

WATER NOTES:

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-STP-056-1(35)	2000	50	70

1. Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the "Water System Standards", Volume I and Volume II, 1985 as adopted by the Department of Water, County of Kauai; Board of Water Supply, City and County of Honolulu; Department of Water Supply, County of Maui; and Department of Water Supply, County of Hawaii, and all subsequent amendments and additions for use in the design and construction of Department's Water System Facilities.
2. The Contractor shall notify Department of Water, County of Kauai in writing one week prior to commencing work on the main.
3. Unless specified otherwise, connection to existing water main, cleaning, and chlorination of new main shall be done by the Contractor with the Department of Water Inspector coordinating the work. Disinfection of the water line shall be done in conformance with "Standard Specifications for Water Works Construction".
4. The Contractor shall verify in the field the location of the existing water mains and appurtenances. The Contractor shall expose the existing water mains prior to trenching. Excavation around existing water mains shall be done by hand.
5. The Contractor shall, whenever necessary, properly sheet and brace all excavations to render it secure and shall remove all such sheeting and bracing before completion of the backfill. For all water mains, the minimum cover requirement (from top of pipe to finish grade over pipe) is 3 feet.
6. Payment for cleaning all installed pipelines shall not be measured nor paid for directly but shall be considered incidental to the project.
7. Trench excavation, backfilling in lifts and repaving, shall conform to the "Standard Specifications for Public Works Construction", dated September 1986.
8. The Contractor shall submit the name of its authorized Superintendent on the job.
9. The Contractor shall arrange a pre-construction conference at least 10 days before construction and shall notify the Department at least 3 working days prior to start of construction.
10. The Contractor shall notify the Department of Water, County of Kauai, at least 24 hours prior to any pipe laying, backfilling, testing or chlorination to insure inspectional services will be available.
11. All nuts, bolts and washers for use with flanged joints shall be hot-dipped galvanized.
12. In order to prevent unapproved materials from being ordered, the Contractor is invited to submit his material list description to the Department of Water for crosscheck before ordering any material from the supplier.
13. Prior to the connection of any pipeline installed under this job to the existing main, the pipeline installed shall be thoroughly cleaned, flushed and chlorinated.
14. Cleaning shall be by use of "Pigs" introduced into the pipeline and run completely through. "Pigs" shall consist of a cylindrical piece of polyurethane foam with density range of 1.25 to 1.45 pounds per cubic foot with a diameter 2" larger than the pipe to be cleaned and 18" long.
15. The Contractor shall exercise extreme caution not to damage or break existing C.I. or A.C Pipe water mains when excavation is over existing water main. All damages shall be repaired and paid for by the Contractor.
16. The existing fire hydrant(s) called out on the plans to be relocated shall be removed, cleaned, painted and reinstalled.
17. The Contractor shall submit to the Department of Water an itemized bid tab for the water facilities at the pre-construction conference.
18. If any work within the project limits conflicts with the existing water facilities, the Contractor shall notify Engineer and verify with the Department of Water of any changes that are necessary.
19. The Contractor shall provide a temporary by-pass for the 6" ϕ 10" Water Lines prior, or during, the Phase I bridge construction; obtain prior approval and make all necessary arrangements with the Department of Water for such work ϕ inform the Engineer of the temporary bypass work. Temporary bypass work shall not be measured for payment separately but shall be considered incidental to Water Main Relocation.
20. The Contractor shall clean and return all valves, valve boxes, cover, etc., to the DOW baseyard in Lihue.
21. Metallized tape shall be blue and imprinted with the following "CAUTION WATER LINE BELOW". Tapes shall be two inches in width and shall be readily detectable with any standard pipe or cable locator.

All metallized tape shall be installed a maximum of 24 inches and a minimum of 12 inches below finished grade. In no instance will the tape be installed in the roadway structure including street borrow, base course or wearing surface. The tape shall be installed on top of a compacted layer of trench backfill prior to the installation of a succeeding layer of trench backfill material and placed as close as practical to a position directly above the installed pipeline.
22. Unless otherwise directed, microbiological samples shall be taken in all cases after all chlorine has been flushed out as evidenced by the othho-toldine test. Sampling shall be done by the contractor under the coordination of the Department of Water's inspector, with sampling bottles furnished by a certified laboratory. Under no circumstances shall sample bottles be rinsed out.
23. Certification shall be made by the approved laboratory certified by the State Health Department. New water facilities shall be certified after two (2) samples that are collected 24 hours apart in nonchlorinated areas, and one (1) sample that is collected in normally chlorinated areas show the absence of coliforms. Disinfection of water facilities shall be repeated until samples show absence of coliforms.

Special Notice to Developers:

Certification of Water Facilities (water service) shall not be approved (provided) until:

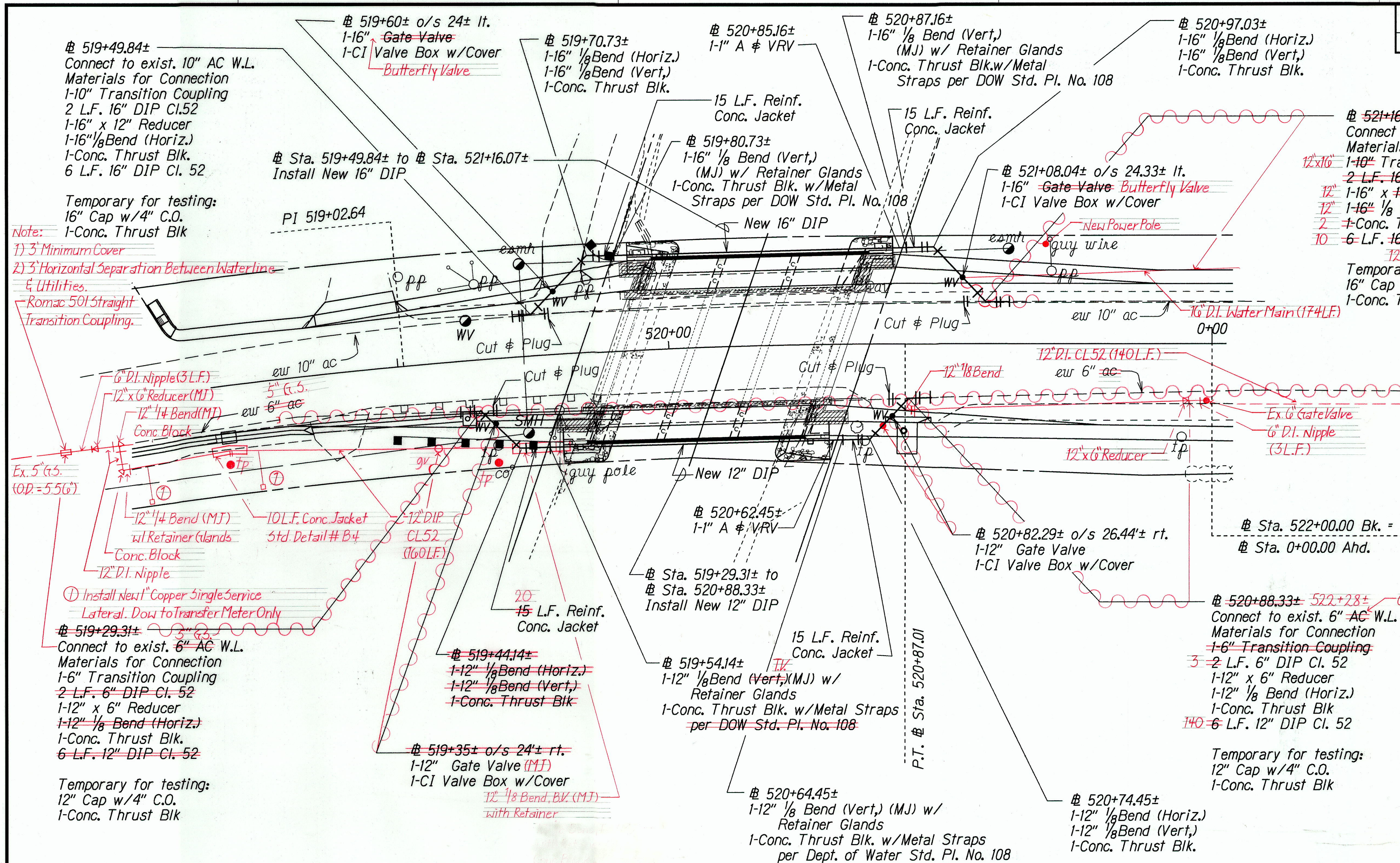
1. All water improvements are complete and dedicated to the Department of Water.
2. As-built tracings are submitted to the Department of Water.
3. Final cost breakdown for the water improvements are submitted and approved by the Department of Water.
4. Roadway and pipeline easements are conveyed to the Department of Water (if applicable).

Approved:

Edmund F. ... 8/10/99
Manager-Chief Engineer Date
Department of Water

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
WATER GENERAL NOTES
KUHIO HIGHWAY
Waikaea Bridge Widening
Fed. Aid Project No. BR-STP-056-1(35)
Date: June, 1999
SHEET No. UI OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-STP-056-1(35)	2000	52	70



- Note:
- For new waterline profiles, see Plan Sht. No. 49.
 - Upon completion of the waterline relocations, the Contractor shall remove the portions of the existing 6" & 10" waterlines and hanger brackets under the bridge, between the north and south abutments. Remaining stub at both ends shall be plugged with brick & mortar. Existing air relief valves and boxes that are located within the waterline relocation limits shall be removed. Removal work shall not be paid for separately, but shall be considered incidental to the various contract items for waterline relocation work.

WATERLINE RELOCATION PLAN AT WAIKAEA BRIDGE Scale: 1" = 20'

Approved:

Edward Tschopp 8/10/99
Manager-Chief Engineer Date
Department of Water

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATERLINE RELOCATION PLAN

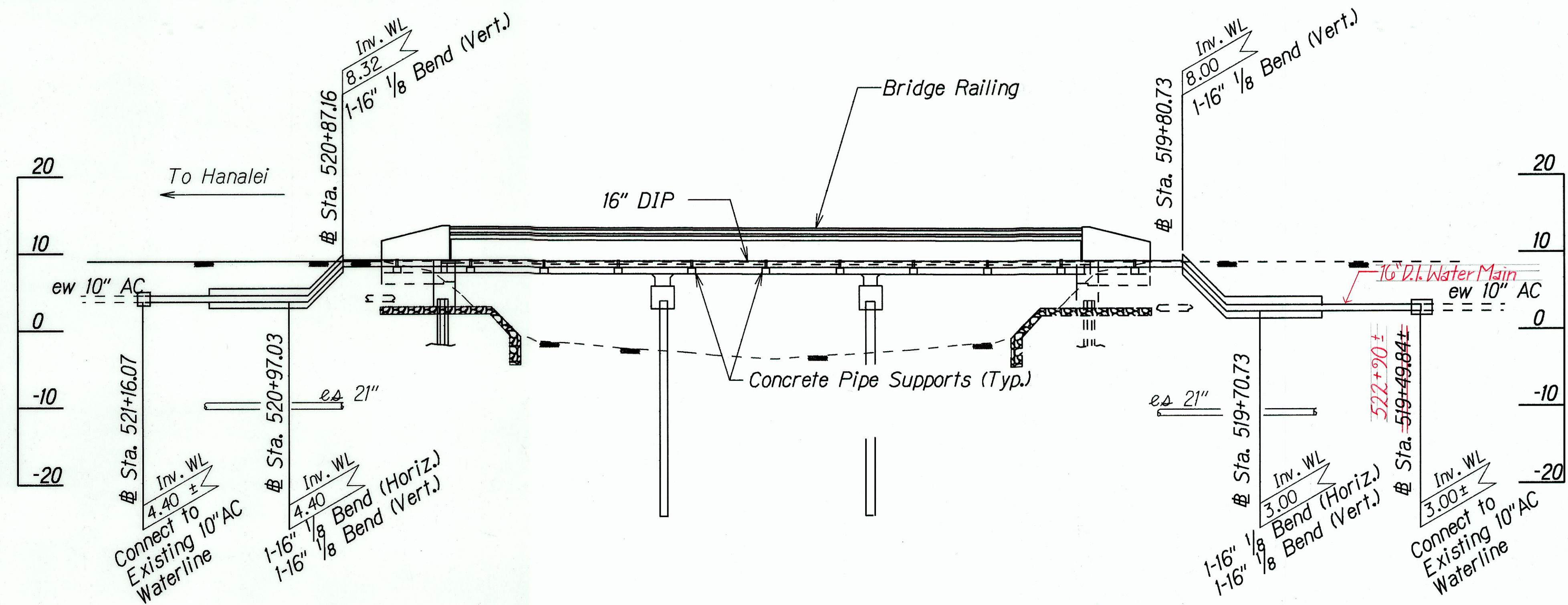
KUHIO HIGHWAY
Waikaea Bridge Widening
Fed. Aid Project No. BR-STP-056-1(35)

