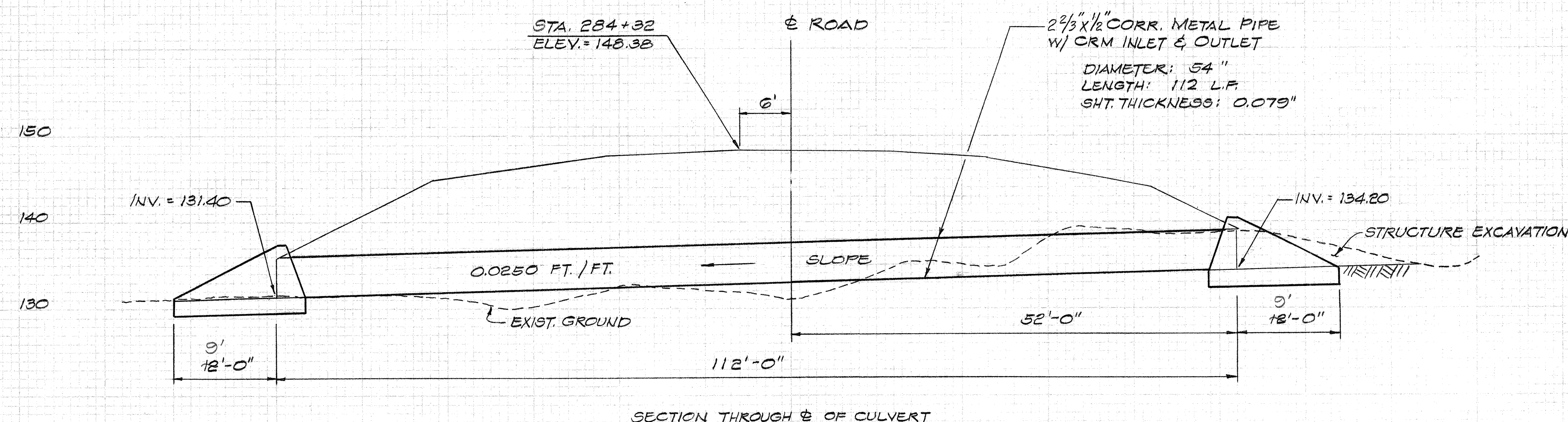


STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	19BC-01-71	1972	76	118

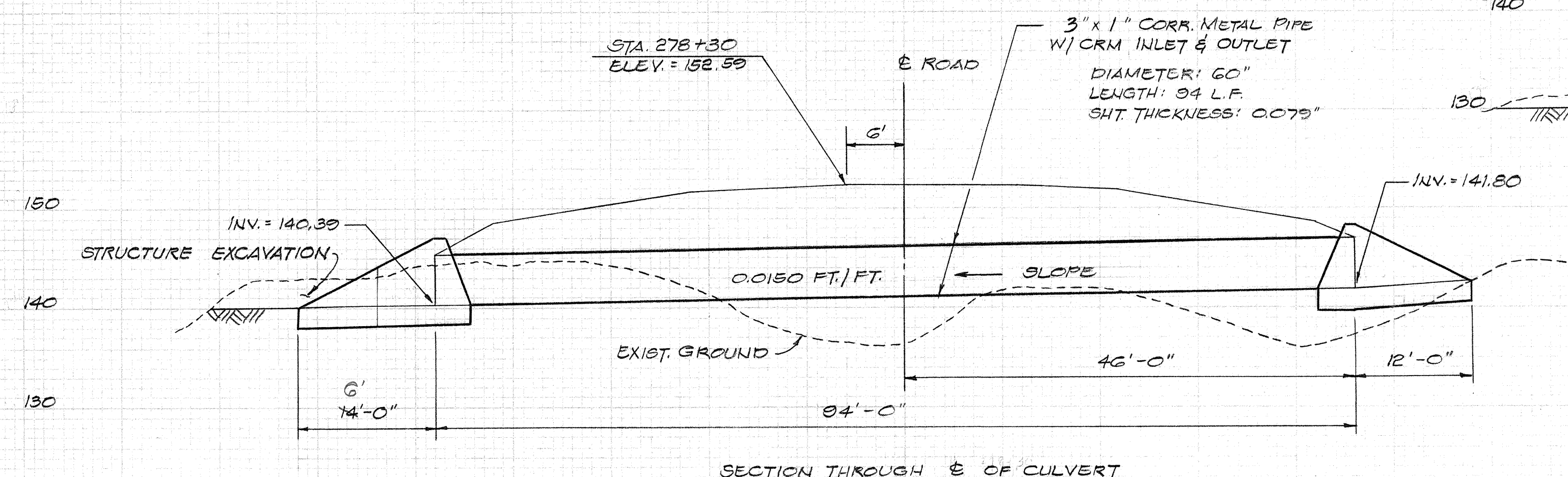
GENERAL NOTES:

1. ALL CORRUGATED METAL PIPE SHALL BE GALVANIZED.
2. ALL STRUCTURAL PLATE PIPE CULVERTS SHALL BE FACTORY ELONGATED 5%.
3. UNSUITABLE MATERIAL BELOW THE INVERTS OF CULVERTS SHALL BE REMOVED AND BACKFILLED WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.
4. DIRECTION OF ALL CULVERTS IS PERPENDICULAR TO ROAD ALIGNMENT EXCEPT THOSE THAT SHOW SKEW ANGLE.



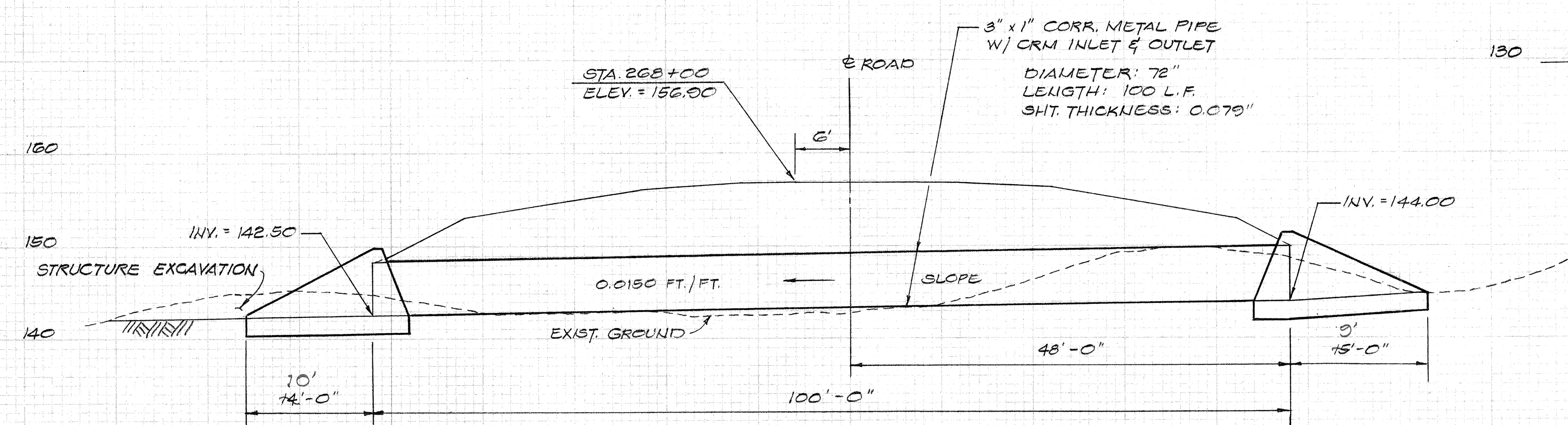
SECTION THROUGH E OF CULVERT

STRUCTURE #1-C STA. 284+32



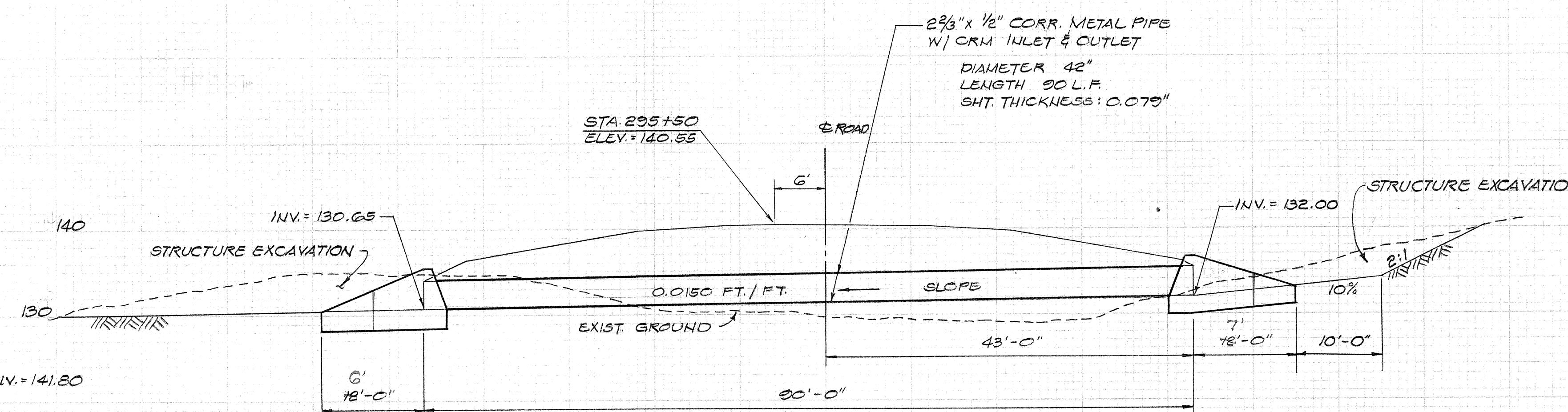
SECTION THROUGH E OF CULVERT

STRUCTURE #1-B STA. 278+30



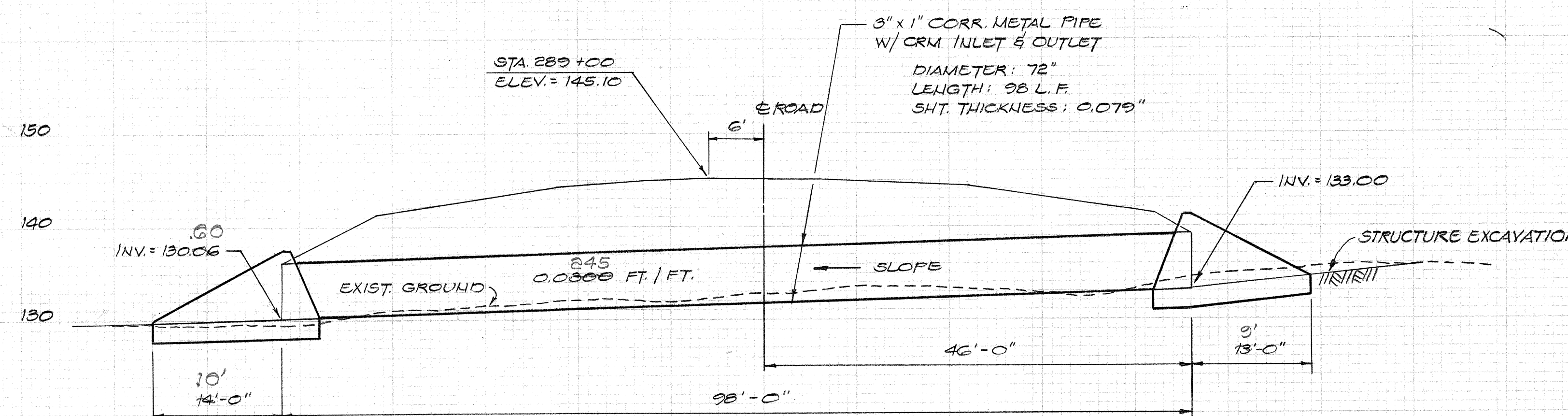
SECTION THROUGH E OF CULVERT

STRUCTURE #1-A STA. 268+00



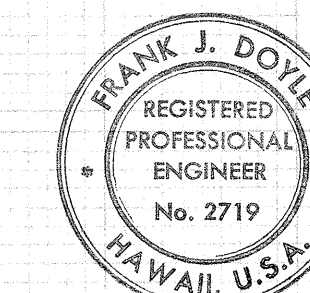
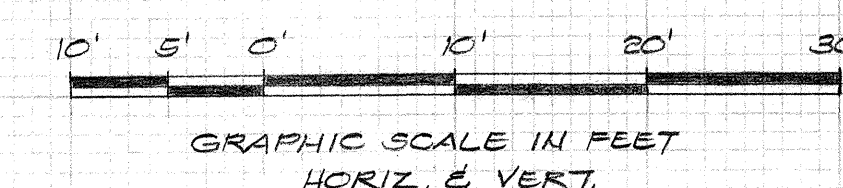
SECTION THROUGH E OF CULVERT

STRUCTURE #1-E STA. 295+50



SECTION THROUGH E OF CULVERT

STRUCTURE #1-D STA. 289+00



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 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

