

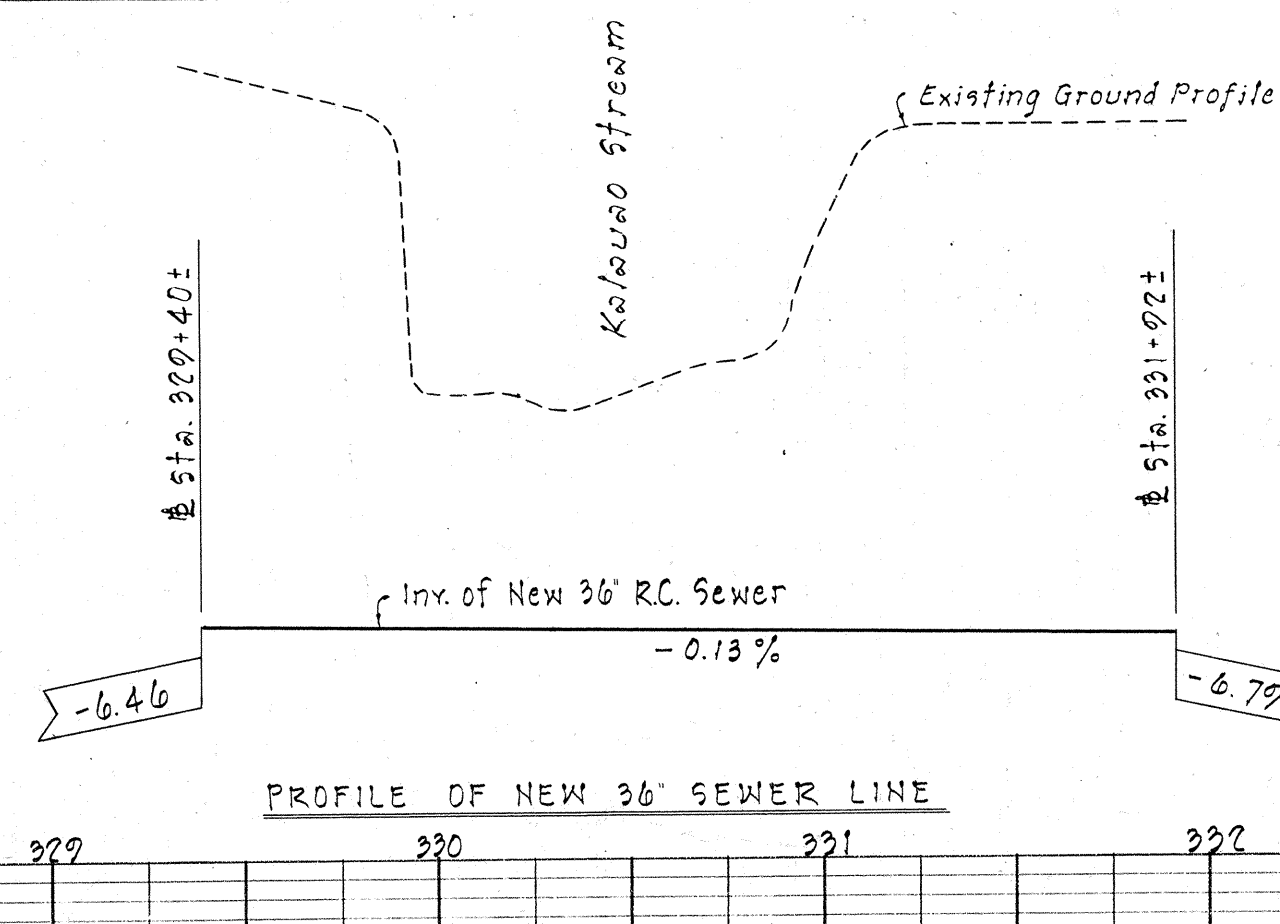
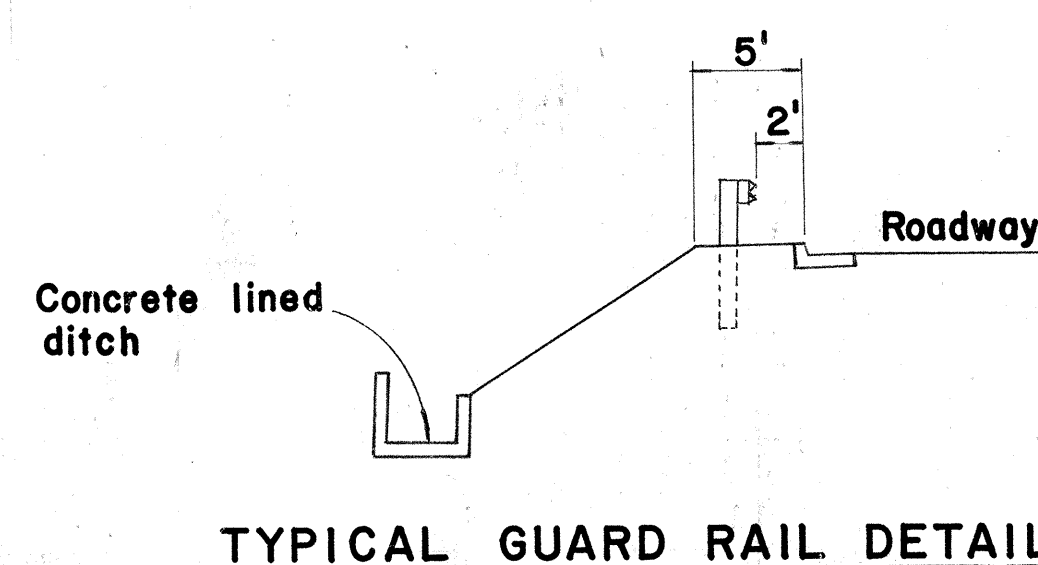
PLAN	DATE
SURVEYED	
PLOTTED	
NOTED	
BY	
DATE	

