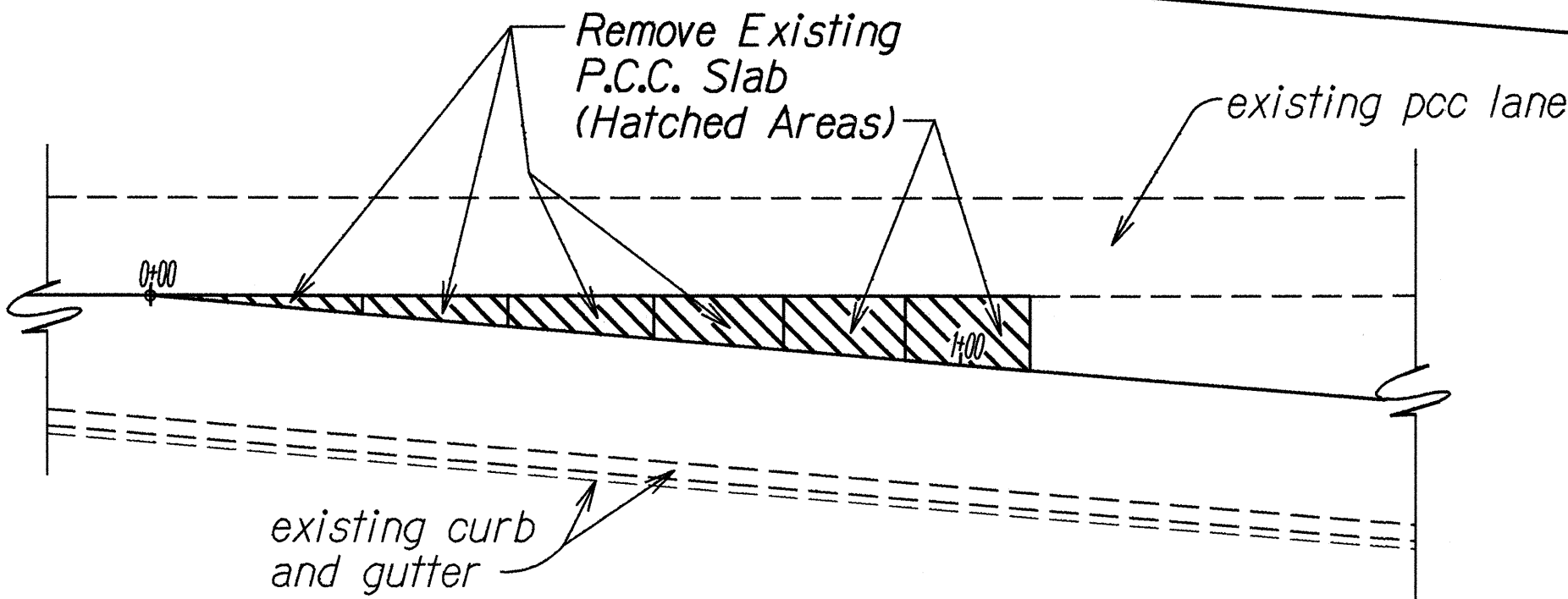
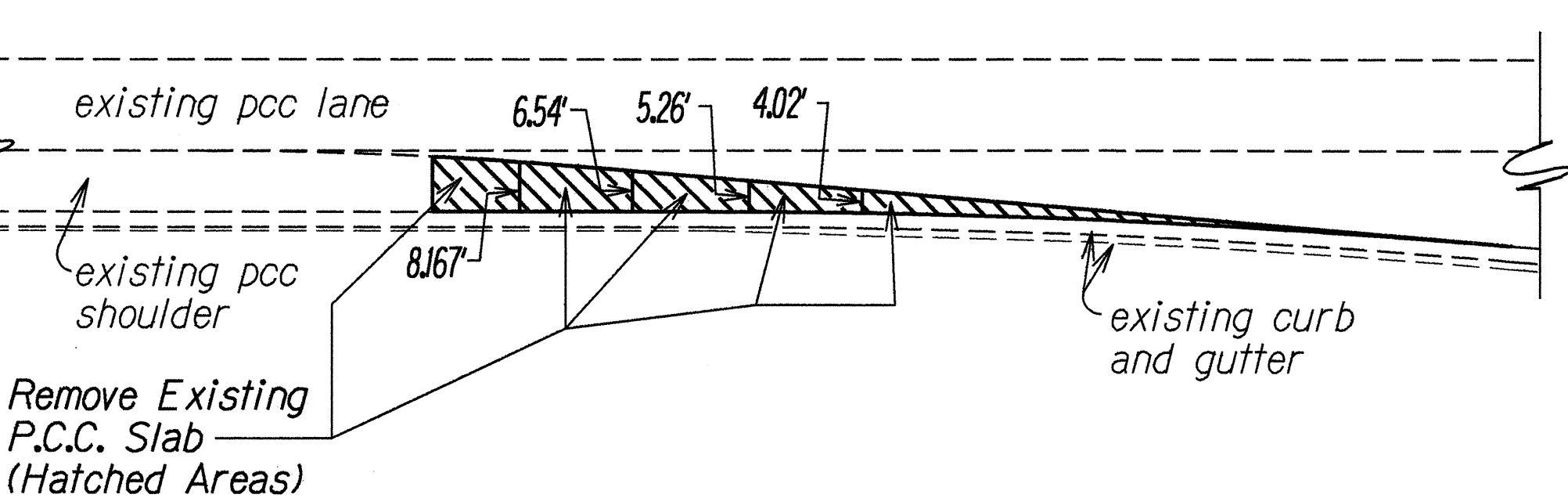
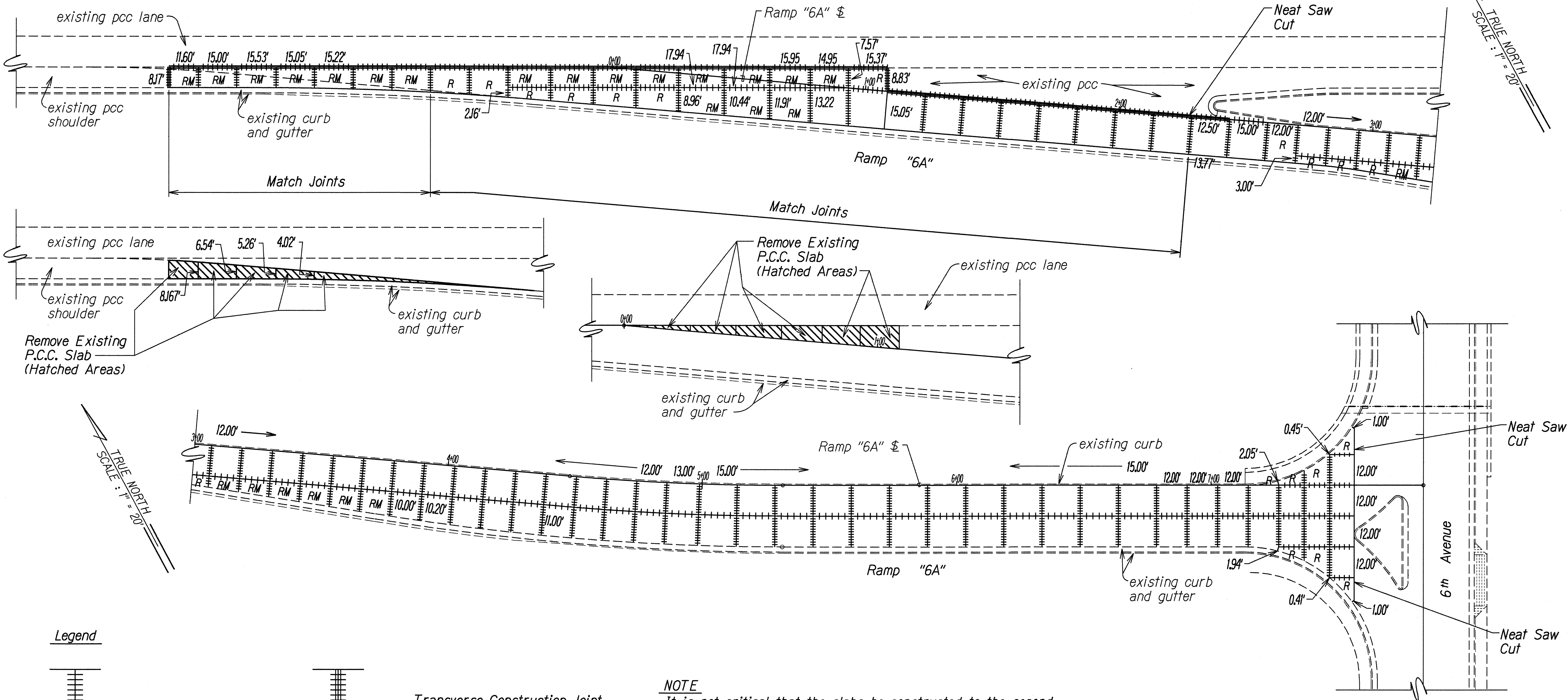
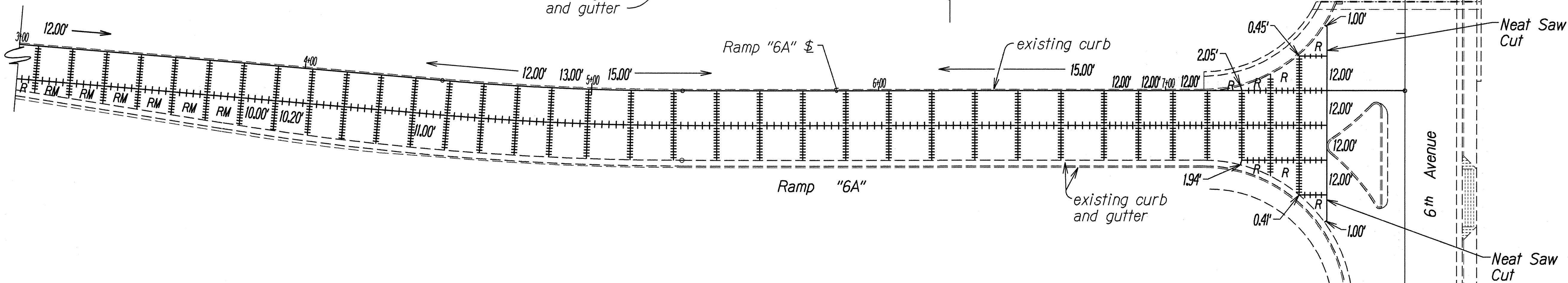


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	ADD.23	54

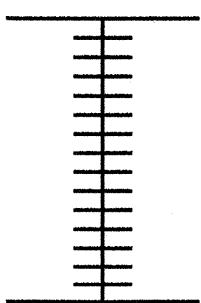
Note: For R and RM (Reinforcing Layout),
See Reinforcing Details on Plan
Sheet No. 27.



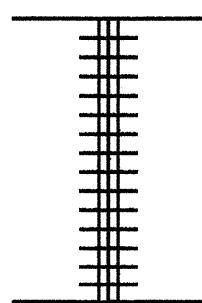
TRUE NORTH
SCALE: 1" = 20'



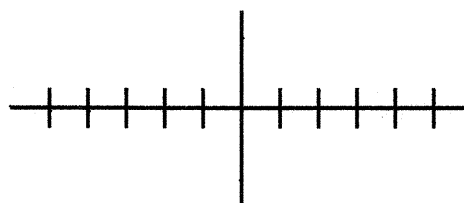
Legend



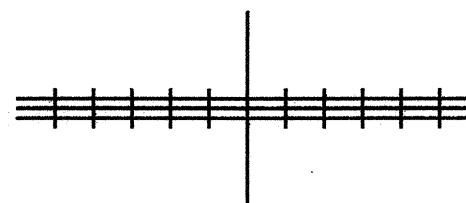
Transverse Joint



Transverse Construction Joint
at Existing P.C.C. Pavement



Longitudinal Joint



Longitudinal Construction Joint
at Existing P.C.C. Pavement

NOTE

It is not critical that the slabs be constructed to the second decimal place. Intent is to obtain slabs that are square and to avoid odd shaped slabs. Length to width ratio should not exceed 1.25, and slabs with narrow pointed corners should be avoided if possible. Reinforce odd shape slabs.

6-22-99 Revised Reinforcing Plan between Sta. 1+08± to Sta. 2+44 (Longitudinal Joint). And Added Reinforcing Layout "R" to Slab at Sta. 2+64±.