Scale: As Shown Date: June, 1999

SHEET No. U3 OF 6 SHEETS

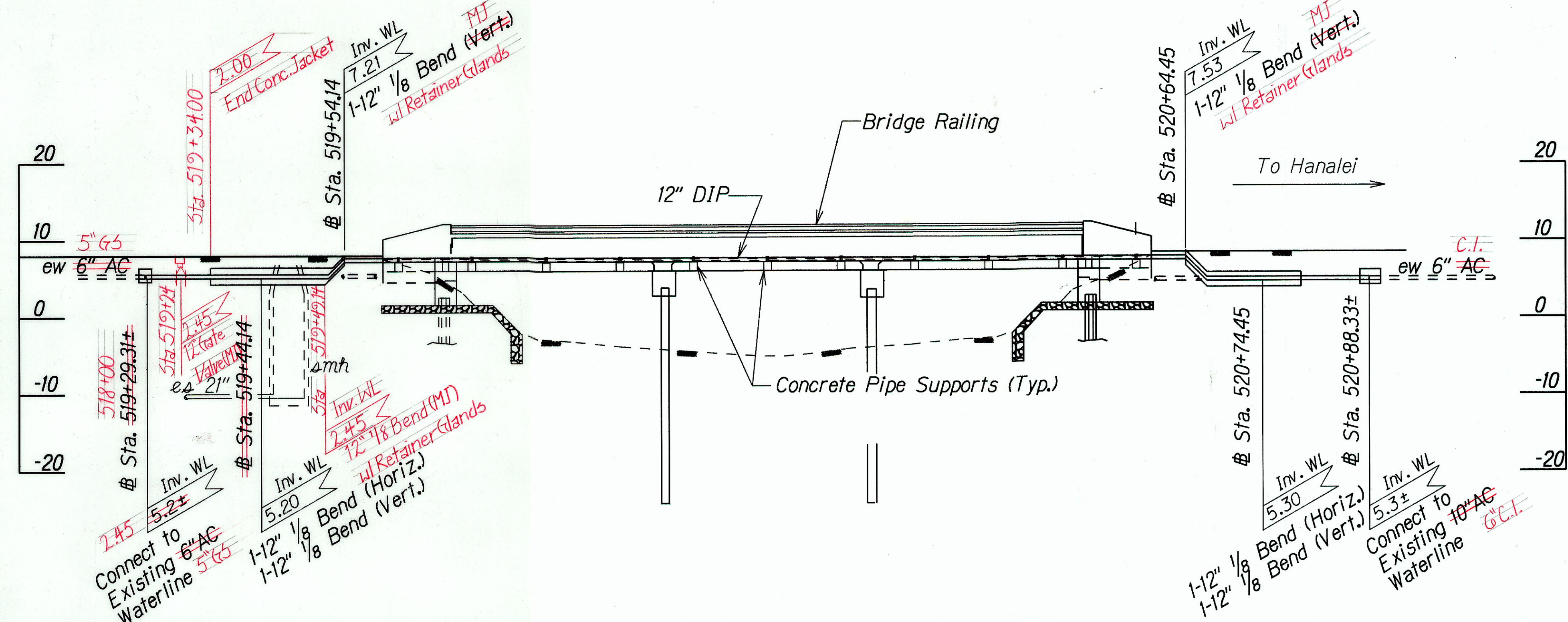
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-STP-056-1(35)	2000	53	70



16" DIP WATERLINE PROFILE

Scale: HORIZ.: 1" = 10'
VERT.: 1" = 10'



12" DIP WATERLINE PROFILE

Scale: HORIZ.: 1" = 10'
VERT.: 1" = 10'

NOTE: For Additional notes & details, see Plan Sheet No. 50.

DESIGNED BY	DATE
DRAWN BY	
CHECKED BY	
APPROVED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

Approved:

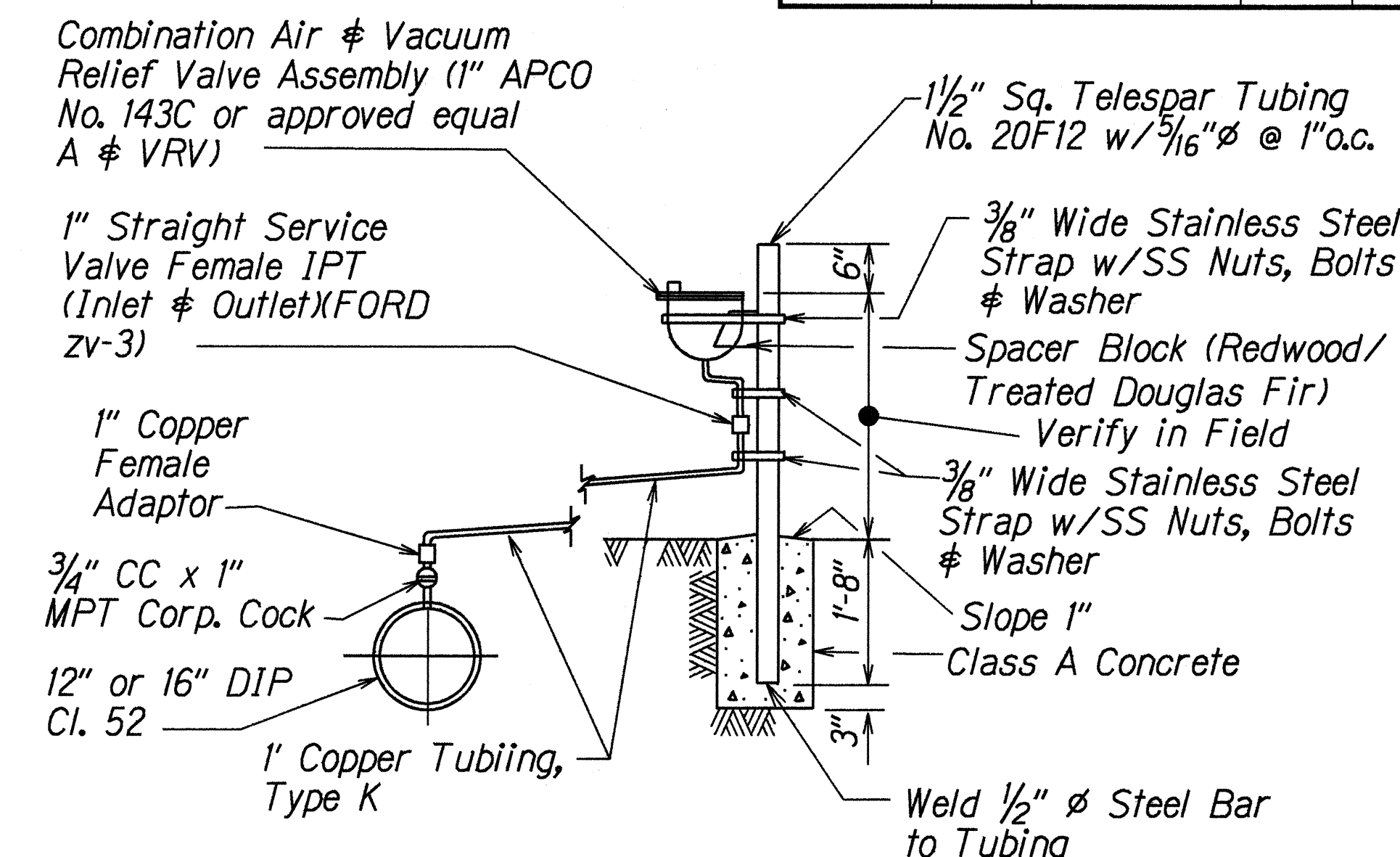
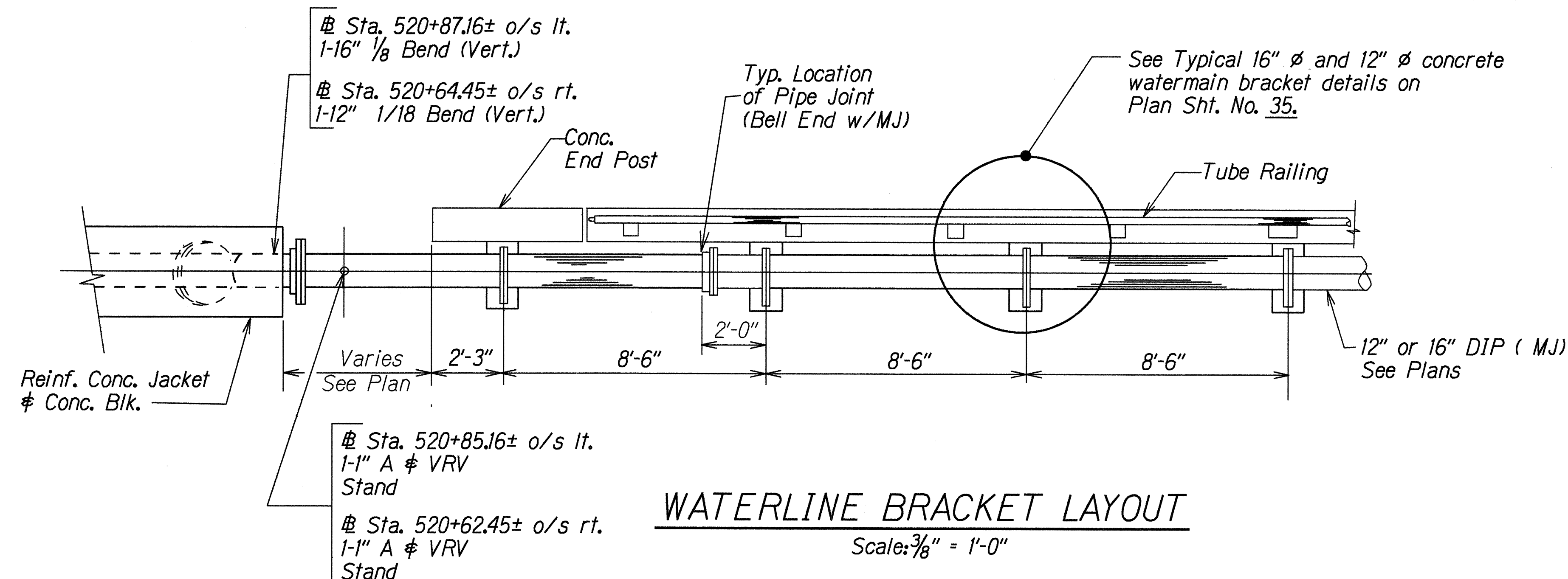
Edward E. ... Date: *6/1/99*

Manager-Chief Engineer
Department of Water

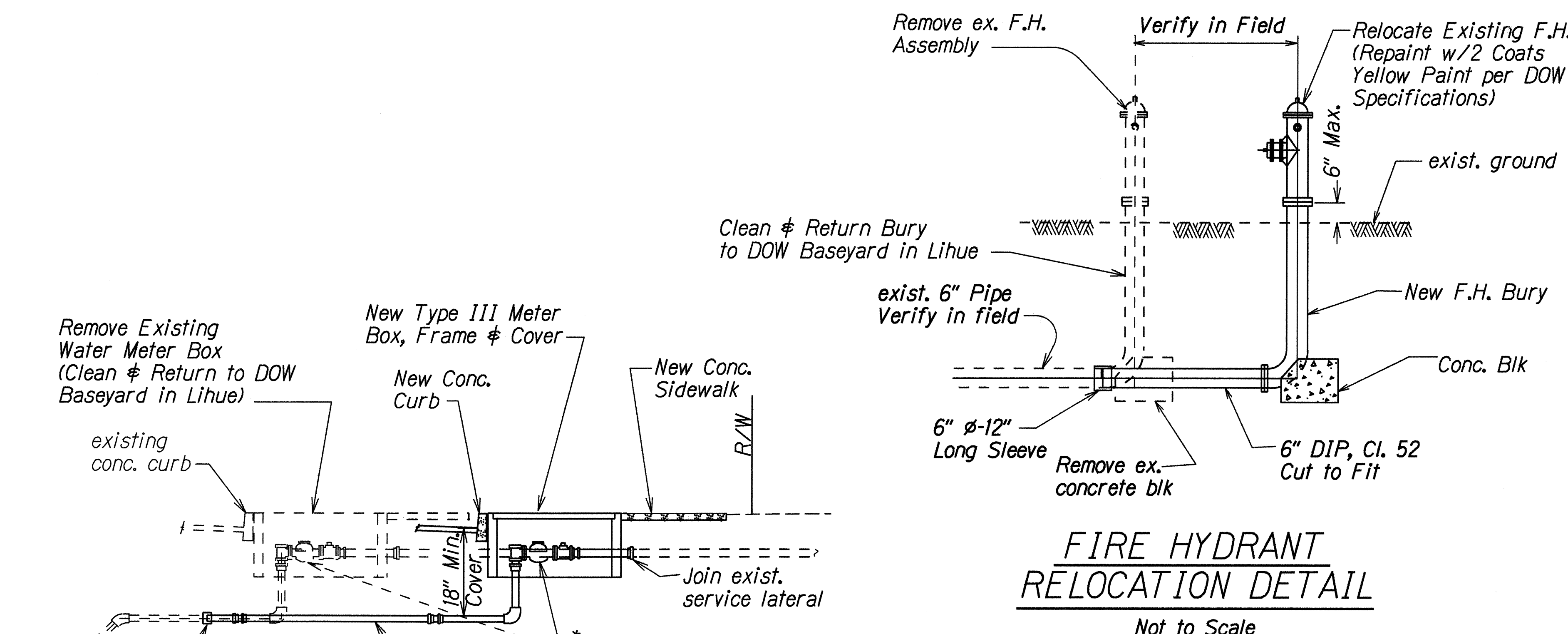
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
WATERLINE PROFILE
KUHIO HIGHWAY
Waikaea Bridge Widening
Fed. Aid Project No. BR-STP-056-1(35)
Scale: As Shown Date: June, 1999
SHEET No. U4 OF 6 SHEETS

