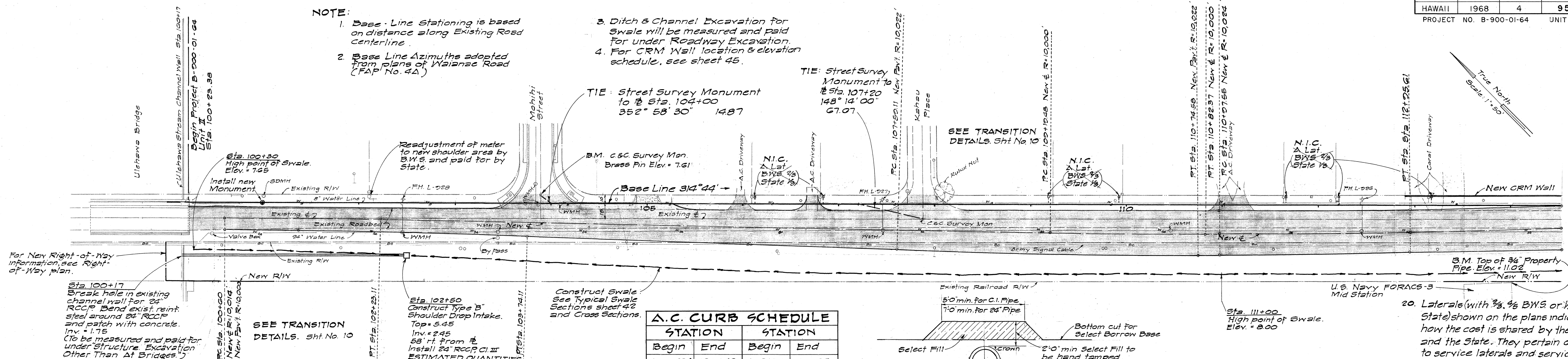


NOTE:

1. Base Line Stationing is based on distance along Existing Road Centerline.
2. Base Line Azimuths adopted from plans of Waiānae Road (FAP No. 4A)
3. Ditch & Channel Excavation for Swale will be measured and paid for under Roadway Excavation.
4. For CRM Wall location & elevation schedule, see sheet 45.



WATER NOTES

1. Materials and construction of water mains and appurtenances shall be in accordance with the Standard Specifications and the Special Provision.
2. The locations of existing water mains and appurtenances shown on the plans are approximate only and the Contractor shall verify the exact locations.
3. Wherever existing water mains are to be in the new pavement areas, or under the proposed shoulder areas and the Cross Sections show the existing ground over the water mains are to be excavated for the sub-base, or where the cover over existing 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. See Detail this drawing. Any damage to the existing water mains shall be the responsibility of the Contractor.
4. Existing 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 existing water mains.
5. Any excavation work around existing water mains and appurtenances shall be by hand only.
6. The Contractor shall notify The Board of Water Supply in writing one week prior to commencing work on the water system.
7. All existing non-standard non-salvage valve box frames and covers shall be removed and

