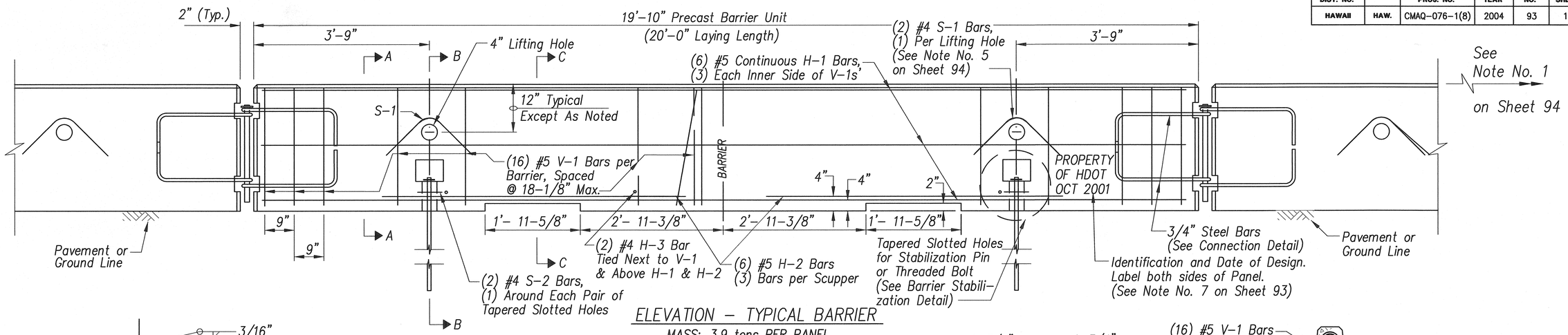
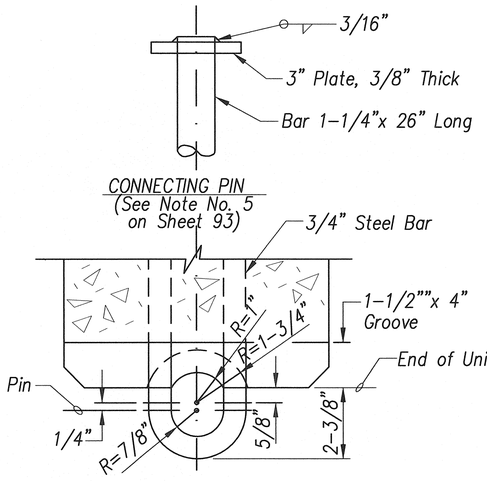
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(8)	2004	93	127

