

GENERAL NOTES

A. MATERIALS

Unless otherwise noted:

1. Bridge deck concrete shall be Class BD.
2. Other concrete shall be Class A.
3. Reinforcing steel shall be ASTM A 615 Grade 40.
4. Structural steel shall be ASTM A 36, hot dip galvanized.

B. REINFORCEMENT

1. The minimum covering measured from the surface of the concrete to the face of any reinforcing bar shall be as follows, except as otherwise noted:
 - a) Deck Slab
 - 1) Top Bars - $1\frac{1}{2}$ "
 - 2) Bottom Bars - $1\frac{1}{4}$ "
 - b) Box Girders
 - 1) $1\frac{1}{4}$ " to stirrup from outside face
 - 2) $1\frac{1}{4}$ " to stirrup from inside face
 - c) Abutments, Piers, and Retaining Walls - 2"
 - d) Stirrups for Beams & Pier Caps - $1\frac{1}{2}$ "
 - e) Columns - 2" to ties
 - f) Concrete cast against and permanently exposed to earth - 3"
 - g) Concrete exposed to sea water - 4"
2. Reinforcing shall be detailed in accordance with the latest editions of CRSI's "Placing Reinforcing Bars" and "Manual of Standard Practice" and the "ACI Detailing Manual" unless otherwise noted.
3. Minimum spacing between parallel bars shall be $2\frac{1}{2}$ times the diameter of bars (for non bundled bars), but in no case shall the clear distance between the bars be less than $1\frac{1}{2}$ times the maximum size of the coarse aggregate.
4. All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
5. Exact location of bars shall be so arranged that no interference will occur between vertical column reinforcing and pier cap reinforcing above and as directed by the Engineer.

C. FOUNDATION

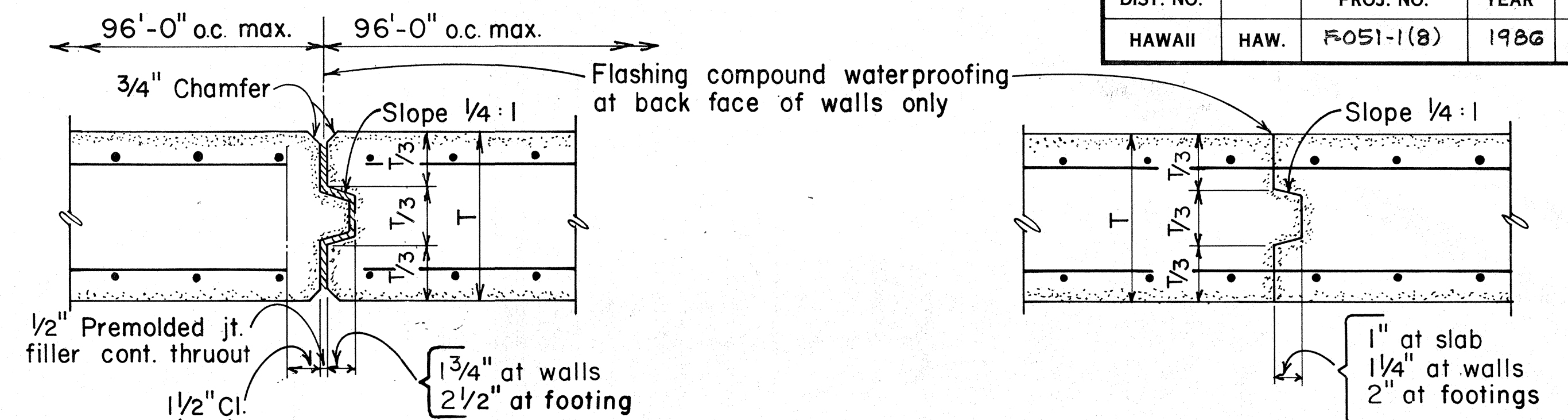
1. The pile tip elevations shown on plans are based on Boring data.
2. In driving each group of piles, the Contractor shall start from the center of the group and proceed outwards, except for test piles and load test piles.
3. Test piles indicated in foundation plans shall be furnished 5'-0" (7'-6") longer than regular piles.
4. Spread footings for Abutments, Wingwalls, Retaining Walls and Piers shall be excavated and poured neat against undisturbed ground. In case of over excavation, space between footing and ground shall be filled with concrete at the Contractor's expense and as directed by the Engineer. The minimum quality of the fill concrete shall be Class D.