PROFILE	DATE
SURVEYED	
PLOTTED	
NOTED	
BY	
DATE	

BEGINNING OF PROJECT
No. U-000-1(0)
STA. 320+00 [DA-WR 10(2)]

- GENERAL NOTES**
- All Type "A" Curb called for in these plans shall be Standard Type "A" Curb as shown in the Standard Details, except the recesses shall be omitted.
 - All existing & Monuments shall be adjusted to the new Pavement Grade whether shown on the Plans or not.
 - Demolition of all existing Curb and Islands called for on the Plans shall be considered as incidental to Roadway Excavation.
 - Smooth-Riding Connections shall be provided at all existing approaches and Driveways and at such other locations as shown on the plans.
 - All existing Manhole Frames & Covers, Valve Boxes, etc., other than those to be abandoned or demolished shall be adjusted to the new finished pavement shoulder or sidewalk grades as required whether shown on the plans or not.
 - 24 hours prior to the start of grading, the Contractor shall call Cable Distribution Center, Fort Shafter, Tel. No. 263-227, to have the Signal Corp Cable located and staked.
 - Electric and/or Telephone Poles within the new pavement area shall be relocated by others.
 - Trees and Shrubbery within the limits of the roadway from shoulder edge to shoulder edge shall be removed incidental to Roadway Exc. Trees and Shrubbery outside of these limits shall remain unless otherwise ordered by the Engineer.
 - All Azimuths are based on Project DA-WR 10(2).
 - All existing curbs not incorporated into the new roadway shall be removed. Removal shall be incidental to Roadway Excavation.
 - Contractor shall be responsible for any relocation of overhead utility lines in order to facilitate the driving of piles for Bridges and/or Wing Walls.
 - Reinforced Concrete Jacket shall be constructed over existing Conc. Jacket of Telephone Duct Lines at approaches to Bridges. New Conc. Jacket shall extend 20 feet from bridge abutments or as ordered by the Engineer.

Install Guard Rail
Sta. 327+45 to Sta. 328+15 Lt.
Sta. 328+72 to Sta. 331+29 Lt.



Sta. 328+75 to 331+33 Lt.
Construct Type "D" C.B. Inv. 2.07
For Details see sheet 10
Estimated Quantities:
Struc. Exc. = 64 cy
Class "A-1" Conc. = 18 cy
Reinf. Steel = 1700 lbs
Untreated Base = 34 cy

Reconstruct
75' Guard rail
Use from I.D. 398+60 to 402+10 L.

