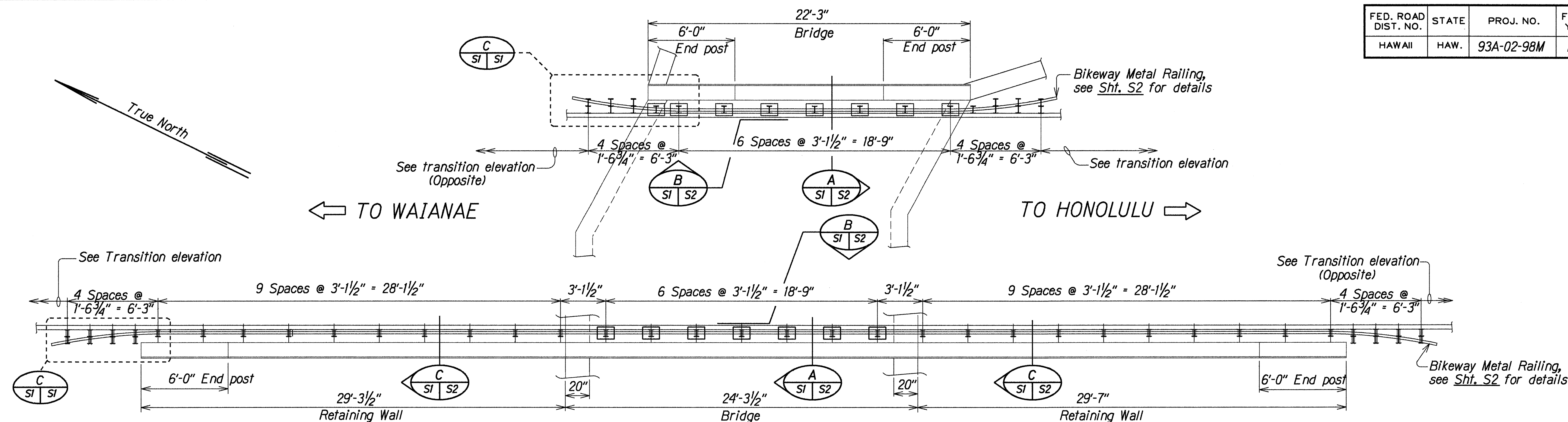


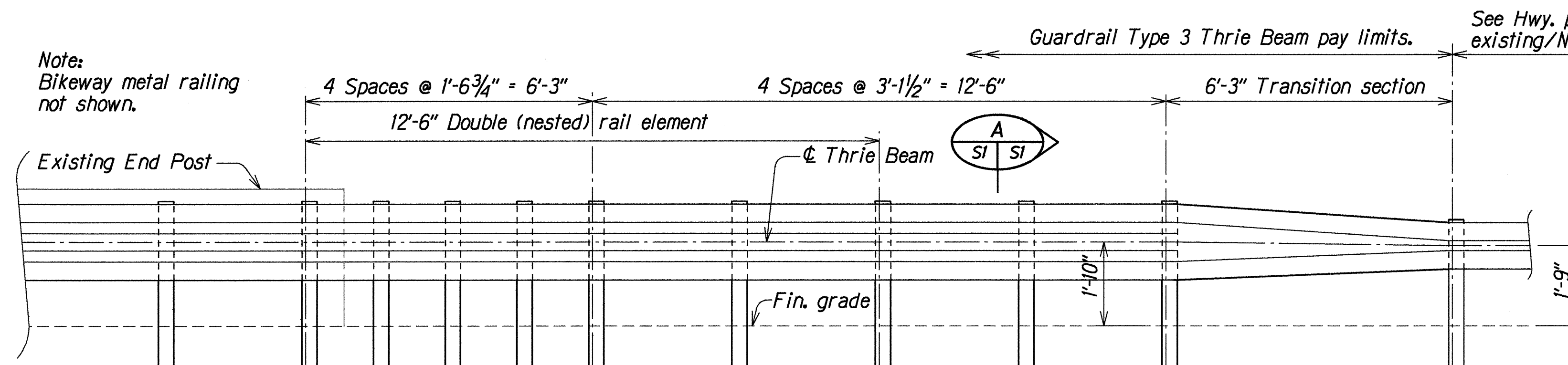
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-02-98M	1998	17	27



### LAYOUT PLAN

Scale : 1/4" = 1'-0"

