX 8/27/99
FHWA, VIA FAX
8/27/99

In Reply Refer To: I.J.L.W.

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Draft Environmental Assessment, Pre-Assessment Consultation, Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii

Dear Mr. Sakaguchi:

The U.S. Fish and Wildlife Service (Service) has reviewed your July 21, 1999, letter seeking comments relative to the preparation of a draft environmental assessment (DEA) for the proposed project referenced above. The proposed project sponsor is the State of Hawaii Department of Transportation, Highways Division, Kauai District. The U.S. Department of Transportation, Federal Highways Administration (FHWA) is providing funding for the proposed project. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852], as amended, the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended (ESA), and other authorities mandating Service concern for environmental values. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project includes the removal and replacement of the original Pratt Truss for the Hanalei Bridge. The replacement will be of similar design and appearance as the existing truss and would be constructed of steel. The one-lane timber deck travel surface will be retained. Improvements will be made to the approach guardrails and the pedestrian railings and the entire structure will be painted. The Warren trusses will also be repaired as necessary. It is our understanding that you have contacted the Service's Hanalei National Wildlife Refuge and discussed this project with refuge biologist Dr. Adam Asquith.

We have reviewed pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. Based on our review the following endangered and threatened species are likely to occur at the project site: the endangered plant *Cyperus trachysantos* (Puukaa); and the endangered Hawaiian coot (*Fulica americana alai*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian duck (*Anas wyvilliana*), and Hawaiian hoary bat (*Lasiurus cinereus semotus*).

The Service recommends that the DEA address potential project-related impacts to Federal trust resources, including listed species and their habitats, migratory birds, and wetlands. The DEA should assess the extent and type of impacts expected to occur to these species from the proposed project and include discussions of whether these species use the project area for nesting or breeding or simply as feeding and loafing areas. The extent of the impacts may depend heavily on when and how long these species occupy the area. We also recommend that the DEA address potential impacts to native Hawaiian species and habitats. For instance, the DEA should discuss whether any of the construction activities may impact water quality and native fish and invertebrates in Hanalei River through materials entering the river by being placed there or by inadvertently spilling or falling into the water.

The draft EA should propose mitigation measures to avoid unnecessary impacts, minimize unavoidable impacts, and compensate for significant impacts to these resources. For example, we recommend that consideration be given to avoidance of the primary breeding seasons of listed species in the area to reduce adverse project-related impacts to their successful reproduction. We also recommend that containment measures be incorporated into the project to ensure no additional sedimentation or contamination is added to the Hanalei River.

For compliance with section 7 of the ESA, the FHWIA will need to make a determination of the effects of the proposed project on the listed species in the project area. If the FHWIA makes a determination that the proposed project may affect listed species but is not likely to adversely affect listed species, they need to contact us and request our concurrence with their determination. Based on the information we currently have and on recent discussions with Dr. Asquith, it is likely that we would concur with such a determination.

The Service appreciates the opportunity to provide this early technical assistance, and we look forward to reviewing a copy of the DEA when it is available. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Lorena Wada by telephone at (808) 541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,

Barbara A. Mayfield, Acting

for Robert P. Smith
Pacific Islands Manager

6196-01
September 22, 1999

Mr. Robert P. Smith, Pacific Island Manager
Pacific Islands Ecoregion
U.S. Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comments

Dear Mr. Smith:

Thank you for your letter of August 27, 1999 regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. We have discussed this project several times with Dr. Adam Asquith at the Hanalei National Wildlife Refuge.

The Hanalei National Wildlife Refuge (HNWR) lies immediately upstream and west of the Hanalei Bridge. The HNWR contains populations of four species of waterbirds listed as endangered under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544). The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian gallinule, (*Gallinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus knudensi*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are a portion of the habitat for these species. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for these species. Similarly, the superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for the Hawaiian hoary bat (*Lasiurus cinereus semotus*).

We understand the endangered plants species *Cyperus trachysantos* (Puukaa) has been planted in the HNWR upstream from the Hanalei Bridge. This species would not be expected to be found near the Bridge.

6196-01

Letter to Mr. Robert P. Smith, Pacific Island Manager

Page 2

September 22, 1999

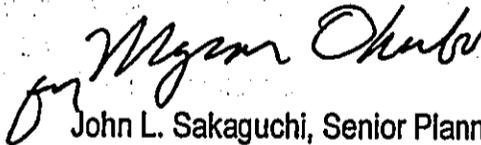
Based on this information, there may be some short-term disturbance to the avifauna species during the construction period. The removal and replacement activities could cause the species to avoid the area of the Bridge while work is ongoing. If night activities occur, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once the removal and replacement activities are completed, there should be no adverse effects to the avifauna species from the project. Overall, replacement of the Pratt Trusses may affect the listed species. However, the removal and replacement of the Pratt Trusses is not likely to adversely effect the listed species.

The contractor is to prevent debris or material from removal and replacement work from falling into the Hanalei River. This mitigation should ensure no contamination from the project enters the Hanalei River. As a result, there should be no adverse effects to water quality which impact flora near the Bridge or the native fish and invertebrates in the Hanalei River.

We will include the above analysis in the Draft Environmental Assessment.

If you have any questions, please call me at 946.2277.

Sincerely,


John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

6196-01
BRUCE S. ANDERSON Ph.D., M.P.H.
DIRECTOR OF HEALTH
MB
RFB

In reply, please refer to:
EMD/CWB

07092PKP.99

CC: DOT HWY-K, VIA
FAX 8/5/99

July 29, 1999

RECEIVED
AUG 02 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: **Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge
Hanalei District, Kauai, Hawaii**

The Department of Health (Department) has reviewed your submittal dated July 21, 1999 for the subject project and has the following comments:

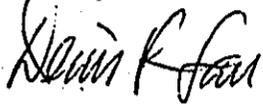
1. The Army Corps of Engineers (COE) should be contacted to identify whether a federal permit (including a Department of Army (DA) permit) is required for the subject project. If a federal permit is required by the COE, then a Section 401 Water Quality Certification (WQC) will be required from the Department's Clean Water Branch.
2. A NPDES individual permit would be required if the project involves any of the following types of discharges into State waters within the Hanalei National Wildlife Refuge:
 - a. Storm water runoff associated with construction activities that involve the disturbance of five (5) acres or greater, including clearing, grading, and excavation;
 - b. Construction dewatering effluent; and/or
 - c. Hydrotesting effluent.

If any of the above discharges enter State waters not within the Hanalei National Wildlife Refuge, then the discharges may be covered under NPDES general permits. Separate NPDES general permit coverages are required for each type of discharge.

Mr. John L. Sakaguchi
July 29, 1999
Page 2

Section 401 WQC applications, NPDES individual permit applications, and Notice of Intent forms may be picked up at our office. Should you have any questions regarding this matter, please contact Ms. Kris Poentis, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF
Clean Water Branch

KP:auc

6196-01
September 22, 1999

Mr. Denis R. Lau, P.E.
Chief, Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 301
Honolulu, Hawaii 96814

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comment

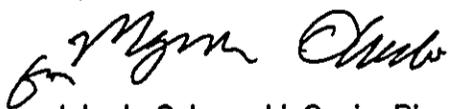
Dear Mr. Lau:

Thank you for your letter of July 29, 1999 regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. Construction activities related to the replacement Trusses will occur on the superstructure of the Bridge and will not involve work to the abutment within the waterway of the Hanalei River. There will be no change to the abutments or the vertical clearance between the floorbeams and the Hanalei River. The State of Hawaii Department of Transportation Highways Division- Kauai District has submitted a Department of the Army permit application to meet the requirements of the Harbors and Rivers Act.

There will be no construction work which will involve disturbance of five acres or more. Similarly, there will be no construction dewatering or hydrotesting related to this project.

Thank you for your participation in the Environmental Assessment process. If you have questions, please call me at 946.2277.

Sincerely,



John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

ARYANNE W. KUSAKA
MAYOR



PLANNING DEPARTMENT

6196-01
5/13/99
DEE M. CROWELL
PLANNING DIRECTOR
SHEILAH N. MIYAKE
DEPUTY PLANNING DIRECTOR
TELEPHONE (808) 241-6677
FAX (808) 241-6699

[Handwritten initials]
MG10

April 23, 1999

John L. Sakaguchi
Wilson, Okamoto & Associates
1907 S. Beretania Street
Honolulu, HI 96826

CC: DOT HWY-K-
VIA FAX
5/13/99

Subject: Hanalei Bridge
Truss Replacement and Repair
Hanalei, Kauai

Dear Mr. Sakaguchi:

This letter is being sent in response to your March 23, 1999 request for a determination as to the Special Management Area (SMA) Permit requirements for the above identified project. Based on the information submitted you propose to remove and replace the existing Pratt trusses on the upper portion of the bridge, and repair the existing Warren trusses on the lower portion of the bridge. The value of the project is approximately \$1.3 million.

A review of our maps identifying the location of the SMA within Kauai County reveals that the SMA line extends up the Hanalei River to the bridge, but does not include the bridge. Therefore, an SMA Permit will not be required for the proposed bridge project.

Please contact George Kalisik of my staff at 241-6677 if you have any questions.

Sincerely,

Dee M. Crowell
Planning Director

D - 16

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 556
601 Kamohala Boulevard
Kapolei, Hawaii 96707

6196-01
TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

JS
8/17/99

August 12, 1999

RECEIVED
AUG 16 1999

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400 WILSON OKAMOTO & ASSOC, INC.
Honolulu, Hawaii 96826

LOG NO: 23953
DOC NO: 9908TM13
Architecture

CC: DOT HWY-K } VIA
FHWA } FAX
8/17/99

Dear Mr. Sakaguchi:

SUBJECT: Draft Environmental Assessment
Remove/Repair/Replace Metal Members
Hanalei Bridge Hanalei, Kauai

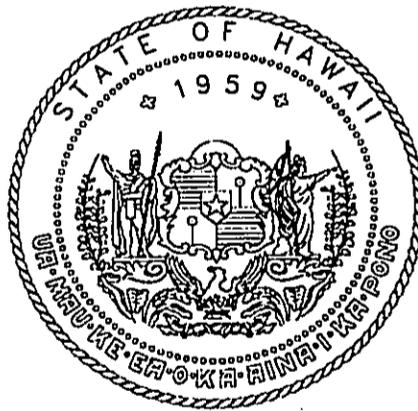
Thank you for transmitting the Draft Environmental Assessment on the above project. We understand that the Hanalei community has been informed of these plans and concurs with the project. Since the repair will entail replacement of the damaged Pratt Truss in a design very much like the original truss and the one-lane timber deck will be retained, we concur that the project to remove/repair or replace metal members of the Hanalei Bridge as indicated in the submittal will have "no historic properties adversely affected."

Thank you for the opportunity to comment and for keeping our office informed about the project. Should you have further questions, please call Tonia Moy at 692-8030.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

TM:lpf



APPENDIX E

Draft Environmental Assessment
Comment Letters



REPLY TO
ATTENTION OF

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

December 2, 1999

Civil Works Technical Branch

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Hanalei Bridge Project, Hanalei, Kauai. The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. As previously stated in a letter from our Regulatory Branch dated September 28, 1999, a DA permit will not be required for the project.

b. The flood hazard designations provided to you by FAX on August 16, 1999, from Ms. Dobinchick of my staff remain unchanged.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch

6696-01

12/6/99

RECEIVED
DEC 03 1999
MGO
TM

WILSON OKAMOTO & ASSOC., INC.

CC: DOT HWY-K
VA FAX

6196-01
Dec 22, 99

TELEPHONE MEMORANDUM

SUBJECT: Hanalei Bridge DEA

PERSON
CALLING: USFWS, Lorena Wada, 541.3441 (T)

INFORMATION ITEMS:

1. USFWS will not send a comment letter to the DEA, as their concerns from the Pre-Consultation were included in the DEA.
2. She did comment that the FHWA request and USFWS concurrence letters regarding the Section 7 consultation should be included in the FEA.
3. WOA to include USFWS on the distribution list for the FEA.

JW 12/22/99

CC: DOT HWY-K, VIA FAX



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

December 22, 1999

JS
6196-01

12/21/99
MGO
TM
FILE

CC: DOT HWY-K
VIA FAX 12/27/99

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
Engineers/Planners
1907 S. Beretania Street
Honolulu, Hawaii 96826

DEC 27 1999
WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA)/Anticipated Finding of No Significant Impact (FONSI), Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii

Thank you for forwarding the subject DEA/FONSI for review and comment by the staff of the U.S. Geological Survey, Water Resources Division, Hawaii District Office. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document and are returning it for your future use.

We appreciate the opportunity to participate in the review process.

Sincerely,

Gordon W. Tribble
District Chief

Enclosure

U.S. Department
of Transportation

United States
Coast Guard



Commander
Fourteenth Coast Guard District
Prince Kalaniana'ole Federal Building

300 Ala Moana Blvd., 9th Floor
Honolulu, HI 96850-4982
Staff Symbol: dpl
Phone: (808) 541-2126
FAX: (808) 541-3103

6196-01

12/2/99

MGO
TM
FILE

16590
29 November 1999

RECEIVED
DEC 01 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, HI 96826

Dear Mr. Sakaguchi:

This is in regard to your draft environmental assessment for the Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge project dated November 1999.

The Coast Guard has reviewed your draft environmental assessment and has no comment at this
time. Issuance of a Finding of No Significant Impact based upon the subject environmental
assessment will satisfy the advance approval requirements noted in our 16590, Serial 32011
letter of 22 April 1999.

Please contact LTJG Dan Stulack, Bridge Program Administrator at (808) 541-2319 if you have
any additional questions.

Sincerely,

R. F. BEESLER
Captain, U. S. Coast Guard
District Planning Officer
By direction of the District Commander

CC: DOT HWY-K, VIA FAX 12/2/99



STATE OF HAWAII

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

BENJAMIN J. CAYETANO
GOVERNOR

6196-01
12/27/99 M60
TM
FILE

LETTER NO. (P) 1876.9

CC: DOT HWY-K,
VIA FAX 12/27/99

DEC 22 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Suite 400
Honolulu, Hawaii 96826

RECEIVED
DEC 27 1999

WILSON OKAMOTO & ASSOC., INC.

Attention: Mr. John L. Sakaguchi

Gentlemen:

Subject: Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge,
Hanalei District, Kauai, Hawaii
Draft Environmental Assessment

Thank you for the opportunity to review the subject document.
The proposed project will have no impact on our facilities.
Therefore, we have no comments to offer.

If there are any questions, please have your staff contact
Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

RY:jk

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 118, HONOLULU, HAWAII 96810

6196-01
12/21/99 M60
TM
FILE

LETTER NO. (P) 1876.9

CC: DOT HWY-K,
VIA FAX 12/21/99

DEC 22 1999

DEC 27 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Suite 400
Honolulu, Hawaii 96826

WILSON OKAMOTO & ASSOCC, INC.

Attention: Mr. John L. Sakaguchi

Gentlemen:

Subject: Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge,
Hanalei District, Kauai, Hawaii
Draft Environmental Assessment

Thank you for the opportunity to review the subject document.
The proposed project will have no impact on our facilities.
Therefore, we have no comments to offer.

If there are any questions, please have your staff contact
Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

RY:jk

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

December 2, 1999

6196-01
BRUCE S. ANDERSON, Ph.D., M.D.
12/07/99
DEPT. OF HEALTH
TM

In reply, please refer to:
File:
CC: DOT HWY-K,
VIA FAX
99-242/epo

RECEIVED
DEC 07 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. John Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment
Repair Metal Members of Hanalei Bridge
Kuhio Highway
Hanalei, Kauai

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Sincerely,

GARY GILL
Deputy Director for
Environmental Health

c: KDHO

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikawa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

December 17, 1999

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates
1907 S. Beretania Street
Honolulu, Hawaii 96826

RECEIVED
DEC 27 1999

WILSON OKAMOTO & ASSOC., INC.

6196-01
TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWALO
LINNIE NISHIOKA
12/27/99 TM
FILE

ACQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

LOG NO: 24600
DOC NO: 9912tm11
Architecture

CC: DOT HWY-K
VIA FAX 12/27/99

Dear Mr. Sakaguchi:

**SUBJECT: Draft Environmental Assessment
Remove/Repair/Replace Metal Members
Hanalei Bridge, Hanalei, Kauai**

Thank you for transmitting the Draft Environmental Assessment for the above project. We have no further comments regarding this project, as we continue to believe there will be no historic property adversely affected and your documentation appears to adequately address public input. However, we would like to advise you to consult with OHA and Historic Hawaii Foundation as they have both expressed interest in being parties to any Section 106 consultation.

Thank you for your diligence in working with the community. Should you have further questions, please call Tonia Moy at (808)692-8030.

Aloha,


DON HIBBARD, Administrator
State Historic Preservation Division

TM:jk

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

DEC 15 1999

6196-01

TIMOTHY E. JOHNS
CHAIRPERSON
BRUCE S. ANDERSON
ROBERT G. GINFALD
BRIAN C. NISHIDA
DAVID A. NOBRIGA
HERBERT M. RICHARDS, JR.

LINNEL T. NISHIOKA
DEPUTY DIRECTOR
12/16/99
TM

Mr. John Sakaguchi, Senior Planner
Wilson Okamoto & Associated
1907 South Beretania Street
Honolulu, Hawaii 96826

RECEIVED
DEC 16 1999

cc: DOT HWY-K
VIA FAX

WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Draft Environmental Assessment, Remove/Repair/Replace Trusses,
Hanalei Bridge, Hanalei, Kauai

Thank you for allowing us to review and comment on the subject document. Based on the description in Section 2.1.2 (Page 2-1) it is our understanding that the project only includes work on the Hanalei Bridge deck and superstructure. No subsurface work is proposed, therefore the bed or banks of Hanalei Stream will not be affected and a stream channel alteration permit pursuant to Hawaii Revised Statutes §174C-71 will not be required.

If you have any questions regarding this letter, please call David Higa at 587-0249.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

DH:sd

c. U. S. Army Corps of Engineers, Regulatory Section
Department of Health, Clean Water Branch
DOT, Highways Division

PHONE (808) 594-1888



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

6196-01

FAX (808) 594-1865

RECEIVED
DEC 06 1999
CC: DOT HWY-K
VIA FAX

WILSON OKAMOTO & ASSOC., INC.

December 1, 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Attn: John L. Sakaguchi, Senior Planner

JS
MBO
TM

(EIS #352)

Subject: Draft Environmental Assessment (DEA) Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei
District, Kaua'i, Hawaii

Dear Mr. Sakaguchi,

Thank you for the opportunity to comment on the above referenced project. According to the DEA, the State Department of Transportation (DOT) is proposing to remove and replace the existing Pratt trusses with new Pratt trusses of similar appearance and to retain the one lane timber deck configuration of the Hanalei Bridge.

As indicated in the DEA, the Hanalei National Wildlife Refuge (HNWR) is located upstream of the Hanalei Bridge. Four species of endangered waterbirds inhabit the HNWR, in addition, the endangered plant species, puka'a. Taro is also grown in the fields within the HNWR.

Although the endangered floral and faunal species are not located on the proposed project site, the Office of Hawaiian Affairs (OHA) urges that appropriate mitigative efforts be taken to prevent any potential harm.

The Hanalei River is also an important habitat for the native 'o'opu nakea, opae, and other aquatic life. OHA urges that the proper mitigative efforts be taken to prevent any adverse effects to the water quality of the Hanalei River, which could harm the aquatic life and taro fields.

John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
December 1, 1999
Page Two

If you have any questions, please contact Mark A. Mararagan, Policy Analyst-
Government Regulations at 594-1945.

Sincerely,



Colin C. Kippen, Jr.
Deputy Administrator

cc: OHA Board of Trustees
Kaua'i CAC

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

November 17, 1999

Glenn Yamamoto
Assistant District Engineer
DOT Highways Division
3060 Eiwa Street, Room 205
Lihue, HI 96766

NOV 19 1999
WILSON OKAMOTO & ASSOC., INC.

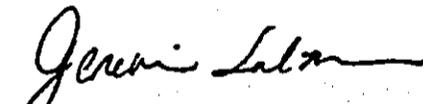
Dear Mr. Yamamoto:

Subject: **Draft environmental assessment for Hanalei Bridge Repair Work**

We have reviewed this environmental assessment and have no comments to offer at this time.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

c: John Sakaguchi, Wilson Okamoto

6196-01

11/22/99

GENEVIEVE SALMONSON
DIRECTOR

T.M.
MGO
JS FILE

MARYANNE W. KUSAKA
MAYOR

WALLACE G. REZENTES, SR.
ADMINISTRATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766

November 6, 1999

Wilson Okamoto & Associates
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attention: Mr. John Sakaguchi

Gentlemen:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
KUHIO HWY, REMOVE/REPAIR/REPLACE
METAL MEMBERS, HANAIEI BRIDGE

We reviewed the subject draft environmental assessment and offer the following comments in regards to the Federal Insurance Rate Maps (FIRM).

- A. Federal Insurance Rate Maps (FIRM)
1. We are in receipt of the U.S. Army Corp Flood Plain Re-analysis of Hanalei River Report dated October 1999. The re-analysis was done by the Army Corp due to recent major encroachments that have occurred in the Hanalei River 100-year flood plain. The encroachments that were studied comprise of an earthen roadway berm by a private landowner and four wildlife ponds constructed by the Fish and Wildlife Service. A revised floodway of the combined encroachment was determined. The findings indicate an increased base flood elevation at the subject bridge. We are enclosing a copy of the flood profile sheet for your information and use.
 2. While we have not adopted the flood elevations for the Hanalei basin as the best available information, we recommend your draft EA incorporate

6196-01 JS-

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-6600

IAN K. COSTA
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6640

PW11.211

MGO
TM
FILE

CC: DOT HWY-K
VIA FAX

DEC 06 1999

Wilson Okamoto & Associates
December 6, 1999
Page 2

the new determined base flood elevation. From the profile sheet, we believe the 100-year flood elevation is 16.2 feet mea sea level.

3. We are not sure if the lowest chord of the bridge is above the new base flood elevation. However, we have no objections if the elevation of the lowest chord of the bridge is maintained.
4. Please amend the definition of the floodway on sheet 23. FEMA's interpretation of the floodway development standards is that the floodway encroachments shall not cause a rise in the base flood elevation. Please revise the phrase "substantial increases" to no increase in flood height.

Should you have any questions, please feel free to contact Wallace Kudo of my staff at 241-6620.

Very truly yours,

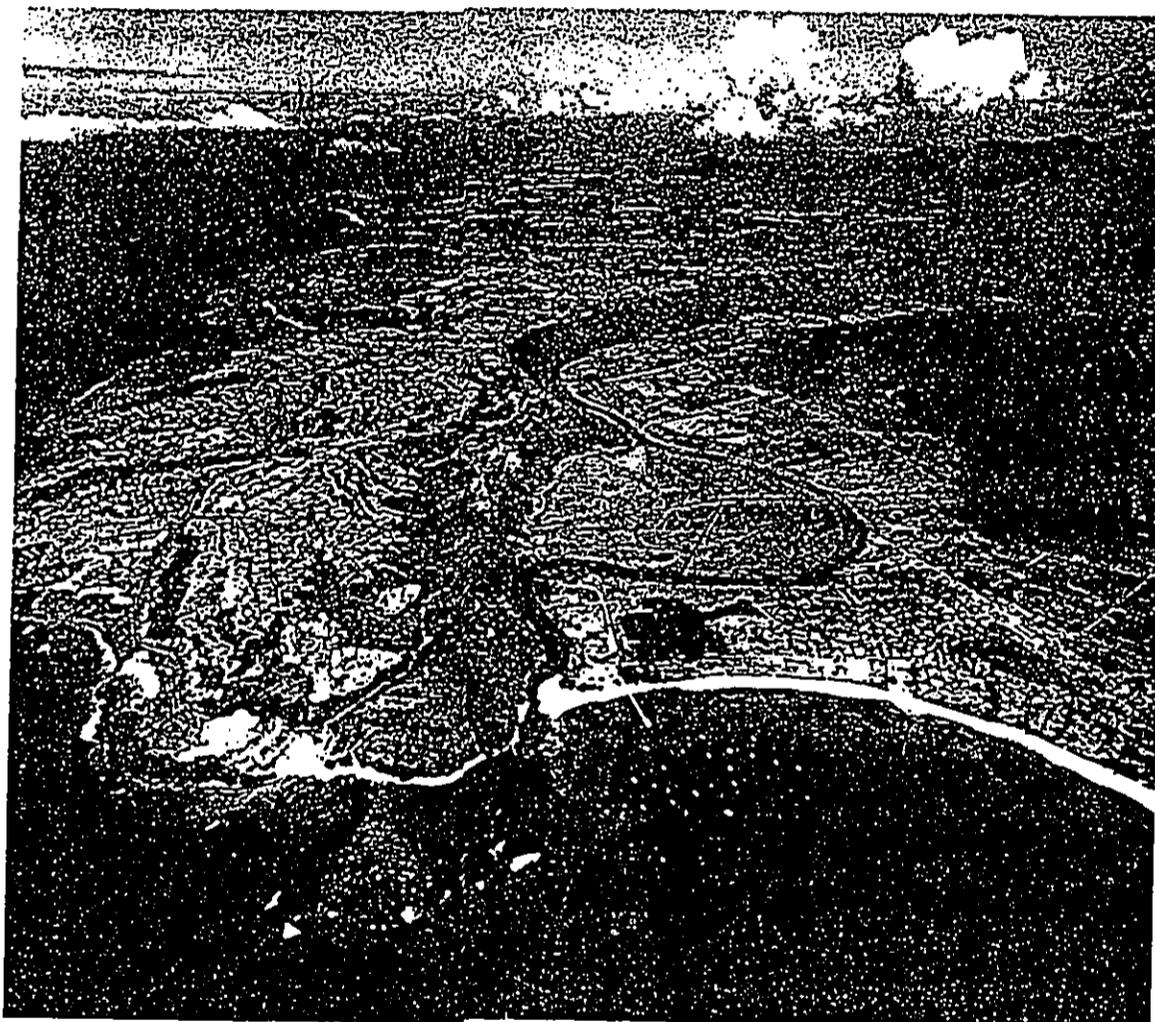

CESAR C. PORTUGAL
County Engineer

WK/cu

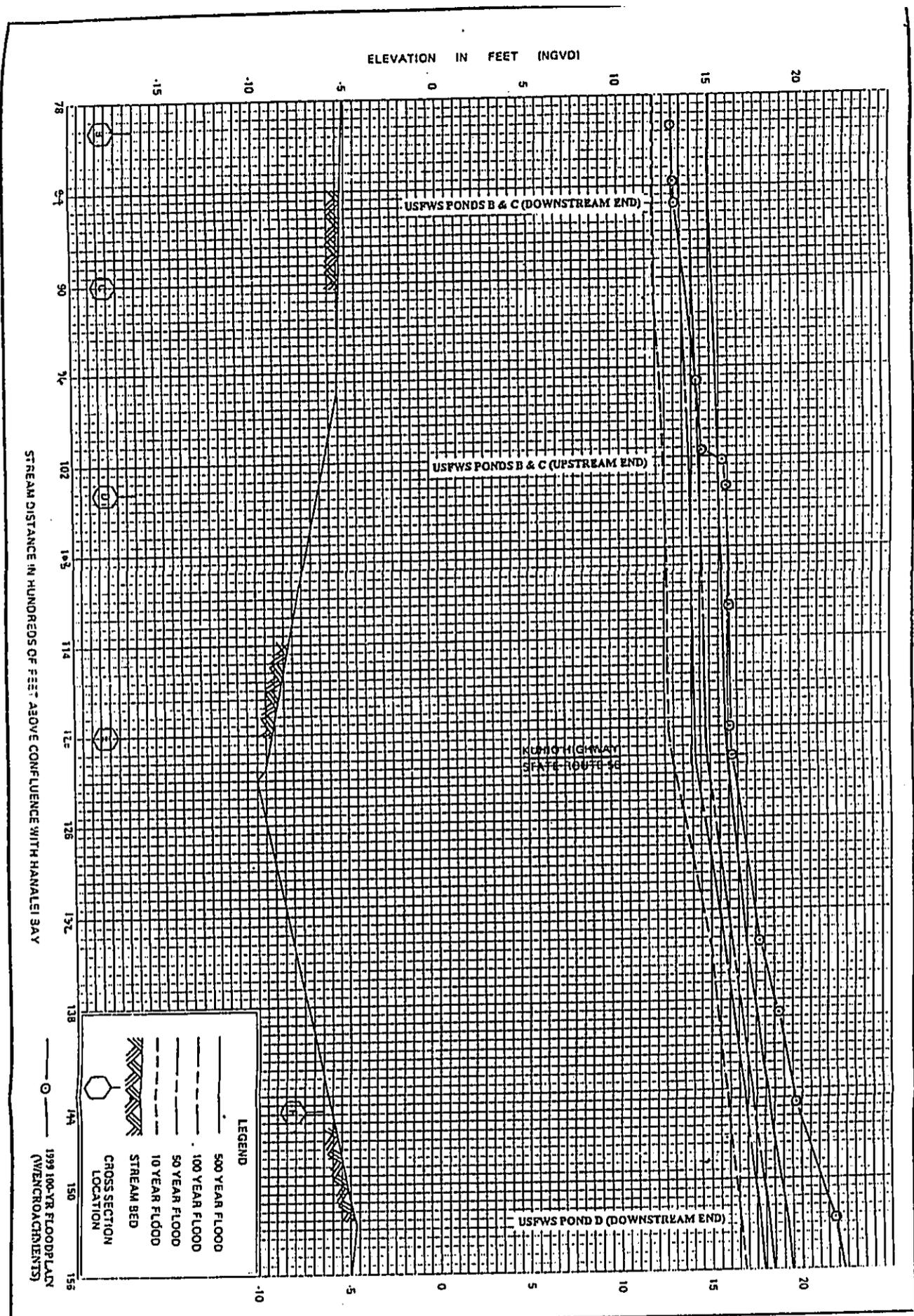


FLOOD PLAIN RE-ANALYSIS OF HANALEI RIVER, ISLAND OF KAUAI

US Army Corps
Of Engineers
Honolulu District



October 1999



FEDERAL EMERGENCY MANAGEMENT AGENCY KAUAI COUNTY, HI	FLOOD PROFILES
	HANALEI RIVER

04P

Figure 6 A-5

6196-01
December 21, 1999

Mr. Cesar C. Portugal, County Engineer
Department of Public Works
County of Kauai
4444 Rice Street, Suite 275
Lihue, Kauai, Hawaii 96766

Subject: Draft Environmental Assessment/Anticipated Finding of No
Significant Impact (FONSI), Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii,
Response to Comments

Dear Mr. Portugal:

Thank you for your letter dated November 6, 1999 (PW11.211) on the Draft
Environmental Assessment (EA)/Anticipated Finding of No Significant Impact
(FONSI), Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge
project. Our responses follow:

1. We have contacted the Department of the Army, U.S. Army Engineer
District, Honolulu (Corps of Engineers) regarding the Flood Plain Re-Analysis study
for the Hanalei River. At this time, we understand the study has been sent to the
Federal Emergency Management Agency (FEMA) for review and concurrence.
Thus, the Re-Analysis is still considered a draft study by the Corps of Engineers. On
December 2, 1999, the U.S. Army Engineer District, Honolulu commented on the
Draft EA and indicated the existing flood hazard information shown in the Draft EA
remains unchanged. See their attached letter.
2. The Final EA will indicate the information about the base flood elevation from
the Re-Analysis study and state that the study is still under review.
3. A topographic survey for the Hanalei Bridge was not included as part of the
design task. As such, the elevation of the lowest chord of the is not known. As
stated in the Draft EA, Kuhio Highway Remove/Repair/Replace Metal Members
project will consist of work to the Bridge superstructure. None of the work will
involve a change to the elevation of the lowest chord.

6196-01

Letter to Mr. Cesar C. Portugal, County Engineer

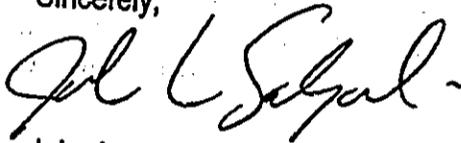
Page 2

December 21, 1999

4. Additional research on the definitions issued by FEMA indicates the 100-year floodway must be kept free of encroachment so that the entire 100-year discharge can be conveyed with no greater than a 1.0-foot increase in the base flood elevation. For construction of new encroachments, we understand FEMA has stated there is to be no increase in the base flood elevation. This information will be included in the Final EA. Note, as stated in the Draft EA, there will be no work on either abutment of the Bridge which could affect flows in the Hanalei River.

We appreciate your comments on the Draft EA. If you have additional questions, please call me at 808.946.2277.

Sincerely,



John L. Sakaguchi, Senior Planner

Attachment

cc: S. Kyono, DOT HWY-K, w/o attach.



REPLY TO
ATTENTION OF

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

December 2, 1999

6696-01
12/6/99
RECEIVED
DEC 03 1999
MGO
TM

Civil Works Technical Branch

WILSON OKAMOTO & ASSOC., INC.

CC: OOT HWY-K
VA FAX

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Hanalei Bridge Project, Hanalei, Kauai. The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. As previously stated in a letter from our Regulatory Branch dated September 28, 1999, a DA permit will not be required for the project.

b. The flood hazard designations provided to you by FAX on August 16, 1999, from Ms. Dobinchick of my staff remain unchanged.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch

DEPARTMENT OF WATER
County of Kauai

"Water has no Substitute - Conserve It"

6196-01

12/6/99

JS

MGO
TM

December 3, 1999

RECEIVED
DEC 06 1999

WILSON OKAMOTO & ASSOC., INC

cc: DIT HWY-K,
VIA FAX

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, HI 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment, Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge, Hanalei, Kauai, Hawaii

Thank you for providing us the opportunity to review the subject report. Presently, we do not have any comments to add.

If you have any questions, please call Melvin Matsumura at 808-245-5410.

Sincerely,

for 
Ernest Lau
Manager and Chief Engineer

MM/san
A:\Draft\EA\Hanalei\Bridg\Matsu

6196-01

MG
TKI

planning@wilsonokamoto.com

From: CWilcox [cmw@aloha.net]
Sent: Tuesday, January 04, 2000 12:06 PM
To: planning@wilsonokamoto.com
Cc: Kristina Harms; Steve Kyono; Pericles Manthos; Barbara Robeson; Hanalei Heritage River
Subject: Hanalei Bridge DEIS comments

RE

1/4/00

cc: DOT HWY-K

VIA FAX

1/7/00



DEIS comments
12-23.doc

Attached please find comments from the Hanalei Roads Committee in response to the Draft Environmental Assessment to Remove/Repair Replace metal Members, Hanalei Bridge, Federal-Aid Project No FLH-560(11).

These comments do not sufficiently reflect our appreciation for all that you have done to assist the community in the protection of their beloved Hanalei Bridge. I hope that you will all be able to be there when we celebrate the completion of this project.

Mahalo
Carol Wilcox

Carol Wilcox
P.O. Box 10558
Honolulu, HI 96816

696-01
Barbara Robeson
POB 869
Hanalei, HI 96714

1/04/00

.....
Hanalei Roads Committee

December 23, 1999

Wilson Okamoto & Associates, Inc
1907 South Beretania Street Ste 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

We have reviewed the Draft Environmental Assessment to Remove/Repair Replace metal Members, Hanalei Bridge, Federal-Aid Project No FLH-560(11). We find it to be a well prepared and thorough document and agree that a *Finding of No Significant Impact can be made for the project.*

The preservation and maintenance of the Hanalei Bridge enjoys extremely strong and unilateral support in the community and in the general planning for Kauai. This project, which will accomplish that preservation and maintenance, has been a model of good communications and implementation of a public project in a timely manner. We do trust that you will restore it to its original color, black, to when repairs are completed. This will provide a nice consistency with the historical tradition of it being called, at one time, the Black Bridge.

We wish to take this opportunity to thank the State Department of Transportation, the Federal Highways Administration, and Wilson Okamoto & Associates and Abba Lichtenstein, for working closely with the community on this project and for resolving it in a way consistent with community and county plans and desires. In particular we would like to commend District Engineer Steve Kyono for his part in keeping the lines of communication open, and Pericles Manthos, chief of the Highways Division of Department of Transportation, for establishing the principal of community participation at that level of the DOT.

We most especially extend our thanks to Senator Daniel Inouye for assisting in finding funding for this project. Without the Senator's help this successful resolution might never have come to pass.

Sincerely,

Carol Wilcox
Co-chair

Barbara Robeson
Co-chair

cc
U.S. Senator Daniel Inouye
Pericles Manthos, DOT
Steve Kyono, DOT

.....
Malama Pono



APPENDIX F
FHWA Coordination



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

6196-01
RECEIVED
10/25/99
HAWAII DIVISION

In Reply Refer To: LLLW

OCT 15 1999

Mr. Par V. Phung, P.E.
US Dept. of Transportation
Federal Highway Administration
Hawaii Division
300 Ala Moana Blvd., Rm 3-306
Honolulu, HI 96850

Re: Consultation under Section 7 of the Endangered Species Act for Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii. Project HEC-
HI

Dear Mr. Phung:

This responds to your September 9, 1999, letter requesting that we concur with your determination that the proposed project is not likely to adversely affect endangered and threatened species, in accordance with section 7 of the U.S. Endangered Species Act of 1973, as amended (Act).

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided by you and pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. We have also coordinated with the Hanalei National Wildlife Refuge's biologist, Dr. Adam Asquith.

Based on our review, the Service concurs that the Federal Highway Administration (FHWA) action is not likely to adversely affect federally listed species. Based on this determination, we believe that the requirements of section 7 of the Act have been satisfied. However, the FHWA's obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this assessment, or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

The Service appreciates the FHA's concern for threatened and endangered species. If you have any questions, please contact Fish and Wildlife Biologist Lorena Wada (phone: 808/541-3441; fax: 808/541-3470).

Sincerely,



Robert P. Smith
Pacific Islands Manager

cc: Tom Alexander, Kauai National Wildlife Refuge Complex Manager



U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 Hawaii Division
 300 Ala Moana Blvd., Room 3-306
 Honolulu, HI 96850
 September 9, 1999

READING BLUES

6196-01

IN REPLY REFER TO
 HEC-HI

Mr. Robert P. Smith
 Pacific Island Manager
 U.S. Department of the Interior
 Fish and Wildlife Service
 Pacific Islands Ecoregion
 300 Ala Moana Boulevard, Room 3-122
 Honolulu, Hawaii 96850

Attn.: Ms. Lorena Wada

Dear Mr. Smith:

Subject: Kuhio Highway, Remove/Repair/Replace Metal Members
 Hanalei Bridge, Hanalei District, Kauai, Hawaii
 Endangered Species Act
 Determination, Request for Concurrence

This letter is to request the concurrence of the U.S. Fish and Wildlife Service with the Federal Highway Administration's (FHWA) determination that the proposed the Kuhio Highway, Remove/Repair/ Replace Metal Members, Hanalei Bridge project will have no adverse effect on listed species under the Endangered Species Act. The U.S. Department of Transportation, FHWA, and the State of Hawaii Department Transportation (HDOT), Highways Division, are providing funds for the Kuhio Highway, Remove/Repair/ Replace Metal Members, Hanalei Bridge project. The HDOT's consultant, Wilson Okamoto & Associates, Inc., has discussed this project several times with Dr. Adam Asquith at the Hanalei National Wildlife Refuge.

The HDOT is proposing to remove and replace the existing Pratt Trusses with new Pratt Trusses of similar appearance and to retain the one-lane timber deck configuration of the Hanalei Bridge. The replacement of the Pratt Trusses and other associated repairs would be made to the Bridge superstructure. Based on the results of the underwater inspection, there will be no work on either abutment or other work which might affect the Hanalei River. The contractor is to prevent debris and other removed material from falling onto the Bridge deck and/or into the Hanalei River. Since the Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei, the Bridge will remain in service during the removal and replacement activities. Some construction work is planned at night due to the need to prevent vehicle loading during these operations.

