

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	28	151

WATER NOTES

GAS FACILITIES

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 1985, as amended, of the Hawaii Highways Division, Department of Transportation and the City & County of Honolulu Board of Water Supply's "Water System Standards", Volume I, Dated 1985 and the "Approved Material List and Standard Details for Water System Construction", Volume 2, Dated 1985, and all Subsequent Amendments and Additions.

2. Prior to excavating for new drain, sewer, and other utility lines, the Contractor shall verify in the field the location of existing water mains and appurtenances.

Where the installation of new drain, sewer and other utility lines are to cross over or under existing water mains, the Contractor shall expose the existing water mains prior to trenching. Excavation around water mains shall be done by hand.

- ~~3. Items indicated as "relocate" on the plans shall be removed, cleaned, painted, and reinstalled at the new location by the Contractor unless otherwise specified.~~

- ~~4. The minimum clearance between fire hydrants and utility poles or light standards shall be 3.0 feet.~~

3. The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work on the water system.

4. Any adjustments to the existing water system required during construction to meet requirements of BWS Standards, whether shown on the plans or not, shall be done by the Contractor at his expense.

5. All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply. All other features of the water system, such as lines, grades, fittings etc., and drainage and other features of improvements shall not be the responsibility of the Board of Water Supply.

6. The existence and location of underground utilities and structures as shown on the plans are from the latest available data but is not guaranteed as to the accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and shall pay for all damages to existing utilities.

- ~~9. Distance from meter dial to bottom of meter box cover shall be a minimum of 6 inches and a maximum of 12 inches.~~

- ~~10. Contractor shall furnish and install additional fittings if necessary to meet field conditions.~~

- ~~11. Reapproval shall be required if this project is not under construction within a period of one year. (See Rules and Regulations of the Board of Water Supply).~~

- ~~12. All cast iron (gray or ductile) pipes, fittings, and valves shall be enclosed in plastic material in accordance with AWWA Specifications C105-82 "Polyethylene Encasement for Ductile Iron Piping for Water and Other Liquids."~~

- ~~13. In the event that water mains other than ductile iron is to be used, the plans shall be resubmitted for approval.~~

7. Test pressure shall be one of the following:

- a. Prevailing line pressure, joints left exposed for 24 hours.
b. 150 psi.

- ~~15. The consumer's hand valve will be installed three to five feet in consumer's property. (Current standards call for hand valve in the sidewalk area).~~

- ~~16. The State shall provide three sets of approved plans one week prior to commencing work on the water system.~~

8. Contractor to cut & plug all unused laterals at the main whether or not shown on the plans. Meter and Valve boxes to be or already abandoned shall be demolished or removed and properly disposed of. The damaged area shall be repaired to an equal or better condition than the immediate area. All work shall be done at the expense of the contractor.

9. After installation of tapping sleeve and valve, prior to actual tapping operations, the assembly shall be tested at 150 p.s.i. on both sides of the valves.

10. The Contractor shall be responsible for the protection of water lines during construction. The Contractor shall be especially careful when excavating behind water line tees and bends wherever there is a possibility of water line movement due to removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measure he deems necessary to protect the water lines, such as constructing special reaction blocks (with BWS approval) and/or modifying his construction methods.

11. Prior to installation, the contractor shall submit for approval by Board of Water Supply, the manufacturer's certification that all cast iron (gray or ductile) fittings for the project conform in all respects to the water System Standards, dated 1985.

1. The Gasco, Inc. gas pipelines in the project area are plastic coated and cathodically protected. The Contractor shall be extremely careful when working near these gas pipelines.
2. Prior written clearance must be obtained from Gasco, Inc. at least five (5) working days before starting excavation near these gas lines.

Since gas line locations on field maps are approximate, the Contractor, after obtaining a written clearance, shall call Gasco, Inc., a minimum of 48 hours before starting excavation to arrange for field location of existing gas lines. The telephone number is 547-3575 during business hours, and 526-0066 after hours.

The Contractor shall excavate and backfill around gas pipelines in the presence of a Gasco, Inc. representative. All backfill within six inches of gas pipeline shall be select cushion material approved by Gasco, Inc.

3. For relocation of any gas pipeline, the Contractor shall notify Gasco, Inc. five (5) working days before starting work. The contractor shall provide the necessary excavation and backfill, arrange for traffic permits, and restore sidewalks, pavement, or other facilities. Any relocation of gas facilities shall be done by Gasco, Inc. and paid for by the Contractor.

4. The Contractor shall notify Gasco, Inc. immediately after any damage has been caused to existing gas pipelines, their coatings or their cathodic protection devices. Repair work on this damage shall be done by Gasco, Inc. with payment for this work to be borne by the Contractor.

5. Minimum vertical or horizontal clearance between gas pipelines and other pipelines, conduits, or ductlines shall be 12 inches. Adequate support and protection for gas pipelines exposed in the trench shall be provided. Such support and protection shall be approved by Gasco, Inc.

6. The Contractor shall work in an expeditious manner in order to keep uncovered gas pipelines exposed for as short a period of time as possible.

Approved

Shirley H. Mualam
Chief, Planning & Engineering, B.W.S.

9/18/84
Date

Approved for Sewer Force
Main Only:

SUBMITTED
APPROVAL RECOMMENDED <i>George M. B.</i> CHIEF, F.E. SPT. BR.
APPROVED <i>Charles J.</i> CHIEF, ENGINEERING DIVISION
APPROVED <i>Michael M. F.</i> COL. C. OF E., DEP. DIV. ENG.

DEMIS T. SHU REGISTERED PROFESSIONAL ENGINEER No. 2447-C HAWAII, U.S.A.
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION <i>Demis T. Shu</i>

DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
UTILITY NOTES	
SAND ISLAND ROAD WIDENING 2ND BRIDGE AND APPROACHES FEDERAL AID PROJECT NO. F-064-1(2)	
SCALE: AS NOTED	DATE: JUN, 1986
SHEET No. J1 OF 17 SHEETS	

