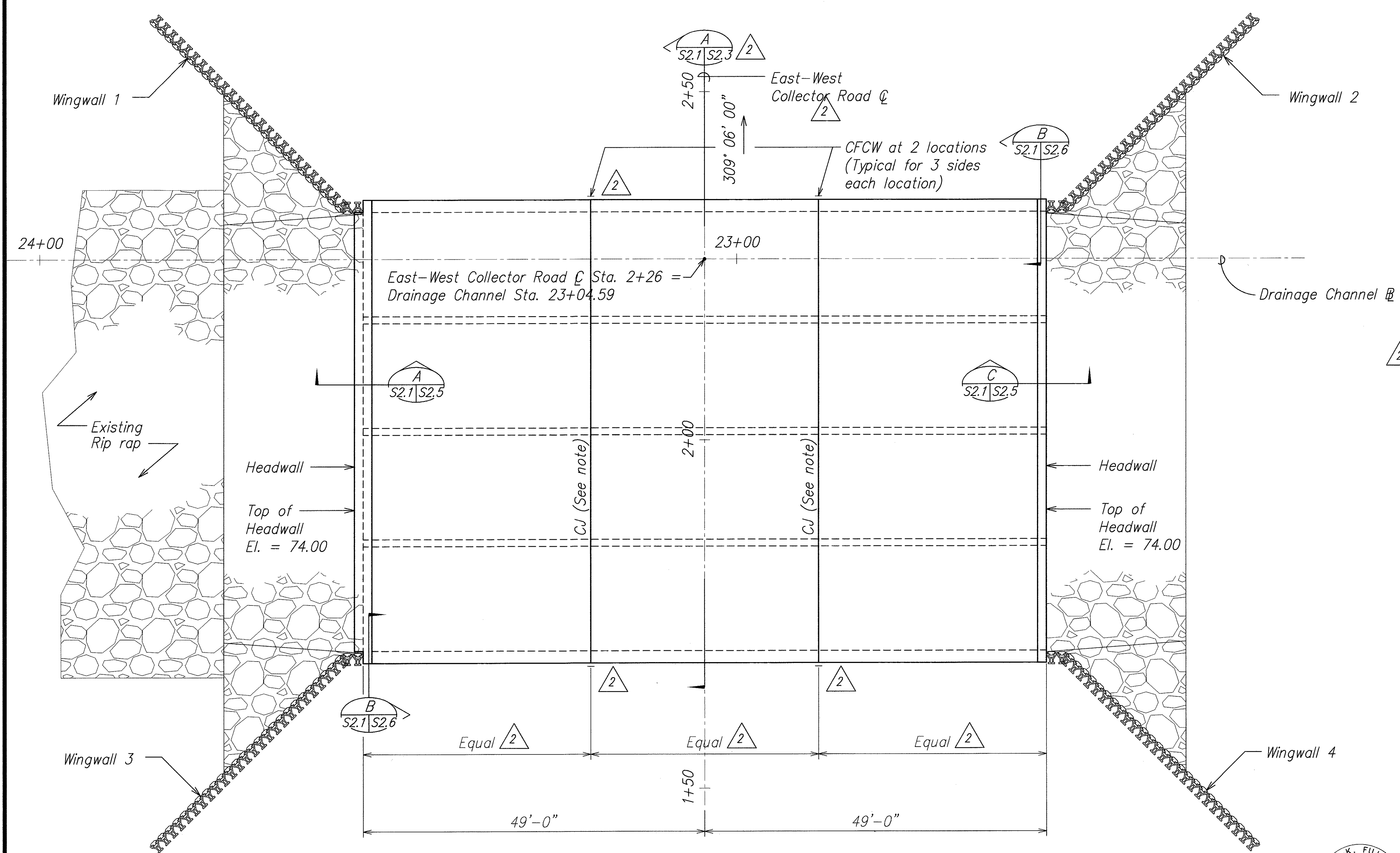


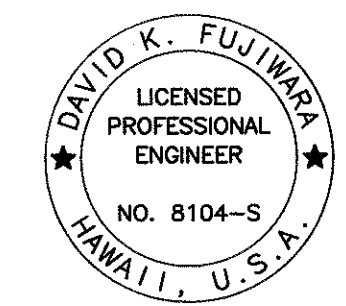
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 190	331



Note:
Contractor shall wait a minimum of seven (7) days between adjacent concrete pours.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

EAST-WEST COLLECTOR ROAD
CULVERT - LAYOUT PLAN
Scale: 1/8" = 1'-0"



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Signature: David K. Fujiwara
EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	2 Revised and Added Notes, Added Dimensions
DATE	REVISION

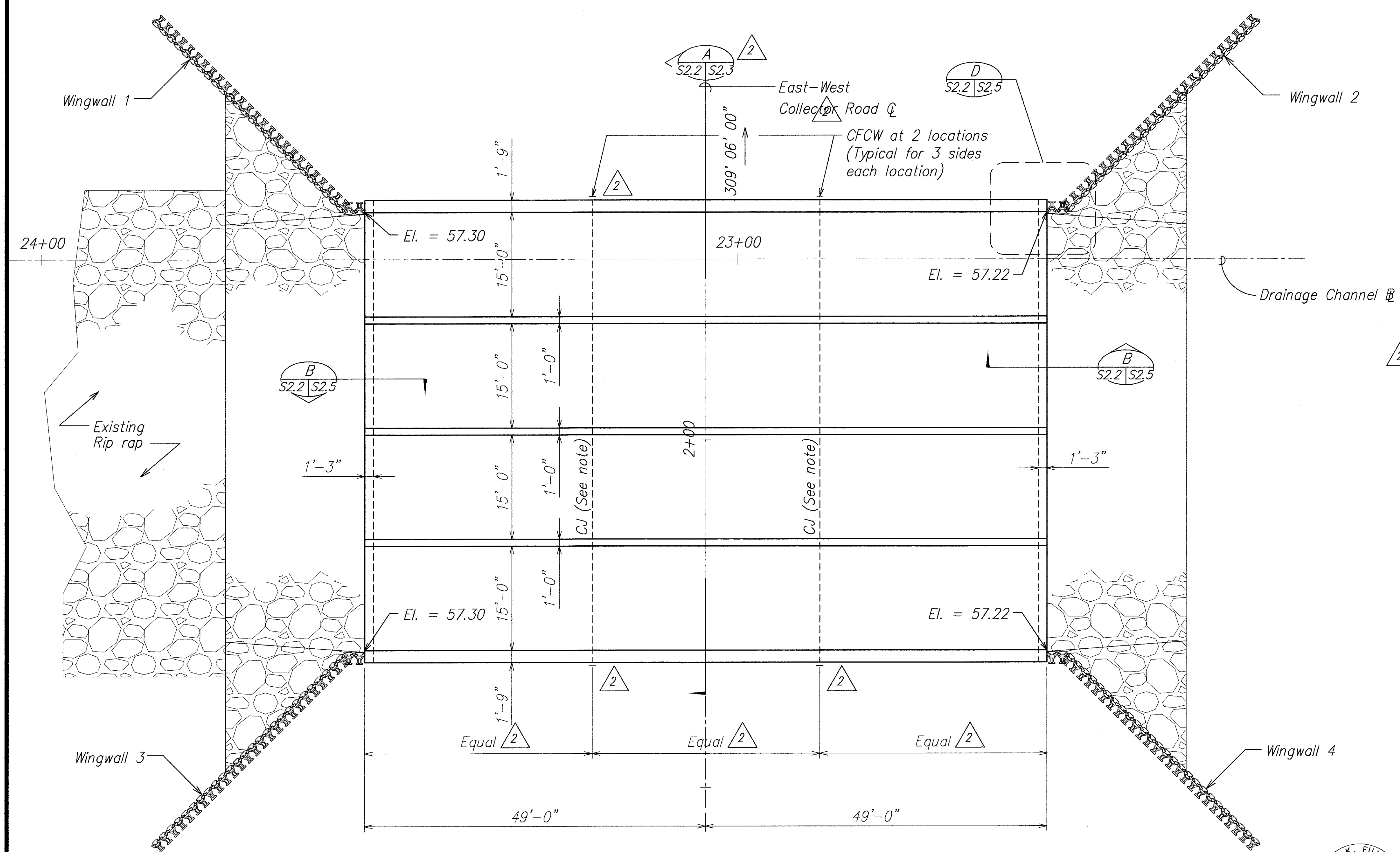
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EAST-WEST COLLECTOR ROAD CULVERT
LAYOUT PLAN
North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

Scale: As Noted Date: Feb. 21, 2007

SHEET No. S2.1 OF 78 SHEETS

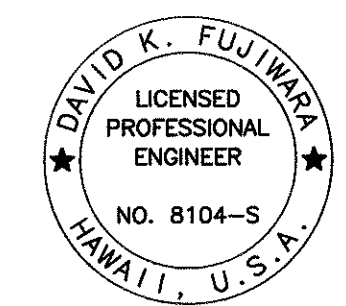
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 191	331



Note:
Contractor shall wait a minimum of seven (7) days between adjacent concrete pours.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

EAST-WEST COLLECTOR ROAD
CULVERT - FOUNDATION PLAN
Scale: 1/8" = 1'-0"

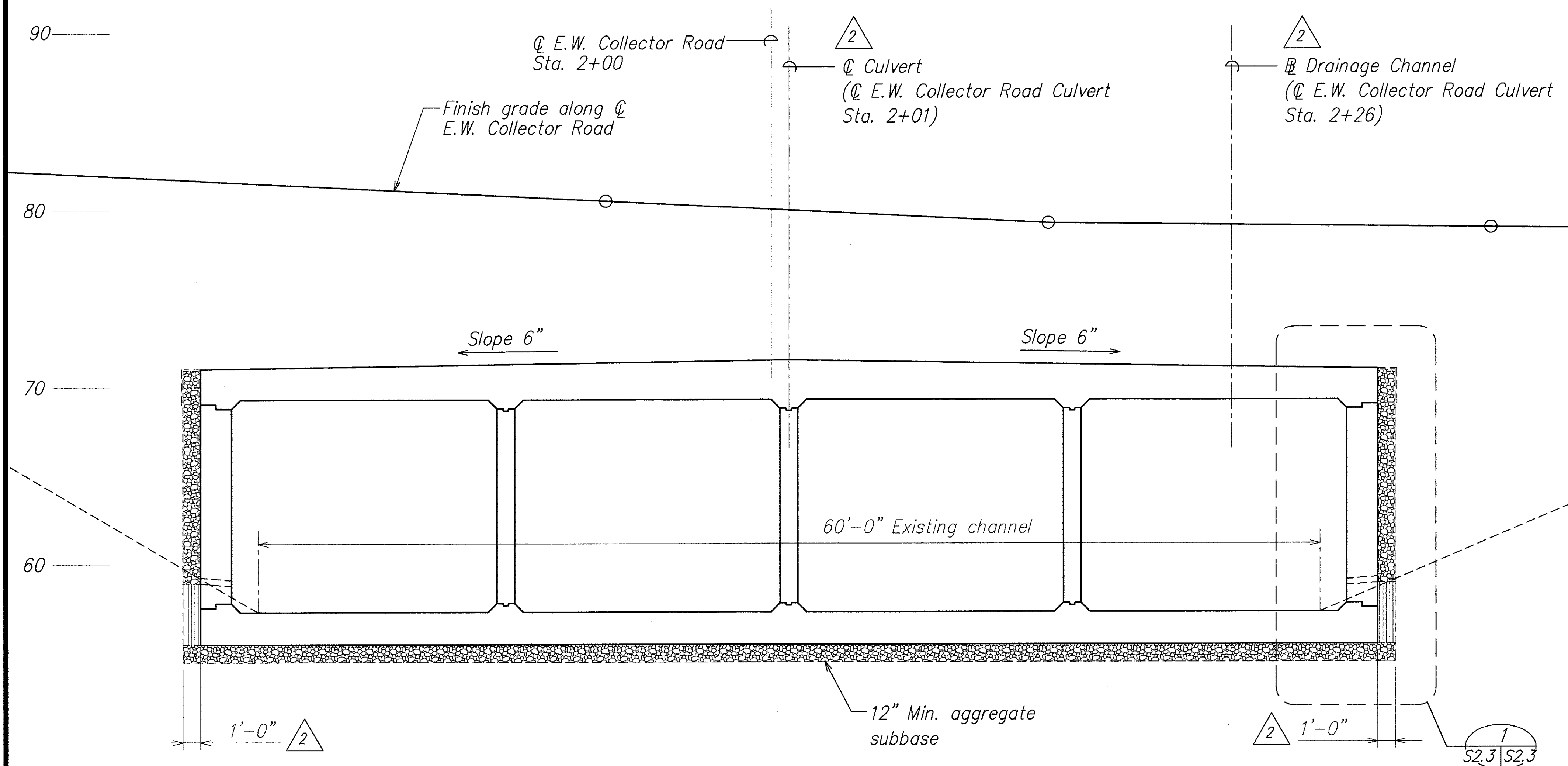


THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

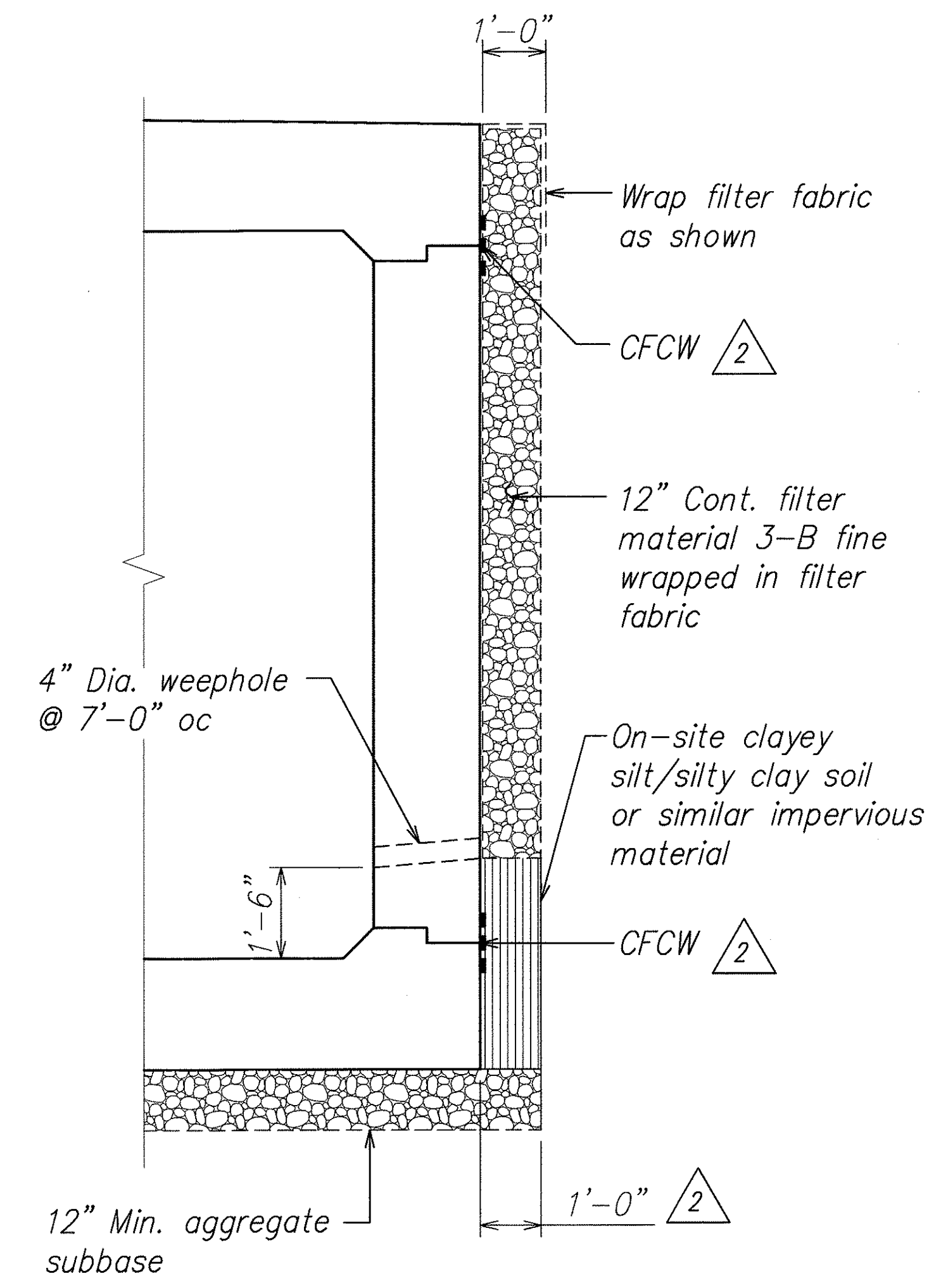
SIGNATURE: David K. Fujiwara
EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	2	Added Notes and Dimensions
DATE	REVISION	
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EAST-WEST COLLECTOR ROAD CULVERT FOUNDATION PLAN North-South Road Phase 1B F.A.I. Proj. No. STP-8930(2) Scale: As Noted Date: Feb. 21, 2007 SHEET No. S2.2 OF 78 SHEETS		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 192	331



