

DRAINAGE SUMMARY

ITEM NO.		206.	503.	602.	603.	604.	604.	604.	604.	609.	627.
UNIT USED		1000	0000	1000	7600	2360	2362	2370	2371	2150	0200
		C.Y.	C.Y.	LB.	L.F.	EA.	EA.	EA.	EA.	L.F.	S.F.
STRUCTURE	STATION	STRUCTURE EXCAVATION OTHER THAN AT BRIDGES	CLASS "A" CONCRETE OTHER THAN IN BRIDGES	REINFORCING STEEL OTHER THAN IN BRIDGES	24-INCH ALUMINUM SPIRAL RIB PIPE, SHT. "1" = 0.075" OR 24-INCH REINFORCED CONCRETE PIPE, CL. III	TYPE 2 GRATED DROP INLET 3.00 FT. TO 3.90 FT.	TYPE 2 GRATED DROP INLET 4.00 FT. TO 4.90 FT.	TYPE F STORM DRAIN MANHOLE 8.00 FT. TO 9.00 FT.	TYPE AM STORM DRAIN MANHOLE 6.00 FT. TO 7.00 FT.	GUTTER, TYPE 2(121212)	RESTORATION OF EXISTING PAVEMENTS AND OTHER IMPROVEMENTS AT WALEA ST.
TYPE 2 GDI	129+37 o/s 19' Lt.	80	59.0	4220	111	1					
TYPE 2 GDI	130+54 o/s 19' Lt.	74	54.0	3915	103	1					
TYPE 2 GDI	131+63 o/s 22' Lt.	26	19.0	1370	36	1					200
TYPE 2 GDI	132+05 o/s 22' Lt.	135			146	1					
TYPE 2 GDI	133+57 o/s 20' Lt.	605			330		1				
TYPE F SDMH	Drain Sta. 3+35	600			421			1			
TYPE AM SDMH	Drain Sta. 7+59.84								1		
GUTTERS											
FROM	TO										
Sta. 128+46±	Sta. 131+59±									313	
Sta. 132+09±	Sta. 133+54±									145	

GENERAL NOTES:

1. Except for the drywells, the existing drainage systems will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. The cost for this work shall be incidental to the various Contract Items.

2. The Contractor shall verify the locations of all existing culverts and utilities in the field. Any existing culverts and utilities damaged during construction shall be repaired or replaced by the Contractor at his own expense.

3. Demolishing, removing, and backfilling existing drywell structures shall not be paid for separately, but shall be considered incidental to the various Contract Items.

4. Demolishing existing storm drain manhole shall not be paid for separately, but shall be considered incidental to the various Contract Items.

5. A.C. Pavement, Aggregate Base Course and Subbase for the gutter shall be paid for under Item No. 609.2150 "Gutter, Type 2 (121212)".

6. During construction within Waimanalo Beach Park, the grass turf shall be neatly removed and preserved, and shall be neatly replaced as neatly as possible to the original condition. The replaced turf shall be maintained for 60 days. This work shall not be paid for separately, but shall be considered incidental to the various Contract Items.

7. Item No. 627.0200, Restoration of Existing Pavements and Other Improvements at Walea St. shall conform to Section 627-"RESTORATION OF EXISTING CITY AND/OR COUNTY STREETS AND OTHER IMPROVEMENTS" of the Standard Specifications.

8. The Contractor shall provide safe access to business and residential driveways and sidewalks for motorists, pedestrians and the public at all times during construction.

9. Contractor shall verify invert of 8" waterline and adjust waterline to provide 12" minimum vertical clearance.

10. Striping removed by the project work shall be restored to existing conditions and shall be incidental to the various Contract Items.

11. Contractor shall obtain right of entry permit from the Dept. of Parks and Recreation, City and County of Honolulu prior to performing any work within Waimanalo Beach Park.

12. All existing facilities including, landscaping and landscaping irrigation system within Waimanalo Beach Park shall be protected from damage at all times. All areas disturbed or damaged due to construction or ingress and egress to shall be repaired immediately by the Contractor at his expense. All restoration and repair work shall be done in accordance with the Parks Standard Details and Specifications of the Dept. of Parks and Recreation, City and County of Honolulu.

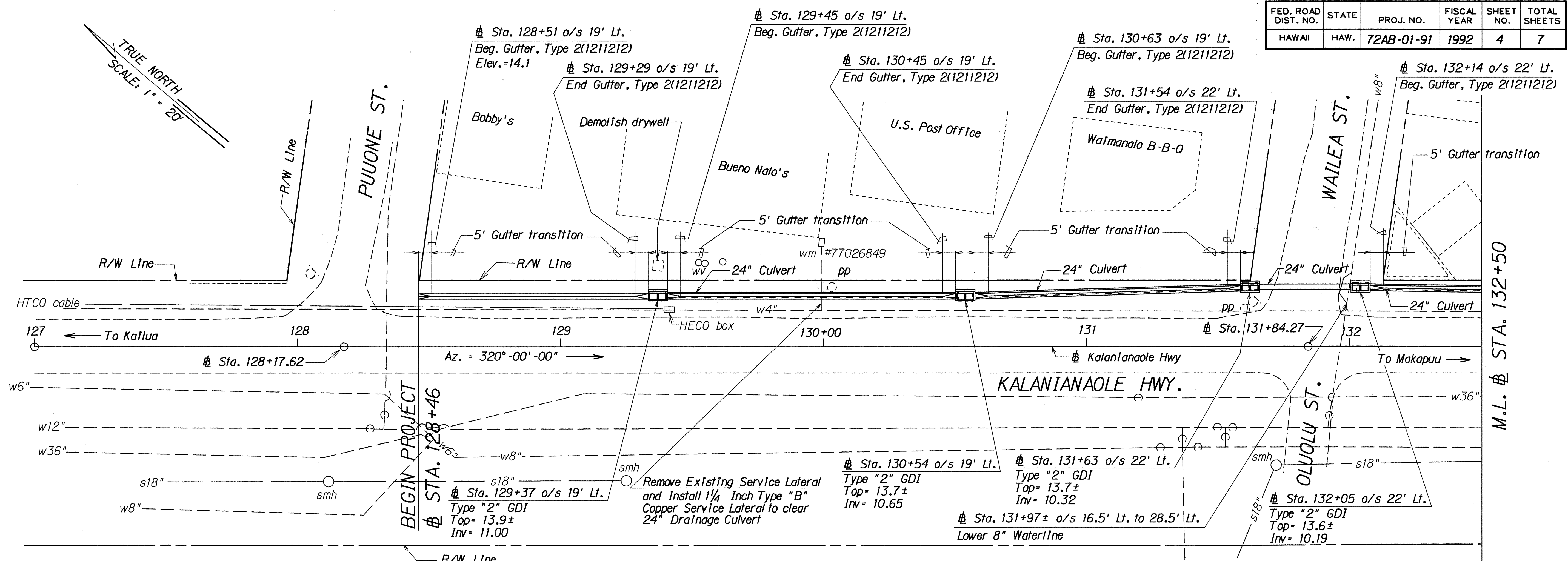
13. Waimanalo Beach Park shall be in continuous use by the public. The Contractor shall provide full cooperation with the Dept. of Parks and Recreation to effectively maintain such use of the facilities.