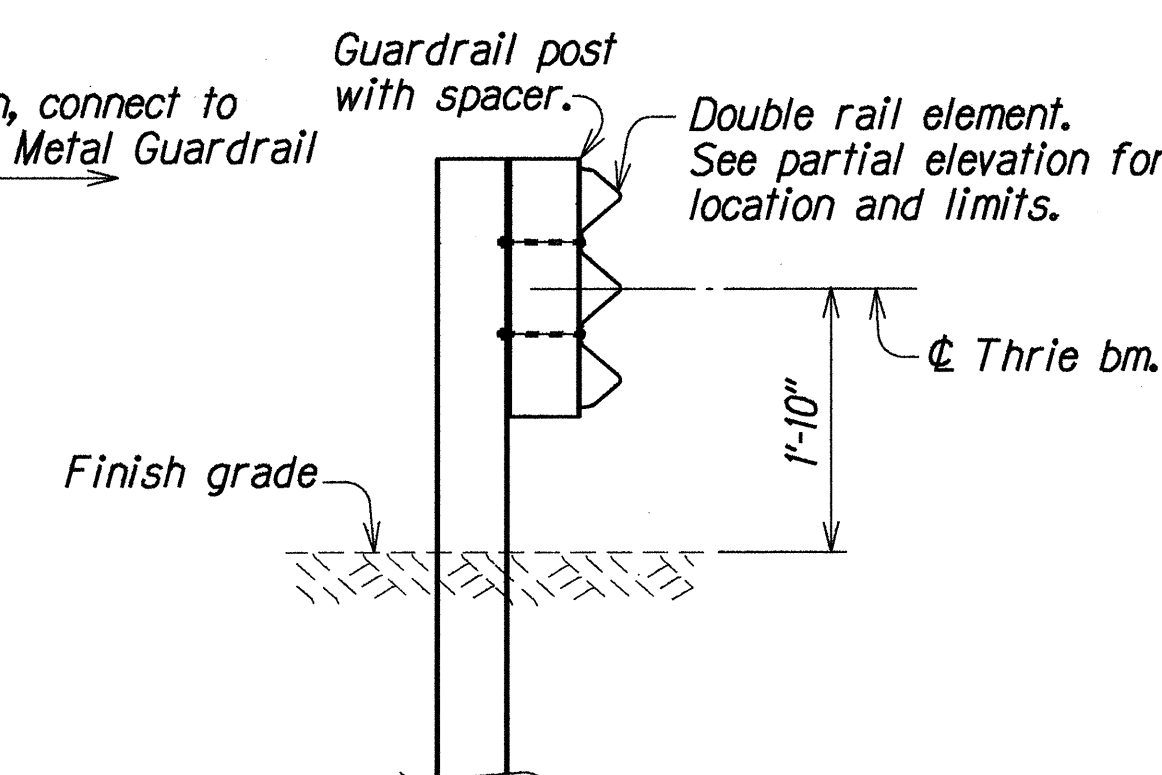
Note:  
Bikeway metal railing  
not shown.



### PARTIAL ELEVATION

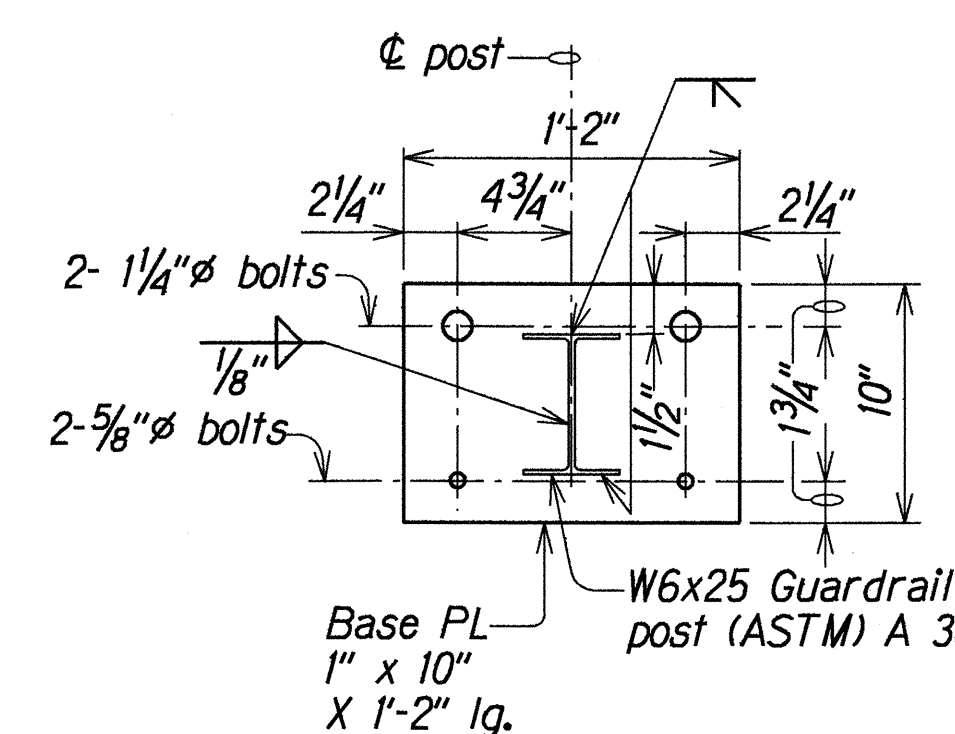
### TYPE 3 THRIE BEAM METAL GUARDRAIL TRANSITION

Scale : 1/2" = 1'-0"