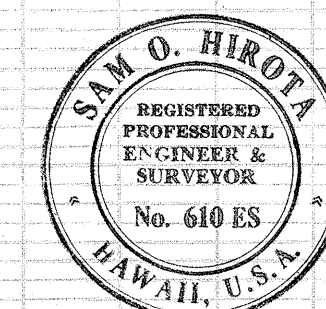
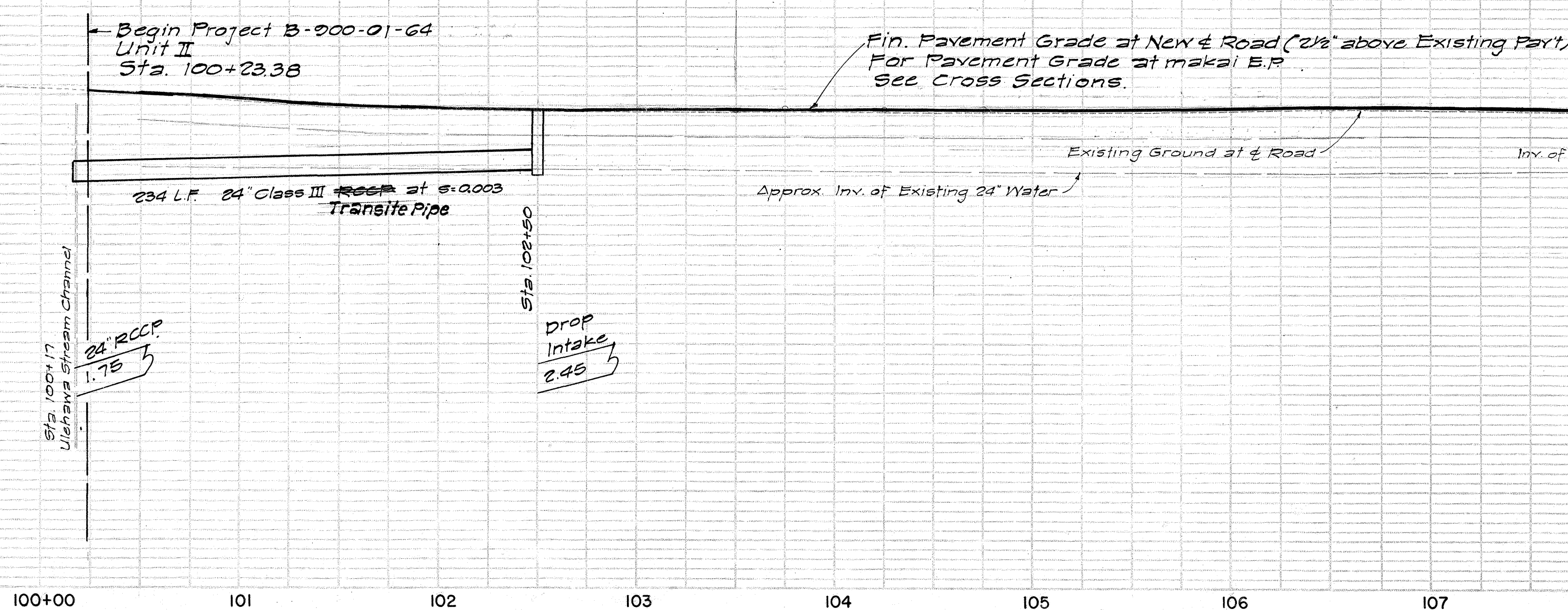
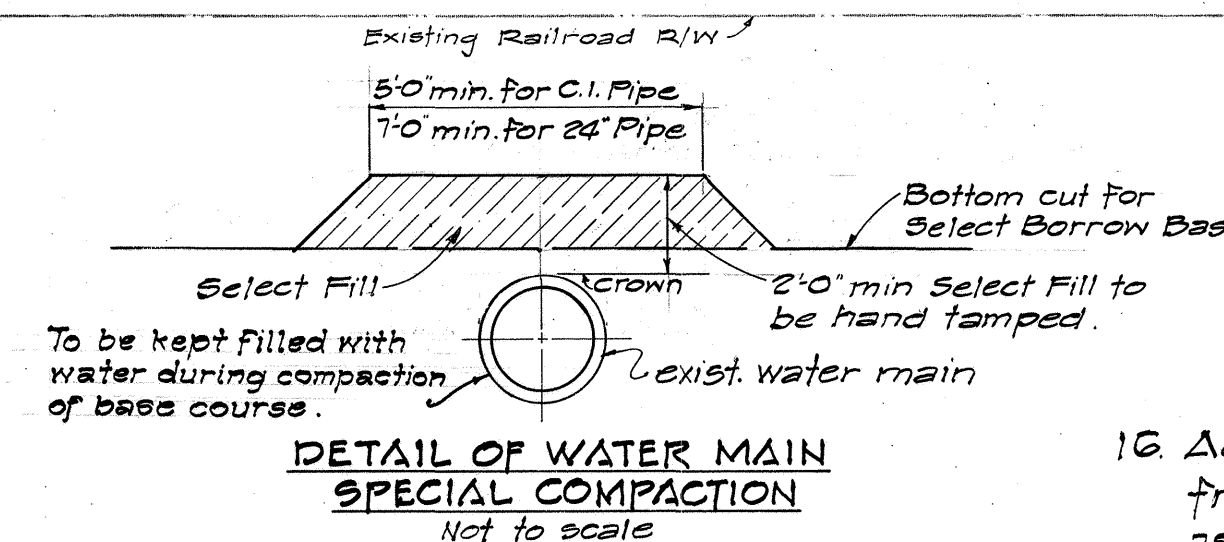
- disposed of by the Contractor at his own expense.
8. The Contractor shall relocate existing water valve markers as directed by the Engineer at his own expense.
9. (*) Asterisk denotes work to be done by The Board of Water Supply and unless otherwise noted, materials to be furnished by the Contractor. Contractor to excavate and backfill.
10. Unless otherwise indicated on the drawings, the Contractor shall furnish and install all copper service laterals and appurtenances
11. The existing water mains shall be kept filled with water during the compaction on the base course.

