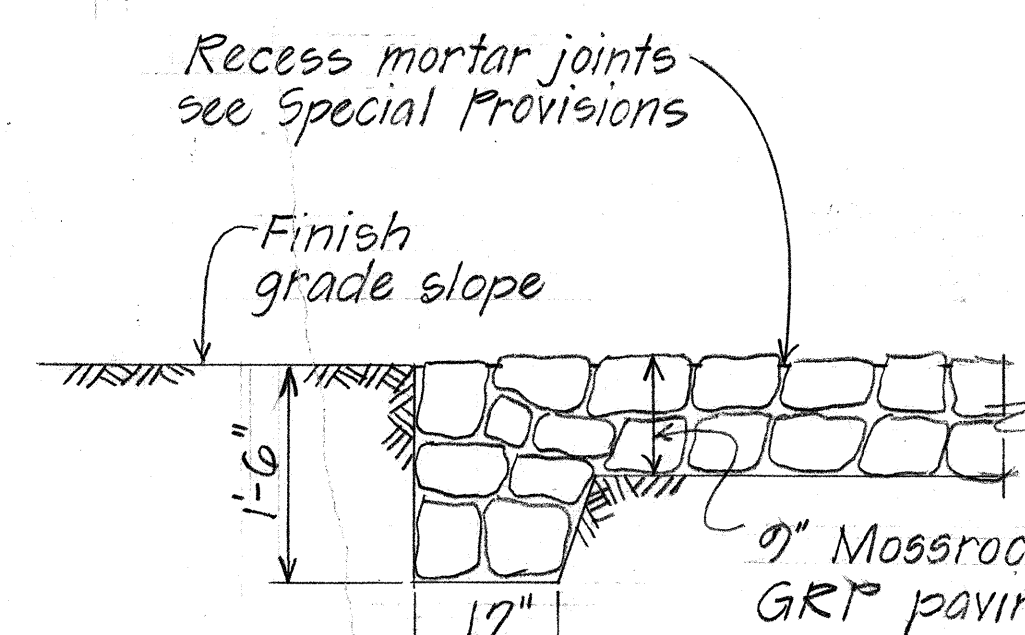
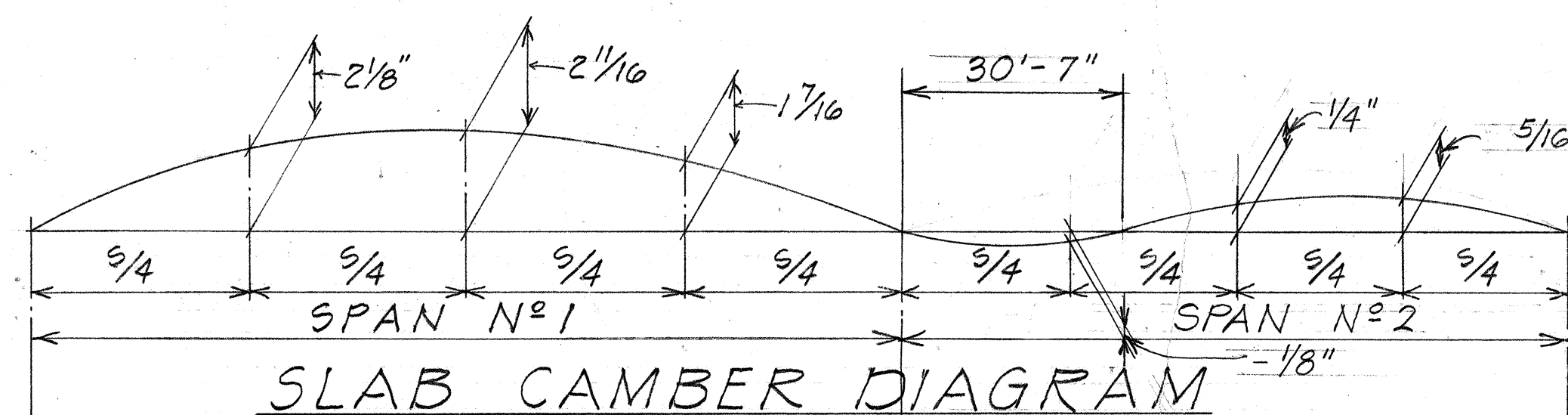
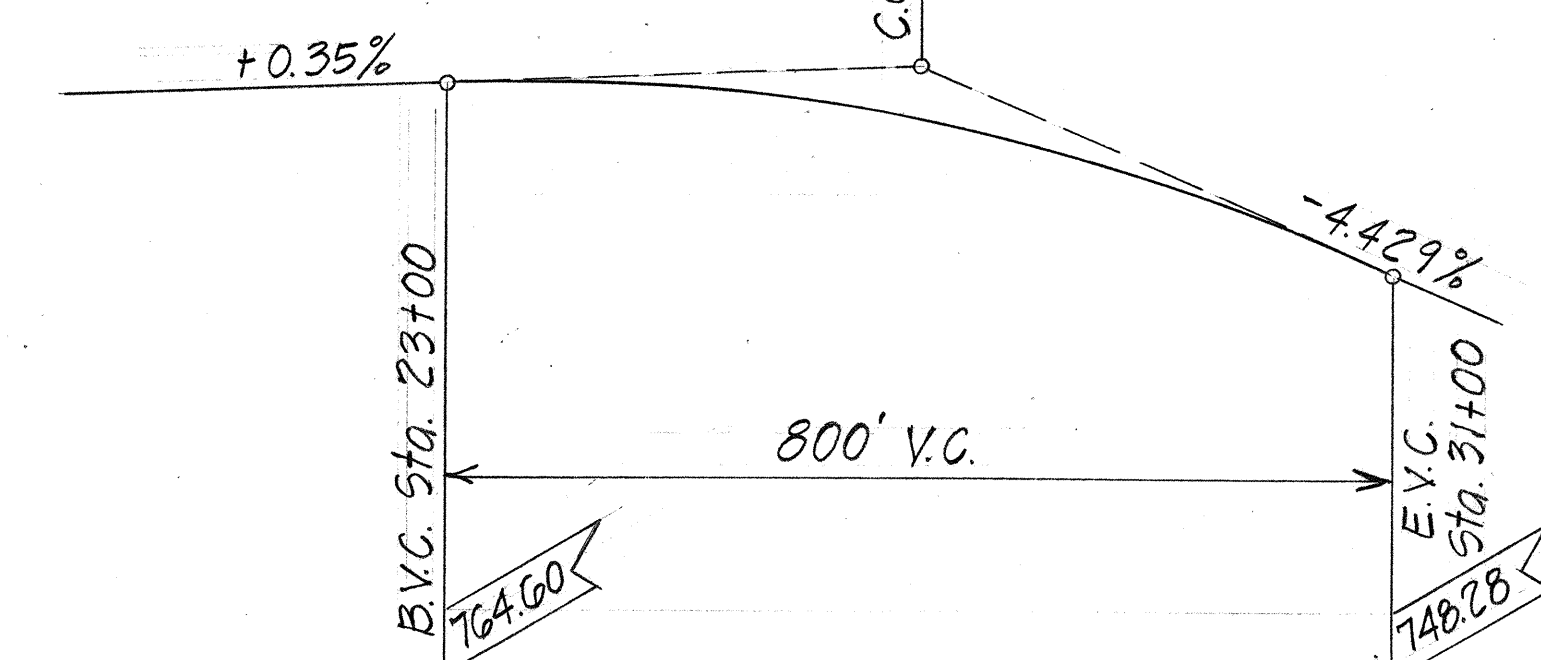
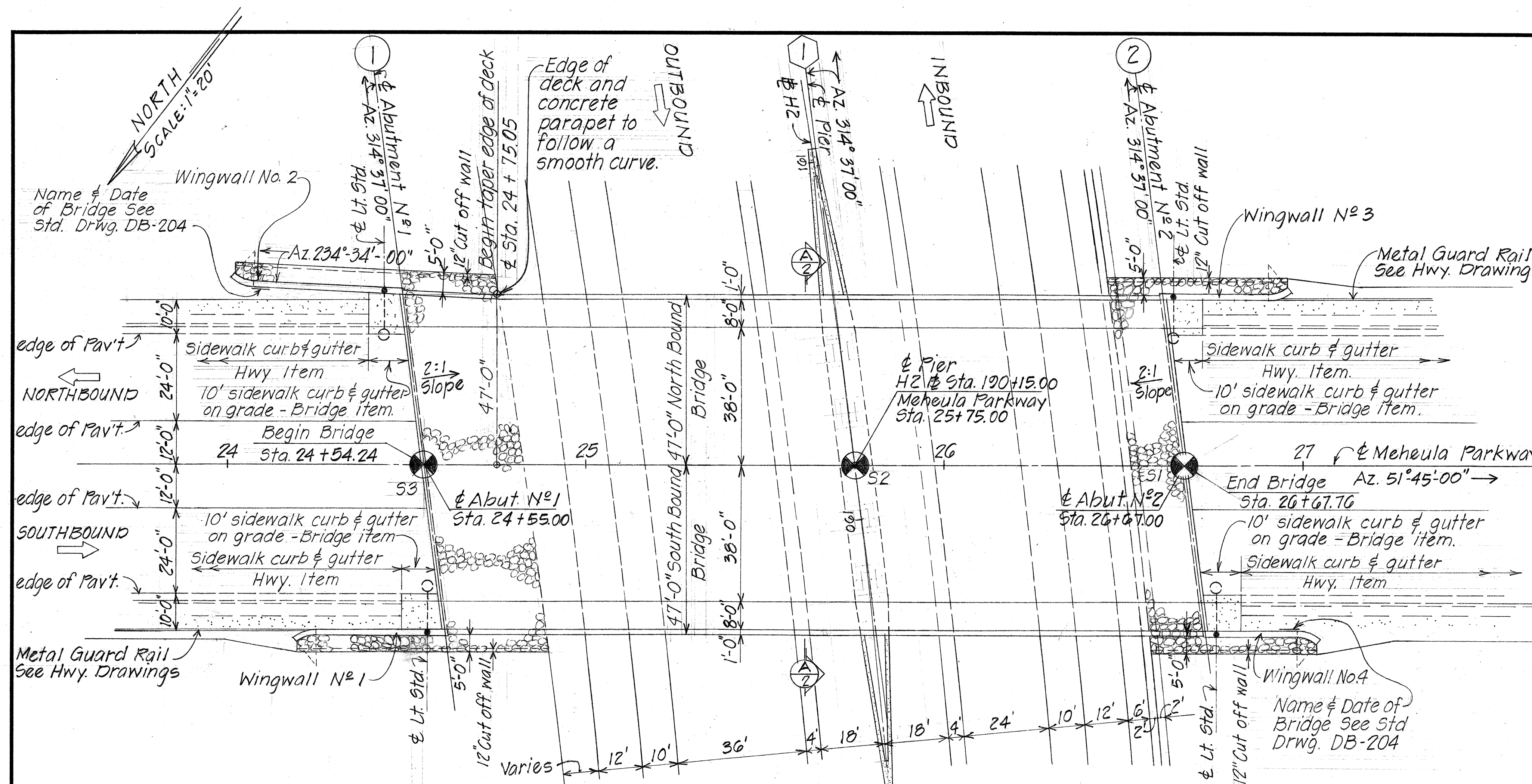
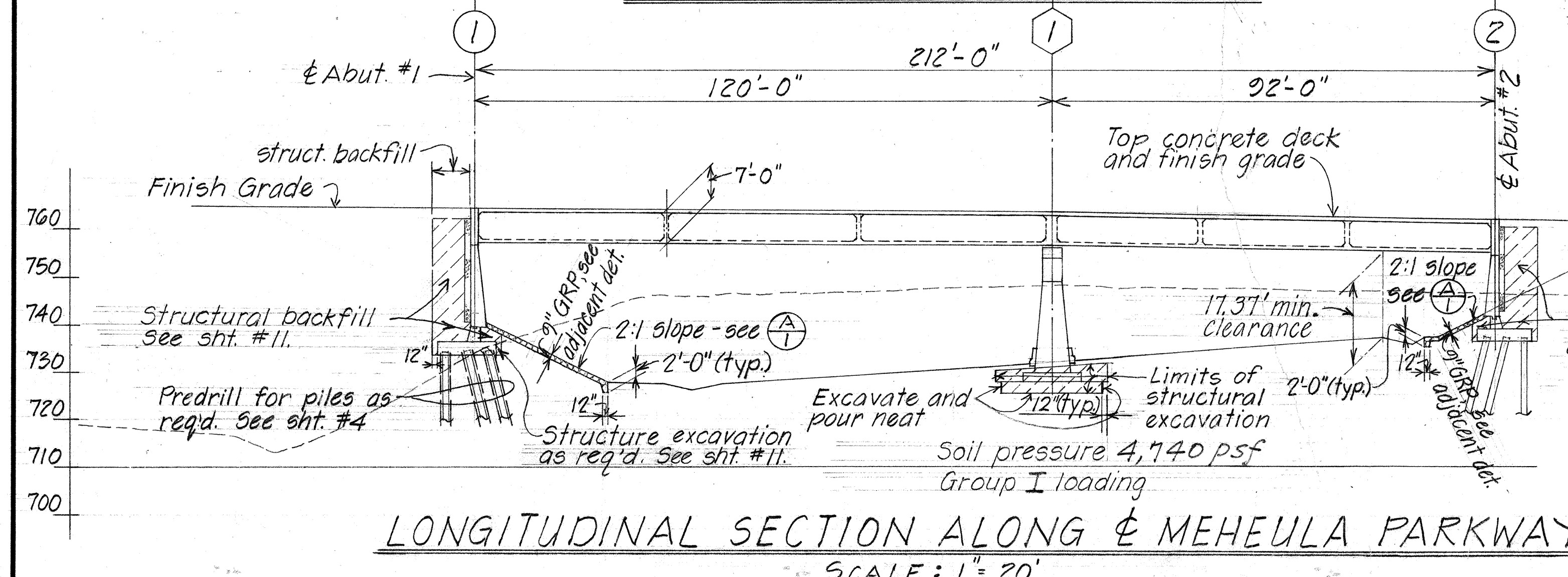


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H2-(7)4	1973	127	229



- REFERENCE NOTES**
- For Design and General Notes, refer to Sht. #3
 - For Logs of Borings, refer to Sht. #2
 - For Highway Lighting, refer to Sht. #43

ESTIMATED QUANTITIES		
Concrete - Footing	(518 C.Y.)	Lump Sum
Concrete - All others	(2099 C.Y.)	Lump Sum
Reinforcing Steel	(800,841 LBS.)	Lump Sum
Steel Bridge Railing (2 Rail Tubular)	553	L.F.
Concrete Bridge Railing - Including End Post	593	L.F.
Structure Backfill (Abutment & Wingwalls)	1,634	C.Y.
Filter Material	187	C.Y.
Structure Excavation	739	C.Y.
Moss Rock Grouted Rubble Paving (GRP)	184	C.Y.
Precast Prestressed Concrete Piles, Furnished	6,066	L.F.
Precast Prestressed Concrete Piles, Driven	5,130	L.F.
Driving Test Piles	218	L.F.
Predrilled Holes For Piling	235	L.F.
Highway Lighting Conduits (See Sht. #43)		



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

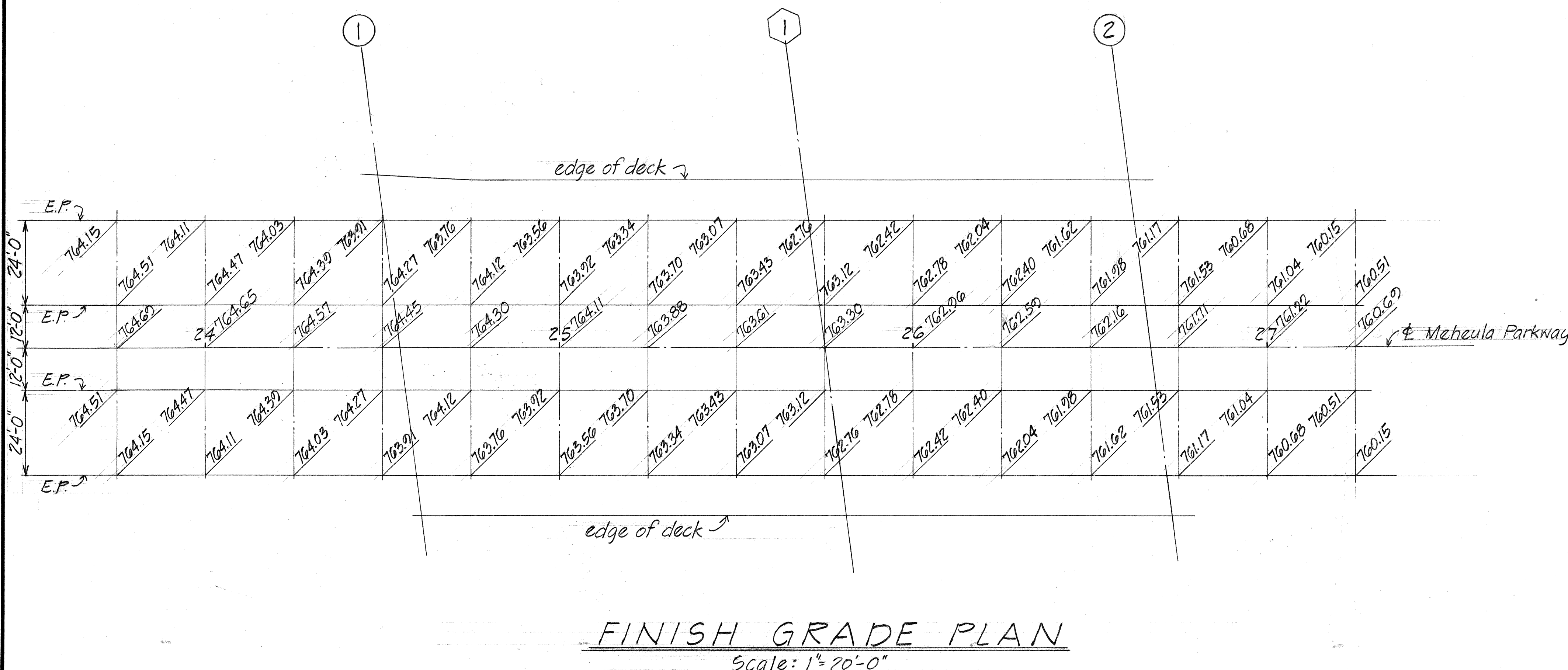
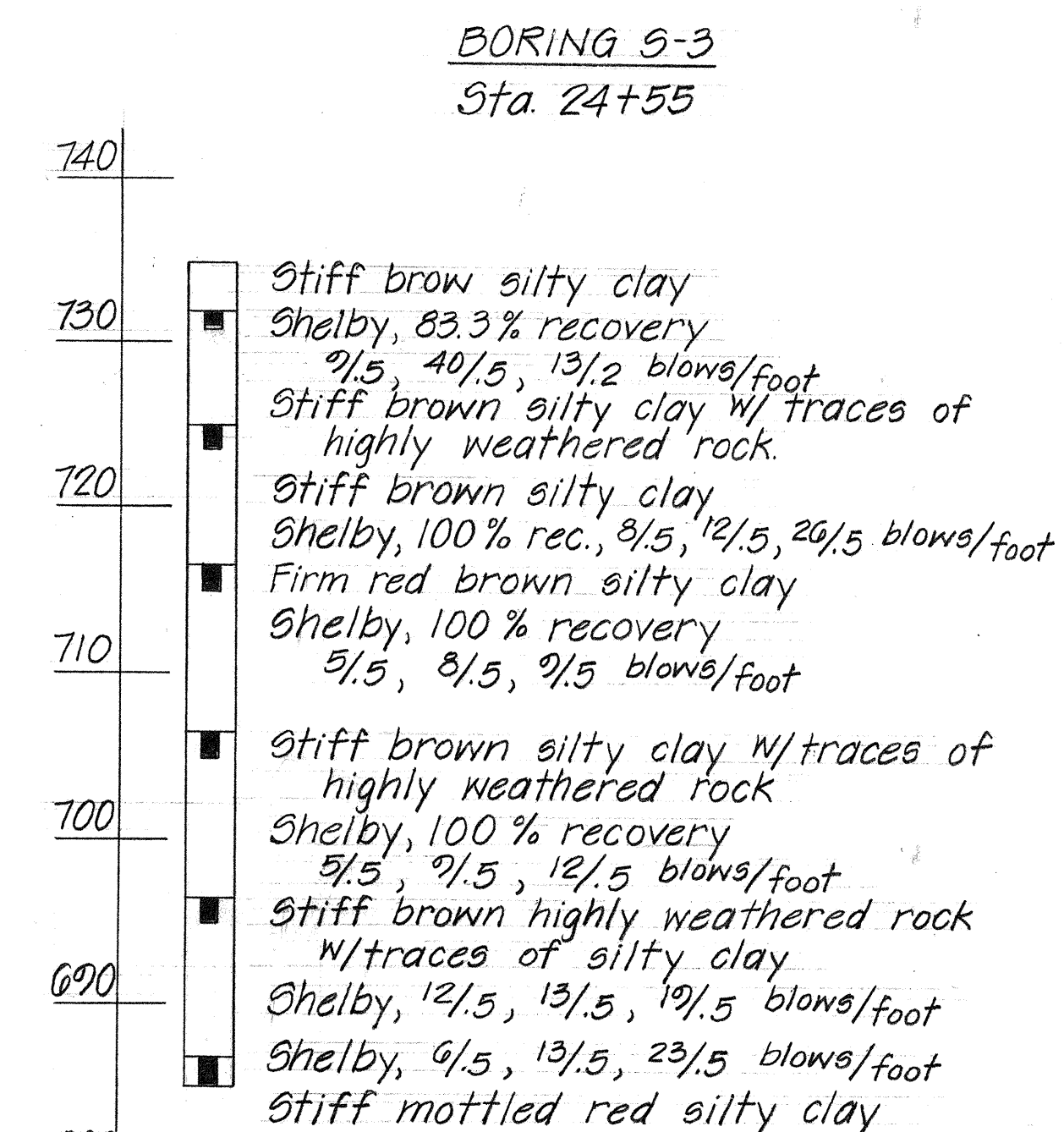
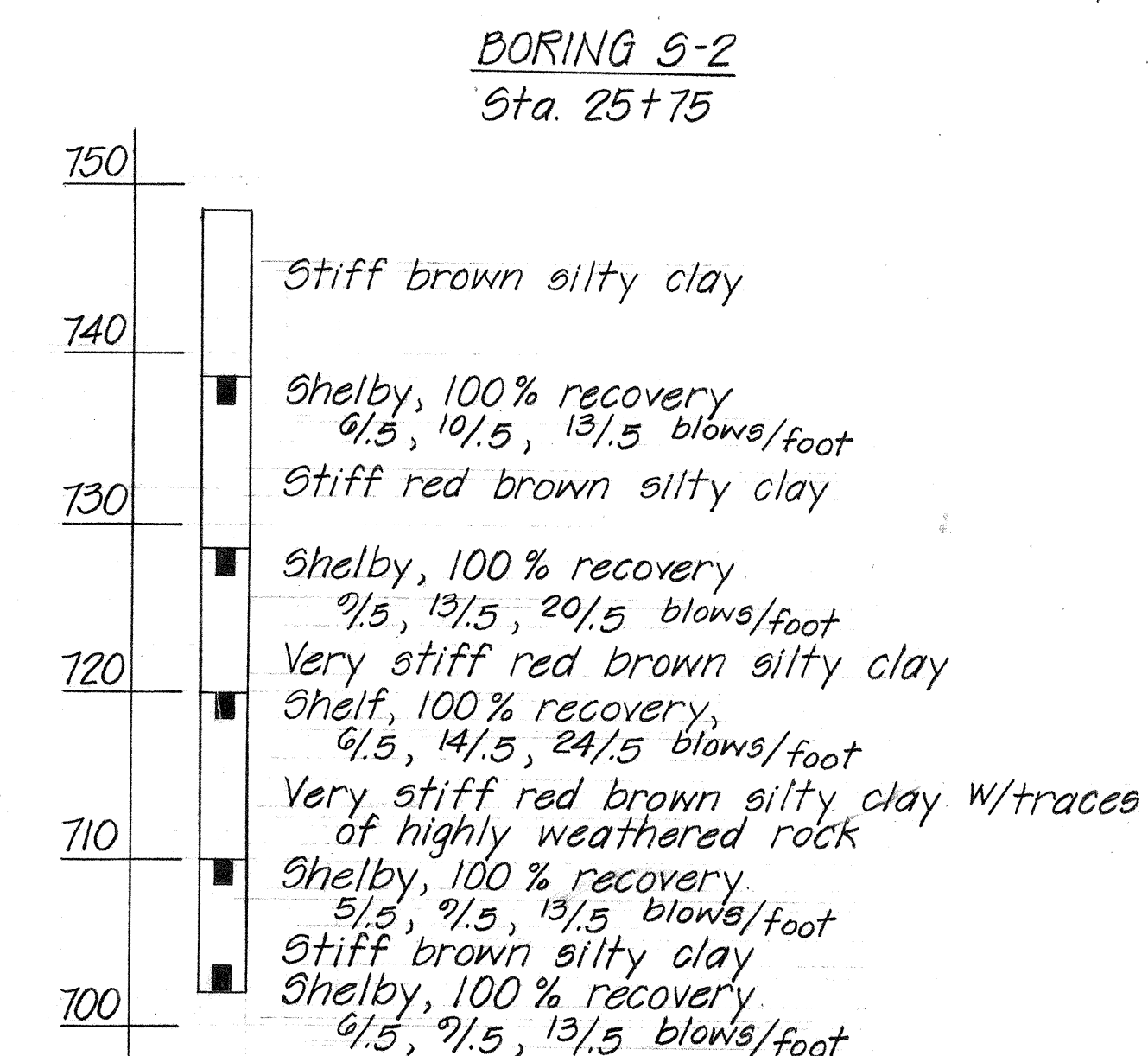
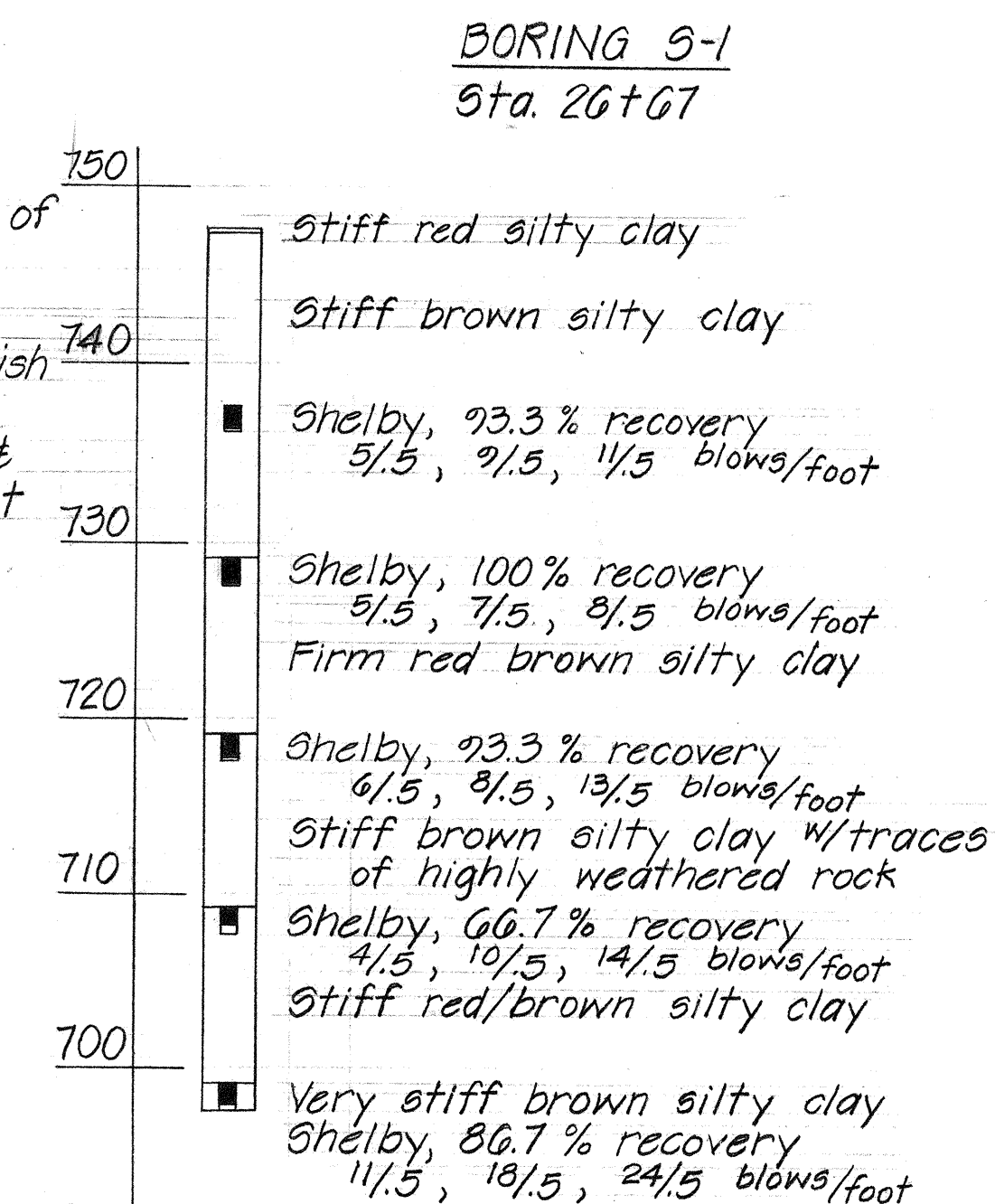
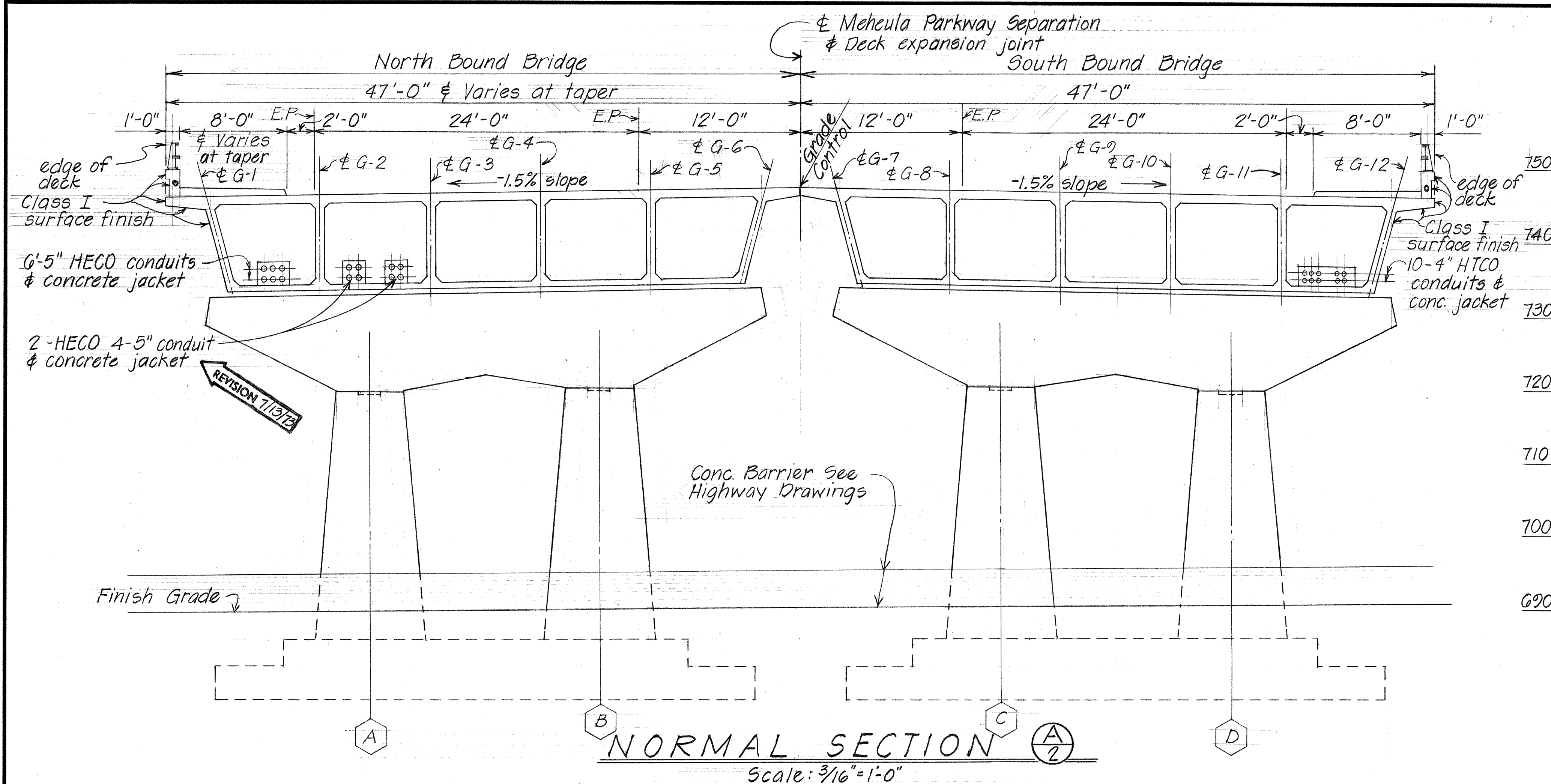
MEHEULA PARKWAY SEPARATION
STA. 24+54.24 TO STA. 26+67.76
LAYOUT PLAN AND DETAILS

MILILANI INTERCHANGE
F.A.I. PROJ. N° 1-H2-(7)4
MARCH 1973

SHEET No. 1 OF 30 SHEETS

SURVEY PLANNED BY	DATE	3/73
DESIGNED BY	DATE	3/73
QUANTITIES BY	DATE	3/73
CHECKED BY	DATE	3/73

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)-4	1973	128	229



7/13/13	Added - 2 HECO conduit & conc. jacket between G2-G3.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEHEULA PARKWAY SEPARATION
GRADING PLAN - BORING LOG
AND TYPICAL SECTION

MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7):4 MARCH 1973
SHEET No. 2 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7):4	1973	129	229

GENERAL NOTES

SPECIFICATIONS: AASHO

Standard Specifications for Highway Bridges (10th Edition) with subsequent additions and modifications.

DESIGN LOADS: HS 20-44

DESIGN STRESSES:	Class A	Class E
$f'_c = 3,000$ psi		4,500 psi
$f'_c = 1,200$ psi		1,800 psi
$n = 10$		8
$f_s = 20,000$ psi tension		

MATERIALS:

- All concrete shall be Class A unless otherwise noted on plans.
- All welding shall conform to the current Specifications for Welded Highway and Railway Bridges of the American Welding Society.
- See Special Provisions for admixture in concrete.

CONSTRUCTION METHODS:

- Splices for top & bottom slab main reinforcing shall be located near midspan for top slab and near pier support for bottom slab. All splices shall be staggered.
- Sides of footings shall be excavated and poured to neat lines.
- Abutments shall be braced until backfilling is completed. Backfilling shall be done after the superstructure girders and beams are completed. Backfill for abutments 1 and 2 shall be brought up simultaneously to prevent unbalanced earth pressures on the bridge. Check abutments for plumbness before constructing superstructure.
- In general, top of concrete deck of structure shall be constructed to follow the finish roadway vertical and horizontal curves and grades.
- Except as otherwise noted all vertical dimensions are measured plumb.

CAMBER:

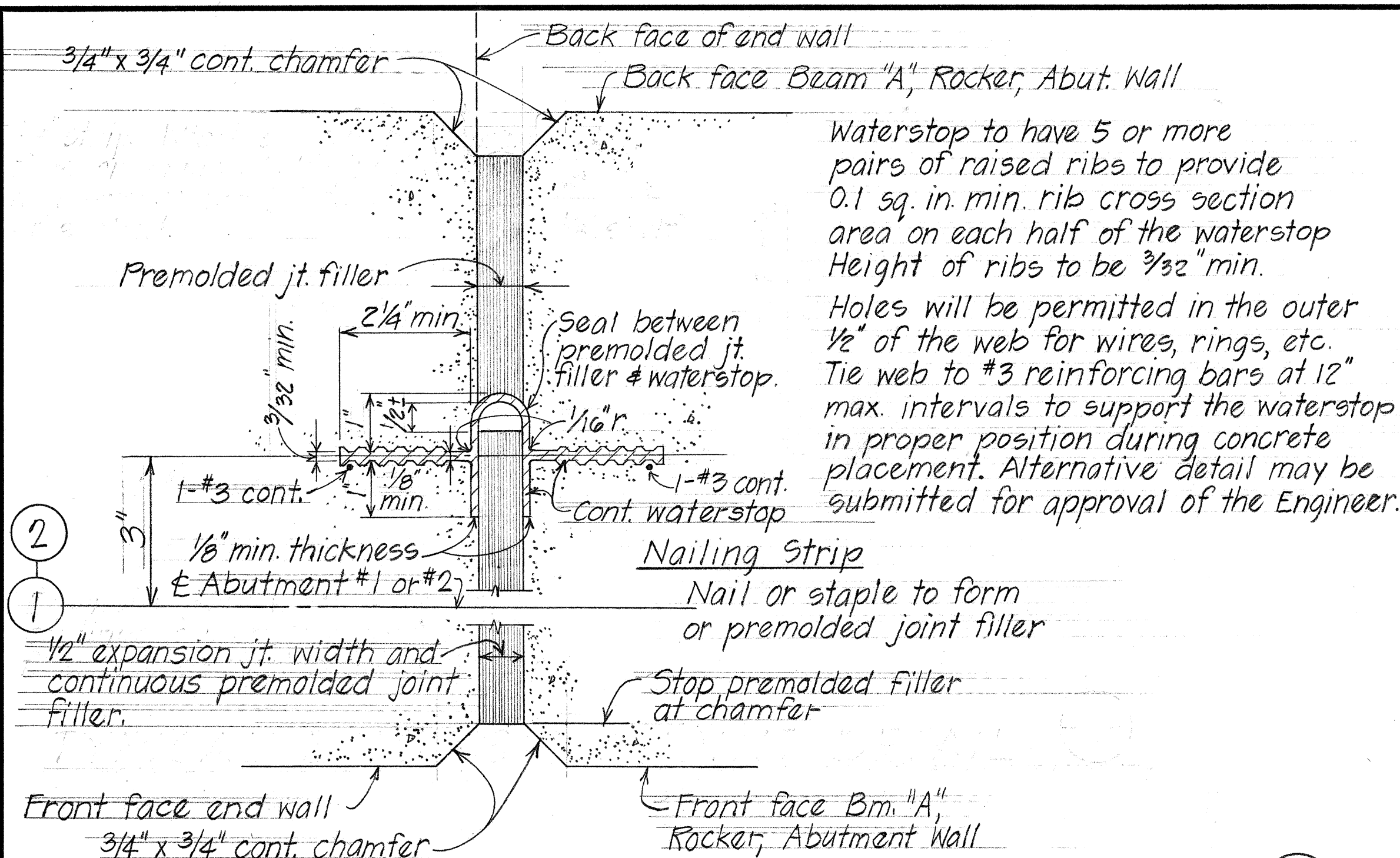
Obtain camber by forming and shoring concrete surfaces above profile grades amount shown in camber diagram and as indicated on detailed drawings.

REFERENCE:

- Refer to Standard Detailed drawings for details not covered by these drawings.
- Typical Details of Combination Type Steel Bridge Railing on Parapet Shts. #19, #20, #21 refer to the entire bridge in general, except for modifications as may be required by special conditions. For such modifications, refer to detail plans.

GENERAL:

- All items noted incidental will not be paid for separately.



TYPICAL EXPANSION JOINT WATERSTOP DETAIL (A/3)

DESIGNED BY	DATE
DRAWN BY	3/73
CHECKED BY	3/73
APPROVED BY	3/73
NOTED BY	
REVISIONS BY	
CHECKED BY	
DATE	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEHEULA PARKWAY SEPARATION

NOTES AND DETAILS

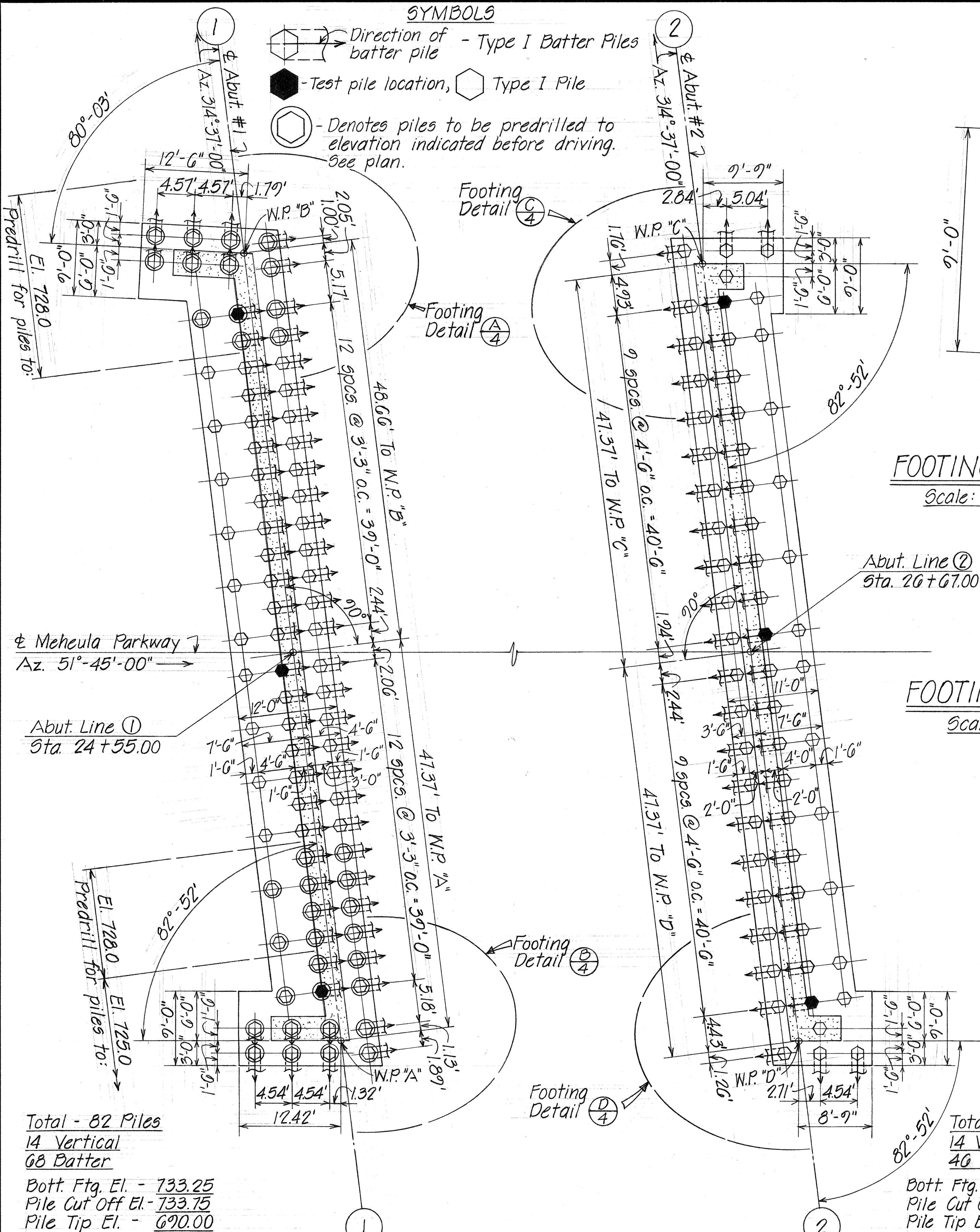
MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7):4 MARCH 1973

SHEET No. 3 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)A	1973	130	220

SYMBOLS

- Direction of batter pile
- Type I Batter Piles
- Test pile location, Type I Pile
- Denotes piles to be predrilled to elevation indicated before driving. See plan.



