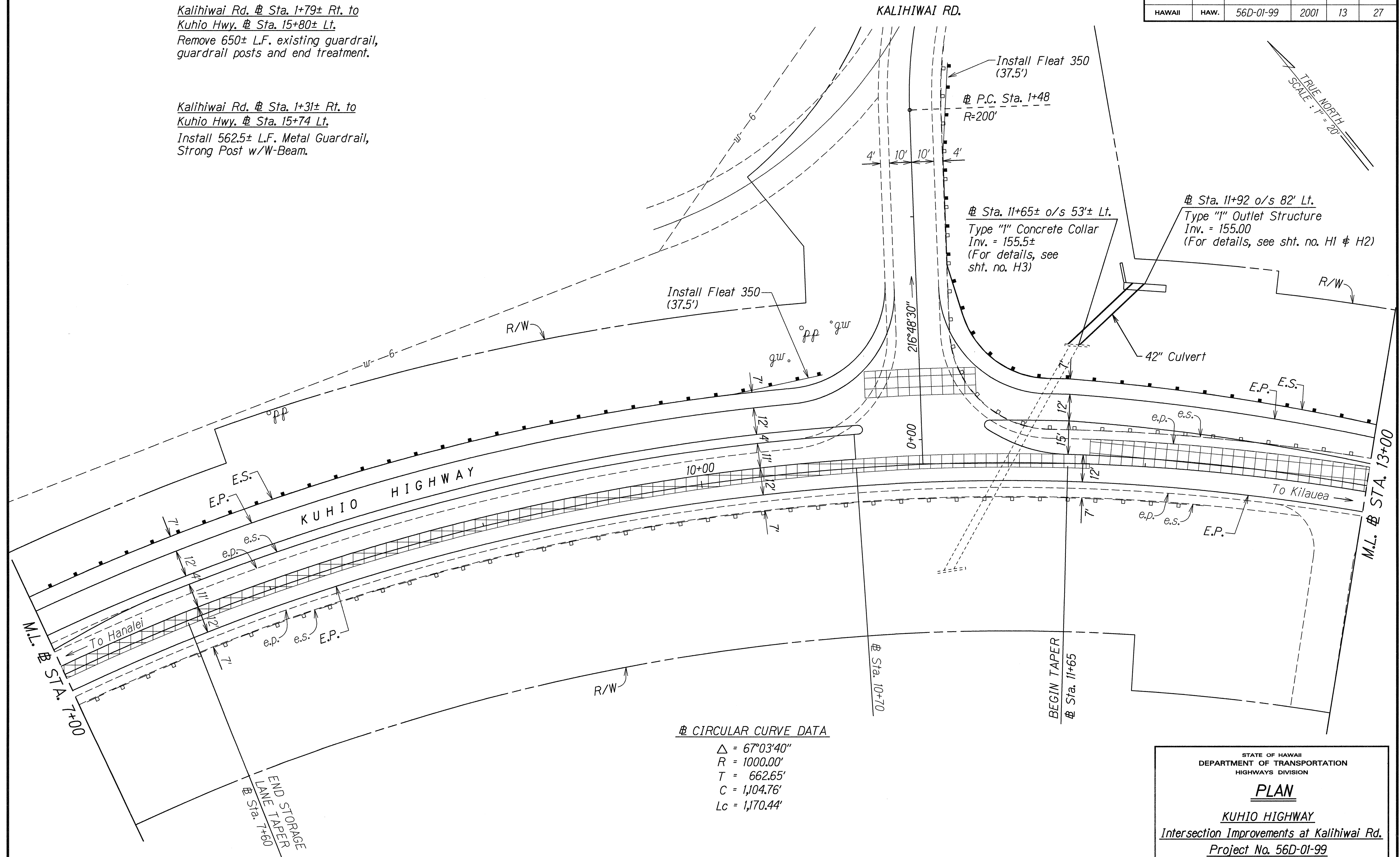


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-99	2001	13	27

Kalihiwai Rd. @ Sta. 1+79± Rt. to
Kuhio Hwy. @ Sta. 15+80± Lt.
Remove 650± L.F. existing guardrail,
guardrail posts and end treatment.

Kalihiwai Rd. @ Sta. 1+31± Rt. to
Kuhio Hwy. @ Sta. 15+74 Lt.
Install 562.5± L.F. Metal Guardrail,
Strong Post w/W-Beam.