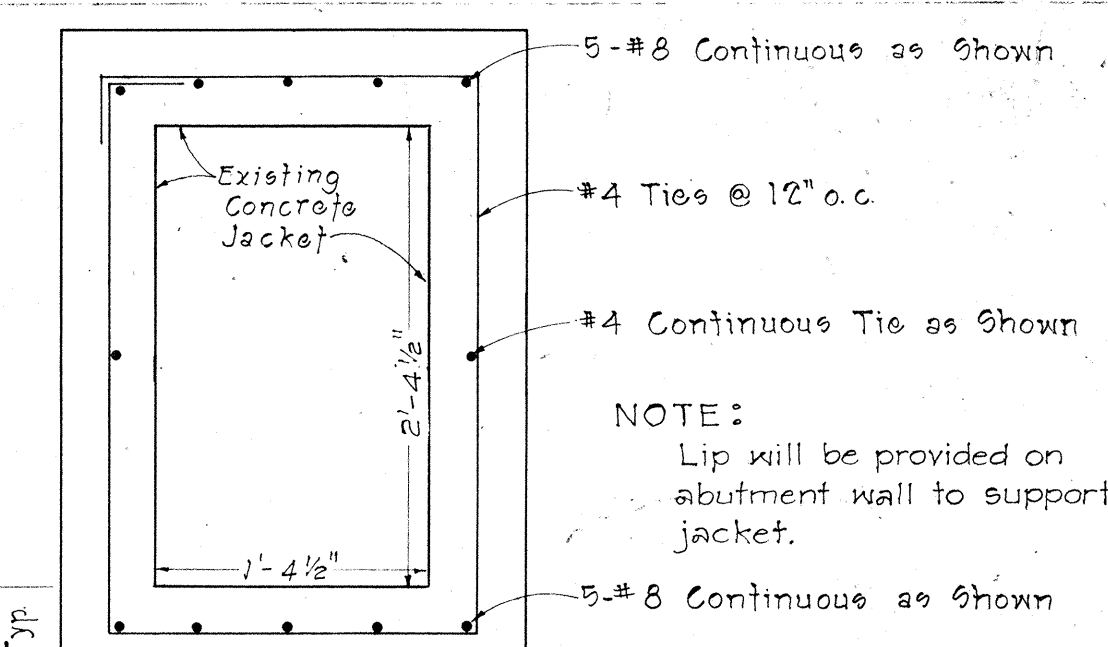
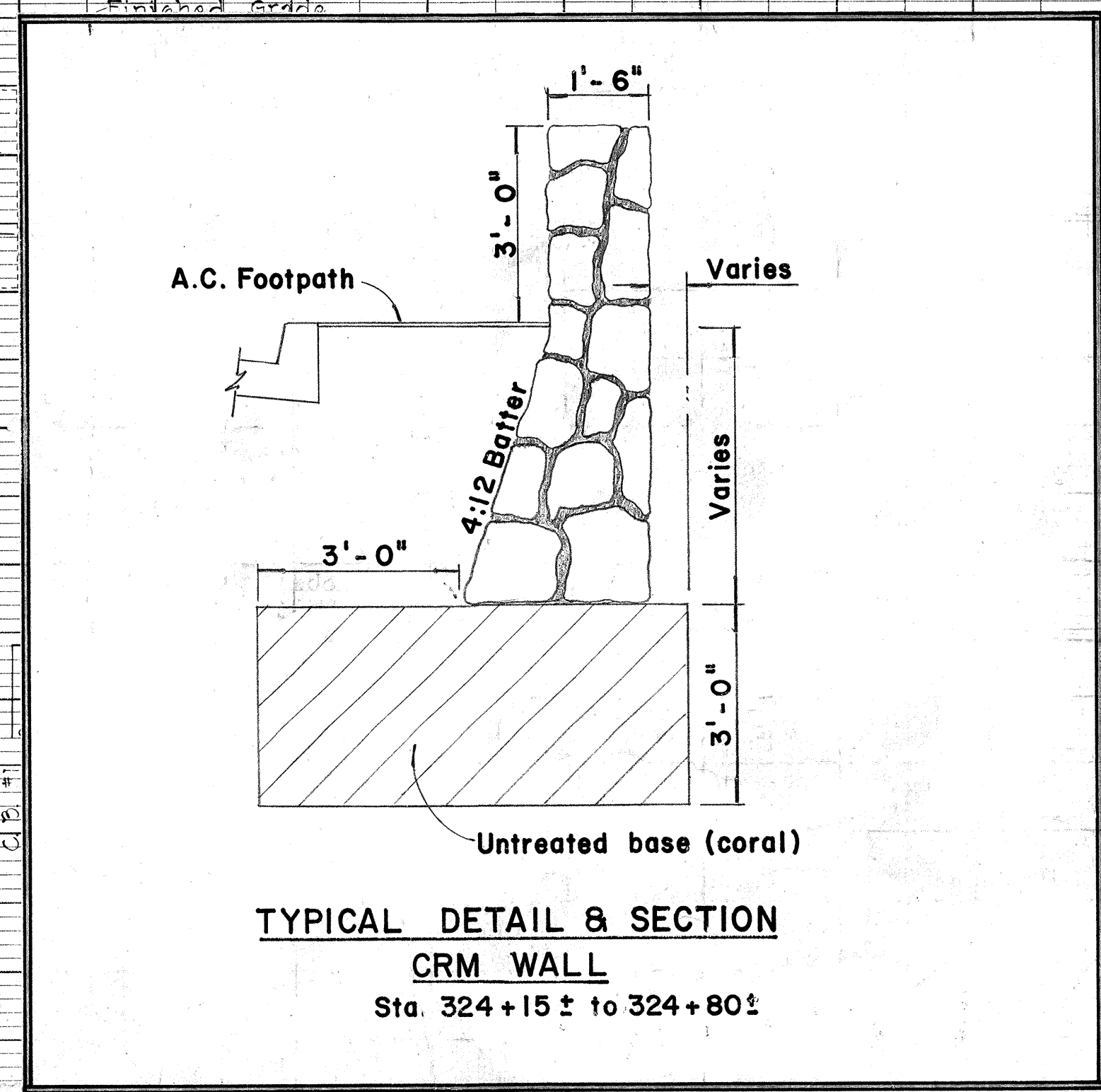
Sta. 330+00 Lt.
Construct Type "D" C.B. Inv. 2.07
Install 24" RCCP, Class III, or
24" CGMP, 14 Gage
Outlet Invert through Lined Ditch = 6.50
Estimated Quantities:
Struc. Exc. = 4 cy
Class "A-1" Conc. = 3.2 cy
Reinf. Steel = 77 lbs
Pipe Culvert = 8 lin ft
Type "B" Frame & Cover = 1 ea.
G.R.P. = 0.9 cy

Sta. 332+00 Lt. to 332+50 Lt.
Reconstruct Metal Guard Rail
with Concrete Posts. See Guard
Rail Standard Detail.
Sta. 331+40, 41ft. 0% Lt.
Remove existing 18" Culvert
Replace with 30" RCCP, Class III or
30" CGMP 14 Gage and reconstruct inlet
Outlet to drain through Wingwalls.
For Details see sheet 58
Estimated Quantities:
Struc. Exc. = 12 cy
30" Pipe Culvert = 16 lin ft
Class "A-1" Conc. = 0.5 cy

Sta. 327+00 to 328+50 Rt.
Construct Reinf. Concrete
Retaining Wall. See X-Sections
and Sheet 10 for Details.
Estimated Quantities:
Struc. Exc. = 13 cy
Class "A-1" Conc. = 3.2 cy
Reinf. Steel = 77 lbs
Pipe Culvert = 8 lin ft
Type "B" Frame & Cover = 1 ea.
G.R.P. = 0.6 cy

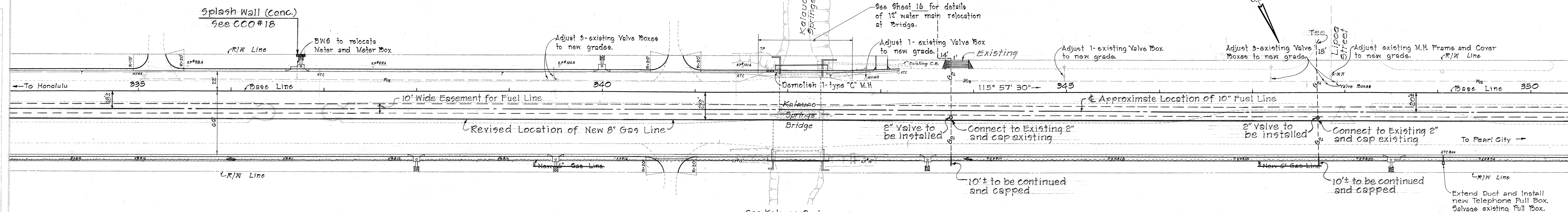
Sta. 332+00 Rt.
Construct Type "D" C.B. Inv. 8.97
Install 24" RCCP, Class III, or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 7 cy
Class "A-1" Conc. = 3.2 cy
Reinf. Steel = 77 lbs
Pipe Culvert = 8 lin ft
Type "B" Frame & Cover = 1 ea.
G.R.P. = 0.9 cy