FOOTING DETAIL (A)
Scale: 3/8" = 1'-0"

FOOTING DETAIL (B)
Scale: 3/8" = 1'-0"

FOOTING DETAIL (C)
Scale: 3/8" = 1'-0"

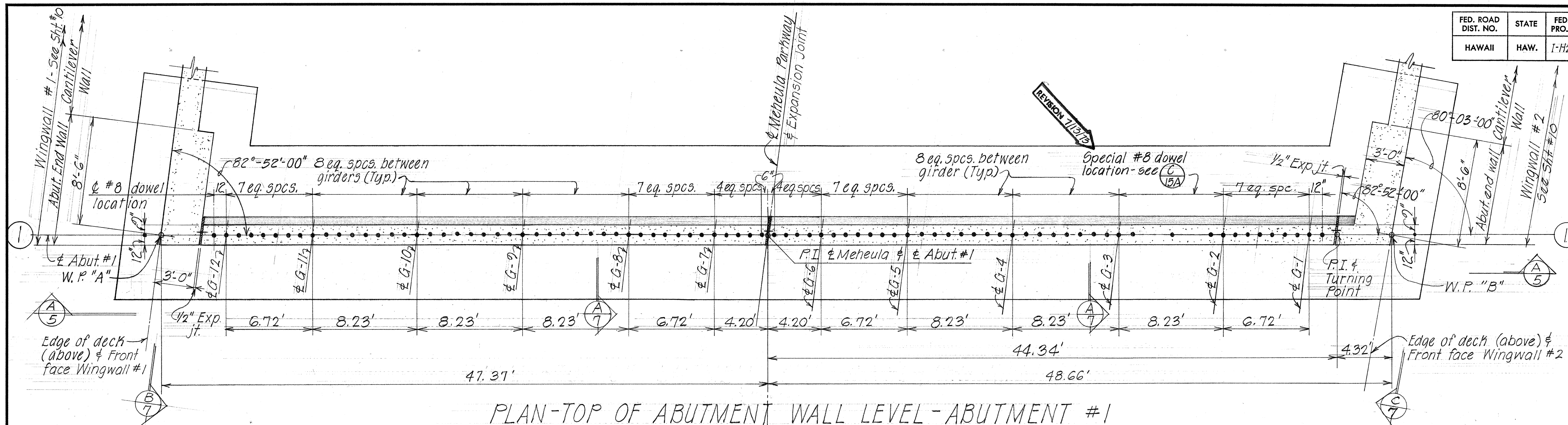
FOOTING DETAIL (D)
Scale: 3/8" = 1'-0"

- NOTES:**
- All piles to be Type I prestressed concrete piles. See Standard Sht. DB-300-1, DB-300-2. All batter piles to be 3:12.
 - Drive Test Piles indicated on plan for length determination.
 - Test Piles shall be driven before casting balance of piles.
 - Test Piles shall be furnished 10'-0" longer than the batter length computed from the tip & cut off elevations given in the plan.
 - Refer to Sht. #7 for additional footing details.
 - Pile capacity - 45 tons.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
FOUNDATION PLANS AND DETAILS
ABUTMENT #1, #2
MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7)A MARCH 1973
SHEET No. 4 OF 30 SHEETS

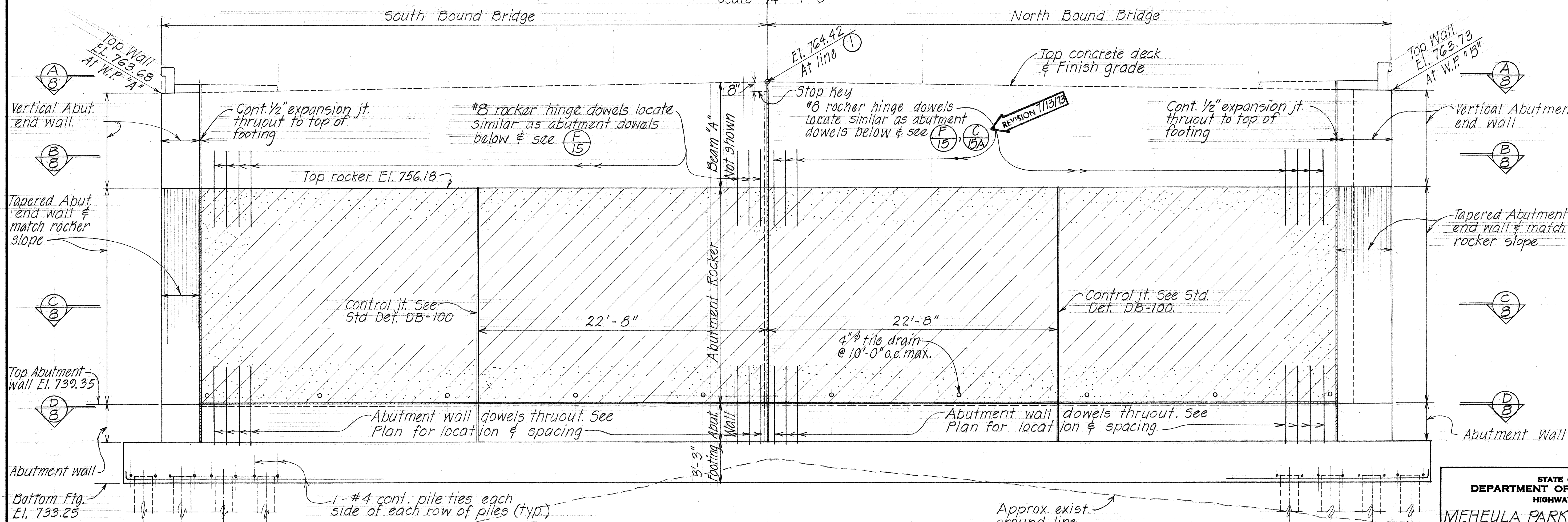
DATE	3/7/73
DESIGNED BY	N.Y.
DRAWN BY	N.Y.
CHECKED BY	N.Y.
ORIGINAL PLAN	No.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	131	220



PLAN-TOP OF ABUTMENT WALL LEVEL-ABUTMENT #1

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



ELEVATION - ABUTMENT N° 1

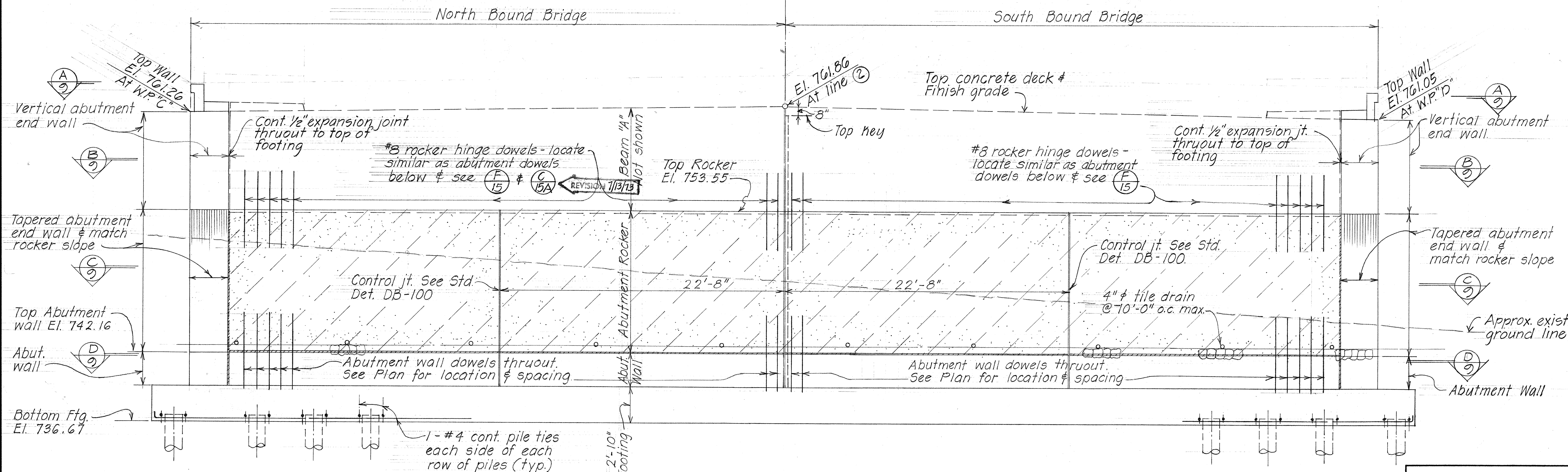
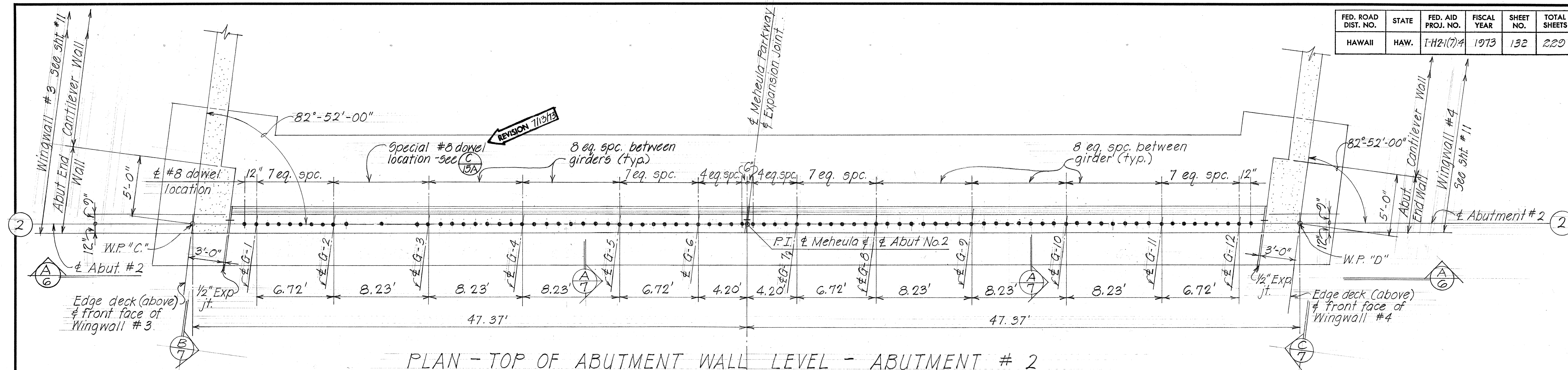
Scale: 1/4" = 1'-0"

SURVEY PLATTED BY	DATE
DRAWN BY	3/73
DESIGNED BY	3/73
QUANTITIES BY	3/73
CHECKED BY	3/73

7/13/73	Change dowel location
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MEHEULA PARKWAY SEPARATION ABUTMENT #1 DETAILS MILILANI INTERCHANGE F.A.I. PROJ. N° I-H2-1(7)4 SHEET No. 5 OF 30 SHEETS MARCH 1973

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7):4	1973	132	220



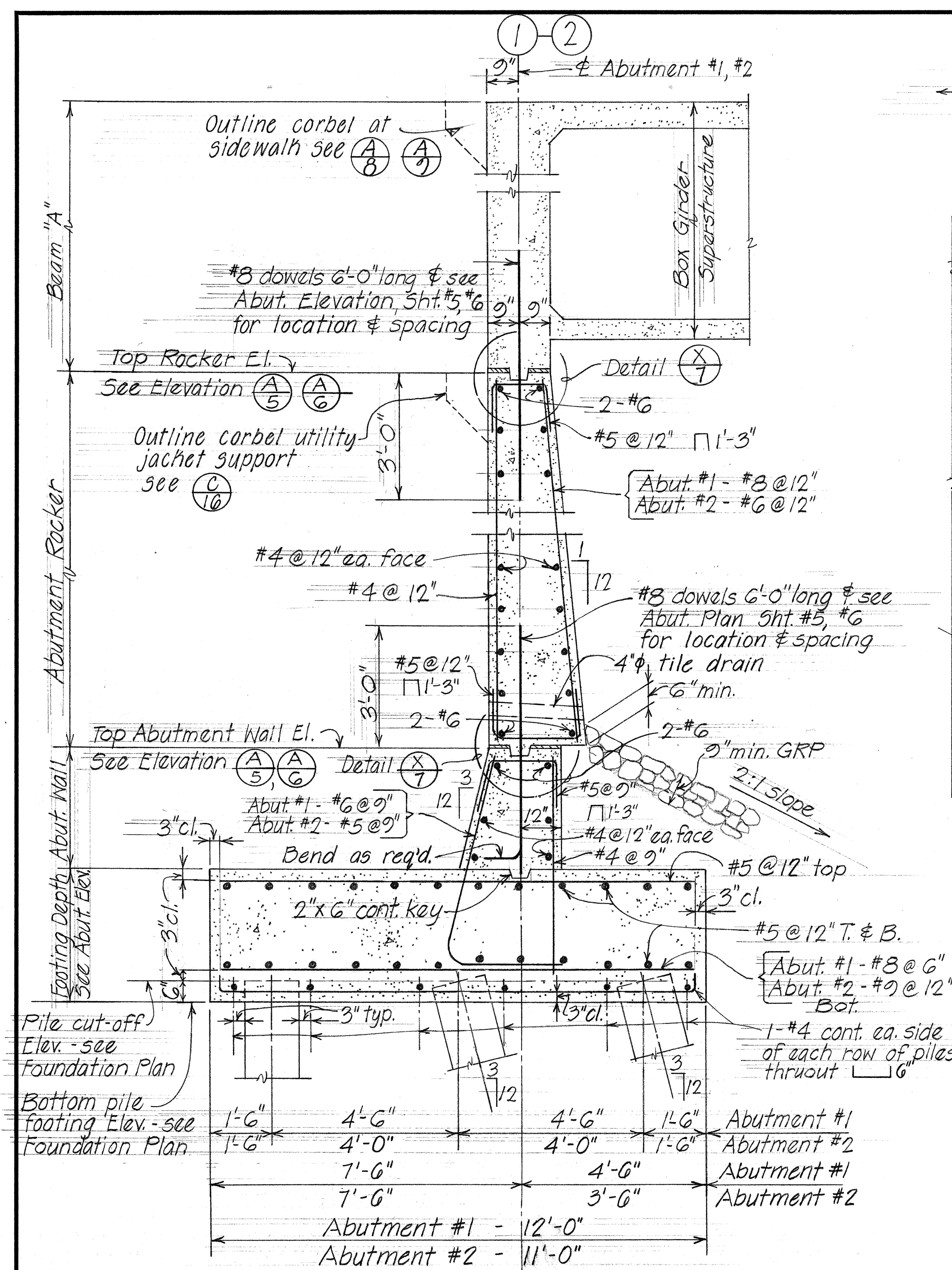
SURVEY PLOTTED BY	DATE
DRAWN BY L.M.A.	3/73
TRACED BY M.Y.	3/73
QUANTITIES BY L.M.A.	3/73
CHECKED BY L.A.	3/73
ORIGINAL PLAN	
NOTE BOOK	
No.	

7/13/73	Change dowel location
DATE	REVISION

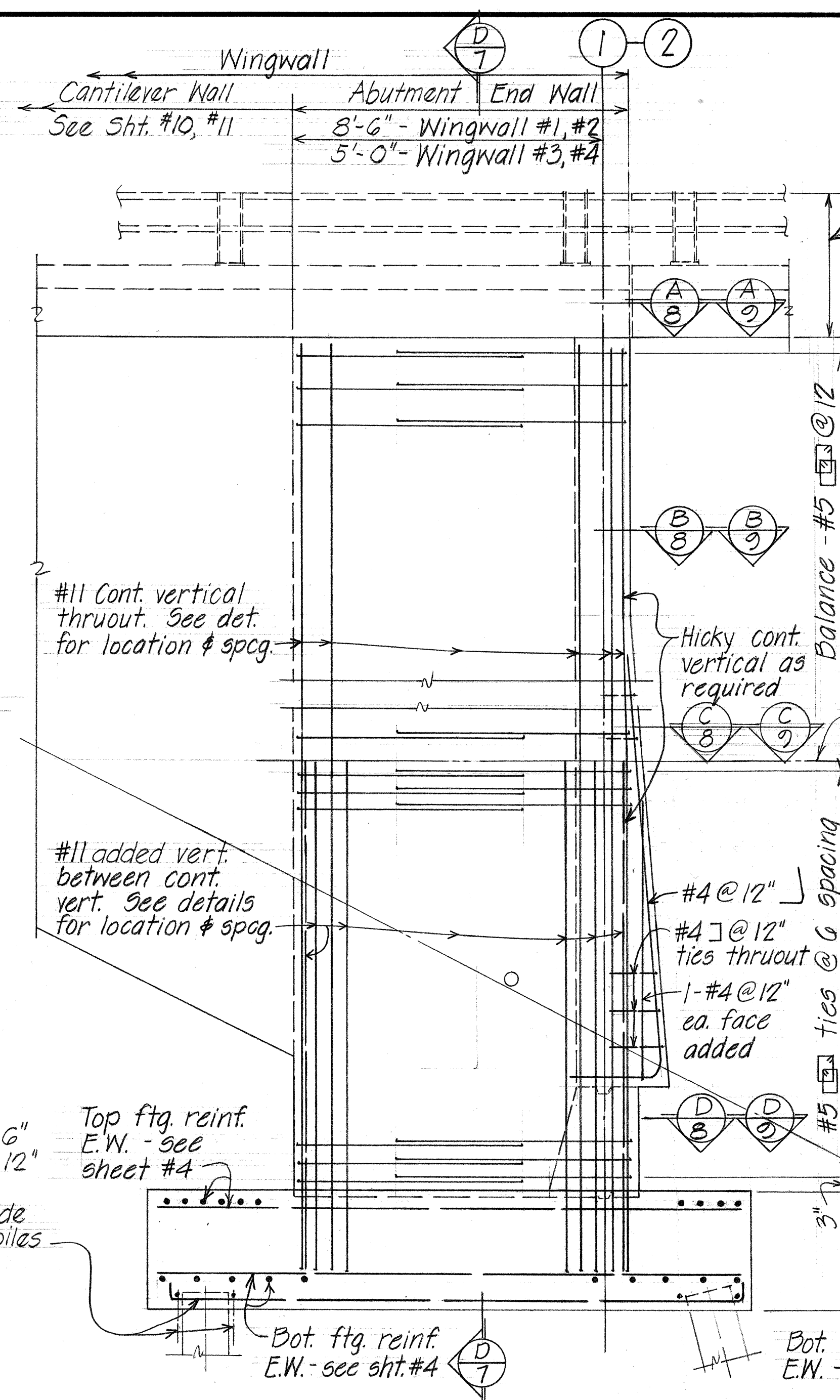
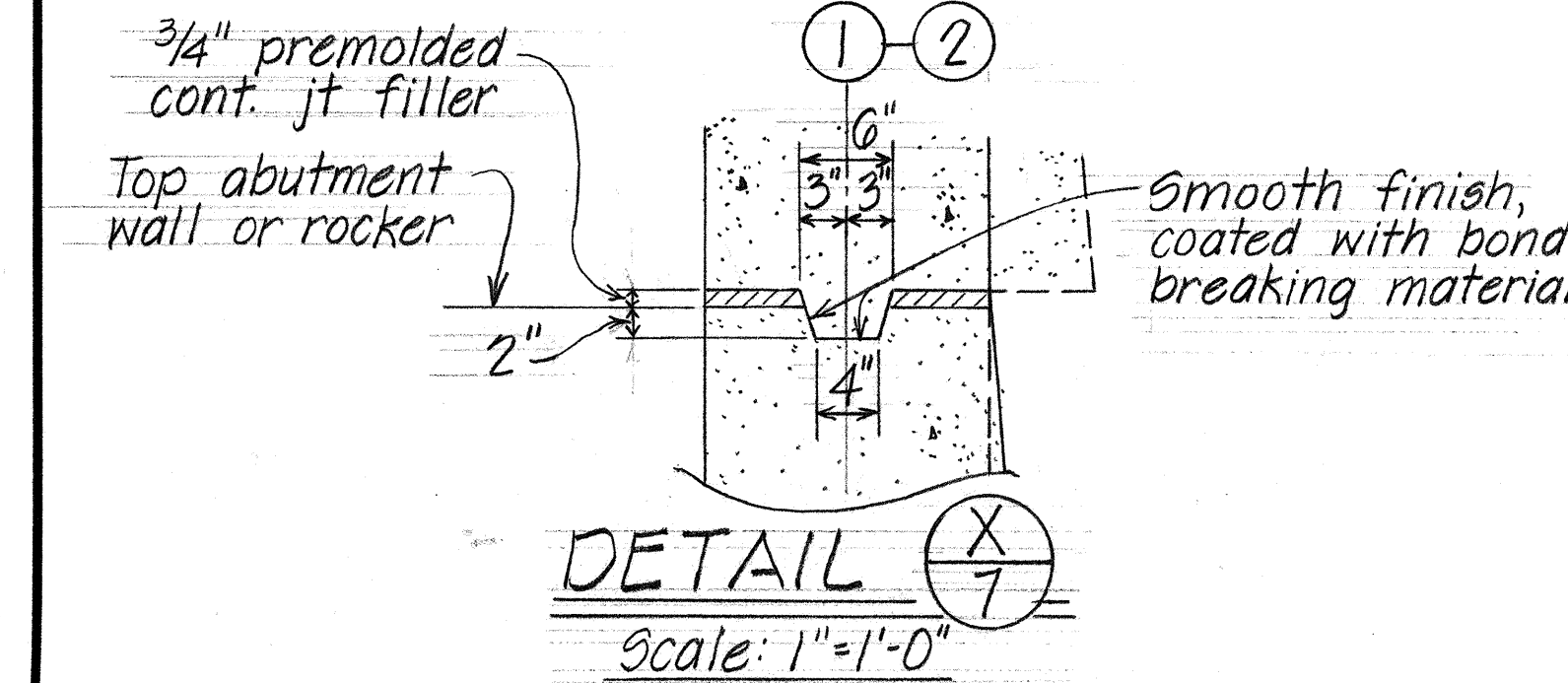
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
ABUTMENT #2 DETAILS

MILILANI INTERCHANGE
F.A.I. PROJ. NO. I-H2-1(7):4
SHEET No. 6 OF 30 SHEETS
MARCH 1973

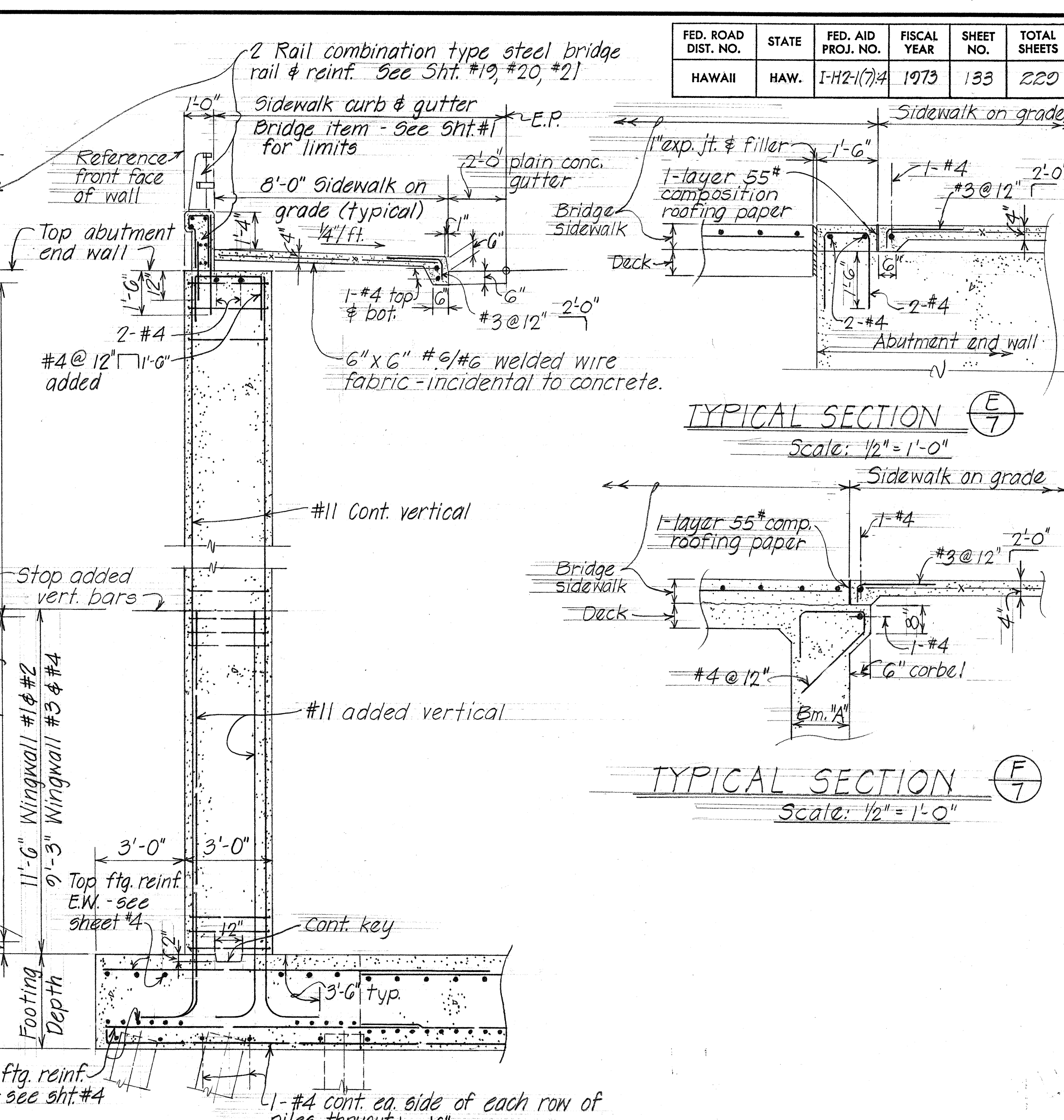
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	133	220



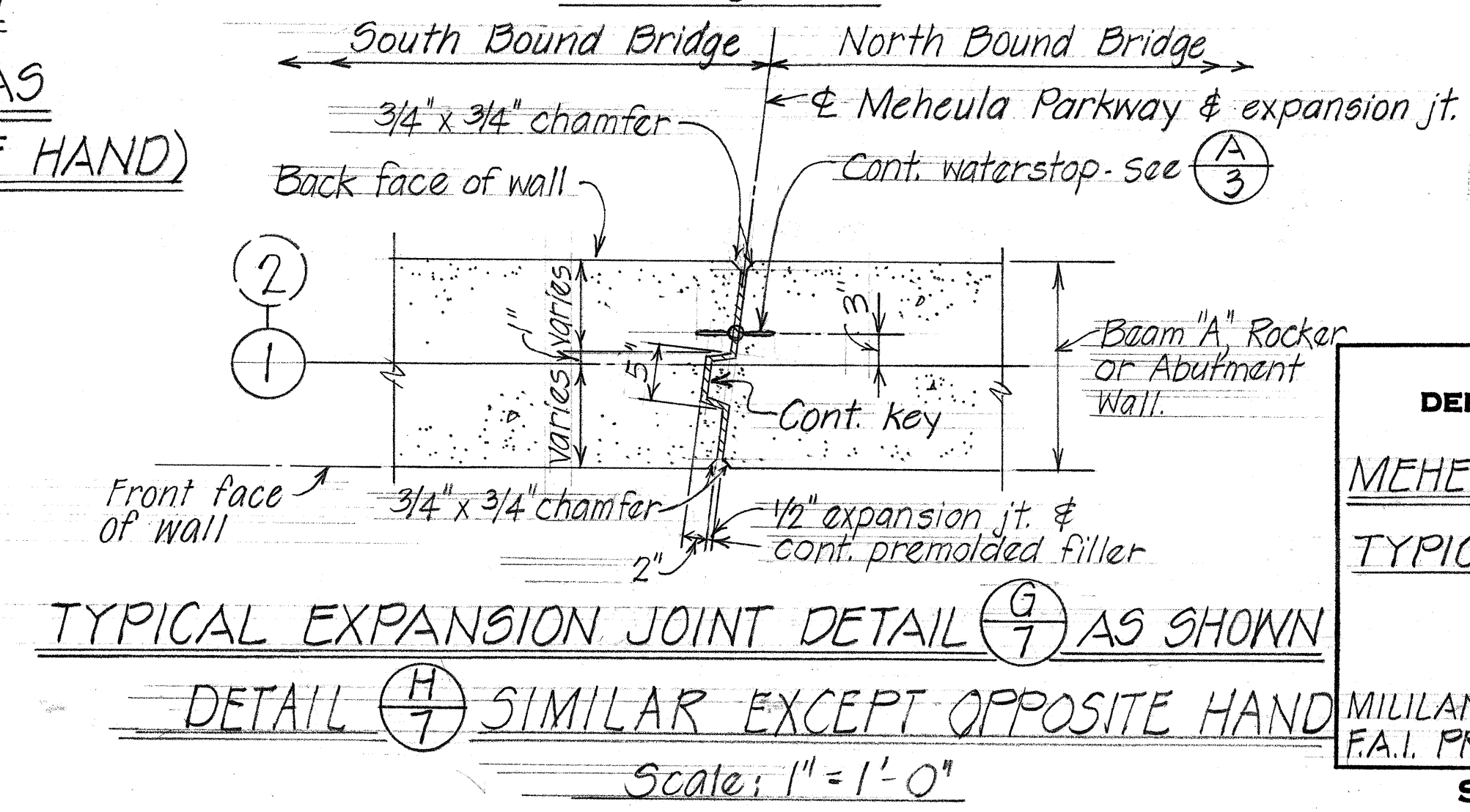
TYPICAL SECTION A-7 ABUTMENT #1 AS SHOWN
(ABUTMENT #2 SIMILAR EXCEPT AS OTHERWISE NOTED)
Scale: 1/2" = 1'-0"



TYPICAL ABUTMENT END WALL ELEVATION B-7 AS SHOWN
(ELEVATION C-7 SAME EXCEPT AS OTHERWISE NOTED AND OPPOSITE HAND)
Scale: 3/8" = 1'-0"



TYPICAL SECTION D-7
Scale: 3/8" = 1'-0"

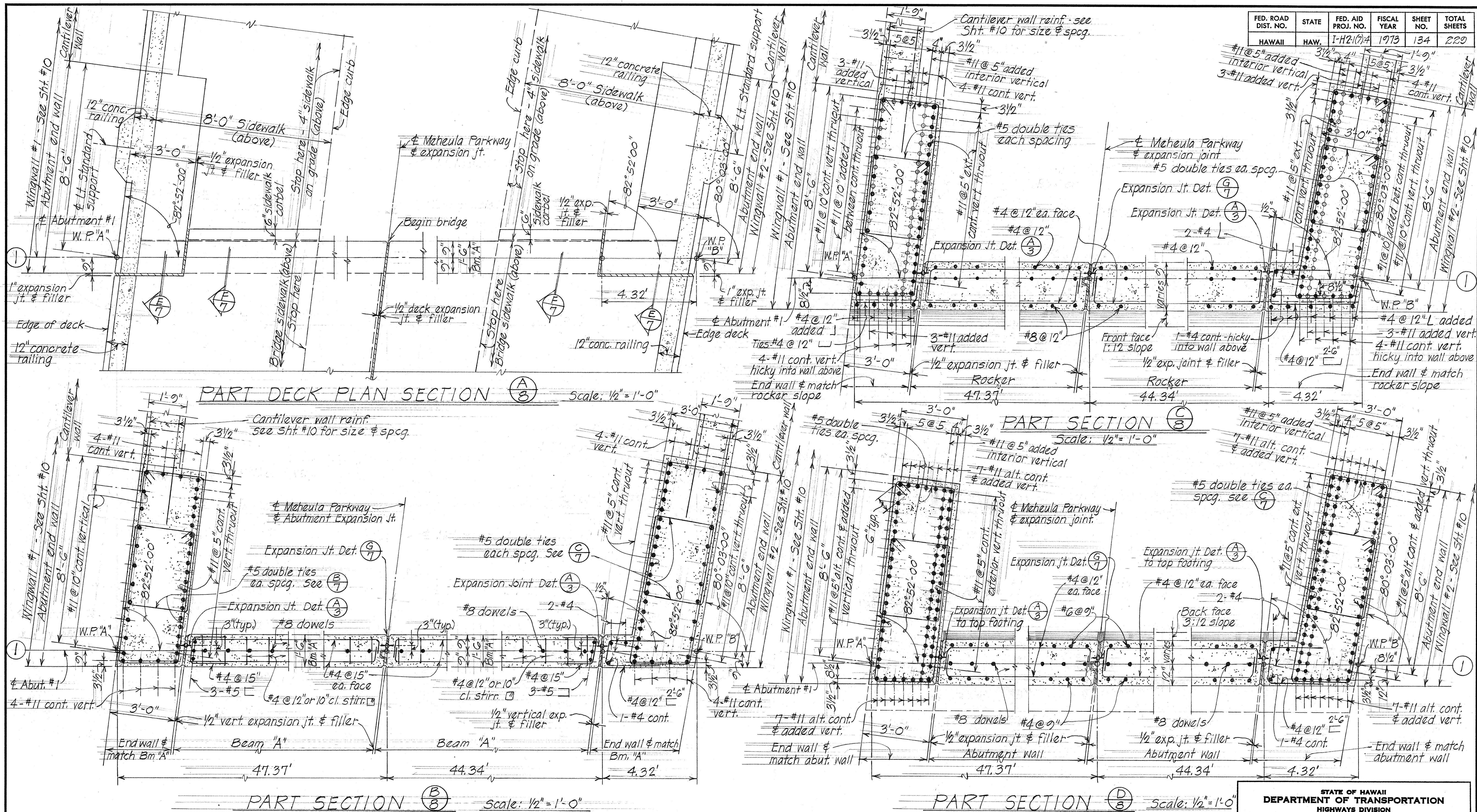


TYPICAL EXPANSION JOINT DETAIL G-7 AS SHOWN
DETAIL H-7 SIMILAR EXCEPT OPPOSITE HAND
Scale: 1" = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
TYPICAL ABUTMENT SECTIONS
AND DETAILS
MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7)4 MARCH 1973
SHEET No. 7 OF 30 SHEETS

DATE	3/73
DESIGNED BY	M.Y.
CHECKED BY	L.N.
ORIGINAL PLAN	3/73
NOTE BOOK	3/73
QUANTITIES BY	L.N.
3/73	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEET
HAWAII	HAW.	I-H2-1(7)4	1973	134	223



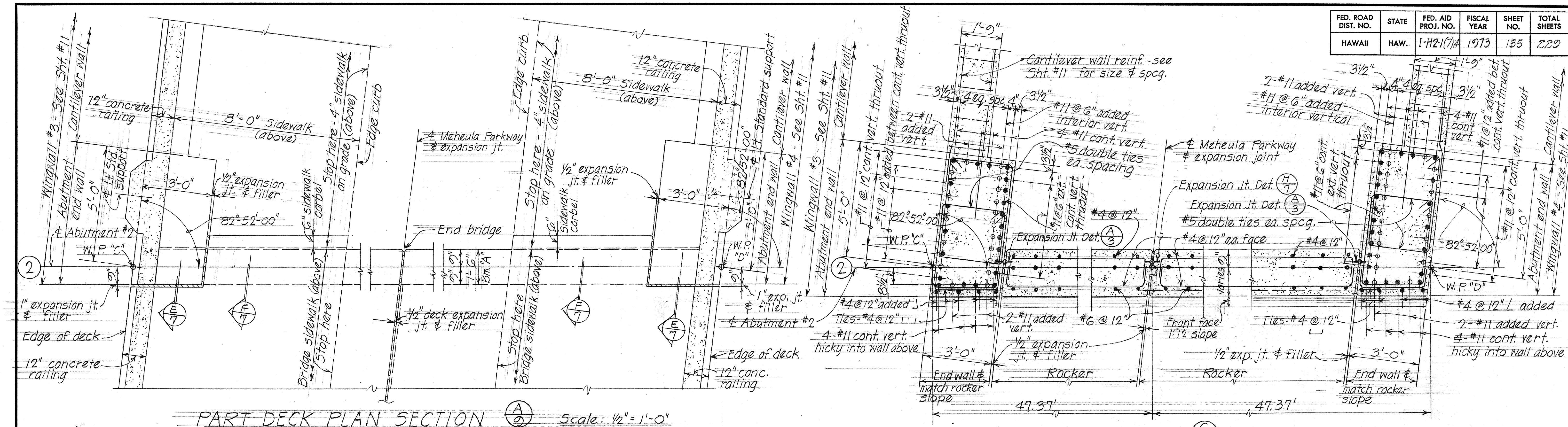
ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
	DRAWN BY <u>M. Y.</u>	" " _____
	DESIGNED BY <u>M. Y.</u>	" " _____
NOTE BOOK	QUANTITIES BY <u>L. N. N. Y. L. N.</u>	" " <u>3/73</u>
No. _____	CHECKED BY <u>L. A.</u>	" " <u>3/73</u>

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
ABUTMENT #1 - SECTIONS & DETAILS

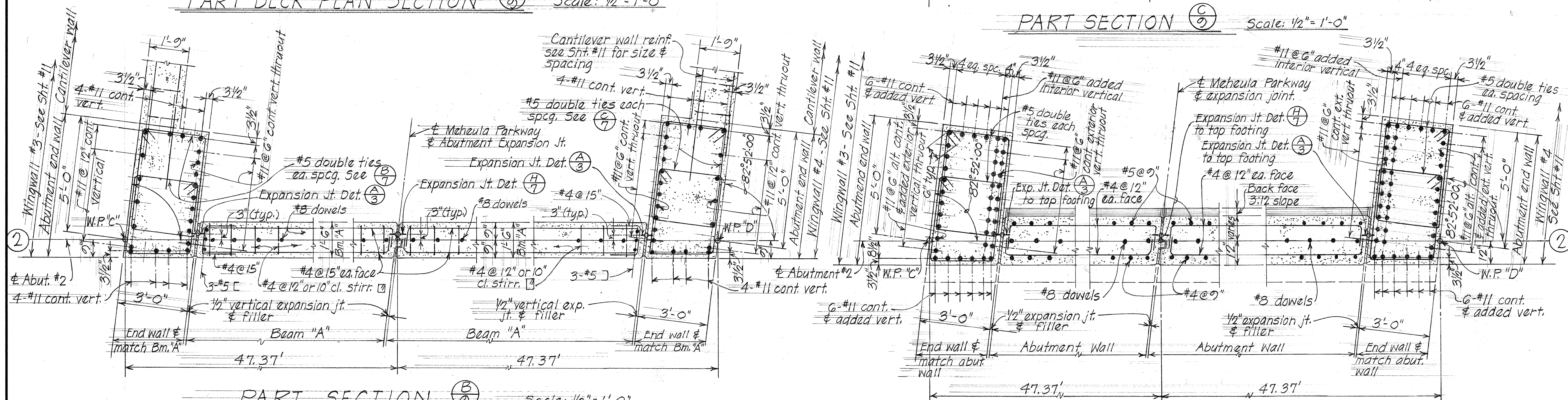
MILILANI INTERCHANGE
F.A.I. PROJ. NO I-42-1(7):4 MARCH 1973

SHEET No. 8 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-421(7)4	1973	135	229



PART DECK PLAN SECTION  Scale: 1/2" = 1'-0"