DATE

REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
REINFORCING PLAN
RAMP "6A"
Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waialae Avenues
F.A.I. Project No. NH-HI-1(236)

Scale: 1"=20'

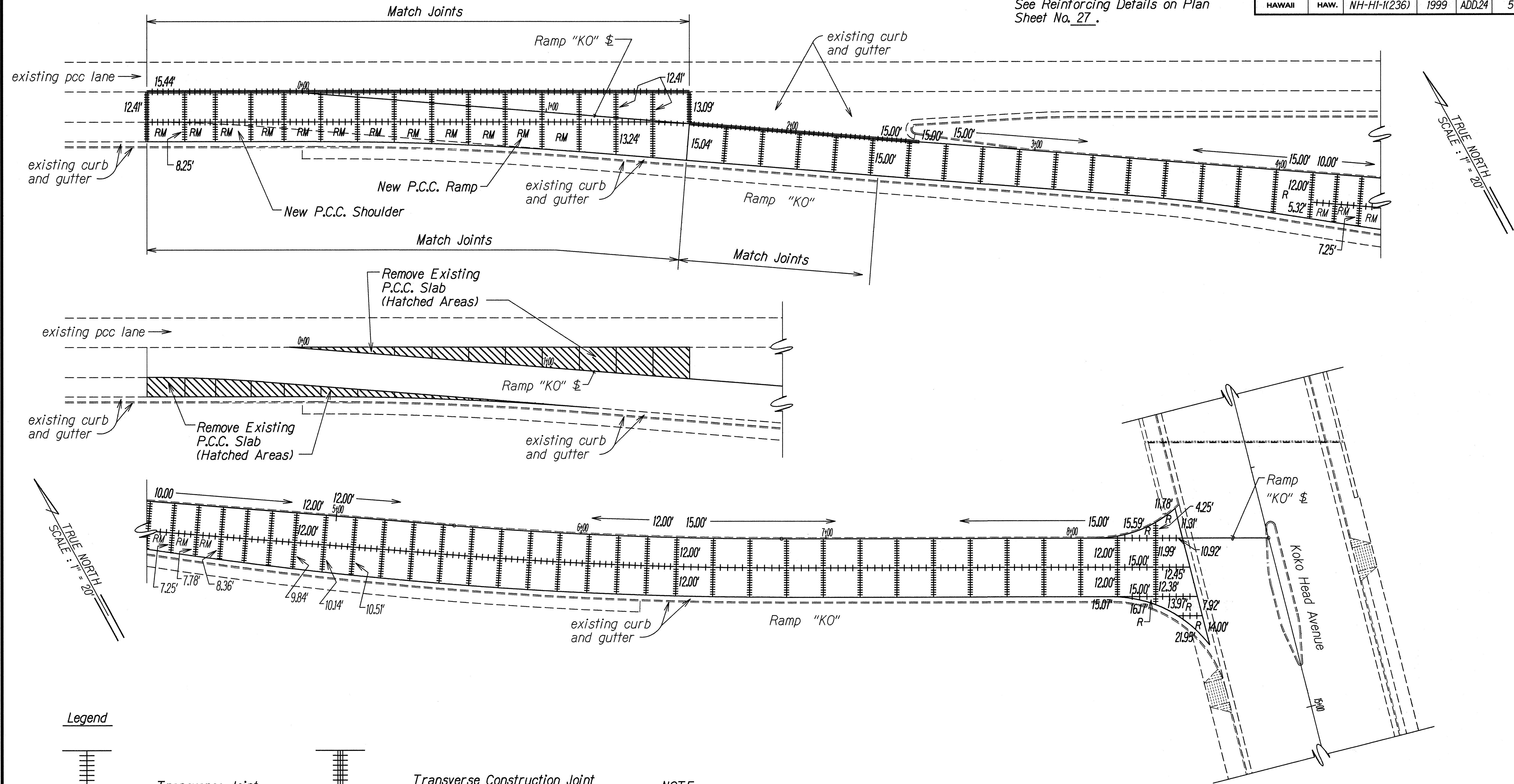
Date: May, 1999

SHEET No. 1 OF 8 SHEETS

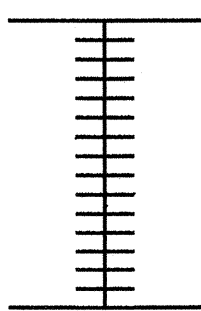
ADD.23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	ADD.24	54

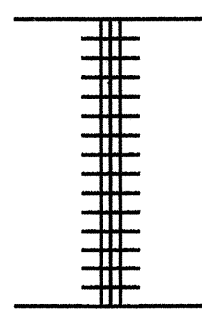
Note: For R and RM (Reinforcing Layout), See Reinforcing Details on Plan Sheet No. 27.



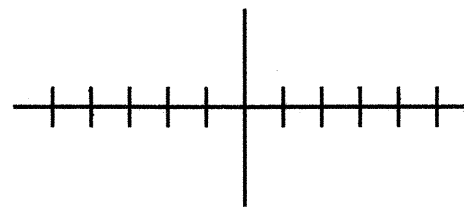
Legend



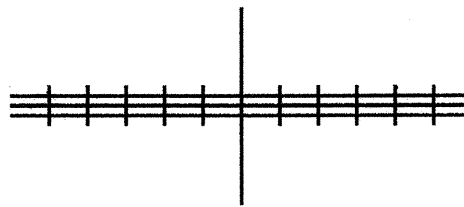
Transverse Joint



Transverse Construction Joint at Existing P.C.C. Pavement



Longitudinal Joint



Longitudinal Construction Joint at Existing P.C.C. Pavement

NOTE

It is not critical that the slabs be constructed to the second decimal place. Intent is to obtain slabs that are square and to avoid odd shaped slabs. Length to width ratio should not exceed 1.25, and slabs with narrow pointed corners should be avoided if possible. Reinforce odd shape slabs.

6-22-99	Added Reinforcing Layout "R" to Slab at Sta. 4+00±.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCING PLAN
RAMP "KO"
Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waiālae Avenues
F.A.J. Project No. NH-HI-1(236)

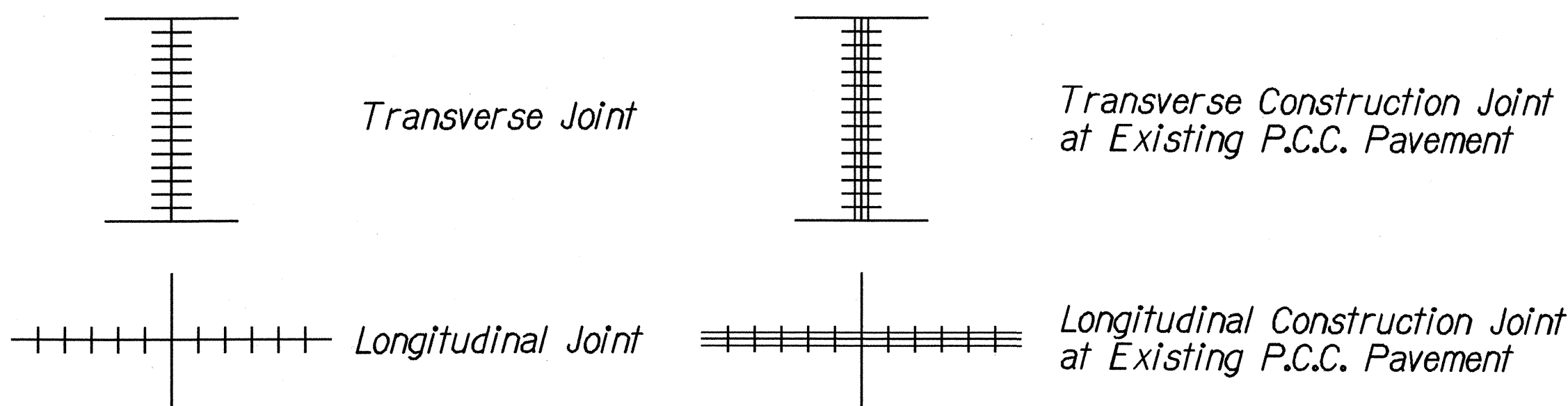
Scale: 1"=20'
Date: Feb., 1999

SHEET No. 2 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	ADD.25	54

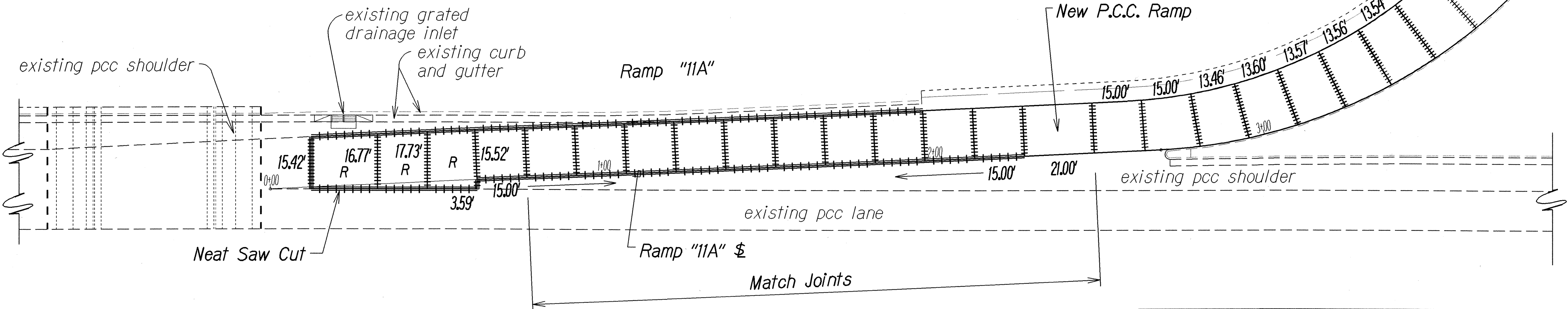
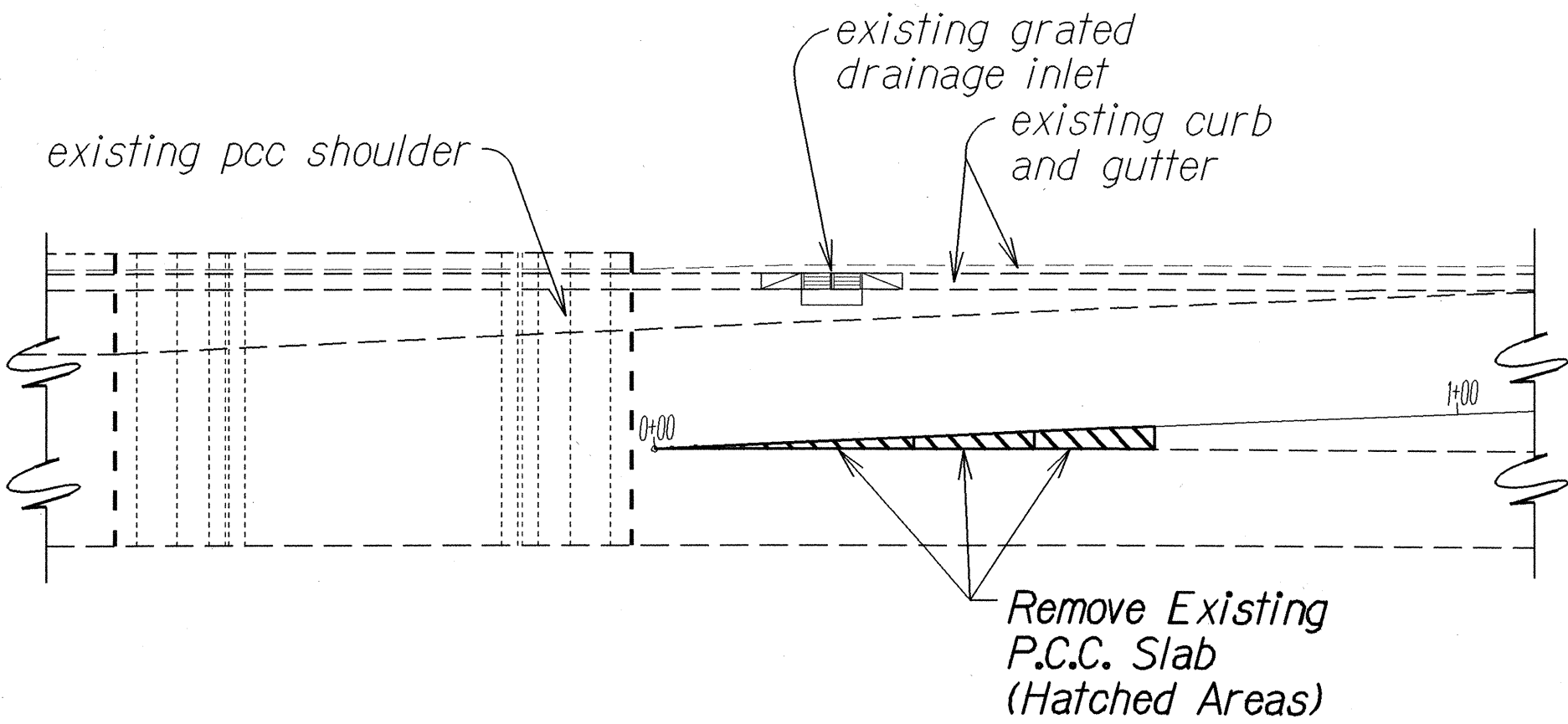
Note: For R and RM (Reinforcing Layout), See Reinforcing Details on Plan Sheet No. 27.