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	29	151

LEGEND

Existing

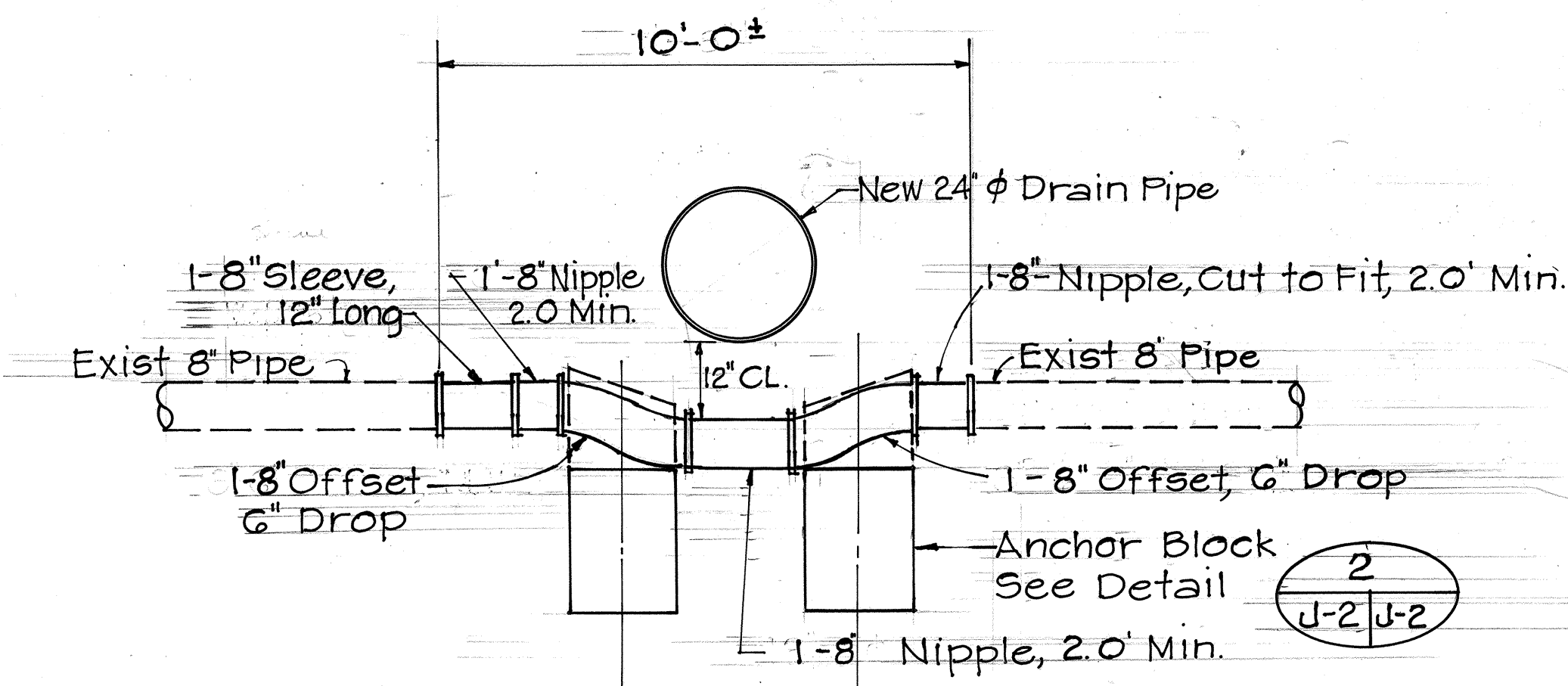
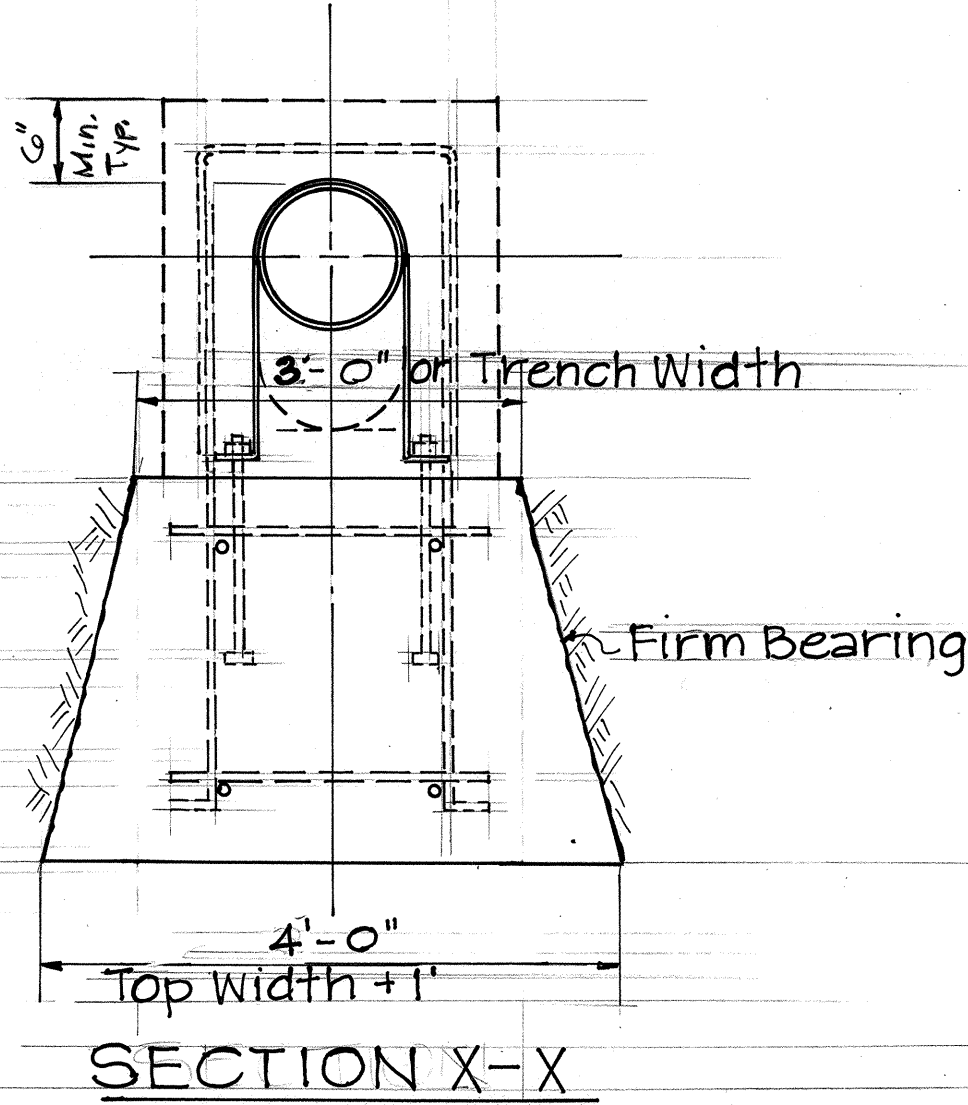
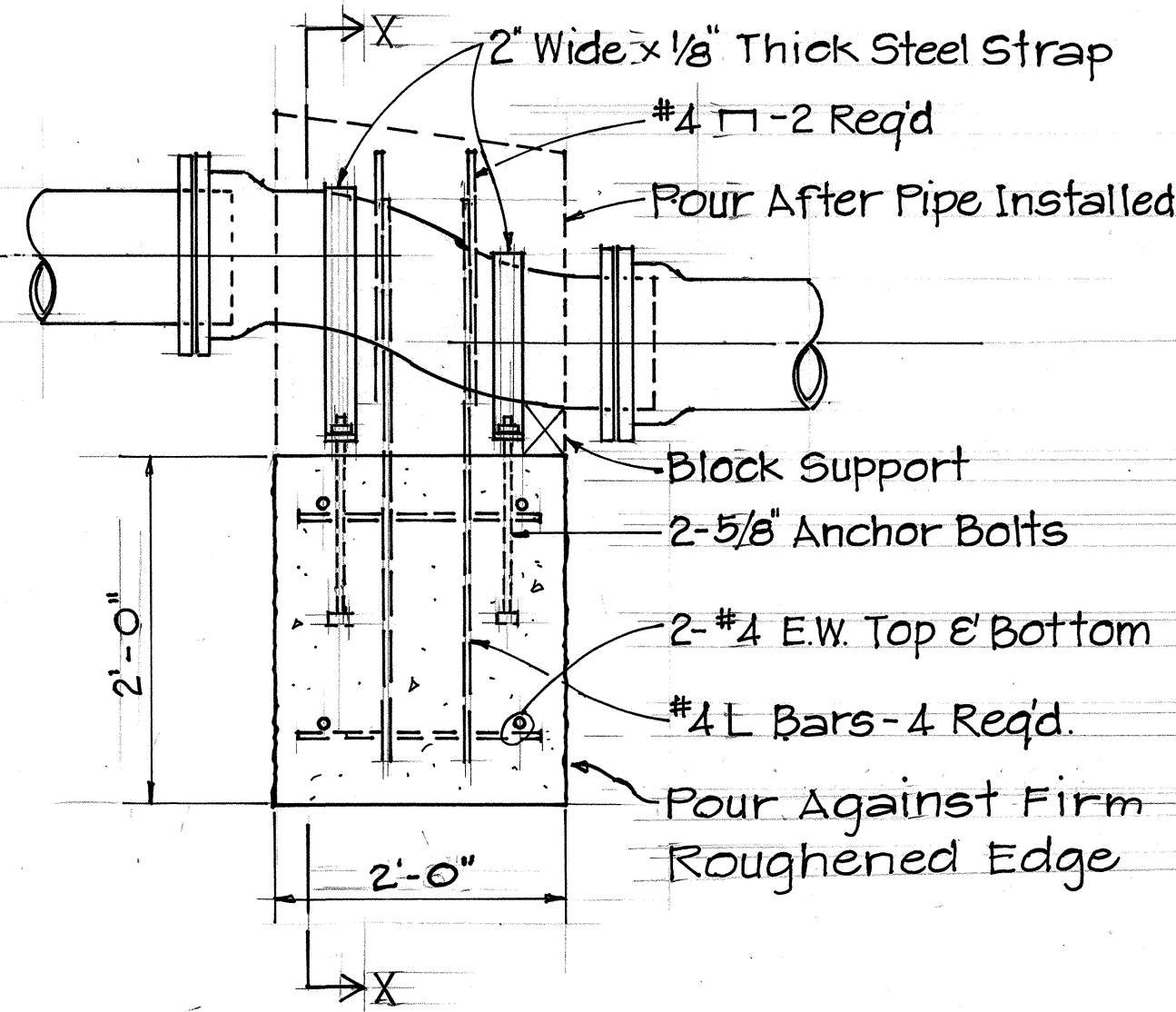
AC	Asphalt Concrete
c/o	Clean Out
CRM	Concrete Rubble Masonry
D _{16"}	Drainline
E	Electrical Line
EMH	Electrical Manhole
FH	Fire Hydrant
FM _{24"}	Force Main
FO	Fuel Oil Line
G	Gas Line
H.I.R.I. _{12"}	Hawaiian Independent Refinery, Inc. Line
H.E.Co.	Hawaiian Electric Company
H.T.Co.	Hawaiian Telephone Company
HW	Headwall
H.F.F.C. _{10"}	Honolulu Fuel Facilities Corp. Line
LP	Light Pole
MH	Manhole
PP	Power Pole
R/W	Right-of-Way
SFM _{24"}	Sewer Force Main
SMH	Sewer Manhole
S _{8"}	Sewerline
SHOC _{10"}	Shell Oil Company Line
SHOC MH	Shell Oil Company Manhole
SCC	Signal Corps Cable
SCMH	Signal Corps Manhole
Sig. Lt. or Sg. Lt.	Signal Light
Spr. Box	Sprinkler Box
SDMH	Storm Drain Manhole
ECP	Submarine Cable
Tr. Sig. Lt.	Traffic Signal Light
Ut. Box	Utility Box
Ut. Pole	Utility Pole

