FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122):16	1977	59	181

GENERAL UTILITY NOTES (ALL UTILITIES)

1. WHERE REQUIRED, RESTORATION OF EXISTING PAVEMENTS AND IMPROVEMENTS DEMOLISHED BY UTILITY RELOCATION WORK SHALL BE INCIDENTAL TO THE VARIOUS CONTRACT ITEMS. RESTORATION SHALL BE TO ORIGINAL OR BETTER CONDITION.
2. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES, APPURTENANCES AND STRUCTURES AS SHOWN ON THE PLANS ARE BASED ON EXISTING RECORDS OF VARYING DEGREES OF ACCURACY AND COMPLETENESS VERIFIED WHENEVER POSSIBLE BY FIELD SURVEYS. THE CONTRACTOR SHALL VERIFY LOCATION AND INVERTS OF EXISTING LINES, AND SHALL BE REQUIRED TO MAKE ADJUSTMENT TO ANY NEW OR EXISTING SYSTEMS AS NECESSARY WITH THE APPROVAL OF THE ENGINEER OR WHENEVER DIRECTED BY THE ENGINEER. THE CONTRACTOR SHALL NOT ASSUME THAT WHERE NO EXISTING UTILITIES ARE SHOWN, THAT NONE EXIST.
3. WHERE PUMPING IS REQUIRED CONTRACTOR SHALL POST A CUSTODIAN DURING ENTIRE PUMPING OPERATION. CUSTODIAN MUST BE KNOWLEDGEABLE IN THE OPERATION OF THE TYPE OF PUMP BEING USED IN ORDER TO PREVENT PROLONGED DELAY DURING ANY BREAKDOWN THAT MIGHT OCCUR.

GENERAL SEWER NOTES (CITY)

1. CRUSHED ROCK CRADLE WILL BE PERMITTED WHERE THE SOIL IS STABLE. IN AREAS OF UNSTABLE SOIL, THE ENGINEER AND THE SEWER ENGINEER (C&C) WILL DISCUSS TO DETERMINE THE PIPE SUPPORT REQUIRED.
2. THE CONTRACTOR SHALL NOTIFY THE DIVISION OF SEWERS SEVEN DAYS PRIOR TO COMMENCEMENT OF SEWER WORK.
3. TOP OF SEWER MANHOLES IN EASEMENTS SHALL BE FOUR (4) INCHES ABOVE GROUND UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
4. EXISTING LATERALS SHOWN ARE FROM BEST SOURCES AVAILABLE. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATIONS AS REQUIRED. ANY EXISTING LATERALS EXPOSED DURING CONSTRUCTION SHALL BE EXTENDED AND RECONNECTED TO NEW MAINS IF SERVICES ARE REQUIRED, OR CUT AND PLUGGED.
5. ALL FRAMES AND COVERS ON EXISTING SEWER MANHOLES TO BE DEMOLISHED SHALL BE CLEANED AND REUSED ON NEW SEWER MANHOLES OR RETURNED TO THE CITY & COUNTY AS DIRECTED BY THE ENGINEER.
6. LOCATION OF PROPOSED LINES, UNLESS OTHERWISE NOTED, ARE TO BE CONSIDERED DIAGRAMMATIC. UPON VERIFICATION IN THE FIELD OF THE LOCATION OF THE EXISTING LINES, THE FINAL LOCATION OF THE PROPOSED LINES SHALL BE DETERMINED SUBJECT TO THE APPROVAL OF THE ENGINEER AND THE CITY & COUNTY OF HONOLULU.
7. RESTORATION OF EXISTING STREETS AND OTHER IMPROVEMENTS TO BE INCIDENTAL.
8. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF SEWER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE CITY & COUNTY STANDARD SPECIFICATIONS, MAY 1975, AND THE LATEST DIVISION OF SEWER DETAIL, FEBRUARY 1973, AS REVISED AND THE REVISED ORDINANCES OF HONOLULU, 1969.

[redacted] WATER SYSTEM GENERAL NOTES

1. UNLESS OTHERWISE SPECIFIED, ALL MATERIALS AND CONSTRUCTION OF WATER SYSTEM FACILITIES AND APPURTENANCES SHALL BE IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, DATED 1976, AS AMENDED, OF THE HAWAII HIGHWAYS DIVISION, DEPARTMENT OF TRANSPORTATION.
2. PRIOR TO EXCAVATING FOR NEW WATER, DRAIN, SEWER AND OTHER UTILITY LINES, THE CONTRACTOR SHALL VERIFY IN THE FIELD THE LOCATION OF EXISTING WATER MAINS AND APPURTENANCES.