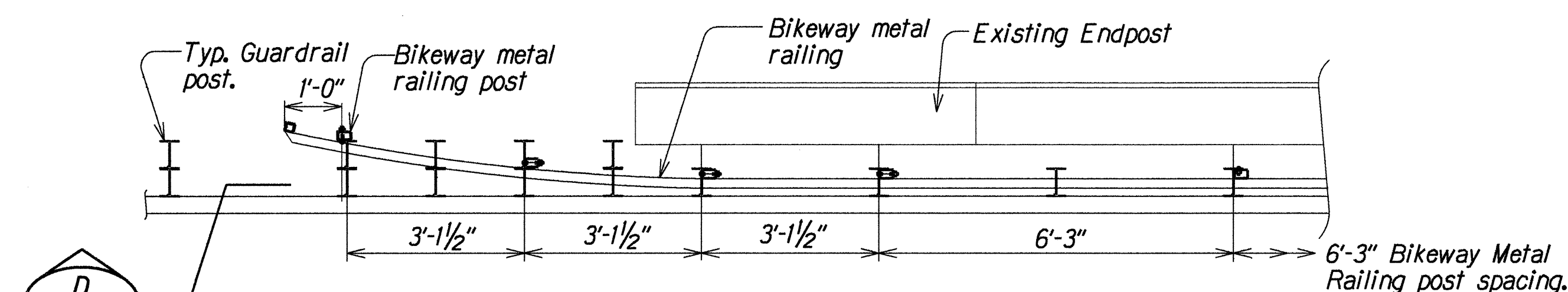
### SECTION A

Scale : 3/4" = 1'-0"



### PLAN - BASE PLATE

Scale : 1/2" = 1'-0"



### PLAN

### BIKEWAY METAL RAIL END FLAIR DETAIL

Scale : 1/2" = 1'-0"

ORIGINAL PLAN	DATE	May 1998
SURVEY PLOTTED BY	CHD	
DRAWN BY	W	
DESIGNED BY	W	
CHECKED BY	W	
NOTED BY	W	
DATE	May 1998	

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**PILILOKOE STREAM BRIDGE DETAILS**  
**METAL GUARDRAIL AND**  
**BIKEWAY METAL RAIL DETAILS**  
FARRINGTON HIGHWAY RESURFACING  
PILILOKOE BRIDGE TO VICINITY OF ALI'INUI DRIVE  
Project No. 93A-02-98M  
Scale: As Noted Date: May, 1998  
SHEET No. S1 OF S3 SHEETS





