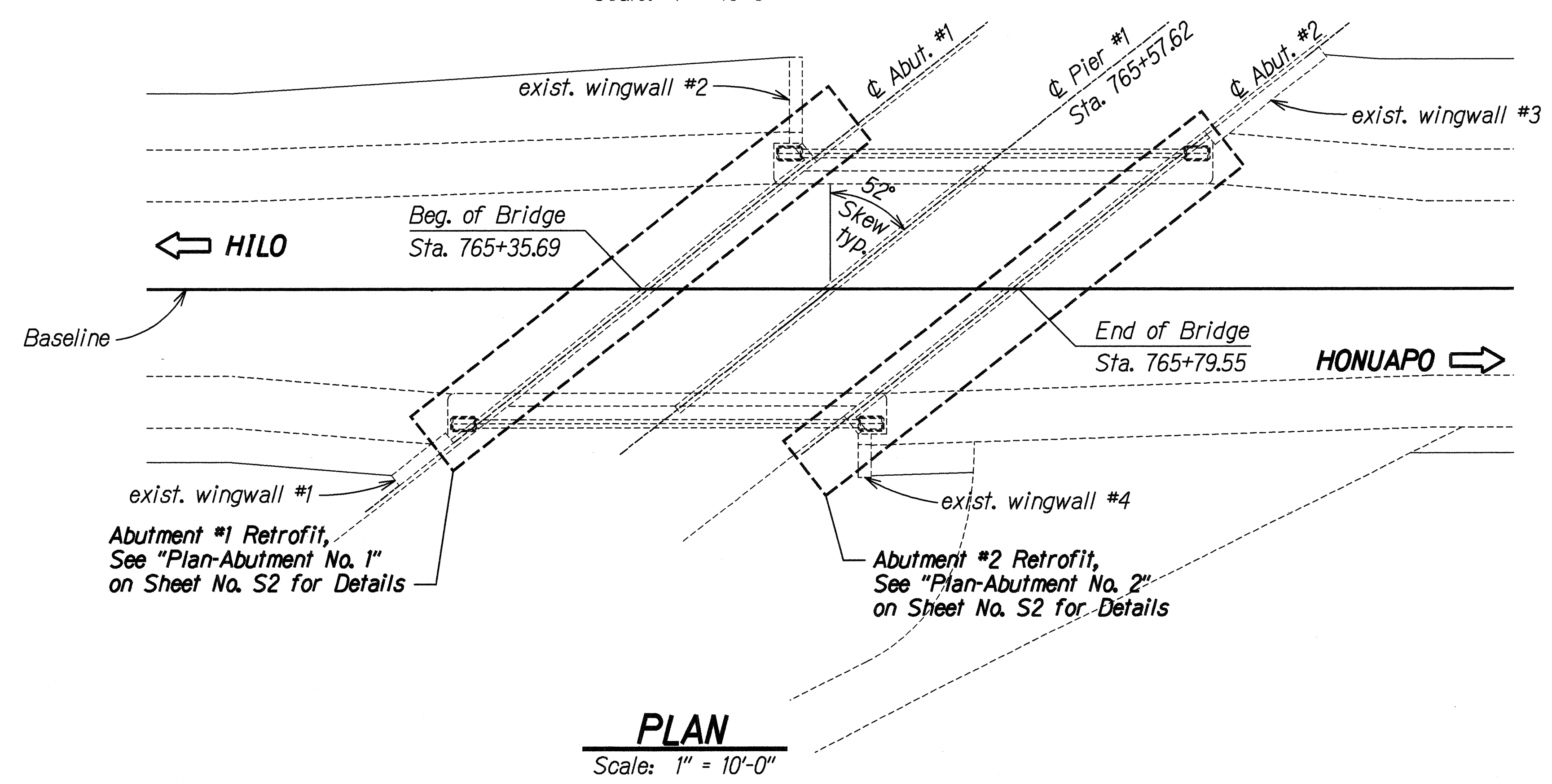
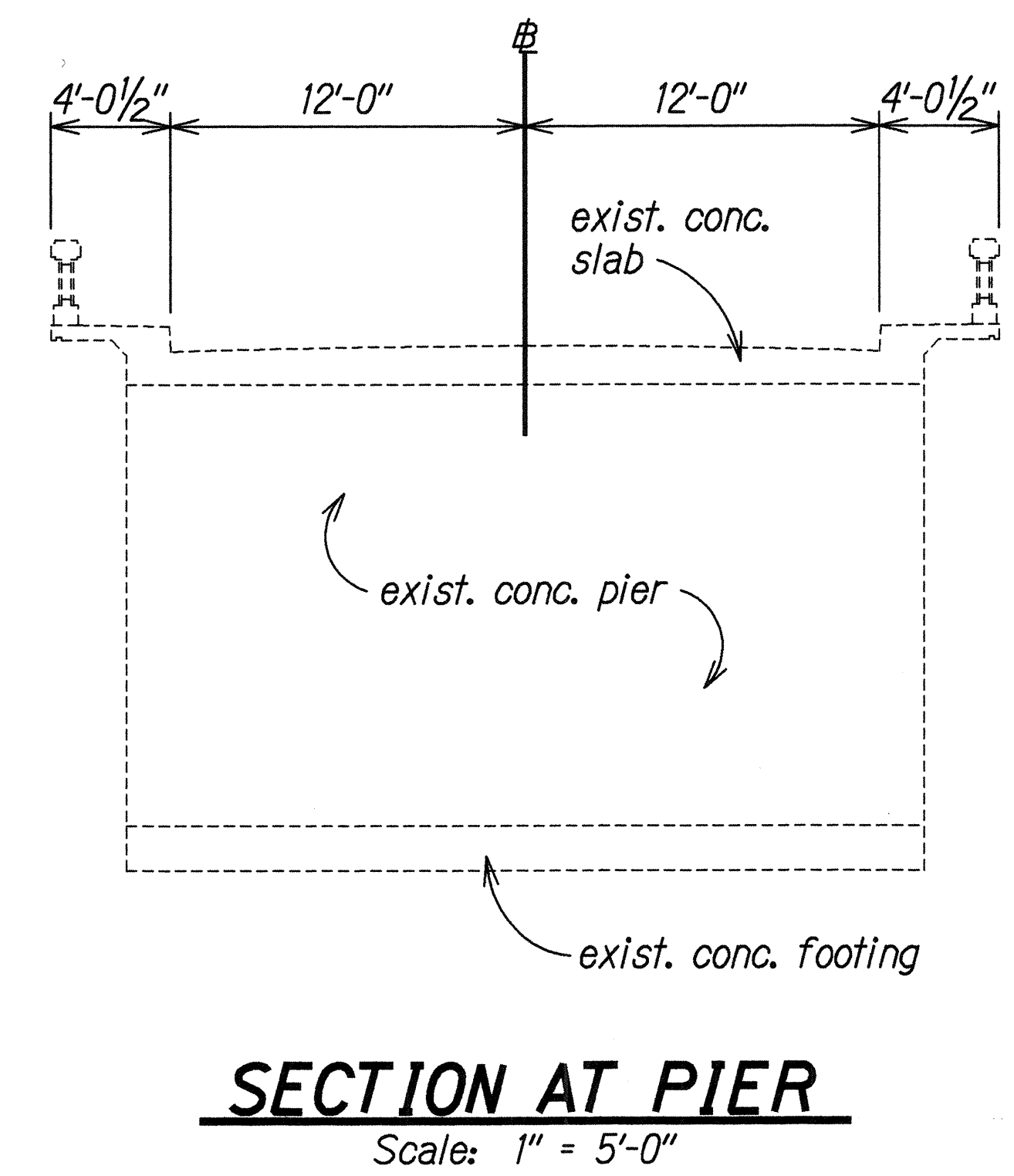