   WHERE THE INSTALLATIONS OF NEW DRAIN, SEWER OR OTHER UTILITY LINES, ARE TO CROSS OVER OR UNDER EXISTING WATER MAINS, THE CONTRACTOR SHALL EXPOSE THE EXISTING WATER MAINS PRIOR TO TRENCHING. EXCAVATION AROUND WATER MAINS SHALL BE DONE BY HAND.
3. ITEMS INDICATED AS "RELOCATE" ON THE PLANS SHALL BE REMOVED, CLEANED, PAINTED AND REINSTALLED AT THE NEW LOCATION BY THE CONTRACTOR UNLESS OTHERWISE SPECIFIED.
4. MINIMUM CLEARANCES BETWEEN FIRE HYDRANTS AND UTILITY POLES OR LIGHT STANDARDS SHALL BE 3.0 FEET.
5. THE NEW MAINS SHALL BE INSTALLED, TESTED AND PLACED IN SERVICE PRIOR TO PLACING ANY FILL OR PERFORMING ANY WORK OVER OR NEAR THE EXISTING MAINS.
6. THE EXISTENCE AND LOCATION OF UNDERGROUND UTILITIES AND STRUCTURES AS SHOWN ON THE PLANS ARE FROM THE LATEST AVAILABLE DATA BUT IS NOT GUARANTEED AS TO THE ACCURACY OR THE ENCOUNTERING OF OTHER OBSTACLES DURING THE COURSE OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL PAY FOR ALL DAMAGES TO EXISTING UTILITIES.
7. DEGREE OF ALL BENDS OR LENGTH OF ADJACENT PIPES REQUIRED AT POINTS OF CONNECTION TO THE EXISTING MAIN SHALL BE VERIFIED AFTER EXPOSURE OF THE EXISTING MAIN PRIOR TO THE START OF CONSTRUCTION WORK.
8. THERE SHALL BE A MINIMUM HORIZONTAL CLEARANCE OF 3 FEET AND A MINIMUM VERTICAL CLEARANCE OF 6 INCHES BETWEEN WATER MAINS AND OTHER UTILITIES, HECO, HTCO, AND OTHER UTILITY POLES, HANDHOLES, MANHOLES, SEWER MAINS AND APPURTENANCES ALSO HAVE MINIMUM OF 3 FEET CLEARANCE FROM WATER MAINS AND OTHER WATER SYSTEM APPURTENANCES.
9. WATERLINES SHALL BE DUCTILE IRON AS INDICATED IN THE PROPOSAL.
10. PIPE TEST PRESSURE SHALL BE 150 PSI.
11. UNLESS OTHERWISE SPECIFIED, CONNECTIONS TO EXISTING WATER MAINS AND CHLORINATION OF NEW MAINS SHALL BE DONE BY THE CONTRACTOR.
12. ALL DUCTILE IRON WATER MAINS AND FITTINGS BELOW ELEVATION (+) 4.0' SHALL BE ENCASED IN PLASTIC MATERIAL IN ACCORDANCE WITH ANSI SPECIFICATIONS A21.5-1972 OR AWWA SPECIFICATIONS C105-72 "POLYETHYLENE ENCASEMENT FOR GRAY AND DUCTILE CAST IRON PIPING FOR WATER AND OTHER LIQUIDS."
13. THE CONTRACTOR SHALL NOTIFY THE BOARD OF WATER SUPPLY IN WRITING ONE WEEK PRIOR TO COMMENCING WORK ON MAIN.

GASCO GENERAL NOTES

1. THE WORK SHALL CONSIST OF THE RELOCATION OF THE GAS SYSTEM INVOLVING FURNISHING ALL LABOR AND EQUIPMENT FOR EXCAVATING, AND BACKFILLING FOR VARIOUS NEW GAS LINES AND APPURTENANCES. GASCO, INC., OR ITS CONTRACTOR, WILL PROVIDE ALL MATERIALS, LABOR AND EQUIPMENT FOR THE INSTALLATION OF THE GAS LINE, INCLUDING FABRICATION, WELDING, AND TESTING.
2. THE CONTRACTOR SHALL NOTIFY GASCO AT LEAST FOURTEEN (14) CALENDAR DAYS IN ADVANCE OF ANY WORK INVOLVING THE GAS SYSTEM AND SHALL COORDINATE HIS WORK WITH GASCO.
3. LOCATION OF EXISTING GAS LINES AND APPURTENANCES SHOWN ON THE PLANS ARE APPROXIMATE ONLY AND THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION BEFORE INSTALLING ANY IMPROVEMENTS CALLED FOR ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGES TO EXISTING GAS LINES AND SHALL REPAIR ANY LINES DAMAGED THROUGH HIS OPERATIONS AT HIS EXPENSE.
4. THERE SHALL BE AT LEAST 12 INCH CLEARANCE BETWEEN ANY GAS LINE AND ANY UNDERGROUND STRUCTURE NOT USED IN CONJUNCTION WITH THE GAS LINE. IF THIS CLEARANCE CANNOT BE ATTAINED, THE GAS LINE SHALL BE PROTECTED WITH A GASCO, INC., APPROVED INSULATED MATERIAL.
5. THE CONTRACTOR SHALL SCHEDULE HIS WORK AND COOPERATE WITH GASCO SO THAT THE NEW GAS LINES CAN BE LAID IN AN ORDERLY MANNER WITH MINIMUM DELAY TO CUSTOMERS.

ARMY COMMUNICATION CABLE (ACC) GENERAL NOTES

1. THE HAWAIIAN TELEPHONE COMPANY (HTCO) WILL FURNISH THE CONTRACTOR FOR PROPER INSTALLATION, ALL STYRENE DUCTS, FITTINGS AND SPREADERS.
2. THE CONTRACTOR SHALL STAKE OUT ALL DUCTLINES AND SPLICE PITS. HTCO TO VERIFY LOCATION.
3. THE CONTRACTOR SHALL INSTALL ALL DUCTS ENCASED IN CONCRETE IN ACCORDANCE WITH THE SPECIAL PROVISIONS AND THESE DRAWINGS.

APPROVED:		APPROVED:	
CHIEF, DIVISION OF SEWER	11/23/77 DATE	CHIEF, PLANNING AND ENGINEERING BOARD OF WATER SUPPLY	10/12/77 DATE
APPROVED:		APPROVED:	
GASCO, INC	11/17/77 DATE	HAWAIIAN TELEPHONE CO.	5-2-77 DATE

EDWARD C. STEVENSON — REGISTERED PROFESSIONAL ENGINEER — No. 3299 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Edward C. Stevenson
Signature

