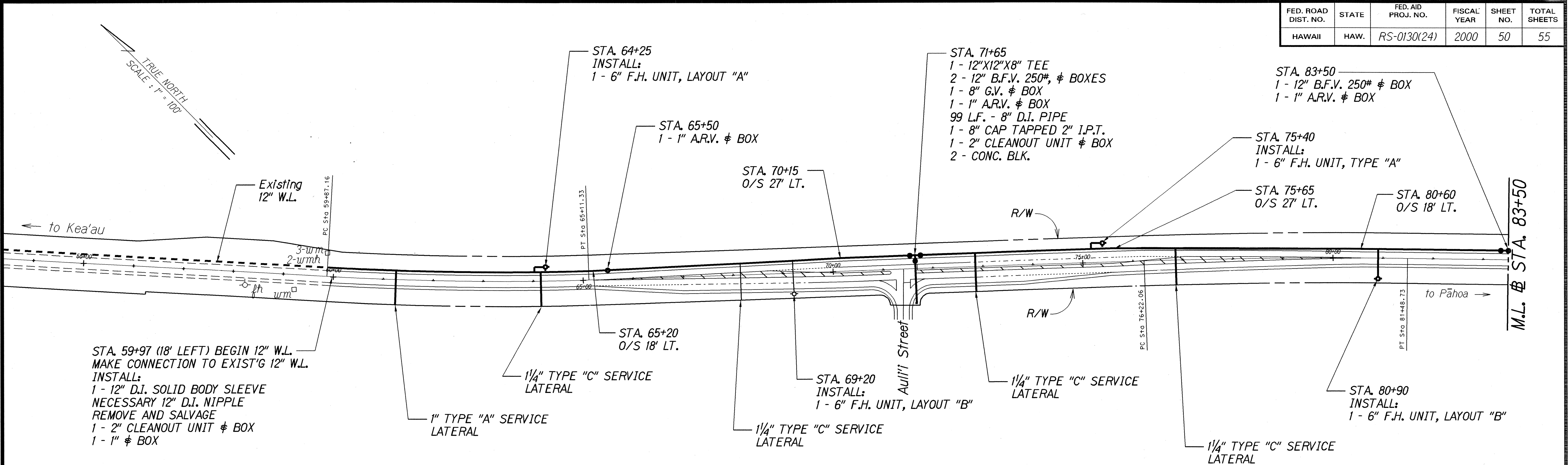
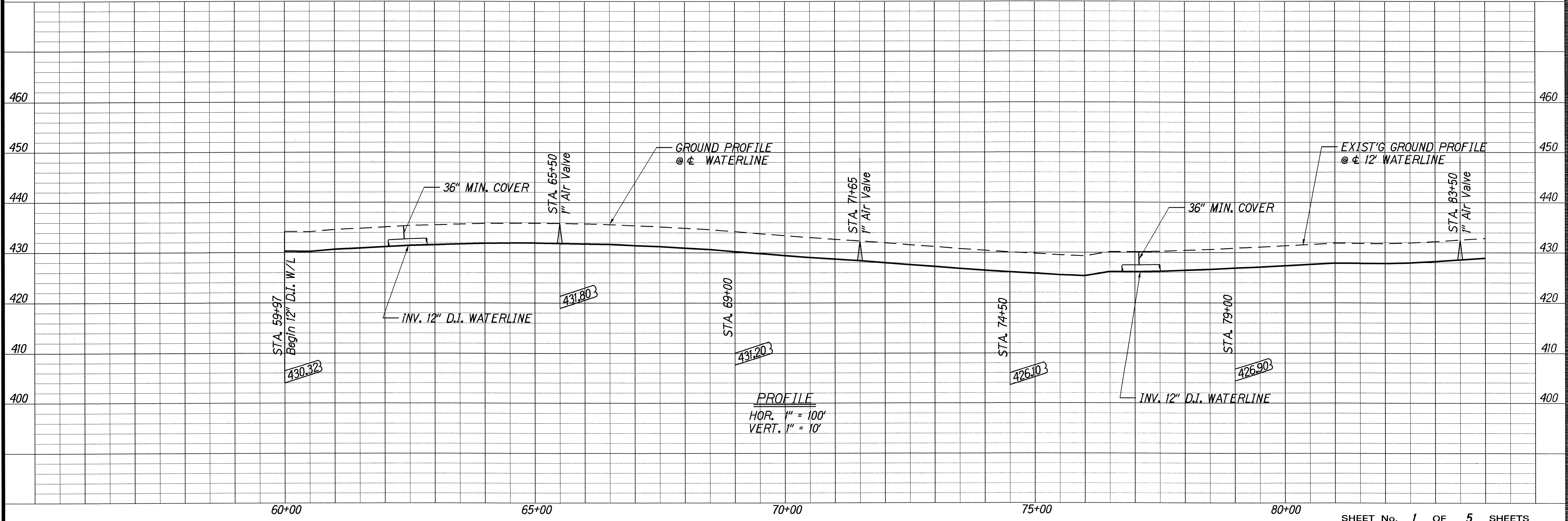


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0130(24)	2000	50	55



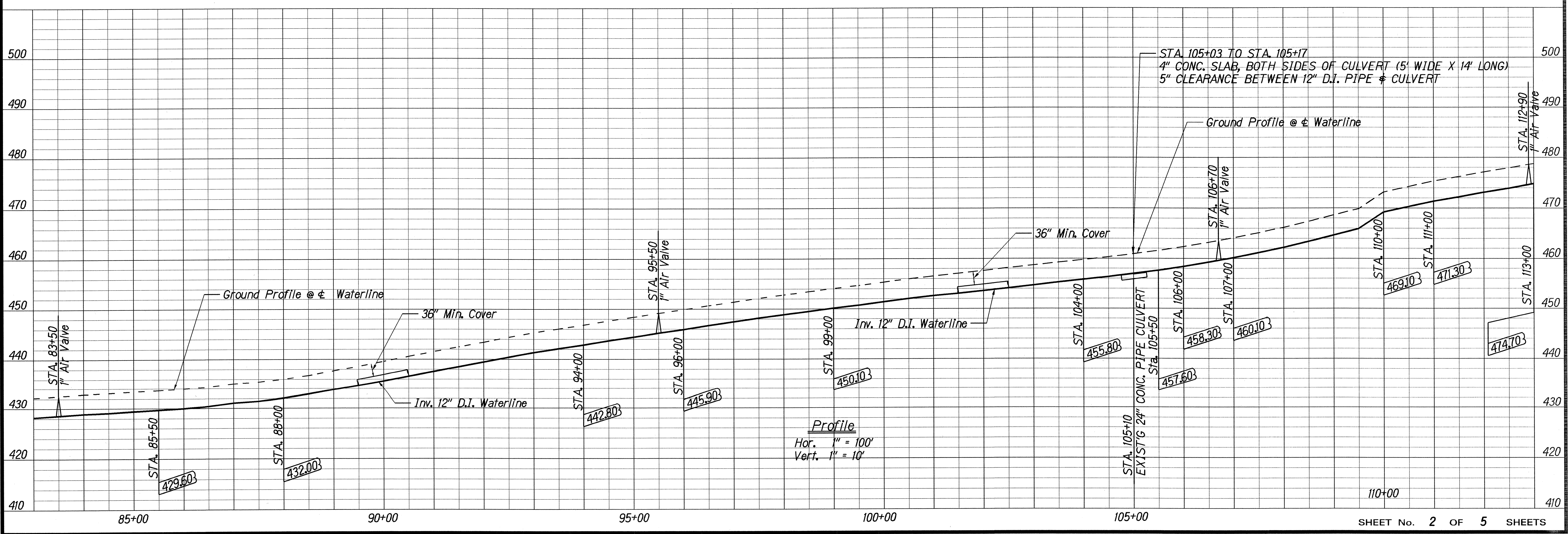
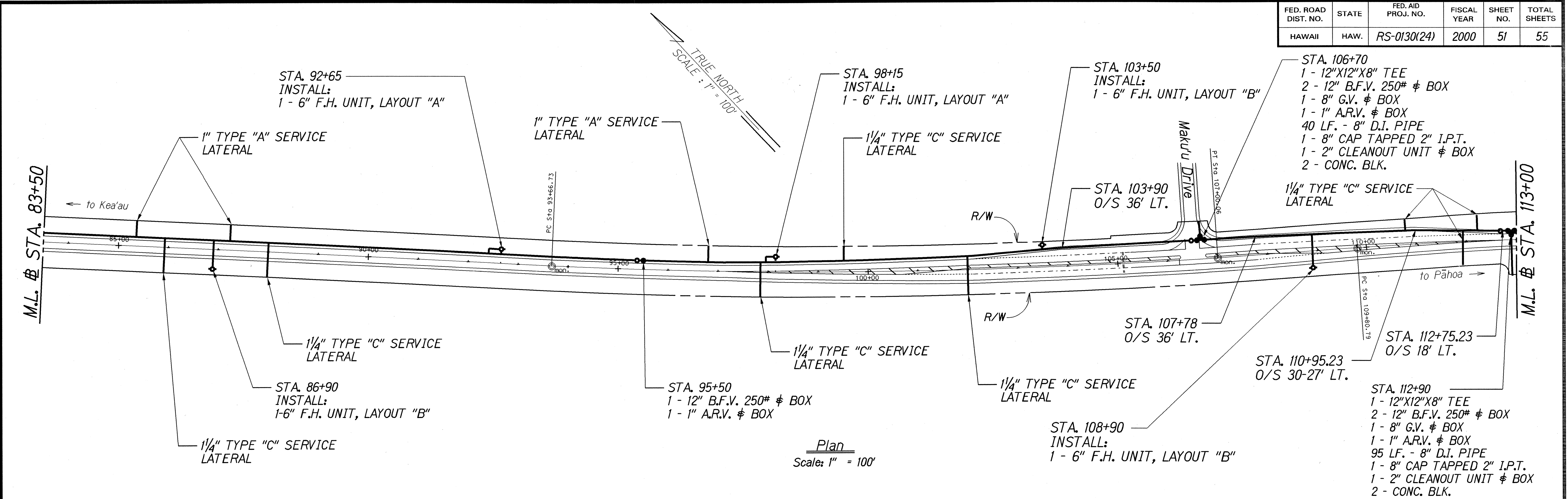