LONGITUDINAL SECTION ALONG ROAD CENTERLINE
 Scale: 1/4" = 1'-0"
 S2.2 A S2.1 S2.3



DETAIL
 Scale: 1/2" = 1'-0"
 S2.3 1 S2.3

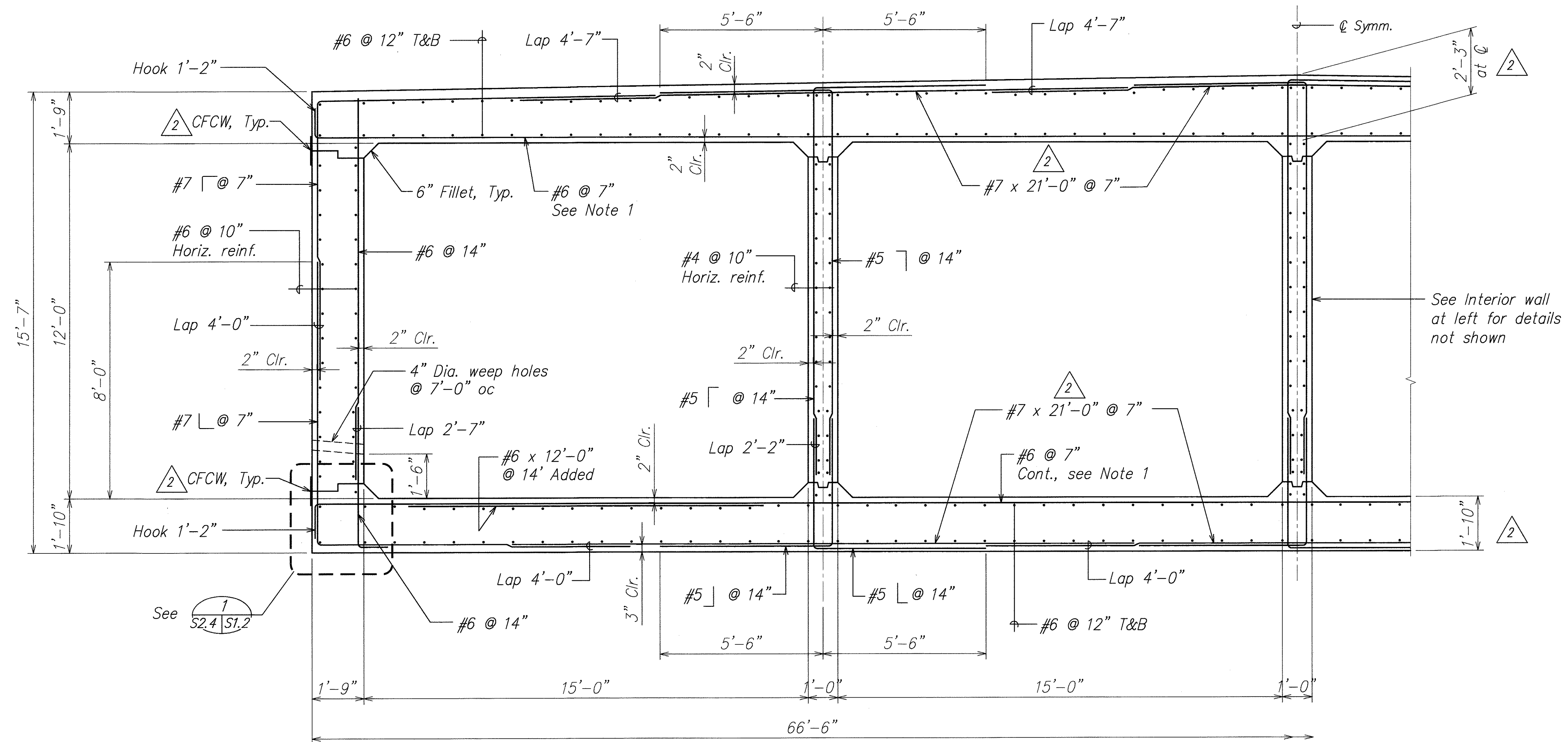
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

DAVID K. FUJIMURA
 LICENSED PROFESSIONAL ENGINEER
 NO. 8104-S
 HAWAII, U.S.A.
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 David K. Fujimura
 SIGNATURE
 EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	2	Revised and Added Notes
DATE	REVISION	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>EAST-WEST COLLECTOR ROAD CULVERT</u> <u>LONGITUDINAL SECTION ALONG CENTERLINE</u> <u>North-South Road</u> <u>Phase 1B</u> <u>F.A.I. Proj. No. STP-8930(2)</u> Scale: As Noted Date: Feb. 21, 2007 SHEET No. S2.3 OF 78 SHEETS	
--	--

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 193	331



Note:
1. Minimum lap shall be 3'-8" long and shall be centered over an interior wall. Alternate lap locations.

EAST-WEST COLLECTOR ROAD CULVERT - TYPICAL SECTION
Scale: 1/2" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

DAVID K. FUJIMURA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature: David K. Fujimura
EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	2 Revised and Added Dimensions, Revised Notes
DATE	REVISION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

EAST-WEST COLLECTOR ROAD CULVERT

TYPICAL SECTION

North-South Road

Phase 1B

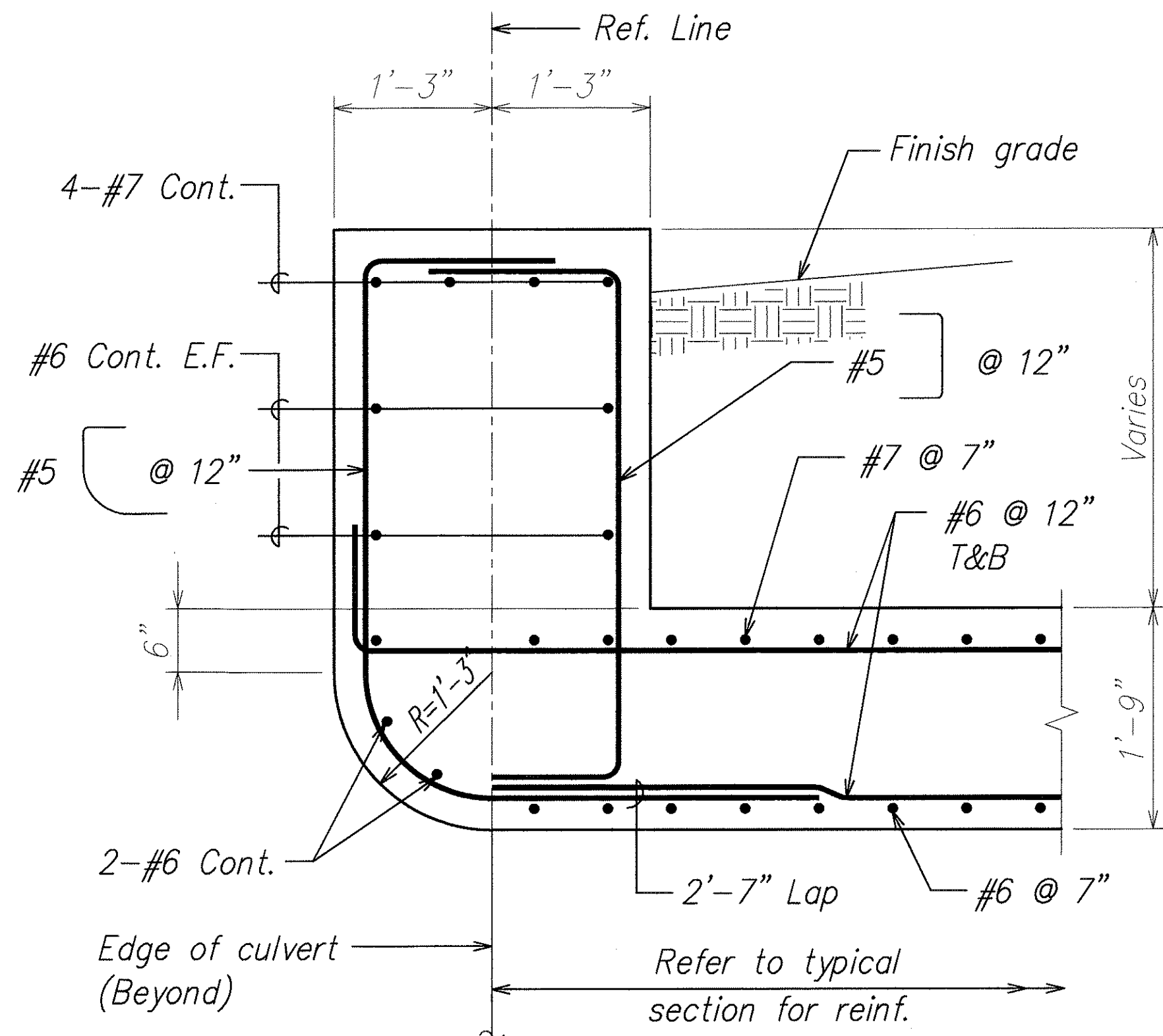
F.A.I. Proj. No. STP-8930(2)

Scale: As Noted

Date: Feb. 21, 2007

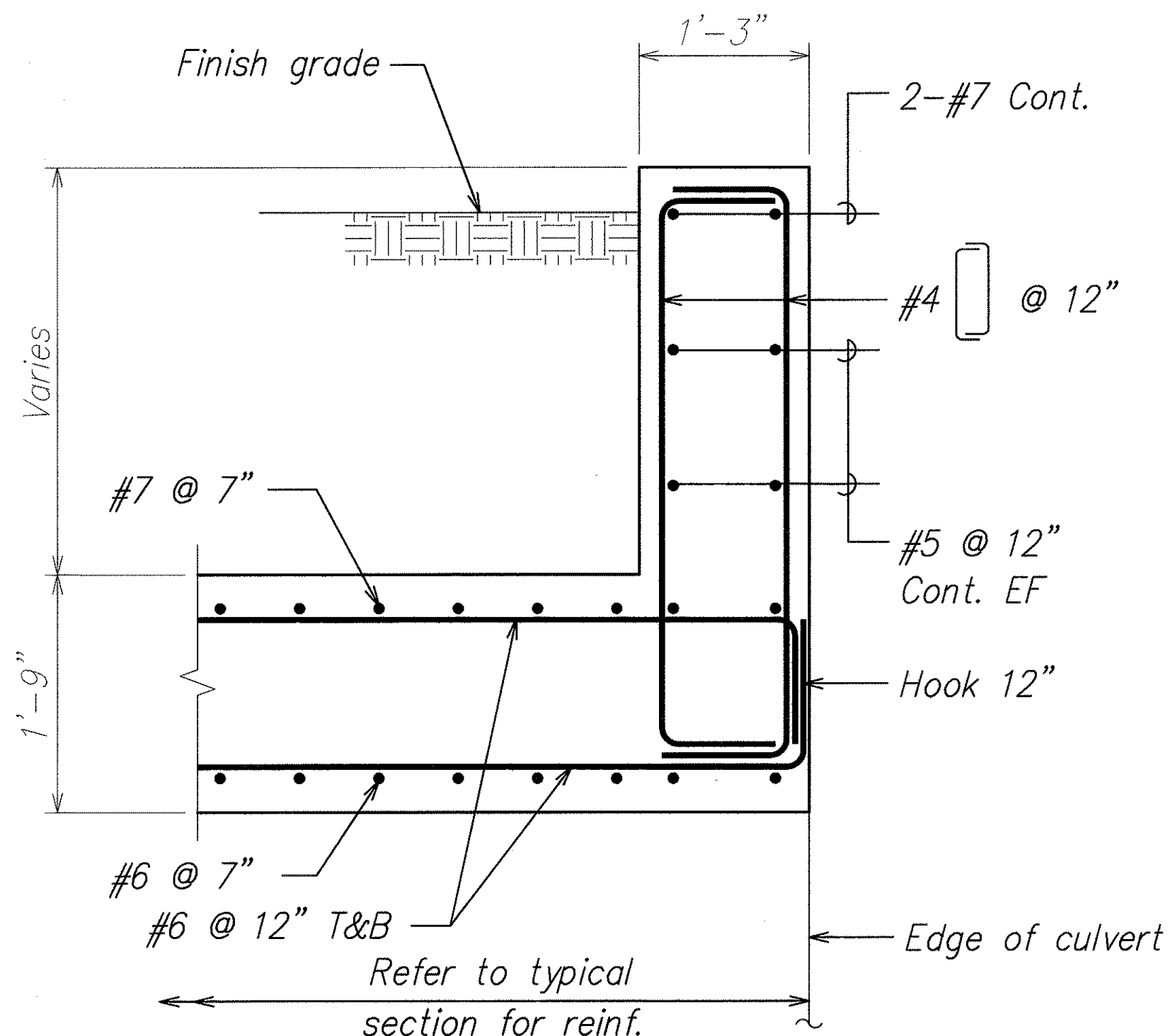
SHEET No. S2.4 OF 78 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 194	331