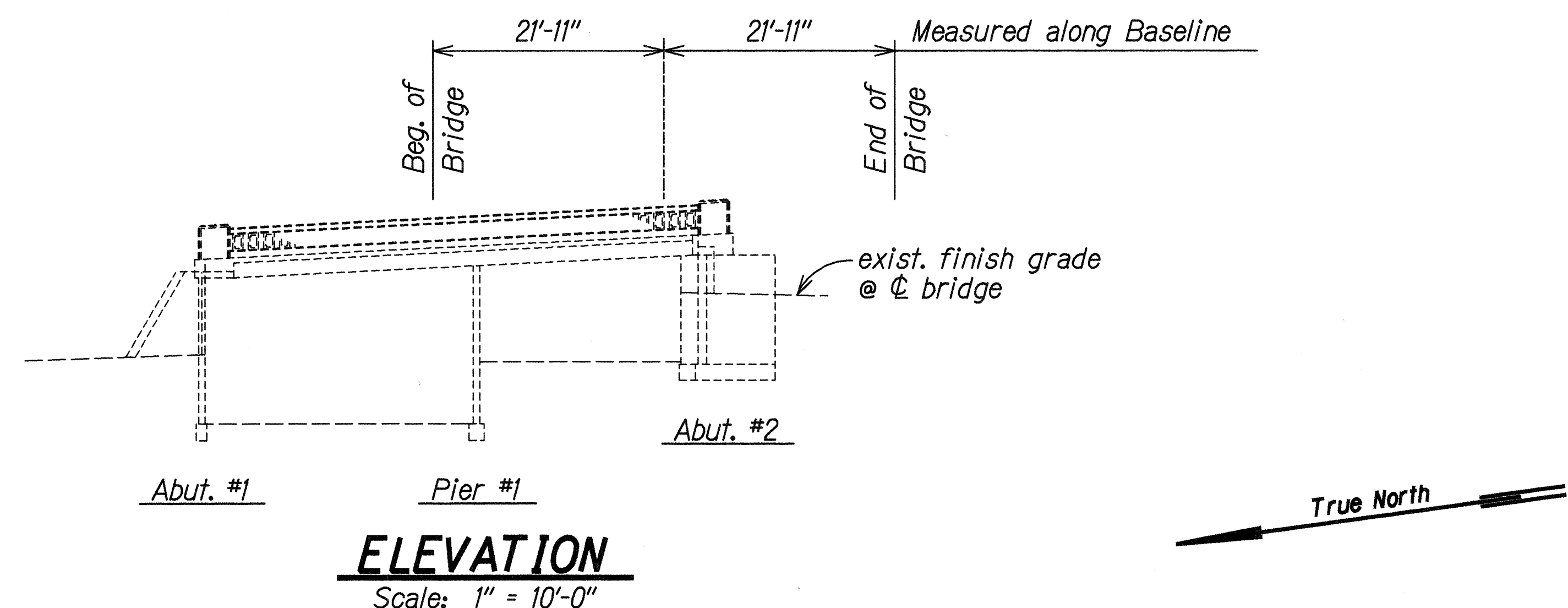