The Hanalei National Wildlife Refuge (HNWR) lies immediately upstream and west of the Hanalei Bridge. The HNWR contains populations of four species of waterbirds listed as endangered under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544). The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian gallinule, (*Gallinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus knudensi*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are a portion of the habitat for these species. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for these species. Similarly, the superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for the Hawaiian hoary bat (*Lasiurus cinereus semotus*).

We understand the endangered plants species *Cyperus trachysantos* (Puukaa) has been planted in the HNWR upstream from the Hanalei Bridge. This species would not be expected to be found near the Bridge.

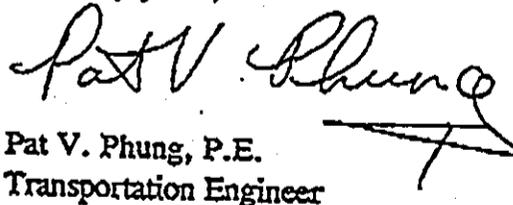
Based on this information, there may be some short-term disturbance to the avifauna species during the construction period. The removal and replacement activities could cause the species to avoid the area of the Bridge while work is ongoing. If night activities occur, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once the removal and replacement activities are completed, there should be no adverse effects to the avifauna species from the project.

As previously stated, the contractor is to prevent debris or material from falling onto the Bridge deck and/or into the Hanalei River. This mitigation should ensure minimal contamination from the project enters the Hanalei River. As a result, there should be no adverse effects to water quality which impact flora near the Bridge or the native fish and invertebrates in the Hanalei River.

Given the above, the FHWA has determined that the Hanalei Bridge project may affect the listed species. However, the project is not likely to adversely effect the listed species. The FHWA is requesting the U.S. Fish and Wildlife Service's concurrence with this determination. A preliminary finding from your office sent to Wilson Okamoto is enclosed.

Please contact me at 808-541-2700 if there are any questions.

Sincerely yours,


Pat V. Phung, P.E.
Transportation Engineer

Enclosure



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3-122
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

6196-01
JS
8/27/99
CC: DOT HWY-K, VIA
FAX 8/27/99
FHWA, VIA FAX
8/27/99

In Reply Refer To: L.I.L.W.

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Draft Environmental Assessment, Pre-Assessment Consultation, Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii

Dear Mr. Sakaguchi:

The U.S. Fish and Wildlife Service (Service) has reviewed your July 21, 1999, letter seeking comments relative to the preparation of a draft environmental assessment (DEA) for the proposed project referenced above. The proposed project sponsor is the State of Hawaii Department of Transportation, Highways Division, Kauai District. The U.S. Department of Transportation, Federal Highways Administration (FHWA) is providing funding for the proposed project. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852], as amended, the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended (ESA), and other authorities mandating Service concern for environmental values. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project includes the removal and replacement of the original Pratt Truss for the Hanalei Bridge. The replacement will be of similar design and appearance as the existing truss and would be constructed of steel. The one-lane timber deck travel surface will be retained. Improvements will be made to the approach guardrails and the pedestrian railings and the entire structure will be painted. The Warren trusses will also be repaired as necessary. It is our understanding that you have contacted the Service's Hanalei National Wildlife Refuge and discussed this project with refuge biologist Dr. Adam Asquith.

We have reviewed pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. Based on our review the following endangered and threatened species are likely to occur at the project site: the endangered plant *Cyperus trachysantos* (Puukaa); and the endangered Hawaiian coot (*Fulica americana alai*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian duck (*Anas wyvilliana*), and Hawaiian hoary bat (*Lasiurus cinereus semotus*).

The Service recommends that the DEA address potential project-related impacts to Federal trust resources, including listed species and their habitats, migratory birds, and wetlands. The DEA should assess the extent and type of impacts expected to occur to these species from the proposed project and include discussions of whether these species use the project area for nesting or breeding or simply as feeding and loafing areas. The extent of the impacts may depend heavily on when and how long these species occupy the area. We also recommend that the DEA address potential impacts to native Hawaiian species and habitats. For instance, the DEA should discuss whether any of the construction activities may impact water quality and native fish and invertebrates in Hanalei River through materials entering the river by being placed there or by inadvertently spilling or falling into the water.

The draft EA should propose mitigation measures to avoid unnecessary impacts, minimize unavoidable impacts, and compensate for significant impacts to these resources. For example, we recommend that consideration be given to avoidance of the primary breeding seasons of listed species in the area to reduce adverse project-related impacts to their successful reproduction. We also recommend that containment measures be incorporated into the project to ensure no additional sedimentation or contamination is added to the Hanalei River.

For compliance with section 7 of the ESA, the FHWA will need to make a determination of the effects of the proposed project on the listed species in the project area. If the FHWA makes a determination that the proposed project may affect listed species but is not likely to adversely affect listed species, they need to contact us and request our concurrence with their determination. Based on the information we currently have and on recent discussions with Dr. Asquith, it is likely that we would concur with such a determination.

The Service appreciates the opportunity to provide this early technical assistance, and we look forward to reviewing a copy of the DEA when it is available. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Lorena Wada by telephone at (808) 541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,

Barbara A. Mayfield, Acting

for Robert P. Smith
Pacific Islands Manager

JAN 23 2000

FILE COPY

2000-01-23-KA-FEA-Hanalei Bridge
Repair Work

**FINAL
ENVIRONMENTAL ASSESSMENT
KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE
METAL MEMBERS, HANALEI BRIDGE
Hanalei District, Kauai, Hawaii**



Prepared for:

**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION-KAUAI DISTRICT
LIHUE, HAWAII**

Prepared by:

Wilson Okamoto & Associates, Inc.

January 2000

Final Environmental Assessment

**KUHIO HIGHWAY
REMOVE/REPAIR/REPLACE METAL MEMBERS
HANALEI BRIDGE**

Hanalei District, Kauai, Hawaii

Federal-Aid Project No. FLH-560 (11)

Prepared for:
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
Kauai District
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766
Contract No. 43812

Prepared by:
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
WOA: 6196-01

January 2000

SUMMARY

Proposing Agency: State of Hawaii
Department of Transportation,
Highways Division, Kauai District
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766

Accepting Agency: State of Hawaii
Department of Transportation
869 Punchbowl Street
Honolulu, Hawaii 96813

EA Preparer: Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Contact: John L. Sakaguchi, Senior Planner
Tel: (808) 946.2277; Fax: (808) 946.2253

Project Location: Hanalei, Kauai, Hawaii

Recorded Fee Owner: State of Hawaii

Tax Map Key: N/A

Area: N/A

State Land Use Classification: Conservation

County Zoning: N/A

Proposed Action: Removal of the deteriorated existing Pratt trusses on the Hanalei Bridge and replacement with similar appearing Pratt trusses at the same location and retention of the one-lane bridge crossing of the Hanalei River. The existing Pratt trusses must be removed and replaced to ensure continued access to Hanalei and other North Shore communities and to the Na Pali Coast recreation area. Kuhio Highway and the Hanalei Bridge provide the sole means of road access to these areas.

Impacts: No significant adverse impacts are anticipated from the removal and replacement of the Pratt trusses. On August 9, 1978, the Hanalei Bridge was determined eligible for inclusion in the National Register of Historic Places

TABLE OF CONTENTS

PREFACE	iv
1. INTRODUCTION.....	1 - 1
1.1 Introduction and Project Location	1 - 1
1.2 Project Background and History	1 - 1
1.3 Project Objectives and Purpose	1 - 5
1.4 Project Need.....	1 - 5
1.5 Project Description	1 - 10
1.6 Vehicle Weight Scale	1 - 13
1.7 Project Cost.....	1 - 13
1.8 Project Schedule	1 - 14
1.9 Short-term Debris Enclosure Project.....	1 - 14
2. DESCRIPTION of EXISTING ENVIRONMENT, IMPACTS and MITIGATION MEASURES	2 - 1
2.1 Geology and Topography.....	2 - 1
2.1.1 Existing Environment.....	2 - 1
2.1.2 Impacts and Mitigation Measures.....	2 - 1
2.2 Soils.....	2 - 1
2.2.1 Existing Environment.....	2 - 1
2.2.2 Impacts and Mitigation Measures.....	2 - 1
2.3 Surface Water, Flood Hazard and Wetlands	2 - 2
2.3.1 Existing Environment.....	2 - 2
2.3.2 Impacts and Mitigation Measures.....	2 - 4
2.4 Flora and Fauna	2 - 5
2.4.1 Existing Environment.....	2 - 5
2.4.2 Impacts and Mitigation Measures.....	2 - 6
2.5 Air Quality.....	2 - 7
2.5.1 Existing Environment.....	2 - 7
2.5.2 Impacts and Mitigation Measures.....	2 - 8
2.6 Traffic	2 - 8
2.6.1 Existing Environment.....	2 - 8

2.6.2	Impacts and Mitigation Measures.....	2 - 9
2.7	Noise	2 - 9
2.7.1	Existing Environment.....	2 - 9
2.7.2	Impacts and Mitigation Measures.....	2 - 10
2.8	Archaeological and Historic Resources	2 - 10
2.8.1	Existing Environment.....	2 - 10
2.8.2	Impacts and Mitigation Measures.....	2 - 13
2.9	Infrastructure	2 - 13
2.9.1	Water Service.....	2 - 13
2.9.2	Electrical Service.....	2 - 14
2.10	Socioeconomic Characteristics.....	2 - 14
2.10.1	Existing Conditions.....	2 - 14
2.10.2	Impacts and Mitigation Measures.....	2 - 15
3.	RELATIONSHIP to PLANS, POLICIES and CONTROLS.....	3 - 1
3.1	Hawaii State Plan	3 - 1
3.2	Land Use Plans and Policies.....	3 - 2
3.2.1	State Land Use District.....	3 - 2
3.2.2	County of Kauai General Plan.....	3 - 2
3.2.3	North Shore Development Plan.....	3 - 3
3.2.4	County of Kauai Zoning.....	3 - 4
3.2.5	County of Kauai Special Management Area	3 - 4
4.	ALTERNATIVES to the PROPOSED ACTION	4 - 1
4.1	Alternative A: No Action.....	4 - 1
4.2	Other Alternatives.....	4 - 1
4.2.1	Alternative B(1): Repair Pratt and Warren Trusses.....	4 - 1
4.2.2	Alternative B(2): Remove Pratt Trusses and Repair Warren Trusses	4 - 2
4.2.3	Alternative D: Construct two-lane Concrete Replacement Bridge.....	4 - 3
5.	DETERMINATION	5 - 1

6. CONSULTED PARTIES..... 6 - 1
6.1 Pre-Assessment Consultation 6 - 1
6.2 Agencies and Organizations to be Consulted on the Draft EA..... 6 - 1

7. REFERENCES..... 7 - 1

APPENDICES

- Appendix A - Inventory Nomination Form
- Appendix B - Public Informational Meeting (August 3, 1998)
- Appendix C - Public Informational Meeting (March 11, 1999)
- Appendix D - Pre-Assessment Consultation Letters
- Appendix E - Draft Environmental Assessment Comment Letters
- Appendix F - FHWA Coordination

LIST OF FIGURES

Figure 1.1 Project Site Map..... 1 - 15
Figure 1.2 Existing Elevation..... 1 - 16
Figure 1.3 Existing Section..... 1 - 17
Figure 1.4 Proposed Elevation..... 1 - 18
Figure 1.5 Proposed Section 1 - 19

LIST OF PHOTOGRAPHS

Photo 1.1..... 1 - 20
Photo 1.2..... 1 - 21
Photo 1.3 1 - 22
Photo 1.4 1 - 22
Photo 1.5..... 1 - 23
Photo 1.6..... 1 - 23
Photo 1.7..... 1 - 24
Photo 1.8 1 - 24

PREFACE

Chapter 343, Hawaii Revised Statutes (HRS), as amended, Environmental Impact Statements, requires that a government agency or a private developer proposing to undertake a project consider the potential environmental impacts of the proposed project by preparing an assessment. Among the criteria set forth in Chapter 343, HRS, for preparation of an environmental assessment is the use of public funds for a project. The removal and replacement of the Hanalei Bridge Pratt trusses will be undertaken with funds provided by the U.S. Department of Transportation, Federal Highway Administration (FHWA), and by the State of Hawaii, Department of Transportation, Highways Division-Kauai District (DOT).

This Environmental Assessment (EA) has been prepared to meet the requirements of Chapter 343, HRS, as amended, and Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 200, Environmental Impact Statement Rules.

A Finding of No Significant Impact (FONSI) has been determined for the project.

1. INTRODUCTION

1.1 Introduction and Project Location

The Hanalei Bridge crosses the Hanalei River at mile post 1.19 on Kuhio Highway (Kauai Belt Road) Route 560, in the Hanalei District on the North Shore of Kauai. Originally fabricated in 1912 by Hamilton & Chambers Company of New York and erected by Honolulu Iron Works, the Hanalei Bridge is a one-lane, single span, steel truss bridge with timber deck and reinforced concrete and masonry abutments. The Bridge has a total length of 113 feet, a 17-foot wide horizontal clearance at the deck, a 15-foot high vertical clearance from the travel deck, and a posted load limit of 15 tons. Kuhio Highway and the Hanalei Bridge, both under the control of the State of Hawaii, Department of Transportation, Highways Division-Kauai District (DOT), provide the sole road access to Hanalei and other North Shore communities west of Hanalei and to the Na Pali Coast recreation area. On August 9, 1978, the U.S. Secretary of the Interior determined that the Hanalei Bridge was eligible for inclusion in the National Register of Historic Places. Figure 1.1 shows the Hanalei Bridge project site map. (All figures are shown at the end of this chapter.)

1.2 Project Background and History

As previously stated, the Hanalei Bridge was originally erected in 1912. In 1934, the Bridge was upgraded and, in 1967, a major upgrade included the addition of Warren trusses to the outside of the Pratt trusses. (Post tension roads were also added in 1967 to increase the capacity of the floor beams.) In 1973, major repairs were made to the Bridge by strengthening the members and connections with welded plates. A comparison of the 1966 design plans and the 1973 plans also indicate several members were added to the original Pratt trusses sometime between these major repairs. In 1980, repairs were made to the Bridge including replacement of structural steel and welding of members (Project No. 56D-01-81M). In 1982, the Bridge was painted (Project No. 56D-02-82M). In 1988, rehabilitation repairs were made to the Hanalei Bridge (Project No. 56D-01-87M).

In May 1972, notices were published in the local newspapers regarding the DOT's plans for improving the Hanalei Bridge and giving the public the opportunity to request a public hearing. Several requests were made for such a public hearing. However, these requests were subsequently rescinded. As a result, the DOT began to acquire the necessary rights-of-way for a new bridge to be located approximately 500 feet downstream from the existing Hanalei Bridge. Since, at that time, the U.S. Department of the Interior, Fish and Wildlife Service was acquiring property for the Hanalei National Wildlife Refuge (HNWR), the DOT coordinated that right-of-way acquisition with the establishment of the Refuge boundary.

In May 1974, the DOT held a public informational meeting to discuss roadway improvements from Kalihiwai to Hanalei which included replacement of the Hanalei Bridge. Subsequently, in May 1975, a Draft Environmental Impact Statement (EIS) was issued for review and comment by the U.S. Department of Transportation, Federal Highway Administration (FHWA) and the DOT. In August 1975, a public hearing was held to solicit comments regarding the Draft EIS. The major concern expressed at the public hearing was that a new highway and Bridge would induce growth to the North Shore of Kauai and the quality of life enjoyed by its residents would thereby be lost. Also, there was concern that an improved highway would allow more tourists, and especially tour buses, into Hanalei. However, the County of Kauai Planning Department and Department of Public Works supported the improvements.

The scope of the Draft EIS was challenged on the grounds that it did not discuss the highway improvement plans for the entire North Shore. As a result, a new Draft EIS was prepared with an expanded project area which extended from Kalihiwai to Haena and included replacement of the Hanalei Bridge and the other one-lane bridges located between Hanalei and Haena.

In October 1975, the second phase of the environmental review was initiated with a public informational meeting in Hanalei, at which the revised highway improvements were discussed. Subsequently, in March 1976, an EIS Preparation Notice was issued by the DOT under State of Hawaii rules and

regulations. The public comments expressed the same concerns over uncontrolled growth on the North Shore. In addition, there were a number of comments in favor of retaining the appearance of the existing bridges, especially the Hanalei Bridge which the commenters felt had become a landmark identified with the rural character of the North Shore.

As result of these comments, in February 1977, the FHWA and DOT issued another Draft EIS to address the environmental concerns for the project from Kalihiwai to Haena. In April 1977, two public hearings, one in Hanalei and one in Lihue, were held to discuss the project. Again, the commenters reiterated the community's desire to preserve the rural lifestyle of Hanalei and the North Shore. However, *not all commenters were willing to accept a substandard highway system and support was expressed for improving the highway and bridges.* In addition, a number of commenters raised the issue of the historical significance of the bridges, and requested that they be nominated to the National Register of Historic Places.

In November 1976, the Kauai Historical Society prepared a National Register of Historic Places Inventory - Nomination Form for the Hanalei Bridge. In June 1978, the FHWA made a formal request to the Keeper of the National Register for a determination of eligibility to the National Register of Historic Places for all the North Shore bridges including the Hanalei Bridge. On August 9, 1978, the Secretary of the Interior determined that the Hanalei, Waioli, and Waipa bridges, two bridges west of Hanalei, were eligible for inclusion on the National Register of Historic Places. Appendix A contains the Inventory Nomination Form for the Hanalei Bridge.

With that determination of eligibility, and with FHWA's participation in the project, it became necessary to initiate the requirements set forth in Section 106 of the National Historic Preservation Act and the provisions of 36 Code of Federal Regulations (CFR) Part 800, Protection of Historic Properties.

In November 1979, the DOT decided to undertake maintenance repair of several of the one-lane bridges, and to widen the highway from Kalihiwai to Princeville.

With this decision, it became unnecessary to complete the Section 106 review as the project proposed by the DOT no longer included replacement of the one-lane bridges, including the Hanalei Bridge.

Ultimately, in June 1980, the FHWA and DOT jointly issued a Final EIS to address recommended improvements for the section of Kuhio Highway from Kalihiwai to Princeville. The EIS indicated "until issues raised by the Section 106 process established by the Advisory Council on Historic Preservation are resolved, in addition to clearances pursuant to the Endangered Species Act, and Executive Orders on Floodplain Management and Wetlands Management, a recommended action cannot be proposed for the Hanalei, Waioli or Waipa bridges. Likewise, until final plans for the Hanalei Bridge are agreed upon, it is premature to propose changes to the highway section from Princeville to Hanalei Town."

In June 1982, the FHWA published a Notice of Intent to prepare an EIS in the Federal Register for the project entitled "Kauai Belt Road, Hanalei Bridge and Approaches". In April 1983, the DOT published an EIS Preparation Notice for the same project under State of Hawaii rules. As a result of these notices and the concerns raised by various community groups, the DOT began a process of mediation with these groups to resolve the issue of replacing the Hanalei Bridge.

In 1988, as a result of the mediation process, the DOT agreed to perform additional repairs to the Bridge to strengthen various members and to separate the floor beam connections between the Pratt and Warren trusses. Separation of the trusses would transfer a greater percentage of the live loads from the older Pratt trusses to the newer Warren trusses. At that time, prior to undertaking the repairs, a bridge inspection was conducted to determine the condition of the members and to set forth the needed repairs. In addition, a load test using a weighted truck was undertaken to determine the distribution of the loads between the Pratt and Warren trusses.

In addition, the inspection also included the:

- o approach roadway/guardrails;
- o timber deck;
- o abutments and wingwalls;
- o railings;
- o superstructure - Warren trusses;
- o superstructure - Pratt trusses; and,
- o abutments - using divers to inspect underwater portions.

The inspection was conducted to meet the requirements of 23 CFR Highways - Part 650, Subpart C - National Bridge Inspection Standards (NBIS) for periodic inspection of bridges located on public roads subject to public use. The Bridge was then rated as to its safe load carrying capacity according to the procedures set forth in the Manual for Condition Evaluation of Bridges, 1994 published by the American Association of State Highway and Transportation Officials (AASHTO). The results of the inspection and load test were documented in the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Bridge Inspection, Load Testing Report, and Alternatives Analysis, February 1999.

The inspection showed that the Pratt trusses are in serious condition, due to extensive deterioration and corrosion and major losses of cross section of the structural members. The top chords, bottom chords, sway bracings, end portals, and diagonal members have experienced serious corrosion and loss of cross sectional area. Further, previous welding repairs made to the bottom chord and diagonal members have left the Pratt trusses more susceptible to fatigue failures. As a result of the extensive deterioration and corrosion and the extensive welding repairs to fracture critical members, the Pratt trusses no longer transmit loads according to design criteria and no longer have a reliable and defined load carrying system. Photographs of the Bridge including those taken at the time of the inspection to document the condition of the Bridge are at the end of this chapter.

In addition, the inspection also included the:

- o approach roadway/guardrails;
- o timber deck;
- o abutments and wingwalls;
- o railings;
- o superstructure - Warren trusses;
- o superstructure - Pratt trusses; and,
- o abutments - using divers to inspect underwater portions.

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The inspection showed the approach guardrails on both sides are deficient according to current design standards set forth in AASHTO National Cooperative Highway Research Program (NCHRP) Report 350. The approach guardrails lack adequate length and strength to shield vehicles from blunt and steep slope hazards at each bridge approach. Further, the guardrails do not provide adequate transition from the roadway to the Bridge and the ends of the guardrails do not adequately protect the trusses from collision damage from vehicles.

The inspection noted that the Bridge does not have railings capable of resisting impact with vehicles as specified by AASHTO and that they do not protect the trusses from impact by vehicles. The existing railings consist of horizontal and vertical 1¼-inch diameter pipes supported by the Warren trusses and serve primarily as pedestrian railings. The spacing of the pipes does not meet current Federal standards used by the DOT which require pedestrian railings to be spaced so that a 6-inch diameter sphere does not pass through the openings.

The inspection indicated that the Warren trusses appeared to be in satisfactory condition. The top chords, bottom chords, diagonals, connection bolts, and gusset plates show some loss of cross section from corrosion. The floor beams are in satisfactory condition. The Bridge is considered to be fracture critical as the bottom chord members and diagonals of the Warren trusses are in tension and there are only two main load-carrying elements.

As part of the August 1998 inspection, a chemical analysis was made of steel samples taken from the floor beams and bottom chords of the Pratt trusses. A comparison of the results of the chemical analysis and the composition of the A36 and A572 steel, modern steels used in current bridge construction, showed the steel in the original Pratt trusses contained a higher carbon content (0.36 percent and 0.33 percent) than either the A36 (0.26 percent) or A572 (0.21 percent) steels. Modern steels contain an upper limit of 0.30 percent carbon to provide suitable welding and notch toughness qualities. Further, the chemical analysis showed the Pratt trusses contain lower amounts of manganese and

copper than the modern steels. Manganese and copper are used to improve the corrosion resistance of steels.

In addition, at the time of the August 1998 inspection, another load test using a weighted truck was undertaken to determine the distribution of the loads between the Pratt and Warren trusses. The 1988 modifications to the Hanalei Bridge had attempted to limit the amount of load carried by the Pratt trusses by removing the bolts connecting the floor beams to the trusses. The results of the 1998 load test showed that the Pratt trusses remain a part of the live load carrying structural system. The load test results were compared to a computer simulation of the load to determine the load distribution between the Pratt and Warren trusses. This analysis indicated that the Pratt trusses carry about 37 to 45 percent of the live load and the Warren trusses carry approximately 55 to 63 percent of the live load, depending on the placement of the load.

At the time of the inspection and load test, an underwater inspection of the Bridge was also conducted. The underwater inspection showed the Haena-side (west) abutment is well above the normal water level, with an approximately 10-foot wide earth embankment between the abutment face and the edge of the River. The Lihue-side (east) abutment is the only structural element of the Bridge contacting the water. As part of the 1988 repairs, rip rap was placed in the water upstream of the Lihue-side abutment to protect against undercutting and scouring. The underwater inspection showed no extensive deterioration of the underwater portions of the abutments. At the time of the underwater inspection, the depth of the Hanalei River midway between the abutments was approximately 12 feet.

The overall conclusion of the inspection and load test was that the Pratt trusses have experienced extensive deterioration and corrosion, and, that the extensive welding repairs to fracture critical members have left the Pratt trusses more susceptible to fatigue failures. Further, the Pratt trusses no longer transmit loads according to design criteria and no longer have a reliable and defined load carrying system.

As a result of the inspection and load test, on March 11, 1999, a second public informational meeting was held at the Hanalei Elementary School to present the results of the inspection and load test and to discuss alternatives for a long-term solution for a bridge crossing the Hanalei River. About 26 community members attended the meeting.

The five long-term alternatives presented at the meeting included:

- o Alternative A Do nothing;
- o Alternative B(1) Repair Pratt and Warren trusses;
- o Alternative B(2) Remove Pratt trusses and repair Warren trusses;
- o Alternative C Install new Pratt trusses and repair Warren trusses; and,
- o Alternative D Construct a two-lane concrete replacement bridge.

Except for Alternative D, all of the alternatives would have retained the one-lane configuration for the Hanalei Bridge.

The discussions and comments at the public informational meeting indicated an overwhelming support for Alternative C, removing the existing Pratt trusses and replacing them with new Pratt trusses of similar appearance and retaining the one-lane configuration for the Bridge. The comments at the public informational meeting indicated preserving the look of the Hanalei Bridge, including its one-lane configuration, was a major consideration in the support of Alternative C. Further, the commenters felt, as had been previously expressed in the 1970's and 1980's, that the Hanalei Bridge was the "gateway" to the rural lifestyle characteristic of the North Shore. Retaining the Hanalei Bridge as this gateway was felt to be an integral part of the unique character and sense of the North Shore to both residents and visitors. Appendix C contains information about the March 11, 1999 public informational meeting.

1.5 Project Description

Based on the findings of the August 1998 inspection and load test and the results of the March 11, 1999 public informational meeting, the DOT is proposing to remove and replace the existing Pratt trusses with new Pratt trusses of similar appearance and to retain the one-lane timber deck configuration of the Hanalei Bridge.

The replacement Pratt trusses and other associated repairs would be made to the Bridge superstructure and would be designed to meet AASHTO design standards for bridges as set forth in the 1998 AASHTO Load and Resistance Factor Design (LRFD) Bridge Design Specifications. The replacement Pratt trusses would be constructed of steel and be of similar appearance as the existing Pratt trusses. The replacement trusses would include the following elements:

- o Top chords;
- o Portal frames;
- o Top chord sway bracings;
- o Diagonal members connecting the top and bottom chords;
- o Vertical members;
- o Bottom chords; and
- o Bottom chord sway bracings.

The replacement steel members will have similar dimensions and appear similar to the existing members. The overall height of the replacement top chord will be approximately 21 feet 6 inches from the top of the travel deck wearing surface, the same dimension as the existing Bridge. Thus, the general appearance of the replacement Pratt trusses will be very similar to the existing trusses.

The original Bridge was constructed using pins, rivets, and bars to connect the members. The replacement Pratt trusses would use high strength bolted connections rather than rivets, as bolting is more cost effective. In addition, structural rivets are no longer used in modern steel bridge construction such that

the 1998 AASHTO Bridge Design Specifications do not list load values for rivets. Lastly, inspection of riveted connections is difficult to perform due to the lack of qualified inspectors. Pins and eyebar connections will be used in the replacement Pratt trusses, as found in the original construction.

The replacement Pratt trusses would be designed with the capacity to act together with the Warren trusses to support a wider structure, if one is needed in the future. Figure 1.2 shows the elevation of the existing Hanalei Bridge. Figure 1.3 shows a section of the existing Bridge. Figure 1.4 shows the elevation of the proposed Hanalei Bridge. Figure 1.5 shows a section of the proposed Bridge. (See figures at the end of this chapter.)

As shown in Figure 1.2, the four 1-inch diameter end rods will not be replaced as a comparison of the 1966 plans for Warren trusses and the 1973 maintenance plans show these rods were added sometime between 1966 and the 1973 repairs of the Bridge. The 1966 plans do not show these rods. Yet, the rods appear on the 1973 plans, which would indicate they were added between 1966 and 1973 and were not part of the original Pratt trusses. Since these end rods are not necessary, they are not included as part of the replacement Pratt trusses.

As shown in Figure 1.5, the end portals and the sway bracings in the replacement trusses will have a vertical clearance of about 17 feet 6 inches from the top of the travel deck wearing surface, about 2 feet 6 inches higher than the original design. Current AASHTO design standards for steel bridges require a vertical clearance of 17 feet 6 inches to prevent damage from vehicles with high clearance. As previously stated and as shown in Figure 1.5, the overall height and appearance of the top chord will not change.

Other associated work on the Bridge superstructure includes:

- o Temporary bracing for the Warren trusses;
- o Replacing the 6-inch by 12-inch timber deck members;
- o Replacing the 2-inch by 12-inch timber wearing surface;

- o Replacing the pedestrian railings;
- o Repairing the Warren trusses;
- o Painting the Pratt and Warren trusses; and,
- o Removing the 1912 plaque and remounting it on one of the replacement Pratt trusses.

The one-lane 17-foot wide horizontal clearance at the deck would be retained. In addition, although the replacement Pratt trusses working together with the Warren trusses would have a rated capacity for 2 lanes of HS20-44 loading, the timber stringers and deck would be rated at H15-44, the same as the existing 15-ton posted load limit on the Bridge. (The H designation is used by AASHTO to designate the total loading for bridge design purposes.) Thus, aside from the vertical clearance of the portal frames for the replacement Pratt trusses, the overall visual appearance and the rated load of the replacement Pratt trusses would be similar to the existing Pratt trusses. The one-lane configuration of the Bridge will also be retained as part of the overall appearance of the Bridge.

Community members have commented that the Hanalei Bridge was painted black at one time and requested that the replacement Pratt trusses be painted black. Thus, the replacement trusses and the Warren trusses will be painted black.

The 1912 plaque will be removed and remounted on the replacement Pratt trusses, as requested by community member. Another plaque noting the Bridge's status on the National Register of Historic Places could be designed and mounted on the replacement trusses at some time in the future.

Based on the results of the underwater inspection, there will be no work on either abutment or other work which might affect the Hanalei River. The design specifications for the project will set forth that the contractor is to prevent debris and other materials from removal and replacement work from entering the Hanalei River.

Since Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei, the Bridge will remain in service during the removal and replacement activities. The contractor is to perform the work to minimize traffic delays. No slow down of traffic will be allowed between 6:00 am to 8:00 am and from 3:30 pm to 6:30 pm. The contractor will be allowed to close the Bridge to traffic from Sunday to Thursday between the hours of 10:00 pm and 5:00 am the following day. During this period, the contractor is to provide police officers at both approaches to the Bridge to control traffic. Emergency vehicles will be allowed to cross the Bridge at all times.

1.6 Vehicle Weight Scale

During the March 11, 1999 public informational meeting, community members expressed their concern that vehicles and equipment using the Bridge have exceeded the posted 15-ton load limit, and requested a weight scale be placed on the Lihue-side approach to the Bridge. The request was to include an alarm and light warning system which would be set off when the posted weight limit was exceeded. Use of a camera system to visually record the event was also discussed. It was felt that even though the offender could not be cited, public pressure would be effective in keeping overweight vehicles off the Bridge.

Since this project is partially funded by the FHWA, mandatory safety features are included. However, new features such as a vehicle weight scale are not included in the funding and can be considered in a future project. Notwithstanding this consideration, Hawaii Revised Statutes 291-39, Traffic Violations, Enforcement, does not specifically address enforcement by electronic means in the absence of a Motor Carrier Safety Officer or police officer.

1.7 Project Cost

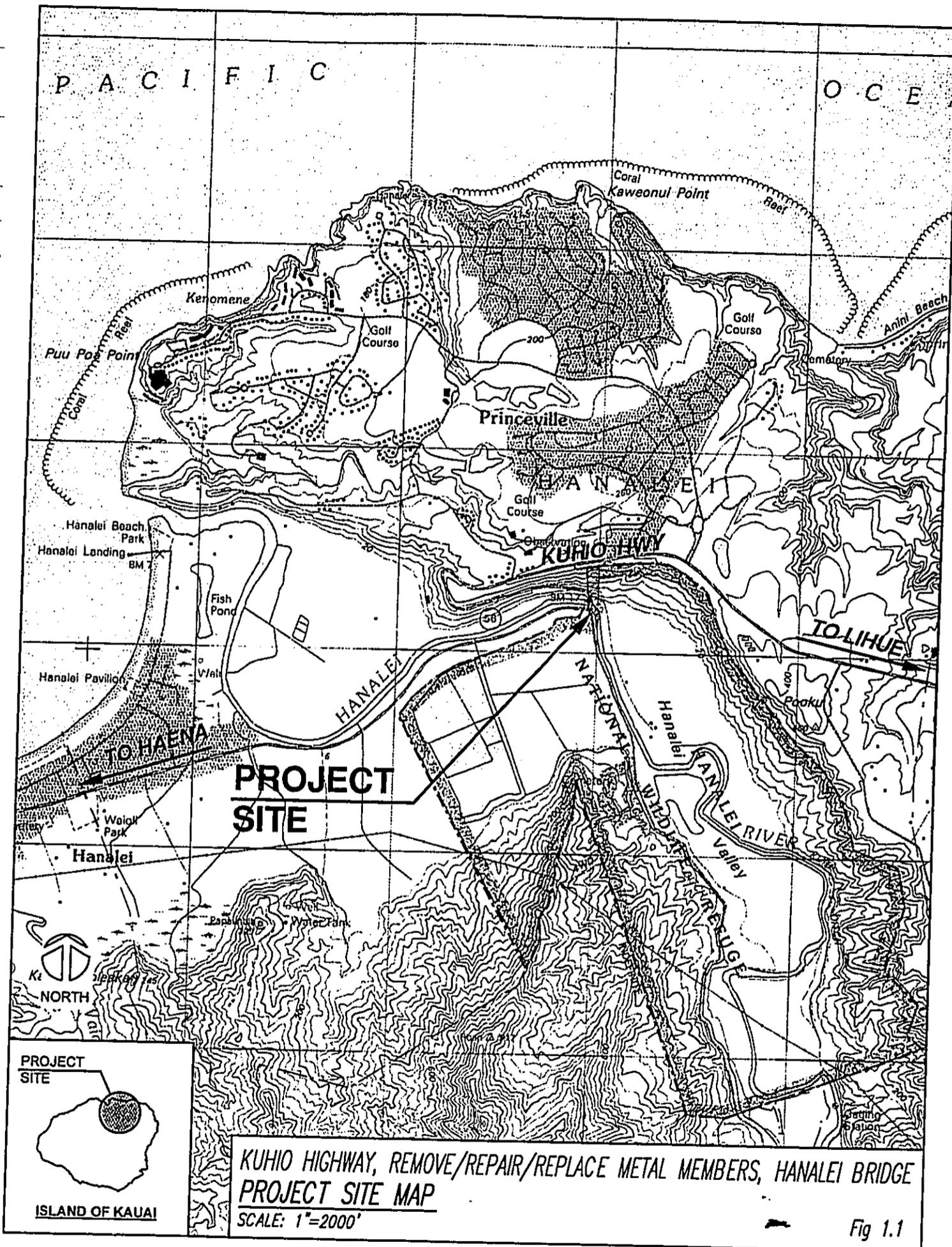
The preliminary construction budget for the Hanalei Bridge project is \$2.0 million. The project would be designed and constructed using FHWA and DOT funds.

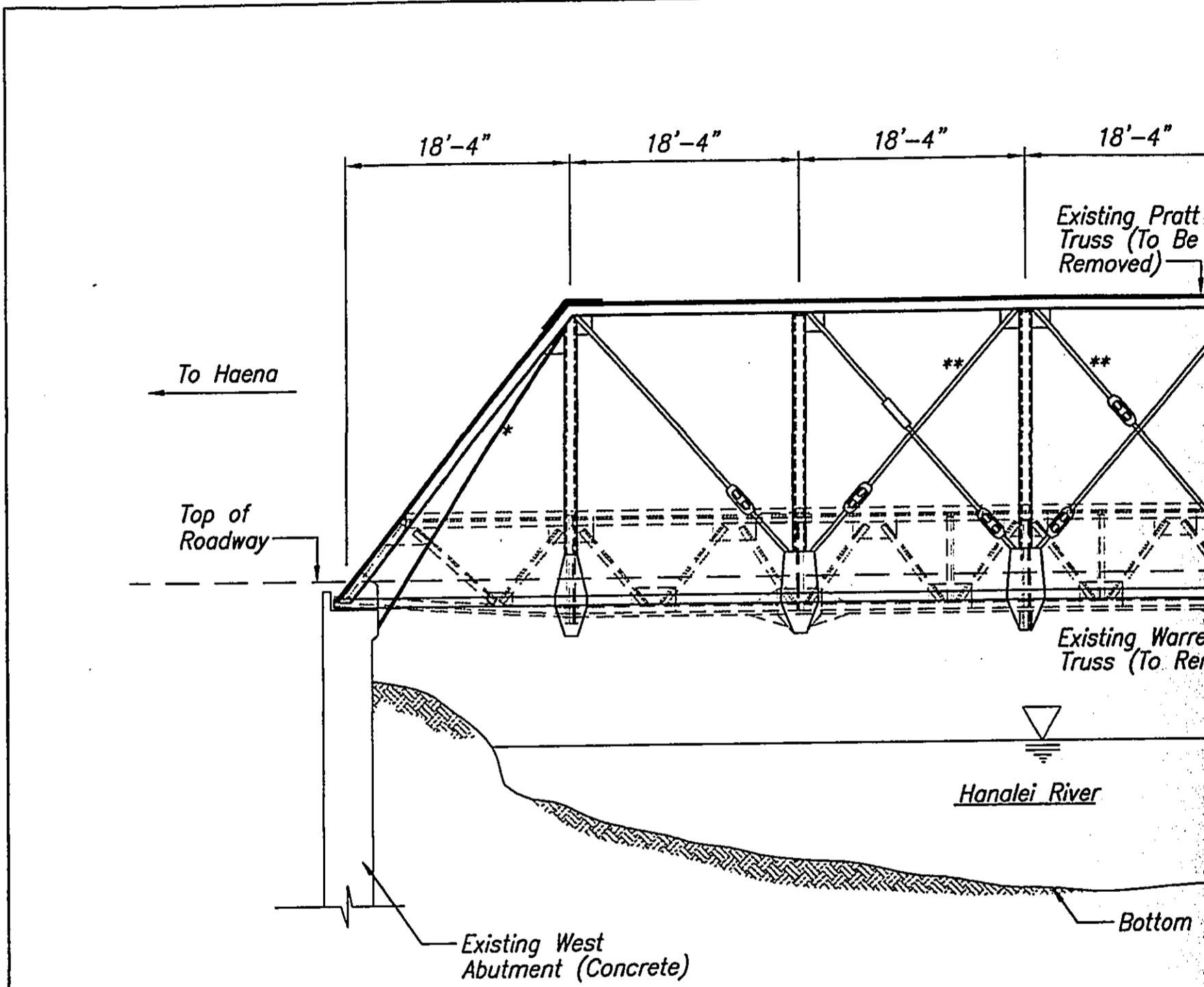
1.8 Project Schedule

The DOT is scheduled to receive bids in February 2000 for construction of the replacement Pratt trusses. Construction is estimated to begin in May 2000 and should require approximately 14 months to complete.