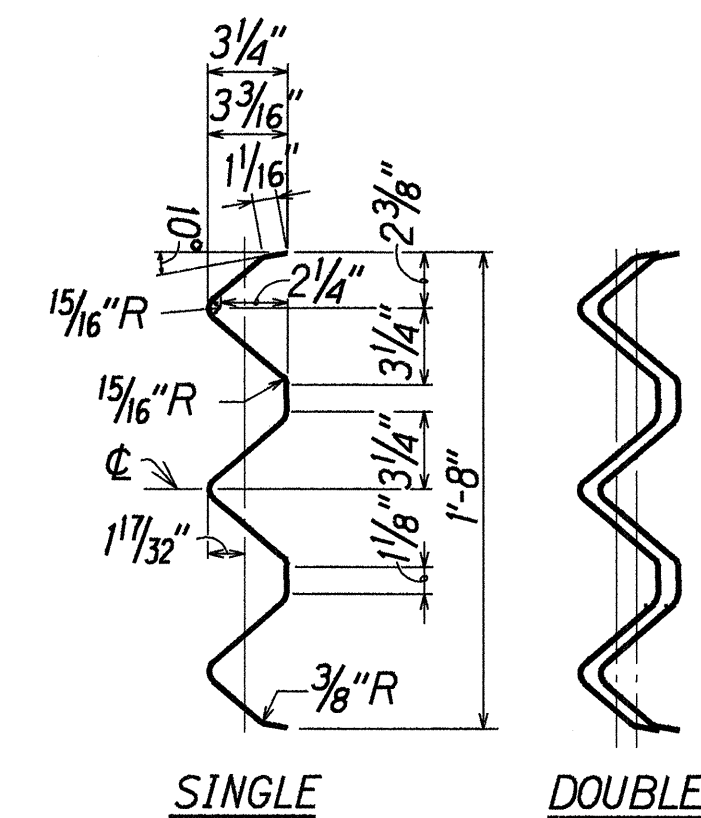
# GENERAL NOTES

1. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, (Hawaii 1994 edition and Special Provisions).
2. The Contractor shall verify all grades and dimensions. The Engineer shall be informed of all discrepancies before commencing with any work.
3. Any damage to the Existing Structure due to the Contractor's operation shall be repaired at his expense, at no cost to the State.
4. The work involved in the placing new Thrie Beam Guardrail and Bikeway Metal Railing shall include removal and disposal of existing Guardrail, to complete the work. This work will be paid for at the contract lump sum.
5. All reinforcing steel shall conform to the requirements of ASTM A 615 and shall be deformed, Grade 60 unless noted otherwise.
6. All Bolts, Anchor Bolts, Studs, Nuts, Washers, Structural Steel Shapes, Rails and Plates shall be hot-dip galvanized after fabrication.
7. All Bolts shall conform to ASTM A 325 Specifications. All Studs and Threaded Rods shall conform to ASTM A 449 specifications.
8. All Steel Shapes, Rails and Plates shall conform to ASTM A 36 specifications.
9. Where Double Nested Beam occur, 12" "Back-Up Plate" not required.
10. Do not cut existing rebar in concrete.

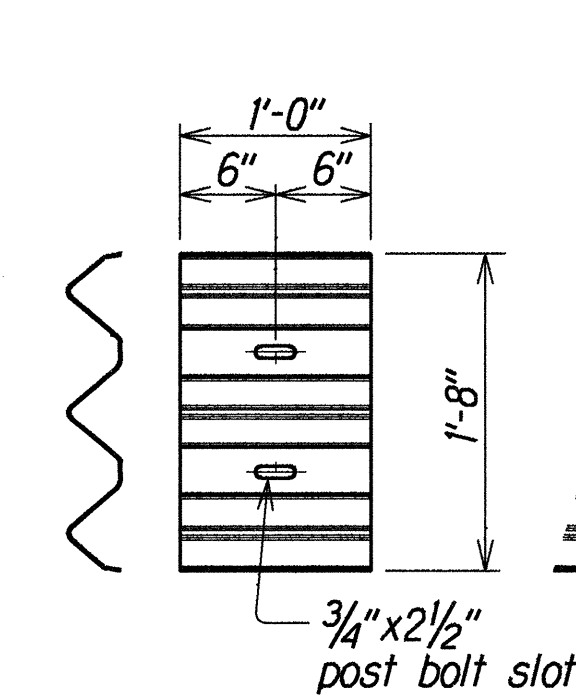
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	93A-02-98M	1998	19	27

## NOTES:

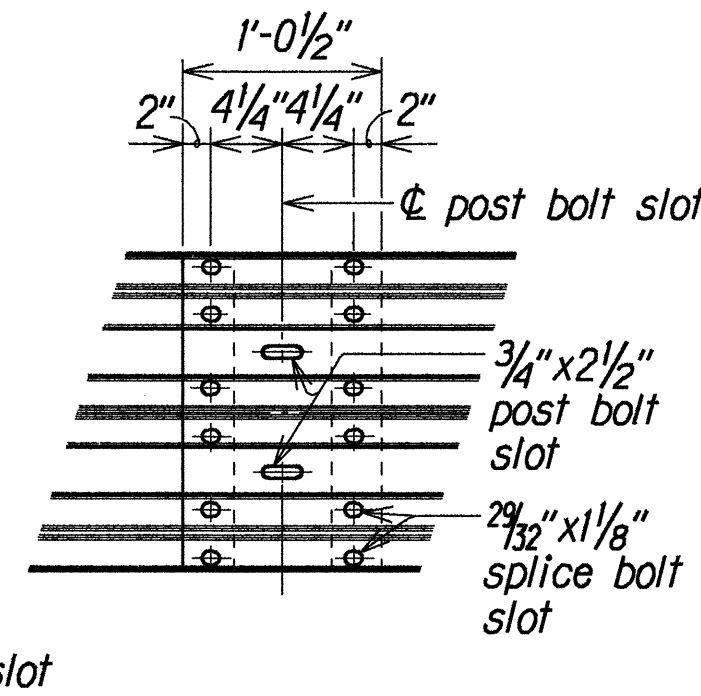
1. For details not shown, see "DOT Standard Plan" sh. #TE-57.