14. Contractor shall notify the Dept of Parks and Recreation District Superintendent (Ph. 233-7300) and Facilities Dev. Division (Ph. 527-6317) two weeks prior to start of construction within Waimanalo Beach Park.

15. No unauthorized or unwarranted entry upon, passage through, or storage, or disposal of materials shall be made in Waimanalo Beach Park. The Contractor shall be responsible for all unauthorized cutting or damaging of trees and shrubs, including damage due to careless operation of equipment, stockpiling of materials, or tracking on grassed areas by equipment.

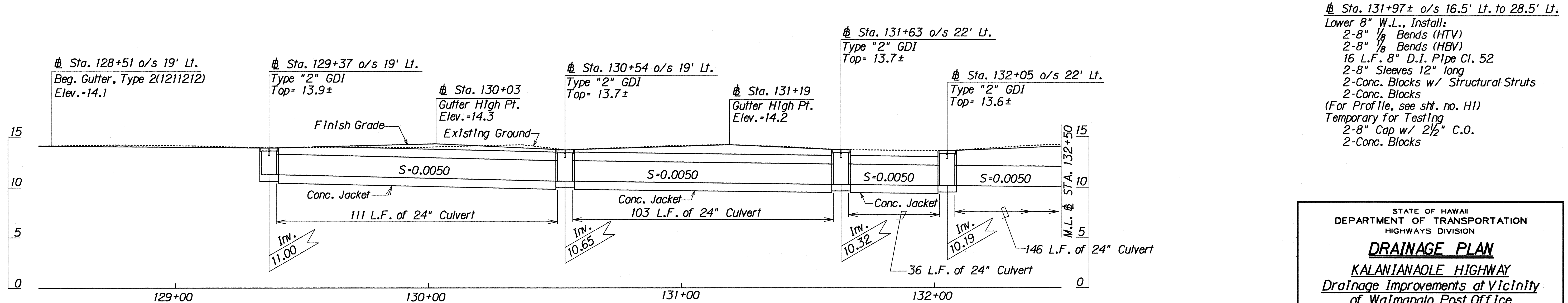
16. Contractor shall erect and maintain adequate safety signs, fences, barricades etc. This work shall not be paid for separately but shall be considered incidental to the various contract items.
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- Note: Reinforcing Steel for Concrete Jacket shall conform to the requirements of ASTM 615-Grade 60.
- ELEVATION
- DETAIL OF REINFORCED CONCRETE JACKET
- Scale: 3/4" = 1'-0"
-
- PROFILE - 8" W.L. ADJUSTMENT AT STA. 131+97±
- Scale: Vert. 1"=5'
Horz. 1"=10'
- APPROVED:
- CHIEF, PLANNING AND ENGINEERING BWS
- 5/27/92
DATE
- APPROVED:
- DIRECTOR, DEPT. OF PARKS AND RECREATION
CITY AND COUNTY OF HONOLULU
- 5/28/92
DATE
- STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
- DRAINAGE SUMMARY
KALANIANA'OLE HIGHWAY
Drainage Improvements at Vicinity
of Waimanalo Post Office
PROJ. NO. 72AB-01-91
- Scale: As Noted
SHEET No. H1 OF 5 SHEETS
- 3
- /usr2/lennox/3kalhsm01.dgn

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72AB-01-91	1992	4	7



PLAN

- Gutter, Type 2(1211212)
Sta. 128+46± to Sta. 131+59±
Sta. 132+09± to Sta. 133+54±
- Sta. 129+37 o/s 19' Lt.
Construct: Type "2" Grated Drop Inlet
(For details, see sht. no. H5)
Install: 24" ASRP, Sht. "t"=0.075 Inch or
24" RCP, Cl.III, Concrete Jacket
(For details, see sht. no. H1)
- Sta. 130+54 o/s 19' Lt.
Construct: Type "2" Grated Drop Inlet
(For details, see sht. no. H5)
Demolish existing drywell.
Install: 24" ASRP, Sht. "t"=0.075 Inch or
24" RCP, Cl.III, Concrete Jacket
(For details, see sht. no. H1)
- Sta. 131+63 o/s 22' Lt.
Construct: Type "2" Grated Drop Inlet
(For details, see sht. no. H5)
Demolish existing drywell.
Install: 24" ASRP, Sht. "t"=0.075 Inch or
24" RCP, Cl.III, Concrete Jacket
(For details, see sht. no. H1)
- Sta. 132+05 o/s 22' Lt.
Construct: Type "2" Grated Drop Inlet
(For details, see sht. no. H5)
Demolish existing drywell.
Install: 24" ASRP, Sht. "t"=0.075 Inch or
24" RCP, Cl.III,



PROFILE ALONG KALANIANA'OLE HWY.