NO.	DATE	REVISION
1	10-11-77	Added Note #13 and BWS Approval Block

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY GENERAL NOTES

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

DATE: FEB. 1, 1977

SHEET No. U1 OF 11 SHEETS

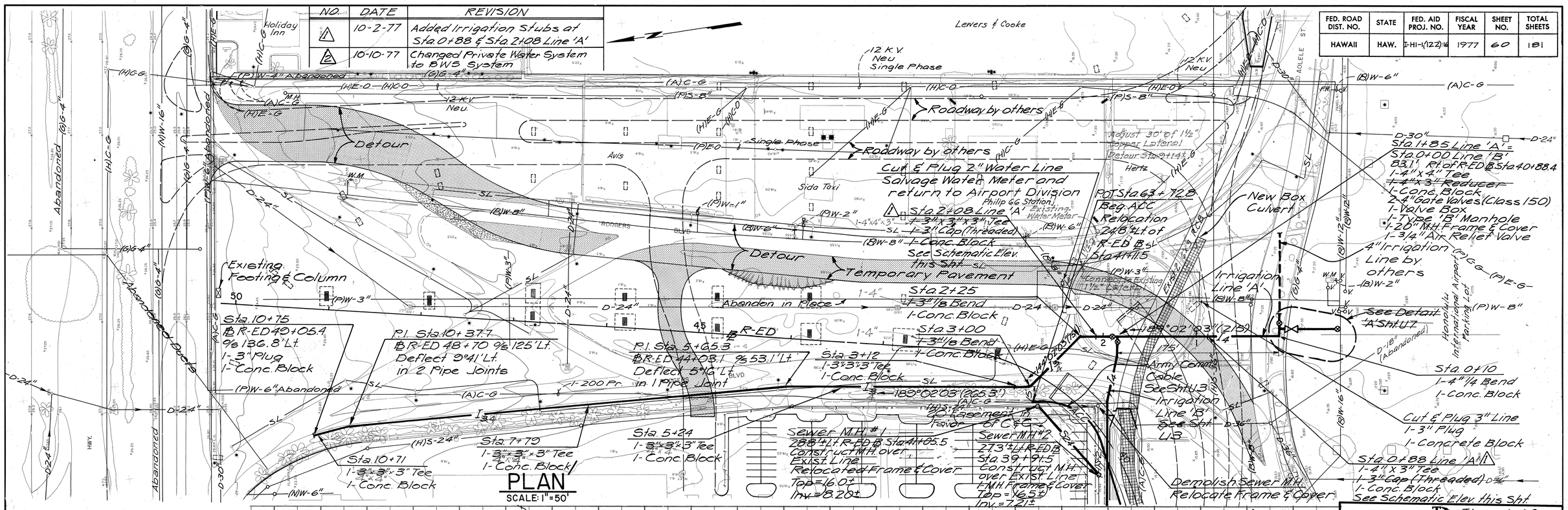
C059

NO.	DATE	REVISION
1	10-2-77	Added Irrigation Stubs at Sta. 0+88 & Sta. 2+08 Line 'A'
2	10-10-77	Changed Private Water System to BWS System

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122)16	1977	60	181

PLAN — SURVEYED, PLOTTED, GRADES CHECKED, ALIGNMENT CHECKED, RT. OF WAY CHECKED, STRUCTURE NOTATIONS CHKD. — BY — DATE — NOTE BOOK — NO.

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, ALIGNMENT CHECKED, STRUCTURE NOTATIONS CHKD. — BY — DATE — NOTE BOOK — NO.



PLAN
SCALE: 1"=50'

EXISTING UTILITY LEGEND

Owner

(N) Navy
(A) Army
(H) Hawaii
(B) Board of Water Supply
(P) Private
(G) Gasco

Type

D Storm Drain
S Sanitary
E Electric
C Communication
G Gasco
W Fresh Water
SL Street Light Conduit

