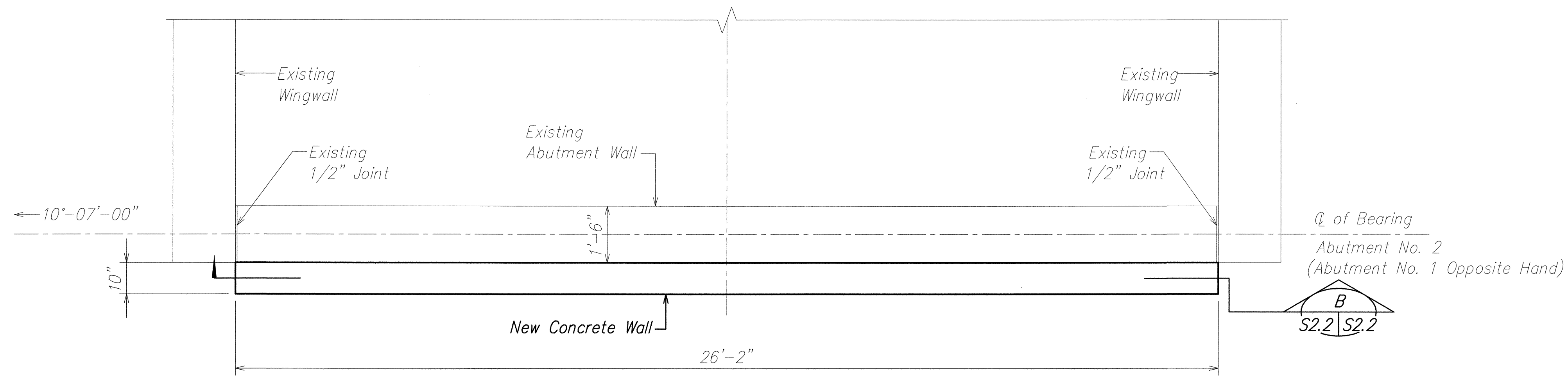
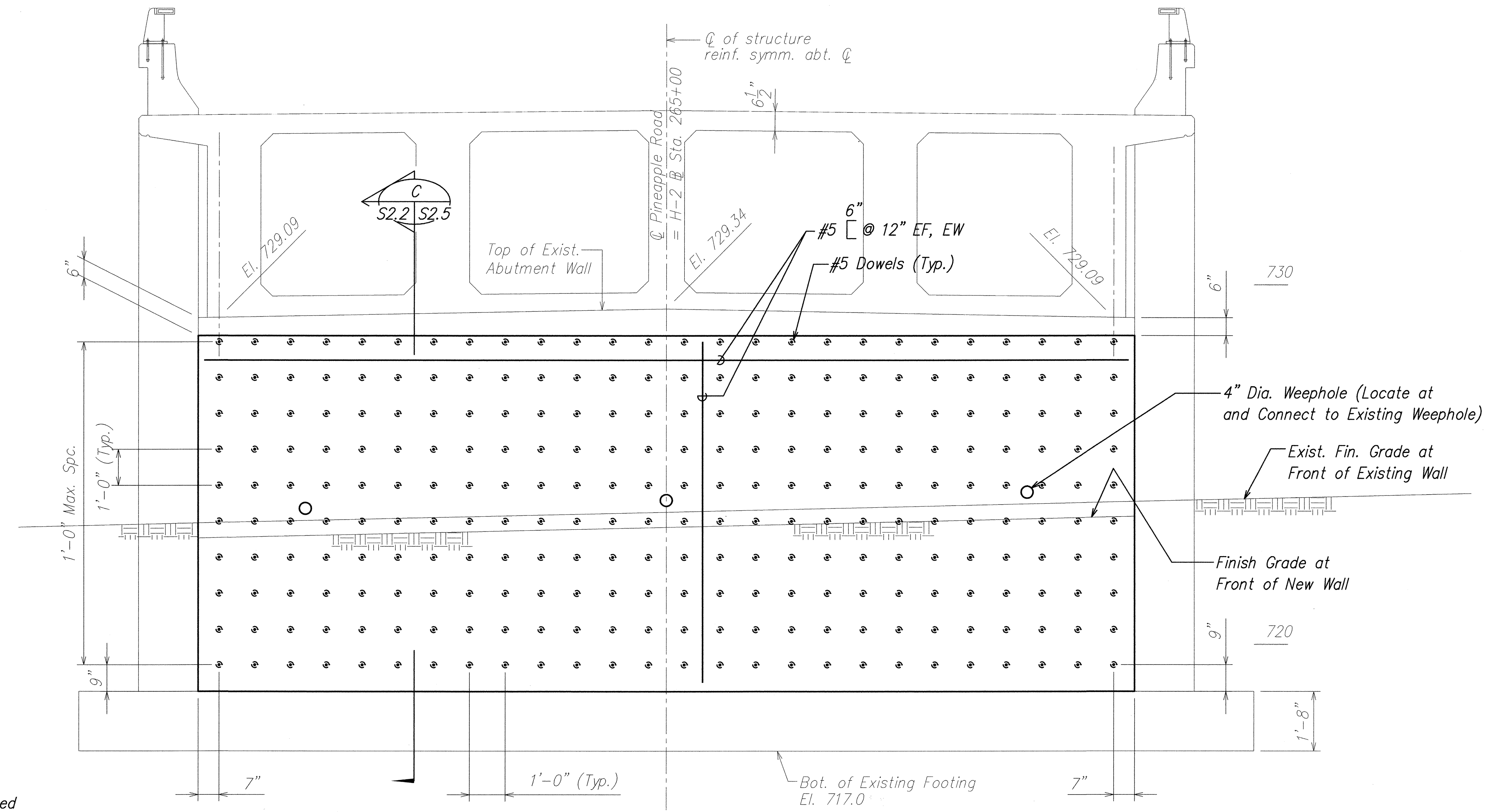


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H2-1(32)	2004	27	32



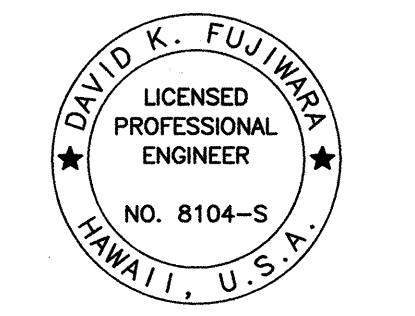
PLAN – ABUTMENT NOS. 1 AND 2 A
SCALE: 1/2" = 1'-0" S2.2 S2.2



NOTE:
Offset dowels as required to maintain 2" clear from the tie back anchor steel plate.

SECTION – ABUTMENT NOS. 1 AND 2 B
SCALE: 1/2" = 1'-0" S2.2 S2.2

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



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David K. Fujiwara
SIGNATURE EXPIRATION DATE OF THE LICENSE 4-30-06

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

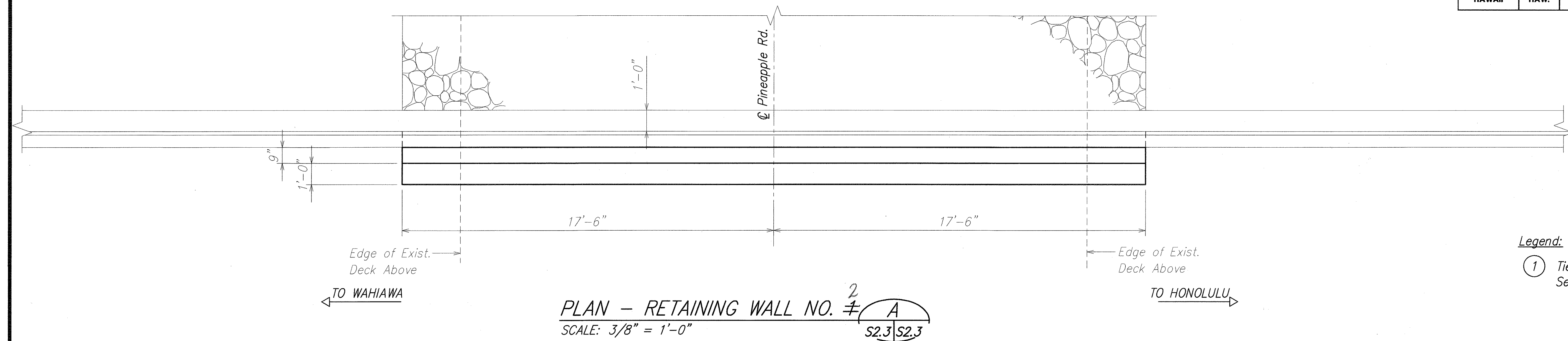
ABUTMENT NOS. 1 AND 2
PLAN AND SECTION

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ. NO. BR-H2-1(32)