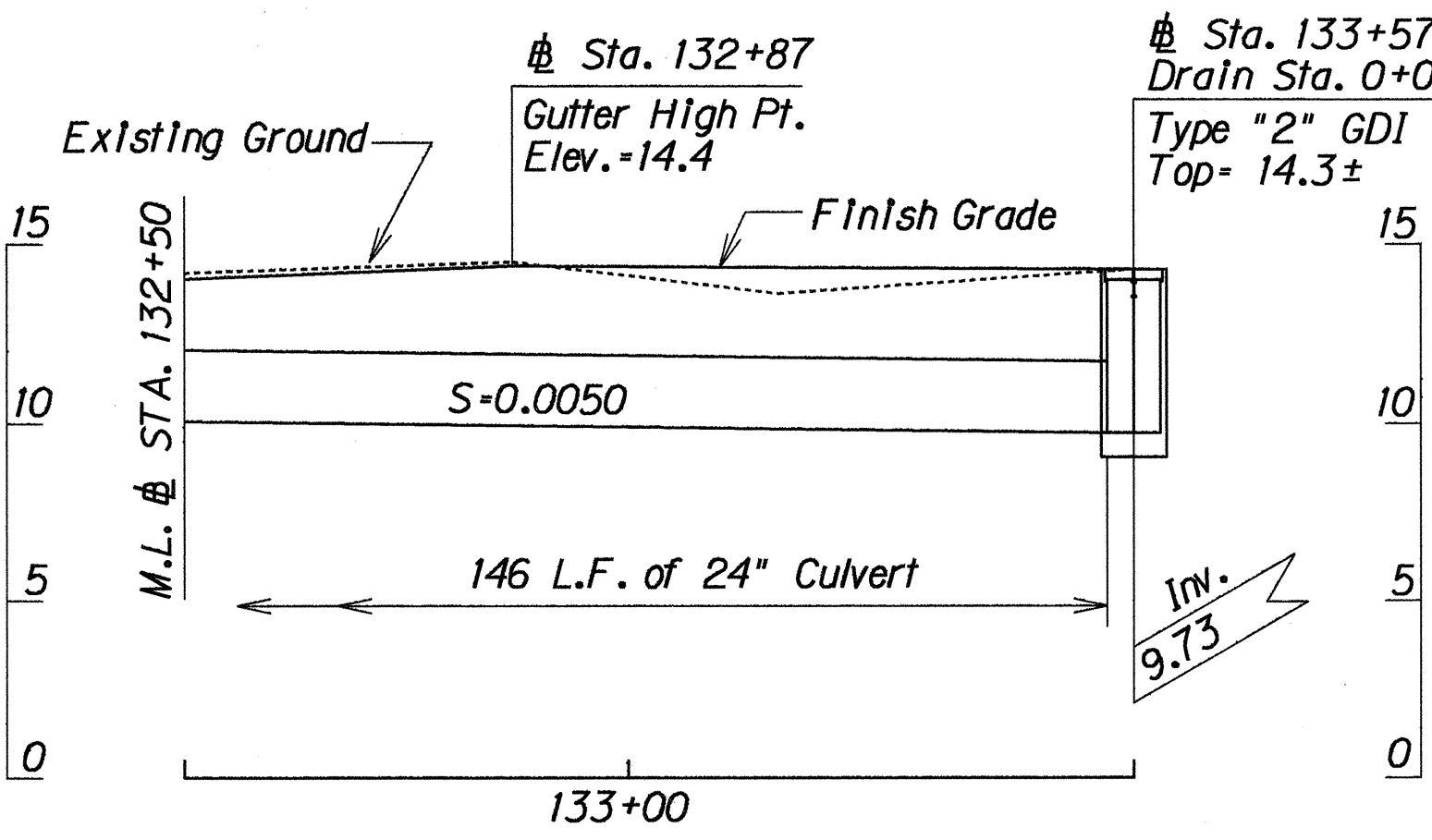
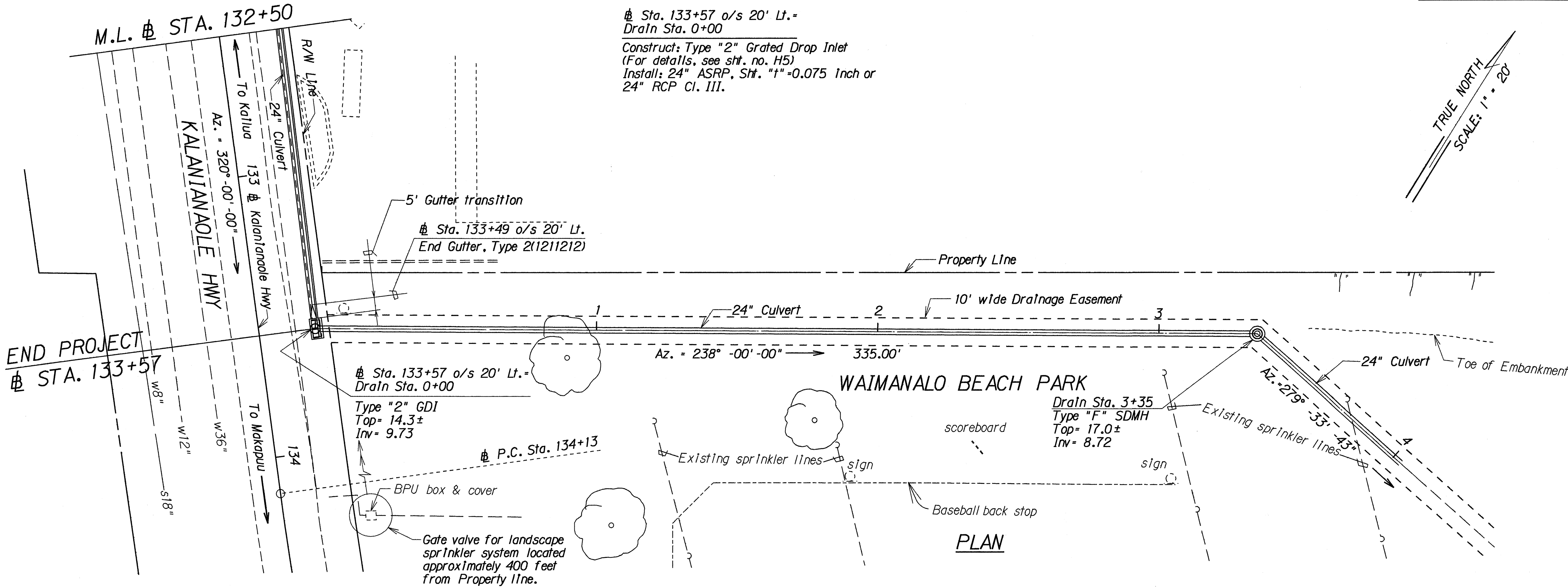
Scale: Vert. 1"=5'
Horz. 1"=20'