# CIRCULAR CURVE DATA
$$\begin{aligned}\Delta &= 67^{\circ}03'40'' \\ R &= 1000.00' \\ T &= 662.65' \\ C &= 1,104.76' \\ Lc &= 1,170.44'\end{aligned}$$

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PLAN

KUHIO HIGHWAY

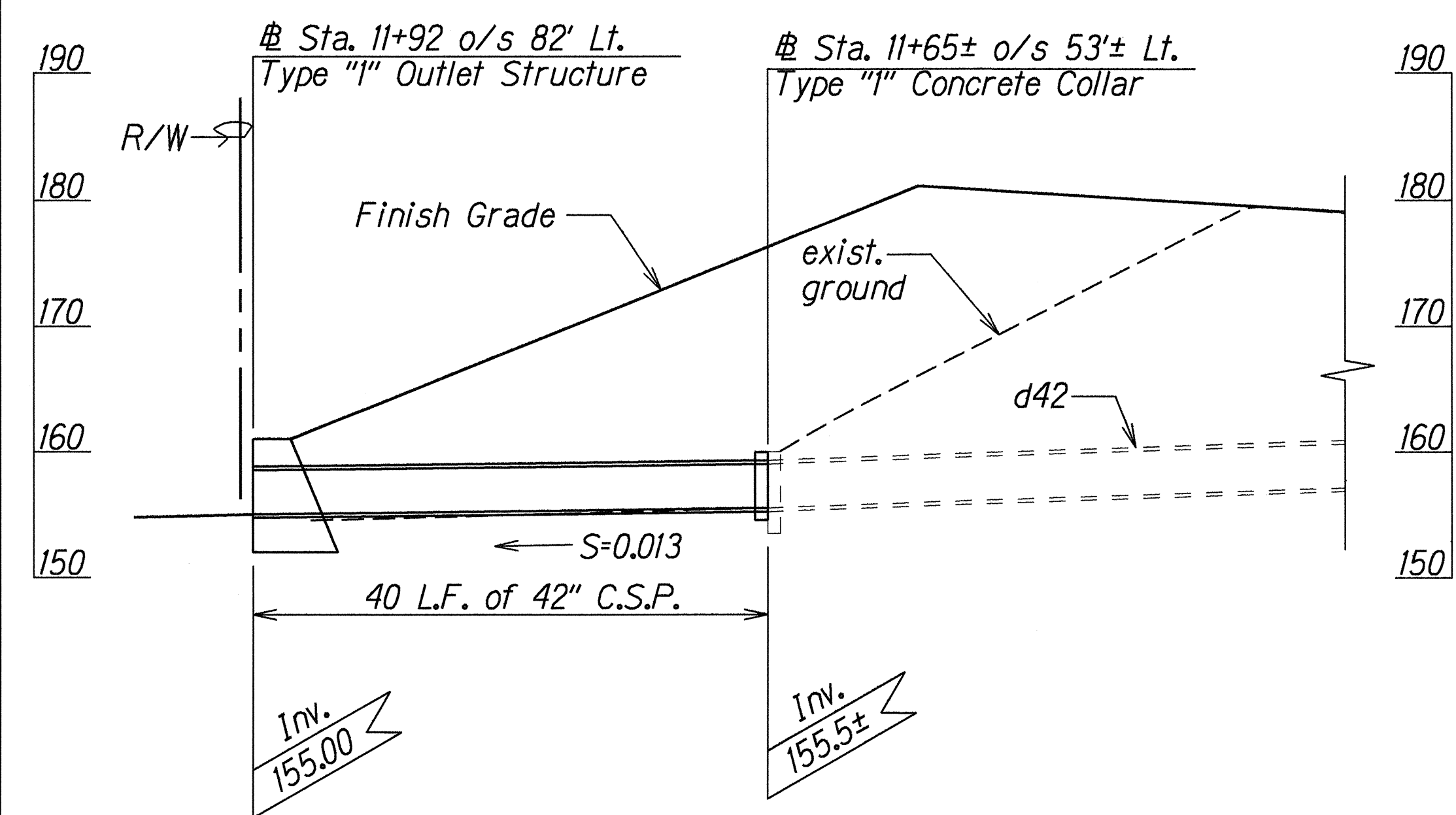
Intersection Improvements at Kalihiwai Rd.

Project No. 56D-01-99

Scale: 1" = 20' Date: Aug. 2000

SHEET No. 2 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-99	2001	15	27



PROFILE-KUHIO HIGHWAY @ STA. 11+65± 0/S 53'± LT.
TO @ STA. 11+92 0/S 82' LT.

Scale: Horiz. 1"=10'
 Vert. 1"=10'

@ Sta. 11+65± Lt.
 Construct: Type "1" Concrete Collar
 (For Det. See Sht. H3)
 Install: 42" Culvert