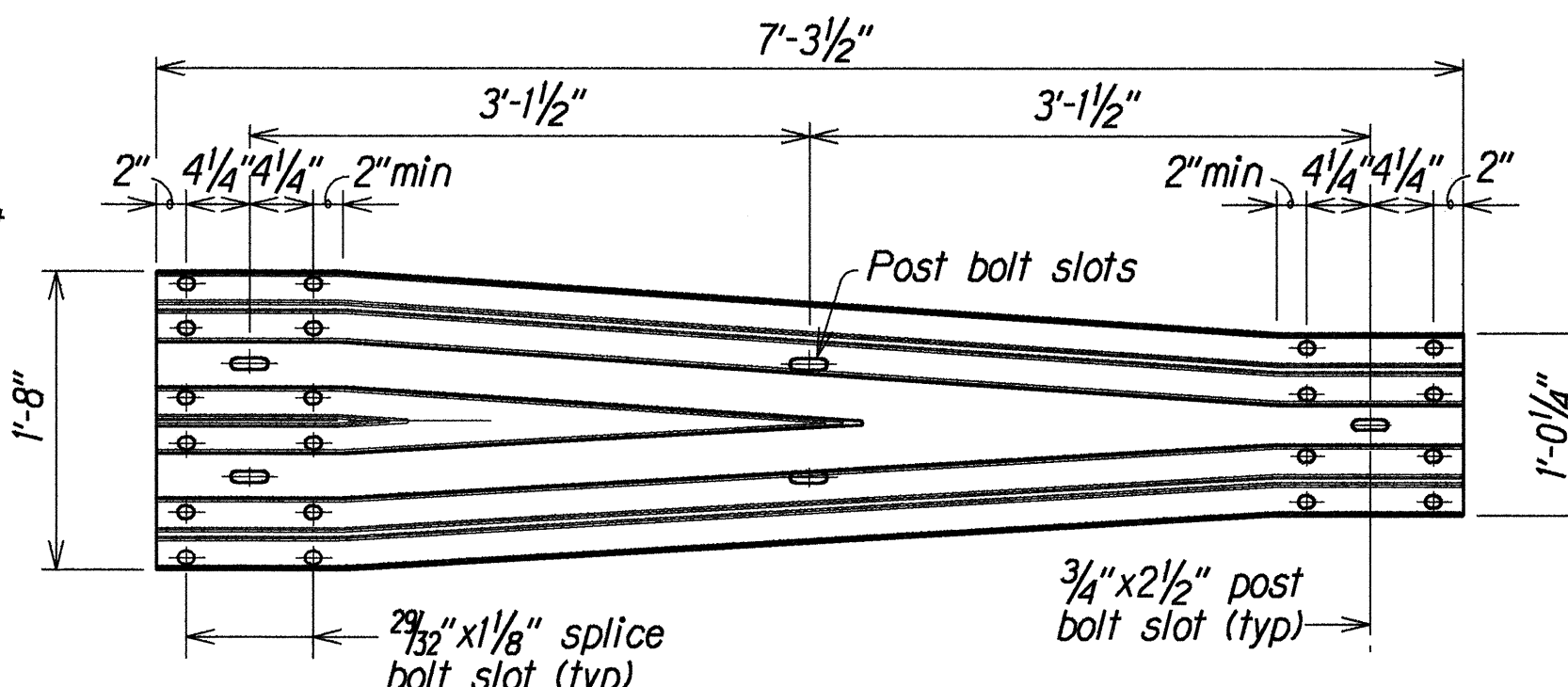
**SECTION THRU RAIL ELEMENT**  
Scale: 1 1/2" = 1'-0"