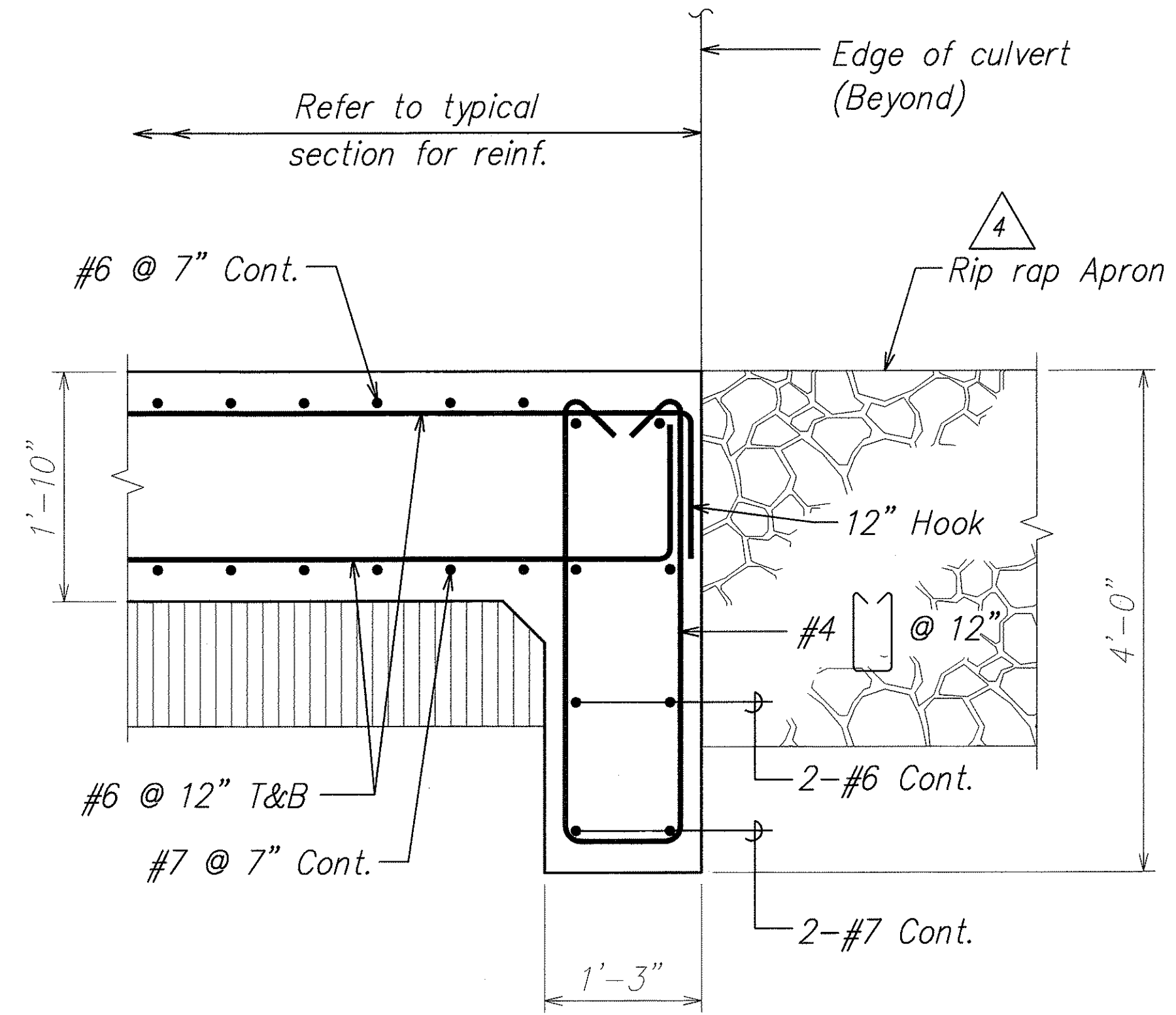
HEADWALL AT INLET

SECTION
Scale: 1" = 1'-0" A
S2.1 | S2.5

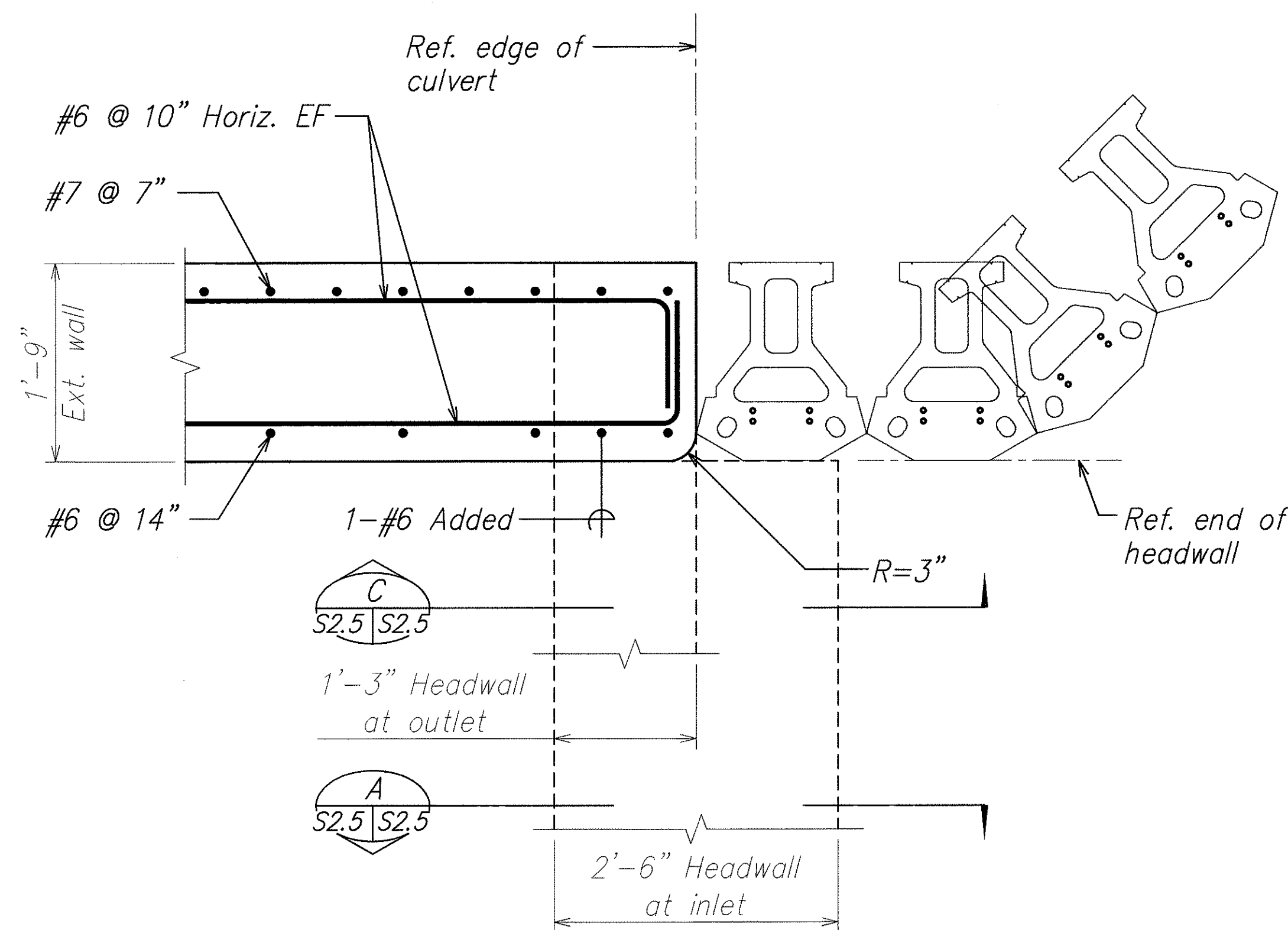


HEADWALL AT OUTLET

SECTION
Scale: 1" = 1'-0" C
S2.1 | S2.5



SECTION
Scale: 1" = 1'-0" B
S2.2 | S2.5



SECTION
Scale: 1" = 1'-0" D
S2.2 | S2.5

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	
	DATE	

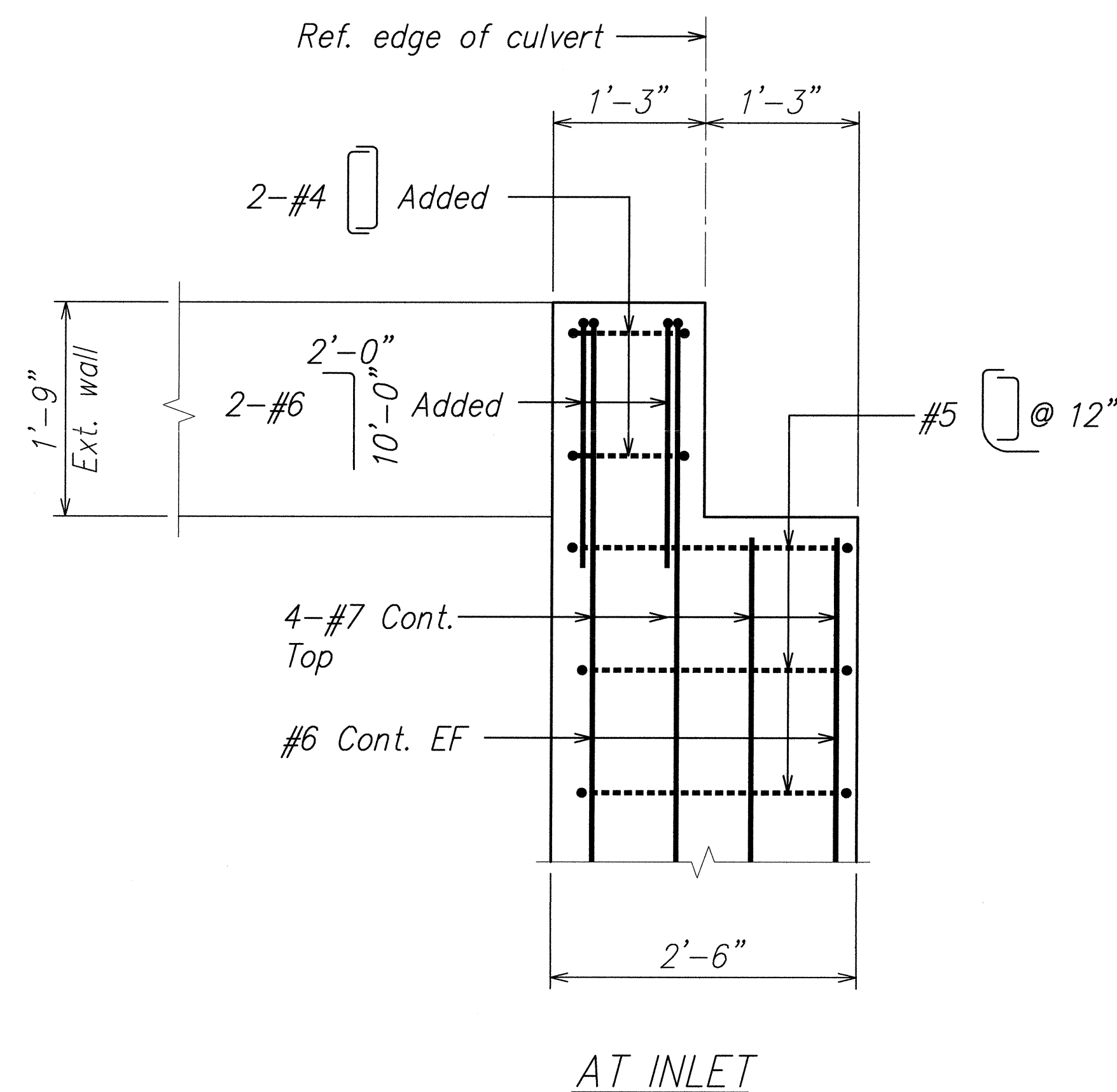
DAVID K. FUJIWARA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