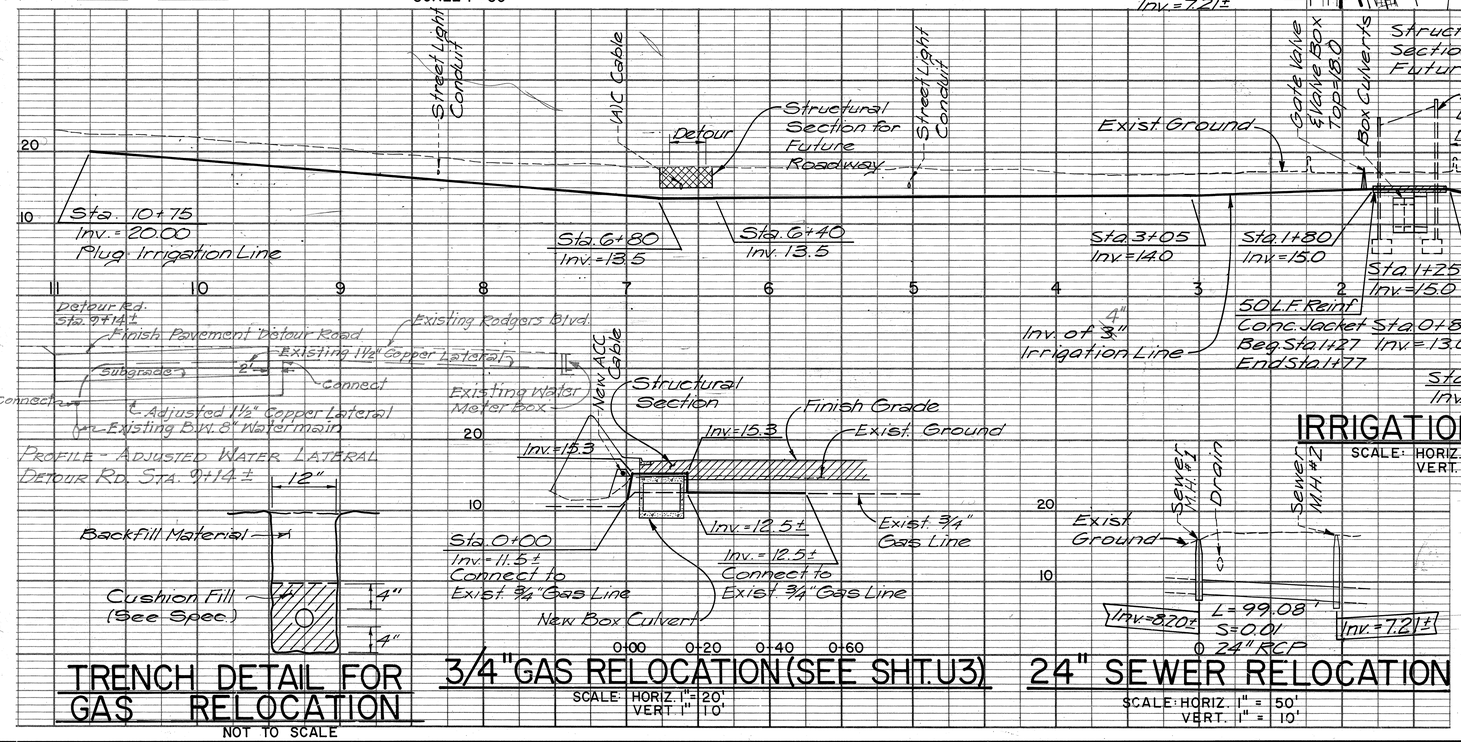
Size or Location

O Overhead
G Underground
4" Size
K.V. Kilowatt Volt
Neu. Neutral
Guy Guywire
Sec. Secondary

Navy Sanitary Sewer 8"
(N) S 8"
Owner Type Size or Location

LEGEND

STY Styrene
K.D. Korduct
T.K.D. Transite Korduct
Ramp Column & Footing
Future Column



IRRIGATION LINE 'A'

SCALE: HORIZ. 1" = 50'
VERT. 1" = 10'

3/4" GAS RELOCATION (SEE SHT. U3)

SCALE: HORIZ. 1" = 20'
VERT. 1" = 10'

TRENCH DETAIL FOR GAS RELOCATION

NOT TO SCALE

24" SEWER RELOCATION

SCALE: HORIZ. 1" = 50'
VERT. 1" = 10'

APPROVED: 10/19/77
CHIEF, PLANNING AND ENGINEERING BOARD OF WATER SUPPLY — DATE

APPROVED:
GASCO, INC. — DATE

APPROVED:
CHIEF, DIVISION OF SEWER — 3/3/77 DATE

APPROVED:
HAWAIIAN TELEPHONE CO. — 5-2-77 DATE

EDWARD C. STEVENSON
REGISTERED PROFESSIONAL ENGINEER
No. 3299
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY RELOCATION

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE: AS SHOWN DATE:

SHEET No. U2 OF 11 SHEETS

C060

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-(122):16	1977	61	181

PLAN — SURVEYED, PLOTTED, ALIGNMENT CHECKED, RT. OF WAY CHECKED; NOTE BOOK; NO.

Sta. 77+00 End ACC Ductline Relocation

Sta. 12+40 End Irrigation Line 'B' 2-2" 1/4 Bend 2-Conc. Blocks See Sprinkler Plans

Sta. 72+75-19' Rt. R-WD & Sta. 72+75

Sta. 7+70 1-4" x 4" Tee 1-Conc. Block

Army Comm. Cable Sta. 6+66 1-4" x 3" Tee 1-Conc. Block

Sta. 5+85 1-3/4" Air Relief Valve 1-Air Valve Box

Sta. 3+25 1-4" x 3" Tee 1-Conc. Block

See Structural Plans for Utilities thru Retaining Wall

Herta Line 'B' Sta. 1+85 Line 'A' 83.1' Rt. R-ED & Sta. 40+88.4

Adjust 4 Water Valve Boxes

HTCO & HECO to remove Overhead Lines & Poles - See Note #1 below

Sta. 10+75 1-4" x 3" Tee 1" Conc. Block Honolulu International Airport Emergency Generator Building

Construct 20 L.F. Reinf. Conc. Jacket on Exist. 24" Sewer Line

Gas Tank See Sht. U11 for Section 'Y-Y'

Sta. 0+00 = 71+ R-ED & Sta. 36+70± Begin Relocation Connect to Exist. Gas Line

Box Culvert

Sta. 0+71 1-4" 1/32 Bend 1-Conc. Block

Sta. 0+20 1-4" 1/32 Bend 1-Conc. Block

Sta. 0+50± 13' Rt. R-ED & Sta. 37+00± Connect Exist Gas Line

Relocated F.H. #4085 See Sht. U8 For Details

I.H.E. & H.T. Ductline Relocation See Profile Below

See Sht. U8 for Profile Sta. 0+20 1-3/4" 90° Bend (B)W-16" & Stubout

Cathodic Protection

Buried Fuel Tanks

National Car Rental

Demolish Building and Remove Gasoline Tank after Tenants have vacated the premise

Cut & Plug Water Service after tenants have vacated

Adjust Water Valve Boxes

Adjust M.H. Frame and Cover

Cut & Plug Sewer Serv. at Manhole

D-18" 1-4" Gate Valve (Class 150) 1-Valve Box 1-4" x 3" Cross 1-4" Cap 3-Conc. Blocks See Sprinkler Plans for Details

Construct 45 L.F. Reinf. Conc. Jacket on Exist. 24" Sewer Line Place 1" Pre-molded Fiber between Jacket and Box Culvert Slab

Adjust Valve Box for Detour Roadway (Phase III)

Salvage F.H. Abandoned 1-6" Plug 1-Conc. Block

Box Culvert

Roadway by others

Irrigation Line 'A' See Sht. U2

Detour

Curve	①	②
Δ	73°00'00"	18°13'30"
R	60'	800'
T	44.40'	128.3'
Lc	76.4'	254.5'
P.C.	Sta. 63+83.9	Sta. 64+65.5
P.T.	Sta. 64+60.3	Sta. 67+20.0

Relocated F.H. See Sht. U10 for Details

Adjust M.H. Frame & Cover

PLAN
SCALE: 1" = 50'

NOTES:
1. The contractor shall notify HECO & HTCO for removal of the poles and lines after National Car Rental has vacated the premise.
2. Prior to installing the ACC Ducts, the contractor shall verify the locations & depths of all existing Drains to be connected to the New Box Culvert.
3. All exposed Ducts, not concrete encased shall be protected at all times. All damaged Ducts shall be replaced at contractors expense.