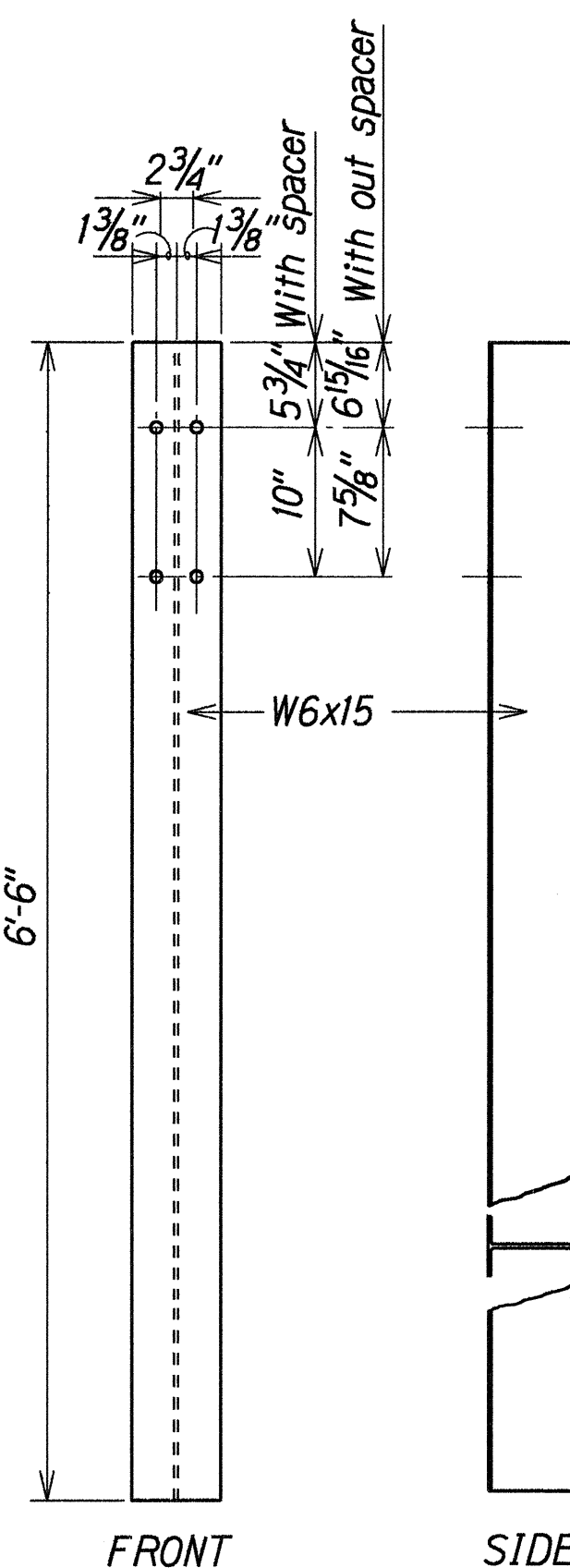
**BACKUP PLATE**  
Scale: 1" = 1'-0"



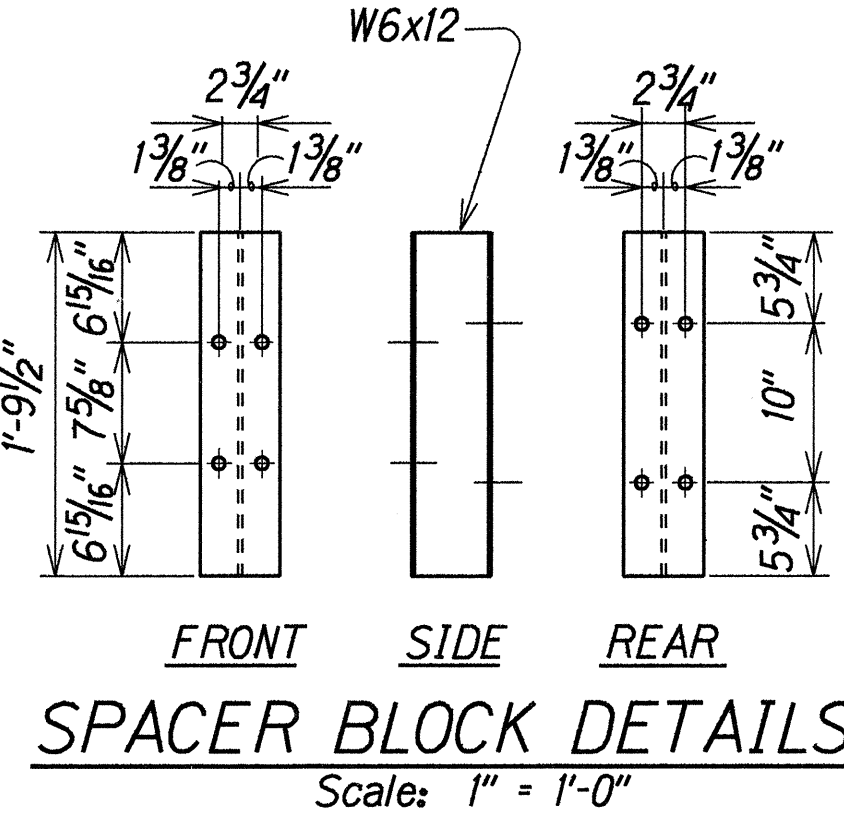
**RAIL SPLICE**  
Scale: 1" = 1'-0"