Legend

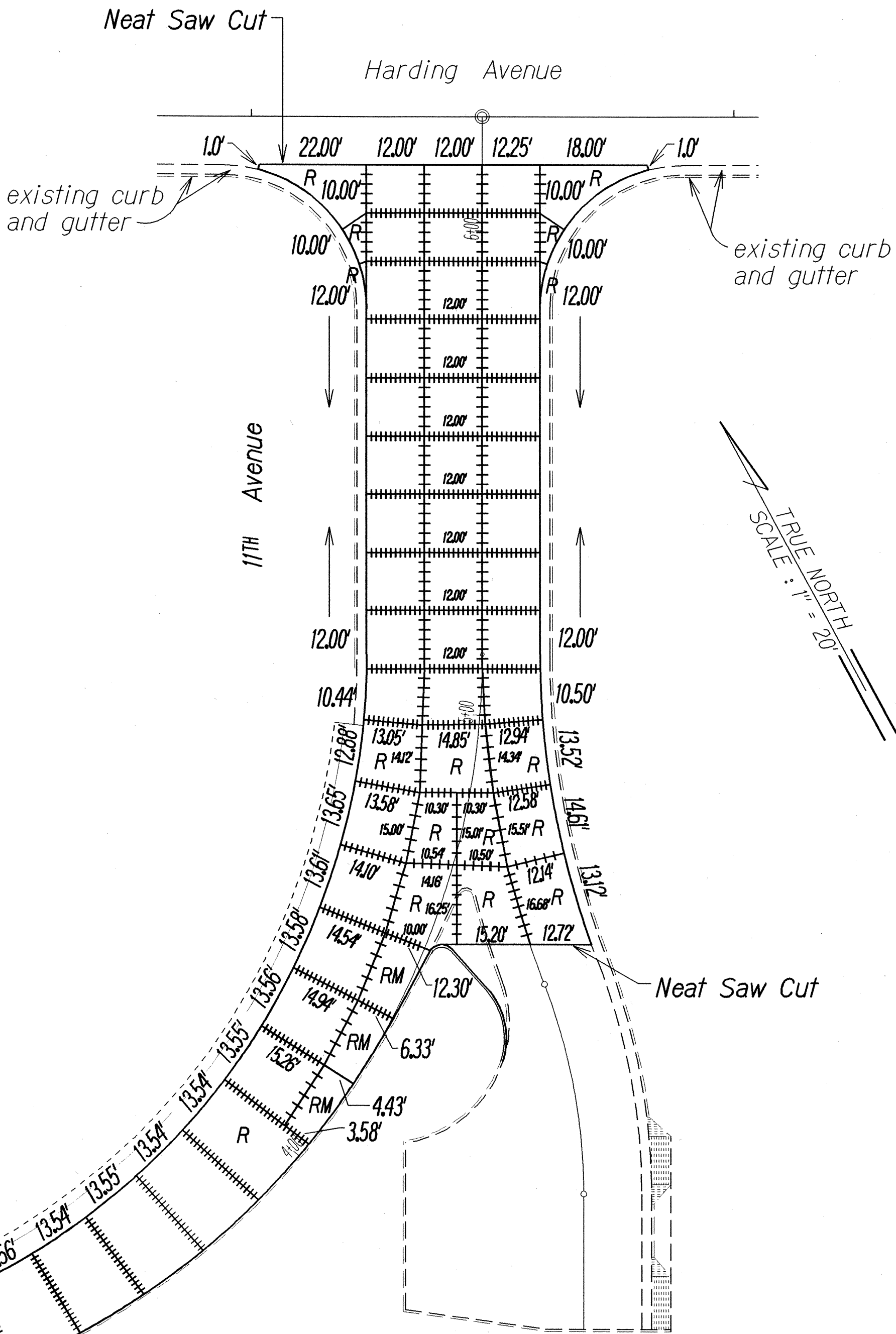


NOTE

It is not critical that the slabs be constructed to the second decimal place. Intent is to obtain slabs that are square and to avoid odd shaped slabs. Length to width ratio should not exceed 1.25, and slabs with narrow pointed corners should be avoided if possible. Reinforce odd shape slabs.



LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting



6-22-99	Added Reinforcing Layout "R" to Slab at Sta. 4+00±.
6-10-99	Revised Reinforcing Plan at Cul-De-Sac.

DATE	REVISION
------	----------

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
REINFORCING PLAN
RAMP "11A"
Interstate Route H-1 Resurfacing On Ramps at 5th and 11th Avenues and Off Ramps at 6th, Koko Head and Waiālae Avenues F.A.I. Project No. NH-HI-1(236)
Scale: 1"=20' Date: Feb., 1999
SHEET No. 3 OF 8 SHEETS

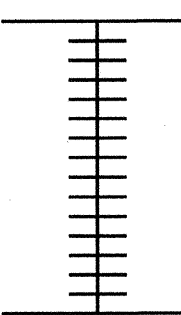
"AS-BUILT"

ADD.25

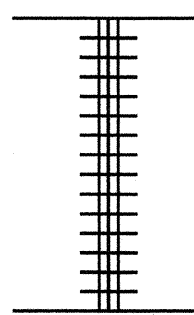
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	26	54

Note: For R and RM (Reinforcing Layout), See Reinforcing Details on Plan Sheet No. 27.

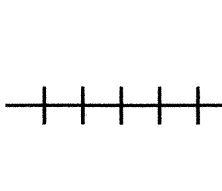
Legend



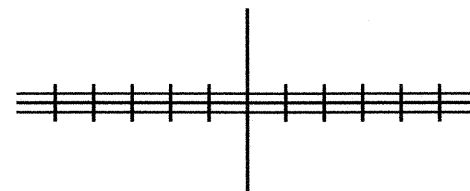
Transverse Joint



Transverse Construction Joint at Existing P.C.C. Pavement



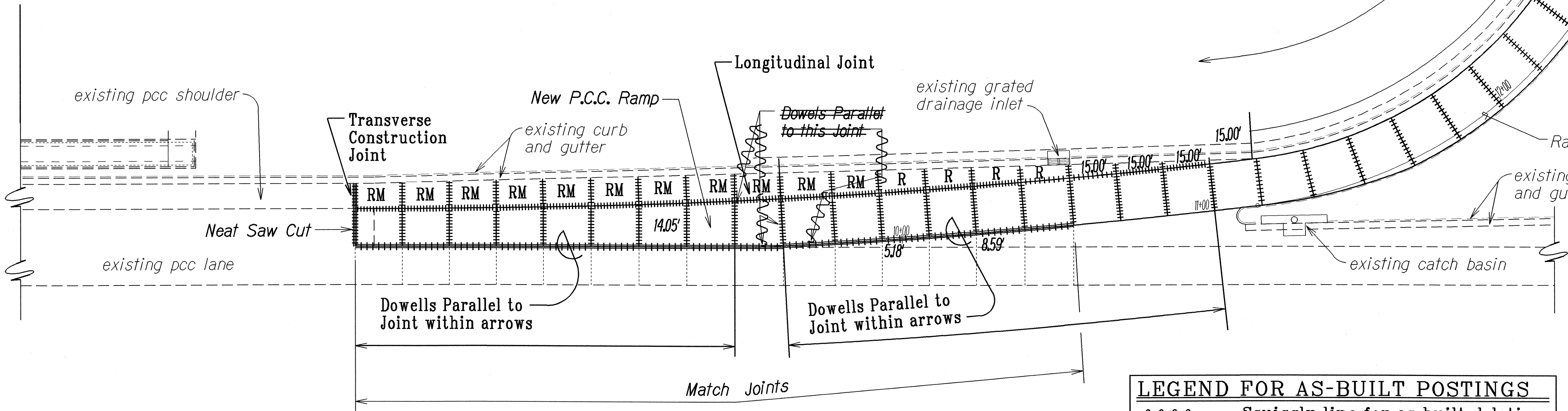
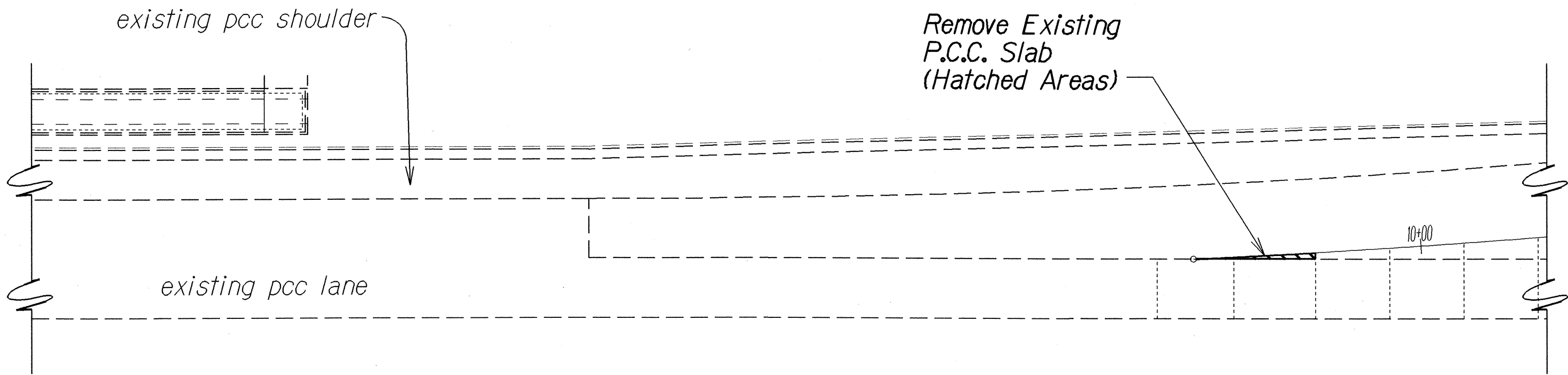
Longitudinal Joint



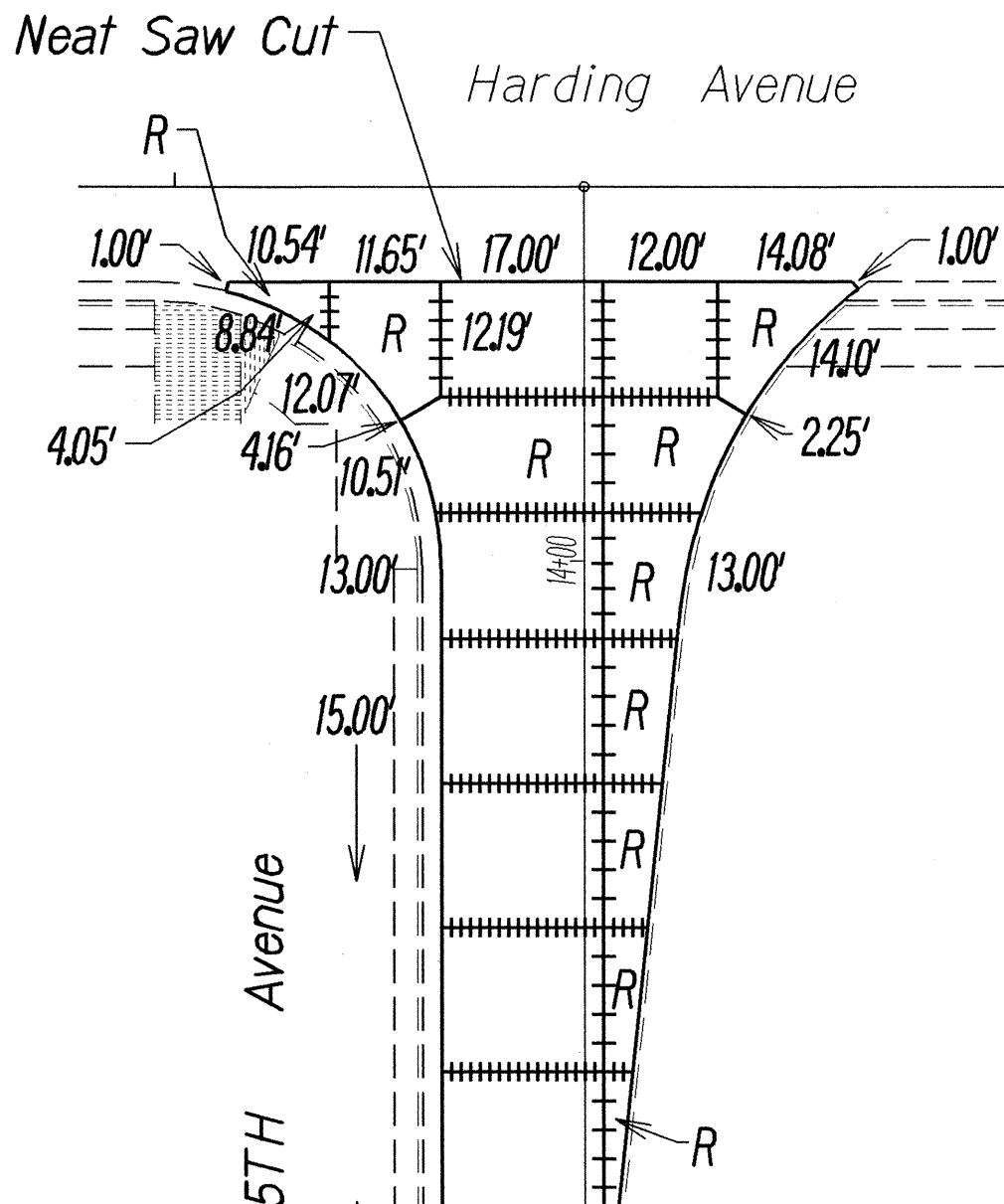
Longitudinal Construction Joint at Existing P.C.C. Pavement

NOTE

It is not critical that the slabs be constructed to the second decimal place. Intent is to obtain slabs that are square and to avoid odd shaped slabs. Length to width ratio should not exceed 1.25, and slabs with narrow pointed corners should be avoided if possible. Reinforce odd shape slabs.



Joints Follow the Radius of the Curve
Dowels are Perpendicular to the Joint



TRUE NORTH
SCALE: 1"=20'

ORIGINAL PLAN	DATE	5-1-99
SURVEY PLOTTED BY		
DRAWN BY		
TRACED BY		
QUANTITIES BY		
CHECKED BY		
NOTE BOOK		
DATE		
BY		
CHECKED BY		

See Plan Sheet 27 for Reinforcing Layout Details.

