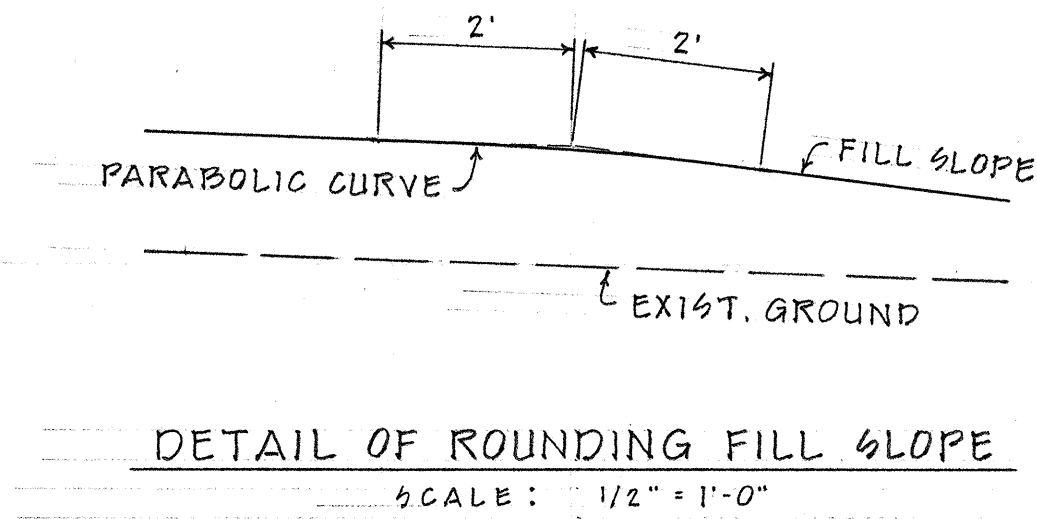
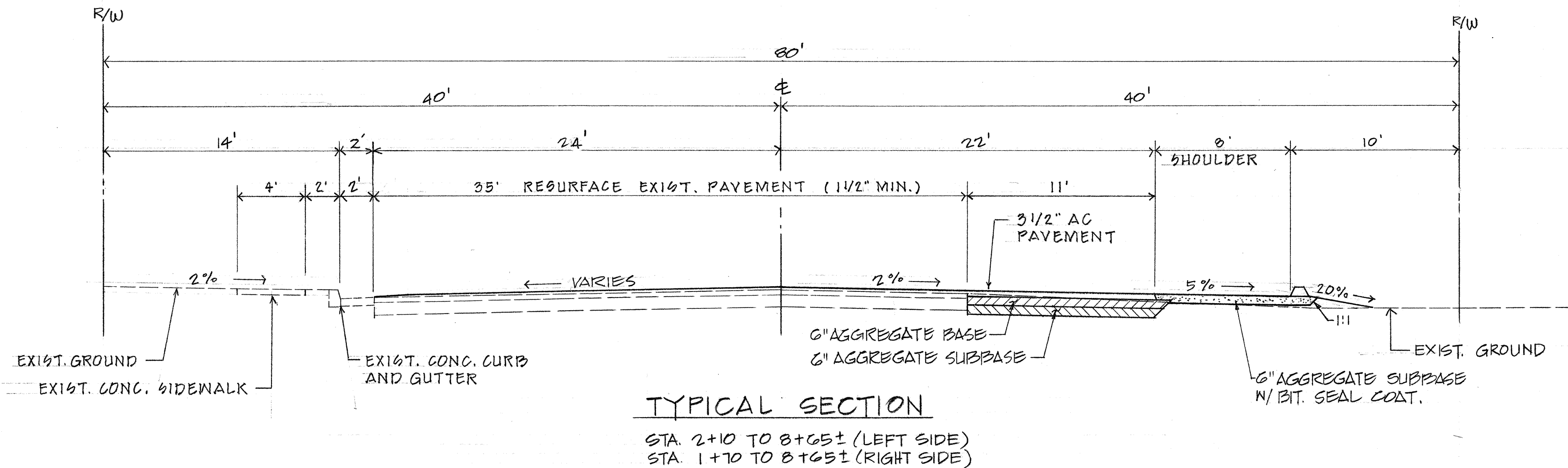
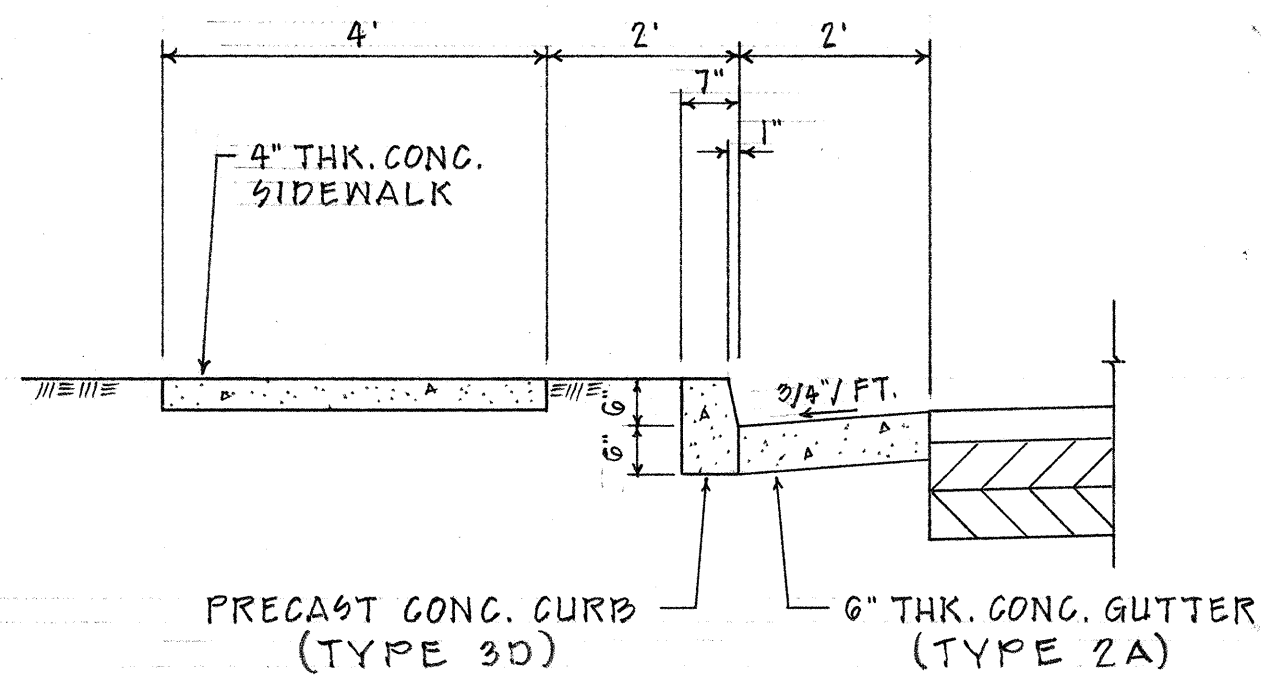
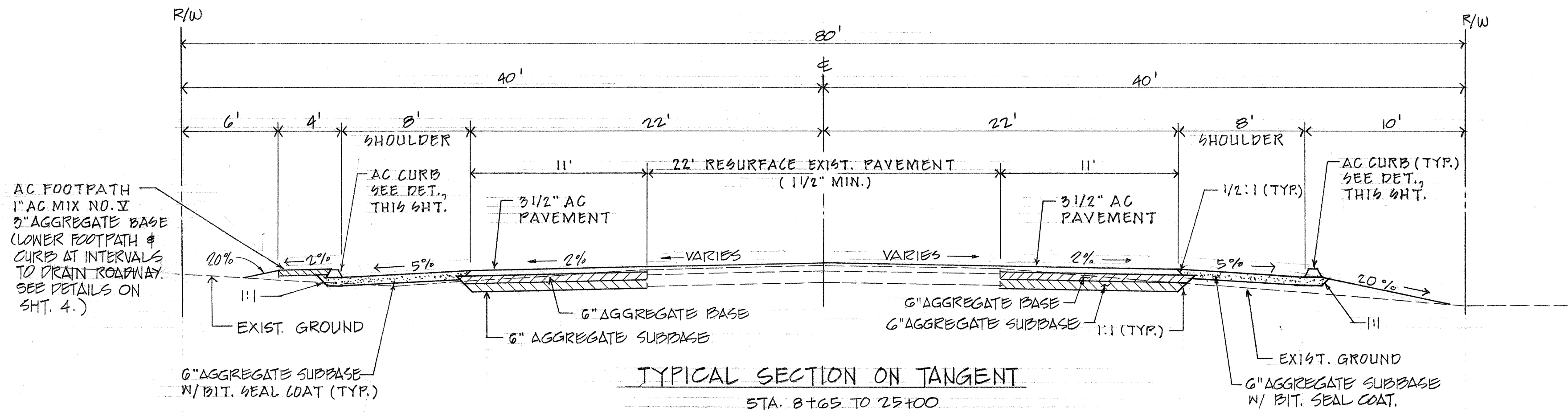