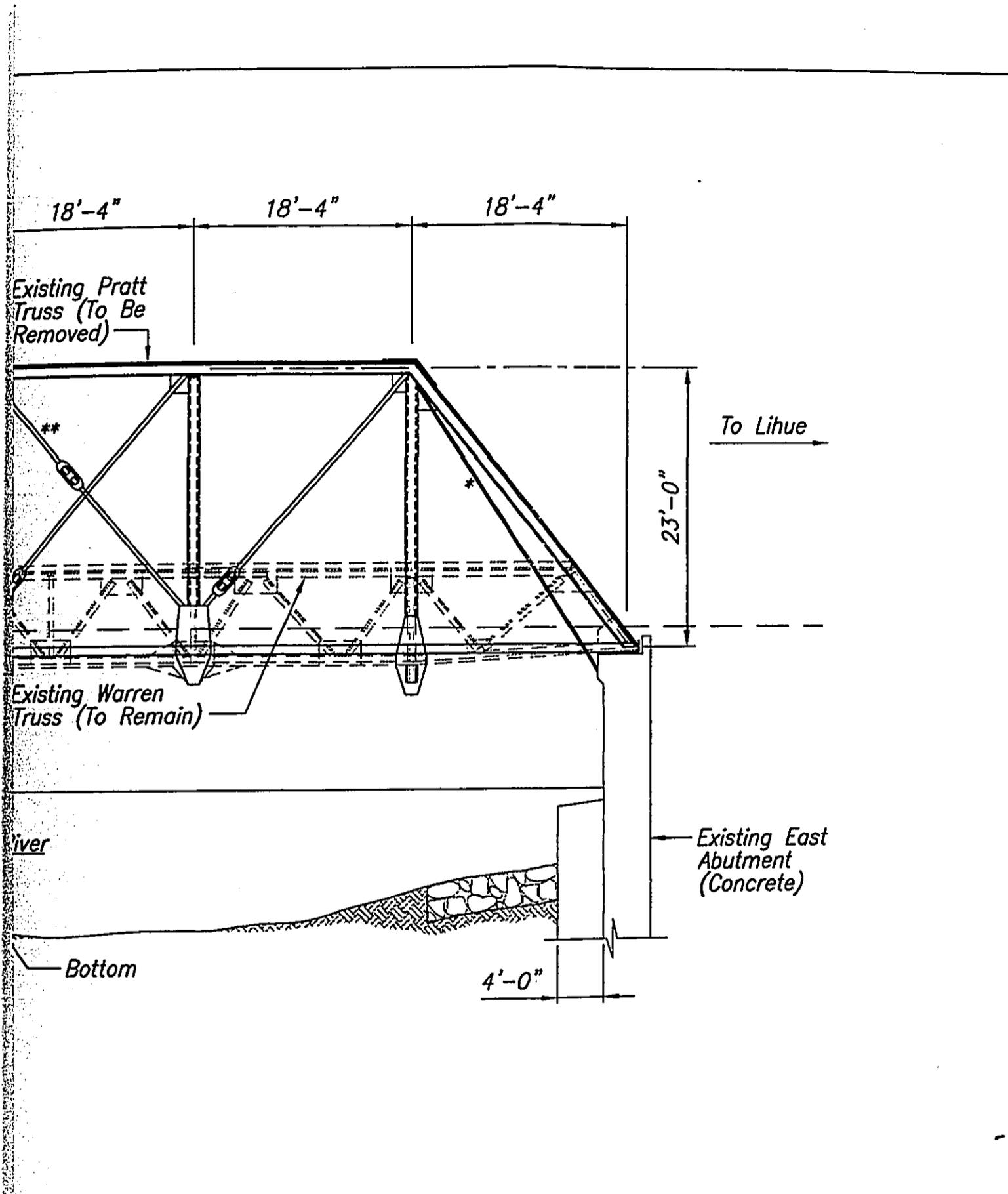
1.9 Short-term Debris Enclosure Project

Based on the findings of the August 1998 inspection, in May 1999, the DOT undertook a Short-term Debris Enclosure project to wrap the existing top chord and sloping end posts of the Pratt trusses with galvanized wire mesh to prevent debris from falling on the travel deck. The Short-term Debris Enclosure project was intended as an interim repair until replacement of the Pratt trusses can be undertaken and will not obviate the long-term need to replace the Pratt trusses.

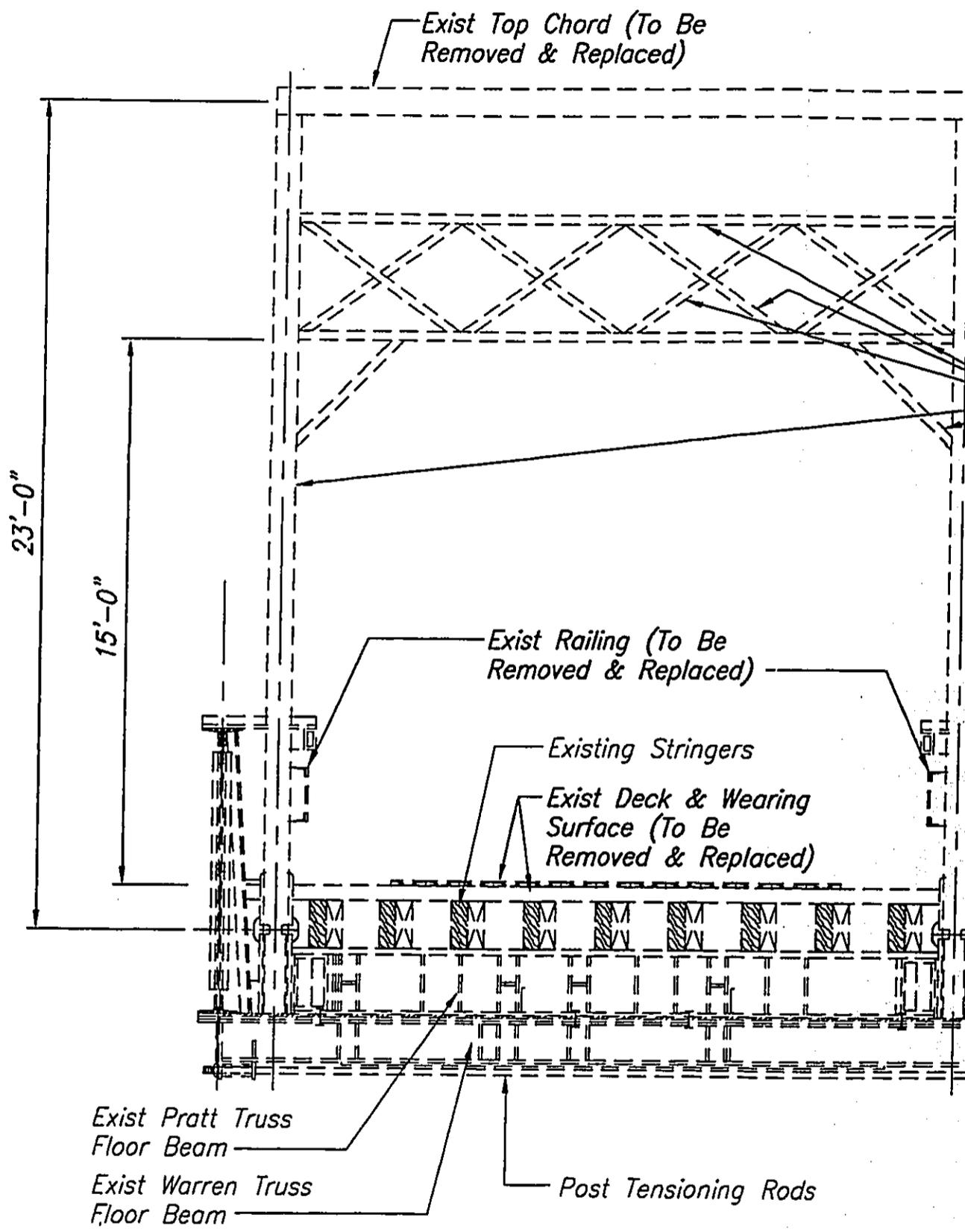




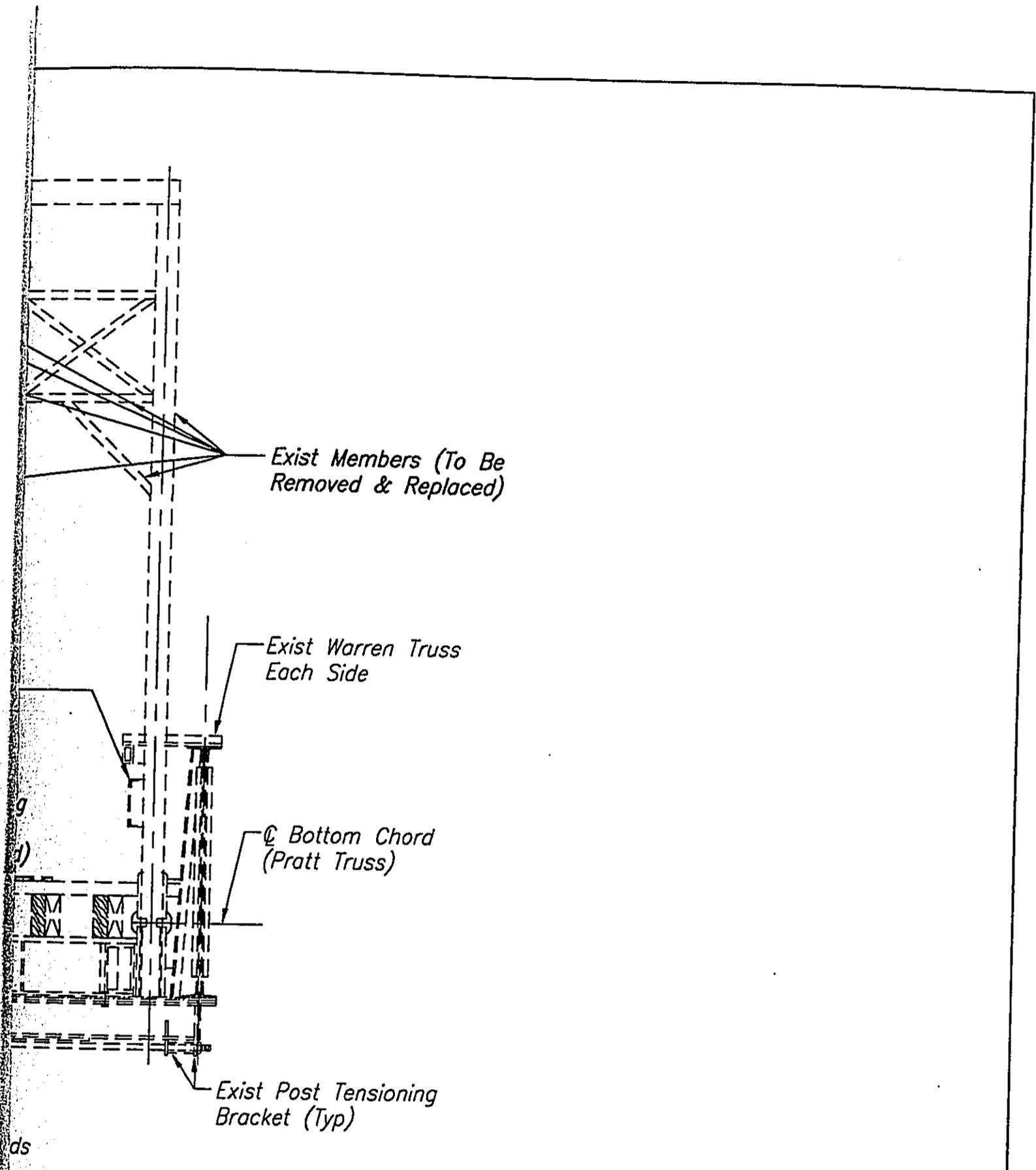
N:\DWG\6196-01\FIGURE\FIG15D



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
EXISTING ELEVATION - LOOKING DOWNSTREAM
 SCALE: 3/32"=1'-0" Fig 1.2

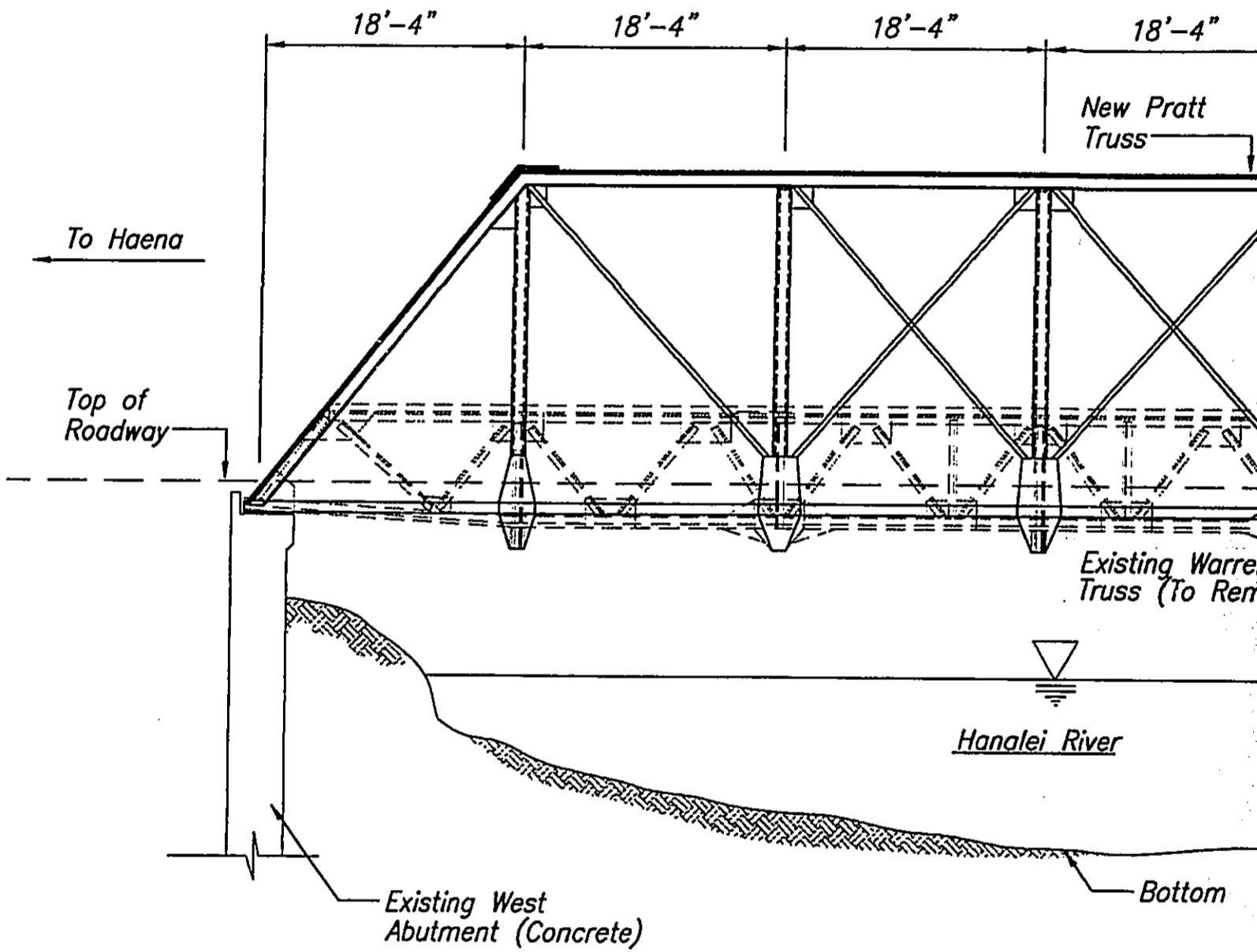


N:\DWG\6195-01\FIGURE\FIG5C

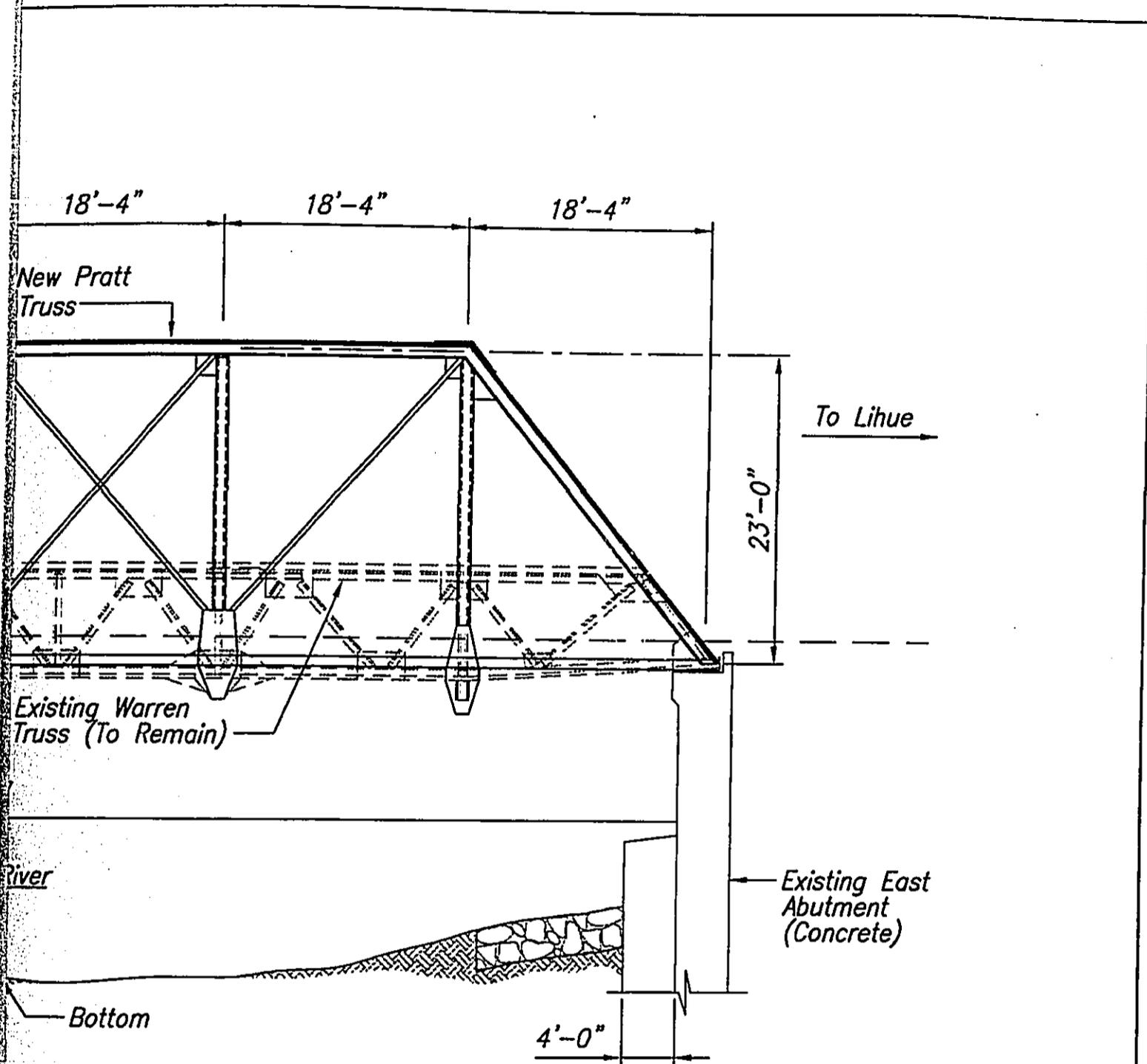


KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
END PORTAL - EXISTING
 SCALE: 1/4"=1'-0"

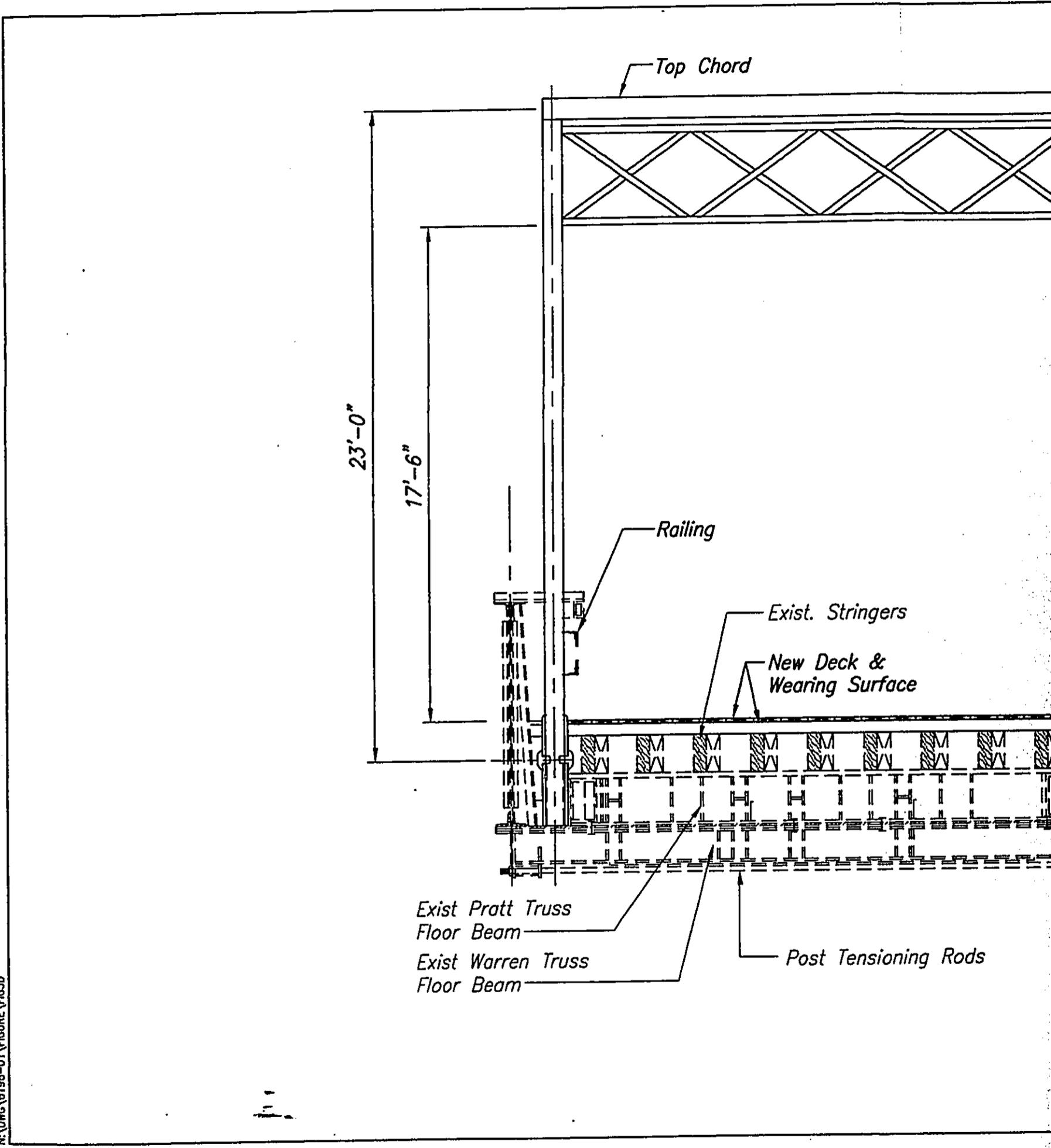
Fig 1.3



N:\DWG\6196-01\FIGURE\FIG15C



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
PROPOSED ELEVATION - LOOKING DOWNSTREAM
 SCALE: 3/32"=1'-0" Fig 1.4



Top Chord

23'-0"

17'-6"

Railing

Exist. Stringers

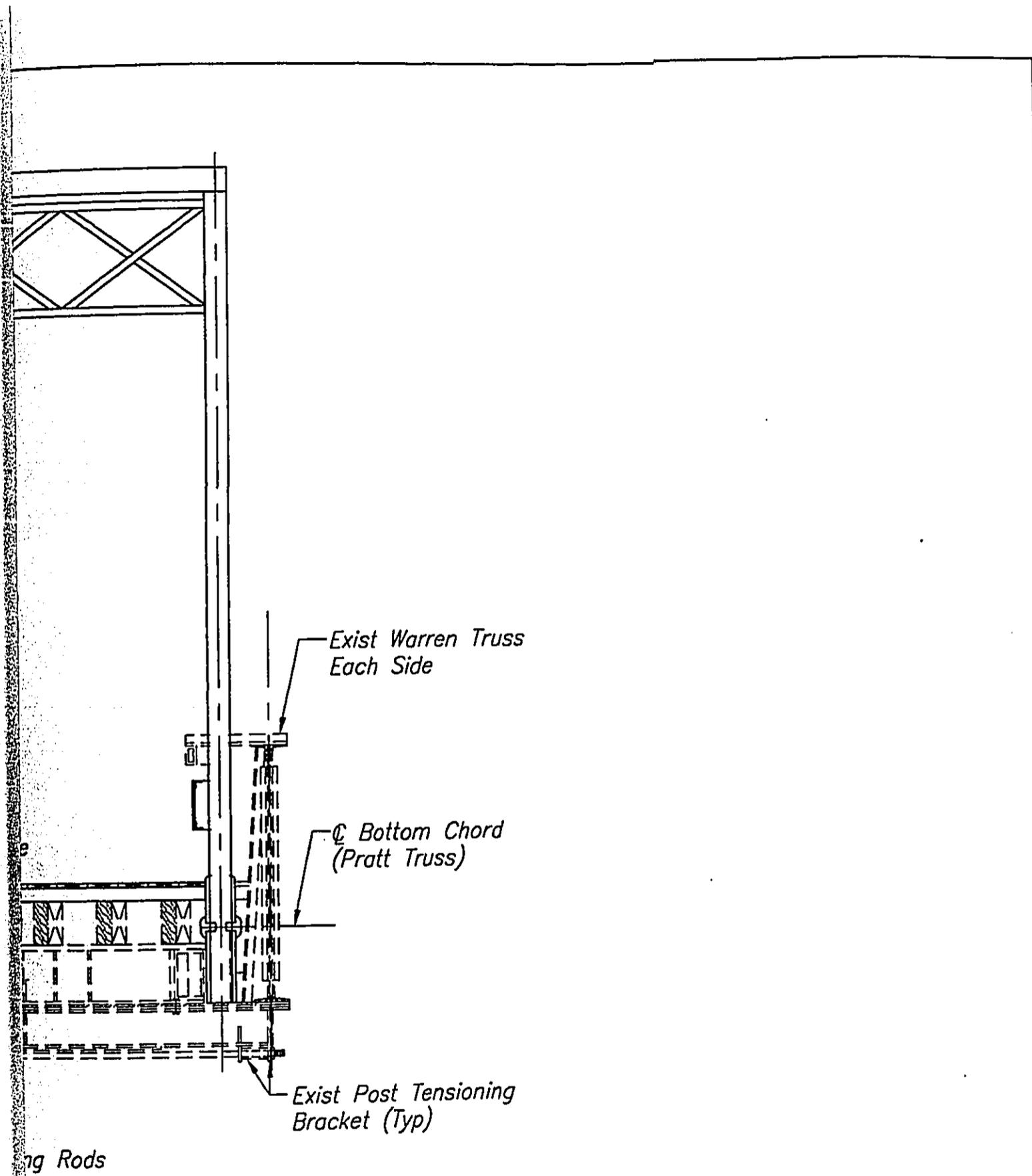
New Deck & Wearing Surface

Exist Pratt Truss Floor Beam

Exist Warren Truss Floor Beam

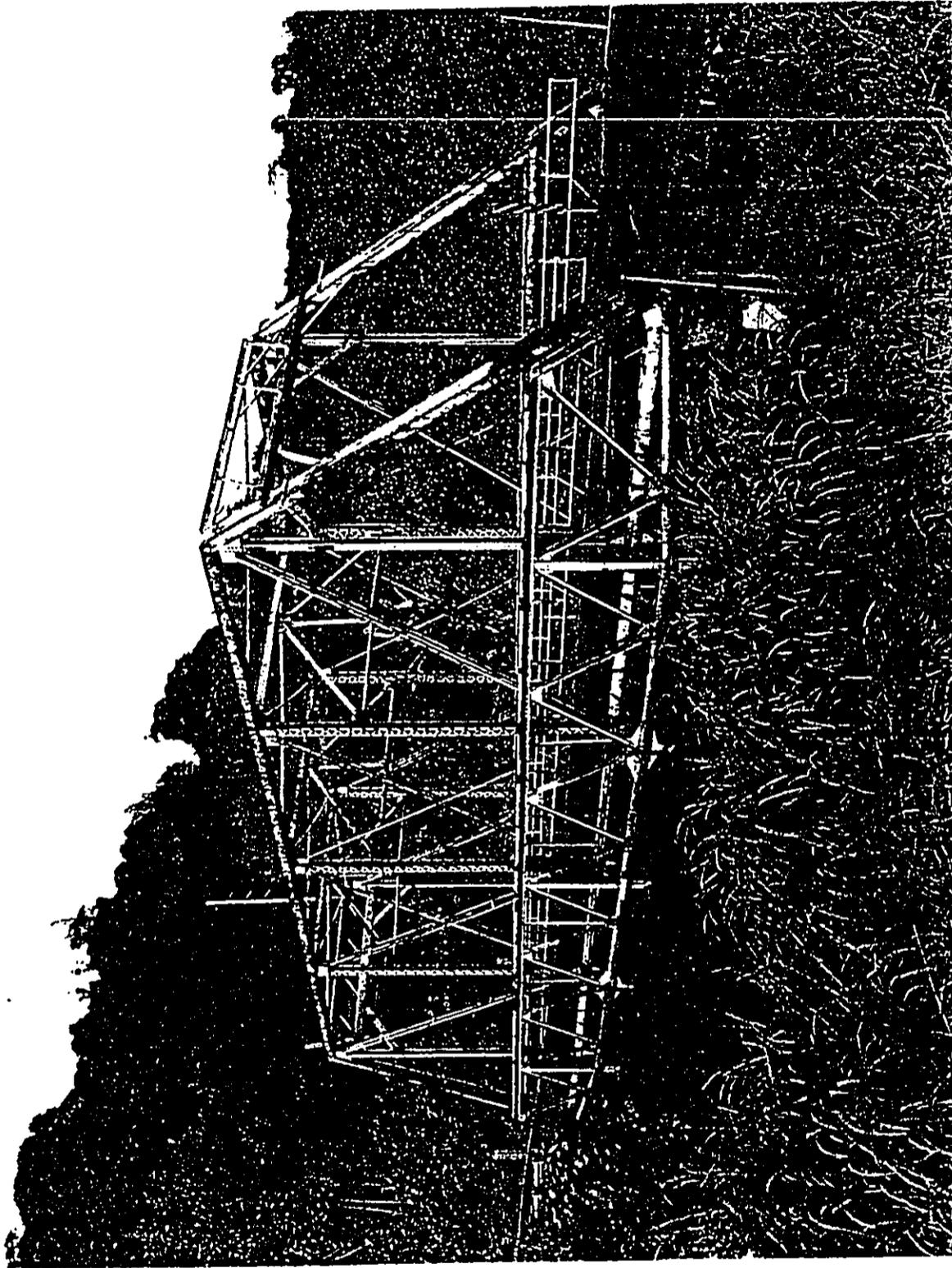
Post Tensioning Rods

N:\DWG\6198-01\FIGURE\FIG5D



KUHIO HIGHWAY, REMOVE/REPAIR/REPLACE METAL MEMBERS, HANAIEI BRIDGE
END PORTAL - PROPOSED
 SCALE: 1/4"=1'-0"

Fig 1.5



Side view of Hanalei Bridge from Hanalei approach

Photo 1.1

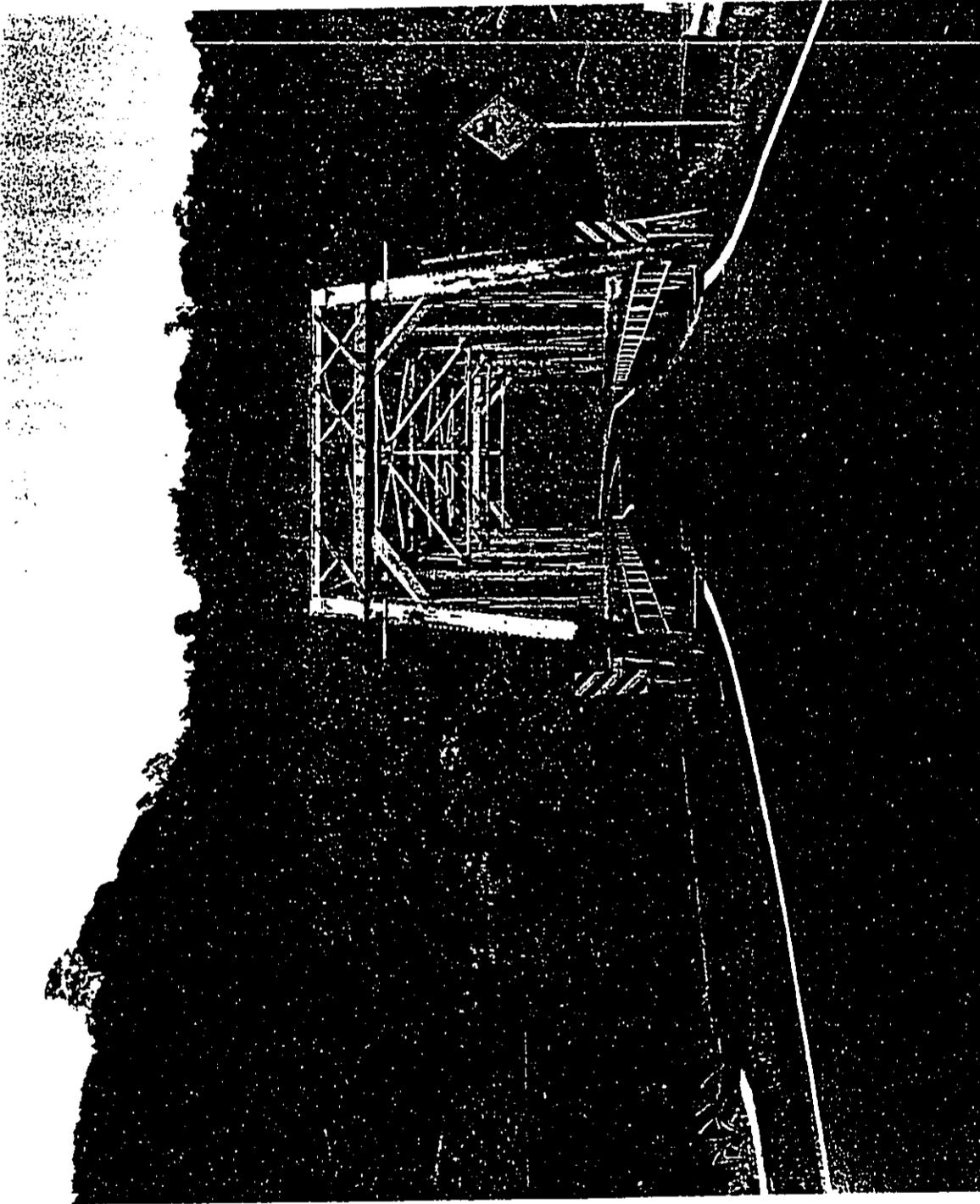
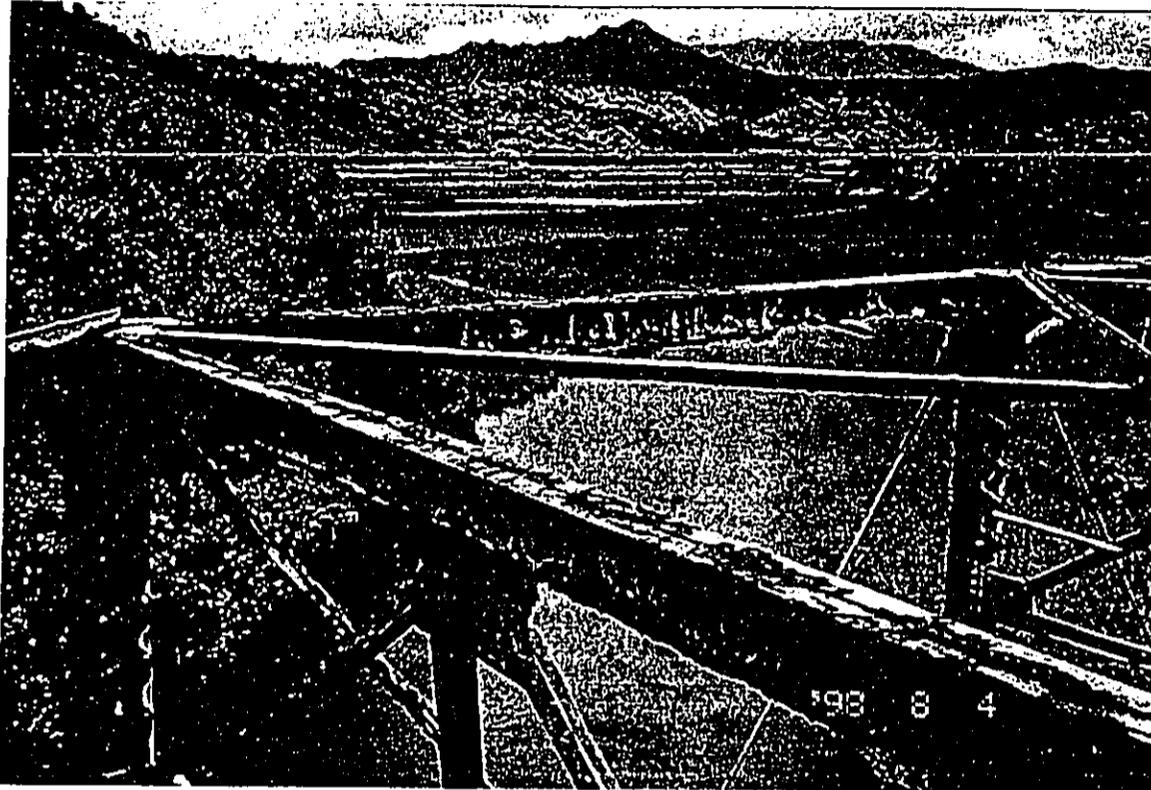