DETAIL OF TELEPHONE CONCRETE JACKET
AT BRIDGE APPROACHES
Scale: 1" = 1'-0"



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW	U-000-100	1965	4	87

- C.D. #4**
Sta. 336+75 Lt.
Construct Type "B" C.B. Inv.=7.19
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 9 c.y.
Class "A-1" Conc. = 4 c.y.
Reinf. Steel = 108 lbs.
Pipe Culvert = 6 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 1.1 c.y.
- C.D. #7**
Sta. 340+00 Lt.
Construct Type "D" C.B. Inv.=6.98
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 12 c.y.
Class "A-1" Conc. = 3.2 c.y.
Reinf. Steel = 77 lbs.
Pipe Culvert = 8 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 1.1 lin. ft.
- Sta. 342+40 Lt. to 342+65 Lt.**
Reconstruct Metal Guard Rail
with Concrete Posts. See Guard
Rail Standard Detail.



- C.D. #5**
Sta. 338+00 Rt.
Construct Type "D" C.B. Inv.=6.76
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 2 c.y.
Class "A-1" Conc. = 3.2 c.y.
Reinf. Steel = 77 lbs.
Pipe Culvert = 8 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 1 c.y.
- C.D. #6**
Sta. 339+50 Rt.
Construct Type "D" C.B. Inv.=6.72
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 7 c.y.
Class "A-1" Conc. = 3.2 c.y.
Reinf. Steel = 77 lbs.
Pipe Culvert = 8 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 1 c.y.
- Sta. 341+35 Rt. to 341+80 Rt.**
Reconstruct Metal Guard Rail
with Concrete Posts. See Guard
Rail Standard Detail.
- C.D. #8**
Sta. 343+50 Rt.
Construct Type "D" C.B. Inv.=6.41
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 9 c.y.
Class "A-1" Conc. = 4 c.y.
Reinf. Steel = 108 lbs.
Pipe Culvert = 8 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 0.9 c.y.
- C.D. #9**
Sta. 348+50 Rt.
Construct Type "B" C.B. Inv.=8.10
Install 24" RCCP, Class III or
24" CGMP, 14 Gage
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 9 c.y.
Class "A-1" Conc. = 4 c.y.
Reinf. Steel = 108 lbs.
Pipe Culvert = 8 lin. ft.
Type "B" Frame & Cover = 1 ea.
G.R.P. = 1.2 c.y.

APPROVED:
S. Kawakami
ASSISTANT CHIEF ENGINEER BWS
6/30/65
DATE

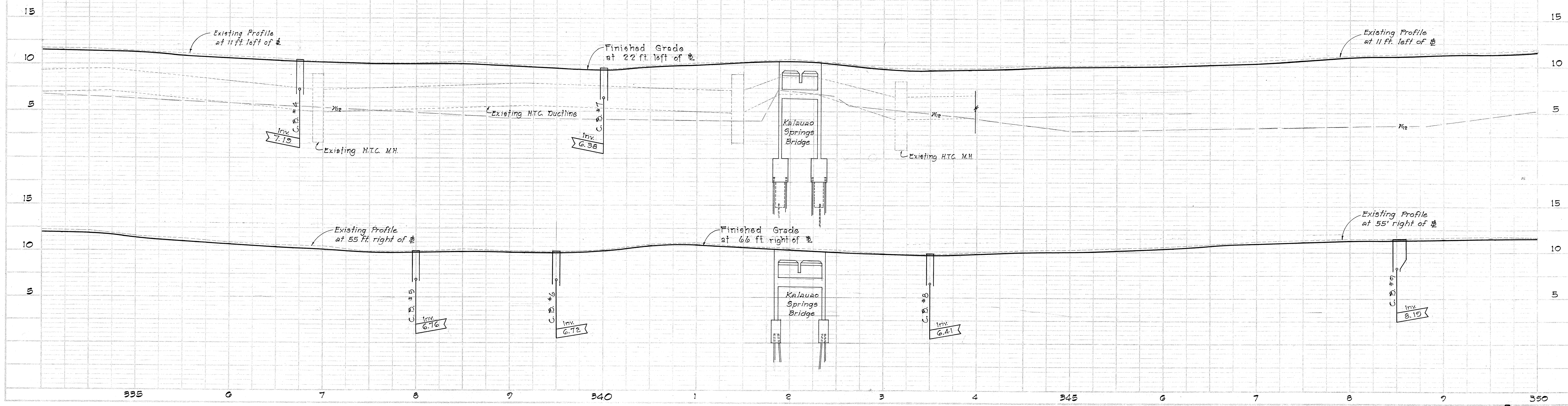
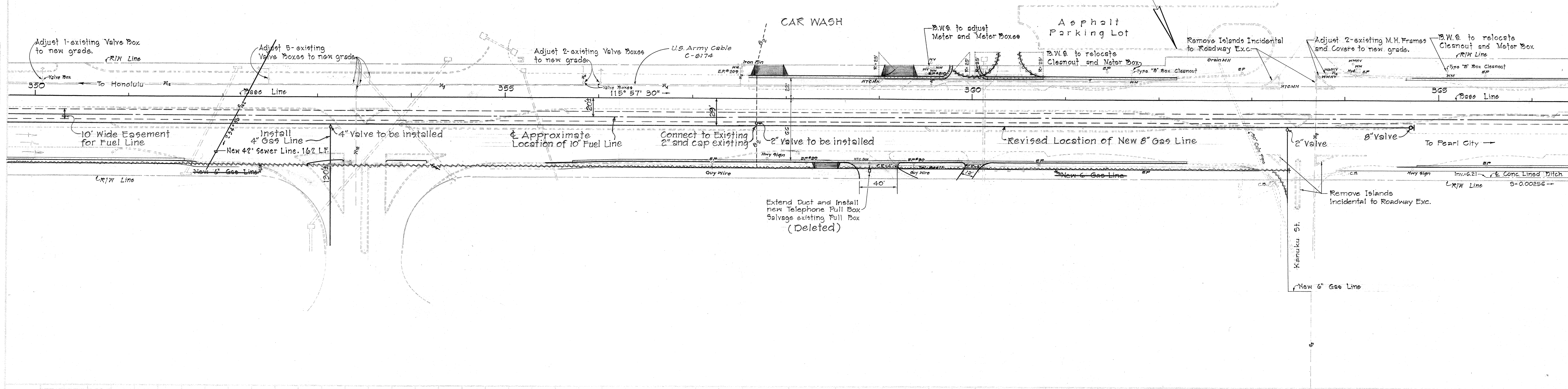