PLAN
SCALE: 1" = 100'



PROFILE
HOR. 1" = 100'
VERT. 1" = 10'

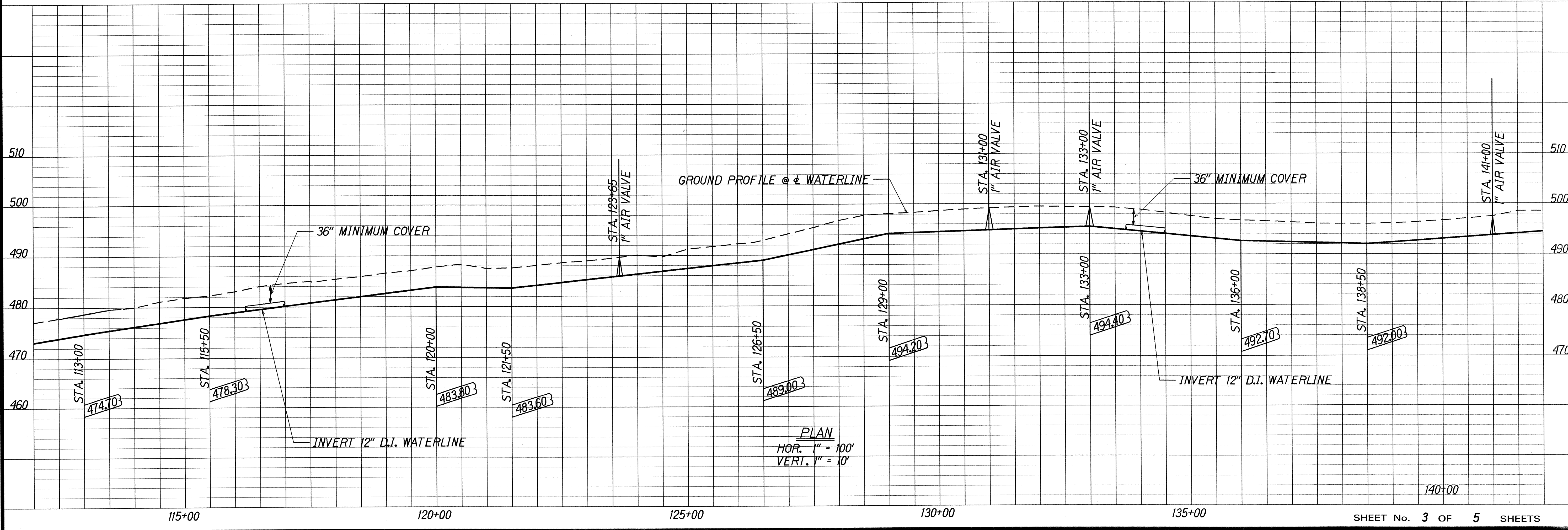
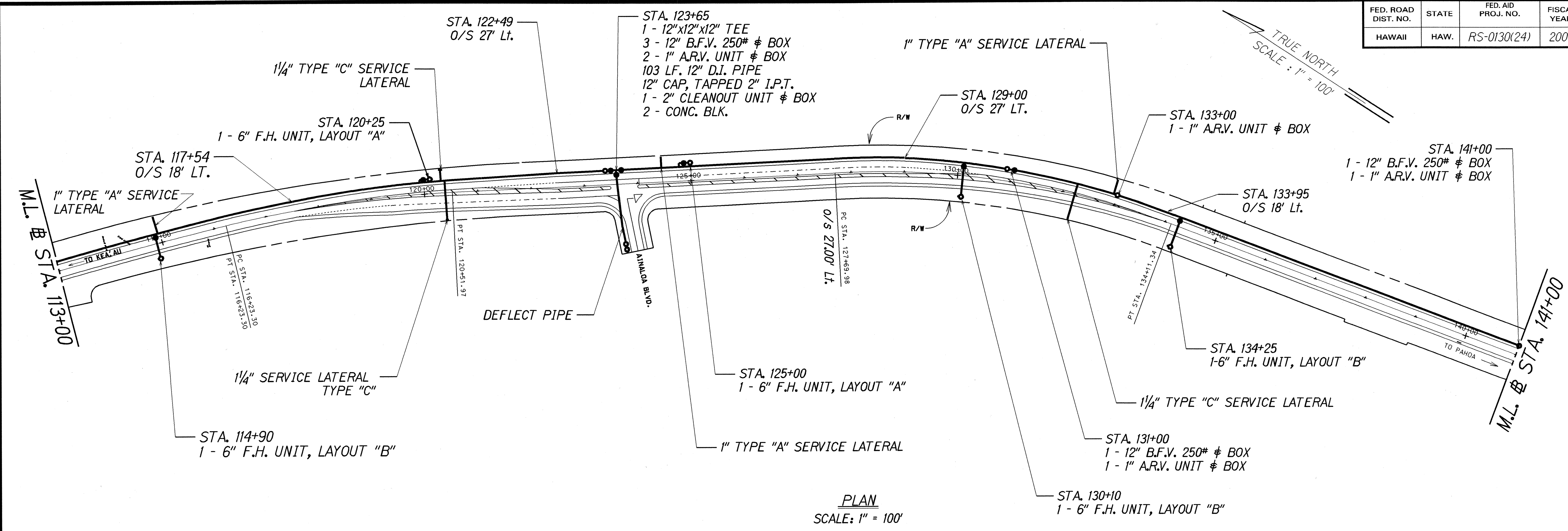
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
QUANTITIES BY	CHECKED BY	