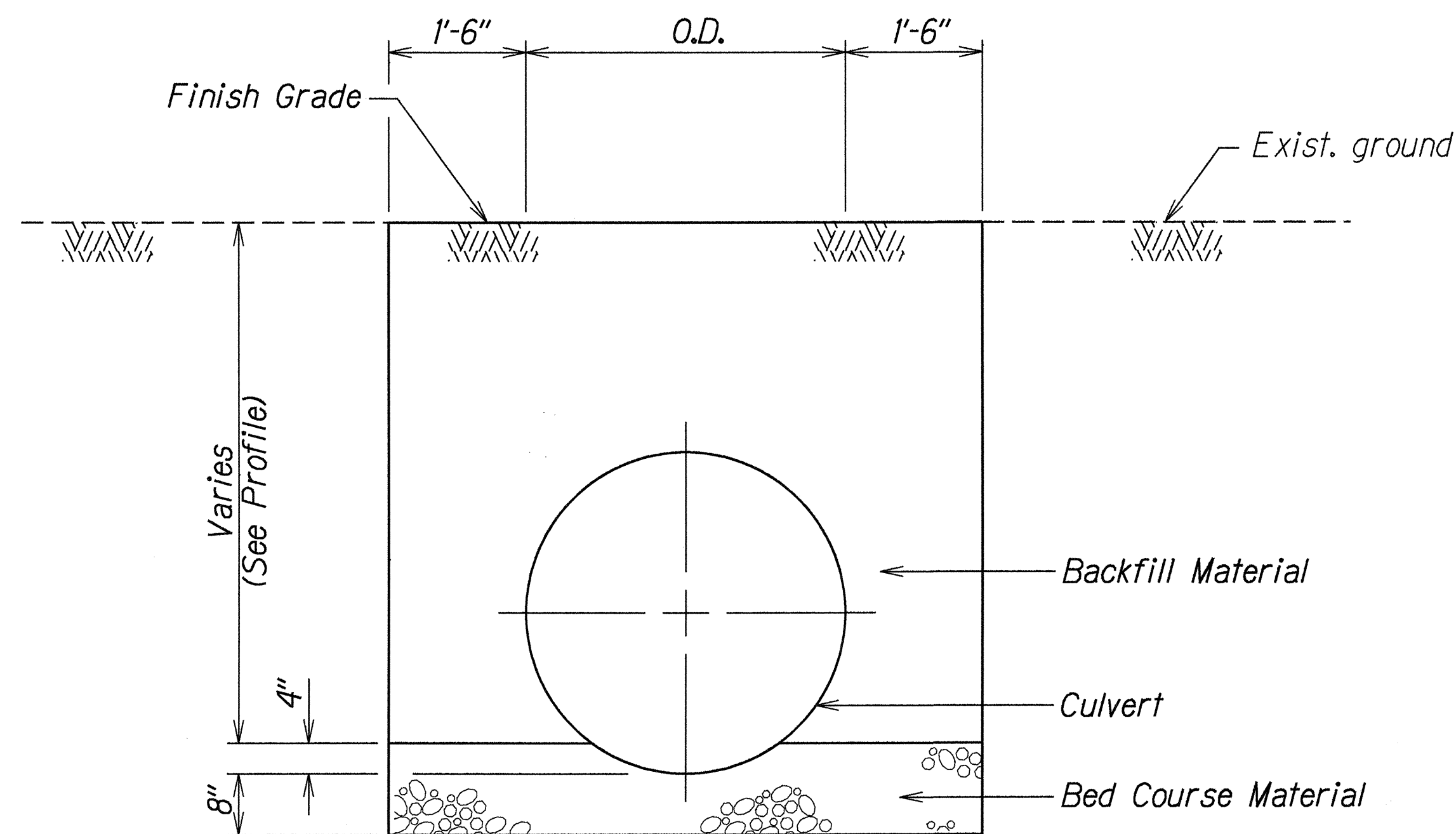
Estimated Quantities
 Structure Excavation = 32 C.Y.
 Bedcourse Material = 8 C.Y.
 42" C.S.P. = 40 L.F.
 Type "1" Concrete Collar = 1 EA.

@ Sta. 11+92 Lt.
 Construct: Type "1" Outlet Structure
 (For Det. See Sht. H1 & H2)

Estimated Quantities
 Filter Material = 8 C.Y.
 Structure Backfill = 53 C.Y.
 Impervious Material = 19 C.Y.
 Concrete in Headwall = 43 C.Y.
 Reinforcing Steel = 1700 LBS.