APPROVED: _____ CHIEF, DIVISION OF SEWER — DATE

APPROVED: _____ HAWAIIAN TELEPHONE CO. — 5-2-77 DATE

APPROVED: _____ CHIEF, PLANNING AND ENGINEERING — 10/19/77 DATE; BOARD OF WATER SUPPLY

APPROVED: _____ GASCO, INC. — 2/18/77 DATE

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, B.M.'s NOTED, STRUCTURE NOMENCLATURE CHKD.; NOTE BOOK; NO.

Drain Duct Line Water Line Drain New Drain Exist. Ground Box Culvert 2-4" Ducts (500') 195' Plain Conc. Jacket 170' Reinf. Conc. Jacket 135' Plain Conc. Jacket Sta. 76+70 El. = 7.0 30' V.C. Sta. 75+50 El. = 8.2 50' V.C. Sta. 73+00 El. = 8.0 50' V.C. Sta. 77+00 End Relocation El. = 9.5± Excavate 5'x7' Splice 19#

Finish Grade Provide Backfill Material below Cable (See Section Y-Y Sht. U11) 500 L.F. Direct Buried Cable Sewer Gas 3' min. Sta. 67+00 Sta. 66+40 El. = 16.3 50' V.C. Sta. 66+00 El. = 10.0 30' V.C. Sta. 65+25 El. = 10.9 50' V.C. Sta. 64+25 El. = 14.2 30' V.C. 2-4" Ducts (328') in Plain Conc. Jacket Irrigation Main Ramp E-D Sewer (To be Abandoned) Sta. 63+72.8 Begin Reloc. Elev. = 13.5± Excavate 5'x7' Splice #4 ACC Cable Box Culvert Gate Valve & Valve Box Finish Grade Exist. Ground

ARMY COMM. CABLE RELOCATION
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

Sta. 12+40 End Irrigation Line 'B' Inv. = 13.0 Exist. H.E. Handhole Exist. H.T. Pullbox 42" Storm Drain 18" Storm Drain A.C.C. Ductline Exist. 16" Water Sta. 11+35 Inv. = 11.0 Sta. 9+00 Inv. = 11.5 Inv. of 4" Line Sta. 6+00 Inv. = 13.0 Sta. 5+25 Inv. = 11.8 Sta. 5+75 Inv. = 13.0 Sta. 3+25 Inv. = 11.0 Sta. 2+00 Inv. = 9.5 Sta. 1+50 Inv. = 14.0 75.5 L.F. Reinf. Conc. Jacket Sta. 0+00 Inv. = 12.2 1-4" x 4" Tee Sta. 0+25 Inv. = 7.7 1-4" 1/32 Bend Sta. 0+50 Inv. = 14.0 Sta. 0+00 Inv. = 15.0 Gate Valve & Air Relief Valve Box Type B Manhole Top = 18.0 Irrig. Line 'B' Ramp E-D Sta. 0+75 Inv. = 12.7 1-4" x 3" Cross See Sprinkler Plans Sta. 0+65 Inv. = 12.7 1-4" 1/32 Bend (T.V.) 1-Top Vertical Reaction Block Sta. 0+40 Inv. = 7.7 1-4" 1/32 Bend (B.V.) Sta. 0+00 Inv. = 13.9 Connect to Exist. Ducts 2' from face of H.T. Pullbox Sta. 0+10 Bot. = 13.9 20' V.C. Sta. 0+40 Bot. = 9.1 20' V.C. 4-4" Ducts (1 in 4 in) Sta. 4+00 Bot. = 11.5± Connect to Exist. Ducts Finish Grade Exist. Ground Exist. Ducts 7-4" H.E. Ducts 2-4" H.T. Ducts 3" 3" 3" 3" 1 1/2" 1 1/2" TYP. SECTION N.T.S.

H.E. & H.T. DUCTLINE RELOC.
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

IRRIGATION LINE "B"
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

APPROVED: HECO ✓ HTCO ✓ 11-9-77

NO.	DATE	REVISION
3	7-11-78	Deleted F.H.
2	12-27-77	Relocated H.E. & H.T. Ductline
1	10-10-77	Changed Private Water System to BWS System

4" IRRIG. CROSS.
AT STA. 7+70 LINE 'B'
SCALE: HORIZ. 1" = 50' VERT. 1" = 10'

EDWARD C. STEVENSON — REGISTERED PROFESSIONAL ENGINEER — No. 3299 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION. Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY RELOCATION

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE: AS SHOWN DATE: FEB. 1, 1977

SHEET No. U 3 OF 11 SHEETS

C061

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122)16	1977	62	181

Cut and Plug Gas Line
Demolish Gas Valve Box
Contractor shall excavate for Gas Line, Gasco to cut and plug

Lower 2" Gas

Emergency Generator Building

Lower 1" Gas

Lower 16" Water Line
See Profile Below

Adjust 10'± of 2" Gas Line
See Profile this Sht.

Sewer Manhole #3
Sta. 0+00
170'± Lt. R-WD @ Sta. 72+57
Construct M.H. over Exist. Line
1-M.H. Frame & Cover
Top = 15.7
Inv. = 8.0±

Construct 10 L.F. Reinf. Conc. Jacket on 8" Sewer Line

Private Sewer

National Car Rental Bldg.