CULVERTS
 STRUCTURES #1-A, B, C, D, E
 KAILUA - KAWAIIHAE ROAD
 KE-AHOLE TO ANAEOHOMALU

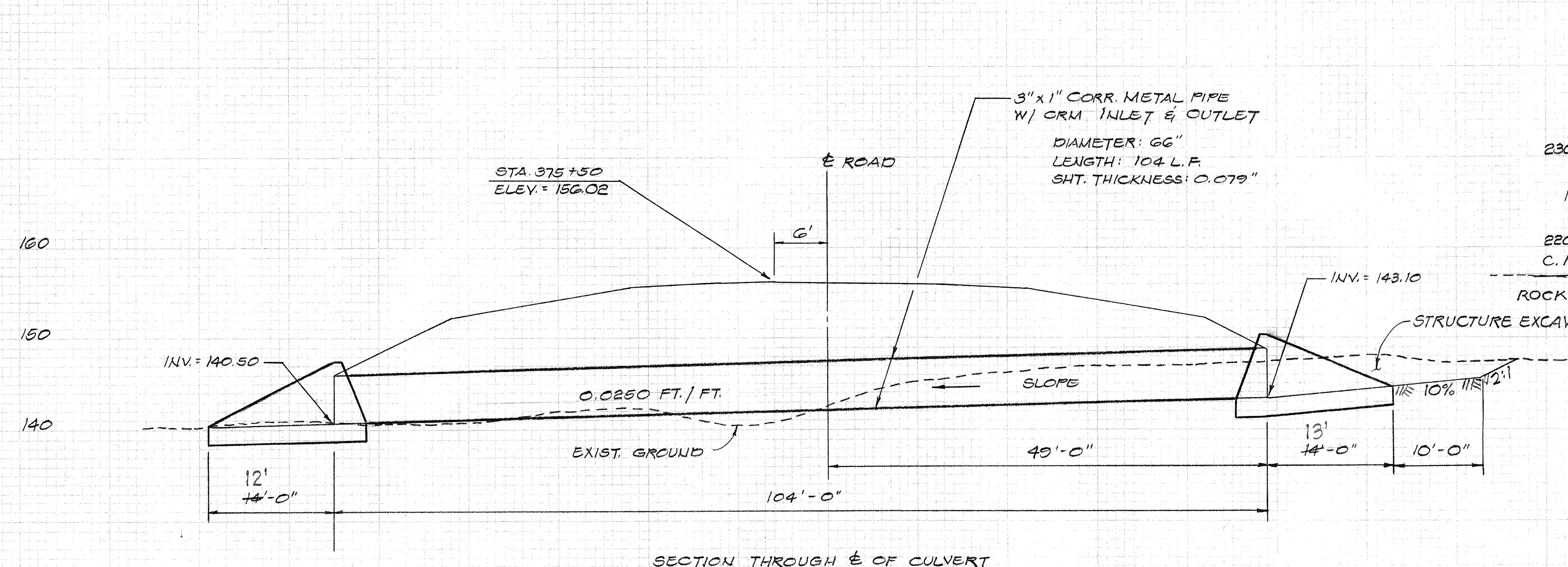
PROJ. No. 19 BC-01-71

Sheet No. 1 of 12 Sheets

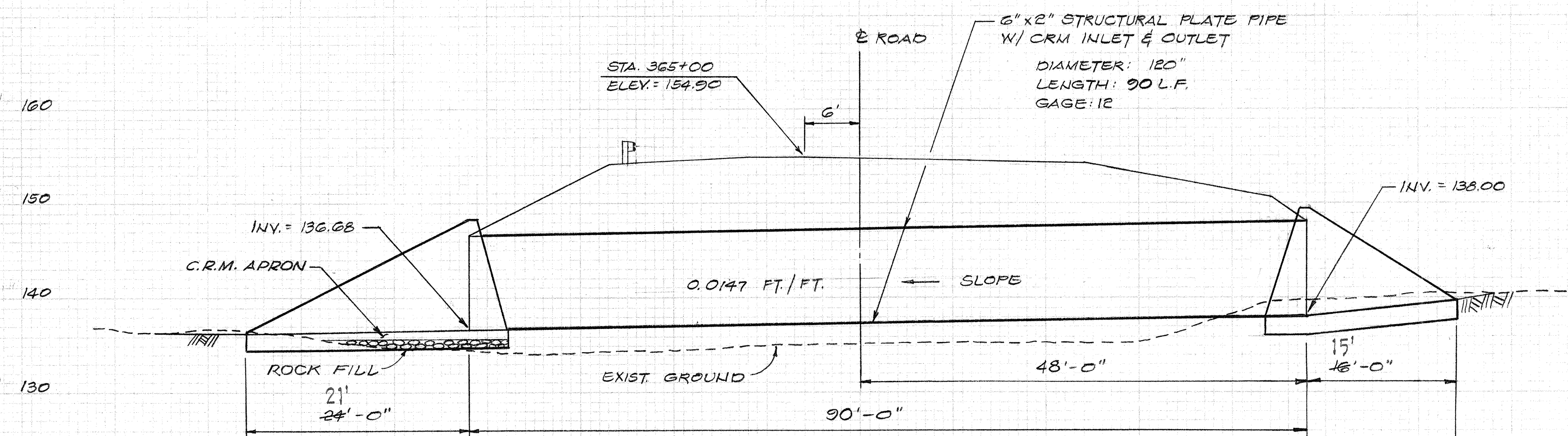
ADD. 76

July 20, 1972

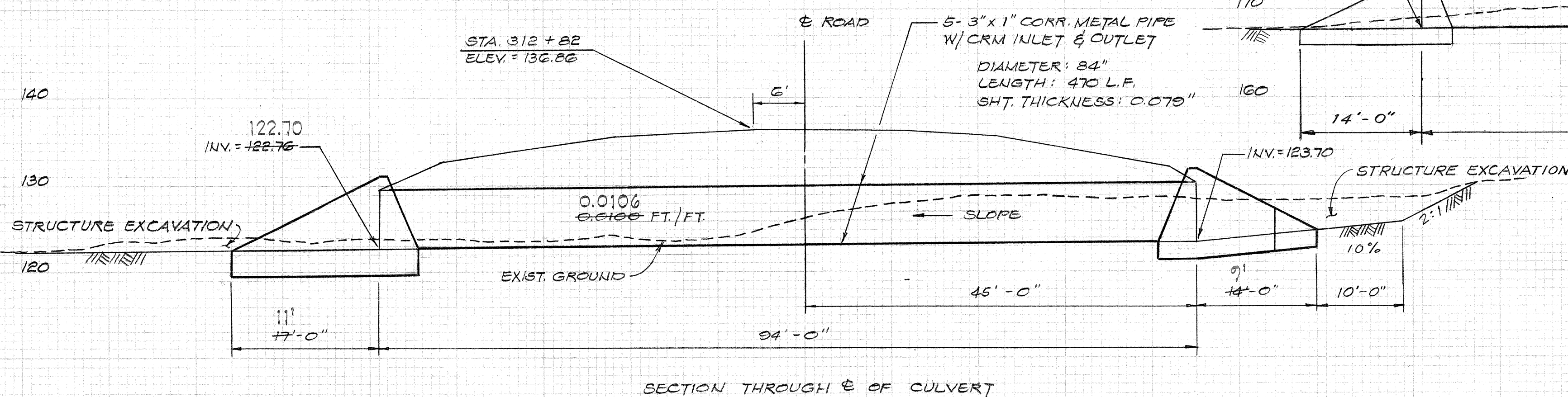
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	198C-01-T1	1972	77	118



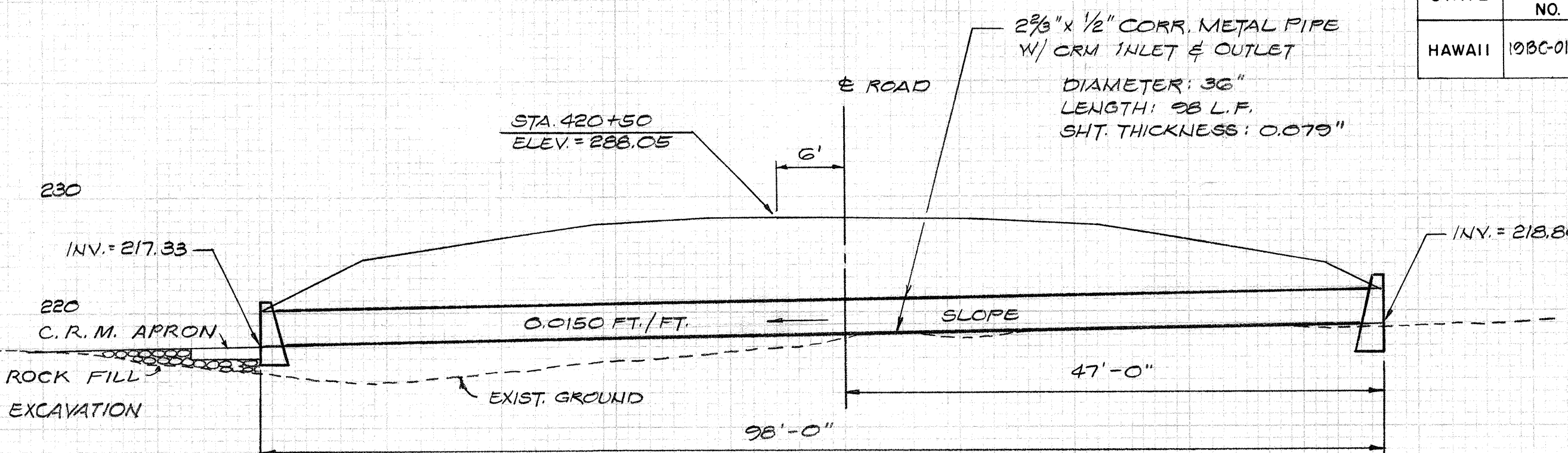
SECTION THROUGH E OF CULVERT
STRUCTURE #2-A STA. 375+50



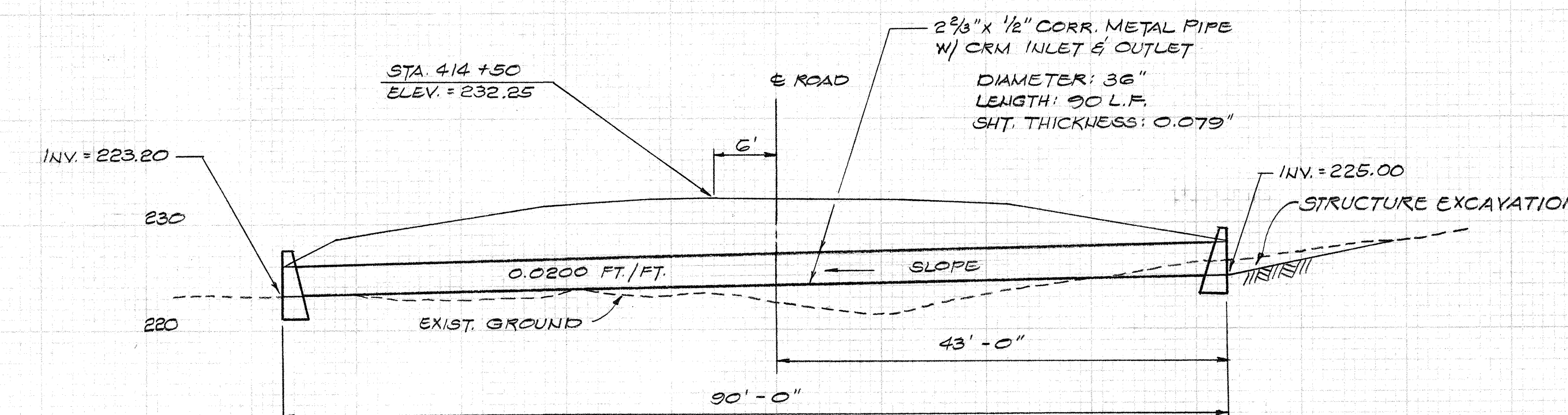
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STRUCTURE #1-G STA. 365+00



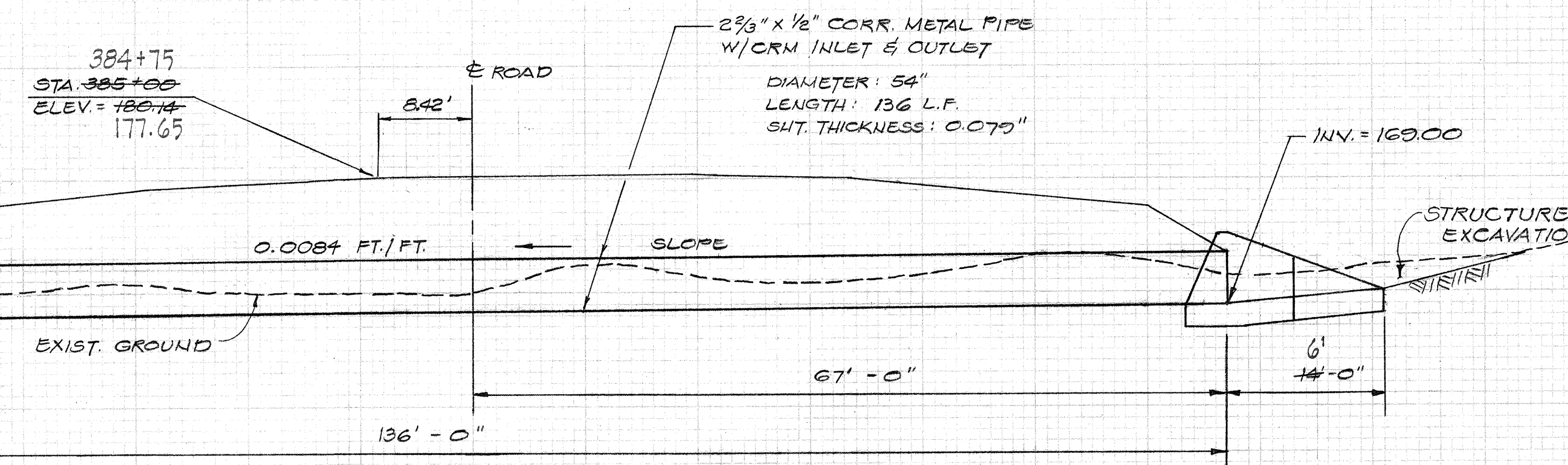
SECTION THROUGH E OF CULVERT
STRUCTURE #1-F STA. 312+82



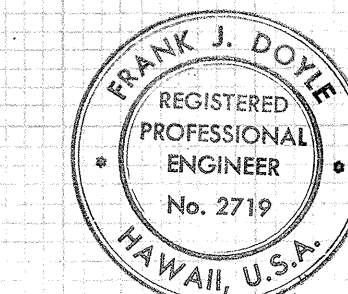
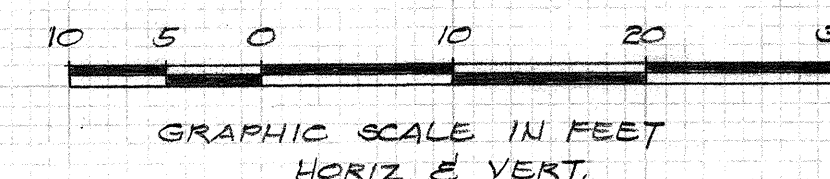
SECTION THROUGH E OF CULVERT
STRUCTURE #2-D STA. 420+50



SECTION THROUGH E OF CULVERT
STRUCTURE #2-C STA. 414+50



SECTION THROUGH E OF CULVERT
STRUCTURE #2-B STA. 385+00

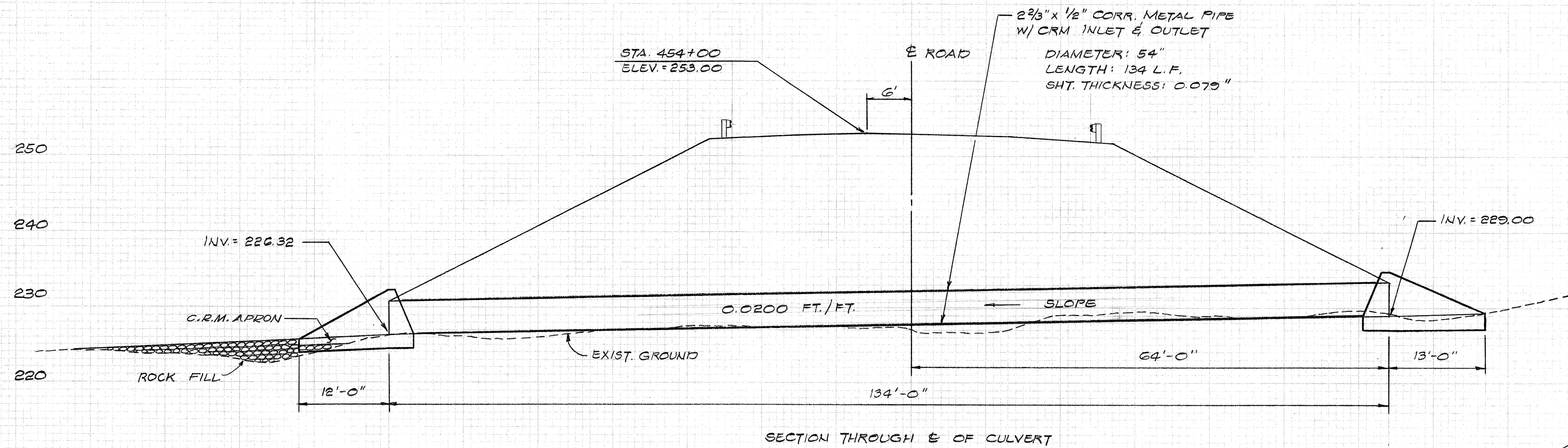


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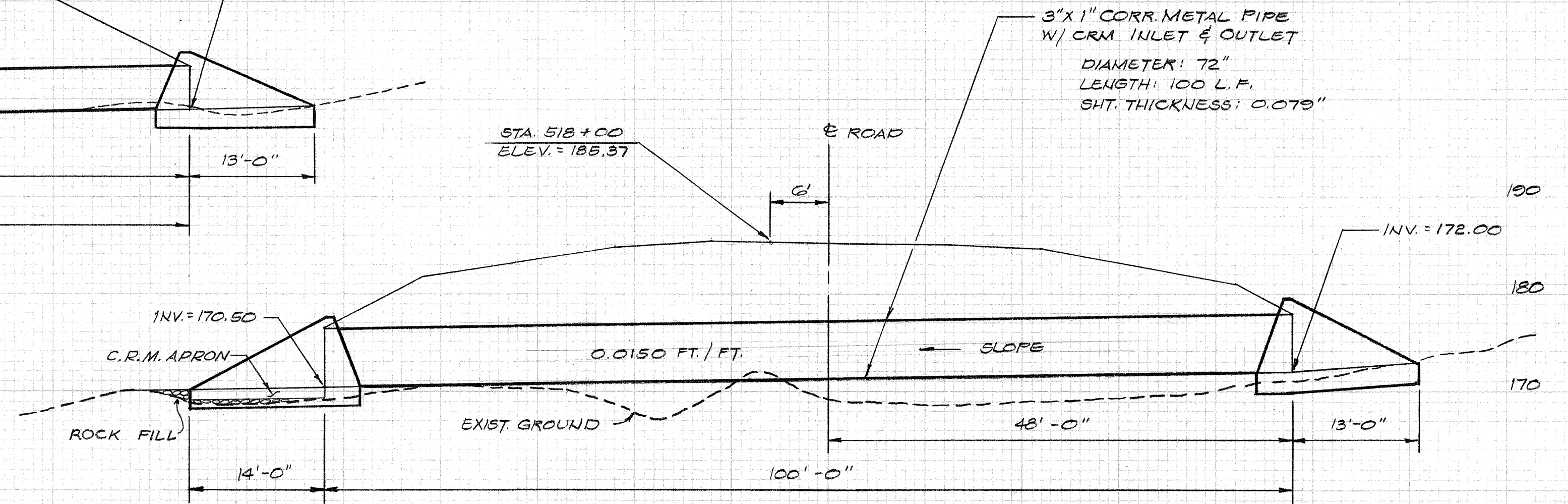
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERTS
STRUCTURES #1-F, G; 2-A, B, C, D
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOOMALU
PROJ. No. 198C-01-71