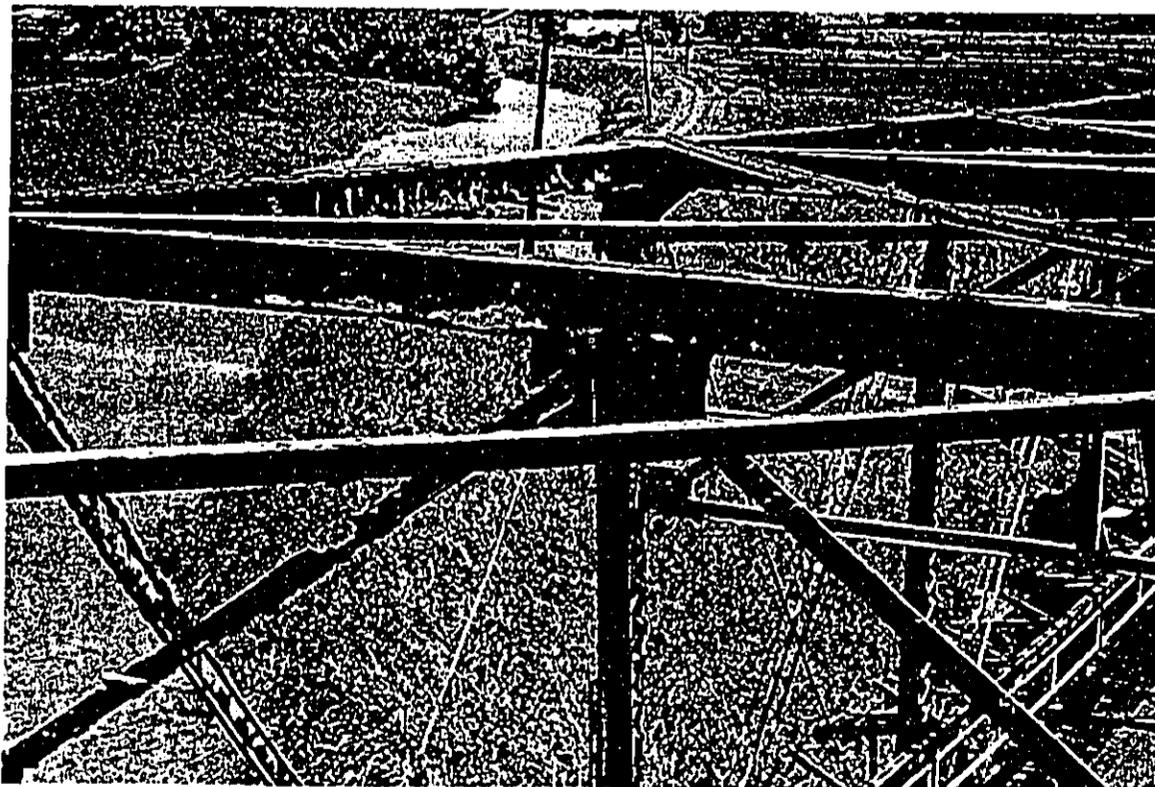
Photo 1.2

Elevation view of Hanalei Bridge from Hanalei approach



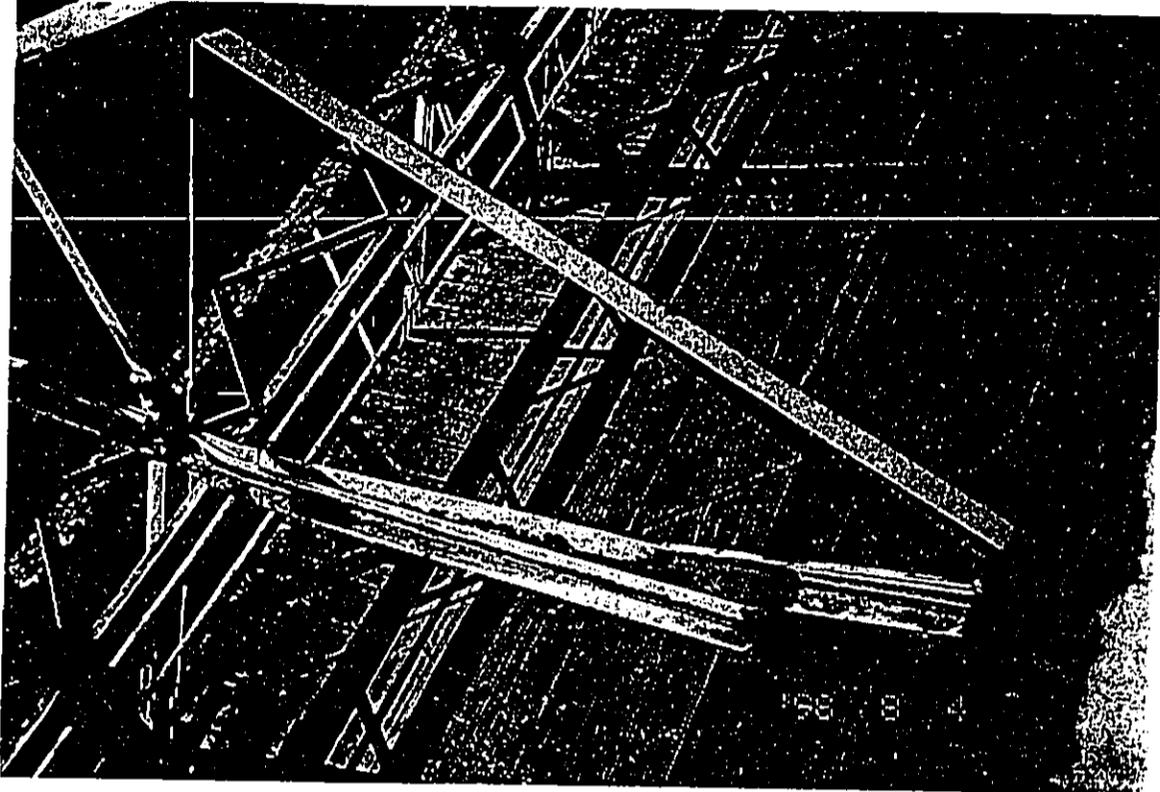
View of top chord showing deterioration

Photo 1.3



View of top chord also showing extensive corrosion

Photo 1.4



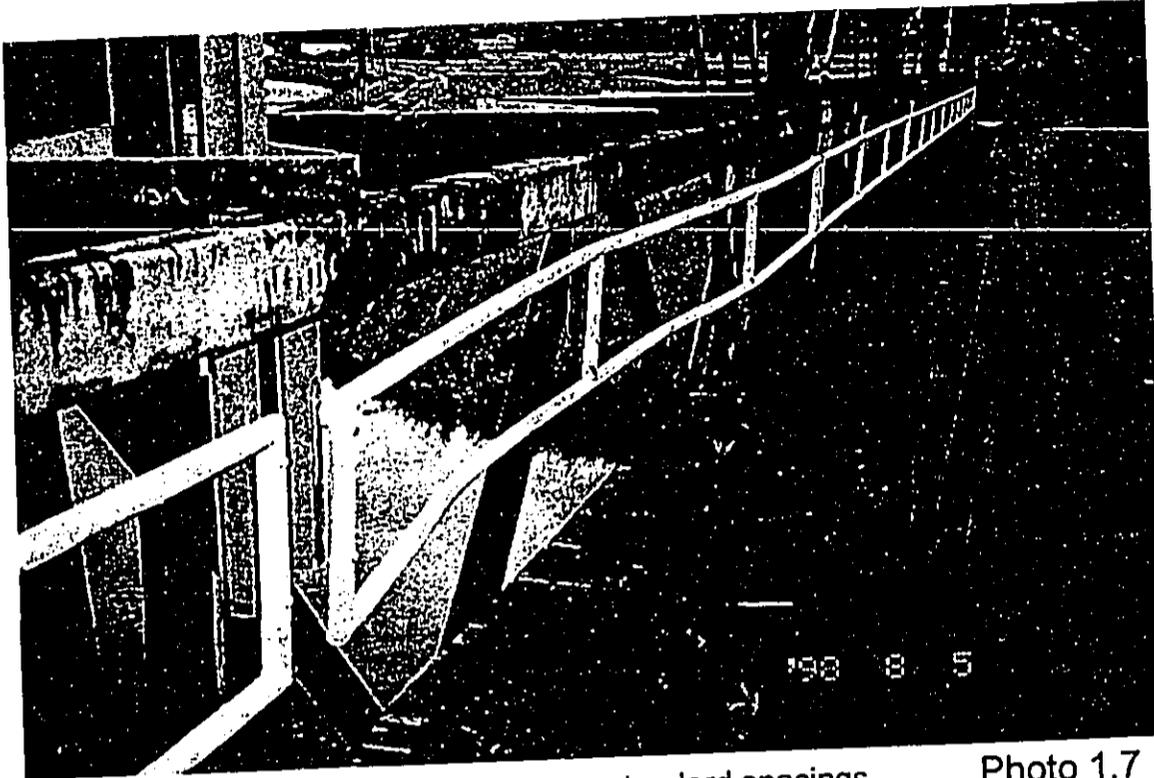
View of damaged sway bracing

Photo 1.5



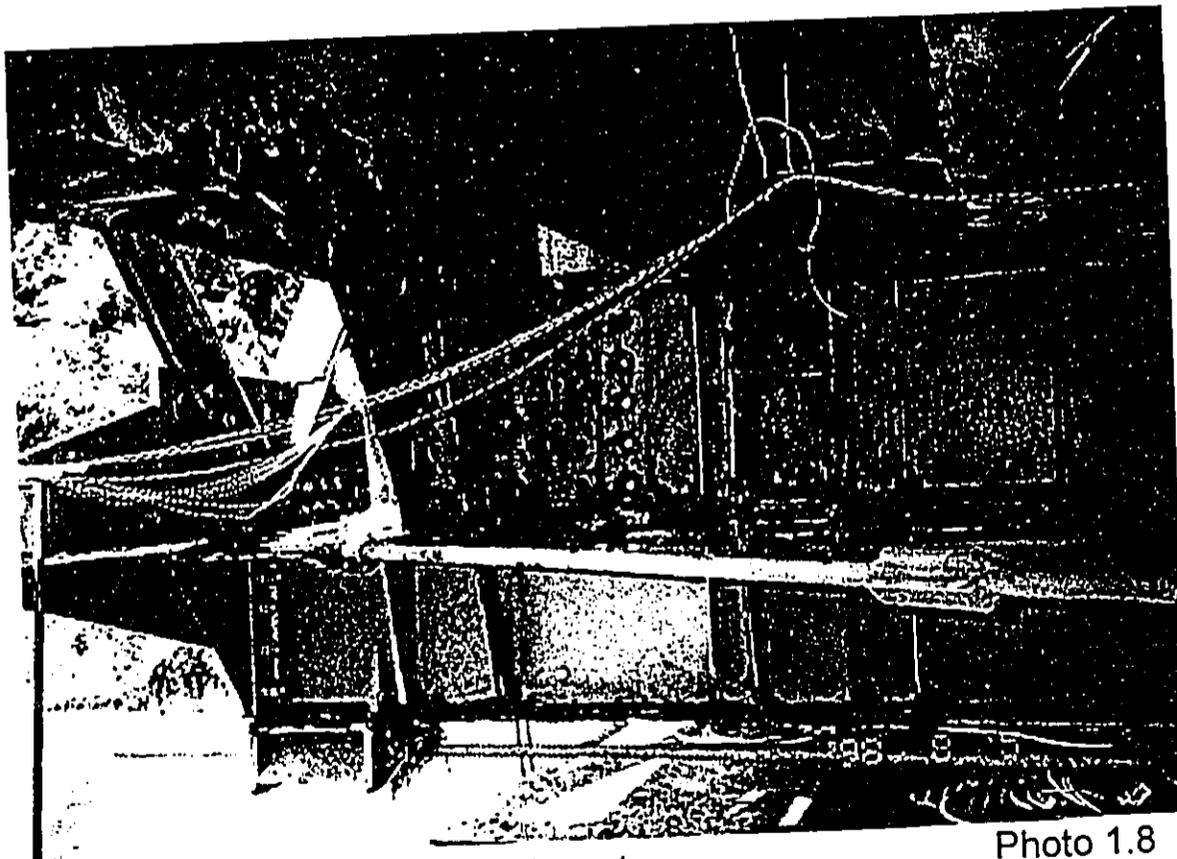
View of top chord

Photo 1.6



View of pedestrian railing showing non-standard spacings

Photo 1.7



View of floor beams and post tension rod

Photo 1.8

2. DESCRIPTION of EXISTING ENVIRONMENT, IMPACTS and MITIGATION MEASURES

2.1 Geology and Topography

2.1.1 Existing Environment

The geology of the area surrounding the Hanalei Bridge is a result of deposition (volcanoes, corals and water) and erosion. The Hanalei Bridge is located in bottom land related to the Hanalei River.

2.1.2 Impacts and Mitigation Measures

Construction of the replacement Pratt trusses would involve work on the deck and superstructure of the Bridge. This construction would not require subsurface excavation. Thus, there would be no adverse impacts to the geology or topography of this area of Kauai.

2.2 Soils

2.2.1 Existing Environment

The soil found on the bottom land flood plain of the Hanalei River is Hanalei silty clay. This is a poorly-drained soil formed in alluvium and limited by a high water table.

The Hanalei Bridge is a structure within the existing State highway right-of-way. As a result, it does not encompass prime and unique farmlands.

2.2.2 Impacts and Mitigation Measures

Construction of the project would not require disturbance to the soils near the Bridge. Thus, there would be no adverse impacts to the soils of this area of Kauai.

Work related to the removal and replacement of the Pratt trusses will be confined to the superstructure of the Bridge. As a result, the removal and replacement will not have an adverse effect to prime and unique farmlands.

2.3 Surface Water, Flood Hazard and Wetlands

2.3.1 Existing Environment

The Hanalei Bridge is located about 2.25 river miles from the mouth of the Hanalei River which drains an area of 20.8 square miles including the Hanalei Valley. The Hanalei River flows to Hanalei Bay which is classified in Hawaii Administrative Rules Title 11, State of Hawaii Department of Health, Chapter 54, Water Quality, Section 11-54-06(a), embayments, as Class AA, water areas to be protected. Upstream from the Hanalei Bridge, the Hanalei River is classified in Section 11-54-05.1(a), inland water areas to be protected, as Class 1.a., inland waters in State and Federal fish and wildlife refuges.

Over the years, the Hanalei Valley and the areas downstream of the Bridge have been subject to flooding from the Hanalei River. At times, this flooding has overtopped portions of Kuhio Highway between the Bridge and Hanalei, requiring temporary closure of this segment of the highway. The Bridge inspection found debris from previous flooding stuck to the post tension rods below the floorbeams. Although it is not possible to determine how long ago the debris was deposited, the presence of debris shows that at some time in the past, flood waters have reached the bottom of the Bridge.

A Flood Insurance Rate Map (FIRM) has been prepared by the Federal Emergency Management Agency (FEMA) (Community Panel 150002 0035 C, March 4, 1987) for the area near the Hanalei Bridge. The FIRM shows that the Hanalei Bridge is located in the floodway area of Zone AE defined as "base flood elevation determined". The FIRM also shows the base flood elevation line at the Bridge is 15 feet mean sea level (msl). See Appendix D.

The Department of the Army, U.S. Army Engineer District, Honolulu (Corps of Engineers) has prepared a Flood Plain Re-Analysis study for the Hanalei River. The study was undertaken to address issues related to recent major encroachments (an earthen roadway berm and four ponds) that have occurred in the Hanalei River flood plain. Based on this analysis, the base flood elevation line at the Hanalei Bridge appears to be about 16.2 feet msl, a 1.2-foot increase. See Appendix E.

At this time, the study has been sent by the Corps of Engineers to the Federal Emergency Management Agency (FEMA) for review and concurrence. Thus, the Re-Analysis is still considered a draft study by the Corps of Engineers. Pending FEMA review and concurrence of the revised base flood elevation, the existing flood hazard areas as shown in Appendix D remains unchanged.

There are three definitions to be considered related to the FIRM: These are: 1) Base flood is defined as the flood that has a 1-percent probability of being equaled or exceeded in any given year; 2) Floodplain is the area affected by the base flood; and 3) Floodway is delineated for that part of the 100-year floodplain that conveys flow. The 100-year floodway is also defined as the channel of a stream, plus any adjacent floodplain areas, that must be kept clear of encroachments so that the entire 100-year discharge can be conveyed with no greater than a 1.0-foot increase in the base flood elevation. For construction of new encroachments, FEMA has stated there is to be no increase in the base flood elevation. The base flood is also called the 100-year flood.

Presidential Executive Order 11988, Floodplain Management, May 24, 1977 was issued to avoid to the extent possible the long and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practical alternative. Under Executive Order 11988, each Federal agency has the responsibility to evaluate the potential effects of any actions it may take in a floodplain. Further, if any agency has determined to, or proposes to, conduct support, or allow an action to be located in a floodplain, the agency shall

consider alternatives to avoid adverse effects and incompatible development in the floodplains.

To date, a wetlands delineation map has not been prepared to identify the wetlands within the Hanalei National Wildlife Refuge (HNWR) which lies upstream of the Hanalei Bridge. However, taro is grown in the fields within the HNWR.

Further discussion of the Hanalei River is in Section 2.10.

2.3.2 Impacts and Mitigation Measures

Removal and replacement of the Pratt trusses will not affect flows of the Hanalei River. Construction activities related to the replacement trusses will occur on the superstructure of the Bridge and will not involve work to the abutments within the waterway of the Hanalei River.

The U.S. Department of Transportation, United States Coast Guard has reviewed the plans for the project. The Coast Guard has indicated the project would come under 33 CFR Part 115.70, wherein the Coast Guard has given advanced approval to the locations and plans of bridges to be constructed across reaches of waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes, and small motorboats. The Hanalei Bridge project meets this criteria for advanced approval, so a Coast Guard permit is not required. Appendix D (page D - 7) contains the Coast Guard letter. See also Appendix E.

The project will involve work on the superstructure and deck of the Bridge. There will be no change to the abutments or to the vertical clearance between the floor beams and the Hanalei River which could adversely affect the floodplain or floodway established by the FIRM. Further, as discussed in Chapter 4.0, there are no other feasible alternatives to replacement of the Pratt trusses which can be considered. Thus, the project would not conflict with Executive Order 11988.

The Hanalei Bridge is located downstream from the taro fields and other agricultural uses in the HNWR. Replacement of the Pratt trusses will not affect flows in the Hanalei River which could adversely affect upstream uses within the HNWR.

2.4 Flora and Fauna

2.4.1 Existing Environment

The vegetation near the Hanalei Bridge is primarily introduced species of shrubs and trees that form dense thickets. Guava, java plum and mango are the dominant members of this introduced vegetation type. Hau bush, a native plant, is also a dominant species. An endangered plant species, *Cyperus trachysantos* (*Puukaa*) has been planted in the HNWR which is upstream from the Hanalei Bridge.

Wildlife of the area near the Hanalei Bridge is predominately non-native. Mammals include rats, feral cats, and some feral pigs. A number of introduced bird species can be found near the Bridge. However, there are no native forest birds at the low elevation of the Bridge.

The HNWR, which lies upstream of the Hanalei Bridge, contains populations of four species of waterbirds that are listed as endangered by the U.S. Department of the Interior, Fish and Wildlife Service (USFWS) under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544) and 50 CFR Part 17.11 Subpart B, October 31, 1998, and the State of Hawaii Department of Land and Natural Resources (DLNR) under Chapter 195D, HRS, as amended and Hawaii Administrative Rules Title 13, Subtitle 5, Part 2, Chapter 124, February 20, 1998. The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian common moorhen, (*Glinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are an important habitat for these species. The superstructure of the Hanalei Bridge

does not provide habitat, nesting, breeding, or feeding grounds for these listed species. See Appendix D, page D - 9.

The Hawaiian hoary bat (*Lasiurus cinereus semotus*), another endangered species, is also reportedly found in the area of the Hanalei Bridge. This species is typically found in forest areas. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding grounds for this listed species.

Previous studies have shown that the Hanalei River is an important habitat for the oopu nakea. Spawning of this species occurs primarily from mid-August to late December. The spawning area extends from approximately 600 feet below the Bridge to about one mile upstream. After hatching, the fry are washed out to sea and after about six months, the oopu fingerlings return to the Hanalei River and migrate upstream. The main return of the young occurs from mid-autumn to early summer.

2.4.2 Impacts and Mitigation Measures

Construction of the replacement Pratt trusses will not require removal of vegetation near the Hanalei Bridge. The project will be confined to the superstructure of the Bridge. Thus, there will be no adverse effects to the vegetation of this area of Kauai.

Construction work related to replacement of the Pratt trusses will occur to the superstructure of the Bridge. The endangered plant species, *Cyperus trachysantos* (*Puukaa*) is found in the HNWR. The project is not likely to create adverse effects to this species.

Work related to the replacement Pratt trusses will occur on the Hanalei Bridge. There may be some short-term disturbance related to noise and other work during the construction period. The removal and replacement work could cause the listed species to avoid the area of the Bridge while work is ongoing. If night work occurs, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once construction is complete, there

should be no adverse effects to the wildlife of near the Bridge, including the four species of waterbirds listed as endangered by the USFWS and the DLNR and that inhabit the HNWR. Overall, the project may affect the listed species. However, the removal and replacement of the Pratt trusses is not likely to adversely effect the listed species. See Appendix D, page D - 9.

As part their participation in the Hanalei Bridge project, the FHWA has consulted USFWS as required by Section 7 of the Endangered Species Act of 1973, (16 USC 1531), as amended. The necessary consultation included a request by the FHWA that the USFWS concur that the Hanalei Bridge project is not likely to adversely affect listed endangered species. The UFWS replied to the FHWA request and concurred that the Hanalei Bridge project is not likely to affect the listed species. See Appendix F.

The project will involve work on the superstructure and deck of the Bridge. There will be no work within the waterway of the Hanalei River. As previously stated, the contractor is to prevent debris and other materials from removal and replacement work from entering the Hanalei River. Thus, there should be no adverse effects to the water quality of the Hanalei River or to the habitat of the oopu nakea. Similarly, there should be no adverse effect to invertebrates which may be in the Hanalei River.

2.5 Air Quality

2.5.1 Existing Environment

Although the Princeville and Hanalei areas have residential and commercial developments, there are no significant sources of air pollution near the Hanalei Bridge. Vehicle traffic traveling on Kuhio Highway would contribute non-point sources of air pollution. However, the relatively low volume of traffic on Kuhio Highway would not be a significant source of air pollution.

2.5.2 Impacts and Mitigation Measures

Removal of the Pratt trusses and other construction-related activities would cause an increase in pollutants related to dust and exhaust from equipment. Once construction has been completed, the level of air pollution should return to current levels and will be primarily related to traffic volumes on Kuhio Highway.

2.6 Traffic

2.6.1 Existing Environment

In the vicinity of Hanalei Bridge, Kuhio Highway is classified as a two-lane rural roadway with a curvilinear alignment running along the northern coastline of the island. Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei. The Hanalei Bridge is one of seven one-lane bridges that cross streams intersecting with Kuhio Highway. Stop/yield signs on both approaches to the Hanalei Bridge control vehicular traffic, which allow individual vehicular movements.

Vehicular traffic using the Hanalei Bridge is primarily characterized as regional trips destined to and from Hanalei Town and other areas west of the bridge. Two-directional traffic volume is relatively low on Kuhio Highway on either side of the Hanalei Bridge. The DOT traffic survey conducted in June 1997 shows a total of approximately 8,223 vehicles per day crossing Hanalei Bridge on a typical weekday, with 4,224 vehicles travelling westbound towards Hanalei Town and 3,999 vehicles travelling eastbound towards Princeville and Lihue.

In addition to two-directional traffic volumes, peak-hour traffic data were collected in June 1997. This data show that the peak hour occurred between 1:30 to 2:30 pm when a total of 753 vehicles were counted on the Lihue approach to the Hanalei Bridge.

2.6.2 Impacts and Mitigation Measures

Removal of the Pratt trusses and other construction-related work would cause minor disruptions to the movement of traffic over the Hanalei Bridge. Construction activities will be planned and phased to allow continuous vehicle access to the Bridge. Adequate sight distances at the Bridge approaches during construction will be provided to allow safe vehicular traffic movements. Once construction activities are complete, traffic conditions should return to normal operations.

As previously discussed, the Hanalei Bridge will remain in service during the removal and replacement activities. The contractor is to perform the work to minimize traffic delays. No slow down of traffic will be allowed between 6:00 am to 8:00 am and from 3:30 pm to 6:30 pm. The contractor will be allowed to close the Bridge to traffic from Sunday to Thursday between the hours of 10:00 pm and 5:00 am the following day. (Public notices regarding closures of the Bridge will be placed in local newspapers and announced on local radio and television stations. In addition, local businesses will be individually notified of impending Bridge closures.)

During night construction work, the contractor is to provide a police officer at both approaches to the Bridge to control traffic. Emergency vehicles will be allowed to cross the Bridge at all times.

2.7 Noise

2.7.1 Existing Environment

The area near the Hanalei Bridge can be described as rural and agricultural, which is characterized by relatively low noise levels. Developed areas, residential and commercial, occur on both sides of the Bridge: at Princeville, about 0.6 road miles to the east; and at Hanalei, about 1.3 road miles to the west. The primary noise source in this area of Kauai would be from vehicle traffic along Kuhio Highway, including those crossing the Hanalei Bridge.

2.7.2 Impacts and Mitigation Measures

Construction work necessary to remove and replace the Pratt trusses would create noise impacts during the construction period. However, once construction is complete, noise levels in the area should not increase as a result of the replacement trusses.

2.8 Archaeological and Historic Resources

2.8.1 Existing Environment

As previously discussed, on August 9, 1978, the Secretary of the Interior determined that the Hanalei Bridge was eligible for inclusion on the National Register of Historic Places. Prior to the determination, the Kauai Historical Society prepared a National Register of Historic Place Nomination Form to document information and data related to the Hanalei Bridge. See Appendix A, page A - 1. The Nomination Form, which was submitted by the FHWA, states, "The Hanalei Bridge is one the first examples of the progressive American highway system at work in Hawaii, on Kauai's North Shore. It is also one of the last remaining examples of the first use of formal engineering expertise and industrial technological experience in American bridge making by the Territorial Government, in the first decade following United States annexation of Hawaii."

The Nomination Form further states, "The construction of improved, modern vehicular roads on Kauai in 1911-1912, especially the up-to-date replacement of older, weak, timber bridges by steel trusses and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications, and helped stimulate the economic and social growth of the then relatively isolated North Shore of the island."

The Hanalei Bridge is also discussed in the State of Hawaii Historic Bridge Inventory and Evaluation dated May 1996. This document notes that the Hanalei Bridge is considered the gateway to the Hanalei Valley and an integral part of the historic transportation system on Kauai and played a major role in the development of Kauai's belt road plan by connecting the northwest and north

sides of the island. It is also the oldest surviving American metal truss bridge in Hawaii and is a rare surviving bridge that was fabricated by Hamilton & Chambers Company. The document also states the Hanalei Bridge shows the County's efforts to provide a permanent design for crossing the Hanalei River and that the single span of 110 feet was remarkable for Kauai at that time.

On May 18, 1999, the Advisory Council on Historic Preservation (Advisory Council) published 36 CFR Part 800 as its final rule to replace previous regulations in order to implement the 1992 amendments to the National Historic Preservation Act of 1966. (See May 18, 1999 Federal Register Vol. 64, No. 95.) The final rule, which became effective on June 17, 1999, identifies the process by which Federal agencies consider the effects of their undertakings on historic properties and provides the Advisory Council with an opportunity to comment with regard to the undertaking as required by Section 106 of the National Historic Preservation Act of 1966, as amended.

Since the Hanalei Bridge has been determined to be eligible for inclusion on the National Register of Historic Places, replacement of the Pratt trusses meets the definition of an "undertaking" as set forth in 36 CFR Part 800.16. Undertaking is defined as "a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency."

According to 36 CFR 800.4, if the Agency Official finds that a historic property is present but the undertaking will have no effect on it, the Agency Official shall provide documentation of the finding to the State Historic Preservation Officer (SHPO). (Agency Official is defined as the Federal official who has the effective decision-making authority for an undertaking. For Hawaii, the SHPO is the State of Hawaii, Department of Land and Natural Resources, State Historic Preservation Division.) The documentation to support the finding of no adverse effect includes:

- 1) A description of the undertaking, specifying the Federal involvement, and its area of potential effects, including photographs, maps and drawings, as necessary;

- 2) A description of steps taken to identify historic properties;
- 3) A description of the affected historic properties, including information on the characteristics that qualify them for the National Register;
- 4) A description of the undertaking's effects on historic properties;
- 5) An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects; and
- 6) Copies or summaries of any views provided by consulting parties and the public.

The State has submitted historic documentation information, including 8-inch by 10-inch archival quality, black and white photographs and previous documentation from the State of Hawaii Historic Bridge Inventory and Evaluation, to the FHWA.

The Hanalei National Wildlife Refuge Historic and Archaeological District, which lies adjacent to the upstream side of the Bridge, has been determined eligible for the National Register of Historic Places. The HNWR Historic and Archaeological District contains a number of archaeological sites including agricultural, habitation, and agricultural and habitation sites. The data from these sites indicate that the Hanalei Valley has been continuously occupied for over 1,300 years. Dispersed carbon recovered from one of the sites provides evidence for the earliest habitation known on Kauai and is within the earliest range of dated habitation throughout the Hawaiian islands. The Historic and Archaeological District holds the potential to address a variety of important questions regarding prehistoric and historic Hawaiian culture.

2.8.2 Impacts and Mitigation Measures

As previously described, public informational meetings were held in Hanalei on August 3, 1998 and on March 11, 1999. Meeting notes and related information about those meetings were provided to the State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division (HPD). In addition, meetings and discussions were conducted with the HPD regarding the removal and replacement of the Pratt trusses. The meetings also presented the results of the August 1998 inspection and load test which documented the need to remove and replace the Pratt trusses. It was also stressed that Kuhio Highway and the Hanalei Bridge are the sole access to Hanalei and other communities west of Hanalei.

In addition, the meetings also discussed the overwhelming support by the Hanalei community, as expressed in the March 1999 public informational meeting, for the removal and replacement of the Pratt trusses and retention of the one-lane configuration of the Hanalei Bridge. Lastly, the meetings presented information that the new Pratt trusses would have a similar appearance to the existing Pratt trusses.

Based on this information, the HPD has concurred that removal and replacement of the Pratt trusses will result in "no historic properties adversely affected". See Appendix D page D - 17. See also Appendix E for Draft EA comments from the HPD.

2.9 Infrastructure

2.9.1 Water Service

Existing Environment

There is no water service to the Bridge. There are no water lines connected to the Bridge.

Impacts and Mitigation Measures

The project will not create adverse impacts to the water service infrastructure to the area near the Bridge.

2.9.2 Electrical Service

Existing Environment

There is no electrical service to the Bridge. There are no electrical lines connected to the Bridge.

Impacts and Mitigation Measures

The project will not create adverse impacts to the electrical service infrastructure to the area near the Bridge.

2.10 Socioeconomic Characteristics

2.10.1 Existing Conditions

As of July 1, 1995, the State of Hawaii Department of Business, Economic Development & Tourism (DBEDT) estimated that the County of Kauai had a population of 55,983 persons, which represents an increase of 9.4 percent over the April 1, 1990 census population of 51,177 persons. The July 1, 1995 estimates for the Hanalei District, which includes Princeville and Kilauea, show a population of 5,404 persons, an increase of 16.7 percent from the April 1, 1990 population of 4,631 persons. The DBEDT data show that the Hanalei District is the fastest growing of the five districts on Kauai.

Despite these population figures, the North Shore of Kauai has long been considered a rural area by its residents, and that the one-lane bridges of the area, including the Hanalei Bridge, typify this rural character and lifestyle. As expressed a number of times over the years, the one-lane Hanalei Bridge is the

gateway or entry to this rural character and the Bridge's setting adjacent to the Hanalei National Wildlife Refuge and its taro fields are important to the residents and visitors to this area of Kauai.

The role of the Hanalei River is also an integral part of this rural character as evidenced by its designation in August 1998 for participation in the American Heritage Rivers program by the President of the United States. The Hanalei River is one of only 14 rivers in the U.S. with this designation. The American Heritage Rivers program is a Federal program to fight pollution, protect watersheds, and improve recreational opportunities on rivers in the U.S.

The Hanalei River is not designated as a Wild and Scenic River.

2.10.2 Impacts and Mitigation Measures

The project will retain the Bridge's present one-lane configuration and appearance. Retention of the one-lane configuration and appearance would be consistent with the community's desire to preserve the rural lifestyle of Hanalei and the North Shore. The replacement Pratt trusses and one-lane configuration would continue the Hanalei Bridge's role as the gateway or entry to the North Shore and its rural character.

The underwater inspection showed no extensive deterioration of the underwater portions of the abutments. As a result, there will be no work to the abutments which could affect the Hanalei River, including recreational activities in the River. Thus, project will not create adverse effects to the Hanalei River which has been designated as an American Heritage River.

The Hanalei Bridge is a structure. Replacement of the Pratt trusses does not involve activities beyond the structure and would not require relocation of persons or property affected by the Uniform Relocation Assistance and Real Property Acquisitions Policies Act of 1970.

The Hanalei River is not designated as a Wild and Scenic River. Thus, there will be no adverse impact to a Wild and Scenic River.

Recreational kayaking and small boats traverse the Hanalei River. The debris platform will prevent debris and other material from affecting the boaters.

3. RELATIONSHIP to PLANS, POLICIES and CONTROLS

3.1 Hawaii State Plan

The Hawaii State Planning Act (Chapter 226, Hawaii Revised Statutes) sets forth the Hawaii State Plan, adopted in 1978 and revised in 1988. The Hawaii State Plan serves as a guide for the future long-range development of the State and identifies goals, objectives, and priorities. The Hanalei Bridge project supports and is consistent with the following State Plan objectives and policies:

Section 226-12 Objective and policies for the physical environment - scenic, natural beauty, and historic resources

(b) (4) Protect those special areas, structures, and elements that are an integral and functional part of Hawaii's ethnic and cultural heritage.

The Hanalei Bridge project will involve replacement of the existing Pratt trusses with Pratt trusses of similar appearance and retention of the one-lane configuration of the Bridge. The appearance and one-lane function of the Hanalei Bridge have long been identified by the community as the "gateway" to Hanalei.

Section 226-14 Objective and policies for facility systems - in general.

(a) (1) Accommodate the needs of Hawaii's people through coordination of facility systems and capital improvement priorities in consonance with state and county plans.

The Hanalei Bridge and the other one-lane bridges on Kuhio Highway have long been considered as typifying the rural setting, character and lifestyle of the North Shore. The County of Kauai North Shore Development Plan (DP) Ordinance adopted in 1985 was based on the 1980 North Shore Development Plan Update Report. The DP Ordinance states, "It is desirable that the one-lane Hanalei

Bridge be restored and maintained." However, the 1985 Update recommended replacement of the Hanalei Bridge and a number of the other bridges.

Section 226-17 Objectives and policies for the facility systems - transportation.

(b) (10) Encourage the design and development of transportation systems sensitive to the needs of affected communities and the quality of Hawaii's natural environment.

During the March 11, 1999 public informational meeting, there was overwhelming support for replacement of the existing Pratt trusses with trusses similar in design appearance as the existing trusses and to maintain the one-lane configuration of the Bridge.

3.2 Land Use Plans and Policies

3.2.1 State Land Use District

The Hawaii Land Use Law of Chapter 205, Hawaii Revised Statutes, classifies all land in the State into four land use districts: Urban, Agriculture, Conservation, and Rural. The Hanalei Bridge is located in the Conservation District classification. The project is consistent with the Conservation District classification, as no change in use will occur.

3.2.2 County of Kauai General Plan

The General Plan for the County of Kauai was adopted in 1971 and was updated by Ordinance 461 which was adopted on June 21, 1984. The County is currently in the process of preparing another update which will serve as a guide to the future of Kauai.

The adopted General Plan includes a number of goals which were based on the findings and input from the Citizens Advisory Committee. The relevant General Plan goals related to the project are:

To maintain the concept of Kauai as the "The Garden Isle"; thus, insisting any growth be in consonance with the unique landscape and environmental character of the island.

To recognize those aspects of the island and its people which are historically and culturally significant, and to maintain and enhance such aspects as a continuing expression of the island's physical and social structure.

The replacement Pratt trusses will be consistent with these goals as the new trusses will be of similar appearance and the Bridge will retain its one-lane configuration. These aspects of the Bridge will preserve the unique rural character of the North Shore.

As part of this process of updating its General Plan, the Kauai 2020 Vision Statement has been prepared and circulated for comment. The Vision Statement has a number of issues for Kauai and notes that "rural roads retain their country character and one-lane bridges have been preserved, both for their historic value and because they slow traffic".

Retaining the one-lane configuration of the Bridge would also be consistent with the 2020 Vision Statement expressed in the County's General Plan Update currently under preparation.

3.2.3 North Shore Development Plan

The current Development Plan Ordinance for the County of Kauai was adopted in 1985 as an update of the original 1972 Development Plan. The 1985 update was based on the 1980 North Shore Development Plan Update Report. Goal B of the Update Report is "to preserve the special rural charm of the North Shore Planning Area." One of the objectives of Goal B is "to provide for the development of man-made features that do not visually overwhelm the existing small structures and the prevailing plant materials and soft groundcover."

The replacement Pratt trusses will have a similar design and appearance as the existing Hanalei Bridge and the one-lane configuration of the Bridge will be maintained. The replacement Pratt trusses will be consistent with Goal B of the North Shore Development Plan Update.

3.2.4 County of Kauai Zoning

The County of Kauai Code Chapter 8, Comprehensive Zoning Ordinance, sets forth regulations to standards for land development and construction of buildings and other structures in the County of Kauai. Utilizing the findings and analysis of the General Plan, the Comprehensive Zoning Ordinance establishes land use districts and delineates the respective types of permitted uses and the development that can take place in those districts. The Hanalei Bridge does not have a zoning designation.

3.2.5 County of Kauai Special Management Area

The Coastal Zone Management Act contains the general objectives and policies upon which all counties within the State have structured specific legislation which created Special Management Areas (SMA). Any development within the Special Management Area boundary requires a SMA Use Permit which is administered by the County of Kauai Planning Commission.

The County of Kauai Planning Department has determined that the Hanalei Bridge is not located within the Special Management Area and will not require a Use Permit. Thus, it will not affect the coastal zone of Kauai. Appendix D page D -16 shows the County of Kauai Planning Department determination.

4. ALTERNATIVES to the PROPOSED ACTION

4.1 Alternative A: No Action

Under the Alternative A No Action, no improvements would be made to the Bridge and the present condition of the Pratt trusses would be allowed to deteriorate further. Corrosion of the members would continue, eventually resulting in a reduction in the load capacity of the Bridge. The various members could experience failures and falling debris could pose a hazard to vehicles traveling on the Bridge. Ultimately, with the No Action alternative, there could be failures to a number of members which would adversely affect the ability of the Bridge to carry its assigned load.

Since the Hanalei Bridge provides the only access to Hanalei and other North Shore communities; its continued use must be maintained for residents of these areas. Thus, the No Action alternative is not a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2 Other Alternatives

4.2.1 Alternative B(1): Repair Pratt and Warren Trusses

Alternative B(1) would involve repair of both the Pratt and Warren trusses and would also entail associated repairs to include: replacing the timber deck; replacing the travel surface; adding posts to the pedestrian railings; and painting both trusses. The badly deteriorated top chord members have experienced extensive loss of cross sectional area which would cause major problems for any attempts to repair the Bridge. Cleaning and surface preparation of the members by hand grinding, light blasting by water, or other means would likely result in further damage. The additional damage and reduction in size of the members from cleaning operations could result in insufficient member cross-sectional area and subsequent local failures.

In addition, the existing Pratt trusses would require a labor intensive effort to strengthen members to correct the current overstressing condition. Despite this effort, the Bridge's long-term ability to provide access to Hanalei and to other North Shore communities would remain uncertain. Further, since some members of the Pratt trusses would remain, maintenance operations would need to be more frequent and probably more extensive than if more modern steels were used. There is also uncertainty as to the durability of the necessary repairs.

Since there is uncertainty as to the results of repairs to the Pratt trusses, and since the Hanalei Bridge must provide access to Hanalei and to other North Shore communities, use of Alternative B(1) is not considered a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2.2 Alternative B(2): Remove Pratt Trusses and Repair Warren Trusses

Alternative B(2) is a variation of Alternative B(1). Similar to Alternative B(1), the Pratt trusses would be separated from the Warren trusses. With the separation of the two truss systems, the Pratt trusses would no longer carry any live load and, thus, would no longer be needed. As a result, Alternative B(2) would permanently remove the Pratt trusses and leave the Warren trusses and floor beam system to serve as the bridge across the Hanalei River. Additional repairs would be made to the Warren trusses and to the guardrails, railings, and deck. The one-lane configuration of the Bridge would remain.

Although the least costly among the alternatives, removal of the Pratt trusses would result in a greatly altered appearance to the Bridge as the top chords and vertical members, distinctive visual elements, would no longer be present. Thus, the community members attending the March 11, 1999 public informational meeting did not favor Alternative B(2). As a result, Alternative B(2) is not considered a reasonable and feasible alternative to replacement of the Pratt trusses.