Existing (Con't.)

WMH	Water Manhole
WM	Water Meter
WV	Water Valve
WVB	Water Valve Box
W _{16"}	Waterline

New

CB	Catch Basin
Cu.	Copper
R-2 or B-6	Boring Location
DI	Drain Inlet
D _{24"}	Drainline
NPP	New Power Pole
PCC	Portland Cement Concrete
Drainage Pattern	



1 J-2 J-2 OFFSET DETAIL
Not to Scale

APPROVED: *R. Vagato*
CHIEF, PLANNING & ENGINEERING, B.W.S. *W* 1-12-88
DATE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

Dennis T. Shiu

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND

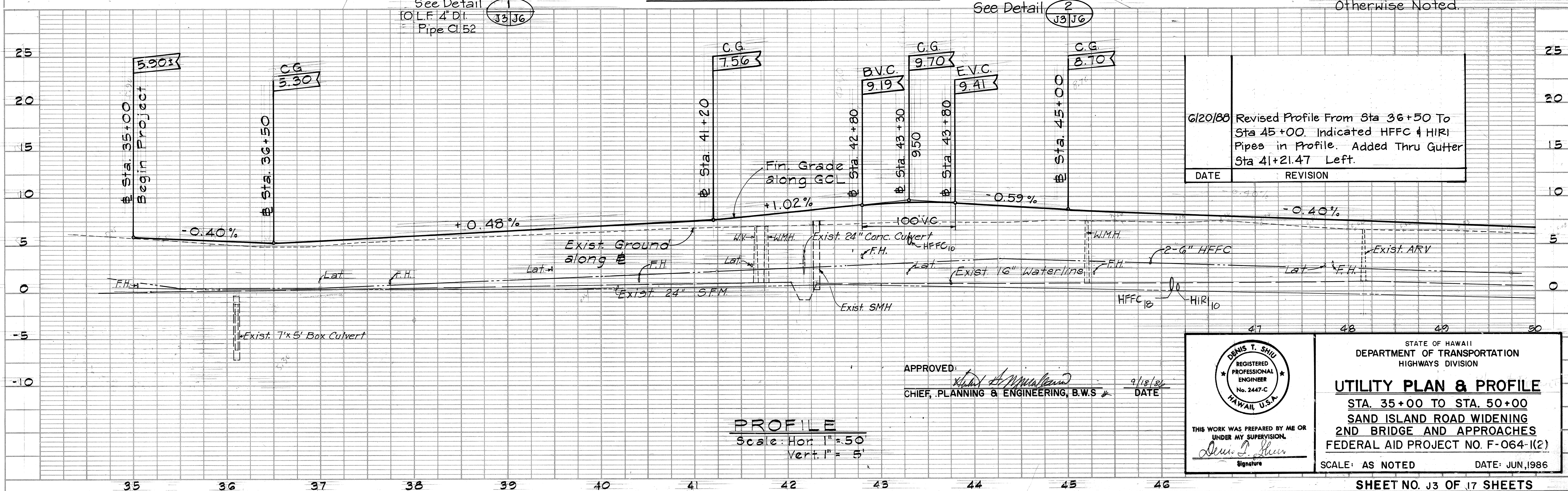
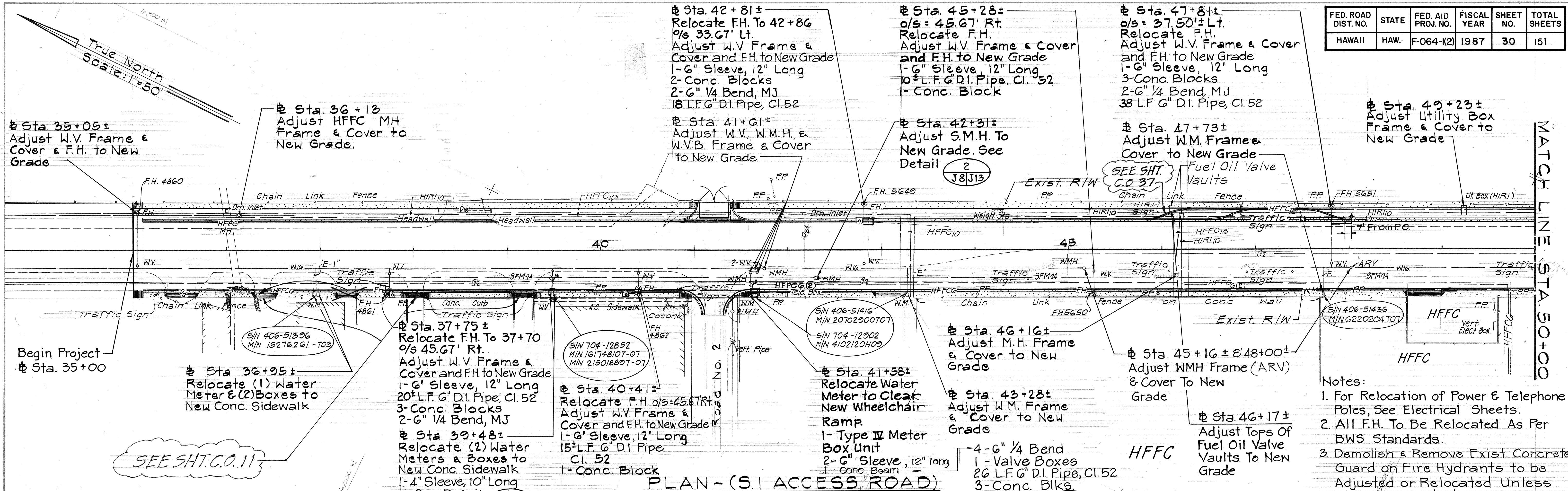
SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES
FEDERAL AID PROJECT NO. F-064-1(2)

