

**MEMORANDUM OF AGREEMENT
AMONG THE FEDERAL HIGHWAY ADMINISTRATION,
THE HAWAII STATE HISTORIC PRESERVATION OFFICER,
AND THE ADVISORY COUNCIL ON HISTORIC PRESERVATION
REGARDING THE
KAUA‘I EMERGENCY FLOOD REPAIRS AND CLEANUP AT VARIOUS
LOCATIONS APRIL 2018
Districts of Halele‘a and Wailua, Kaua‘i, Hawai‘i**

WHEREAS, the island of Kaua‘i has suffered a disastrous occurrence of heavy rains with associated flooding and landslides that have caused extensive damage to Kūhiō Highway from Hā‘ena to Hanalei, as well as in certain locations at Kalihiwai, and Wailua for which the Governor of the State of Hawai‘i, and the President of the United States has proclaimed an emergency and disaster on April 15, 2018 and May 8, 2018, respectively; and

WHEREAS, the Federal Highway Administration (FHWA) has determined that the Kaua‘i Emergency Flood Repairs and Cleanup at Various Locations April 2018 project is an undertaking, as defined in 36 CFR § 800.16(y), and this is subject to review under Section 106 of the National Historic Preservation Act (NHPA), 16 USC § 470f and its implementing regulations, 36 CFR § 800; and

WHEREAS, the FHWA plans to fund the emergency undertaking pursuant to the 23 USC § 125; and

WHEREAS, the undertaking consists of debris removal, slope scaling, slope revetment, roadway and slope stabilization, pavement repairs, road reconstruction, repairs to stream crossings, as well as bridge rehabilitation for Wai‘oli Bridge, and replacement for Waipā Bridge and Waikoko Bridge to accommodate heavy construction equipment with a higher load capacity, which are listed in **Exhibit A**; and

WHEREAS, FHWA has defined the undertaking’s area of potential effects (APE) as shown also in **Exhibit A**; and

WHEREAS, the FHWA has determined that the undertaking will have an adverse effect on the Wai‘oli Bridge, Waipā Bridge, and Waikoko Bridge, which are individually eligible for listing on the National Register of Historic Places (NRHP) as well as contributing features to the Kaua‘i Belt Road, which is listed on the NRHP; and

WHEREAS, FHWA has determined that the undertaking will have an adverse effect on the Kaua‘i Belt Road, which is listed on the NRHP; and

WHEREAS, FHWA has consulted with the State Historic Preservation Officer (SHPO) pursuant to 36 CFR Part 800, the regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. § 470f) to resolve the adverse effects; and

WHEREAS, the HDOT, as landowner, project proponent and applicant for Federal assistance shall carry out the stipulations identified under this Memorandum of Agreement (MOA) and is an invited signatory; and

WHEREAS, FHWA has consulted with the Hanalei Roads Committee, the Historic Hawaii Foundation, Hanalei Watershed Hui, Waikoko Ohana, Hui Ho'omaluku I Ka 'Āina, and Konohiki Restoration Project regarding the effects of the undertaking on historic properties and has invited them to sign this MOA as concurring parties (“concurring parties”); and

WHEREAS, in accordance with 36 CFR § 800.12(b)(2) and 36 CFR § 800.6(a)(1), FHWA has notified the Advisory Council on Historic Preservation (ACHP) of the emergency situation and its adverse effect determination with the specified documentation in 36 CFR § 800.11(e), and the ACHP has chosen to participate in the consultation; and

NOW, THEREFORE, the FHWA, SHPO, ACHP and the HDOT (“signatories”) agree that the undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on historic properties.

STIPULATIONS

FHWA shall ensure that the following stipulations are carried out:

- I. HDOT will ensure that the designs for the new Waipā, and Waikoko bridges shall conform to the guidelines recommended by the Kūhiō Highway (Route 560) Historic Roadway Corridor Plan (2005, HDOT). HDOT shall implement the designs in **Exhibit B**, which consulting parties have had an opportunity to review. Design elements for each of the two replacement bridges include:
 - A. Placing the footings and girders outside the existing bridge footprint, while installing a precast bridge on top of the existing bridge.
 - B. Solid concrete parapets with the iconic solid concrete rail cap, similar to the existing bridge.
 - C. Maintain a 14’ travel way (12’ road and 2’ shoulders); but will add 2’ non-mountable curbs to protect the bridge parapets (which also acts as the bridge girder). The 2’ non-mountable curb shall have reflective coating or paint for traffic calming measures, as described in Stipulation IX.B.
 - D. Maintain existing alignments and the one-lane travel route on the bridges.
 - E. Have a posted load of 15 tons, with a capacity for 20 tons.
- II. HDOT will ensure that the designs for the rehabilitation of Wai‘oli Bridge shall conform to the Secretary of the Interior’s Standards for Rehabilitation. HDOT shall implement the

designs in **Exhibit B**, which consulting parties have had an opportunity to review. Design elements for the rehabilitation of Wai‘oli Bridge include:

- A. Rehabilitate by removing unsound concrete, corroded rebar, and various cracks and spalls and replacing with new concrete and rebar. The newly rehabilitated areas will be wrapped with an approximately 3/8” thick fiberglass reinforced plastic (FRP) wrap where identified in the plans.
 - B. Maintain the existing dimensions of both the deck (travelway) and the railings, with allowance via a design exception granted by FHWA due to concerns presented by the concurring parties.
 - C. Allow for consultation with concurring parties to select a finish for the FRP wrap that will match the historic finish in color and texture as close as possible.
- III. If during rehabilitation of Wai‘oli Bridge, it is determined by the HDOT design engineer that the degree of deterioration is beyond repair, HDOT will coordinate the bridge evaluation with concurring parties, then proceed with replacement in accordance with the design parameters in in Stipulation I, while Stipulation II will become void.
- IV. Prior to beginning construction work on the Wai‘oli, Waipa and Waikoko Bridges, HDOT shall accommodate a community gathering for a groundbreaking ceremony, Native Hawaiian cultural protocols and public commemoration of the historic resources that will be lost as well as those that will be preserved. The community gathering shall be subject to reasonable requirements for safety and other administrative and security procedures. HDOT shall coordinate the community gathering with Hanalei Roads Committee and Hui Ho‘omalua I Ka ‘Āina.
- V. Historic American Engineering Record (HAER) Documentation
- A. HDOT shall prepare a HAER document for recordation of the Wai‘oli, Waipā, and Waikoko Bridge as mitigation to address the adverse effects to the bridges. The HAER document shall be prepared in accordance with its standards and specifications, by a historic preservation professional meeting the Secretary of the Interior’s (SOI) Professional Qualifications Standards (36 CFR 61) for History, Architectural History, Architecture, or Historic Architecture.
 - B. HDOT shall send the HAER documents to SHPO for a 30-day review. HDOT shall address SHPO’s comments, if any, before submitting to the Historian at the Heritage Documentation Program of the National Park Service, Pacific West Region (located 1111 Jackson Street, Suite 7000, Oakland California 94607) for review no later than 180 calendar days after bridge demolition.
 - C. Upon acceptance and approval by the National Park Service, HDOT shall provide the approved HAER document to the signatories and concurring parties identified in this MOA.

