

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-02-06	2008	44	66

STRUCTURAL GENERAL NOTES

1. General Specifications: Hawaii Department of Transportation, 2005 Standard Specifications for Road and Bridge Construction, together with Special Provisions prepared for this Contract.

2. Design Specifications:

(A) AASHTO 2007 LRFD Bridge Design Specifications (Fourth Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

(B) AASHTO 2001 Standard specifications for structural supports for Highway Signs, Luminaries and Traffic Signals (Fourth Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

3. Loads:

(A) Wind Load: 105 mph. Value is a 3 second gust speed at 32.8-ft above ground for Exposure C category and is associated with an annual probability of 0.02 (50 year mean recurrence interval).

(B) Recurrence Interval of 50 Years.

(C) Vortex shedding induced loads shall be considered for cantilevered mast arms and pole shafts that do not have tapers or have tapers of less than 0.14 in/ft.

4. Materials:

(A) All concrete strengths shall be as noted below:

Item No.	Structural Parts	Classes of Concrete	Specified Compressive Strength, f'c (28 Days)
(1)	Drilled shafts	-	4500 PSI
(2)	Except as noted otherwise, all others	A	3000 PSI

All concrete with a 28 days compressive strenght of 4000 psi or greater shall have a maximum W/C Ratio of 0.45. The W/C Ratio for other class of concrete shall follow the Standard Specifications.

(B) All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.

(C) All structural steel shall be hot dip galvanized after fabrication, unless otherwise noted.

(D) All anchor bolts, washers and nuts shall be hot dip galvanized after fabrication, unless otherwise specified.

5. Reinforcement:

(A) The minimum covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:

(1) Concrete cast against and permanently exposed to earth = 3"

(2) All others unless otherwise noted = 2"

(B) Reinforcing bars shall be detailed in accordance with the latest edition of the design specification in note 2 unless otherwise noted.

(C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".

(D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.

(E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

6. Construction Notes:

(A) See Standard Specifications and Special Provisions.

(B) Except as otherwise noted, all vertical dimensions are measured plumb.

(C) The Contractor shall verify all site conditions and not rely upon these plans for stream location, etc. Conditions may differ from those shown.

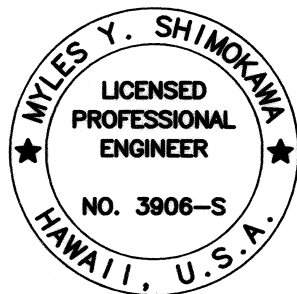
(D) The Contractor shall tone and verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.

(E) For concrete finish see Standard Specifications and Special Provisions.

(F) Construction joints may be relocated or additional ones added subject to the approval of the Engineer.

(G) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4"x3/4".

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STRUCTURAL GENERAL NOTES

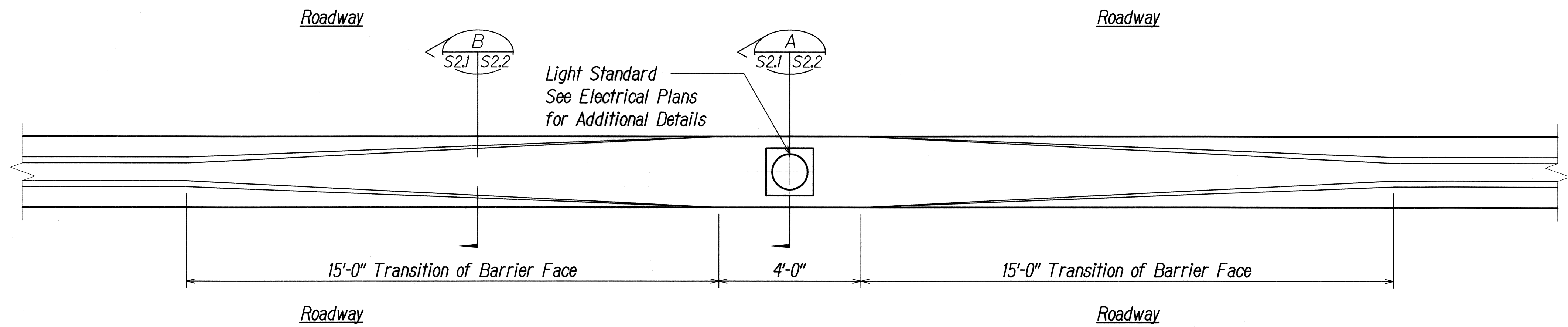
KALANIANA'OLE HIGHWAY MEDIAN  
IMPROVEMENTS VICINITY OF OLOMANA  
GOLF COURSE PROJECT NO. 72A-02-06