D. CONSTRUCTION METHODS

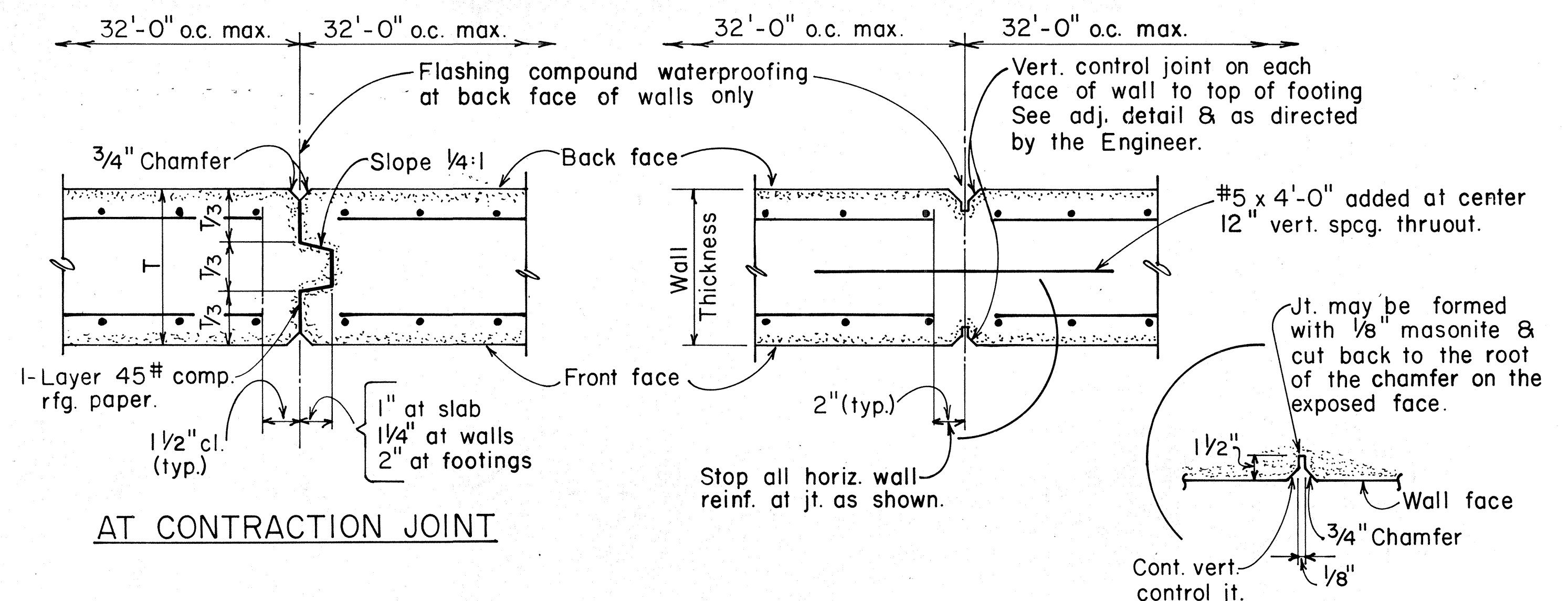
1. See current edition of Hawaii Standard Specifications for Road and Bridge Construction and Special Provisions.
2. In general, top of concrete deck slab shall be constructed to follow the finish roadway vertical and horizontal curves and grades.
3. Girder concrete seats, creep and hinge blocks shall be poured monolithically with the supporting structures. Top surface of concrete seats shall have a steel trowel finish, smooth and true to grade, with a deviation from a level plane not exceeding $\frac{1}{16}$ inch.
4. Except as otherwise noted, all vertical dimensions are measured plumb.