SCALE: AS NOTED DATE: JUN, 1986

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	30	151

PLAN	DATE	BY
SUBMITTED		
NOTE BOOK		
NO.		

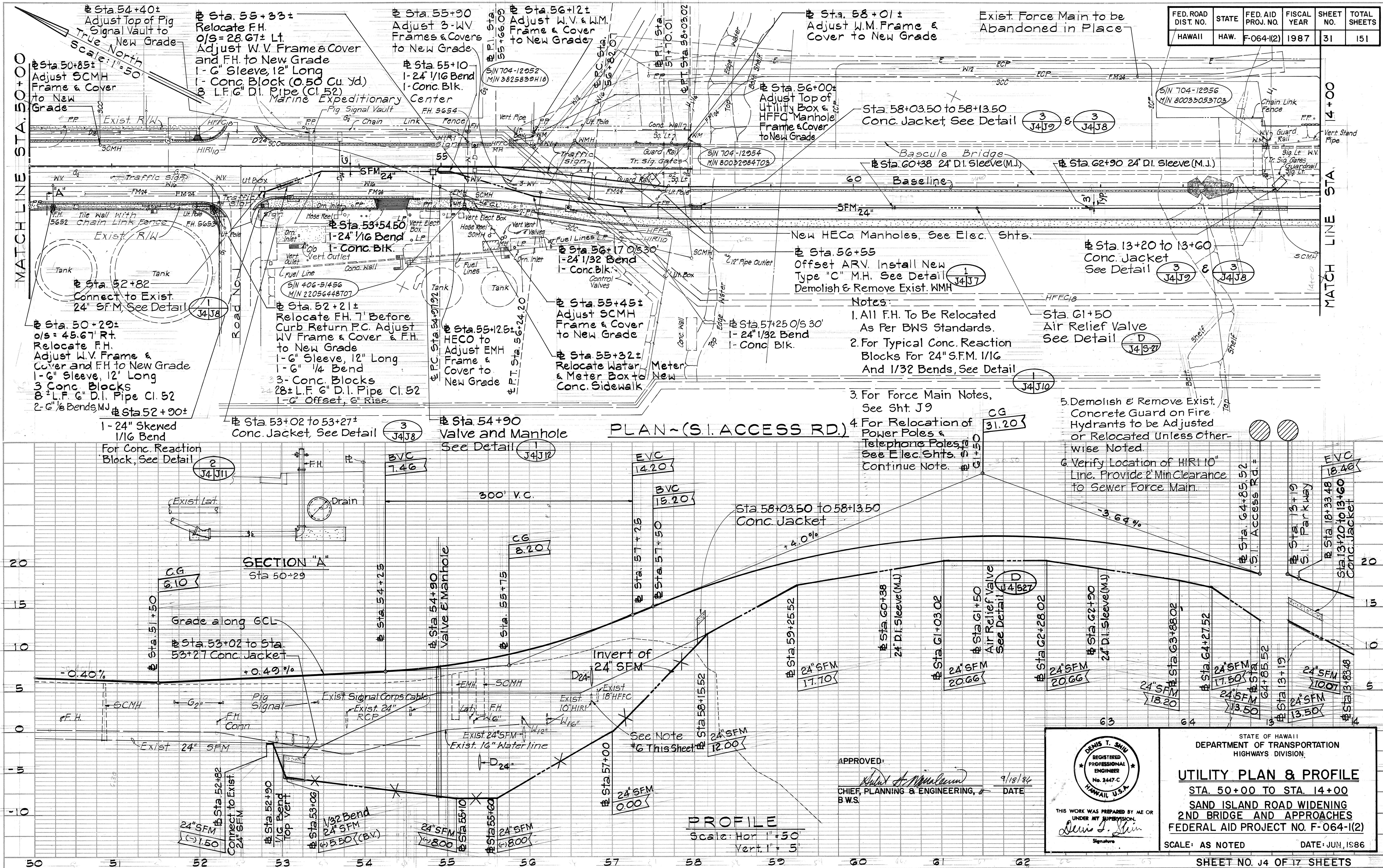
PROFILE	DATE	BY
SUBMITTED		
NOTE BOOK		
NO.		



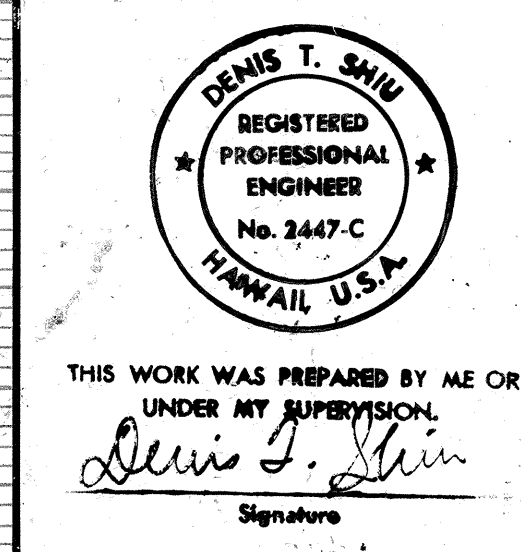
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	31	151