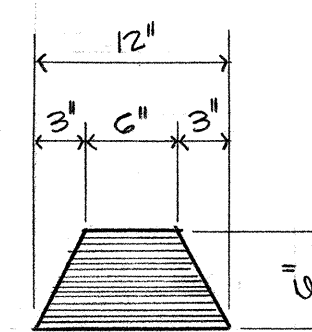
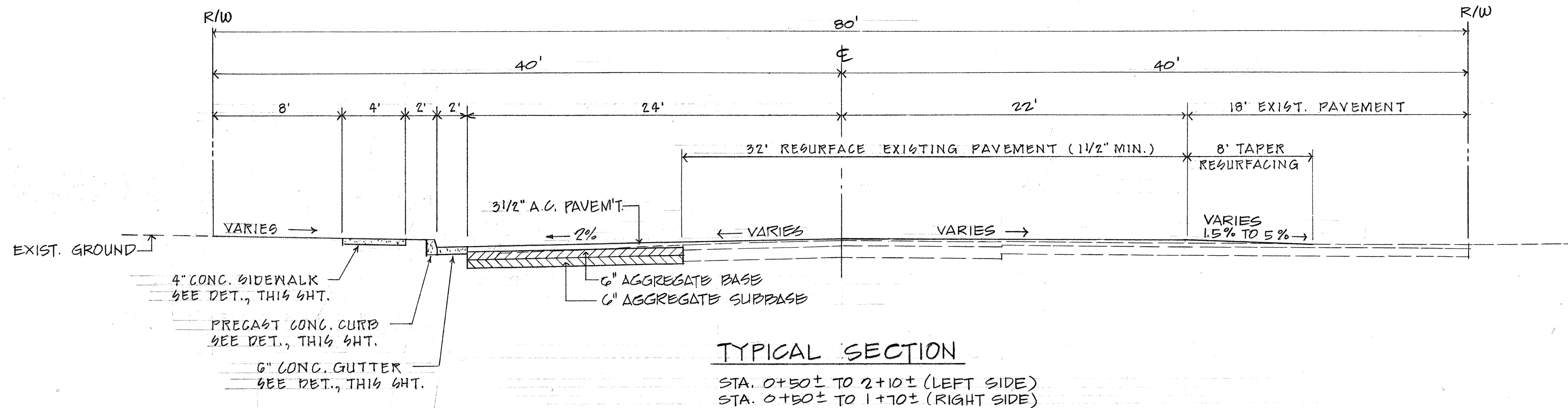
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1974	2	100

PROJECT NO. 93A-02-70



NOTES

- 3 1/2" AC PAVEMENT SHALL CONSIST OF:
1 1/2" ASPHALTIC CONCRETE PAVEMENT MIX NO. I SURFACE COURSE
2" ASPHALTIC CONCRETE PAVEMENT MIX NO. II LEVELING COURSE
- RESURFACING SHALL CONSIST OF:
1 1/2" (MIN.) ASPHALTIC CONCRETE PAVEMENT MIX NO. I SURFACE COURSE
- THE ABOVE PAVEMENT STRUCTURE DESIGN WAS DEVELOPED ON THE BASIS OF ANTICIPATED SUBGRADE MATERIAL BEING CORAL WITHIN THE ENTIRE PROJECT LIMITS. THIS CORAL LAYER HAS 6 TO 12 INCHES OF CLAY OVERBURDEN. WHERE THE SUBGRADE IS IN THE CLAY OVERBURDEN, UP TO ONE FOOT OF THE CLAY OVERBURDEN IS TO BE REMOVED AND THE SPACE BACKFILLED WITH CORAL FROM THE EXCAVATION. FOR FILLS, ONE FOOT OF CORAL IS ALSO REQUIRED.