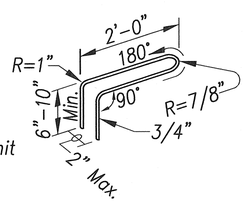


ELEVATION – TYPICAL BARRIER

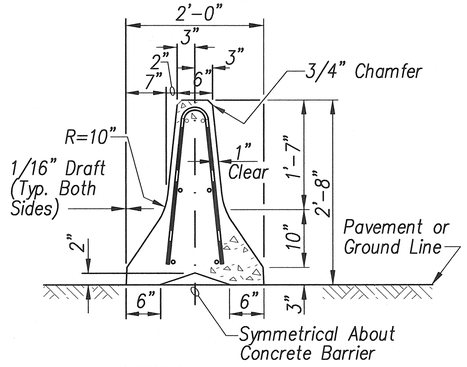
MASS: 3.9 tons PER PANEL



SECTION E-E



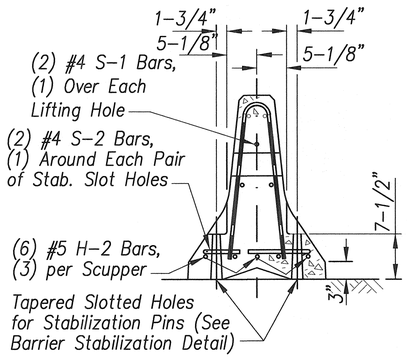
STEEL BAR



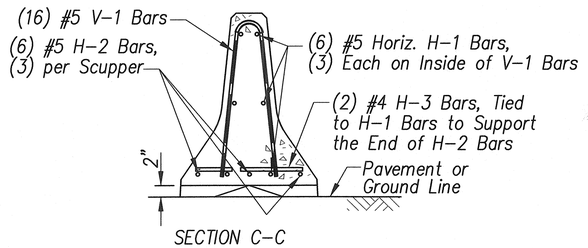
SECTION A-A

CONNECTION DETAILS

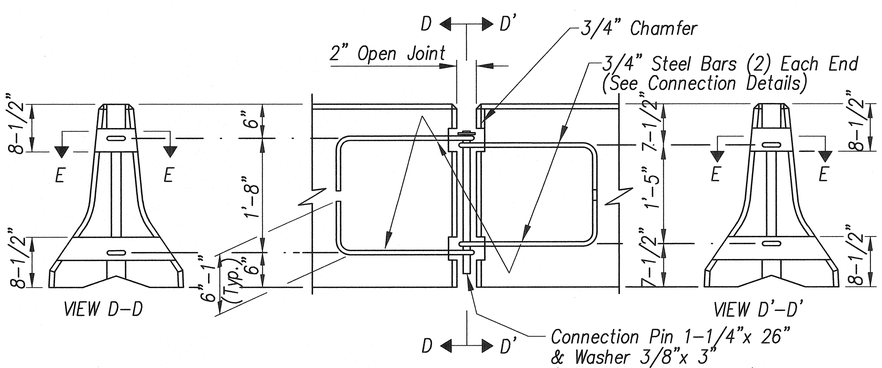
(See Note No. 5 on Sheet 94)



SECTION B-B



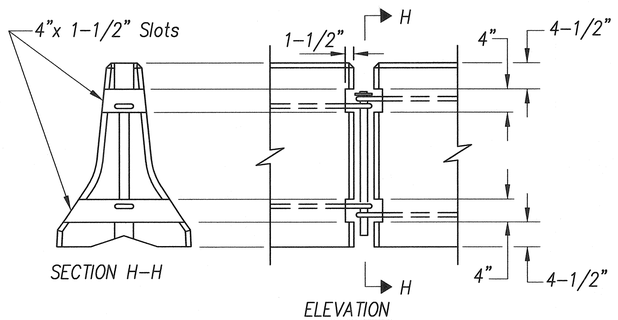
SECTION C-C



VIEW D-D

VIEW D'-D'

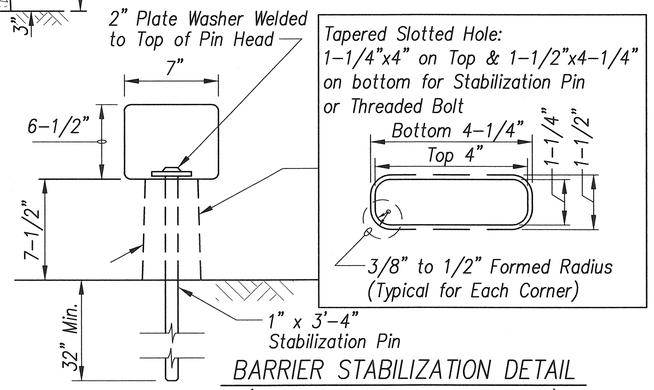
ELEVATION



SECTION H-H

ELEVATION

BARRIER REMOVAL SLOT DETAILS



BARRIER STABILIZATION DETAIL

(See Note Nos. 3 & 4 on Sheet 94)

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

KENNETH O. NAGAI
LICENSED PROFESSIONAL ENGINEER
No. 3265-C
HAWAII, U.S.A.

SIGNATURE

APRIL 30, 2004

EXPIRATION DATE OF LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PORTABLE CONCRETE BARRIER DETAILS – 1

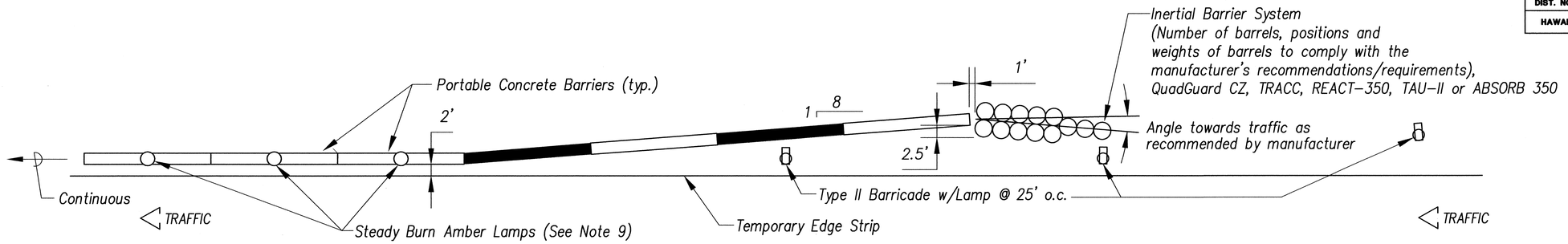
FORT WEAVER ROAD WIDENING
NEAR LAULAUNUI STREET

FEDERAL AID PROJECT NO. CMAQ-076-1(8)