PLAN	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		

PROFILE	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		

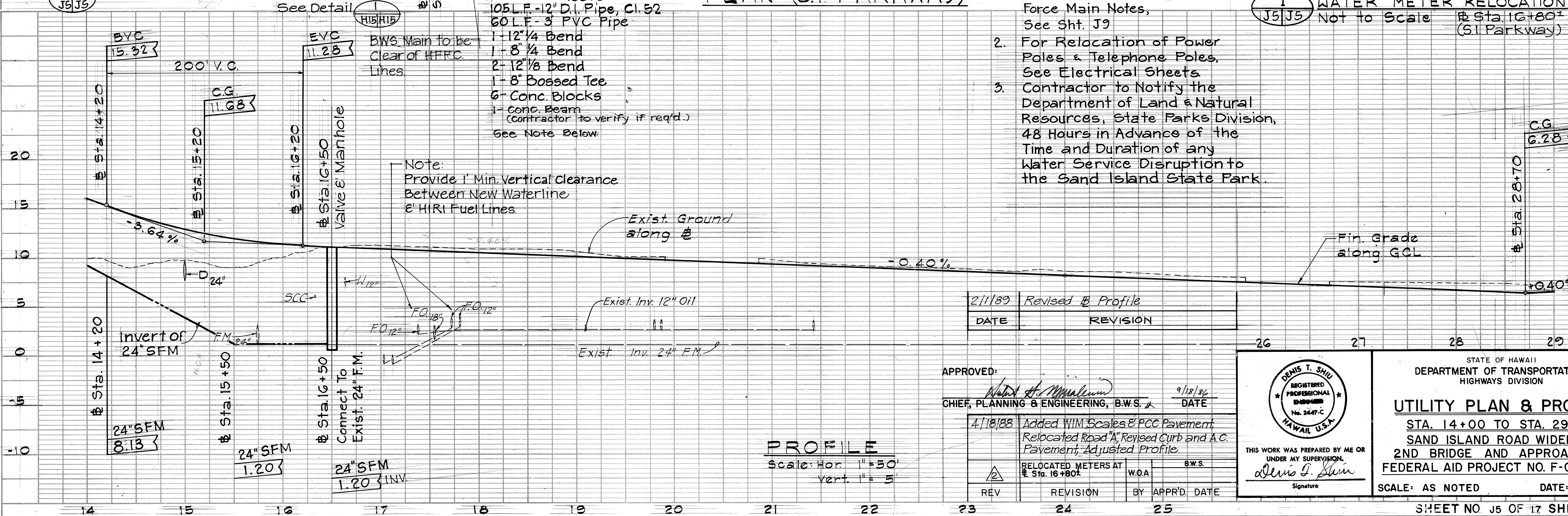
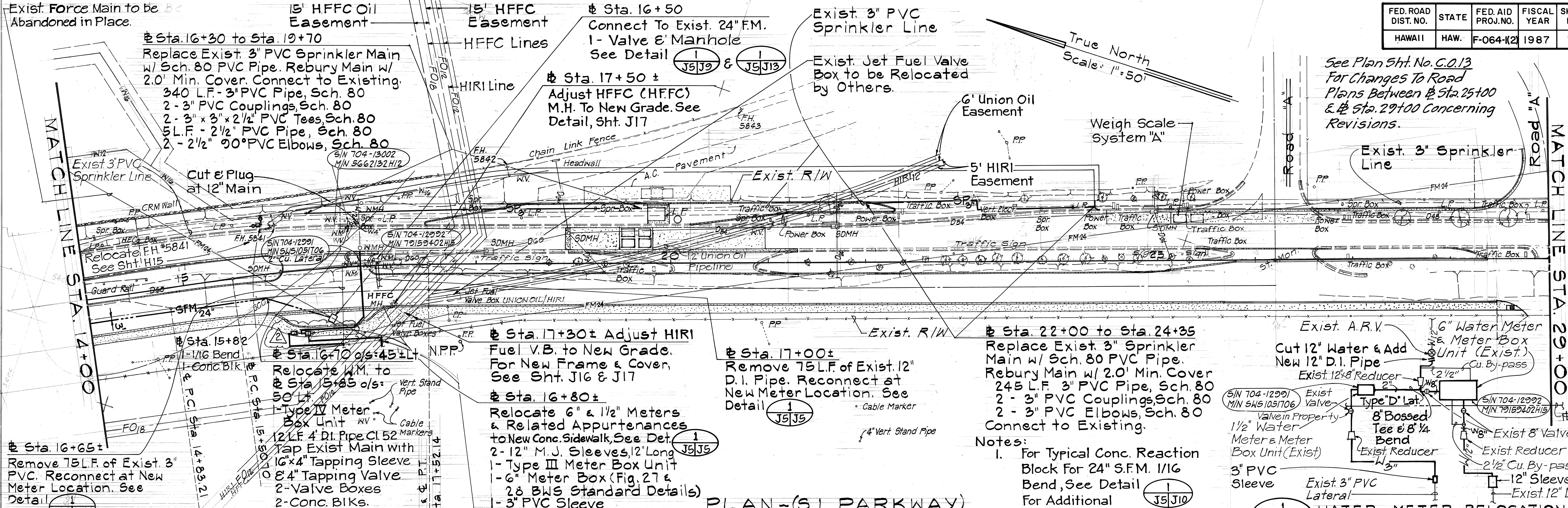


APPROVED: *[Signature]* 9/18/84
CHIEF PLANNING & ENGINEERING, B.W.S. DATE



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY PLAN & PROFILE
STA. 50+00 TO STA. 14+00
SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES
FEDERAL AID PROJECT NO. F-064-1(2)
SCALE: AS NOTED DATE: JUN, 1986