12. Items indicated as "relocate" on plans shall be removed, cleaned, painted and reinstalled at the new location by the Contractor unless otherwise specified.
13. All 24" Concrete Cylinder Pipes shall be Class 150 and manufactured in accordance with the requirement of the Special Provisions and the Manufacturer's Detail Drawings, all to be approved by The Board of Water Supply.
14. The Contractor shall submit to B.W.S. the Manufacturer's Layout Schedule for the installation of the 24" Concrete Cylinder pipes and appurtenances with reference to the stationing and grade line as shown on the plans.
15. Class C-1 concrete for plugging open ends of abandoned pipes shall be incidental to pipeline work.

16. Adjust existing valve box and Manhole frame and cover to new road grade, as ordered by the Engineer.
17. The Board of Water Supply will tap existing mains for service laterals. The Contractor shall perform all necessary excavation and furnish appropriate size corporation stops.
18. Existing 24" main is of Southern Pipe Co. (formerly) manufacture. The Contractor shall be held responsible to furnish all necessary materials, including adaptors if required to facilitate connections into existing mains. Cost of adaptors shall be incidental to pipeline work.
19. Degree of conc. cylinder bends, or lengths of adjacent pipes required at point of connections to existing mains shall be verified after exposure of existing mains prior to start of construction work. Any resulting revisions required shall be done by the Contractor at his own cost. Degree of conc. cylinder bends specified on the plan at connection points are for bidding purpose only.

20. Laterals (with 3/8", 1/2" BWS or 1/2", 1/2" State) shown on the plans indicate how the cost is shared by the BWS and the State. They pertain only to service laterals and service connections and do not include re-location of meters, meter boxes, and connection to consumers service pipe, which cost shall be borne entirely by the State.
21. The Contractor shall make all connections from new or relocated meter to consumer's service pipe including excavation, backfill and furnishing of all materials. Payment for meter to consumer's service pipe connection will be made at the unit price bid in the Proposal and shall be full compensation for all labor, tools, materials and equipment including excavation & backfill.
22. Extension of service laterals adjustment of meters and meter boxes, relocation of meters and cutting and plugging of service laterals shall be done by B.W.S. The Contractor shall perform all necessary excavation and backfill.
23. The Contractor shall expose the existing mains by hand excavation to verify the grade where the cover shows a minimum of 2 feet or less on the cross section plans or whenever directed by the Engineer.

A.C. CURB SCHEDULE			
STATION	STATION	STATION	STATION
Begin	End	Begin	End
100+234	103+46	108+35	110+85
105+25	105+84	111+38	112+23
106+12	106+64	113+16	113+28
106+00	107+48		



APPROVED BY:

S. Kawakami 10/3/67
CHIEF, ENGINEERING DIV. B.W.S. DATE

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION,
Sam O. Hirota, P.E.

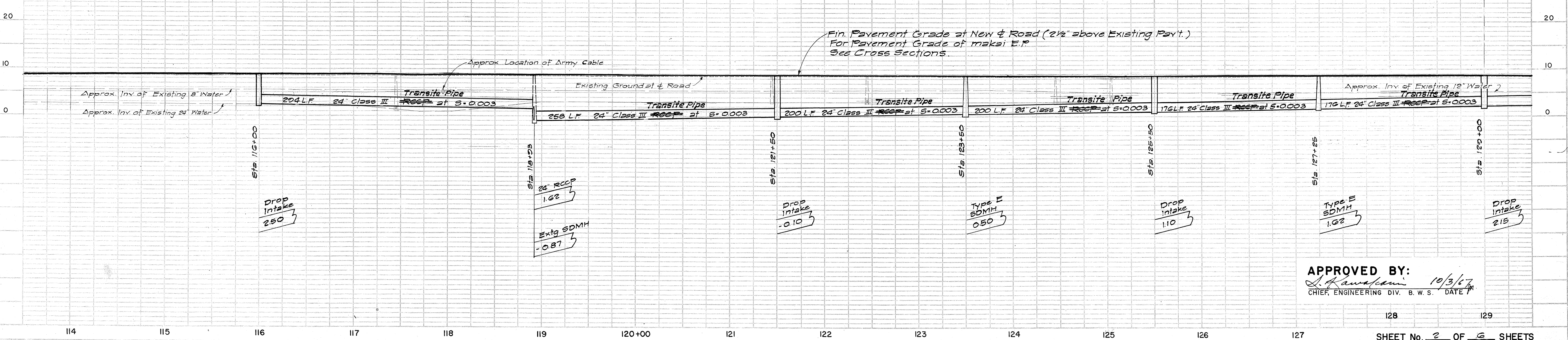
SAM O. HIROTA, P. E. - CIVIL ENGINEERS & SURVEYORS
547 HALEKAUWILA ST. • ROOM 204 • HONOLULU, HAWAII 96813