APPROVED:

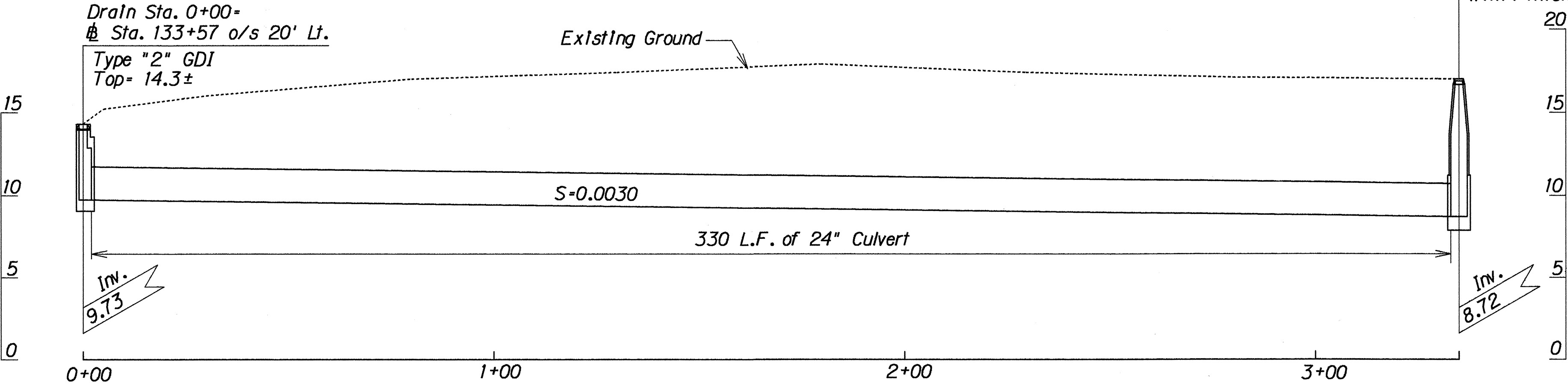
CHIEF, PLANNING AND ENGINEERING BWS DATE 5/21/92

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE PLAN
KALANIANA'OLE HIGHWAY
Drainage Improvements at Vicinity
of Waimanalo Post Office
PROJ. NO. 72AB-01-91
Scale: As Noted
SHEET No. H2 OF 5 SHEETS
Apr., 1992

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72AB-01-91	1992	5	7



PROFILE ALONG KALANIANA'OLE HWY.
Scale: Vert. 1" = 5'
Horz. 1" = 20'



PROFILE ALONG DRAIN STATIONLINE
Scale: Vert. 1" = 5'
Horz. 1" = 20'