PLATE 1-PLAN PROFILE D.T. & R.E. STANDARD
NOTES: 1. DESIGN CO. NEW YORK
R.E. CO. NO. 348-10
1965

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-000-100	1965	5	87

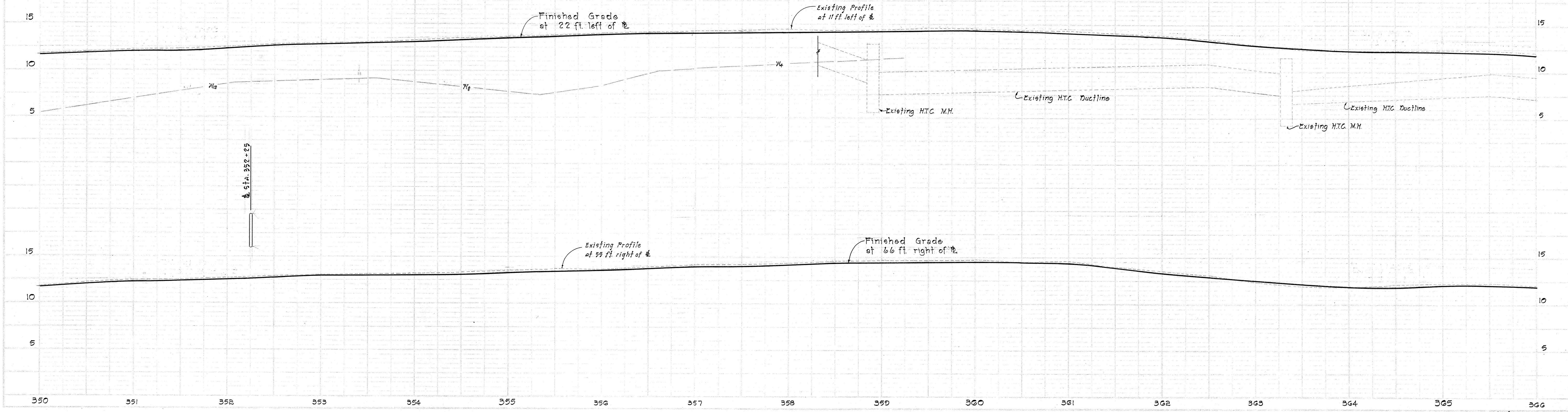
Sta. 340+50 to 342+10 Lt.
Cut, plug and remove sprinkler system
only where it interferes with the new
roadway. (Incidental to Roadway Exc.)



APPROVED:

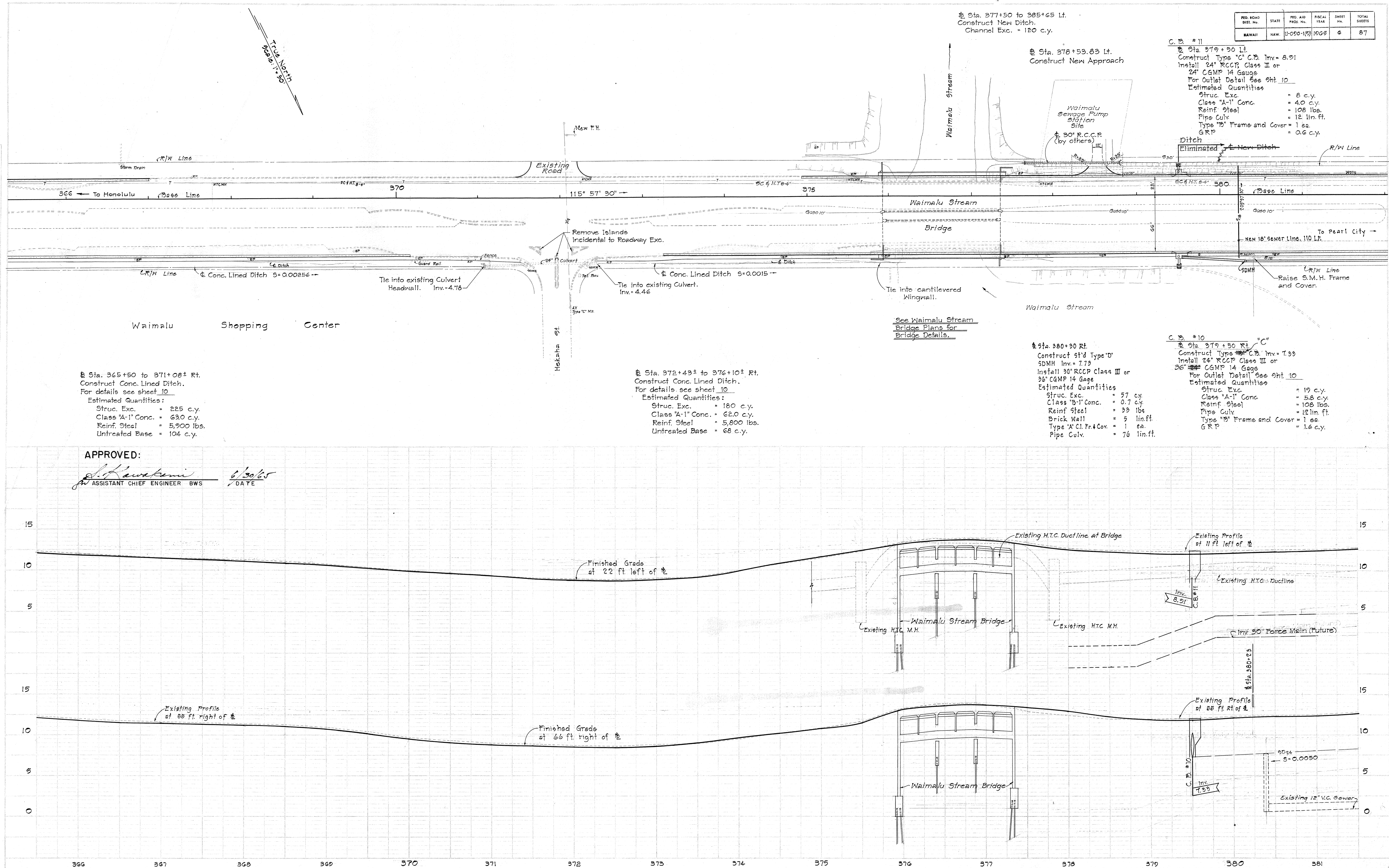
L. Kawakami
ASSISTANT CHIEF ENGINEER BWS

