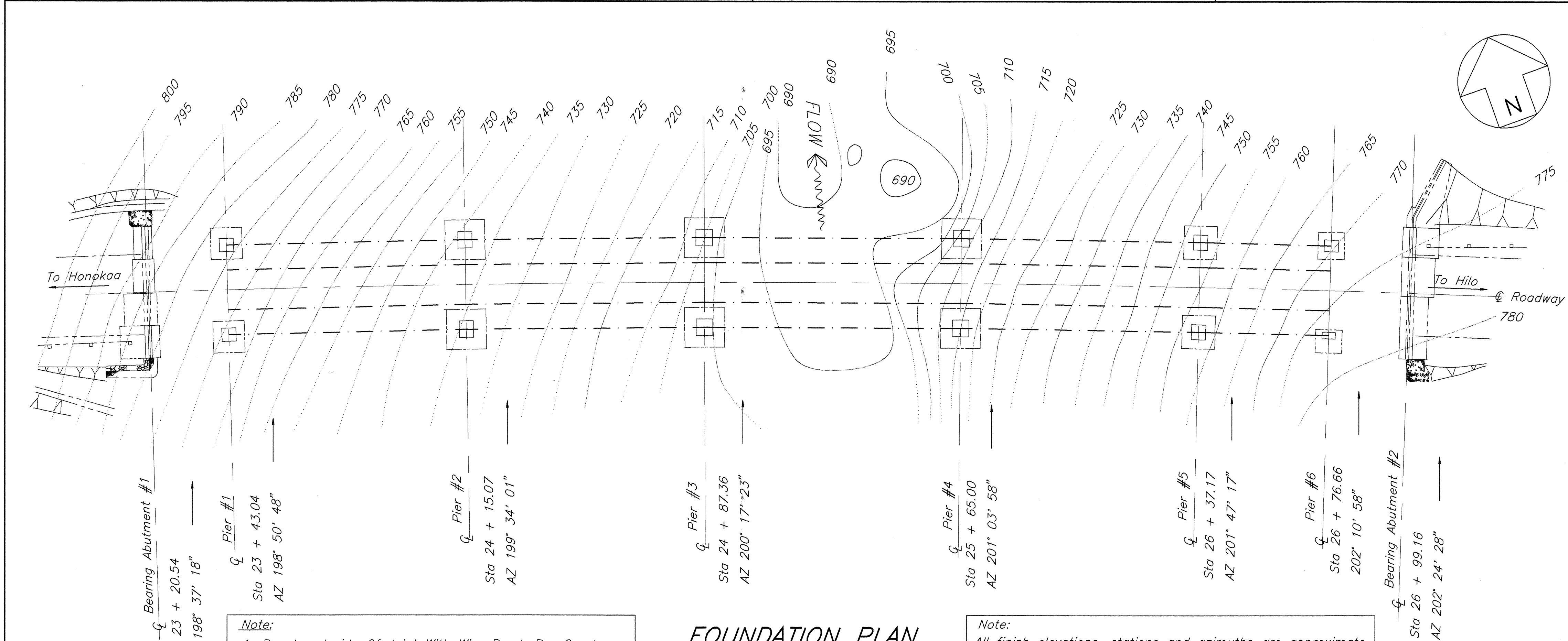


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-019-2(45)	1999	14	20



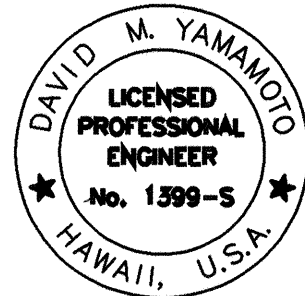
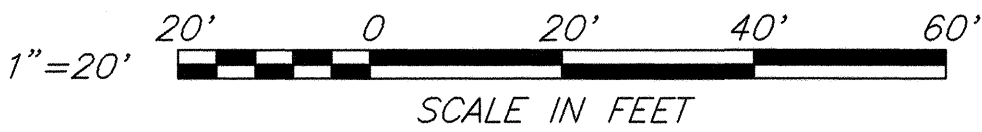
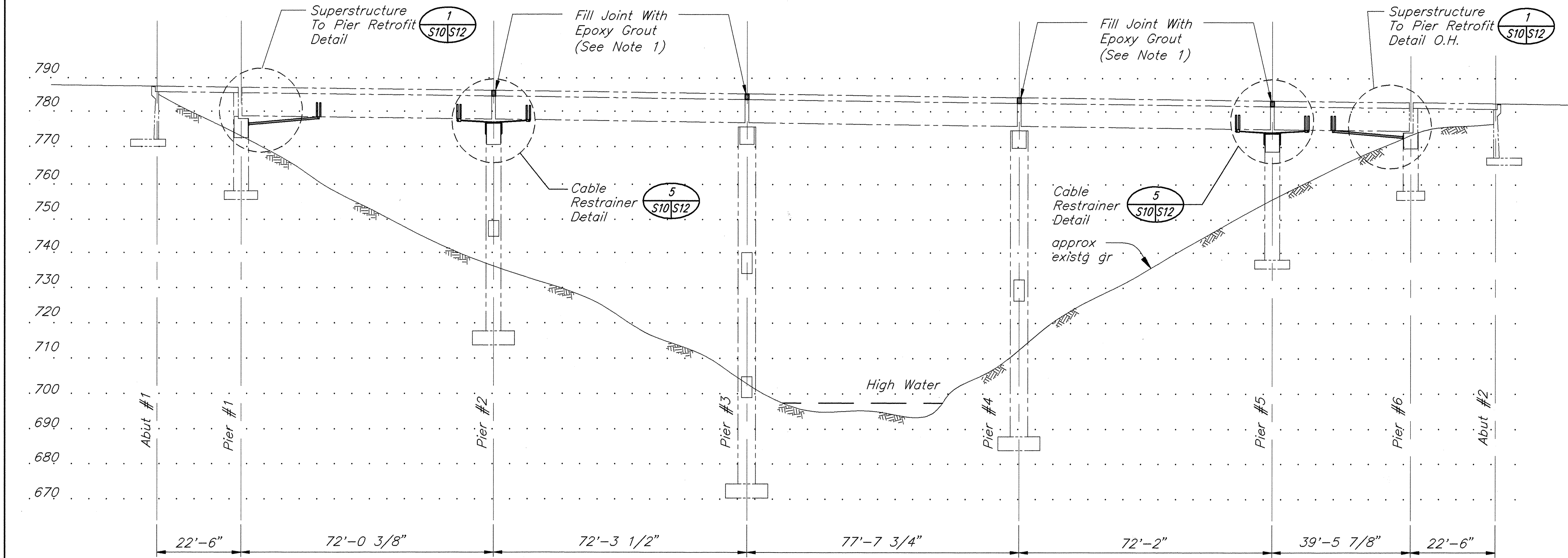
- GENERAL:**
- The Existing Bridge Information Shown In These Drawings Was Obtained From The Original Bridge Drawings And Is Presented For Reference Purposes Only. No Responsibility Is Assumed For The Accuracy Of The Existing Information Presented. It Is The Contractor's Responsibility To Verify Independently All Of The As-Built Information.
 - The Contractor Shall Visit The Construction Site And Shall Verify All Dimensions And Conditions Prior To Starting Any Work And Shall Be Responsible For Coordination Of All Work And Materials Including Those Furnished By Sub-Contractors. The Hawaii Department Of Transportation (D.O.T.) Representative Shall Be Notified Immediately Of Any Discrepancies Found
 - The Contract Structural Drawings And Specifications Represent The Finished Structure. They Do Not Indicate The Method Of Construction. The Contractor Shall Provide All Measures Necessary To Protect The Structure During Construction.
 - The Contractor Shall Provide Adequate Shoring For All Existing Adjacent Structures. Shoring For Construction Loads Shall Be Designed By A Hawaii Licensed Structural Engineer Experienced In This Kind Of Work.

- BASIS FOR SEISMIC RETROFIT:**
- The Proposed Retrofit Work Addresses Two Apparent Weaknesses:
 - The Possibility Of The Superstructure Sliding Transversely And Longitudinally Off The Substructure During An Earthquake
 - The Possibility Of Bearing Connection Failure At Piers #1 And #6 During An Earthquake
 - The Goal Of The Proposed Retrofit Work Is To Reduce The Risk Of Collapse During An Earthquake And Not The Prevention Of All Structural And Non-Structural Damage.
 - The Earthquake Loading Considered Is The ARS Curve For 5% Damping At 0 Feet To 10 Feet By Caltrans With An Expected Maximum Acceleration At Bedrock Of $A = .38g$.
 - The Design Methodology Is Per The Bridge Memo To Designers By The California Department Of Transportation, December 31, 1995.

- GENERAL NOTES:**
- Design Specifications: AASHTO, Standard Specifications For Highway Bridges, 15th Edition (1996)
 - Seismic Loading:
 - Seismic Performance Category D
 - Acceleration Coefficient 0.40
 - Structural Steel:
 - Existing (ASTM A7) $F_y = 33,000$ psi
 - New
 - All Structural Steel (ASTM A36) U.N.O. $F_y = 36,000$ psi
 - Structural Steel Tube (A-500, Grade B) $F_y = 46,000$ psi
 - Cable Restrainers:
 - All Wire Rope Shall Conform to ASTM A603-94 With Class C Weight Zinc-Coated Wires Throughout. Minimum Breaking Strength (After Galvanizing) Shall Be 41.5 Tons.

(N) New
(E) existing

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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KUKIAIU BRIDGE-FOUNDATION PLAN AND LONGITUDINAL SECTION

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES, VICINITY OF OOKALA
FEDERAL AID PROJECT NO. BR-019-2(45)
SCALE: AS NOTED DATE: AUGUST 1998

SHEET No. S10 OF 16 SHEETS