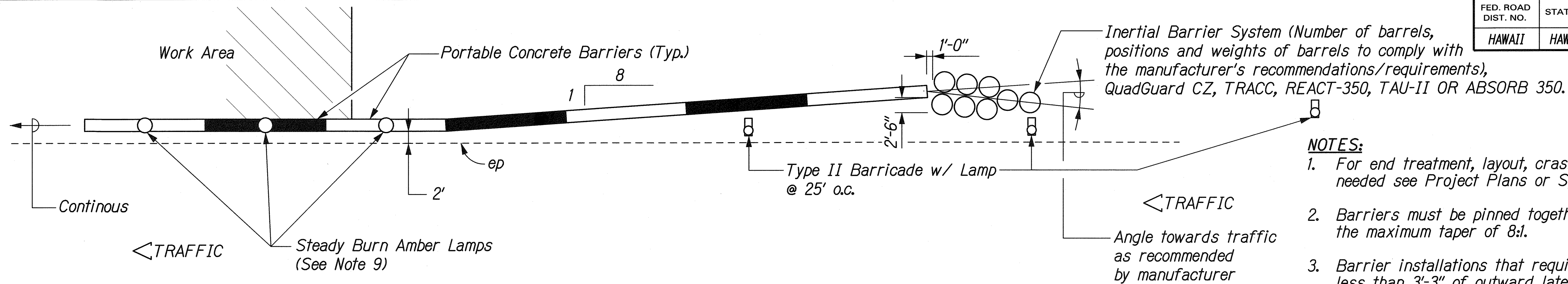


FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	104	371

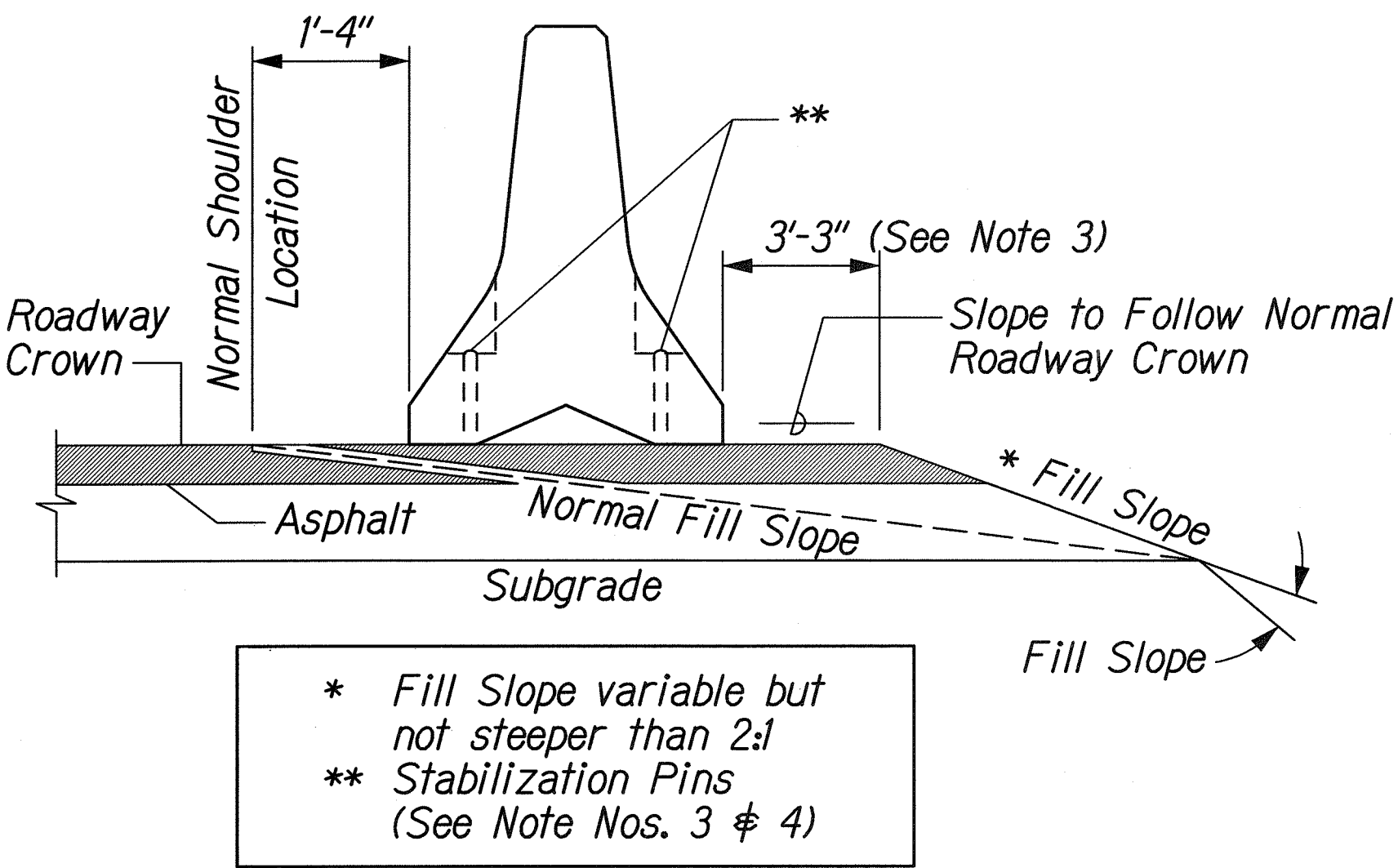


TYPICAL DETAIL - PORTABLE CONCRETE BARRIER END TREATMENT

Scale: 1" = 10'-0"

- NOTES:**
- For end treatment, layout, crash cushions and where needed see Project Plans or Special Provisions.
 - Barriers must be pinned together and cannot exceed the maximum taper of 8:1.
 - Barrier installations that require less than 3'-3" of outward lateral movement should have stabilization pins.
 - 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.
 - A 4" white PVC sleeve may be used to form the lifting hole and if used the sleeve is to be left in place.
 - Concrete shall be Class A and reinforcing shall be Grade 60.
 - Identification and date of design will be as follows:
PROPERTY OF HDOT
OCT 2001
Text letters and numbers shall be as shown on Std. Plan Sht. 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.
 - 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.
 - Install steady burn amber lamps on portable concrete barriers at 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.

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)	
S-2	Horizontal Around Slots Between V-1's @ Scuppers	#4	(2)	
V-1	Vertical in Barrier (3) Each End & (2) at Each Scupper	#5	(16)	



STANDARD INSTALLATION

(See Note No. 1)