APPROVED: *[Signature]*

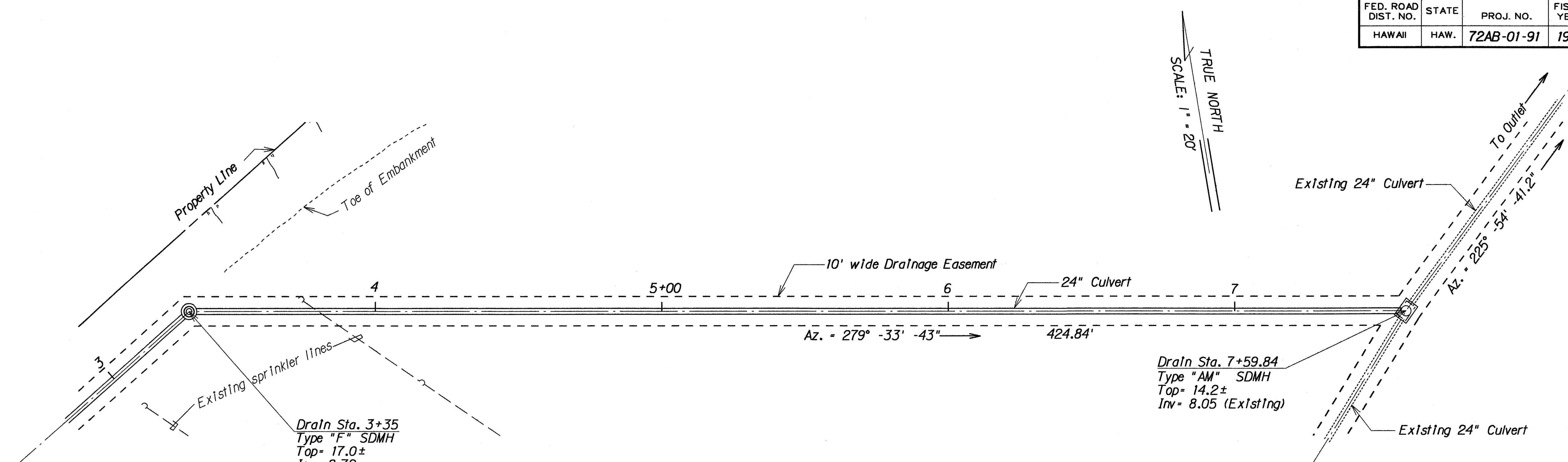
5/28/92

DIRECTOR, DEPT. OF PARKS AND RECREATION DATE
CITY AND COUNTY OF HONOLULU

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE PLAN
KALANIANA'OLE HIGHWAY
Drainage Improvements at Vicinity
of Waimanalo Post Office
PROJ. NO. 72AB-01-91

Scale: As Noted Apr., 1992
SHEET No. H3 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72AB-01-91	1992	6	7

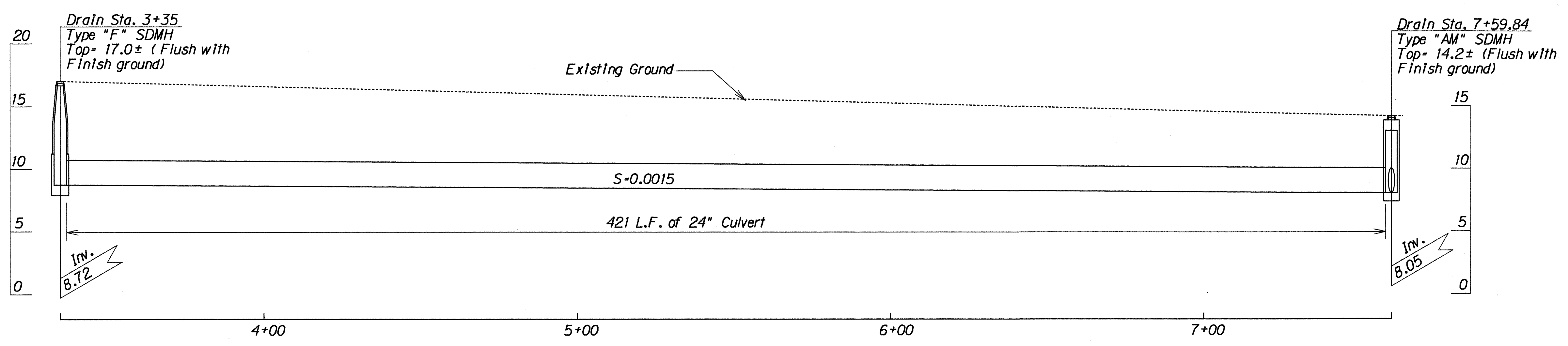


WAIMANALO BEACH PARK

PLAN

Drain Sta. 3+35
Construct: Type "F" SDMH
Install: 24" ASRP, Str. "t" = 0.075 Inch or
24" RCP, Cl. III

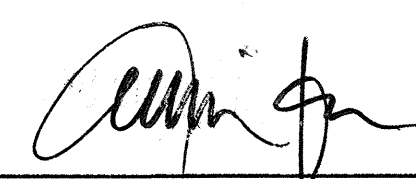
Drain Sta. 7+59.84
Demolish existing Storm Drain Manhole
Construct: Type "AM" SDMH
(For details see Std Plan H-05 except
the outer dimension shall be 5'-0" x
7'-0" with the longer length being
parallel to the existing outlet pipe)