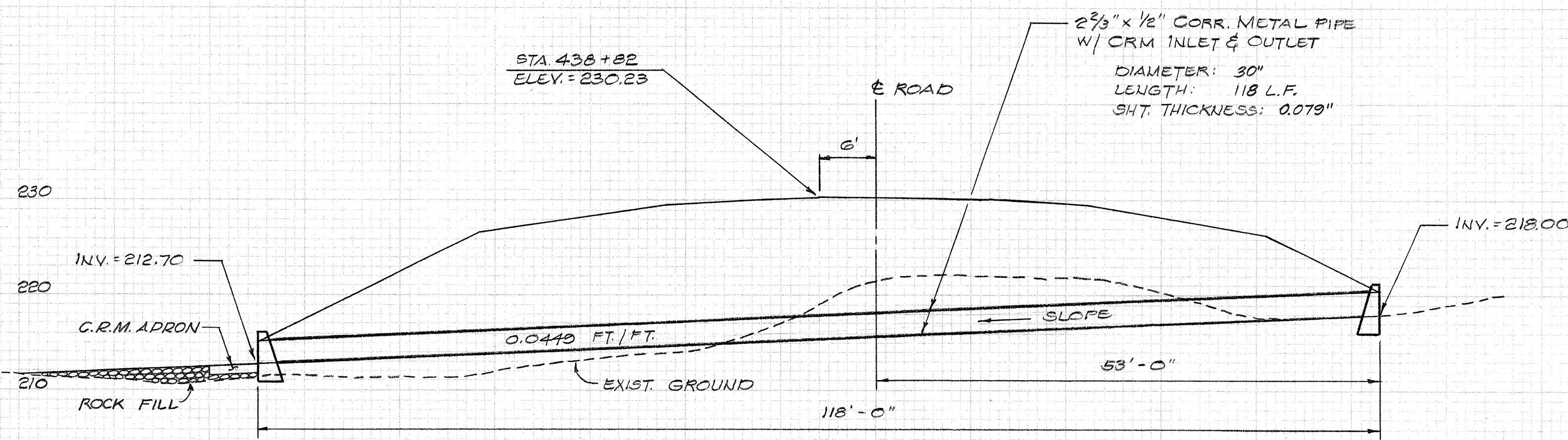
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	19BC-01-71	1972	78	118



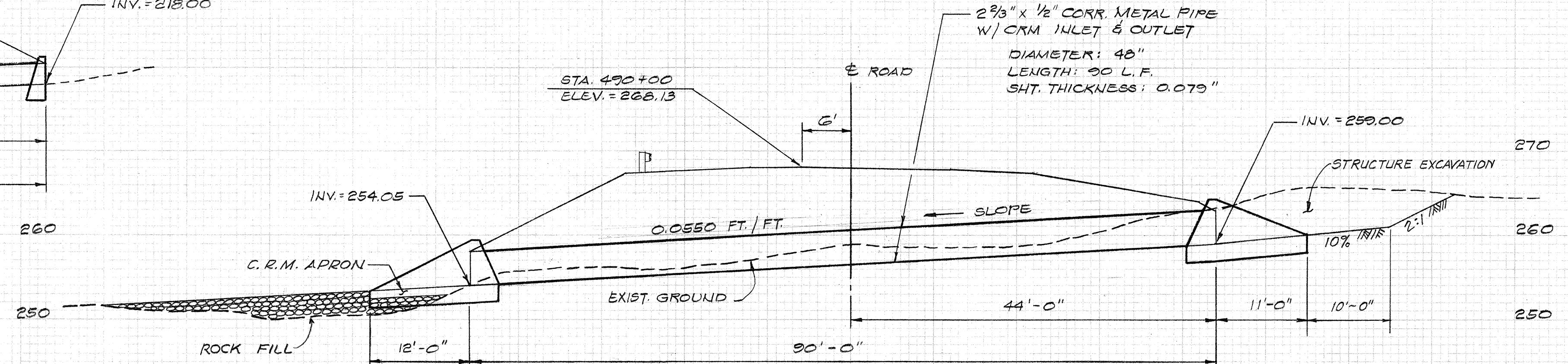
SECTION THROUGH & OF CULVERT
STRUCTURE #2-G STA. 454+00



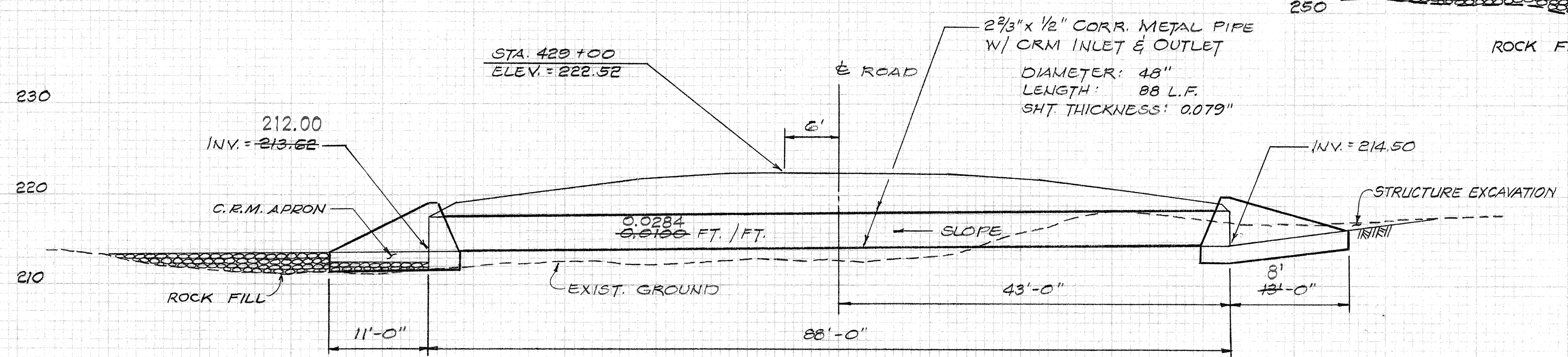
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STRUCTURE #3-B STA. 518+00



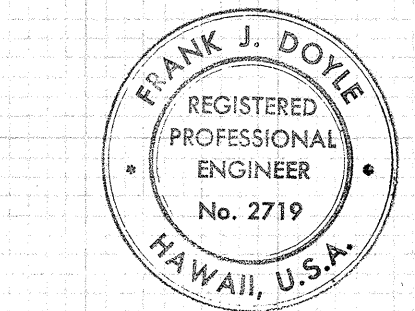
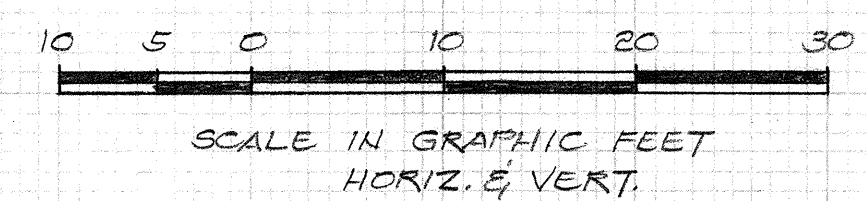
SECTION THROUGH & OF CULVERT
STRUCTURE #2-F STA. 438+82



SECTION THROUGH & OF CULVERT
STRUCTURE #3-A STA. 490+00



SECTION THROUGH & OF CULVERT
STRUCTURE #2-E STA. 429+00



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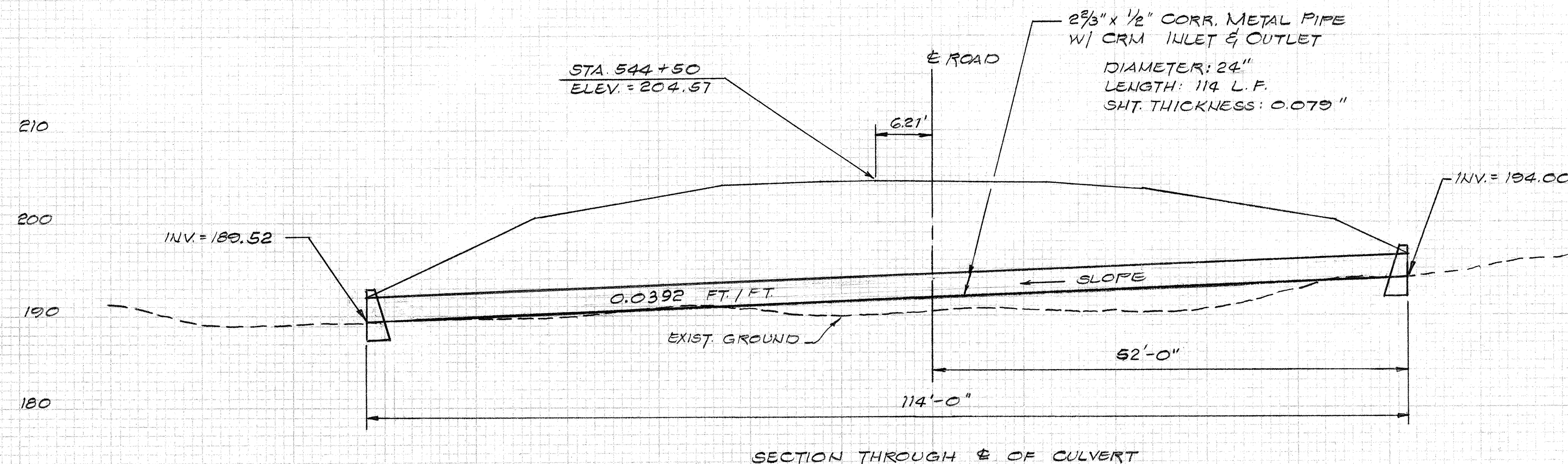
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERTS

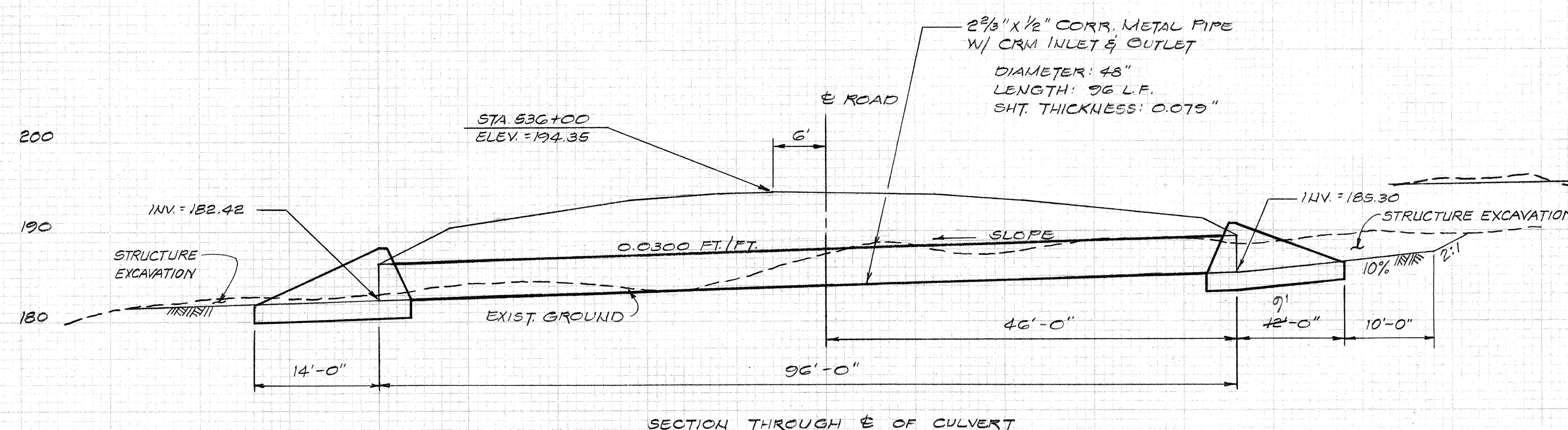
STRUCTURES #2-E, F, G; 3-A, B
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEOOMALU

PROJ. No. 19BC-01-71

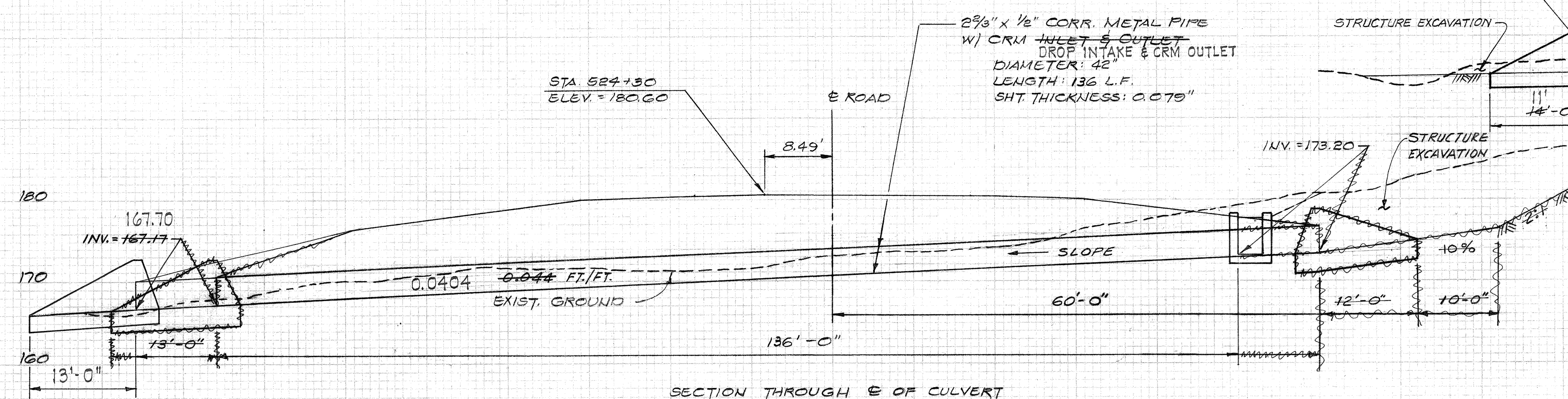
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	00C01-T1	1972	79	118