BY		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0130(24)	2000	51	55



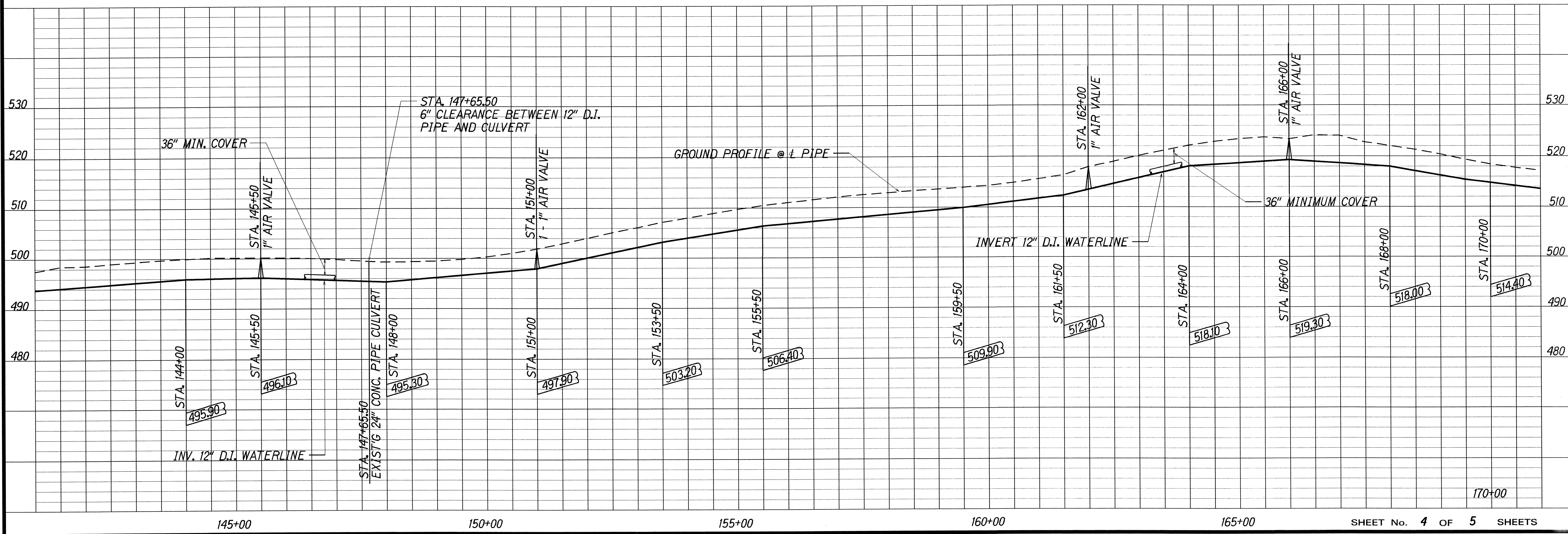
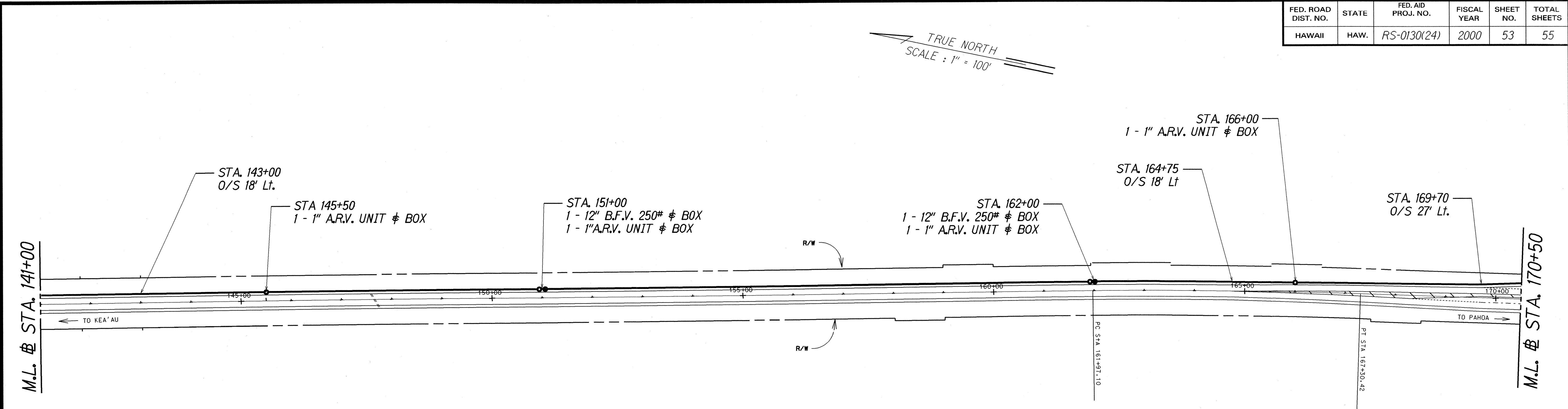
DESIGNED BY	DATE
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0130(24)	2000	52	55