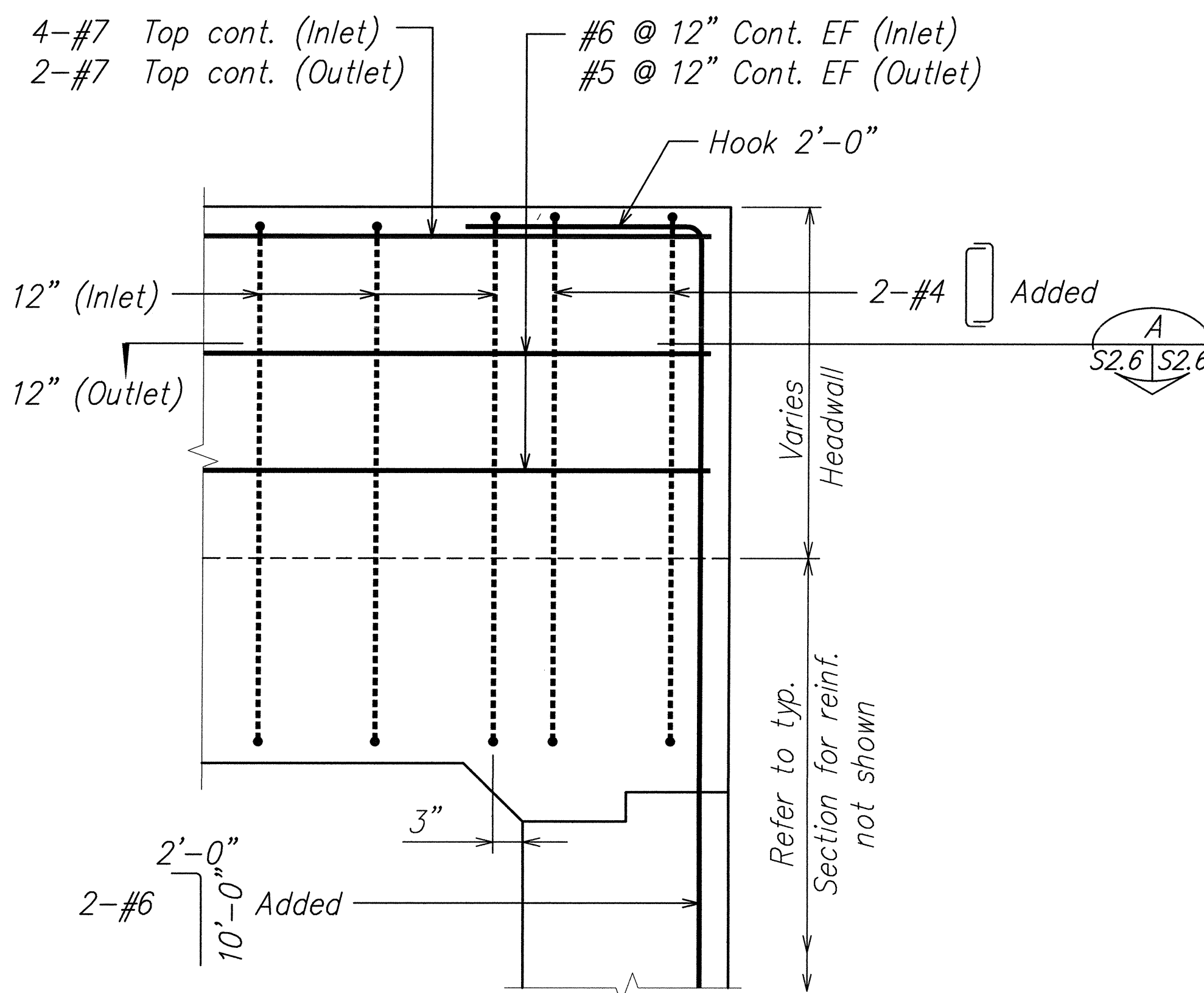
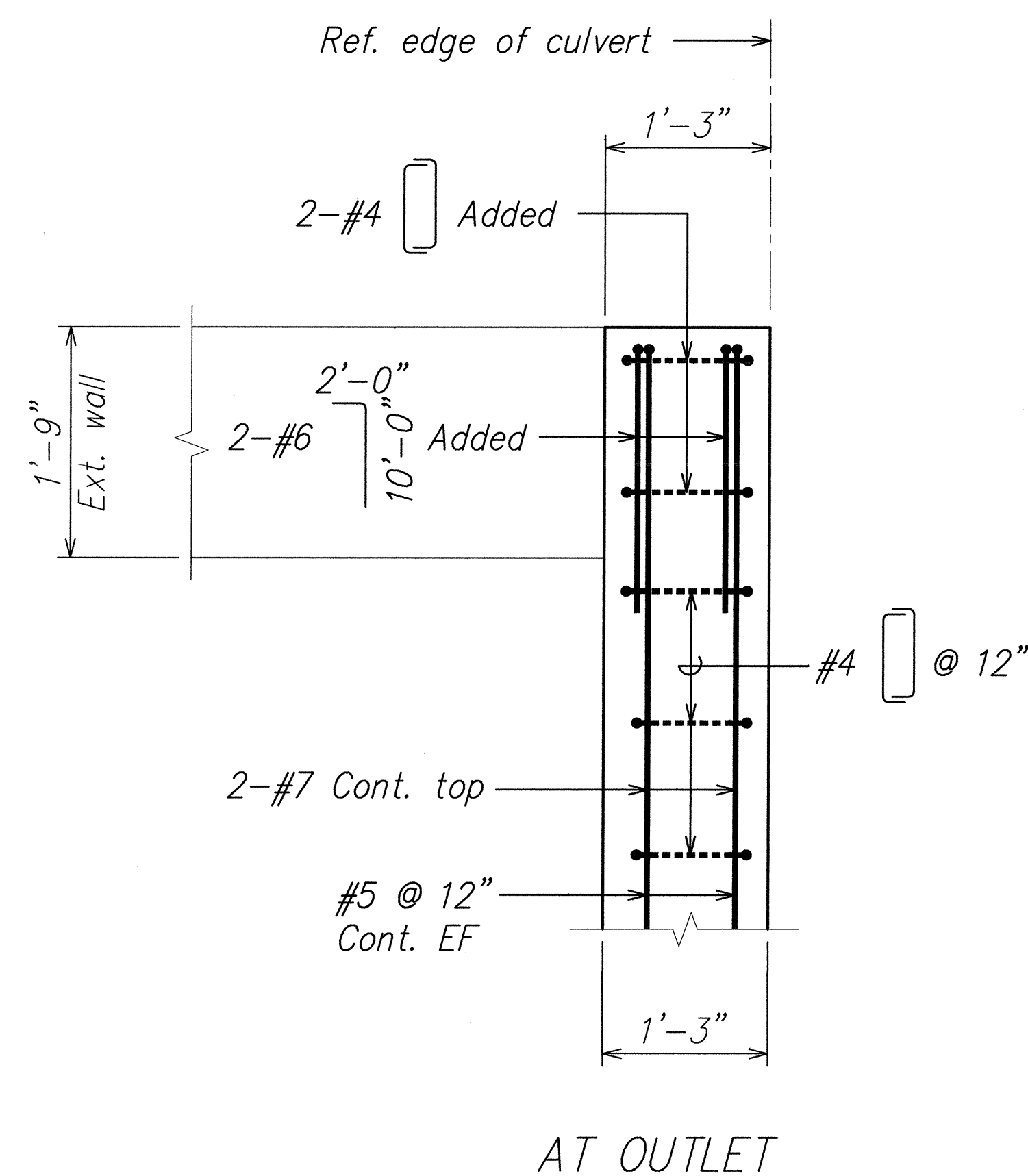
David K. Fujiwara 4-30-08
SIGNATURE EXPIRATION DATE OF THE LICENSE

5/31/07	4 Revised Note
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EAST-WEST COLLECTOR ROAD CULVERT <u>SECTIONS</u> <u>North-South Road</u> <u>Phase 1B</u> <u>F.A.I. Proj. No. STP-8930(2)</u> Scale: As Noted Date: Feb. 21, 2007	
SHEET No. S2.5 OF 78 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	195	331

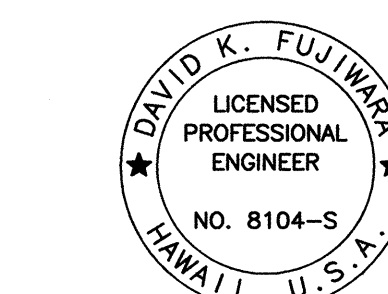


SECTION A
Scale: 1" = 1'-0" S2.6 | S2.6



SECTION B
Scale: 1" = 1'-0" S2.1 | S2.6

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

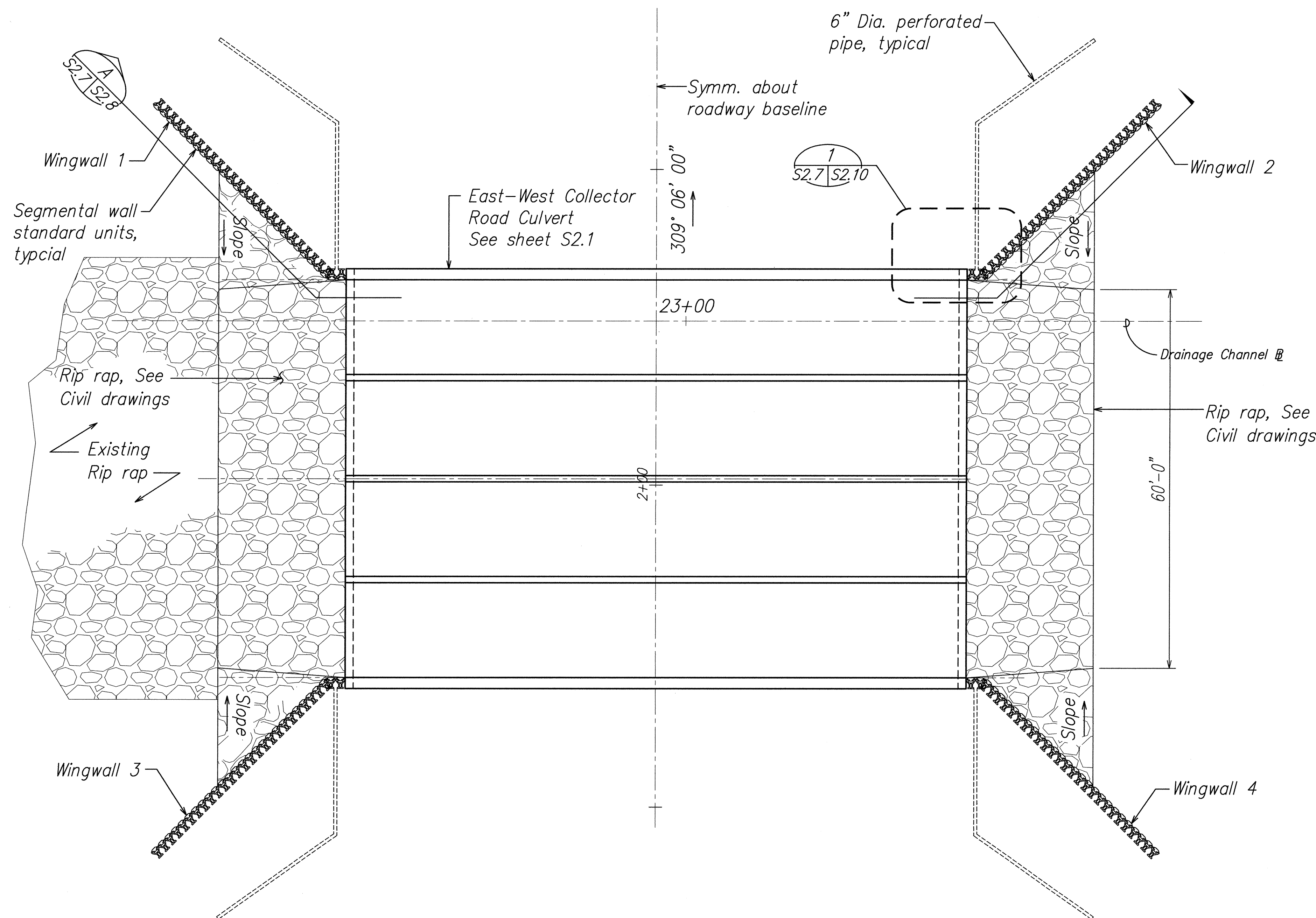


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: David K. Fujiwara
EXPIRATION DATE OF THE LICENSE: 4-30-08

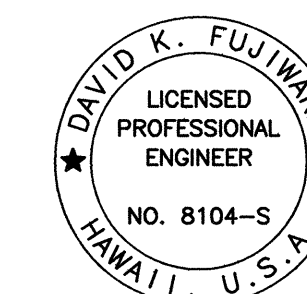
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EAST-WEST COLLECTOR ROAD CULVERT
SECTIONS
North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)
Scale: As Noted Date: Feb. 21, 2007
SHEET No. S2.6 OF 78 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	196	331



SEGMENTAL RETAINING WALL PLAN
Scale: $3/32" = 1'-0"$

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
No.	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: *David K. Fujiwara* 4-30-08
EXPIRATION DATE OF THE LICENSE

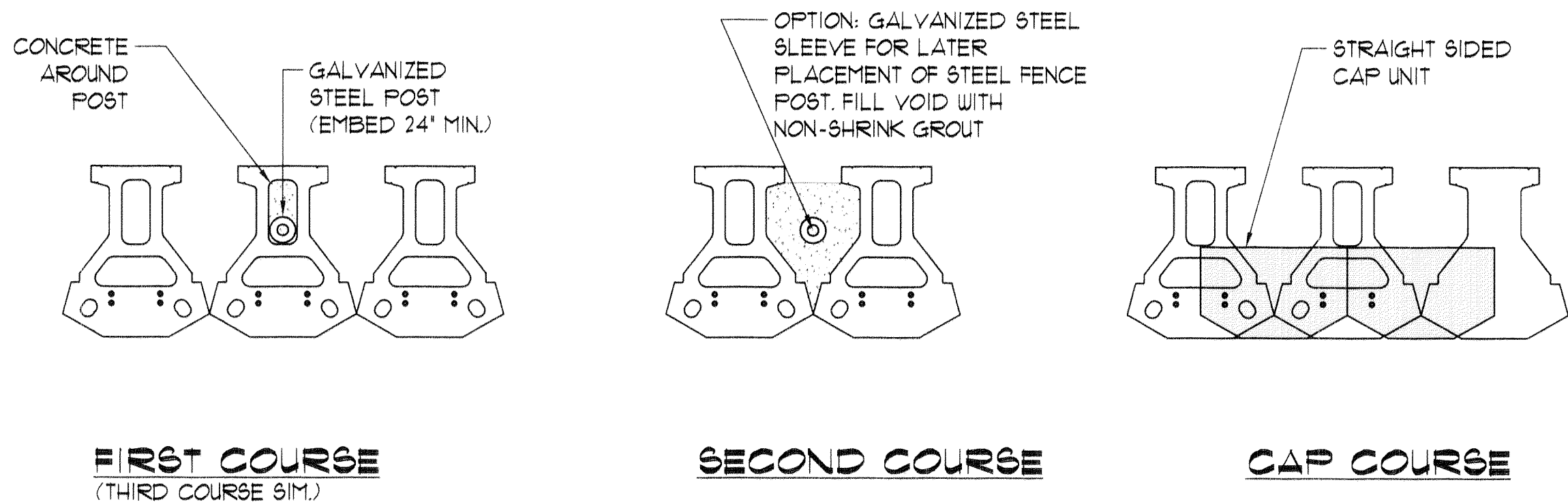
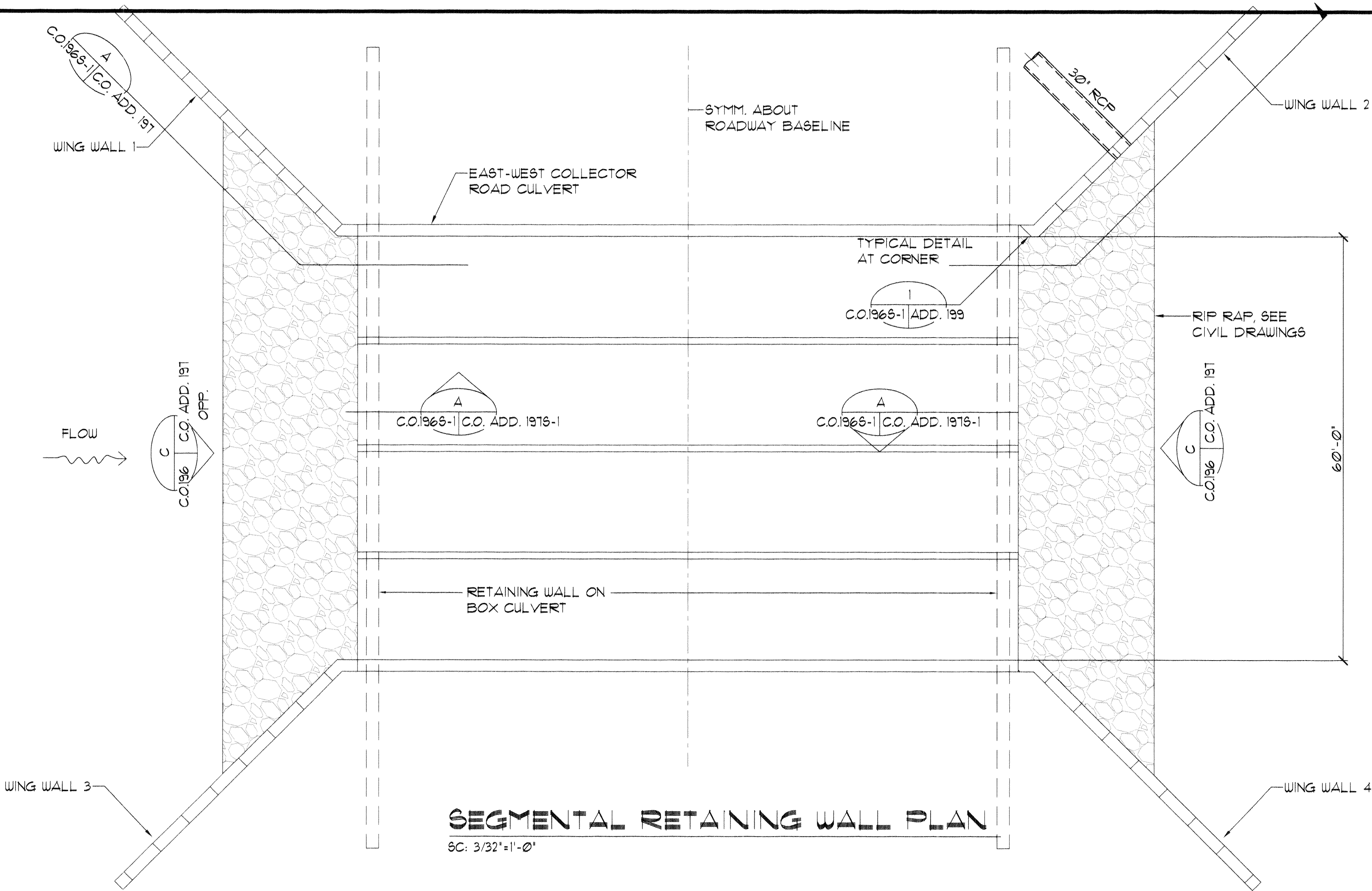
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EAST-WEST COLLECTOR ROAD CULVERT
SEGMENTAL RETAINING WALL PLAN
North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