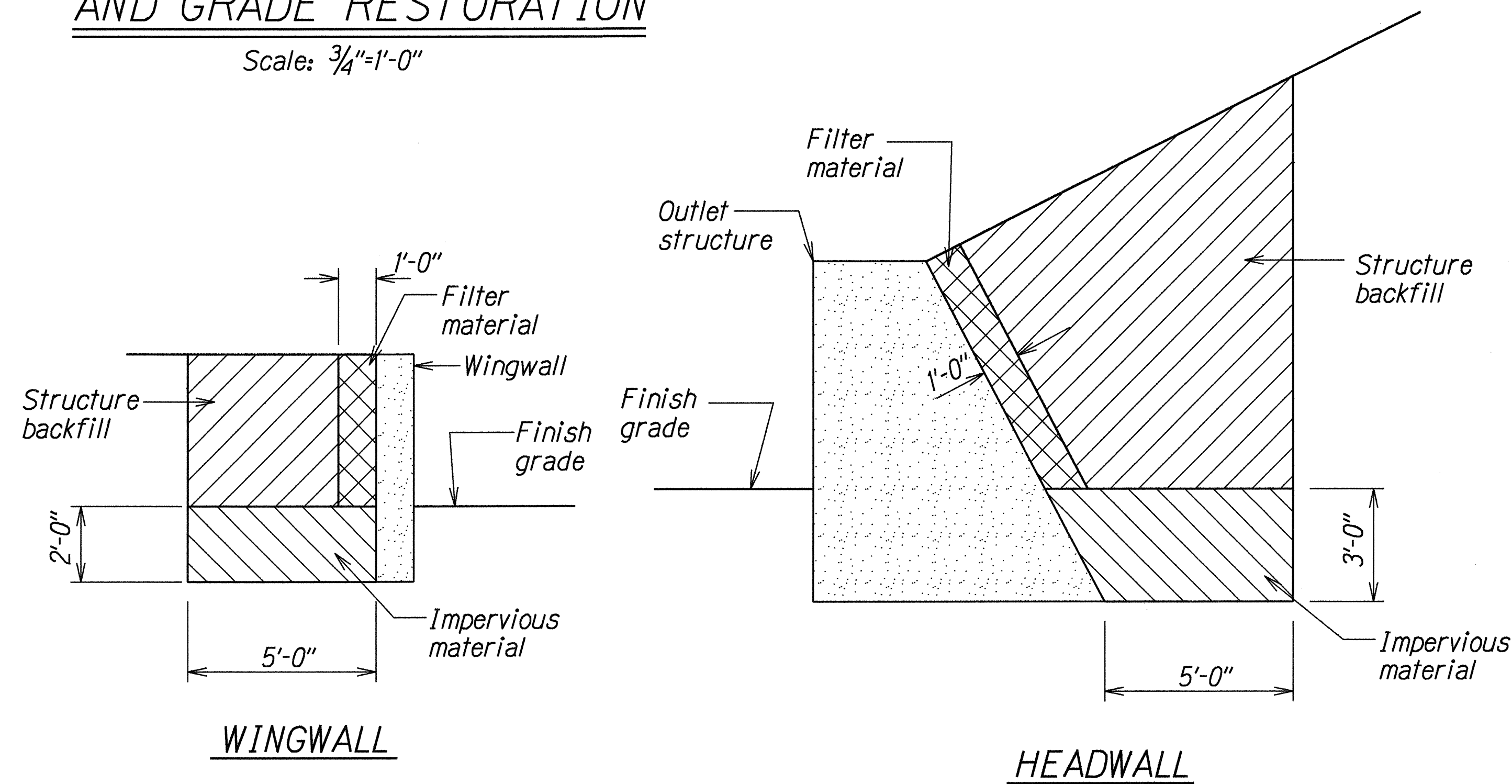
DRAINAGE NOTES:

- Existing drainage systems will be functional at all times during construction. The Contractor is to furnish materials, equipment, labor, tools and incidentals necessary to accomplish maintenance of flow. The cost shall be incidental to the various Contract Items.
- 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.
- Concrete shall be Class A unless otherwise noted.
- Chamfer all exposed concrete edges unless otherwise noted.



TYPICAL DETAILS OF CULVERT TRENCH
AND GRADE RESTORATION

Scale: 3/4"=1'-0"