LEGEND FOR AS-BUILT POSTINGS	
AAAA	Squiggly line for as-built deletion
±±±±	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

REINFORCING PLAN
RAMP "5A"

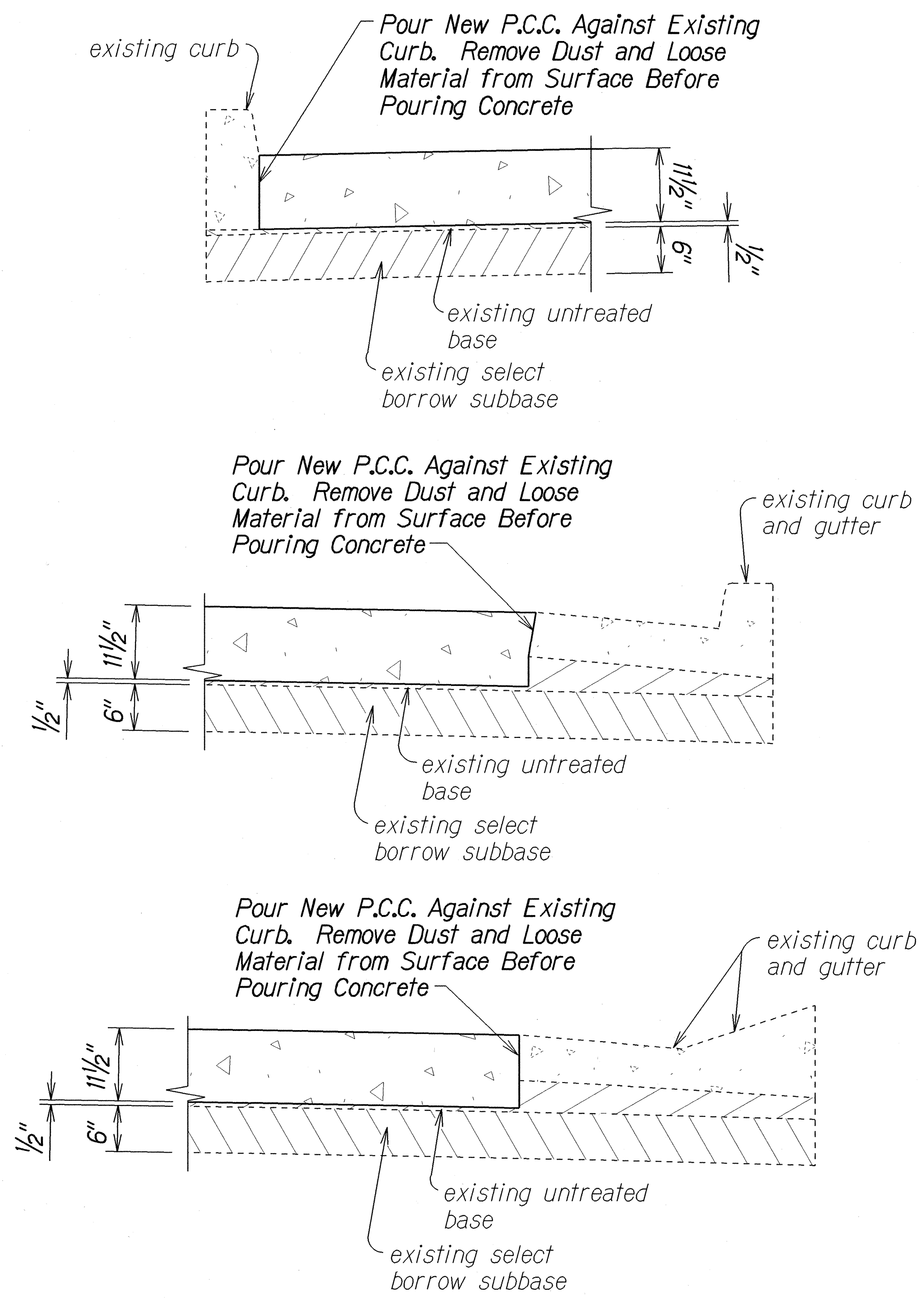
Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waialae Avenues
F.A.I. Project No. NH-HI-1(236)

Scale: 1"=20' Date: Feb., 1999

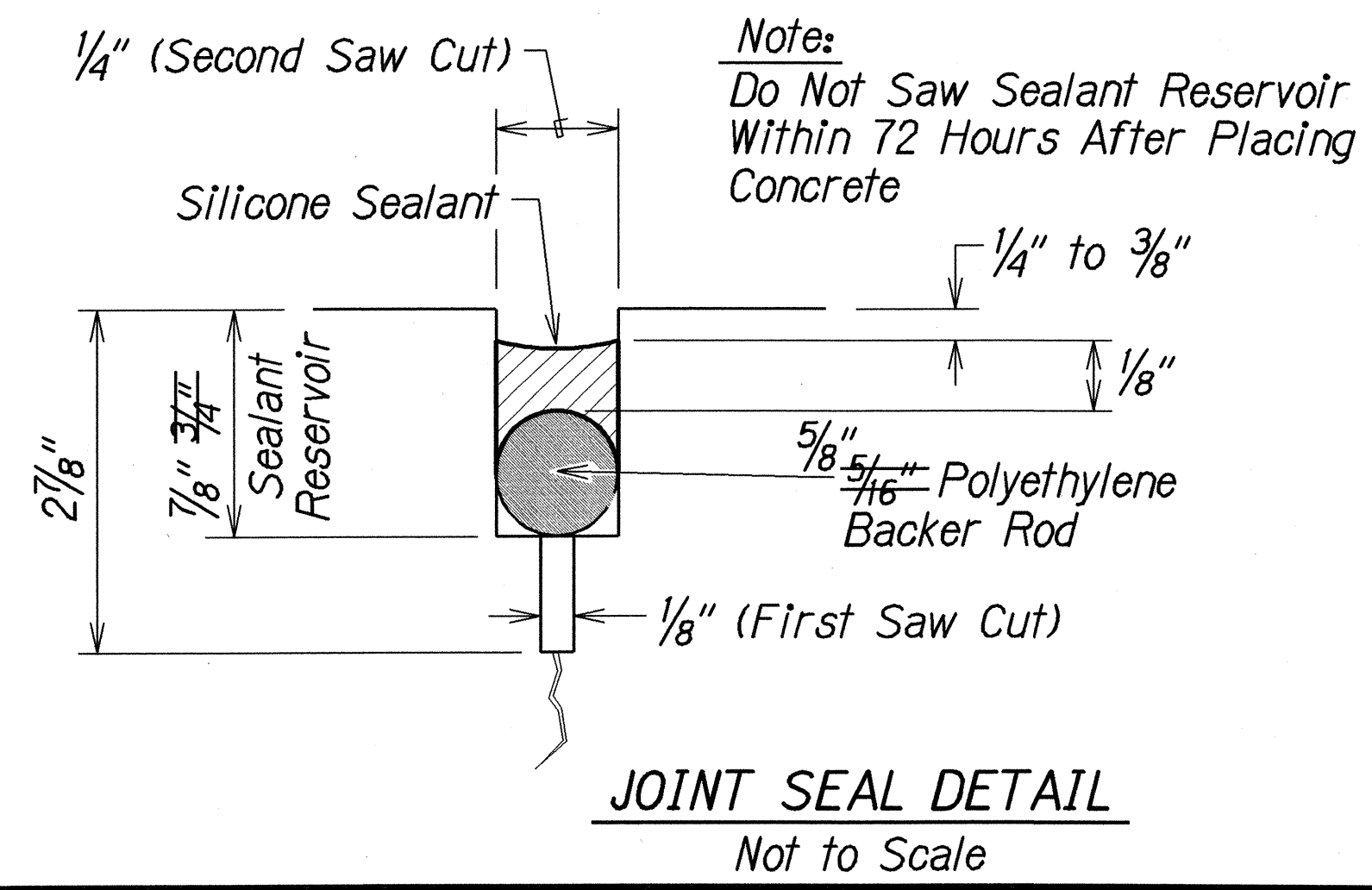
SHEET No. 4 OF 8 SHEETS

"AS-BUILT"

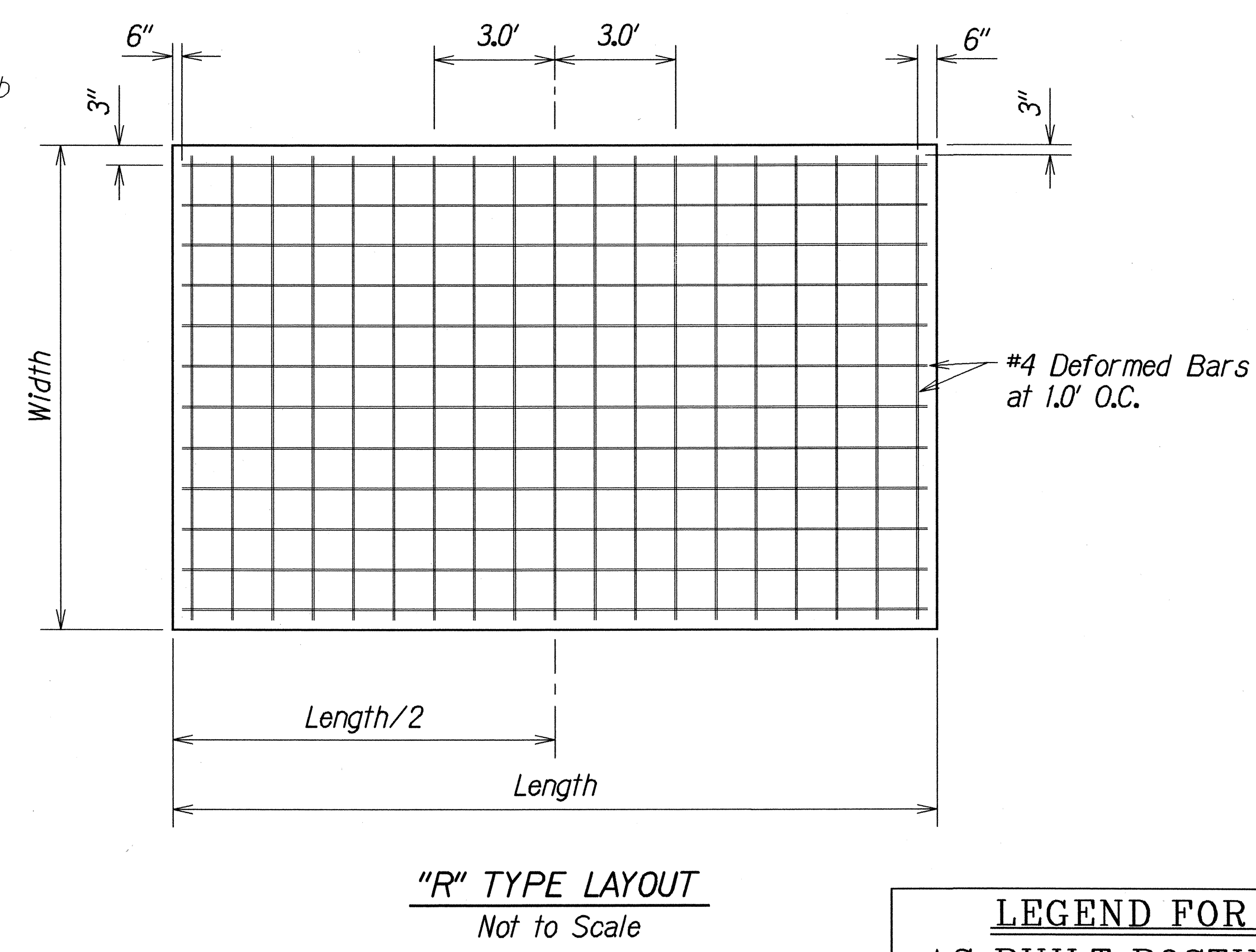
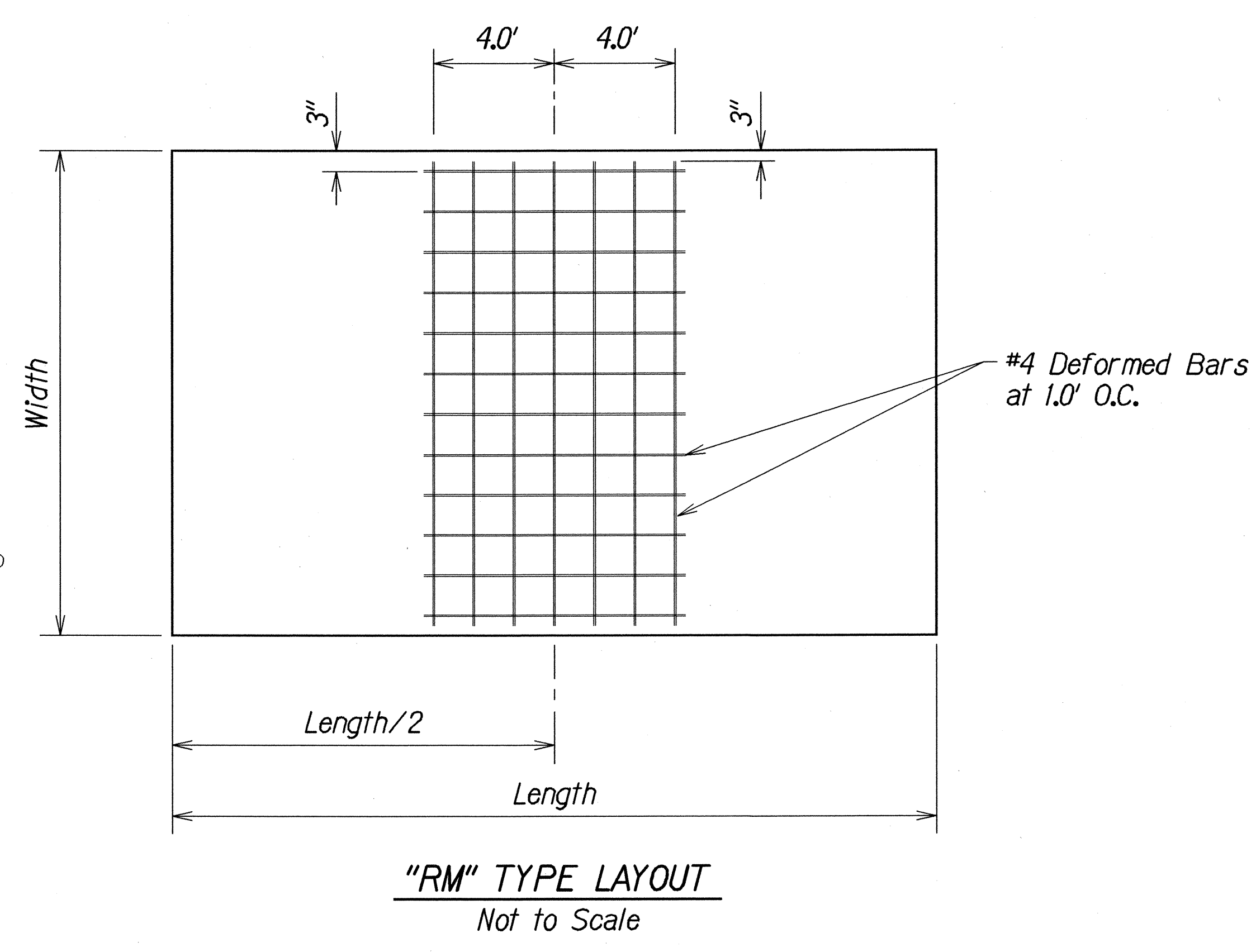
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	27	54