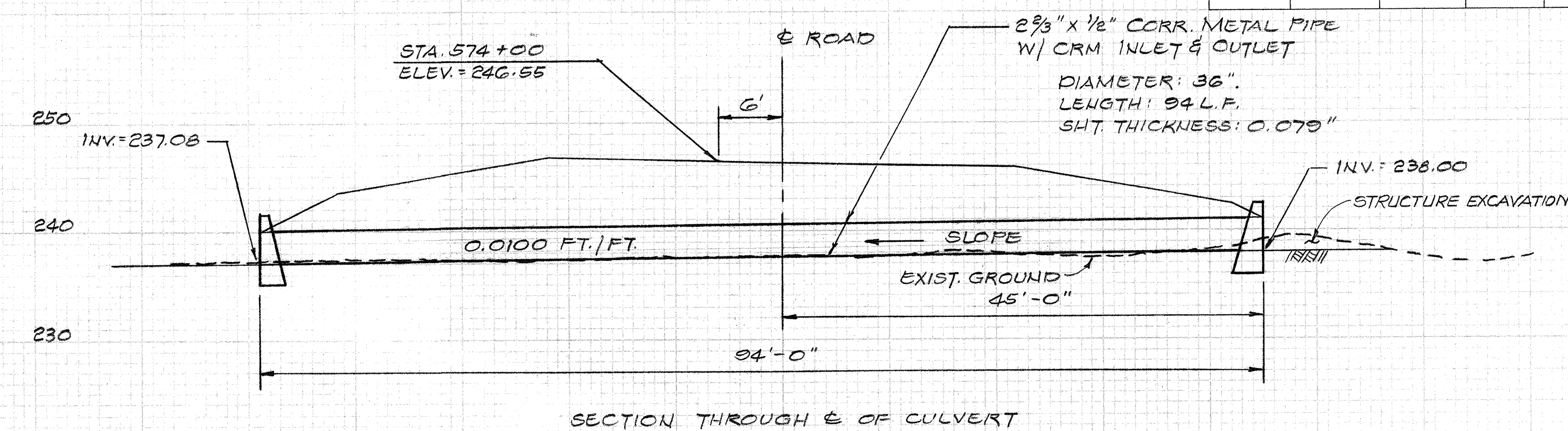
STRUCTURE #4-B STA. 544+50



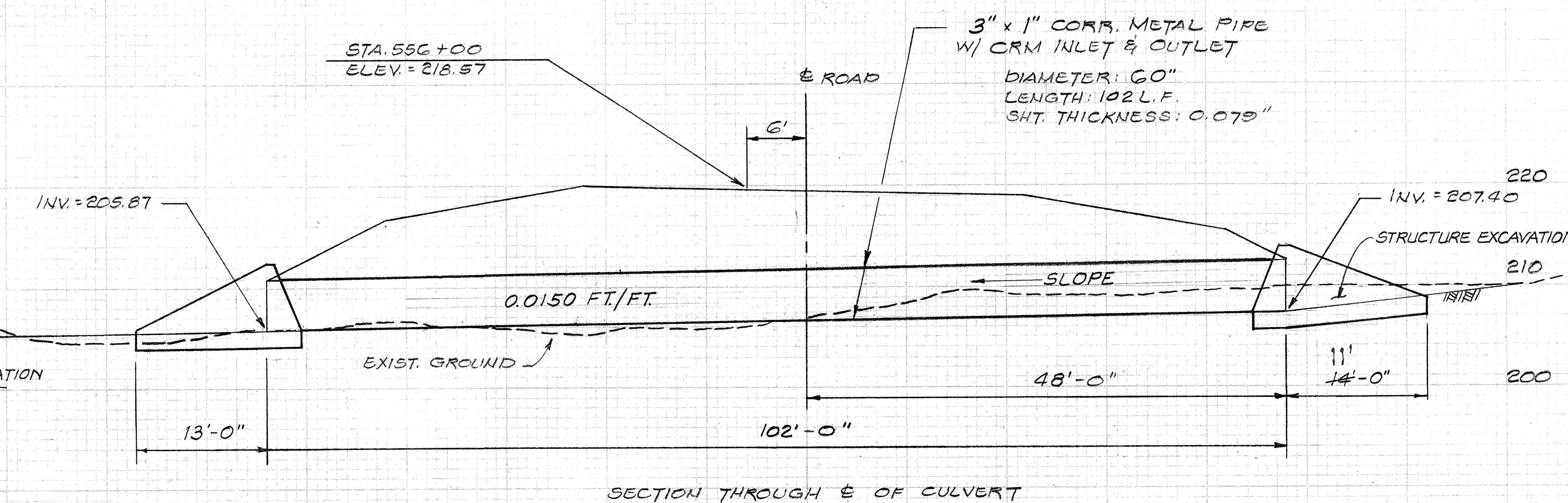
STRUCTURE #4-A STA. 536+00



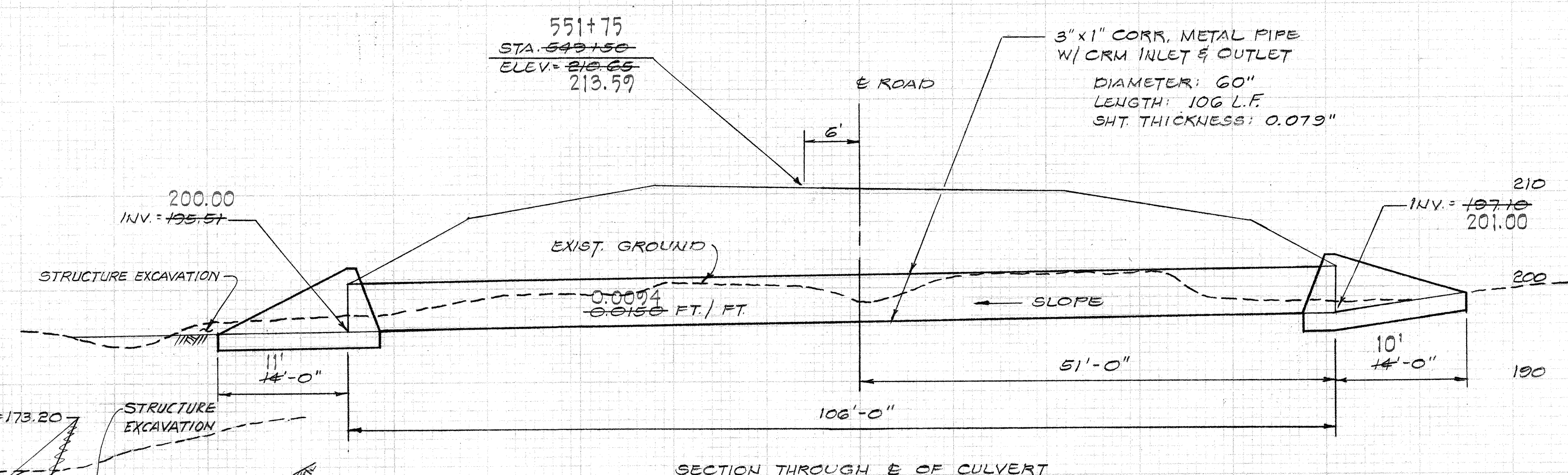
STRUCTURE #3-C STA. 524+30



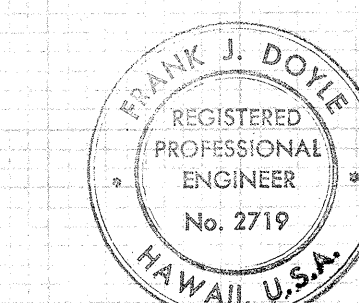
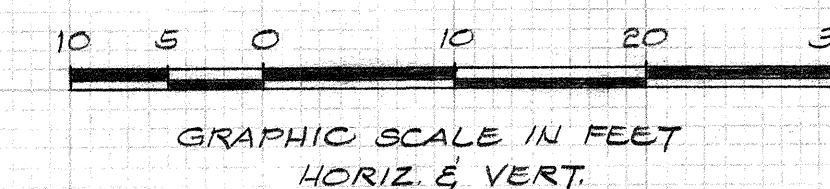
STRUCTURE #4-E STA. 574+00



STRUCTURE #4-D STA. 556+00



STRUCTURE #4-C STA. 549+50



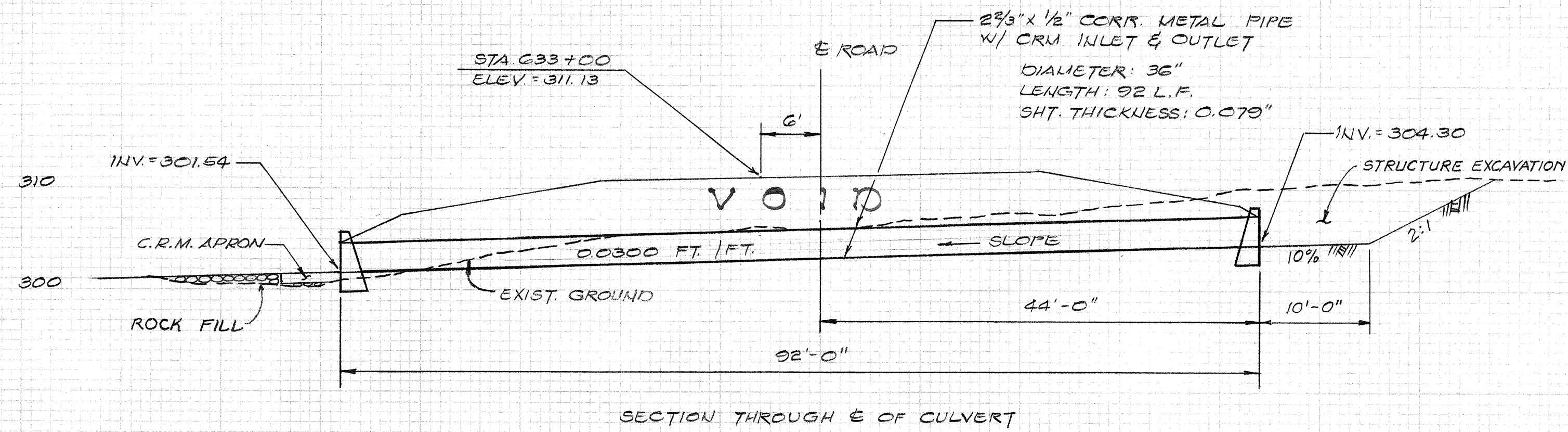
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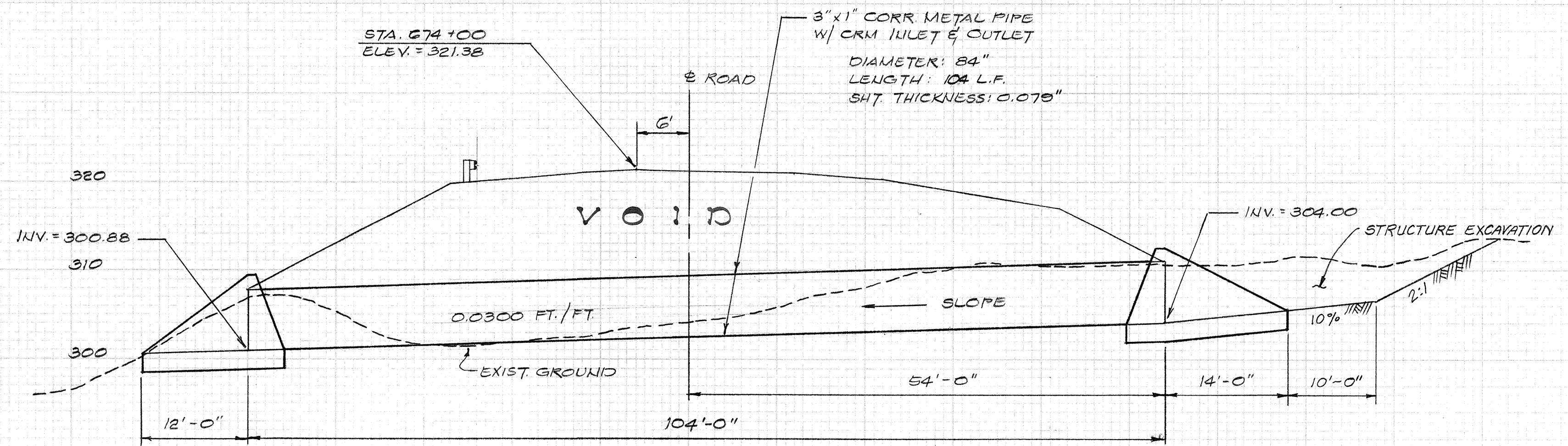
CULVERTS
STRUCTURES #3-C, 4-A, B, C, D, E
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEOHOMALU
PROJ. No. 19 BC-01-T1

Sheet No. 4 of 12 Sheets

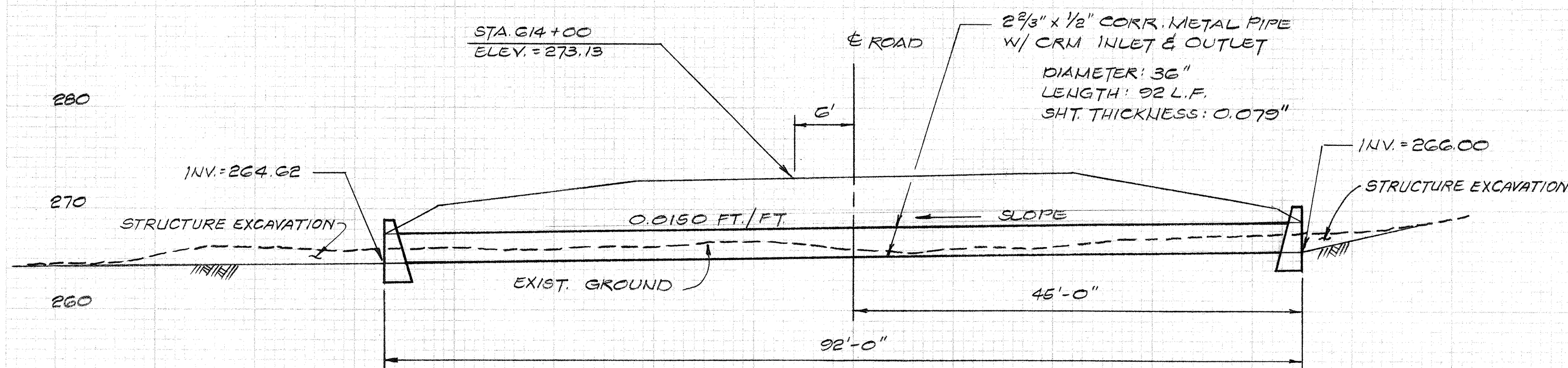
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	10BC-01-71	1972	80	118