SCALE: None      DATE: June 2008

SHEET No. S0.1 OF 8 SHEETS



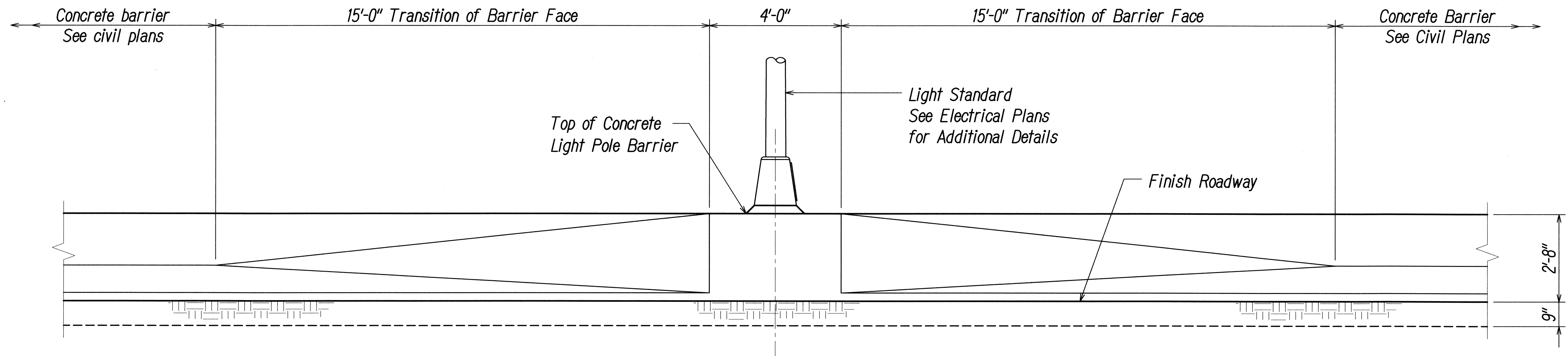
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-02-06	2008	46	66



**TYPICAL LIGHT POLE BARRIER PLAN**  
Scale: 1/2" = 1'-0"

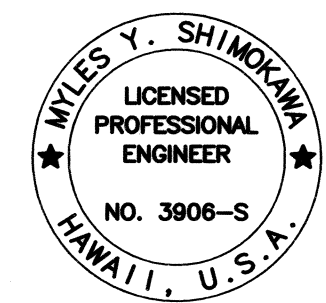
**NOTES:**

1. No expansion joints shall be located in typical light pole barrier and light pole barrier transition.
2. Traffic light pole barrier shall be paid for under Section 606 - Guardrail Type 4 - Rigid Barrier.



**TYPICAL LIGHT POLE BARRIER ELEVATION**  
Scale: 1/2" = 1'-0"

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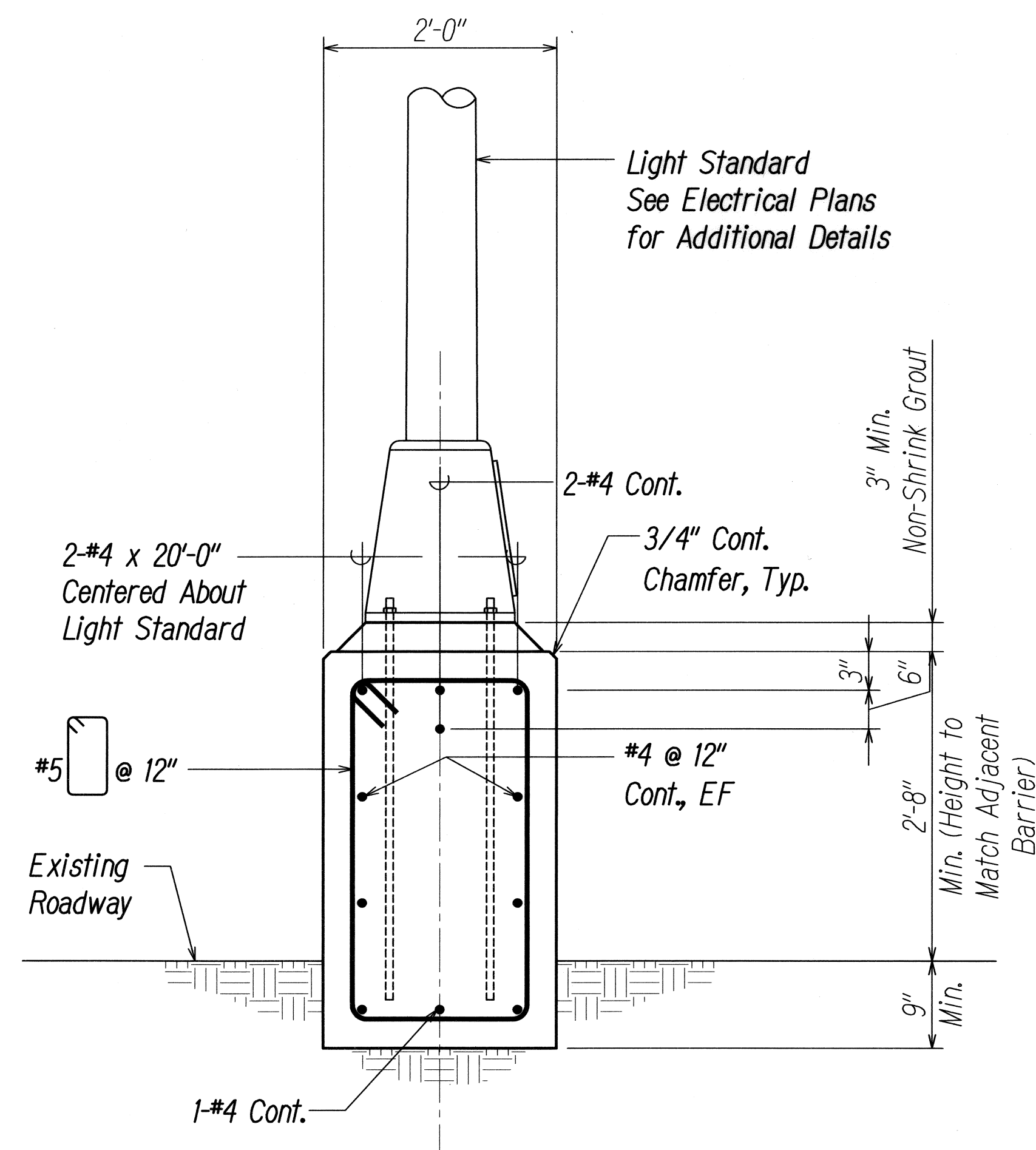