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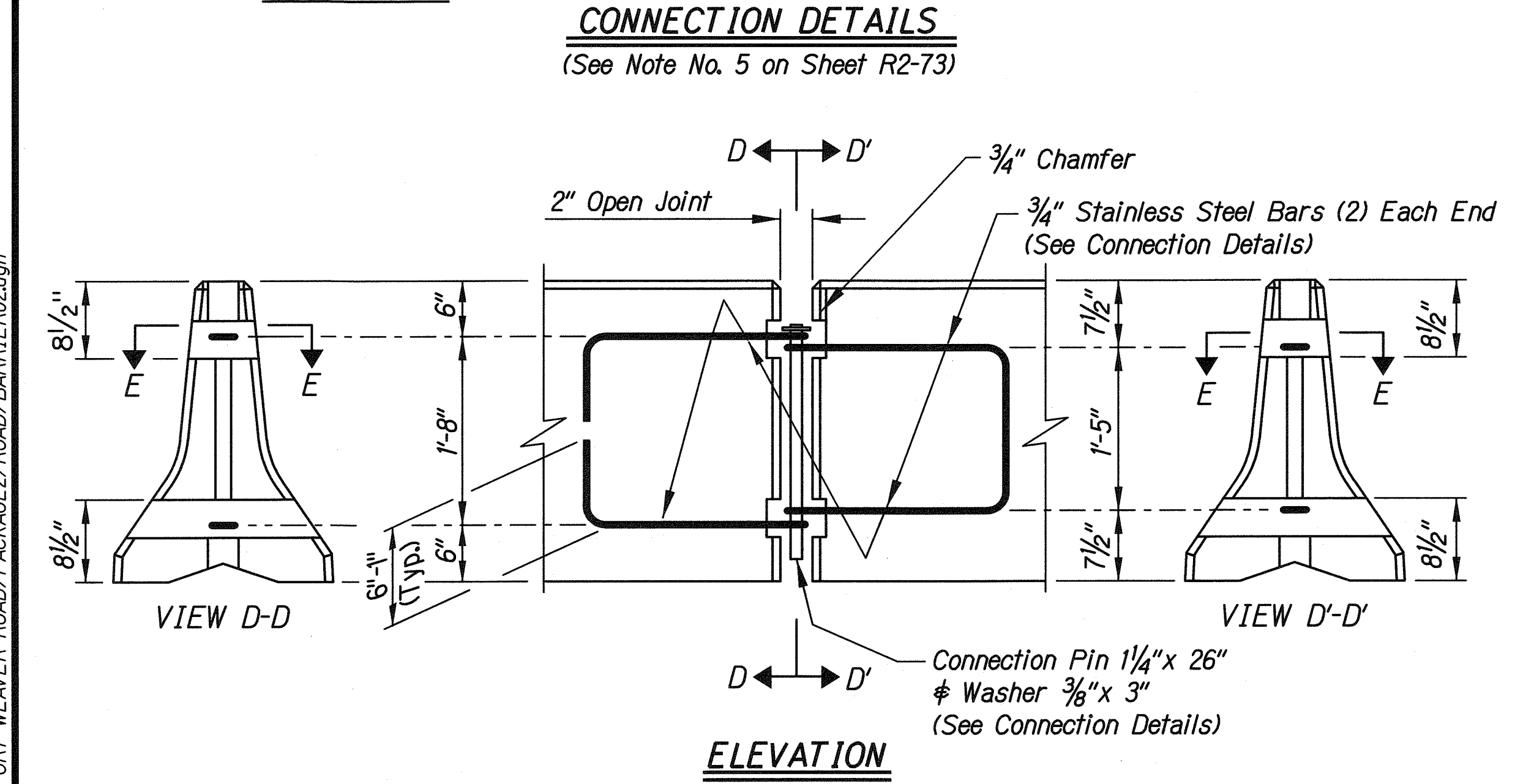
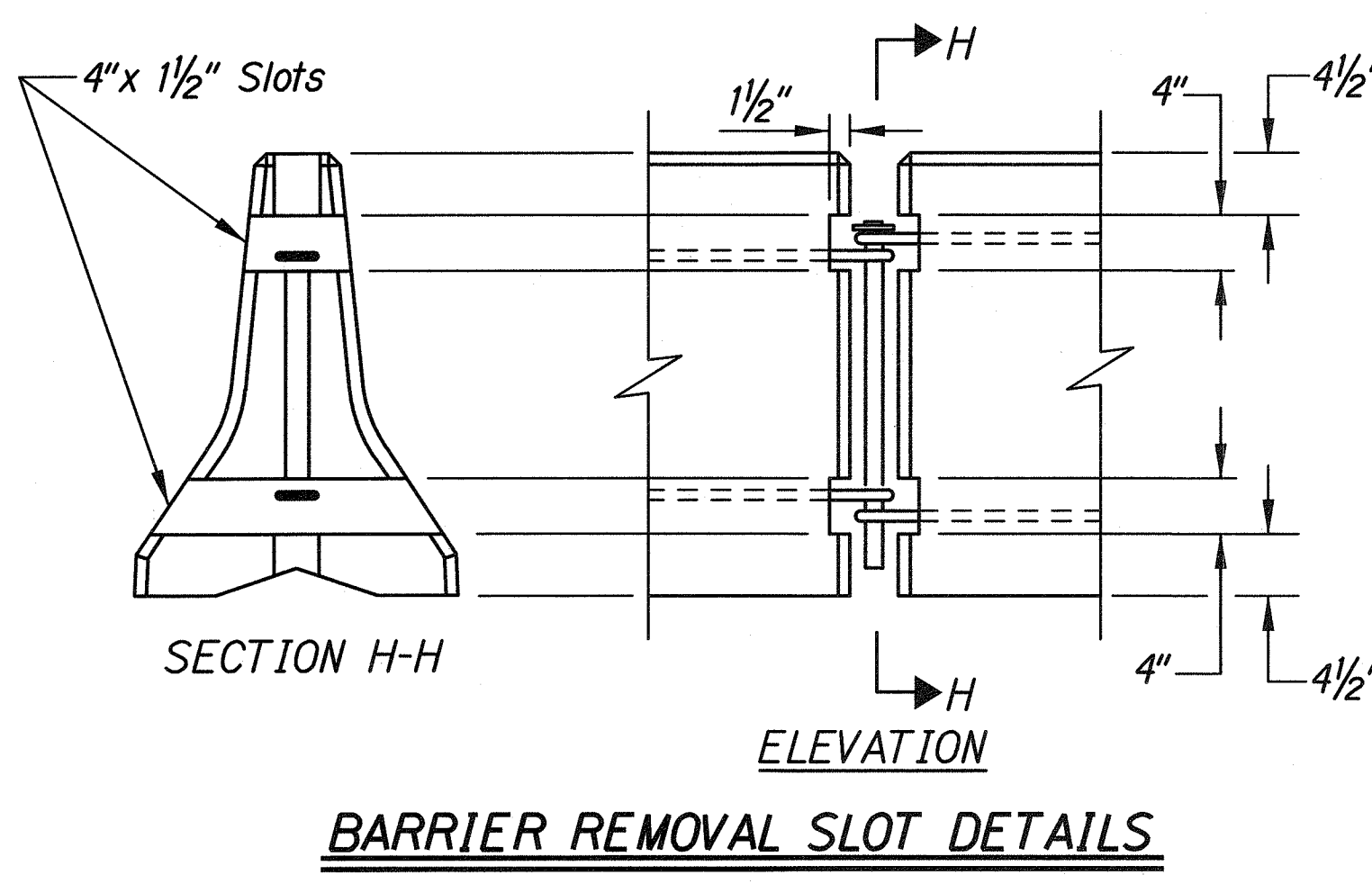
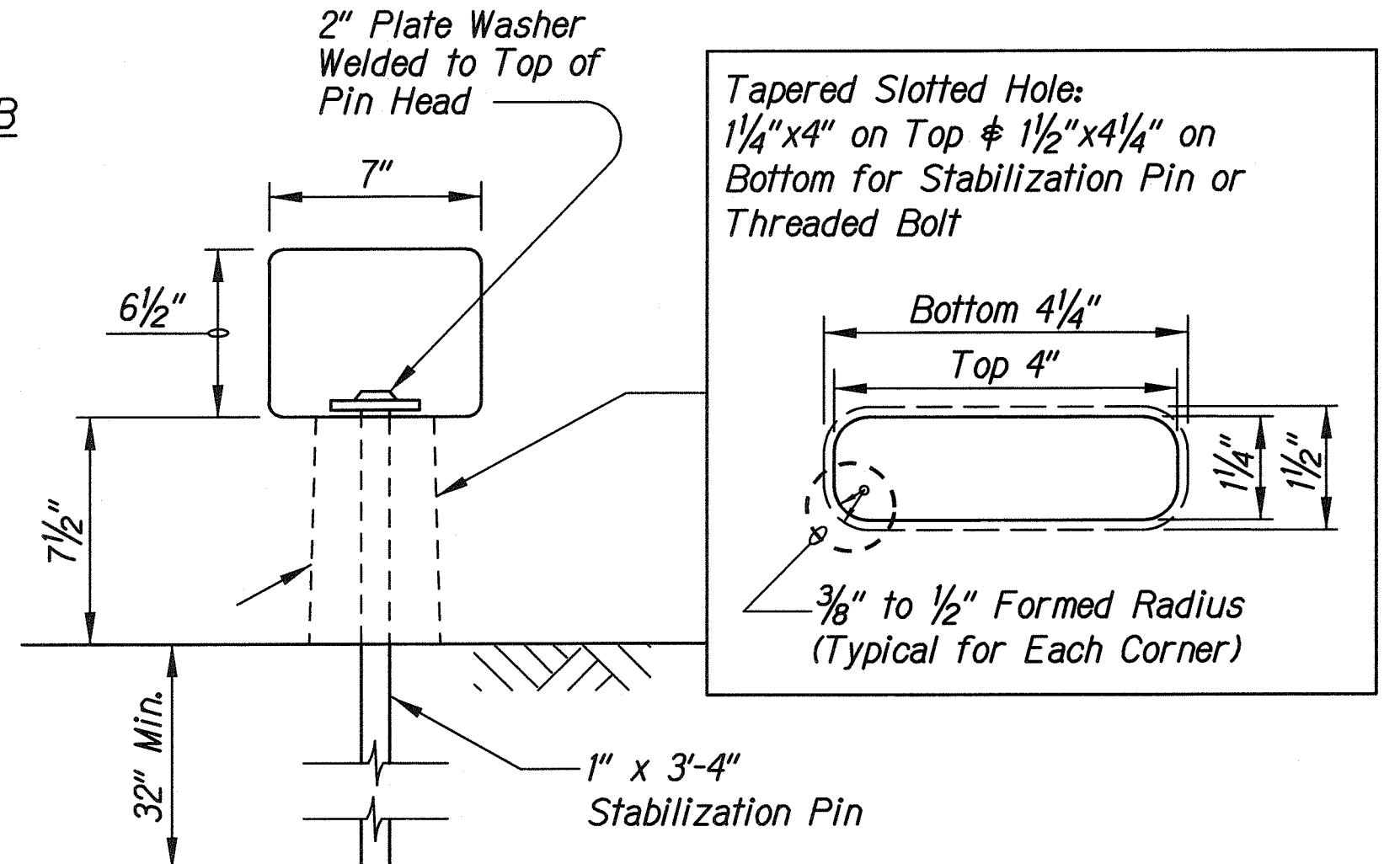