SCALE: AS NOTED
DATE: DECEMBER 2003

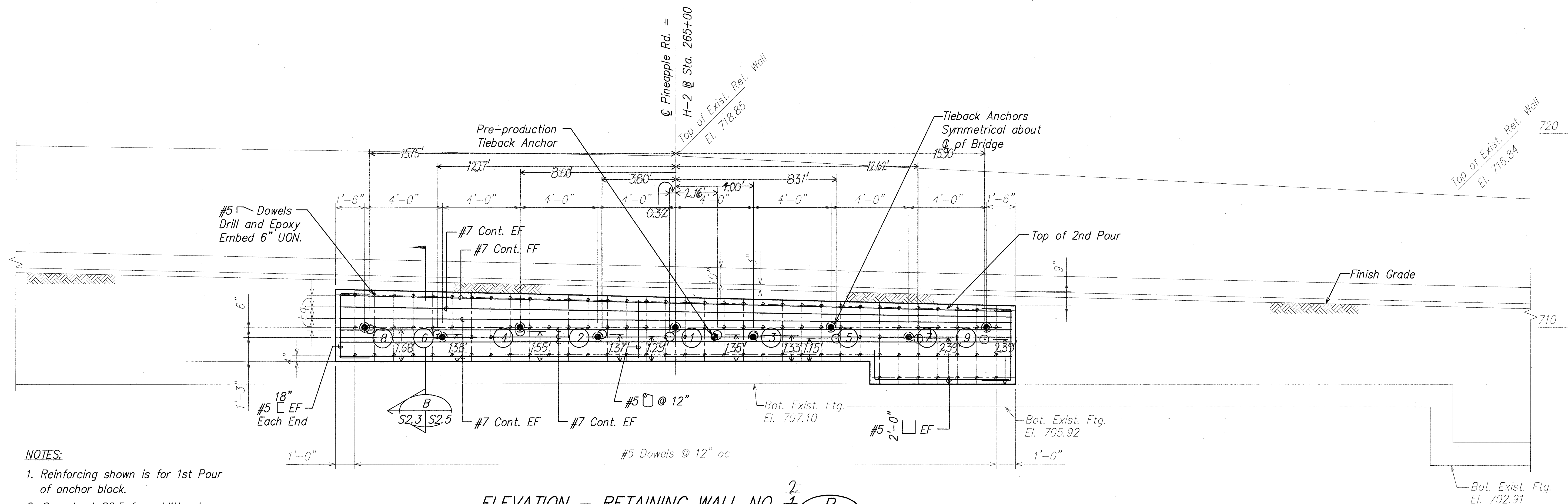
SHEET No. S2.2 OF 18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H2-1(32)	2004	28	32



Legend:

- ① *Tieback Anchor Stressing Sequence.*



- NOTES:

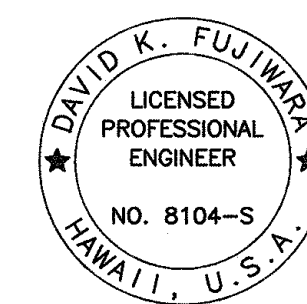
1. Reinforcing shown is for 1st Pour of anchor block.
2. See sheet S2.5 for additional reinforcing.
3. Offset dowels as required to maintain 2" clear from the tieback anchor steel plate.
4. Back face (BF) reinforcing is approximately 4" lower than front face (FF).

ELEVATION - RETAINING WALL NO. ²/₂ 

SCALE: $3/8" = 1'-0"$ S2.3 | S2.3

As-Built

○ Tieback Hole (See KPC RF# K017)



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RETAINING WALL NO. 3
PLAN AND ELEVATION

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ NO. BR-H2-1(32)

SCALE: AS NOTED DATE: DECEMBER 2003

SHEET No. S2.3 OF 18 SHEETS

"AS-BUILT"

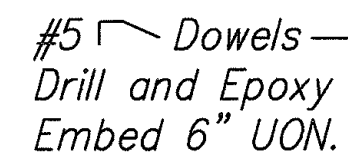
28

\\Cod1\ksf04\2001\10071-H-2 RETROFIT\05-17-04\S-2 PINEAPPLE\PRS-S21.dwg, 5/17/2004 11:47:40 AM, KSFinc.pc3, 1:1



TO WAHIAWA

① *Tieback Anchor Stressing Sequence.*



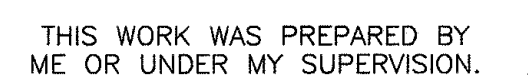
B

$2.5 \quad 2.5$

$2.4 \quad 2.4$

NOTES:

1. Reinforcing shown is for 1st Pour of anchor block.
2. See sheet S2.5 for additional reinforcing.
3. Offset dowels as required to maintain 2" clear from the tieback anchor steel plate.
4. Back face (BF) reinforcing is approximately 4" lower than front face (FF).



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

1
RETAINING WALL NO. 2
PLAN AND ELEVATION

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ NO. BR-H2-1(32)

SHEET No. S2.4 OF 18 SHEETS

"AS-BUILT"

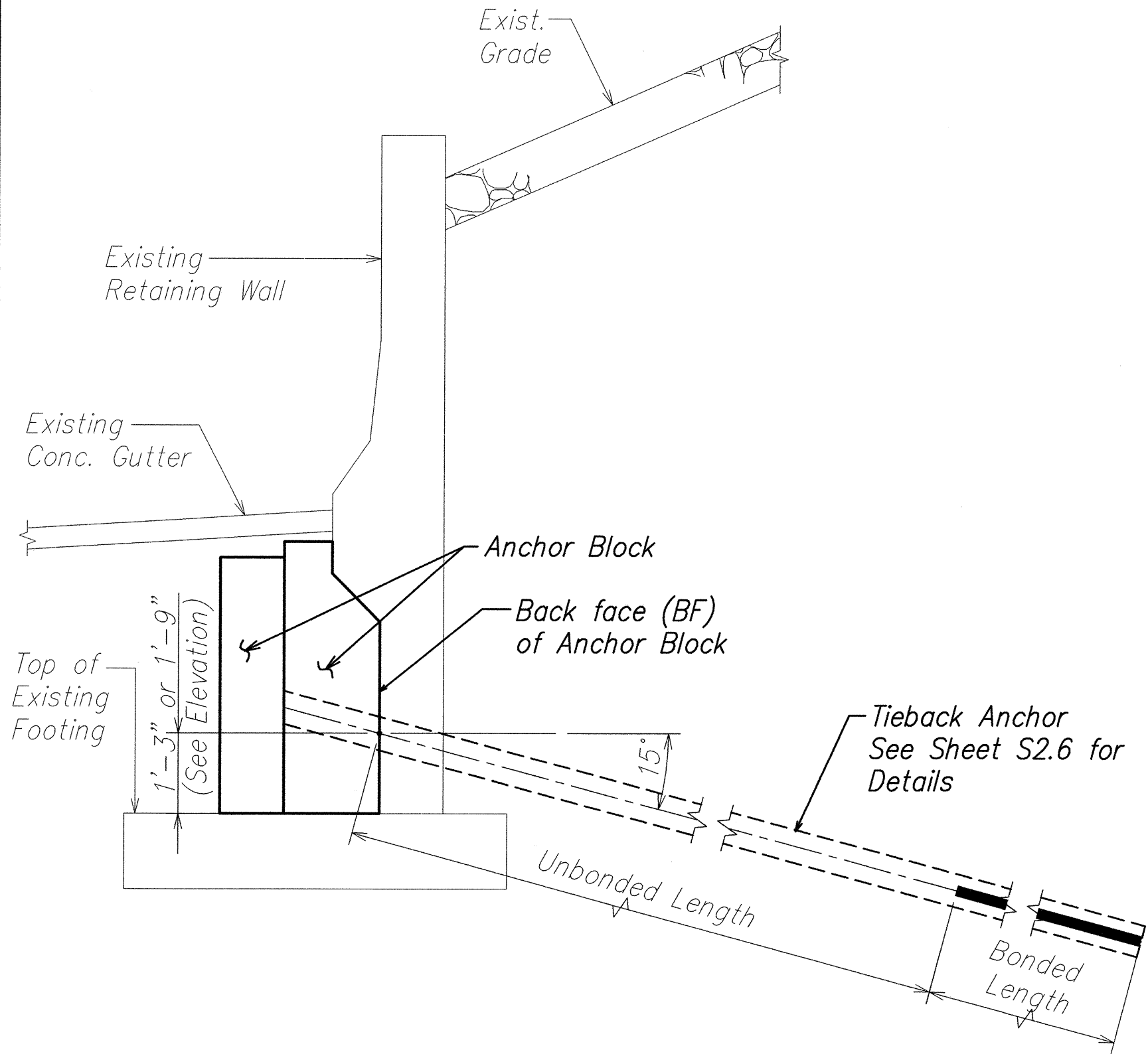
29.