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HIGHWAYS DIVISION  
**TYPICAL LIGHT POLE BARRIER  
PLAN AND ELEVATION**  
KALANIANA'OLE HIGHWAY MEDIAN  
IMPROVEMENTS VICINITY OF OLOMANA  
GOLF COURSE PROJECT NO. 72A-02-06  
SCALE: As Noted DATE: June 2008  
SHEET No. S2.1 OF 8 SHEETS

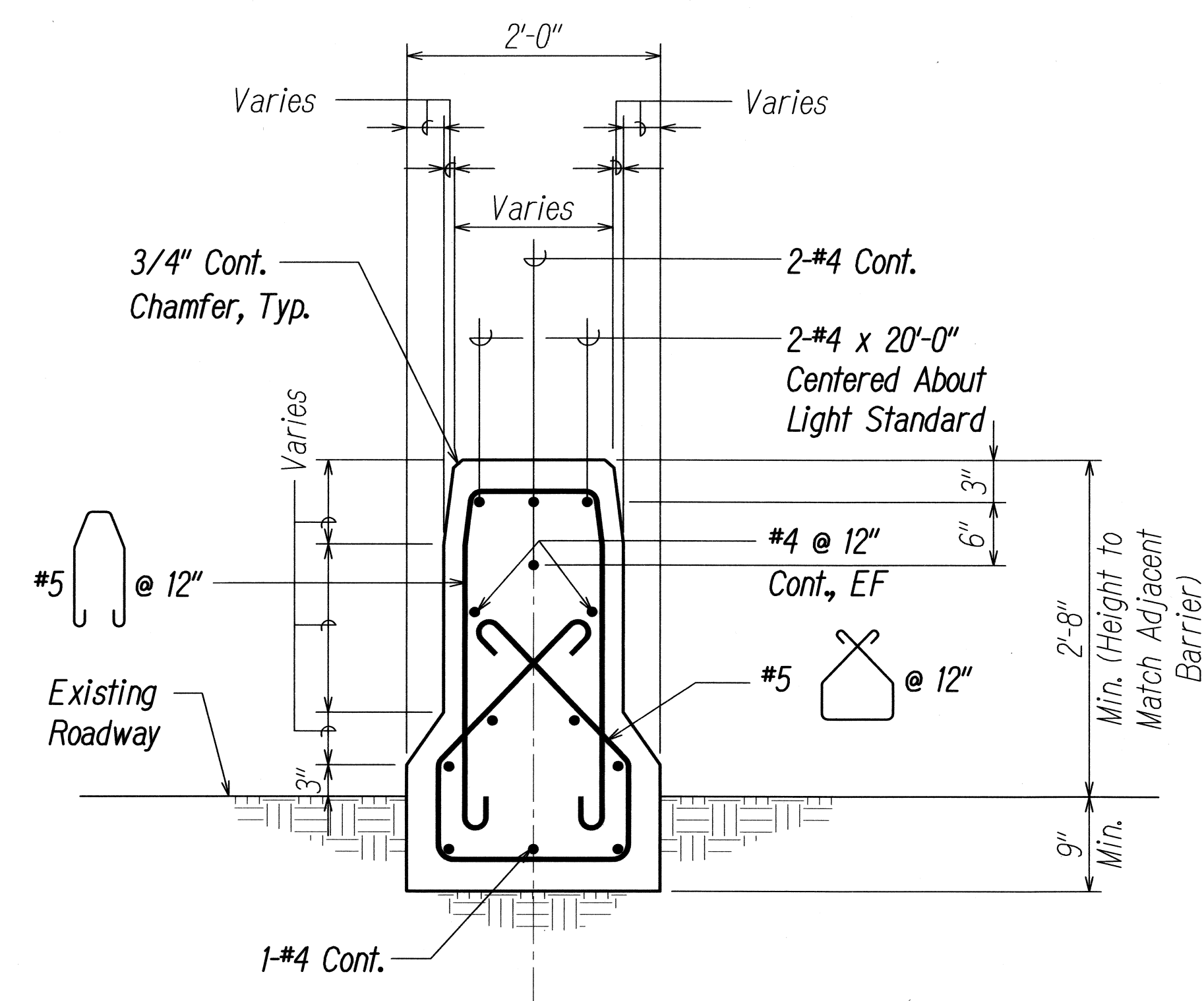


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HAWAII	HAW.	72A-02-06	2008	47	66



LIGHT STANDARD BARRIER SECTION 

Scale: 1" = 1'-0"