6/30/65
DATE



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Sta. 377+50 to 385+50± Lt.
Construct unlined ditch, see
Cross Sections.
Channel Exc. = 120 c.y.

Sta. 385+65 to 386+16 Lt.
Relocate 24" RCCP, Class IV
or 24" CGMP 14 Gage.
Construct 2 5' x 4' Conc. Headwalls.
Estimated Quantities:
Struc. Exc. = 36 c.y.
Class "A-1" Conc. = 2.8 c.y.
Reinf. Steel = 87 lbs.
Pipe Culvert = 64 lin.ft.

Eliminate Relocation

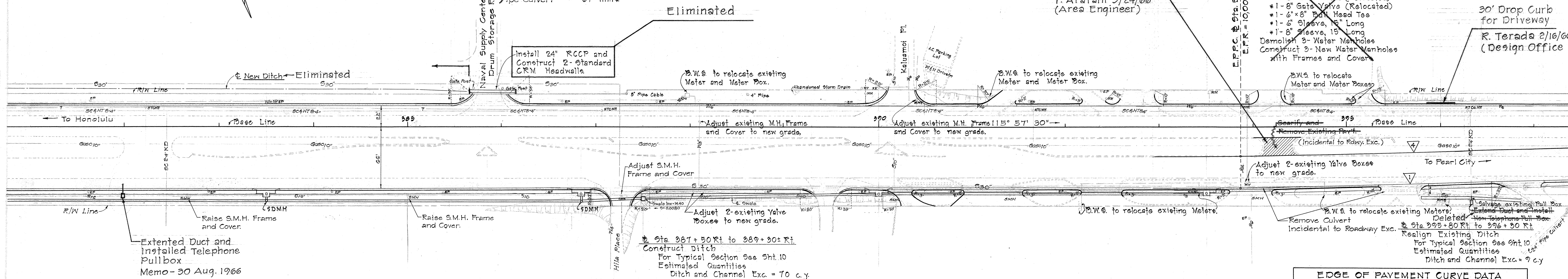
Sta. 393+70 to Sta. 394+24 Lt.
Relocate Existing 6" Water
Main 54' x 6" C.I. Pipe
5- Concrete Blocks
2- 6" Gate Valves (Relocated)
1- 8" Gate Valve (Relocated)
1- 6" x 8" Ball Head Tee
1- 6" Elbow, 15' Long
1- 8" Elbow, 15' Long
Demolish 3- Water Manholes
Construct 3- New Water Manholes
with Frames and Cover

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-090-100	1965	7	87

30' Drop Curb for Driveway
R. Terada 2/16/66
(Design Office)

U-Turn Opening to remain
T. Aratani 3/24/66
(Area Engineer)

E.P.C. Sta. 393+00 to 394+00
E.P.K. = 1000000



C.D. #12
Sta. 383+50 Rt.
Construct Type "A" C.D. Inv. = 9.43
Install 24" RCCP Class III or
24" CGMP 14 Gage
Estimated Quantities
Struc. Exc. = 15 c.y.
Class "A-1" Conc. = 7.7 c.y.
Reinf. Steel = 145 lbs.
Pipe Culv. = 5 lin.ft.
Type "B" Frame and Cover = 1 ea.

C.D. #13
Sta. 386+85 Rt.
Construct Type "A" C.D. Inv. = 11.18
Install 24" RCCP Class III or
24" CGMP 14 Gage
Estimated Quantities
Struc. Exc. = 12 c.y.
Class "A-1" Conc. = 7.3 c.y.
Reinf. Steel = 145 lbs.
Pipe Culv. = 5 lin.ft.
Type "B" Frame and Cover = 1 ea.

C.D. #14
Sta. 387+50 Rt.
Construct C.D.I. Inv. = 11.83
Install 24" RCCP Class III or
24" CGMP 14 Gage
Estimated Quantities
Struc. Exc. = 20 c.y.
Class "A-1" Conc. = 1.6 c.y.
Pipe Culv. = 62 lin.ft.
Type "B" Frame & Cover = 1 ea.