DETAILS OF STRUCTURE BACKFILL
FOR TYPE "1" OUTLET STRUCTURE

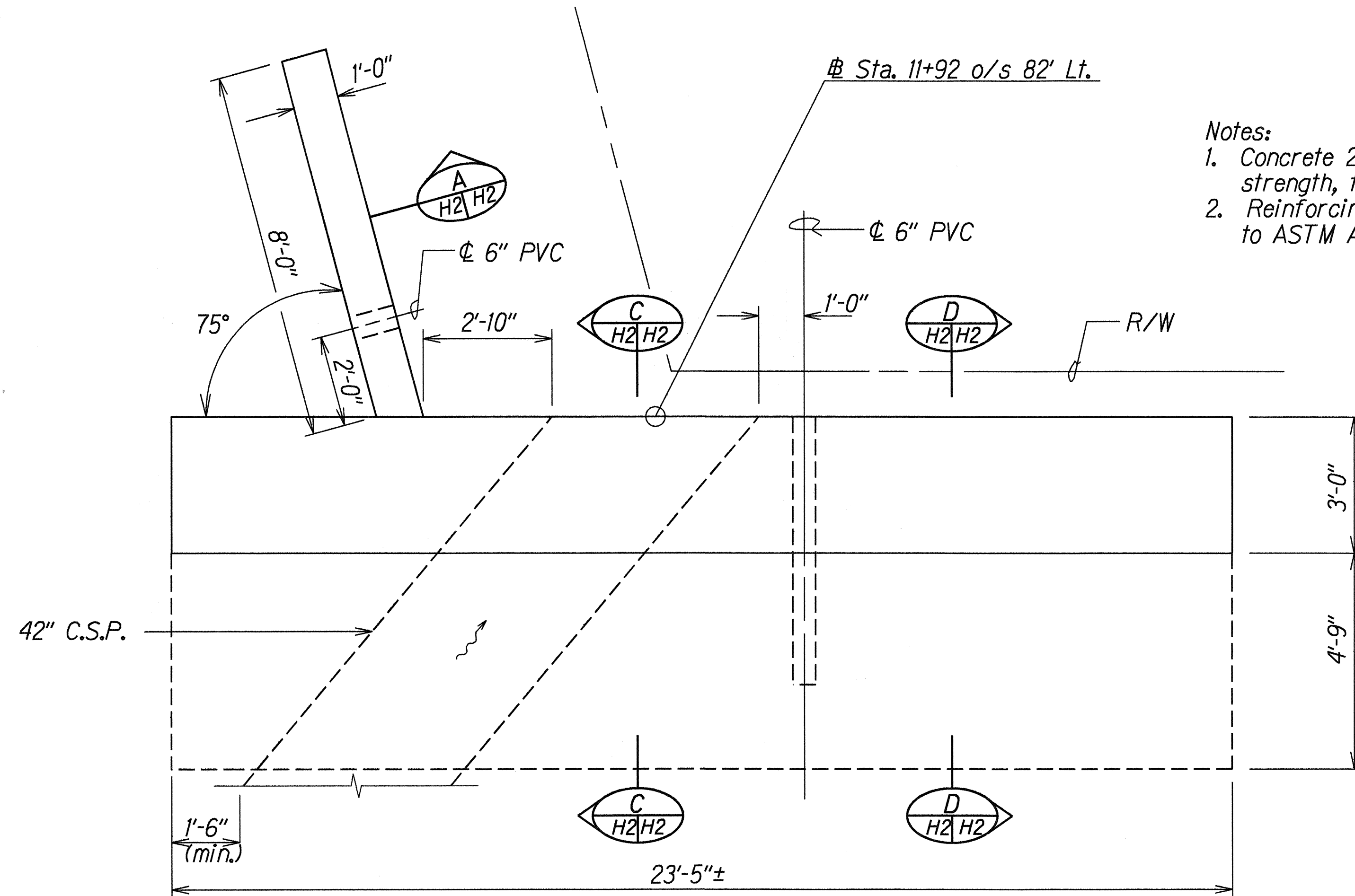
Scale: 3/8"=1'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