PLAN	SUBMITTED	BY	DATE
NOTE 30% NO.	PLOTTED		
	ALIGNMENT CHECKED		
	ST. OF WAY CHECKED		

PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	CARD INDEXED		
	9-23-60 NOTED		
	STRUCTURE NOTATIONS CHK'D.		

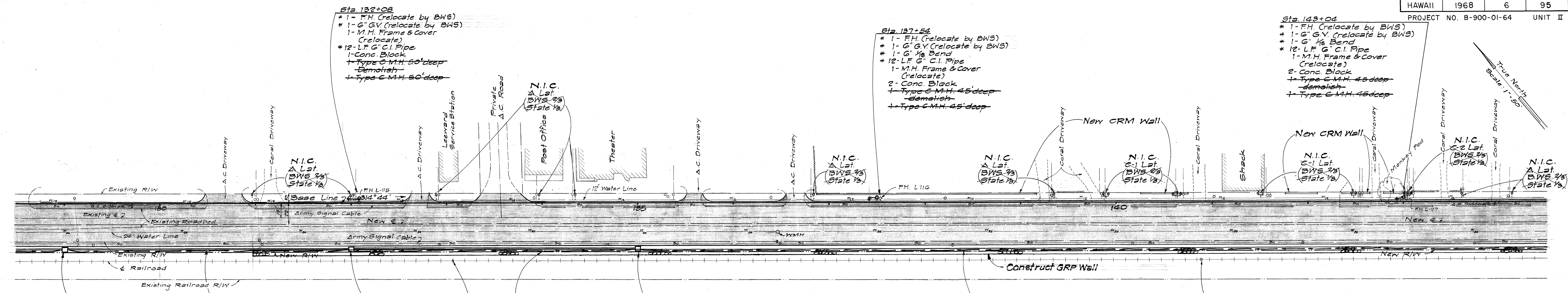
[illegible]

1. 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. 2. All existing Utilities, whether or not shown on the plans shall be protected at all times by the Contractor during construction and any damage to existing Utilities shall be repaired and paid for by the Contractor unless specified on the plans to be abandoned. 3. Where connections are made to existing 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 existing facilities that are damaged by the Contractor shall be repaired at his expense.	4. Existing Monument Castings and M.H. Frames and Covers to be adjusted to new rd. grade. 5. Utility Poles on makai side shall be relocated as shown on the Utilities plans. 6. Locations of monuments shown are approximate. Exact locations to be staked out by the State's Cadastral Engineer. 7. Provide smooth riding connections to existing pavement at all driveways and streets. 8. Demolishing of existing facilities shall not be paid for separately but shall be considered incidental to Structure Excavation, except the Pedestrian Overcrossing at Sta 147+03, Culvert at Sta 155+54, Nanakuli Stream Bridge	manholes. 9. 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. 10. Ditch and Channel Excavation for Swale will be measured and paid for under Roadway Excavation. 11. For location of Base line points, the Contractor shall contact Sam O. Hirota - Civil Engineers & Surveyors. 12. Install A.C. Curb at left edge of Roadway as shown on Typical Road Sections. See Schedule on drawings for location.	Reinf. Steel = 428 LB Type "A-2" Steel Frame = 1 Ea and Grates 24" Pipe Culvert = 258 LF Wire Mesh = 15 LB ESTIMATED QUANTITIES Str. Exc. = 244 CY Cl. "B-1" Conc. = 3 CY Reinf. Steel = 100 LB Brickwall for SDMH = 4 LF Type "A" Cl. Frame and Cover = 1 Ea 24" Pipe Culvert = 200 LF	Str. Exc. = 223 CY Cl. "A-1" Conc. = 6 CY Reinf. Steel = 426 LB Type "A-2" Steel Frame = 1 Ea and Cover 24" Pipe Culvert = 200 LF Wire Mesh = 15 LB	Str. Exc. = 170 CY Cl. "B-1" Conc. = 2 CY Reinf. Steel = 80 LB Brickwall for SDMH = 4 LF Type "A" Cl. Frame and Cover = 1 Ea 24" Pipe Culvert = 176 LF	Str. Exc. = 157 CY Cl. "A-1" Conc. = 6 CY Reinf. Steel = 384 LB Type "A-2" Steel Frame = 1 Ea and Grates 24" Pipe Culvert = 176 LF Wire Mesh = 15 LB
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APPROVED BY:
S. Kawascanin 10/3/67
CHIEF, ENGINEERING DIV. B. W. S. DATE