FILE: PRS-S24.DWG
1 = 1

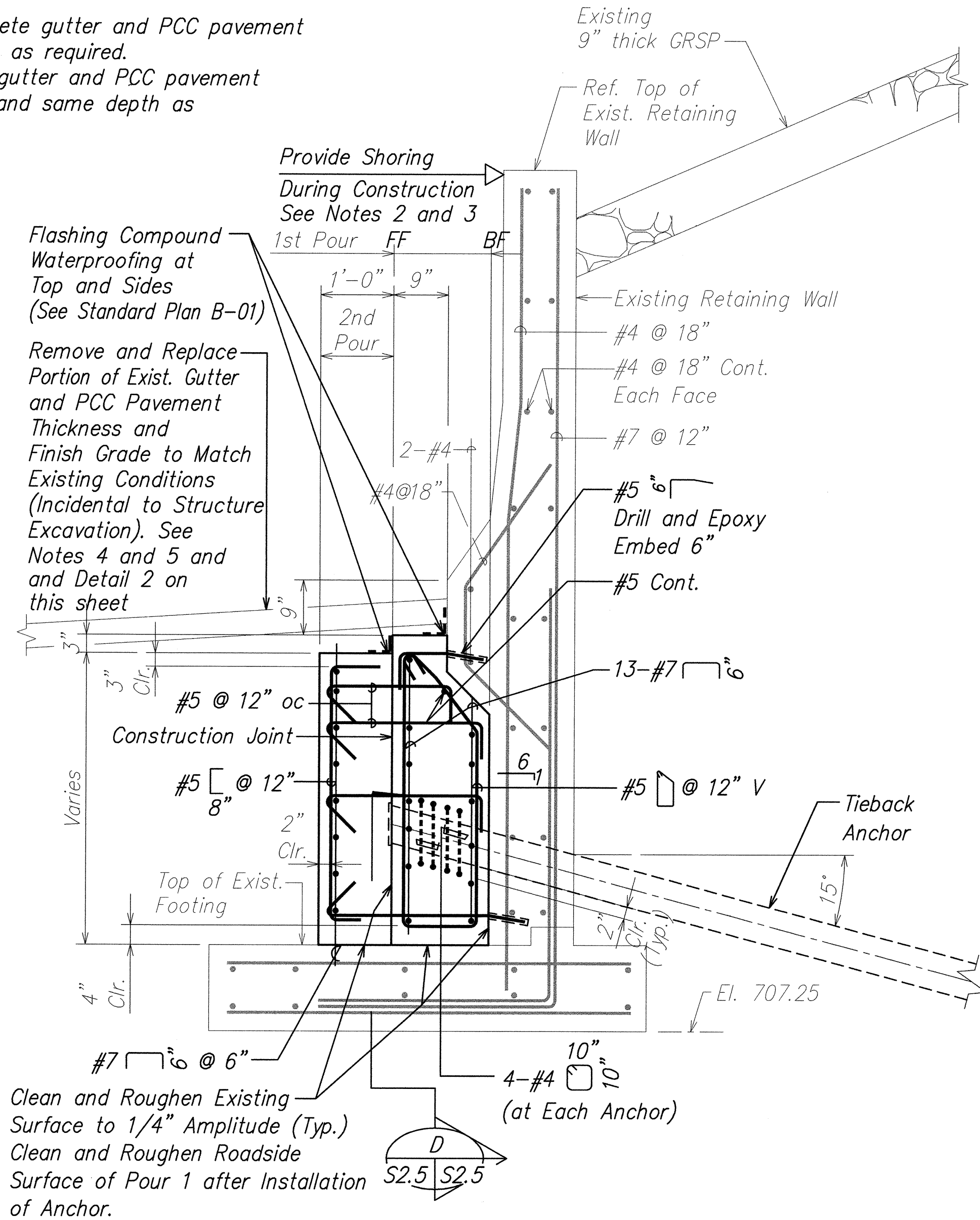
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H2-1(32)	2004	30	32

NOTES:

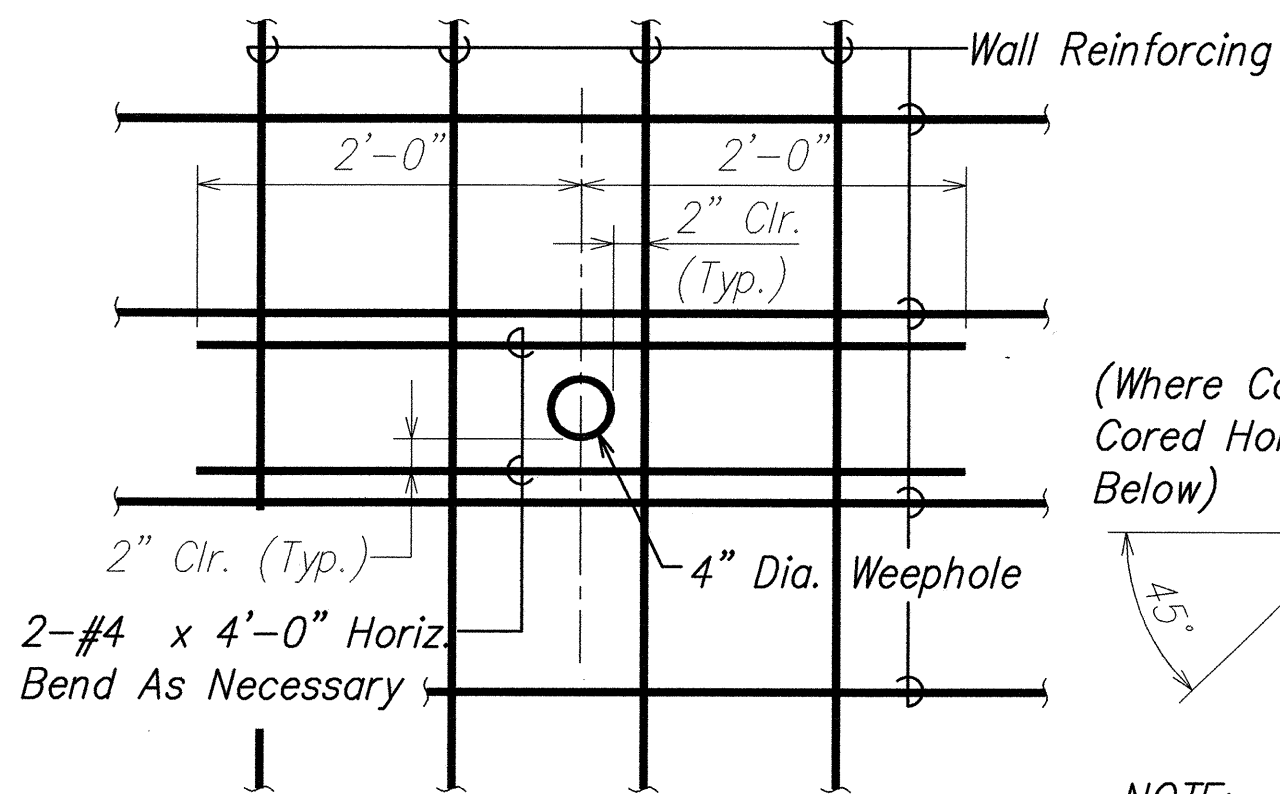
1. Drilling methods, equipment and hole locations shall be adjusted as necessary to avoid interference or damage to existing reinforcing steel. Holes in which existing reinforcement is encountered shall be rejected and shall be filled with epoxy grout prior to new concrete wall pour.
2. Maximum unshored opening in front of wall and measured parallel with roadway shall be 4'-0".
3. Shoring of existing retaining wall shall be designed and stamped by a Structural Engineer registered in the State of Hawaii. The shop drawings and calculations shall be submitted to the Engineer for approval.
4. Remove existing concrete gutter and PCC pavement along existing sawcuts as required.
5. Sawcut new concrete gutter and PCC pavement in the same location and same depth as existing sawcuts.