CL PROFILE ALONG DRAIN STATIONLINE

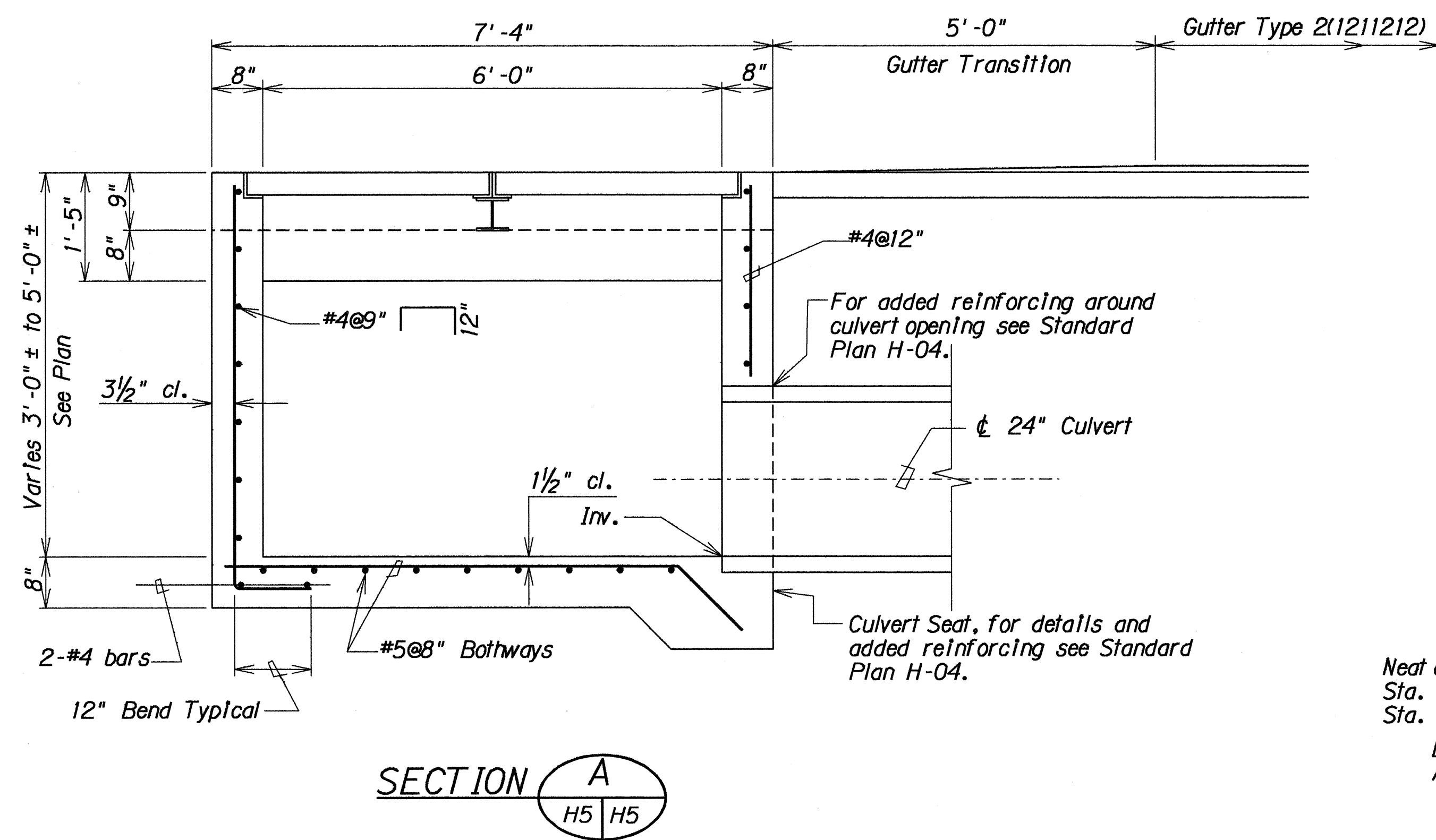
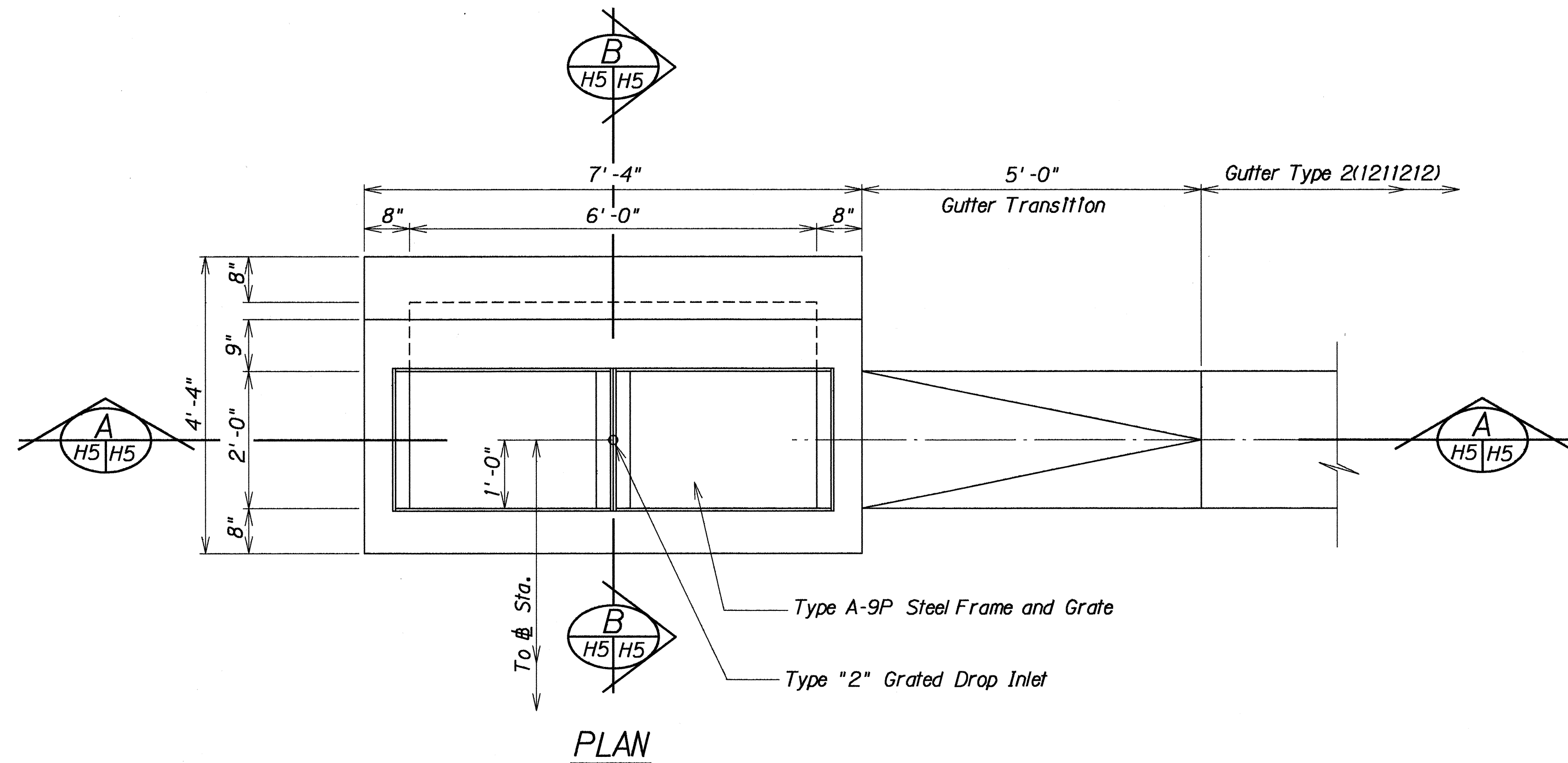
Scale: Vert. 1" = 5'
Horz. 1" = 20'