PART SECTION  Scale: $\frac{1}{2}'' = 1' - 0''$

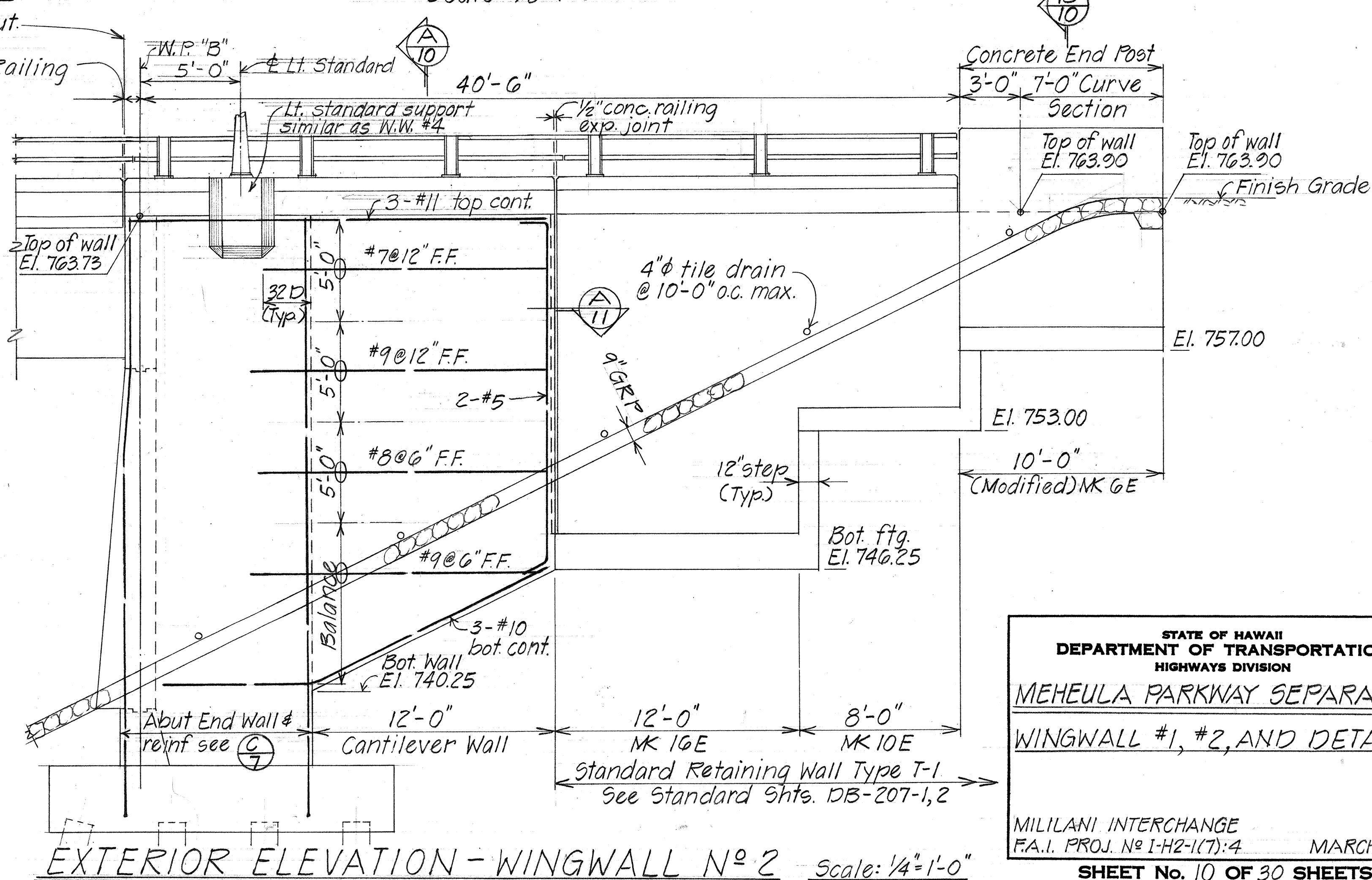
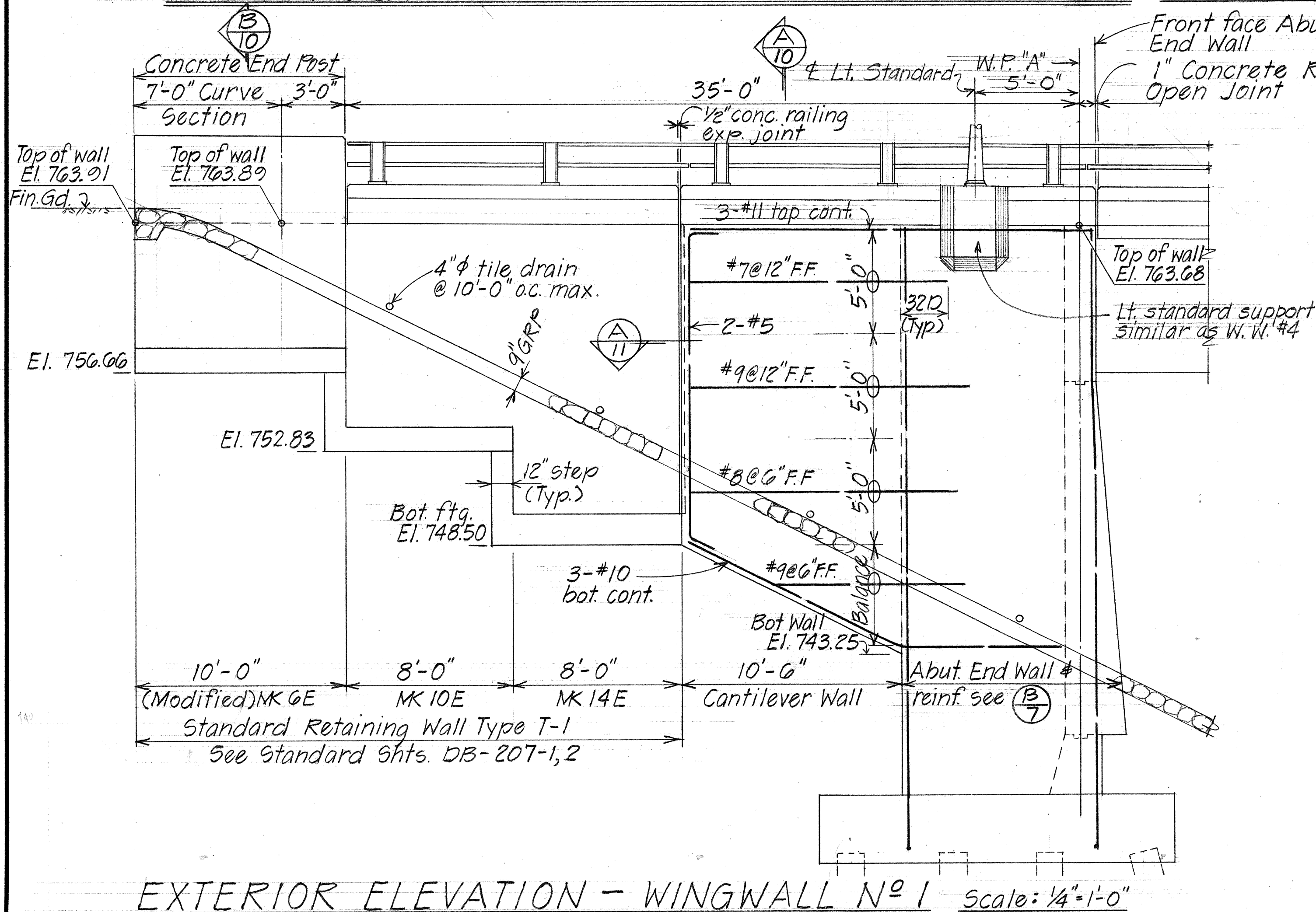
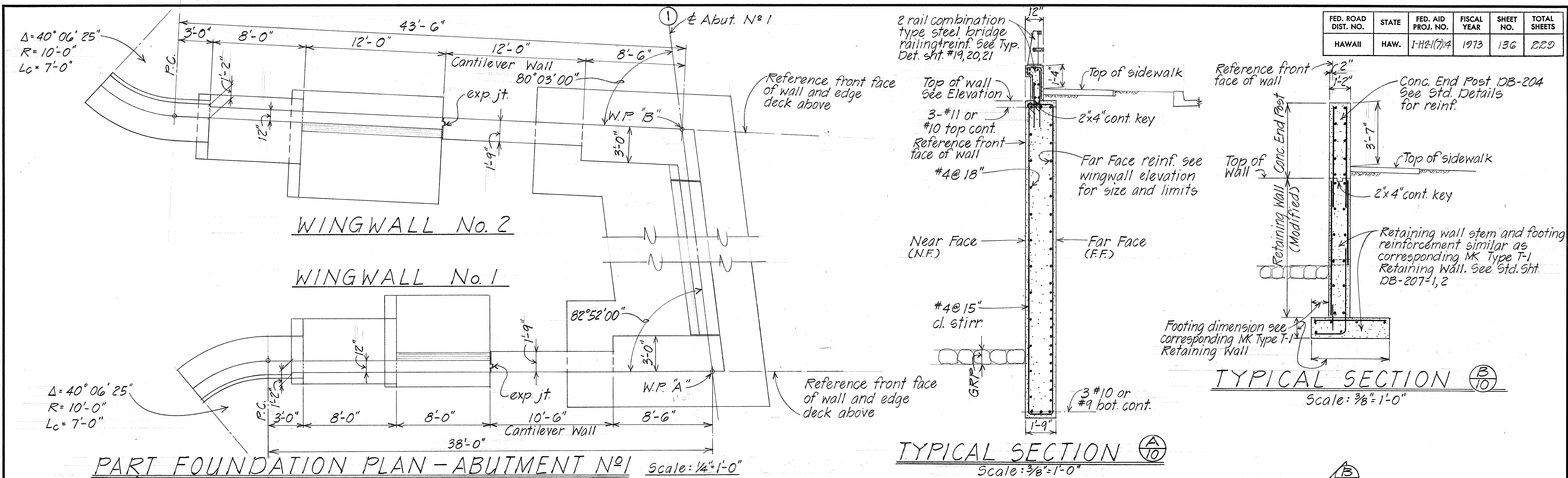
PART SECTION  Scale: 1/2" = 1'-0"

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

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
ABUTMENT #2 - SECTIONS & DETAILS

MILILANI INTERCHANGE
F.A.I. PROJ. NO I-H2-1(7):4 MARCH 1973
SHEET No. 9 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7):4	1973	136	229



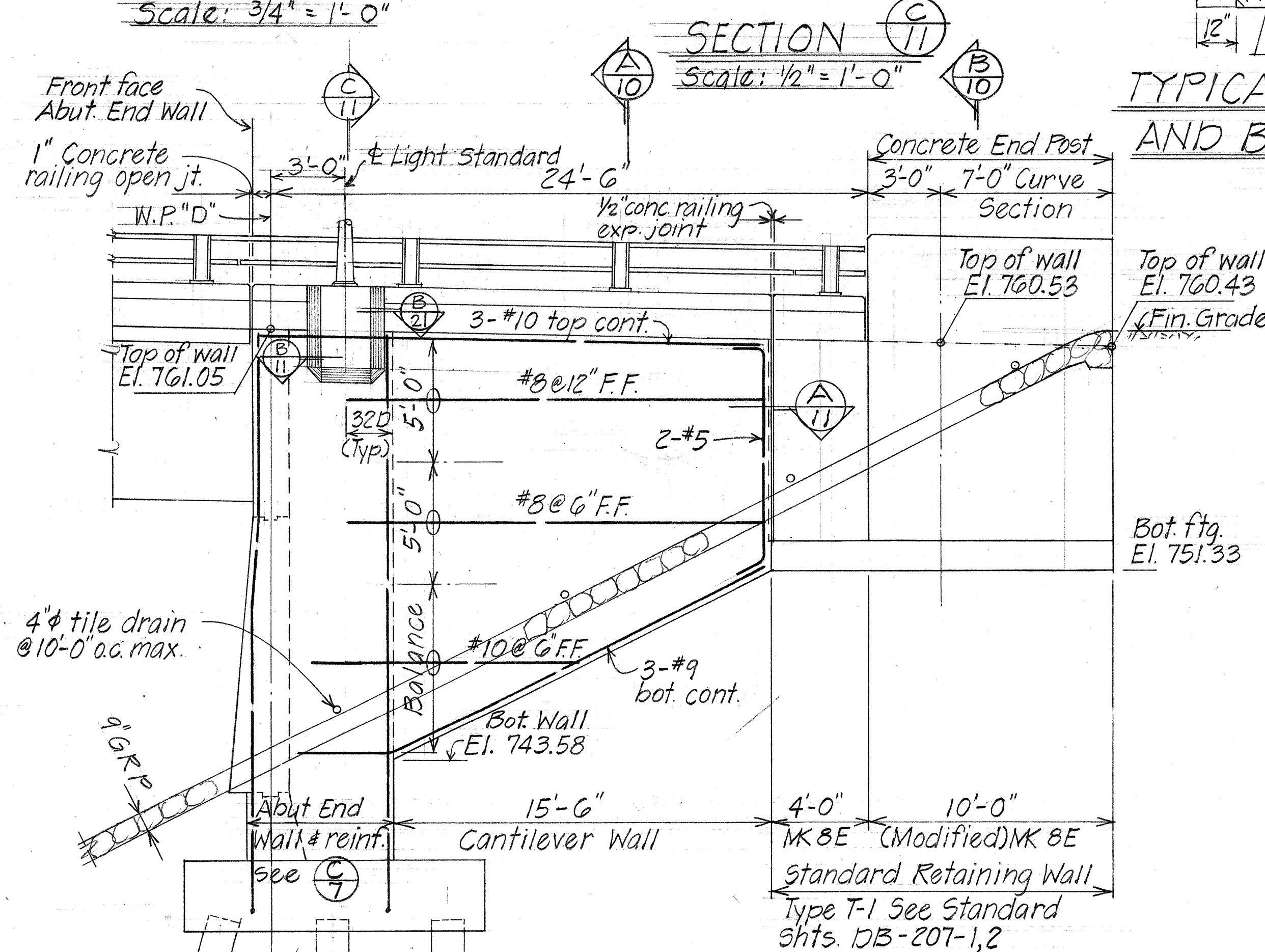
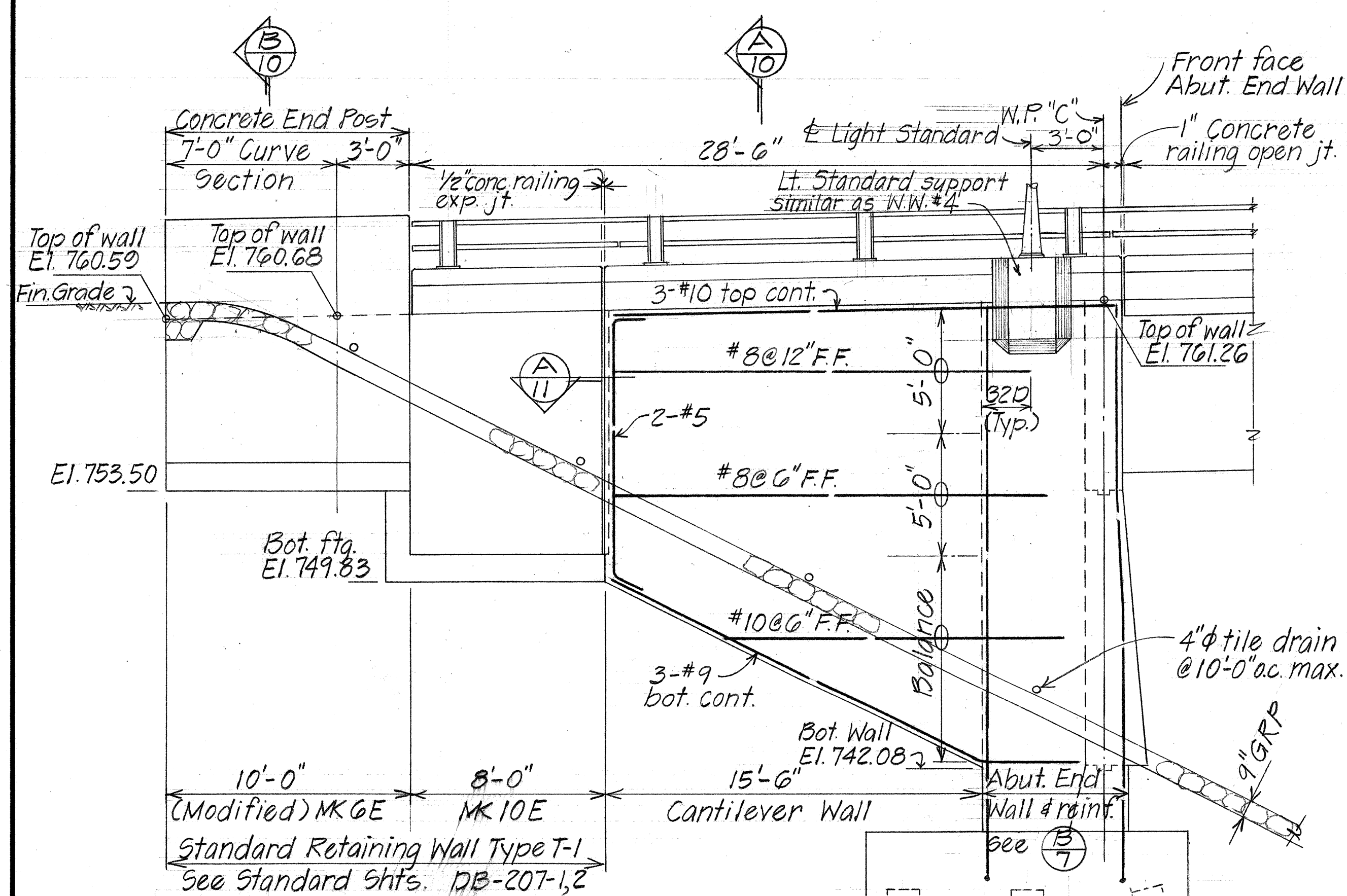
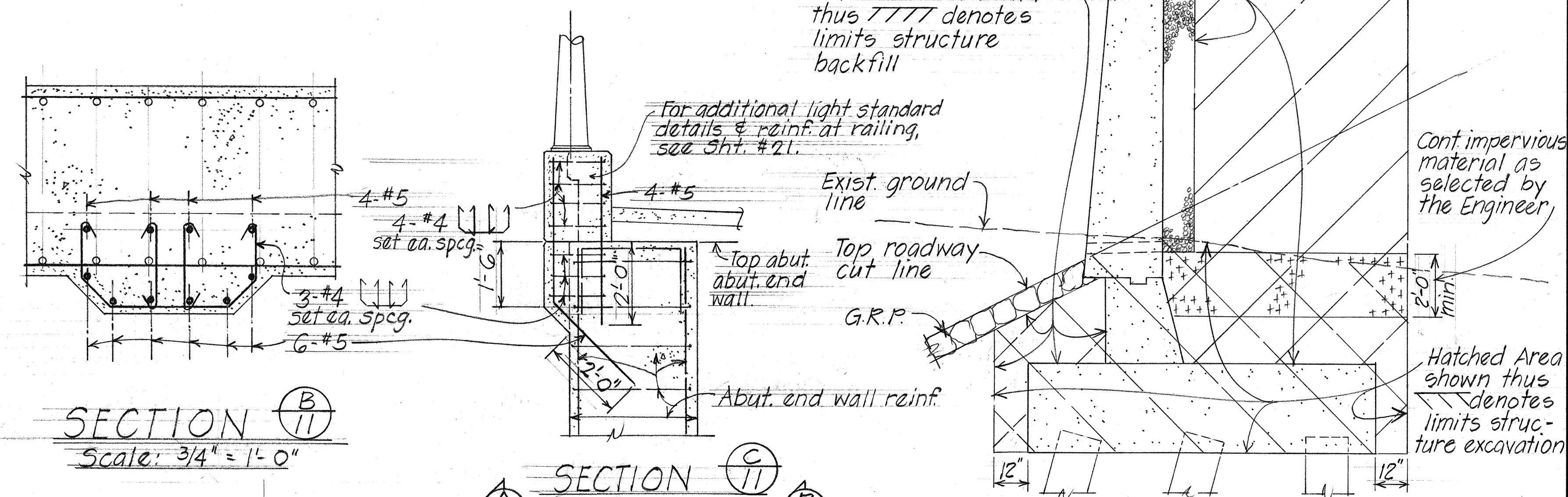
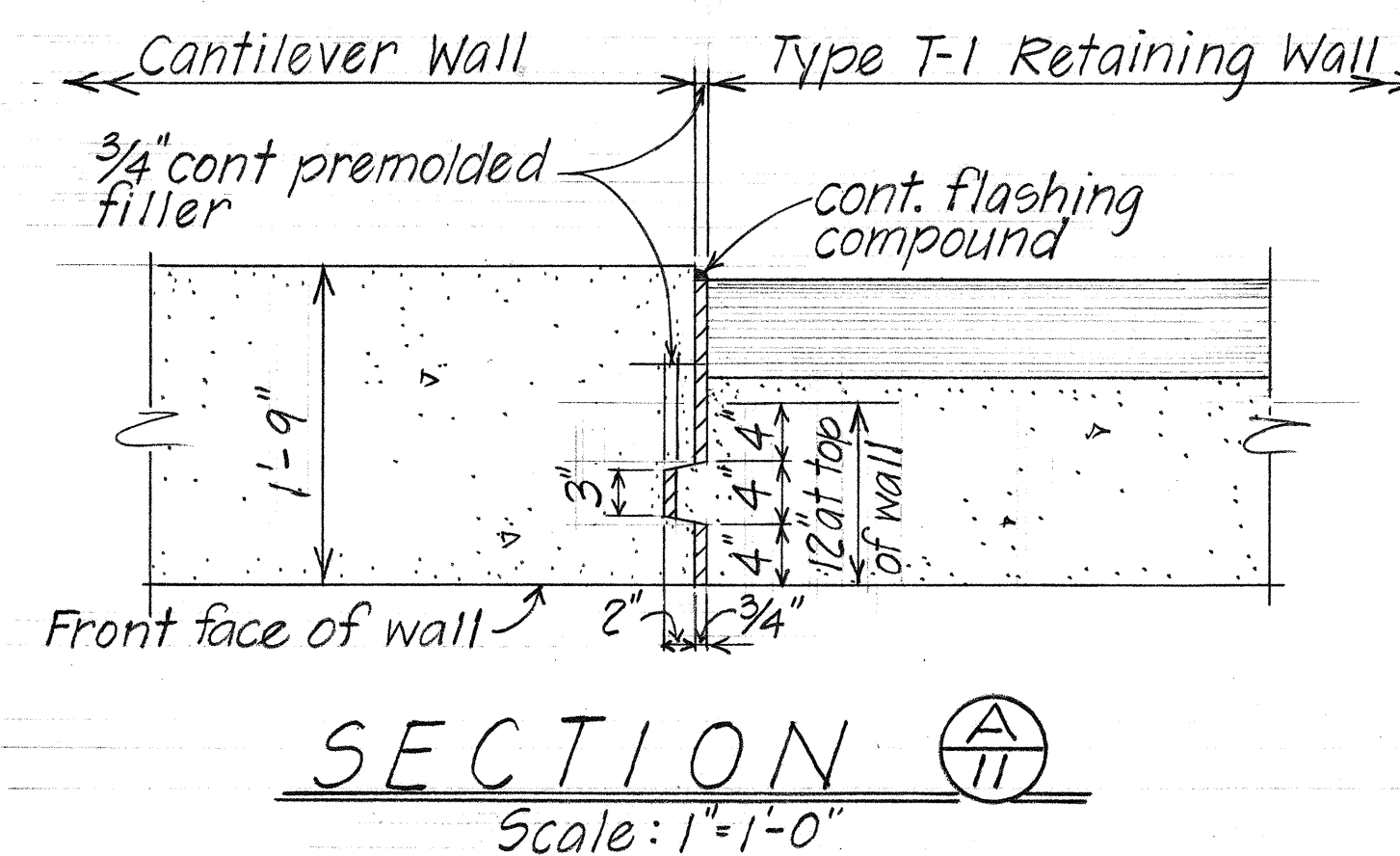
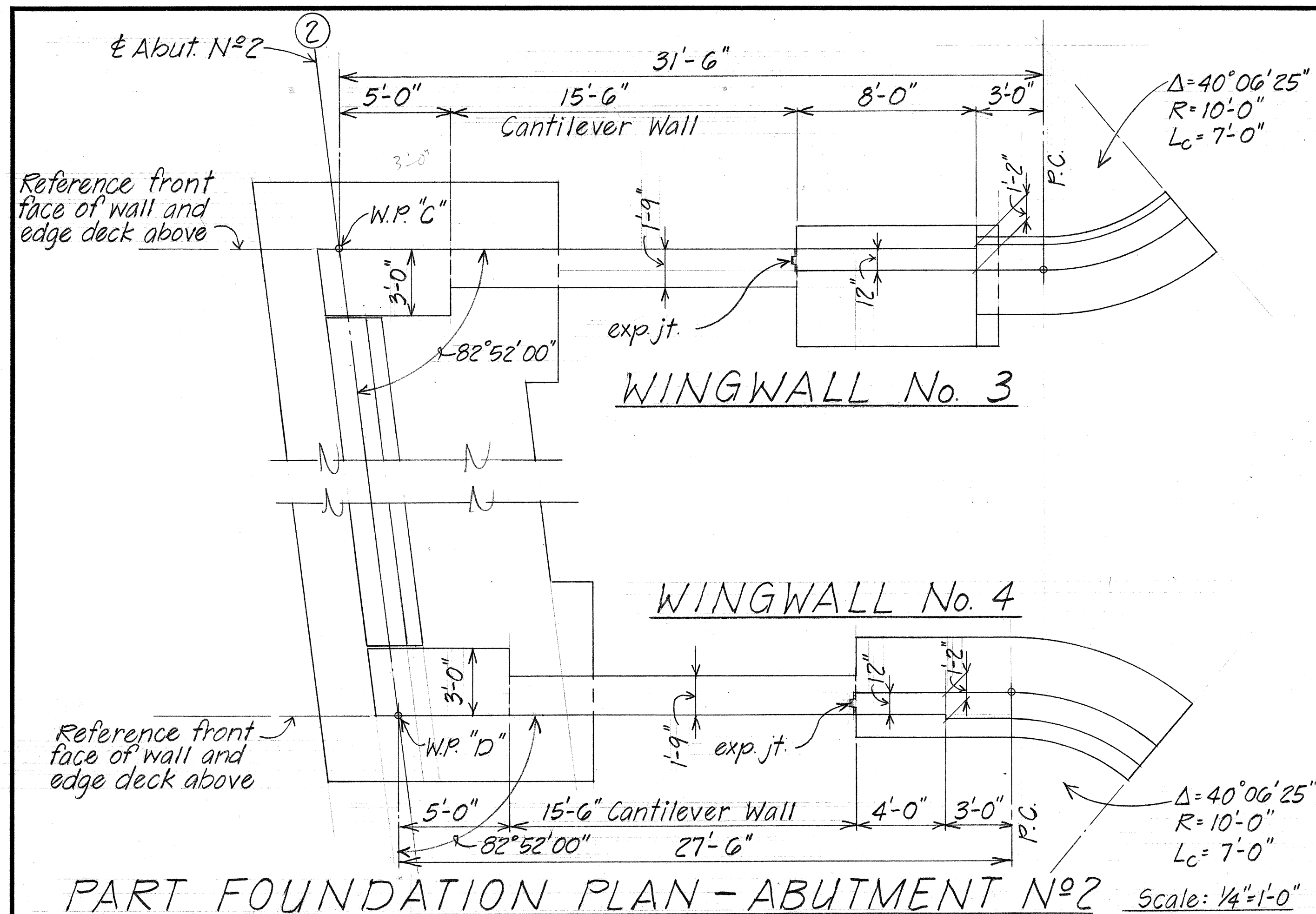
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEHEULA PARKWAY SEPARATION
WINGWALL #1, #2, AND DETAILS

MILILANI INTERCHANGE
F.A.I. PROJ. NO I-H2-1(17):4 MARCH 1973

SHEET No. 10 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1-H2-1(7)-4	1973	137	220



TYPICAL LIMITS STRUCTURE EXCAVATION
AND BACKFILL-ABUTMENTS #1 & #2
Not to Scale

EXTERIOR ELEVATION - WINGWALL N^o 3 Scale: 1/4"=1'-0"

EXTERIOR ELEVATION - WINGWALL N^o 4 Scale: 1/4" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY <u>B.G.</u>	DATE <u>5/13</u>
	DRAWN BY <u>B.G.</u>	"
	TRACED BY <u> </u>	"
NOTE BOOK	DESIGNED BY <u>M.Y.</u>	" <u>3/13</u>
	QUANTITIES BY <u>B.G., L.M.</u>	" <u>3/13</u>
	CHECKED BY <u>L.A.</u>	" <u>5/13</u>
No. <u> </u>		

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

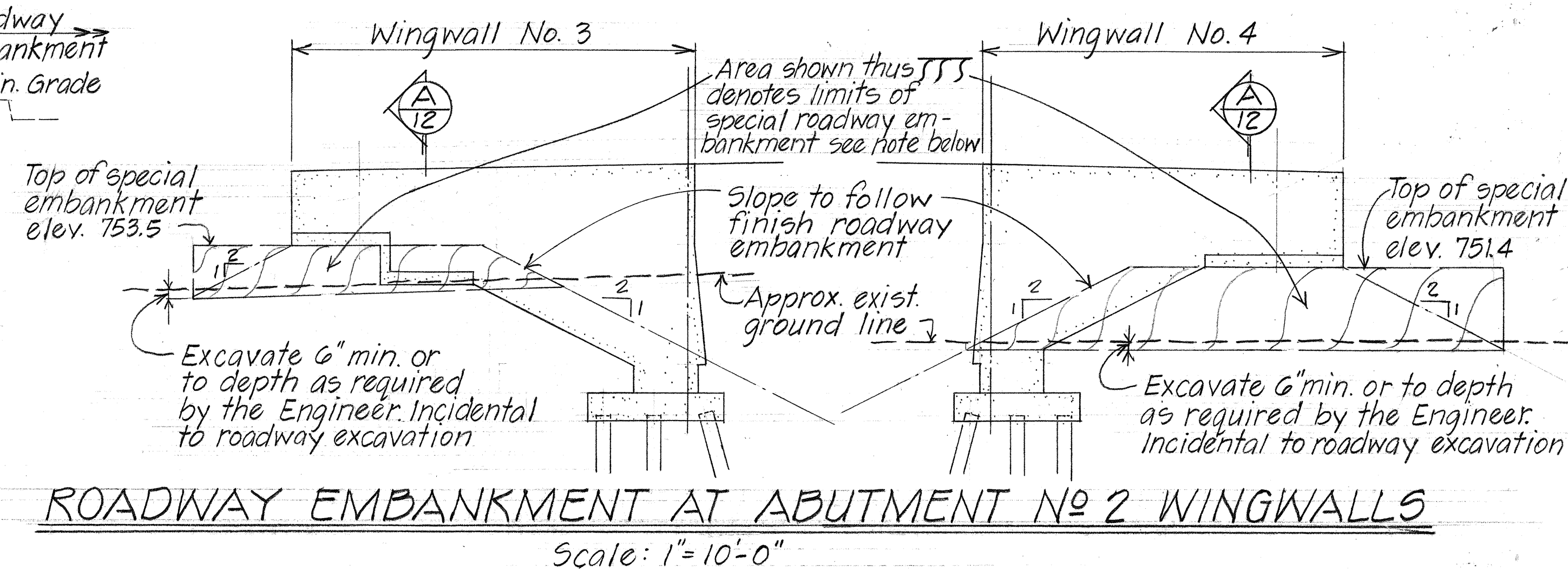
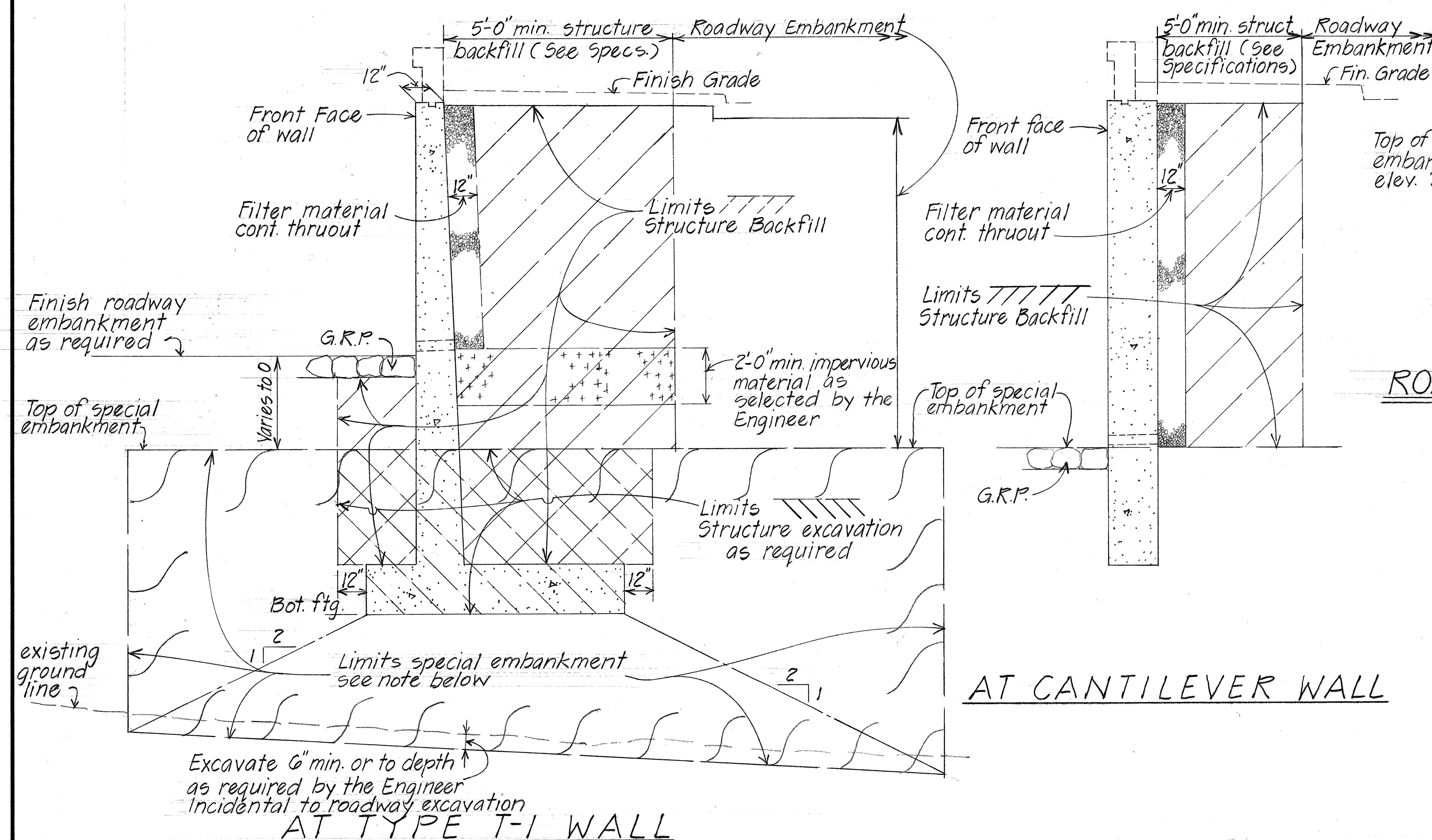
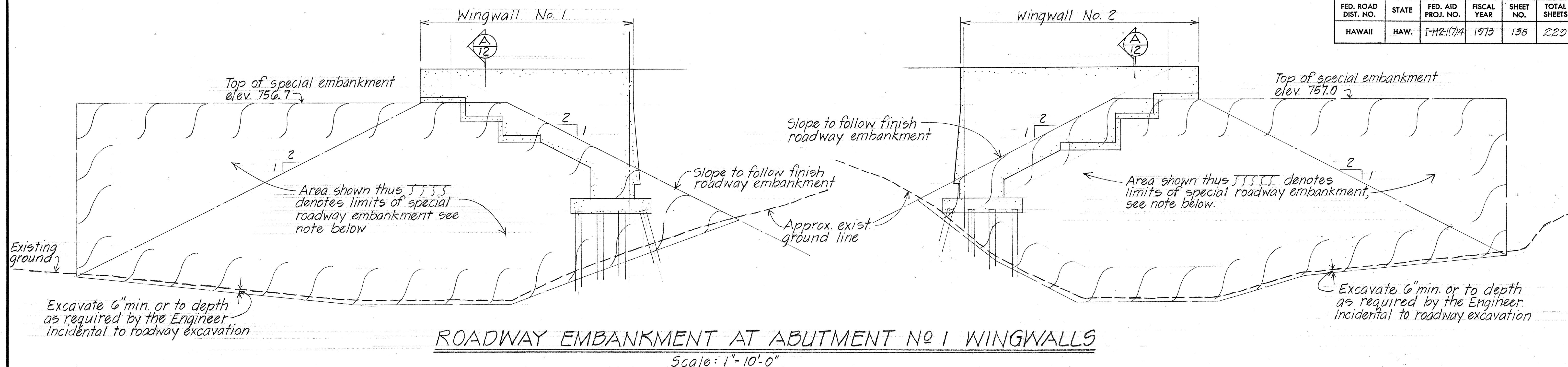
MEHEULA PARKWAY SEPARATION

WINGWALL #3, #4 AND DETAILS

MILILANI INTERCHANGE
FA.1. PROJ. N^o I-H2-1(7):4 MARCH 1973

SHEET No. 11 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	138	220

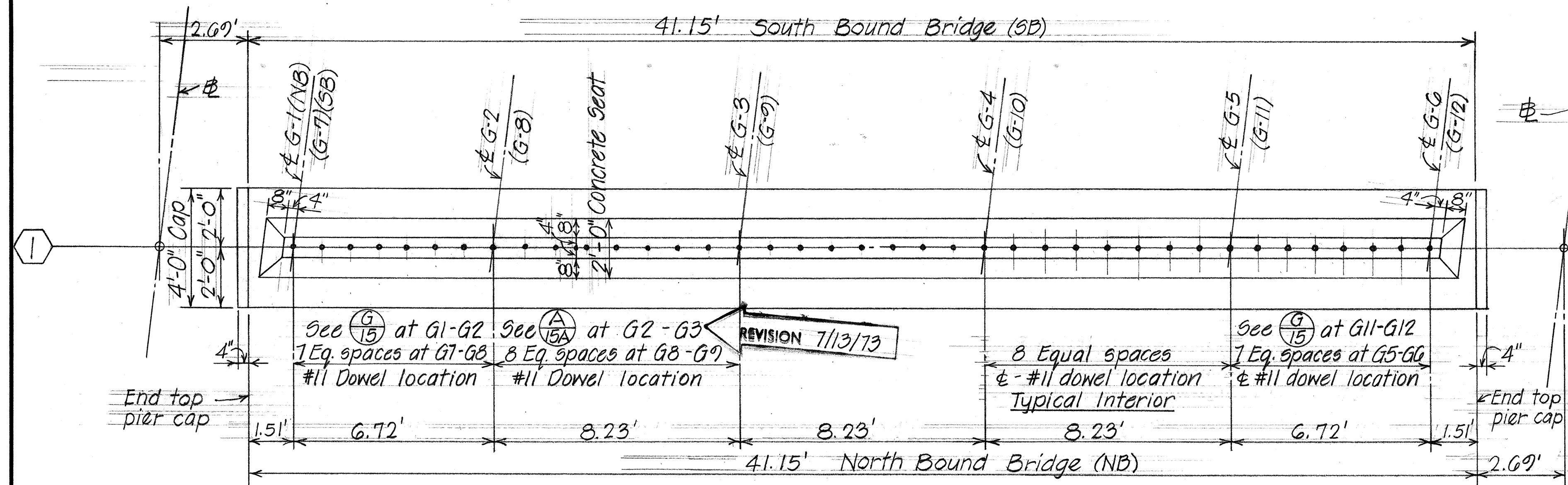


Note:
The relative compaction of the special roadway embankment shall not be less than 95% of the maximum dry density. This shall be incidental to proposal item no. 302-01 Roadway Excavation & will not be paid for separately.