Scale: As Noted Date: Feb. 21, 2007

SHEET No. S2.7 OF 78 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	C.O. 196S-1	331



WING WALL KEYSTONE RETAINING WALL SCHEDULE

HEIGHT 'H'	LAYER 1		LAYER 2		LAYER 3		LAYER 4		LAYER 5		LAYER 6		LAYER 7		LAYER 8		LAYER 9		LAYER 10	
	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID	'Y'	GEO GRID
20'-0"	0'-8"	SG500 x21'-0"	2'-8"	SG500 x21'-0"	4'-8"	SG500 x21'-0"	6'-8"	SG500 x21'-0"	8'-8"	SG500 x21'-0"	10'-8"	SG500 x21'-0"	12'-8"	SG500 x21'-0"	14'-8"	SG350 x21'-0"	16'-8"	SG350 x21'-0"	18'-8"	SG350 x21'-0"
18'-0"	0'-8"	SG500 x19'-0"	2'-8"	SG500 x19'-0"	4'-8"	SG500 x19'-0"	6'-8"	SG500 x19'-0"	8'-8"	SG500 x19'-0"	10'-8"	SG500 x19'-0"	12'-8"	SG350 x19'-0"	14'-8"	SG350 x19'-0"	16'-8"	SG350 x19'-0"		
16'-0"	0'-8"	SG500 x17'-6"	2'-8"	SG500 x17'-6"	4'-8"	SG500 x17'-6"	6'-8"	SG500 x17'-6"	8'-8"	SG500 x17'-6"	10'-8"	SG350 x17'-6"	12'-8"	SG350 x17'-6"	14'-8"	SG350 x17'-6"				
14'-0"	0'-8"	SG350 x16'-0"	2'-8"	SG350 x16'-0"	4'-8"	SG350 x16'-0"	4'-8"	SG350 x16'-0"	8'-8"	SG350 x16'-0"	10'-8"	SG350 x16'-0"	12'-8"	SG350 x16'-0"						
12'-0"	0'-8"	SG350 x14'-0"	2'-8"	SG350 x14'-0"	4'-8"	SG350 x14'-0"	4'-8"	SG350 x14'-0"	8'-8"	SG350 x14'-0"	10'-8"	SG350 x14'-0"								
10'-0"	0'-8"	SG350 x12'-0"	2'-8"	SG350 x12'-0"	4'-8"	SG350 x12'-0"	6'-8"	SG350 x12'-0"	8'-8"	SG350 x12'-0"										
8'-0"	0'-8"	SG350 x10'-0"	2'-8"	SG350 x10'-0"	4'-8"	SG350 x10'-0"	6'-8"	SG350 x10'-0"												
6'-0"	0'-8"	SG350 x8'-0"	2'-8"	SG350 x8'-0"	4'-8"	SG350 x8'-0"														
4'-0"	0'-8"	SG350 x6'-0"	2'-8"	SG350 x6'-0"																

SG350 INDICATES STRATAGRID 350 OR APPROVED EQUAL, SG500 INDICATES STRATAGRID 500 OR APPROVED EQUAL.

NOTE: * AT WING WALL 2, INCREASE THE LENGTH OF THESE GEO GRID LAYERS BY 2'-0" TO ACCOUNT FOR THE MISSING GEO GRIDS AT THE CONCRETE COLLAR.

DATE	_____
SURVEY PLOTTED BY	_____
DRAWN BY	_____
TRACED BY	_____
DESIGNED BY	_____
QUANTITY BY	_____
CHECKED BY	_____
NOTE BOOK	_____
No.	_____

THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

Thomas Y. Tanimura
SIGNATURE

APRIL 30, 2010
DATE OF LICENSE EXPIRATION

Community Planning and Engineering, Inc.
Engineering Design | Construction Management | Infrastructure Planning
1100 Alakea Street, Sixth Floor
Honolulu, Hawaii

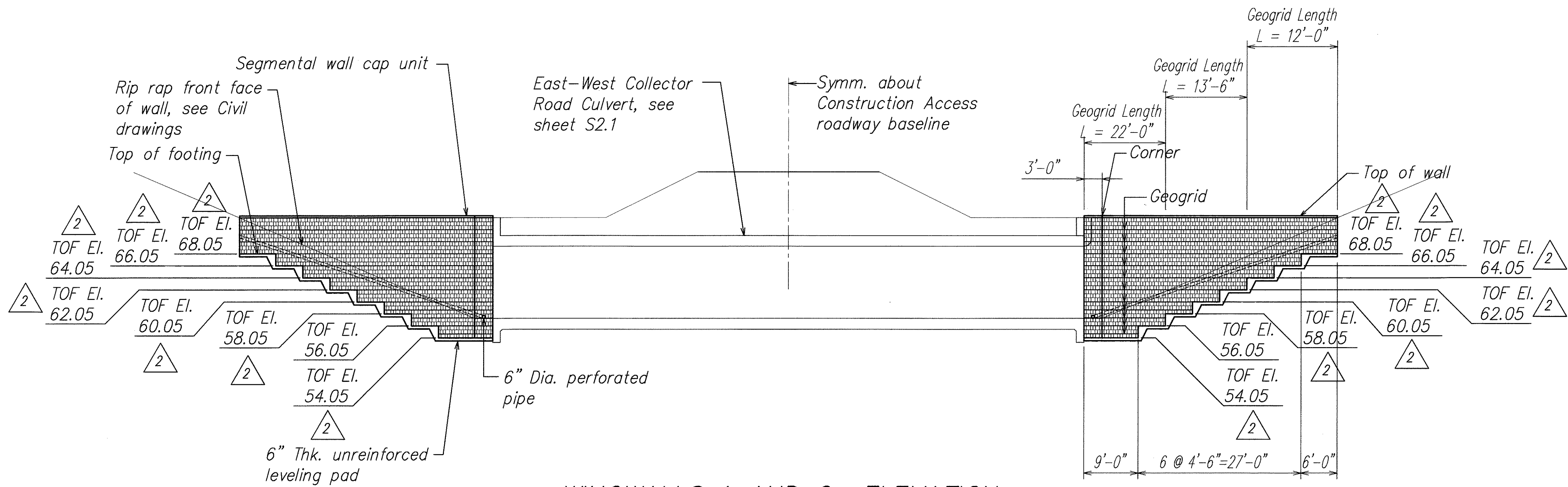
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**SEGMENTAL RETAINING WING
WALL PLAN AND SCHEDULE**

North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

Scale : As Shown Date : APR. 15, 2008

SHEET No. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 197	331

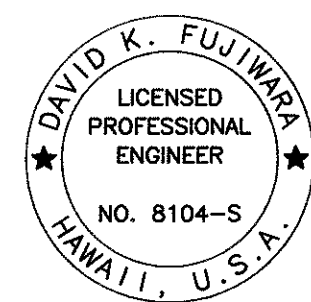


WINGWALLS 1 AND 2 ELEVATION
(WINGWALLS 3 AND 4 SIMILAR)

Scale: $3/32" = 1'-0"$

A
S2.7 S2.8

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

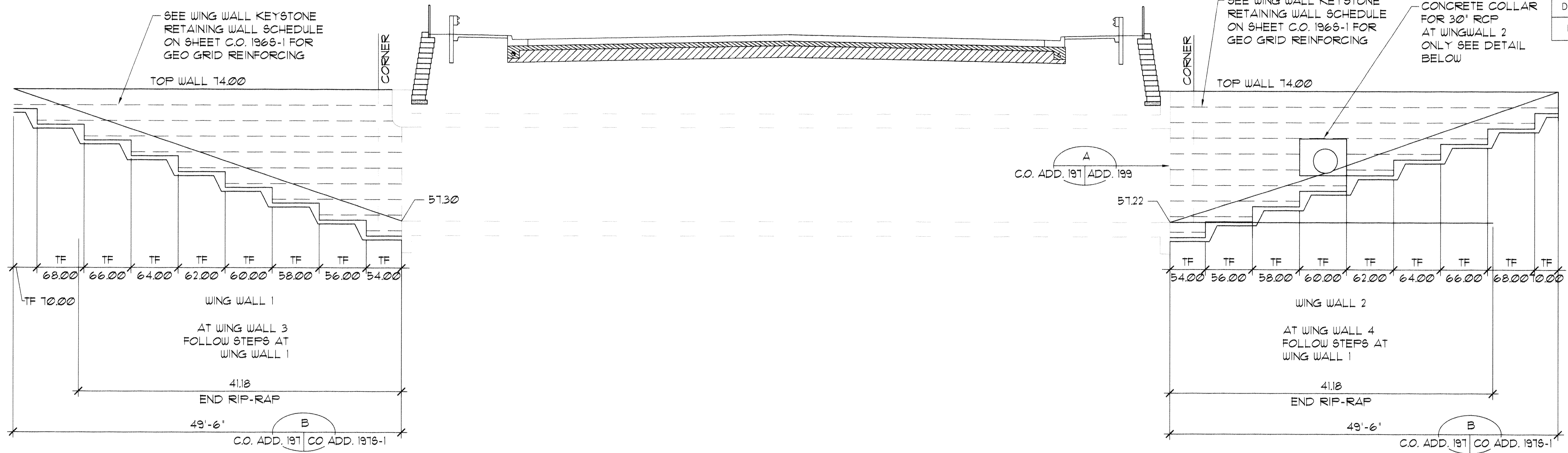


THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.

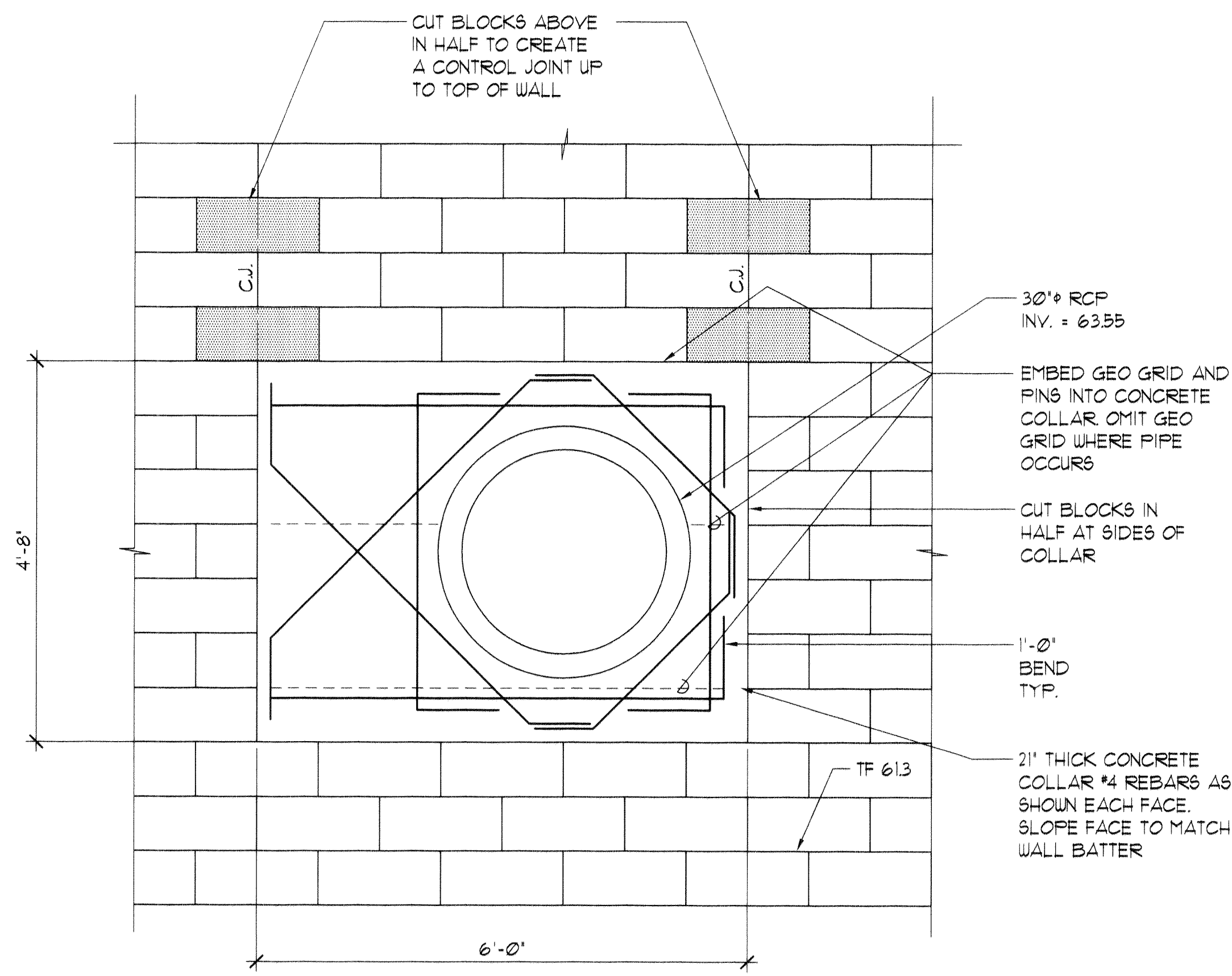
Signature: David K. Fujimura
EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	2 Added Elevations
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EAST-WEST COLLECTOR ROAD CULVERT SEGMENTAL RETAINING WALL ELEVATION North-South Road Phase 1B F.A.I. Proj. No. STP-8930(2) Scale: As Noted Date: Feb. 21, 2007	
SHEET No. S2.8 OF 78 SHEETS	