- VI. Within 12 months of execution of this MOA, HDOT shall initiate an update to the Kauaʻi Belt Road National Register (NR) Nomination Form to address changes since the district was listed on the Register of Historic Places. The NR update shall be completed by a preservation professional meeting the SOI Standards for Historian, Architectural Historian or Historic Architect. HDOT shall submit the update to SHPO within 18 months of execution of this MOA.
- VII. HDOT shall continue to work with consulting parties who participated in the Kauaʻi Historic Bridge Forum (February, 2016), and concurring parties to this MOA, to develop a programmatic approach for the management and treatment of historic bridges on Kauaʻi. Within 18 months of executing this MOA, HDOT shall develop a scope of work, timeline and consultation protocol (SOW) to complete a Programmatic Agreement (PA) for the management and treatment of Kauaʻi's Historic Bridges. The SOW shall incorporate information and recommendations from the "Hawaii State Historic Bridge Inventory and Evaluation" (HDOT, 2013) and the American Association of State Highway and Transportation Officials (AASHTO) "Guidelines for Historic Bridge Rehabilitation and Replacement" (2007). HDOT shall develop the SOW through consultation with the signatories and consulting parties, to include:
- A. HDOT shall distribute the draft SOW to consulting parties at three stages (preliminary, interim and pre-final) for review and comments.
 - B. Consulting parties shall provide written comments to HDOT within 30 calendar days of receipt of the materials. Any party may request a meeting to discuss the materials within the 30-calendar day review period.
 - C. HDOT shall address the comments received in earlier phases when submitting subsequent review materials, with an explanation of how the comments were incorporated or reasons they were not, if applicable.
 - D. HDOT shall provide a status report of upcoming and ongoing projects which may affect historic bridges. The status report will be made available on HDOT's website, and updated monthly during the 18-month development period for the SOW and PA.
- VIII. HDOT shall prioritize and accelerate the Hanalei Bridge maintenance project identified to occur in the Federal Fiscal Year 2019-2022 (+2) Statewide Transportation Improvement Program (STIP) (currently in preparation). HDOT shall initiate maintenance and preservation work to replace the deteriorated steel and deteriorated paint system on the Hanalei Bridge consistent with SOI standards, no later than 18 months after completion of the Kauaʻi Emergency Flood Repairs and Cleanup Project.
- IX. HDOT shall implement the following traffic control measures to help facilitate traffic flow along Kūhiō Highway, specifically along the single lane bridges, to improve roadway safety and traffic flow during emergency and non-emergency situations, while preserving the historically rural character and utility of the roadway and its single lane bridges. All measures to be installed within 9 months of execution of this agreement:

- A. Install traffic signal system at Hanalei Bridge. The traffic signal system design and aesthetic shall be consistent with the rural and historic landscape. HDOT shall provide concurring parties with a 30-calendar day review of the proposed plans.
 - B. Install traffic calming measures on the approaches to the single lane bridges, in accordance with U.S. Department of Transportation, Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways. HDOT shall provide concurring parties with a 14-calendar day review of the proposed designs.
 - C. Install and remove signs in accordance with **Exhibit C** to enforce parking restrictions to preserve rural character of the historic roadway. Signs will be installed in accordance with U.S. Department of Transportation, Federal Highway Administration's Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, in the vicinity of Kuhio Highway, Route 560, milepost 8.0 to milepost 10.0. HDOT shall provide concurring parties with a 30-calendar day review of the proposed sign plans.
- X. Archaeological monitoring shall be conducted for ground disturbing activities near the Wai'oli, Waipā, and Waikoko Bridges, and any additional areas deemed as sensitive by SHPO. In the event that any cultural resources or human remains are disturbed, all work shall cease and Stipulation XII will be followed.

XI. DURATION

This MOA will expire if its terms are not carried out within five (5) years from the date of its execution. Prior to such time, FHWA may consult with the other signatories and consulting parties to reconsider the terms of the MOA and amend it in accordance with Stipulation XV.

XII. INADVERTENT DISCOVERY AND UNANTICIPATED EFFECTS

- A. If properties are discovered that may be historically significant or unanticipated effects on historic properties found, the HDOT shall refer to HAR Chapter 13-280 "Rules for Governing General Procedures for Inadvertent Discoveries of Historic Properties During a Project Covered by the Historic Preservation Review Process".
- B. If cultural materials are discovered during construction, all earth-moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find.
- C. If human remains are inadvertently discovered, HDOT shall follow the procedures in Hawai'i Administrative Rules Title 13, Subtitle 13, Chapter 300 (HAR § 13-300) in which further disturbances and activities shall cease in any area or nearby area suspected to overlie remains. SHPO and Police Department will then be contacted immediately. In addition, the remains shall be covered and protected in place in such a way that minimizes further exposure of and damage. Procedures in conformance with HAR §13-300 Subchapter 4 "Procedures for Property Treatment of Burial Sites and Human Skeletal Remains" shall be followed.

XIII. MONITORING AND REPORTING

On an annual basis, following the execution of this MOA until it expires or is terminated, FHWA shall provide all parties to this MOA a summary report detailing work undertaken pursuant to its terms. The report shall include any scheduling changes proposed, any problems encountered, and any disputes and objections received in FHWA or HDOT's efforts to carry out the terms of this MOA. A review meeting may be called by the FHWA or HDOT upon request of a signatory, invited signatory or concurring party to this MOA. A Final report shall be prepared and transmitted to the parties participating in this MOA at the expiration of the MOA.

XIV. DISPUTE RESOLUTION

Should any signatory or concurring party to this MOA object to the actions conducted pursuant to the terms of this agreement or the manner in which the terms of this MOA are implemented, the objecting party shall notify FHWA in writing and FHWA shall consult with such party to resolve the objection. If FHWA determines that such objection cannot be resolved, FHWA will:

- A. Forward all documentation relevant to the dispute, including the FHWA's proposed resolution to the ACHP. The ACHP shall provide FHWA with its advice on the resolution of the objection within thirty (30) days of receiving adequate documentation. Prior to reaching a final decision on the dispute, FHWA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories and concurring parties, and provide all parties (signatories and concurring parties) with a copy of this written response. FHWA will then proceed according to its final decision.
- B. If the ACHP does not provide its advice regarding the dispute within the thirty (30) day period, FHWA may make a final decision on the dispute and proceed accordingly. Prior to reaching its final decision, FHWA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.
- C. FHWA's responsibility to carry out all other actions or terms of this MOA that are not the subject of the dispute remain unchanged.

XV. AMENDMENTS

This MOA may be amended when such an amendment is agreed to in writing by all signatories. Prior to executing the amendment, signatories shall consult with concurring parties regarding the proposed amendment, and afford concurring parties the opportunity to review the changes. The amendment will be effective on the date a copy of the agreement, signed by all signatories, is filed with the ACHP.

XVI. TERMINATION

If any signatory to this MOA determines that its terms will not or cannot be carried out, that party shall immediately consult with other signatories and concurring parties to attempt to

develop an amendment per Stipulation XV. If within thirty (30) days an amendment cannot be reached, any signatory may terminate the MOA upon written notification to the other signatories.

Once the MOA is terminated, and prior to work continuing on the undertaking, FHWA must either (a) execute an MOA pursuant to 36 CFR § 800.6 or (b) request, take into account, and respond to the comments of the ACHP under 36 CFR § 800.7. FHWA shall notify the signatories as to the course of action it will pursue.

Execution of this MOA by the FHWA, HDOT, SHPO, and the ACHP and implementation of its terms evidence that FHWA has taken into account the effects of this undertaking on historic properties and afforded the ACHP an opportunity to comment.

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REGARDING THE
KAUA'I EMERGENCY FLOOD REPAIRS AND CLEANUP AT VARIOUS
LOCATIONS APRIL 2018
Districts of Halele'a and Wailua, Kaua'i, Hawai'i**

SIGNATURES

SIGNATORIES

Ralph J. Rizzo
Division Administrator
Federal Highway Administration

Date: _____

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Dr. Alan S. Downer, PhD
Deputy State Historic Preservation Officer
Hawaii State Historic Preservation District

Date: _____

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John M. Fowler
Executive Director
Advisory Council on Historic Preservation

Date: _____

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Jade T. Butay
Director of Transportation
Hawaii State Department of Transportation

Date: _____

CONCURRING PARTIES

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Brian Hennessy
Co-Chair
Hanalei Roads Committee

Date: _____

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Maka'ala Ka'aumoana
Vice Chair
Hui Ho'omalua I Ka 'Āina

Date: _____

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Kiersten Faulkner, AICP
Executive Director
Historic Hawaii Foundation

Date: _____

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LOCATIONS APRIL 2018
Districts of Halele'a and Wailua, Kaua'i, Hawai'i**