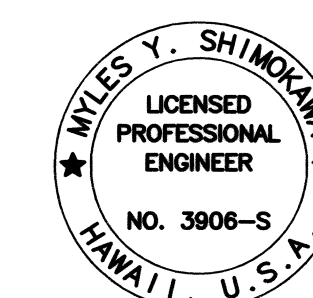


LIGHT POLE BARRIER TRANSITION SECTION

Scale: 1" = 1'-0"

S21 S22

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*TYPICAL LIGHT POLE BARRIER*  
*SECTIONS*

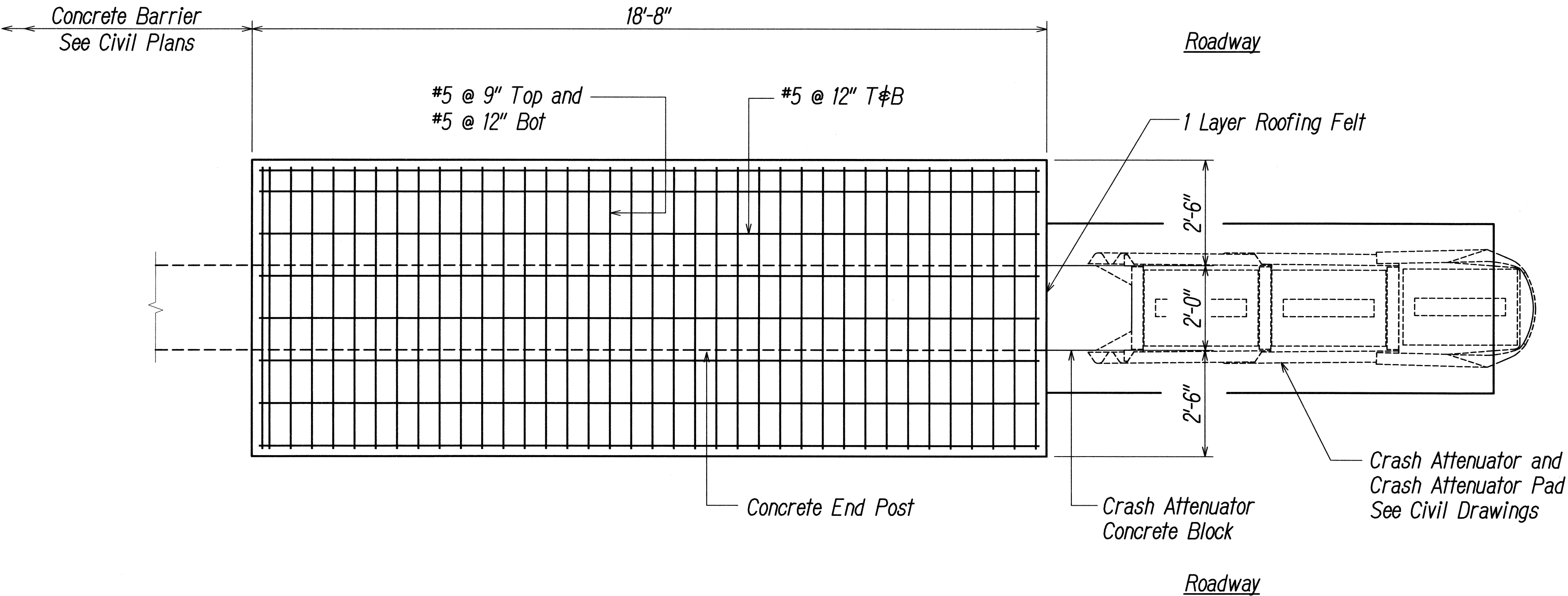
*KALANIANA'OLE HIGHWAY MEDIAN  
IMPROVEMENTS VICINITY OF OLOMANA  
GOLF COURSE PROJECT NO. 72A-02-06*

*SCALE: As Noted*      *DATE: June 2008*

SHEET No. S2.2 OF 8 SHEETS

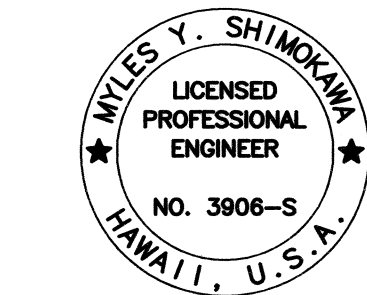


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HAWAII	HAW.	72A-02-06	2008	49	66



TYPICAL END POST FOUNDATION PLAN  
Scale: 1/2" = 1'-0"