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

APPROVED:  5/20/92
DIRECTOR, DEPT. OF PARKS AND RECREATION DATE
CITY AND COUNTY OF HONOLULU

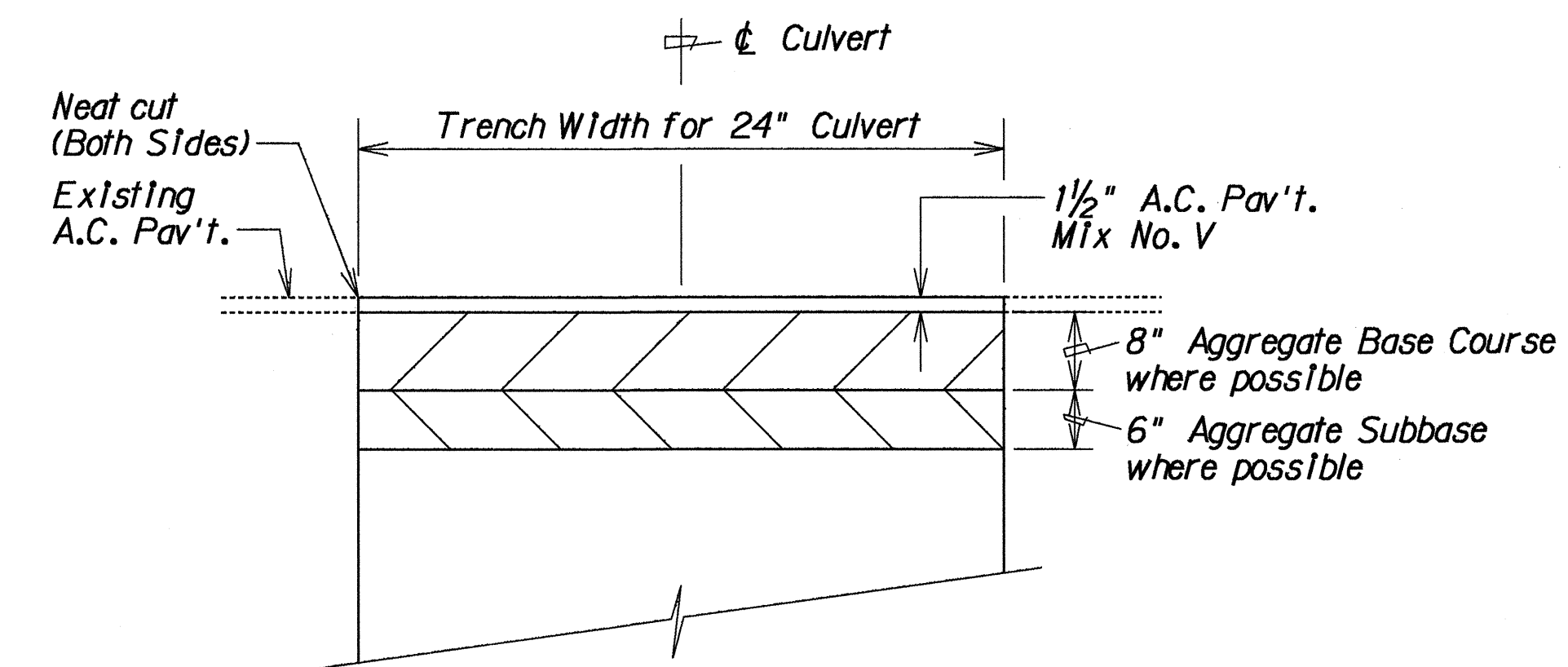
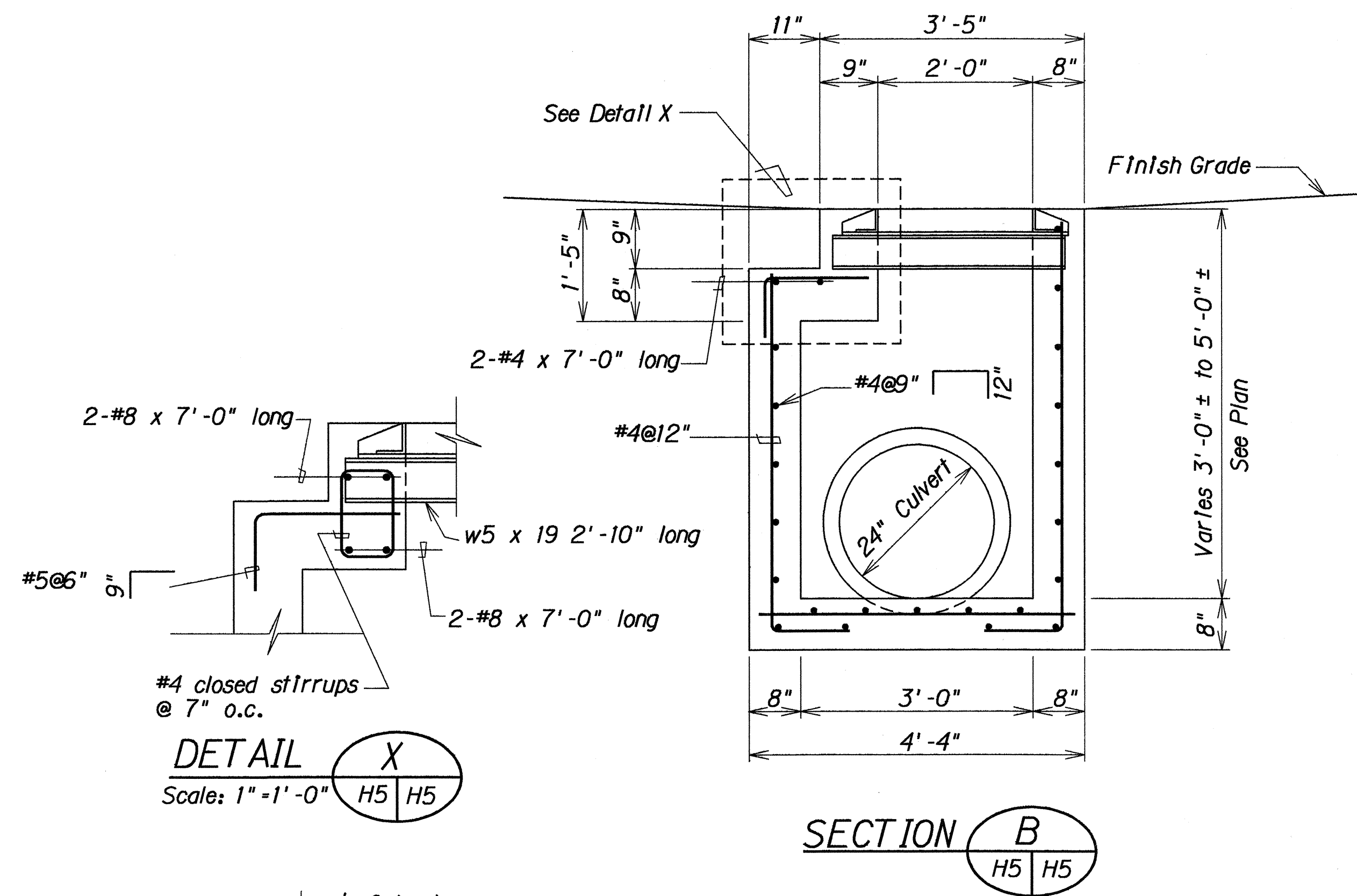
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE PLAN
KALANIANA'OLE HIGHWAY
Drainage Improvements at Vicinity
of Waimanalo Post Office
PROJ. NO. 72AB-01-91
Scale: As Noted Apr., 1992
SHEET No. H4 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	72AB-01-91	1992	7	7