DESIGNED BY
CHECKED BY
SUPERVISOR
Richard P. Kea

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROAD SECTIONS

FARRINGTON HIGHWAY WIDENING
PROJECT 93A-02-70

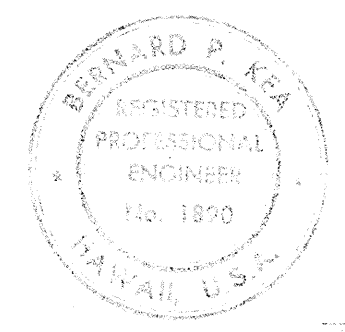
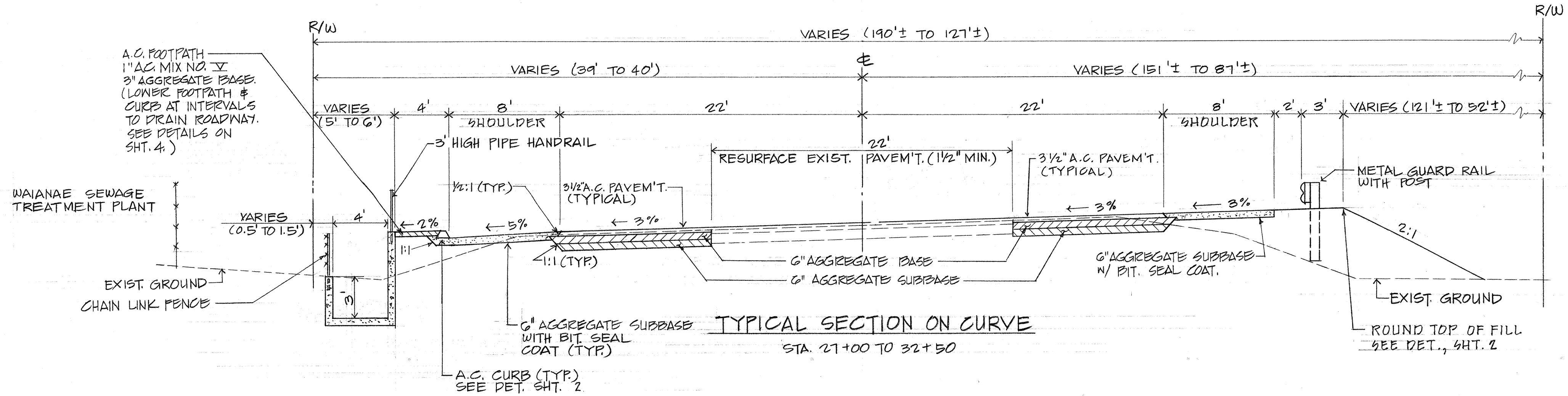
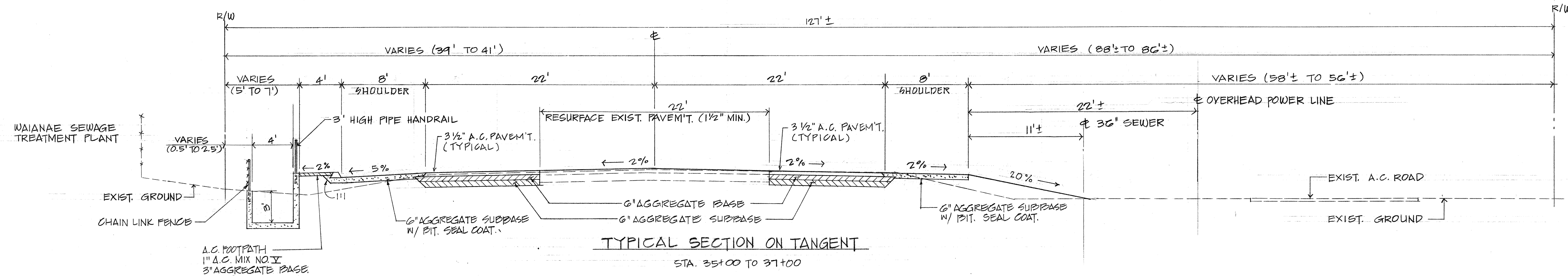
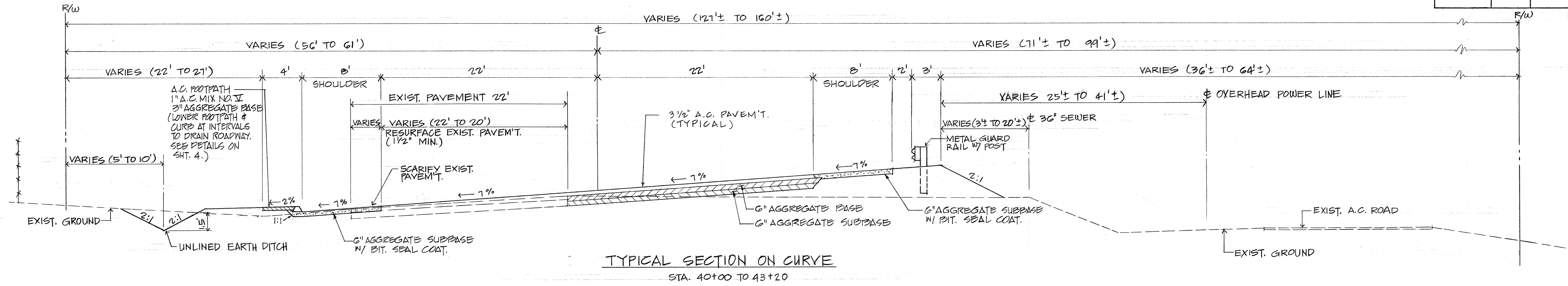
SCALE: 3/16" = 1'-0"

SHEET No. 1 OF 5 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
NOTE BOOK	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1974	3	100

PROJECT NO. 93A-02-10



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION
Bernard P. Kea
REGISTERED PROFESSIONAL ENGINEER
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROAD SECTIONS

FARRINGTON HIGHWAY WIDENING
PROJECT 93A-02-10

SCALE: 3/16" = 1'-0"