Ka`imi Hermosura
Konohiki
Konohiki Restoration Project

Date: _____

EXHIBIT A
LIST OF EMERGENCY REPAIRS, LOCATIONS, AND
AREA OF POTENTIAL EFFECT MAP

Kuhio Highway (Routes 560 and 56)

List of Emergency Repairs and General Locations

Hā'ena through Hanalei

1. **Kūhiō Highway (Route 560), Milepost (MP) 10 at Kē'ē State Park:** Reconstruct roadway
2. **Limahuli Stream Crossing (Route 560), MP 9.55,:** Repair concrete section lost in flooding. Resurface entire ford crossing;
3. **Kūhiō Highway (Route 560), MP 8.87 at Hā'ena Beach Park:** Repair roadway shoulder;
4. **Mānoa Stream Ford Crossing (Route 560), MP 8.76 near Haena Beach Park:** Repair the entire crossing;
5. **Kūhiō Highway (Route 560), MP 6.5 (Repair Site 2):** Roadway stabilization area with only 1 lane remaining: Debris removal, slope wall installation including soil nails, foot of slope revetment, guardrail/sign replacement, pavement repair;
6. **Kūhiō Highway (Route 560), 15 locations or more from MP 6.5 through MP 4.4:** Debris removal, slope scaling, slope stabilization, guardrail replacement, pavement repairs;
7. **Kūhiō Highway (Route 560), MP 5.8:** Stockpile area;
8. **Kūhiō Highway (Route 560), MP 4.5 (Repair Site 1):** Roadway stabilization area: Debris removal, slope wall installation including soil nails, foot of slope revetment, guardrail/sign replacement, pavement repair;
9. **Kūhiō Highway (Route 560), MP 4.4:** Stockpile area;
10. **Waikoko Bridge (Route 560):** Replace existing bridge;
11. **Waipā Bridge (Route 560):** Replace existing bridge;
12. **Kūhiō Highway (Route 560), MP 3.7:** Staging area;
13. **Wai'oli Bridge (Route 560):** Replace existing bridge;
14. **Kūhiō Highway (Route 560), MP 1:** Debris removal, slope scaling, guardrail replacement, minor pavement repair;
15. **Kūhiō Highway (Route 560), MP 0.5:** Debris removal;

Kalihiwai

16. **Kūhiō Highway (Route 56), MP 25:** Debris removal, slope scaling;
17. **Kūhiō Highway (Route 56), MP 24.9:** Debris removal from under bridge, and CRM wall replacement;

Wailua

18. **Wailua Bridge (Route 56):** Debris removal from river under bridge.

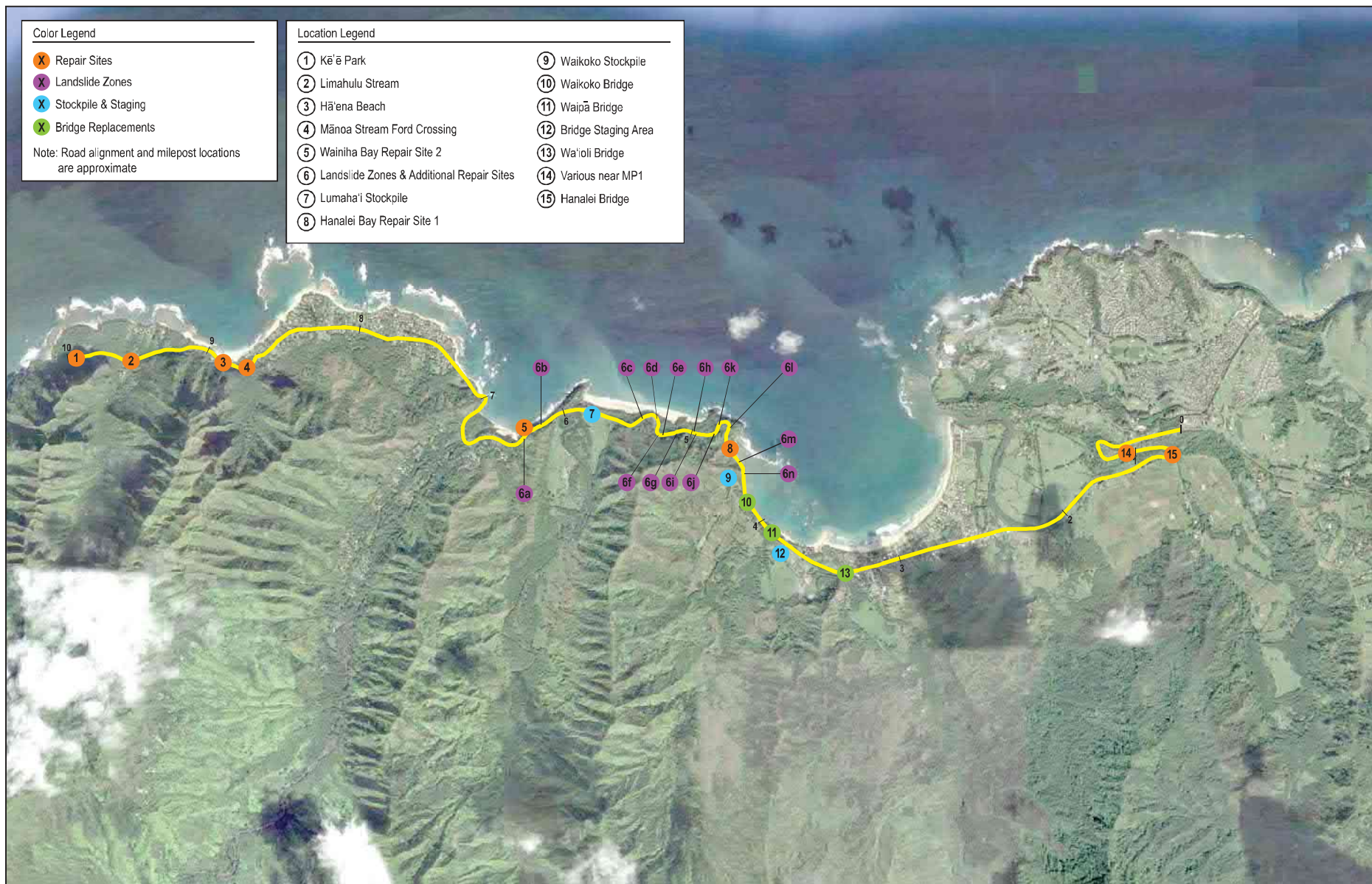


Figure 1: Locations of Sites: Hā'ena to Hanalei
Kauai Emergency Flood Repairs and Cleanup - Various Locations - April 2018



Figure 2: Kalihwai and Wailua
Kauai Emergency Flood Repairs and Cleanup - Various Locations - April 2018