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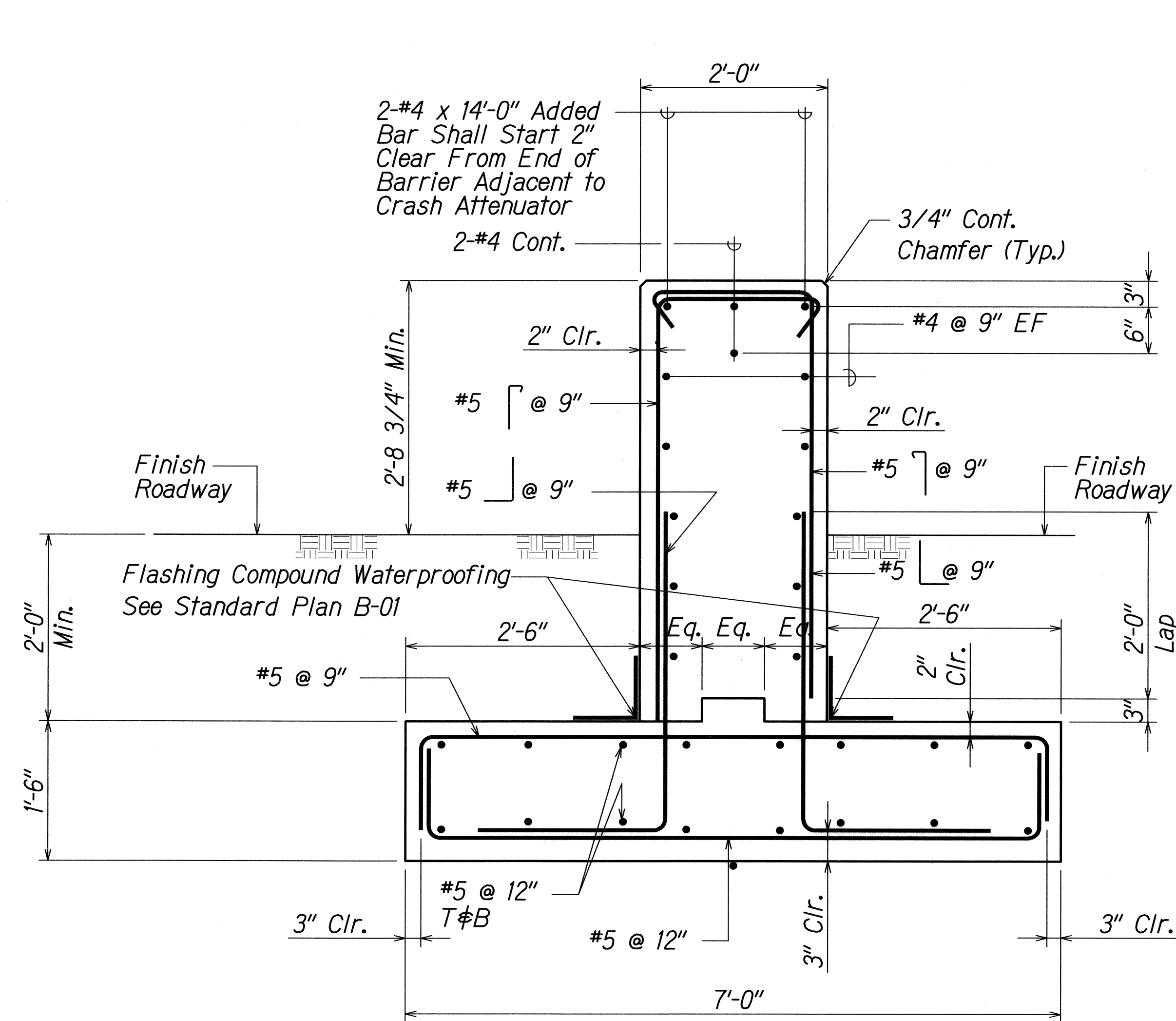
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FOUNDATION PLAN