Sewer Manhole #4
Sta. 0+75.0
100' Lt. R-WD @ Sta. 72+30
1-M.H. Frame & Cover
Top = 16.6
Inv. = 7.7

C & C Sewer M.H. #10
Sta. 1+69.4
Break into Exist. M.H. and install new 8" Sewer Line
Inv. = 7.2±

Sta. 3+66
127.6'± Lt. R-WD @ Sta. 69+11.0
Connect to Exist. 16" Water Line
1-16" 11/32 Bend
1-16" Sleeve - 15" Long
1-Conc. Block with Structural Strut
8 L.F. 16" D.I. Pipe Class 52
Temporary for Testing
1-Temp. Cleanout w/ M.J. Cap

Box Culvert

Cut & Plug

Relocate 20" M.H. Frame & Cover

Sta. 3+90
1-16" x 6" Tee
1-6" Gate Valve (Class 150)
1-6" Plug
2-Conc. Blocks
1-20" M.H. Frame & Cover (Relocated)
1-Type B M.H. (9.5' deep) Top = 16.4
5 L.F. 6" D.I. Pipe (Class 52)

Sta. 6+25
1-3/4" Air Relief Valve
1-Air Valve Box
w.P. = 7+48.8 i 8"

Sta. 6+34
71.9' Lt. R-WD @ Sta. 66+39.1
1-16" 1/4 Bend
1-Conc. Block

Sta. 7+46
183.1' Lt. R-WD @ Sta. 66+25.7
1-16" 1/4 Bend
1-Conc. Block

Sta. 4+94
88.7' Lt. R-WD @ Sta. 67+78.8
1-16" 11/32 Bend
1-Conc. Block

Sta. 9+16±
170'± Lt. R-WD @ Sta. 64+87.3
Remove Bend and connect to Exist. 16" Water Line
1-16" Sleeve - 15" Long
8 L.F. 16" D.I. Pipe Class 52
Temporary for Testing
1-Temp. Cleanout w/ M.J. Cap

New Box Culvert

Cut and Plug

NOTE:
1. The 8" Sewer Line to be relocated is owned & maintained by the Airport Division, State of Hawaii

NO.	DATE	REVISION
2	10-10-77	Changed Private Water System to BWS System
1	9-29-77	Revised Sewer & Water Relocation
		Deleted Gas Relocation

PLAN
SCALE: 1" = 50'

PLAN — SURVEYED, PLOTTED, GRADES CHECKED, R/W STAKED, STRUCTURE NO. STA'N'S CHK'D — BY — DATE — NOTE BOOK — NO.

SEWER MANHOLE #3
NOT TO SCALE

New 8" Sewer Line
Exist. 8" Sewer to be abandoned
Cut and Plug by Contractor
Construct Sewer Manhole over Exist. 8" Sewer Line. Channelize Base to flow
Exist. 8" Sewer Pipe to remain

EXIST C & C SEWER MANHOLE #10
NOT TO SCALE

Manhole Base to be channelized by the Div. of Sewers and paid for by the State
Exist. 24" Sewer Line to remain
Exist. M.H.
Break into Exist. M.H. & install New 8" Sewer Line
Exist. 36" Sewer Main
Cut & Plug by Contractor
Exist. 8" Sewer Line to be abandoned

PROFILE — SURVEYED, PLOTTED, GRADES CHECKED, R/W STAKED, STRUCTURE NO. STA'N'S CHK'D — BY — DATE — NOTE BOOK — NO.

8" SEWER RELOCATION
SCALE: HORIZ. 1" = 50'
VERT. 1" = 10'

Sewer M.H. #3 — Finish Grade — Water — Sewer M.H. #4 — Exist. C&C Sewer M.H. #10 — Exist. Ground
10 L.F. Reinf. Conc. Jacket
L = 75.0'
S = 0.00045 ft
8" V.C.
L = 94.4'
S = 0.00045 ft
8" V.C.
Inv. 8.0±
Inv. 7.7
Inv. 7.2

16" WATER RELOCATION
SCALE: HORIZ. 1" = 50'
VERT. 1" = 10'

Drain — Sewer (to be abandoned) — Finish Grade — Gas — Drain — Air Relief Valve & Valve Box Top = 7.8 — Water — Gas — Conduit — Exist. Ground — Conduit — Drain
Sta. 3+66 Inv. = 6.7± Connect to Exist. Water Line
Sta. 6+20 Inv. = 10.0
Sta. 6+30 Inv. = 10.0
Invert 16" Water
Sta. 8+50 Inv. = 7.3
Sta. 9+16± Inv. = 8.0± Connect to Exist. Water Line

LOWER EXIST. 16" WATERLINE
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'

New Drain — Finish Grade — Exist. Ground
Exist. 2" Gas — Exist. 2" Gas
Inv. = 12.5± — Inv. = 14.0 — Inv. = 12.5±

ADJUSTMENT OF 2" GAS
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'

New 8" Sewer with Reinf. Conc. Jacket
Exist. 8" Sewer
Exist. Ground
Conc. Beam
12'±
33'±
Exist. 16" Water
Sta. 0+00 Inv. = 6.8± Connect to Exist. 16" Water Line 1-16" x 18" Offset 1-16" Sleeve (15" Long) 1-Conc. Beam
16" x 18" Offset (Low Point)
16" Pipe
Sta. 0+45 Inv. = 5.7± Connect to Exist. 16" Water 1-16" Sleeve (15" Long)