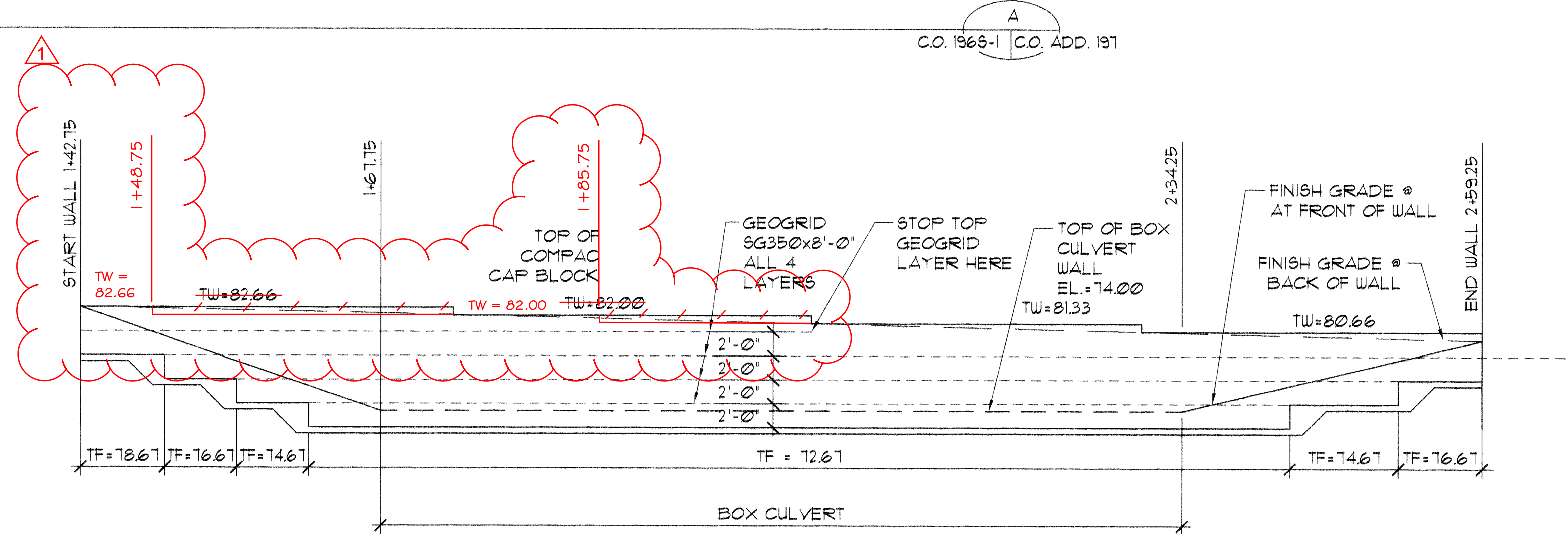
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	C.O. ADD 197	331



KEYSTONE RETAINING WING WALLS 1 AND 2 ELEVATION
SC: 1/8"=1'-0"



RCP CONCRETE COLLAR
SC: 3/4"=1'-0"



KEYSTONE RETAINING WALL ON BOX CULVERT
ELEVATION DOWNSTREAM SIDE, UPSTREAM SIDE SAME
SC: 1/8"=1'-0"

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

THIS WORK WAS PREPARED BY ME
 OR UNDER MY SUPERVISION.
TY Tanimura
 SIGNATURE

APRIL 30, 2010

DATE OF LICENSE EXPIRATION

1-23-09 Rev'd TW Elevations

Community Planning and Engineering, Inc.

Engineering Design | Construction Management | Infrastructure Planning

1100 Alakea Street, Sixth Floor Honolulu, Hawaii

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

SECTION

North-South Road

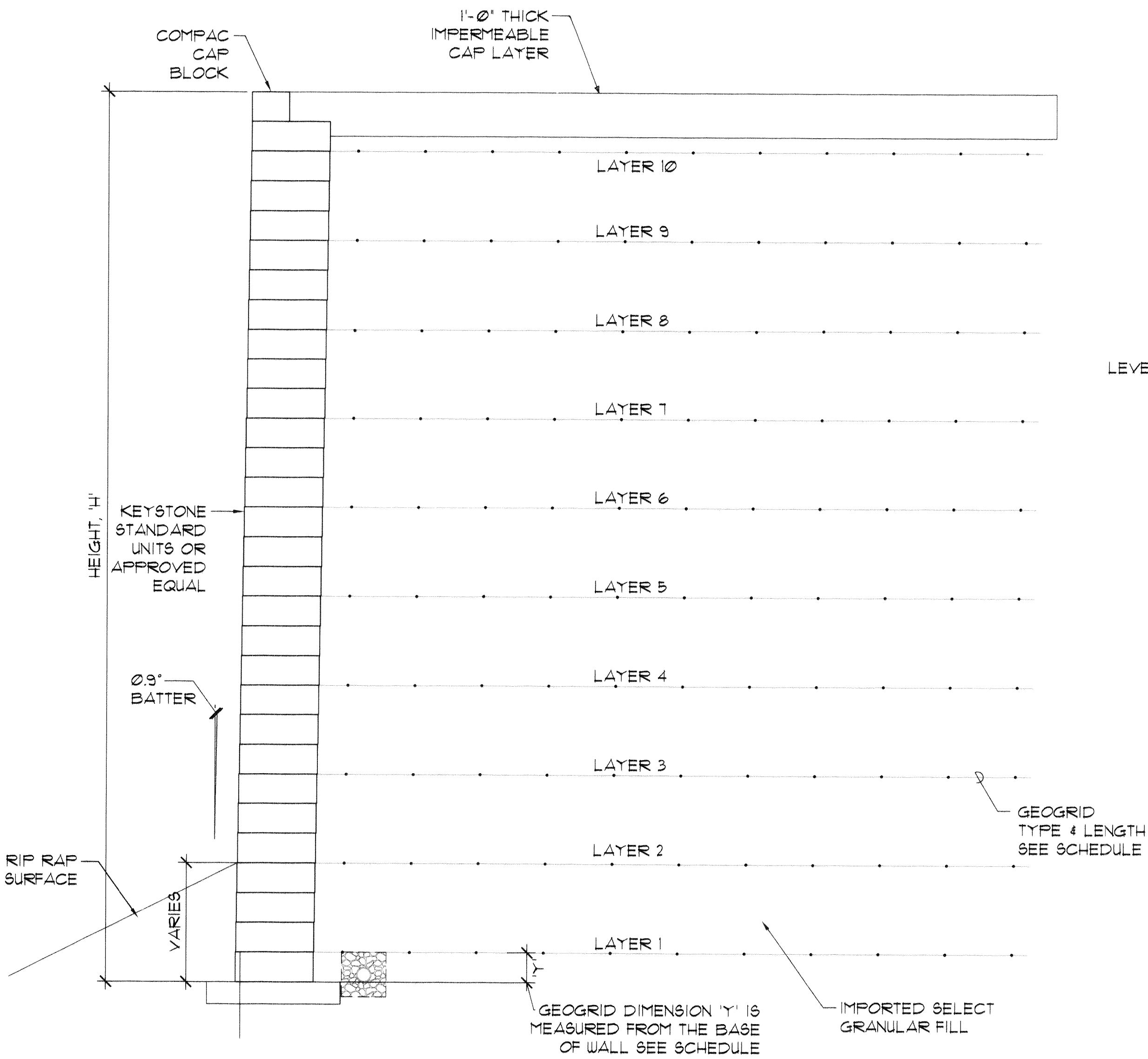
Phase 1B

F.A.I. Proj. No. STP-8930(2)

Scale : As Shown Date : APR. 15, 2008

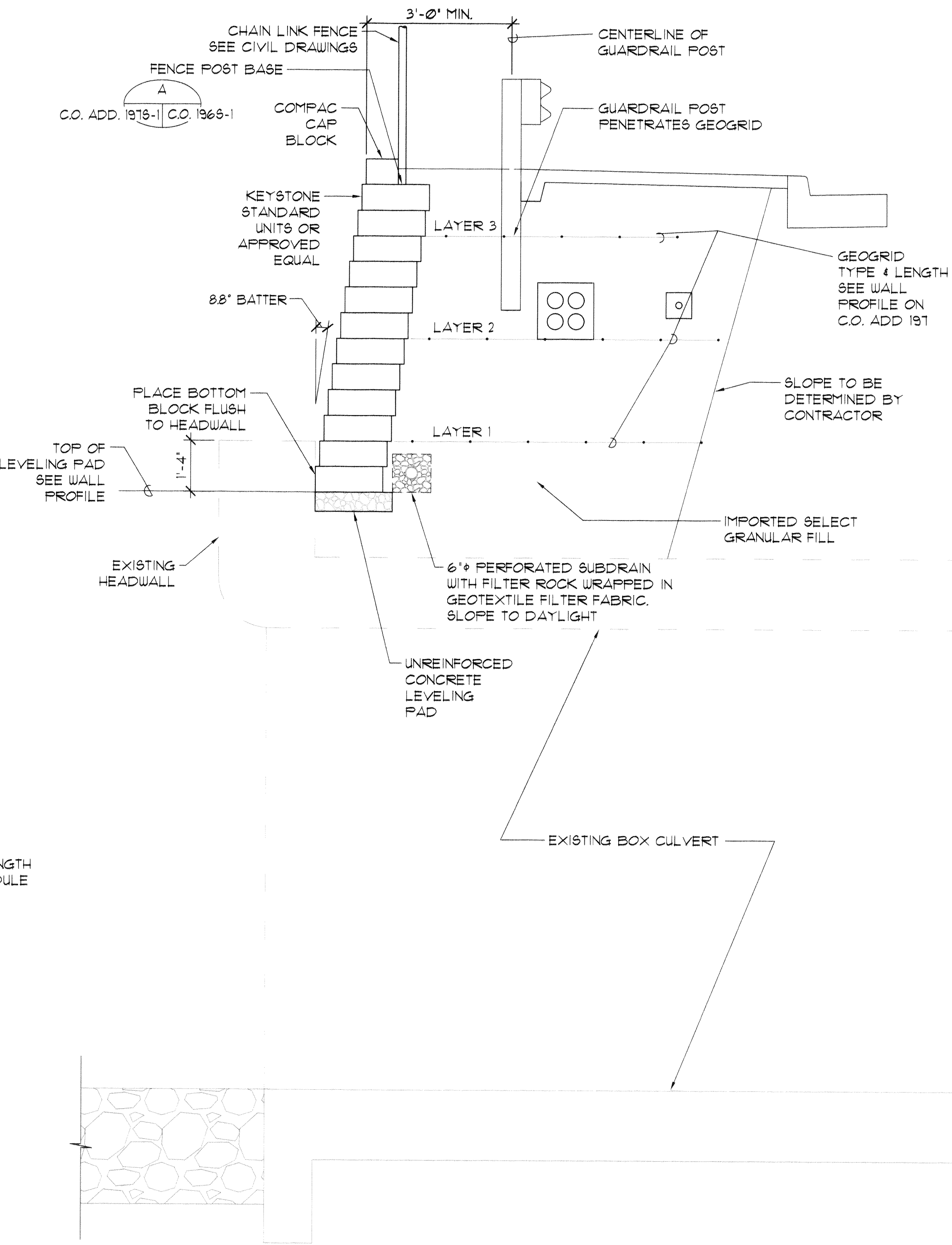
SHEET No. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	C.O. ADD.197S-1	331



SECTION AT WING WALL
 SC: 1/2"=1'-0"

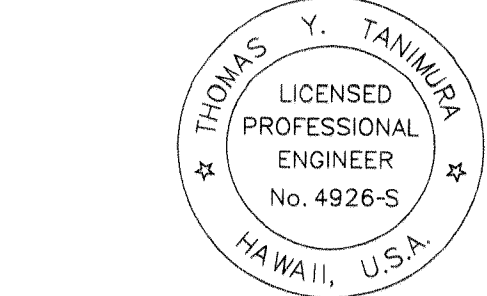
C.O. ADD. 197 C.O. ADD. 197S-1



SECTION AT BOX CULVERT UPSTREAM EDGE
 (DOWNSTREAM SIMILAR) SC: 1/2"=1'-0"

C.O. 196S-1 C.O. ADD. 197S-1

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 T.Y. Tanimura
 SIGNATURE
 APRIL 30, 2010
 DATE OF LICENSE EXPIRATION

Community Planning and Engineering, Inc.
 Engineering Design | Construction Management | Infrastructure Planning
 1100 Aiea Street, Sixth Floor Honolulu, Hawaii

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

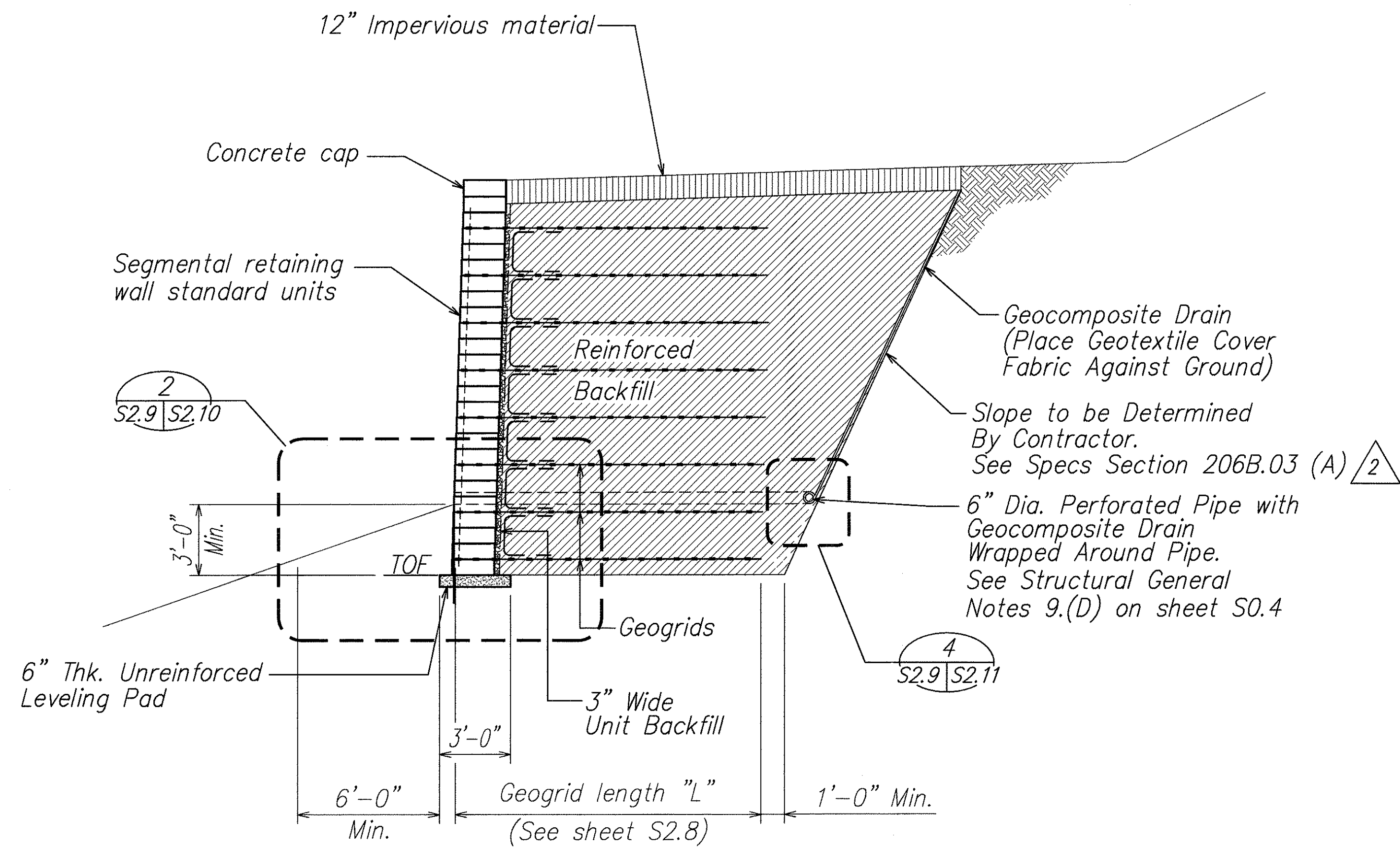
SECTION

North-South Road
 Phase 1B
 F.A.I. Proj. No. STP-8930(2)