KALANIANA'OLE HIGHWAY MEDIAN  
IMPROVEMENTS VICINITY OF OLOMANA  
GOLF COURSE PROJECT NO. 72A-02-06

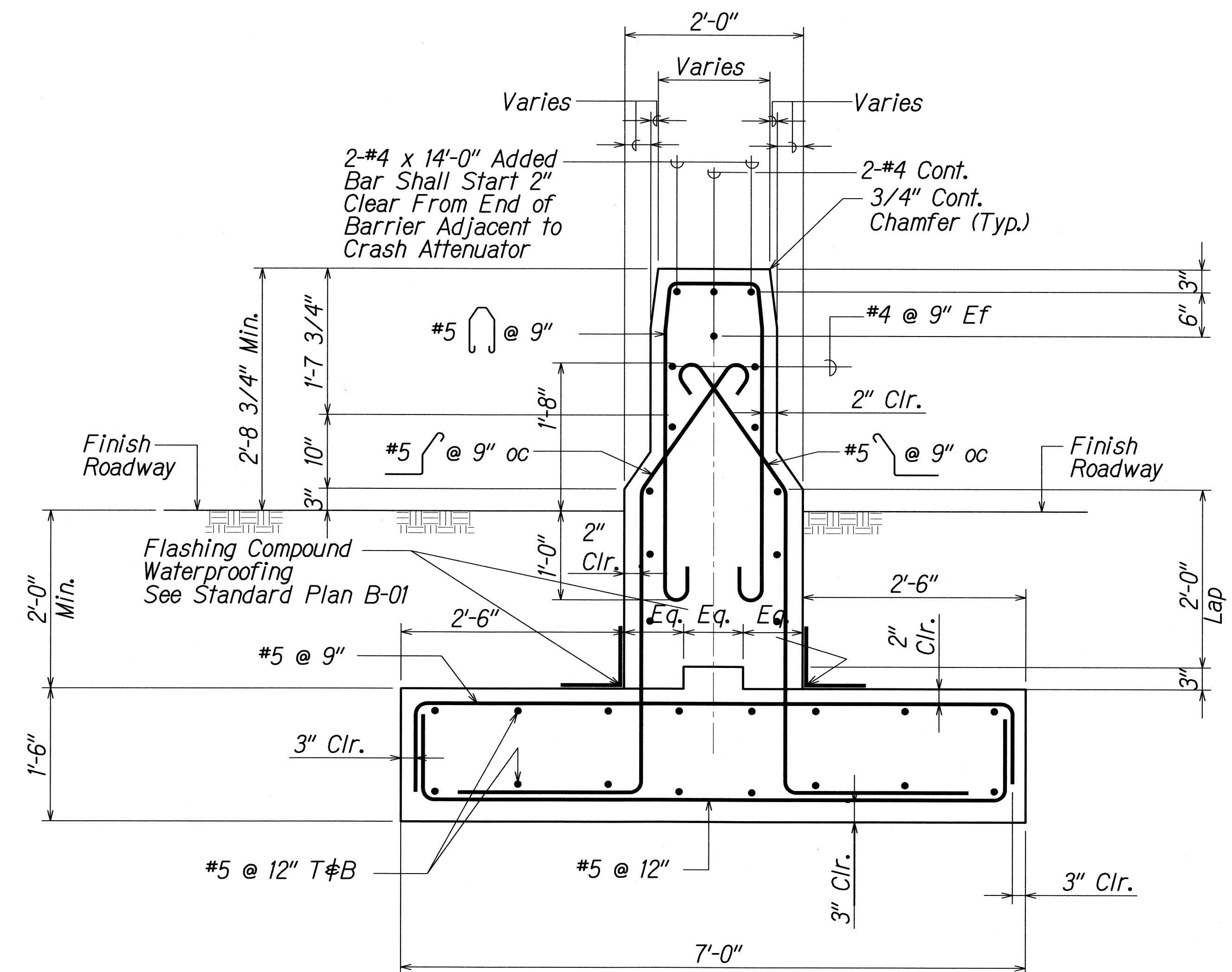
SCALE: As Noted      DATE: June 2008

SHEET No. S3.2 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-02-06	2008	50	66

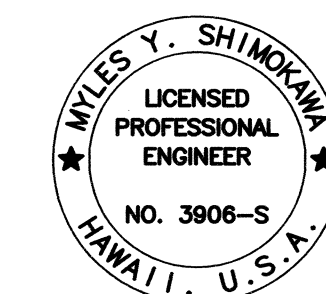


SECTION A  
Scale: 1" = 1'-0" S3.1 S3.3



SECTION B  
Scale: 1" = 1'-0" S3.1 S3.3

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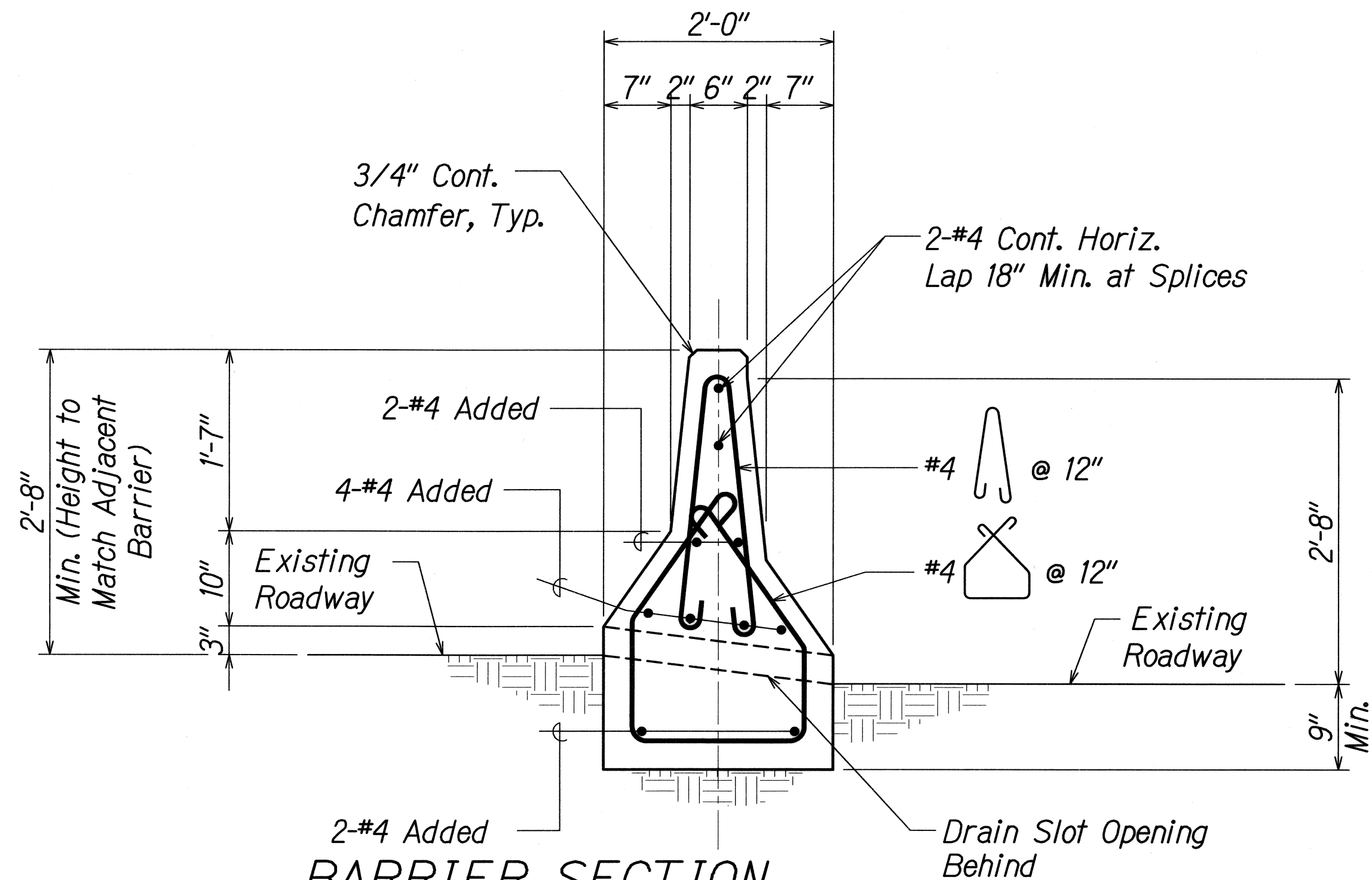