APPROVED: (FOR CONNECTION TO SWH #10 ONLY)
CHIEF, DIVISION OF SEWERS — DATE 5/11/77

APPROVED:
CHIEF, PLANNING AND ENGINEERING — BOARD OF WATER SUPPLY — DATE 10/19/77

GASCO, INC. — DATE 4/15/77

EDWARD C. STEVENSON — REGISTERED PROFESSIONAL ENGINEER — No. 3299 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

UTILITY RELOCATION

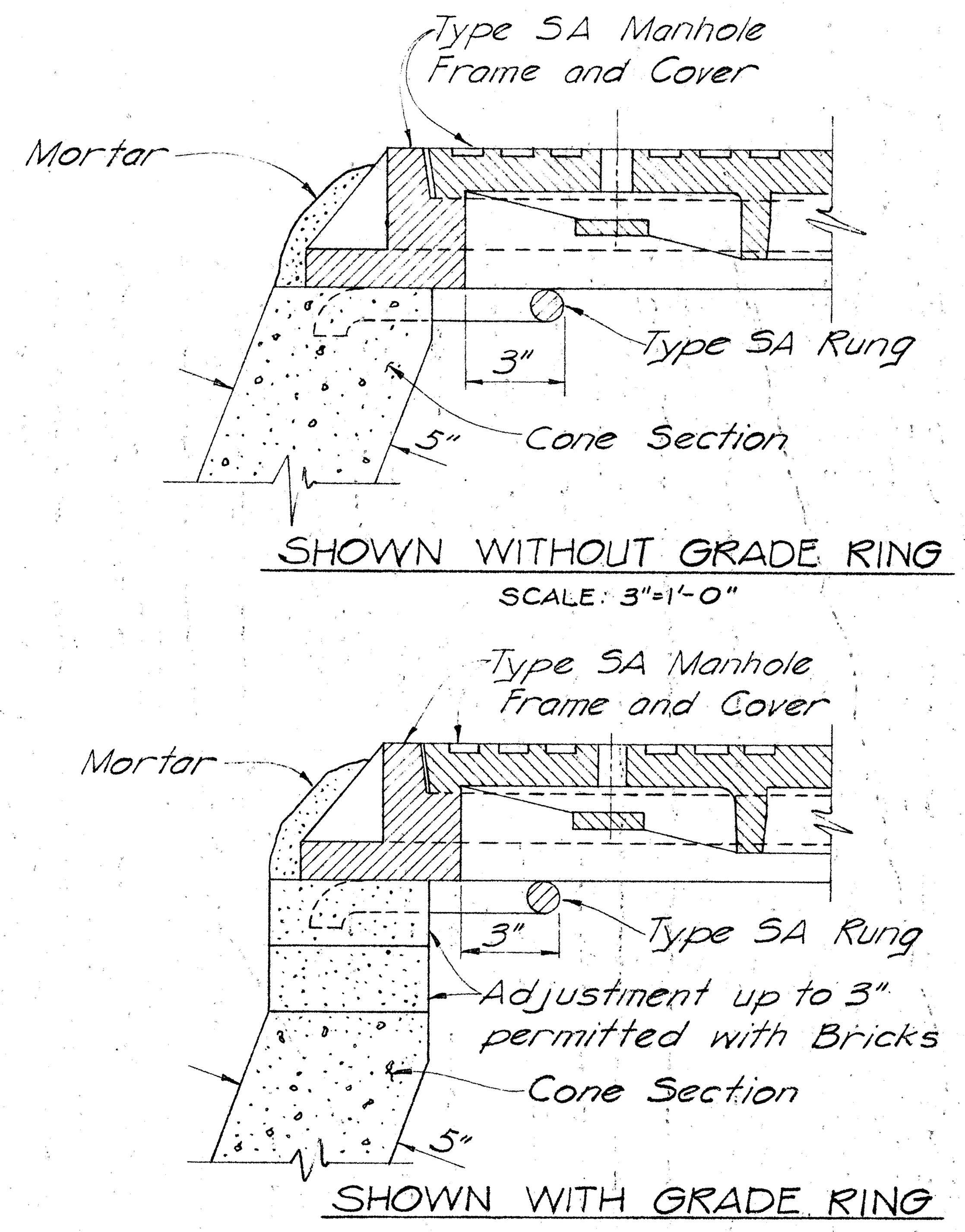
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE AS SHOWN — DATE: MAY 1, 1977