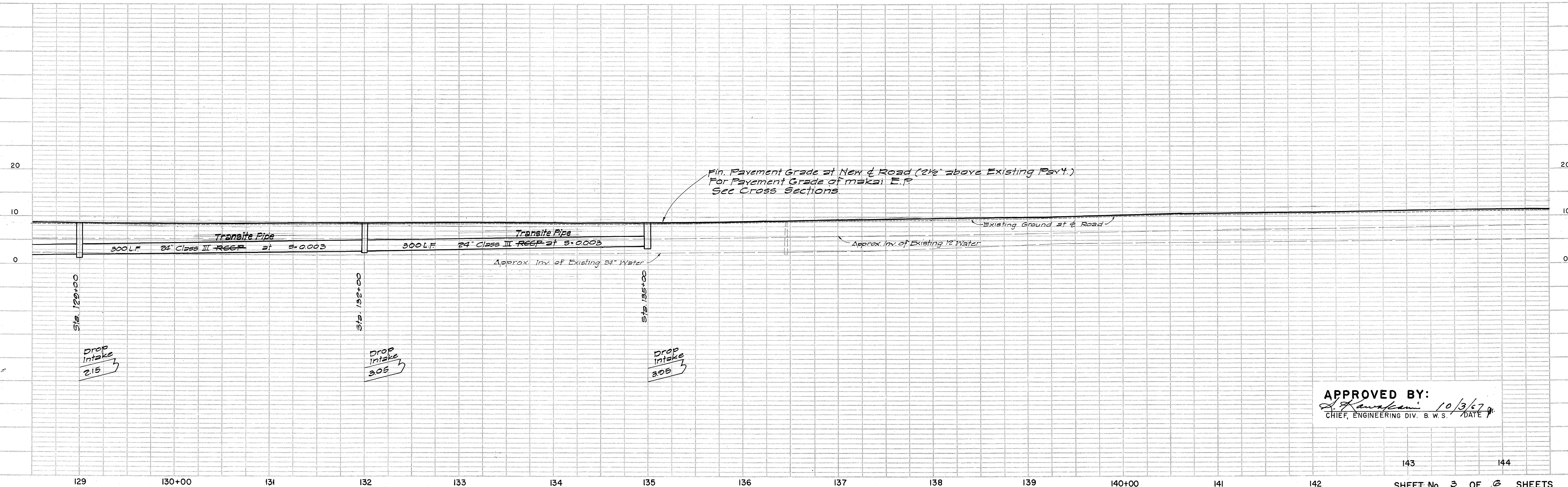
DATE
BY
SURVEYED
ALIGNED CHECKED
NOTE BOOK
RT. OF WAY CHECKED
NO.



NOTE:
1. Ditch and Channel Excavation for Swale will be measured and paid for under Roadway Exc.
2. For CRM Wall location & elevation schedule, see sheet 4E.