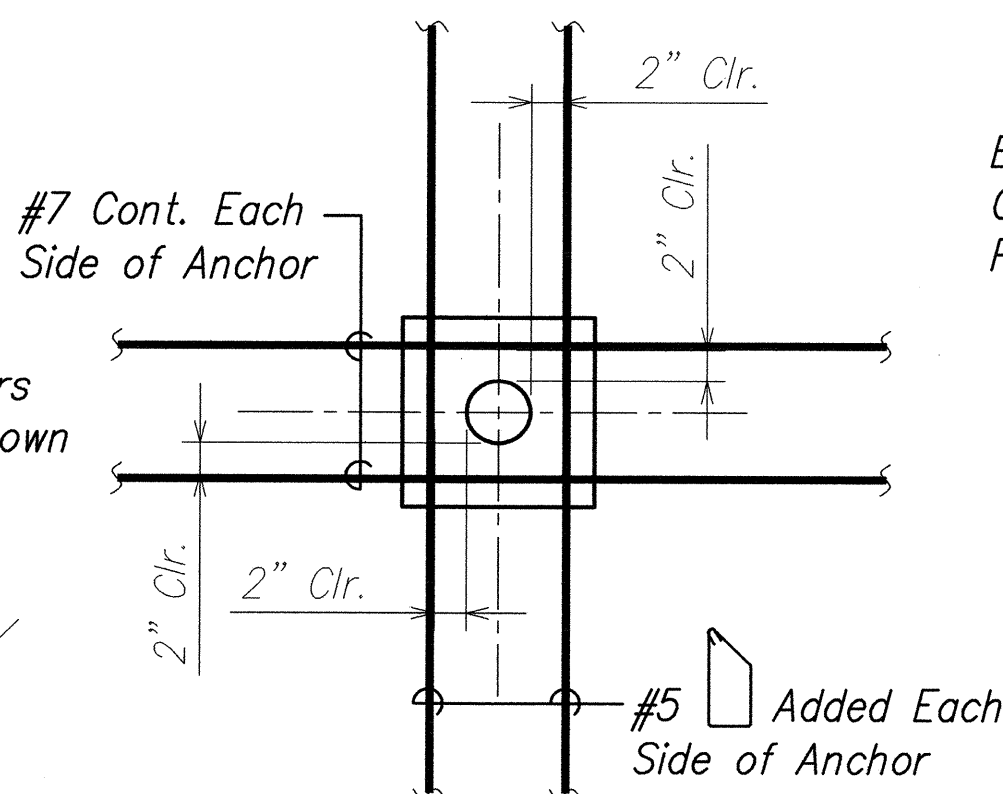
TYPICAL RETAINING WALL SECTION **A**
SCALE: 1/2" = 1'-0"



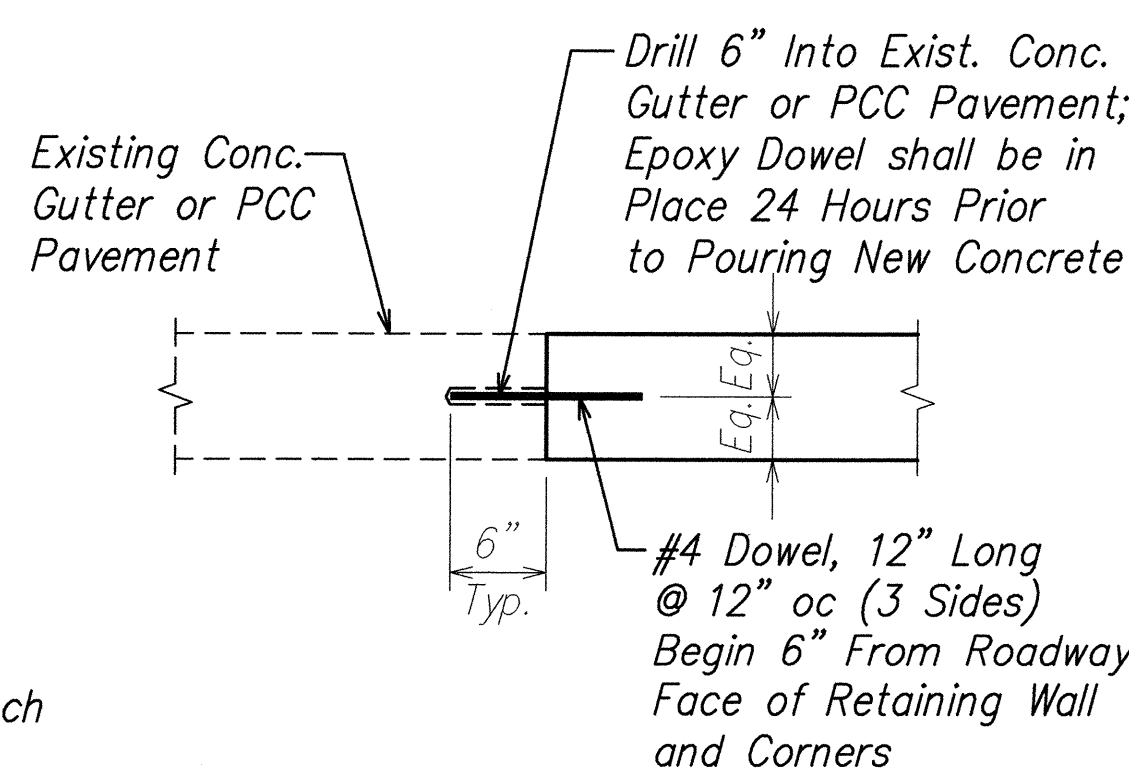
TYPICAL RETAINING WALL SECTION **B**
SCALE: 3/4" = 1'-0"



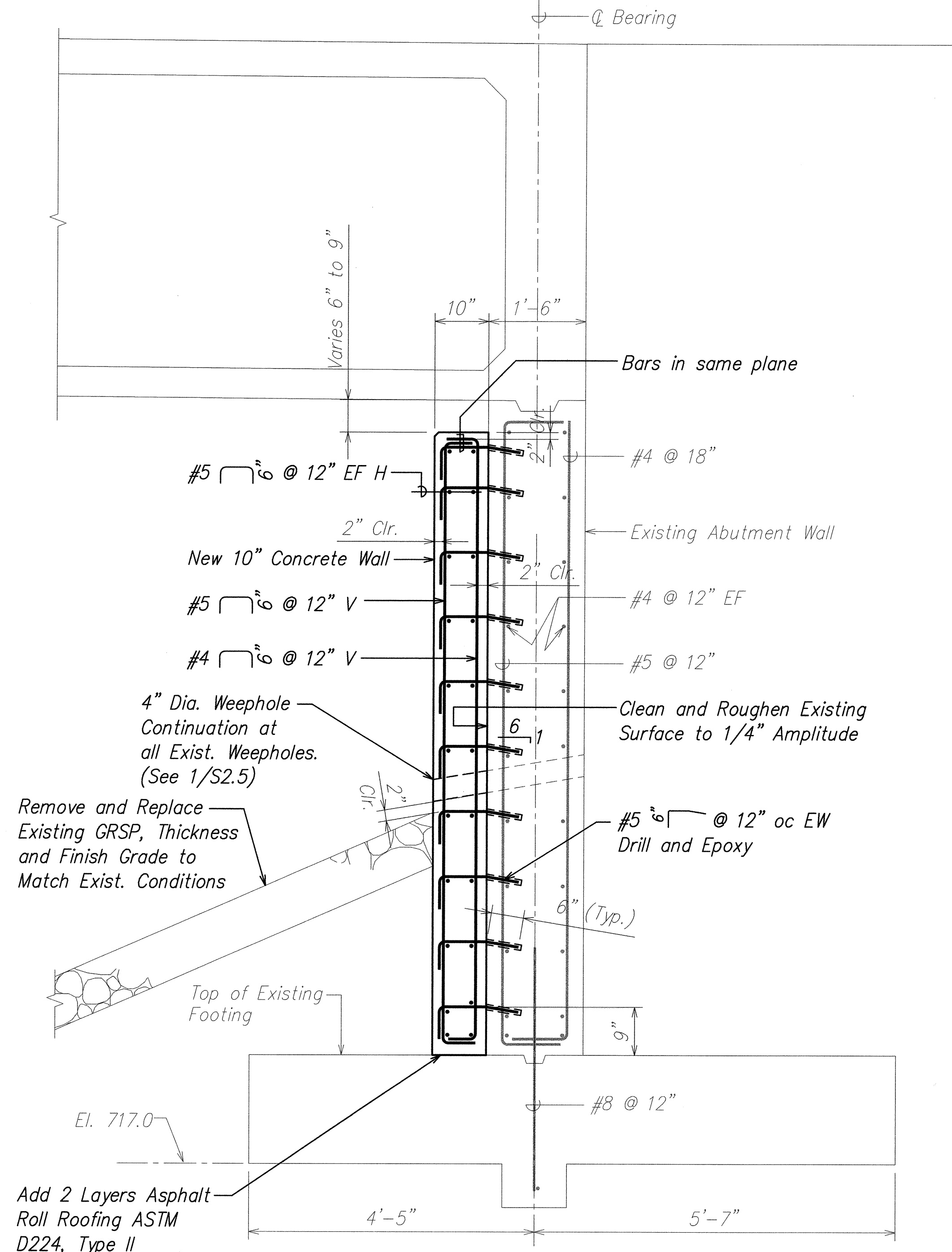
WEEPHOLE DETAIL **1**
SCALE: 1" = 1'-0"