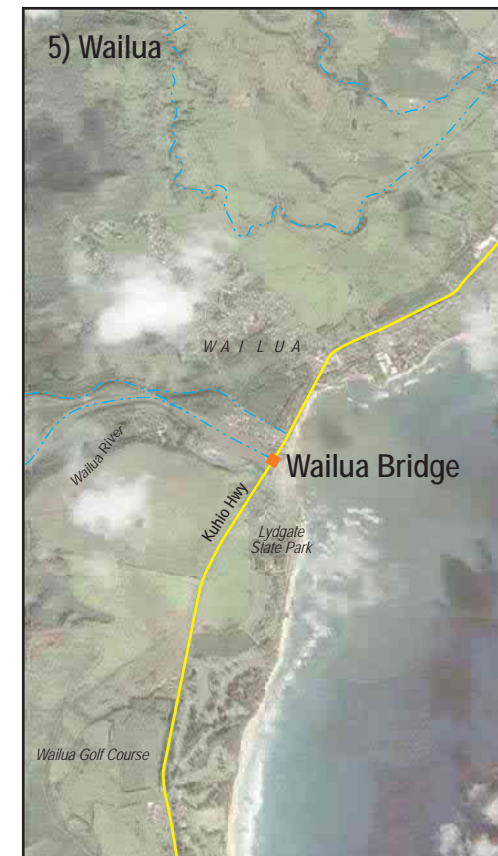
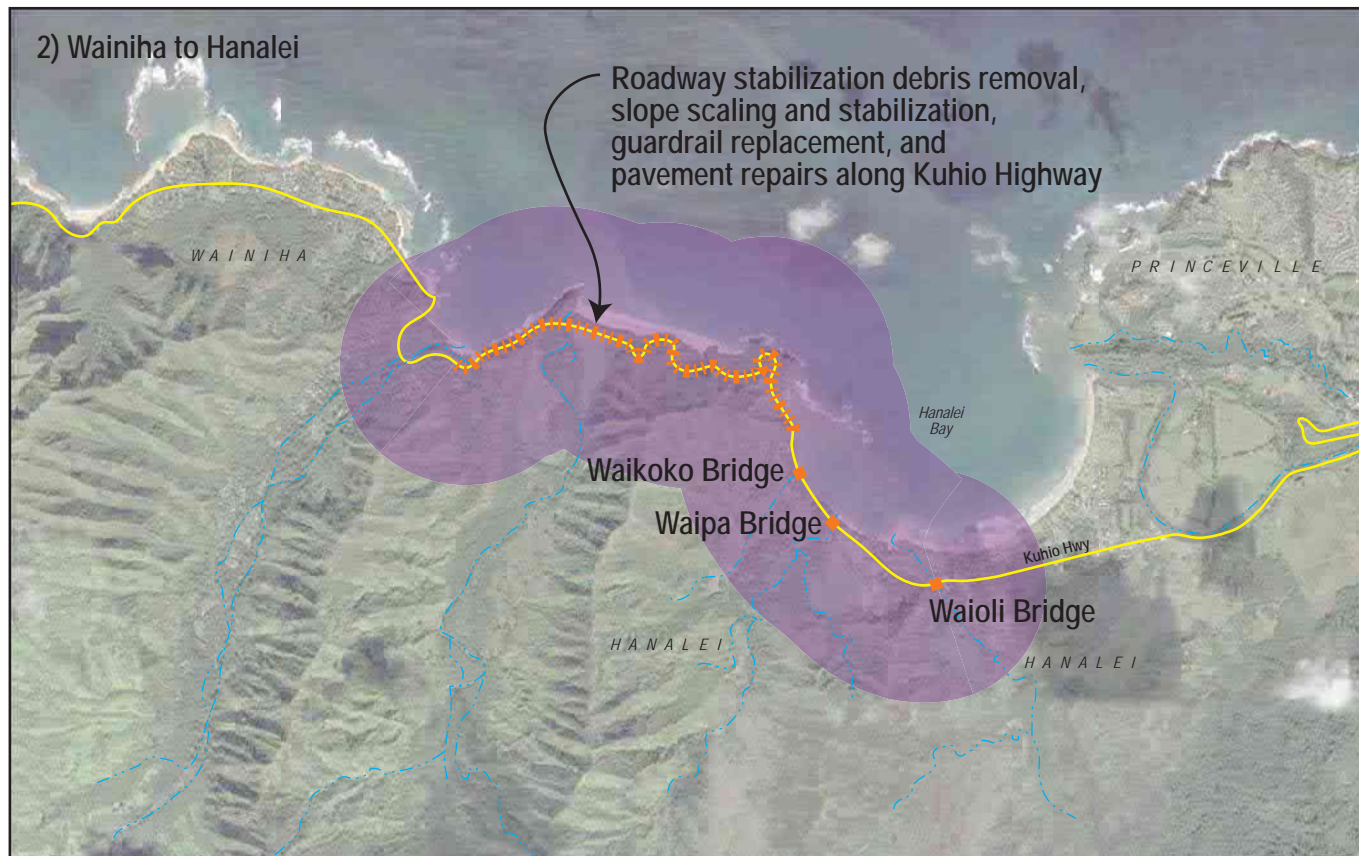
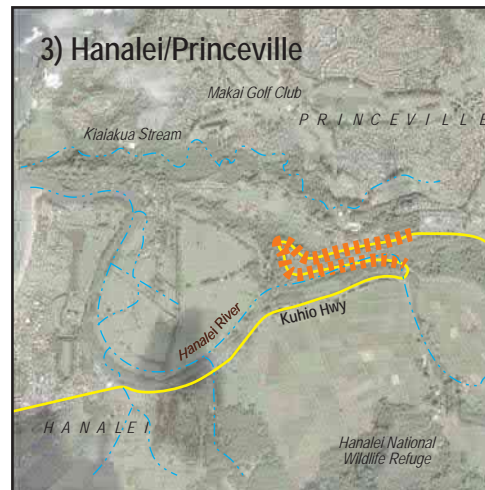
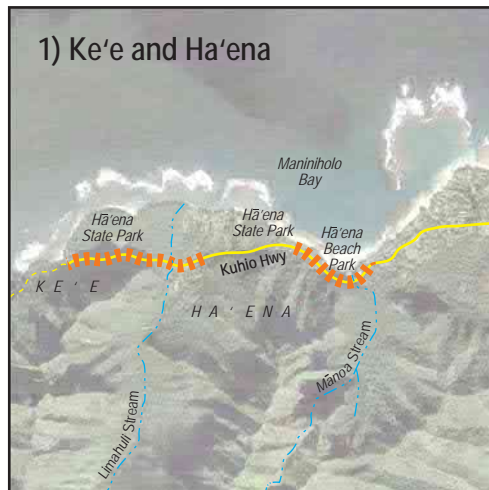
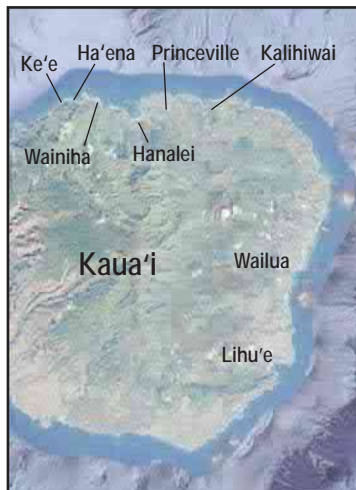
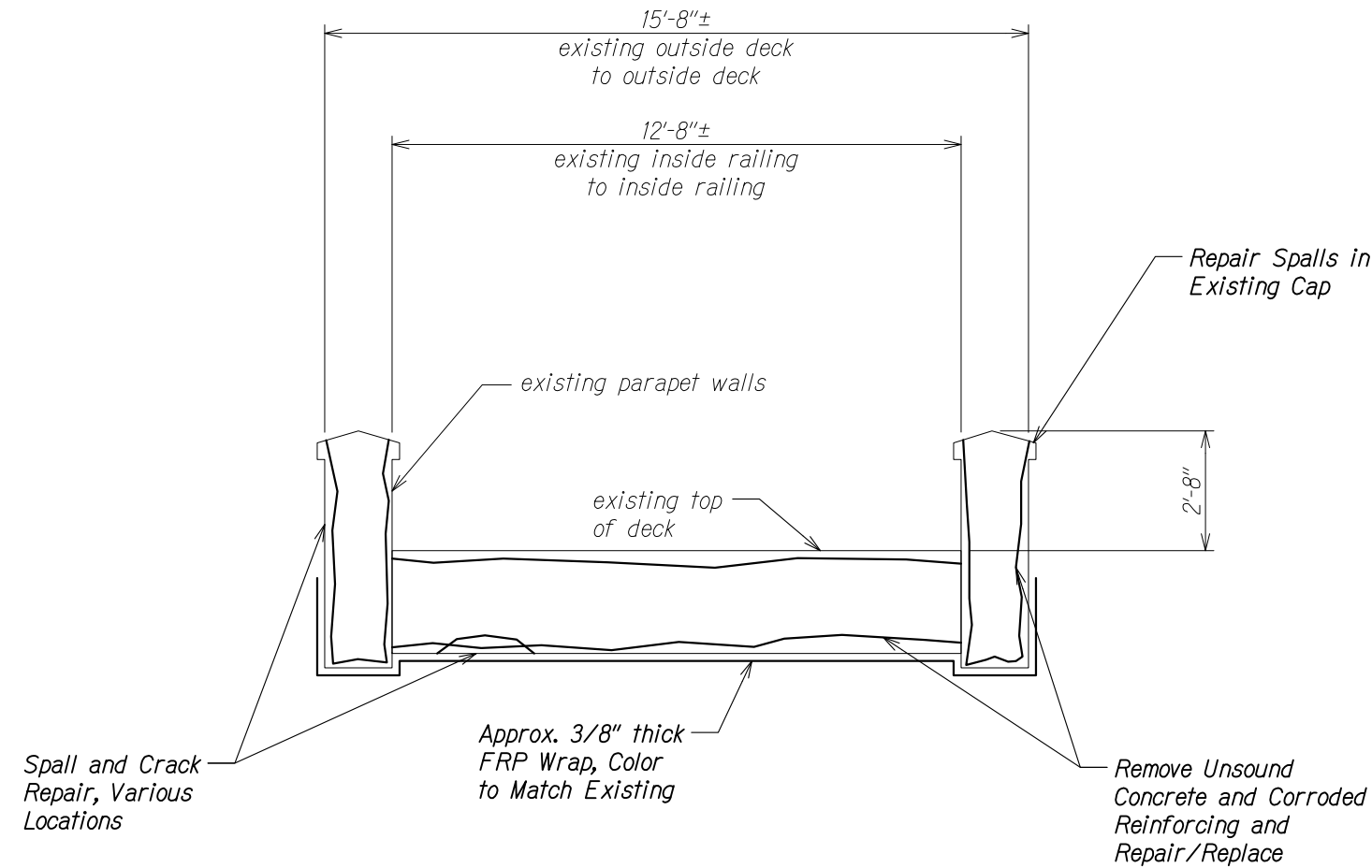