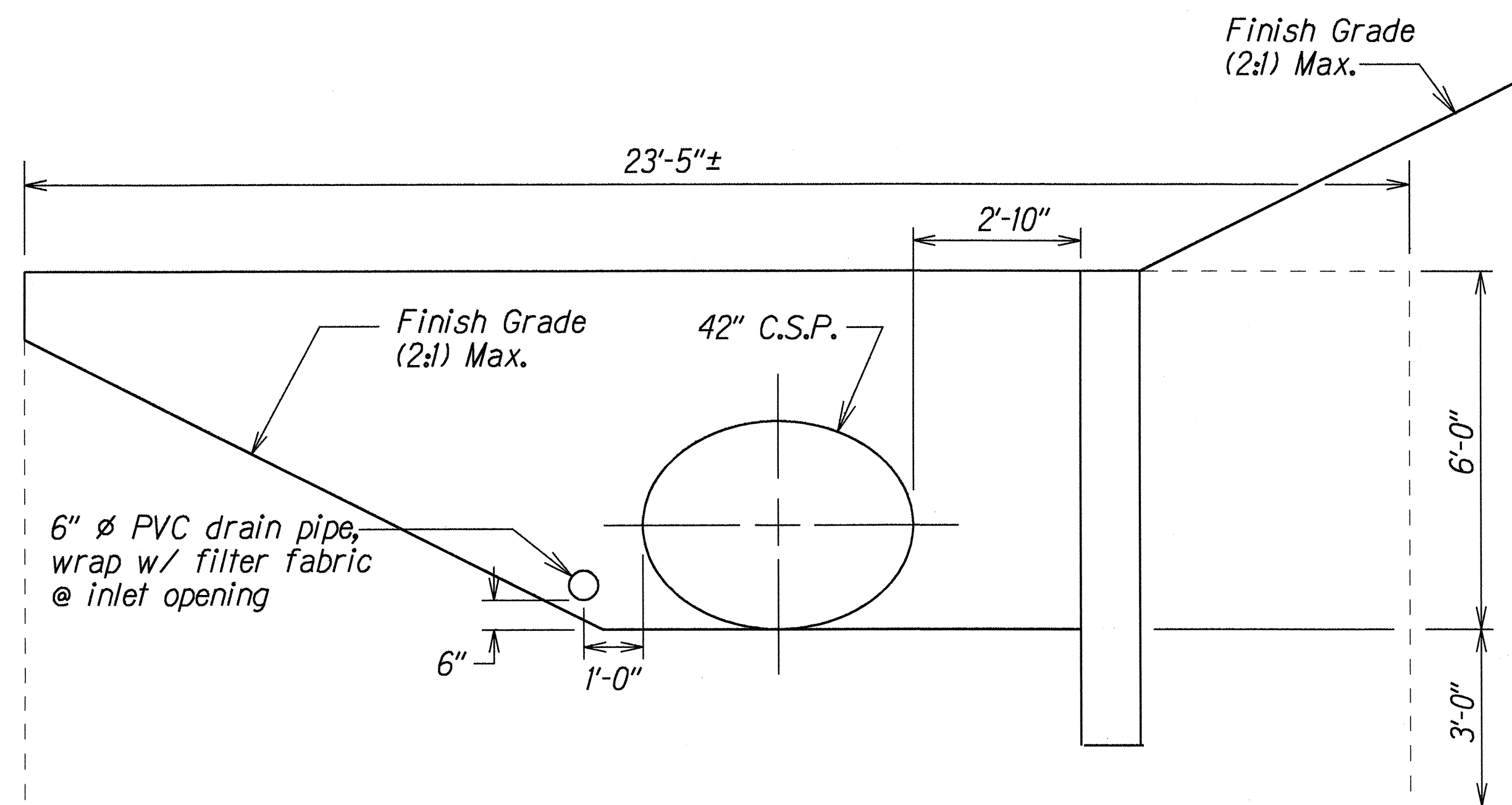
DRAINAGE DETAILS
KUHIO HIGHWAY
Intersection Improvements at Kalihiwai Rd.
Project No. 56D-01-99
Scale: As Shown Date: Jan. 2000
SHEET No. H1 OF 3 SHEETS