SECTION **D**
SCALE: 1" = 1'-0"

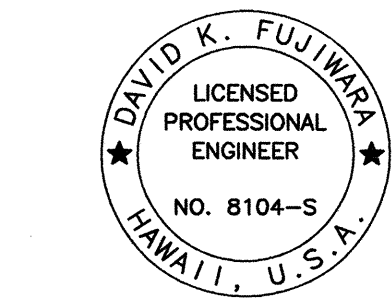


DOWEL EMBEDDING DETAIL FOR CONC. GUTTER AND PCC PAVEMENT **2**
Not to scale



TYPICAL ABUTMENT SECTION **C**
SCALE: 3/4" = 1'-0"

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



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Signature: *David K. Fujiwara*
EXPIRATION DATE OF THE LICENSE: 4-30-06

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

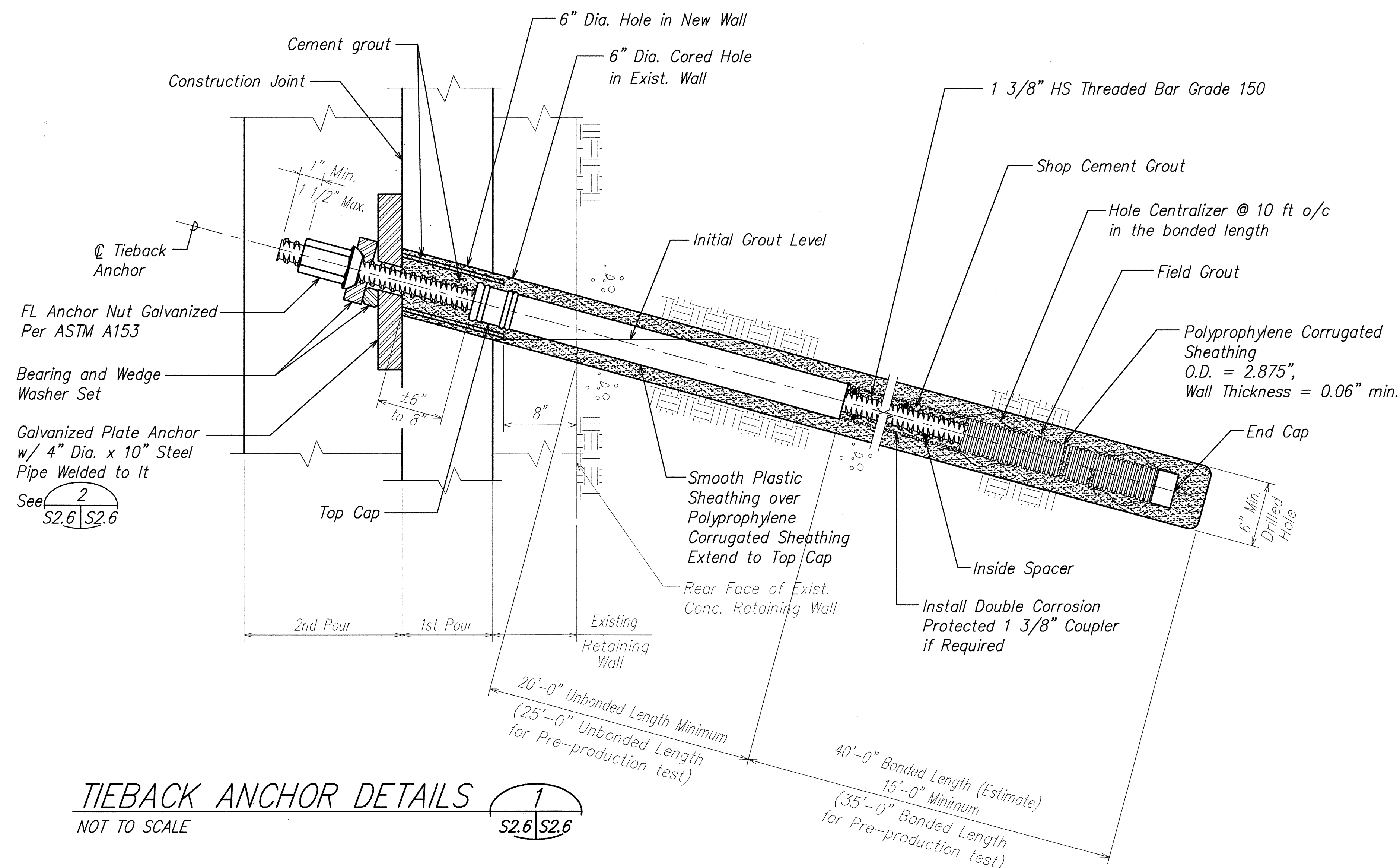
ABUTMENT AND RETAINING
WALL SECTIONS AND DETAIL

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ. NO. BR-H2-1(32)

SCALE: AS NOTED
DATE: DECEMBER 2003

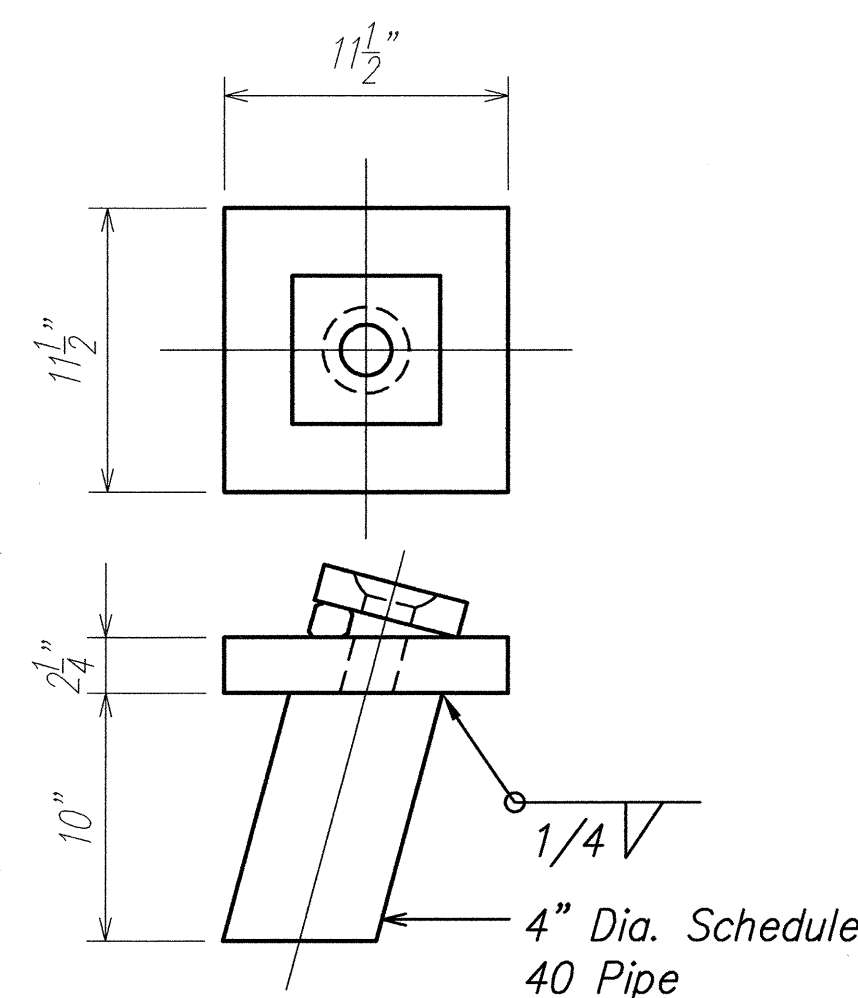
SHEET No. **S2.5** OF 18 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H2-1(32)	2004	31	32



TIEBACK ANCHOR DETAILS

NOT TO SCALE



GALV. PLATE ANCHOR DETAIL

NOT TO SCALE

- Notes:
1. HS threaded bar shall be 1 3/8 inch diameter per ASTM A722, Type II, Grade 150 (Bar yield load = 181.2 Kips and Ultimate load = 237.0 Kips) and galvanized per ASTM A153. Yield strength shall not be reduced by more than 5% after galvanizing. In addition, angle compensating nuts or bearing and bevel washer set shall be galvanized per ASTM A153.
 2. Required tieback anchor design load, P, equals 120 kips. Lock off load equals 70 kips. Refer to Sheets S2.3 and S2.4 for stressing sequence.
 3. Grout tubes shall be placed thru the 2 1/4" x 11 1/2" x 11 1/2" steel plate. Size and locations shall ensure full grouting of hole. The Contractor shall submit grouting details for approval by the Engineer.
 4. See Section 681 of the Special Provisions.