4.2.3 Alternative D: Construct two-lane Concrete Replacement Bridge

Alternative D would construct a two-lane 40-foot wide concrete bridge adjacent to the existing Hanalei Bridge. The new concrete bridge would be designed to conform to current standards for this type of bridge and would be constructed with prestressed concrete girders with cast in-place deck slab. The bridge rails would be similar to jersey barriers used on most modern highways and would be about 3 feet high from the travel surface.

Alternative D would require realignment of both approaches, acquisition of additional right-of-way, and new abutments on each bank of the Hanalei River. There would be several advantages to Alternative D including use of concrete which is more resistant to corrosion than steel, thereby reducing future inspection, maintenance and repair costs.

The construction and right-of-way acquisition costs of Alternative D would be significantly higher than the other alternatives. Removal of the existing Bridge would create an adverse effect to the historic structure. Most likely, an Environmental Impact Statement would be required for Alternative D.

Notwithstanding these considerations, a two-lane concrete bridge would not preserve the Hanalei Bridge as the one-lane gateway to the North Shore communities. The two-lane concrete bridge is also not consistent with the 2020 Vision Statement in the Kauai General Plan Update which includes retaining the one-lane configuration of the Hanalei Bridge. Lastly, the community members attending the March 11, 1999 public informational meeting did not favor Alternative D. As a result, Alternative D is not considered a reasonable and feasible alternative to replacement of the Pratt trusses

5. DETERMINATION

Short-term construction impacts include disruption of traffic near the project site, decline in air quality from construction activities, and increase in noise levels. Once construction has been completed, the short-term adverse impacts will no longer occur.

Based on analysis of the anticipated impacts, a Finding of No Significant Impact (FONSI) has been determined for the proposed Hanalei Bridge project. The significance criteria to make this determination are set forth below and in Hawaii Administrative Rules Title 11, State of Hawaii, Department of Health, Chapter 200, Environmental Impact Statement Rules.

- 1) *Involve an irrevocable commitment to loss or destruction of any natural or cultural resources;*

The State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division has concurred that the removal and replacement of the Pratt trusses will result in "no historic properties adversely affected". Thus, there will be no loss or destruction of cultural resources.

- 2) *Curtail the range of beneficial uses of the environment;*

Kuhio Highway and the Hanalei Bridge are the sole access to Hanalei and other North Shore communities. Replacement of Pratt trusses will permit continued access to these communities. The proposed replacement will involve only work on the superstructure of the Bridge. Thus, the Hanalei Bridge project will not curtail the beneficial uses of the environment.

- 3) *Conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS, and any revisions thereof and amendments thereto, court decisions, or executive orders;*

The Hanalei Bridge project will not involve actions or activities which would adversely affect natural resources of the project site. Replacement of the Pratt trusses will be consistent with the guidelines of Chapter 344, HRS, as it will provide a public facility to which is needed to reach Hanalei and other North Shore communities. As such, the Hanalei Bridge project will not conflict with the State's long-term environmental policies or goals as expressed in Chapter 344, HRS.

- 4) *Substantially affect the economic or social welfare of the community or state;*

Kuhio Highway and the Hanalei Bridge are the sole access used by residents and visitors to Kauai to reach Hanalei and other North Shore communities west of Hanalei. The Hanalei Bridge is needed to maintain the social welfare of these communities.

- 5) *Substantially affect public health;*

The Bridge is part of the highway transportation system which is needed to protect the public health of the residents and visitors on Kauai. Previous welding repairs made to the bottom chord and diagonal members have left the Pratt trusses more susceptible to fatigue failures. As a result of the extensive deterioration and corrosion and the extensive welding repairs to fracture critical members, the Pratt trusses no longer transmits loads according to design criteria and no longer has a reliable and defined load carrying system. Thus, replacement of the Pratt trusses will not have an adverse effect on public health.

- 6) *Involve substantial secondary impacts, such as population changes or effects on public facilities;*

The replacement Pratt trusses will retain the existing one-lane configuration and 15-ton load capacity of the Hanalei Bridge. Thus, the Hanalei Bridge Project will not create secondary impacts, such as population changes or effects on public facilities.

7) *Involve a substantial degradation of environmental quality;*

The Hanalei Bridge Project is anticipated to result in short-term impacts to noise, air quality and traffic in the immediate vicinity of the Bridge. The Bridge site does not provide habitat for any Federal or State listed or candidate threatened or endangered species of flora or fauna. The State of Hawaii, Department of Land and Natural Resources, Historic Preservation Division has concurred that the Hanalei Bridge Project will result in "no historic properties adversely affected". As a result, the proposed project will not result in a substantial degradation of environmental quality.

8) *Have a cumulative effect upon the environment or involves a commitment for larger actions;*

The Hanalei Bridge Project does not involve a commitment to further actions to other DOT related projects. As a result, the proposed project will not have a cumulative effect upon the environment.

9) *Affect a rare, threatened or endangered species;*

The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding grounds for the Federal or State listed or candidate threatened or endangered species of flora or fauna. Thus, replacement of the Pratt trusses will not affect any threatened or endangered species.

10) *Detrimentially affect air or water quality or ambient noise levels;*

Construction of the proposed project would increase noise and exhaust emission levels in the immediate vicinity of the project site during the construction work. Once complete, ambient noise level and air quality should return to existing levels.

- 11) *Affects or likely to suffer damage by being located in an environmentally sensitive area such as a floodplain, tsunami zone, beach, erosion-prone area, geographically hazardous land, estuary, fresh water or coastal water,*

The March 4, 1987 Flood Insurance Rate Map, Community-Panel Number 150002 0035 C, shows that the Hanalei Bridge is located in the floodway area of Zone AE defined as "base flood elevation determined". The FIRM also shows the base flood elevation line at the Bridge is 15 feet. Replacement of the Pratt trusses will involve work on the superstructure of the Bridge. There will be no change to the abutments or to the vertical clearance between the floor beams and the Hanalei River which could adversely affect the floodplain or floodway established by the FIRM. Thus, although located in the floodway, the Hanalei Bridge Project would not create an adverse effect to an environmentally sensitive area.

- 12) *Substantially affect scenic vistas and viewplanes identified in county or state plans or studies;*

The Hanalei Bridge is located in the broad plain of the Hanalei Valley. Retention of the existing "look" of the Hanalei Bridge including the Pratt trusses and one-lane configuration are important considerations to the North Shore community. The replacement Pratt trusses will be of similar design as the existing trusses to retain the "look" of the Hanalei Bridge.

- 13) *Require substantial energy consumption.*

The Hanalei Bridge project is to replace the existing Pratt trusses which can no longer carry their assigned load, and to perform associated maintenance repairs to the Bridge. Thus, the Hanalei Bridge project will not create a substantial increase in energy consumption over existing levels of usage.

Based on these findings and assessment of potential impacts, a Finding of No Significant Impact (FONSI) is determined.

6. CONSULTED PARTIES

6.1 Pre-Assessment Consultation

The following agencies were consulted during the pre-assessment phase of the Draft Environmental Assessment. Each agency was sent a copy of a project summary and a request for their written comments on the project. All written comments and responses are reproduced in Appendix D.

U.S. Army, Corps of Engineers, Pacific Ocean Division
U.S. Department of the Interior, Fish and Wildlife Service
State of Hawaii, Department of Health, Clean Water Branch
State of Hawaii, Department of Land and Natural Resources
County of Kauai, Planning Department

A Documented Categorical Exclusion was submitted to the U.S. Department of Transportation, Federal Highway Administration (FHWA) in August 1999. It was approved by the FHWA on September 13, 1999.

6.2 Agencies and Organizations to be Consulted on the Draft EA

The following is a list of agencies and organizations consulted as part of the Draft Environmental Assessment. A total of 13 comments were received on the Draft EA, as shown by (✓). Of those comments, there was one substantive comment, as shown by (✓✓). Copies of the comments and responses received during the review period are included in Appendix E.

Federal

- U.S. Department of Agriculture, Natural Resource Conservation Service
- ✓ U.S. Army, Corps of Engineers, Pacific Ocean Division
- ✓ U.S. Department of the Interior, Fish and Wildlife Service
- U.S. Department of the Interior, Fish and Wildlife Service, Hanalei National Wildlife Refuge

Federal (continued)

- ✓ U.S. Department of the Interior, Geological Survey
- U.S. Department of Transportation, Federal Highway Administration
- ✓ U.S. Department of Transportation, United States Coast Guard

State of Hawaii Agencies

- ✓ Department of Accounting and General Services
- Department of Agriculture
- Department of Business, Economic Development and Tourism
- DBED&T - State Energy Office
- Department of Hawaiian Home Lands
- ✓ Department of Health
- Department of Health, Clean Water Branch
- Department of Health, Environmental Management Division
- Department of Land and Natural Resources
- ✓ Department of Land and Natural Resources, State Historic Preservation Division
- ✓ Department of Land and Natural Resources, Water Resource Management
- ✓ Office of Environmental Quality Control
- ✓ Office of Hawaiian Affairs
- University of Hawaii Water Resources Research Center
- University of Hawaii Environmental Center
- Princeville Public Library

County of Kauai Agencies

- Fire Department
- Planning Department
- Department of Parks and Recreation
- ✓✓ Department of Public Works
- Police Department

- ✓ Department of Water Supply

Kauai Organizations

- Kauai Museum
- ✓ Hanalei Roads Committee
- Hanalei Business Association
- Hanalei Heritage River Office

7. REFERENCES

36 Code of Federal Regulations Part 800. Advisory Council on Historic Preservation. Federal Register Vol. 64, No. 95. May 18, 1999.

County of Kauai. *General Plan Update*. 1982.

County of Kauai. *North Shore Development Plan Update*. December 1980.

Federal Emergency Management Agency Federal Insurance Administration. *Appeals, Revisions, and Amendments to National Flood Insurance Program Maps. A Guide for Community Officials*. December 1993.

Juvik, Sonia P. and Juvik, James O. *Atlas of Hawaii, Third Edition*. Prepared for University of Hawaii at Hilo, Department of Geography. 1998.

Neal, Julia. *U.S. Department of Interior National Park Service, National Register of Historic Places Inventory – Nomination Form, Hanalei Bridge – Kuhio Highway (Bridge Number 40)*. November 10, 1976.

Office of the Governor, Office of State Planning. *State Land Use District Boundary Review, Kauai Executive Summary*. March 1992.

Spencer Mason Architects. *State of Hawai'i Historic Bridge Inventory and Evaluation*. May 1996.

State of Hawaii, Department of Transportation, Highways Division, Planning Branch. *Traffic Survey Data (Individual Stations); Island of Kauai..* 1997.

U.S. Department of Transportation Federal Highway Administration and State of Hawaii Department of Transportation. *Kauai Belt Road Kalihiwai to Haena, FAP 56, Kauai, Hawaii, Final Environmental Impact Statement, FHWA-HI-EIS-76-03-F*. June 1980.

Weisler, Marshall. *U.S. Department of Interior National Park Service, National Register of Historic Places Inventory – Nomination Form, Hanalei National Wildlife Refuge Historic and Archaeological District.* 10 August 1983.

Wilson Okamoto & Associates, Inc. and Abba Lichtenstein, P.E., Dr.Eng. *Bridge Inspection, Load Testing, and Alternatives Analysis, Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge,* February 1999.



APPENDIX A

Inventory Nomination Form

Form No. 10-300 (Rev. 10-1-75)

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

NATIONAL REGISTER OF HISTORIC PLACES INVENTORY -- NOMINATION FORM

Post-It® Fax Note 7671

(6196-01)

Date	8/3	# of pages	6
To	John Sakaguchi	From	Tampa
Co./Dept.	U	Co.	DLNR
Phone #		Phone #	887-0000 M60
Fax #	946-2253	Fax #	FILE

SEE INSTRUCTIONS IN HOW TO COMPLETE NATIONAL REGISTER FORMS
TYPE ALL ENTRIES -- COMPLETE APPLICABLE SECTIONS

1 NAME

HISTORIC Hanalei Bridge -- Kuhio Highway (Bridge Number: 40).

AND/OR COMMON

2 LOCATION

STREET & NUMBER

CITY, TOWN

Hanalei

STATE

Hawaii

VICINITY OF

CODE

96714

NOT FOR PUBLICATION

CONGRESSIONAL DISTRICT

COUNTY

Kauai

CODE

3 CLASSIFICATION

CATEGORY	OWNERSHIP	STATUS	PRESENT USE
<input type="checkbox"/> DISTRICT	<input checked="" type="checkbox"/> PUBLIC	<input checked="" type="checkbox"/> OCCUPIED	<input type="checkbox"/> AGRICULTURE
<input type="checkbox"/> BUILDING(S)	<input type="checkbox"/> PRIVATE	<input type="checkbox"/> UNOCCUPIED	<input type="checkbox"/> MUSEUM
<input checked="" type="checkbox"/> STRUCTURE	<input type="checkbox"/> BOTH	<input type="checkbox"/> WORK IN PROGRESS	<input type="checkbox"/> PARK
<input type="checkbox"/> SITE	<input type="checkbox"/> PUBLIC ACQUISITION	<input type="checkbox"/> ACCESSIBLE	<input type="checkbox"/> EDUCATIONAL
<input type="checkbox"/> OBJECT	<input type="checkbox"/> IN PROCESS	<input type="checkbox"/> YES: RESTRICTED	<input type="checkbox"/> ENTERTAINMENT
	<input type="checkbox"/> BEING CONSIDERED	<input checked="" type="checkbox"/> YES: UNRESTRICTED	<input type="checkbox"/> GOVERNMENT
		<input type="checkbox"/> NO	<input type="checkbox"/> INDUSTRIAL
			<input checked="" type="checkbox"/> TRANSPORTATION
			<input type="checkbox"/> MILITARY
			<input type="checkbox"/> OTHER:

4 OWNER OF PROPERTY

NAME

State of Hawaii, Department of Transportation

STREET & NUMBER

869 Punchbowl Street

CITY, TOWN

Honolulu

VICINITY OF

STATE

Hawaii

5 LOCATION OF LEGAL DESCRIPTION

COURTHOUSE,
REGISTRY OF DEEDS, ETC.

STREET & NUMBER

CITY, TOWN

STATE

6 REPRESENTATION IN EXISTING SURVEYS

TITLE

Bridge Data Sheet

Environmental Impact Statement
released February 23, 1977

DATE

October 20, 1950

FEDERAL STATE COUNTY LOCAL

DEPOSITORY FOR
SURVEY RECORDS

Department of Transportation

CITY, TOWN

Lihue

STATE

Hawaii

7 DESCRIPTION

CONDITION
 EXCELLENT
 GOOD
 FAIR
 DETERIORATED
 RUINS
 UNEXPOSED

CHECK ONE
 UNALTERED
 ALTERED

CHECK ONE
 ORIGINAL SITE
 MOVED DATE _____

DESCRIBE THE PRESENT AND ORIGINAL (IF KNOWN) PHYSICAL APPEARANCE

The Hanalei Bridge is a 106-foot, single span, steel through-truss (Pratt Truss) bridge built on reinforced concrete abutments, with a 17-foot roadway deck made of timber planks. The bridge was constructed by the Territory of Hawaii in 1912, built by Hamilton & Chambers of New York. The bridge has been continuously used and maintained since 1912, with repairs in 1934 that strengthened the superstructure.

8 SIGNIFICANCE

PERIOD		AREAS OF SIGNIFICANCE -- CHECK AND JUSTIFY BELOW				
<input type="checkbox"/> PREHISTORIC	<input type="checkbox"/> ARCHEOLOGY-PREHISTORIC	<input type="checkbox"/> COMMUNITY PLANNING	<input type="checkbox"/> LANDSCAPE ARCHITECTURE	<input type="checkbox"/> RELIGION		
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> ARCHEOLOGY-HISTORIC	<input type="checkbox"/> CONSERVATION	<input type="checkbox"/> LAW	<input type="checkbox"/> SCIENCE		
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> AGRICULTURE	<input type="checkbox"/> ECONOMICS	<input type="checkbox"/> LITERATURE	<input type="checkbox"/> SCULPTURE		
<input type="checkbox"/> 1600-1699	<input type="checkbox"/> ARCHITECTURE	<input type="checkbox"/> EDUCATION	<input type="checkbox"/> MILITARY	<input type="checkbox"/> SOCIAL/HUMANITARIAN		
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> ART	<input checked="" type="checkbox"/> ENGINEERING	<input type="checkbox"/> MUSIC	<input type="checkbox"/> THEATER		
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> COMMERCE	<input type="checkbox"/> EXPLORATION/SETTLEMENT	<input type="checkbox"/> PHILOSOPHY	<input checked="" type="checkbox"/> TRANSPORTATION		
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> COMMUNICATIONS	<input type="checkbox"/> INDUSTRY	<input type="checkbox"/> POLITICS/GOVERNMENT	<input type="checkbox"/> OTHER (SPECIFY)		
		<input type="checkbox"/> INVENTION				

SPECIFIC DATES 1912

BUILDER/ARCHITECT Hamilton & Chambers, New York

STATEMENT OF SIGNIFICANCE

The 1912 Hanalei Bridge is one of the first examples of the progressive American highway system at work in Hawaii, on Kauai's North Shore. It is also one of the last remaining examples of the first use of formal engineering expertise and industrial-technological experience in American bridge making by the new Territorial Government, in the first decade following United States annexation of Hawaii.

The construction of improved, modern vehicular roads on Kauai in 1911 - 1912, especially the up-to-date replacement of older, weak, timber bridges by steel truss and reinforced concrete spans, remedied unsatisfactory road and transportation conditions, improved communications, and helped stimulate the economic and social growth of the then relatively isolated North Shore of the island.

9 MAJOR BIBLIOGRAPHICAL REFERENCES

The Garden Island Newspaper Kauai Historical Society Files
 File of the County Clerk, County Building, Kauai
 Department of Transportation Descriptions of Bridges
 State Building, Lihue, Kauai, Hi.

10 GEOGRAPHICAL DATA

ACREAGE OF NOMINATED PROPERTY _____
 UTM REFERENCES

A	0,4	45,068,2	2,415,616,2,4	B			
	ZONE	EASTING	NORTHING		ZONE	EASTING	NORTHING
C				D			

VERBAL BOUNDARY DESCRIPTION

LIST ALL STATES AND COUNTIES FOR PROPERTIES OVERLAPPING STATE OR COUNTY BOUNDARIES

STATE	CODE	COUNTY	CODE
STATE	CODE	COUNTY	CODE

11 FORM PREPARED BY

NAME/TITLE

Julia Neal, Director, Historic Buildings Kauai, Project Nov. 10, 1976

ORGANIZATION

DATE

Kauai Historical Society

STREET & NUMBER

TELEPHONE

P. O. Box 1778

245-6931

CITY OR TOWN

STATE

Lihue,

Hawaii 96766

12 STATE HISTORIC PRESERVATION OFFICER CERTIFICATION

THE EVALUATED SIGNIFICANCE OF THIS PROPERTY WITHIN THE STATE IS:

NATIONAL _____

STATE _____

LOCAL _____

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the National Park Service.

STATE HISTORIC PRESERVATION OFFICER SIGNATURE

TITLE

DATE

FOR NPS USE ONLY

I HEREBY CERTIFY THAT THIS PROPERTY IS INCLUDED IN THE NATIONAL REGISTER

DATE _____

DIRECTOR, OFFICE OF ARCHEOLOGY AND HISTORIC PRESERVATION

ATTEST _____ DATE _____

KEEPER OF THE NATIONAL REGISTER

Advisory
Council On
Historic
Preservation

May 14
1979

1522 K Street NW.
Washington D.C.
20005

MAY 10 1979

Honorable Cec Heftel
House of Representatives
Washington, D.C. 20515

Dear Mr. Heftel:

This is in response to your letter of April 20 to Louis Wall of the Council's Western Office concerning correspondence you received from Hays A. McLellan with regard to the Hanalei River Bridge. The Hanalei, Waioli, and Waipa Bridges were determined eligible for the National Register of Historic Places by the Secretary of the Interior on August 9, 1978. By letter of February 16, 1979, the Federal Highway Administration (FHWA), pursuant to Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. Sec. 470f, as amended, 90 Stat. 1320), requested Council comment on its proposed assistance with the Hawaii Division of Land Transportation proposal to replace the bridges and improve the Kauai Belt Road between Kalihwai and Haena.

In accordance with the Council's regulations, "Protection of Historic and Cultural Properties" (36 CFR Part 800), an onsite inspection was made and public information meeting held on March 22, 1979. Mr. McLellan spoke at the public information meeting and his comments are included in the official record of that meeting which was made by FHWA and submitted to the Council by letter of April 16, 1979. After carefully reviewing the transcript of the public information meeting and the other material submitted by FHWA, we have requested FHWA to provide the Council additional information on three issues. A copy of our response is enclosed for your information.

Your interest in this matter and assistance in the preservation of Kauai's historic bridges is appreciated. If we can be of further assistance, please call Louis S. Wall at 303-234-4946.

Since Mr. McLellen also addressed his letter to Senators Matsunaga and Inouye, we are providing them with a copy of this letter.

Sincerely,

Robert R. Garvey, Jr.
Executive Director

Enclosure

Robert R. Garvey, Jr.

cc:

Senator Matsunaga, Attn: Syd Rosen

Senator Inouye

✓ SHPO-HI

FLO-DOT (Davenport)

DOT (crecco)

FHWA-Hawley, Region 9

FHWA-Segawa, Hawaii Division



APPENDIX B

**Public Informational Meeting
(August 3, 1998)**

Campaign organized to preserve Hanalei's scenic roads, bridges

BY CHRIS COOK
Business Editor

HANALEI — A committee that succeeded in saving the Hanalei ridge in the 1980s is now looking to preserving the scenic bridges and highway from Hanalei to Ke'e coast.

"We're going to look at making the whole road a scenic road in coordination with the Hanalei Community Association," said

Carol Wilcox of the Hanalei Roads Committee.

The 1997 session of the Legislature set aside \$5.5 million in Capital Improvement Project funds for replacement of the historic Waipa and Waikoko bridges located just past Hanalei. The plan has met with opposition in the community.

Preserving the Waipa Bridge and plans for enhancing the state's park at Ha'ena are two issues bringing attention to preservation of the

scenic coastal highway and its bridges.

The committee is made up of members of the former North Shore Belt Road Citizens Advisory Committee, which was formed in the 1970s to save the landmark Hanalei Bridge.

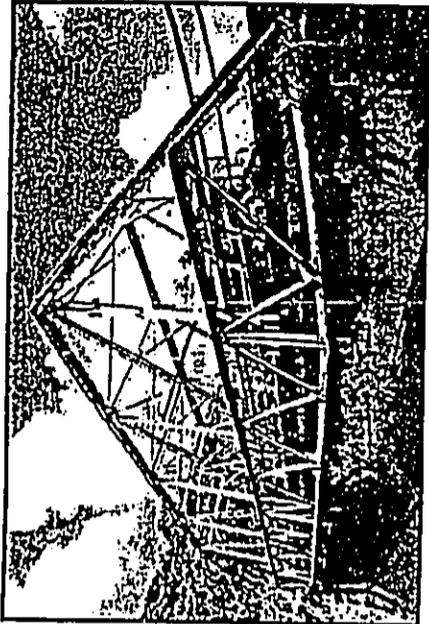
Wilcox said the committee has asked to be placed on the agenda of the July Hanalei Community Association meeting.

A federal program funded in the

early 1990s that supports the preservation of scenic highways may be a source of funds for preserving the North Shore bridges and roads.

Wilcox said the state Department of Transportation has received \$200,000 in federal funds from the National Scenic Byways Program to plan and design a scenic highway program within Hawaii.

(See Roads on Page 2)



HANALEI BRIDGE, built in 1912, serves as the gateway to the scenic highway that leads to the end of the road at Ke'e Beach. There is an effort afoot to find funds to preserve the coastal stretch of highway and its many one-lane bridges.

Roads

(Continued from Page 1)

There were no federal funds allocated for the program in federal fiscal year 1997, said DOT spokesperson Marilyn Kali, adding that future funding is uncertain.

"If the program is to proceed, it must be tied into economic development," Kali said. "They want scenic enhancements on routes that have bed and breakfasts and other tourist accommodations, and are also able to handle traffic."

"We've had the most interest (in scenic byways funds) from the community and staff on Kauai," she said.

"It's a logical place to start the program if and when we get the plan completed. We're only half

way through planning." The money is part of Hawaii's \$100 million annual share of federal Intermodal Surface Transportation Efficiency Act (ISTEA) funds. The funds go to each state to improve interstate highways, for surface transportation programs, to construct bikeways and other highway-related areas.

Examples of current ISTEA-funded projects in Hawaii include improvements along the Ala Wai Canal adjacent to the new Hawaii Convention Center and a park along Kalamanaole Highway on O'ahu's south shore.

So far more than 40 states have created scenic highway programs. About 35,000 miles of highway on the Mainland have been designated as scenic highways. Two ex-

amples of designated scenic byways are the Great River Road that runs through 10 states in the Mississippi River Valley, and the Old West Trail that passes through the Dakotas, Montana, Nebraska and Wyoming.

The National Scenic Byways Program designates and protects roads that provide an enjoyable travel experience. Initial funding for the program expires this year, but federal funding for the program has been renewed, extending the program past this year, said Barbara Robeson of Ha'ena, who served on the belt road committee with Wilcox.

The program is described in the Surface Transportation Policy Project Bulletin, which is published by a watchdog group that monitors

highway programs in the United States. The organization's newsletter states that Congress authorized \$80 million in funding for the program and created a Scenic Byways Advisory Committee. The committee is setting up standards that must be met for highways to qualify for the program.

The ISTEA-funded program is designating stretches of highways as "All American Roads." The program is limited to roads that meet high standards for quality and those that need protection of historic resources and scenic views. The spectacular vistas and historic significance of the stretch of highway from Hanalei Bridge to Ke'e Beach may make it eligible to become an All American Road.

The North Shore Belt Road Citizens Advisory Committee was formed in mid-1970s to save the landmark Hanalei Bridge. The group succeeded and in the mid-1980s the Hanalei Bridge was repainted and rusted out metal supports were rewelded and replaced. The state Department of Transportation had proposed erecting a modern concrete two-lane bridge to replace the aging, double-truss bridge.

The Hanalei Bridge is actually two bridges. The top truss bridge, the one that gives the bridge its distinctive look of overhead steel beams and supports, was erected in 1912 by a New York bridge building company. The second, lower truss, which was erected in 1967, wraps around the bottom of the older bridge and holds up the entire structure. Its

sides are only about four feet high. Today the top truss is noticeably rusting away and bears very little of the weight of cars and trucks crossing the bridge.

Altogether the two trusses are rated at a carrying capacity of 15 tons.

In September 1991 Conde Nast Traveler identified the Hanalei Bridge as one of the most dangerous in the United States, probably relying more on looks than engineering facts.

The Hanalei Community Association has lobbied state and local officials to put an end to trucks carrying oversized loads across the bridge. The practice became common during the recovery of the North Shore from Hurricane Iniki in 1992 and 1993, and still occurs.



BENJAMIN CAYBTANO
Governor

RECEIVED
HWY DIVISION
KALIA

JUL 15 7 58 AM '98

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Fred



KAZU HAYASHIDA
Director

NEWS RELEASE

Contact: Marilyn Kali
email: mkali@hula.net

Department of Transportation

Phone: (808) 587-2160, Fax: (808) 587-2313
www.hawaii.gov/dot

July 14, 1998

98-109

The state Department of Transportation will hold a public information meeting on the Hanalei Bridge Inspection and Repair Project on Monday, August 3.

All interested parties are urged to attend the 7 p.m. meeting at the Hanalei School Cafetorium.

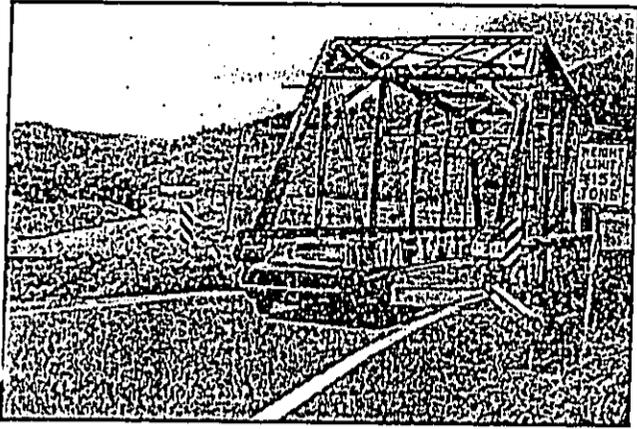
Beginning Monday, July 27 until Wednesday, August 12, the Hanalei Bridge will be periodically closed to traffic to allow inspection and load testing daily from 8 a.m. until 3 p.m. and nightly from 11:30 p.m. until 5 a.m.

Motorists are urged to use caution when driving through the work area and to allow for extra travel time.

###

Post-It Fax Note	7871	Date	6/26/98
To	MYRON OKUBO	From	Fred Reyes
Co/Dept.	Wilson Okamoto	Co.	Hawaii DOT-Kali
Phone #	946-2277	Phone #	274-3111
Fax #	946-2253	Fax #	274-3116

B-2



Rust threatens the landmark Hanalei bridge

Preservation options studied

By Jan TenBruggencate
Advertiser Kauai Bureau

LIHUE, Kauai — The oldest trusses on the historic Hanalei bridge are rusting badly, and state highways officials will begin load-testing tomorrow to determine their options for preserving the bridge.

The old bridge in the lush valley of taro farms is a Kauai landmark. It is the only bridge crossing the Hanalei River and the sole route connecting the North Shore communities, including Hanalei and Haena, to the rest of Kauai.

"I think for people who live here and for visitors, it's where you slow down when you come to Hanalei. It's a symbol of why people love the North Shore," said Barbara Robeson, a Wainiha resident.

The overhead steel framework on the 1912 bridge is its original structural support, called a Pratt Truss. It was strengthened during the 1960s with the addition of a lower-profile Warren Truss.

During the 1980s, highways officials determined that the aged Pratt Truss was no longer able to carry much weight, and it was disconnected from the rest of the bridge, leaving the Warren Truss to support the load.

"The Pratt Truss was separated and remains there only for aesthetic purposes," said Kauai District state highways engineer Steve Kyono. "It is basically carrying only its own dead load."

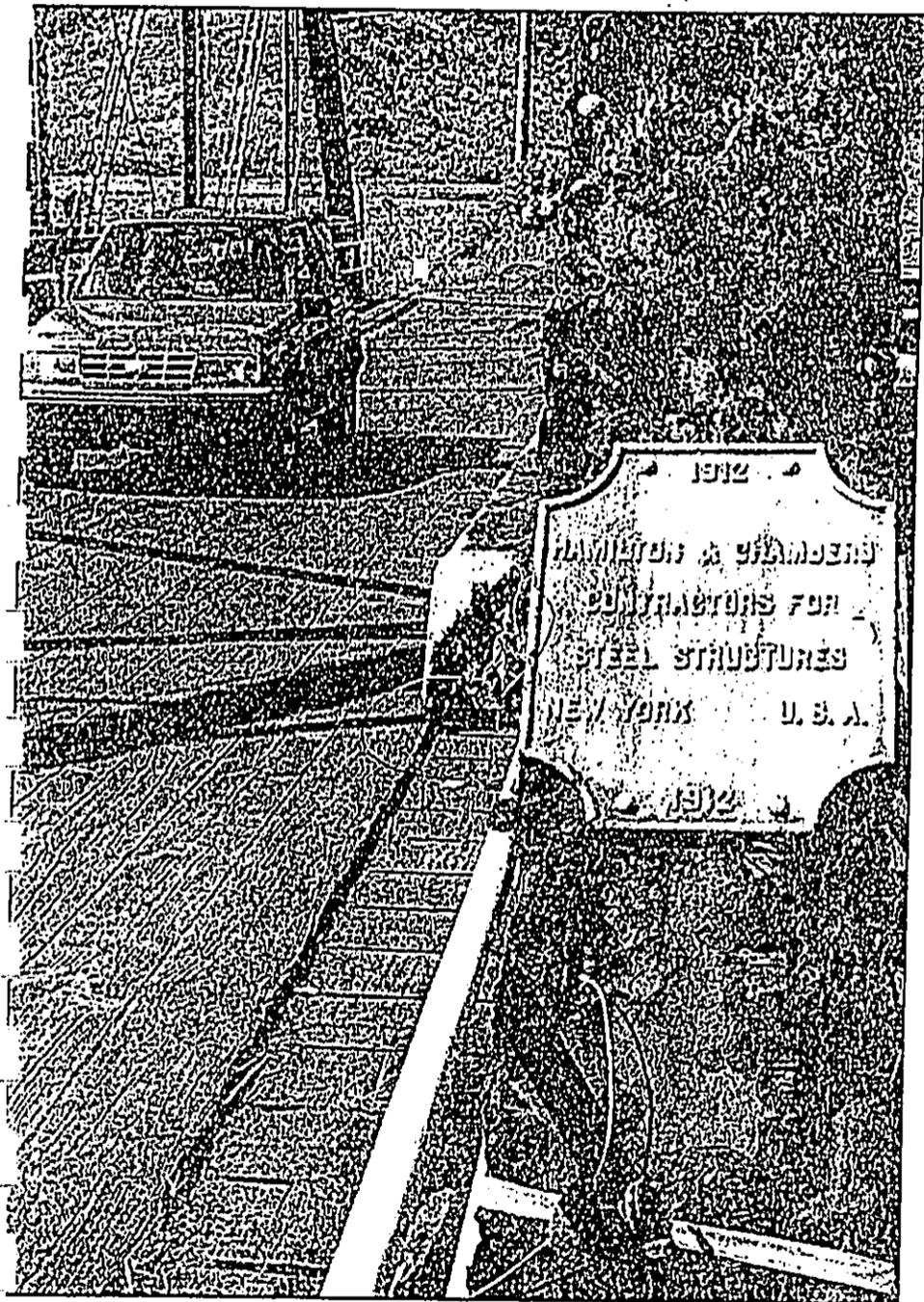
The overhead steel beams are so rusted, there are reports of chunks of rust occasionally falling on cars.

Highways engineers will test the bridge weekdays through Aug. 12 to determine whether it can safely carry its rated load of 15 tons, and to determine the cost of maintaining it.

About 2,000 people live beyond the bridge, but there is also a lot of visitor traffic. A state highways traffic count in June 1997 found 8,500 cars crossed Hanalei Bridge in a 24-hour period.

Preserving the bridge is a serious issue for many Hanalei residents. Robeson said a Hanalei Community Association survey last year found 92 percent of 300 respondents want the bridge preserved.

The Department of Transportation has scheduled an informational meeting on its inspection and testing program at 7 p.m. Aug. 3 at Hanalei School cafeteria.



Photographs by Jan TenBruggencate / The Honolulu Advertiser

Top: Connecting Hanalei with the rest of Kauai, the bridge is a landmark symbolizing the area's rustic charm. Above: The Hanalei Bridge, built in 1912, is rusting badly. The original Pratt Truss remains as a historic footnote, with the bridge supported by a truss installed in the 1960s.

ly will be added to the complex.

Rust threatens historic bridge

LIHUE — State highways officials will begin tests Monday to determine their options for preserving the historic Hanalei Bridge on Kauai.

Highway engineers will test the bridge weekdays through Aug. 12 to determine if it can safely carry its rated load of 15 tons, and to determine the cost of maintaining it.

The bridge's overhead steel beams are rusting badly, and there have been reports that chunks of rust occasionally fall on cars.

It is the only bridge crossing the Hanalei River, and the sole connection of the communities of Hanalei and Haena to the rest of Kauai. About 2,000 people live beyond the bridge.

A state highways traffic count in June 1997 found 8,500 cars crossed the Hanalei Bridge in a 24-hour period.

The Department of Transportation will hold an informational meeting on its inspection and testing program on Aug. 3 at Hanalei School cafeteria.

GARDEN ISLAND JULY 29, 1998

**NOTICE
PUBLIC INFORMATIONAL MEETING &
UPCOMING BRIDGE WORK**

Notice is hereby given that the Department of Transportation, State of Hawaii, has scheduled a public informational meeting on August 3, 1998, Monday, at 7 p.m., for the project to perform load testing and inspections of the Hanalei Bridge.

The meeting will be held at:

Hanalei Elementary School Cafetorium
5-5415 Kuhio Highway
Hanalei, Kauai, Hawaii

The purpose of the informational meeting is to:

- 1) Inform the public about the project which begins July 27, 1998. Periodic closures of the bridge for up to thirty (30) minutes may be expected for work nightly from 11:30 p.m. until 5 a.m.;
- 2) discuss projected short-term repairs to the Hanalei Bridge, including a summary of the previous repairs and;
- 3) Field questions and solicit comments regarding this project.

An additional public informational meeting will be scheduled in the near future to present findings of the inspections and load testing, discuss the short-term repair schedule, and to study a range of alternatives for a long-term crossing of the Hanalei River. Preservation and restoration of the existing Bridge will be the baseline alternative for the long-term study.

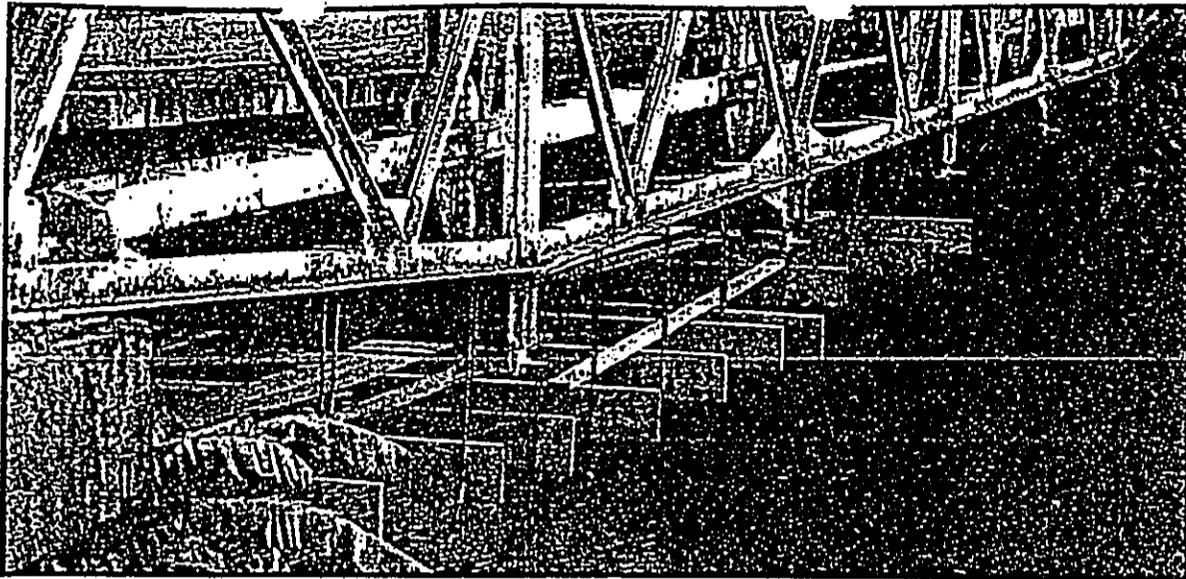
Persons requiring special accommodations (i.e. large print materials or sign language interpreter) are asked to provide their request at least seventy-two (72) hours prior to the meeting.

All interested parties are urged to attend. For additional information please call the State Department of Transportation, Kauai District Office at 274-3111.

KAZU HAYASHIDA
Director of Transportation

(July 29 & 31, 1998)

GARDEN ISLAND JULY 31, 1998



HISTORIC HANALEI BRIDGE is undergoing structural tests. State transportation department engineers and consultants are using this wooden platform under the bridge to study the trusses that support the bridge. (Photo by Chris Cook)

Hanalei Bridge meeting set

DOT will talk about condition of rusting bridge

By CHRIS COOK
Business Editor

HANALEI — The state transportation department will hold a 7 p.m. meeting Monday at Hanalei School to talk to the community about work on the Hanalei Bridge.