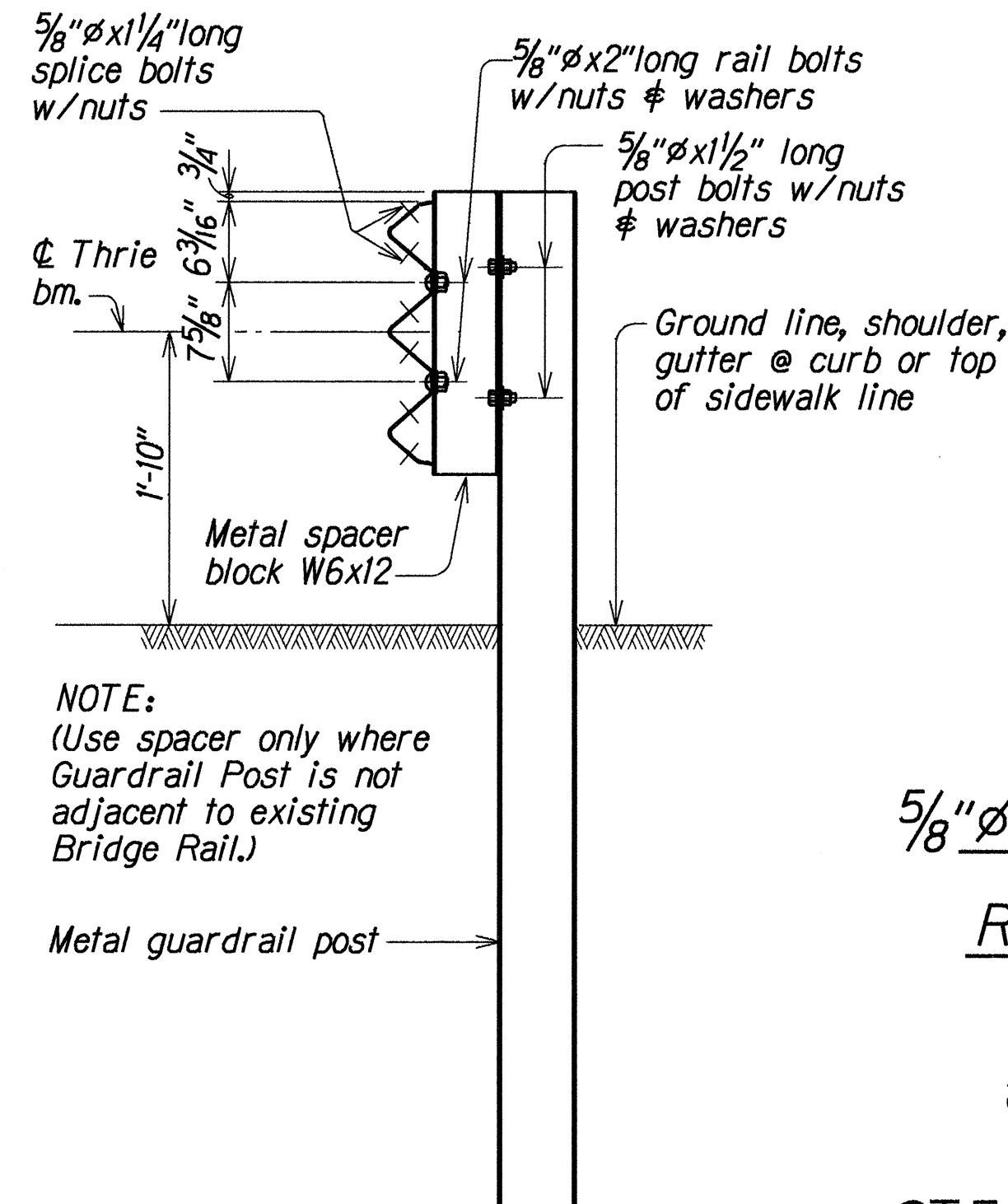
**TRANSITION SECTION**  
Scale: 1" = 1'-0"



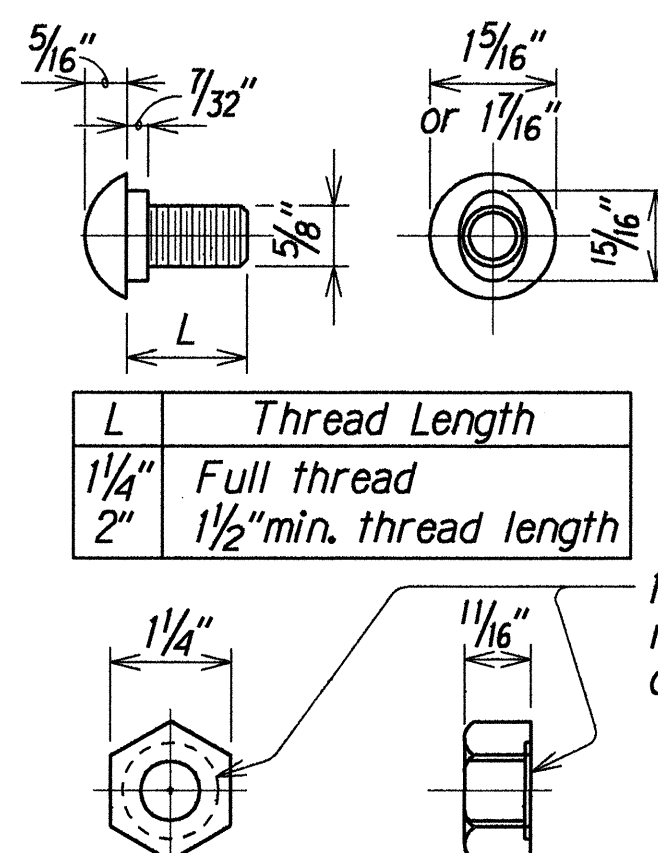
**POST DETAILS**  
Scale: 1" = 1'-0"