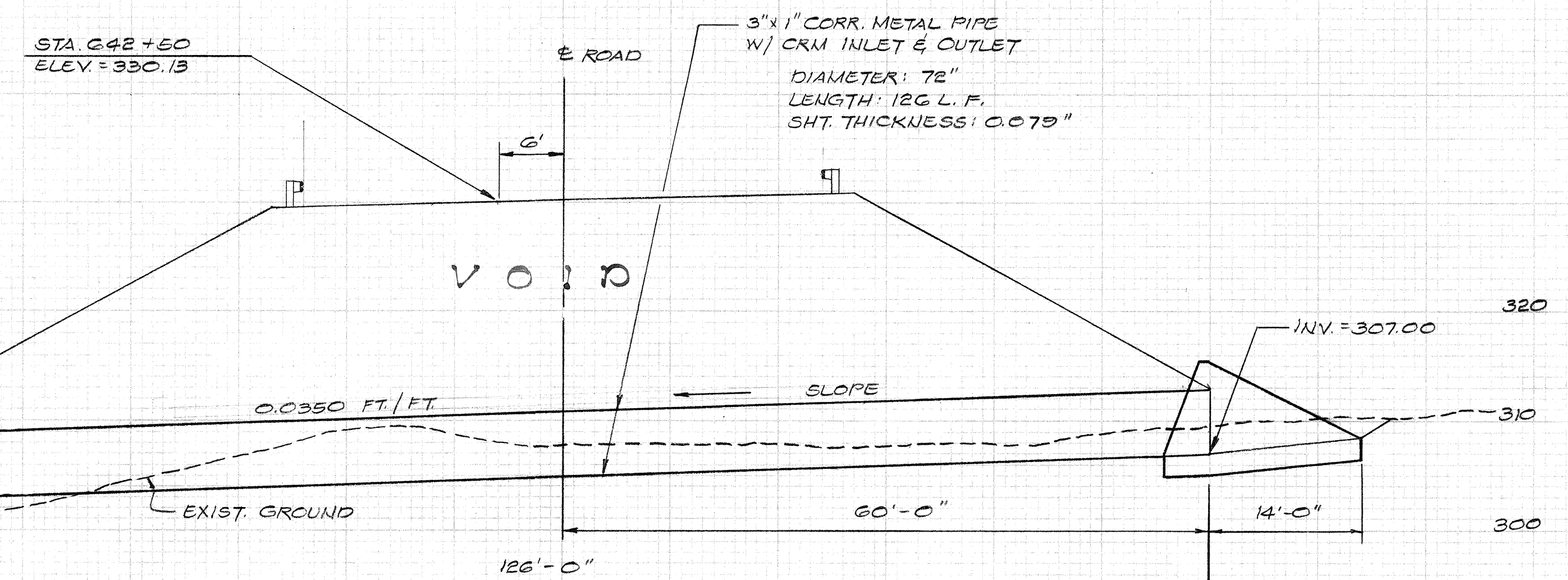
SECTION THROUGH E OF CULVERT
STRUCTURE #4-H STA. G33+00



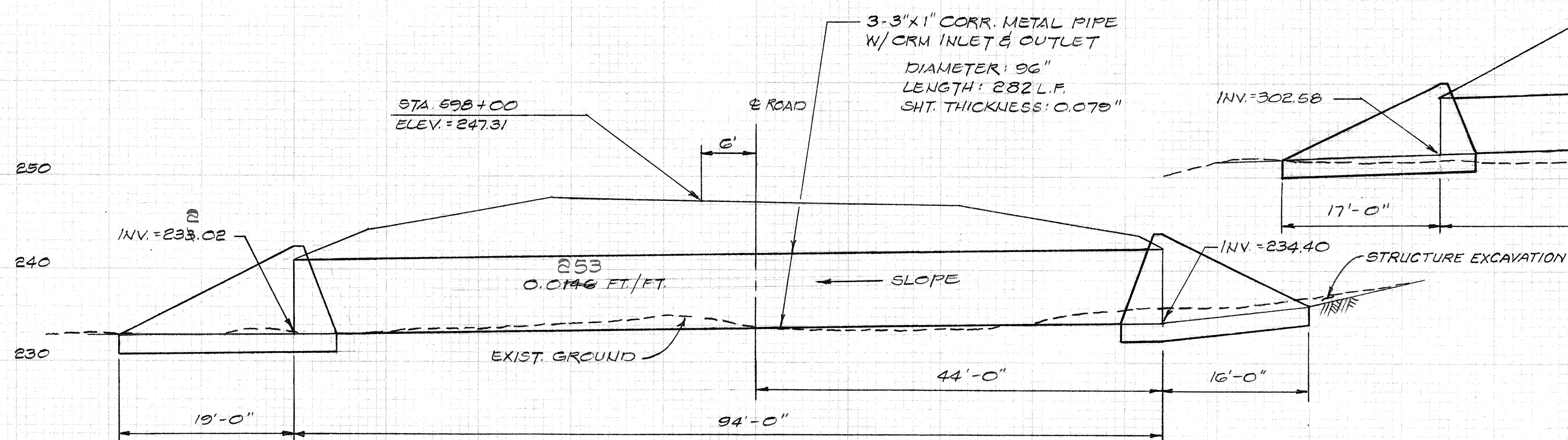
SECTION THROUGH E OF CULVERT
STRUCTURE #5-A STA. G74+00



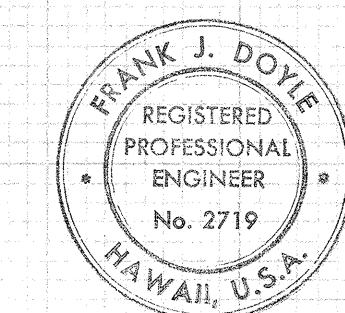
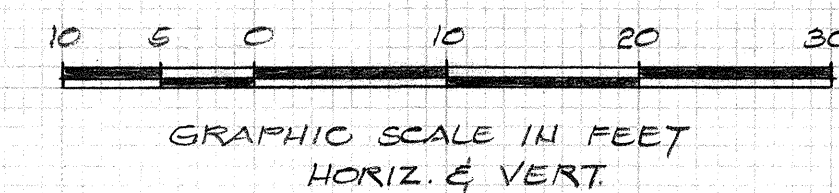
SECTION THROUGH E OF CULVERT
STRUCTURE #4-G STA. G14+00



SECTION THROUGH E OF CULVERT
STRUCTURE #4-I STA. G42+50



SECTION THROUGH E OF CULVERT
STRUCTURE #4-F STA. 508+00



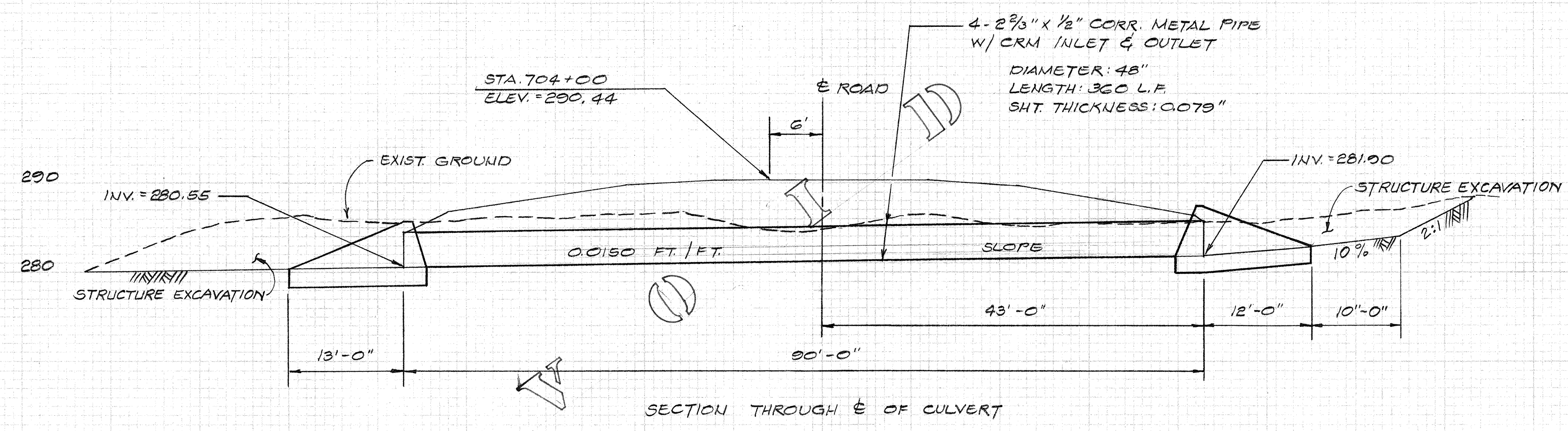
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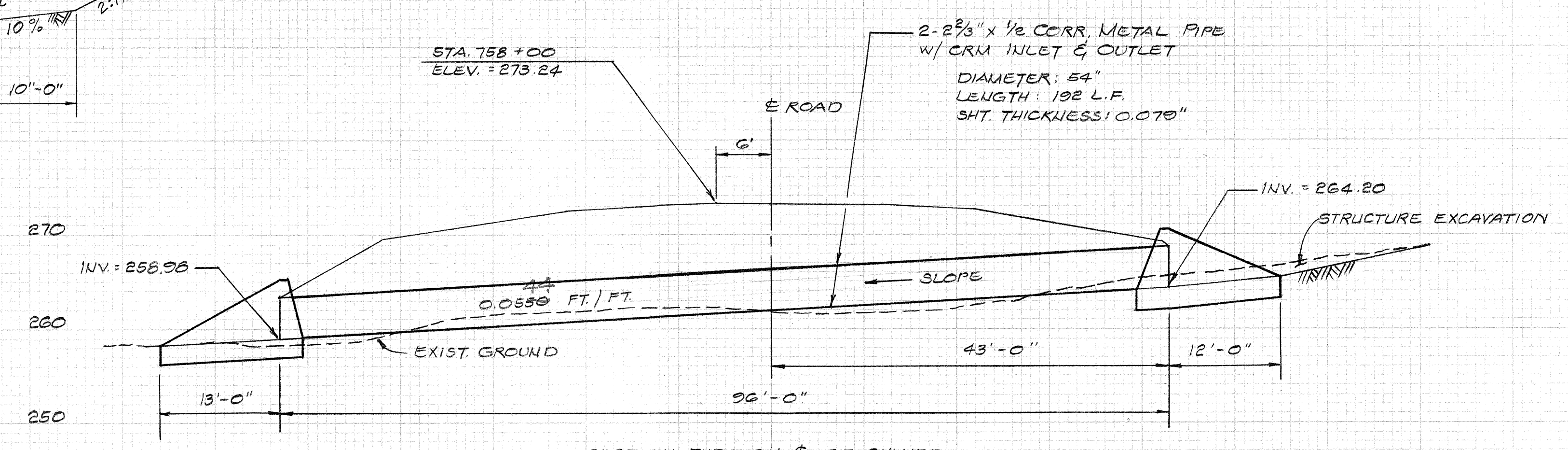
CULVERTS
STRUCTURES #4-F, G, H, I; 5-A
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOOMALU
PROJ. No. 10BC-01-71

Sheet No. 5 of 12 Sheets

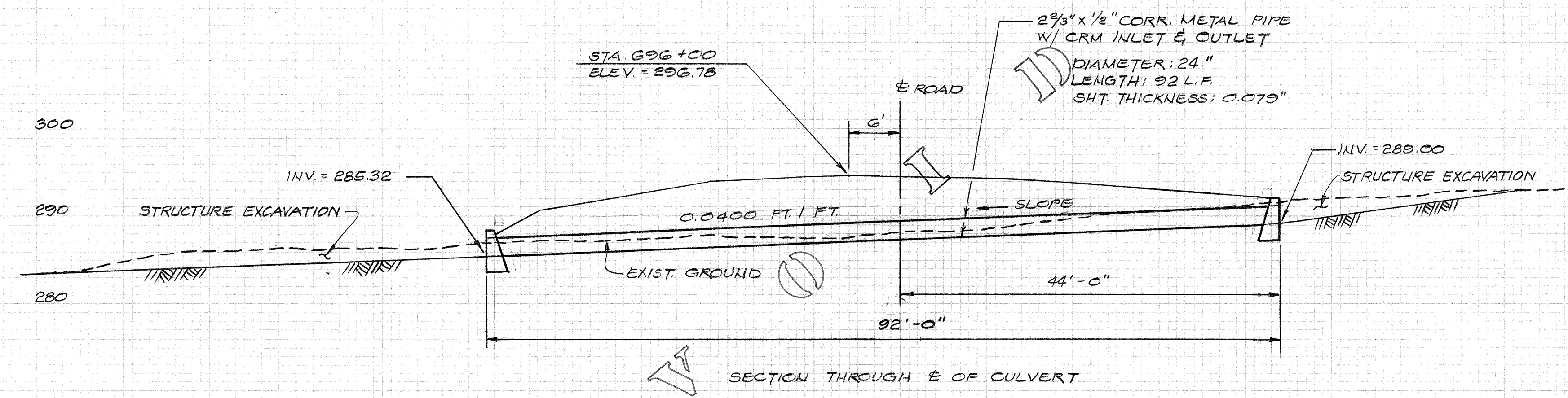
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	198C-01-71	1972	81	118



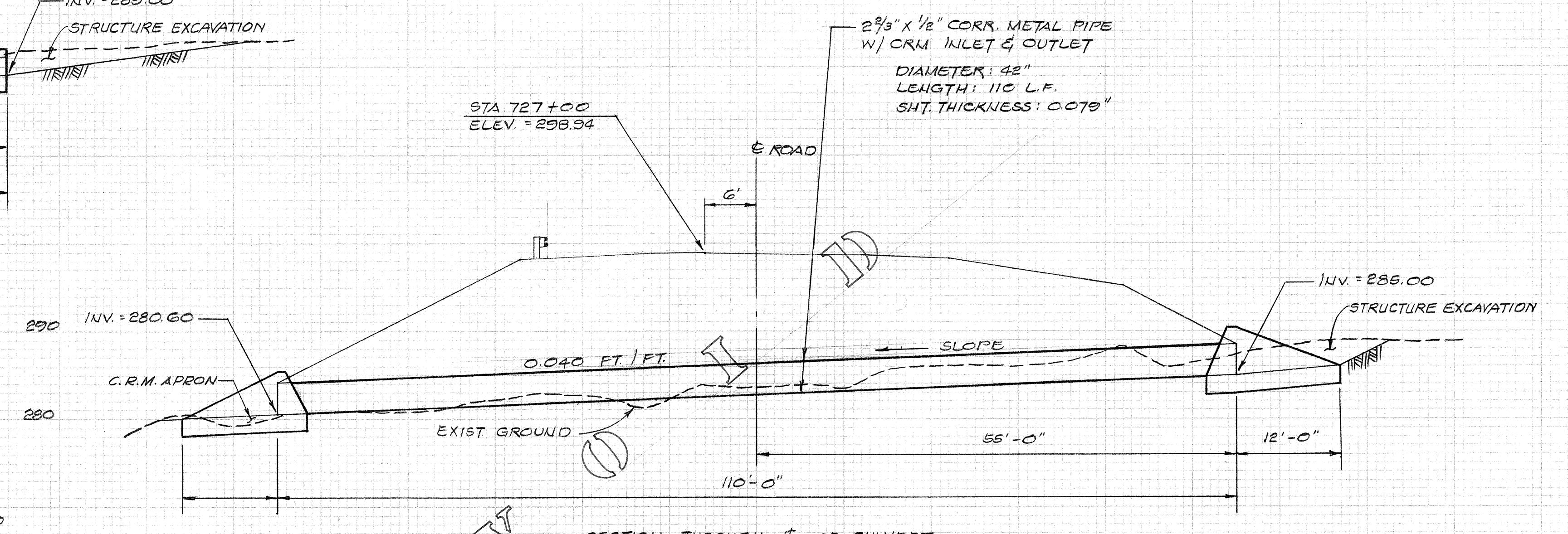
SECTION THROUGH C OF CULVERT
STRUCTURE #5-D STA. 704+00



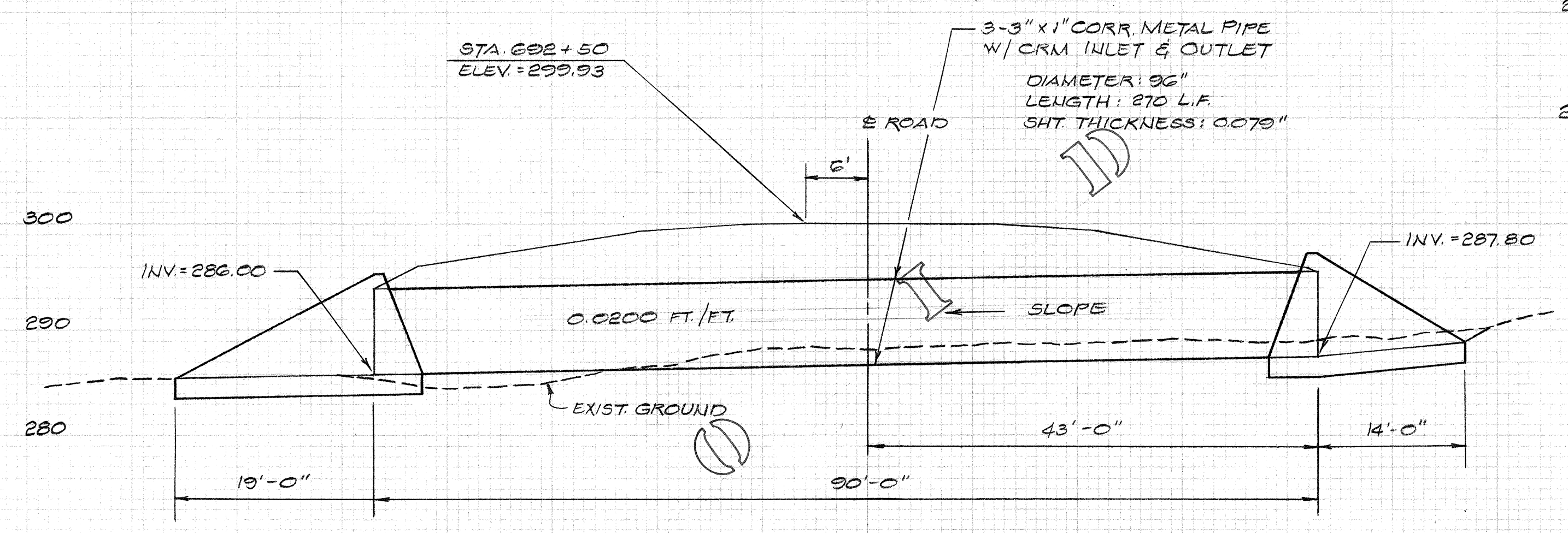
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STRUCTURE #6-A STA. 758+00



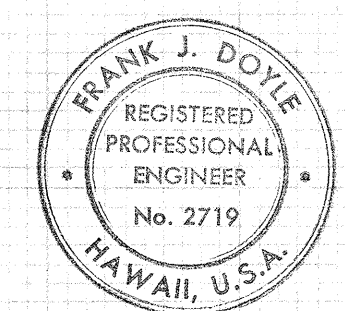
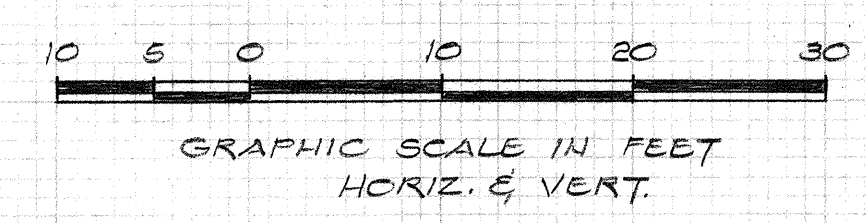
SECTION THROUGH C OF CULVERT
STRUCTURE #5-C STA. 696+00