Figure 3: APE Map
Kauai Emergency Flood Repairs and Cleanup - Various Locations - April 2018

EXHIBIT B
WAI‘OLI, WAIPĀ, AND WAIKOKO BRIDGE DESIGNS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-19(007)	2018	00	--



**WAIOLI STREAM BRIDGE
TRANSVERSE SECTION**

Scale: 1/2" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
No.	CHECKED BY	

DRAWING NAME: Z:\00 ONGOING\18-008.2-KUHIO HWY 3W BR\01 CAD\06-25-18 3W WAIOLI REHAB\3WB-S01XX WAO EXIST TRANS SEC.DWG PLOT TIME: 06-26-18, 4:35 PM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**WAIOLI STREAM BRIDGE
TRANSVERSE DECK SECTION**

KAUAI EMERGENCY FLOOD REPAIRS & CLEANUP
At Various Locations April 2018, Rte. 560
Proj. No. ER-19(007)

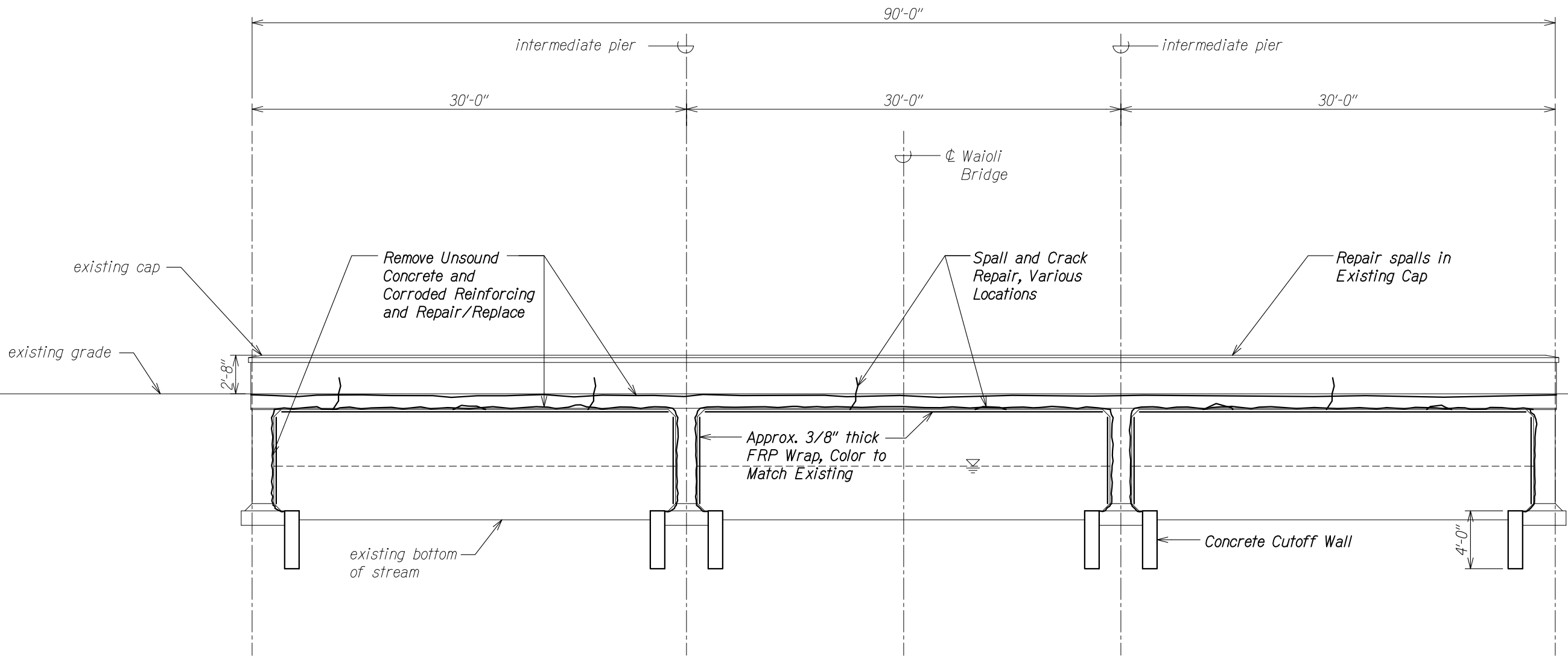
Scale: As Noted Date: May 29, 2018

SHEET No. *SI.xx* OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER-19(007)	2018	00	--

To Wainiha

To Lihue



WAIOLI STREAM BRIDGE
LONGITUDINAL SECTION
Scale: 1/4" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
No.	CHECKED BY	

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DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