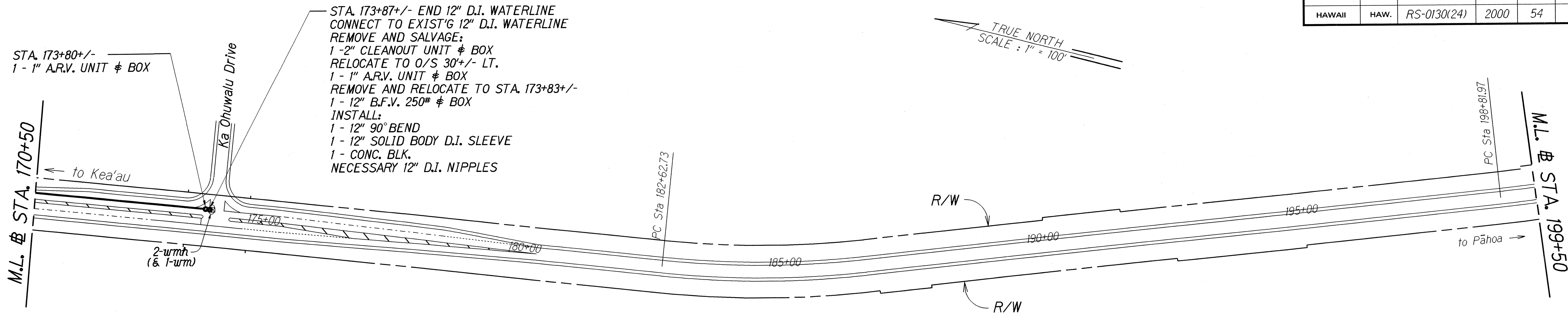
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NOTE BOOK	
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FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0130(24)	2000	53	55