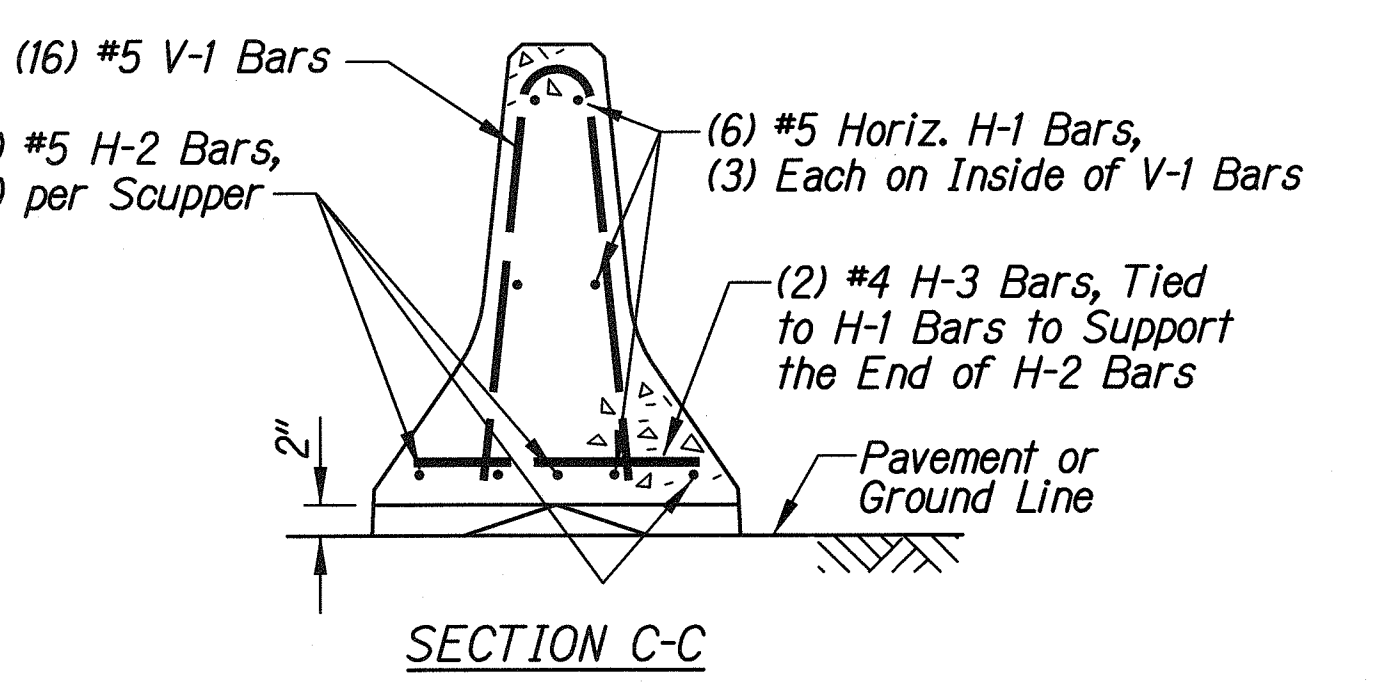
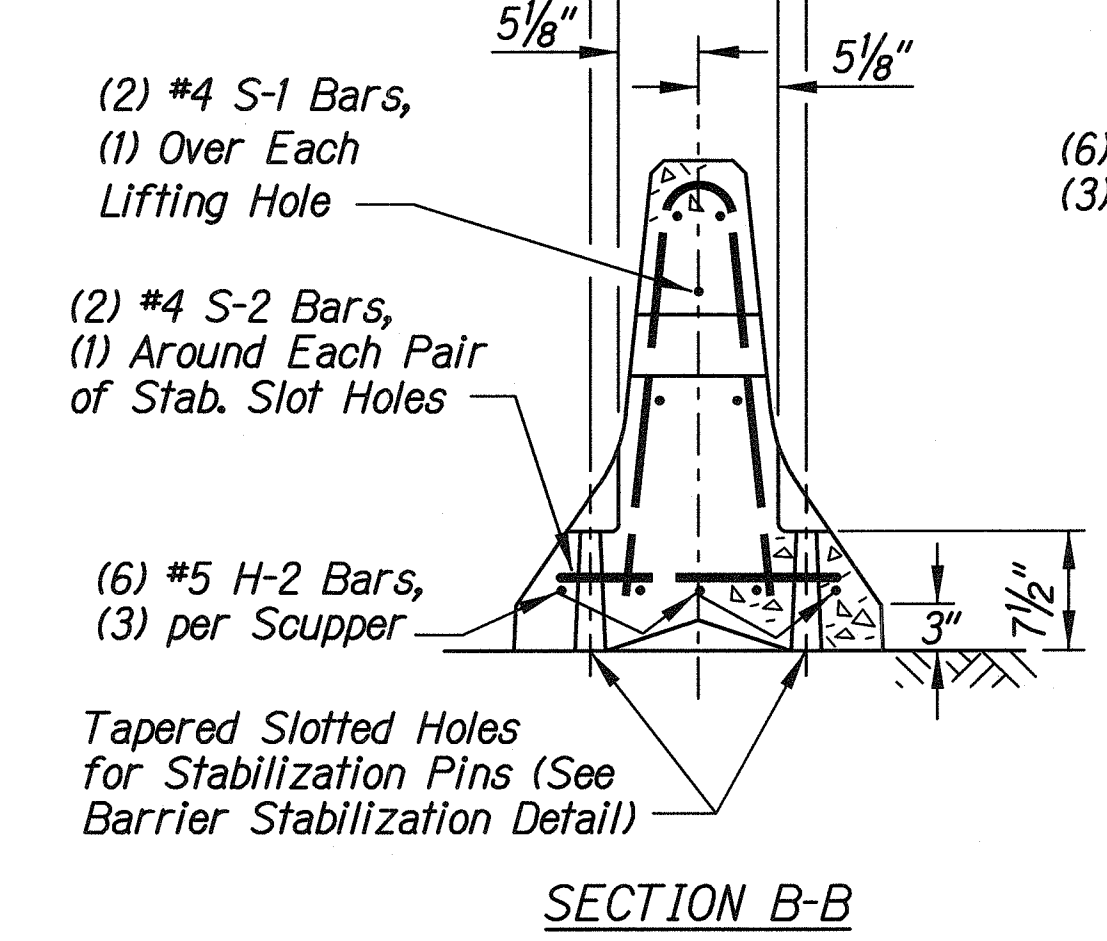
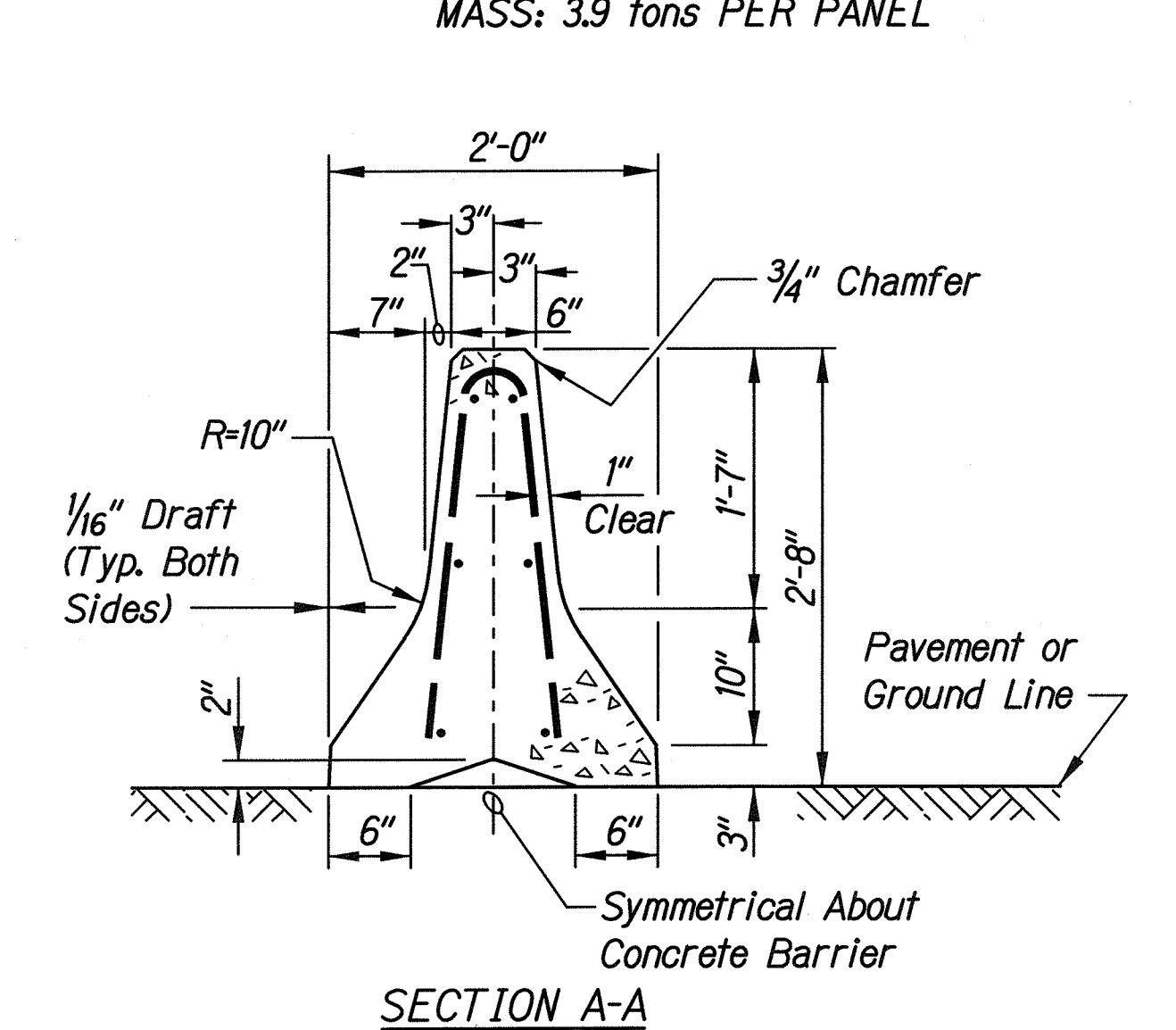
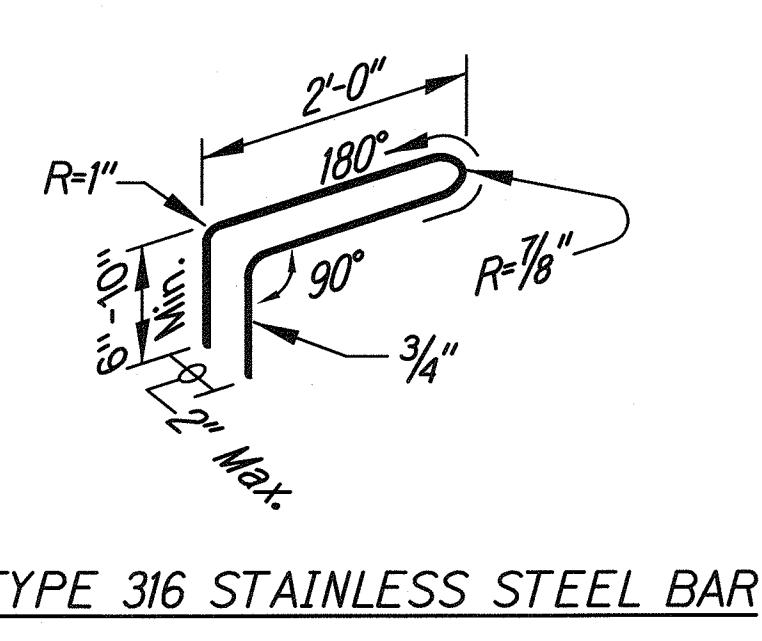