SECTION THROUGH C OF CULVERT
STRUCTURE #5-E STA. 727+00



SECTION THROUGH C OF CULVERT
STRUCTURE #5-B STA. 692+50

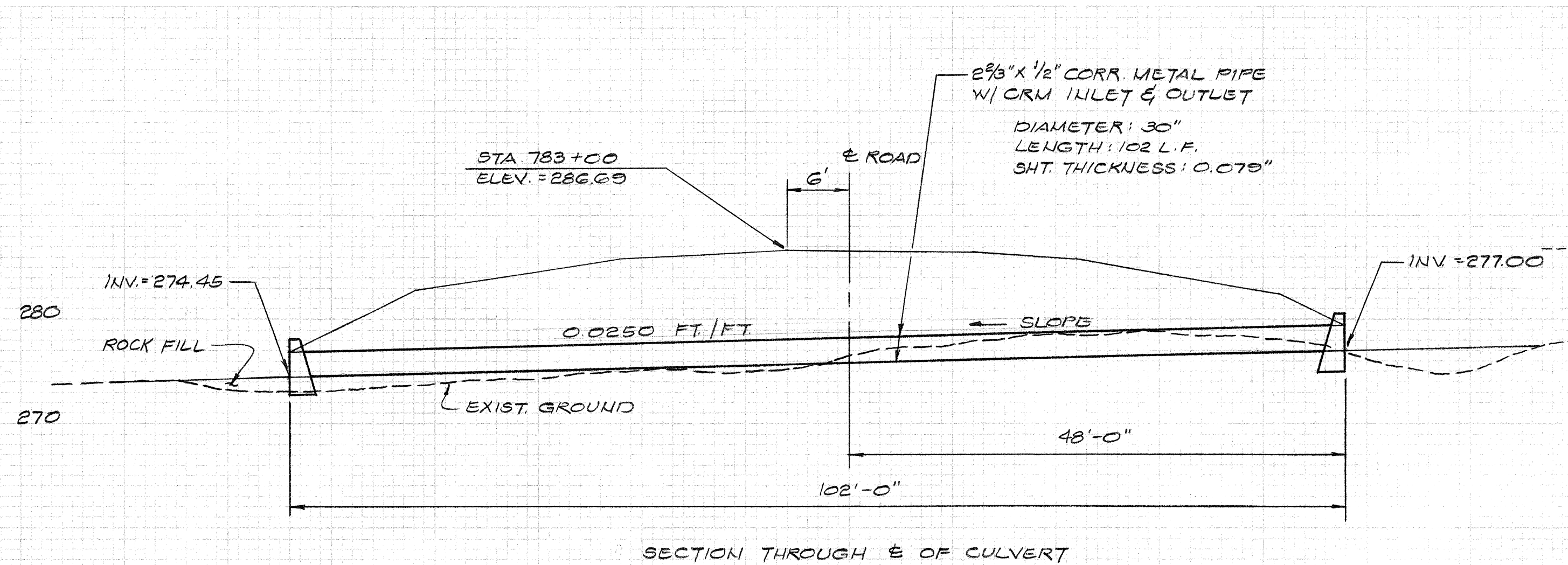


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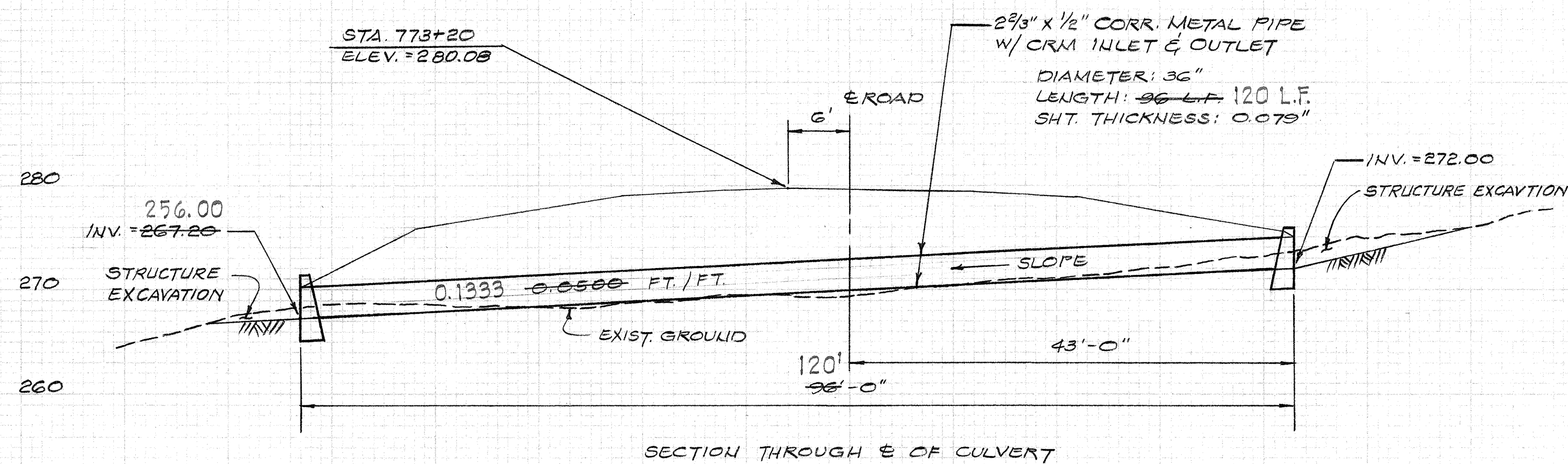
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CULVERTS
STRUCTURES #5-B, C, D, E, G-A
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOOMALU
PROJ. NO. 19 8C-01-71

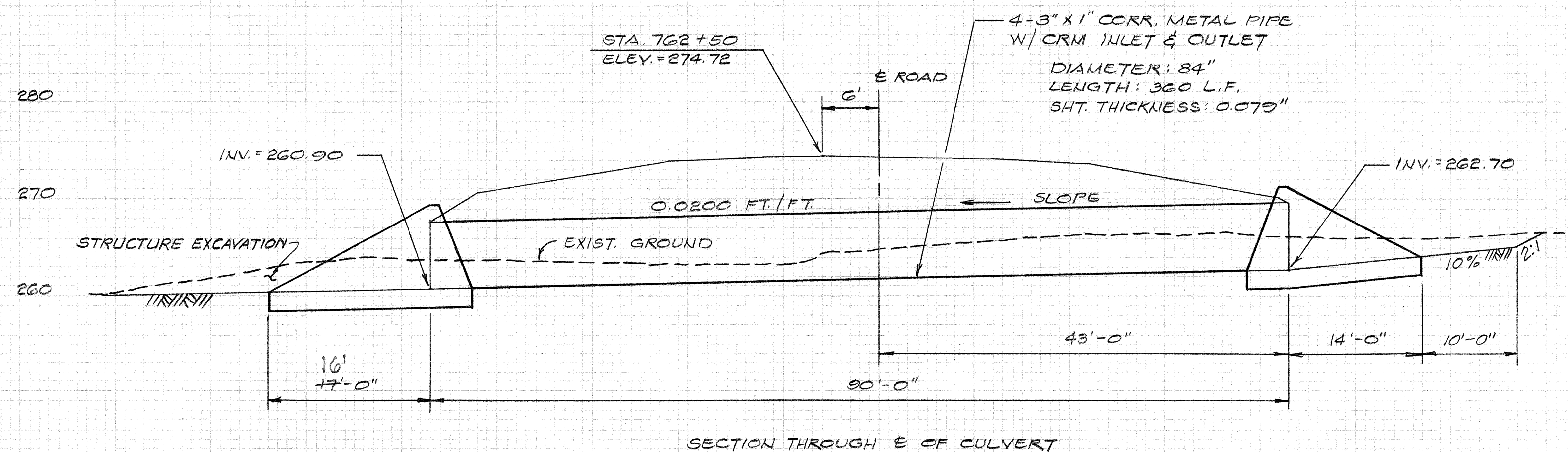
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	10BC-01-71	1972	82	118



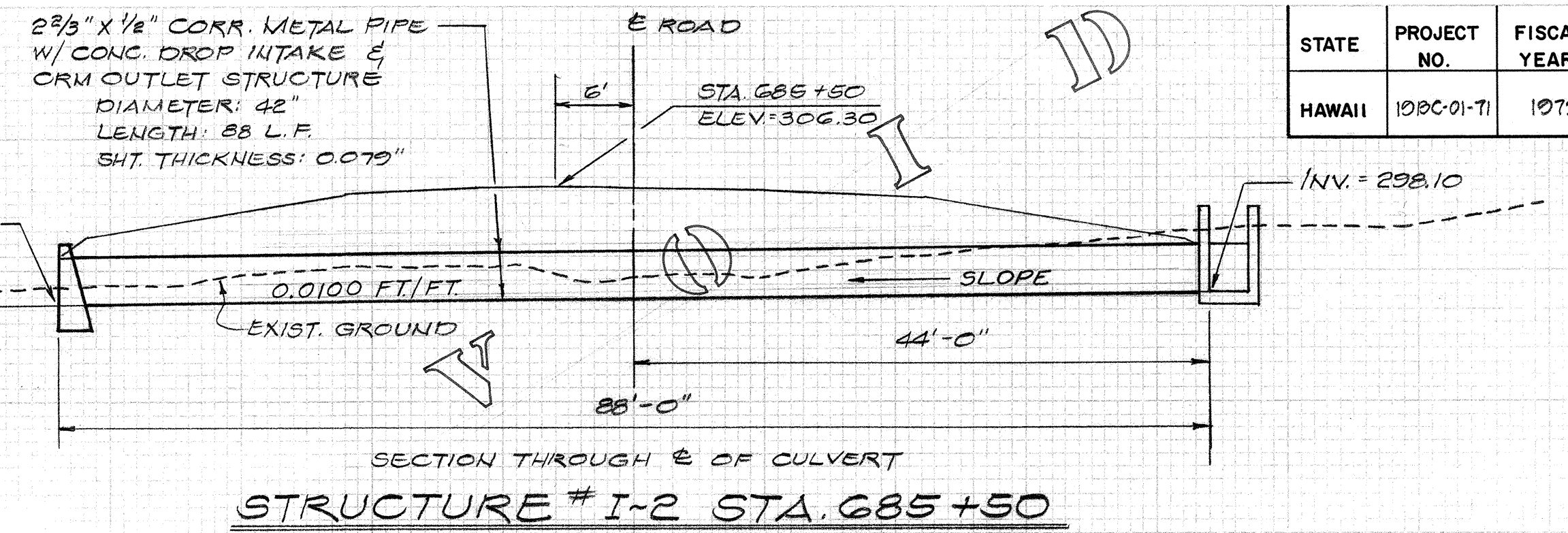
SECTION THROUGH & OF CULVERT
STRUCTURE #G-D STA. 783+00



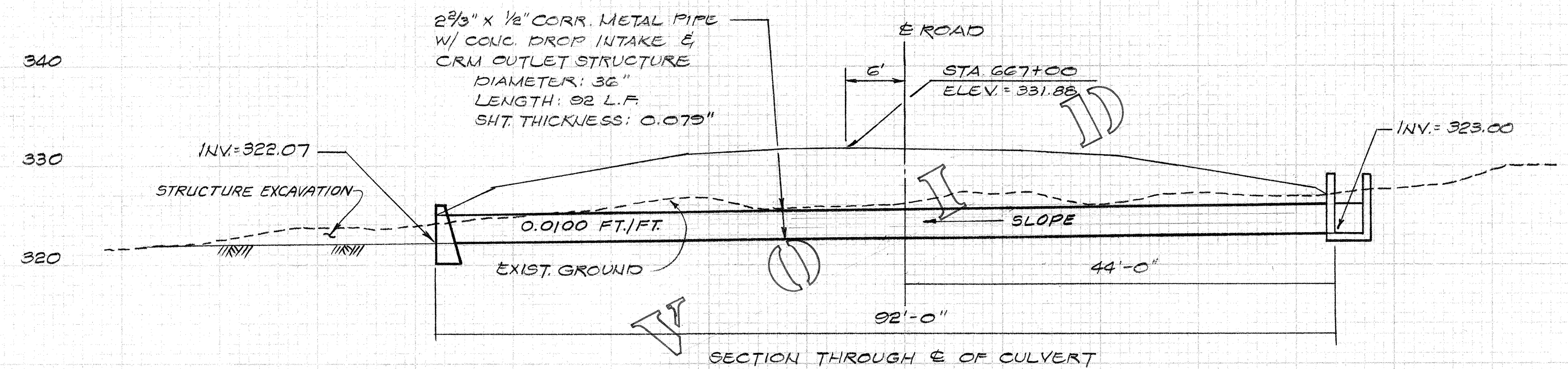
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STRUCTURE #G-C STA. 773+20



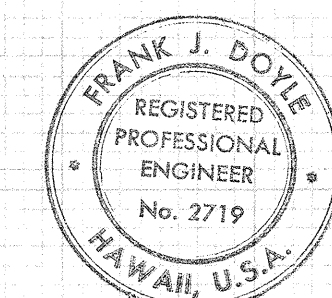
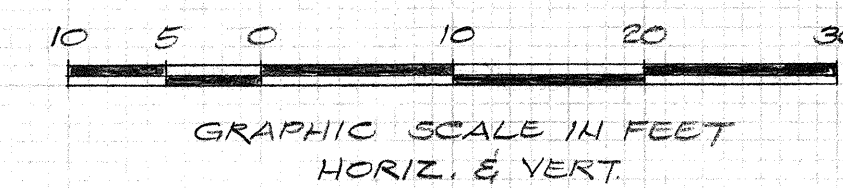
SECTION THROUGH & OF CULVERT
STRUCTURE #G-B STA. 762+50



SECTION THROUGH & OF CULVERT
STRUCTURE #I-2 STA. 685+50



SECTION THROUGH & OF CULVERT
STRUCTURE #I-1 STA. 667+00



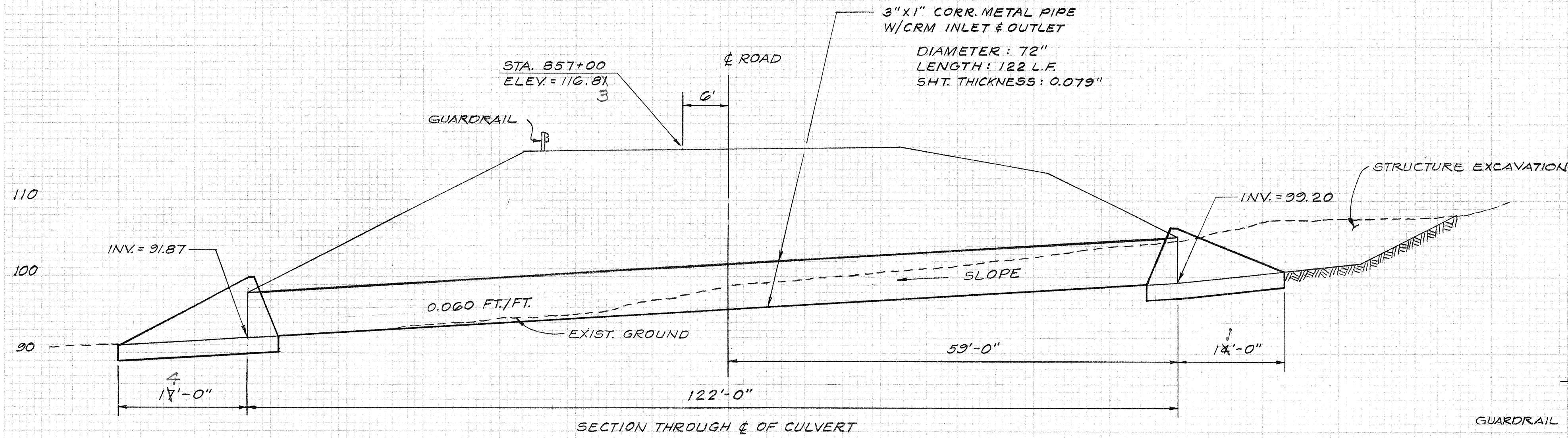
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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