SEISMIC RETROFIT NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-0100(58)	1998	4	16

1. **GENERAL SPECIFICATIONS:**
Hawaii Department of Transportation, Standard Specification for Road, Bridge and Public Works Construction, 1994, together with Special Provisions prepared for this contract.
2. **DESIGN SPECIFICATIONS:**
A. AASHTO Standard Specifications for Highway Bridges (16th Edition), with subsequent interim Specification, 1996.
B. AASHTO Standard Specifications for Seismic Design of Highway Bridges. Seismic Performance Category D, Acceleration Coefficient of 0.80 at Kaalaala, Kananelu, Keaiwa, and Paauau Bridges, 0.70 at Honuapo Overpass, and 0.46 at Panaewa Bridge.

3. **ALLOWABLE DESIGN STRESSES:**
A. Concrete: $F'_c = 3,000$ psi
B. Reinforcing Steel: $F_s = 24,000$ psi for Grade 60
4. **MATERIAL:**
A. Concrete shall be Class A Concrete, minimum $f'_c = 3,000$ psi at 28 days.
B. Reinforcing Steel shall be ASTM A 615 Grade 60.
C. Epoxy Grout, see Special Provision.
D. Structural Steel shall be ASTM A 36, hot-dip galvanized, unless noted otherwise.
E. Anchor Bolts, Washers and Nuts shall be ASTM A 307, hot-dip galvanized, unless noted otherwise.



ESTIMATED QUANTITIES			
ITEM NO.	ITEM	QUANTITY	UNIT
653.1000	Drilling Holes and Installing Dowel Reinforcing Bars	64	Ea.

DESIGNED BY	DATE
DRAWN BY	MAY 1997
CHECKED BY	MAY 1997
NOTED BY	MAY 1997
ORIGINAL PLAN	
NOTE BOOK	

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HONUAPO OVERPASS
PLAN, ELEVATION, SECTION AND ESTIMATED QUANTITIES
SEISMIC RETROFIT OF VARIOUS BRIDGES
VICINITY OF PUNALUU
Fed. Aid Project No. BR-0100(58)
Scale: As Noted Date: Sept. 1997
SHEET No. 51 OF 16 SHEETS