		A. C.			CURB			SCHEDULE						
STATION	Begin	128+75	130+08	131+31	132+00	133+80	135+76	136+85	137+32	137+80	140+05	142+34	142+80	143+51
	End	130+40	131+04	132+55	133+20	135+42	136+47	137+18	137+74	140+80	142+10	142+65	143+38	143+02

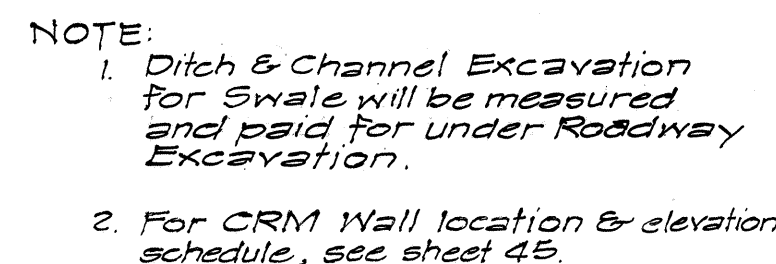
DATE
BY
SURVEYED
GRADE CHECKED
NOTE BOOK
E. & S. NOTED
STRUCTURE NOTATION OK'D.



APPROVED BY:
S. Kawakami 10/3/67
CHIEF, ENGINEERING DIV. B. W. S. DATE

STATE	FISCAL YEAR	SHEET NO.	TOTAL SHTS.
HAWAII	1968	7	95

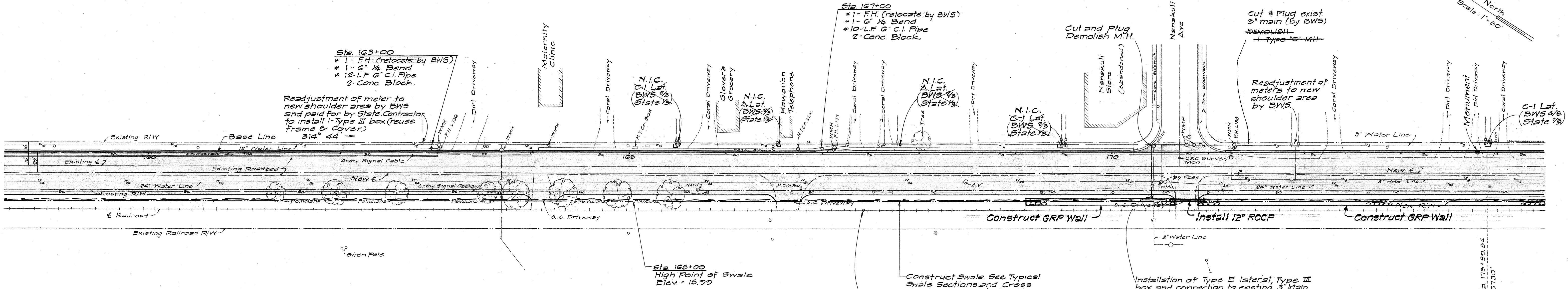
PROJECT NO. B-900-01-64 UNIT II.



A. C. CURB SCHEDULE										
STATION	Begin	163+40	164+00	165+05	167+77	168+64	171+18	172+42	173+52	173+84
	End	164+60	165+57	167+21	168+50	170+23	172+18	173+38	173+67	173+06

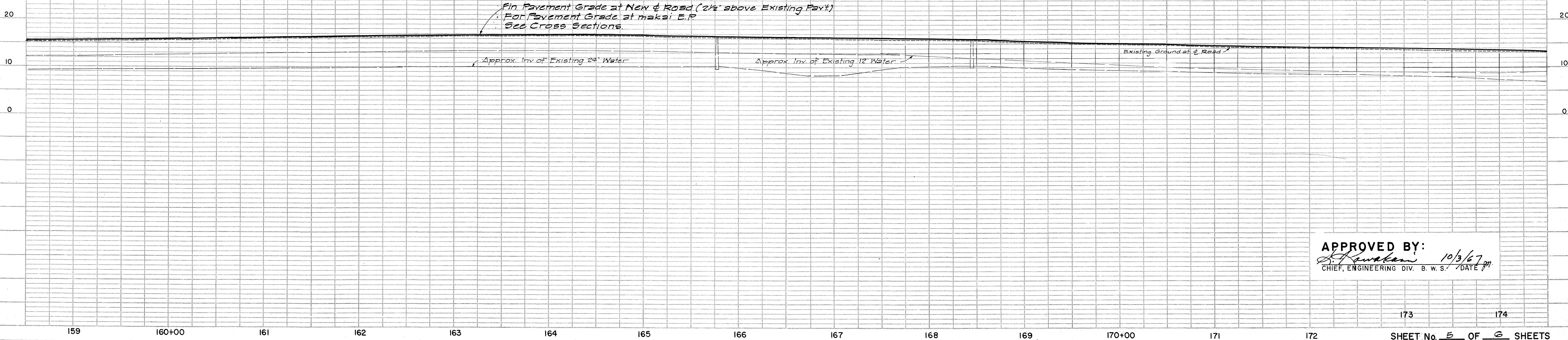
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHTS.
HAWAII	1968	8	95
PROJECT NO. B-900-01-64			UNIT II

PLAN	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	ALIGNMENT CHECKED		
	RT. OF WAY CHECKED		



- NOTE:
- Ditch and Channel Excavation for Swale will be measured and paid under Roadway Excavation.
 - Remove Existing Poinciana trees from Sta 161+00 to Sta 166+00 right.