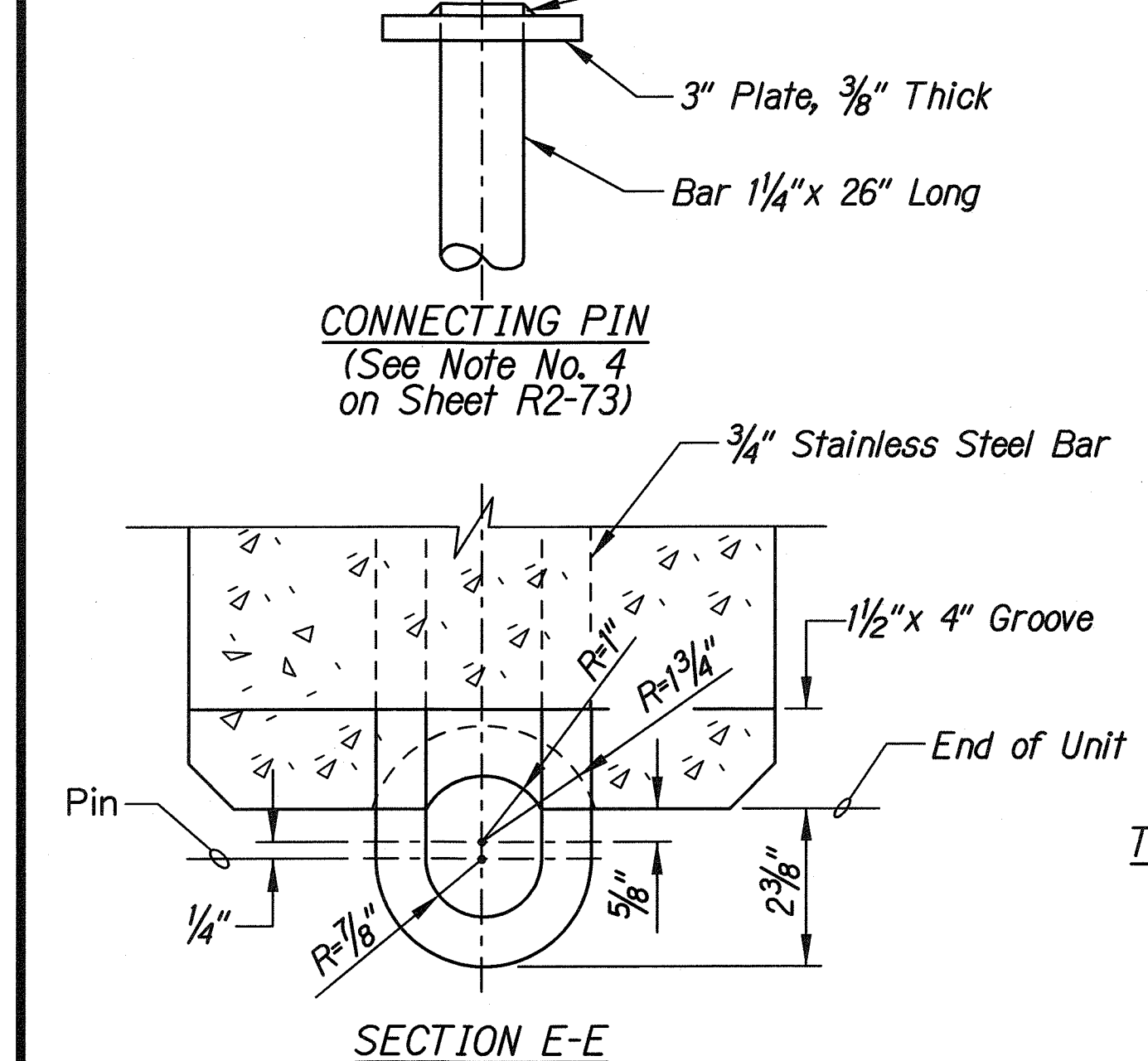
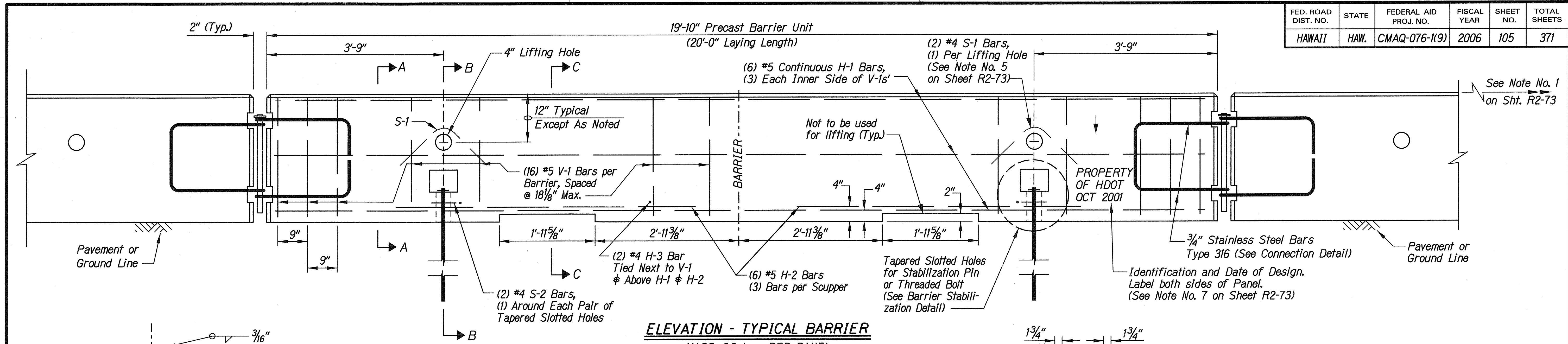
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PORTABLE CONCRETE BARRIER