ORIGINAL PLAN	DATE
SURVEY PLANNED BY	
DRAWN BY	
CHECKED BY	
DESIGNED BY	
QUANTITIES BY	
APPROVED BY	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	56D-01-99	2001	16	27

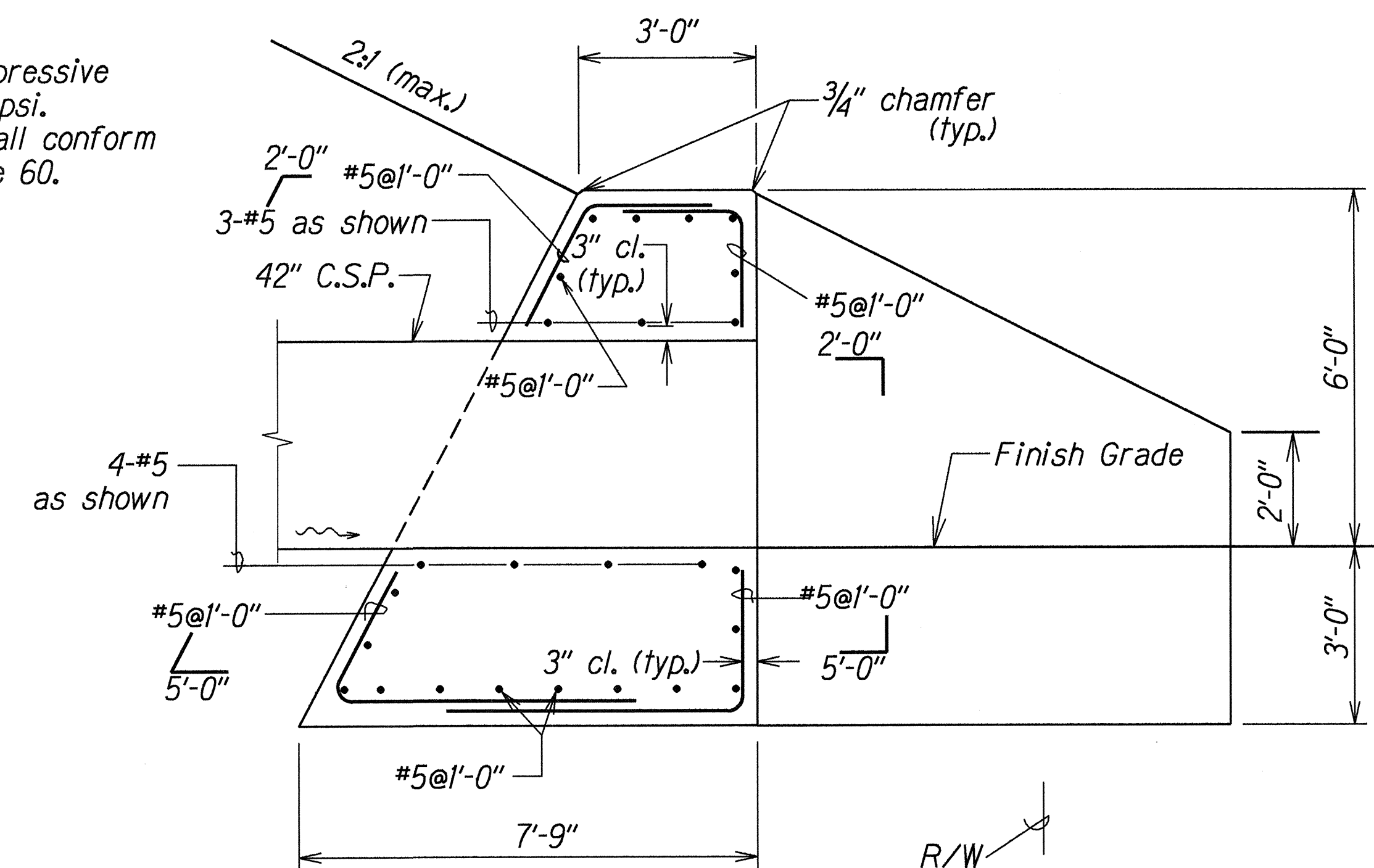


PLAN
Scale: 1/2" = 1'-0"

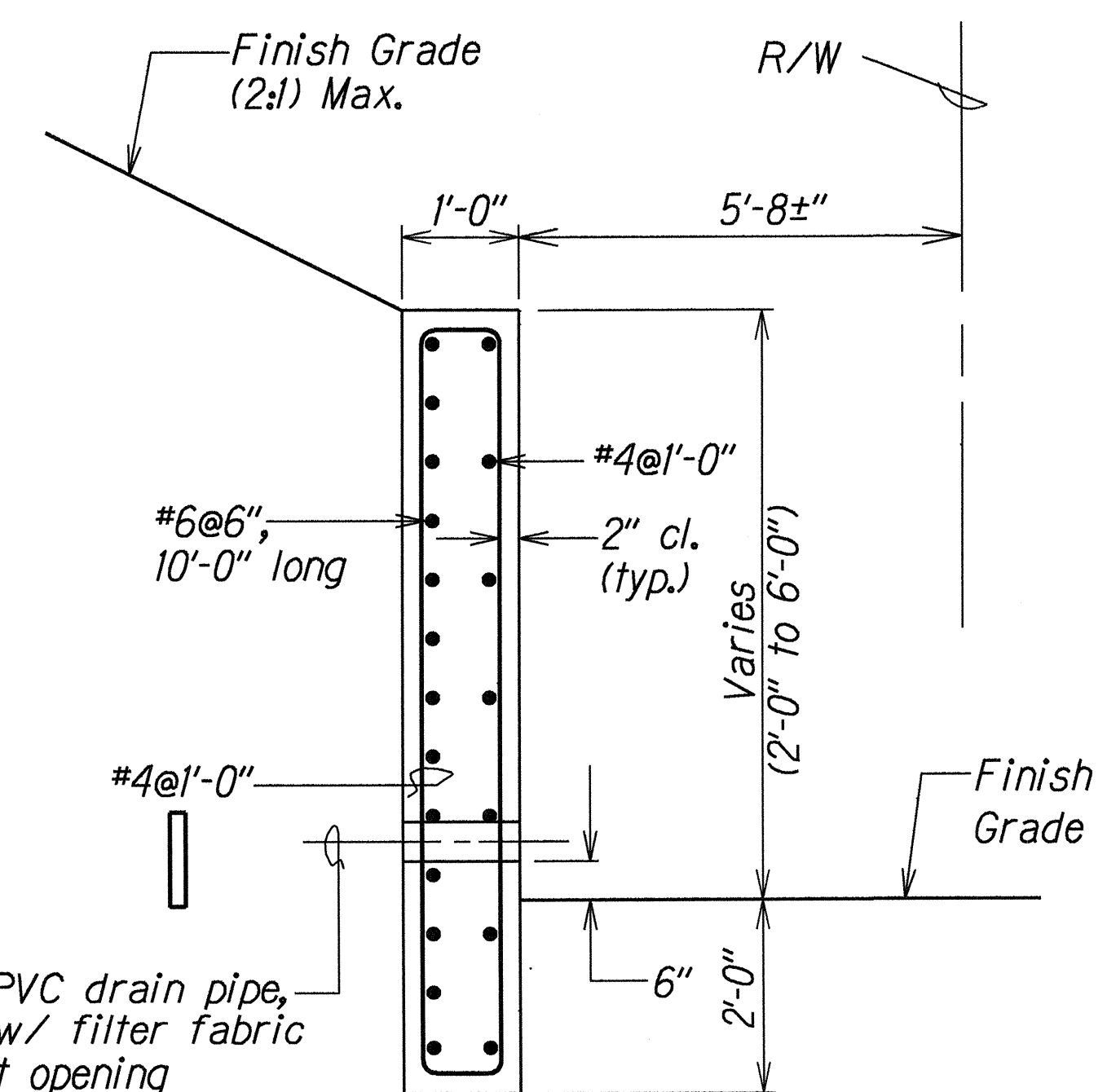


ELEVATION
Scale: 1/2" = 1'-0"