SHEET No. 2 OF 5 SHEETS

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

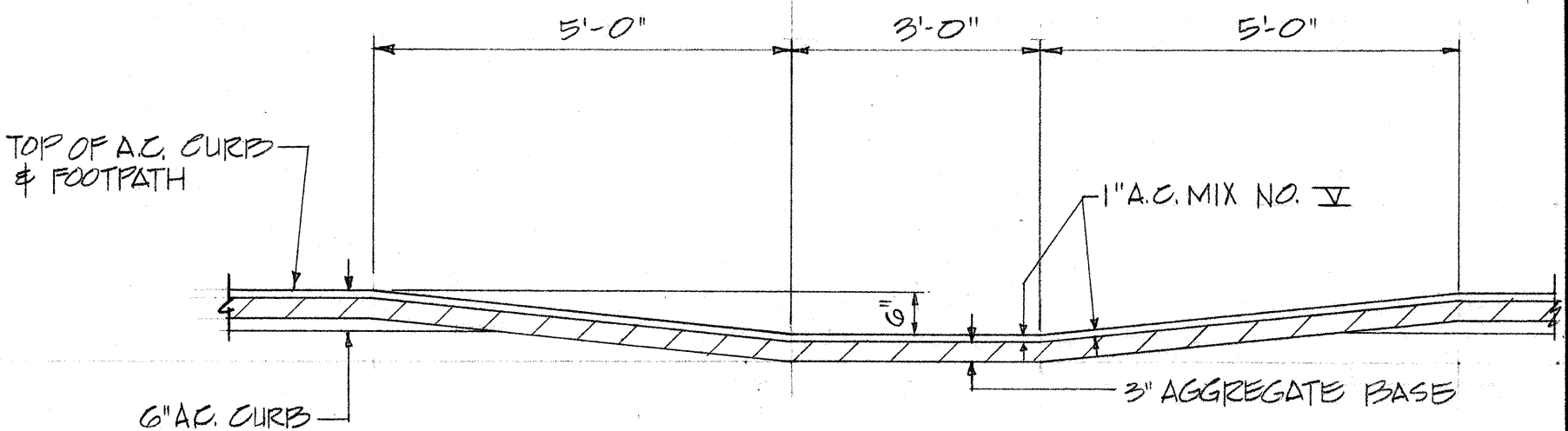
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HAWAII	HAW.		1974	4	100

PROJECT NO. 93A-02-70

INDEX OF ABBREVIATIONS

A C	ASPHALTIC CONCRETE
BWS	BOARD OF WATER SUPPLY
C B	CATCH BASIN
CIP	CAST IRON PIPE
C M	SIGNAL CORPS CABLE MARKER
D ₁₆	STORM DRAIN PIPE, 16-INCH DIAMETER
E P	ELECTRIC POLE
F H	FIRE HYDRANT
G P	GUY POLE
H E	HAWAIIAN ELECTRIC COMPANY
H T	HAWAIIAN TELEPHONE COMPANY
L P	LIGHT POLE
M B	MAIL BOX
MJCIP	MECHANICAL JOINT CAST IRON PIPE
PCC	PORTLAND CEMENT CONCRETE
R/W	RIGHT-OF-WAY
SC	SIGNAL CORPS CABLE
SCB	SIGNAL CORPS PULLBOX
SDMH	STORM DRAIN MANHOLE
T P	TELEPHONE POLE
T W	TOP OF WALL
W ₁₂	WATER LINE, 12-INCH DIAMETER
W M	WATER METER
WMH	WATER MANHOLE
WMS	WATER METERS
W V	WATER VALVE
WVMH	WATER VALVE MANHOLE

6-15-77	CHANGE ROADWAY SECTION TO SHOW ADDITION OF LEFT TURN LANE
6-9-75	CHANGE TO DOUBLE METAL GUARD RAIL RIGHT SIDE OF ROADWAY (STA. 49+50 TO 53+25± FT.)
DATE	REVISION



DETAIL FOR LOWERING FOOTPATH AND CURB TO DRAIN ROADWAY

SCALE: 1/2" = 1'-0"

NOTE:

FROM STATION 16+00 TO 46+00 LOWER FOOTPATH AND CURB TO DRAIN ROADWAY AT MAXIMUM INTERVALS OF 100 FEET APART AND AT LOW POINTS AT CURB LINE.

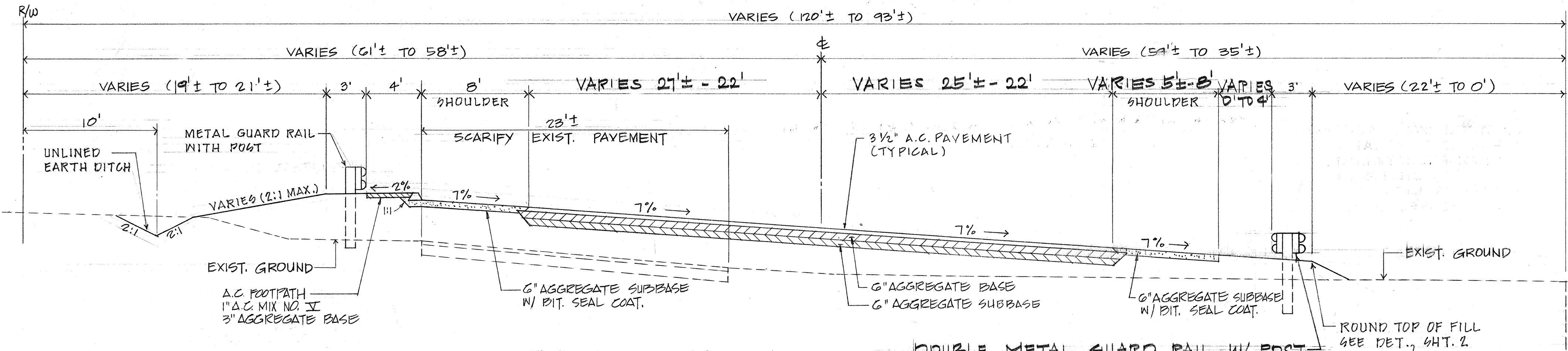


Bernard P. Kea

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROAD SECTIONS
FARRINGTON HIGHWAY WIDENING
PROJECT 93A-02-70
SCALE: 3/16" = 1'-0"