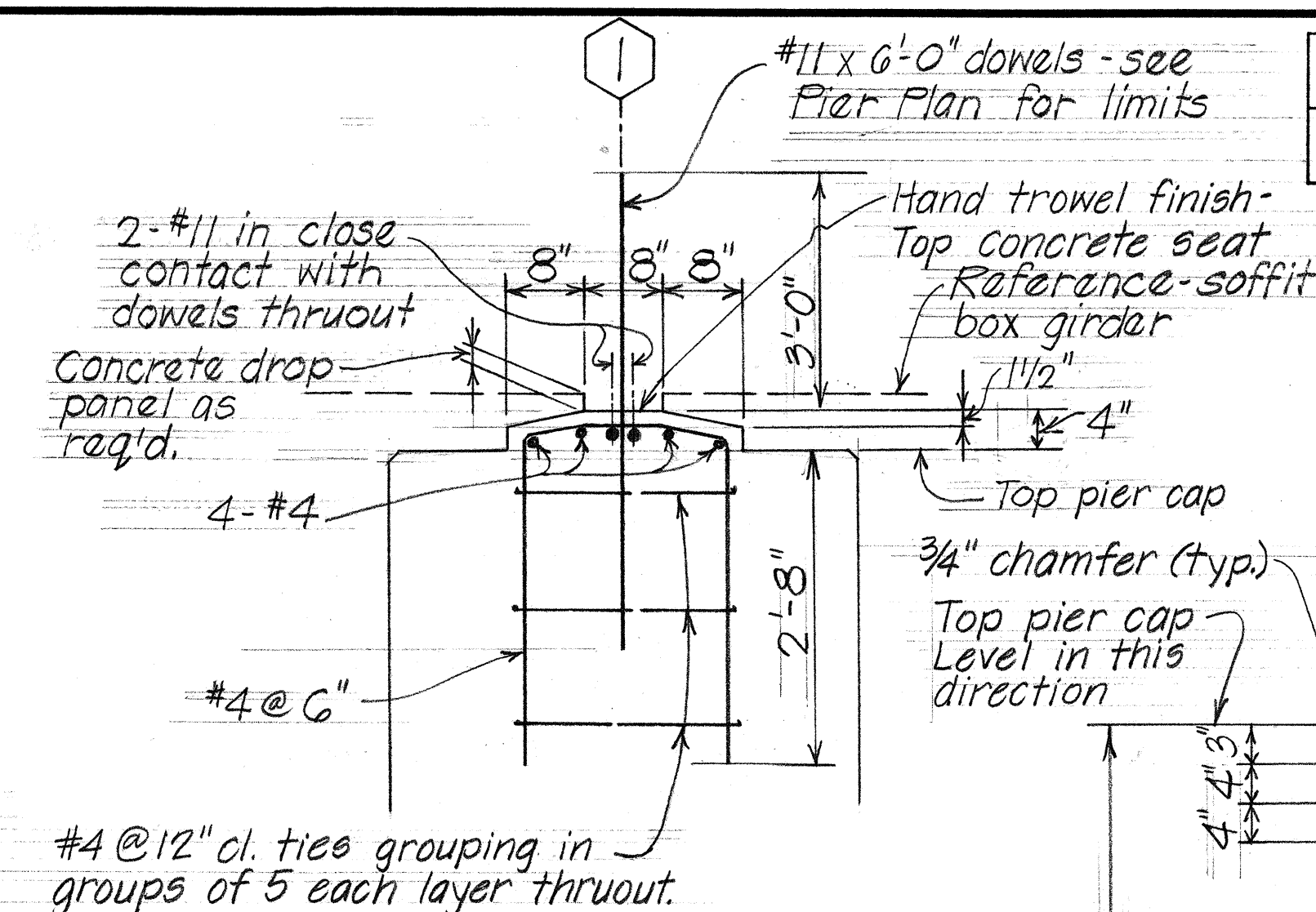
DATE	3/73
DESIGNED BY	W. G.
CHECKED BY	W. G.
NOTED BY	W. G.
ORIGINAL PLAN	3/73
NOTE BOOK	3/73
No.	3/73

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
MISCELLANEOUS DETAILS
MILILANI INTERCHANGE F.A.I. PROJ. No I-H2-1(7)4
MARCH 1973
SHEET No. 12 OF 30 SHEETS

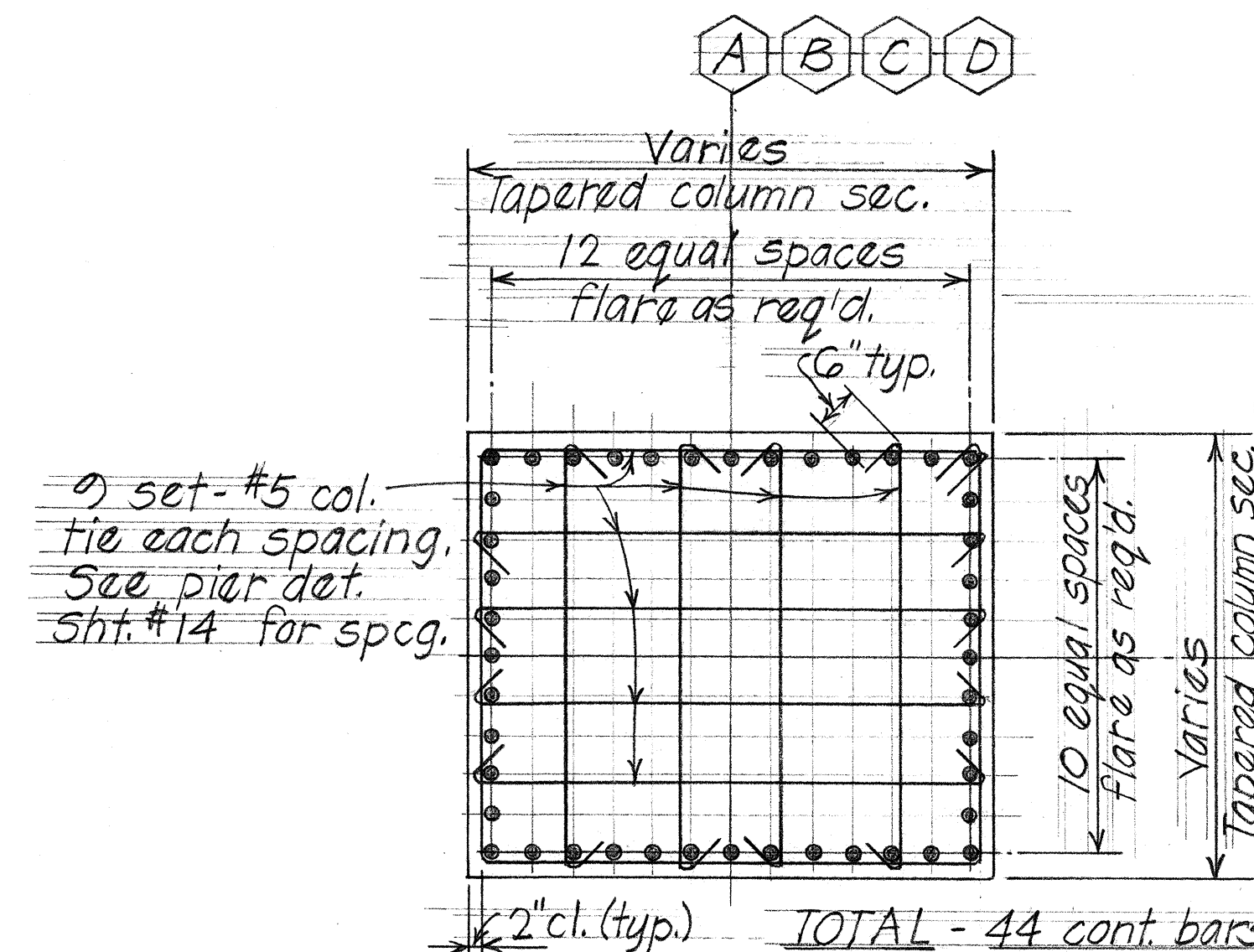
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)-4	1973	139	220



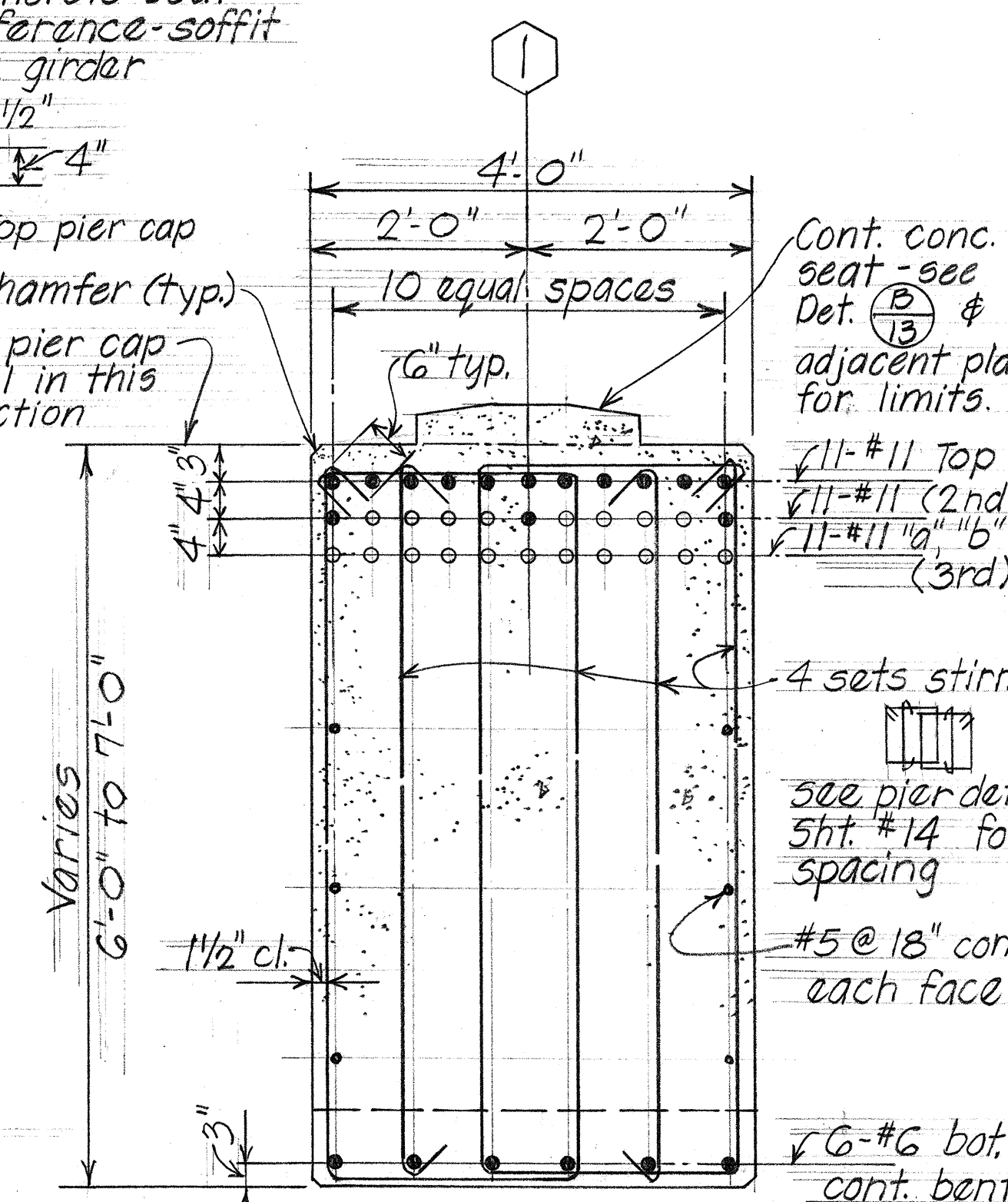
PLAN - TYPICAL PIER LINE 1 CAP
(NORTHBOUND OR SOUTHBOUND BRIDGE)
Scale: 3/8" = 1'-0"



SEAT DETAIL (B/13)
Scale: 3/4" = 1'-0"



TYPICAL SECTION (D/13)
Scale: 1/2" = 1'-0"

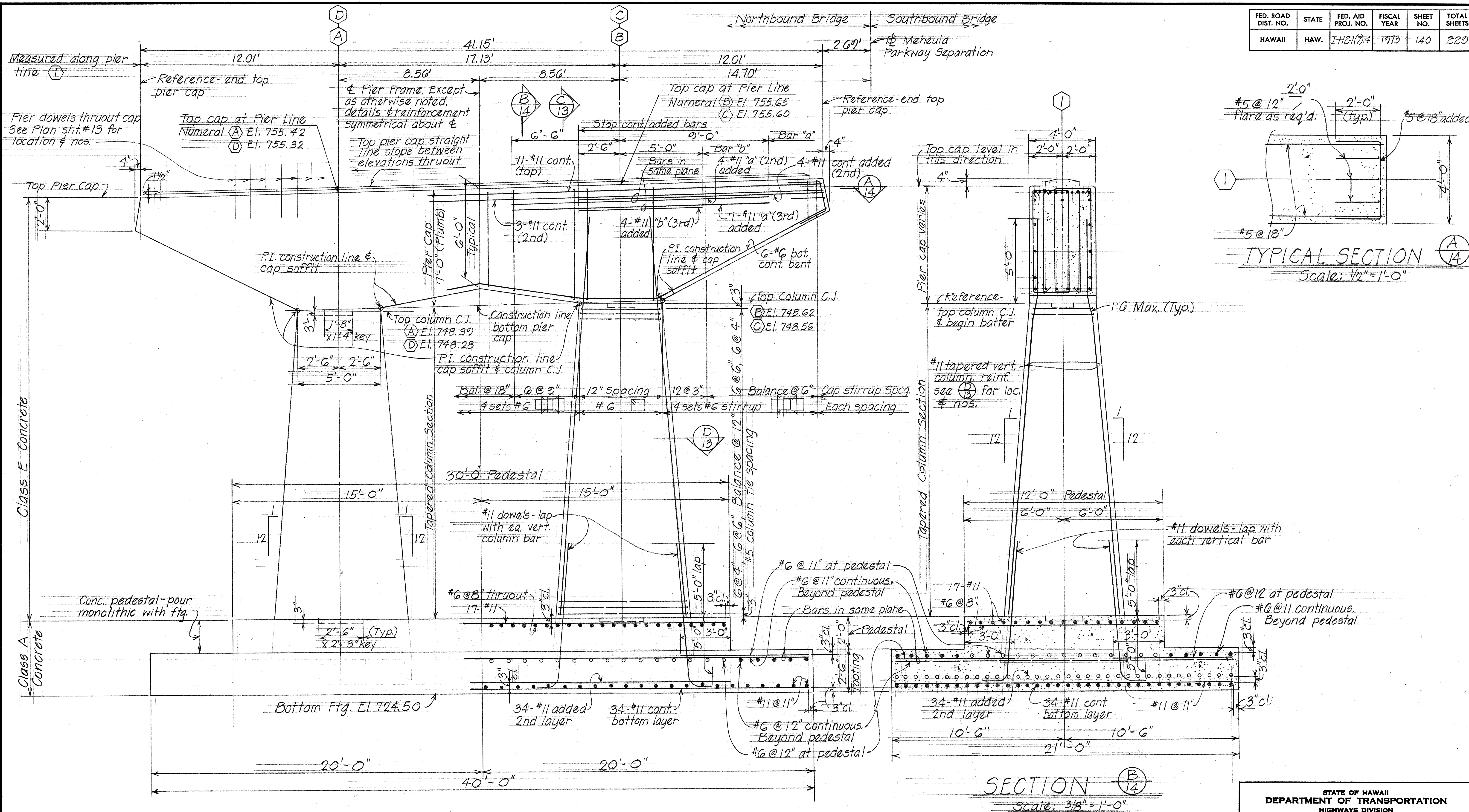


TYPICAL SECTION (C/13)
Scale: 3/4" = 1'-0"

SURVEY PLANNED BY	DATE
DRAWN BY	3/73
TRACED BY	3/73
QUANTITIES BY	3/73
CHECKED BY	3/73

7/13/73	Change dowel location
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
MEHEULA PARKWAY SEPARATION	
PIER 1 SECTIONS AND DETAILS	
MILILANI INTERCHANGE F.A.I. PROJ. NO. I-H2-1(7)-4	
MARCH 1973	
SHEET No. 13 OF 30 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2(17)4	1973	140	220



DESIGNED BY	DATE
DRAWN BY	3/13
CHECKED BY	3/13
NOTED BY	3/13
ORIGINAL PLAN	
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

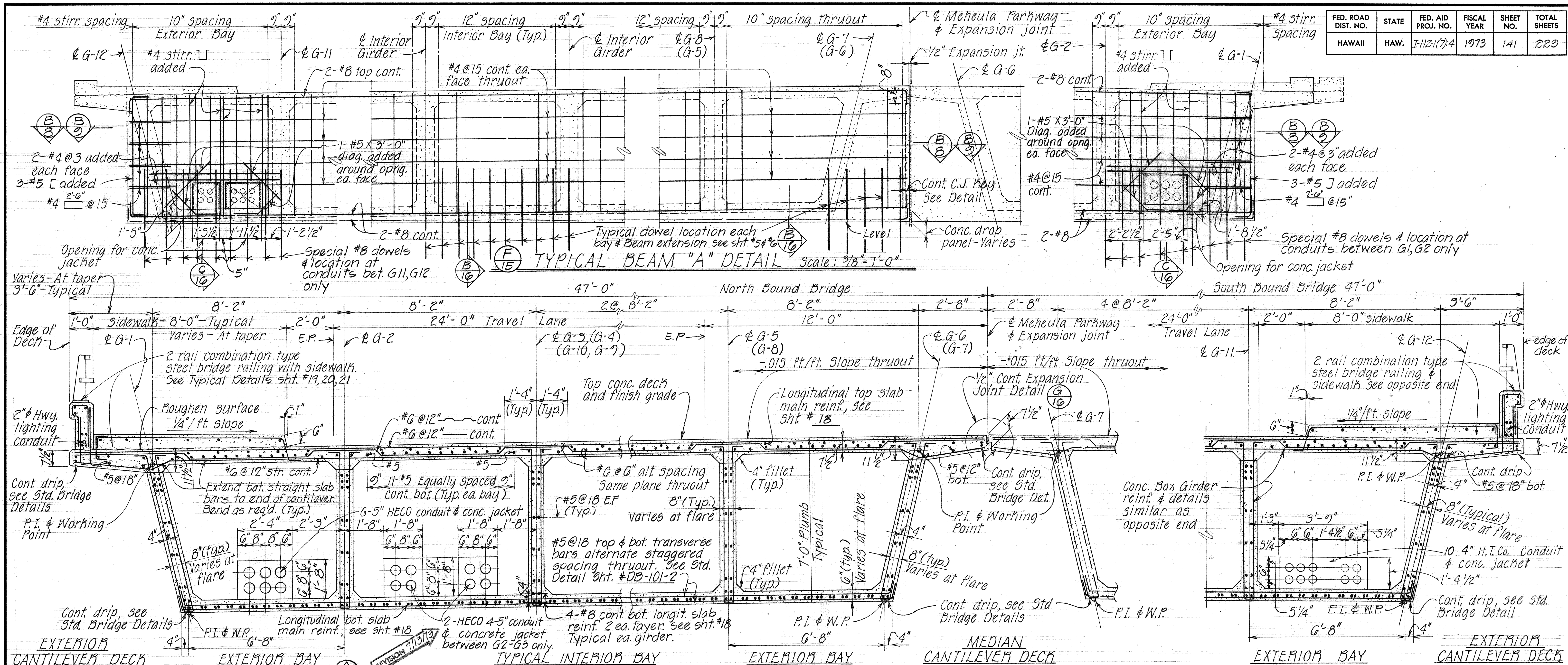
MEHEULA PARKWAY SEPARATION

PIER 1 DETAILS

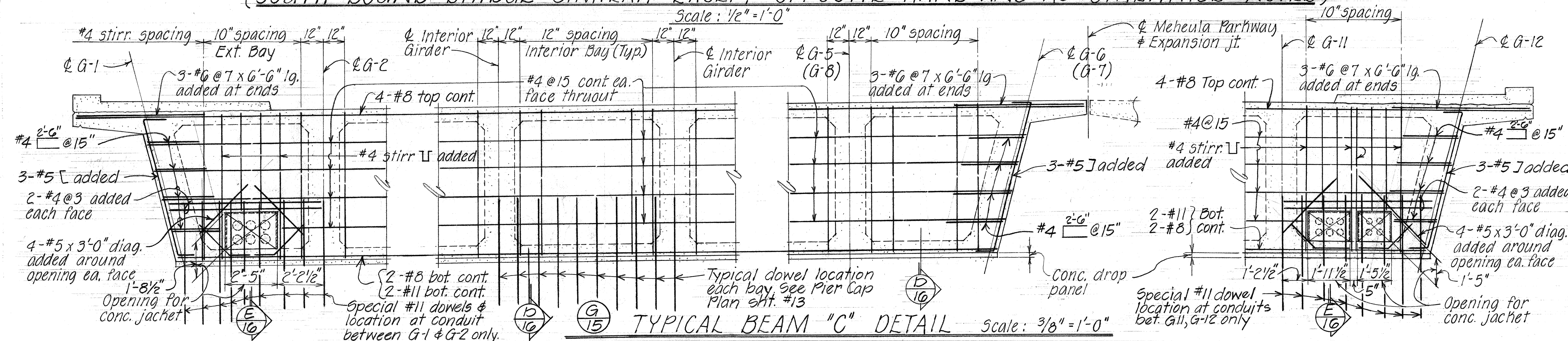
MILILANI INTERCHANGE
F.A.I. PROJ. NO. I-H2-1(7)-4 MARCH 1973

SHEET No. 14 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H21(7):4	1973	141	229



15 NORMAL DECK SECTION-NORTH BOUND BRIDGE AS SHOWN
(SOUTH BOUND BRIDGE SIMILAR EXCEPT OPPOSITE HAND AND AS OTHERWISE NOTED)



7/13/73	Added-2 HECO conduit & conc. jacket between G2-G3.
DATE	REVISION

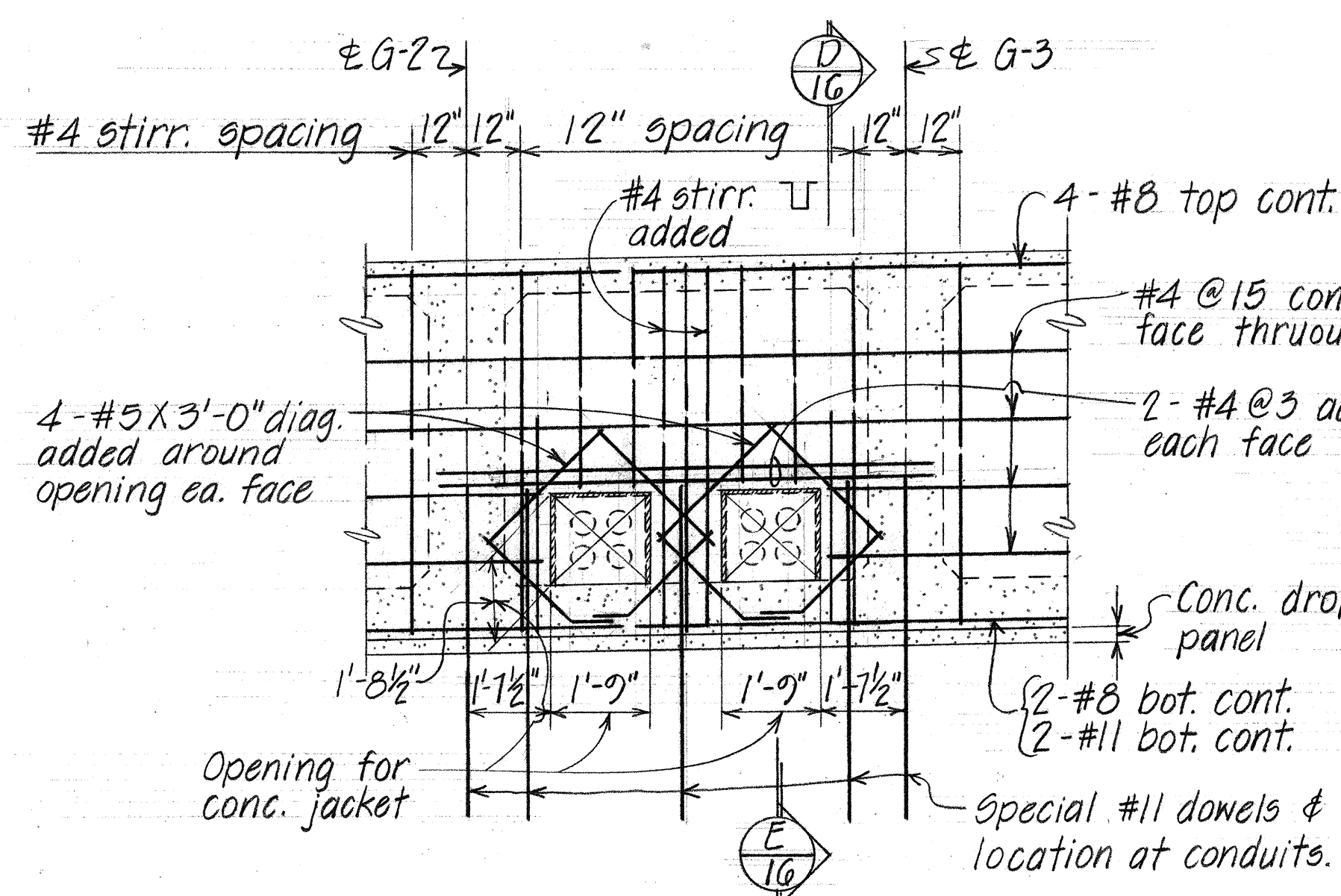
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MEHEULA PARKWAY SEPARATION

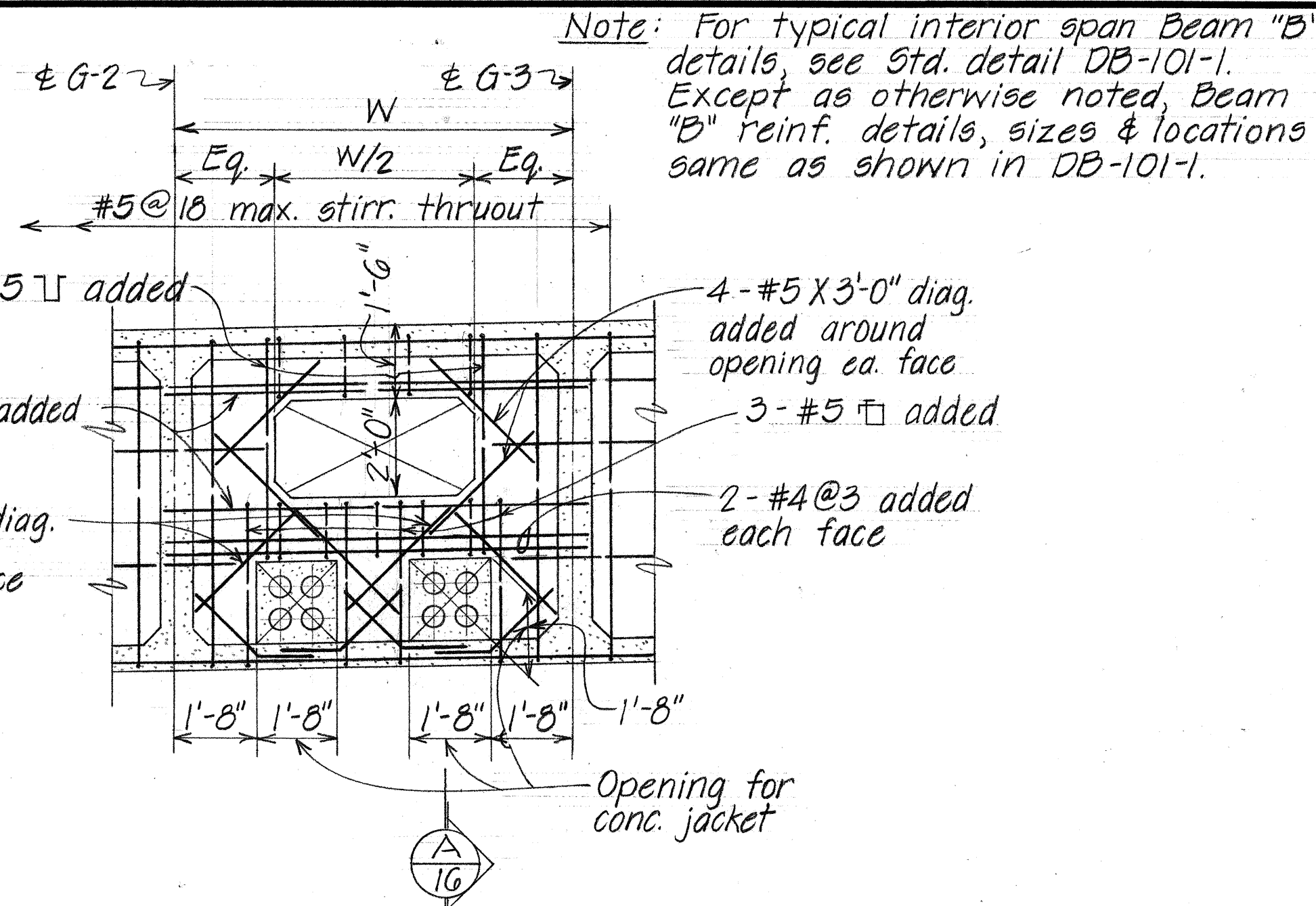
DECK SECTIONS AND DETAILS

MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7):4 MARCH 1973
SHEET No. 15 OF 30 SHEETS

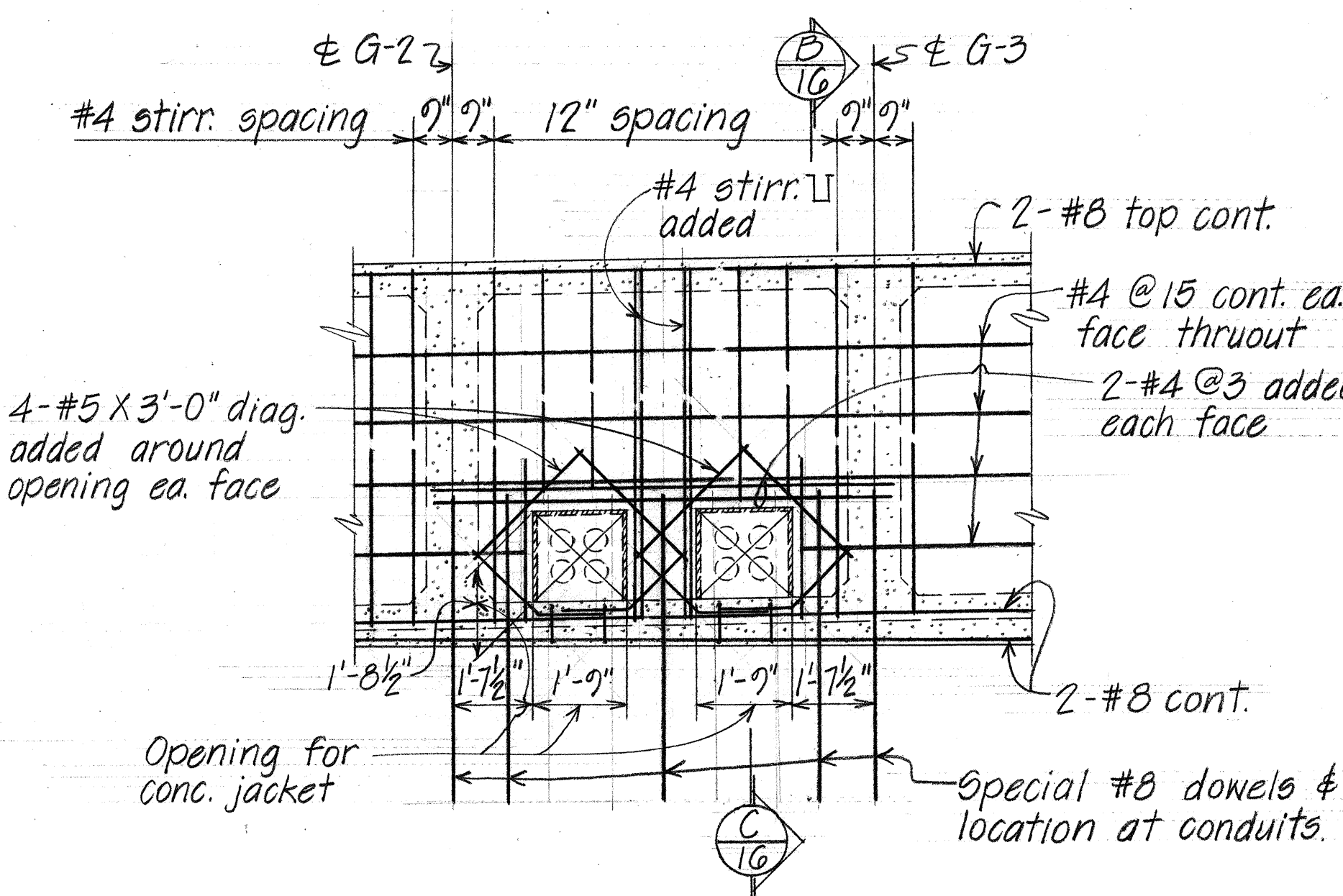
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)-4	1973	CO141S-1	229



PART ELEVATION BEAM "C"
Scale: 3/8" = 1'-0"



PART ELEVATION BEAM "B"
Scale: 3/8" = 1'-0"



PART ELEVATION BEAM "A"
Scale: 3/8" = 1'-0"

ABUTMENT #2 AS SHOWN
ABUTMENT #1 SIMILAR EXCEPT REVERSE SLOPE

Scale: 3/8" = 1'-0"

DESIGNED BY	DATE
DRAWN BY	1/13
CHECKED BY	1/13
NOTED BY	1/13
REVISION	
DATE	

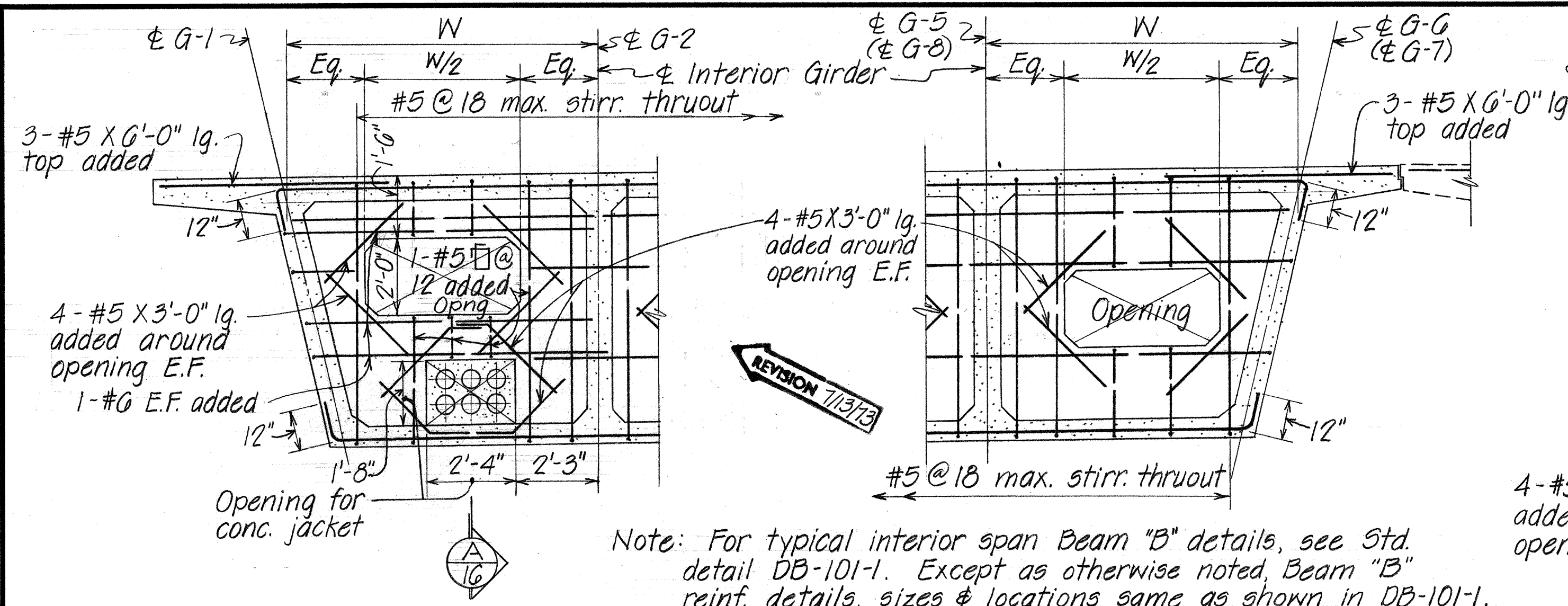
1/13/73	Sheet added to Contract Plan set for additional details required on Sht. Nos CO 141 & CO 142
Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
MEHEULA PARKWAY SEPARATION
DECK BEAM DETAILS

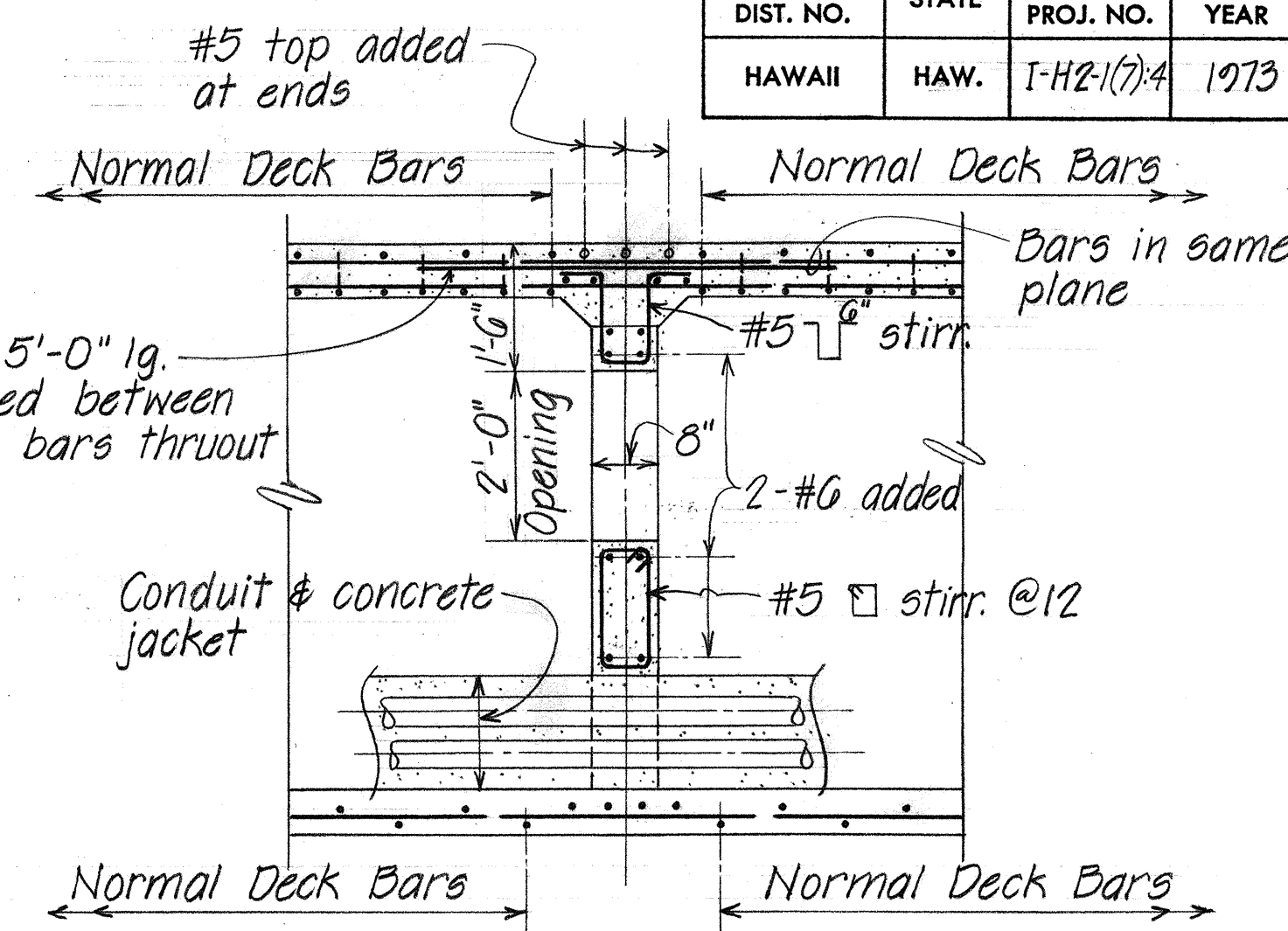
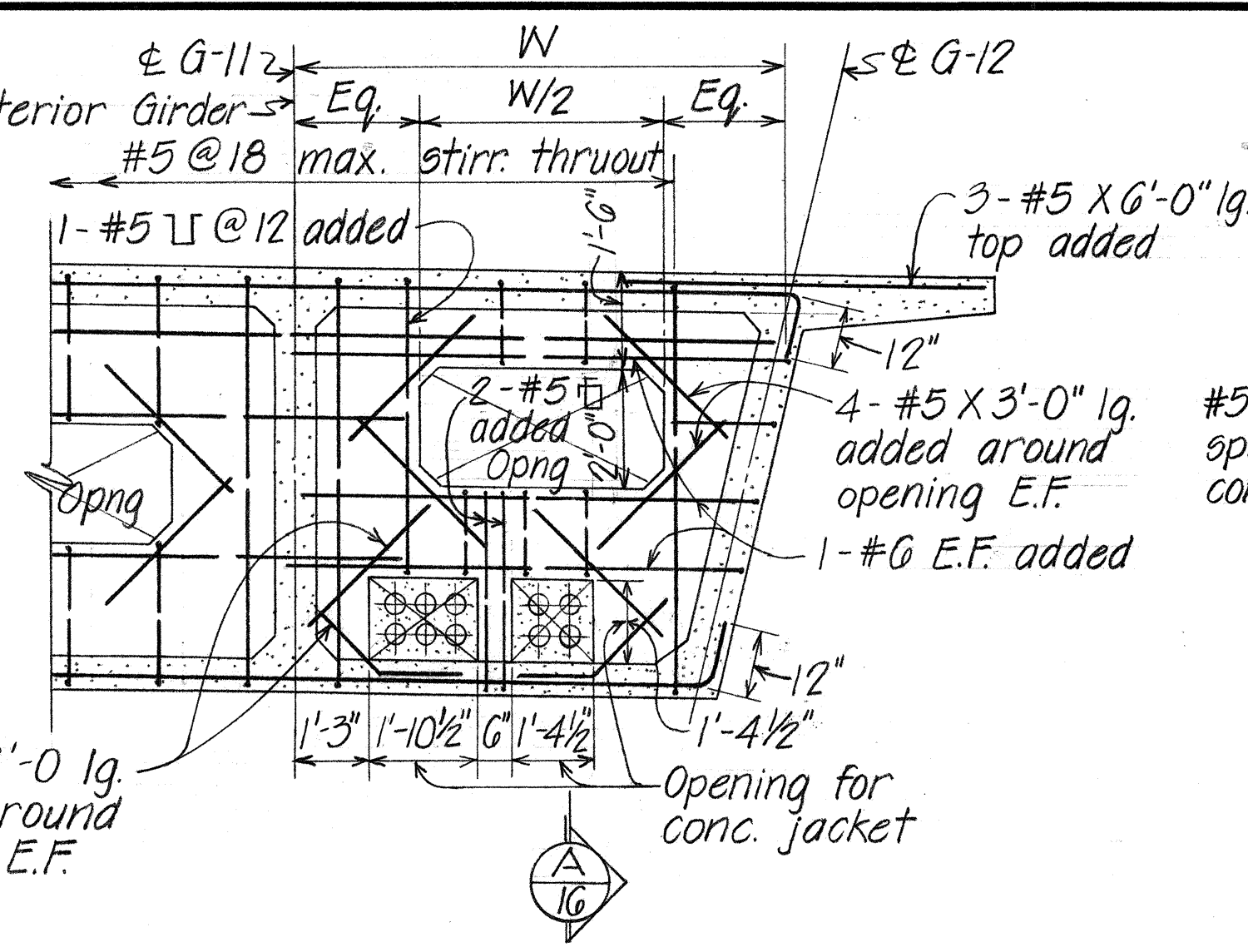
MILILANI INTERCHANGE
F.A.I. PROJ. No I-H2-1(7)-4 JULY 1973
SHEET No. 15A OF 30 SHEETS

CO 141S-1

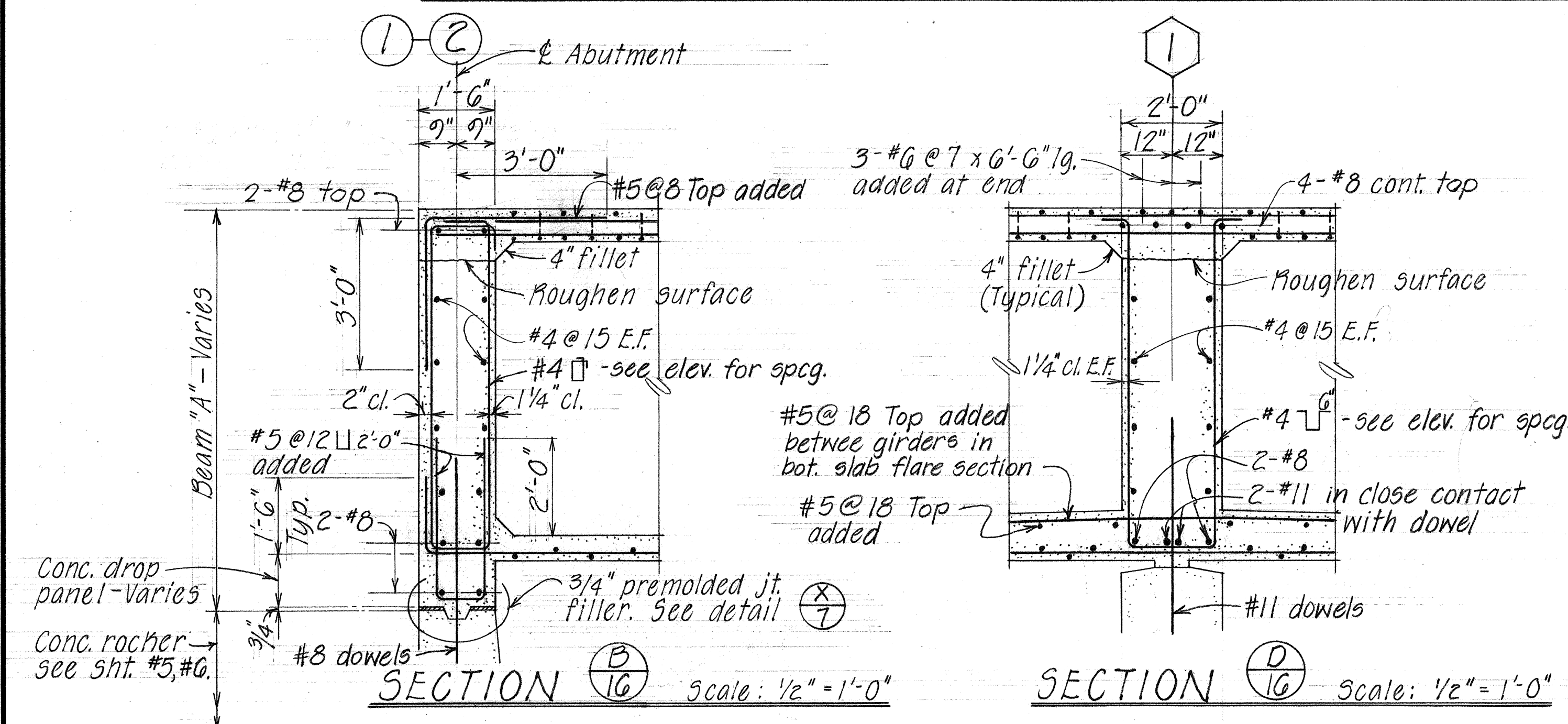
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7):4	1973	142	220



TYPICAL BEAM "B" DETAILS (AT NON CONTINUOUS TRANSVERSE ENDS) Scale: 3/8" = 1'-0"