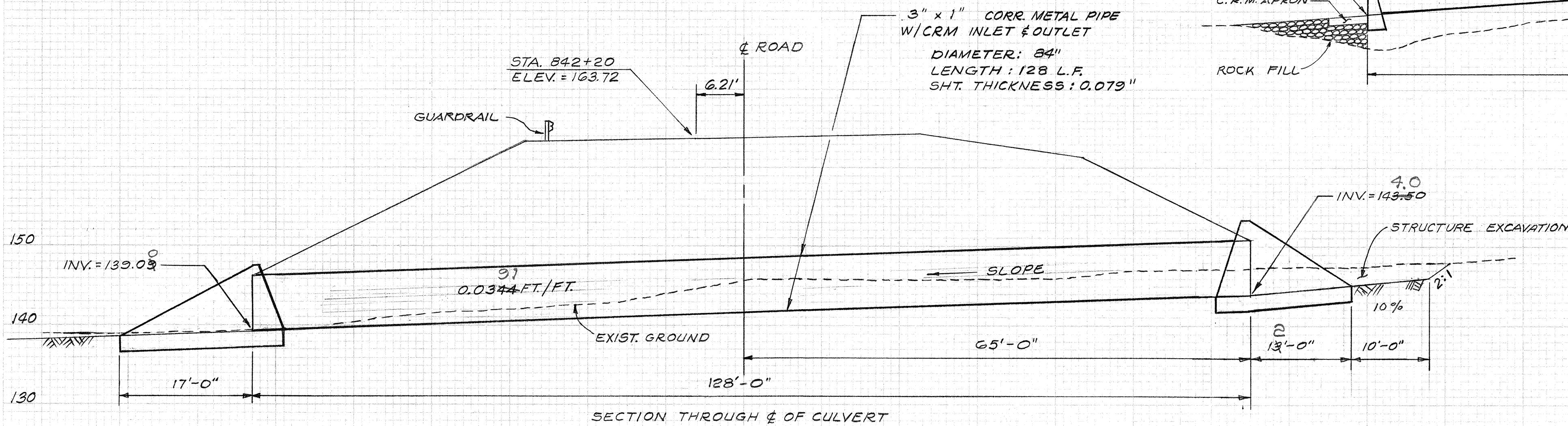
CULVERTS
STRUCTURES #G-B,C,D; I-1,2
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOMALU
PROJ. No. 10 BC-01-71

Sheet No. 7 of 12 Sheets

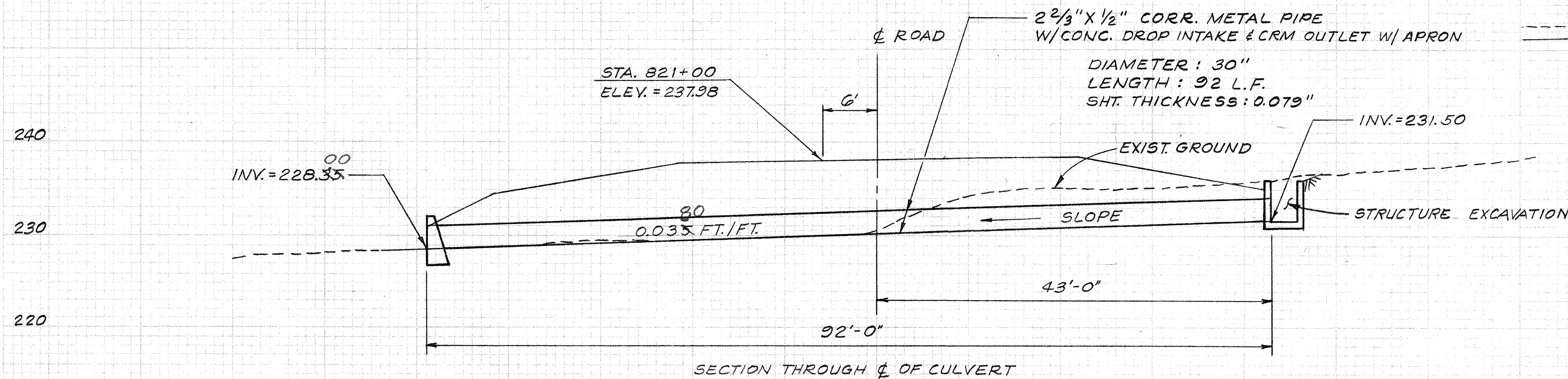
STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	198C-01-71	1972	83	118



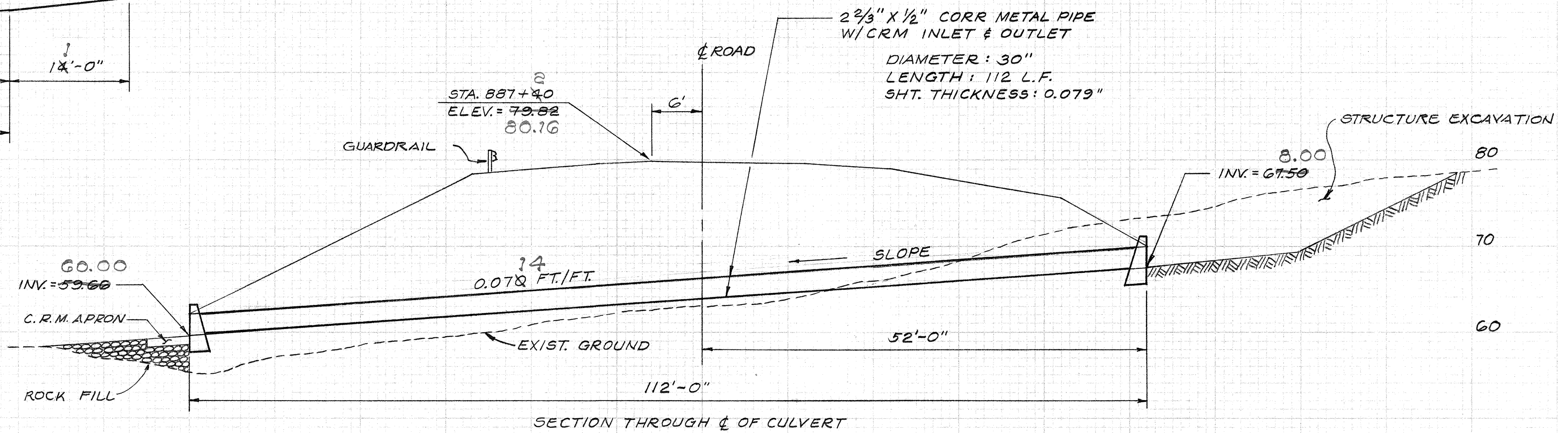
STRUCTURE #8-A STA. 857+00



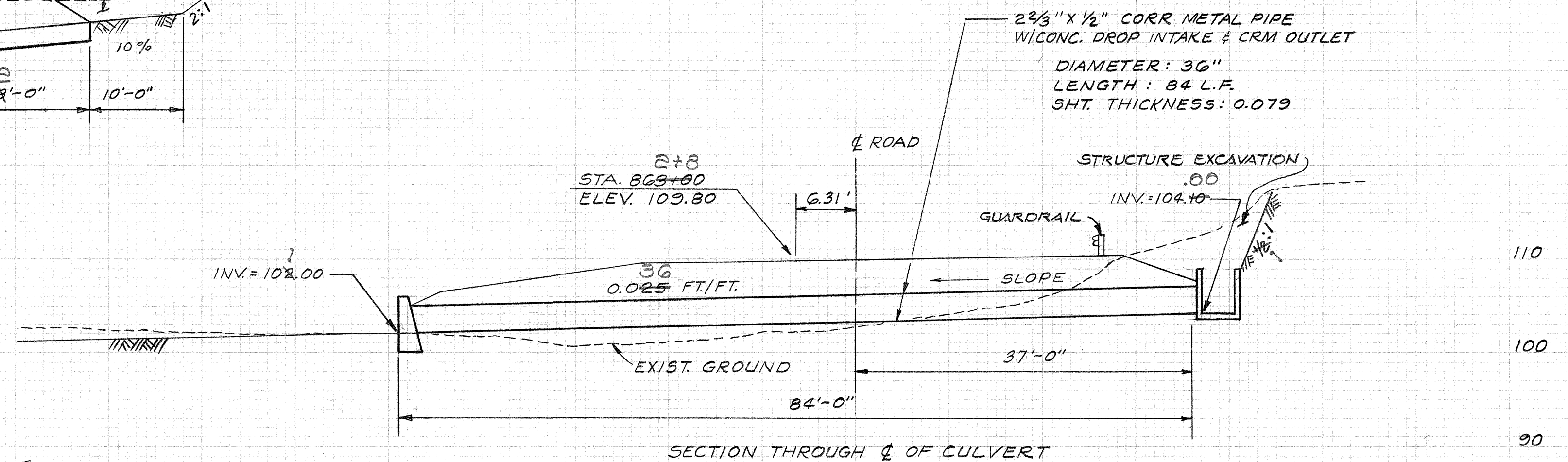
STRUCTURE #7-B STA. 842+20



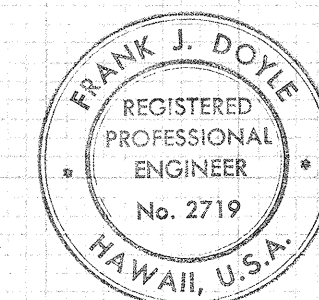
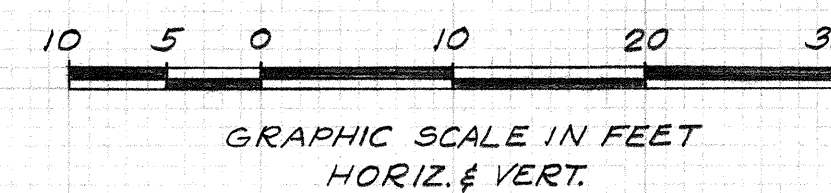
STRUCTURE #7-A STA. 821+00



STRUCTURE #9-A STA. 887+40



STRUCTURE #8-B STA. 863+00



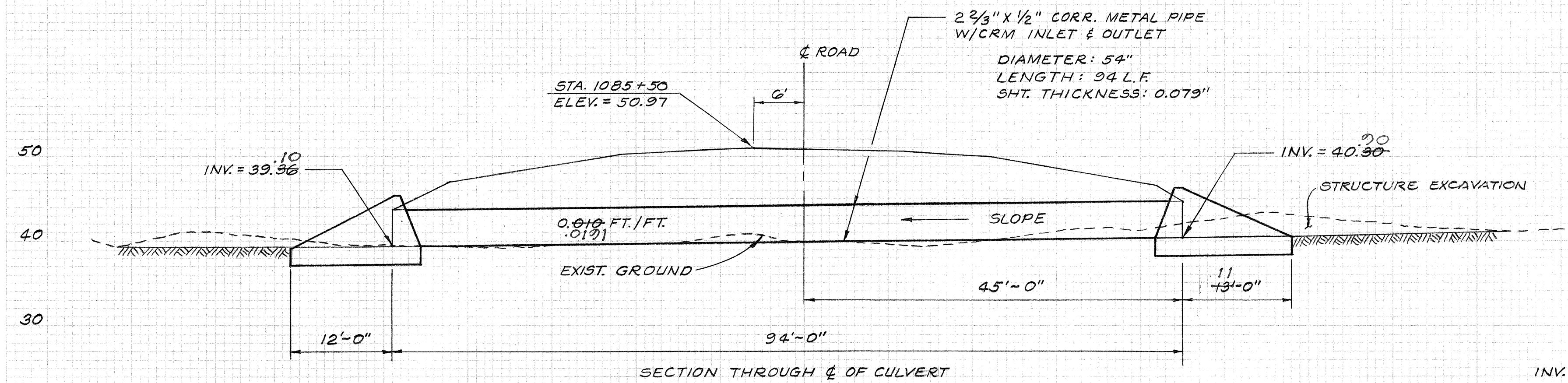
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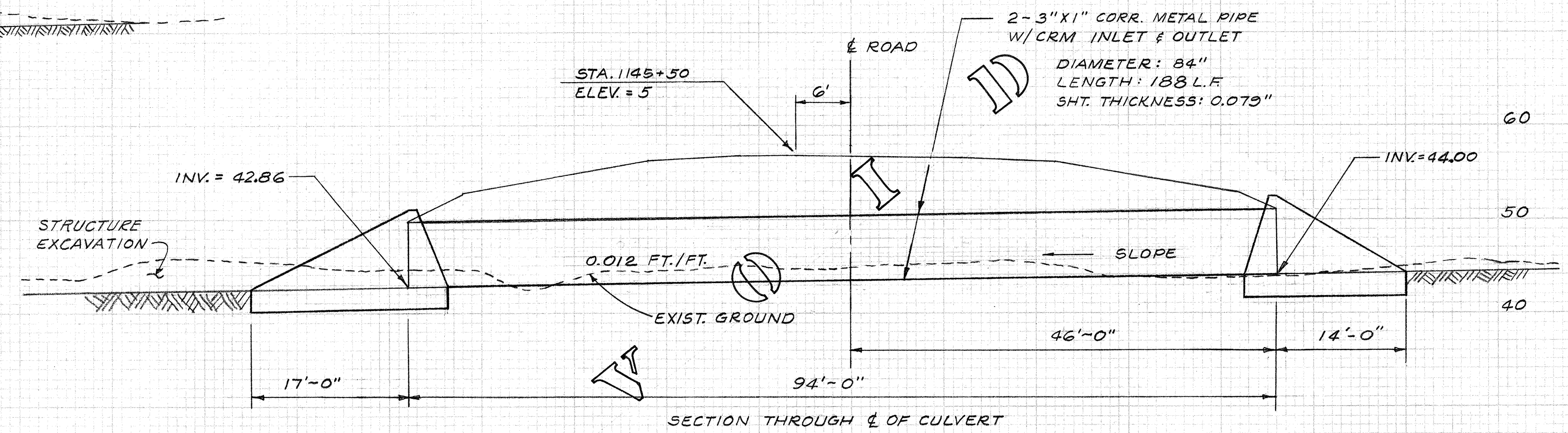
CULVERTS
STRUCTURES #7-A, 8-A, 8-B, 9-A
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOMALU
PROJ. No. 198C-01-71

Sheet No. 8 of 12 Sheets

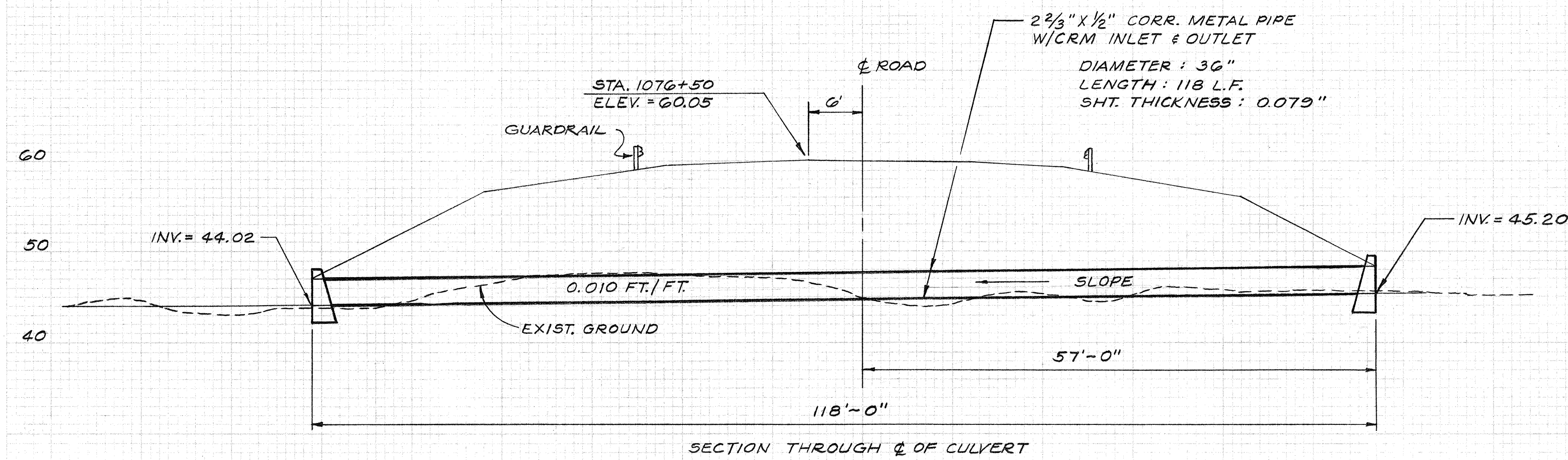
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HAWAII	198C-01-11	1972	85	118