SCALE: NOT TO SCALE DATE: October 2003

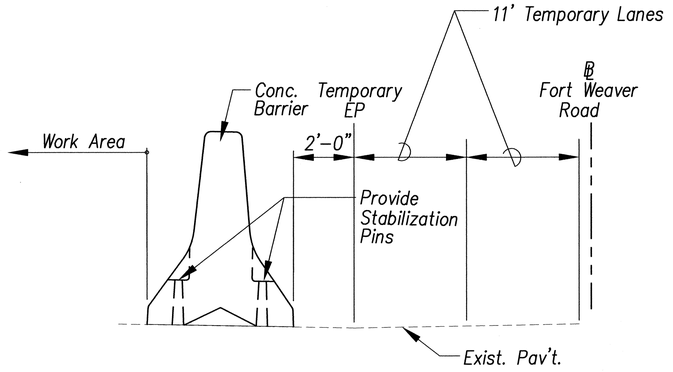
SHEET No. 1 OF 2 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(8)	2004	94	127



TYPICAL DETAIL – PORTABLE CONCRETE BARRIER END TREATMENT

METAL REINFORCEMENT TABLE				
MARK	LOCATION	BAR SIZE	(NO. BARS)	SKETCH
H-1	Horizontal in Barrier Tied Inside V-1 Bars	#5	(6)	19'-3"
H-2	Centered Above Scuppers Long. & Transversely	#5	(6)	6'-6"
H-3	Tied Above H-1 Bars to Support H-2, Tied to V-1	#4	(2)	1'-6"
S-1	Horizontal in Top of Wing Wall & in Floor Back Wall	#4	(2)	1'-5", Lifting Hole, 90°, R=3-3/8"
S-2	Horizontal Around Slots Between V-1's @ Scuppers	#4	(2)	R=1-1/2", Slots, 5'-1" Bar w/(4) 1-1/2"R Bends & Min. 1'-0" Overlap, 7", 1'-6", 1" Min. Clear to Bar
V-1	Vertical in Barrier (3) Each End & (2) at Each Scupper	#5	(16)	Total Length 4'-9", R=2-3/16", 12°, 9-1/2", 4-3/8", 2'- 1-3/8"



TYPICAL INSTALLATION

NOTES:

1. For end treatment, layout, crash cushions and where needed see Sheets 86-92.
2. Barriers must be pinned together and cannot exceed the Maximum Taper of 8:1.
3. Barrier installations that require less than 3'-3" of outward lateral movement shall have stabilization pins. have stabilization pins.
4. ASTM A-36 steel shall be used for the connection pin, connection loops and stabilization pins. A one piece pin with a 3" rounded top may be used in place of the detailed connection pin if the one piece pin meets ASTM A-36 requirements.
5. A 4" white PVC sleeve may be used to form the lifting hole and if used the sleeve is to be left in place.
6. Concrete shall be Class A and reinforcing shall be Grade 60.
7. Identification and date of design will be as follows:
   PROPERTY
   OF HDOT
   OCT 2001
   Text letters and numbers shall be shown as on Standard Plan Sht. No. B-01. "PROPERTY OF HDOT" may be changed depending upon ownership. All Portable Concrete Barriers made for HDOT will be subject to rejection, if "PROPERTY OF HDOT" is not imprinted. The Contractor shall bear the cost of the rejected Portable Concrete Barriers.
8. Minimum tangent length for portable Concrete Barrier System shall be 100' (5 units). This minimum does not include the required system length of the Inertial Barrier System.
9. Install steady burn amber lamps on portable concrete barriers @ 20.0' o.c. Installing, maintaining and removing each steady burn amber lamp including changing of batteries and bulbs shall be considered incidental to applicable portable concrete barrier items.

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

KENNETH O. NAGAI
LICENSED PROFESSIONAL ENGINEER
No. 3265-C
HAWAII, U.S.A.

SIGNATURE
APRIL 30, 2004
EXPIRATION DATE OF LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PORTABLE CONCRETE BARRIER
DETAILS – 2

FORT WEAVER ROAD WIDENING
NEAR LAULAUNUI STREET

FEDERAL AID PROJECT NO. CMAQ-076-1(8)

SCALE: NOT TO SCALE DATE: October 2003

SHEET No. 2 OF 2 SHEETS