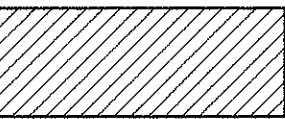
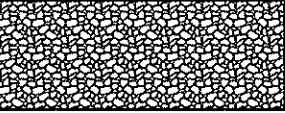
Scale : As Shown Date : APR. 15, 2008

SHEET No. OF SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 198	331

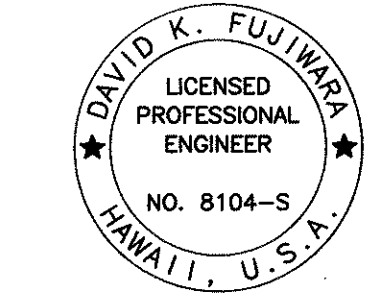


LEGEND:

-  Select Granular Backfill (Reinforced Backfill)
-  Unit Backfill

SEGMENTAL RETAINING WALL
TYPICAL SECTION
Scale: 1/4" = 1'-0"

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

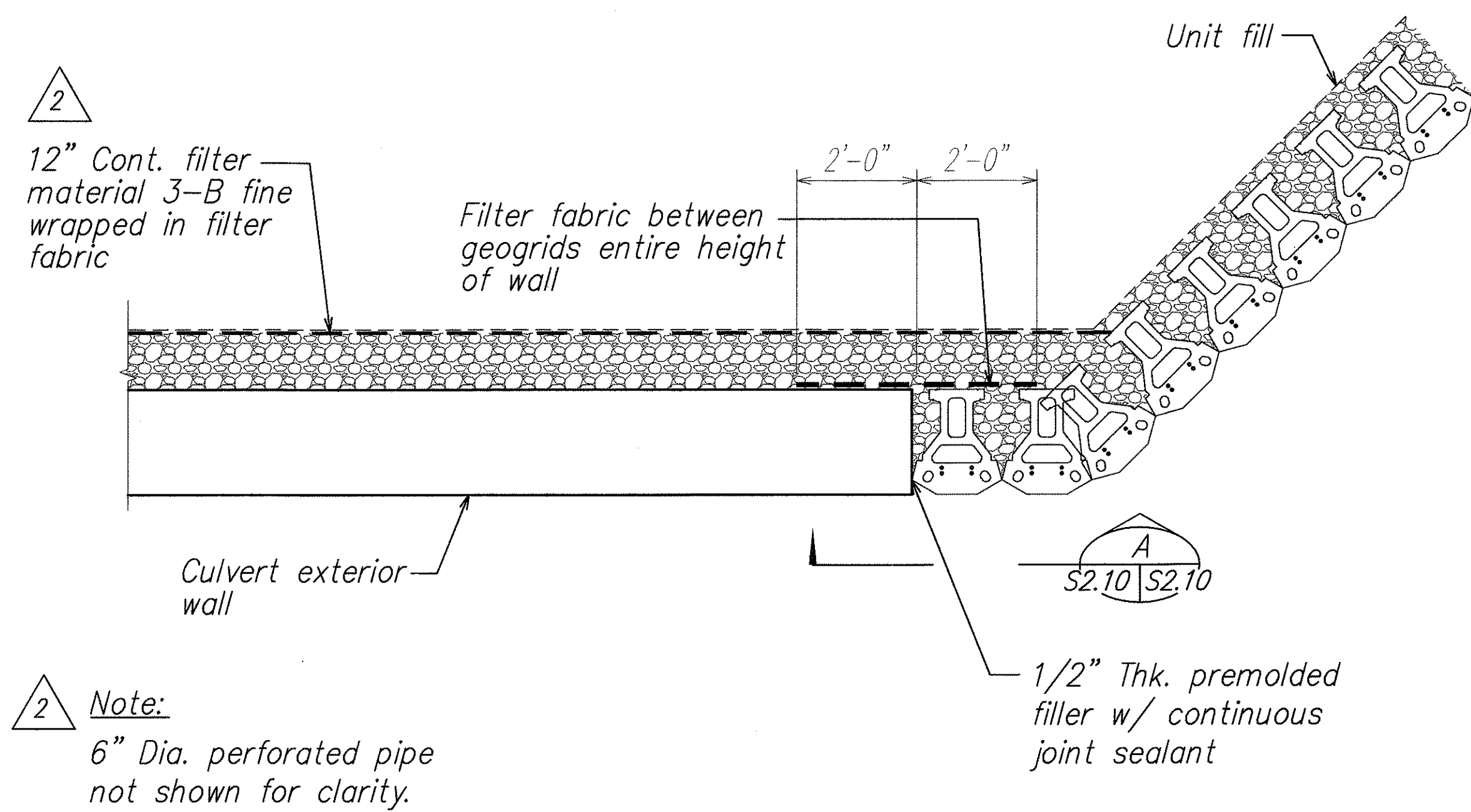


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

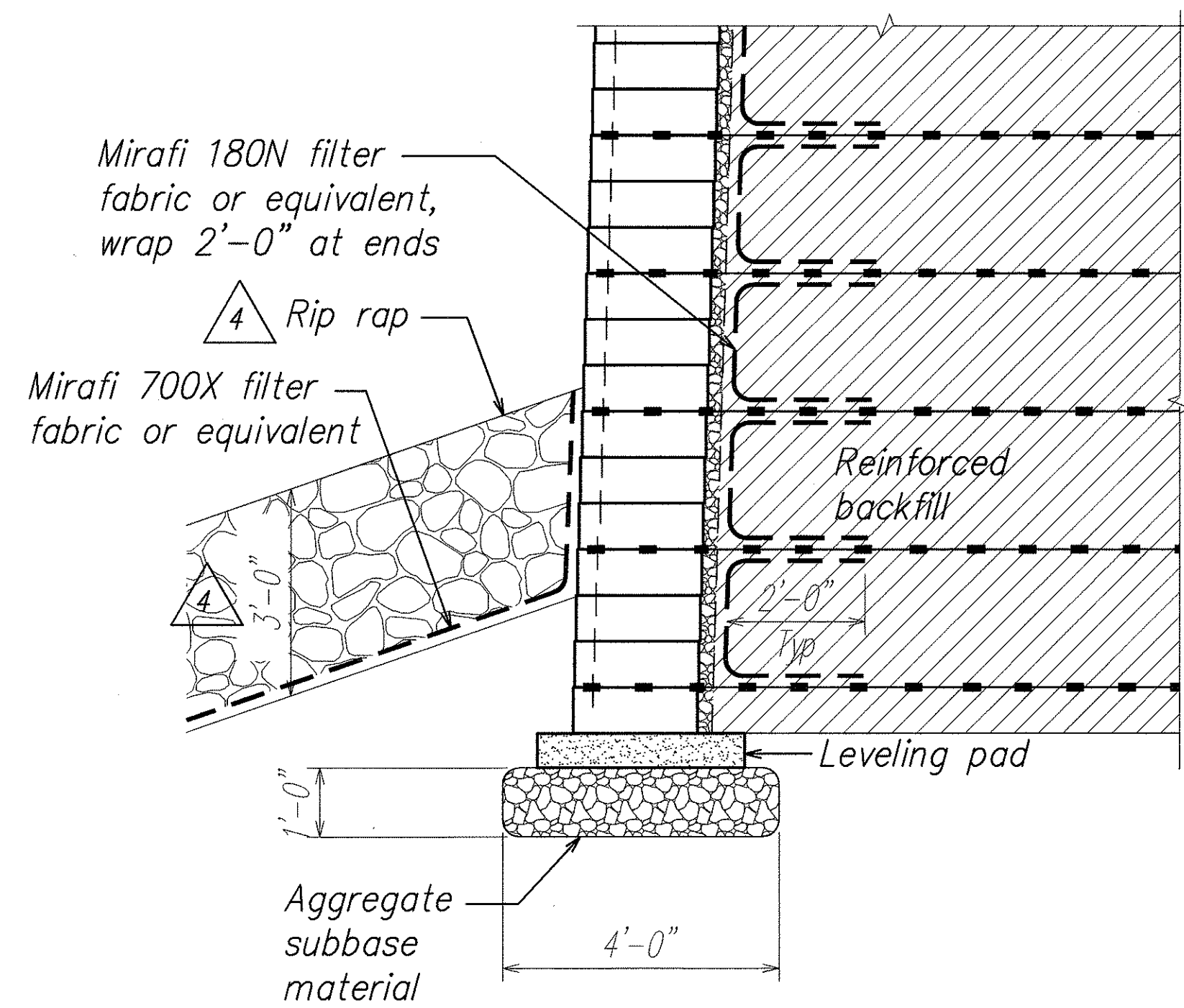
Signature: David K. Fujiwara
EXPIRATION DATE OF THE LICENSE: 4-30-08

5/11/07	$\triangle 2$ Revised Note
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION EAST-WEST COLLECTOR ROAD CULVERT SEGMENTAL RETAINING WALL TYPICAL SECTION North-South Road Phase 1B F.A.I. Proj. No. STP-8930(2) Scale: As Noted Date: Feb. 21, 2007 SHEET No. S2.9 OF 78 SHEETS	

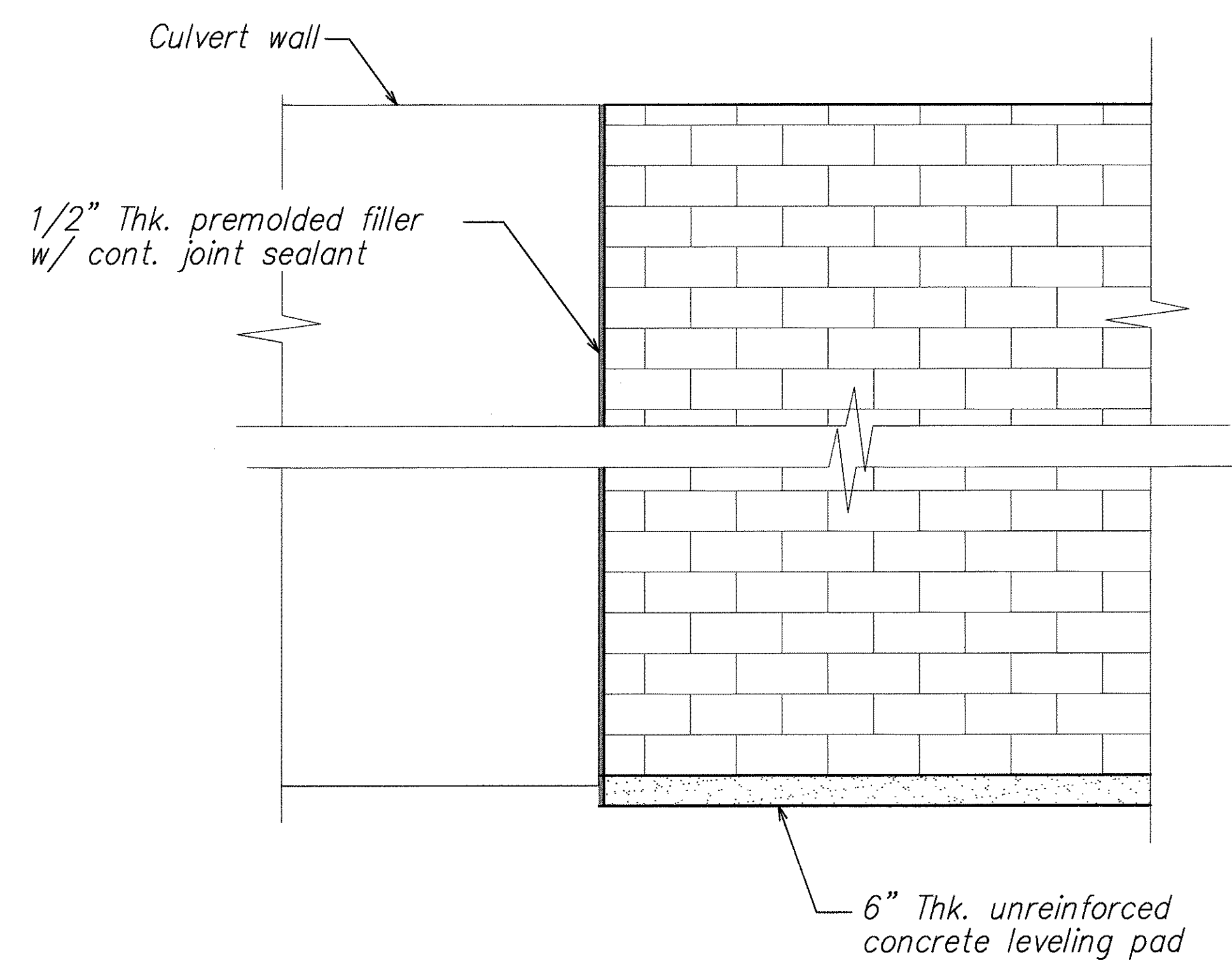
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	ADD. 199	331



DETAIL PLAN AT CORNER
Scale: 1/2" = 1'-0"



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



SECTION AT CORNER
Scale: 1/2" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

DAVID K. FUJIMURA
LICENSED PROFESSIONAL ENGINEER
NO. 8104-S
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: David K. Fujimura
EXPIRATION DATE OF THE LICENSE: 4-30-08

