

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

4-1997\9702000\DWG\DET\97020003.DWG 05/26/98 08:09 DY

GENERAL NOTES

- The scope of work for this project consists of seismic retrofitting the Moanalulu bridge, Kihalani bridge, Kuwaikahi bridge, Manowaiopae bridge, Kilau bridge, and Kaiwilahilahi bridge along the Hawaii Belt Road in the vicinity of Laupahoehoe.
- The Contractor is reminded of the requirements of Subsection 108.01 – Subletting of Contract, which requires him to perform work amounting to not less than 50 percent of the total contract cost less deductible items. Noncompliance with this Subsection may be grounds for rejection of bid.
- The Contractor’s attention is directed to the following Sections of the Special Provisions : Subsection 107.13 – Public Convenience and Safety; Subsection 107.21 – Contractor’s Responsibility For Utility Property And Services; and Section 645 –Traffic Control.
- The Contractor shall close no more than one lane of traffic.
- The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
- The Contractor shall notify in writing, seven (7) days prior to any paving operations.
- The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting paving operation.
- The Contractor shall erect construction warning signs approximately 500 feet before the beginning of project and 500 feet after the end of project or as directed by the Engineer.
- All holes, depressions and wheel ruts shall be filled and compacted with Asphalt Concrete Pavement, Mix No. V prior to resurfacing. This work will be paid for under Asphalt Concrete Pavement, Mix No. V.
- Smooth riding connections shall be constructed at all limits of resurfacing, including the beginning and end of project, connecting approaches, side streets and driveways as shown on the plans and/or as directed by the Engineer.
- Dressing of shoulder, sidewalk and bus turnout shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved shoulders with suitable material as shown on the plans and/or as directed by the Engineer. This work shall be considered incidental to the various contract items.
- Existing drainage system will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to various contract items.
- Earth swale shall be graded to drain. This work shall be considered incidental to the various contract items.
- The contractor shall provide for access to and from all existing side streets at all times.
- All saw cutting work shall be considered incidental to Excavation for Reconstruction of Weakened Pavement Areas.
- Unless otherwise indicated, drilled holes for epoxy shall be 12” deep and 1/4” larger than the dowel reinforcement diameter.

MATERIALS

- | | |
|--|---------------------------------|
| 1. Concrete 28–Day Strength : | f’c= 5000 PSI |
| 2. Reinforcing Steel: | ASTM A615, Grade 60 |
| 3. Structural Steel: | ASTM A572, Grade 50, Galvanized |
| 4. Pipe: | ASTM A53, Grade B, Galvanized |
| 5. Plate And Miscellaneous Components: | ASTM A36, Galvanized |
| 6. Anchor Bolts: | ASTM A307, Galvanized |
| 7. Connection Bolts: | ASTM A325, Type 1, Galvanized |
| 8. PVC Pipe | ASTM D1785, Schedule 40 |

DESIGN CRITERIA

1. Acceleration Coefficient (A) 0.39.

CABLE RESTRAINER ASSEMBLY NOTES

- Where restrainer cables bend and contact existing concrete, edges of drilled holes shall be chipped to a smooth curved surface with a radius of four (4) inches.
- All cut and/or exposed reinforcing shall be embedded into the concrete a minimum of two (2) inches below the existing concrete surface. Unless otherwise indicated, the surface shall be finished by applying mortar cement.
- Install Cable Yield Indicator, Spherical Washers and Disc Springs on either anchorage. Install Spherical Washers and Disc Springs on the remaining anchorage. Place thread locking system on disc spring stud and set the nut. Only one Cable Yield Indicator per cable. Disc’s shall be Installed front to front as shown in "Disc Spring" detail on sheet S44.
- Tighten the cable until the disc springs collapse and there is no disc gap remaining between the discs. Both anchorages of a single cable unit shall be adjusted simultaneously.
- Place thread locking system on remaining stud. Back off the nut of the anchorage a distance equal to 1/2".
- The Contractor shall measure cable length in the field.

TRAFFIC CONTROL

1. See special Provisions

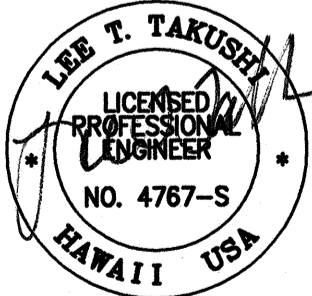
REFERENCE DRAWINGS

Project Title	Project No.	Date
Moanalulu Bridge	SDR 3 (5)	Aug. 1954
Kaiwilahilahi Bridge	SDR 3 (5)	Sept. 1954
Kihalani Bridge	F–SDR–019–2(1)	Feb. 1955
Kuwaikahi Bridge	F–019–2(3)	July 1955
Manowaiopae Bridge	F–019–2(3)	Nov. 1955
Kilau Bridge	SDR 3 (17)	Aug. 1952

ABBREVIATION LIST

abut	abutment
ac	asphalt concrete
approx	approximate
ASTM	American Society of Testing and Materials
az	azimuth
beg	beginning
betwn	between
bot	bottom
CIDH	cast in drilled hole
cip	cast in place
CL	center line
conc	concrete
cont	continuos
crm	cement rubble masonry
Det	Detail
Dia,dia	diameter
el	elevation
EQ	equal
exist	existing
FED	Federal
ft. foot,	foot, feet
ftg	footing
galv.	galvanized
HDPE	high density polyethylene
Horiz	horizontal
ID	inside diameter
jt	joint
M.P.	Mile Post
min	minimum
Nom	nominal
O.C.	on center
OD	outside diameter
pav’t	pavement
PROJ	Project
PSI	pound per square inches
PVC	Poly Vinyl Chloride
reinf	reinforcement
ret	retaining
Sim	similar
sq	square
sta	station
symm	symmetric
t	thick
typ	typical
vert	vertical

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR–019–2(44)	1998	3	61



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES

HAWAII BELT ROAD, SEISMIC RETROFIT OF VARIOUS BRIDGES,
VICINITY OF LAUPAHOEHOE
FEDERAL AID PROJECT NO. BR-019-2(44)
SCALE: AS NOTED
DATE: APRIL 1998