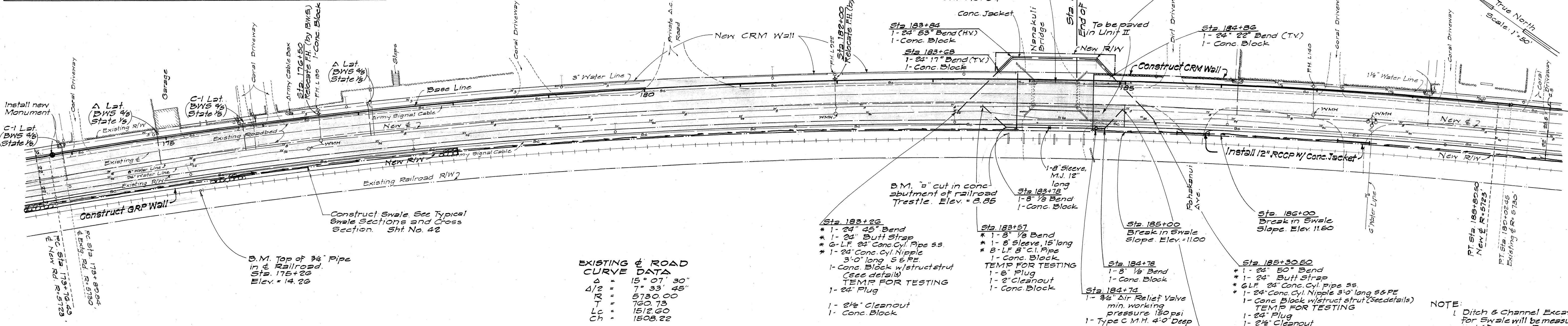
PROFILE	SURVEYED	BY	DATE
NOTE BOOK	PLOTTED		
NO.	GRADES CHECKED		
	B. M.'S NOTED		
	STRUCTURE NOTATIONS CHECK'D.		



APPROVED BY: *[Signature]* 10/3/67 gm
CHIEF, ENGINEERING DIV. B. W. S. / DATE

A. C. CURB SCHEDULE							
STATION	Begin	174+18	175+18	175+01	176+21	179+06	180+83
End	174+00	175+76	176+02	178+64	180+00	183+85	