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
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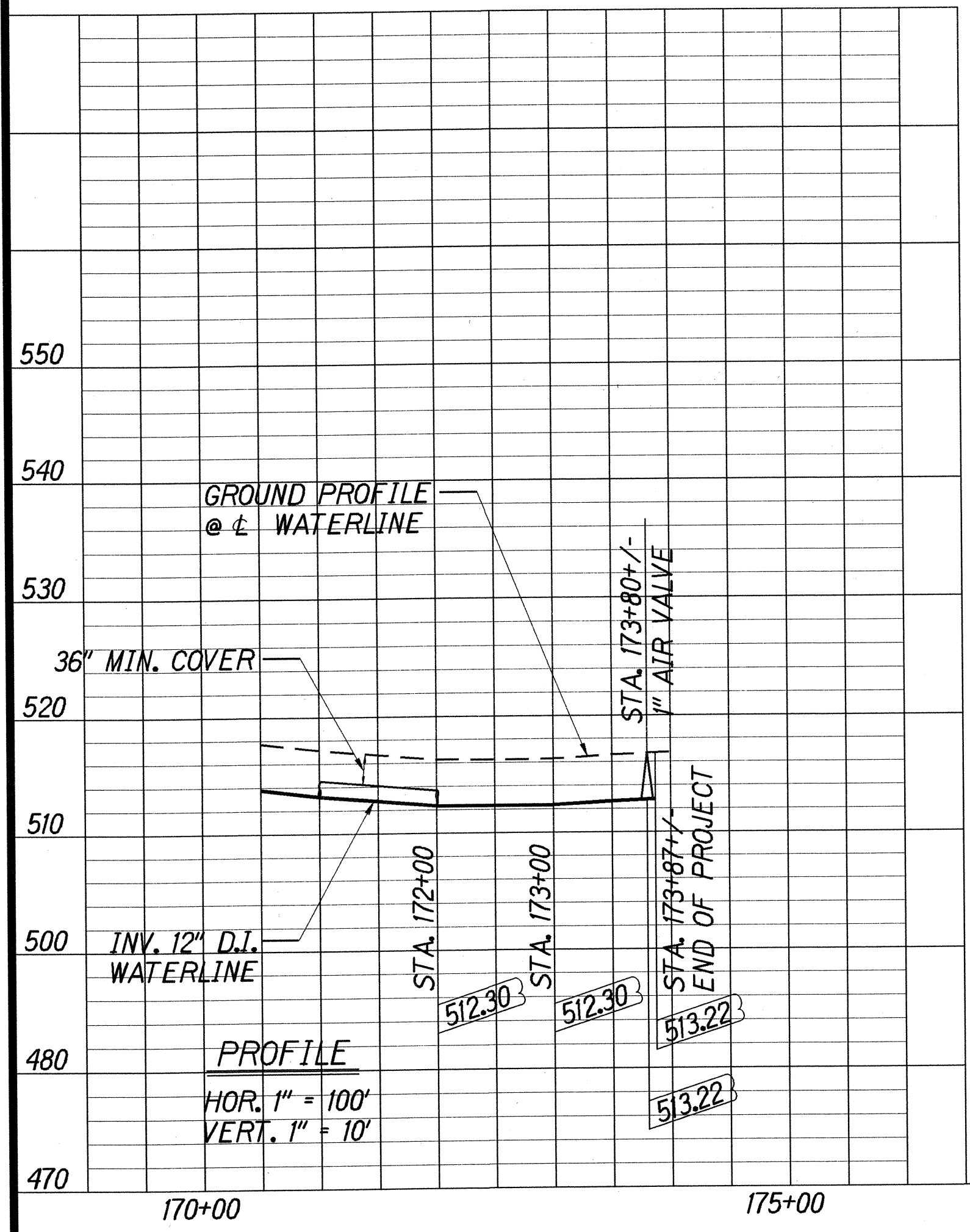
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	RS-0130(24)	2000	54	55



PLAN
SCALE: 1" = 100'

WATERLINE NOTES:

- All work shall conform to the Department of Water Supply, "Water System Standards," Volumes 1 and 2, dated 1985, as amended.
- The Contractor shall inform the D.W.S. Engineer 72 hours prior to the beginning of any waterline work and one week prior to any connection, chlorination, shut-off or relocation work.
- All work, equipment, and materials furnished by the D.W.S. shall be paid for by the Contractor.