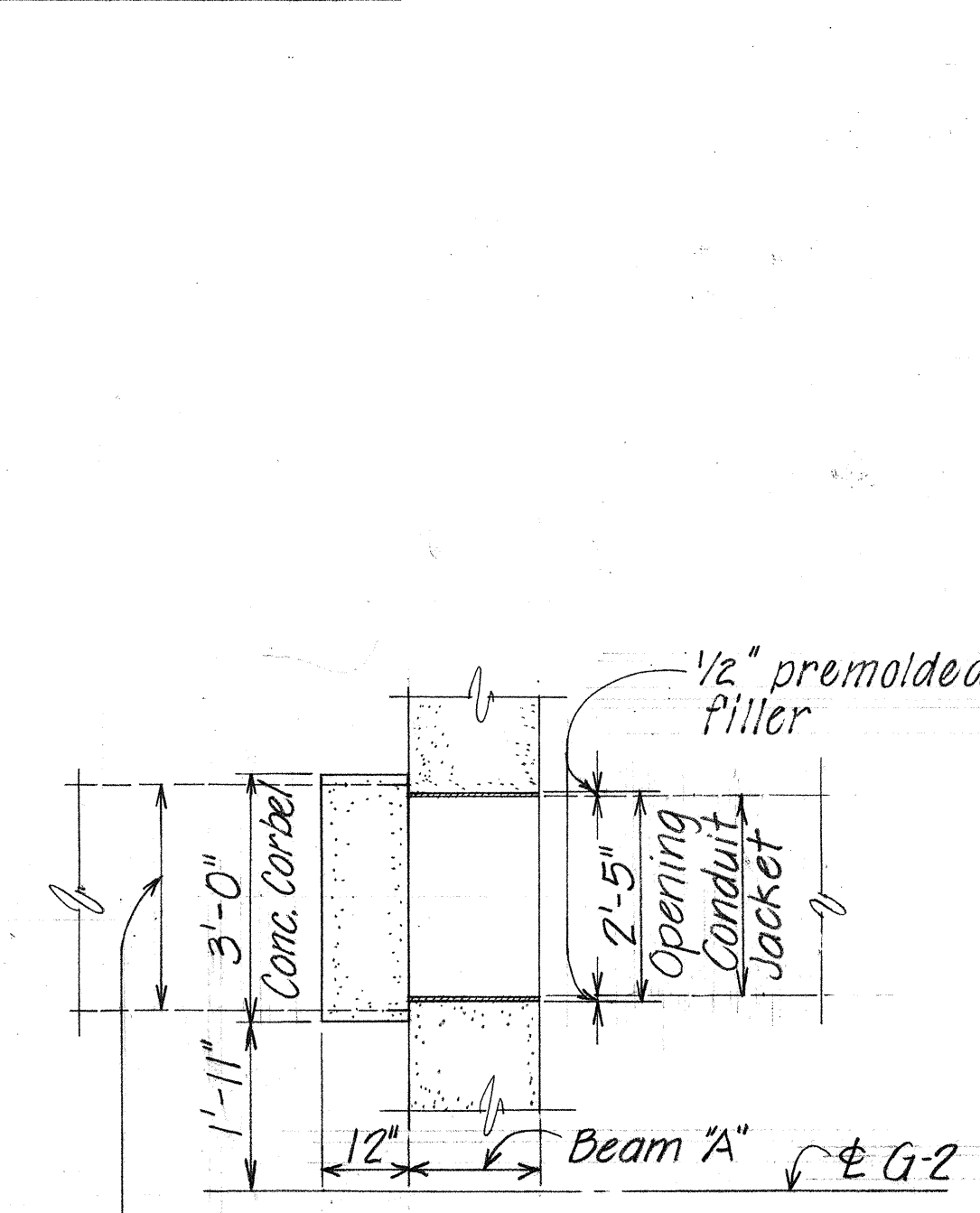


TYPICAL SECTION A-16 Scale: 1/2" = 1'-0"

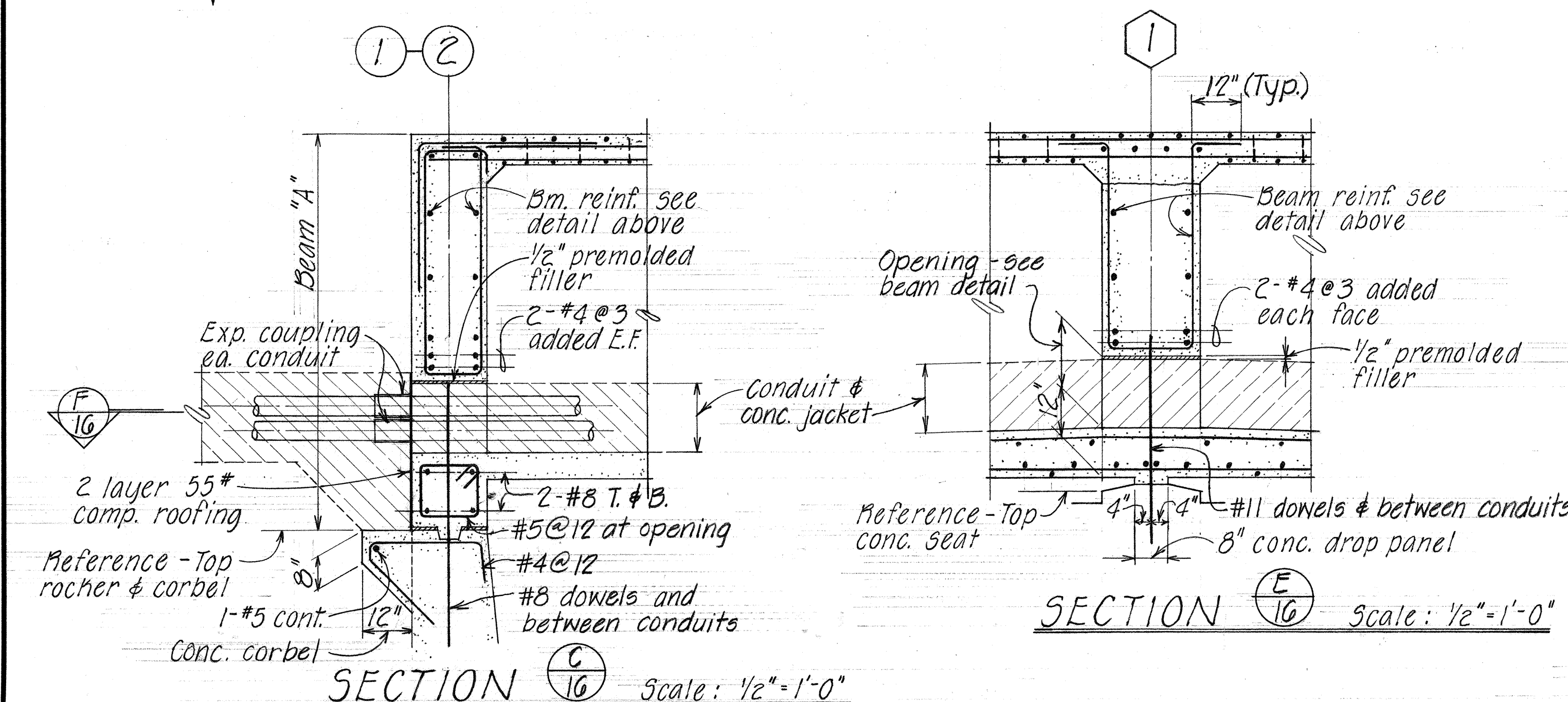


SECTION B-16 Scale: 1/2" = 1'-0"

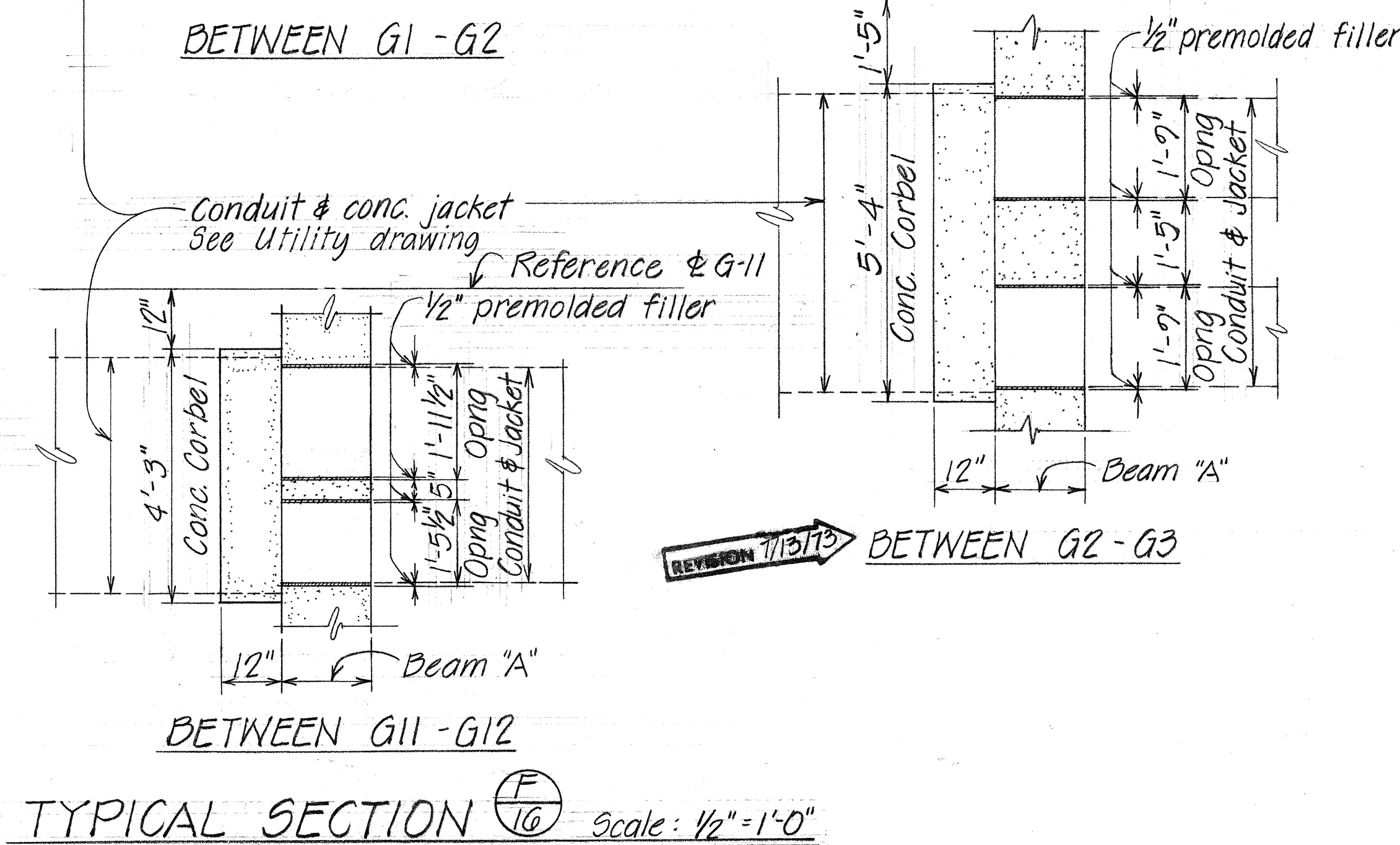
SECTION D-16 Scale: 1/2" = 1'-0"



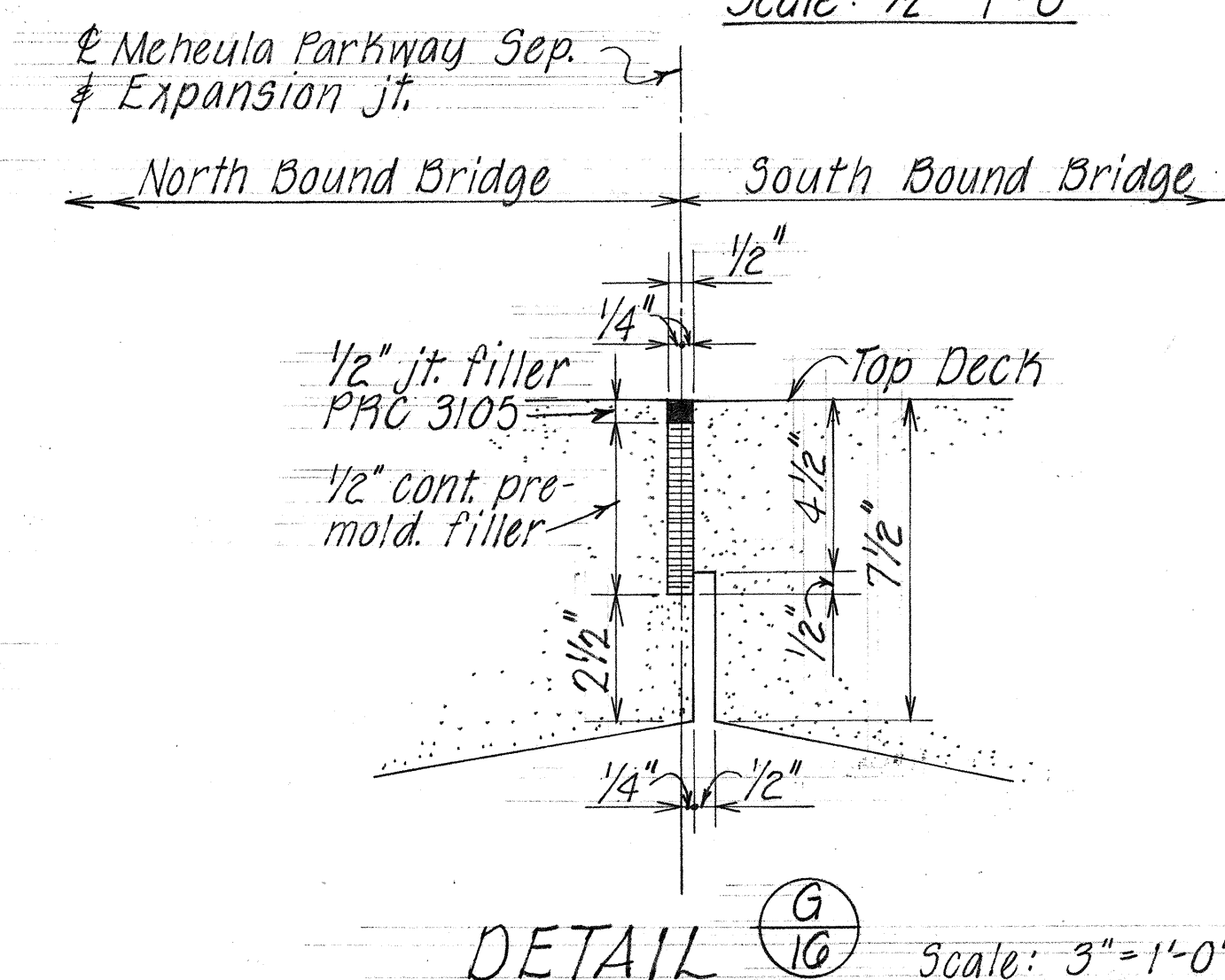
SECTION E-16 Scale: 1/2" = 1'-0"



SECTION C-16 Scale: 1/2" = 1'-0"



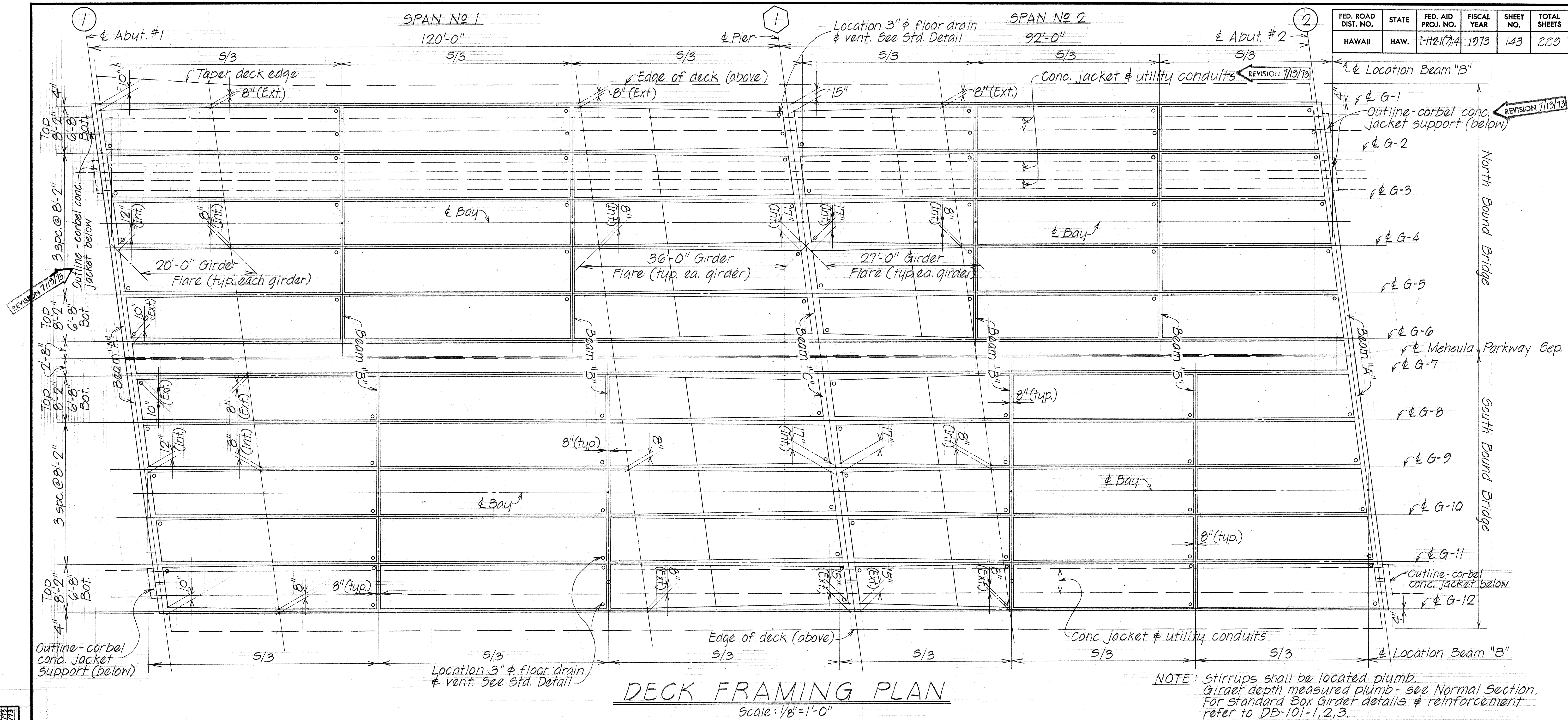
TYPICAL SECTION F-16 Scale: 1/2" = 1'-0"



DETAIL G-16 Scale: 3" = 1'-0"

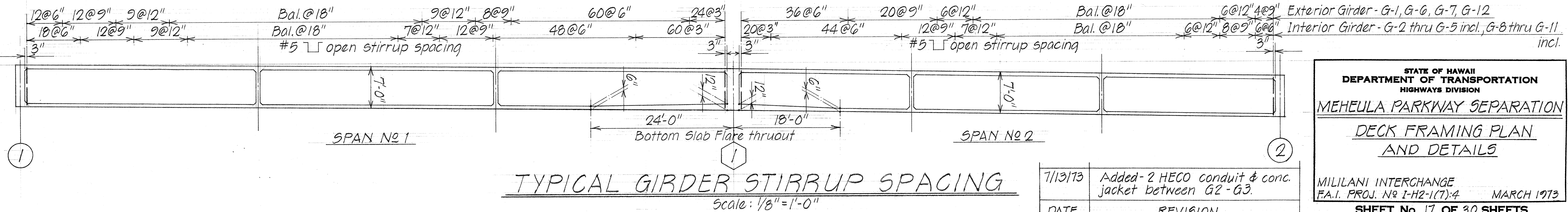
7/13/73	Added - Conc. corbel between G2 - G3.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MEHEULA PARKWAY SEPARATION DECK BEAM SECTIONS AND DETAILS MILILANI INTERCHANGE F.A.I. PROJ. NO I-H2-1(7):4 SHEET No. 16 OF 30 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2(7)-4	1973	143	220



NOTE: Stirrups shall be located plumb. Girder depth measured plumb - see Normal Section. For standard Box Girder details & reinforcement refer to DB-101-1,2,3.

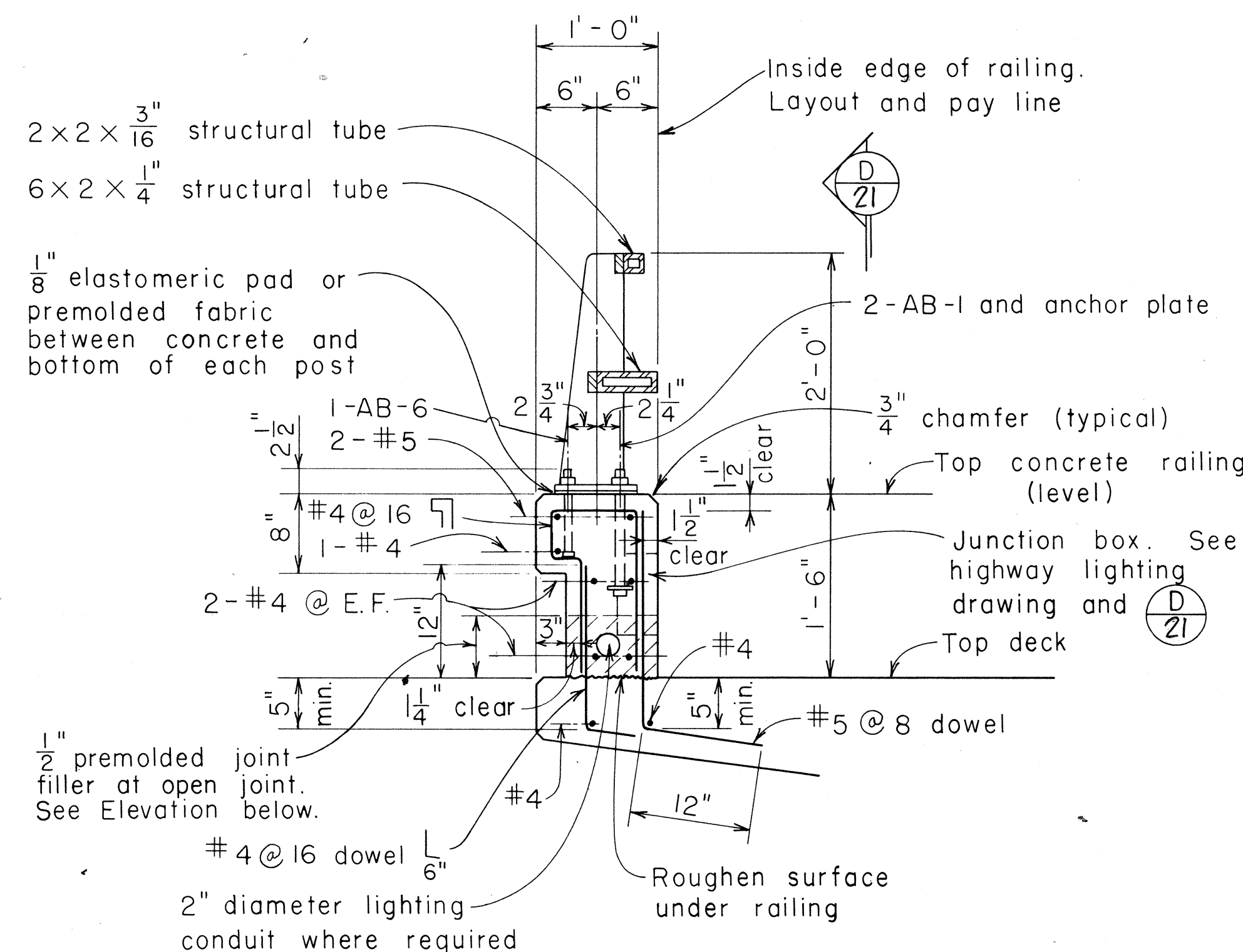
DATE	3/73
DESIGNED BY	G.L.
CHECKED BY	L.A.
NOTED BY	L.A.
ORIGINAL PLAN	3/73
NOTES BOOK	3/73



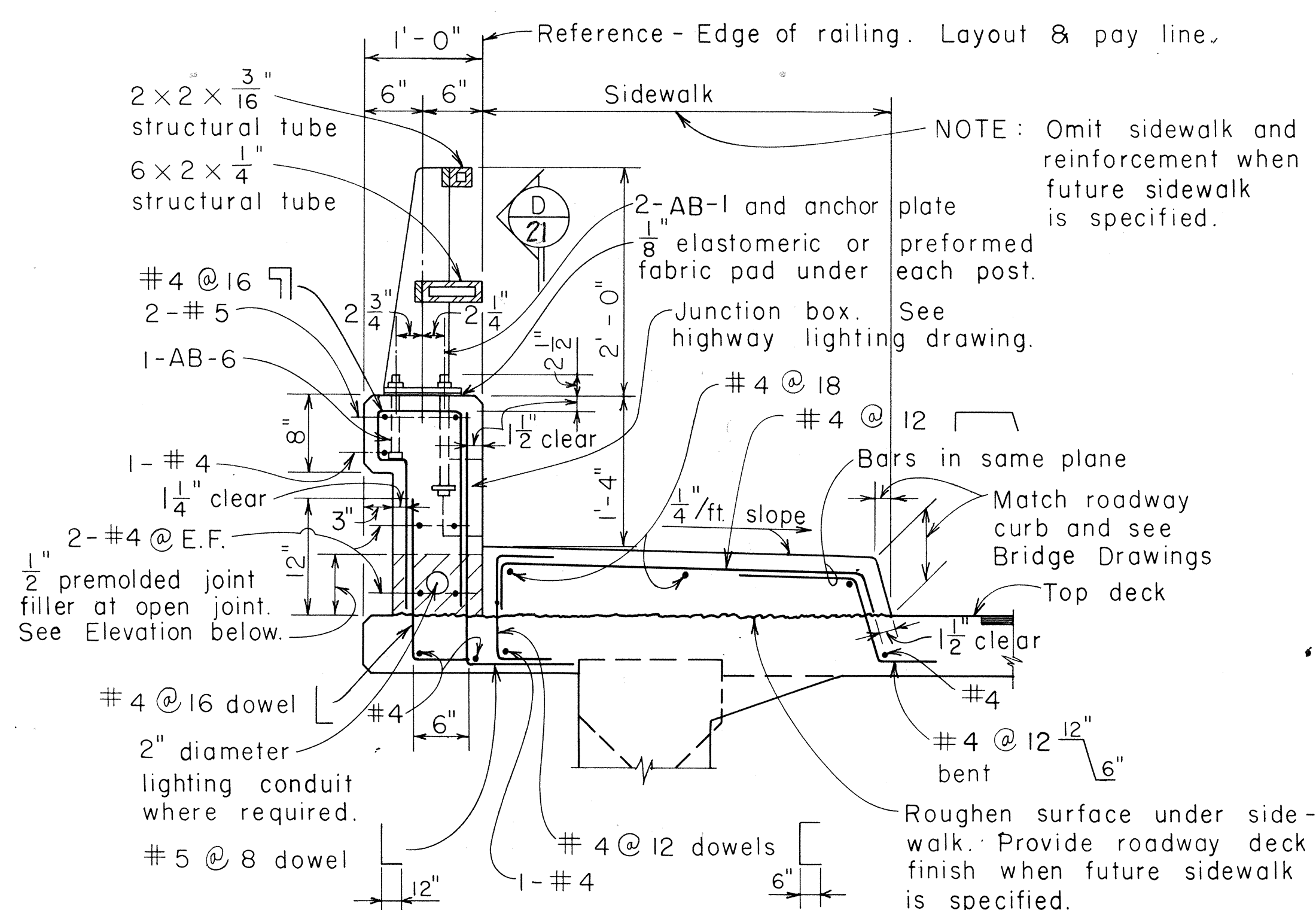
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
MEHEULA PARKWAY SEPARATION	
DECK FRAMING PLAN AND DETAILS	
MILILANI INTERCHANGE F.A.I. PROJ. NO I-H2-1(7)-4	MARCH 1973
SHEET NO. 17 OF 30 SHEETS	

CO 143

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	145	220



WITHOUT SIDEWALK



WITH SIDEWALK OR FUTURE SIDEWALK

TYPICAL SECTION

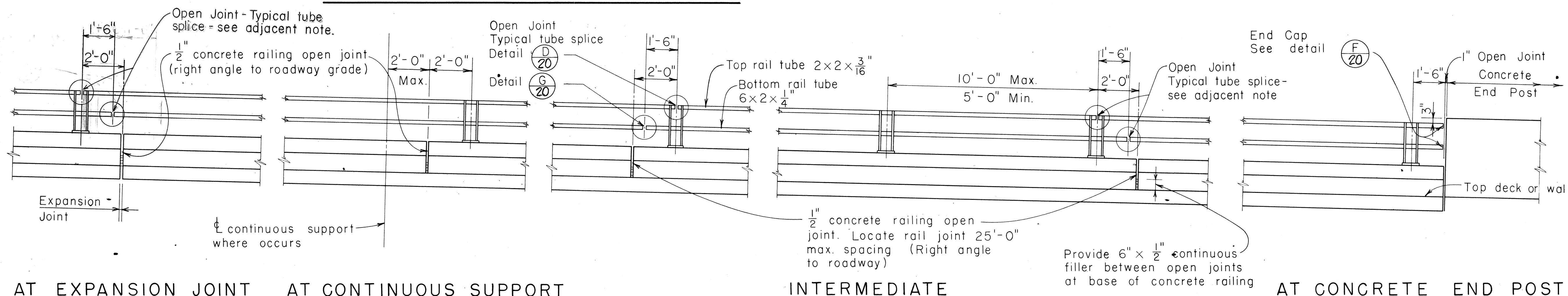
Scale: 1" = 1'-0"

NOTES

- Tubing shall be shop bent to fit horizontal curve when radius is less than 950 ft.
- Post shall be normal to grade.
- Concrete railing and metal rail joints shall be located at all deck joints.
- Tubing shall be continuous over not less than 3 posts except as noted on plans.
- All exposed corner of metal railing shall be ground smooth.
- Rail assemblage shall be galvanized after fabrication.
- All anchor bolts, bolts, nuts and washers shall be galvanized.
- Welding shall meet the requirement of Section 501 of the Standard Specifications.

Material shall conform to the following requirements:

1. Tubular steel rails ASTM A500 Grade B
2. Steel posts ASTM A36.
3. Sleeves for tubular rails ASTM A36.
4. Stud bolts ASTM A108 Grades 1015 to 1020.
5. Anchor bolts, bolts, nuts and washers ASTM A325.
6. Shims commercial quality galvanized steel.
7. Sleeve bolts and nuts ASTM A108 Grades 1015 to 1020.



AT EXPANSION JOINT

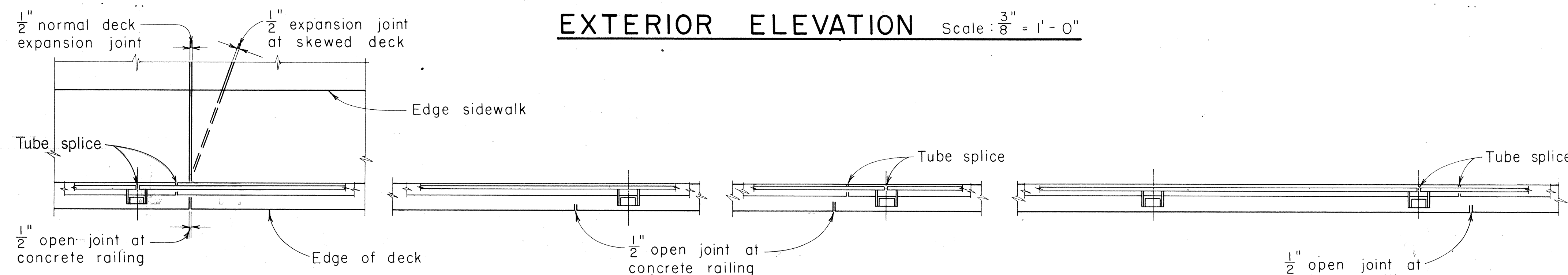
AT CONTINUOUS SUPPORT

INTERMEDIATE

AT CONCRETE END POST

EXTERIOR ELEVATION

Scale: 3/8" = 1'-0"



AT EXPANSION JOINT

AT CONTINUOUS SUPPORT

INTERMEDIATE

PLAN

Scale: 3/8" = 1'-0"