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-STP-056-1(35)	2000	54	70



COMBINATION AIR & VACUUM RELIEF VALVE STAND DETAIL
 Not to Scale



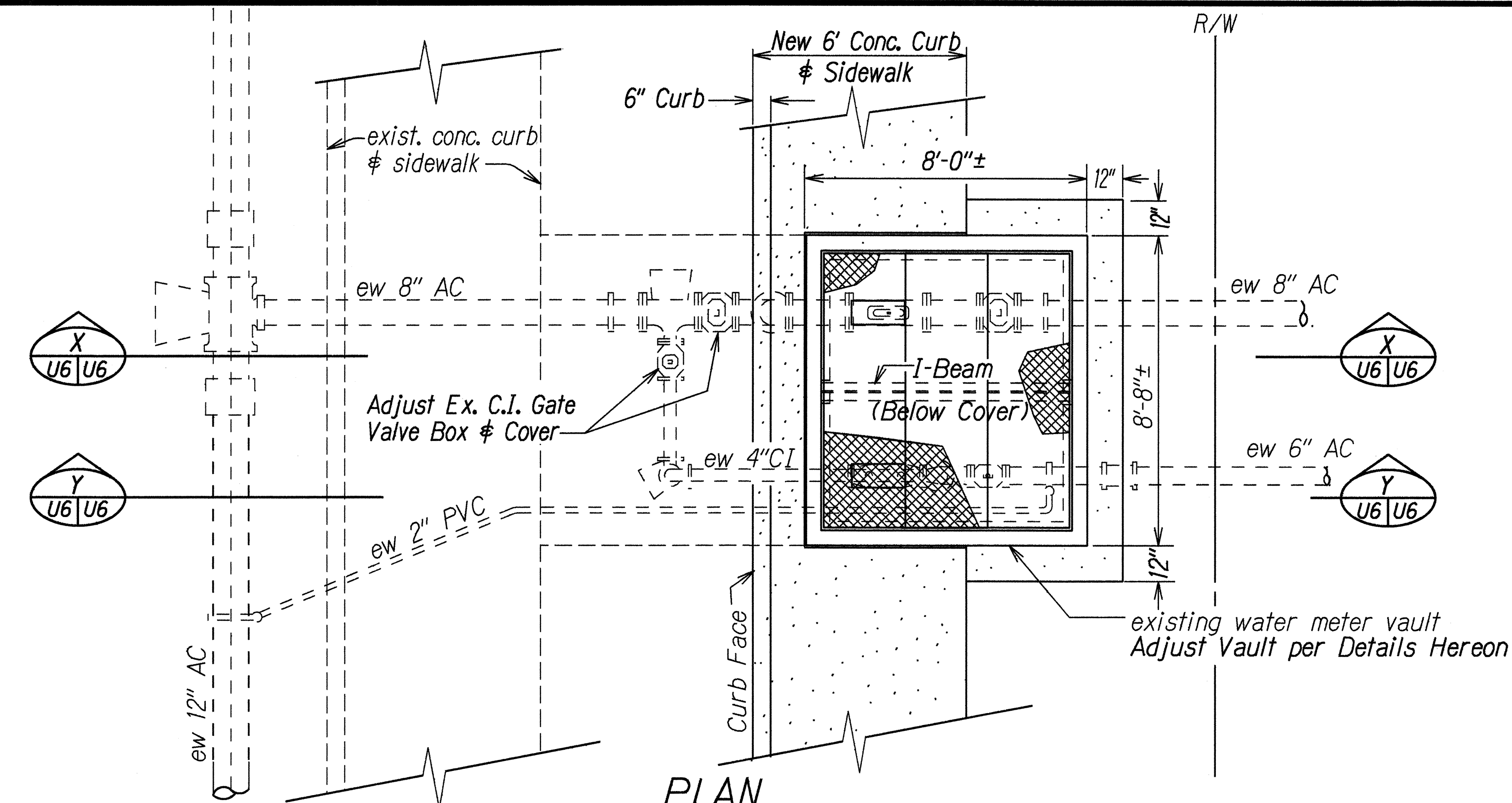
FIRE HYDRANT RELOCATION DETAIL
 Not to Scale

RELOCATED WATER METER PROFILE
 Not to Scale
 * For Water Meter Installation, See DOW Standard Plate No. 70