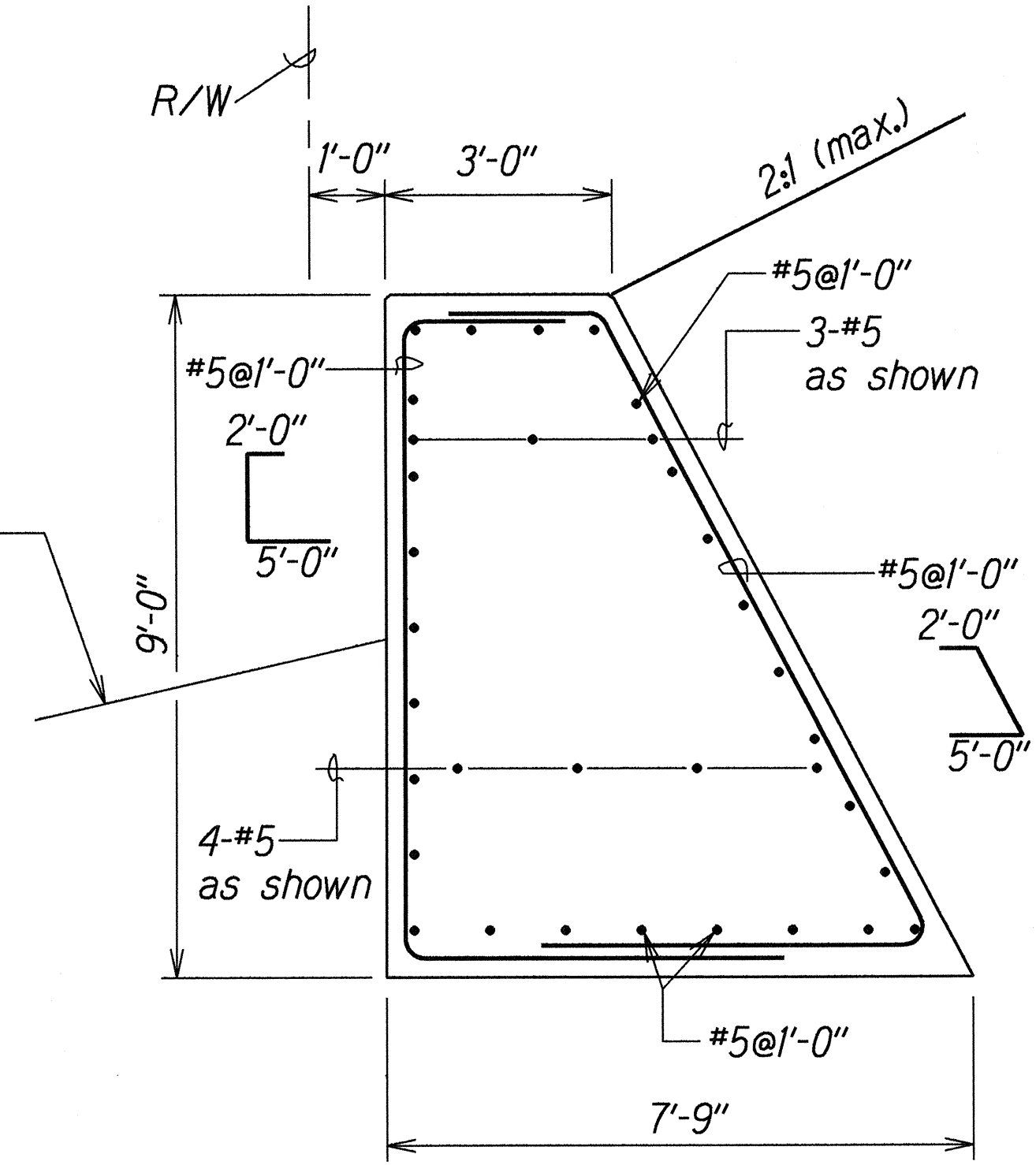
- Notes:
- Concrete 28 day compressive strength, $f'_c = 3,000$ psi.
 - Reinforcing steel shall conform to ASTM A 615 Grade 60.



SECTION C
Scale: 1/2" = 1'-0"



SECTION A
Scale: 3/4" = 1'-0"



SECTION D
Scale: 1/2" = 1'-0"

DATE	1/1/00
SURVEY PLOTTED BY	B. Tola
DRAWN BY	B. Tola
TRACED BY	B. Tola
QUANTITIES BY	B. Tola
CHECKED BY	B. Tola

DETAILS OF TYPE "I" OUTLET STRUCTURE AT STA. 11+92 O/S 82' LT.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE DETAILS

KUHIO HIGHWAY
Intersection Improvements at Kalihiwai Rd.
Project No. 56D-01-99

Scale: As shown Date: Jan. 2000

SHEET No. H2 OF 3 SHEETS