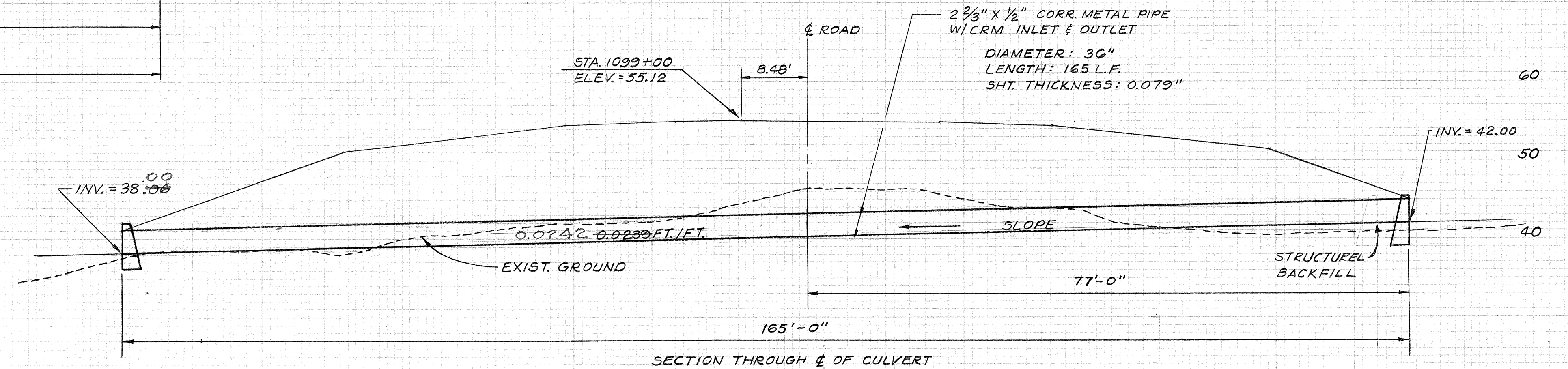
STRUCTURE #12-B STA. 1085+50



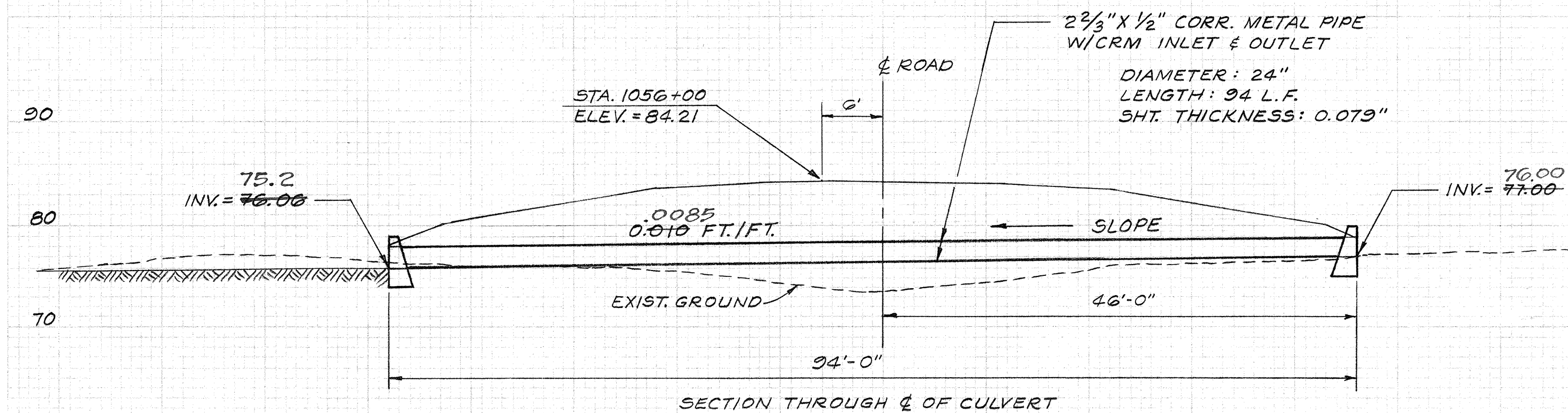
STRUCTURE #12-D STA. 1144+50



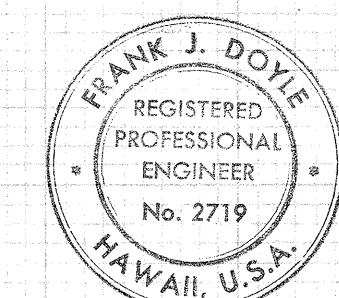
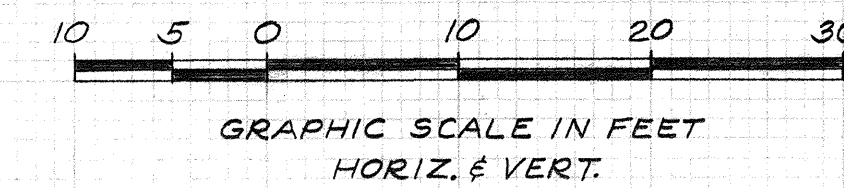
STRUCTURE #12-A STA. 1076+50



STRUCTURE #12-C STA. 1099+00



STRUCTURE #11-D STA. 1056+00



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CULVERTS

STRUCTURE # 11-D, 12-A, B, C, D
KAILUA - KAWAIHAE ROAD
KE-AHOLE TO ANAEHOOMALU

PROJ. No. 198C-01-71

Sheet No. 10 of 12 Sheets

FINAL
SURVEY
ROUTE ADJUST
NO. 1

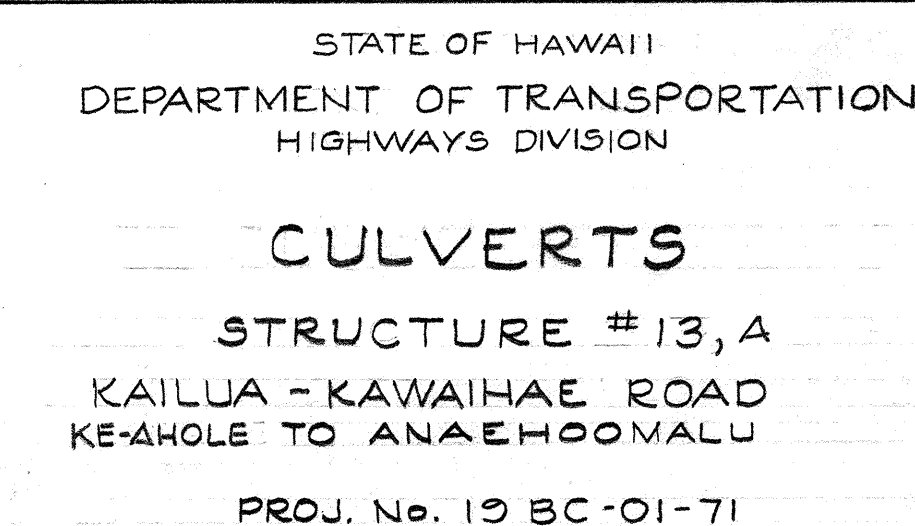
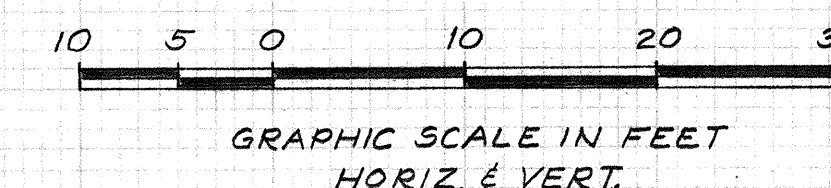
ORIGINAL
SURVEY
ROUTE ADJUST
NO. 1

NOTE:

- CMP – Corrugated Metal Pipe
- SPP – Structural Plate Pipe
- ACP – Asbestos Cement Pipe
- RCP – Reinforced Concrete Pipe

Construction Requirement for the Culverts are as follow :

1. 54" in diameter and smaller - In accordance with Section 603.03 (A) (1) Corrugated Metal and Reinforced Concrete Culverts.
2. 60" in diameter and larger - In accordance with Section 603.03(A)(2) Structural Plate Culverts.



Hand-drawn cross-section diagram of a culvert under Boise-Cascade Road. The diagram shows a 72'-0" long culvert with a 0.003 ft/ft slope. It includes elevations for the existing ground (111.51), inlet invert (105.25), and outlet invert (105.47). The culvert is made of 2-28 3/8" x 1/2" corrugated metal pipe with a 36" diameter, 144' length, and 0.079" sheet thickness. Ditch excavations are shown on both sides with slopes.

Key features and labels:

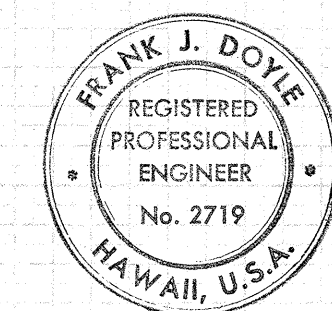
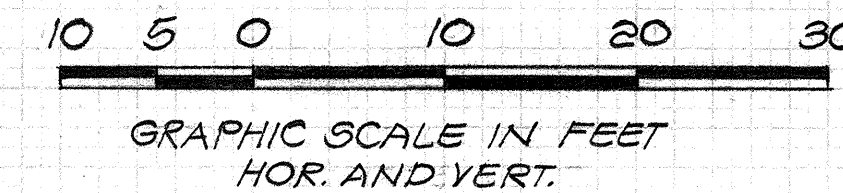
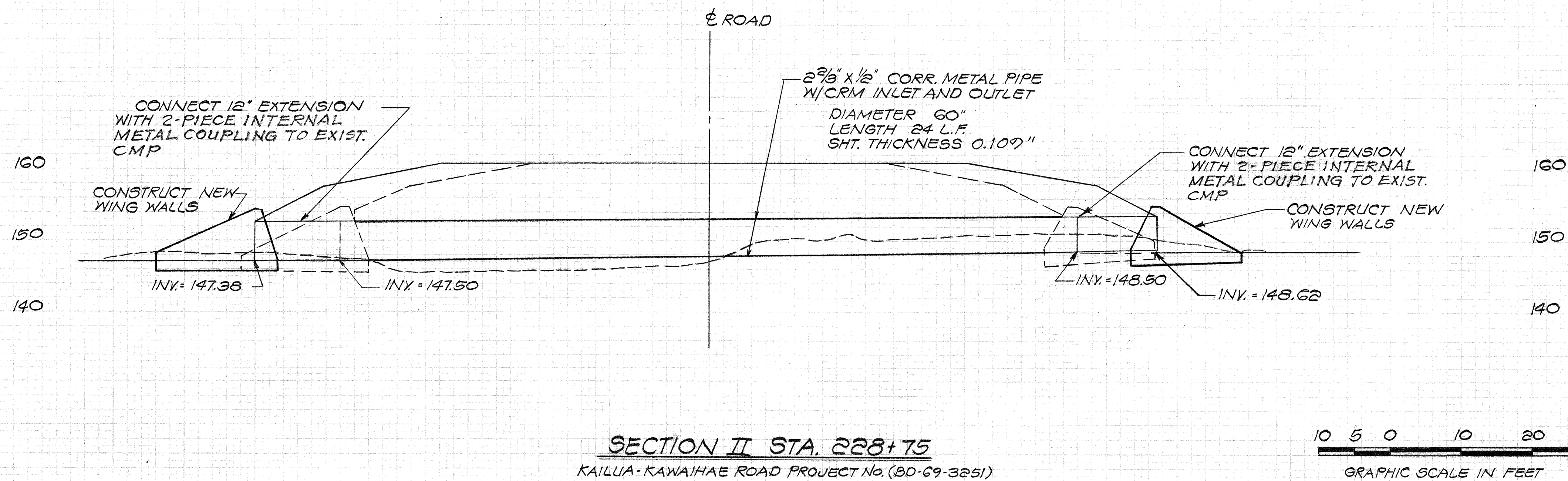
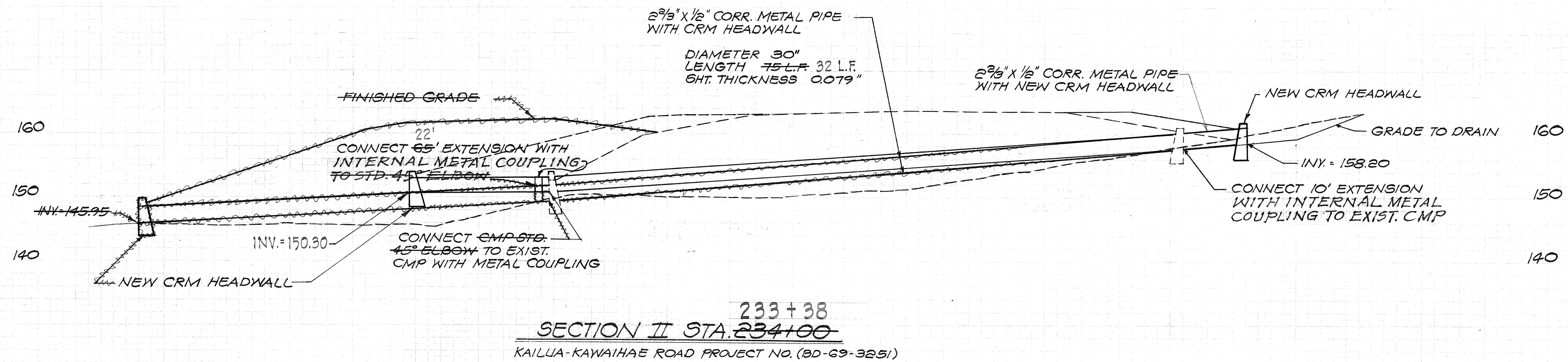
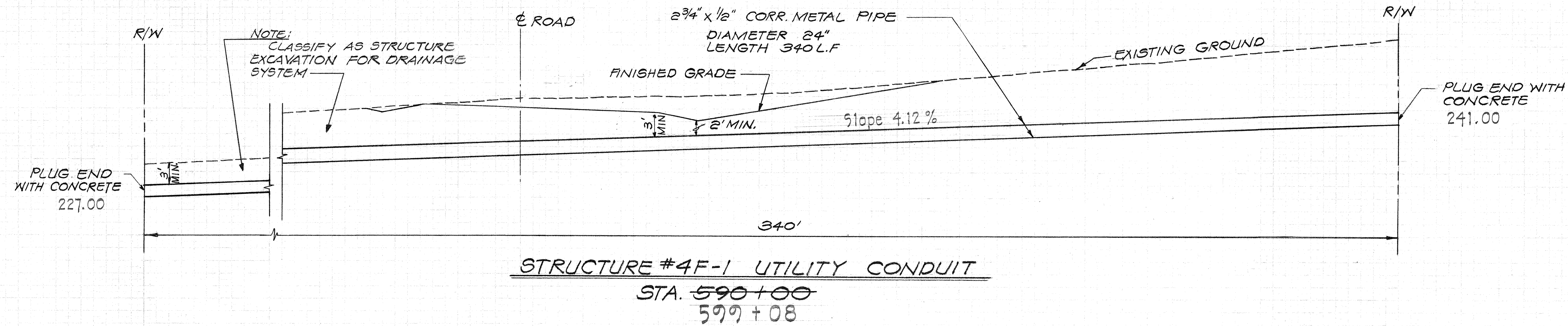
- BOISE-CASCADE ROAD** (centered over the culvert)
- ELEV. = 111.51** (existing ground elevation at center)
- INVERT = 105.25** (left inlet)
- INVERT = 105.47** (right outlet)
- 0.003 FT./FT. SLOPE** (culvert bottom slope)
- 72'-0"** (culvert length)
- SECTION THROUGH & OF CULVERT** (bottom label)
- 2-28 3/8" x 1/2" CORR METAL PIPE W/ CRIM INLET & OUTLET**
- DIAMETER: 36"**
- LENGTH: 144' L.F.**
- SHT. THICKNESS: 0.079"**
- DITCH EXCAVATION** (on both sides)
- DITCH SLOPE** (on both sides)

10 5 0 10 20 30

GRAPHIC SCALE IN FEET
HORIZ. & VERT.

C. C. 86

STATE	PROJECT NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	198C-01-71	1972	87	118



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Frank J. Doyle
SIGNATURE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
EXISTING CULVERTS
AT STA. 228+75 AND STA. 234+00
KAILUA-KAWAIHAE ROAD
KE-AHOLE TO ANAEHOOMALU
PROJ. No. 19-8C-01-71

Sheet No. 12 of 12 Sheets

JULY 20, 1972

ADD. 87