TYPICAL DETAILS



JOINT SEAL DETAIL
Not to Scale



REINFORCING LAYOUT

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS

Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waiale Avenues
F.A.I. Project No. NH-HI-1(236)

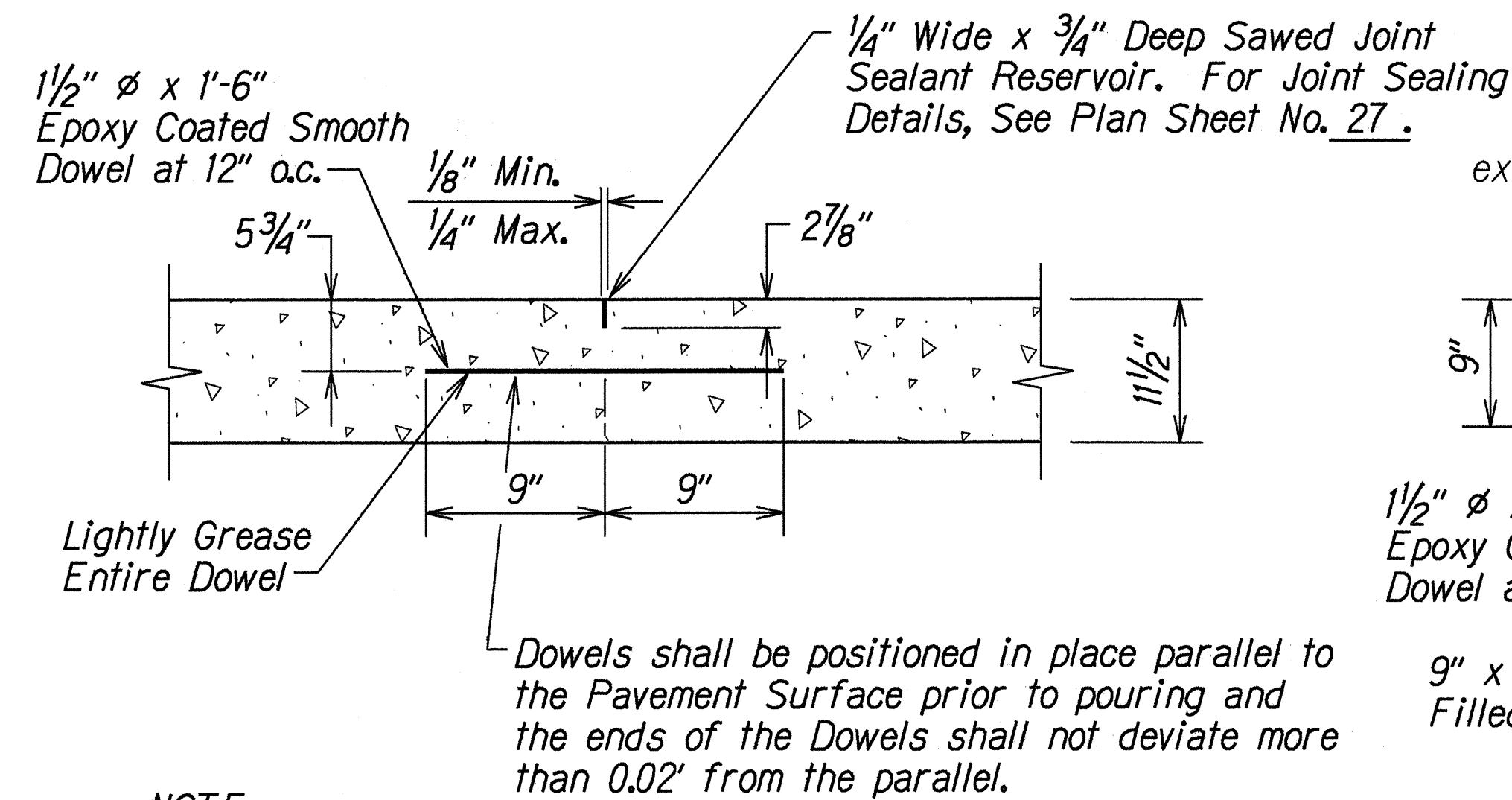
Scale: None Date: Feb, 1999

SHEET No. 5 OF 8 SHEETS

"AS-BUILT"

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	3/16/99
DRAWN BY	G. Adair
TRACED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

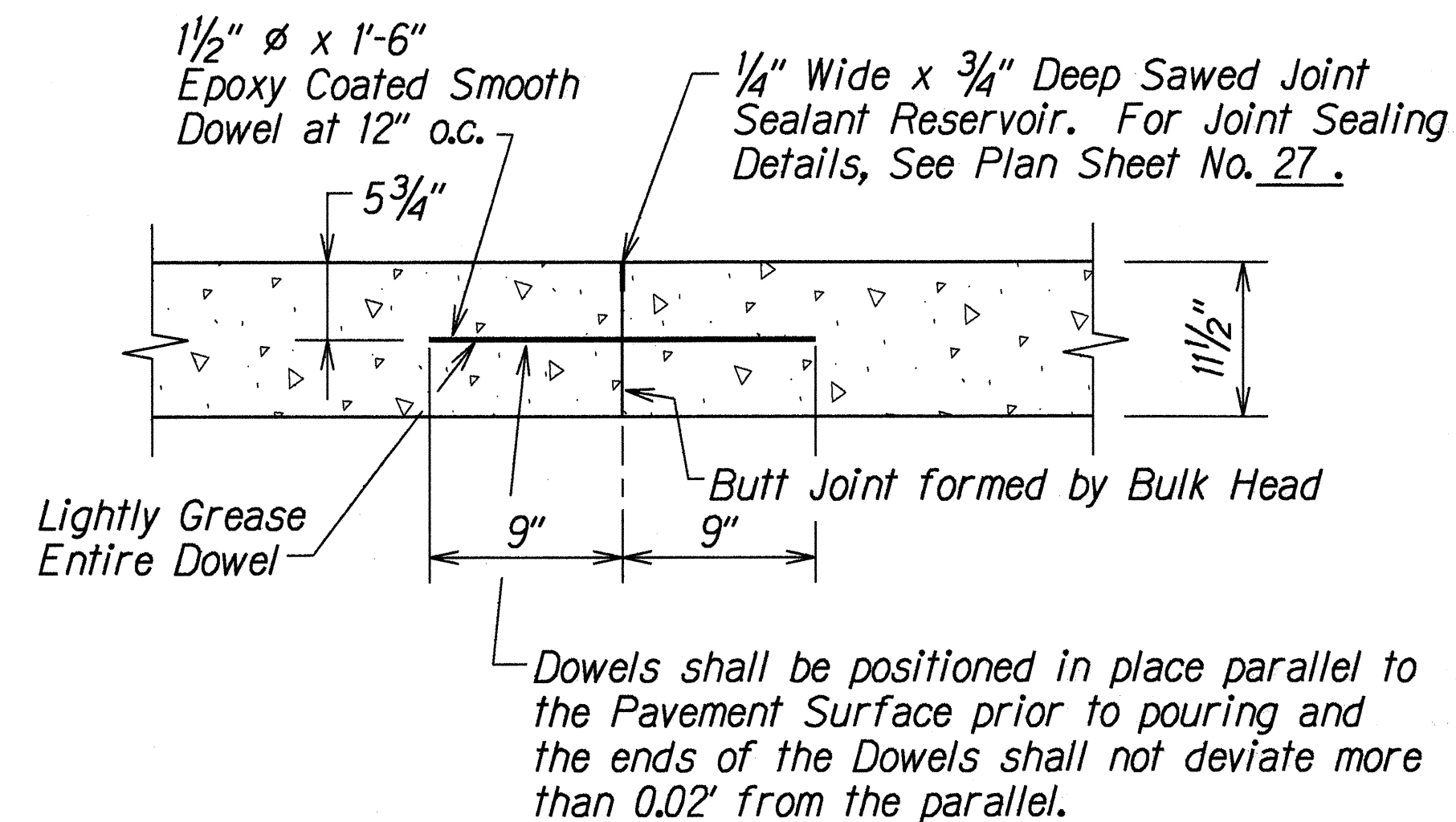
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	ADD.28	54



NOTE:

1. Epoxy Coated Dowels shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
2. See Typical Joint Location and Layout Plan for Transverse Joint Spacing.

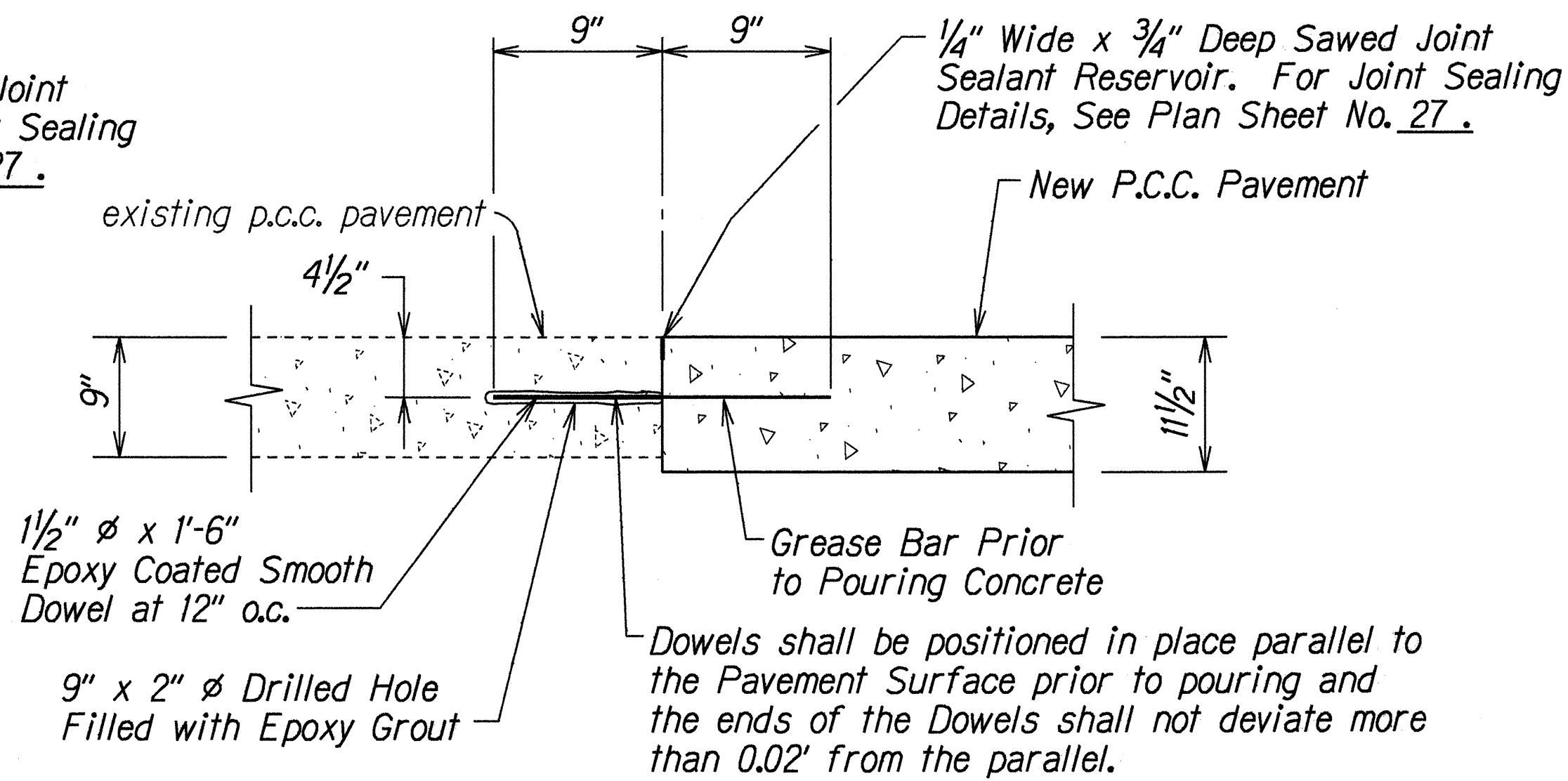
**TRAVERSE CONTRACTION JOINT
(DOWELED JOINT)**
Not to Scale



NOTE:

1. Epoxy Coated Dowels shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
2. Transverse Construction Joints shall be located at a Minimum Distance of 10 Feet from the Nearest Transverse Contraction Joint.