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**TYPICAL END POST SECTIONS**  
KALANIANA'OLE HIGHWAY MEDIAN  
IMPROVEMENTS VICINITY OF OLOMANA  
GOLF COURSE PROJECT NO. 72A-02-06  
SCALE: As Noted DATE: June 2008  
SHEET No. S3.3 OF 8 SHEETS



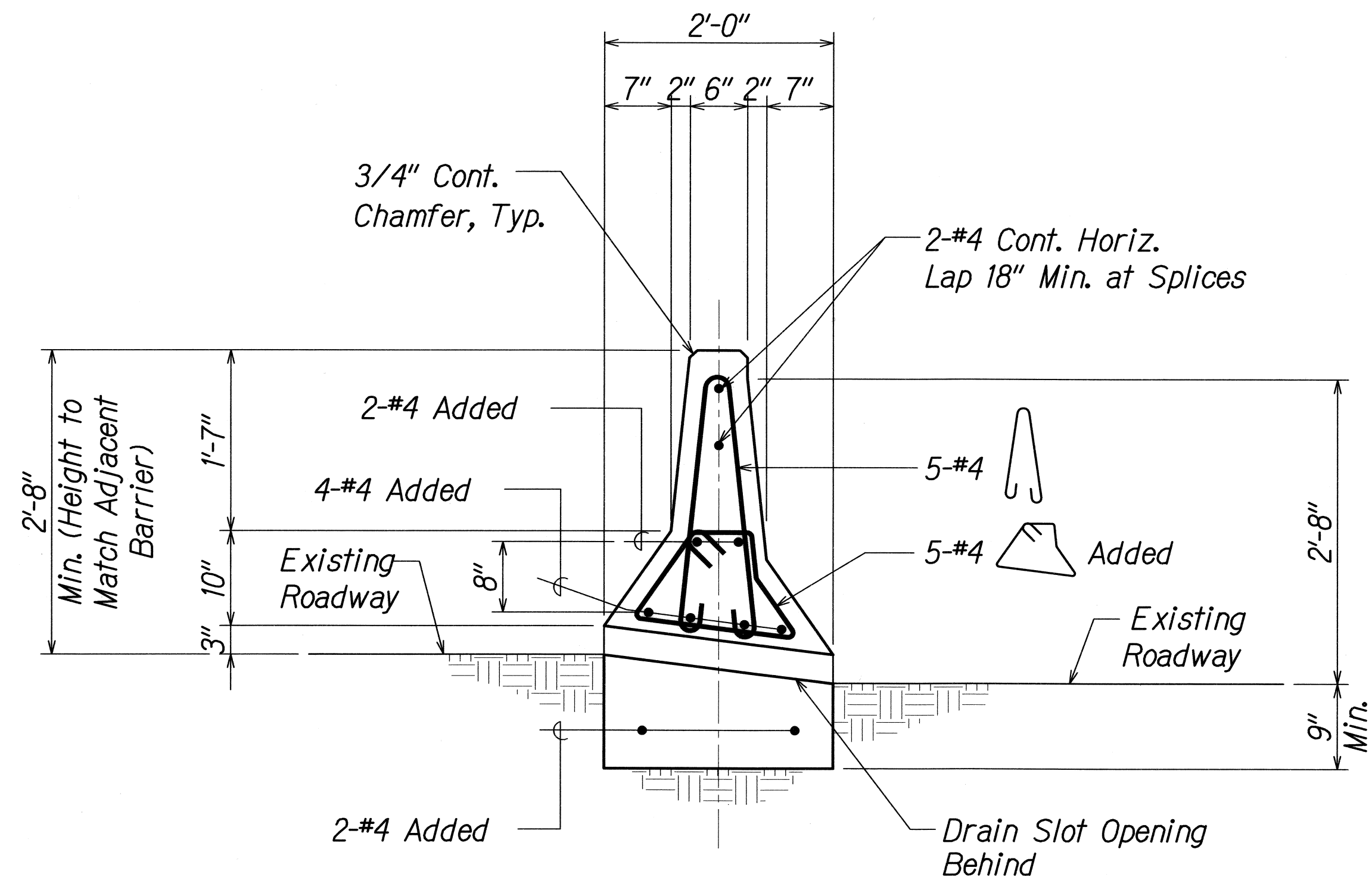
FED. ROAD DIST. NO.	STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72A-02-06	2008	51	66