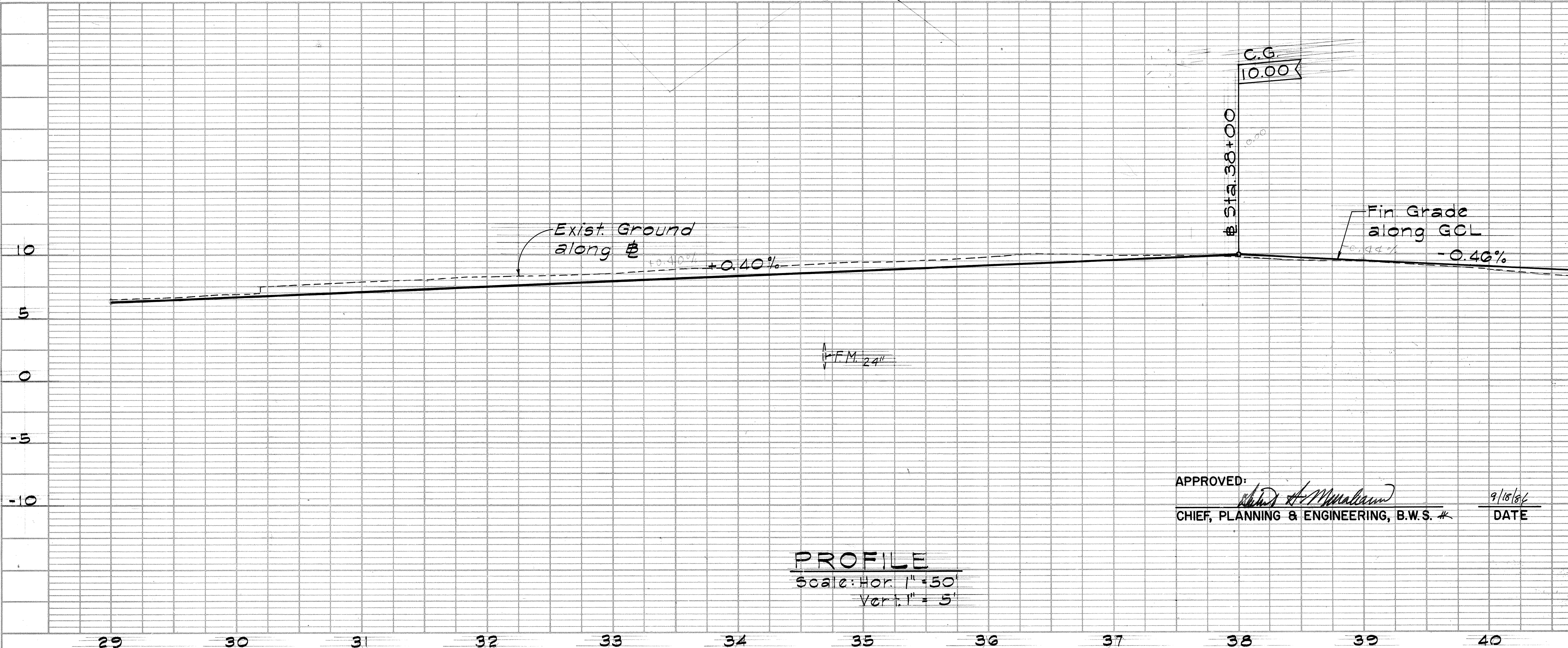
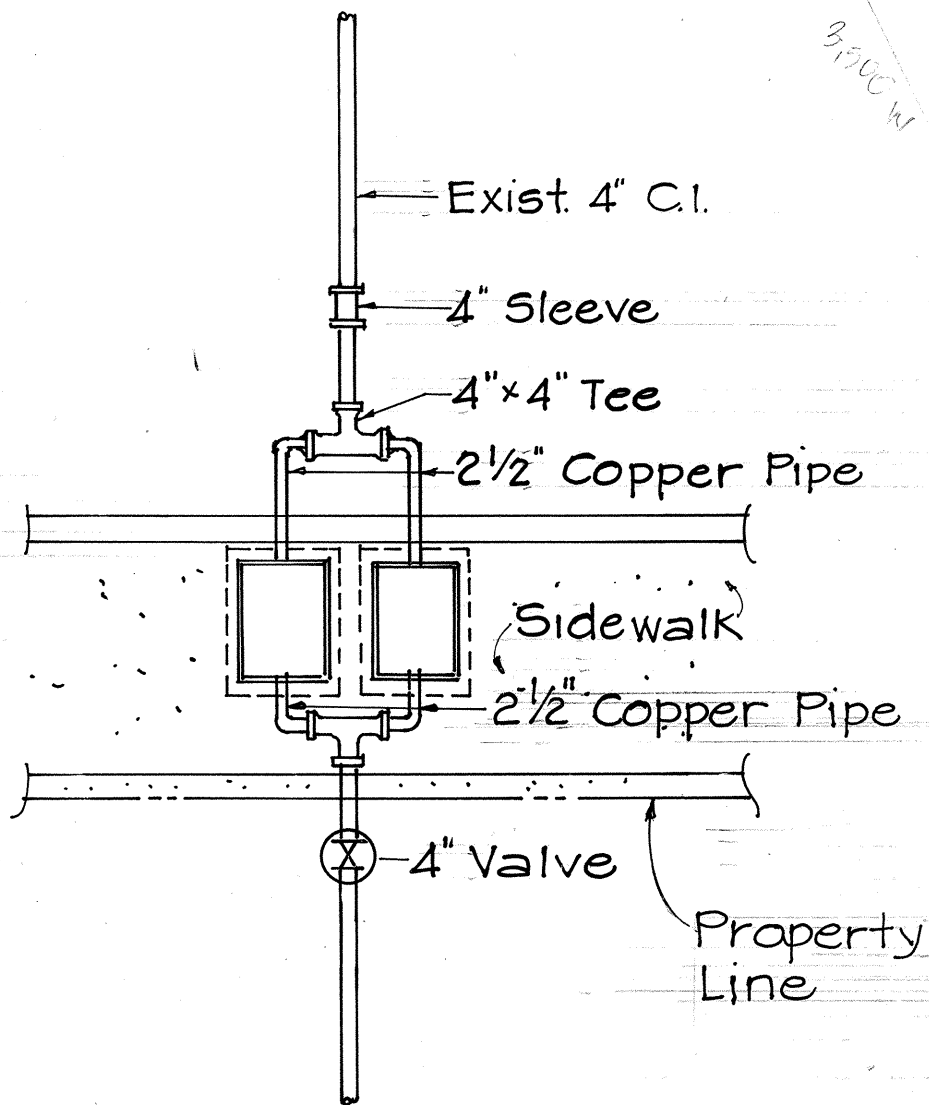
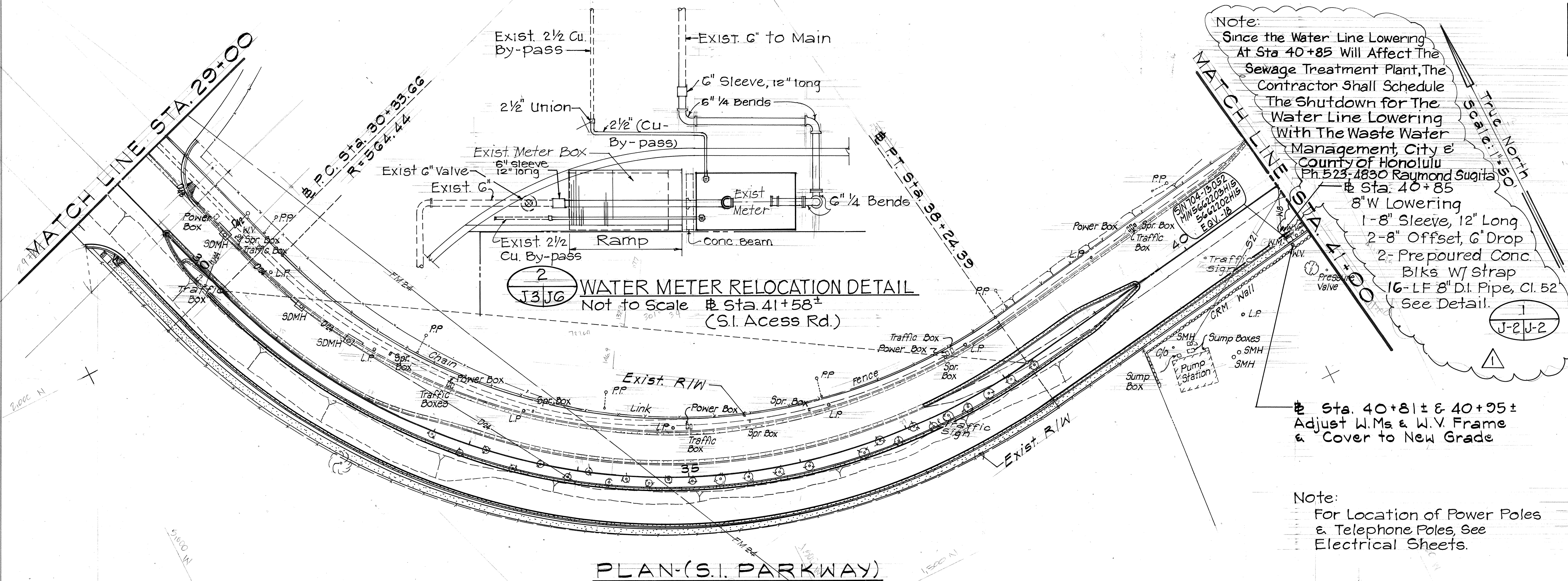
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	32	151