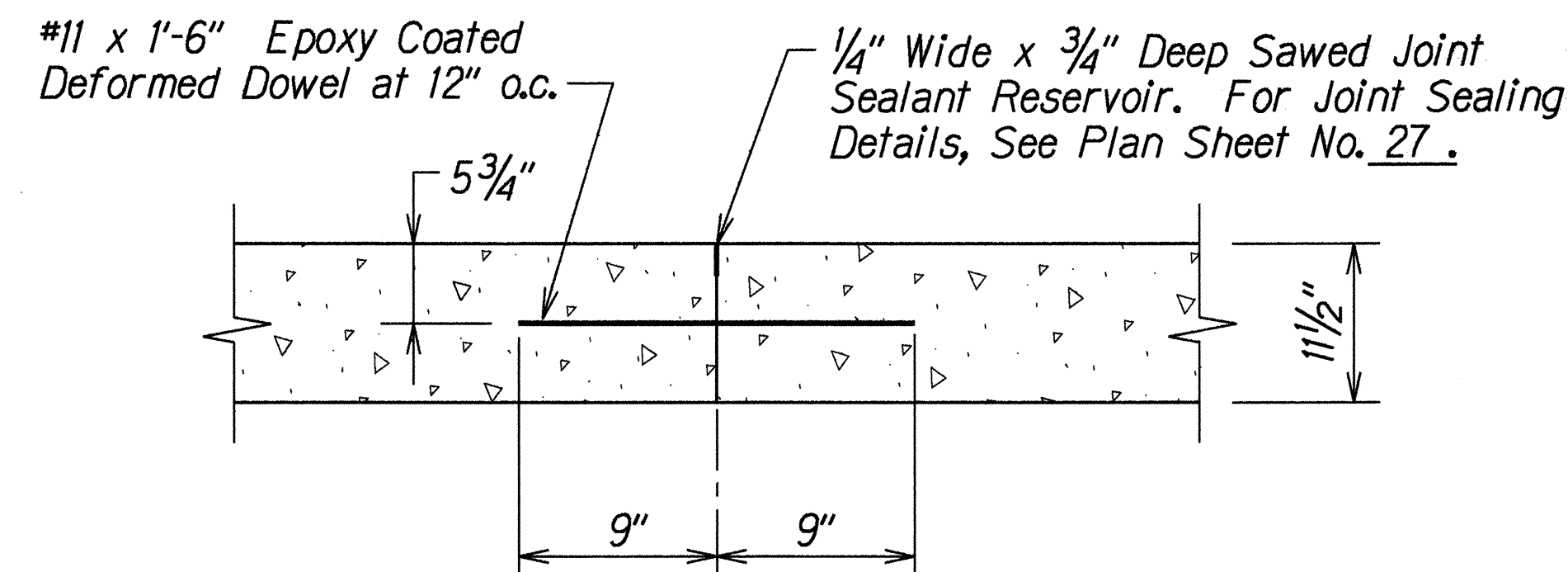
**TRANSVERSE CONSTRUCTION JOINT
AT PLANNED JOINTS**
Not to Scale



NOTE:

1. Epoxy Coated Dowels shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
2. Transverse Construction Joints shall be located at a Minimum Distance of 10 Feet from the Nearest Transverse Contraction Joint.

**TRANSVERSE CONSTRUCTION JOINT
AT EXISTING P.C.C. PAVEMENT**
Not to Scale



NOTE:

1. Epoxy Coated Deformed Bars shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
2. Transverse Construction Joints shall be located at a Minimum Distance of 10 Feet from the Nearest Transverse Contraction Joint.

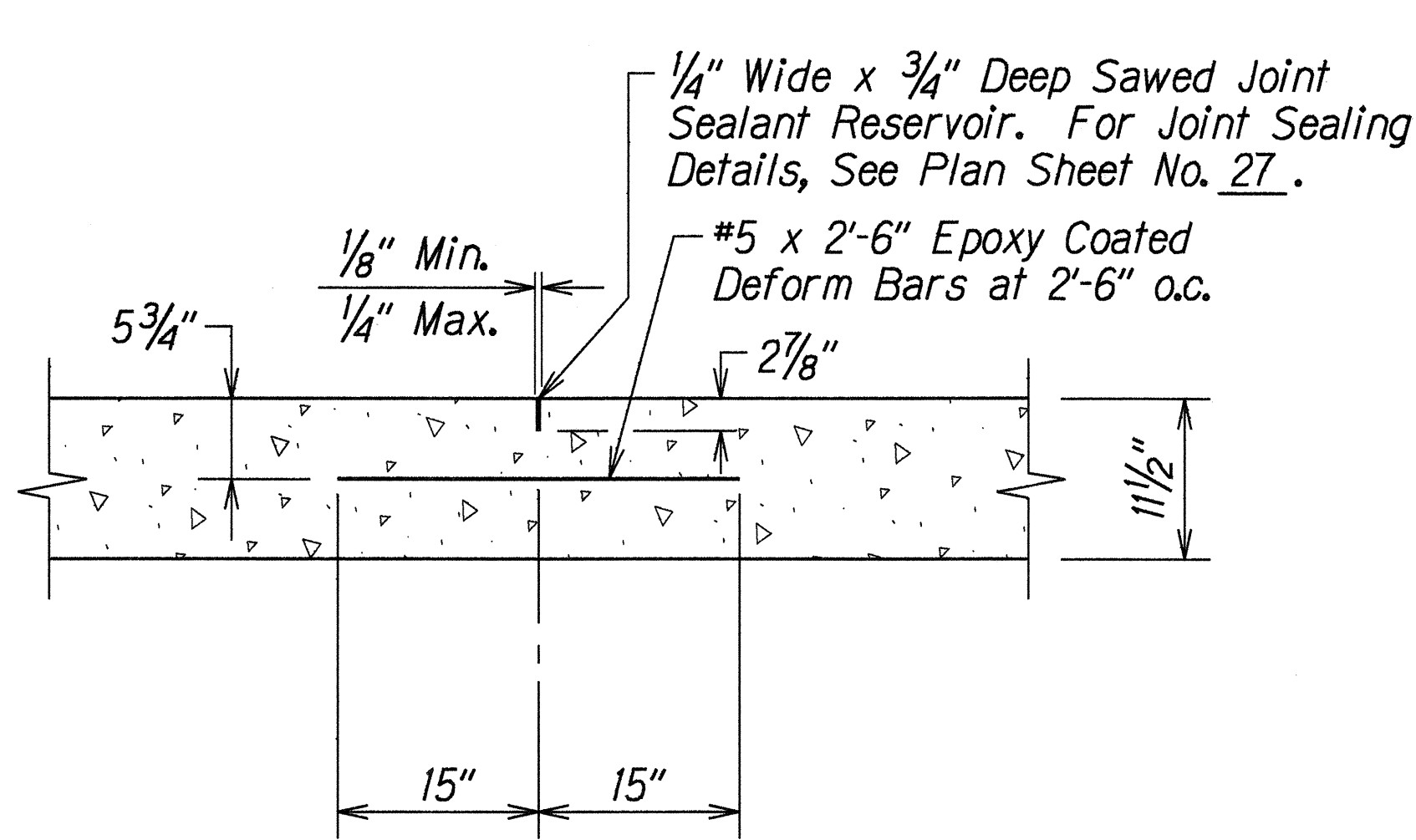
**EMERGENCY TRANSVERSE
CONSTRUCTION JOINT**
Not to Scale

6-22-99	Revised Size of Deformed Dowel for Emergency Transverse Construction Joint.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION TYPICAL DETAILS <i>Interstate Route H-1 Resurfacing</i> <i>On Ramps at 5th and 11th Avenues and</i> <i>Off Ramps at 6th, Koko Head and Waiale Avenues</i> <i>F.A.I. Project No. NH-HI-1(236)</i> Scale: None Date: Feb, 1999	
SHEET NO. 6 OF 8 SHEETS	

ADD.28

ORIGINAL PLAN	DATE
SURVEY PLANNED BY	6/7/99
DRAWN BY G. Alvarado	
NOTED BY J. L. Williams, M. A. J. J.	
CHECKED BY	

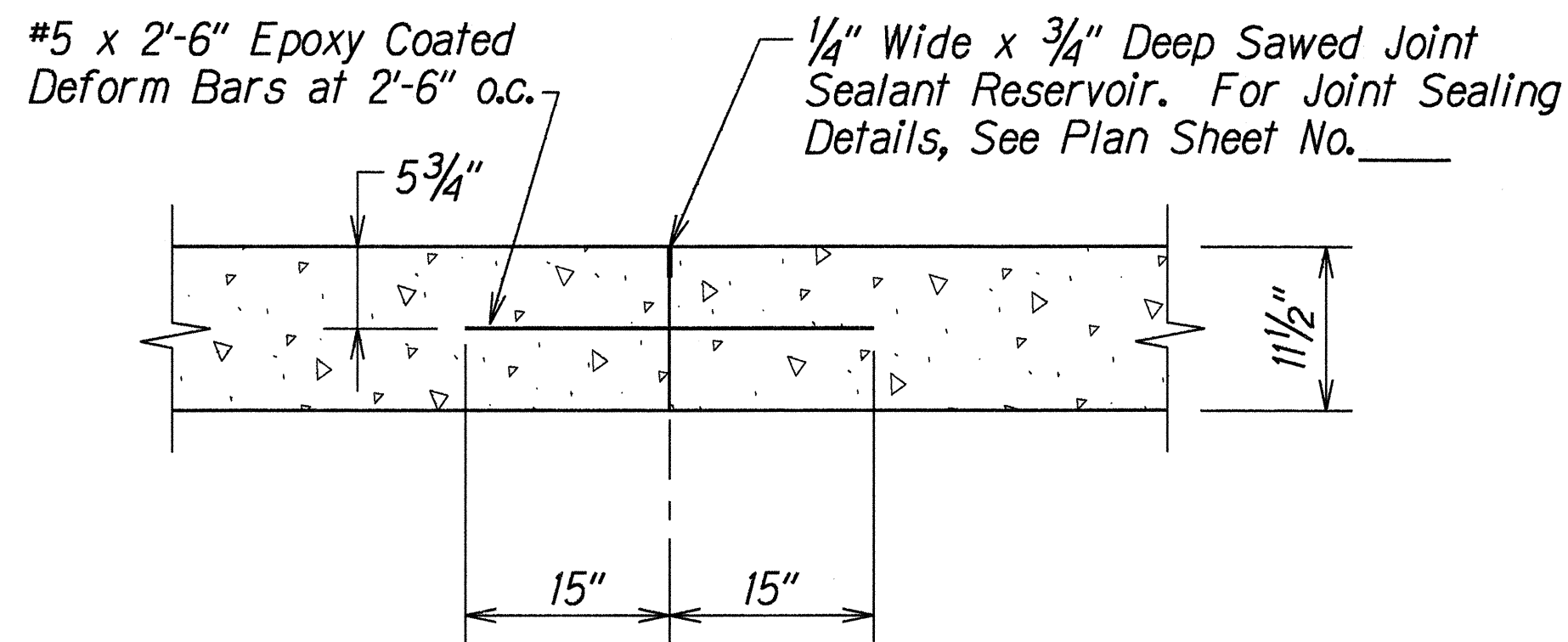
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	29	54



NOTE:

- Epoxy Coated Tiebars shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
- Minimum Distance Tiebars are to be located from a Transverse Joint is 15 inches. Tiebars closer to the Transverse Joint can interfere with Joint Movement.

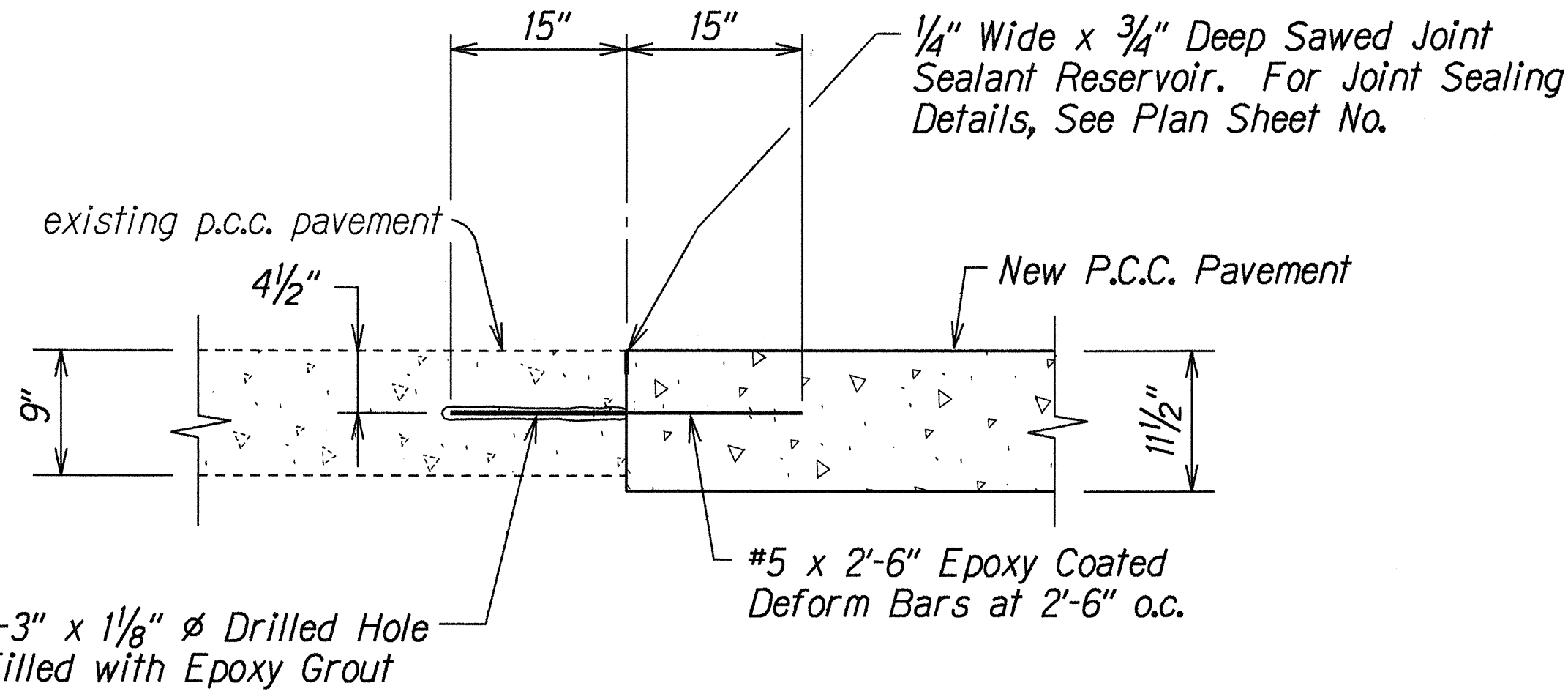
LONGITUDINAL CONTRACTION JOINT
Not to Scale



NOTE:

- Epoxy Coated Tiebars shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
- Minimum Distance Tiebars are to be located from a Transverse Joint is 15 inches. Tiebars closer to the Transverse Joint can interfere with Joint Movement.