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: As Shown Date: Feb. 22, 2008

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-11(9)	2006	105	371



DATE	DESIGNED BY	CHECKED BY
04/30/10	RAJENDRA M. URASAKI	RAJENDRA M. URASAKI
04/30/10	RAJENDRA M. URASAKI	RAJENDRA M. URASAKI
04/30/10	RAJENDRA M. URASAKI	RAJENDRA M. URASAKI
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

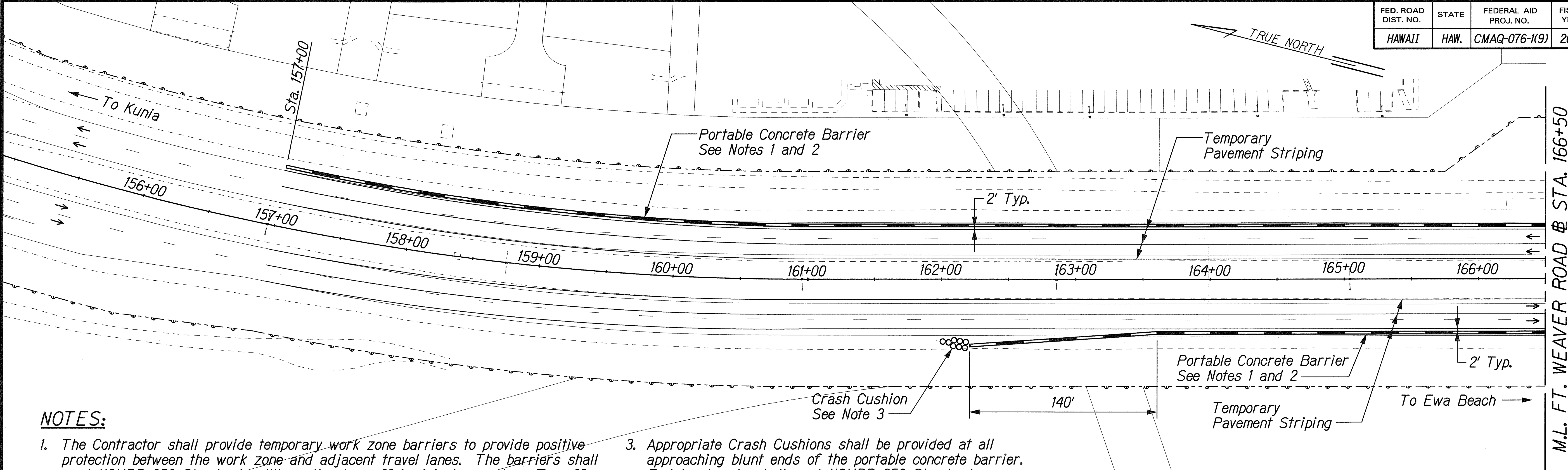
PORTABLE CONCRETE BARRIER

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: As Shown Date: Feb. 22, 2008

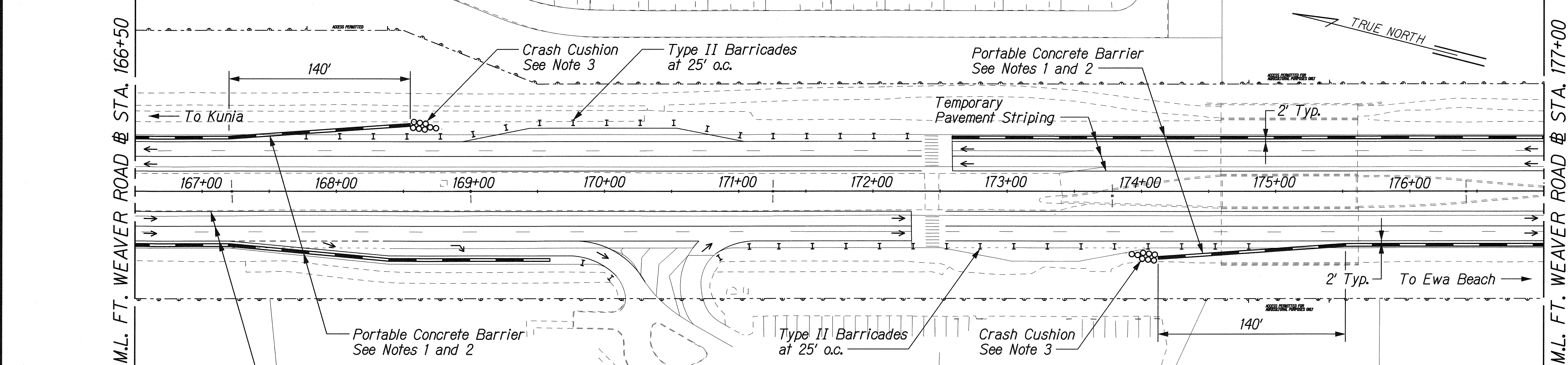
SHEET No. R2-74 OF 79 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	106	371