E. GENERAL

1. All items noted incidental will not be paid for separately.
2. The Contractor shall verify the location of all existing utility lines and notify the respective owners before commencing with work.
3. The bottom of all elastomeric and preformed fabric bearing pads shall be secured to concrete seats with adhesives approved by the Engineer to prevent displacement.
4. Except as otherwise noted on drawings, all exterior corners and re-entrant angles 90° or less in concrete work shall be chamfered $\frac{3}{4}$ " x $\frac{3}{4}$ ".
5. For concrete finish see Standard Specifications and/or Special Provisions.
6. Standard Detail Drawings refer to all structures in general except for modifications as may be required for special conditions. For such modifications refer to corresponding detailed drawings.
7. Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.



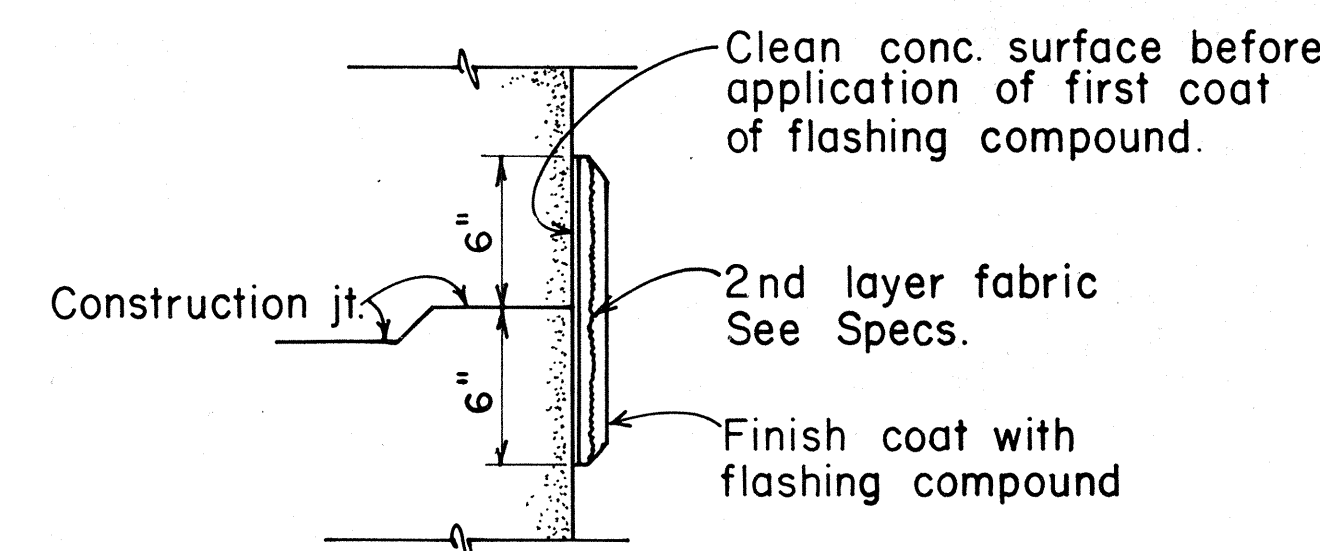
AT EXPANSION JOINT



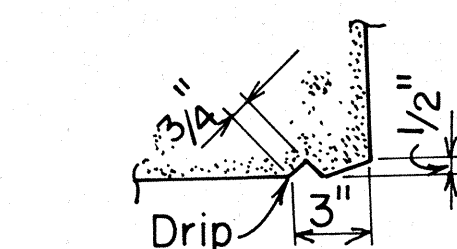
AT CONTRACTION JOINT

ALTERNATE CONTRACTION JOINT OR CONTROL JOINT

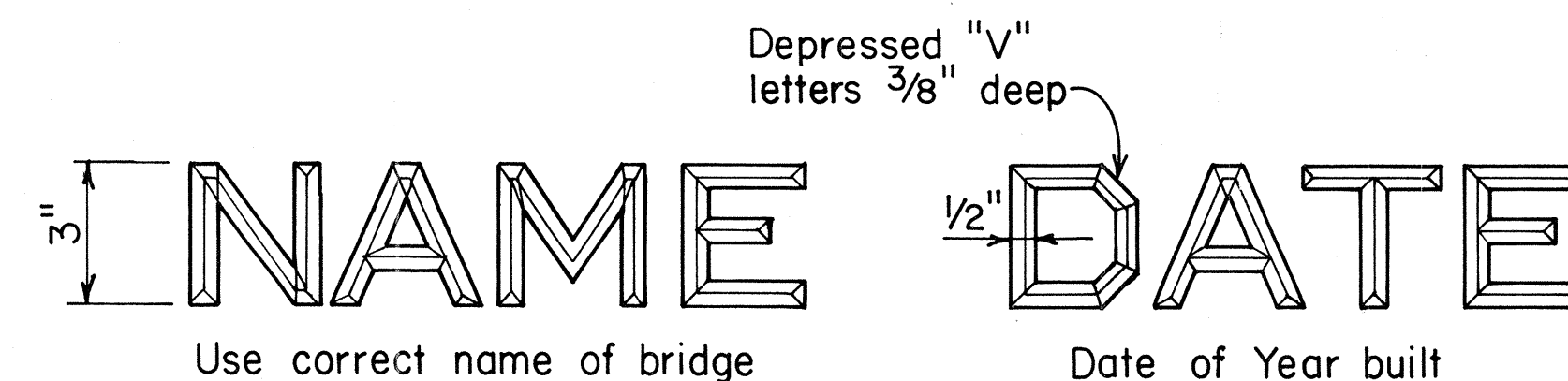
TYPICAL JOINT DETAILS



TYPICAL FLASHING COMPOUND WATERPROOFING DETAIL



DRIP DETAIL



Note: Refer to corresponding detail drawings for placement of such names & dates at end post. Exact details & spacing of letters & figures shall be as directed by the Engineer. See General Note #E-7.

TYPICAL DETAIL OF LETTERS & FIGURES AT CONCRETE END POST

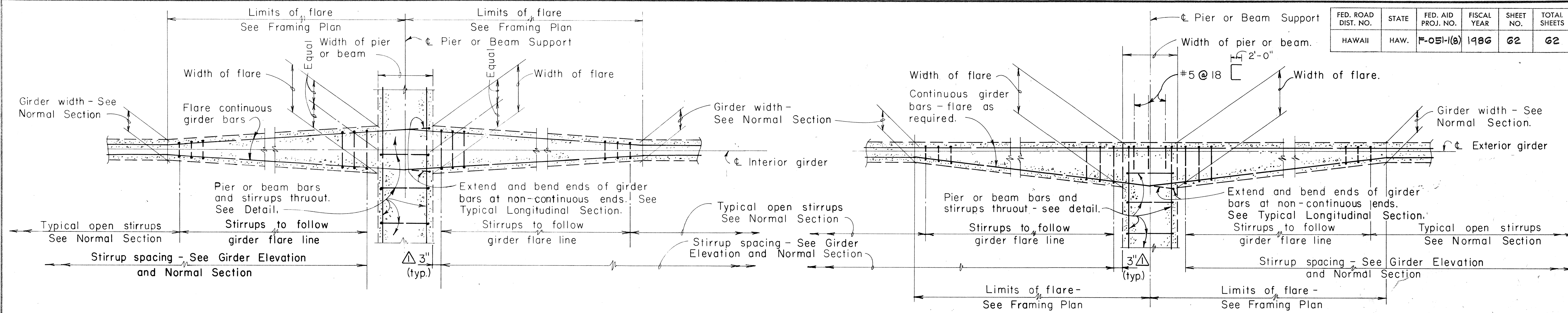
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-051-1(8)	1986	59	62