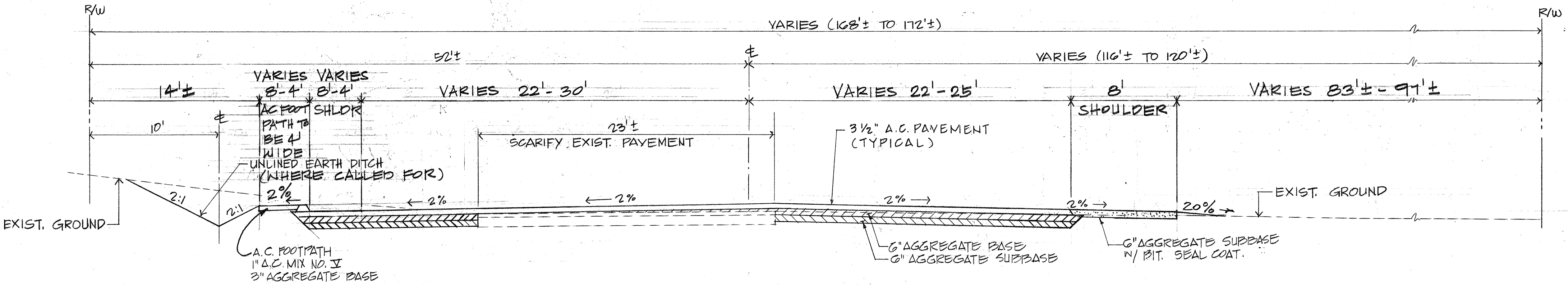
SHEET No. 3 OF 5 SHEETS



TYPICAL SECTION ON CURVE

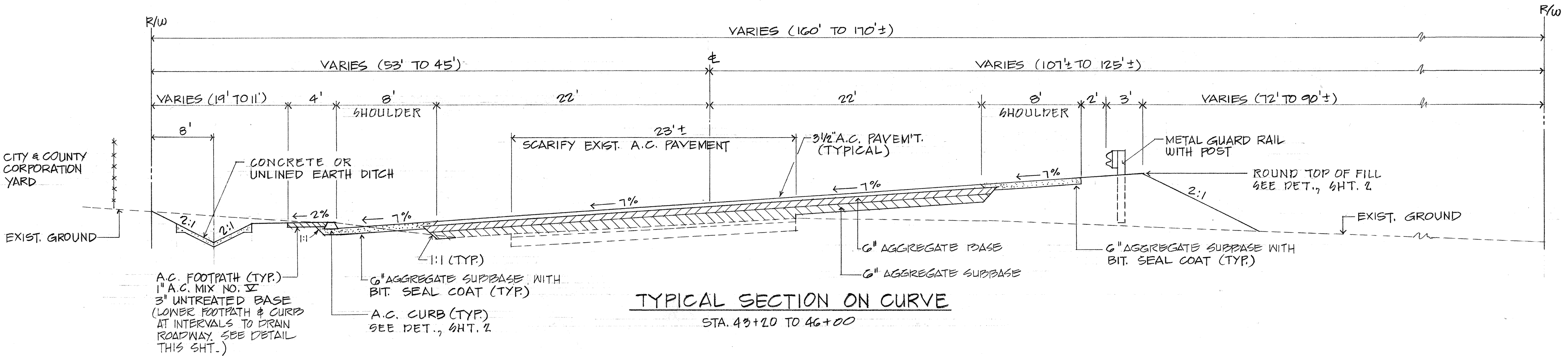
STA. 52+50 TO 53+25± (RIGHT SIDE)
STA. 52+50 TO 54+15± (LEFT SIDE)

DOUBLE METAL GUARD RAIL W/ POST
(STA. 49+50± TO 52+75±)
DOUBLE METAL GUARD RAIL W/ SINGLE
POST (STA. 52+75± TO 53+12±)
CONCRETE BARRIER (STA. 53+12± TO 53+25±)



TYPICAL SECTION ON TANGENT

STA. 46+53.89 TO 49+50



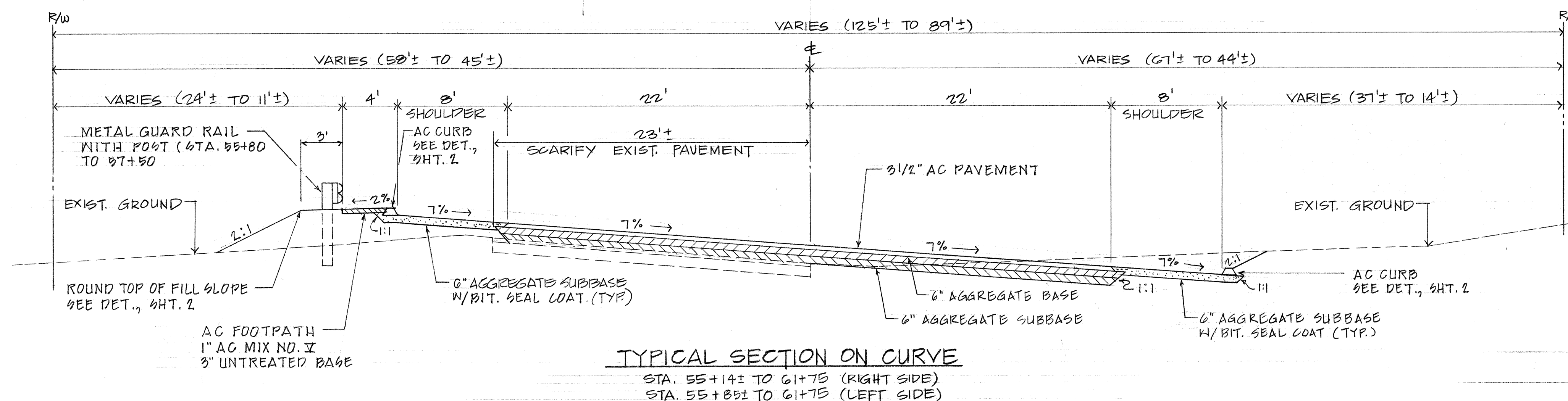
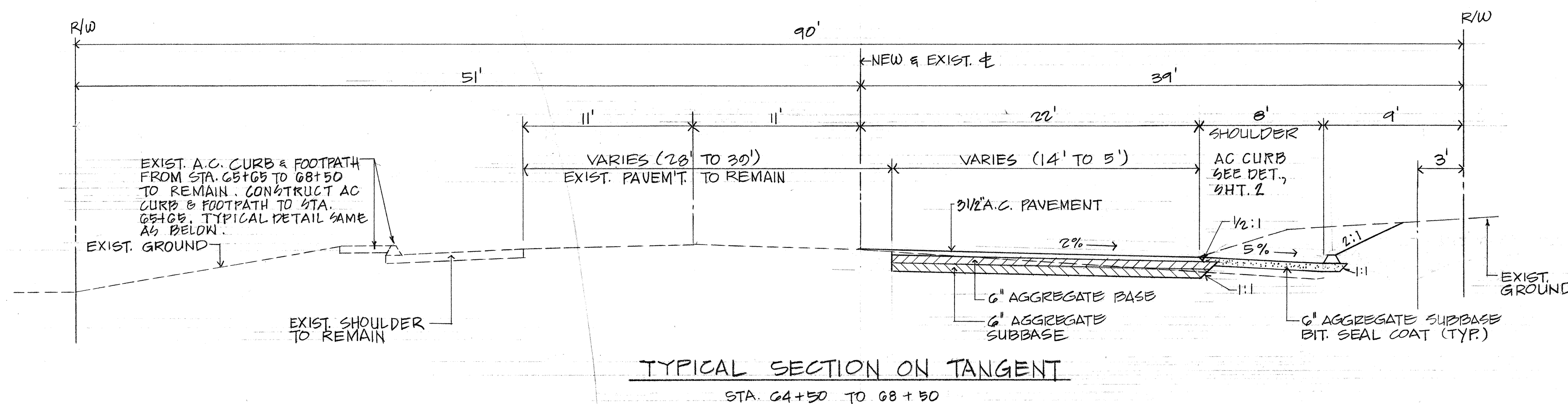
TYPICAL SECTION ON CURVE