The DOT began last week to examine the covered bridge structure with an eye toward determining how to maintain the character of the historic bridge while keeping

the cost of upkeep at a reasonable level.

A second meeting will be scheduled after analysis of the study is complete, said Steve Kyono, the DOT's district highway engineer for Kaua'i.

Preserving the bridge is a long-time project of the Hanalei community. A recent Hanalei Community Association survey showed 92 percent of 300 residents surveyed supported preserving the bridge.

"The bridge makes a statement of entry into Hanalei," Kyono said. "It has historic value, cultural value, and there's a lot of things attached to the bridge that make it special to people," he said.

Kyono said the meetings are to

determine "what the community is thinking." He said an environmental impact statement and major repair work on the bridge is still a ways off.

Engineers will use a platform constructed under the bridge this week to take test samples of the aging structure, said Kyono.

"We're in the assessment stage, figuring out what the condition is, and documenting its physical condition."

He said engineers will use a truck loaded carefully with a pre-weighed cargo to check the effect of the weight on the bridge.

That will determine if the bridge still has a 15-ton carrying capacity, Kyono said.

(See Bridge on Page 2)

Bridge

(Continued from Page 1)

He said consultants including national historic bridge expert Abba Lichenstein will take part in the DOT study.

The study is intended to produce short-term solutions for maintaining the bridge, and start long-term planning for its future.

Kyono said the state spent over \$700,000 about 10 years ago to maintain the bridge.

Now, with tighter state budgets, Kyono said funding to do major work on the bridge each decade will be hard to come by. He said funding to maintain the bridge comes from a budget that pays for statewide work on paving roads, culvert repairs, drainage, and other maintenance work.

The landmark gateway to Hanalei and towns to the west is actually two bridges.

A Pratt Truss was constructed in 1912 and makes up the section of the bridge motorists drive under. The truss is now in place to keep

the historic look of the bridge and supports only its own weight. Rusted chunks from the truss occasionally fall off and hit passing vehicles.

A Warren Truss built under and around the aging Pratt Truss was built in 1967.

In the 1980s, the older bridge was detached from the newer bridge. The Warren Truss now carries the weight of vehicles crossing the bridge.

GARDEN ISLAND JULY 31, 1998

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KAZU HAYASHIDA
Director of Transportation

(July 29 & 31, 1998)

6196-01

JSS
MGO

9/23/98
cc: DOT-K
VIA FAX

HANALEI BRIDGE MEETING
AUGUST 3, 1998
7 TO 9 PM
HANALEI ELEMENTARY SCHOOL

The meeting opened with a welcome by Alice Paet-AhSing of Resolutions Hawai'i who would serve as facilitator for the meeting and Steve Kyono Department of Transportation District Engineer for Kauai.

Steve Kyono presented the purpose and scope of the meeting. The purpose was to share information and receive public comments regarding,

- > The condition and situation of the bridge
- > The maintenance needs in the short-term
- > Financing options

The discussion of options for a long-term solution for the bridge will take place at the next meeting after completion of the load test and inspection.

Myron Okubo a structural engineer with Wilson Okomoto & Associates described the work tasks that would be performed regarding the short-term maintenance needs of the bridge.

- > Adequacy of load handling on the bridge (load capacity and load testing)
- > Preparation of documents for the short-term repairs
- > Gather input for the discussion regarding long-term options for crossing the river

Dr. Abba Lichtenstein gave a slide show on the previous inspection and repair of the bridge. The description included where the parts came from, how it was built and the problem areas on the bridge. Some of the goals of the short-term work tasks were presented as,

- > Determining the relationship between the Pratt and Warren trusses
- > Determining why the Pratt truss is corroding faster than the Warren truss (possible through chemical analysis of the steel)
- > Determining if integrity can be retained, given the condition of the Pratt truss and, if not, what the next steps might be

The following public comments and questions were received. (C: denotes comment, Q: questions and A: answers to questions)

- C: The bridge needs to be kept in its current form and repaired.
- C: There needs to be a maintenance schedule established for the bridge which includes projections of what needs to be done, when it needs to be done, what has been done and some assurance that the maintenance was indeed done.

- Q: What is the attitude of US Department of Transportation toward use of ISTEA funds for preservation of the bridge?
- A: Previously ISTEA funds have been used to improve the bridge. The new ISTEA may provide for maintenance activities.
- C: The bridge has both monetary and aesthetic value.
- Q: Is the bridge eligible for the National Register of Historic Places?
- A: Yes, the bridge was determined eligible for the National Register in 1978.
- Q: How long before it can be placed on the register?
- A: It is currently being treated the same as if it was listed on the Register.
- C: The bridge is an anchor for the community.
- C: Deterioration has increased over the last three years because of flooding.
- Q: Does the bridge qualify for restoration under the National Register?
- A: Restoration or repair must be reviewed by the US Department of Interior and the State Historic Preservation Division.
- C: The 1912 truss qualifies for the National Register.
- C: Any plan needs to keep the visual characteristics of the bridge.
- Q: The local papers have reported that the old truss is separated from the new one -- is this true?
- A: Vehicle loads are supposed to be carried by the Warren truss. However, the Pratt truss provides a brace for the Warren truss.
- Q: Are there any indications that the two trusses have been rusted together?
- A: Yes although the bolts were removed, the trusses are probably so rusted together that it is more like they are glued.
- C: There is a weight capacity concern especially for emergency vehicles i.e. a fire truck weighs 18 to 20 tons.
- Q: What is the source of funding for the present project?
- A: State highways funds.
- Q: If overloaded trucks go over the bridge what is the fail safe?
- A: A 30% overload occasionally has typically not been a problem for other bridges.
- C: I don't want to be isolated for days because an overloaded truck has closed the bridge.

- C: We need to have a way to keep local companies in compliance with the weight limit on the bridge.
- C: We need a system to enforce the weight limit.
- Q: Are there any federal funds for restoration of the bridge?
A: Funds may be available for restoration under TEA-21. This will be checked.
- Q: Was the bridge inspected after Iniki?
A: Yes, there are annual inspections.
- C: There may be possible funding due to Hanalei River's designation as an American Heritage River.
- Q: Is there documentation regarding the number of accidents on the bridge?
A: Yes, if the accidents are reported.
- Q: Based on the number of accidents should we be concerned about the safety of the current configuration of the bridge?
A: Yes there should be a concern if the number of accidents is high.
- Q: Is the bridge inspected after flooding, besides the annual inspections?
A: If the State is notified that flooding has taken place then it is inspected.
- Q: Is there a difference between flood and rain corrosion?
A: The pH is probably different and the silt may have an added affect.
- C: Ten years ago a temporary restoration was done.
- C: We need to look at the whole road and bridge as one piece and develop a 25-year plan to resolve the issues of the road and bridge.
- Q: Can rivets be used instead of bolts for repair?
A: Rivets would not be as practical as bolts for restoration or repair.
- Q: What is the purpose of the load testing?
A: To assess the stress capacity and the load each truss holds.
- Q: Are you going to replace the bridge if it is too far-gone?
A: Yes it will need to be replaced if the integrity is gone.
- C: The bridge is important in part because it says two things to individuals entering the Hanalei area - change your speed and change your attitude.
- Q: Is the existing hybrid bridge historical or just the part that is 1912?
A: The 1912 truss is historical.

Q: Our concern is what look a new bridge would take – could it look like the old or would it have to change is a concern?

A: That will have to be part of the long-term discussion if replacement becomes one of the options.

Q: Is it possible to rebuild part of the hybrid bridge to make a functional bridge?

A: Rebuilding the 1912 bridge is not an option if it is not safe.

Q: Is it possible to remove the top half of the truss?

A: Probably not.

Q: Is there a traffic study being done as part of this project?

A: No, there is existing data from traffic counts and there may be a need to consider a study in the future.

There being no more questions or comments the meeting was closed.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT: _____

History of Bridge? at next meeting.

exception to load limit? for ag. office?

what have other communities done to
repair bridge?

Can Pratt + Truss be constructed
of recycled plastic? to look
like metal.

Do we need the Pratt truss.

has any other town eliminated
the Pratt truss + kept
the original bridge look
with shorter sides?

Please fold and staple to mail.

PUBLIC INFORMATIONAL MEETING
HANAIEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS

Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT:

Preserving and maintaining the Bridge is ~~more~~ more than the physical entrance to Hanalei. It's the place where people (residents & visitors) slow down, change their pace, and enjoy the many attributes / characteristics of the Valley and Road to Kēeo Hanalei. It is a scenic and historic area that should be looked at in a large picture of preservation for the future. The Bridge is the symbol of all these attributes.

The community decision should in part be based on what Hanalei would look and be like, if the bridge was replaced, widened, and the weight limit increased.

Please fold and staple to mail.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

COMMENT:

Can we repair with 'Corten Steel'?
This is steel that rusts & seals itself
off from further corrosion. Power line
towers in inaccessible use this steel.
(or some similar type of steel)
There must be a planned preventive
maintenance plan.

The value of the bridge is not just
the cost of short or long term repair.
It is the value of the rural
ambiance of the North Shore and
the visitor attraction to this
rural area.

Can you use "Vacublasters" over the
river? These are self contained sand
blasters that at the same time vacuum
the spent material & paint dust etc.

Please fold and staple to mail.

6196-01

PUBLIC INFORMATIONAL MEETING
HANAIEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, August 3, 1998, 7:00 pm to 9:00 pm

1998

COMMENT:

Please find enclosed
the sketches for the
possible New Bridge
plus the causeway
design & how affect to
the Hanalei Town -
Reason for the causeway type
is, as not to accelerate the
flow during flood stage -
creating potential washouts
plus allowing silt deposition
in the fields and reduced
in the Ocean

[Handwritten initials]
cc: DOT-K
VIA MAIL
8/20/98
RH

Please fold and staple to mail.

[Handwritten signature]

August 17, 1998

An Address to the Public!

O' Hanalei Bridge

The three options !

The first option:

Repair the current Hanalei River Bridge.

Not a very good solution for the tax payers, to spend resources for that Bridge. Due to the advanced deterioration, unsafe approach conditions, and inadequate to handle, the now days traffic. Since the repairs can be of a temporary nature solely, we will need more money again in the future. Lets face this, we, the tax payers are short on resources.

The second option:

To build a new Bridge. A Bridge safe for the now days traffic requirements. With safe approaches, and adequate deck space. A Bridge suitable for the acidic environment, as well as the always rapid temperature changes. Paints are unsatisfactory for hot sunshine, then *north shore* rain squalls, meaning continuously rapid temperature changes.

There are historical, preserved Bridges in America, and even elsewhere in the World. Nevertheless they all have alternative crossings either up or down stream.

Keep the old Bridge as a "no load Bridge" for foot traffic, bicycles, photography, etc. The repair requirements will be minimal. Nonetheless is that old Bridge really such a beauty ?

We may also be able to donate the old Bridge to a Group, interested in such things. A Group interested to preserve old things in the private sector realm. However there will be questions, in regard to insurance, liability etc.

Opinion of the writer = say the Bridge would be a beauty, example a covered wooden bridge with a architecture of its own, then the Bridge may have a great value for generations to come. However this Bridge is a miss match mess.

The safety is a primary concern to the general public, the tax payers, and the, "need to travel" Public. Due to the conditions of the now days constructed commercial places in Hanalei, demanding a greater traffic flow. (This on both sides of the Road in Hanalei.)

Should there be an emergency, requiring a mass evacuation, then the current Bridge is obsolete. This also is including the Fire trucks, which are heavier than the Bridge load capacity. We must bare indisputable facts in mind.

Also, should the current Bridge fail, then again what alternatives are there available?. Supply - rescue- by air? A very costly thing. Where would that money come from. The tax payer.!!!

Lets apply the tax dollar wisely, for things to last, and serve all the public, mutually and fair to all.

The third option:

Find a old girder Bridge from the Railroads. Dismantle that, transport that to Kauai and reinstall that here, also very expensive, plus an impractical solution. Steel is not suitable for our acidic area, sorry - can man kind change the settings?.

Please note:

The writer has not developed Hanalei, neither has He built all the many cars, with out of consideration of an alternative, "an land preserving transportation system". But is a neutral, observing situations, and conditions. Proposing, hopefully sound solutions to the current times, as well as time still to come.

A new Bridge, ("The gateway to Hanalei ", designed exquisite and with purpose) does not mean- more development- more development- more development in Hanalei, and outbound. If there is a consideration, in regard to "heavy trucks - busses", then we can write laws - baring them to come in to Hanalei. Yet the safety for other traffic would be undiminished. To approve expansion of other commercial, residential buildings would be for the Planing Department to resolve.

Hanalei, to whom do you belong? What is your domain? They are estimable questions. Can we ask, say the federal government for monetary help, but would like to be unconstrained, or autonomous?

Historical, where is cave man?, has he not transposed?, - have you looked in the mirror lately?.

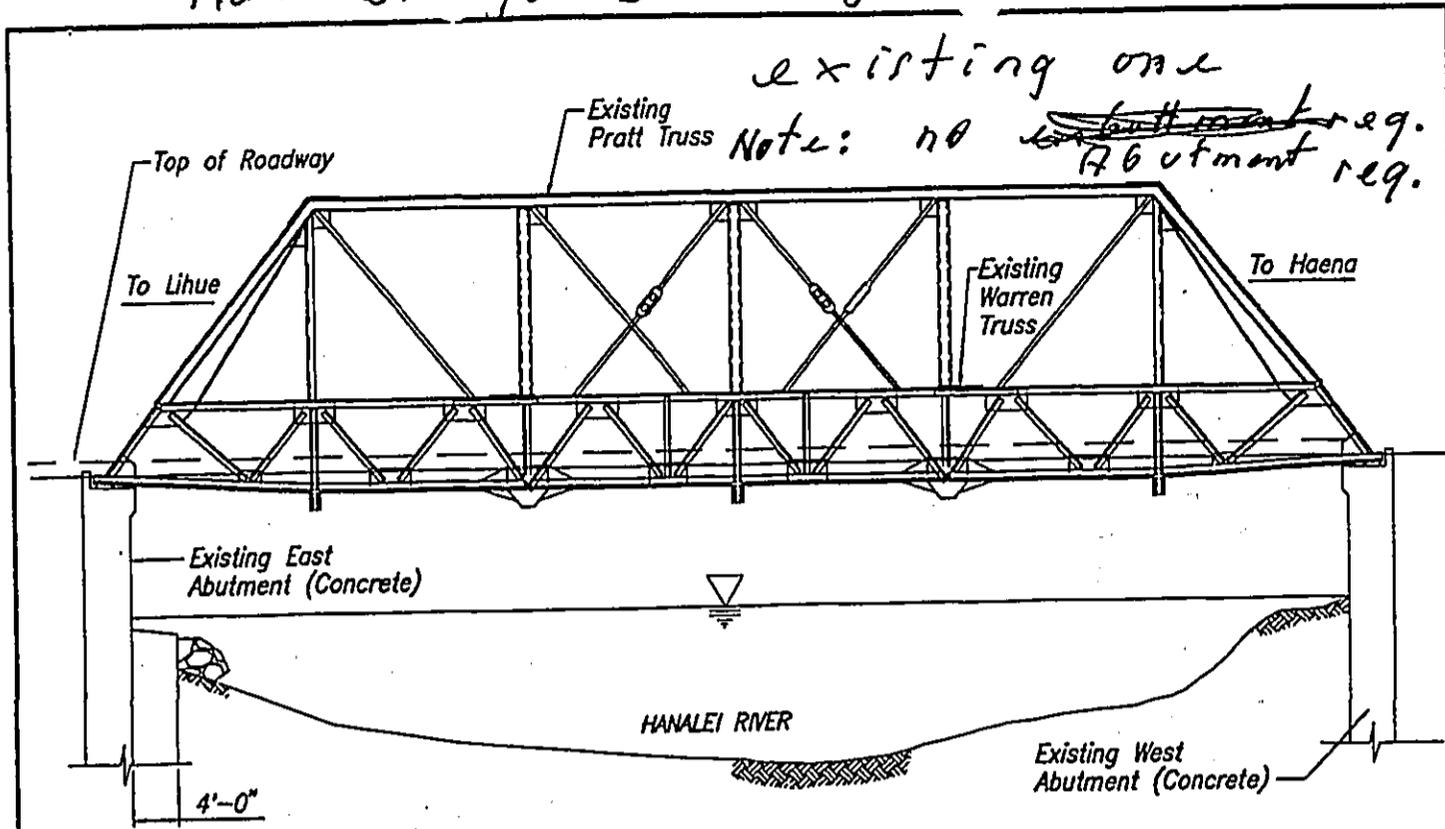
Thank you so much - The writer of HARTBEAT

Rudy

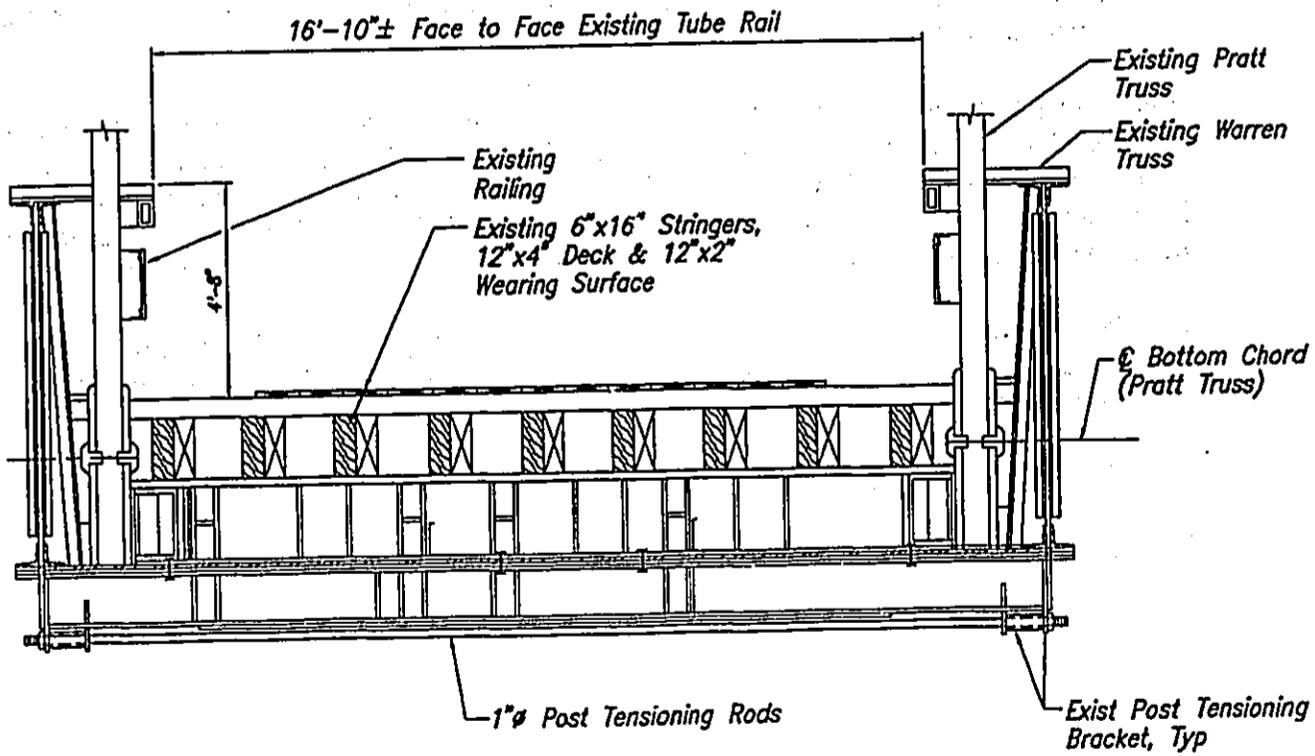
New Bridge just upstream to the

existing one

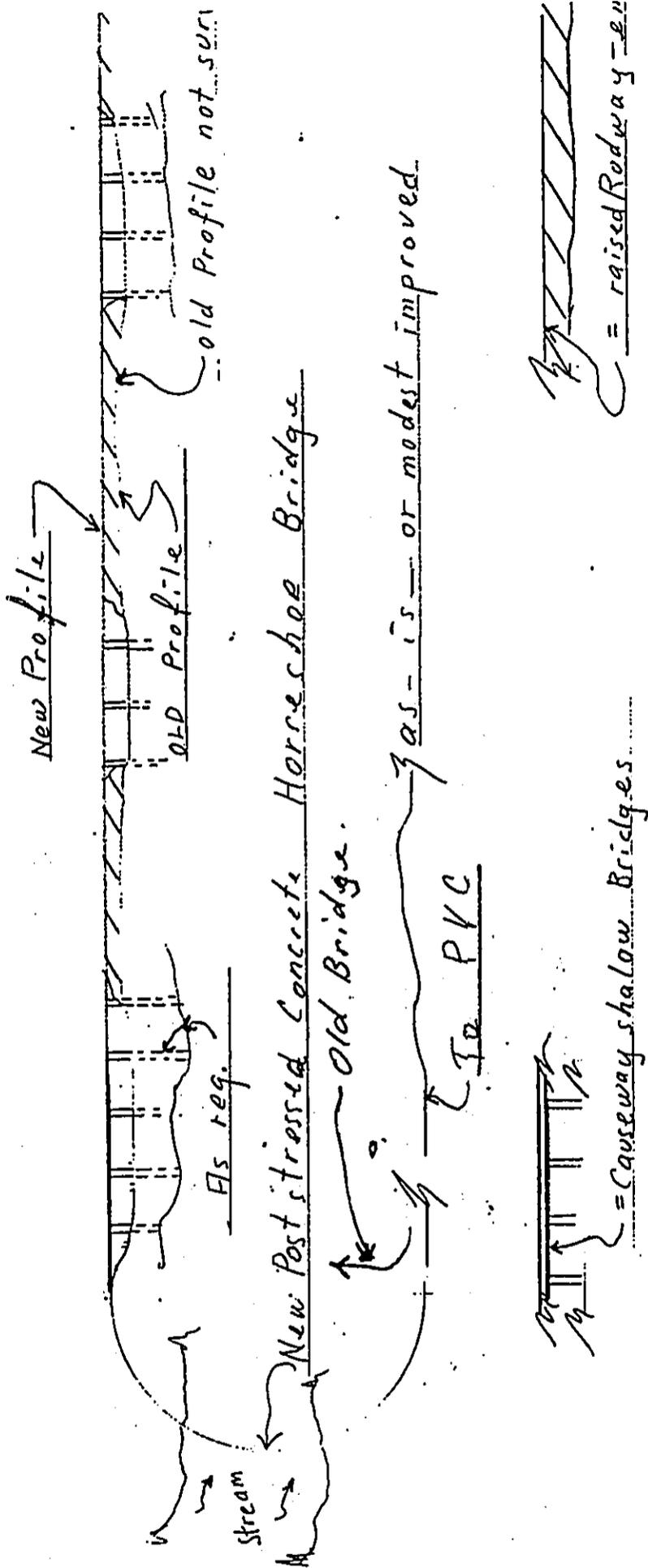
Note: no ~~abutment~~ req.
 Abutment req.



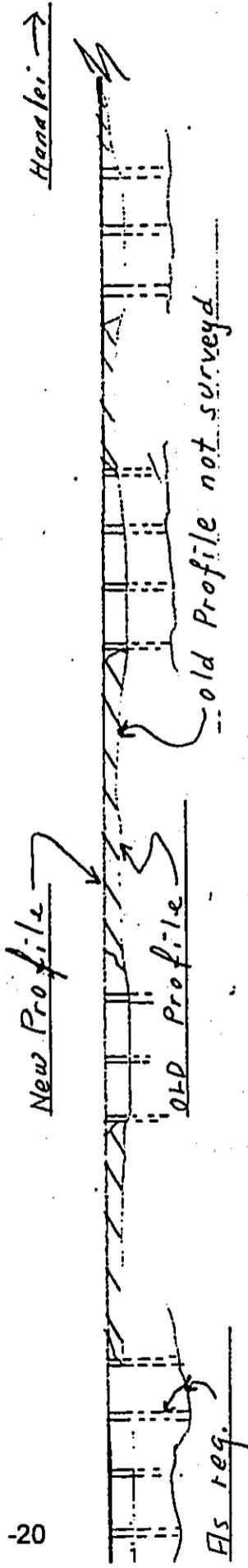
ELEVATION - LOOKING UPSTREAM



SECTION THROUGH BRIDGE



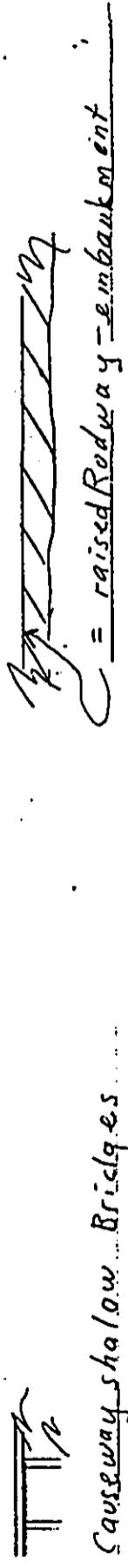
Causeway	
SCALE: 1"=10'	APPROX
DATE: 1-28-97	



As req.
 Stressed Concrete Horseshoe Bridge
 Old Bridge.

Gas-is-or modest improved

CTa PKC



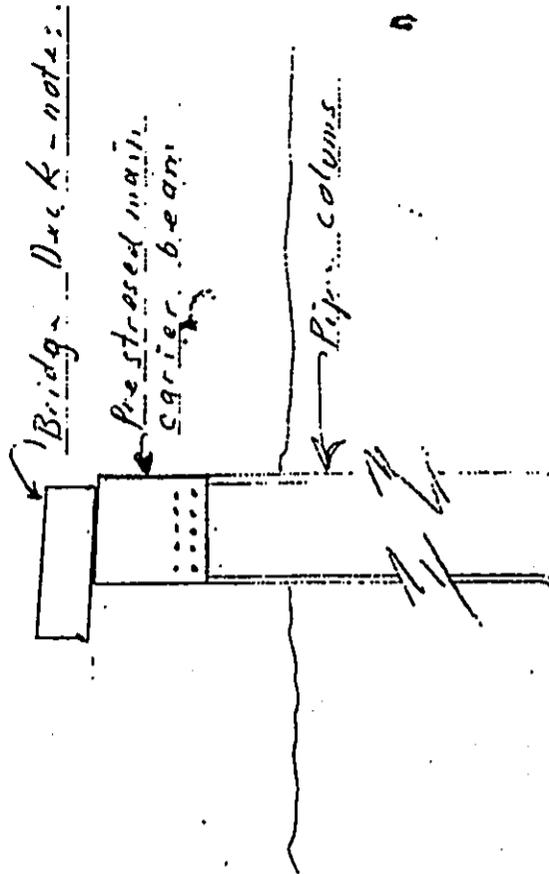
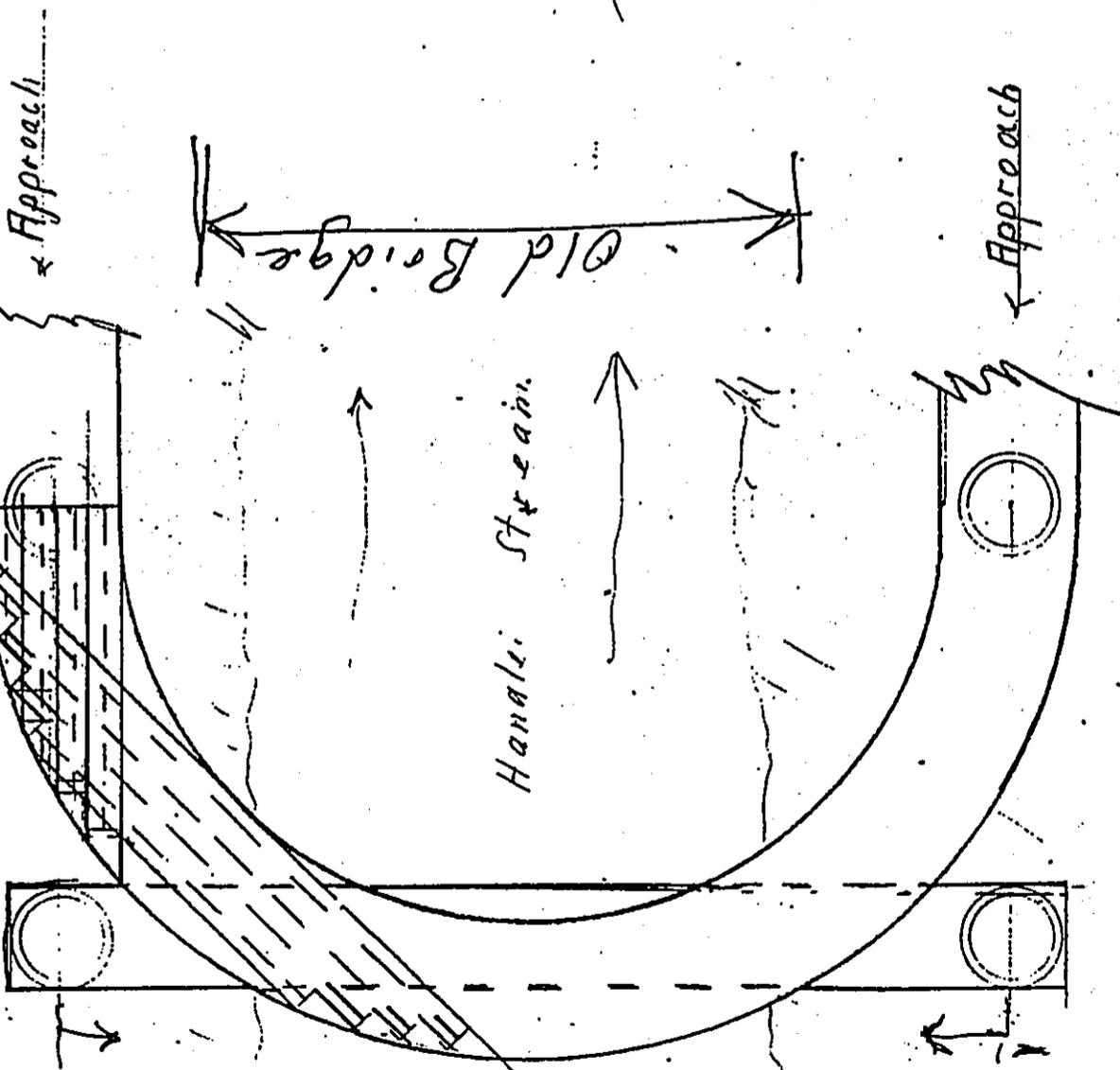
Causeway shallow Bridges

Causeway Bridge - Hanalei Town

SCALE: N011.5 APPROVED BY: DRAWN BY: RN
 DATE: 1-28-97 REVISED:



as req. - to be non intrusive to the stream



B-21

No embankments req.

SCALE: NCL	APPROVED BY	DRAW
DATE: 8-27-96		RA
5-section - Poststressed 180		DRAW
Hanalei Bridge		1

WEDNESDAY
August 5, 1998

See weather on Page 2

Tahiti
Fete '98
is here!



Page 5-C

Hanalei Bridge
closes tonight
for evaluation

AUG 1 U 1998

The Star-Bulletin

11
WT
19
1101

Bridge

(Continued from Page 1)

Hanalei Bridge closes tonight for tests

Engineers will try to read future of historic, rusting N.S. gateway

By ANTHONY SOMMER
Staff Writer

HANALEI — The Hanalei Bridge will be closed to all but emergency traffic from 11 p.m. Wednesday to 5 a.m. Thursday while engineers use heavy trucks, micrometers and computers to test the strength of the 86-year-old structure.

At a public meeting Monday night, Department of Transportation officials and consultants said the testing is only the first step in determining the future of the struc-

ture originally constructed in 1912. District Engineer Steve Kyono said the department is looking for both short-term (three to five years) and long-term solutions that will preserve the historic quality of the bridge while still providing a reliable traffic link to the North Shore.

Even a solution as simple as a paint job would cost hundreds of thousands of dollars because of the need to build a plastic cocoon around the structure to protect the river and wetlands, Kyono said. Close-up photographs taken during the past week show that ul-

timately the bridge will need a lot more than paint. "There is a lot of corrosion," said Al Lichtenstein, a civil engineer and historian who has worked on the bridge as a consultant for the past decade.

Lichtenstein said the bridge is a hybrid structure actually made up of two different designs built decades apart. The original 1912 bridge used a Pratt truss. In 1967 the Pratt truss was declared unsafe and a completely different structure called a Warren truss was built underneath it.

Lichtenstein said the two were designed to work independently with the newer Warren truss carry-

ing 90 percent of the load and the older Pratt truss only 10 percent. Part of the testing to be done this week will be to determine whether that situation has changed.

Lichtenstein said rust appears to have glued the two structures together, which would change the load-bearing characteristics. He said little, if any traffic, other than emergency vehicles, will be allowed through the bridge after 11 p.m. Wednesday because it takes almost an hour to recalibrate all the testing equipment if the truck being used for testing is moved.

Money remains the largest obstacle, both Kyono and

(See Bridge on Page 2)

Lichtenstein agreed. Many of the 75 area residents who attended the meeting suggested seeking federal funding but Lichtenstein told them they would have to compete with 60,000 bridges nationwide that are in need of repairs.

No one discussed the possibility of raising money locally.

Lichtenstein said that because the bridge has been declared eligible for the National Register of Historic Places it cannot simply be torn down and replaced by a new structure.

Nor, he said, is there funding to create a replica of the existing bridge.

"We're not going to dismantle the bridge and start from scratch, that's period," he said. "You're not going to find enough money to do it."

Kyono said another meeting will be scheduled, probably this fall, to discuss the engineers' findings and some alternative solutions.

F.Y.I. to Wilson Okamoto

0096-01

Michael Daly

Po Box 1623 - Hanalei - Hawaii - 96714
Phone 808-8266404

Mr Steven Kyono
District Engineer
State Department of Transportation
3060 Cinn. Street
Lihue Hawaii 96766

Post-It* Fax Note	7671	Date	9/18/98	# of pages	1
To	MYRON OKUBO	From	Fred Reyes		
Co./Dept.	Wilson Okamoto	Co.	Hawaii DOT-Kauai		
Phone #	946-2277	Phone #	274-3111		
Fax #	946-2253	Fax #	274-3116		

September 14, 1998.

Dear Mr Kyono,

I am pleased to be writing to you with regard to concerns facing the Hanalei Bridge which crosses the Hanalei River recently acclaimed through Mr Clinton and the office of the President of the United States of America as an American Heritage River.

The concerns associated with the Hanalei Bridge which I would like to have you aware of in ^{the} ~~this~~ letter are in part categorized in the following Concerns List: ←(a later)

- Safety,
- function, environment and community,
- aesthetics and philosophy,
- costs, economy and contractual ethics,
- evolution and heritage.

Certainly any project that can understand these appreciable qualities and create a form of truth and trust is worthy of the name 'bridge'. The input of the community through the government being owned or one with community will be the most significant inter crossing of this project. It is important that all documentation regarding this renewal project be internet posted without discrimination immediately upon your Department's receiving or creating such documentation.

I would ask that the Charette Process be implemented to facilitate the concerns of the Hanalei Bridge project.

Mahalo, love all ways
Michael



APPENDIX C

Public Informational Meeting
(March 11, 1999)

THURSDAY

March 4, 1999

See weather on Page 2

The Garden

**Bridge upgrade
to be discussed**

**Sta
ra**

HANAIEI — Results of last August's inspections to the Hanalei bridge will be released March 11 at a public information meeting about a proposed Kuhio Highway project to improve the bridge.

The meeting is at 7 p.m. at the Hanalei Elementary School cafeteria. For more information or for requests to accommodate disabilities, call the Kauai District Highways office at 274-3111.

State to discuss Lihue bridge plan

LIHUE, Kauai — The state Department of Transportation will discuss its plans to rehabilitate the Hanalei Bridge.

Proposed improvements will be explained at a public meeting at 7 p.m. March 11 at the Hanalei Elementary School Cafeteria.

PUBLIC INFORMATION MEETING

The State Department of Transportation
will hold

A Public Information Meeting

to discuss the proposed project: **Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge.**

Discussion includes the results from the
inspections and load tests performed in August, 1998

Thursday, March 11, 1999
Hanalei Elementary School Cafetorium
5-5415 Kuhio Highway
Hanalei, Kauai
7:00 PM

Persons requiring special accommodations (i.e., large print
materials or sign language interpreter) are asked to provide their
request at least seventy-two (72) hours prior to the meeting.

For information, call the Department of Transportation
Highways Division at 274-3111

KAZU HAYASHIDA
Director of Transportation

(March 4 & 9, 1999)

9-A-THE GARDEN ISLAND-TUESDAY, MARCH 9, 1999

PUBLIC INFORMATION MEETING

The State Department of Transportation
will hold

A Public Information Meeting

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For information, call the Department of Transportation
Highways Division at 274-3111

KAZU HAYASHIDA
Director of Transportation

(March 4 & 9, 1999)

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge
Hanalei Elementary School Cafetorium
March 11, 1999 7:00 pm to 9:00 pm

Attendees: 26 public members; see attached list

The informational meeting opened was opened by Steve Kyono, District Engineer, State of Hawaii Department of Transportation, Highways Division, Kauai District (HDOT), who presented the project team.

Myron Okubo, Project Manager, Wilson Okamoto & Associates, Inc., stated the purpose of the meeting was to:

- o Present the results of the bridge inspection and load testing,
- o Discuss the short-term objectives (determine the adequacy of the existing bridge and identify repairs to damaged/deteriorated members;
- o Present the long-term objective (develop guidelines of long-term crossing of the Hanalei River)

Mr. Okubo presented the following:

- o Results of the bridge inspection; including condition of the approach roadway/guardrails; waterway; the deck; abutments; railings; Warren trusses; Pratt truss; the load tests; and the bridge ratings.
- o Long-term alternatives
 - o Alternative A "Do Nothing"
 - o Alternative B(1) Repair of Pratt and Warren trusses
 - o Alternative B(2) Remove Pratt truss and Repair Warren trusses
 - o Alternative C Install new Pratt truss and Repair Warren trusses
 - o Alternative D Concrete replacement bridge

Mr. Okubo stated that Alternative A is considered unacceptable due to the extensive and rapidly deteriorating condition of the Pratt truss. For the same reasons, Alternative B(1) is considered infeasible. Alternative B(2) would likely result in a finding of an "adverse effect" by the Federal Highway Administration and the State Historic Preservation Office (SHPO) due to the significant change in the appearance of the Bridge.

Dr. Abba Lichtenstein, subconsultant to Wilson Okamoto, presented Alternative C as the preferred alternative for the following reasons:

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- o The new Pratt truss will be load carrying, as originally designed. The bridge will have two main load paths and will not be considered fracture critical. Collapse due to member failure would be avoided.
- o The new Pratt truss will be similar in appearance and in the same position as the old truss. The concept of a replacement truss has been discussed with the SHPO who had indicated a preliminary opinion that it would probably be "no adverse effect".
- o The new Pratt truss would be designed to take the load of a 24-foot wide roadway which will allow widening in the future, if desired.

Mr. Okubo stated Alternative D is considered too costly, is not harmony with the ambience of the North Shore, and is not desired by most of the area residents.

The following public comments and questions were received. (C: denotes comment; Q denotes question; A denotes answer to the question).

C: Mr. Kyono stated the findings of the inspection are not new to HDOT, since deterioration of the Bridge has been visible. Further, the findings of potential failure of members should not be alarming. The entire Bridge will not collapse. The Pratt truss carries 40% of the load and the new Warren trusses carry 60% of the load.

Q: What will the HDOT do?