APPROVAL RECOMMENDED:
 BRIDGE DESIGN ENGINEER
 DATE 10/23/85

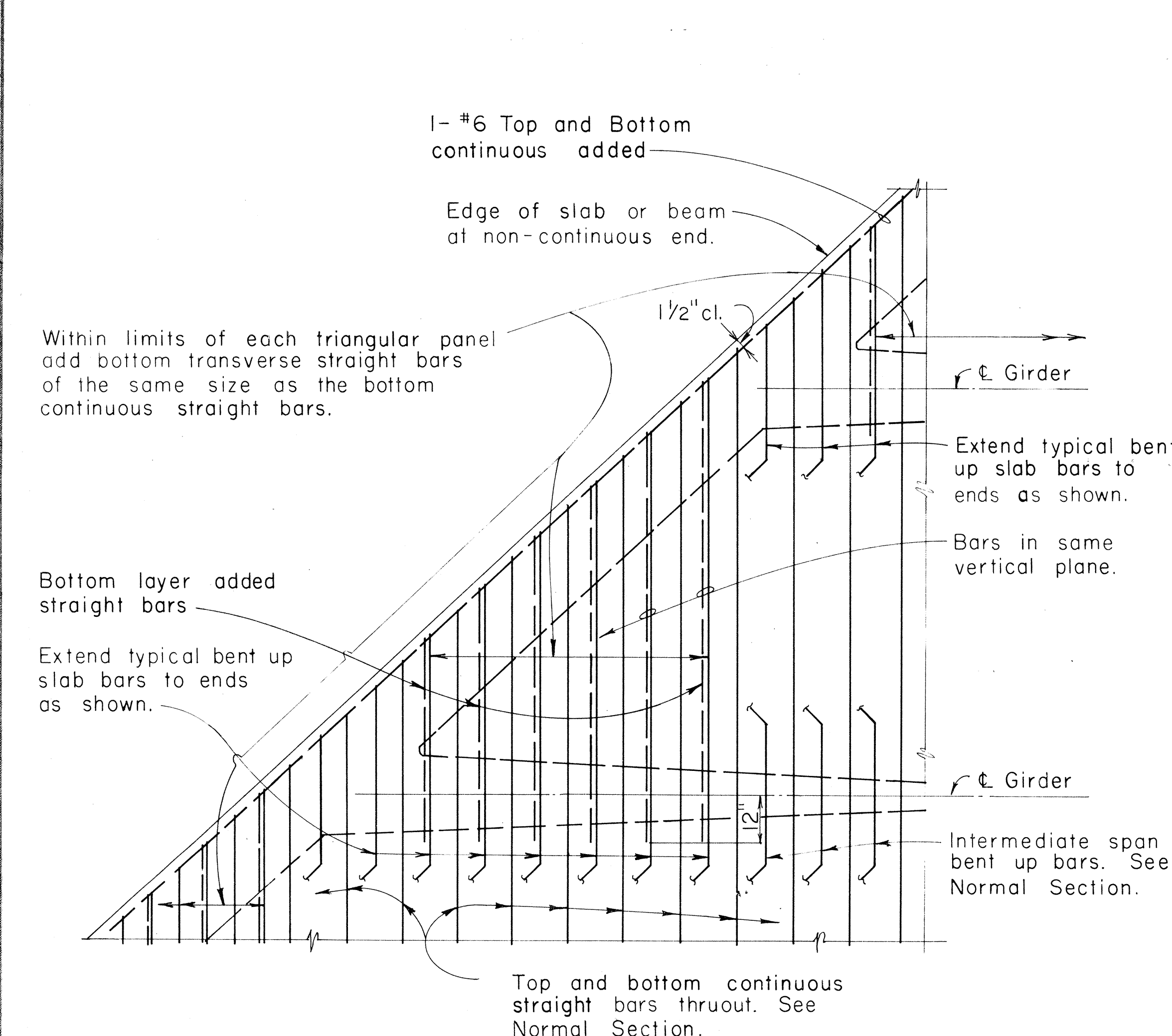
APPROVED:
 ASSISTANT CHIEF, ENGINEERING
 DATE 10/25/85

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
STANDARD DETAILS
 NOTES & MISCELLANEOUS
 DETAILS