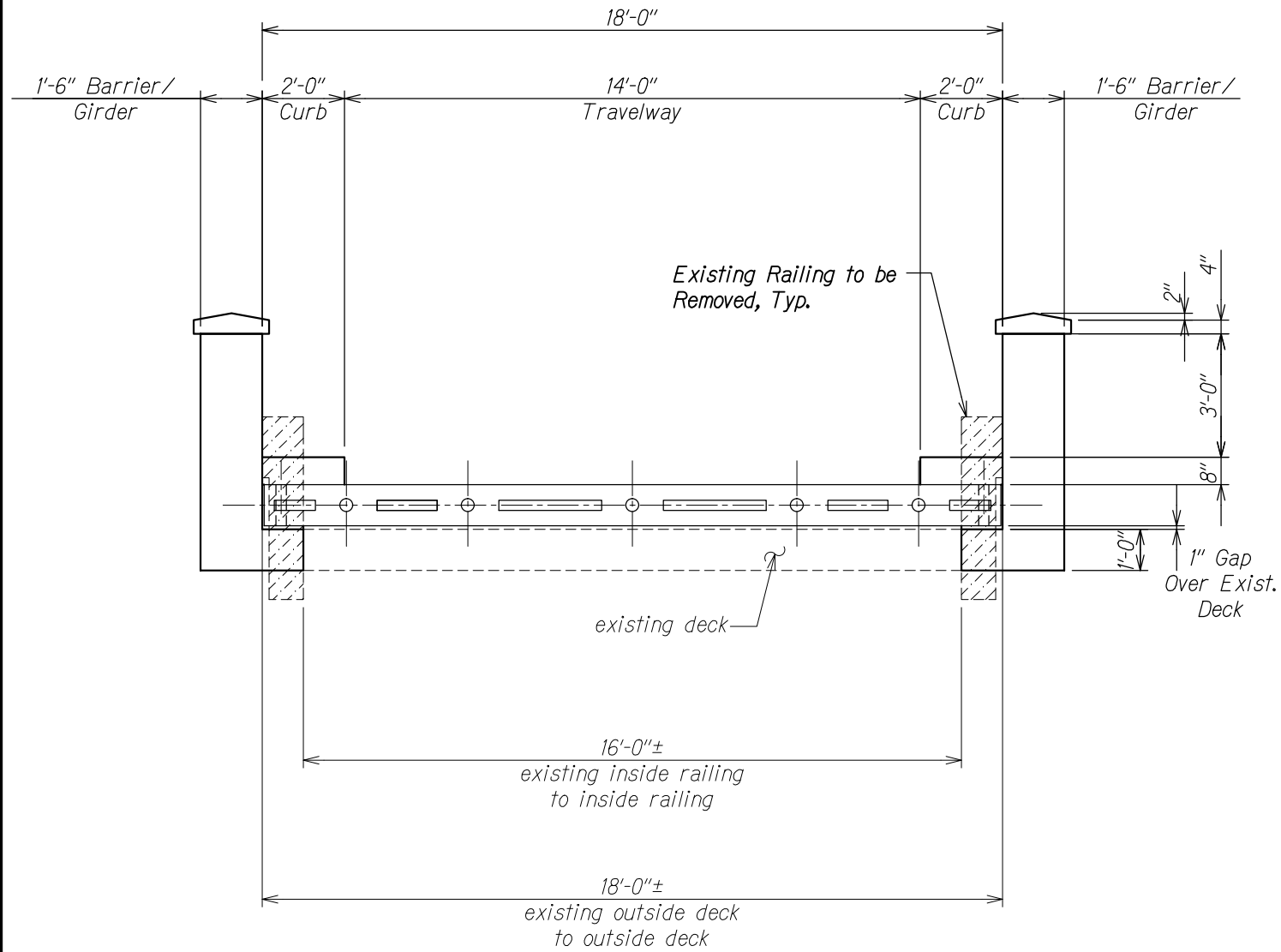
WAIOLI STREAM BRIDGE
LONGITUDINAL SECTION

KAUAI EMERGENCY FLOOD REPAIRS & CLEANUP
At Various Locations April 2018, Rte. 560
Proj. No. ER-19(007)

Scale: As Noted Date: May 29, 2018

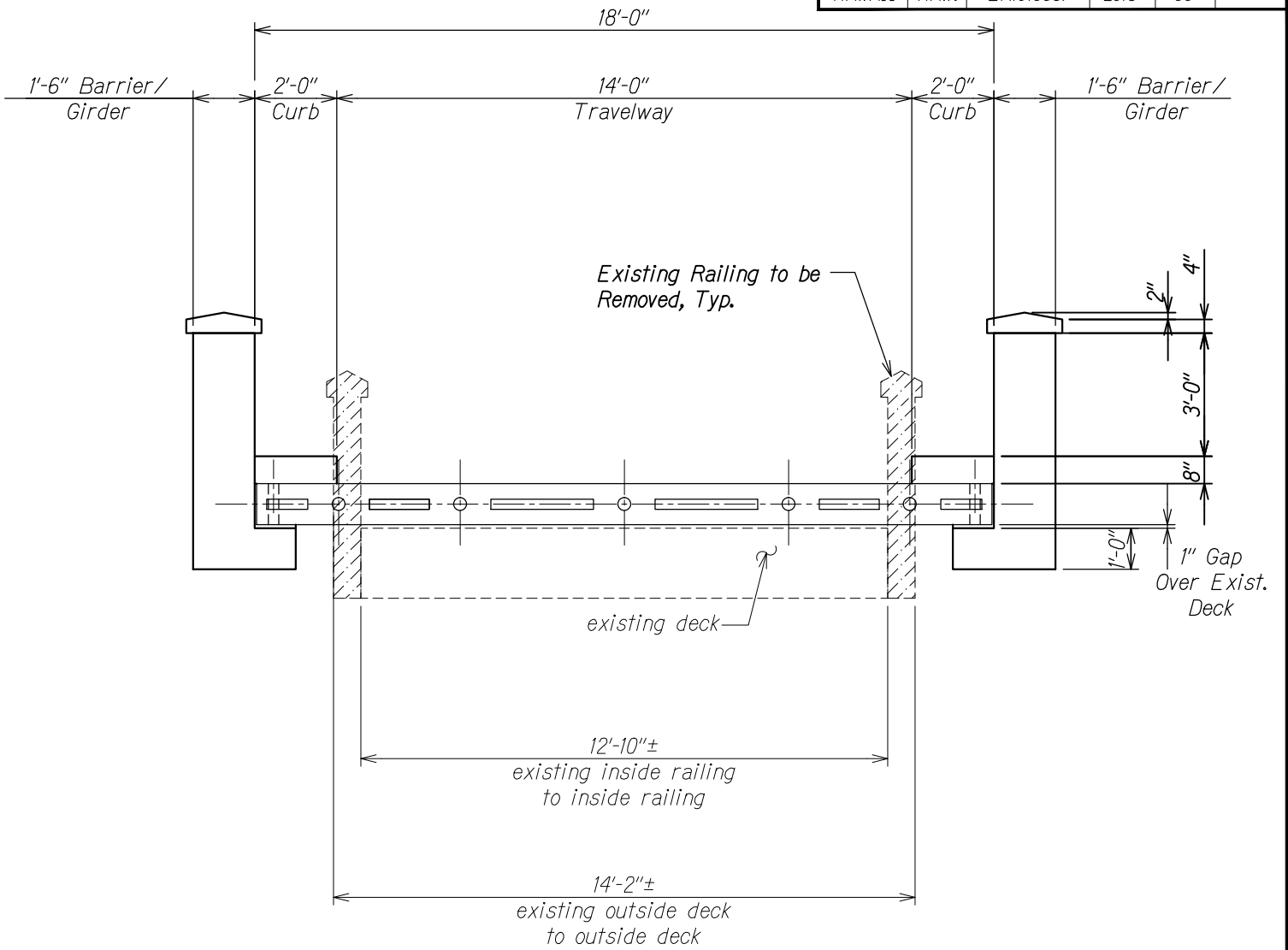
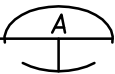
SHEET No. *SI.xx* OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--



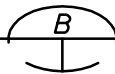
WAIPA STREAM BRIDGE
TYPICAL SECTION

Scale: 1/2" = 1'-0"



WAIPA STREAM BRIDGE
TYPICAL SECTION

Scale: 1/2" = 1'-0"



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	CHECKED BY	

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIPA STREAM BRIDGE
TYPICAL DECK SECTION