A: Based on the public statements at the previous Public Informational meeting, there is a strong public sentiment to protect the feel and look of the North Shore. The Hanalei Bridge is the "gateway" which leads to this rural lifestyle. As a result, the HDOT intends to implement Alternative C, pending coordination with the SHPO and other agencies with permit authority. However, prior to implementing Alternative C, HDOT must undertake the "chicken wire" repair project to prevent metal members from falling onto the deck. An alternative to the "chicken wire" repair project is to cut off and remove the Pratt truss before it is replaced. For about one year, or until the replacement Pratt truss can be constructed, the Hanalei Bridge would consist of only the Warren trusses.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- Q: Would cutting off the Pratt truss first save money?
A: Cutting off the existing Pratt truss first may not save money. However, cutting off the existing Pratt truss could save time during construction of the replacement Pratt truss.
- Q: Would cutting off the Pratt truss affect the structural integrity of the Bridge?
A: It would reduce the dead load of the existing Warren trusses.
- C: When asked by Mr. Kyono, which they prefer 1) chicken wire repair or 2) cutting off the Pratt truss prior to construction of the replacement Pratt truss. All of the attendees preferred cutting off the Pratt truss.
- Q: If the Pratt truss is cut off, how much load would the Warren trusses carry?
A: The Warren trusses would carry 100% of the live load. The Warren trusses have capacity to carry this load.
- Q: The Bridge has a 15-ton load limit. If there were an occasional 25-ton load, what would happen to the Warren trusses?
A: The Bridge is designed with H 20 loading. An occasional load of 25 tons would not affect the Bridge.
- C: If the Warren truss is carrying 100% of the load, there will be a need to analyze the effect of an occasional 25-ton load.
- C: The old Lumahai Bridge collapsed from a heavy load. When HDOT announces the replacement project, a statement about the load limit needs to be made. The Kauai community needs to be made aware there is a load limit on the Bridge.
- Q: Can HDOT place a scale on the approach which will set off bells when an overweight load goes over the Bridge?
A: The State does not have enforcement authority over load limits. Legislation needs to be passed to give this authority. Also, HDOT only has one person and one scale to weigh loads. So, even if a scale could be installed, the enforcement question would still remain.
- C: The community can put pressure on those who bring overweight loads over the Bridge.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

- Q: Can the design for the replacement truss also include identification of methods to weigh loads before crossing the Bridge.
- A: Yes. Identification of load weighing methods can be included in the design of the replacement truss.
- Q: What about the height limits through tunnels? Doesn't the State enforce a height limit for the Pali Tunnel on Oahu?
- A: The DOT currently only posted a warning sign to vehicles entering the tunnel. This is not enforcement.
- Q: Will permits be required to construct the Pratt truss? Will it take a long time to get the permits?
- A: Yes permits will be necessary. The number and type of permits will be determined prior to design.
- Q: If the chicken wire wrap is used and a member fails, won't the entire member fall to the deck at once, not just a small piece?
- A: No. The chicken wire is a short-term repair and with limited capacity.
- C: The Hanalei Bridge used to be called the Black Bridge. The replacement truss and the entire bridge should be painted black.
- C: Whether to use a chicken wire wrap or to cut off the old Pratt truss is an engineering decision. The State should decide.
- Q: If the Pratt truss is cut off, how many tons will be removed from the weight carried by the Warren truss?
- A: This can be investigated in the design phase.
- Q: Will the replacement Pratt truss carry live load?
- A: Yes. The replacement truss will carry the same live load as the existing Pratt truss.
- Q: If the new Pratt truss can be made to 24 feet wide, will the Warren trusses be changed?
- A: No. The new Pratt truss will be 17 feet wide, the same as existing conditions. The new truss will be designed for a two-lane wide loading so that in the future sometime another lane could be added.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

Q: What is the cost of the replacement Pratt truss? Where will the replacement Pratt truss be fabricated?

A: The preliminary cost estimate for the replacement Pratt truss is \$1.3 million.

A: The replacement Pratt truss will be bid according to existing Federal and State of Hawaii procurement requirements.

Q: Will the replacement Pratt truss be connected to the Warren trusses?

A: Yes. The two truss systems will be connected as they are now.

Q: Will the approaches be changed when the replacement truss is constructed? What about the guardrails?

A: The guardrails will be changed to comply with the latest standards.

A: The approaches must not encroach on the setting of the Bridge.

Q: Will rivets or bolts or welds be used for construction of the replacement truss?

A: This has not been determined. However, welds will not be used.

Q: There have been accidents on the downhill approach to the Bridge. How can the State make drivers slow down?

A: Drivers need to control themselves to slow down on the downhill approach to the Bridge. The State Attorney General has advised HDOT not to install speed bumps on State highways.

Q: Will the scope of the design work include a maintenance plan for the new truss?

Q: Can a preservation plan be included in the scope of the design work?

A: A maintenance and preservation plan will be considered in the scope of the design work.

Q: How will the public be notified regarding the State's decisions regarding the Hanalei Bridge?

A: Newspaper announcements and new releases will be made.

Q: Would it be possible to remove only some of the damaged members and replace them with new members as a short-term fix?

A: Nearly all of the existing Pratt truss members have extensive corrosion damage. Replacing some of the members would add to the cost and not considered feasible. All of the members would be removed at one time.

Public Informational Meeting
Remove/Repair/Replace Metal Members Hanalei Bridge

Q: Why not weld on new members to replace the damaged members? Or. Cut off the old members and add new ones to replace them?

A: During the chicken wire wrapping process, if loose members are found, they will be removed.

Q: When will the replacement bridge be complete? Is funding for construction available? What steps are involved in building the new truss?

A: The replacement truss should be complete in about two years. Funding is available for construction. The design needs to be completed and necessary permits obtained prior to construction.

Q: Will adding the new truss with a capacity to accommodate another lane jeopardize the one-lane Bridge?

A: The new Pratt truss will be designed keeping in mind the history of the existing truss. The Bridge will remain one lane.

Q: Will the width of the new truss be the same as the existing one?

A: The new truss will have the same width as the existing one.

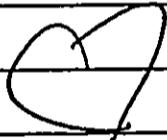
C: The HDOT will be responsive to the public when the replacement truss is designed.

The meeting was closed at 9:00 pm.

PUBLIC INFORMATIONAL MEETING
HANALEI BRIDGE
REMOVE/REPAIR/REPLACE METAL MEMBERS
Hanalei Elementary School Cafetorium, March 11, 1999, 7:00 pm to 9:00 pm

Hanalei

COMMENT: Steve, Abba, Myron, Garrett, Pat, John & Team
You are just the Best. This is a very memorable time in the history of our Bridge, the community and all of you. Thank you for all your interest, sincere concern for our community, and enthusiasm -

 WE LOVE YOU

B.R.

Please fold and staple to mail.

Hanalei Bridge gets new truss in renovations

North Shore community approves a plan to preserve the look of a local landmark

By CHRIS COOK
Business Editor

HANALEI — Look for a rebuilt Hanalei Bridge to be unveiled in about two to three years.

Plans approved by a gathering of the North Shore community Thursday night at Hanalei School call for cutting down the top truss of the historic bridge and replacing it with a newly fabricated duplicate. The work would take about two years once launched.

The Hanalei community rose up about 25 years ago to protect the bridge, which was then threatened

with being replaced by a modern low-rise concrete bridge.

Attending the meeting was Carol Wilcox of the Hanalei Roads committee. Wilcox has worked on preserving the bridge for over 20 years, and is working on a program to preserve scenic corridors along roads and highways in Hawai'i.

The single-lane span is considered the gateway to Hanalei and Ha'ena and a popular symbol of the rural lifestyle of the area.

In the mid-1980s the bridge was sandblasted, repainted and repaired

(See Bridge on Page 2)

Bridge

(Continued from Page 1)

in an attempt to save it. Apparently, welding and other work done then hasn't worked in preserving the upper section of the bridge, which is becoming a danger due to short rusting steel sections falling off.

The gathering of about two dozen residents voted unanimously to go ahead with replacing the rusting circa 1912 Pratt Truss. Overhead sections of the truss give the bridge its distinctive early 1900s look.

It is held up by a Warren truss erected in 1967 to shore up the aging bridge.

Today the Warren truss bears 60 percent of the weight of loads crossing the bridge, and the rusting Pratt truss the other 40 percent, according to figures released by the state at the meeting.

Kaua'i-based state Highways Division district engineer Steve Kyono showed an 18-inch section he found on the way to the meeting.

Options presented by Kyono to keep such debris from falling on crossing vehicles include cutting off the existing Pratt truss from about four foot above the floor of the bridge on up until the duplicate truss can be constructed and erected.

A second option, he said, would be to wrap two layers of chicken wire underneath and around upper sections of the Pratt truss to catch rusted pieces of steel that might fall, offering a short-term safety measure until the aging truss is cut down and a new one erected. That would cost \$25,000 and a bid is ready to go out for the work if that method is chosen, Kyono said.

The bridge is eligible to be on the National Historic Register. That requires concurrence the state historic preservation office when repairs are required.

To help the state preserve the bridge to that standard they invited to the meeting Abba Lichtenstein, a world renowned historic bridge expert from Tenafly, N.J. Lichtenstein said he first began studying the bridge and its structure in 1973.

Lichtenstein said the two trusses would be engineered to work together as part of the restoration, and be sturdy enough to more than handle existing loads.

Kyono said a special area management permit will be required for the historic preservation work, plus possibly permits from the Army Corps of Engineers and the Coast Guard. Consultation with the State Historic Preservation office will be made throughout the project.

He said funding is already secured for the reconstruction, and a U.S.-based contractor who makes the low bid on the project will be awarded the job.

Lichtenstein predicted two years of work lie ahead to complete the project, including the permitting process, at a cost of about \$1.3 million.

Bolts or rivets will be used to erect the restored truss, and no welds will be used in the reconstruction.

An alternative concrete bridge was turned down unanimously by the audience. It would have had a price tag of \$2.6 million.

Matthew Austin, president of Hawaiian Steam Engineering Co., said at the meeting he is ready to rivet the bridge together. Austin has worked riveting boilers of restored plantation train locomotives owned by Grove Farm Co.

The bridge will remain 17 feet wide, but a widening to two lanes will be possible if ever needed in the future, Lichtenstein said.

Corroding historic Kauai bridge may be torn down, replicated

Meanwhile, chicken wire will stop rusted metal from falling

BY ANTHONY SOMMER
Star-Bulletin

HANALEI, Kauai — The original 1912 Hanalei River Bridge is so badly corroded that it must be torn down and replaced as soon as possible, state highway engineers have decided.

The good news is that the landmark structure is mostly there for looks. It rests on top of another, barely conspicuous bridge built in 1967, which is what motorists actually drive on.

Results of engineering studies conducted last August and made public Thursday show the underlying structure is sound, as are the concrete abutments beneath it.

Because the fragile upper structure is a candidate for the National Register of Historic Places, the state has decided to replace it with an exact replica made of more modern steel, Kauai District highway engineer Steve Kyono said.

Like the original, it will be ornamental while the 1967 bridge actually carries the load.

Because the bridge is a federally protected historical site, the rehabilitation will have to be supervised by the State Historical Preservation Office.

Kyono said he has verbal approval to go

ahead with a replica bridge, but written authority will require it to meet exacting specifications.

Several companies on the mainland that specialize in rehabilitating old bridges already have indicated an interest, he said.

Meanwhile, a contract will be awarded later this month to wrap the old bridge in chicken wire to stop rusted pieces of metal from falling on cars and on kayaks in the river. The chicken wire will be used until the old structure is removed.

Engineers said the chicken wire is needed immediately, and displayed several large pieces of rusted metal they found around the bridge during a cursory inspection. The rate of corrosion of the structure is accelerating, they noted, and the danger of falling steel is increasing.

"If you go across that bridge, don't sneeze. That's all I can tell you," said Abba Lichtenstein, a world-renowned authority on historic bridges from Tenafly, N.J., who since 1973 has been an engineering consultant on the bridge.

The bridge is rated at 15 tons and is only 17 feet wide, just enough for one lane. No-growth advocates on Kauai's North Shore see it is a barrier to heavy trucks and construction equipment and have fought any attempt to widen it.

Replacement of the old structure is estimated at \$1.3 million and will take about two years.

Kyono said there is money in the current budget to pay for the project.

State planning to restore Hanalei Bridge

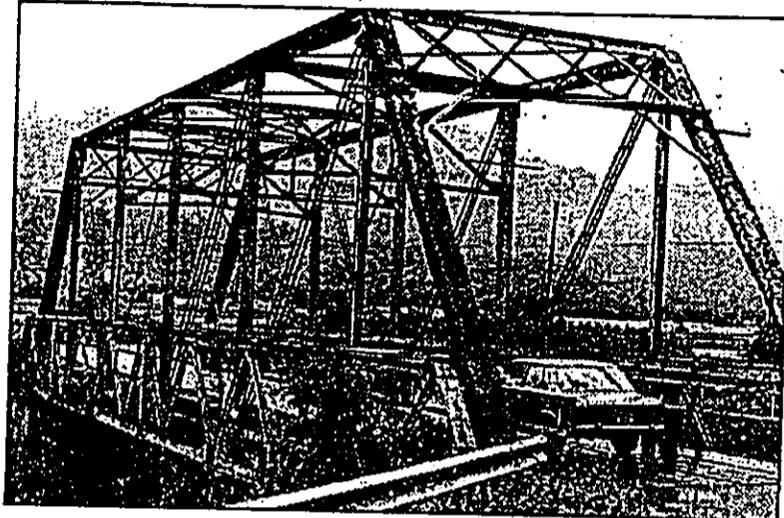
New material to be sturdier

By Jan TenBruggencate
ADVERTISER KAUAI BUREAU

HANALEI, Kauai — The old Hanalei Bridge rumbles as cars roll through its steel framework and over its wooden, one-lane deck.

It has long been such an integral part of the experience of entering Kauai's North Shore that when the State Department of Transportation years ago proposed replacing it with a sweeping concrete structure, the community rose up in opposition.

"It's part of the identity of Hanalei and the character of the rural road system," said Barbara Robeson, one of the Hanalei residents who



Hanalei Bridge, which has weathered years of heavy traffic, will be repaired next year. Engineers plan to use upgraded steel that is less susceptible to rust.

Advertiser
library photo
• 1980

fought its replacement.

The Department of Transportation has joined those who want to save the bridge, and has agreed to perform a major repair job that will completely replace the rusted 1912 Pratt truss, which is the steel cage — 110 feet long, 16 feet wide and 23 feet high — through which cars pass.

The condition of the

truss is so poor that it has been disconnected from the rest of bridge.

The weight of the bridge itself and the cars that cross it are carried by a much newer structure, a Warren truss, which is made up of two low steel structures on either side of the Pratt truss. The Warren was added in 1967 to carry the weight of construction

equipment that needed to cross it to replace the tsunami-damaged Luma-hai Bridge.

"We're going to do a major fix to the bridge," said Steve Kyono, the Kauai state highways district engineer.

The entire Pratt truss will be refabricated. It will be

See HANALEI, B5

Hanalei: Bolts will replace rivets

FROM PAGE B1

faithful to the original design, except that carriage bolts will replace the rivets in the original. The carriage bolts will look like rivets, he said.

The modern steel to be used in the new truss is expected to be less susceptible to rust than the original, and will be coated with the latest in rust preventatives, Kyono said.

"Rust has always been the major

factor. Steel just does not do well in Hawaii," he said.

Design is under way, and the project should go out to bid early next year. Kyono said the cost, to be covered by federal funds, is expected to be between \$1 million and \$1.5 million.

The bridge is eligible for placement on the state and federal lists of historic structures, and the department has sought approval of its plans from the community and from historic preservation agencies.



APPENDIX D

Pre-Assessment Consultation
Letters



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

(6196-01) JS
8/12/99

REPLY TO
ATTENTION OF

August 10, 1999

RECEIVED
AUG 11 1999

Civil Works Technical Branch

WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Pre-Assessment Consultation for the Kuhio Highway Project, Hanalei, Kauai. Due to a lack of information, a thorough evaluation could not be completed at this time. However, any work performed within the 100-year floodplain will have to adhere to the requirements of the Federal Emergency Management Agency. Additionally, the need for a Department of the Army permit could not be determined based on the information submitted to us. We will need to review the Draft Environmental Assessment when it becomes available so that site specific information can be provided to you.

If you require additional information, please feel free to contact Ms. Jessie Dobinchick of my Civil Works Technical Branch staff at 438-8876.

Sincerely,

James Pennaz

James Pennaz, P.E.
Acting Chief, Civil Works
Technical Branch

6196-01
September 22, 1999

Mr. James Pennaz, P.E.
Acting Chief, Civil Works Technical Branch
Department of the Army
U.S. Army Engineer District, Honolulu
Ft. Shafter, Hawaii 96858-5440

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comments

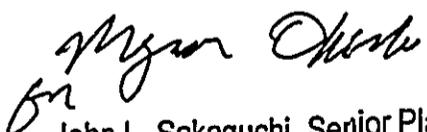
Dear Mr. Pennaz:

Thank you for your August 10, 1999 letter regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. Removal and replacement of the Pratt Trusses will not affect flows of the Hanalei River. Construction activities related to the replacement Trusses will occur on the superstructure of the Bridge and will not involve work to the abutment within the waterway of the Hanalei River. There will be no change to the abutments or the vertical clearance between the floorbeams and the Hanalei River, which could adversely affect the floodplain or floodway established by the Federal Management Emergency Agency.

The State of Hawaii Department of Transportation Highways Division- Kauai District has submitted a Department of the Army permit application to meet the requirements of the Harbors and Rivers Act.

Thank you for your participation in the Environmental Assessment process. If you have questions, please call me at 946.2277.

Sincerely,


John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

6196-01

Handwritten signature/initials

Building T-1
Fort Shafter, HI 96858
Phone: 438-8876
Fax: 841-1581

**US Army Corps of Engineers
Honolulu Engineer District**

CC: DOT HWY-K

Fax

To: John Sakaguchi	From: Jessie Dobinchick
Fax: 948-2253	Date: August 16, 1999
Phone: 946-2277	Pages: 3
Re: Flood Hazard Information	CC:

Urgent
 For Review
 Please Comment
Please Reply
 Please Recycle

•Comments:

John:

Here is the FIRM that shows the project site. Please bear in mind that this is not an official evaluation, but approximate based on the info you sent me.

I haven't received the DA permit info yet; I can fax that to you when it comes in. As mentioned before, we can do a complete evaluation when the document is completed and sent to us for review.

Hope this is of some help to you. Call me if you have any questions.

Jessie Dobinchick

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

KAUAI COUNTY,
HAWAII

PANEL 35 OF 225
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
150002 0035 C

MAP REVISED:
MARCH 4, 1987



Federal Emergency Management Agency

LEGEND

*  **SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD**

ZONE A No base flood elevations determined.

ZONE AE Base flood elevations determined.

ZONE AH Flood depths of 1 to 3 feet (mainly areas of ponding); base flood elevations determined.

ZONE AO Flood depths of 1 to 3 feet (mainly street flow on sloping terrain); average depths determined. For areas of elevated (on flooding), elevations are determined.

ZONE A99 To be protected from 100-year flood by Coastal Flood protection system under construction; no base elevations determined.

ZONE V Coastal flood with velocity hazard (wave action); no base flood elevations determined.

ZONE VE Coastal flood with velocity hazard (wave action); base flood elevations determined.

*  **FLOODWAY AREAS IN ZONE AE**

*  **OTHER FLOOD AREAS**

ZONE X Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

*  **OTHER AREAS**

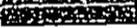
ZONE X Areas determined to be outside 500-year flood plain.

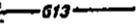
ZONE D Areas in which flood hazards are undetermined.

 Flood Boundary

 Floodway Boundary

 Zone O Boundary

 Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

 Base Flood Elevation Line; Elevation in Feet

 Cross Section Line

 Base Flood Elevation in Feet Where Uniform Within Zone

 Elevation Reference Mark

RM7X
Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small streams (areas outside Special Flood Hazard Areas). Areas not in Special Flood Hazard Areas may be protected by flood control structures.

Elevations of the floodways were computed as an interpolation between cross sections. The floodway widths are provided in the Floodway Report.

Base flood elevations apply only landward of the elevation reference marks as depicted in the Floodway Report.

adjoining map panels see separately printed M...

MAP REPOSITORY
County of Kauai Department of Public Works, 4596 K...
Honolulu, Hawaii, 96766 (Map available for reference on...
distribution)

INITIAL IDENTIFICATION:
DECEMBER 20, 1974

FLOOD HAZARD BOUNDARY MAP REVISION:
DECEMBER 20, 1977

FLOOD INSURANCE RATE MAP EFFECTIVE:
NOVEMBER 4, 1981

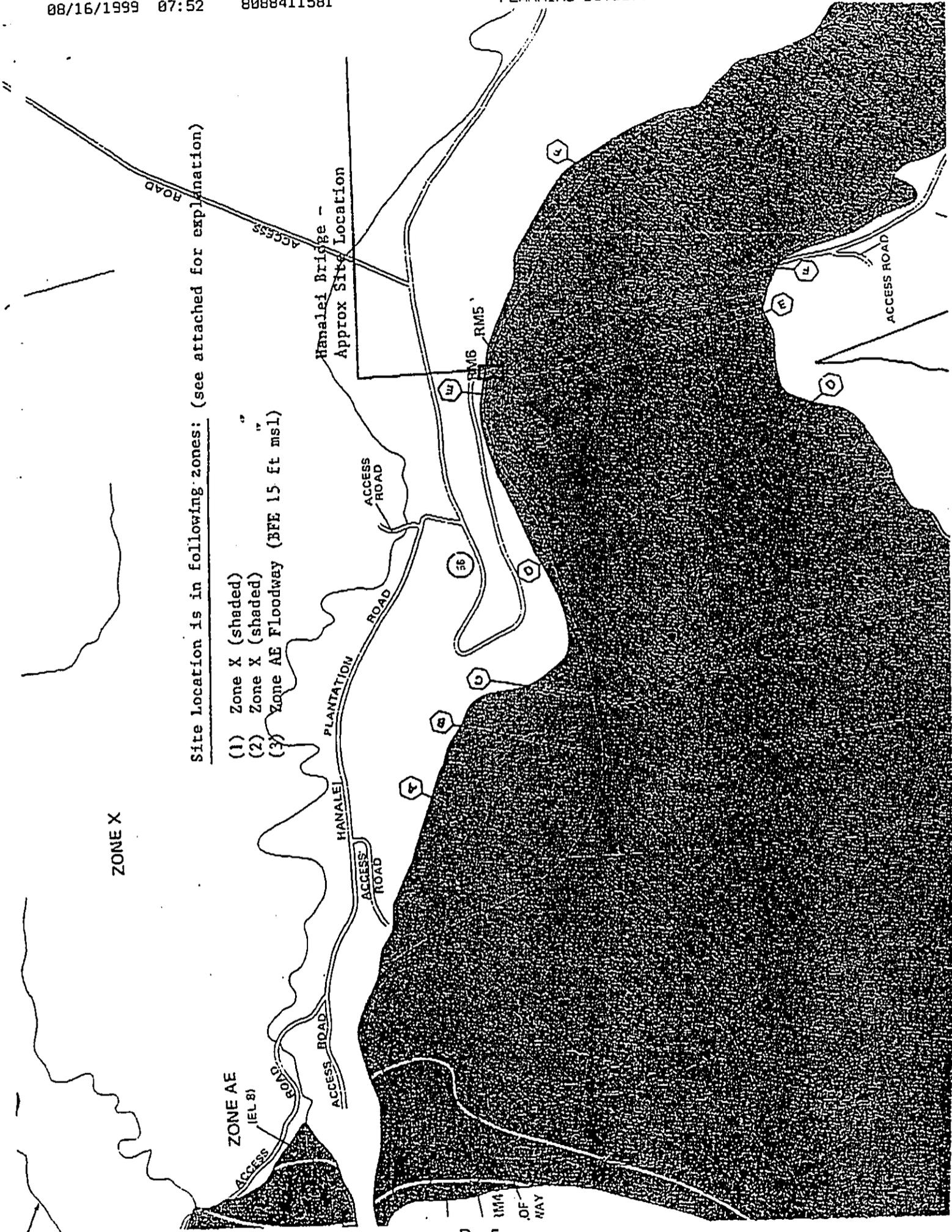
FLOOD INSURANCE RATE MAP REVISION:
received March 4, 1987 to change flood plain b...
designations, base flood elevations, corporate the...
local features, of map format.

determine if flood insurance is available, contact...
at or call the National Flood Insurance Prog...
1-6620.



APPROXIMATE SCALE IN FEET





Site Location is in following zones: (see attached for explanation)

- (1) Zone X (shaded)
- (2) Zone X (shaded)
- (3) Zone AE Floodway (FFE 15 ft msl)



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

6196-01
JSG
10/14/99
MGO -
CC: DOT HWY. -
VIA FAX -

REPLY TO
ATTENTION OF

September 28, 1999

Regulatory Branch

RECEIVED
SEP 30 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. Steven M. Kyono, P.E.
District Engineer, Kauai District
State Highways Division
Department of Transportation
3060 Eiwa Street, Room 205
Lihue, Hawaii 96766

Dear Mr. Kyono:

This responds to your application for a Department of the Army (DA) permit to rehabilitate the existing Hanalei Bridge, Hanalei District, Kauai, Hawaii. Your project description indicates that the proposed rehabilitation project will be limited to work on the bridge superstructure and that there will be no discharge of dredged or fill material into waters of the U.S. Bridge reconstruction which does not involve any discharge of dredged or fill material is normally not regulated by the Corps of Engineers. Your application documents the fact that you have already coordinated this project with the U.S. Coast Guard and have obtained their approval for the work.

Based on the information you provided, I have determined that the proposed work will not require a DA permit. However, I recommend that best management practices be employed during construction to prevent potential discharges from entering waters of the U.S. Should you decide to perform work below the ordinary high water mark of the river, please contact this office for further determination of DA permit requirements.

If you have any questions regarding this determination, please contact Mr. Peter Galloway of my staff at 438-8416 and refer to File No. 990000454.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

U.S. Department
of Transportation

United States
Coast Guard



Commander
Fourteenth Coast Guard District

300 Ala Moana Boulevard
Honolulu, HI 96850-4982
Staff Symbol: oan
Phone: (808) 541-2315
FAX: (808) 541-2309

6196-01

MGO

4/21/99

CC: DOT HWY-K

16590
Serial 32011 VIA FAX
22 APR 1999

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, HI 96826

RECEIVED
APR 26 1999

JS

Dear Mr. Sakaguchi:

WILSON OKAMOTO & ASSOC., INC.

Thank you for informing us of your proposed bridge modification of the Hanalei Bridge.

Under 33 CFR part 115.70, the Commandant of the Coast Guard has given advanced approval to the locations and plans of bridges to be constructed across reaches of waterways navigable in law, but not actually navigated other than by logs, log rafts, rowboats, canoes and small motorboats. A review of your site plans shows that your project meets the criteria for advanced approval, so a Coast Guard permit is not required provided that full consideration is given to the laws and regulations in enclosure (1). If you have any further questions, please contact my bridge program administrator, LTJG Dan Stulack, at (808) 541-2319.

Sincerely,

T. D. HOOPER
Commander, U. S. Coast Guard
Chief, Aids to Navigation Branch
By direction of the District Commander

Encl: (1) Categorical Exclusion Checklist

CC: CEPOD, VA
FAX 8/19/99
P GALLAGHER

3

**CATEGORICAL EXCLUSION CHECKLIST
FOR
ADVANCE APPROVAL BRIDGE PROJECTS**

Categorically excluded bridge projects are subject to the following orders, regulations and laws:

- a. Section 303 (formerly 4(f)) of the Department of Transportation Act (P.L. 89-670).
- b. Executive Order 11990 – Protection of Wetlands.
- c. Executive Order 11988 – Floodplain Management.
- d. Section 106 of the National Historic Preservation Act (P.L. 89-665) and Executive Order 11593.
- e. Section 401 of the Federal Water Pollution Control Act, as amended (P.L. 92-500).
- f. Fish and Wildlife Coordination Act (P.L. 85-624).
- g. Endangered Species Act (P.L. 93-205).
- h. Coastal Zone Management Act (P.L. 92-583).
- i. Section 309 of the Clean Air Act (P.L. 90-148)
- j. Noise Control Act (P.L. 92-574)
- k. Wild and Scenic Rivers Act of 1968 (P.L. 90-532)
- l. Prime and Unique Farmlands (Council on Environmental Quality Policy dated 16 January 1980).
- m. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646).

6196-01

JS
8/27/99



United States Department of the Interior

FISH AND WILDLIFE SERVICE
PACIFIC ISLANDS ECOREGION
300 ALA MOANA BOULEVARD, ROOM 3-122
BOX 50088
HONOLULU, HAWAII 96850
PHONE: (808) 541-3441 FAX: (808) 541-3470

CC: DOT HWY-K, VIA
FAX 8/27/99
FHWA, VIA FAX
8/27/99

In Reply Refer To: I.J.L.W.

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Draft Environmental Assessment, Pre-Assessment Consultation, Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii

Dear Mr. Sakaguchi:

The U.S. Fish and Wildlife Service (Service) has reviewed your July 21, 1999, letter seeking comments relative to the preparation of a draft environmental assessment (DEA) for the proposed project referenced above. The proposed project sponsor is the State of Hawaii Department of Transportation, Highways Division, Kauai District. The U.S. Department of Transportation, Federal Highways Administration (FHWA) is providing funding for the proposed project. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852], as amended, the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended (ESA), and other authorities mandating Service concern for environmental values. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project includes the removal and replacement of the original Pratt Truss for the Hanalei Bridge. The replacement will be of similar design and appearance as the existing truss and would be constructed of steel. The one-lane timber deck travel surface will be retained. Improvements will be made to the approach guardrails and the pedestrian railings and the entire structure will be painted. The Warren trusses will also be repaired as necessary. It is our understanding that you have contacted the Service's Hanalei National Wildlife Refuge and discussed this project with refuge biologist Dr. Adam Asquith.

We have reviewed pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. Based on our review the following endangered and threatened species are likely to occur at the project site: the endangered plant *Cyperus trachysantos* (Puukaa); and the endangered Hawaiian coot (*Fulica americana alai*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian duck (*Anas wyvilliana*), and Hawaiian hoary bat (*Lasiurus cinereus semotus*).

The Service recommends that the DEA address potential project-related impacts to Federal trust resources, including listed species and their habitats, migratory birds, and wetlands. The DEA should assess the extent and type of impacts expected to occur to these species from the proposed project and include discussions of whether these species use the project area for nesting or breeding or simply as feeding and loafing areas. The extent of the impacts may depend heavily on when and how long these species occupy the area. We also recommend that the DEA address potential impacts to native Hawaiian species and habitats. For instance, the DEA should discuss whether any of the construction activities may impact water quality and native fish and invertebrates in Hanalei River through materials entering the river by being placed there or by inadvertently spilling or falling into the water.

The draft EA should propose mitigation measures to avoid unnecessary impacts, minimize unavoidable impacts, and compensate for significant impacts to these resources. For example, we recommend that consideration be given to avoidance of the primary breeding seasons of listed species in the area to reduce adverse project-related impacts to their successful reproduction. We also recommend that containment measures be incorporated into the project to ensure no additional sedimentation or contamination is added to the Hanalei River.

For compliance with section 7 of the ESA, the FHWA will need to make a determination of the effects of the proposed project on the listed species in the project area. If the FHWA makes a determination that the proposed project may affect listed species but is not likely to adversely affect listed species, they need to contact us and request our concurrence with their determination. Based on the information we currently have and on recent discussions with Dr. Asquith, it is likely that we would concur with such a determination.

The Service appreciates the opportunity to provide this early technical assistance, and we look forward to reviewing a copy of the DEA when it is available. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Lorena Wada by telephone at (808) 541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,

Barbara A. Mayfield, Acting

for Robert P. Smith
Pacific Islands Manager

6196-01
September 22, 1999

Mr. Robert P. Smith, Pacific Island Manager
Pacific Islands Ecoregion
U.S. Department of the Interior
Fish and Wildlife Service
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comments

Dear Mr. Smith:

Thank you for your letter of August 27, 1999 regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. We have discussed this project several times with Dr. Adam Asquith at the Hanalei National Wildlife Refuge.

The Hanalei National Wildlife Refuge (HNWR) lies immediately upstream and west of the Hanalei Bridge. The HNWR contains populations of four species of waterbirds listed as endangered under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544). The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian gallinule, (*Gallinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus knudensi*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are a portion of the habitat for these species. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for these species. Similarly, the superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for the Hawaiian hoary bat (*Lasiurus cinereus semotus*).

We understand the endangered plants species *Cyperus trachysantos* (Puukaa) has been planted in the HNWR upstream from the Hanalei Bridge. This species would not be expected to be found near the Bridge.

6196-01

Letter to Mr. Robert P. Smith, Pacific Island Manager

Page 2

September 22, 1999

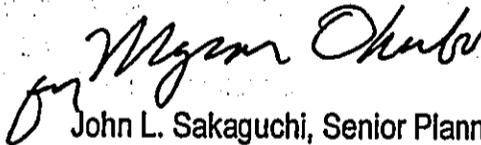
Based on this information, there may be some short-term disturbance to the avifauna species during the construction period. The removal and replacement activities could cause the species to avoid the area of the Bridge while work is ongoing. If night activities occur, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once the removal and replacement activities are completed, there should be no adverse effects to the avifauna species from the project. Overall, replacement of the Pratt Trusses may affect the listed species. However, the removal and replacement of the Pratt Trusses is not likely to adversely effect the listed species.

The contractor is to prevent debris or material from removal and replacement work from falling into the Hanalei River. This mitigation should ensure no contamination from the project enters the Hanalei River. As a result, there should be no adverse effects to water quality which impact flora near the Bridge or the native fish and invertebrates in the Hanalei River.

We will include the above analysis in the Draft Environmental Assessment.

If you have any questions, please call me at 946.2277.

Sincerely,


John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

6196-01
BRUCE S. ANDERSON Ph.D., M.P.H.
DIRECTOR OF HEALTH

MSB
RFB

In reply, please refer to:
EMD/CWB

07092PKP.99

CC: DOT HWY-K, VIA
FAX 8/5/99

RECEIVED
AUG 02 1999

WILSON OKAMOTO & ASSOC., INC.

July 29, 1999

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: **Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge
Hanalei District, Kauai, Hawaii**

The Department of Health (Department) has reviewed your submittal dated July 21, 1999 for the subject project and has the following comments:

1. The Army Corps of Engineers (COE) should be contacted to identify whether a federal permit (including a Department of Army (DA) permit) is required for the subject project. If a federal permit is required by the COE, then a Section 401 Water Quality Certification (WQC) will be required from the Department's Clean Water Branch.
2. A NPDES individual permit would be required if the project involves any of the following types of discharges into State waters within the Hanalei National Wildlife Refuge:
 - a. Storm water runoff associated with construction activities that involve the disturbance of five (5) acres or greater, including clearing, grading, and excavation;
 - b. Construction dewatering effluent; and/or
 - c. Hydrotesting effluent.

If any of the above discharges enter State waters not within the Hanalei National Wildlife Refuge, then the discharges may be covered under NPDES general permits. Separate NPDES general permit coverages are required for each type of discharge.

Mr. John L. Sakaguchi
July 29, 1999
Page 2

Section 401 WQC applications, NPDES individual permit applications, and Notice of Intent forms may be picked up at our office. Should you have any questions regarding this matter, please contact Ms. Kris Poentis, Engineering Section of the Clean Water Branch, at 586-4309.

Sincerely,



DENIS R. LAU, P.E., CHIEF
Clean Water Branch

KP:auc

6196-01
September 22, 1999

Mr. Denis R. Lau, P.E.
Chief, Clean Water Branch
State of Hawaii
Department of Health
919 Ala Moana Blvd., Room 301
Honolulu, Hawaii 96814

Subject: Draft Environmental Assessment, Pre-Assessment Consultation;
Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei
Bridge, Hanalei District, Kauai, Hawaii; Response to Comment

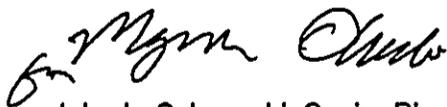
Dear Mr. Lau:

Thank you for your letter of July 29, 1999 regarding the Pre-Assessment Consultation; for the Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii. Construction activities related to the replacement Trusses will occur on the superstructure of the Bridge and will not involve work to the abutment within the waterway of the Hanalei River. There will be no change to the abutments or the vertical clearance between the floorbeams and the Hanalei River. The State of Hawaii Department of Transportation Highways Division- Kauai District has submitted a Department of the Army permit application to meet the requirements of the Harbors and Rivers Act.

There will be no construction work which will involve disturbance of five acres or more. Similarly, there will be no construction dewatering or hydrotesting related to this project.

Thank you for your participation in the Environmental Assessment process. If you have questions, please call me at 946.2277.

Sincerely,



John L. Sakaguchi, Senior Planner

cc: DOT HWY-K

ARYANNE W. KUSAKA
MAYOR



PLANNING DEPARTMENT

6196-01
5/13/99
DEE M. CROWELL
PLANNING DIRECTOR
SHEILAH N. MIYAKE
DEPUTY PLANNING DIRECTOR
TELEPHONE (808) 241-6677
FAX (808) 241-6699

[Handwritten initials]
MG10

April 23, 1999

John L. Sakaguchi
Wilson, Okamoto & Associates
1907 S. Beretania Street
Honolulu, HI 96826

CC: DOT HWY-K-
VIA FAX
5/13/99

Subject: Hanalei Bridge
Truss Replacement and Repair
Hanalei, Kauai

Dear Mr. Sakaguchi:

This letter is being sent in response to your March 23, 1999 request for a determination as to the Special Management Area (SMA) Permit requirements for the above identified project. Based on the information submitted you propose to remove and replace the existing Pratt trusses on the upper portion of the bridge, and repair the existing Warren trusses on the lower portion of the bridge. The value of the project is approximately \$1.3 million.

A review of our maps identifying the location of the SMA within Kauai County reveals that the SMA line extends up the Hanalei River to the bridge, but does not include the bridge. Therefore, an SMA Permit will not be required for the proposed bridge project.

Please contact George Kalisik of my staff at 241-6677 if you have any questions.

Sincerely,

Dee M. Crowell
Planning Director

D - 16

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhihewa Building, Room 556
601 Kamokila Boulevard
Kapolei, Hawaii 96707

6196-01
TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES

DEPUTIES
JANET E. KAWELO

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES

ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

JS
8/17/99

August 12, 1999

RECEIVED
AUG 16 1999

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 S. Beretania St., Suite 400 WILSON OKAMOTO & ASSOC, INC.
Honolulu, Hawaii 96826

LOG NO: 23953
DOC NO: 9908TM13, MEO
Architecture

CC: DOT HWY-K } VIA
FHWA } FAX
8/17/99

Dear Mr. Sakaguchi:

SUBJECT: Draft Environmental Assessment
Remove/Repair/Replace Metal Members
Hanalei Bridge Hanalei, Kauai

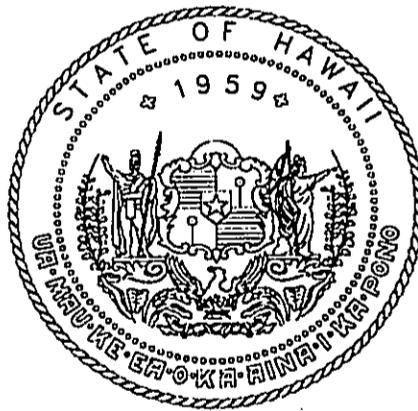
Thank you for transmitting the Draft Environmental Assessment on the above project. We understand that the Hanalei community has been informed of these plans and concurs with the project. Since the repair will entail replacement of the damaged Pratt Truss in a design very much like the original truss and the one-lane timber deck will be retained, we concur that the project to remove/repair or replace metal members of the Hanalei Bridge as indicated in the submittal will have "no historic properties adversely affected."