NOTES:

1. The Contractor shall provide temporary work zone barriers to provide positive protection between the work zone and adjacent travel lanes. The barriers shall meet NCHRP 350 Standards. Where the drop-off is 4 inches or less, Type II barricades may be used in lieu of portable concrete barriers.
2. The Contractor shall install steady-burn warning lights mounted on the Portable Concrete Barrier at 20' o.c.
3. Appropriate Crash Cushions shall be provided at all approaching blunt ends of the portable concrete barrier. End treatments shall meet NCHRP 350 Standards.



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QUANTITIES BY	
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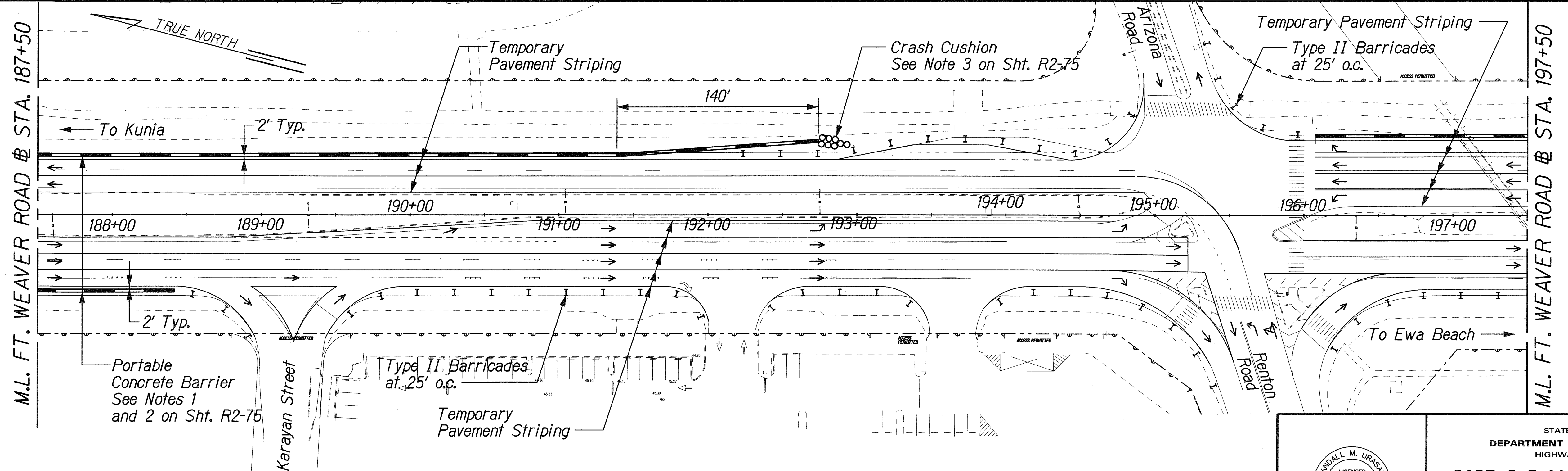
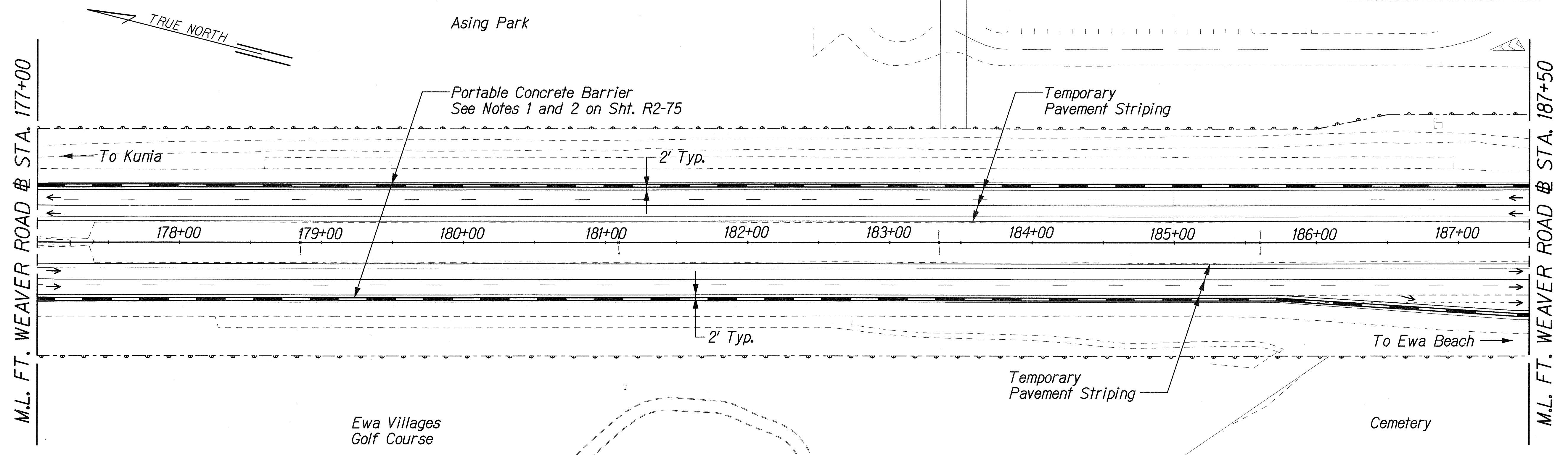
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**PORTABLE CONCRETE BARRIER
LAYOUT PLAN - 1**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Feb. 22, 2008

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	107	371



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NOTE BOOK	
QUANTITIES BY	
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Randall M. Urasak
SIGNATURE