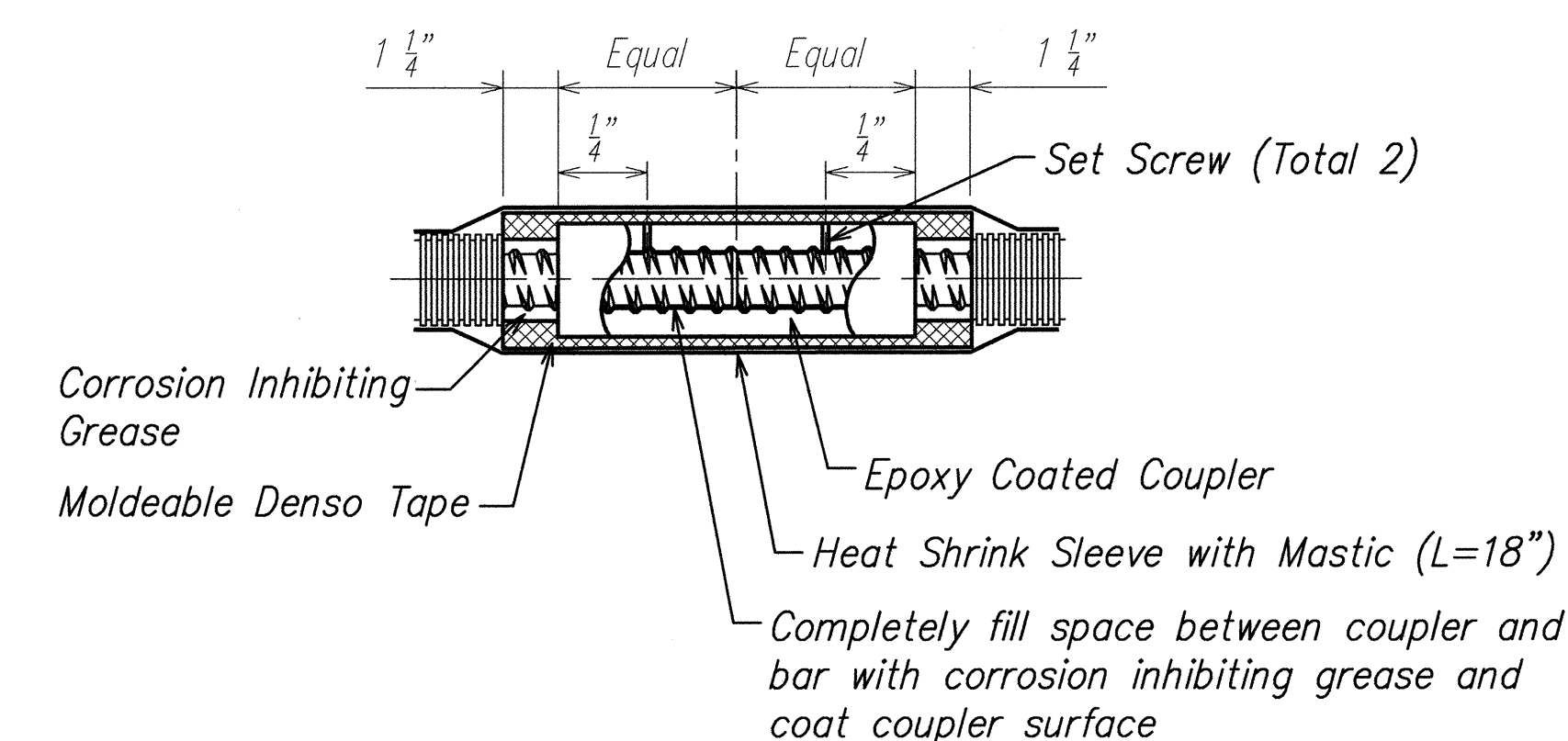
5. Cautions

- Do not weld to bar.*
- Do not use bar as ground connection for welding.*
- Do not allow hot slag or sparks to touch bar.*
- Do not damage bar surface*
- Do not use bars with kinks or sharp bends.*

*Failure to heed above cautions could cause bar to break
resulting in injury or damage.*

COUPLER INSTALLATION PROCEDURE (FOR BONDED LENGTH)

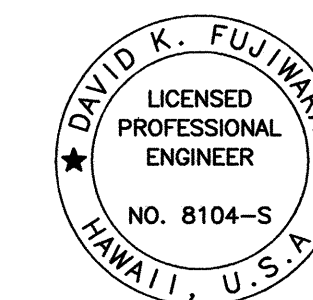
- Apply corrosion inhibiting grease to the bare ends of the bars and the inside of the coupler.
- Connect the two bar ends with the coupler (half the length of the coupler.) each end of thread bar shall be screwed into the coupler as shown below.
- Torque two bar ends together with 200 ft-lb min. then tighten set screws.
- Add another coat of grease to bare bar and coupler and wrap it with two layers of denso tape.
- Apply heat shrink sleeve centered over coupler.



NOTE: Couplers shall be capable of developing full ultimate tensile strength load of the threadbar.

DOUBLE CORROSION PROTECTED COUPLER FOR BONDED LENGTH

NOT TO SCALE



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SIGNATURE EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

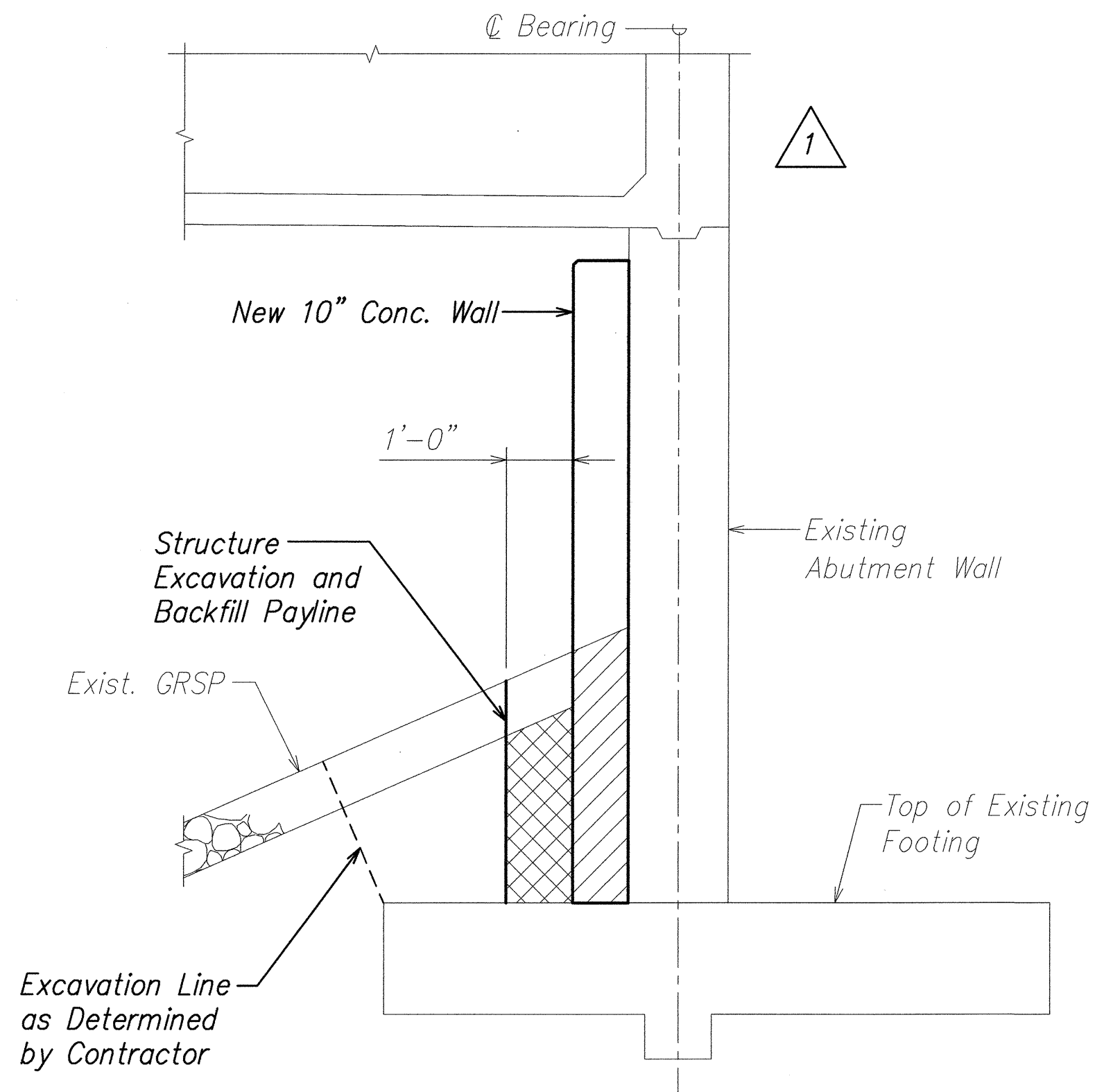
TIEBACK ANCHOR DETAIL

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ NO. BR-H2-1(32)