NO.	REVISION	APPROVED BY	DATE

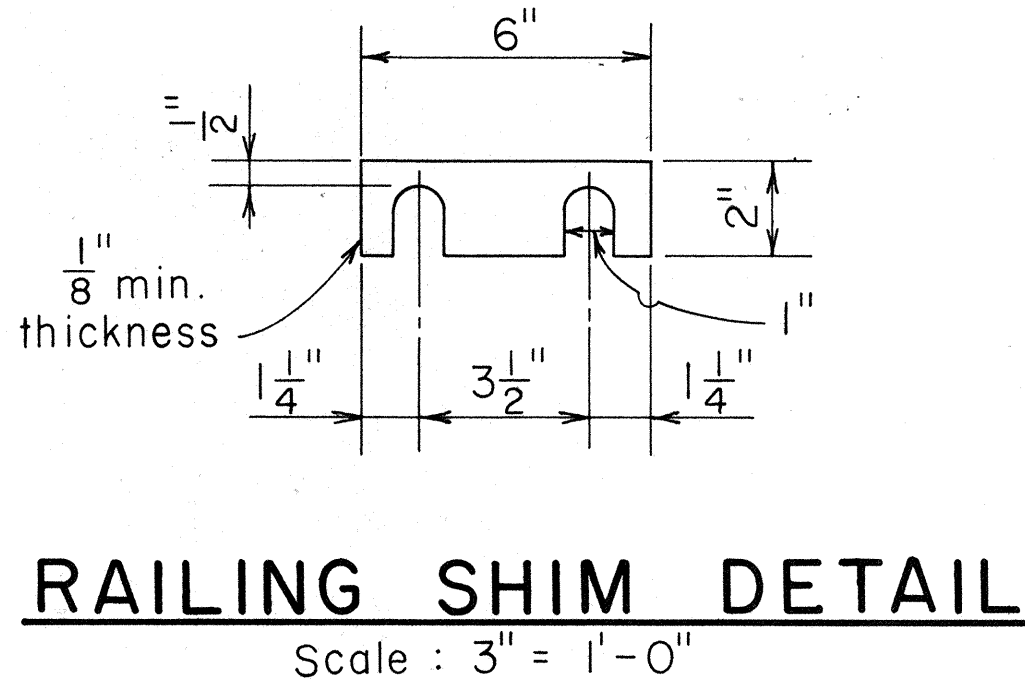
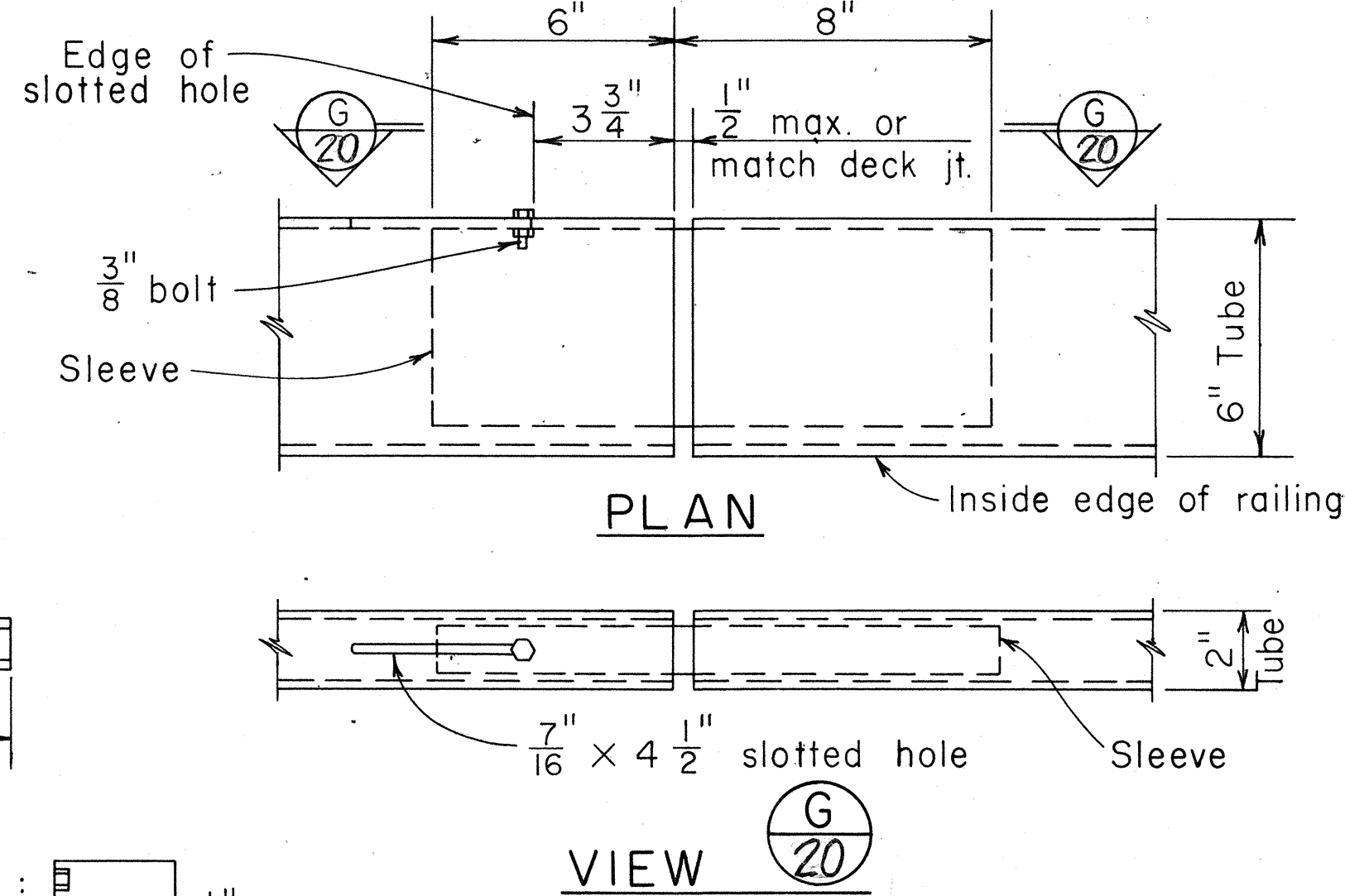
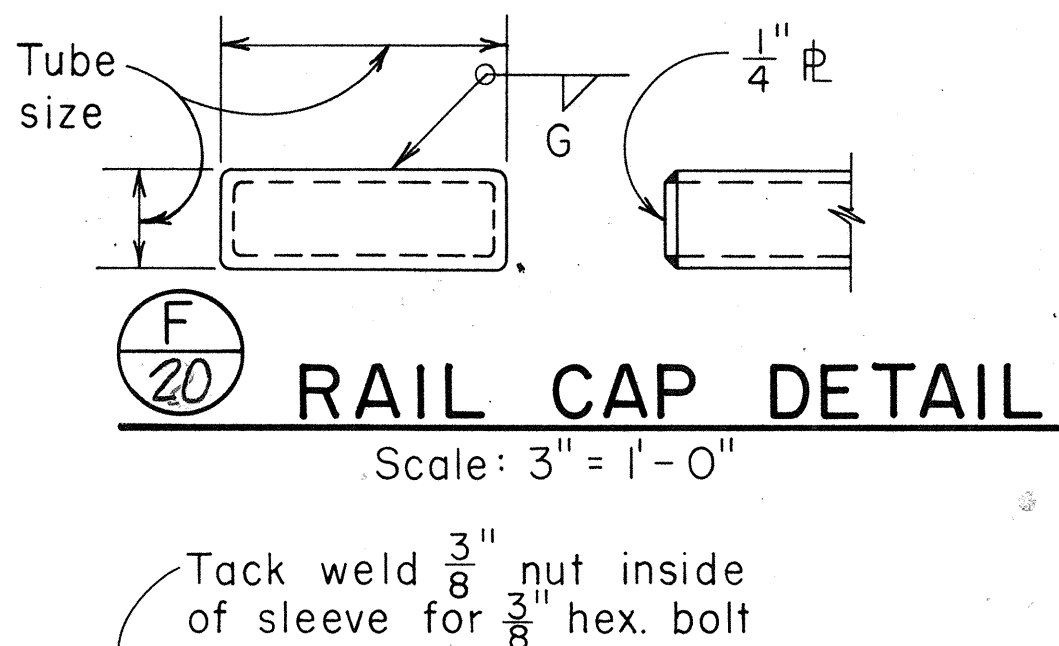
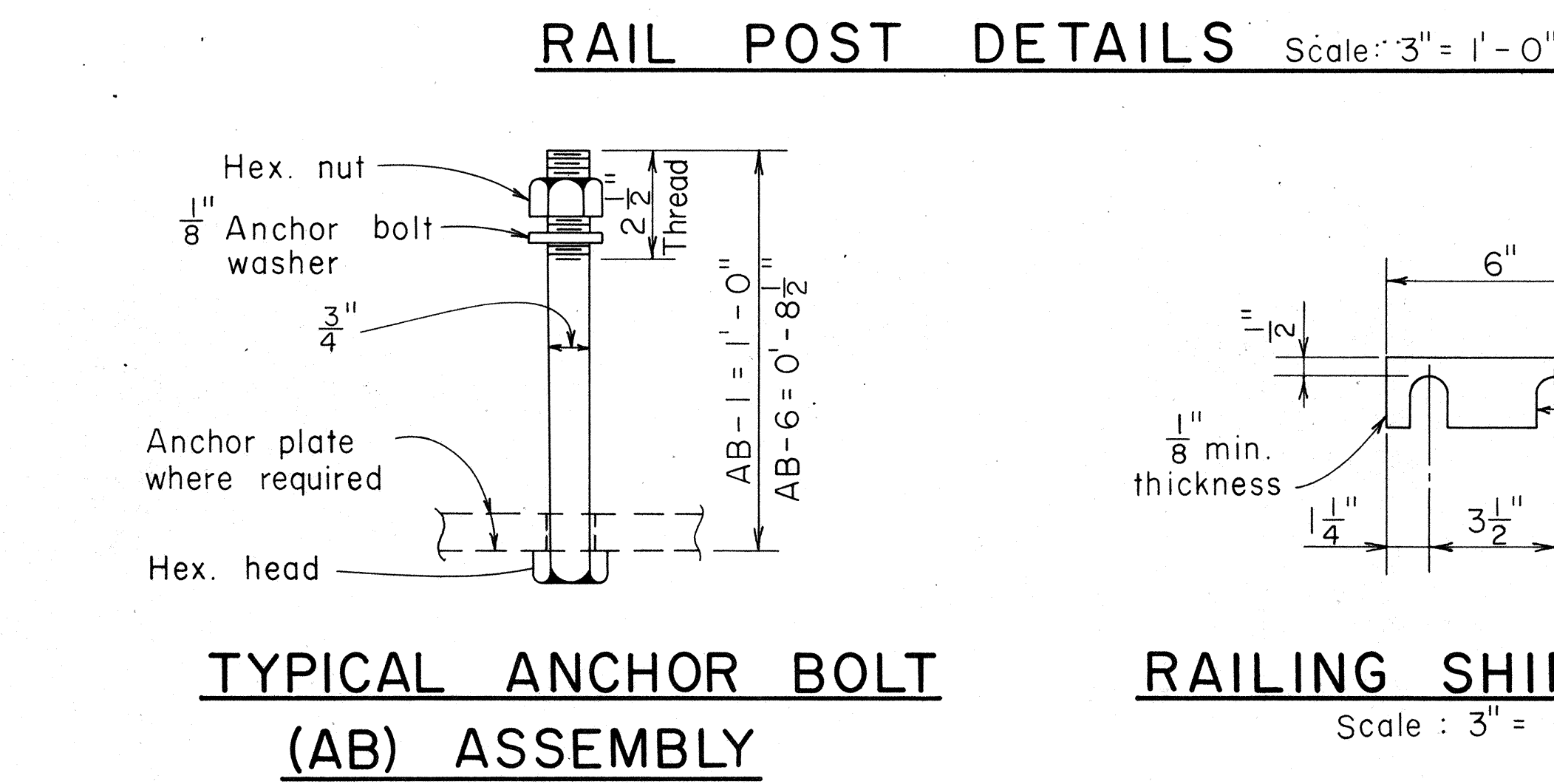
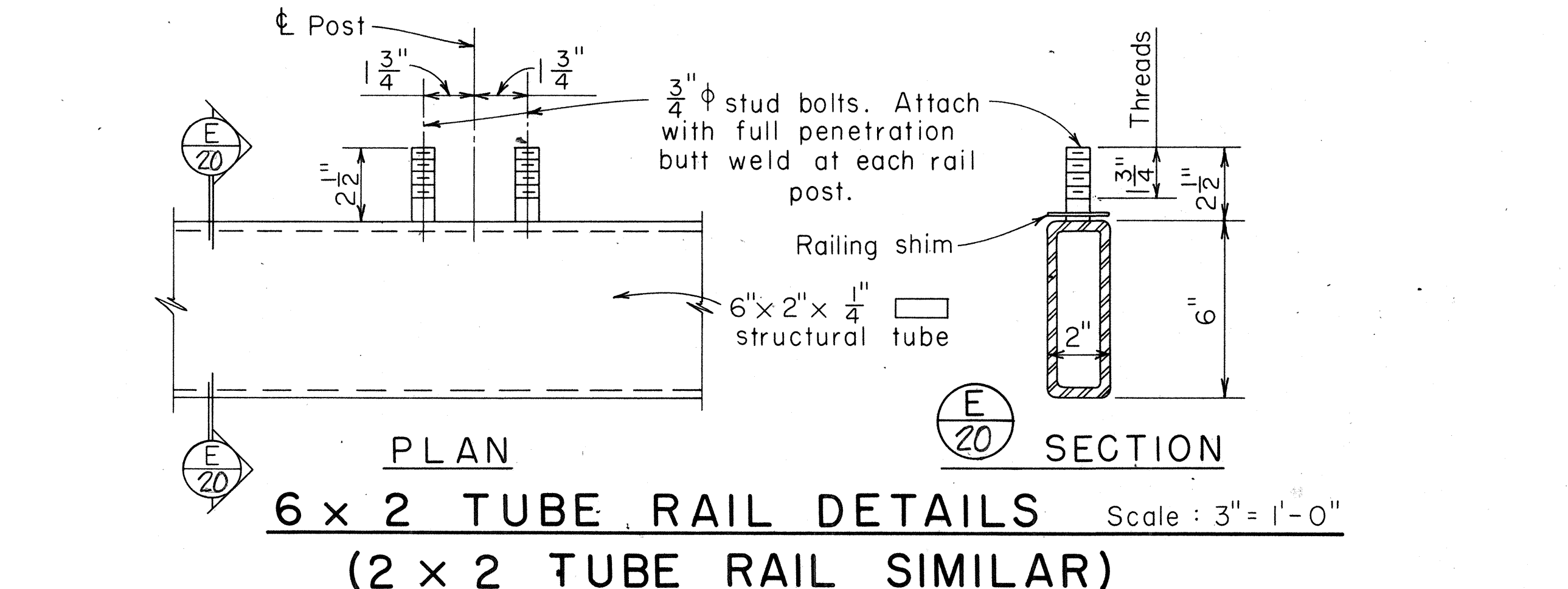
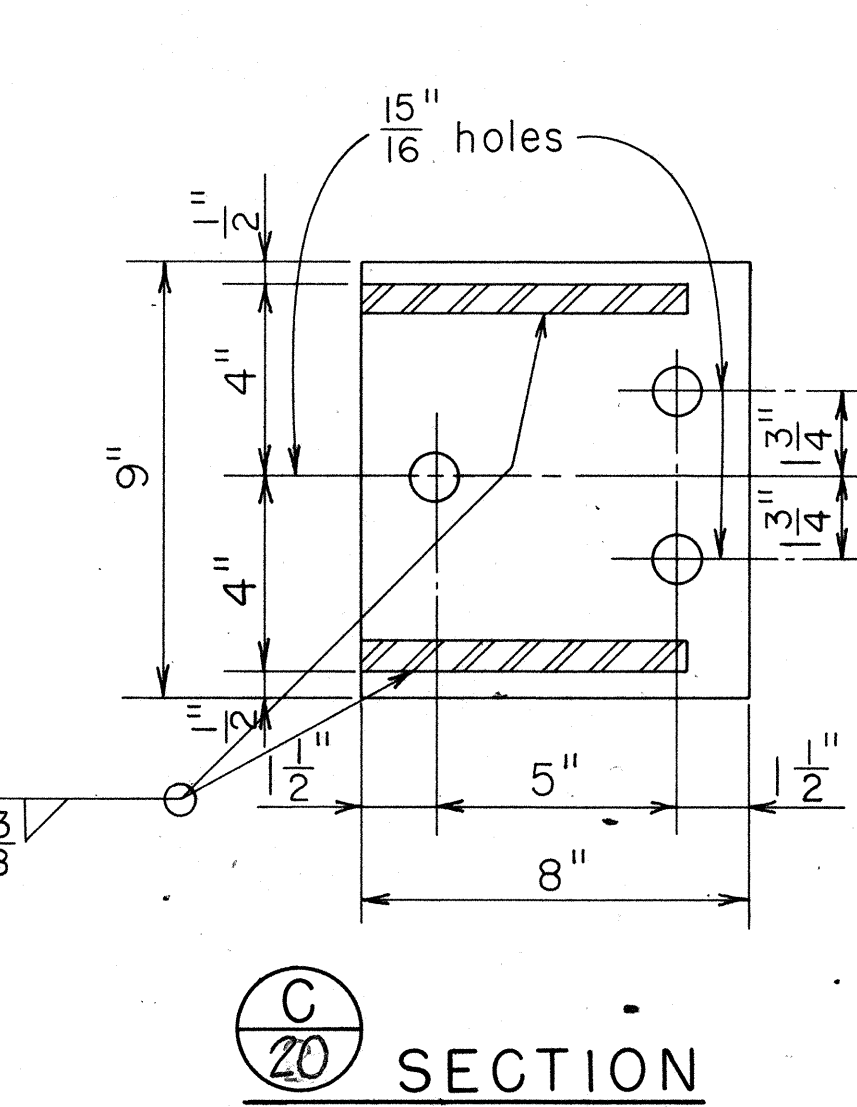
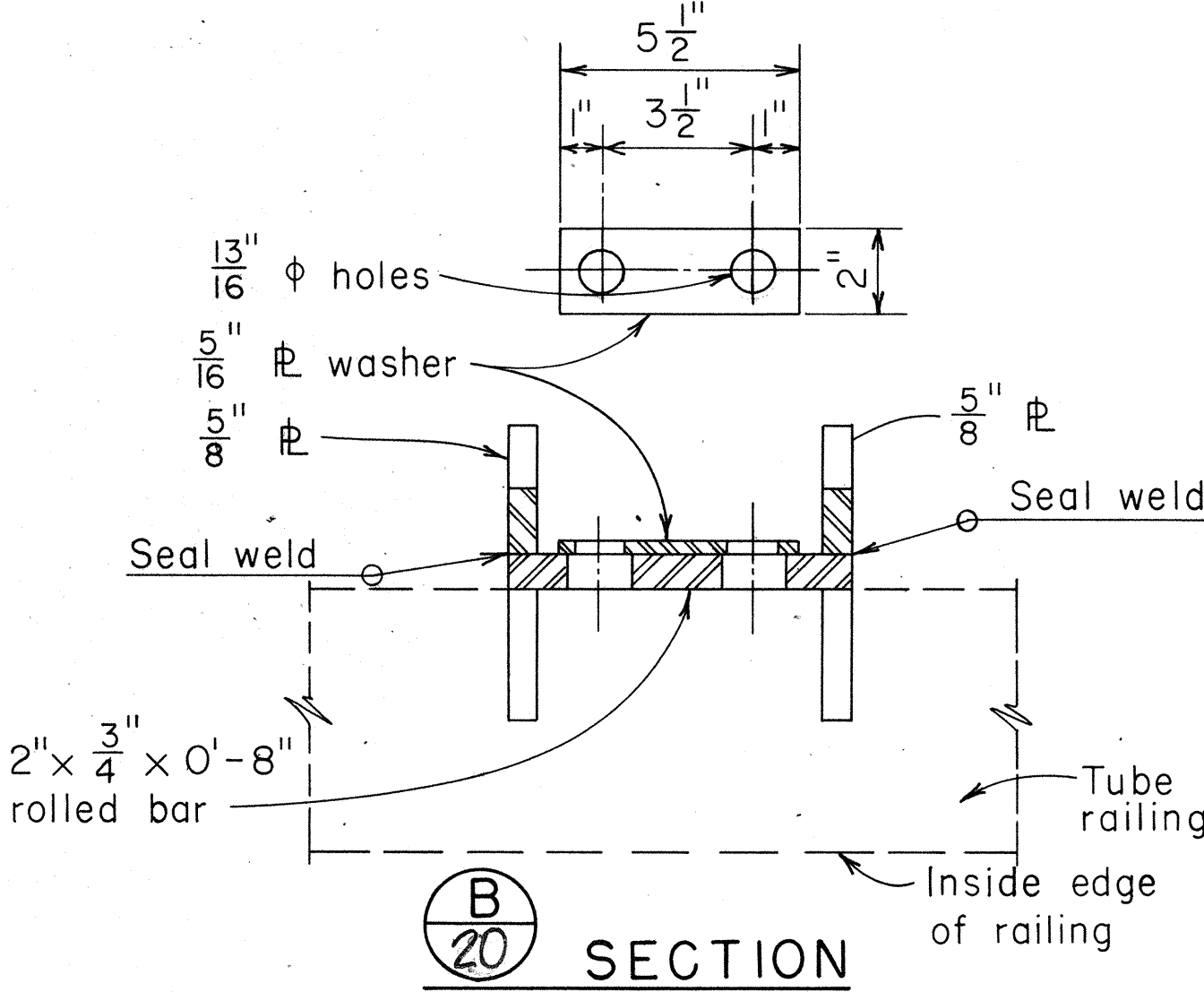
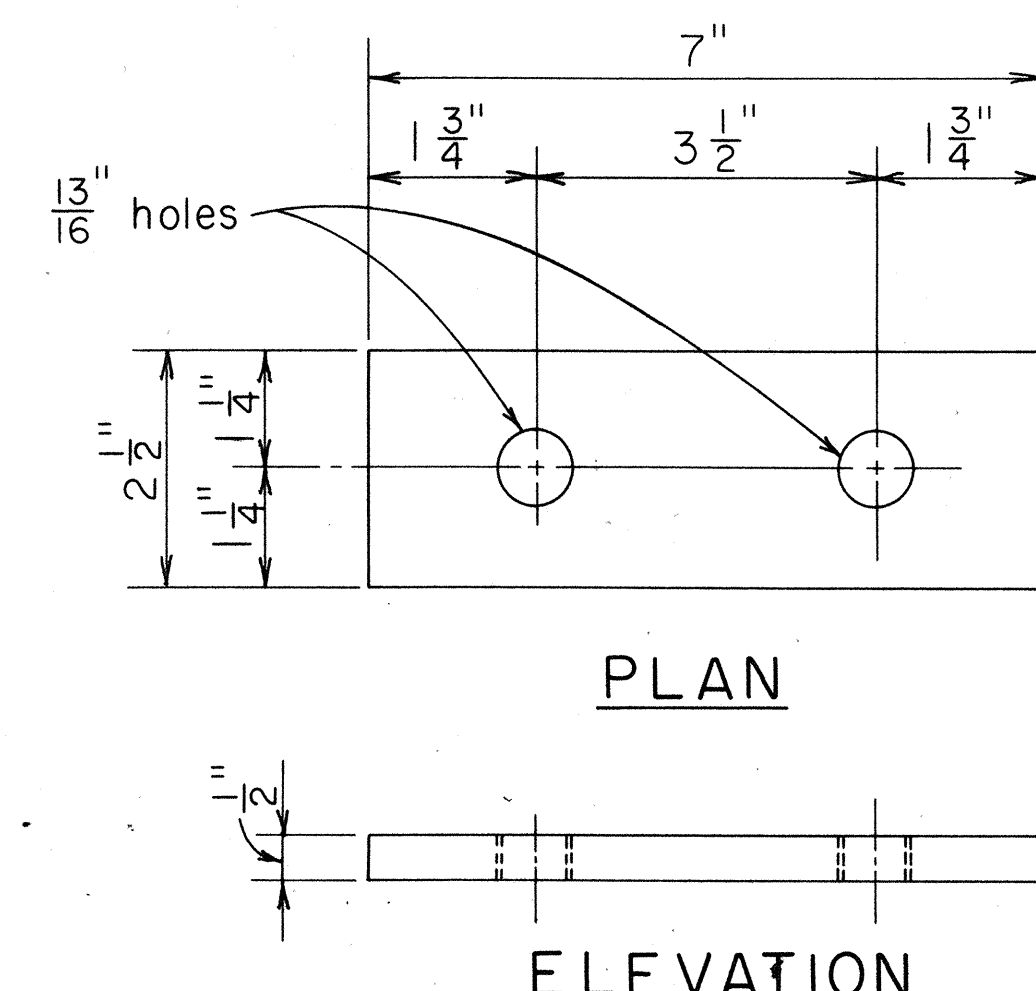
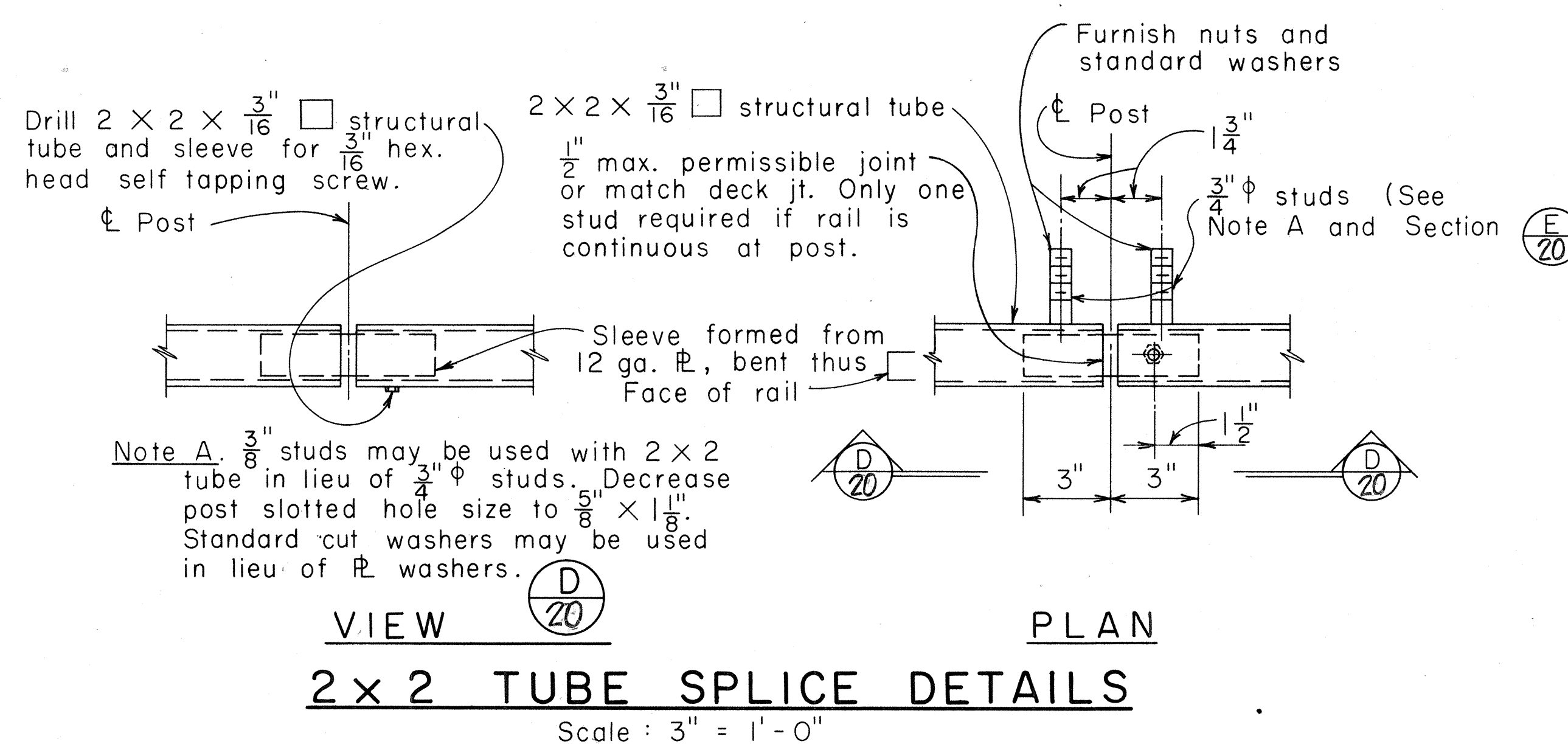
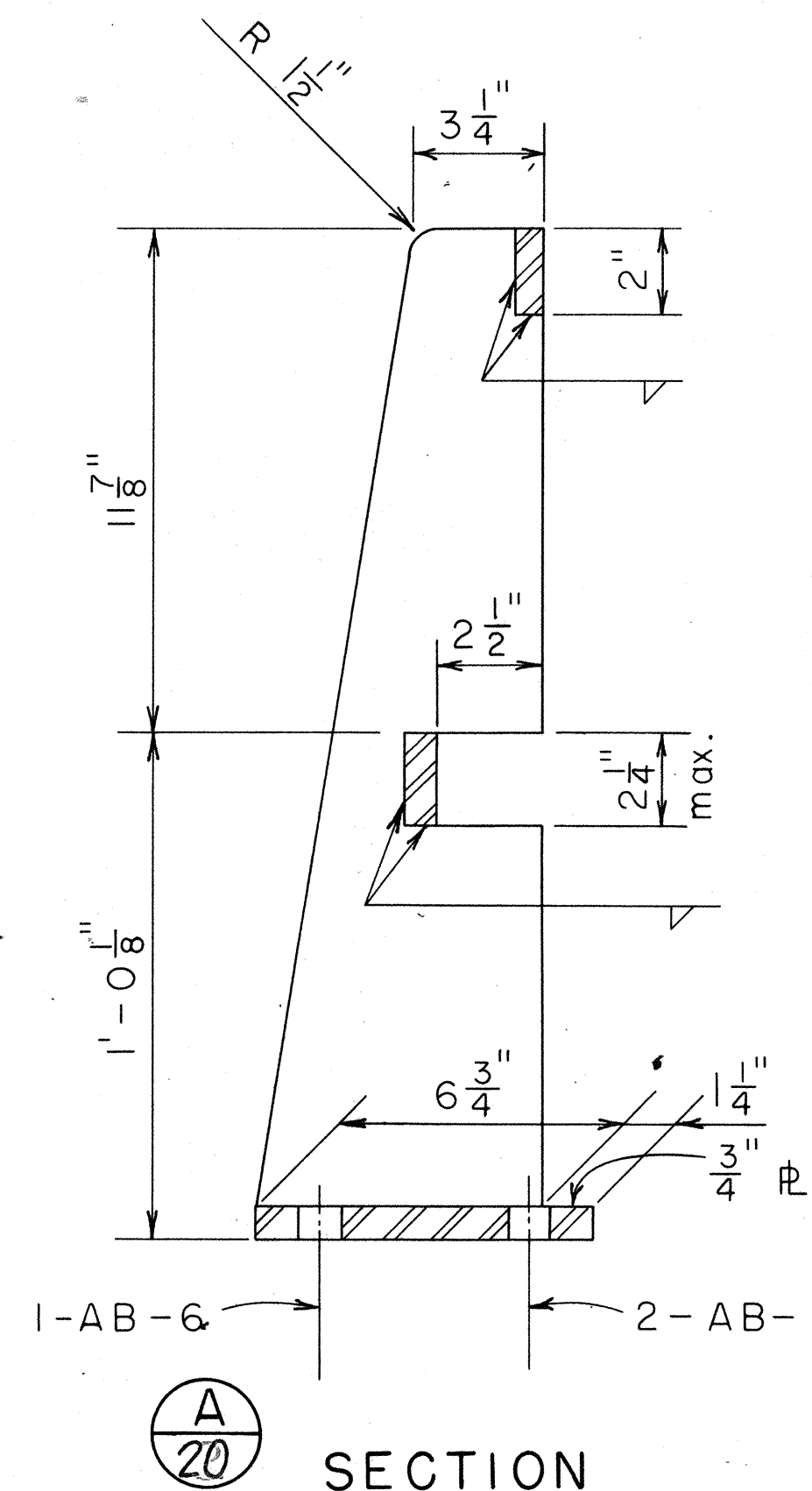
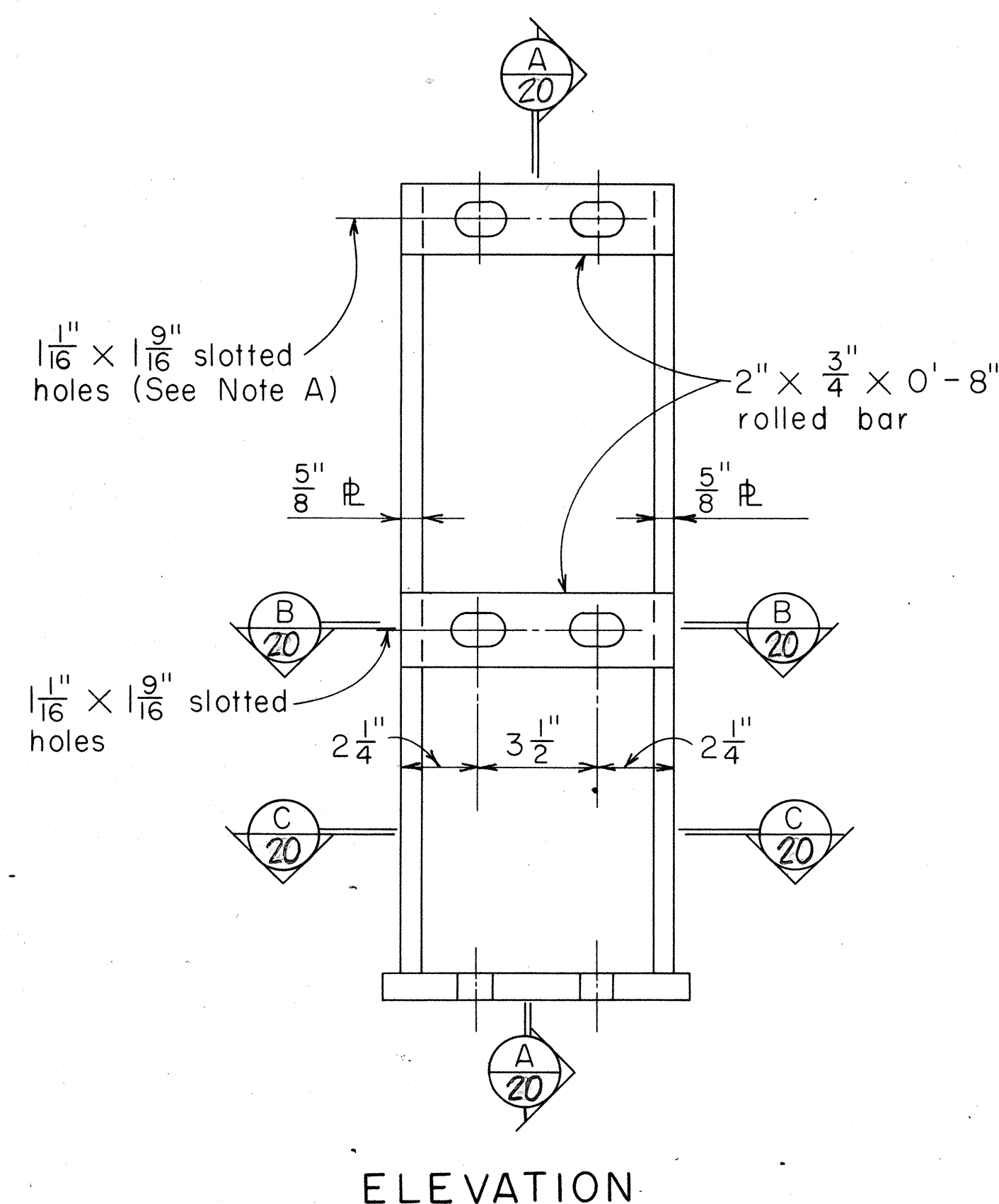
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAIL
STEEL BRIDGE RAILING (TUBULAR)
TWO RAIL COMBINATION TYPE
ON PARAPET

MILILANI INTERCHANGE
F.A.I. PROJ. No. I-H2-1(7)4
MARCH 1973

SHEET No. 145 OF 30 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	146	220

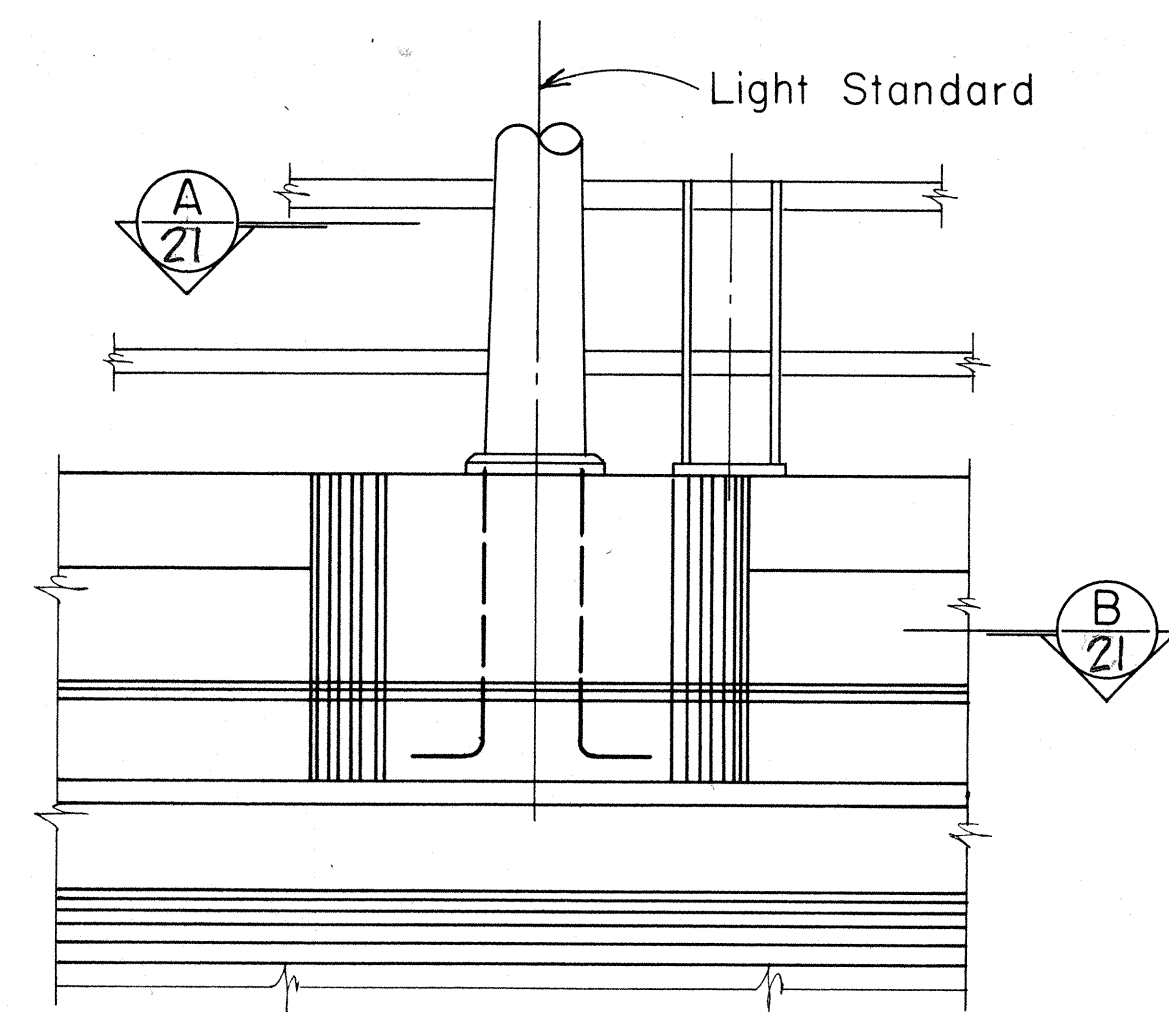


NO.	REVISION	APPROVED BY	DATE

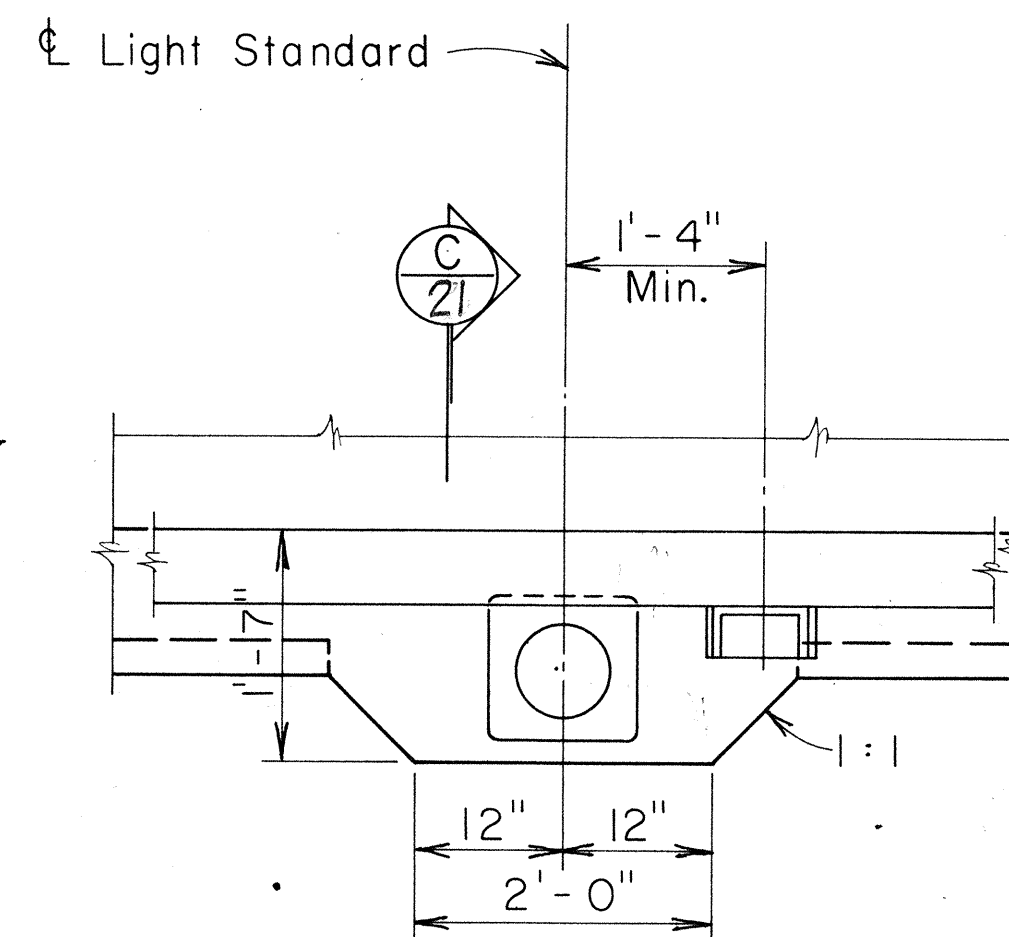
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAIL
STEEL BRIDGE RAILING (TUBULAR)
TWO RAIL COMBINATION TYPE
ON PARAPET
MILILANI INTERCHANGE
F.A.I. PROJ. NO. I-H2-1(7)4
SHEET No. 20 OF 30 SHEETS
MARCH 1973

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

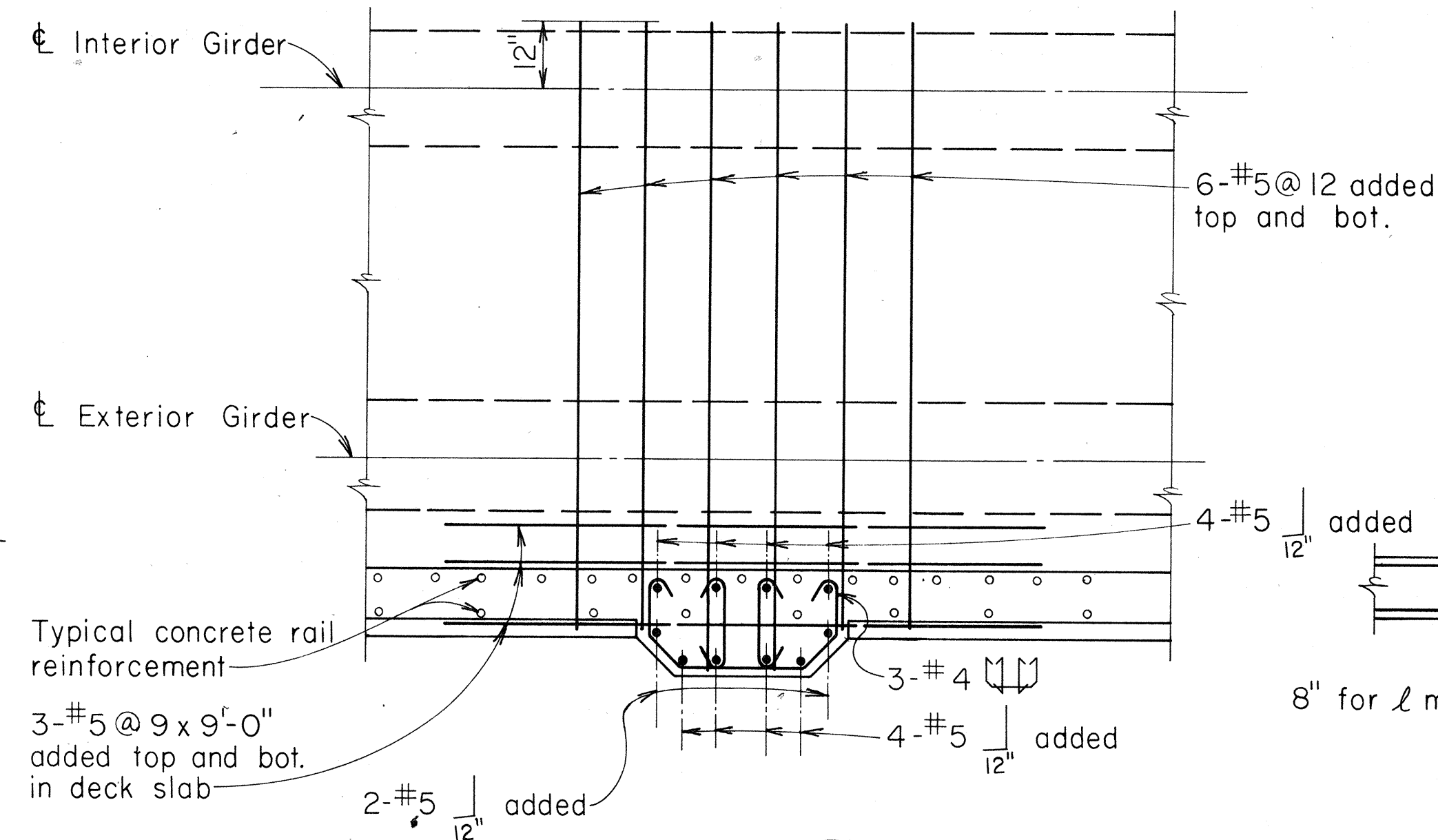
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H2-1(7)4	1973	147	229



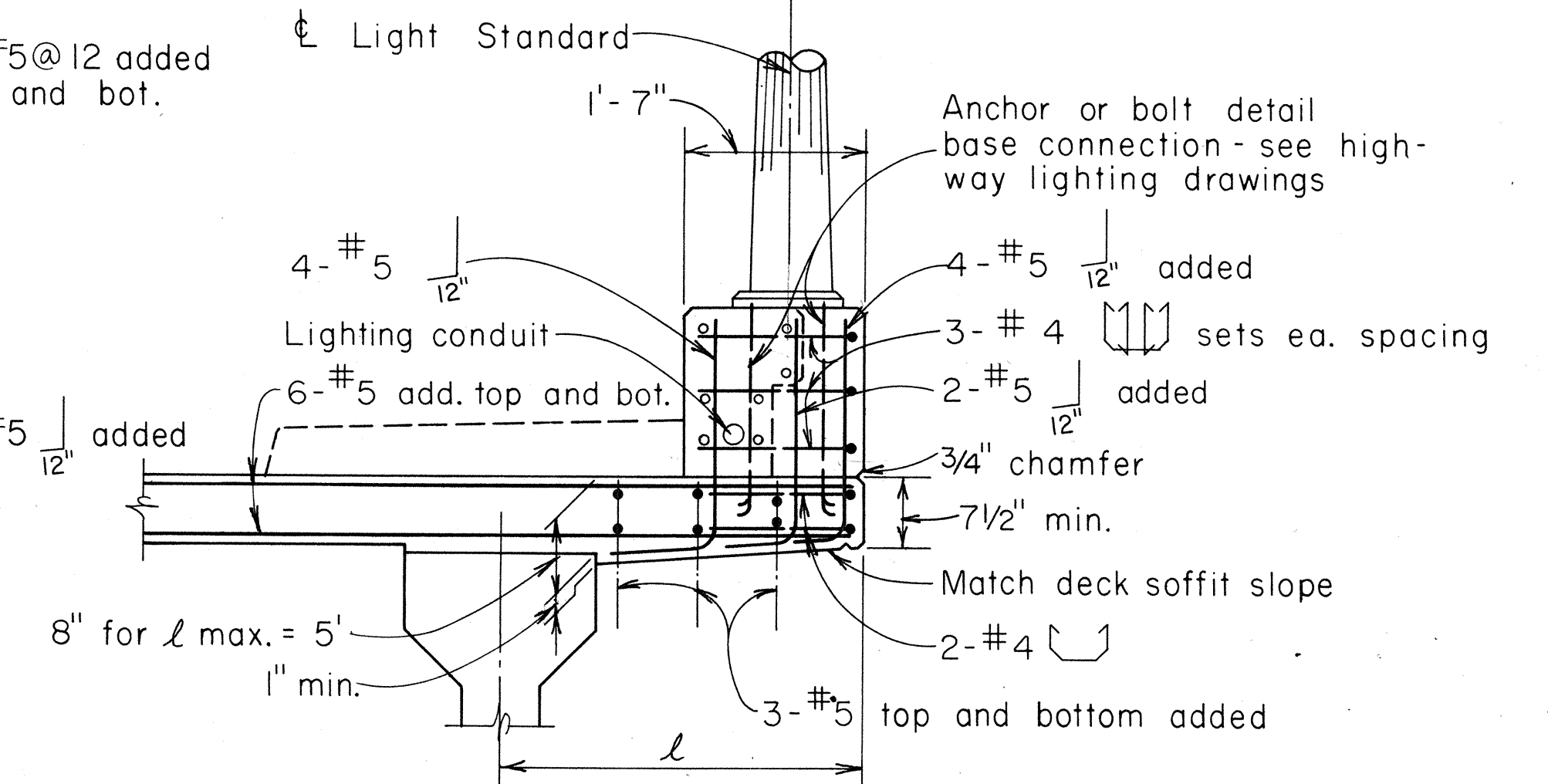
EXTERIOR ELEVATION
Scale : 3/4" = 1' - 0"



PLAN (A/21)
Scale : 3/4" = 1' - 0"



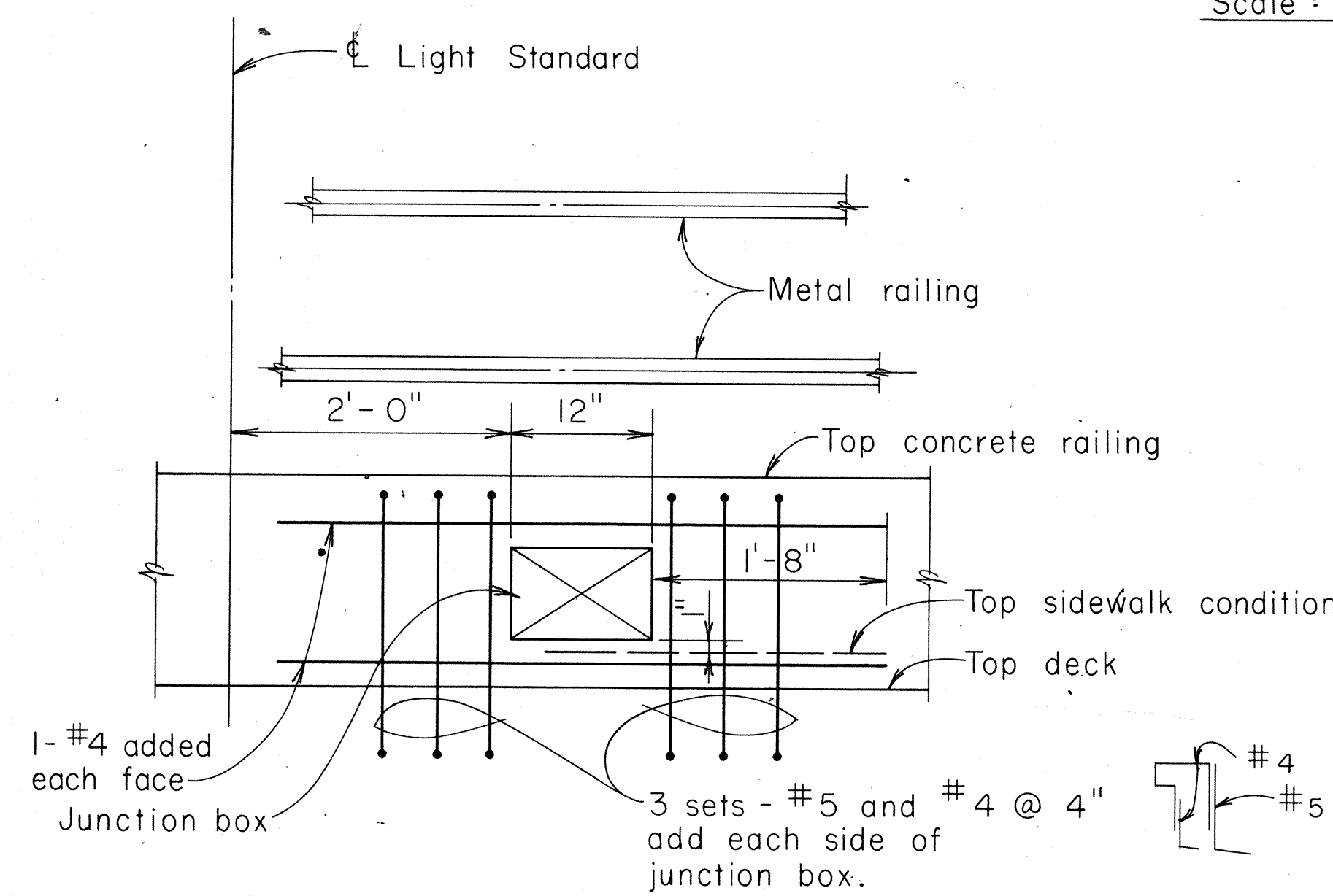
SECTION (B/21)
Scale : 1/2" = 1' - 0"