**BARRIER SECTION  
ADJACENT TO SLOT OPENING**

Scale: 1" = 1'-0"

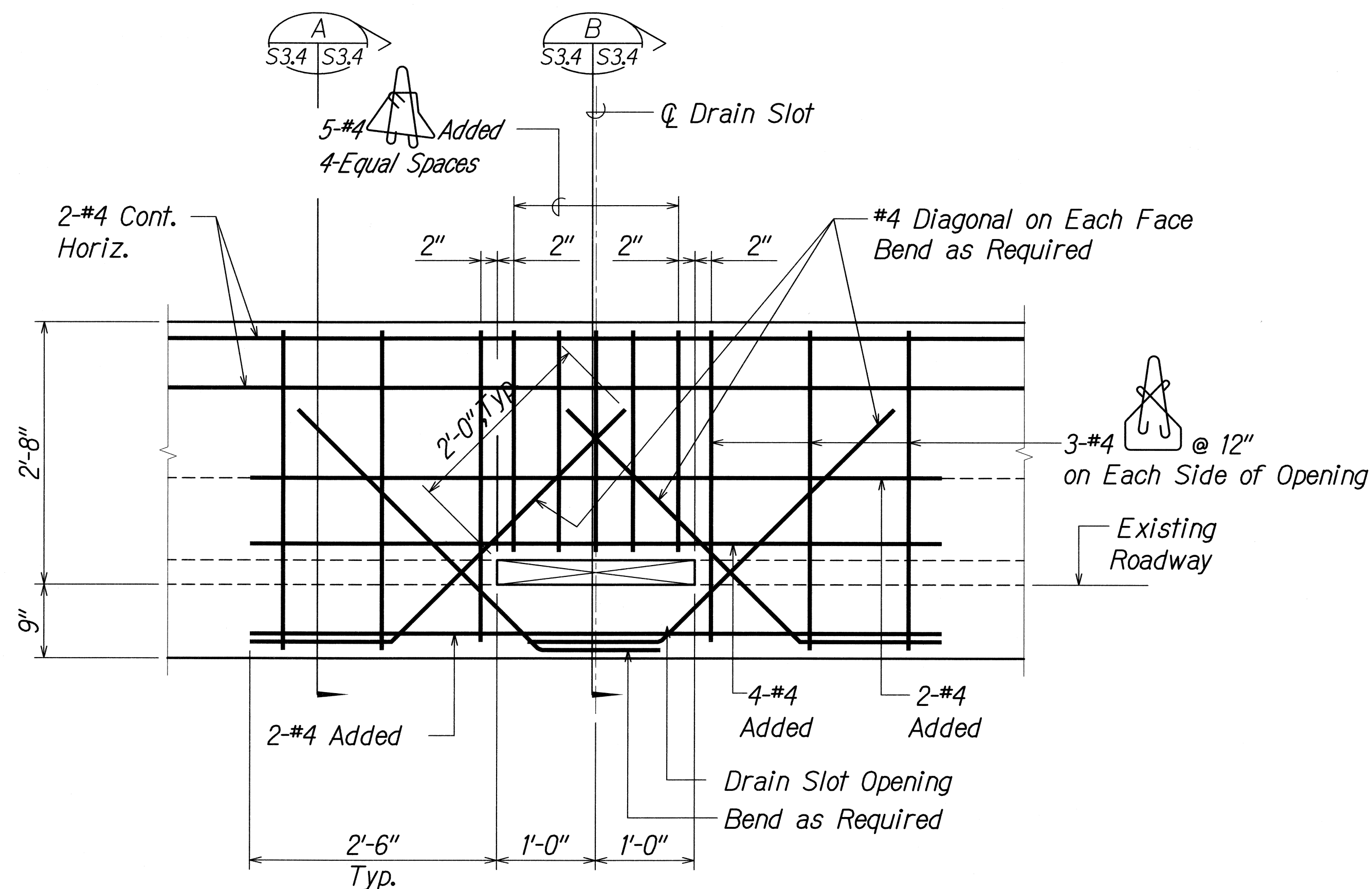
A  
S3.4 S3.4



**BARRIER SLOT OPENING SECTION**

Scale: 1" = 1'-0"

B  
S3.4 S3.4



**BARRIER SLOT OPENING SECTION**

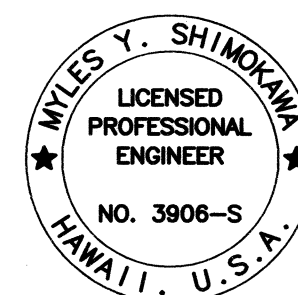
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S3.4 S3.4

**NOTE:**

See Civil drawings for slot opening locations.

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STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<b>TYPICAL BARRIER SLOT OPENING SECTIONS</b>
KALANIANA'OLE HIGHWAY MEDIAN IMPROVEMENTS VICINITY OF OLOMANA GOLF COURSE PROJECT NO. 72A-02-06
SCALE: As Noted DATE: June 2008
SHEET No. S3.4 OF 8 SHEETS