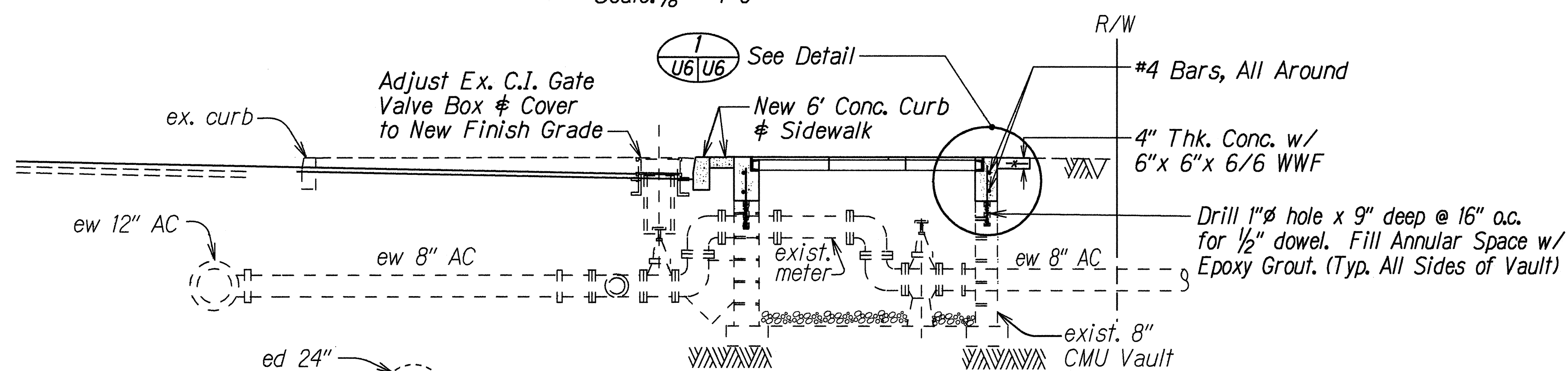
Approved:
 Edward E. Schupp
 Manager-Chief Engineer
 Department of Water
 Date: 8/16/99

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
MISCELLANEOUS DETAILS
 KUHIO HIGHWAY
 Waikaea Bridge Widening
 Fed. Aid Project No. BR-STP-056-1(35)
 Scale: As Shown
 Date: June, 1999
 SHEET No. 54 OF 6 SHEETS

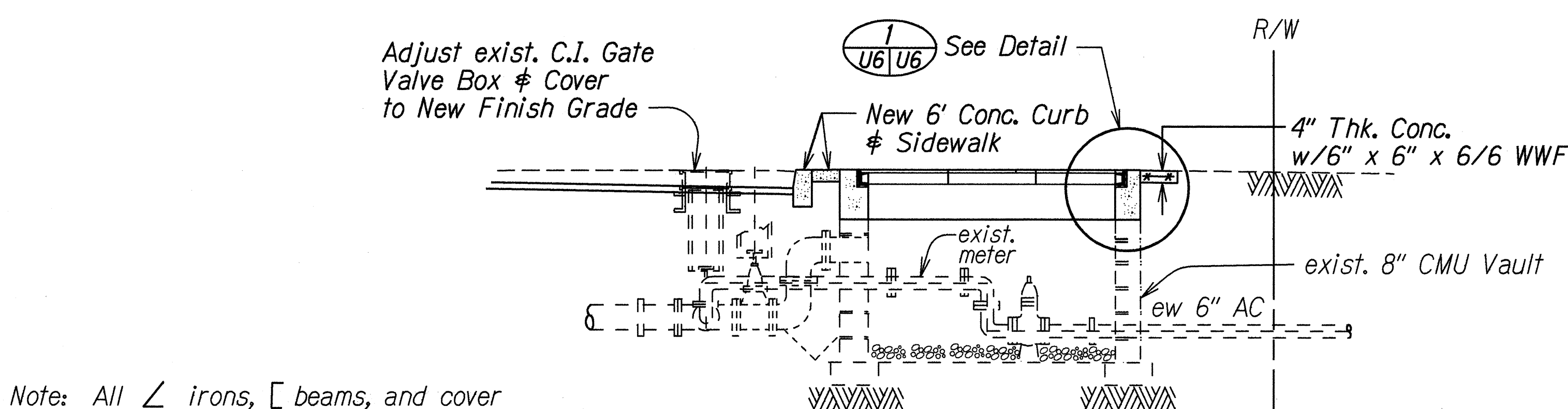
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	BR-STP-056-1(35)	2000	55	70



PLAN
WATER METER VAULT
& Sta. 1+49.84±, (o/s rt.)
Scale: 3/8" = 1'-0"