- All existing waterlines, waterline appurtenances and other utility locations shown on the plans are obtained from the latest reliable sources. The Contractor shall be responsible to verify the exact location of all utilities in the field and shall bear all cost for damages done during the contract period.
- All connections to existing waterlines shall be done by the D.W.S. Contractor shall perform all excavation, backfill, road repair, traffic control, and provide equipment necessary to complete the connection.
- Where water shut off of more than 3 hours becomes necessary, the Contractor, at his own cost, shall provide a temporary by-pass line. The by-pass size shall be determined by the D.W.S. Engineer. If necessary, the D.W.S. Engineer may require a by-pass line, regardless of the expected water shut off period.
- Minimum horizontal clearance between waterline and other utilities shall be 8 feet unless otherwise specified. Minimum vertical clearance between waterlines and other utilities shall be 12" provided concrete jackets are used, and 18" if no concrete jackets are used. In all instances, the waterline shall be at a grade higher than other utilities.
- All fittings (Class 250) and all gate valves (Class 200) shall be Cast Iron, with mechanical joints unless specified otherwise.
- All pipelines, 4" and larger in diameter, shall be Ductile Iron, Push On Joints Class 52, and all pipelines smaller than 4" in diameter shall be soft copper, Type K; unless otherwise specified.
- Relocation of existing meters shall be done under D.W.S. supervision. Relocation of customer service lines to relocated meters shall be done by the Contractor. Materials used to connect customer lines to relocated meters shall be new 3/4" copper Type K. All work and materials required shall be provided by the Contractor and considered incidental to the various bid items. Existing meter boxes damaged by the Contractor shall be replaced at the Contractors cost. A dielectric union shall be used to connect the copper pipe to the customer's G.I. pipe.
- The waterline shall be tested at a minimum of 225 psi, at the low point under D.W.S. supervision.
- The Contractor shall be responsible for the chlorination of the water system and shall bear all cost. The person engaged to do the chlorination work must be licensed by the State of Hawaii and approved by the Department of Health.
- Existing valves, F.H. units, valve boxes, frames and covers designated "Remove and Salvage" shall be cleaned of all dirt, scabs, and concrete and delivered to the respective D.W.S. baseyard. This work shall be considered incidental to the various bid item, unless specified otherwise.
- Existing waterlines, valves, fittings and appurtenances not designated "Remove and Salvage" shall be abandoned in place. All exposed valves boxes, valves, pipes and appurtenances shall be removed and disposed of properly at no cost to the D.W.S.
- When compaction test(s) are required for the project, the Contractor shall be responsible to provide the D.W.S. with proctor results of materials to be used for that portion of work requiring compaction. These results shall be certified, and shall be furnished to D.W.S. one week prior to commencement of work. Cost for compaction test shall be incidental to pipeline installation.
- It is the intent of the D.W.S. to utilize the existing meter boxes. The Contractor shall furnish only those meter boxes identified on the plans and boxes damaged during construction. Service connection indicates that meter box is required.
- It is the intent of the D.W.S. to utilize the existing corporation stop in locations where only the service laterals will be replaced. The Contractor shall perform all necessary work required to cut off existing and connecting new pipe to the existing corporation stop. In locations where new taps are required, the Contractor will make arrangements with D.W.S. 24 hours in advance for a new tap. On new pipeline, the Contractor will make their own taps.
- All existing meters shall be replaced with new meters by the Contractor. The Contractor shall pick up the new meters that are available at Hilo Baseyard (889 Leilani Street). Meter pickup shall be coordinated with the D.W.S. inspector.
- Contractor shall inform the customers 24 hours in advance of water shut-off to complete new service connection to customer's line.
- Solder and flux used shall contain no more than 0.2% lead.
- Concrete pad for fire hydrant shall be reinforced with 6X6 10/10 welded wire fabric.



PROFILE
HOR. 1" = 100'
VERT. 1" = 10'

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