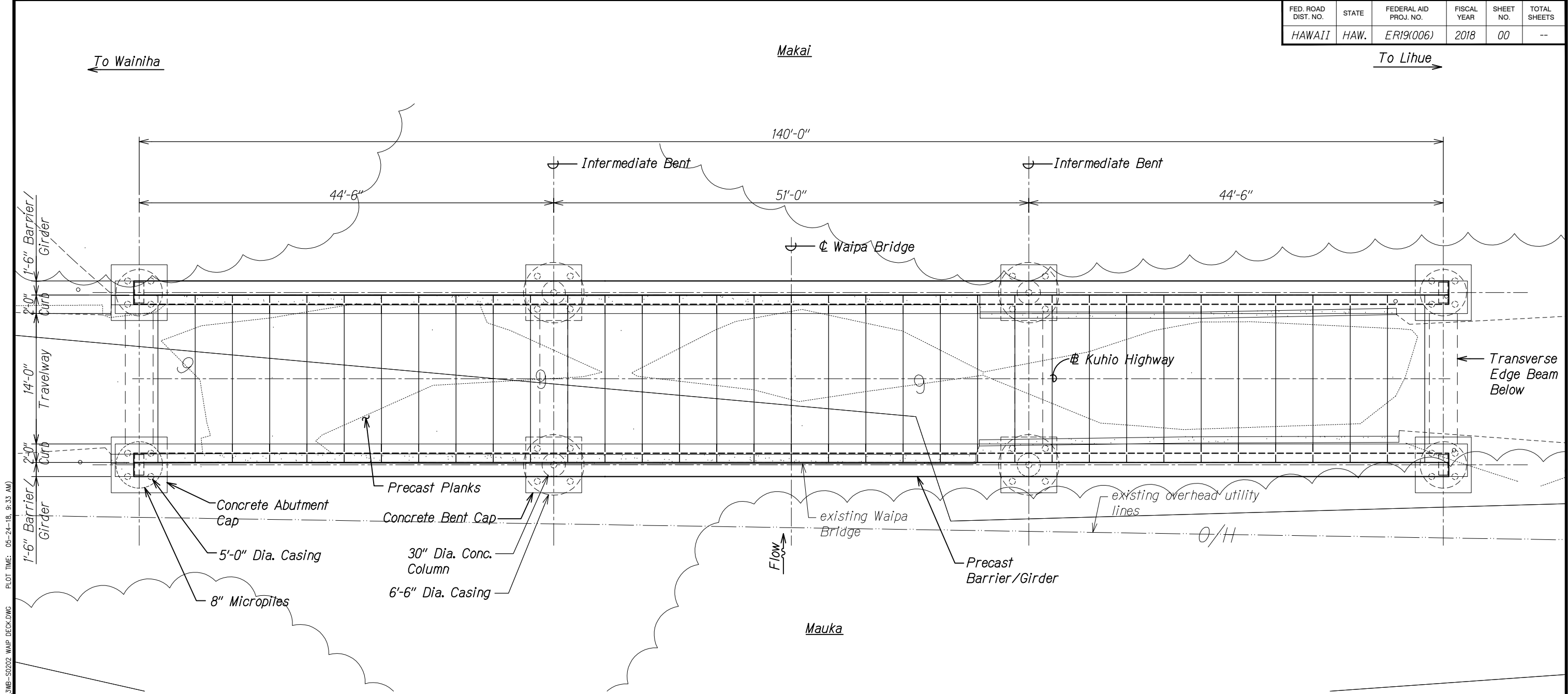
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

Scale: As Noted Date: May 18, 2018

SHEET No. S OF SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--



WAIPA STREAM BRIDGE DECK PLAN
Scale: 3/16" = 1'-0"

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

DRAWING NAME: T:\16553A-EMERGENCYFLOODREPAIR\INBOX\1-FROMKSF\2018-05-23 BRIDGEPLANS\WB-50202 WAIP DECK.DWG PLOT TIME: 05-24-18, 9:33 AM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIPA STREAM BRIDGE
DECK PLAN
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

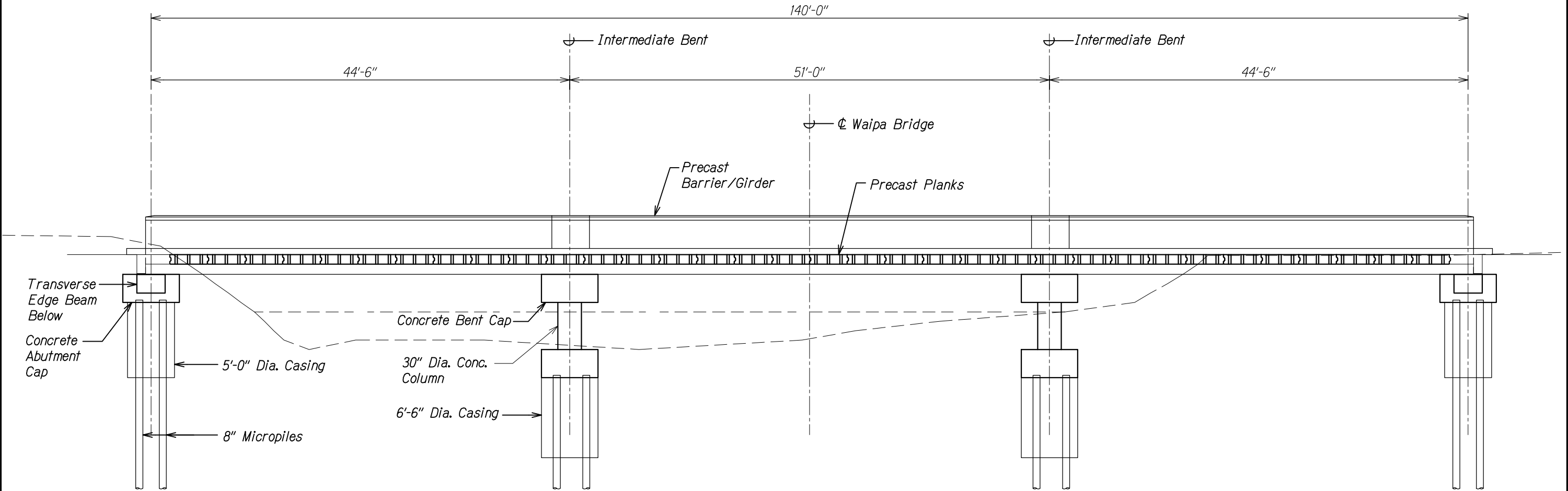
Scale: As Noted Date: May 18, 2018

SHEET No. S2.2 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--

To Wainiha

To Lihue



WAIPA STREAM BRIDGE
LONGITUDINAL SECTION
Scale: 3/16" = 1'-0"

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

DRAWING NAME: T:\16553A-EMERGENCYFLOODREPAIR\INBOX\1-FROMKSF\2018-05-23 BRIDGEPLANS\WB-50202 WAIP DECK.DWG PLOT TIME: 05-24-18, 9:34 AM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

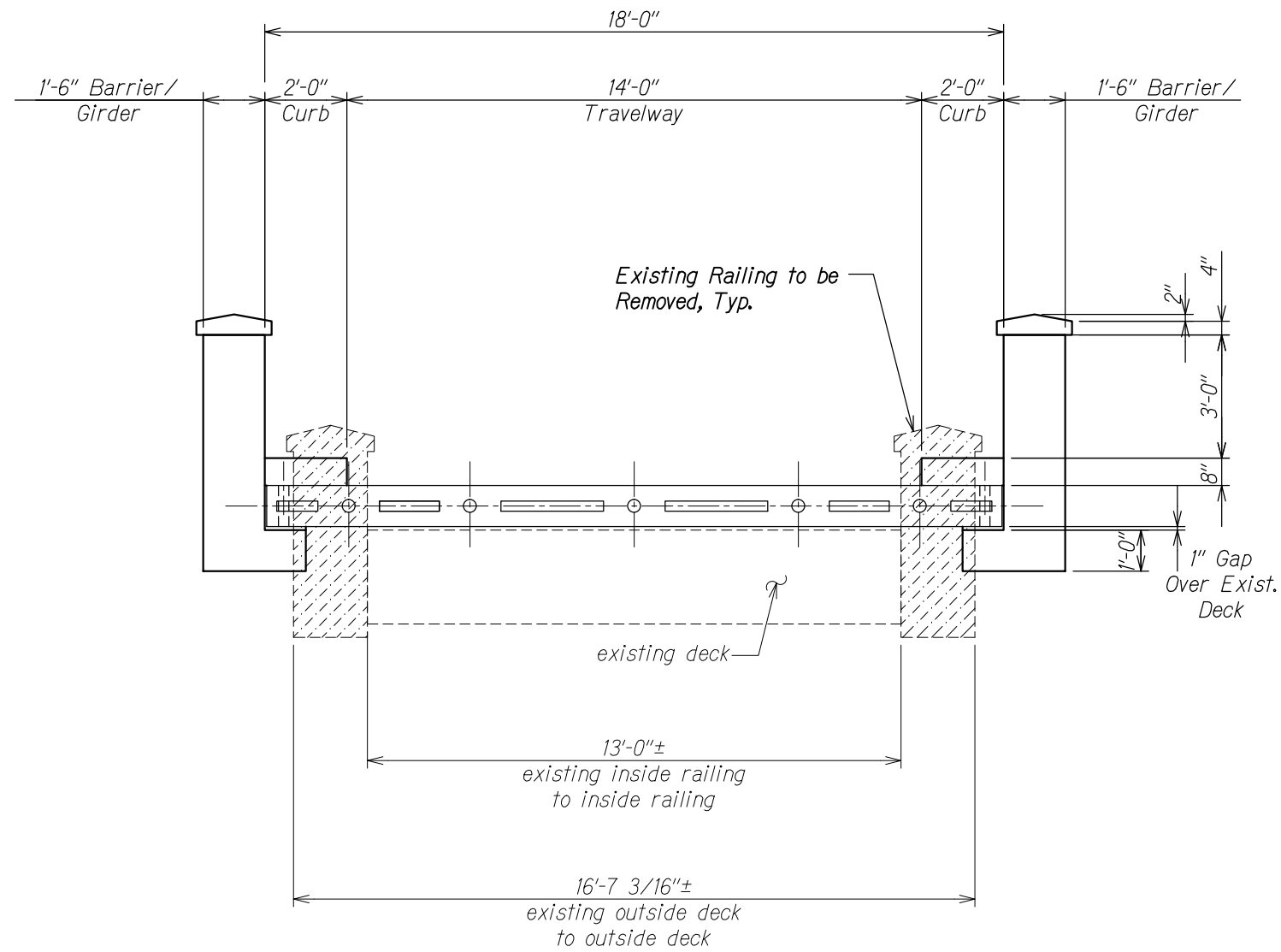
WAIPA STREAM BRIDGE
LONGITUDINAL SECTION
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