C.D. #14
Sta. 390+00 Rt.
Construct Type "A" C.D. Inv. = 12.98
Install 24" RCCP Class III or
24" CGMP 14 Gage
Estimated Quantities
Struc. Exc. = 159 c.y.
Class "A-1" Conc. = 6.5 c.y.
Reinf. Steel = 145 lbs.
Pipe Culvert = 244 lin.ft.
Type "B" Frame and Cover = 1 ea.

C.D. #15
Sta. 393+50 Rt.
Construct Type "A" C.D. Inv. = 14.93
Install 24" RCCP Class III or
24" CGMP 14 Gage
Estimated Quantities
Struc. Exc. = 240 c.y.
Class "A-1" Conc. = 6.1 c.y.
Reinf. Steel = 145 lbs.
Pipe Culv. = 344 lin.ft.
Type "B" Frame and Cover = 1 ea.

EDGE OF PAYMENT CURVE DATA (OUTBOUND LANES ONLY)					
CURVE	Δ	R	T	Lc	Sta.
1	1° 54' 00"	10,000.00	169.82	331.01	331.55
4	1° 54' 00"	7,767.00	169.27	330.92	330.46

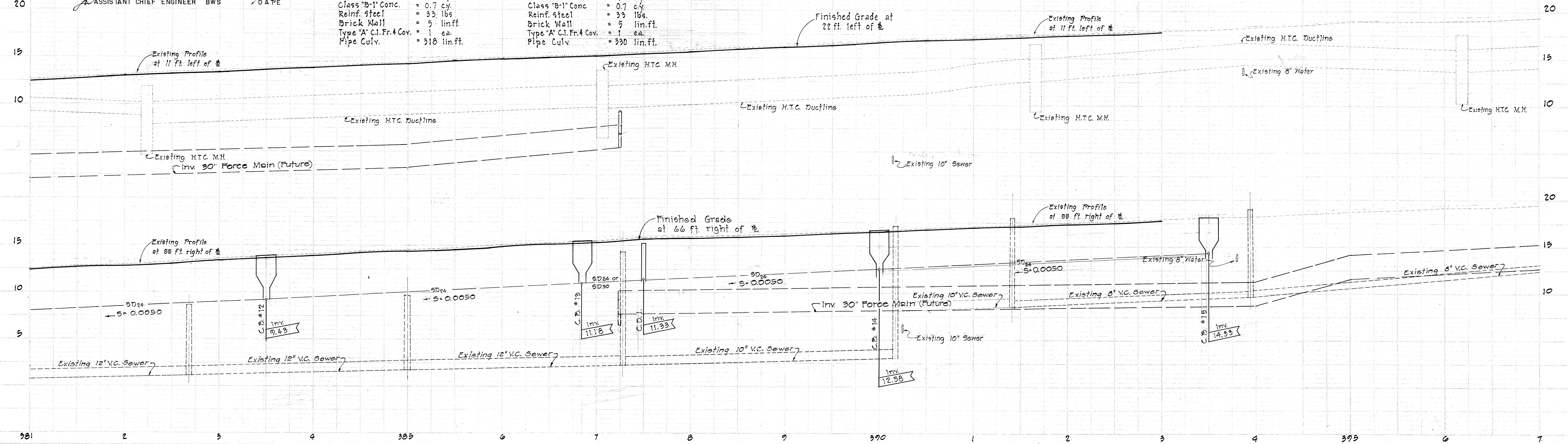
Sta. 383+50 Rt. Construct
Type "D" SDMH Inv. = 9.33
Install 30" RCCP Class III or
36" CGMP 14 Gage
Est. Quant.
Struc. Exc. = 170 c.y.
Class "B-1" Conc. = 0.7 c.y.
Reinf. Steel = 33 lbs.
Brick Wall = 5 lin.ft.
Type "A" C.I. Fr. & Cov. = 1 ea.
Pipe Culv. = 318 lin.ft.

Sta. 386+85 Rt. Construct
Type "D" SDMH Inv. = 11.08
Install 30" RCCP Class III or
36" CGMP 14 Gage
Est. Quant.
Struc. Exc. = 198 c.y.
Class "B-1" Conc. = 0.7 c.y.
Reinf. Steel = 33 lbs.
Brick Wall = 5 lin.ft.
Type "A" C.I. Fr. & Cov. = 1 ea.
Pipe Culv. = 330 lin.ft.

APPROVED:

S. Kawakami
ASSISTANT CHIEF ENGINEER BWS

6/30/65
DATE



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-090-100	1965	8	87

Sta. 398 + 35 Left
Extend 6' x 3.5' Box Culvert.
See Sheet No. 11 for details.

Sta. 398 + 60 to Sta. 402 + 60 Left.
Reconstruct Metal Guard Rail with
Concrete Post (See Typical Section
for lateral location)

END OF PROJECT
No. U-090-1(0)
Sta. 404 + 20

C. B. #16

Sta. 398 + 35 Lt.
Construct Type "C" C.B. Inv. = 16.44
Install: 24" RCCP Class III or 24" CGMP 14 Gage.
For Outlet Detail, see sheet 10
Estimated Quantities:
Struc. Exc. = 4.0 c.y.
Class "A-1" Conc. = 108 lbs.
Reinf. Steel = 8 lin. ft.
Type "B" Frame and Cover = 1 ea.