STA. 49+20 TO 46+00

DATE	
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ORIGINAL	
PLAN	
NOTE BOOK	
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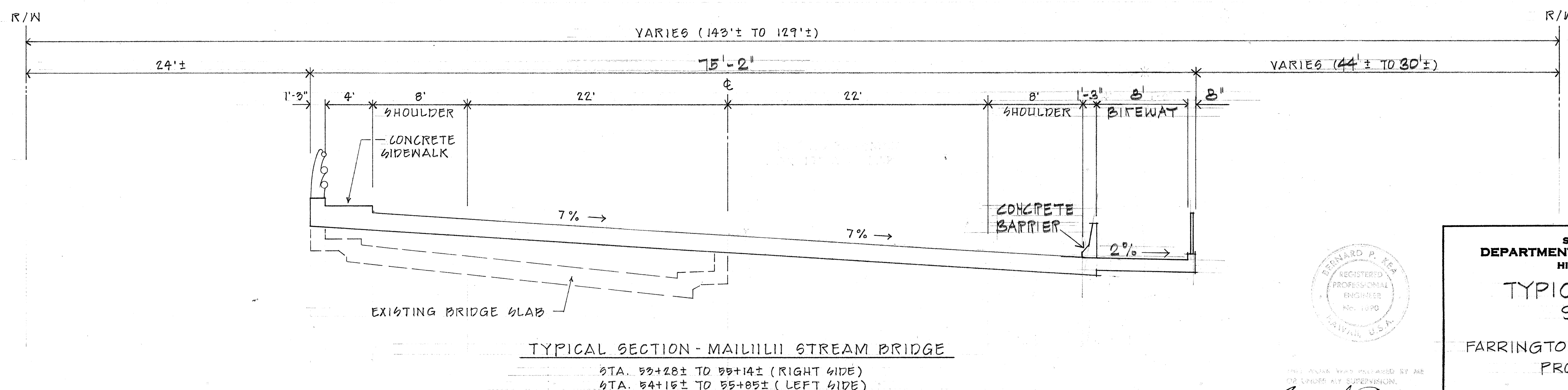
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1974	5	100

PROJECT NO. 93A-02-70



6-9-75 REVISE MAILILII STREAM BRIDGE TYPICAL SECTION

DATE REVISION



THIS PLAN WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Bernard P. Kea
REGISTERED PROFESSIONAL ENGINEER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROAD SECTIONS

FARRINGTON HIGHWAY WIDENING
PROJECT 93A-02-70

SCALE: 3/16" = 1'-0"

SHEET No. 4 OF 5 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	
DRAWN BY	
CHECKED BY	
NOTED BY	
NO.	

GENERAL NOTES

- All existing utility lines shown on these plans are located from the best sources available. The Contractor shall check and verify the exact location and depth of same.
- All exist. utilities, whether or not shown on the plans, shall be protected at all times by the Contractor during construction and any damage to exist. utilities shall be repaired and paid for by the Contractor unless specified on the plans to be abandoned.
- Where connections are made to exist. facilities, mortar shall be used to seal around the culvert at the connection. Payment for making this connection shall be considered incidental to structure excavation. Other exist. facilities that are damaged by the Contractor shall be repaired at his expense.
- Exist. monument castings and M.H. frames and covers to be adjusted to new road grade.
- Utility poles on makai side shall be relocated as shown on the utility plans.
- Provide smooth riding connections to exist. pavement at all driveways and streets.
- Demolishing and/or removal of exist. facilities shall not be paid for separately but shall be considered incidental to structure excavation, except the Maililili Stream Bridge.
- The ends of abandoned pipe culverts shall be plugged with brick and mortar. This work shall not be paid for separately but shall be considered incidental to structure excavation.
- Excavation for unlined earth ditches will be measured and paid for under roadway excavation.
- For location of Base Line points, the Contractor shall contact Community Planning Inc. - Civil Engineers & Surveyors.
- Any grading work done over exist. signal Corp. cables shall be coordinated with H.T. Co.
- The Contractor shall use extreme care to prevent damage to the buried cables.
- Decision to lower the existing cables if it becomes exposed will be determined out in the field.
- The Contractor shall contact the owners of the various utilities prior to the start of construction to coordinate the work to be done by the utility companies own forces as well as obtain from them any information pertaining to existing utilities that will either supplement information shown on the plans or will correct any such information that may be incorrect. The Contractor shall furnish the Engineer with evidence that he has contacted the utility companies and shall furnish the Engineer with a copy of the information furnish him as a result of such contacts.