04/30/10
EXPIRATION DATE
OF THE LICENSE

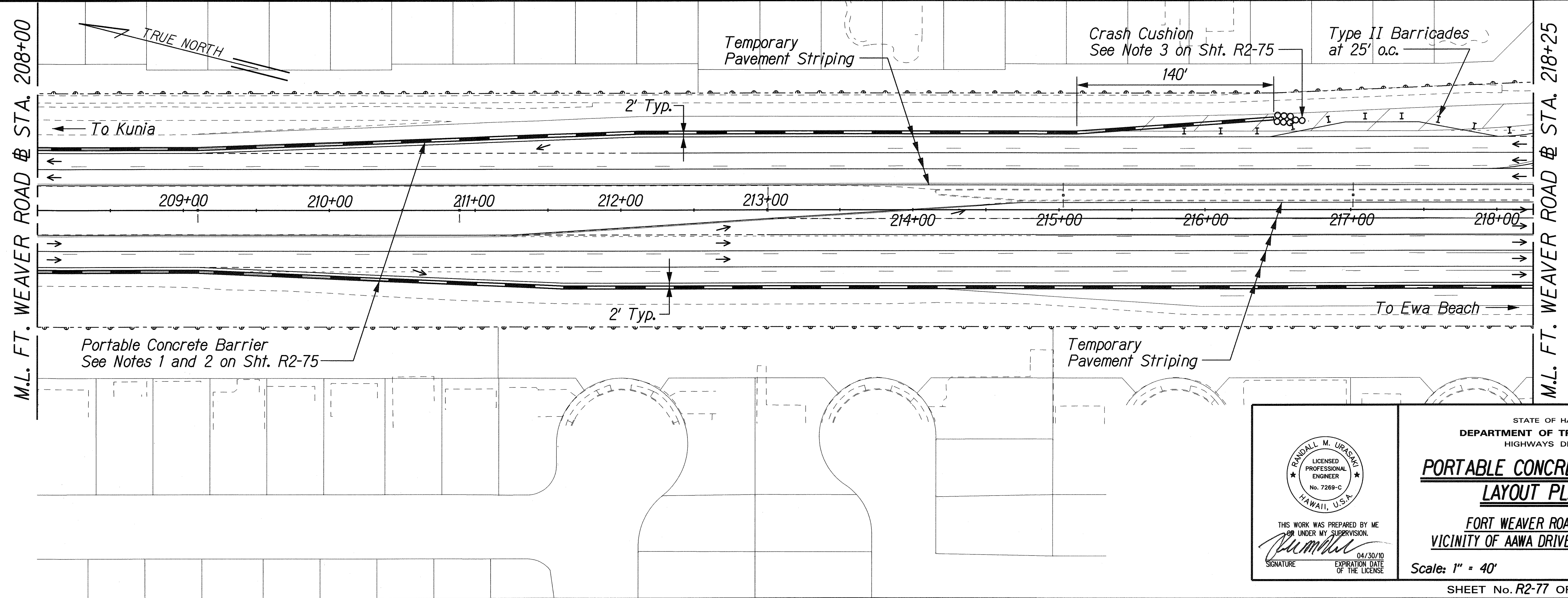
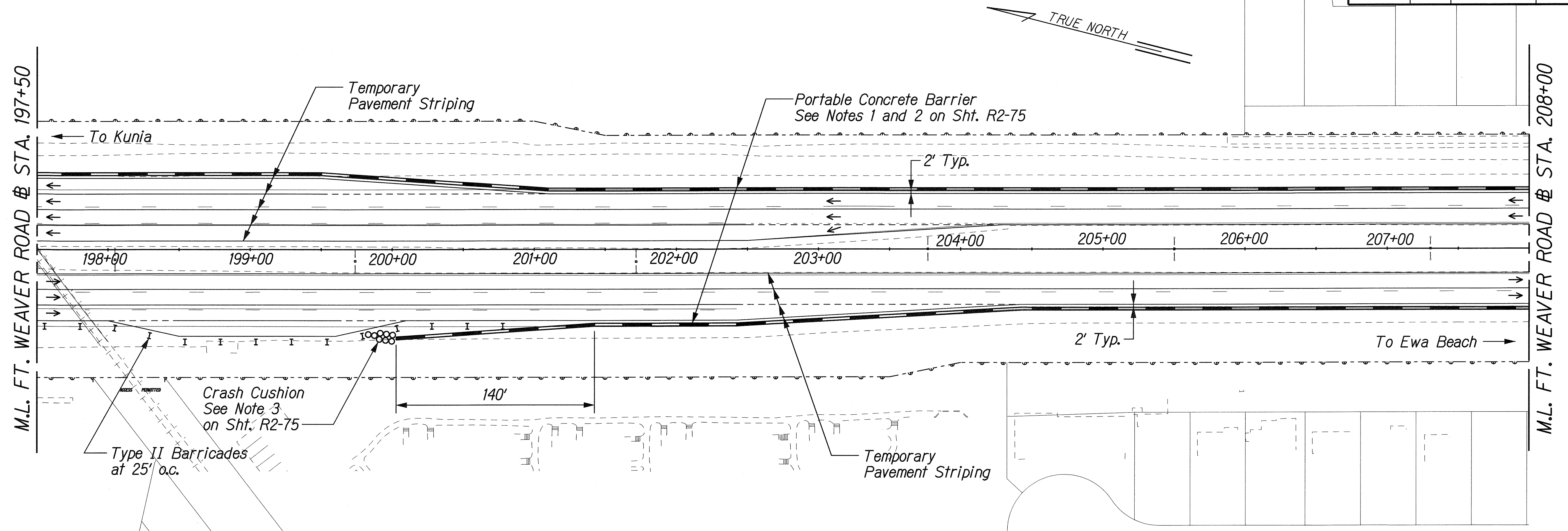
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PORTABLE CONCRETE BARRIER
LAYOUT PLAN - 2

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Feb. 22, 2008

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	108	371



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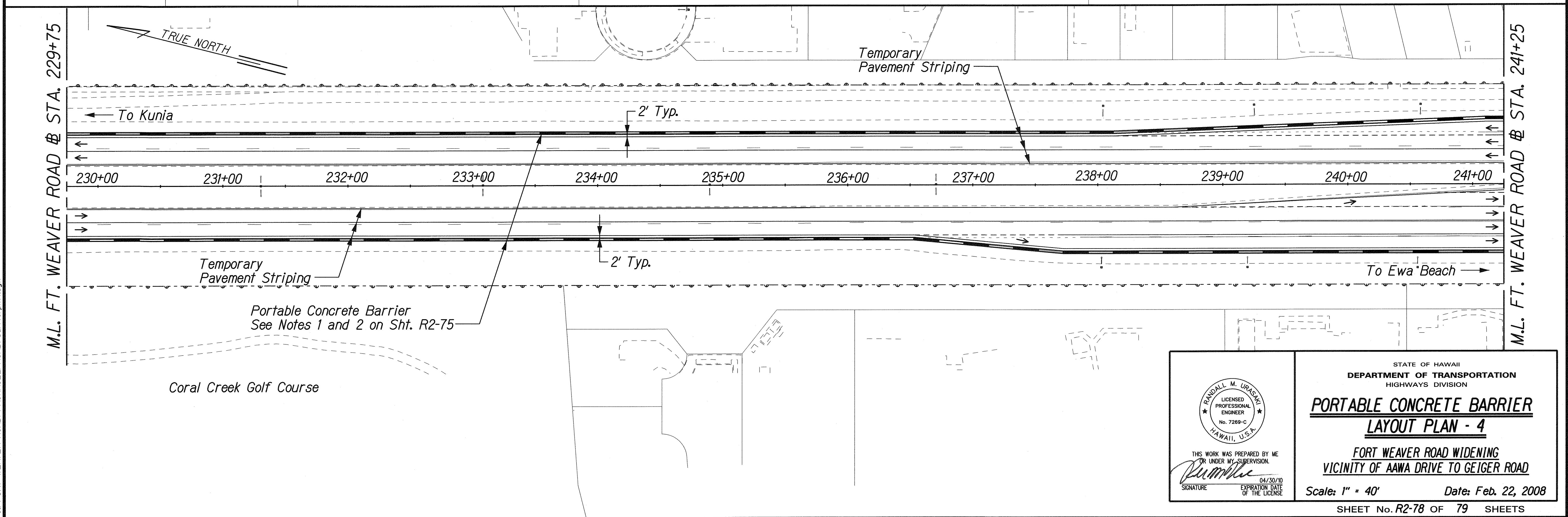
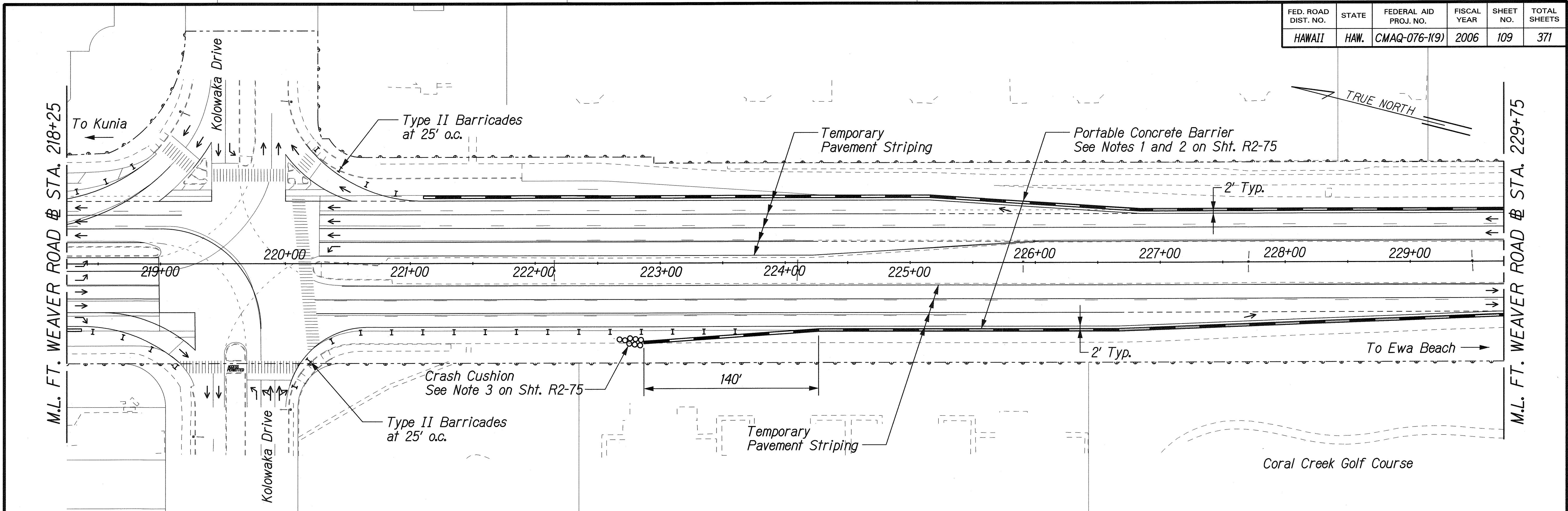
STATE OF HAWAII
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HIGHWAYS DIVISION