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	33	151

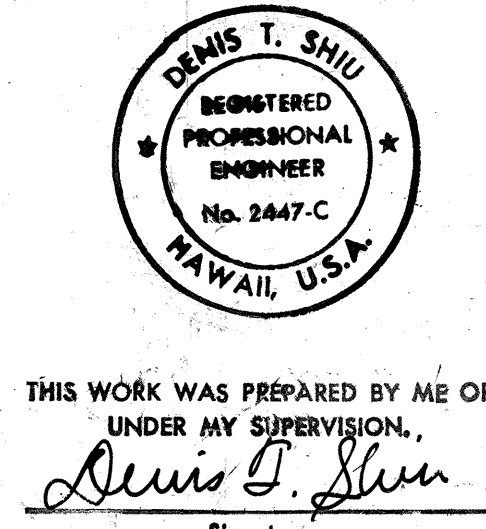
PLAN	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		

PROFILE	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		



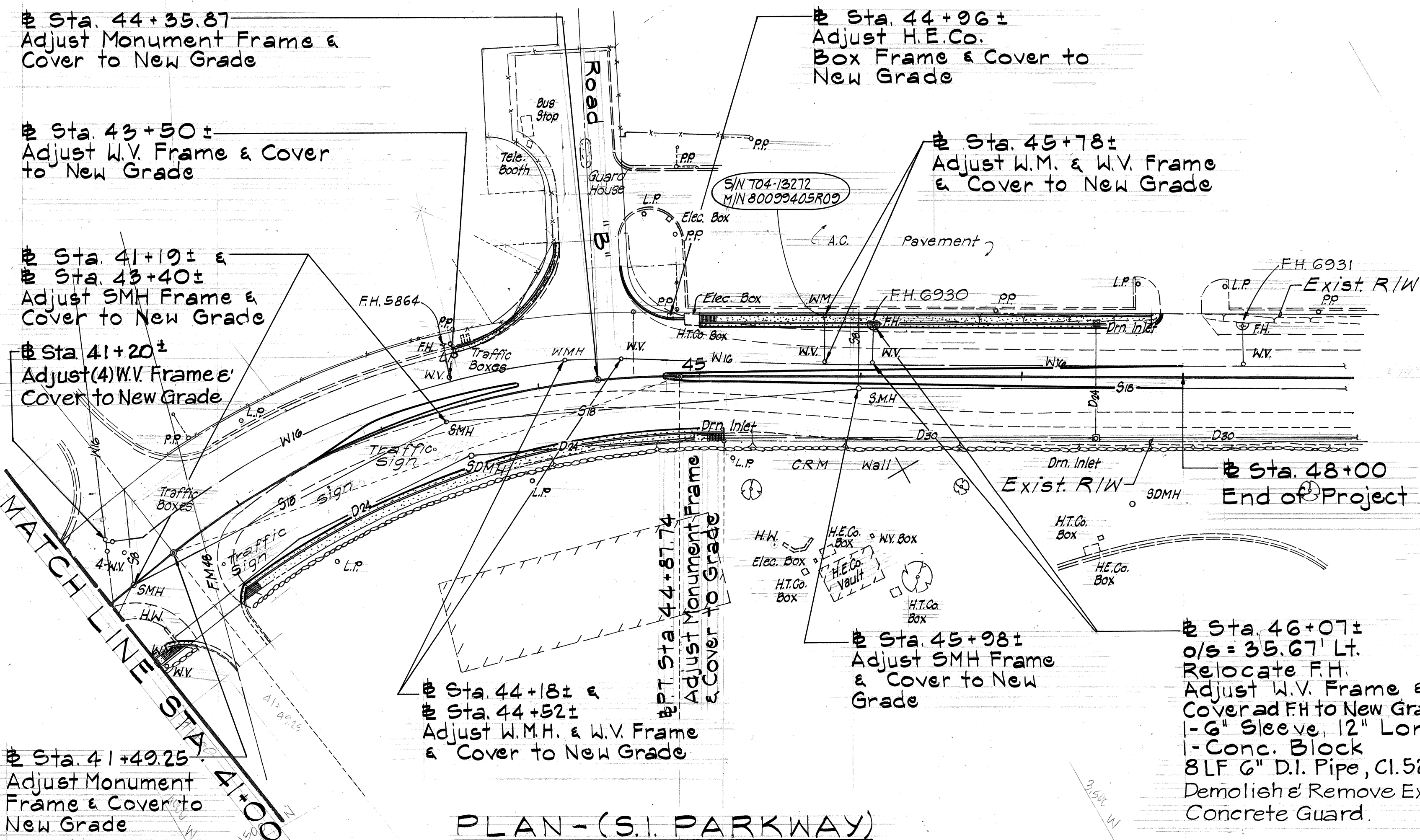
REV.	DESCRIPTION	BY	APPROD.
2/1/89	Revised Profile		
4/18/88	Relocated Road "A", Revised Curbing & A.C. Pavement		
1	8" Water Main Lowering	W.O.A.	8/12-88

APPROVED: *[Signature]*
CHIEF, PLANNING & ENGINEERING, B.W.S. #
DATE: 9/18/86



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
UTILITY PLAN & PROFILE
STA. 29+00 TO STA. 41+00
SAND ISLAND ROAD WIDENING
2ND BRIDGE AND APPROACHES
FEDERAL AID PROJECT NO. F-064-1(2)
SCALE: AS NOTED
DATE: JUN, 1986

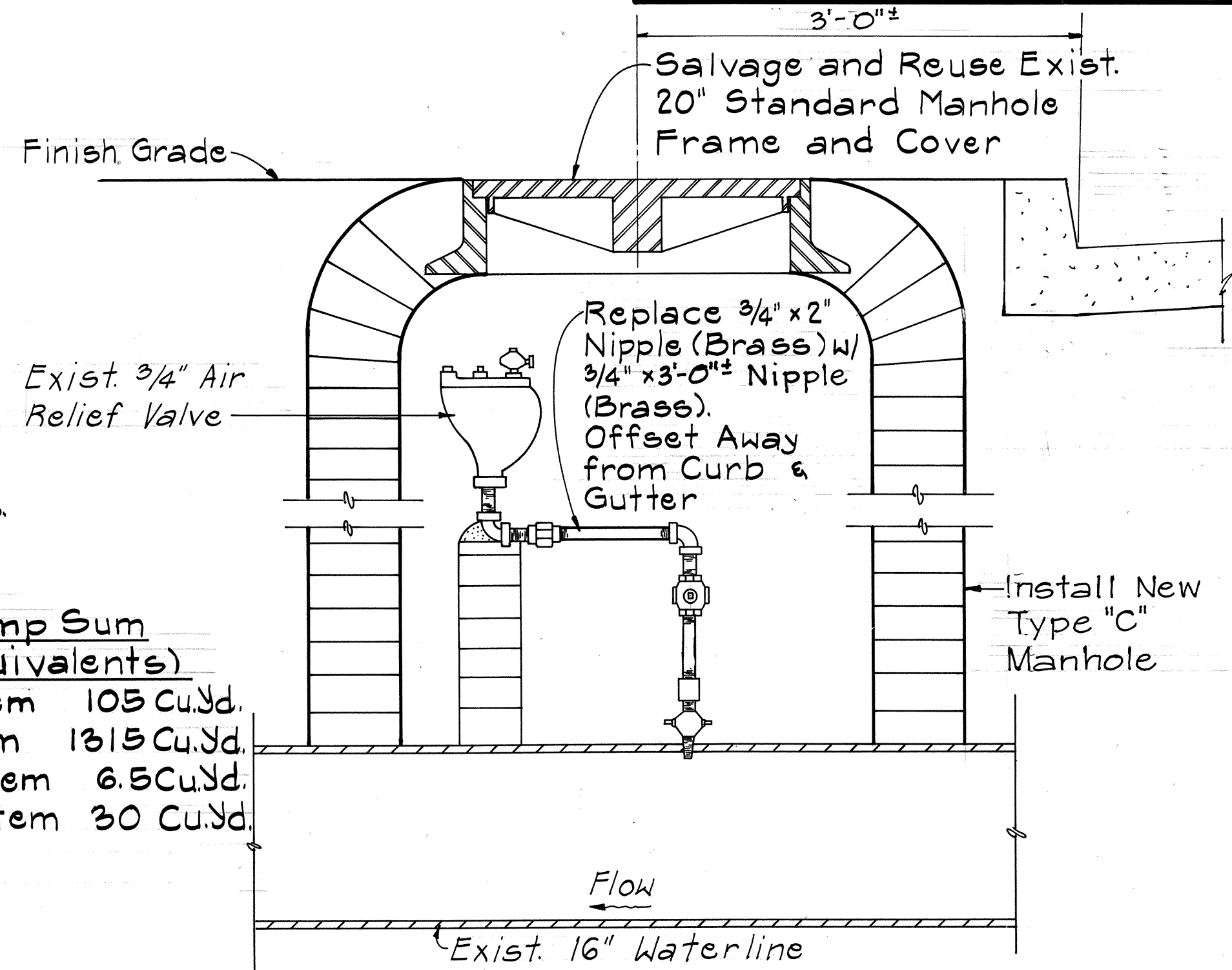
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-064-1(2)	1987	34	151