SECTION (C/21)
Scale : 3/4" = 1' - 0"

DETAILS AT LIGHT STANDARD

Scale : As Noted



ELEVATION (D/21) ADDED
REINFORCEMENT AT JUNCTION BOX
Scale : 1" = 1' - 0"

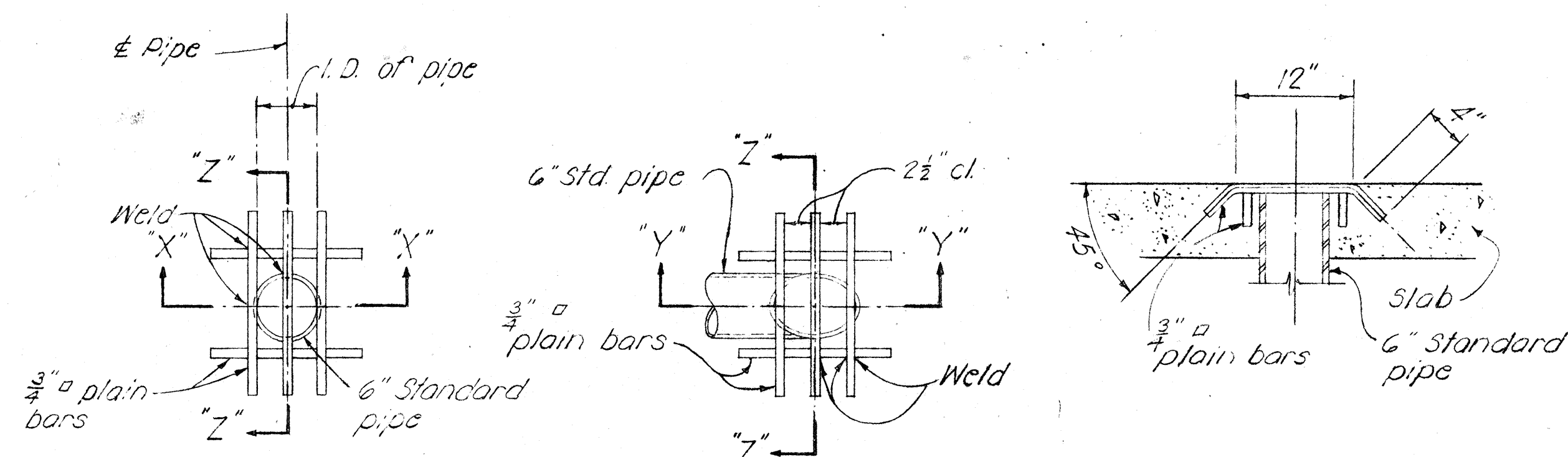
NO.	REVISION	APPROVED BY	DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
TYPICAL DETAIL	
STEEL BRIDGE RAILING (TUBULAR) TWO RAIL COMBINATION TYPE ON PARAPET	
MILILANI INTERCHANGE F.A.I. PROJ. NO. I-H2-1(7)4	MARCH 1973
SHEET No. 21 OF 30 SHEETS	

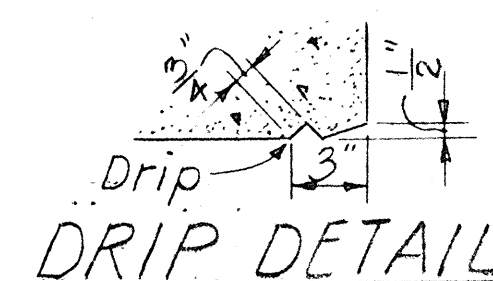
ORIGINAL	DATE
PLAN	
DRAWN BY	
CHECKED BY	
NOTE BOOK	

GENERAL NOTES

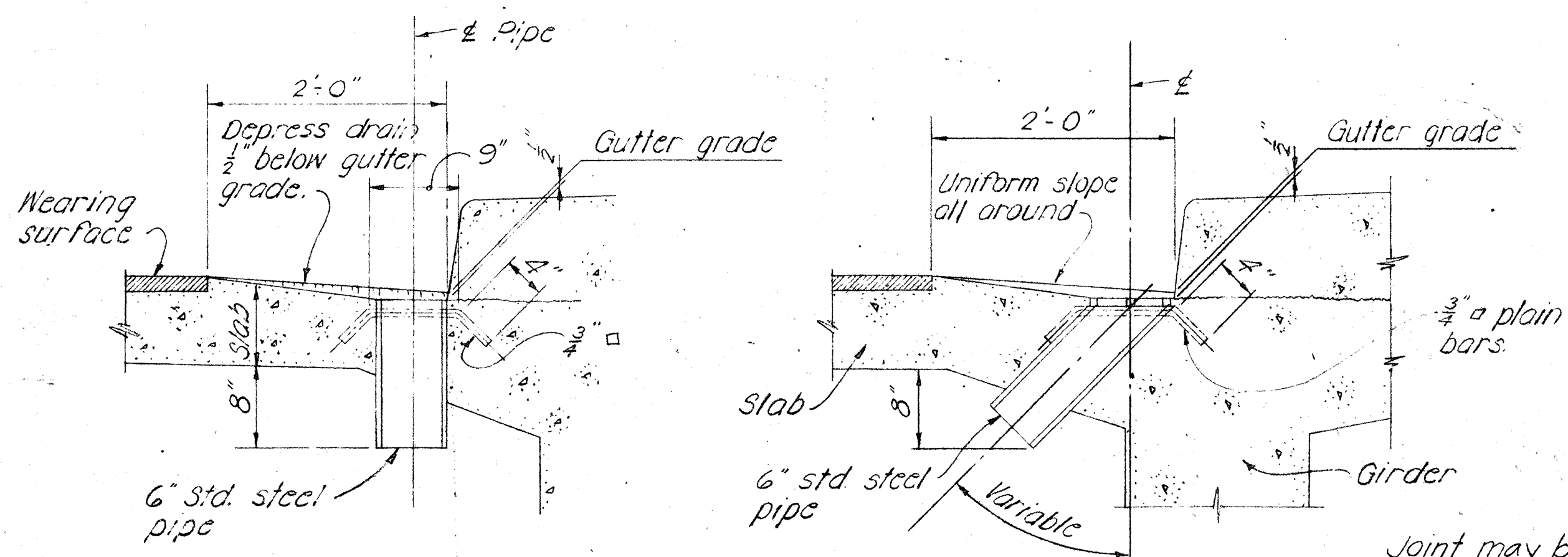
- All concrete shall be Class A unless otherwise noted.
- Reinforcing shall be detailed in accordance with A.C.I. Manual of Standard Practice for Detailing Reinforced Concrete Highway Structures unless otherwise noted.
- Clearance for reinforcing bars shall be as follows, unless otherwise noted:
 - $1\frac{1}{2}$ " For stirrups of beams & pier caps.
 - 2" for ties of columns.
 - 2" for formed walls.
 - 3" for footings.
- Minimum spacing between parallel bars shall be $2\frac{1}{2}$ times the diameter of 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.
- All dimensions relating to reinforcing are to centers of bars unless otherwise noted.
- Reinforcing bars shall be securely tied at all intersections & lap splices & shall be held in place during pouring to maintain their proper locations as shown on plans.
- Vertical column bars shall be arranged in such a manner as to miss pier cap bars above as directed by the Engineer.
- Except as otherwise noted on drawings, all exterior corners & re-entrant angles in concrete work shall be chamfered $\frac{3}{4}" \times \frac{3}{4}"$.
- Concrete seats receiving steel plates, lead plates or neoprene pads shall be poured monolithically with supporting structures & top of concrete seats shall be finished with a steel trowel to a smooth level surface at the elevation shown on the plans.
- Elastomeric Pads: Bottom of bridge bearing pads shall be secured against displacement with adhesives approved by the Engineer. Pads shall be incidental to concrete and will not be paid for separately.
- Forms for all exposed surfaces of separation structures and surfaces of retaining walls visible from a traveled way or from a populated area shall be plywood except that metal forms may be permitted provided a surface finish satisfactory to the Engineer can be obtained and the use of such forms is approved in writing by the Engineer. Forms for round columns shall be made of materials that will give a smooth finish and true dimensions as given in the plans. Forms for prestressed concrete members shall be either metal or plywood.
- Gothic letters and figures approximating dimensions shown will be acceptable if approved by the Engineer.
- The contractor shall verify the location of all existing utility lines and notify the respective owners before commencing work of excavation or driving of piles.
- Standard Detail Drawings refer to all structures in general, except for modifications as may be required for special conditions. For such modifications refer to the corresponding detailed drawings.



TYPICAL CONCRETE GROOVE DETAIL



DRIP DETAIL

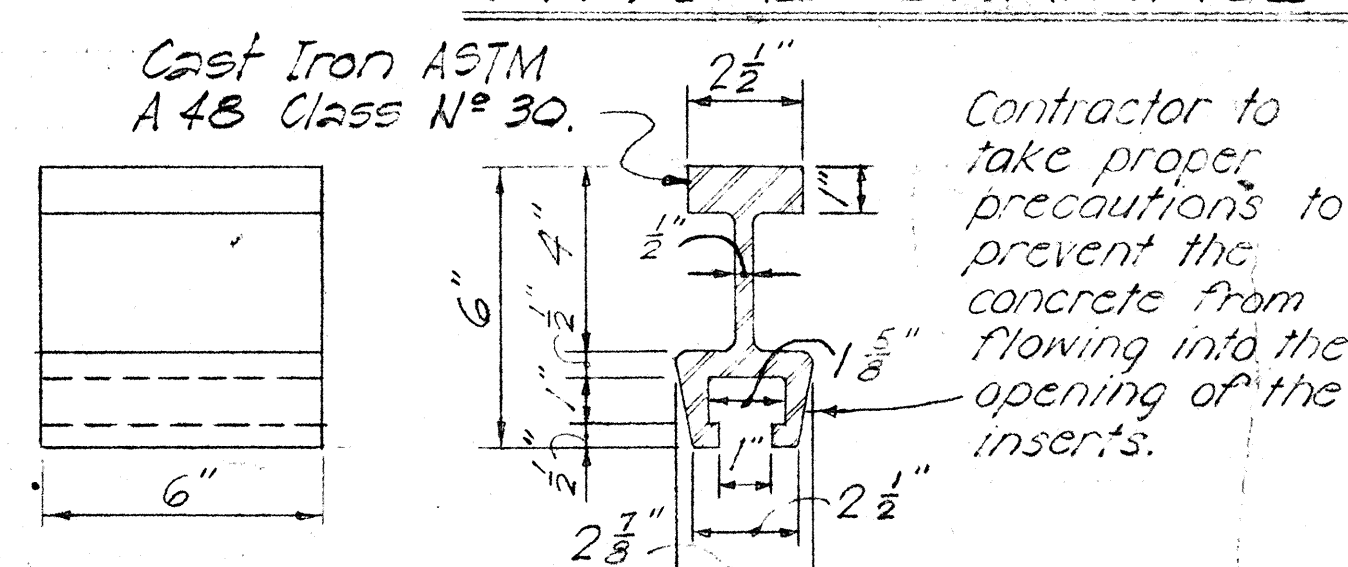


SECTION "X-X"

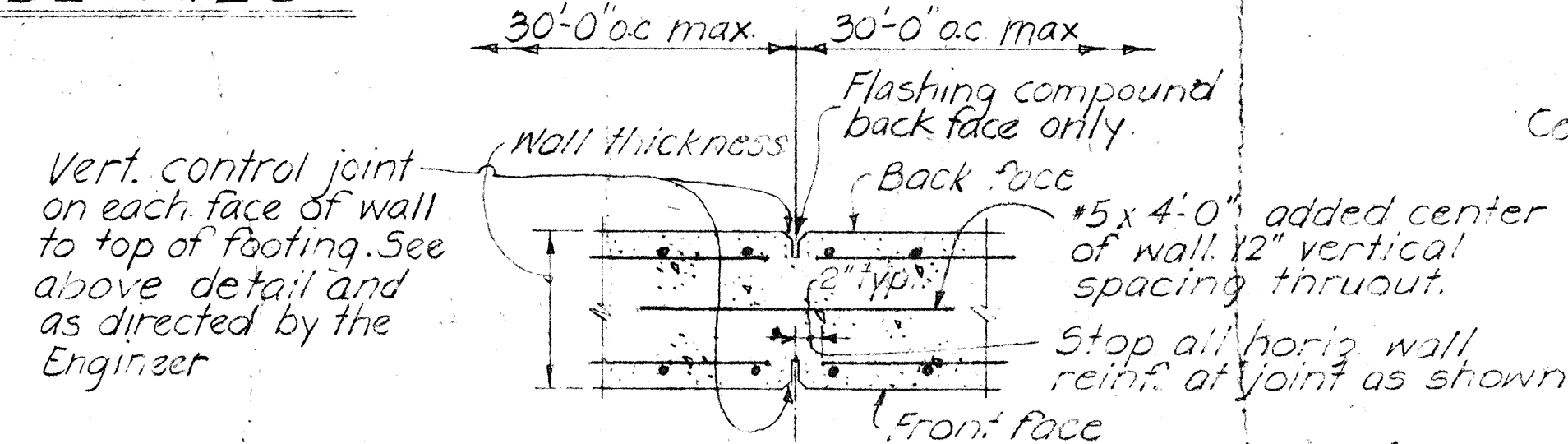
SECTION "Y-Y"

NOTE: Metal drains shall be considered incidental to Class A Concrete in both concrete and steel bridges and will not be paid for separately. Assembly of grillage and pipe shall be hot-dip galvanized after all welding is completed.

TYPICAL DRAINAGE DETAILS

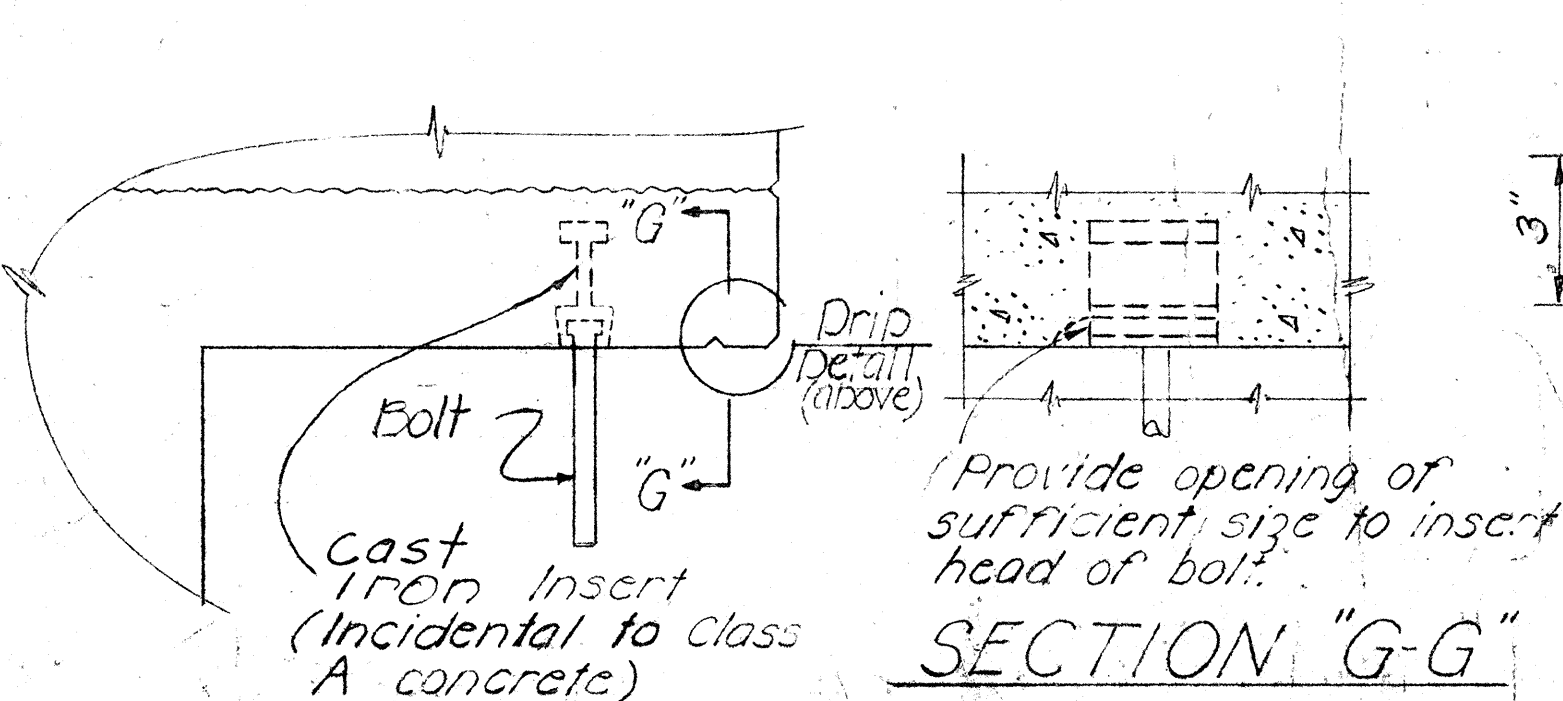
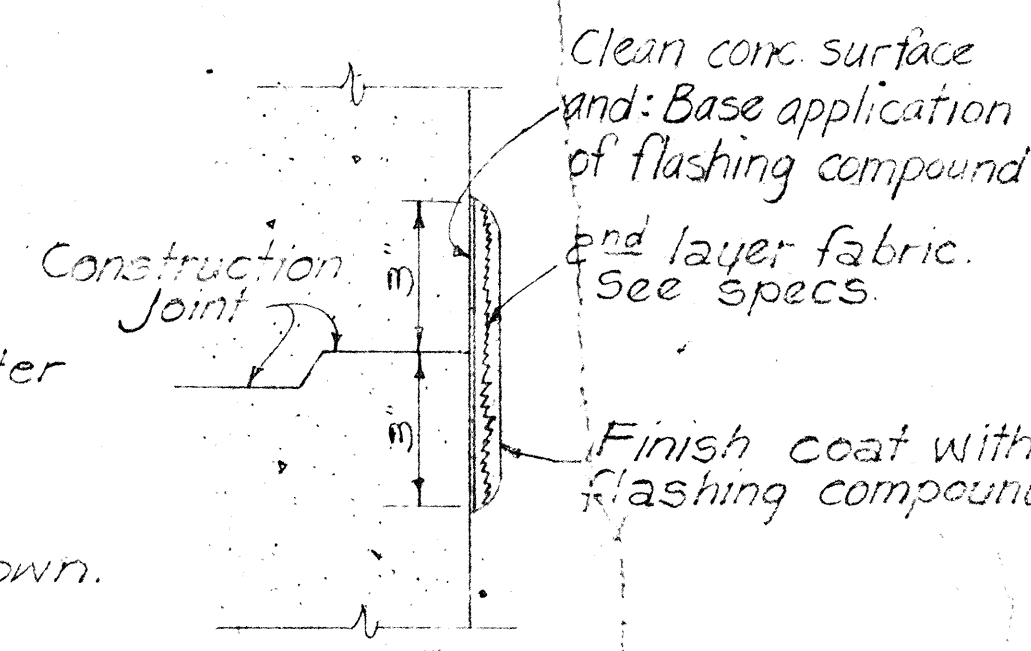


INSERT DETAIL

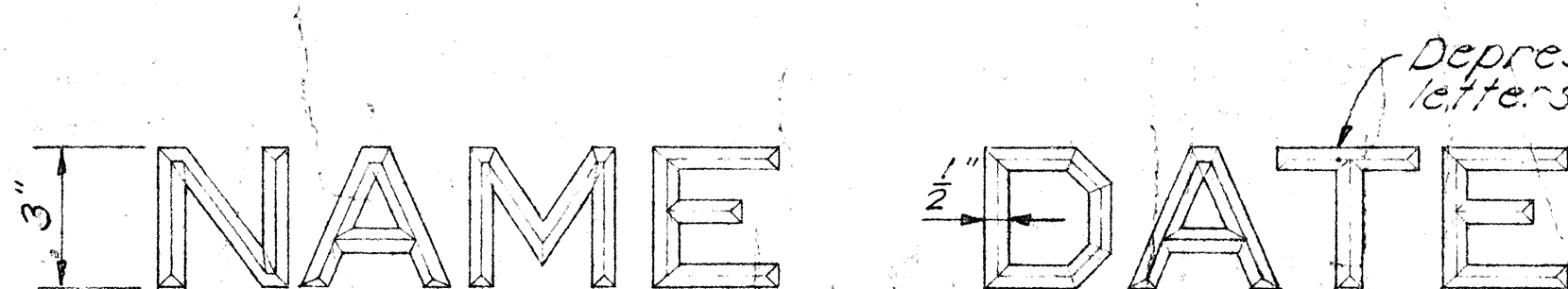


CONTROL JOINT DETAILS

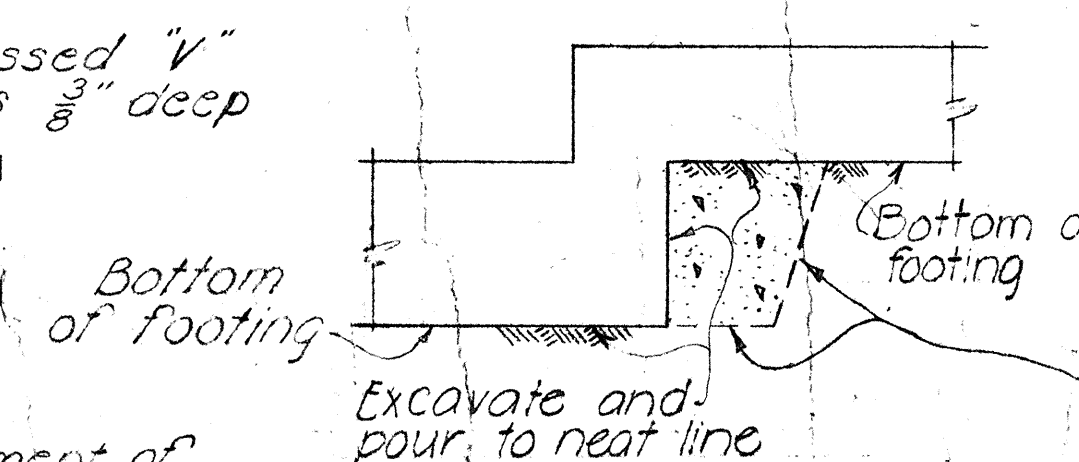
TYP. FLASHING COMPOUND WATERPROOFING DETAIL



DETAIL of PIPE HANGERS & INSERTS



TYPICAL DETAIL OF LETTERS & FIGURES AT CONCRETE END POST



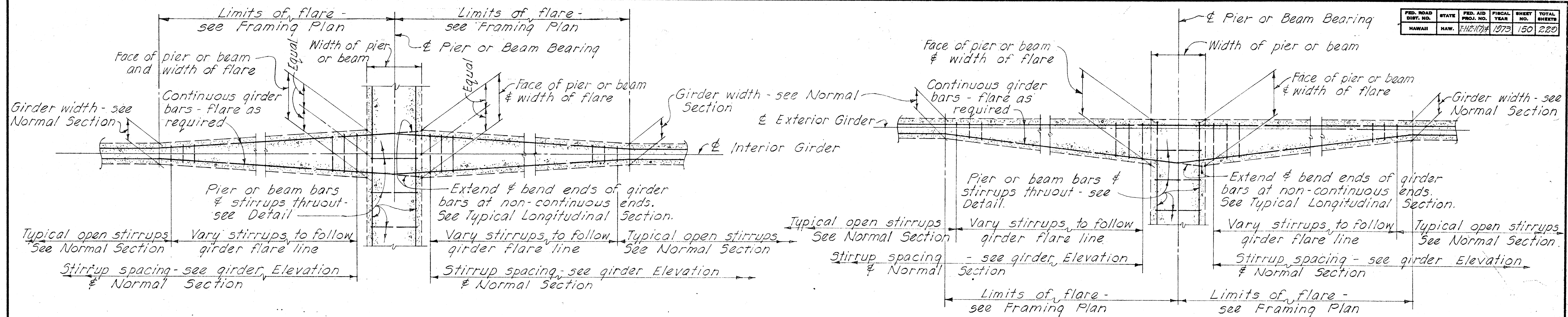
TYPICAL EXCAVATION FOR CONTINUOUS FOOTING STEP-UP

APPROVAL RECOMMENDED:
Paul T. Vamaschite
BRIDGE DESIGN ENGINEER
DATE 1-23-70

APPROVED
Paul T. Vamaschite
ASSISTANT CHIEF, ENGINEERING
DATE 1-28-70

NO.	REVISION	APPROVED BY	DATE

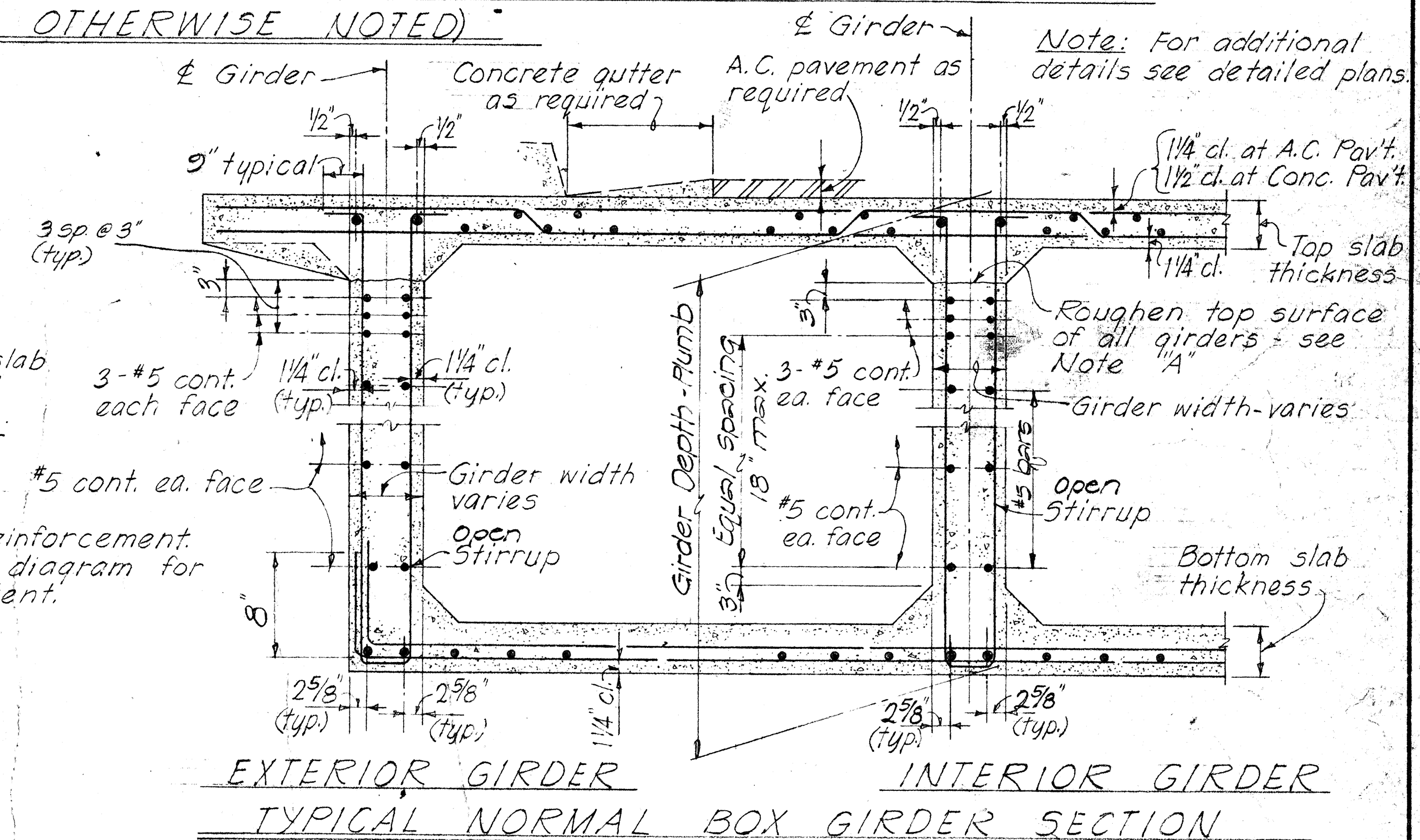
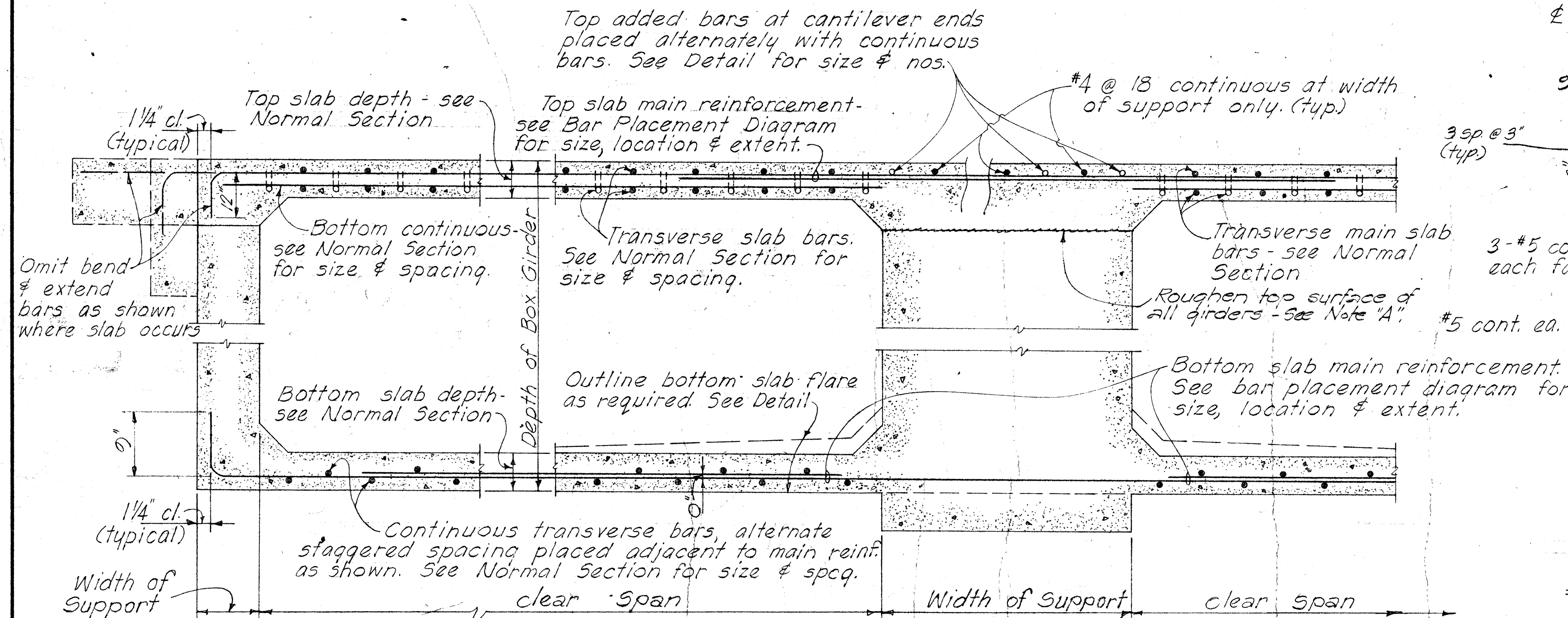
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STANDARD DETAILS NOTES AND MISCELLANEOUS DETAILS Date: October 1969 SHEET No. 22 OF 30 SHEETS DB-100
--



INTERIOR GIRDER

EXTERIOR GIRDER

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



EXTERIOR GIRDER

INTERIOR GIRDER

TYPICAL NORMAL BOX GIRDER SECTION

AT NON-CONTINUOUS END

AT CONTINUOUS SUPPORT

TYPICAL LONGITUDINAL DECK SECTION ALONG GIRDER AT NORMAL OR RADIAL SUPPORTS

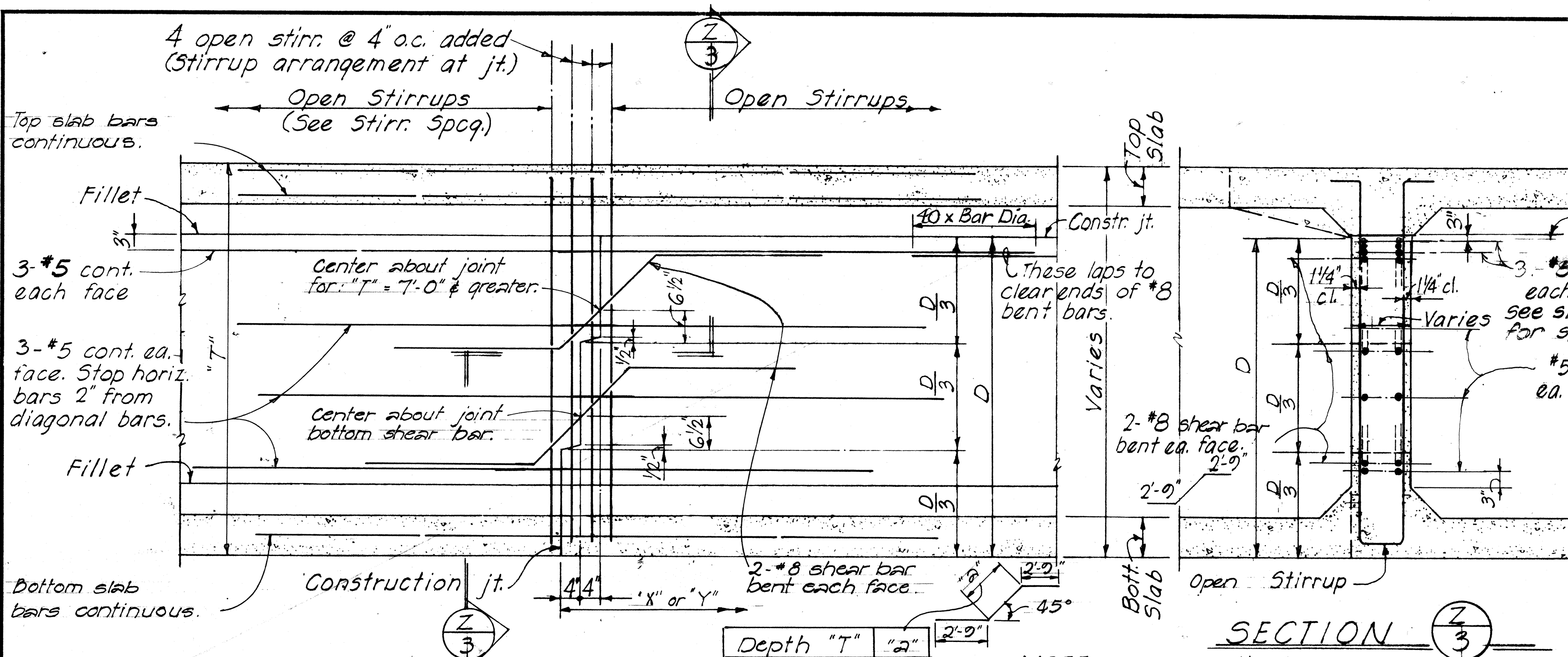
Note "A" The entire surface of the joint shall be thoroughly cleaned of surface laitance, curing compound, and other material foreign to the concrete, and clean aggregate be exposed by abrasive blast cleaning after the curing period or immediately before placing concrete at the joint.

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED
Paul T. Yamashita
 BRIDGE DESIGN ENGINEER
 1-23-70
 DATE

APPROVED
Paul T. Yamashita
 For ASSISTANT CHIEF, ENGINEERING
 1-28-70
 DATE

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION STANDARD DETAILS CONCRETE BOX GIRDER Date SHEET No. 24 OF 30 SHEETS DB-101-2



NOTE:

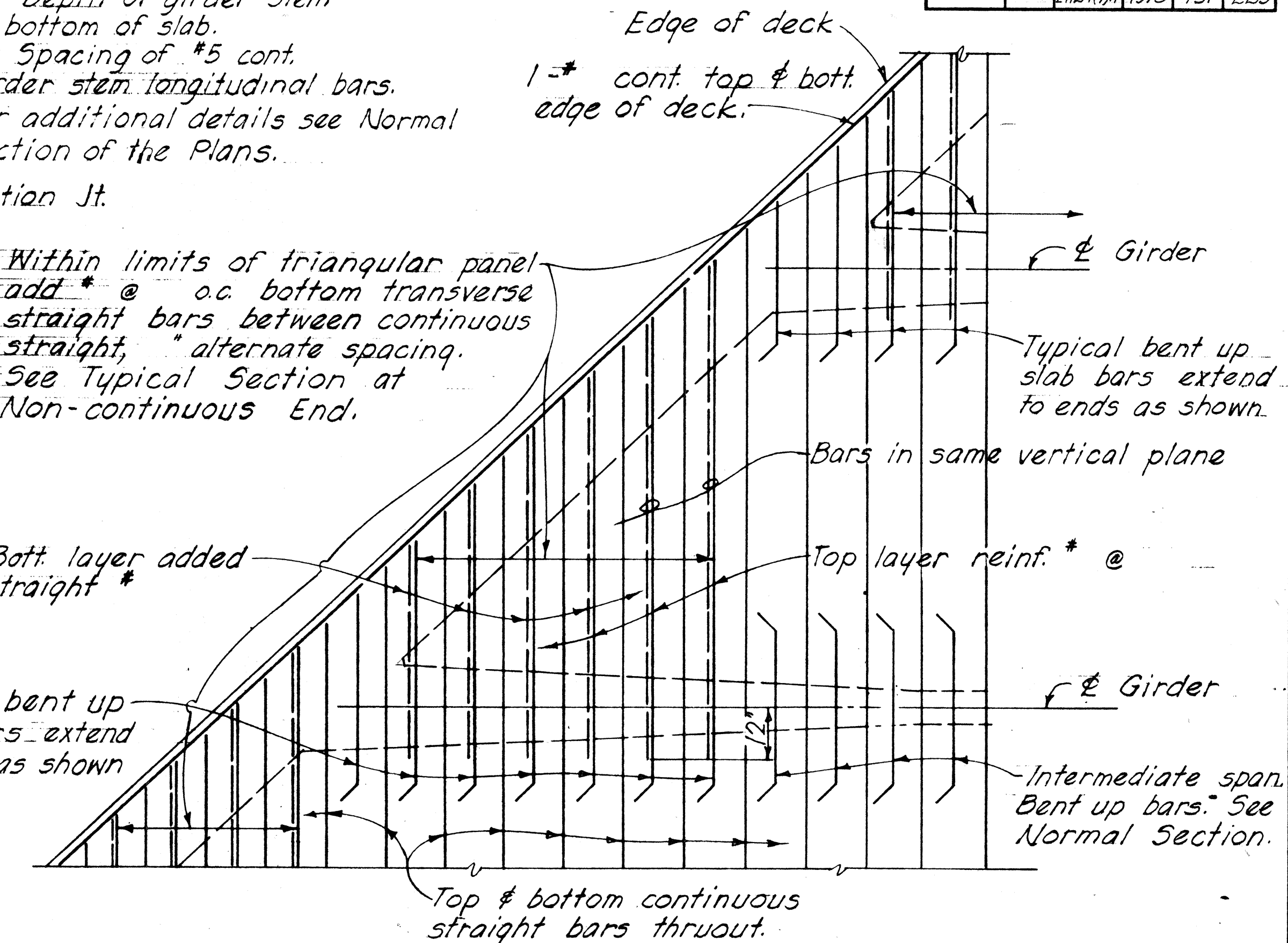
D = Depth of girder stem to bottom of slab.

S = Spacing of #5 cont. girder stem longitudinal bars. For additional details see Normal Section of the Plans.

Within limits of triangular panel add * @ o.c. bottom transverse straight bars between continuous straight, alternate spacing. See Typical Section at Non-continuous End.