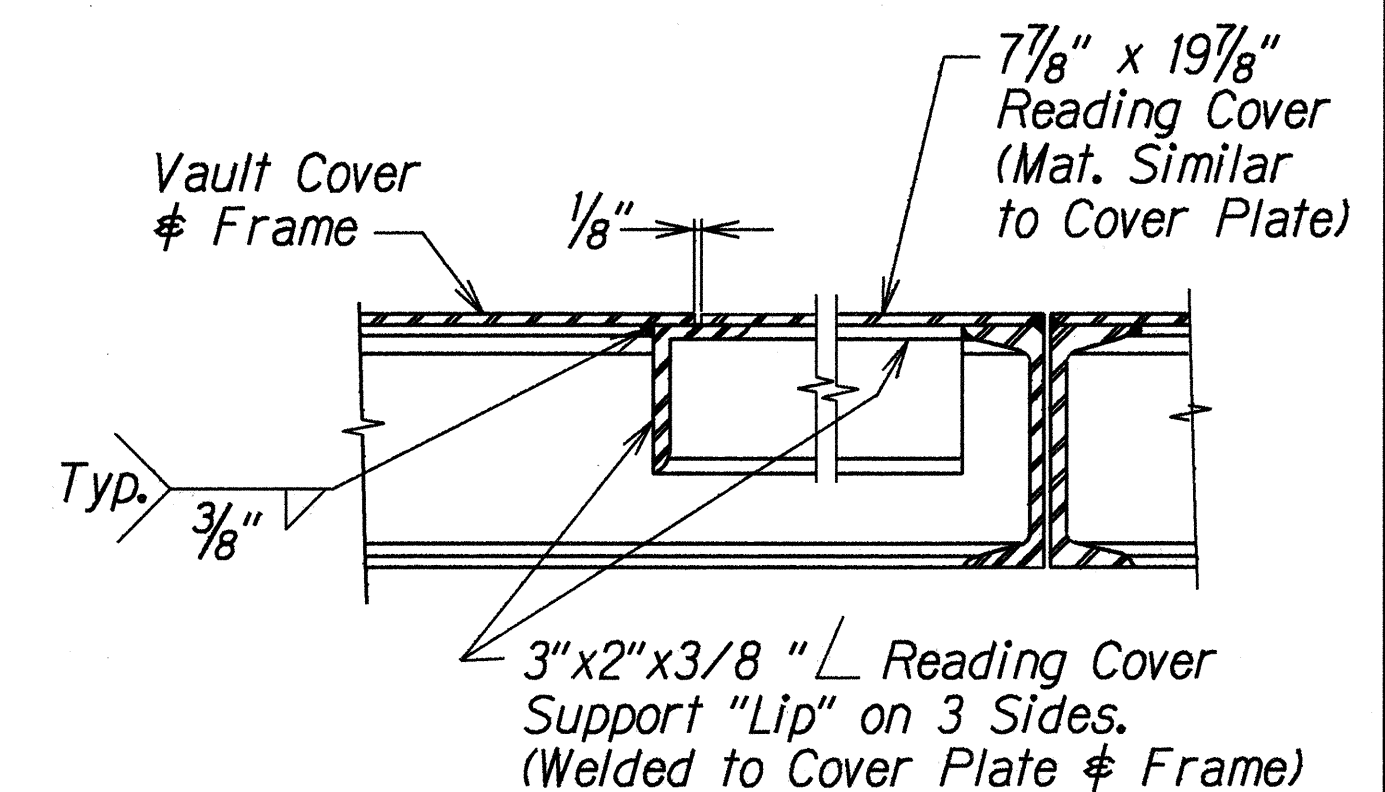
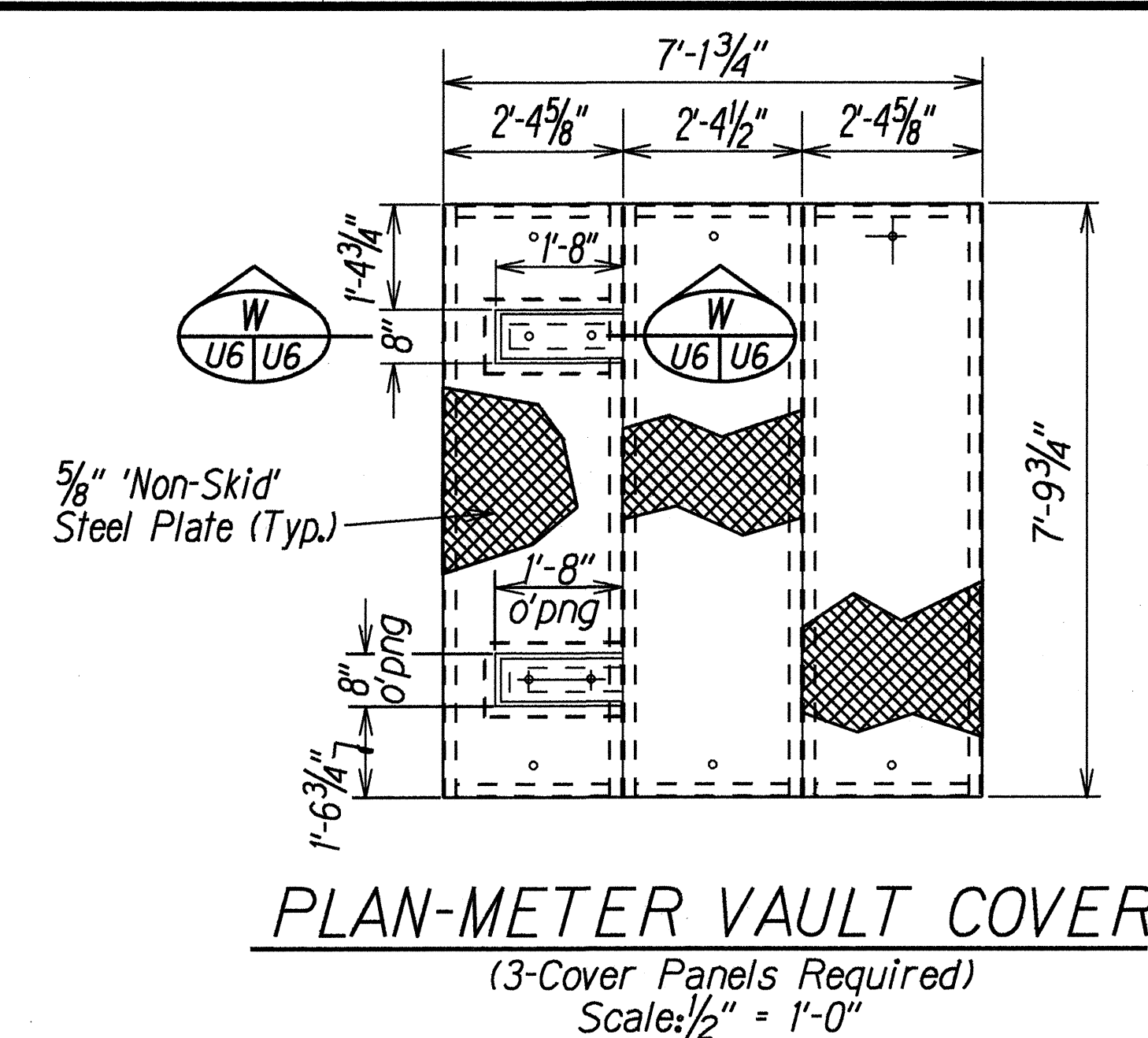


SECTION X X U6 U6
Scale: 3/8" = 1'-0"