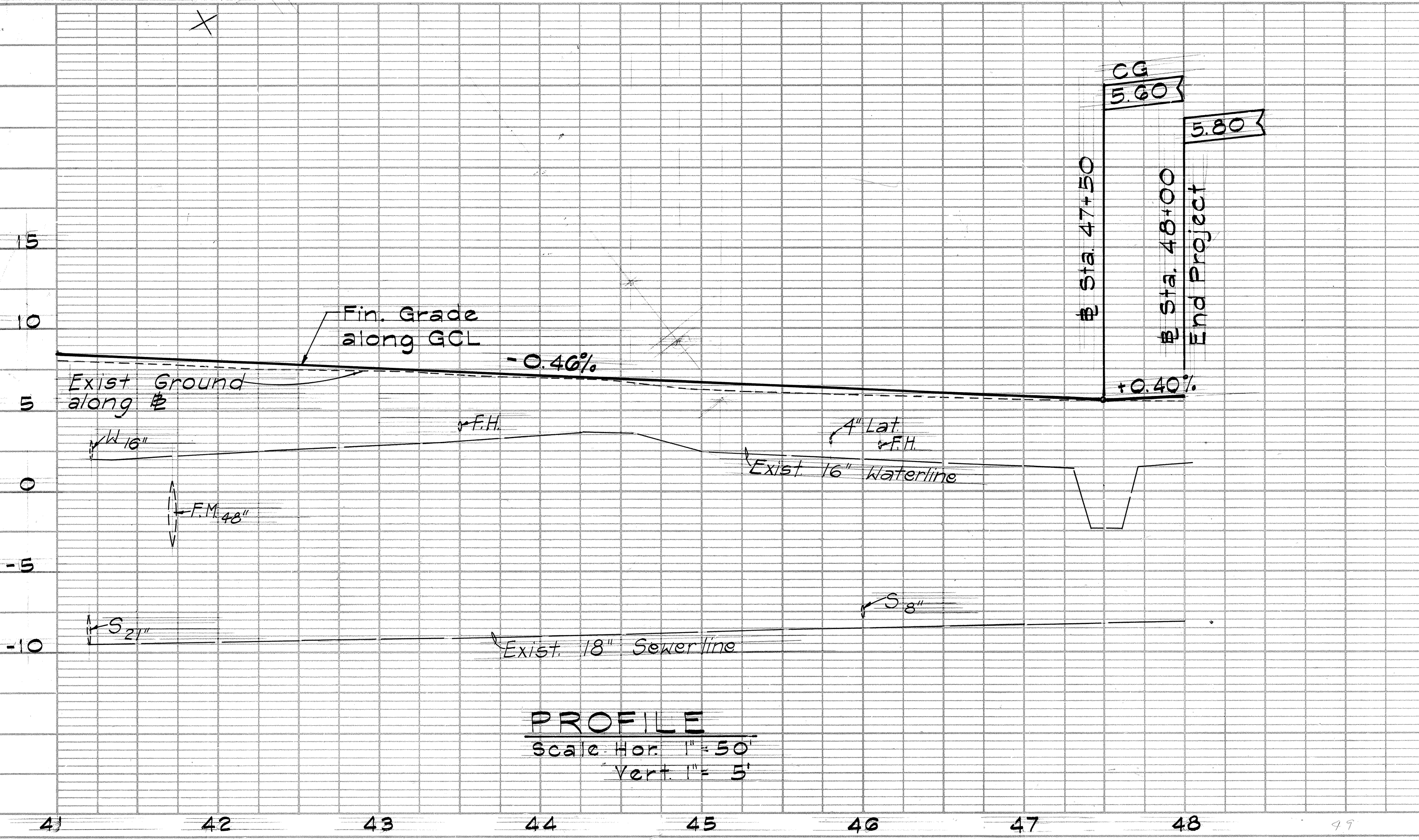
- Notes:
1. For Location of Power Poles & Telephone Poles, See Electrical Sheets.
 2. All Fire Hydrants Which are Indicated to be Relocated Per BWS Standards.

ESTIMATED QUANTITIES (Lump Sum Equivalents)

Structure Exc. for Water System 105 Cu.Yd.
 Structure Exc. for Sewer System 1315 Cu.Yd.
 Class B Concrete for Water System 6.5 Cu.Yd.
 Class B Concrete for Sewer System 30 Cu.Yd.

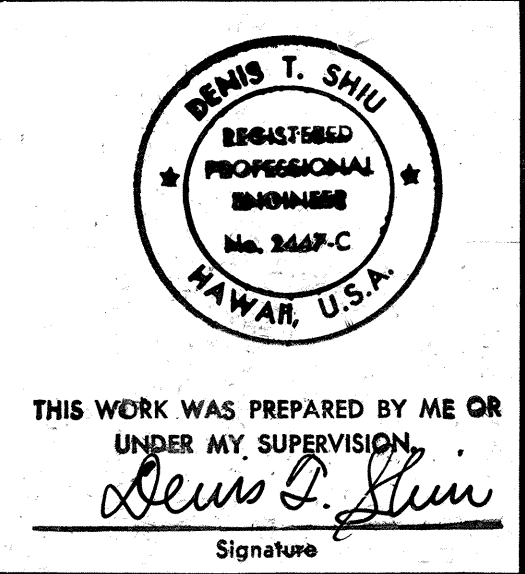


ARV RELOCATION DETAIL 1/4 J7
 Not to Scale Sta. 56+55 Lt. (S.I. ACCESS Road)



APPROVED: *[Signature]*
 CHIEF, PLANNING & ENGINEERING, B.W.S.

9/18/87
 DATE



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

UTILITY PLAN & PROFILE
 STA. 41+00 TO STA. 48+00
 SAND ISLAND ROAD WIDENING
 2ND BRIDGE AND APPROACHES
 FEDERAL AID PROJECT NO. F-064-1(2)

SCALE: AS NOTED DATE: JUN, 1986