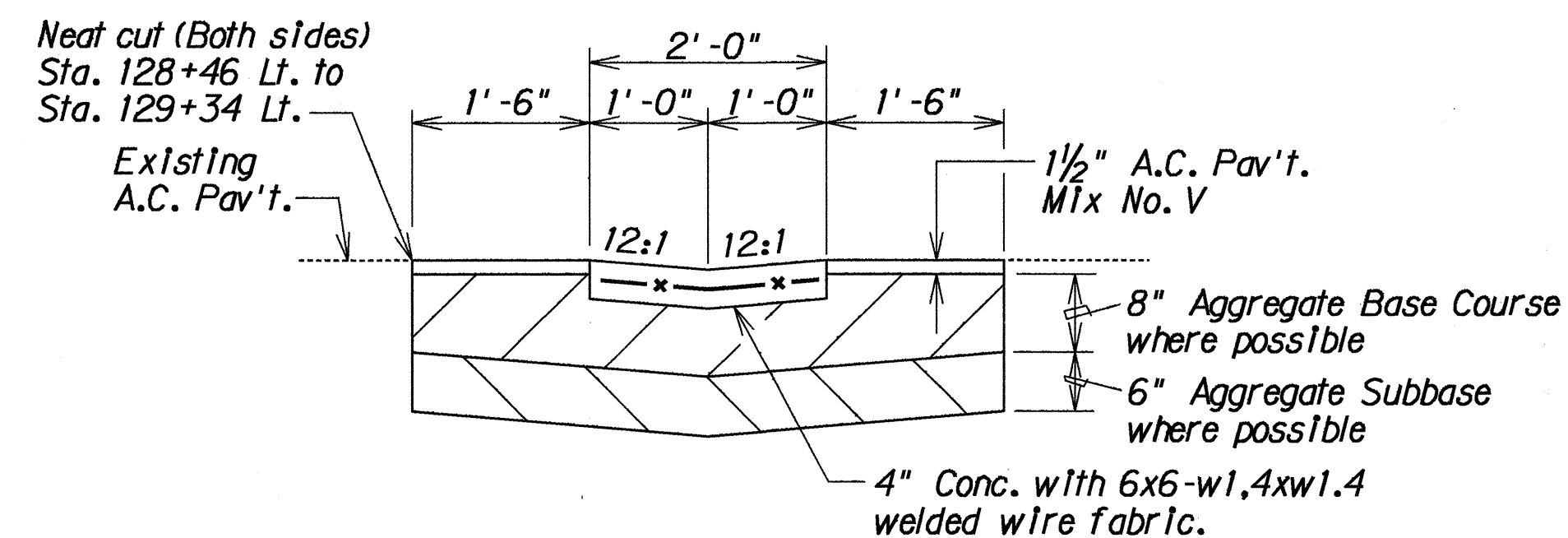


DETAIL OF TYPE "2" GRATED DROP INLET

Scale: $\frac{3}{4}$ " = 1'-0"



Scale: $\frac{3}{4}$ " = 1'-0"



Scale: $\frac{3}{4}$ " = 1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DRAINAGE DETAILS
KALANIANA'OLE HIGHWAY
Drainage Improvements at Vicinity
of Waimanalo Post Office
PROJ. NO. 72AB-01-91

Scale: As Noted
SHEET No. H5 OF 5 SHEETS