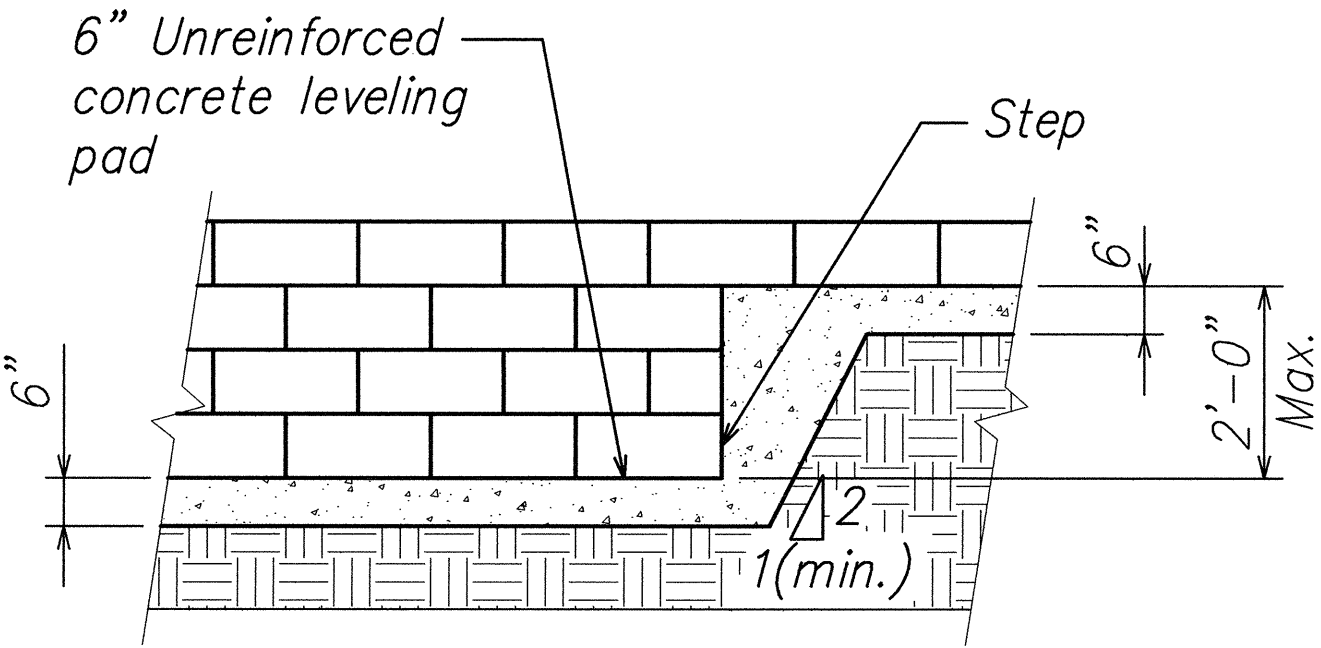
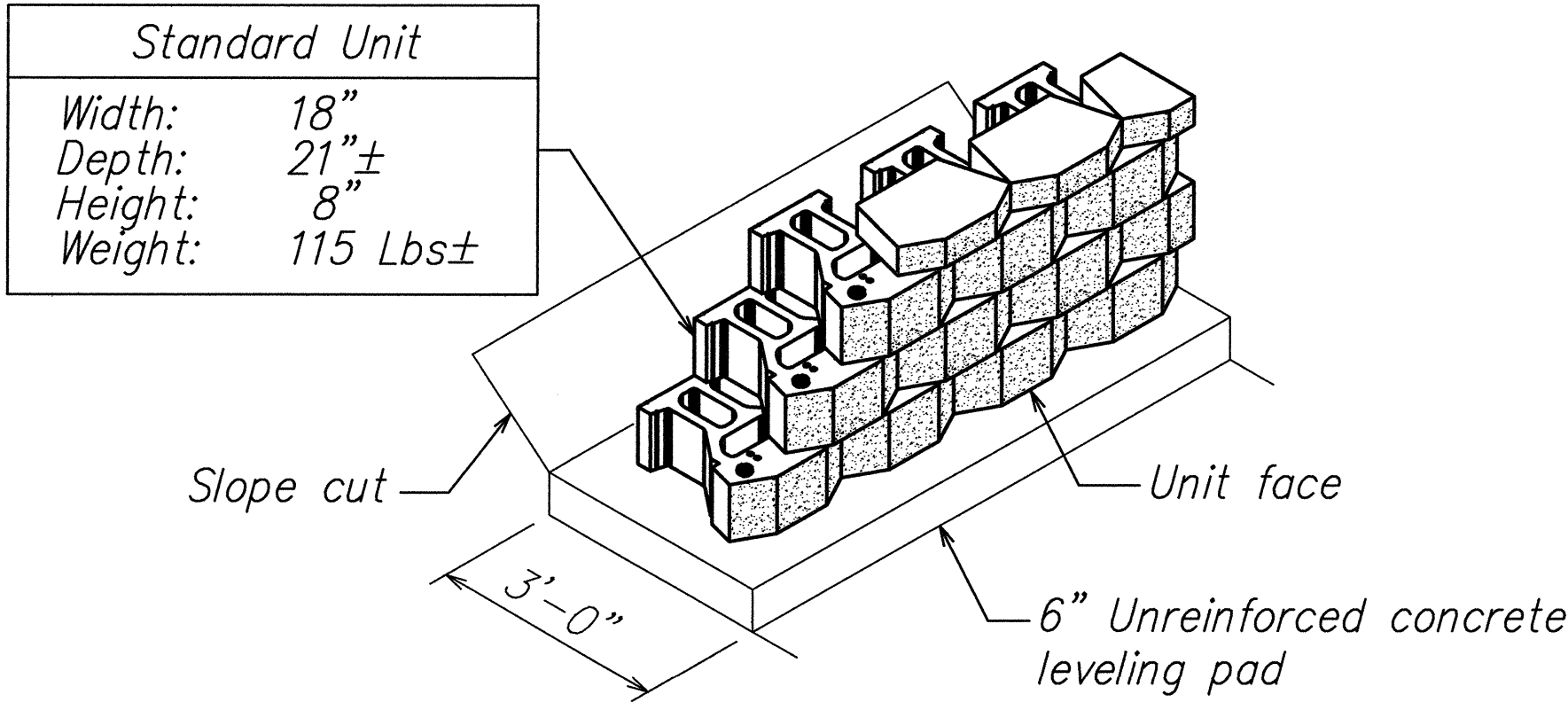
5/31/07	 Revised Dimension and Note
5/11/07	 Revised and Added Notes
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>EAST-WEST COLLECTOR ROAD CULVERT</u> <u>SEGMENTAL RETAINING WALL TYPICAL DETAILS</u> <u>North-South Road</u> <u>Phase 1B</u> <u>F.A.I. Proj. No. STP-8930(2)</u> Scale: As Noted Date: Feb. 21, 2007 SHEET No. S2.10 OF 78 SHEETS

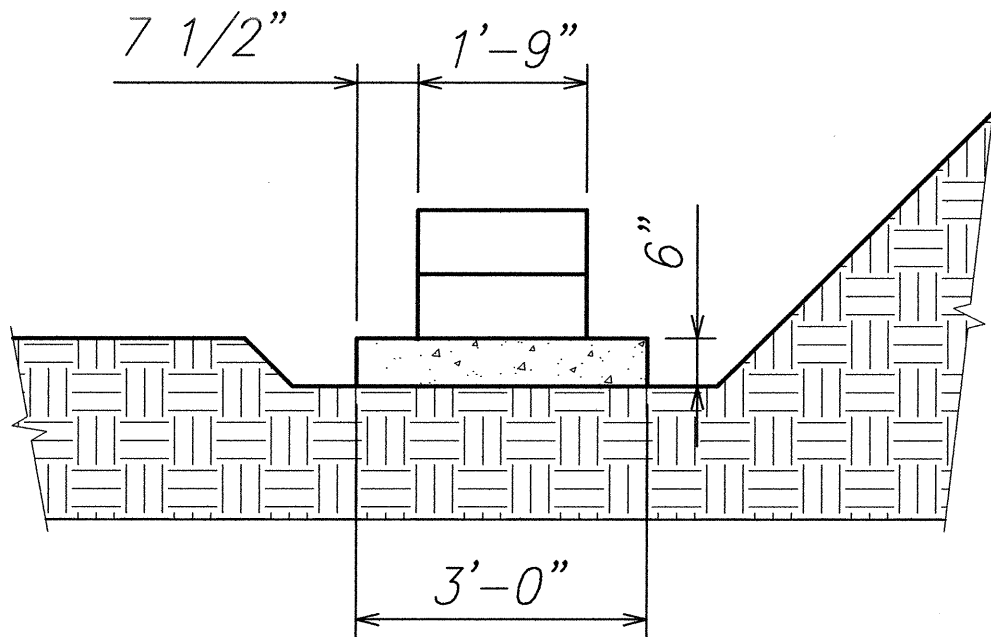
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	200	331

Base Leveling Pad Notes:

1. The leveling pad is to be constructed of Class D unreinforced concrete.
2. The base foundation is to be approved by the site Geotechnical Engineer prior to placement of the leveling pad.
3. Segmental wall units shall not be paced on leveling pad until 24 Hours after concrete pour or until leveling pad has attained a concrete strength of 500 psi.



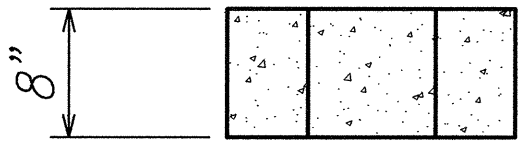
ELEVATION



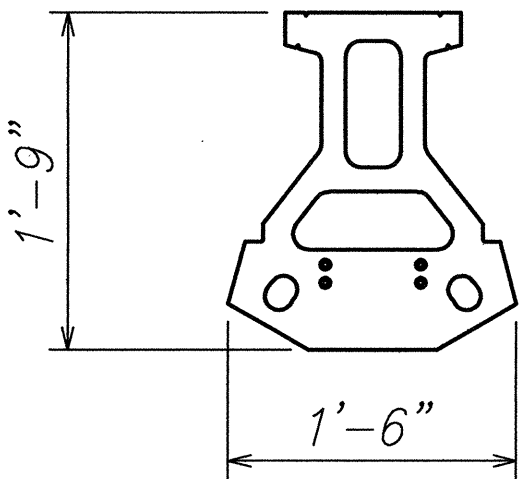
SECTION

NOTE:
The Contractor may submit an alternate segmental retaining wall system other than the system shown on the contract documents. See Spec. Section 530 for requirements.

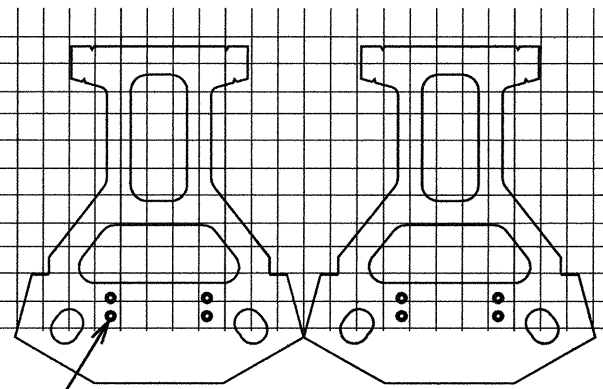
LEVELING PAD DETAIL
Scale: 1/2" = 1'-0" 1
S2.11 | S2.11



STANDARD ELEVATION

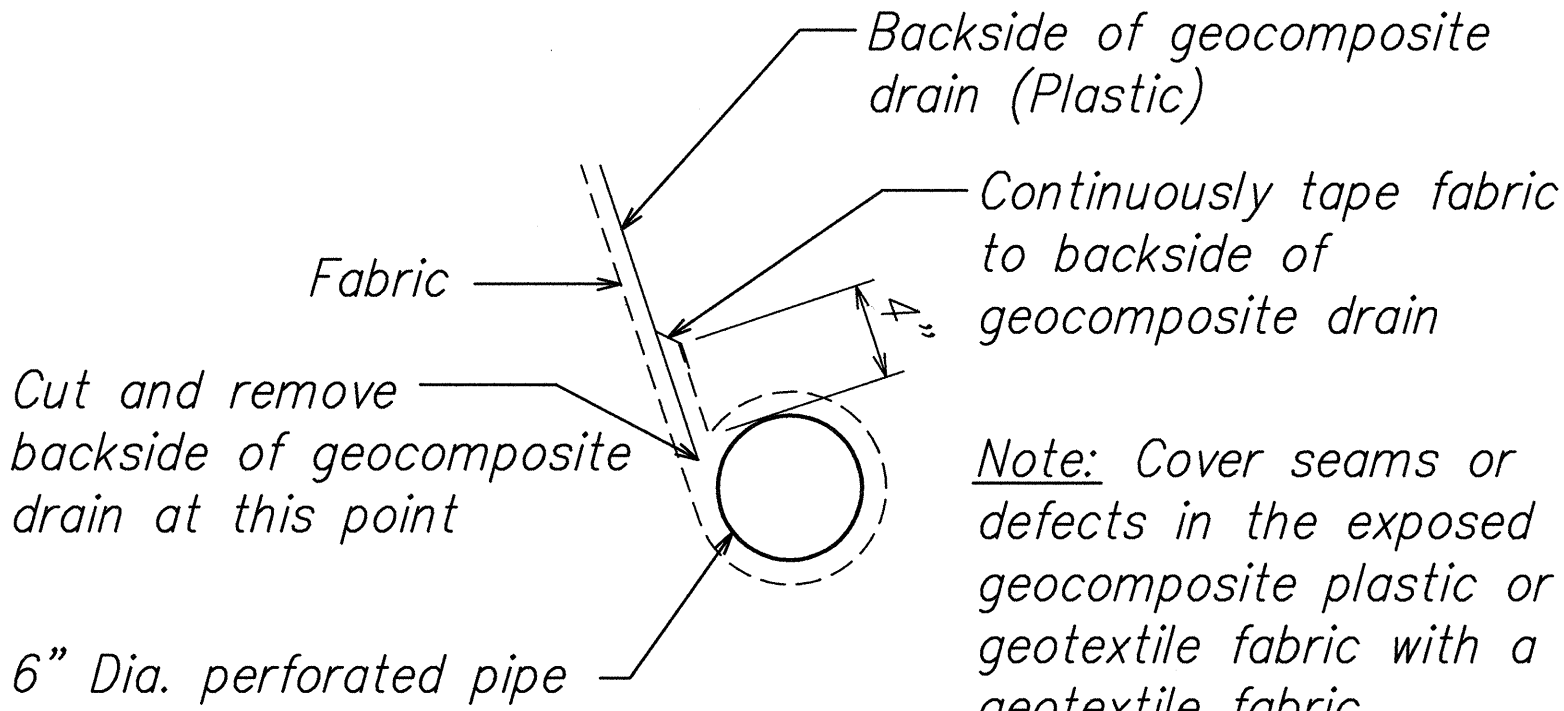


STANDARD PLAN



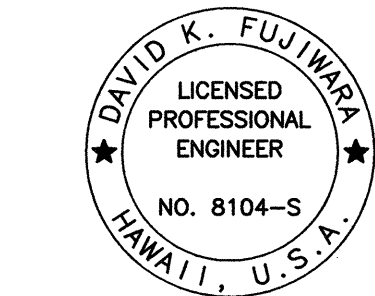
Geogrid is to be placed on level backfill and extended over the fiberglass pins. Place next unit. Pull grid taut and backfill. Stake as required.

GRID AND PIN CONNECTION
Scale: 1" = 1'-0" 3
S2.11 | S2.11



DETAIL
Not to scale 4
S2.9 | S2.11

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature: David K. Fujimura
Expiration Date of License: 4-30-08

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

EAST-WEST COLLECTOR ROAD CULVERT

SEGMENTAL RETAINING WALL TYPICAL DETAILS

North-South Road

Phase 1B

F.A.I. Proj. No. STP-8930(2)

Scale: Noted

Date: Feb. 21, 2007

SHEET No. S2.11 OF 78 SHEETS

200