Reconstructed Guard Rail

End of
Resurfacing

Provides smooth riding
Connection

EDGE OF PAVEMENT CURVE DATA (OUTBOUND LANES ONLY)					
CURVE	Δ	R	T	Lc	Sta.
1	1° 54' 00"	10,000.00	169.82	331.61	331.55
2	4° 02' 38"	10,000.00	353.04	709.79	709.64
3	2° 08' 38"	10,000.00	187.11	374.18	374.09
4	1° 54' 00"	7,967.00	165.27	330.92	330.46
5	3° 47' 56"	10,033.00	332.73	669.22	669.10
6	1° 53' 56"	10,000.00	169.72	331.42	331.34

GENERAL WATER NOTES

- The Contractor shall notify the Board of Water Supply in writing one week prior to commencing work on the water system.
- The Contractor shall arrange with the Board of Water Supply to cut off existing unused service laterals and remove meter boxes and appurtenances prior to commencement of clearing and grading operations. Contractor to provide all necessary excavation.
- Items indicated as "relocate" on the plans shall be removed, cleaned, painted and reinstalled at the new location by the Contractor unless otherwise specified.
- Asterisk (*) indicates work to be performed by BWS. Materials to be furnished by the Contractor unless specified as "relocate".
- All excavation and backfill shall be done by the Contractor, including excavation for the relocation and lowering of existing main, relocation of meters and excavation for meter to house service connections.
- Wherever a corporation stop shown tapping into a new main is larger than that allowed by the BWS Standards, a double hub fitting with boss tapped for appropriate size corporation shall be used.
- The minimum clearance between fire hydrants and utility poles or light standards shall be 3.0 feet.
- The locations of existing water mains and appurtenances shown on the plans are approximate only. The Contractor shall verify exact location.
- Prior to trench excavation for relocated mains, the Contractor shall expose existing water mains at crossings with and connections to the relocated main to verify their locations and depths. Hand excavation shall be utilized when excavating around existing mains.
- The Contractor shall plug the ends of abandoned water mains with class "C-1" concrete. Payment for class "C-1" concrete used as plugs shall be considered incidental to the various contract items for the water system.
- Items indicated as " Salvage " on the plans shall be removed, cleaned, and returned to BWS. Kalini Store Yard by the Contractor.
- Continuity of water service, particularly during the construction of bridges, shall be provided and paid for by the Contractor. Provisions for continuity of service shall be approved by BWS.

GENERAL HONOLULU GAS NOTES:

- Contractor shall excavate trench for Gas Line. Honolulu Gas Company shall install pipes and Contractor shall backfill. (See Special Provisions)

APPROVED:

J. K. Kawakami
ASSISTANT CHIEF ENGINEER BWS
DATE 6/30/65

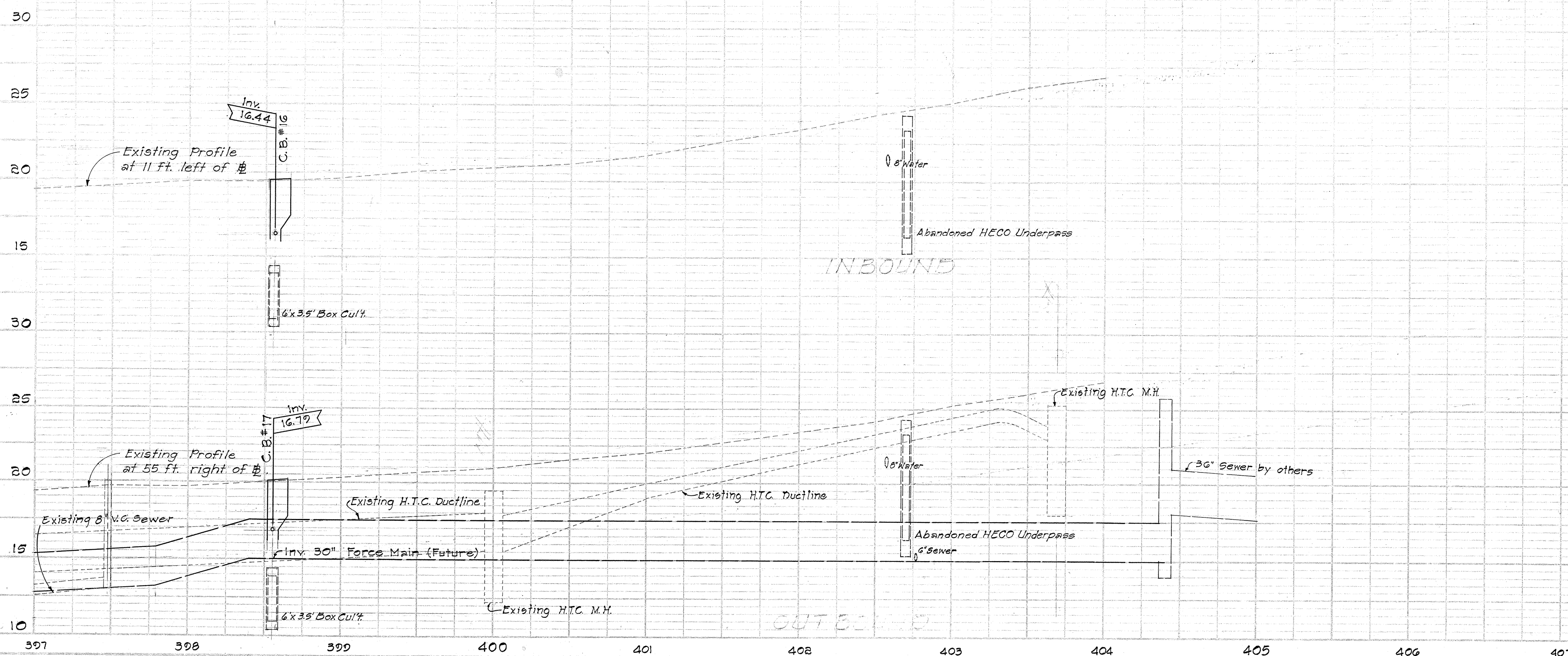


PLATE 1 - PLAN PROFILE OF R.L. & R.E. STANDARD

REVIEW & DESIGN CO., NEW YORK

R. & E. CO., INC. 1485-10

SS