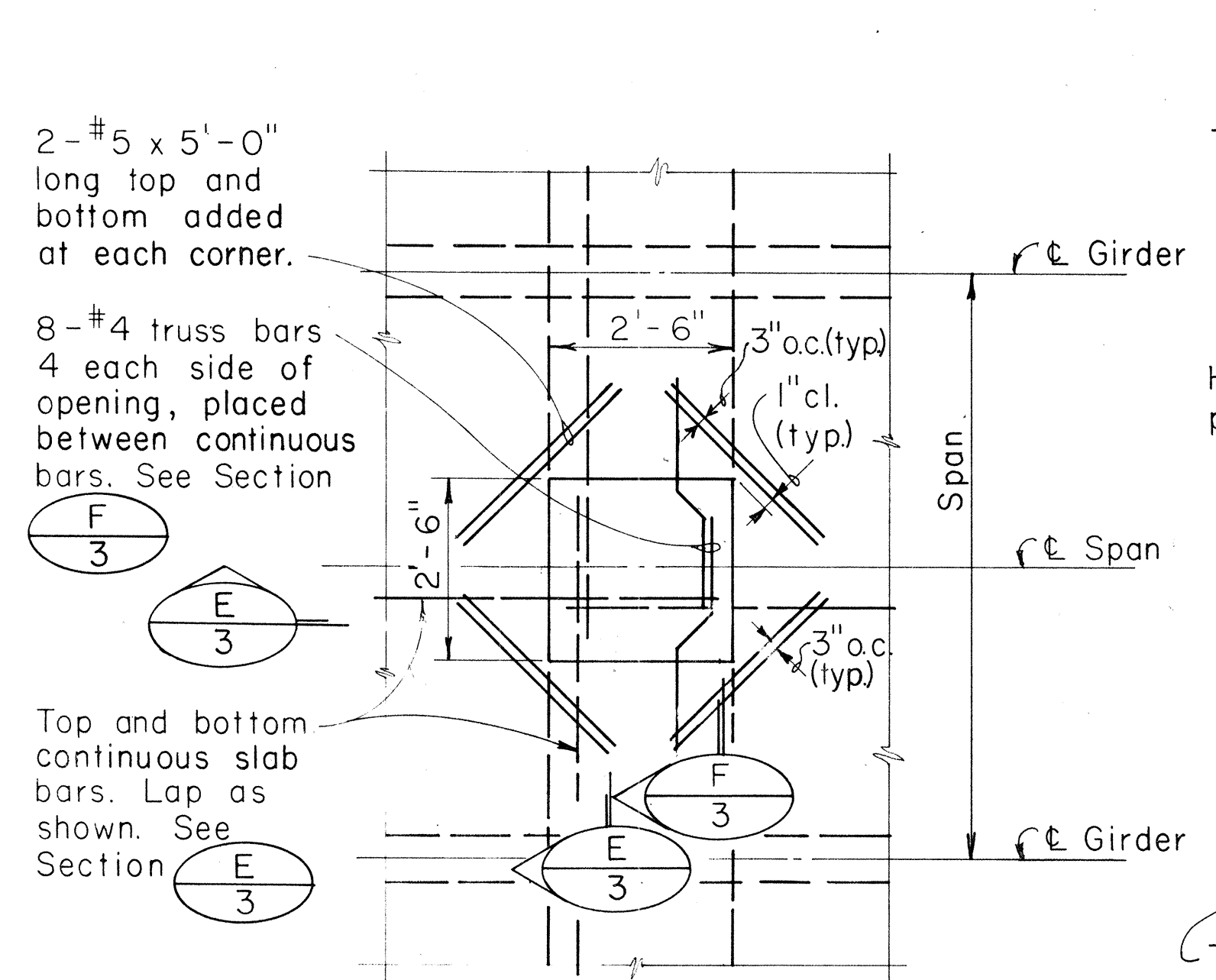
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-051-1(8)	1986	62	62



TYPICAL DETAILS OF GIRDER FLARE AT NORMAL OR RADIAL SUPPORTS - CONTINUOUS ENDS AS SHOWN
(NON-CONTINUOUS ENDS SIMILAR EXCEPT AS OTHERWISE NOTED)