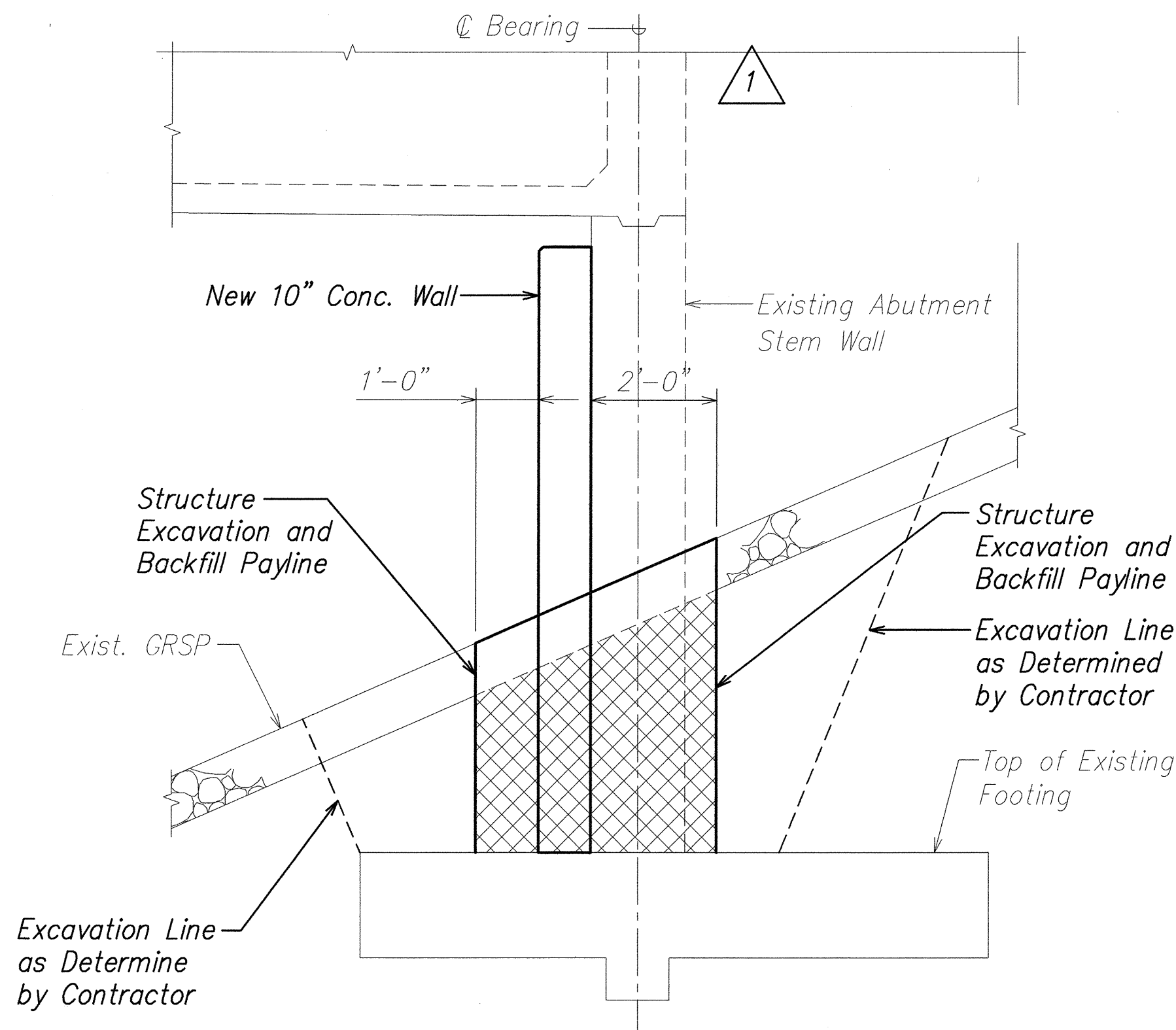
SCALE: AS NOTED DATE: DECEMBER 2003

SHEET No. S2.6 OF 18 SHEETS

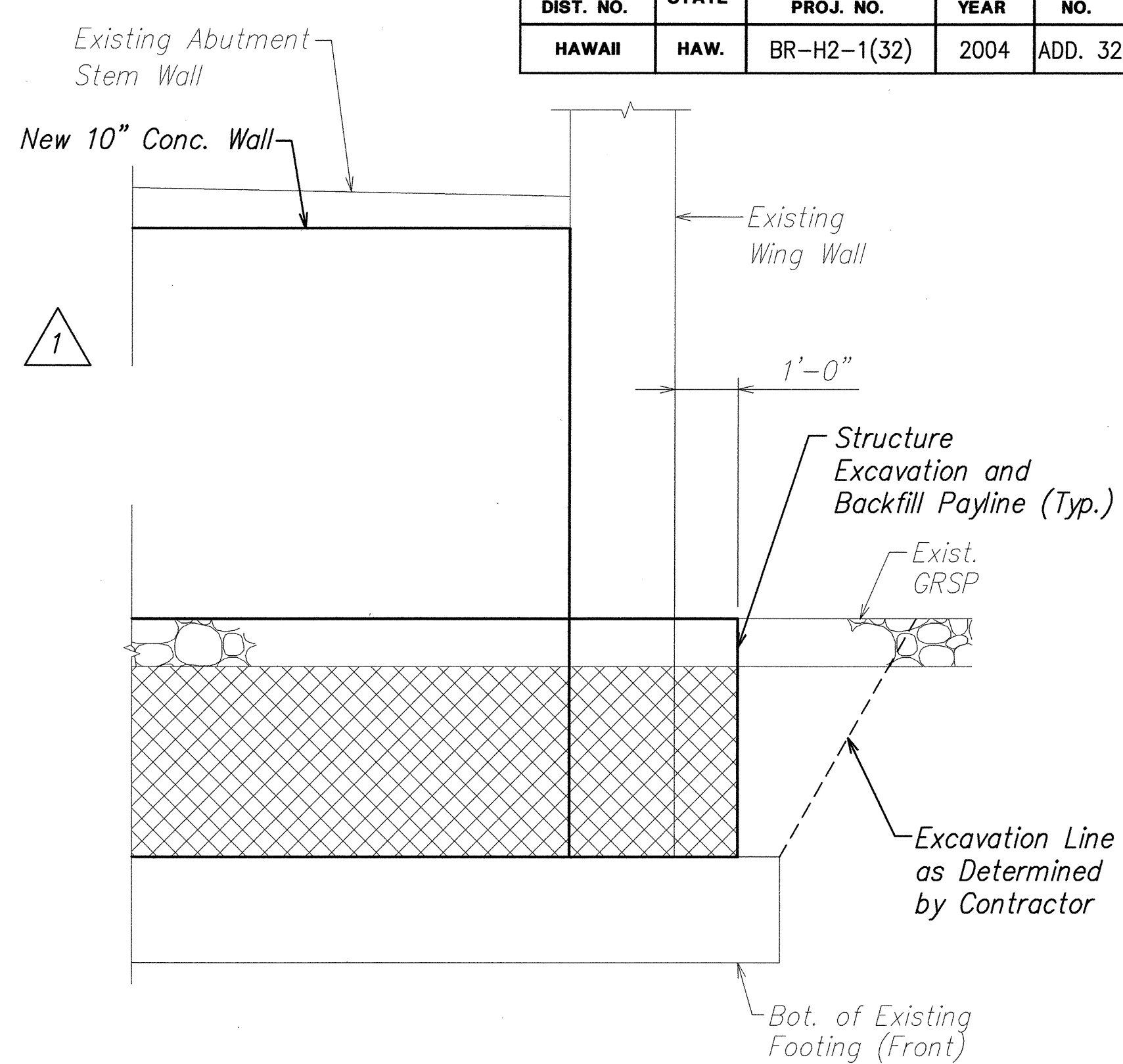
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-H2-1(32)	2004	ADD. 32	32