Scale: As Noted Date: May 18, 2018

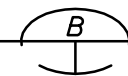
SHEET No. S2.3 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--



WAIKOKO STREAM BRIDGE
TYPICAL SECTION

Scale: 1/2" = 1'-0"



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

DRAWING NAME: T:\16553A-EMERGENCYFLOODREPAIR\INBOX\1-FROMKSF\2018-05-23 BRIDGEPLANS\WB-50304 WAIK SEC1.DWG PLOT TIME: 05-24-18, 9:19 AM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKOKO STREAM BRIDGE
TYPICAL DECK SECTION
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

Scale: As Noted Date: May 18, 2018

SHEET No. S OF SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--

To Wainiha

To Lihue

Makai

70'-0"

Waikoko Bridge

Precast Planks

Precast Barrier/Girder

1'-6" Barrier/
Girder

2'-0" Curb

14'-0" Travelway

2'-0" Curb

1'-6" Barrier/
Girder

Transverse Edge
Beam Below, Typ.

Kuhio Highway

existing Waikoko
Bridge

Conc. Abutment Cap, Typ.

5'-0" Dia. Casing, Typ.

8" Micropiles, Typ.

Flow

existing overhead
utility line

Mauka

WAIKOKO STREAM BRIDGE DECK PLAN

Scale: 1/4" = 1'-0"

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

DRAWING NAME: T:\16553A-EMERGENCYFLOODREPAIR\INBOX\1-FROMKSF\2018-05-23 BRIDGEPLANS\3WB-50302 WAIKO DECK.DWG PLOT TIME: 05-24-18, 9:36 AM

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKOKO STREAM BRIDGE
DECK PLAN
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

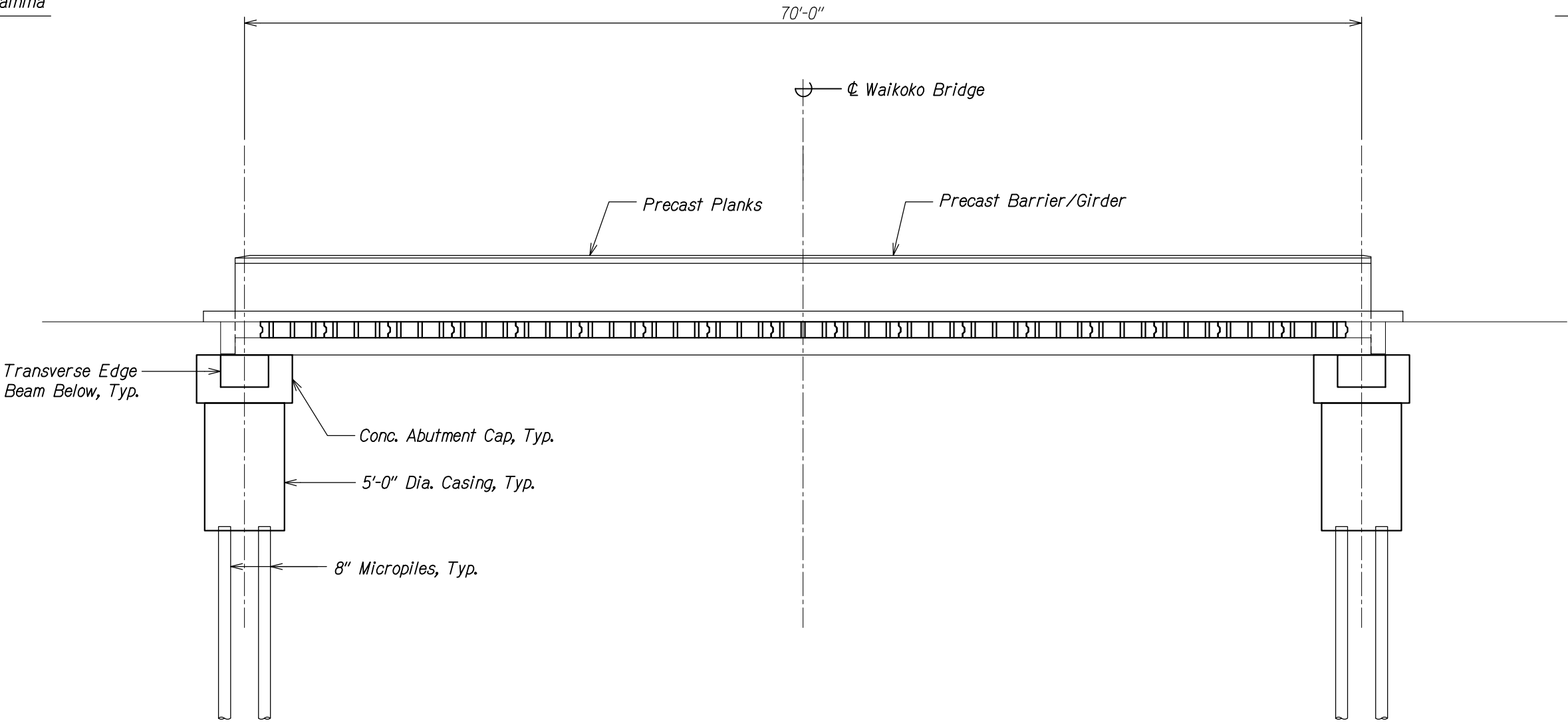
Scale: As Noted Date: May 18, 2018

SHEET No. S3.2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	ER19(006)	2018	00	--

To Wainiha
←

To Lihue
→



WAIKOKO STREAM BRIDGE
LONGITUDINAL SECTION
Scale: 1/4" = 1'-0"

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

DRAWING NAME: T:\16553A-EMERGENCYFLOODREPAIR\INBOX\1-FROMKSF\2018-05-23 BRIDGEPLANS\WB-50302 WAIKO DECK.DWG PLOT TIME: 05-24-18, 9:37 AM)

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WAIKOKO STREAM BRIDGE
LONGITUDINAL SECTION
KUHIO HIGHWAY, 3W BRIDGES

Proj. No. ER19(007)

Scale: As Noted Date: May 18, 2018

SHEET No. S3.3 OF 3 SHEETS

EXHIBIT C
AREAS TO BE SIGNED FOR PARKING RESTRICTIONS

Proposed Parking Regulations: Hā' ena, Halele' a, Kaua' i