Thank you for the opportunity to comment and for keeping our office informed about the project. Should you have further questions, please call Tonia Moy at 692-8030.

Aloha,

DON HIBBARD, Administrator
State Historic Preservation Division

TM:lpf



APPENDIX E

Draft Environmental Assessment
Comment Letters



REPLY TO
ATTENTION OF

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

December 2, 1999

Civil Works Technical Branch

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Hanalei Bridge Project, Hanalei, Kauai. The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. As previously stated in a letter from our Regulatory Branch dated September 28, 1999, a DA permit will not be required for the project.

b. The flood hazard designations provided to you by FAX on August 16, 1999, from Ms. Dobinchick of my staff remain unchanged.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch

6696-01

12/6/99

RECEIVED
DEC 03 1999
MGO
TM

WILSON OKAMOTO & ASSOC., INC.

CC: DOT HWY-K
VA FAX

6196-01
Dec 22, 99

TELEPHONE MEMORANDUM

SUBJECT: Hanalei Bridge DEA

PERSON
CALLING: USFWS, Lorena Wada, 541.3441 (T)

INFORMATION ITEMS:

1. USFWS will not send a comment letter to the DEA, as their concerns from the Pre-Consultation were included in the DEA.
2. She did comment that the FHWA request and USFWS concurrence letters regarding the Section 7 consultation should be included in the FEA.
3. WOA to include USFWS on the distribution list for the FEA.

JW
12/22/99

CC: DOT HWY-K, VIA FAX



United States Department of the Interior

U.S. GEOLOGICAL SURVEY
WATER RESOURCES DIVISION
677 Ala Moana Boulevard, Suite 415
Honolulu, Hawaii 96813

December 22, 1999

JS
6196-01

12/21/99
MGO
TM
FILE

CC: DOT HWY-K
VIA FAX 12/27/99

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
Engineers/Planners
1907 S. Beretania Street
Honolulu, Hawaii 96826

DEC 27 1999
WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment (DEA)/Anticipated Finding of No Significant Impact (FONSI), Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii

Thank you for forwarding the subject DEA/FONSI for review and comment by the staff of the U.S. Geological Survey, Water Resources Division, Hawaii District Office. We regret however, that due to prior commitments and lack of available staff, we are unable to review this document and are returning it for your future use.

We appreciate the opportunity to participate in the review process.

Sincerely,

Gordon W. Tribble
District Chief

Enclosure

U.S. Department
of Transportation

United States
Coast Guard



Commander
Fourteenth Coast Guard District
Prince Kalaniana'ole Federal Building

300 Ala Moana Blvd., 9th Floor
Honolulu, HI 96850-4982
Staff Symbol: dpl
Phone: (808) 541-2126
FAX: (808) 541-3103

6196-01

12/2/99

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16590
29 November 1999

RECEIVED
DEC 01 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. John L. Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Honolulu, HI 96826

Dear Mr. Sakaguchi:

This is in regard to your draft environmental assessment for the Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge project dated November 1999.

The Coast Guard has reviewed your draft environmental assessment and has no comment at this
time. Issuance of a Finding of No Significant Impact based upon the subject environmental
assessment will satisfy the advance approval requirements noted in our 16590, Serial 32011
letter of 22 April 1999.

Please contact LTJG Dan Stulack, Bridge Program Administrator at (808) 541-2319 if you have
any additional questions.

Sincerely,

R. F. BEESLER
Captain, U. S. Coast Guard
District Planning Officer
By direction of the District Commander

CC: DOT HWY-K, VIA FAX 12/2/99



STATE OF HAWAII

DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

BENJAMIN J. CAYETANO
GOVERNOR

6196-01
12/27/99 M60
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FILE

LETTER NO. (P) 1876.9

CC: DOT HWY-K,
VIA FAX 12/27/99

DEC 22 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Suite 400
Honolulu, Hawaii 96826

RECEIVED
DEC 27 1999

WILSON OKAMOTO & ASSOC., INC.

Attention: Mr. John L. Sakaguchi

Gentlemen:

Subject: Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge,
Hanalei District, Kauai, Hawaii
Draft Environmental Assessment

Thank you for the opportunity to review the subject document.
The proposed project will have no impact on our facilities.
Therefore, we have no comments to offer.

If there are any questions, please have your staff contact
Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

RY:jk

CORRECTION

THE PRECEDING DOCUMENT(S) HAS
BEEN REPHOTOGRAPHED TO ASSURE
LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING



BENJAMIN J. CAYETANO
GOVERNOR

STATE OF HAWAII
DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
P.O. BOX 119, HONOLULU, HAWAII 96810

6196-01
12/21/99 M60
TM
FILE

LETTER NO. (P) 1876.9

CC: DOT HWY-K,
VIA FAX 12/21/99

DEC 22 1999

DEC 27 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street
Suite 400
Honolulu, Hawaii 96826

WILSON OKAMOTO & ASSOCC, INC.

Attention: Mr. John L. Sakaguchi

Gentlemen:

Subject: Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge,
Hanalei District, Kauai, Hawaii
Draft Environmental Assessment

Thank you for the opportunity to review the subject document.
The proposed project will have no impact on our facilities.
Therefore, we have no comments to offer.

If there are any questions, please have your staff contact
Mr. Ralph Yukumoto of the Planning Branch at 586-0488.

Sincerely,

GORDON MATSUOKA
Public Works Administrator

RY:jk

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801

December 2, 1999

6196-01
BRUCE S. ANDERSON, Ph.D., M.D.
12/07/99
DEPT. OF HEALTH
TM

In reply, please refer to:
File:
CC: DOT HWY-K,
VIA FAX
99-242/epo

RECEIVED
DEC 07 1999

WILSON OKAMOTO & ASSOC., INC.

Mr. John Sakaguchi
Senior Planner
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment
Repair Metal Members of Hanalei Bridge
Kuhio Highway
Hanalei, Kauai

Thank you for allowing us to review and comment on the subject project. We do not have any comments to offer at this time.

Sincerely,

GARY GILL
Deputy Director for
Environmental Health

c: KDHO

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII

DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
Kakuhikawa Building, Room 555
601 Kamokila Boulevard
Kapolei, Hawaii 96707

December 17, 1999

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates
1907 S. Beretania Street
Honolulu, Hawaii 96826

RECEIVED
DEC 27 1999

WILSON OKAMOTO & ASSOC., INC.

6196-01
TIMOTHY E. JOHNS, CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DEPUTIES
JANET E. KAWALO
LINNIE NISHIOKA
12/27/99 TM
FILE

ACQUATIC RESOURCES
BOATING AND OCEAN RECREATION
CONSERVATION AND RESOURCES
ENFORCEMENT
CONVEYANCES
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
LAND
STATE PARKS
WATER RESOURCE MANAGEMENT

LOG NO: 24600
DOC NO: 9912tm11
Architecture

CC: DOT HWY-K
VIA FAX 12/27/99

Dear Mr. Sakaguchi:

SUBJECT: Draft Environmental Assessment
Remove/Repair/Replace Metal Members
Hanalei Bridge, Hanalei, Kauai

Thank you for transmitting the Draft Environmental Assessment for the above project. We have no further comments regarding this project, as we continue to believe there will be no historic property adversely affected and your documentation appears to adequately address public input. However, we would like to advise you to consult with OHA and Historic Hawaii Foundation as they have both expressed interest in being parties to any Section 106 consultation.

Thank you for your diligence in working with the community. Should you have further questions, please call Tonia Moy at (808)692-8030.

Aloha,


DON HIBBARD, Administrator
State Historic Preservation Division

TM:jk

BENJAMIN J. CAYETANO
GOVERNOR OF HAWAII



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

DEC 15 1999

6196-01

TIMOTHY E. JOHNS
CHAIRPERSON
BRUCE S. ANDERSON
ROBERT G. GIFFALD
BRIAN C. NISHIDA
DAVID A. NOBRIGA
HERBERT M. RICHARDS, JR.

LINNEL T. NISHIOKA
DEPUTY DIRECTOR
12/16/99
TM

Mr. John Sakaguchi, Senior Planner
Wilson Okamoto & Associated
1907 South Beretania Street
Honolulu, Hawaii 96826

RECEIVED
DEC 16 1999

cc: DOT HWY-K
VIA FAX

WILSON OKAMOTO & ASSOC., INC.

Dear Mr. Sakaguchi:

Draft Environmental Assessment, Remove/Repair/Replace Trusses,
Hanalei Bridge, Hanalei, Kauai

Thank you for allowing us to review and comment on the subject document. Based on the description in Section 2.1.2 (Page 2-1) it is our understanding that the project only includes work on the Hanalei Bridge deck and superstructure. No subsurface work is proposed, therefore the bed or banks of Hanalei Stream will not be affected and a stream channel alteration permit pursuant to Hawaii Revised Statutes §174C-71 will not be required.

If you have any questions regarding this letter, please call David Higa at 587-0249.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

DH:sd

c. U. S. Army Corps of Engineers, Regulatory Section
Department of Health, Clean Water Branch
DOT, Highways Division

PHONE (808) 594-1888



STATE OF HAWAII
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAII 96813

6196-01

FAX (808) 594-1865

RECEIVED
DEC 06 1999
CC: DOT HWY-K
VIA FAX

WILSON OKAMOTO & ASSOC., INC.

December 1, 1999

Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826
Attn: John L. Sakaguchi, Senior Planner

JS
MBO
TM

(EIS #352)

Subject: Draft Environmental Assessment (DEA) Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Hanalei
District, Kaua'i, Hawaii

Dear Mr. Sakaguchi,

Thank you for the opportunity to comment on the above referenced project. According to the DEA, the State Department of Transportation (DOT) is proposing to remove and replace the existing Pratt trusses with new Pratt trusses of similar appearance and to retain the one lane timber deck configuration of the Hanalei Bridge.

As indicated in the DEA, the Hanalei National Wildlife Refuge (HNWR) is located upstream of the Hanalei Bridge. Four species of endangered waterbirds inhabit the HNWR, in addition, the endangered plant species, puka'a. Taro is also grown in the fields within the HNWR.

Although the endangered floral and faunal species are not located on the proposed project site, the Office of Hawaiian Affairs (OHA) urges that appropriate mitigative efforts be taken to prevent any potential harm.

The Hanalei River is also an important habitat for the native 'o'opu nakea, opae, and other aquatic life. OHA urges that the proper mitigative efforts be taken to prevent any adverse effects to the water quality of the Hanalei River, which could harm the aquatic life and taro fields.

John L. Sakaguchi, Senior Planner
Wilson Okamoto & Associates, Inc.
December 1, 1999
Page Two

If you have any questions, please contact Mark A. Mararagan, Policy Analyst-
Government Regulations at 594-1945.

Sincerely,



Colin C. Kippen, Jr.
Deputy Administrator

cc: OHA Board of Trustees
Kaua'i CAC

BENJAMIN J. CAYETANO
GOVERNOR



STATE OF HAWAII
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

235 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

November 17, 1999

Glenn Yamamoto
Assistant District Engineer
DOT Highways Division
3060 Eiwa Street, Room 205
Lihue, HI 96766

NOV 19 1999
WILSON OKAMOTO & ASSOC., INC.

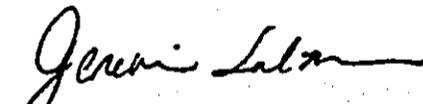
Dear Mr. Yamamoto:

Subject: **Draft environmental assessment for Hanalei Bridge Repair Work**

We have reviewed this environmental assessment and have no comments to offer at this time.

If you have any questions call Nancy Heinrich at 586-4185.

Sincerely,


GENEVIEVE SALMONSON
Director

c: John Sakaguchi, Wilson Okamoto

6196-01

11/22/99
GENEVIEVE SALMONSON
DIRECTOR
T.M.
MGO
JS FILE

MARYANNE W. KUSAKA
MAYOR

WALLACE G. REZENTES, SR.
ADMINISTRATIVE ASSISTANT



AN EQUAL OPPORTUNITY EMPLOYER
COUNTY OF KAUA'I
DEPARTMENT OF PUBLIC WORKS
4444 RICE STREET
MO'IKEHA BUILDING, SUITE 275
LIHU'E, KAUA'I, HAWAII 96766

November 6, 1999

Wilson Okamoto & Associates
1907 S. Beretania Street, Suite 400
Honolulu, Hawaii 96826

Attention: Mr. John Sakaguchi

Gentlemen:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
KUHIO HWY, REMOVE/REPAIR/REPLACE
METAL MEMBERS, HANAIEI BRIDGE

We reviewed the subject draft environmental assessment and offer the following comments in regards to the Federal Insurance Rate Maps (FIRM).

A. Federal Insurance Rate Maps (FIRM)

1. We are in receipt of the U.S. Army Corp Flood Plain Re-analysis of Hanalei River Report dated October 1999. The re-analysis was done by the Army Corp due to recent major encroachments that have occurred in the Hanalei River 100-year flood plain. The encroachments that were studied comprise of an earthen roadway berm by a private landowner and four wildlife ponds constructed by the Fish and Wildlife Service. A revised floodway of the combined encroachment was determined. The findings indicate an increased base flood elevation at the subject bridge. We are enclosing a copy of the flood profile sheet for your information and use.
2. While we have not adopted the flood elevations for the Hanalei basin as the best available information, we recommend your draft EA incorporate

6196-01 JS-

CESAR C. PORTUGAL
COUNTY ENGINEER
TELEPHONE 241-6600

IAN K. COSTA
DEPUTY COUNTY ENGINEER
TELEPHONE 241-6640

PW11.211

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FILE

CC: DOT HWY-K
VIA FAX

DEC 06 1999

Wilson Okamoto & Associates
December 6, 1999
Page 2

the new determined base flood elevation. From the profile sheet, we believe the 100-year flood elevation is 16.2 feet mea sea level.

3. We are not sure if the lowest chord of the bridge is above the new base flood elevation. However, we have no objections if the elevation of the lowest chord of the bridge is maintained.
4. Please amend the definition of the floodway on sheet 23. FEMA's interpretation of the floodway development standards is that the floodway encroachments shall not cause a rise in the base flood elevation. Please revise the phrase "substantial increases" to no increase in flood height.

Should you have any questions, please feel free to contact Wallace Kudo of my staff at 241-6620.

Very truly yours,

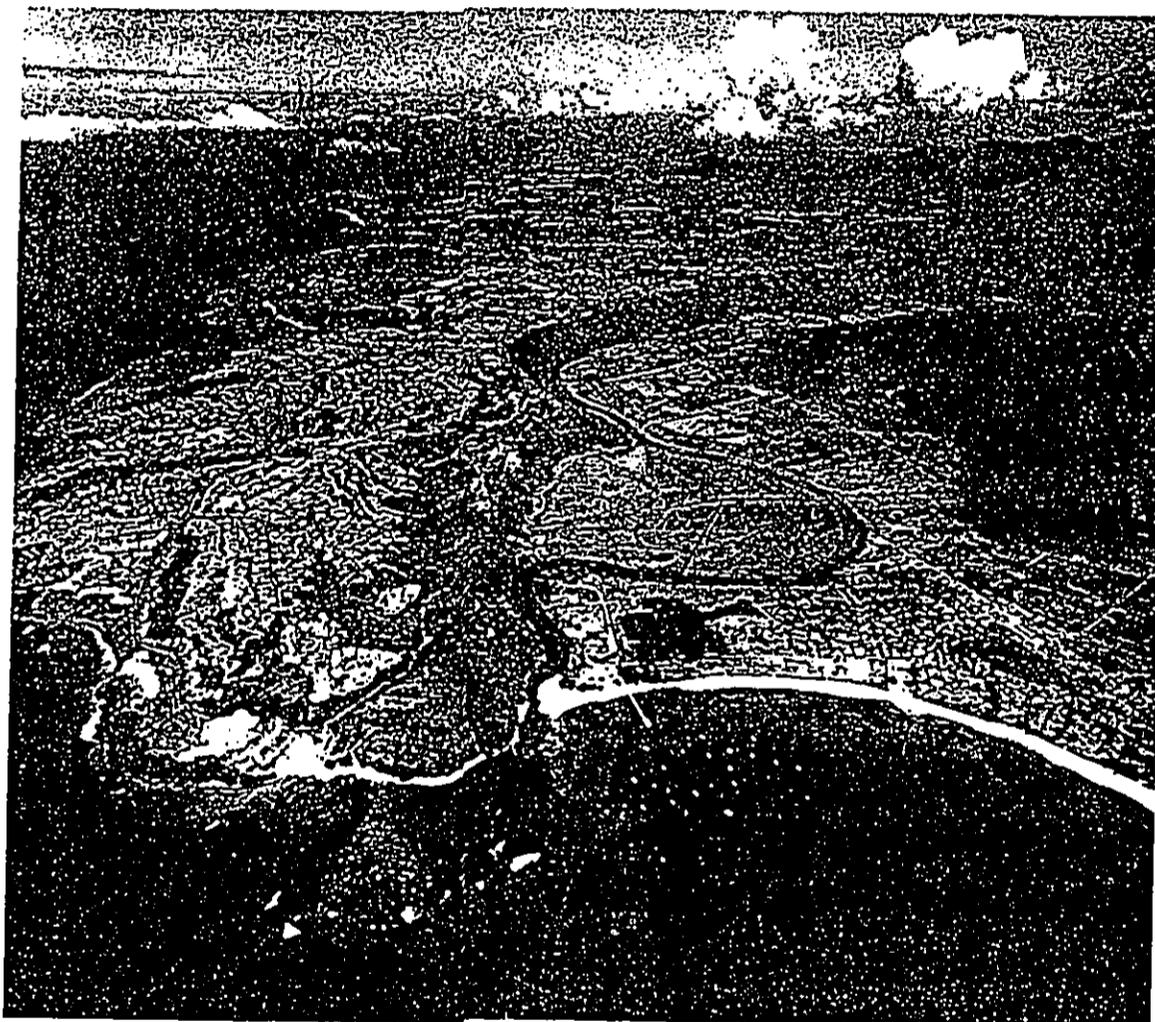

CESAR C. PORTUGAL
County Engineer

WK/cu

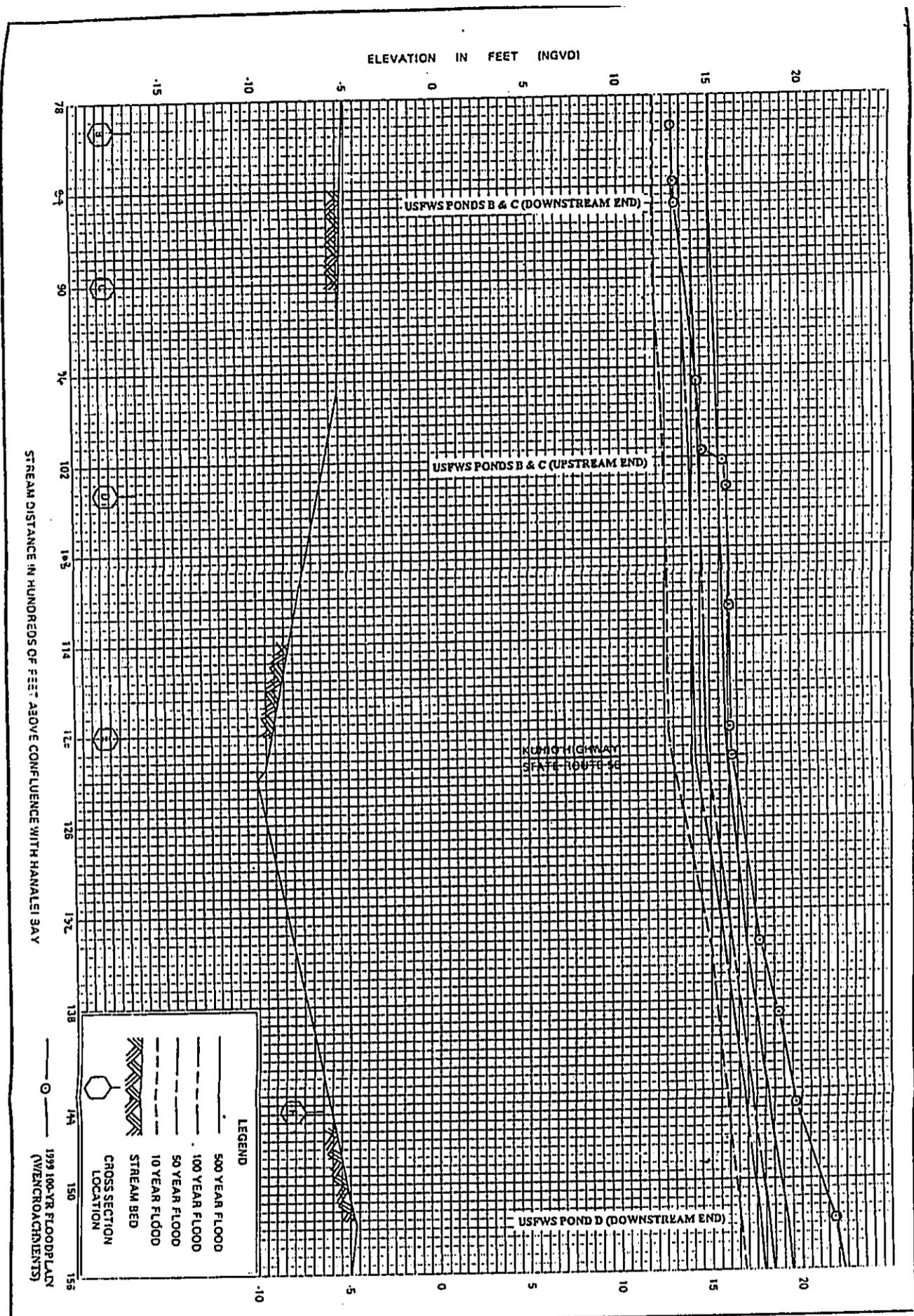


FLOOD PLAIN RE-ANALYSIS OF HANALEI RIVER, ISLAND OF KAUAI

US Army Corps
Of Engineers
Honolulu District



October 1999



FEDERAL EMERGENCY MANAGEMENT AGENCY KAUAI COUNTY, HI	FLOOD PROFILES
	HANALESI RIVER

04P

Figure 6 A-5

6196-01
December 21, 1999

Mr. Cesar C. Portugal, County Engineer
Department of Public Works
County of Kauai
4444 Rice Street, Suite 275
Lihue, Kauai, Hawaii 96766

Subject: Draft Environmental Assessment/Anticipated Finding of No
Significant Impact (FONSI), Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge, Hanalei District, Kauai, Hawaii,
Response to Comments

Dear Mr. Portugal:

Thank you for your letter dated November 6, 1999 (PW11.211) on the Draft
Environmental Assessment (EA)/Anticipated Finding of No Significant Impact
(FONSI), Kuhio Highway, Remove/Repair/Replace Metal Members, Hanalei Bridge
project. Our responses follow:

1. We have contacted the Department of the Army, U.S. Army Engineer
District, Honolulu (Corps of Engineers) regarding the Flood Plain Re-Analysis study
for the Hanalei River. At this time, we understand the study has been sent to the
Federal Emergency Management Agency (FEMA) for review and concurrence.
Thus, the Re-Analysis is still considered a draft study by the Corps of Engineers. On
December 2, 1999, the U.S. Army Engineer District, Honolulu commented on the
Draft EA and indicated the existing flood hazard information shown in the Draft EA
remains unchanged. See their attached letter.
2. The Final EA will indicate the information about the base flood elevation from
the Re-Analysis study and state that the study is still under review.
3. A topographic survey for the Hanalei Bridge was not included as part of the
design task. As such, the elevation of the lowest chord of the is not known. As
stated in the Draft EA, Kuhio Highway Remove/Repair/Replace Metal Members
project will consist of work to the Bridge superstructure. None of the work will
involve a change to the elevation of the lowest chord.

6196-01

Letter to Mr. Cesar C. Portugal, County Engineer

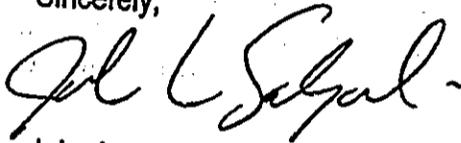
Page 2

December 21, 1999

4. Additional research on the definitions issued by FEMA indicates the 100-year floodway must be kept free of encroachment so that the entire 100-year discharge can be conveyed with no greater than a 1.0-foot increase in the base flood elevation. For construction of new encroachments, we understand FEMA has stated there is to be no increase in the base flood elevation. This information will be included in the Final EA. Note, as stated in the Draft EA, there will be no work on either abutment of the Bridge which could affect flows in the Hanalei River.

We appreciate your comments on the Draft EA. If you have additional questions, please call me at 808.946.2277.

Sincerely,



John L. Sakaguchi, Senior Planner

Attachment

cc: S. Kyono, DOT HWY-K, w/o attach.



REPLY TO
ATTENTION OF

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

December 2, 1999

6696-01
12/6/99
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DEC 03 1999
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Civil Works Technical Branch

WILSON OKAMOTO & ASSOC., INC.

CC: OOT HWY-K
VA FAX

Mr. John L. Sakaguchi, Senior Planner
Wilson Okamoto and Associates
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Hanalei Bridge Project, Hanalei, Kauai. The following comments are provided in accordance with Corps of Engineers authorities to provide flood hazard information and to issue Department of the Army (DA) permits.

a. As previously stated in a letter from our Regulatory Branch dated September 28, 1999, a DA permit will not be required for the project.

b. The flood hazard designations provided to you by FAX on August 16, 1999, from Ms. Dobinchick of my staff remain unchanged.

Sincerely,

James Pennaz
James Pennaz, P.E.
Chief, Civil Works
Technical Branch

DEPARTMENT OF WATER
County of Kauai

"Water has no Substitute - Conserve It"

6196-01

12/6/99

JS

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December 3, 1999

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DEC 06 1999

WILSON OKAMOTO & ASSOC., INC

cc: DIT HWY-K,
VIA FAX

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 S. Beretania Street
Honolulu, HI 96826

Dear Mr. Sakaguchi:

Subject: Draft Environmental Assessment, Kuhio Highway, Remove/Repair/Replace
Metal Members, Hanalei Bridge, Hanalei, Kauai, Hawaii

Thank you for providing us the opportunity to review the subject report. Presently, we do not have any
comments to add.

If you have any questions, please call Melvin Matsumura at 808-245-5410.

Sincerely,

for 
Ernest Lau
Manager and Chief Engineer

MM/san
A:\Draft\EA\Hanalei\Bridg\Matsu

6196-01
MG
TKI

planning@wilsonokamoto.com

From: CWilcox [cmw@aloha.net]
Sent: Tuesday, January 04, 2000 12:06 PM
To: planning@wilsonokamoto.com
Cc: Kristina Harms; Steve Kyono; Pericles Manthos; Barbara Robeson; Hanalei Heritage River
Subject: Hanalei Bridge DEIS comments

RE

1/4/00

cc: DOT HWY-K
via FAX
1/7/00



DEIS comments
12-23.doc

Attached please find comments from the Hanalei Roads Committee in response to the Draft Environmental Assessment to Remove/Repair Replace metal Members, Hanalei Bridge, Federal-Aid Project No FLH-560(11).

These comments do not sufficiently reflect our appreciation for all that you have done to assist the community in the protection of their beloved Hanalei Bridge. I hope that you will all be able to be there when we celebrate the completion of this project.

Mahalo
Carol Wilcox

Carol Wilcox
P.O. Box 10558
Honolulu, HI 96816

696-01
Barbara Robeson
POB 869
Hanalei, HI 96714

1/04/00

.....

Hanalei Roads Committee

December 23, 1999

Wilson Okamoto & Associates, Inc
1907 South Beretania Street Ste 400
Honolulu, Hawaii 96826

Dear Mr. Sakaguchi:

We have reviewed the Draft Environmental Assessment to Remove/Repair Replace metal Members, Hanalei Bridge, Federal-Aid Project No FLH-560(11). We find it to be a well prepared and thorough document and agree that a *Finding of No Significant Impact can be made for the project.*

The preservation and maintenance of the Hanalei Bridge enjoys extremely strong and unilateral support in the community and in the general planning for Kauai. This project, which will accomplish that preservation and maintenance, has been a model of good communications and implementation of a public project in a timely manner. We do trust that you will restore it to its original color, black, to when repairs are completed. This will provide a nice consistency with the historical tradition of it being called, at one time, the Black Bridge.

We wish to take this opportunity to thank the State Department of Transportation, the Federal Highways Administration, and Wilson Okamoto & Associates and Abba Lichtenstein, for working closely with the community on this project and for resolving it in a way consistent with community and county plans and desires. In particular we would like to commend District Engineer Steve Kyono for his part in keeping the lines of communication open, and Pericles Manthos, chief of the Highways Division of Department of Transportation, for establishing the principal of community participation at that level of the DOT.

We most especially extend our thanks to Senator Daniel Inouye for assisting in finding funding for this project. Without the Senator's help this successful resolution might never have come to pass.

Sincerely,

Carol Wilcox
Co-chair

Barbara Robeson
Co-chair

cc
U.S. Senator Daniel Inouye
Pericles Manthos, DOT
Steve Kyono, DOT

.....

Malama Pono



APPENDIX F
FHWA Coordination



United States Department of the Interior

FISH AND WILDLIFE SERVICE
Pacific Islands Ecoregion
300 Ala Moana Boulevard, Room 3-122
Box 50088
Honolulu, Hawaii 96850

6196-01
RECEIVED
10/25/99
HAWAII DIVISION

In Reply Refer To: LLLW

OCT 15 1999

Mr. Par V. Phung, P.E.
US Dept. of Transportation
Federal Highway Administration
Hawaii Division
300 Ala Moana Blvd., Rm 3-306
Honolulu, HI 96850

Re: Consultation under Section 7 of the Endangered Species Act for Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii. Project HEC-
HI

Dear Mr. Phung:

This responds to your September 9, 1999, letter requesting that we concur with your determination that the proposed project is not likely to adversely affect endangered and threatened species, in accordance with section 7 of the U.S. Endangered Species Act of 1973, as amended (Act).

The U.S. Fish and Wildlife Service (Service) has reviewed the information provided by you and pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. We have also coordinated with the Hanalei National Wildlife Refuge's biologist, Dr. Adam Asquith.

Based on our review, the Service concurs that the Federal Highway Administration (FHWA) action is not likely to adversely affect federally listed species. Based on this determination, we believe that the requirements of section 7 of the Act have been satisfied. However, the FHWA's obligations under section 7 of the Act must be reconsidered if (1) new information reveals impacts of this identified action that may affect listed species or critical habitat in a manner not previously considered, (2) this action is subsequently modified in a manner that was not considered in this assessment, or (3) a new species is listed or critical habitat determined that may be affected by the identified action.

The Service appreciates the FHA's concern for threatened and endangered species. If you have any questions, please contact Fish and Wildlife Biologist Lorena Wada (phone: 808/541-3441; fax: 808/541-3470).

Sincerely,



Robert P. Smith
Pacific Islands Manager

cc: Tom Alexander, Kauai National Wildlife Refuge Complex Manager



U.S. DEPARTMENT OF TRANSPORTATION
 FEDERAL HIGHWAY ADMINISTRATION
 Hawaii Division
 300 Ala Moana Blvd., Room 3-306
 Honolulu, HI 96850
 September 9, 1999

READING BLUES

6196-01

IN REPLY REFER TO
 HEC-HI

Mr. Robert P. Smith
 Pacific Island Manager
 U.S. Department of the Interior
 Fish and Wildlife Service
 Pacific Islands Ecoregion
 300 Ala Moana Boulevard, Room 3-122
 Honolulu, Hawaii 96850

Attn.: Ms. Lorena Wada

Dear Mr. Smith:

Subject: Kuhio Highway, Remove/Repair/Replace Metal Members
 Hanalei Bridge, Hanalei District, Kauai, Hawaii
 Endangered Species Act
 Determination, Request for Concurrence

This letter is to request the concurrence of the U.S. Fish and Wildlife Service with the Federal Highway Administration's (FHWA) determination that the proposed the Kuhio Highway, Remove/Repair/ Replace Metal Members, Hanalei Bridge project will have no adverse effect on listed species under the Endangered Species Act. The U.S. Department of Transportation, FHWA, and the State of Hawaii Department Transportation (HDOT), Highways Division, are providing funds for the Kuhio Highway, Remove/Repair/ Replace Metal Members, Hanalei Bridge project. The HDOT's consultant, Wilson Okamoto & Associates, Inc., has discussed this project several times with Dr. Adam Asquith at the Hanalei National Wildlife Refuge.

The HDOT is proposing to remove and replace the existing Pratt Trusses with new Pratt Trusses of similar appearance and to retain the one-lane timber deck configuration of the Hanalei Bridge. The replacement of the Pratt Trusses and other associated repairs would be made to the Bridge superstructure. Based on the results of the underwater inspection, there will be no work on either abutment or other work which might affect the Hanalei River. The contractor is to prevent debris and other removed material from falling onto the Bridge deck and/or into the Hanalei River. Since the Kuhio Highway and the Hanalei Bridge are the sole means of access to Hanalei and to the other North Shore communities west of Hanalei, the Bridge will remain in service during the removal and replacement activities. Some construction work is planned at night due to the need to prevent vehicle loading during these operations.

The Hanalei National Wildlife Refuge (HNWR) lies immediately upstream and west of the Hanalei Bridge. The HNWR contains populations of four species of waterbirds listed as endangered under the Endangered Species Act of 1973, as amended, (16 USC 1531-1544). The four endangered species are the Hawaiian coot, (*Fulica americana alai*), the Hawaiian duck, (*Anas wyvilliana*), the Hawaiian gallinule, (*Gallinula chloropus sandvicensis*), and the Hawaiian stilt, (*Himantopus mexicanus knudensi*). The taro fields in Hanalei Valley, which lies upstream from the Bridge, are a portion of the habitat for these species. The superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for these species. Similarly, the superstructure of the Hanalei Bridge does not provide habitat, nesting, breeding, or feeding, for the Hawaiian hoary bat (*Lasiurus cinereus semotus*).

We understand the endangered plants species *Cyperus trachysantos* (Puukaa) has been planted in the HNWR upstream from the Hanalei Bridge. This species would not be expected to be found near the Bridge.

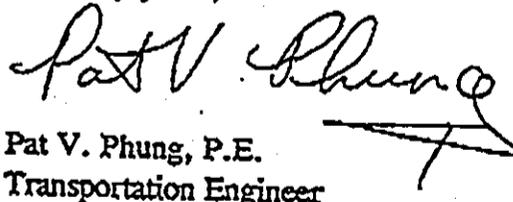
Based on this information, there may be some short-term disturbance to the avifauna species during the construction period. The removal and replacement activities could cause the species to avoid the area of the Bridge while work is ongoing. If night activities occur, the Hawaiian hoary bat should be able to avoid the Bridge and not be adversely affected by the lighting. Once the removal and replacement activities are completed, there should be no adverse effects to the avifauna species from the project.

As previously stated, the contractor is to prevent debris or material from falling onto the Bridge deck and/or into the Hanalei River. This mitigation should ensure minimal contamination from the project enters the Hanalei River. As a result, there should be no adverse effects to water quality which impact flora near the Bridge or the native fish and invertebrates in the Hanalei River.

Given the above, the FHWA has determined that the Hanalei Bridge project may affect the listed species. However, the project is not likely to adversely effect the listed species. The FHWA is requesting the U.S. Fish and Wildlife Service's concurrence with this determination. A preliminary finding from your office sent to Wilson Okamoto is enclosed.

Please contact me at 808-541-2700 if there are any questions.

Sincerely yours,


Pat V. Phung, P.E.
Transportation Engineer

Enclosure



United States Department of the Interior

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FHWA, VIA FAX
8/27/99

In Reply Refer To: L.I.L.W.

Mr. John L. Sakaguchi
Wilson Okamoto & Associates, Inc.
1907 South Beretania Street, Suite 400
Honolulu, Hawaii 96826

Re: Draft Environmental Assessment, Pre-Assessment Consultation, Kuhio Highway,
Remove/Repair/Replace Metal Members, Hanalei Bridge, Kauai, Hawaii

Dear Mr. Sakaguchi:

The U.S. Fish and Wildlife Service (Service) has reviewed your July 21, 1999, letter seeking comments relative to the preparation of a draft environmental assessment (DEA) for the proposed project referenced above. The proposed project sponsor is the State of Hawaii Department of Transportation, Highways Division, Kauai District. The U.S. Department of Transportation, Federal Highways Administration (FHWA) is providing funding for the proposed project. This letter has been prepared under the authority of and in accordance with provisions of the National Environmental Policy Act of 1969 [42 U.S.C. 4321 *et seq.*; 83 Stat. 852], as amended, the Fish and Wildlife Coordination Act of 1934 [16 U.S.C. 661 *et seq.*; 48 Stat. 401], as amended, the Endangered Species Act of 1973 [16 USC 1531 *et seq.*; 87 Stat. 884], as amended (ESA), and other authorities mandating Service concern for environmental values. Based on these authorities, the Service offers the following comments for your consideration.

The proposed project includes the removal and replacement of the original Pratt Truss for the Hanalei Bridge. The replacement will be of similar design and appearance as the existing truss and would be constructed of steel. The one-lane timber deck travel surface will be retained. Improvements will be made to the approach guardrails and the pedestrian railings and the entire structure will be painted. The Warren trusses will also be repaired as necessary. It is our understanding that you have contacted the Service's Hanalei National Wildlife Refuge and discussed this project with refuge biologist Dr. Adam Asquith.

We have reviewed pertinent information in our files, including maps prepared by The Nature Conservancy's Hawaii Natural Heritage Program and information compiled by the Service's Hawaii and Pacific Plant Recovery Coordinating Committee. Based on our review the following endangered and threatened species are likely to occur at the project site: the endangered plant *Cyperus trachysantos* (Puukaa); and the endangered Hawaiian coot (*Fulica americana alai*), Hawaiian stilt (*Himantopus mexicanus knudseni*), Hawaiian gallinule (*Gallinula chloropus sandvicensis*), Hawaiian duck (*Anas wyvilliana*), and Hawaiian hoary bat (*Lasiurus cinereus semotus*).

The Service recommends that the DEA address potential project-related impacts to Federal trust resources, including listed species and their habitats, migratory birds, and wetlands. The DEA should assess the extent and type of impacts expected to occur to these species from the proposed project and include discussions of whether these species use the project area for nesting or breeding or simply as feeding and loafing areas. The extent of the impacts may depend heavily on when and how long these species occupy the area. We also recommend that the DEA address potential impacts to native Hawaiian species and habitats. For instance, the DEA should discuss whether any of the construction activities may impact water quality and native fish and invertebrates in Hanalei River through materials entering the river by being placed there or by inadvertently spilling or falling into the water.

The draft EA should propose mitigation measures to avoid unnecessary impacts, minimize unavoidable impacts, and compensate for significant impacts to these resources. For example, we recommend that consideration be given to avoidance of the primary breeding seasons of listed species in the area to reduce adverse project-related impacts to their successful reproduction. We also recommend that containment measures be incorporated into the project to ensure no additional sedimentation or contamination is added to the Hanalei River.

For compliance with section 7 of the ESA, the FHWA will need to make a determination of the effects of the proposed project on the listed species in the project area. If the FHWA makes a determination that the proposed project may affect listed species but is not likely to adversely affect listed species, they need to contact us and request our concurrence with their determination. Based on the information we currently have and on recent discussions with Dr. Asquith, it is likely that we would concur with such a determination.

The Service appreciates the opportunity to provide this early technical assistance, and we look forward to reviewing a copy of the DEA when it is available. If you have questions regarding these comments, please contact Fish and Wildlife Biologist Lorena Wada by telephone at (808) 541-3441 or by facsimile transmission at (808) 541-3470.

Sincerely,

Barbara A. Mayfield, Acting

for Robert P. Smith
Pacific Islands Manager