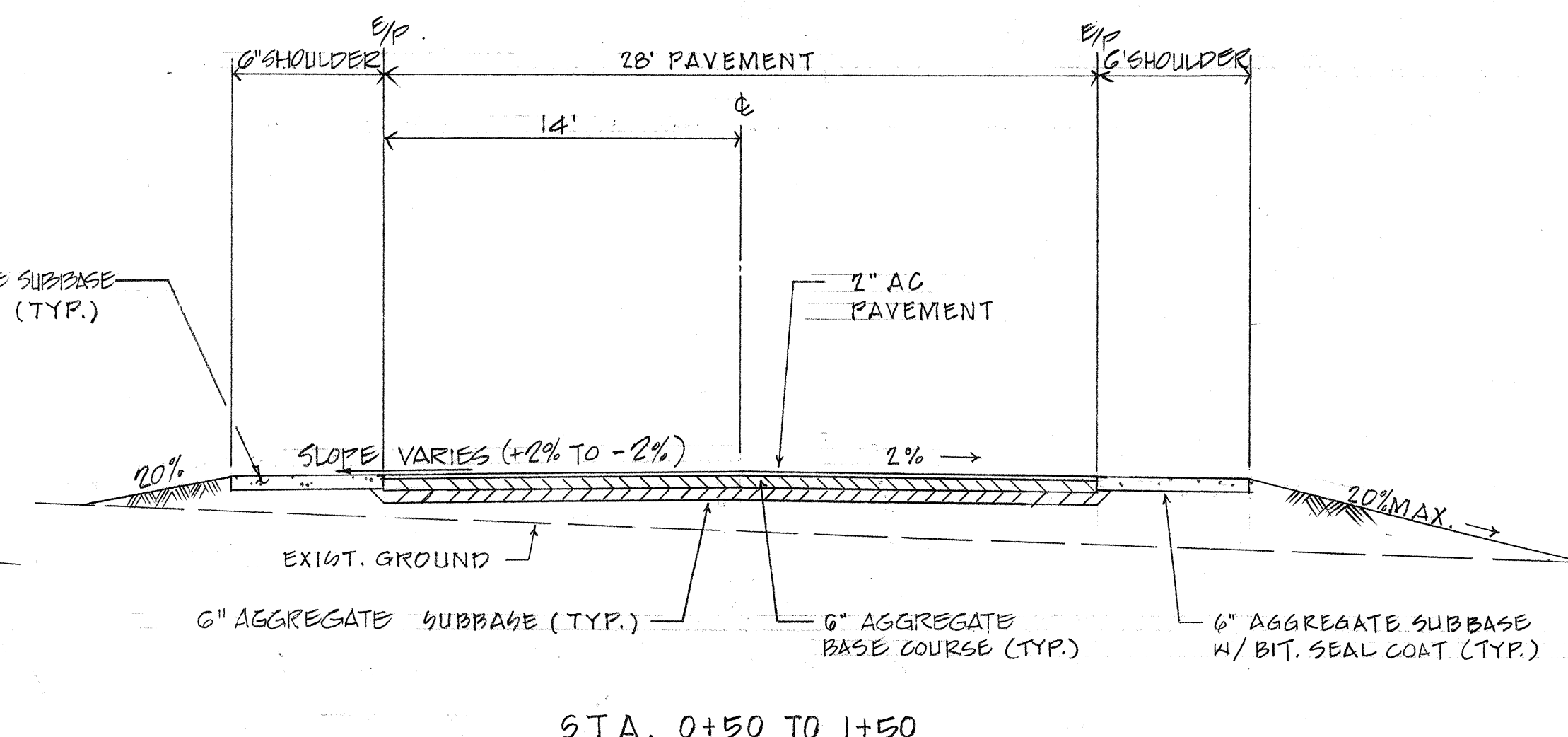
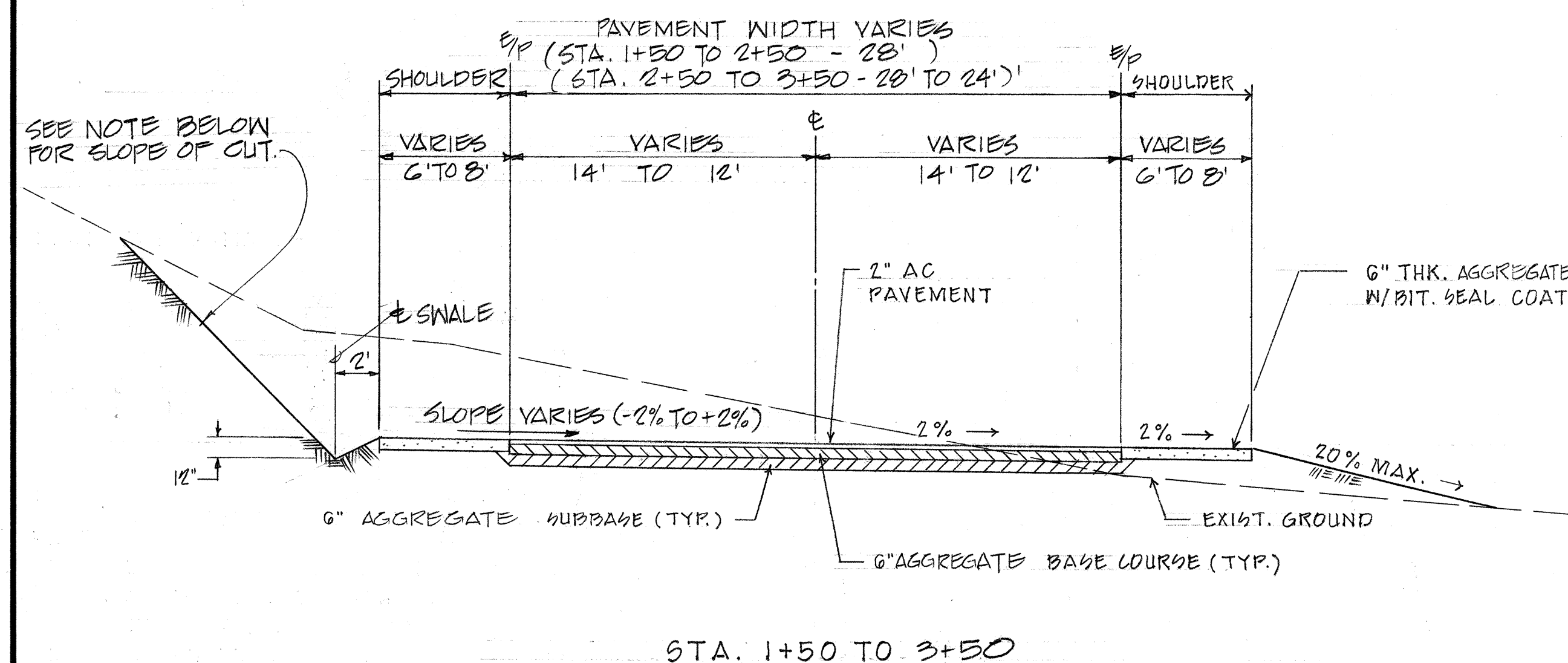
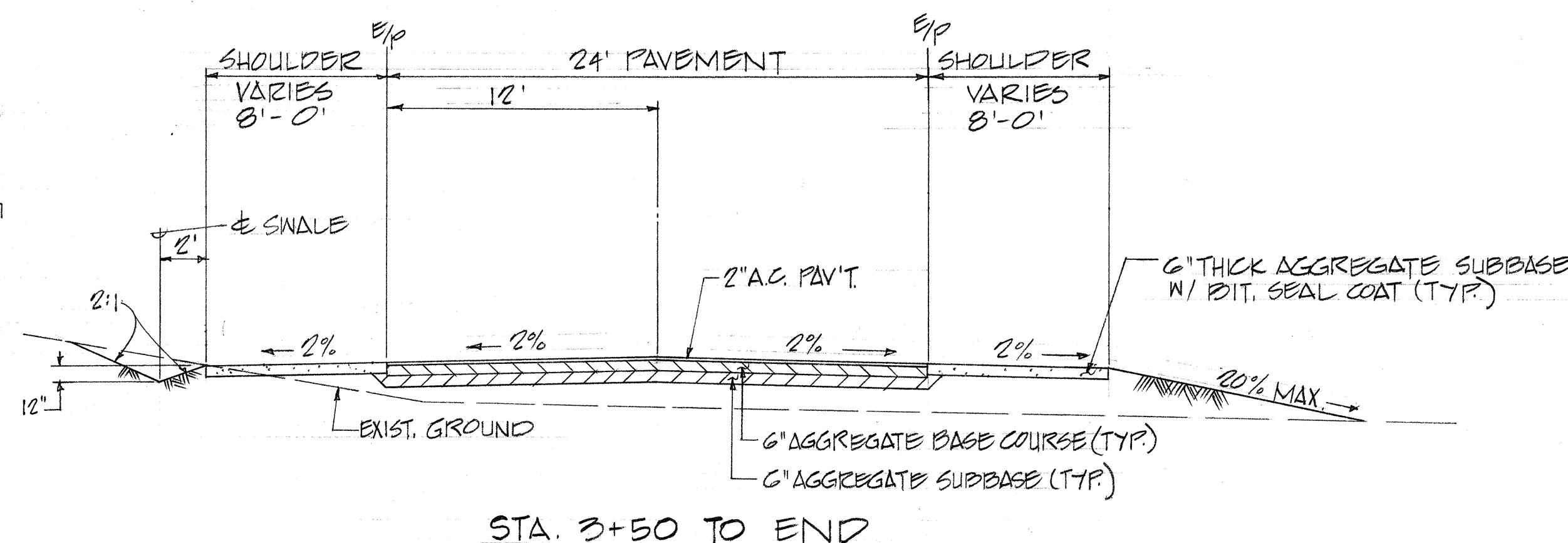
WATER NOTES