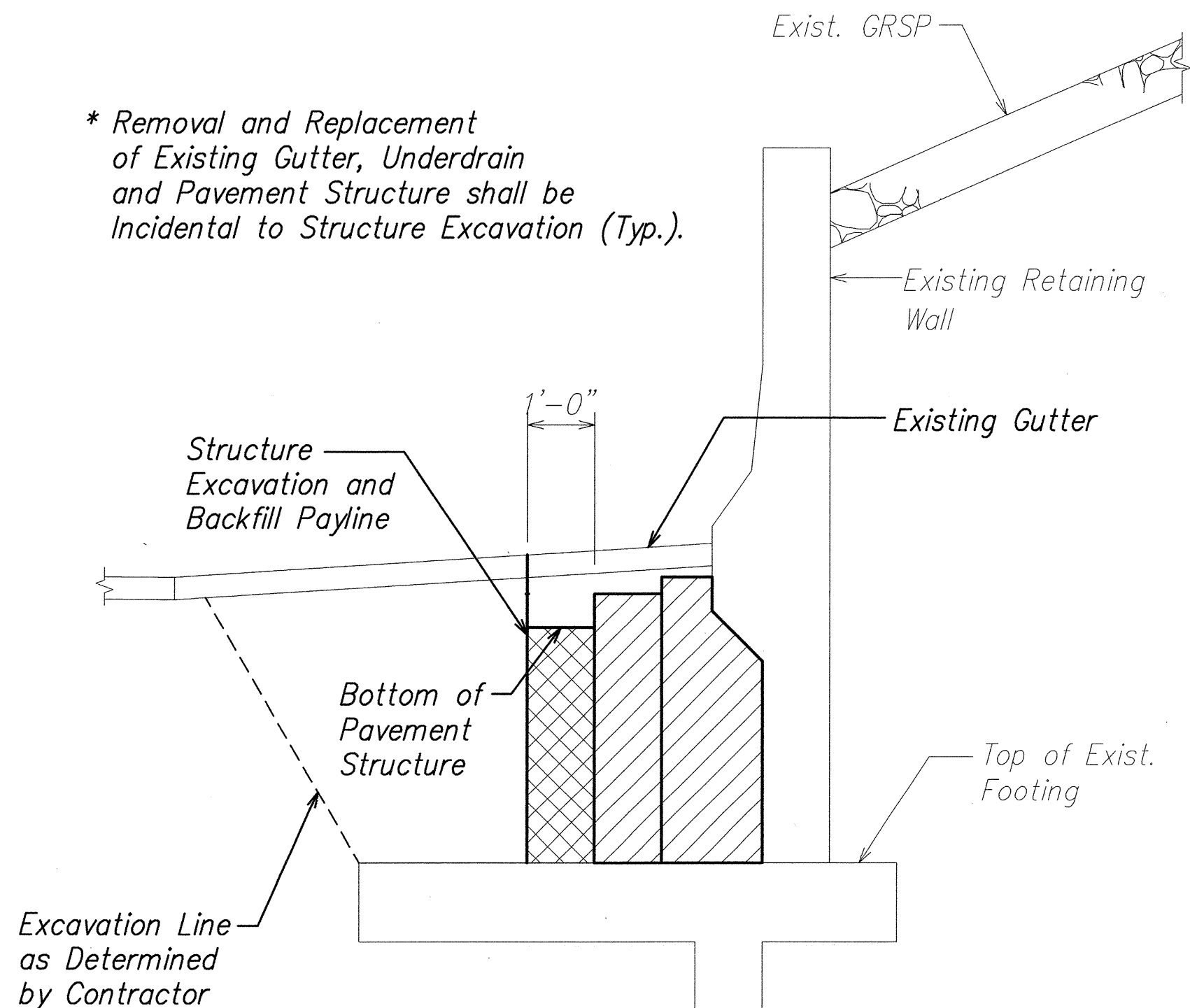
TYPICAL ABUTMENT SECTION **A**
SCALE: N.T.S. S2.7 S2.7



TYPICAL WING WALL ELEVATION **B**
SCALE: N.T.S. S2.7 S2.7

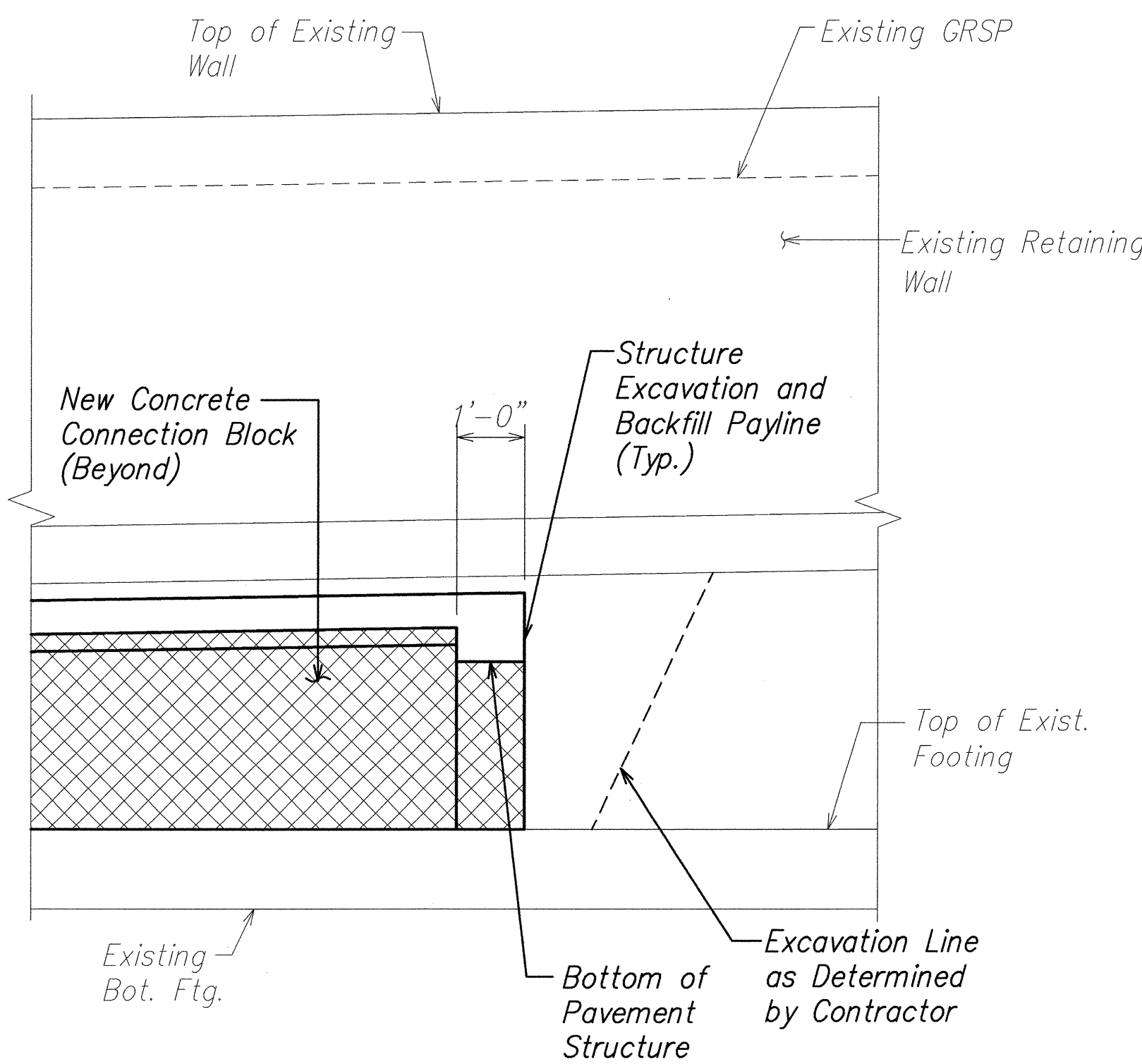


PARTIAL ABUTMENT ELEVATION **C**
SCALE: N.T.S. S2.7 S2.7



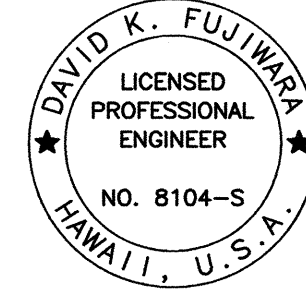
* Removal and Replacement of Existing Gutter, Underdrain and Pavement Structure shall be Incidental to Structure Excavation (Typ.).

TYPICAL RETAINING WALL SECTION **D**
SCALE: N.T.S. S2.7 S2.7



RETAINING WALL - PARTIAL ELEVATION **E**
SCALE: N.T.S. S2.7 S2.7

Legend:
Structure Excavation
Structure Backfill



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EXPIRATION DATE OF THE LICENSE: 4-30-06

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**STRUCTURE EXCAVATION
AND BACKFILL PAY LIMITS**

INTERSTATE ROUTE H-2 SEISMIC RETROFIT
PINEAPPLE ROAD BRIDGE
PROJ. NO. BR-H2-1(32)

SCALE: AS NOTED DATE: DECEMBER 2003

SHEET No. **S2.7** OF 18 SHEETS

DATE	REVISION
6-01-04	1 Note Deleted.