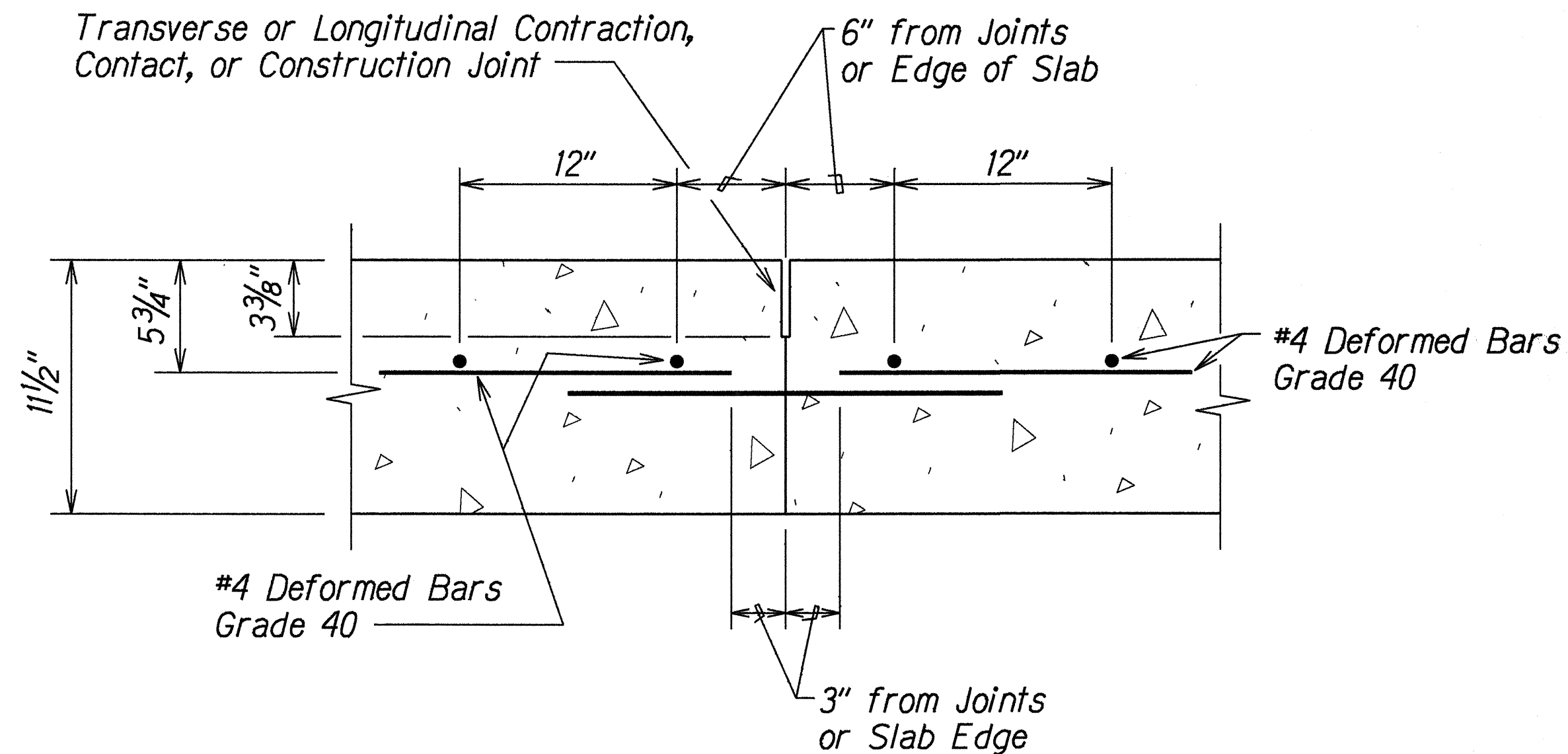
LONGITUDINAL CONSTRUCTION JOINT
Not to Scale



NOTE:

- Epoxy Coated Deformed Bars shall Conform to AASHTO M284/M 284/M-95 Grade, 40 or 60.
- Transverse Construction Joints shall be located at a Minimum Distance of 10 Feet from the Nearest Transverse Contraction Joint.

LONGITUDINAL CONSTRUCTION JOINT
AT EXISTING P.C.C. PAVEMENT
Not to Scale



Note

- Orient Bars Parallel to the Transverse and Longitudinal Joints.
- One (1) Bar in Each Foot of Transverse and Longitudinal Length.
- Adjust Placement of Reinforcing Bars to Avoid Interfering with the Movement of the Dowels.

REINFORCEMENT TYPICAL SECTION
Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waiale Avenues
F.A.I. Project No. NH-HI-1(236)
Scale: None Date: Feb., 1999
SHEET No. 7 OF 8 SHEETS

ORIGINAL PLAN	DATE
DESIGNED BY	6/1/98
DRAWN BY	
CHECKED BY	
APPROVED BY	
NOTED BY	
QUANTITIES BY	
REVISIONS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-HI-1(236)	1999	30	54

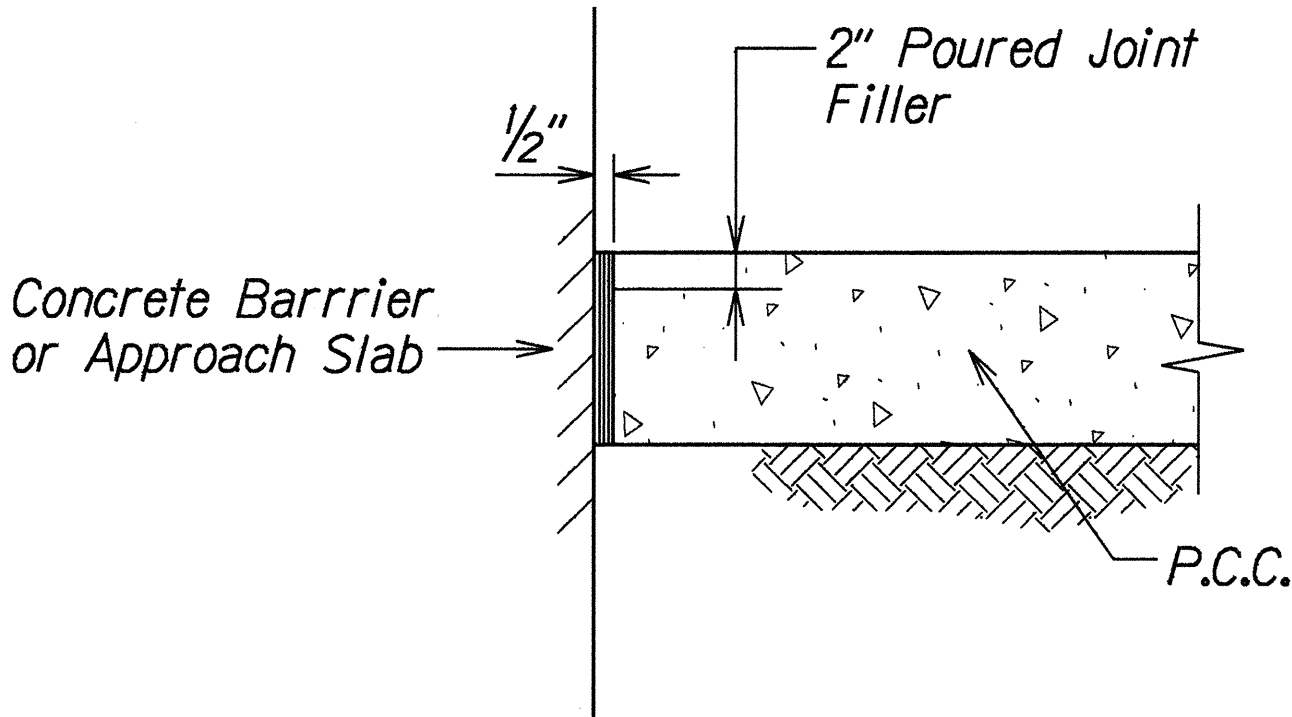
NOTE:

1. Install isolation joints to allow the slab to move independently of objects that will not move evenly with the slab to minimize stress in the slab.
2. Minimize the amount of openings within the slab to minimize the areas from which cracking can occur. Listed below are considerations that can minimize cracking from openings in the slab.

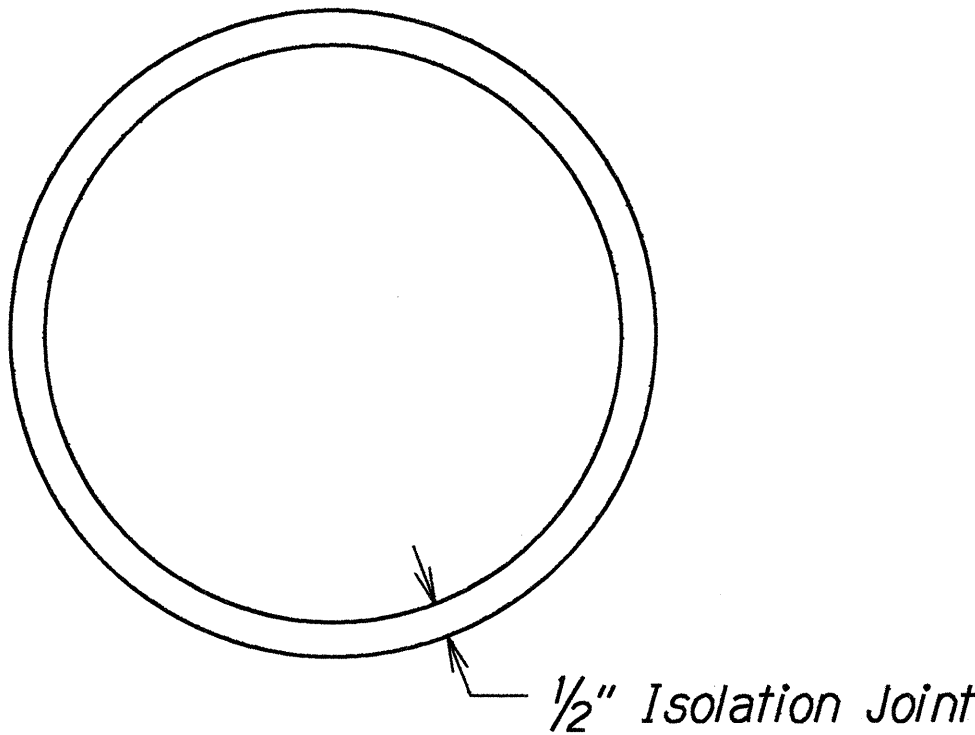
Install reinforcing bars at the corners as shown below.

Use circular openings.

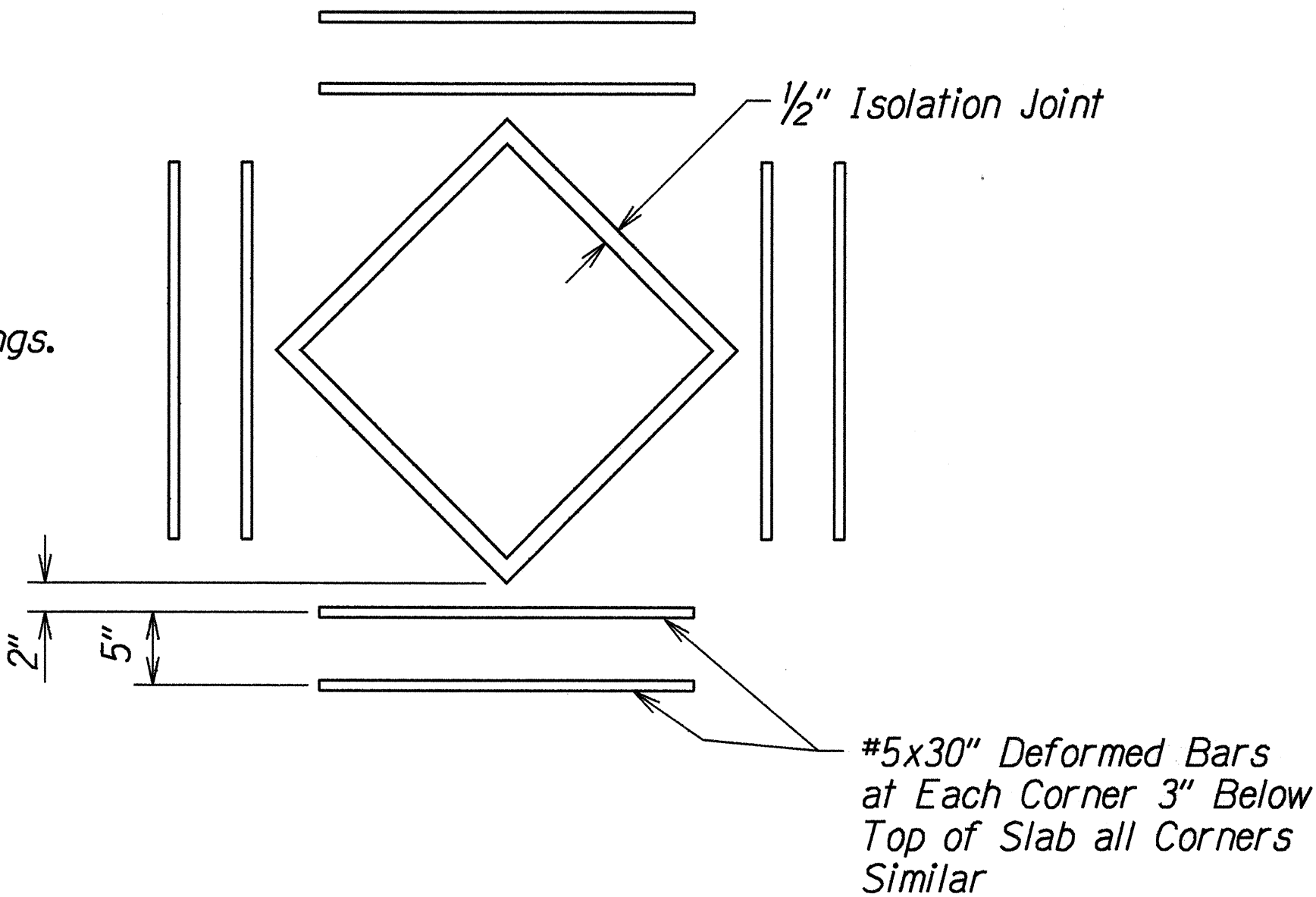
Install the openings along a joint.
3. Locate openings in the slab that require access in a manner that minimizes the number of travelway lanes that need to be shut down when accessing the openings.