- The locations of exist. water mains and appurtenances shown on the plans are approximate only and the Contractor shall verify the exact locations.
- Whenever exist. water mains are to be in the new pavement areas, or under the proposed shoulder areas and the Cross sections show the exist. ground over the water mains are to be excavated for the sub-base, or where the cover over exist. water main is less than 2'-0" from the crown of the water main, no power or other heavy equipment shall be permitted over the water main. Only hand-operated mechanical equipment shall be utilized to compact materials over and adjacent to water main until a minimum cover of 2'-0" is constructed. Any damage to the exist. water mains shall be the responsibility of the Contractor.
- Exist. water mains shall be exposed prior to start of trench excavation at new drain and culvert crossings whenever there is a possibility that these drains and culverts may affect the exist. water mains.
- Any excavation work around exist. water mains and appurtenances shall be by hand only.
- The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work on the water system.
- The Contractor shall relocate exist. water valve markers as directed by the Engineer at his own expense.
- (*) Asterisk denotes work to be done by the Board of Water Supply and materials to be furnished by the Contractor. Contractor to excavate and backfill.
- All water mains will be kept under working pressure during the compaction of the base course.
- Items indicated as "relocate" on plans shall be removed, cleaned, painted and reinstalled at the new location by the Contractor.
- Class C-1 concrete for plugging open ends of abandoned pipes shall be incidental to pipeline work.
- Extension of service laterals, adjustment of meters and meter boxes, relocation of meters to footpath area and cutting and plugging of service laterals shall be done by B.W.S. The Contractor shall perform all necessary excavation and backfill.
- Approval by the Board of Water Supply is based solely on the adequacy of the water supply. Discrepancies if any, of alignments, grades, fittings, etc., shall be the responsibility of the Engineer who prepared the plans.
- All existing manhole frames and covers shall be adjusted to the new grades. Wherever the adjustments exceed six inches, the manholes shall be reconstructed to the new grades.
- Unless otherwise specified, all materials and construction of the water system facilities and appurtenances shall be in accordance with the Standard Specifications for Roads and Bridge Construction, dated 1969, as amended, for the Hawaii Highway Division, Department of Transportation.

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.		1974	6	100

SEWER NOTES

- All sewer construction shall be performed in accordance with the City's standard specifications, November 1968 and the latest Department of Public Works standard Details, July 1965, current City practices and revised Ordinances of Honolulu, September 28, 1961.
- In the event that any change in alignment or grade for the proposed sewers are due to unforeseen conflict with other underground utilities, the Engineer in charge or the maker of the plans shall be responsible for the required changes which are to be presented to the Division of Sewers for approval.
- Minimum slope of all laterals shall be 1.00%.
- The Contractor shall notify the Division of Sewers two (2) days prior to the commencement of sewer work.
- Adjust existing MH frames & covers to suit new grades.



NOTE:

- Cut slope along edge of left shoulder from station 1+50 to 3+50 to be 1 horizontal to 1 vertical based on the existing material being ledge coral. Cut slope from station 3+50 to 3+50 to vary from 1:1 to 2 horizontal to 1 vertical. All other cut slope to be 2 horizontal to 1 vertical.
- Where the roadway falls on loose material, the Contractor shall excavate and compact the loose material.

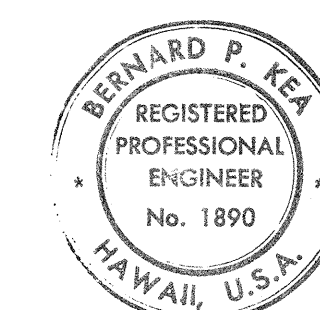
APPROVED:

E. J. J. J.
CHIEF, DIV. OF SEWERS

DATE 2/23/73

D. Kawakami
ASST. CHIEF ENGINEER, BWS

DATE 2/23/73



THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.
Bernard P. Kea
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL ROAD
SECTIONS

FARRINGTON HIGHWAY WIDENING
PROJECT 93A-02-70

SCALE: 3/16" = 1'-0"

SHEET No. 5 OF 5 SHEETS

DATE	
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CHECKED BY	
ORIGINAL PLAN	
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