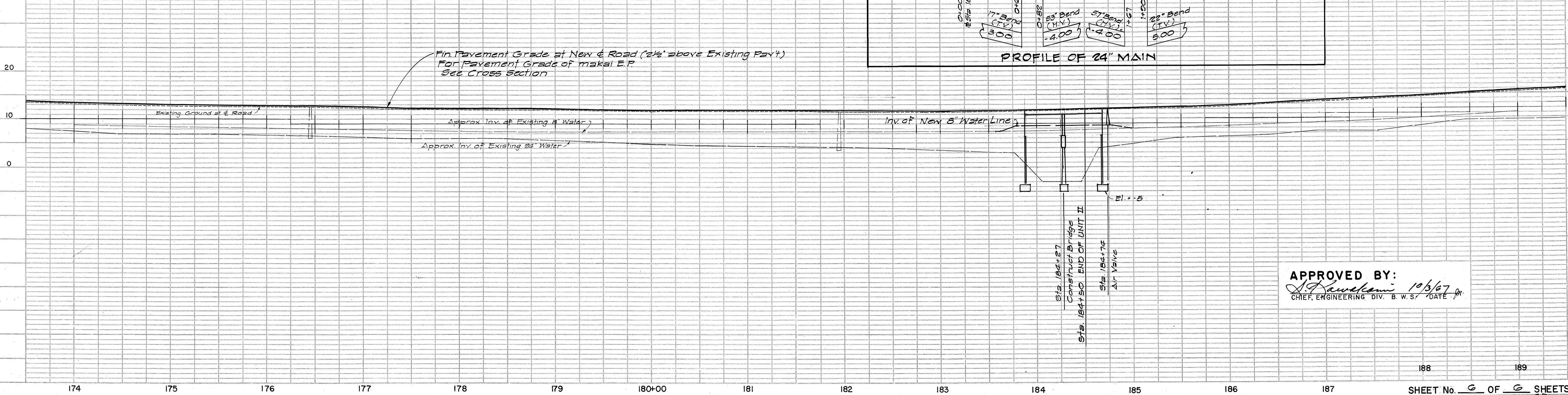
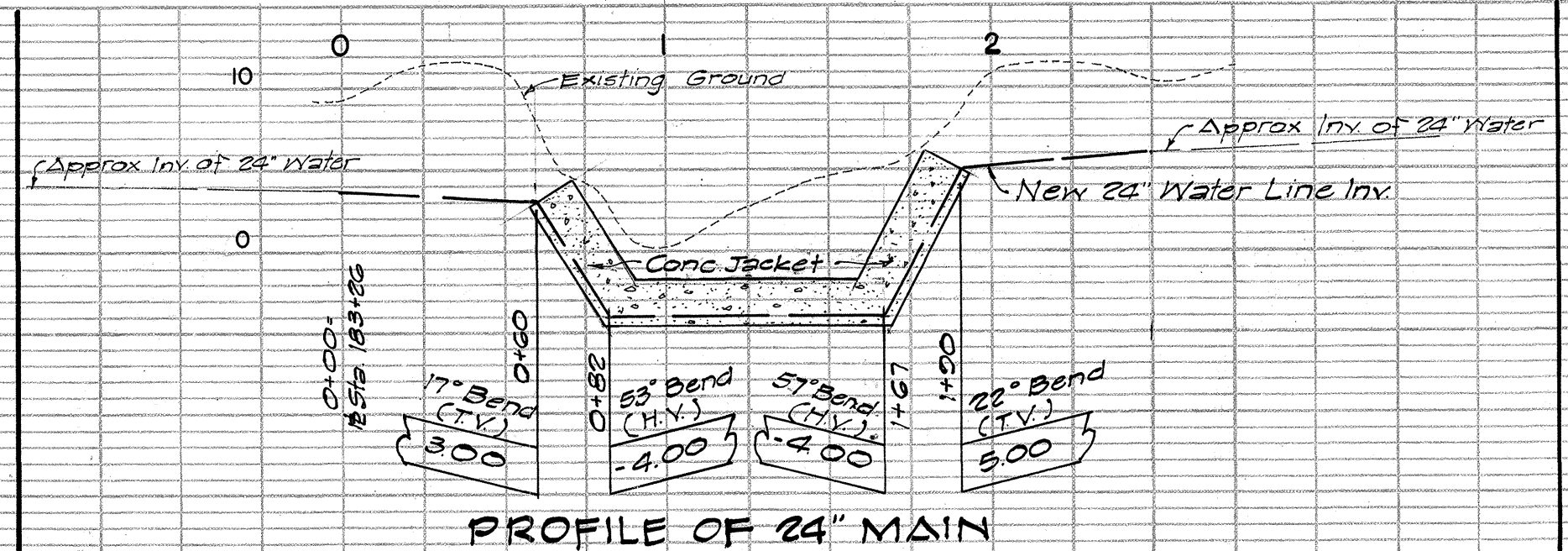
STATE	FISCAL YEAR	SHEET NO.	TOTAL SHTS.
HAWAII	1968	9	95
PROJECT NO. B-900-01-64			UNIT II



EXISTING & ROAD CURVE DATA	
Δ	15° 07' 30"
Δ/2	7° 33' 45"
R	5730.00
T	160.13
LC	1512.60
Ch	1508.22

NOTE: Installation of New 24" Water Main shown above along with all appurtenances shall be included in Unit I.

- NOTE:
- Ditch & Channel Excavation for Swale will be measured and paid for under Roadway Exc.
 - Base Line Stationing is based on distance along Existing Road Centerline.
 - Base Line Azimuths adopted from plans of Waianae Road (F&P No. 4A).
 - For CRM Wall location & elevation schedule, see sheet 45.



APPROVED BY:
J. P. Rawls 10/6/67
 CHIEF, ENGINEERING DIV. B. W. S. DATE