**PORTABLE CONCRETE BARRIER
LAYOUT PLAN - 3**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Feb. 22, 2008

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	109	371



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NOTE BOOK	DRAWN BY	
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	CHECKED BY	

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R. Urasaka
SIGNATURE

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EXPIRATION DATE
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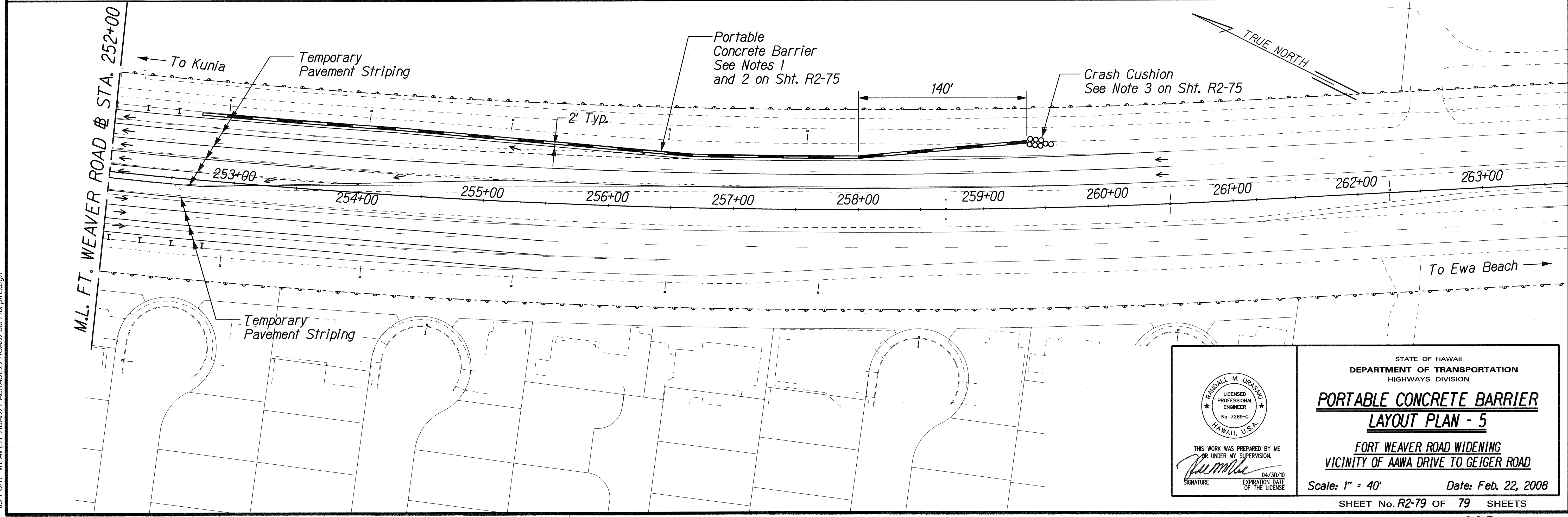
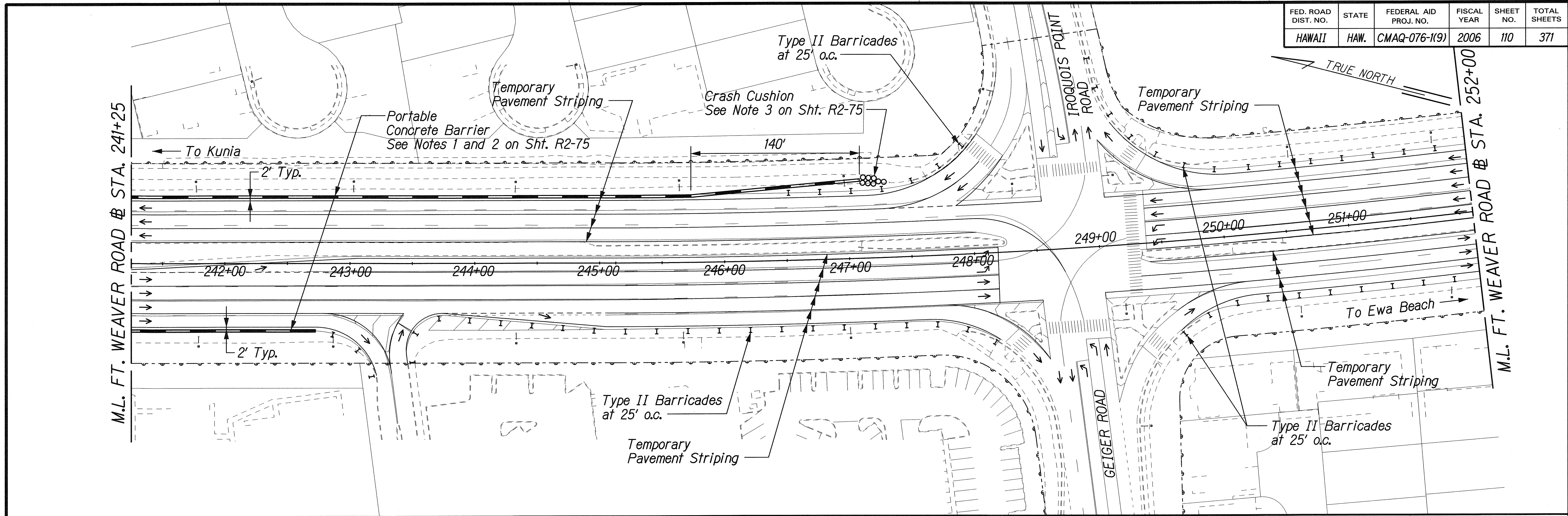
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PORTABLE CONCRETE BARRIER
LAYOUT PLAN - 4

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Feb. 22, 2008

FED. ROAD DIST. NO.	STATE	FEDERAL AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-076-1(9)	2006	110	371



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**PORTABLE CONCRETE BARRIER
LAYOUT PLAN - 5**

FORT WEAVER ROAD WIDENING
VICINITY OF AAWA DRIVE TO GEIGER ROAD

Scale: 1" = 40' Date: Feb. 22, 2008