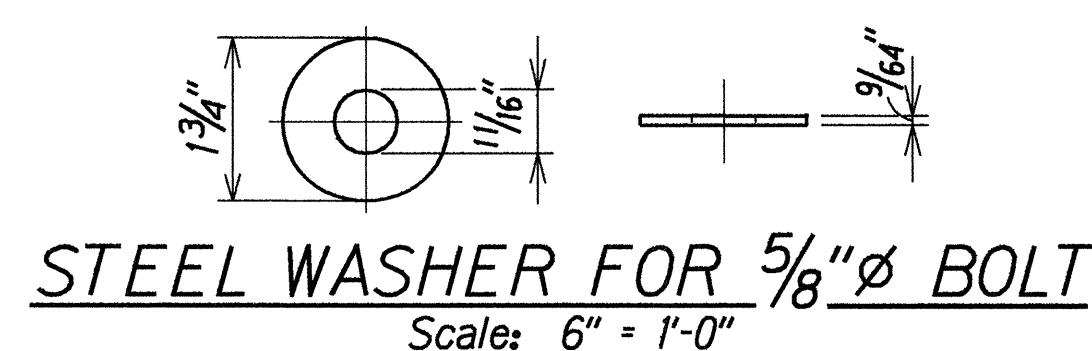
**SPACER BLOCK DETAILS**  
Scale: 1" = 1'-0"



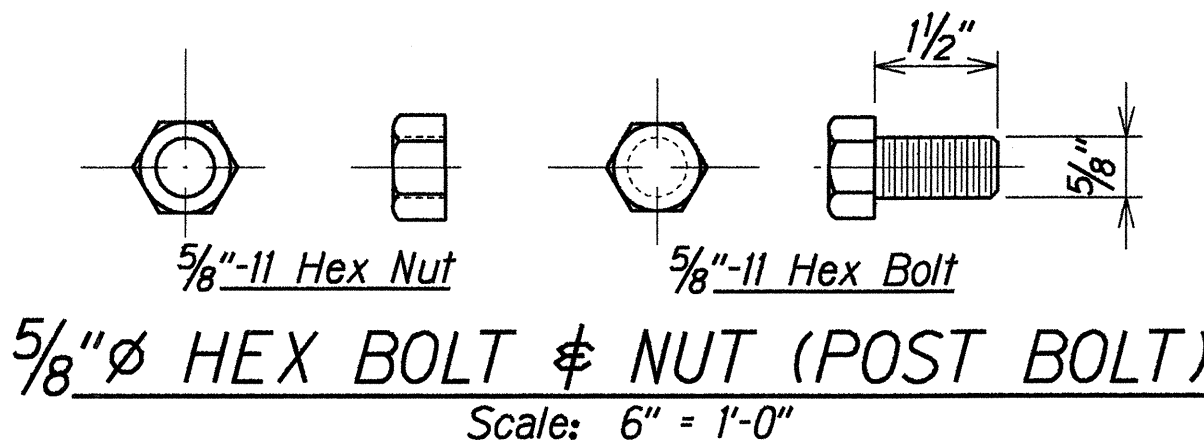
**TYPICAL SECTION**  
Scale: 1" = 1'-0"



**5/8" Ø BUTTON HEAD SPLICE AND RAIL BOLTS & RECESS NUT**  
Scale: 6" = 1'-0"



**STEEL WASHER FOR 5/8" Ø BOLT**  
Scale: 6" = 1'-0"



**5/8" Ø HEX BOLT & NUT (POST BOLT)**  
Scale: 6" = 1'-0"

ORIGINAL PLAN	DATE	DESIGNED BY	CHECKED BY
NOTE BOOK	1/27/98	SK	DOO
DATE	1/27/98	DATE	1/27/98
1/27/98	1/27/98	1/27/98	1/27/98

## METAL GUARDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**PILILOKOE STREAM BRIDGE DETAILS**  
**TYPICAL METAL GUARDRAIL TYPE 3**  
**THRIE BEAM AND APPURTENANCES DETAILS**  
FARRINGTON HIGHWAY RESURFACING  
PILILOKOE BRIDGE TO VICINITY OF ALTINUI DRIVE  
Project No. 93A-02-98M  
Scale: As Noted Date: May, 1998

SHEET No. S3 OF S3 SHEETS