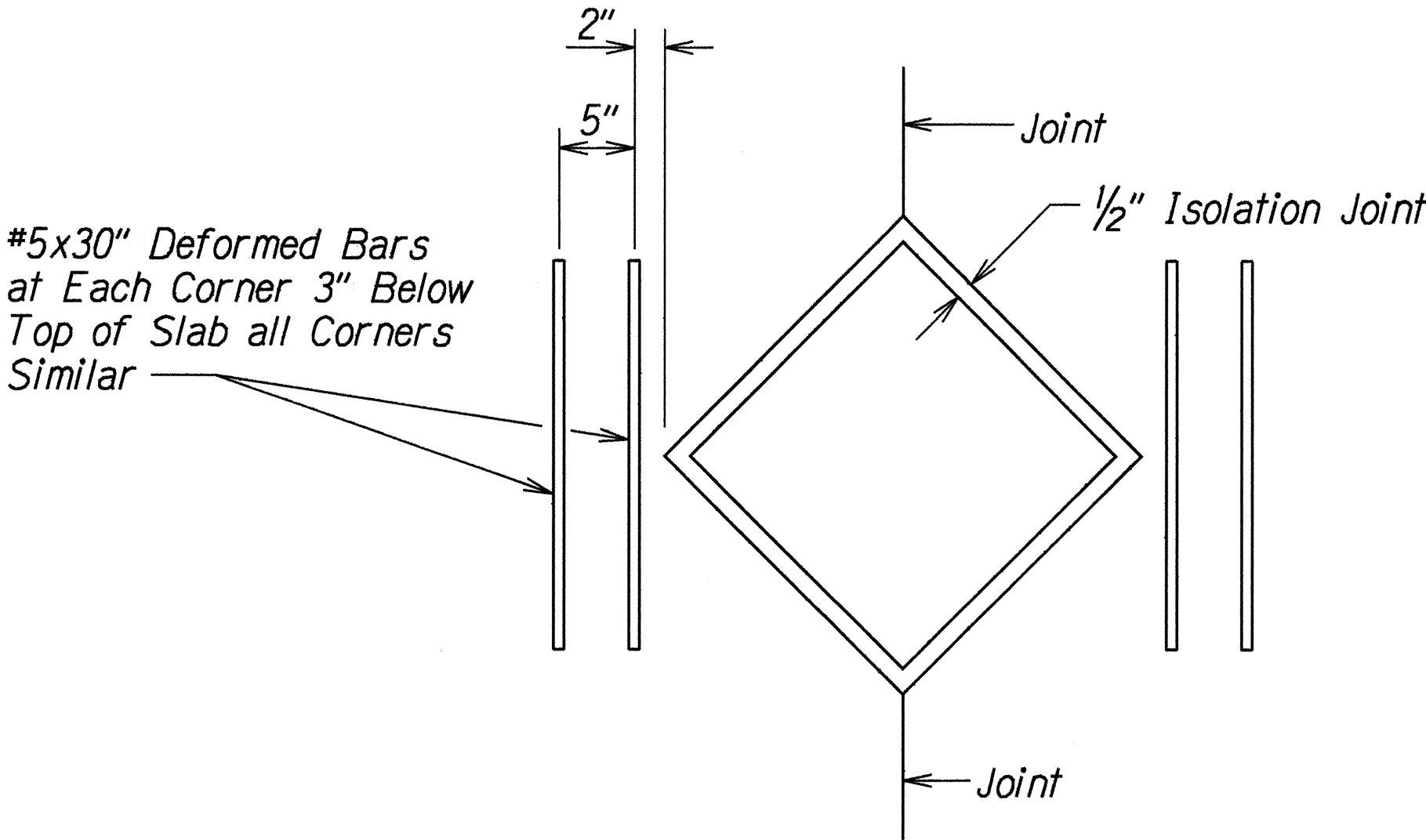
EXPANSION JOINT DETAIL
Not to Scale



CIRCULAR OPENING DETAIL
Not to Scale



OPENINGS WITH CORNERS
INSIDE SLAB DETAIL
Not to Scale

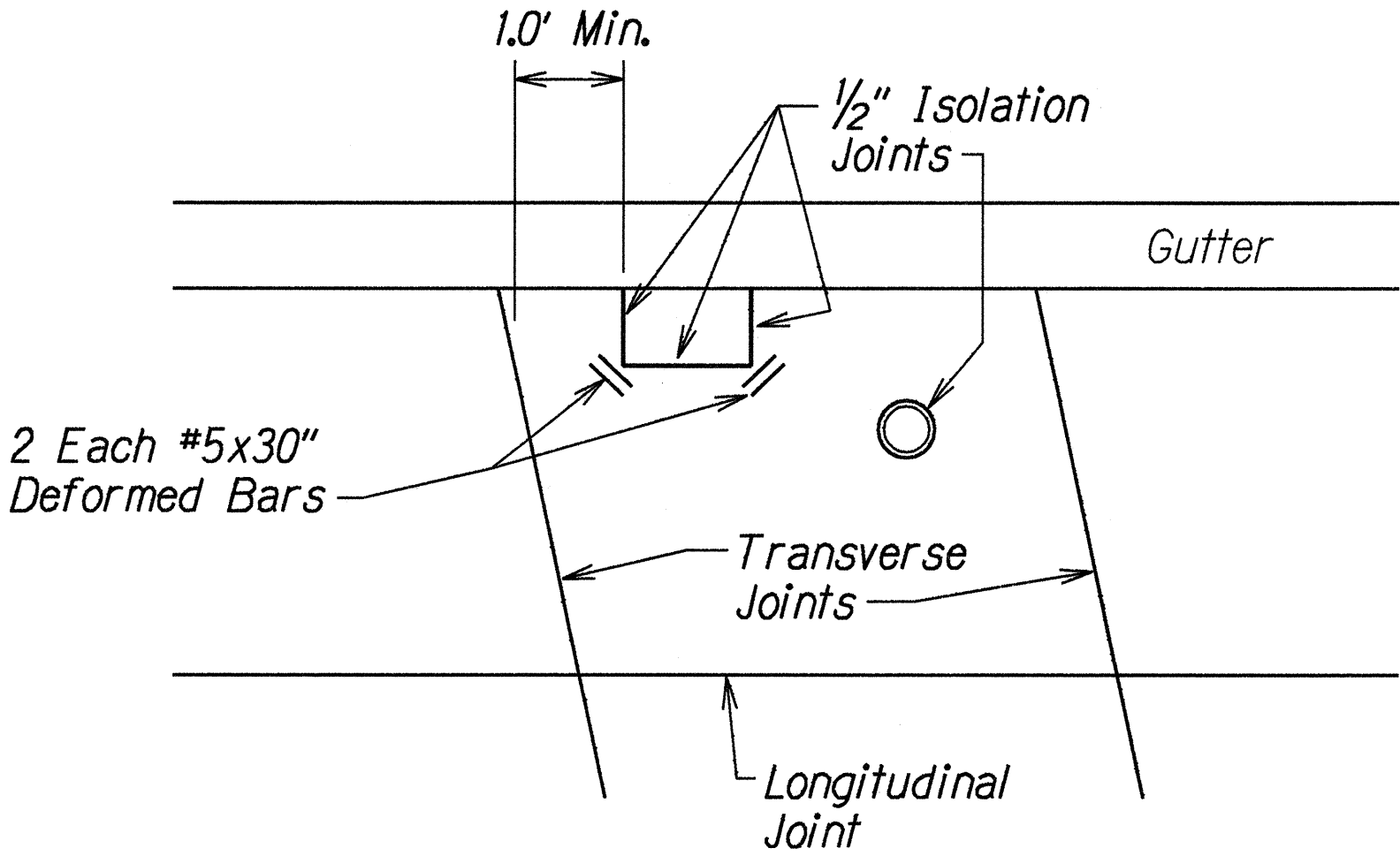


Avoid locating access openings along or near the longitudinal joints that separate two travelway lanes.

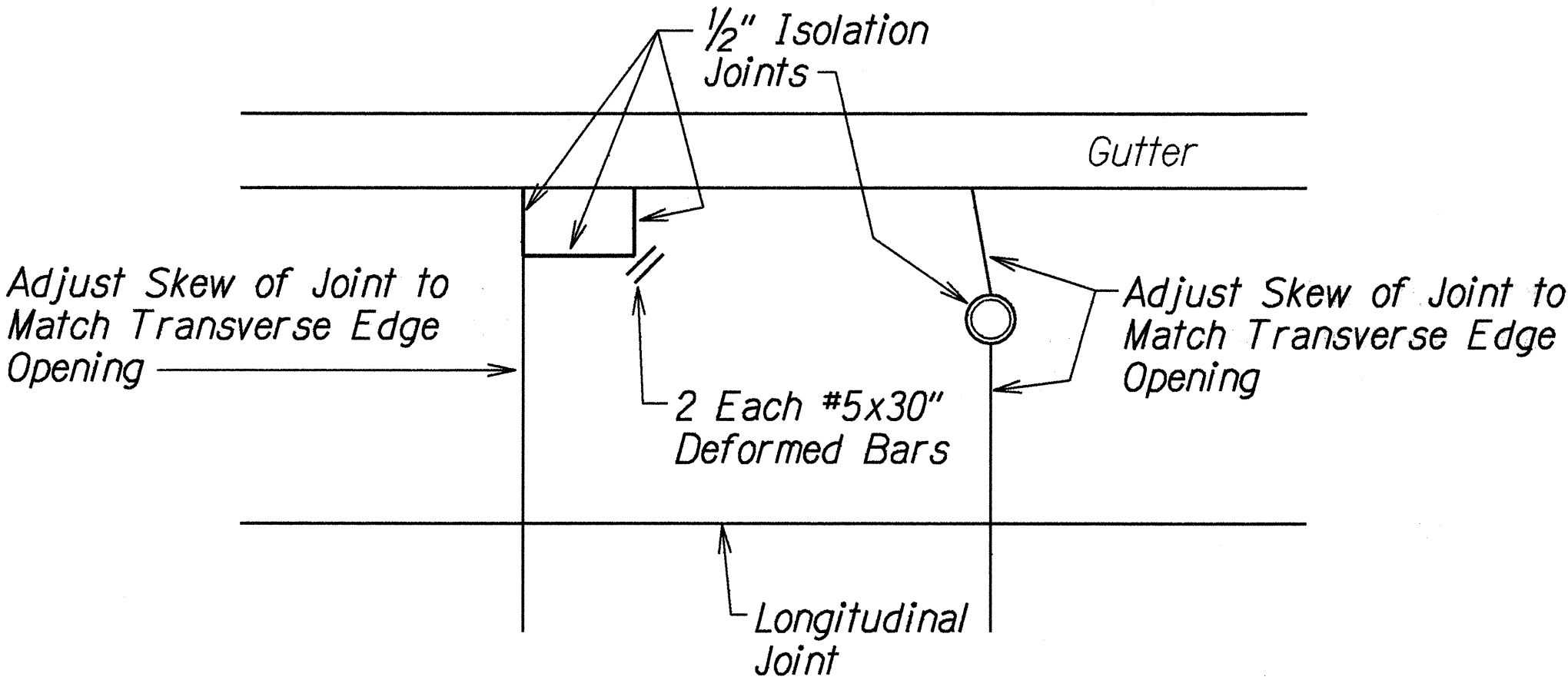
OPENINGS WITH CORNERS -
CORNERS AT A JOINT DETAIL
Not to Scale

NOTES:

1. Locate openings along joints and configured to minimizes the amount of corners within the slab.
2. Avoid locating access openings along or near the longitudinal joints that separate two travelway lanes.



OPENINGS AWAY FROM JOINTS DETAIL
Not to Scale



OPENINGS NEAR JOINTS DETAIL
Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL DETAILS
Interstate Route H-1 Resurfacing
On Ramps at 5th and 11th Avenues and
Off Ramps at 6th, Koko Head and Waiale Avenues
F.A.I. Project No. NH-HI-1(236)
Scale: None Date: Feb, 1999

SHEET No. 8 OF 8 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY G. Alameda	5/7/99
DESIGNED BY J. Hultman, M. Aute	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
DATE	
BY	