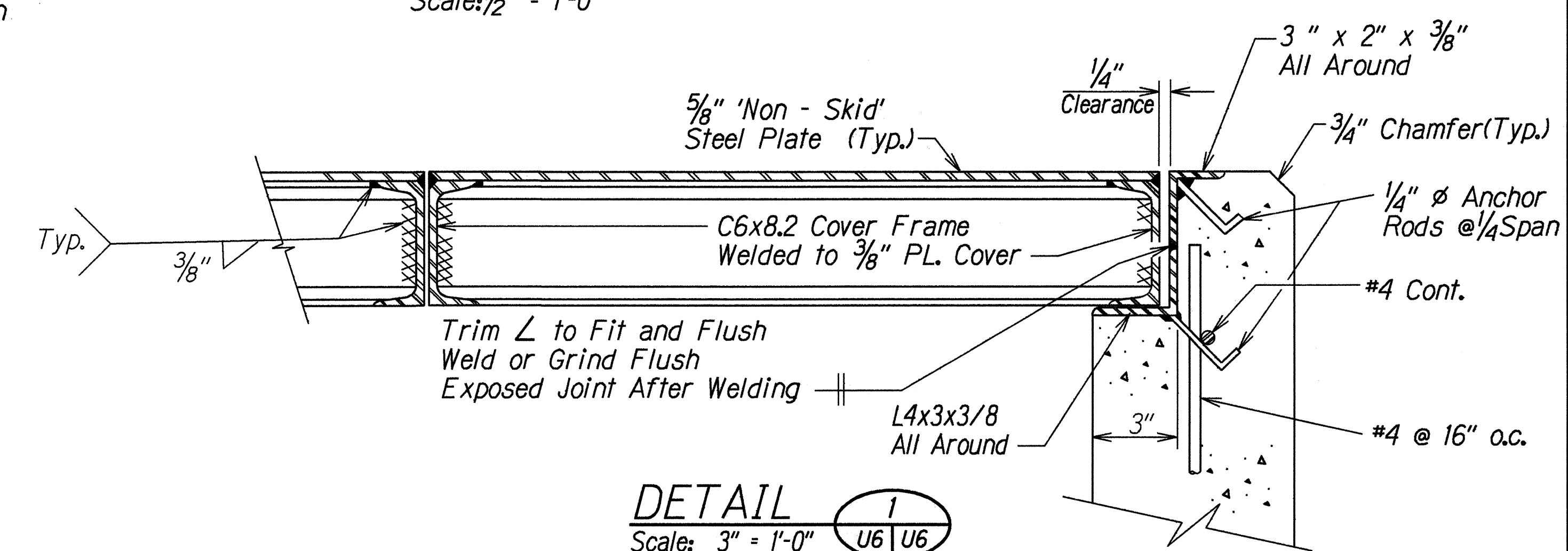


SECTION Y Y U6 U6
Scale: 3/8" = 1'-0"

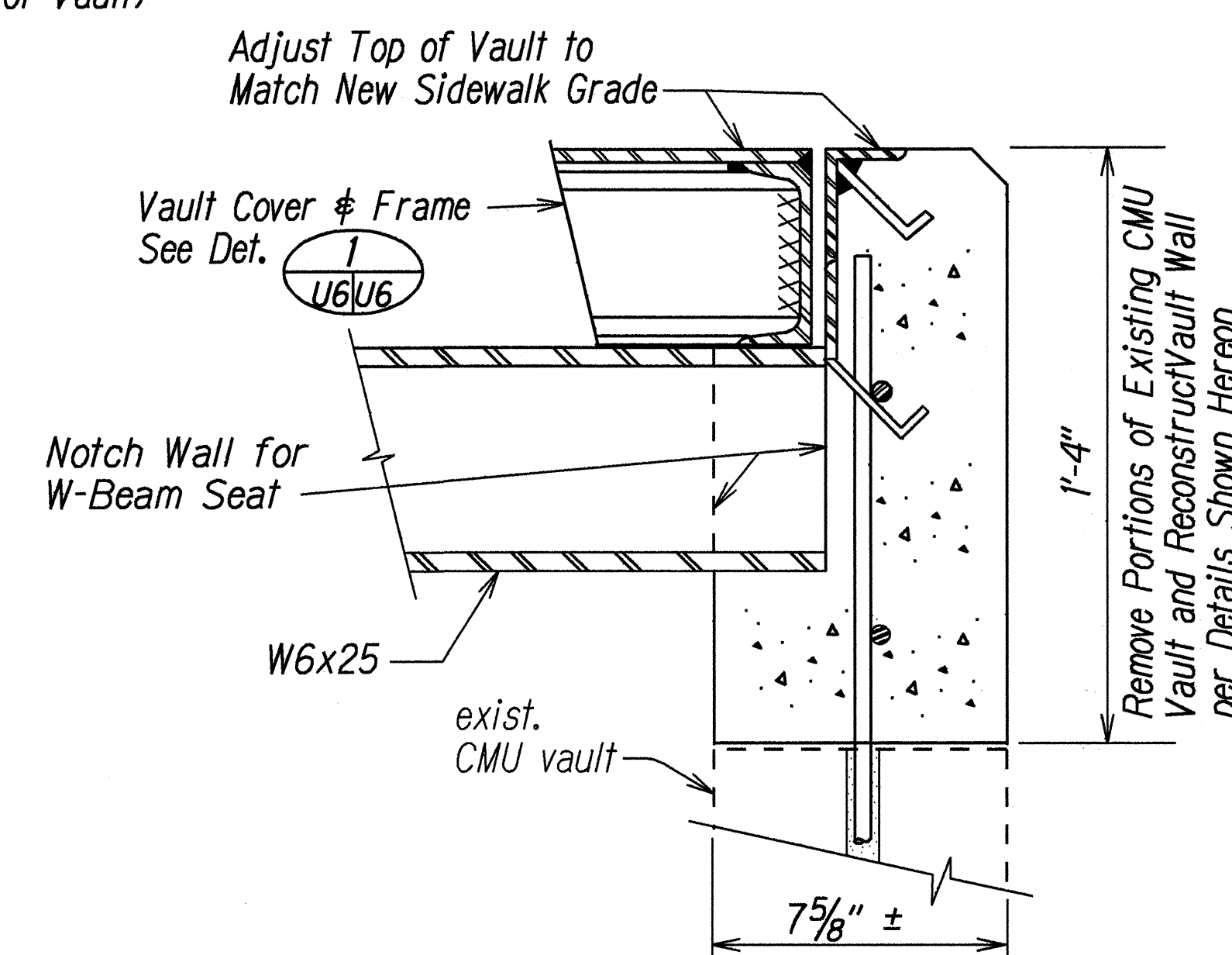
Note: All $\angle$ irons, [beams, and cover plates shall be hot-dipped galvanized after fabrication.



SECTION W W U6 U6
Scale: 3" = 1'-0"



DETAIL 1 U6 U6
Scale: 3" = 1'-0"



DETAIL 2 U6 U6
Scale: 3" = 1'-0"

Approved:
Manager-Chief Engineer
Date
Department of Water

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**WATER METER VAULT
ADJUSTMENT DETAILS**
KUHIO HIGHWAY
Waikaea Bridge Widening
Fed. Aid Project No. BR-STP-056-1(35)
Scale: As Shown Date: June, 1999
SHEET No. U6 OF 6 SHEETS