Bott. layer added straight *

Typical bent up slab bars extend to ends as shown

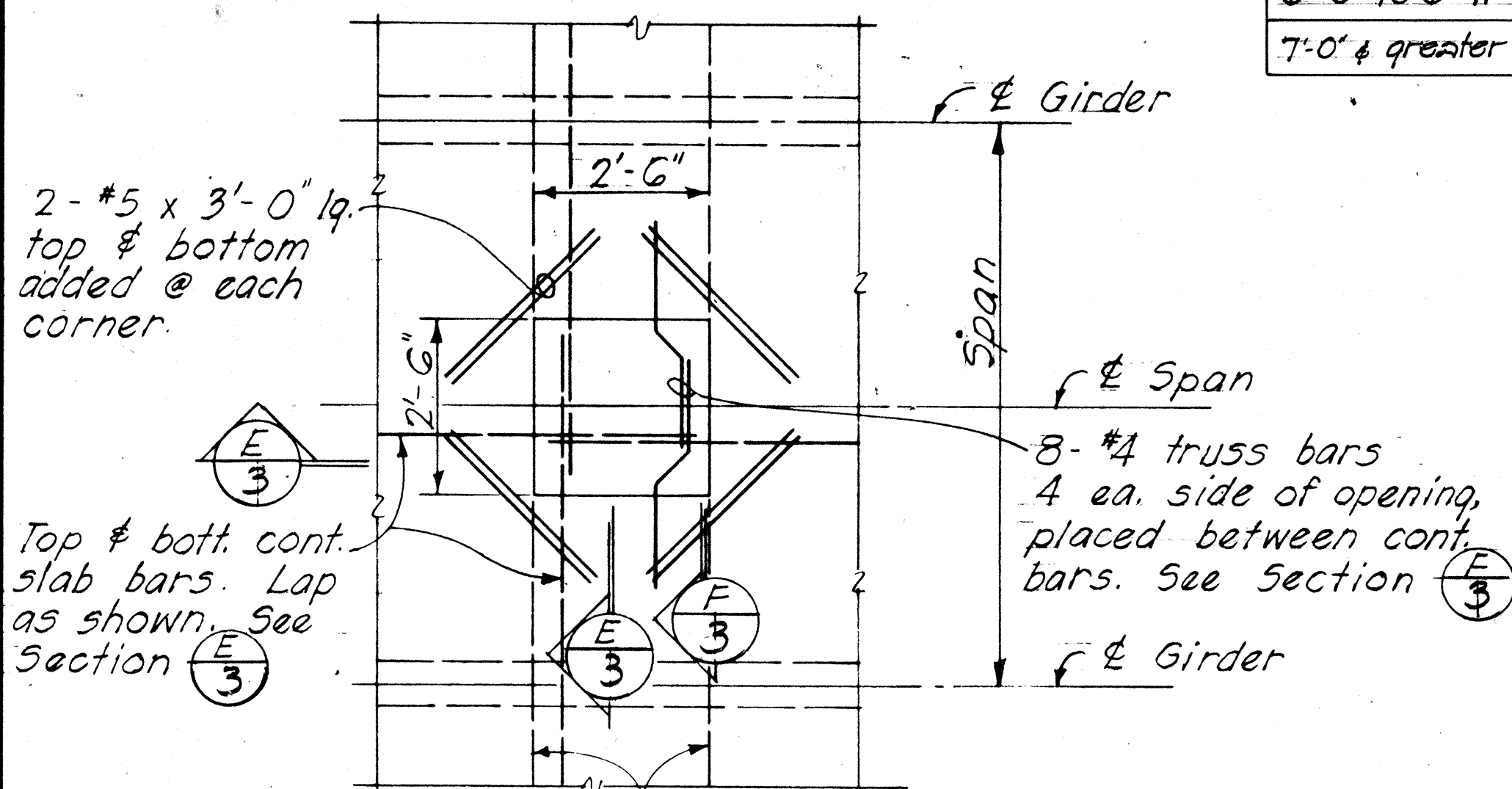


PART PLAN - TYPICAL ARRANGEMENT OF TOP SLAB REINFORCEMENT AT SKEWED ENDS

GIRDER STEM CONSTRUCTION JOINT

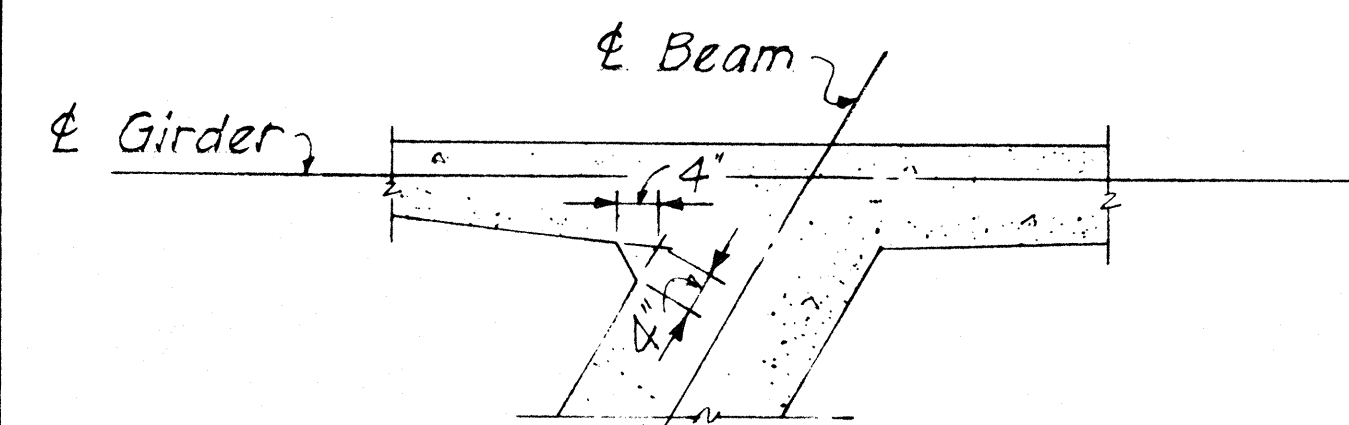
Depth "T"	"2"
4'-11" & smaller	1'-0"
5'-0" to 5'-11"	2'-0"
6'-0" to 6'-11"	2'-3"
7'-0" & greater	3'-0"

NOTE: D = Depth of girder stem to bott. of slab.

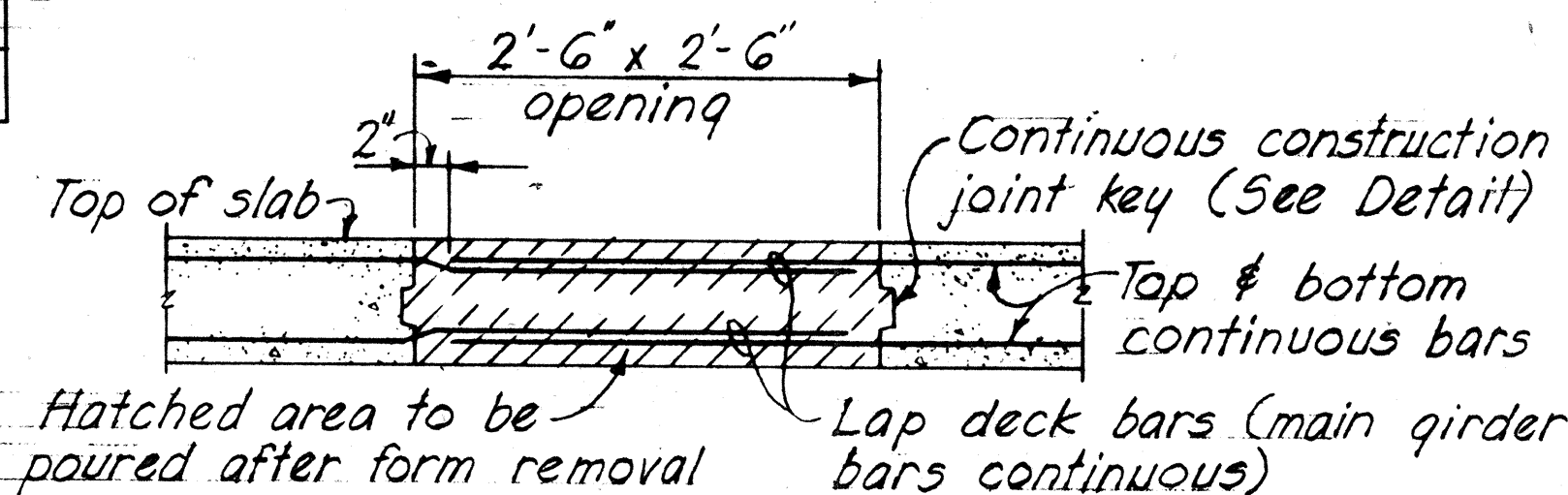


Note: Final location of opening shall be determined by the Engineer.

PART PLAN - DECK SHOWING FORM REMOVAL OPENING

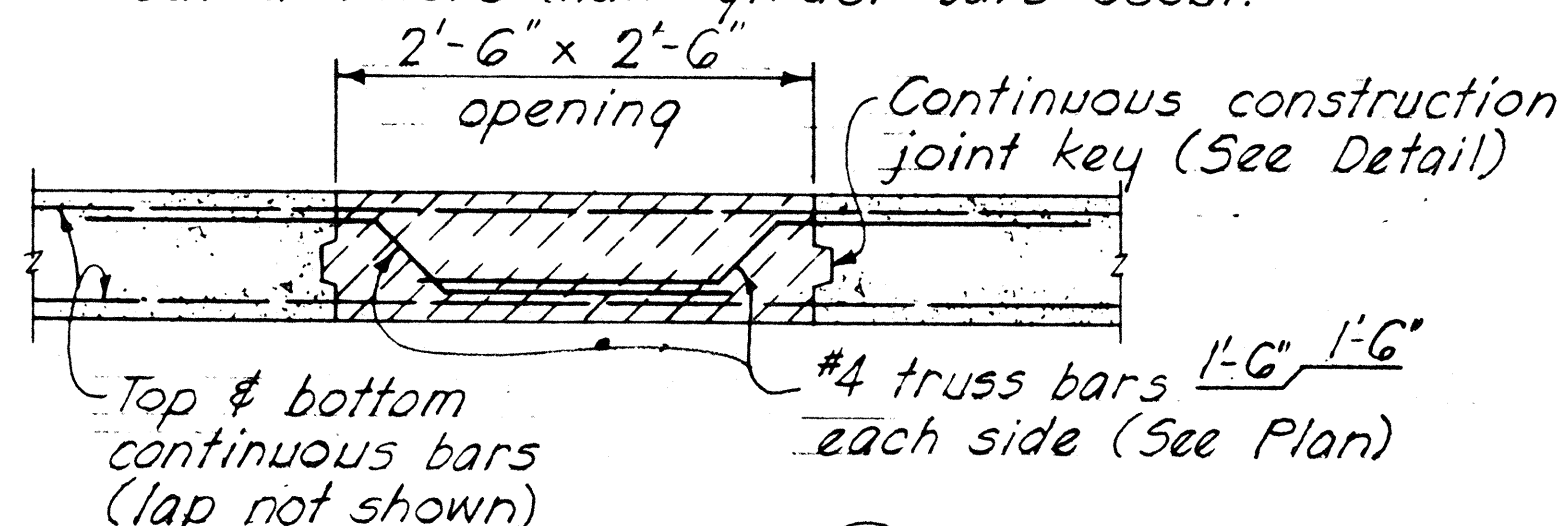


TYPICAL DETAIL OF VERTICAL CHAMFER AT ACUTE INTERSECTION OF SKEWED CONCRETE MEMBER



SECTION E/3

Note: Form removal opening at top slab shall not be located where main girder bars occur.



SECTION F/3

APPROVAL RECOMMENDED: Paul T. Yamashita 1-23-70
BRIDGE DESIGN ENGINEER DATE

APPROVED: Paul T. Yamashita 1-28-70
For ASSISTANT CHIEF, ENGINEERING DATE

NO.	REVISION	APPROVED BY	DATE

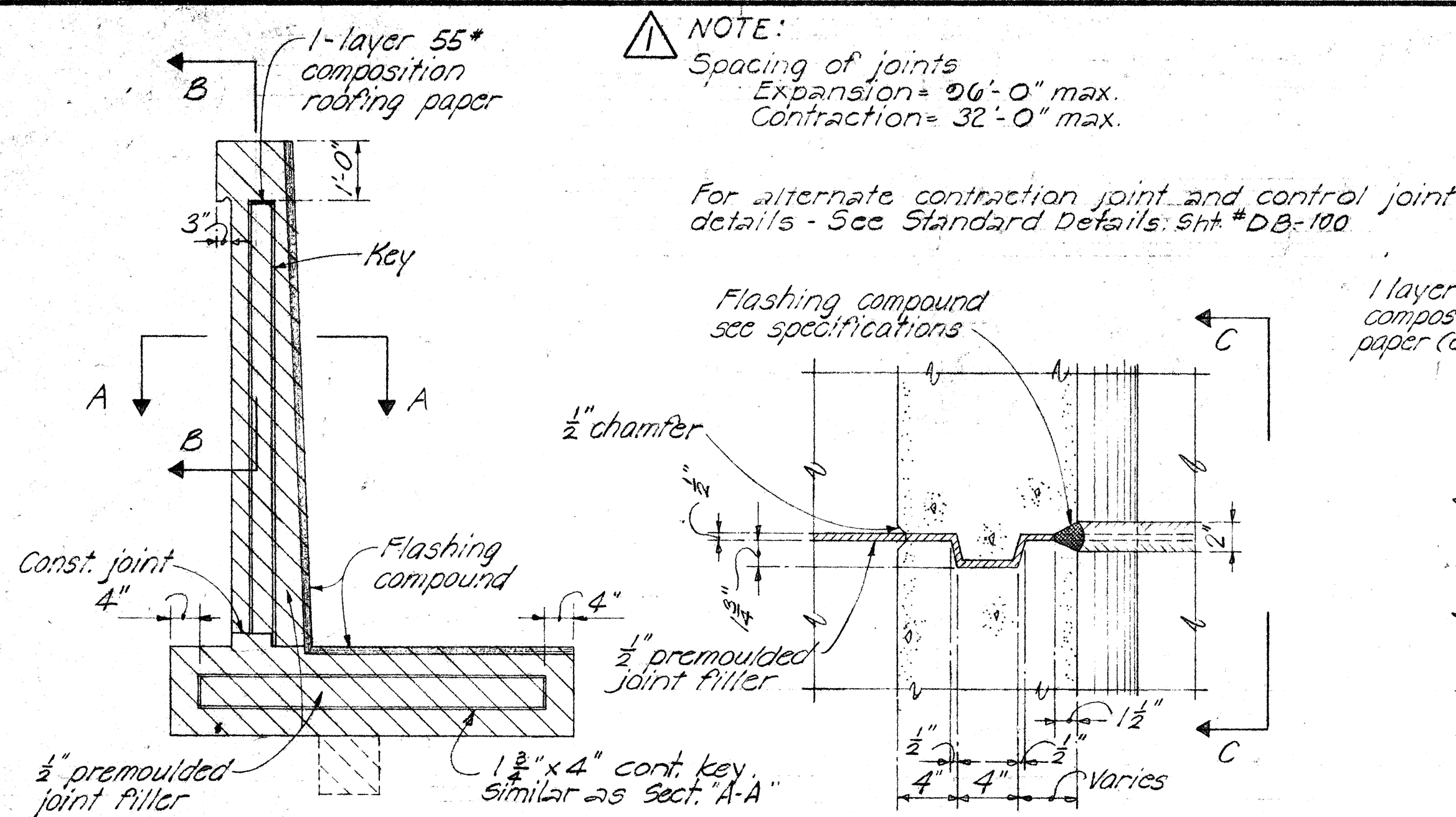
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
CONCRETE BOX GIRDER

SCALE AS NOTED DATE: _____

SHEET No. 25 OF 30 SHEETS DB-101-3

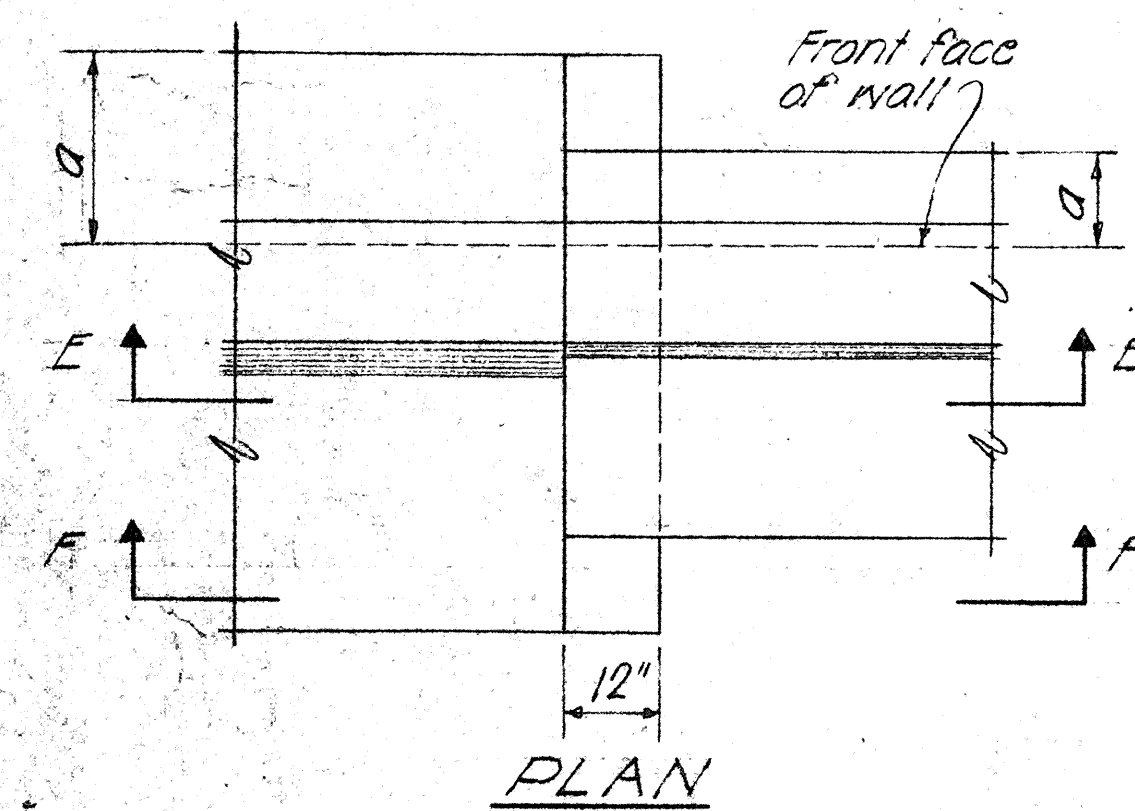
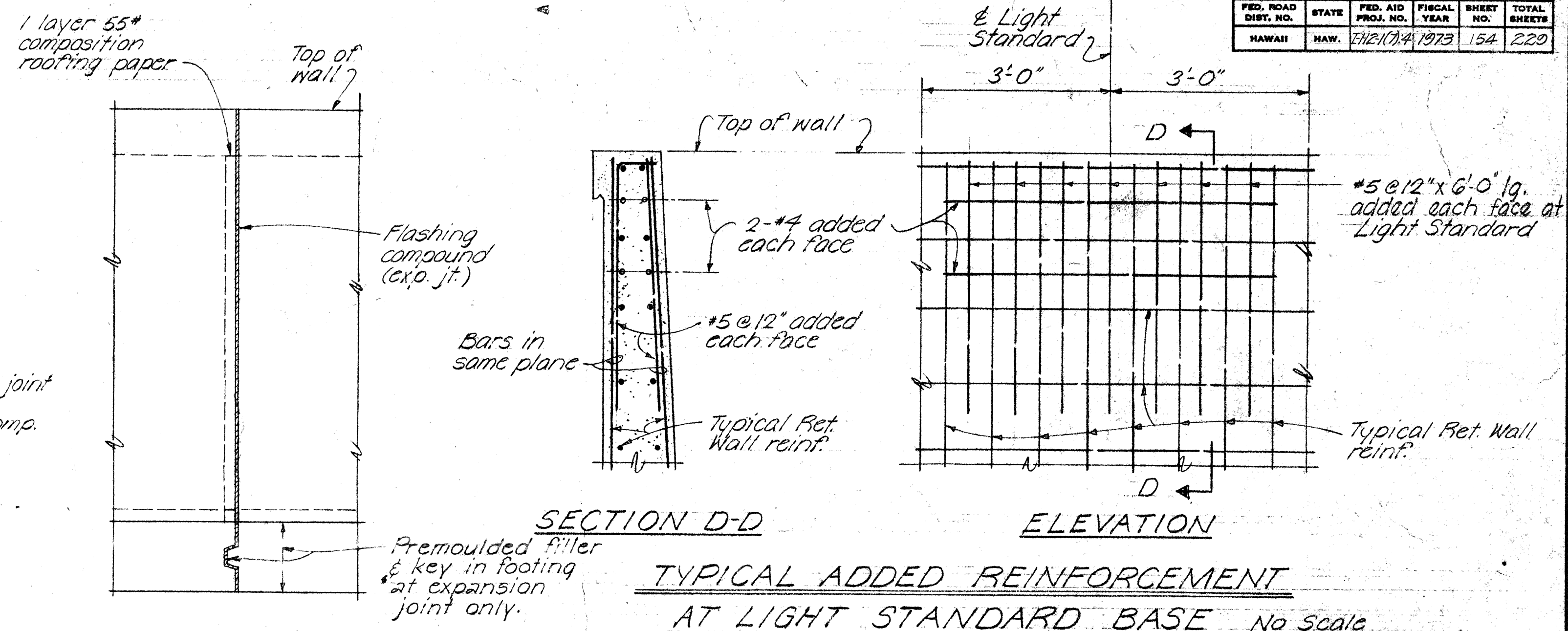
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	512(174)	1973	154	220



SECTION B-B

SECTION C-C

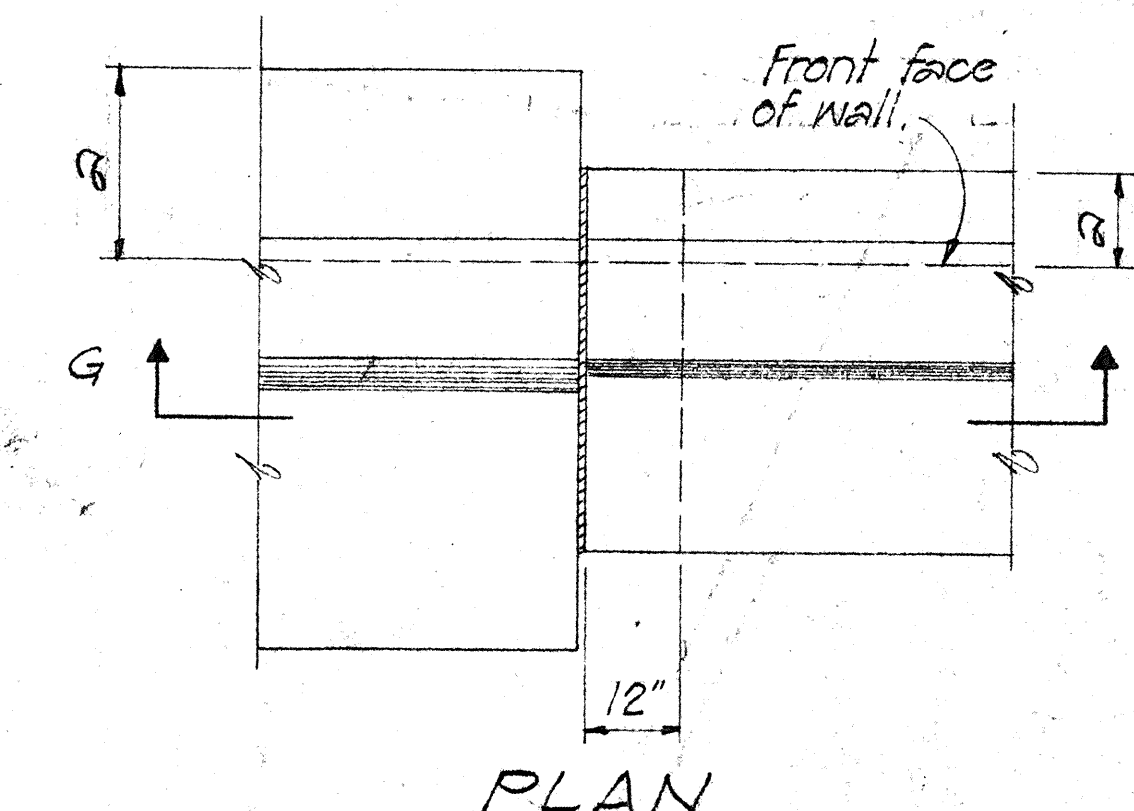
TYPICAL EXPANSION JOINT DETAILS No Scale



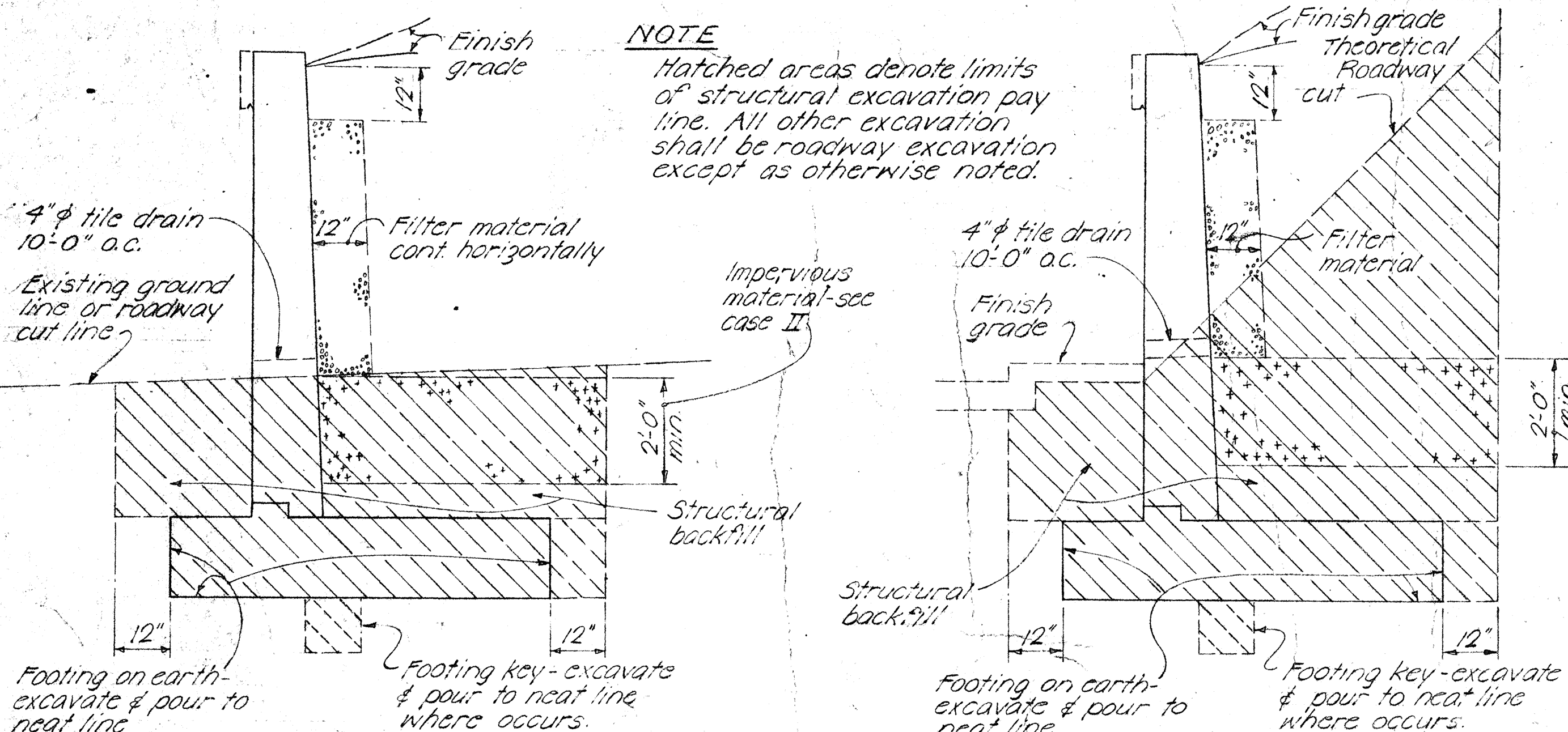
SECTION E-E

SECTION F-F

TYPICAL FOOTING STEP-UP DETAILS No Scale



SECTION G-G



STRUCTURAL EXCAVATION & DRAINAGE DETAILS No Scale

APPROVAL RECOMMENDED:
Paul T. Yamashita 1-23-70
BRIDGE DESIGN ENGINEER DATE

APPROVED
Paul T. Yamashita 1-24-70
FOR ASSISTANT CHIEF, ENGINEERING DATE

NO	REVISION	APPROVED BY	DATE
1	Change note spacing of joints.	H.T.	2.4.72

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

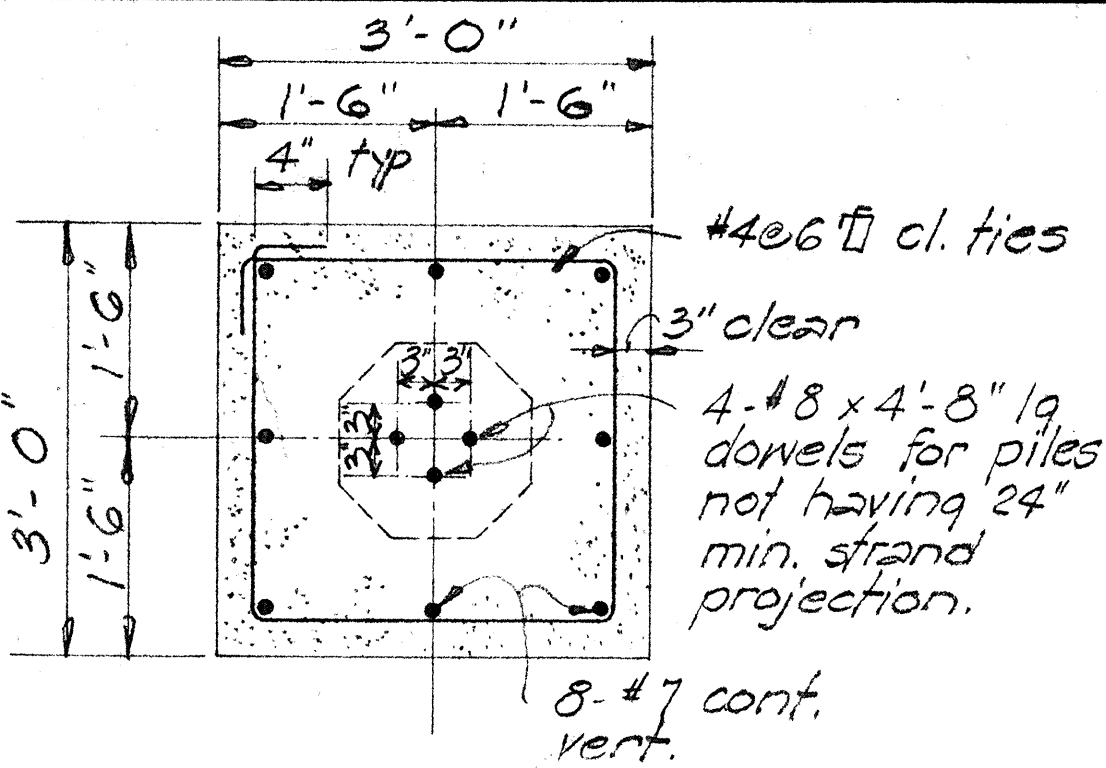
STANDARD DETAILS
RETAINING WALL TYPE T-1

SCALE AS NOTED DATE
SHEET No. 28 OF 30 SHEETS DB-207-2

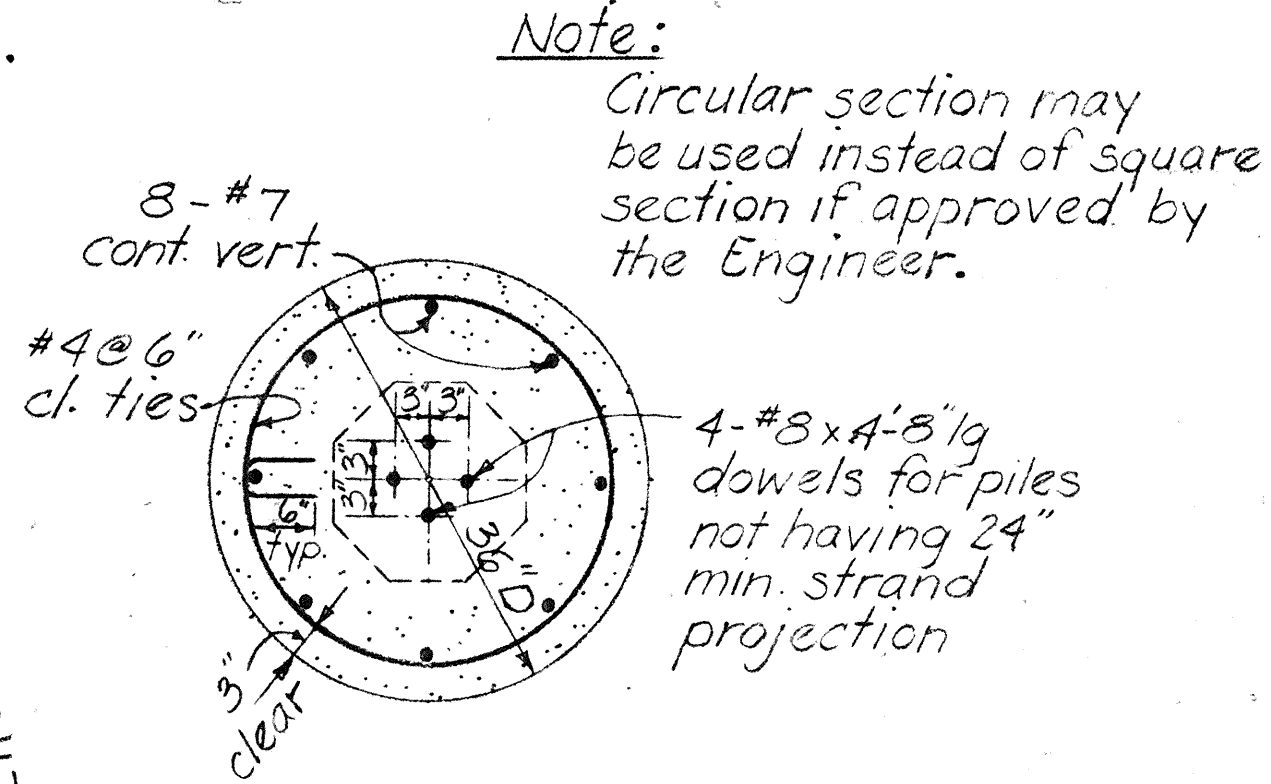
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-42-1(7)4	1973	156	220

2'-6" min. unless otherwise directed by the Engineer.
Remove concrete after driving, leaving reinf. exposed

Chamfer - See Typical Pile Detail.

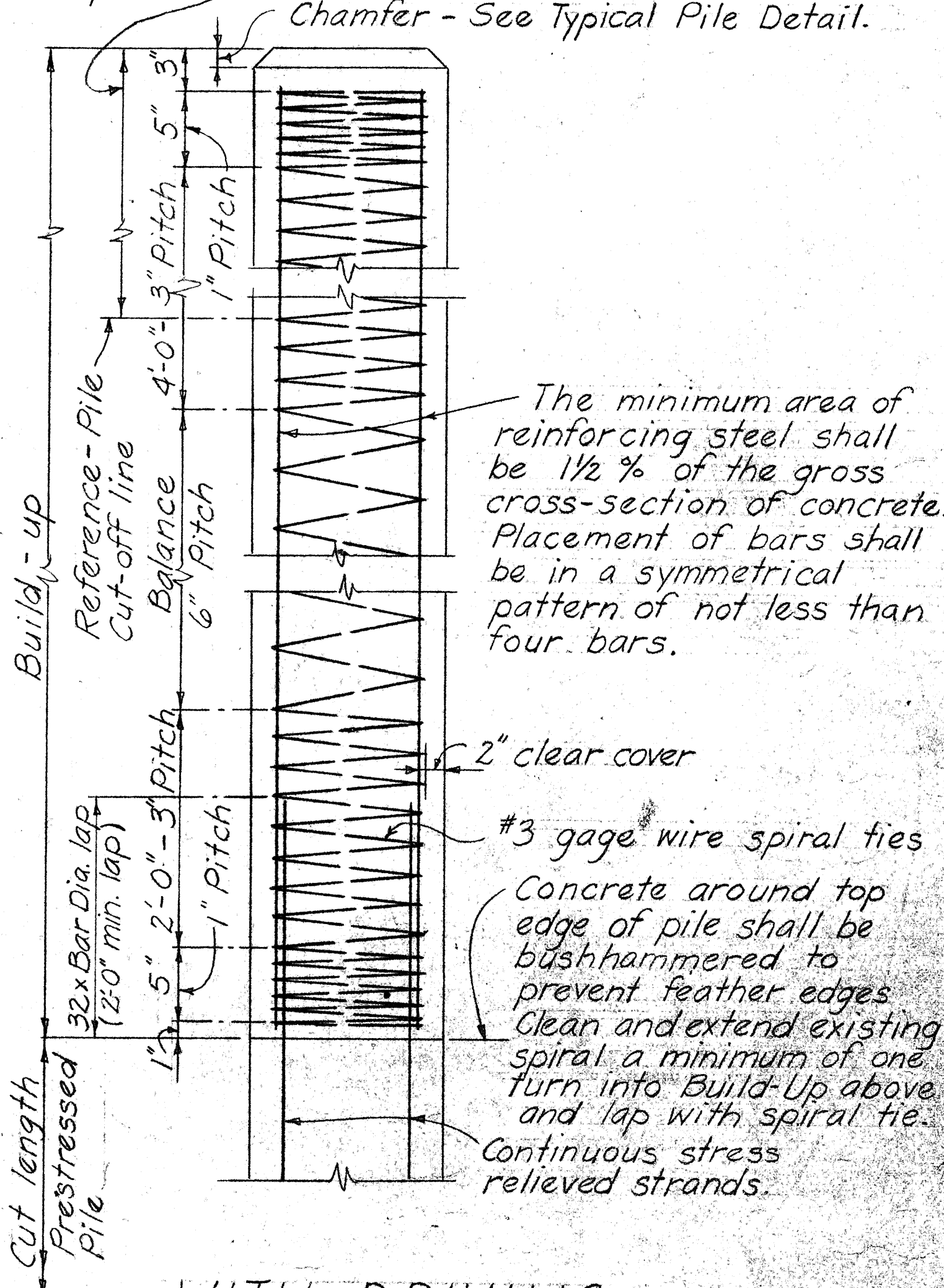


SQUARE BUILD-UP

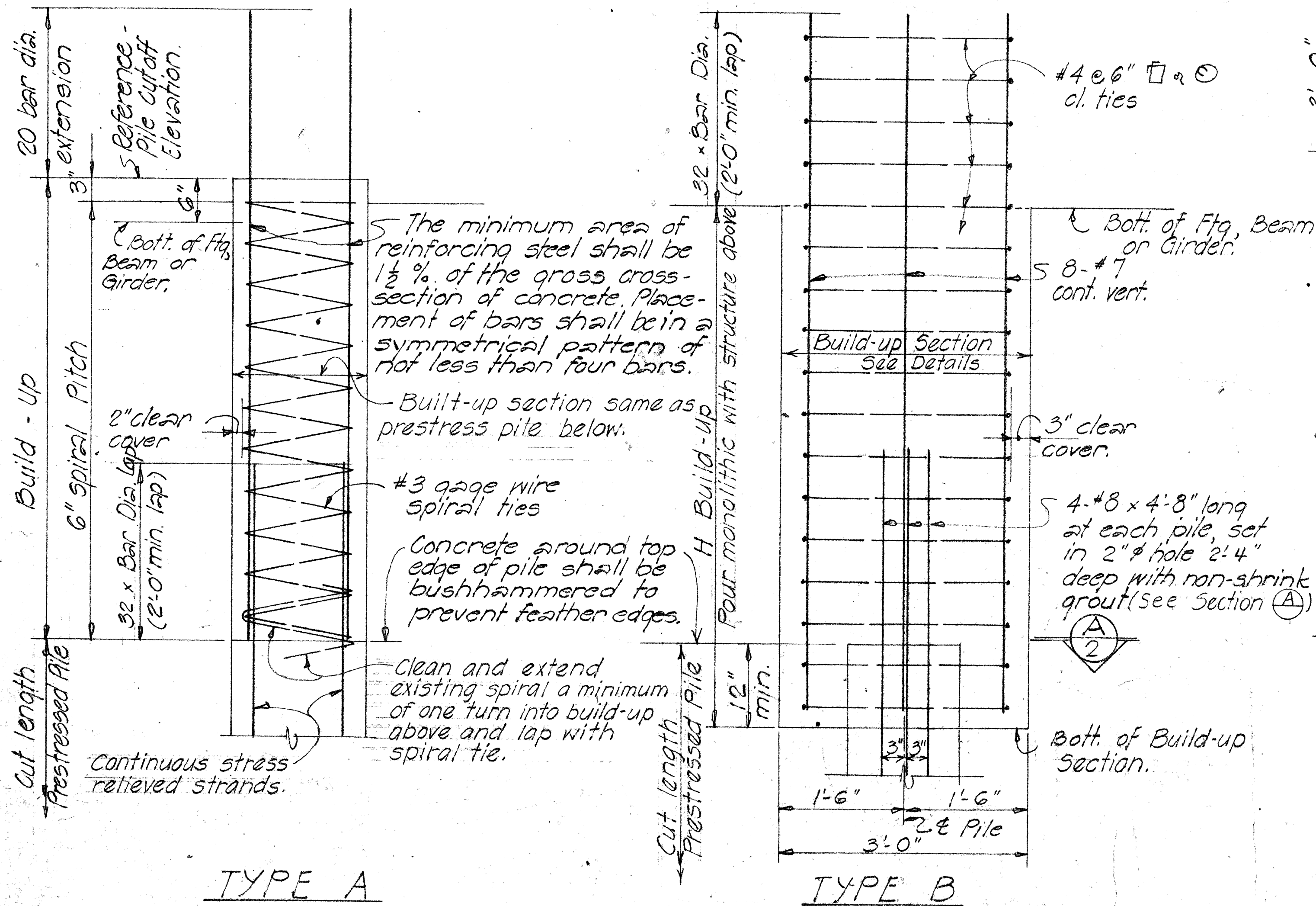


CIRCULAR BUILD-UP SECTION A/2

Note:
Circular section may be used instead of square section if approved by the Engineer.



WITH DRIVING
TYPICAL PILE BUILD-UP DETAIL



TYPE A

TYPE B

Notes:
Selection of pile build-up type without driving to be determined by the Engineer.
When height of depressed portion of footing (H) exceeds 4', the depressed section shall be poured separately from the main body of the footing.
Depressed portion of footing may be omitted for pile heads embedded at least 4" into footing provided at least 90% of the piles in each footing have the minimum embedment into footing as shown in contract plans.

WITHOUT DRIVING
TYPICAL PILE BUILD-UP DETAILS

GENERAL NOTES

1. Work of cutting off prestressed conc. piles or concrete build-ups shall be performed in such a manner as to avoid spalling or damaging the pile below cut-off. In case of such damage, the pile shall be replaced or repaired by the Contractor at his expense as directed by the Engineer.
2. Portion of pile embedded into footing shall be of sound concrete. Damaged portions shall be removed and pile cut-off elevation lowered as required by the Engineer.

NO.	REVISION	APPROVED BY	DATE

APPROVAL RECOMMENDED:
Paul T. Yamashita 1-23-70
BRIDGE DESIGN ENGINEER DATE

APPROVED
Paul T. Yamashita 1-28-70
for ASSISTANT CHIEF, ENGINEERING DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
PRESTRESSED CONCRETE PILES

Date: Oct. 1968
SHEET No. 30 OF 30 SHEETS DB-300-2