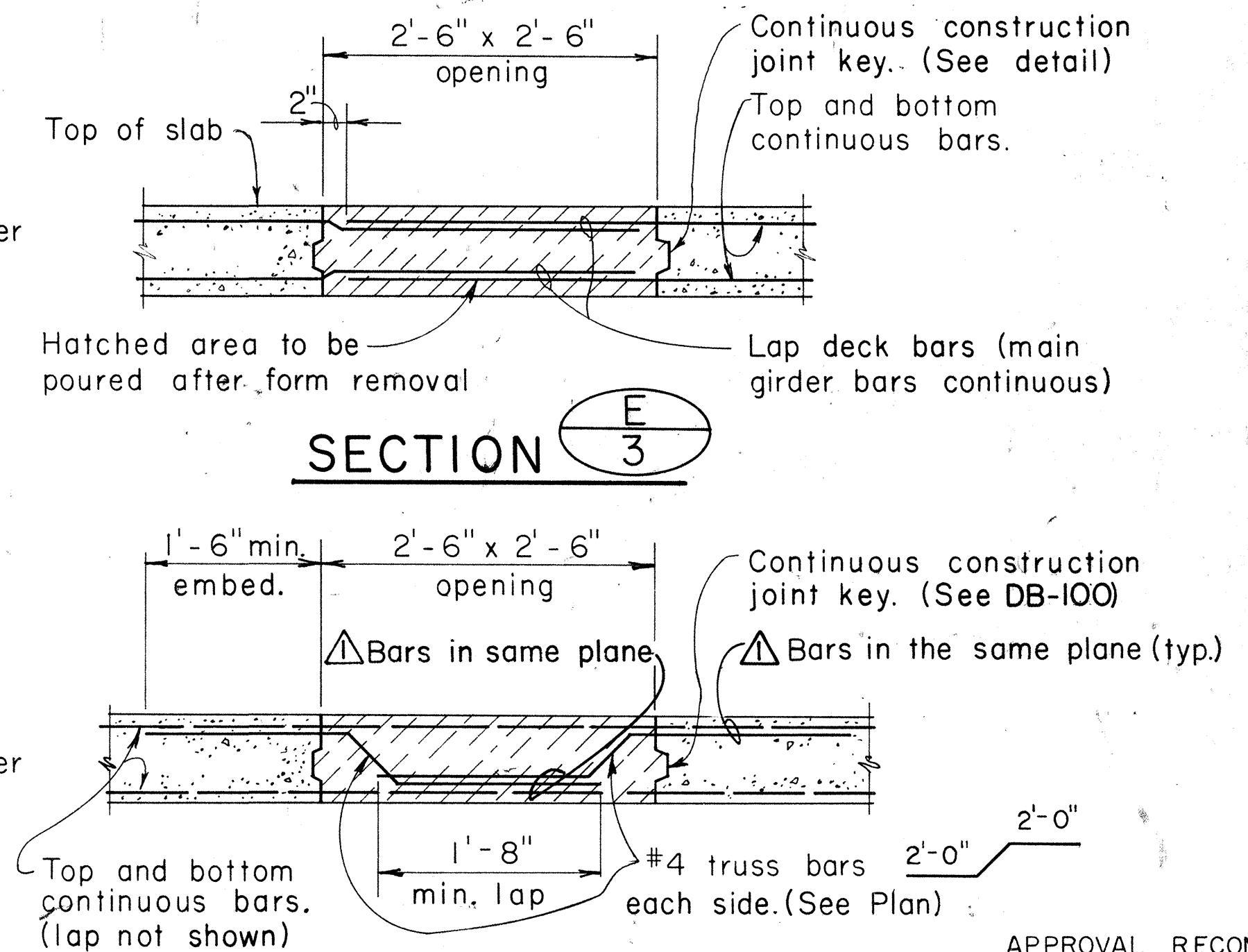


PART PLAN - TYPICAL ARRANGEMENT OF TOP SLAB REINFORCEMENT AT SKEWED ENDS



- NOTES**
1. Final location of opening shall be determined by the Engineer.
 2. Form removal opening at top slab shall not be located where main girder bars occur.
 3. Form removal opening may extend from edge of deck.

PART PLAN - DECK SHOWING FORM REMOVAL OPENING



SECTION E/3

SECTION F/3

APPROVAL RECOMMENDED
Colman R. Yamamoto
 BRIDGE DESIGN ENGINEER
 C-1-76
 DATE

APPROVED
Arthur J. ...
 ASSISTANT CHIEF, ENGINEERING
 C-2-76
 DATE

NO.	REVISION	APPROVED BY	DATE
1	Added 3" cl. to first stirrup at each end of girder. Added note to Section F/3 Revised DB Sheet No.	<i>OTM C</i>	10-25-85

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BOX GIRDER

Not To Scale: Date: May 1976