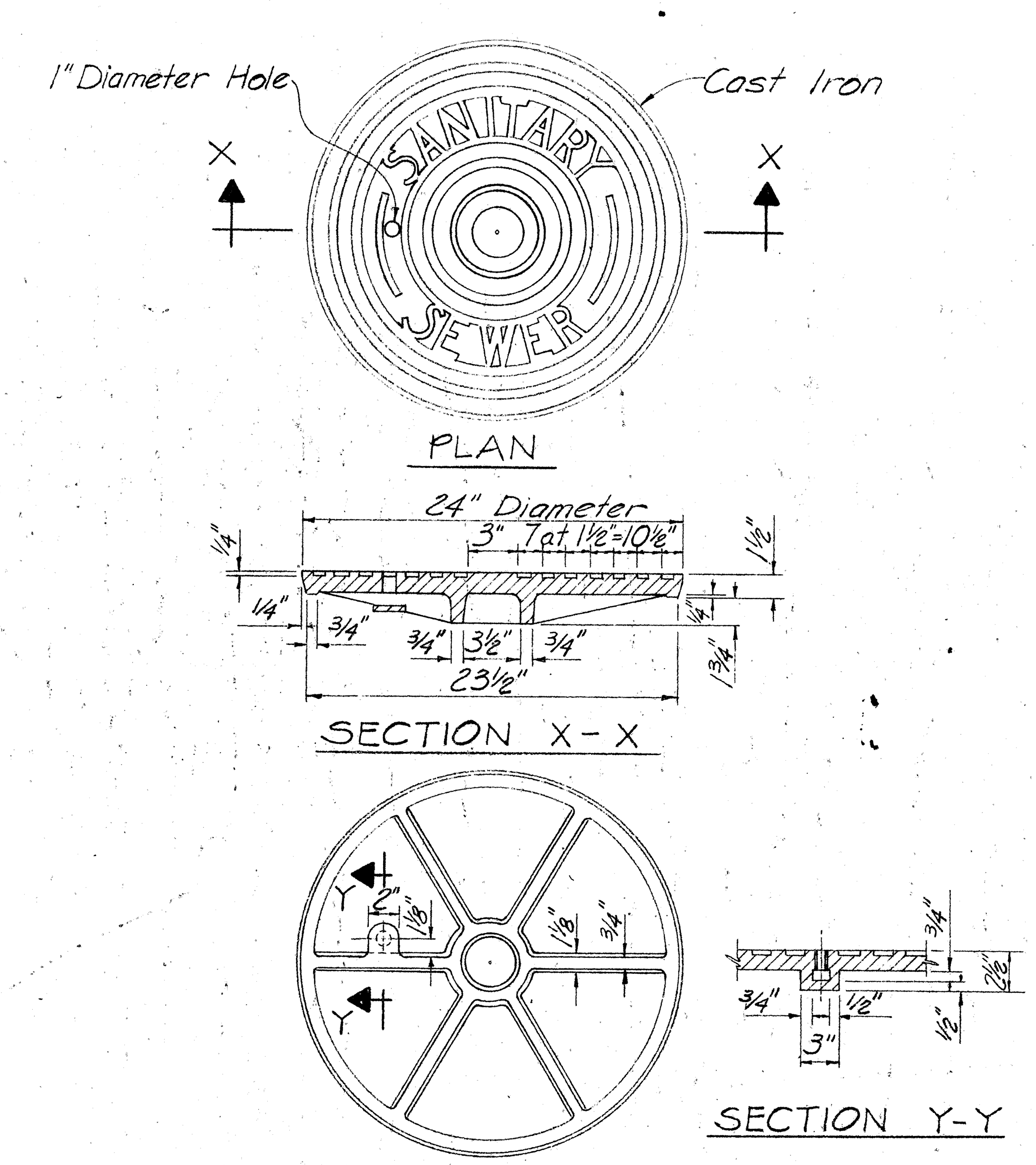
SHEET No. 44 OF 11 SHEETS

C062

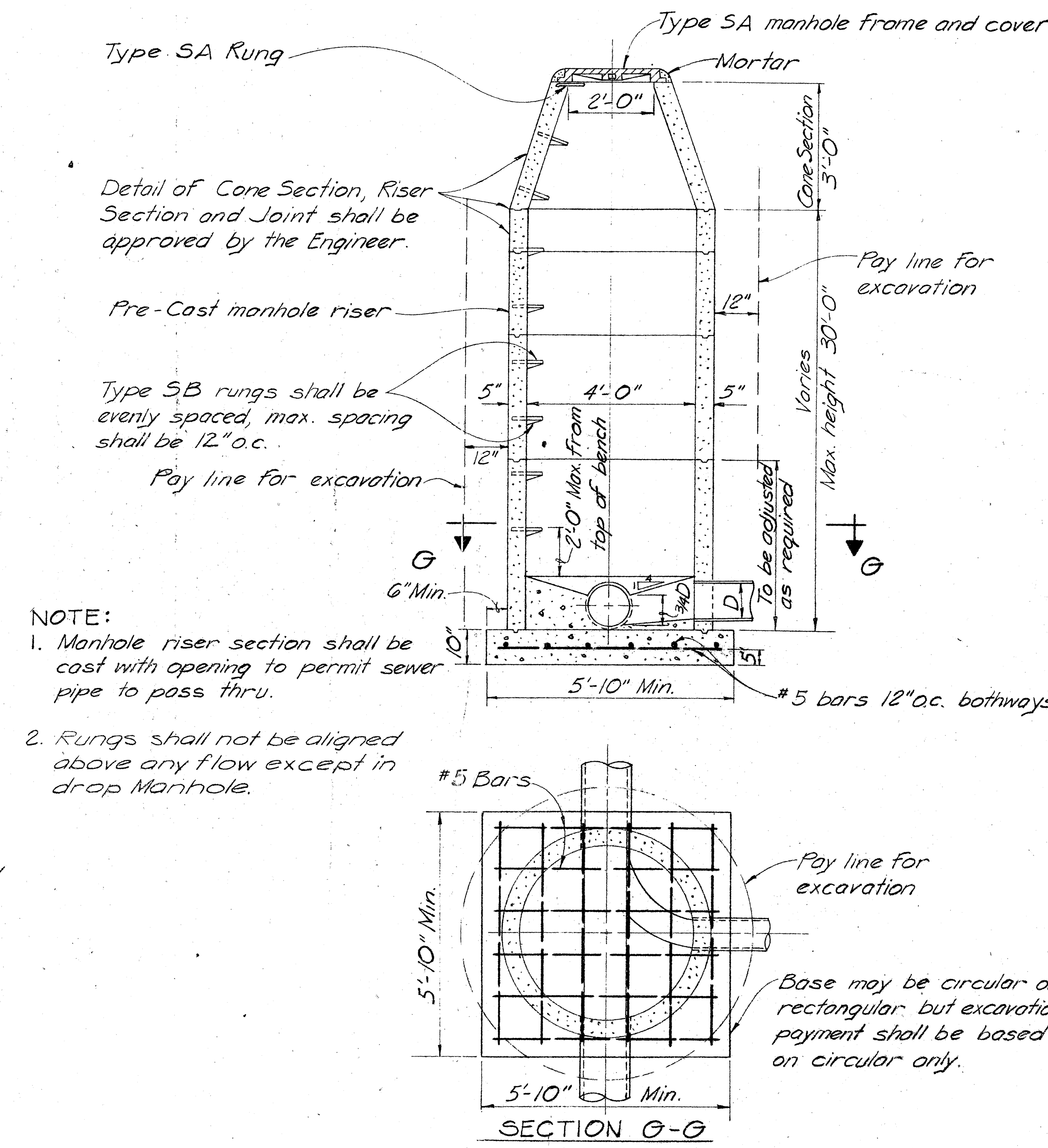
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H1-1(122)16	1977	63	181



PRE - CAST MANHOLE
DETAIL AT TOP RUNG
SCALE: 3"=1'-0"

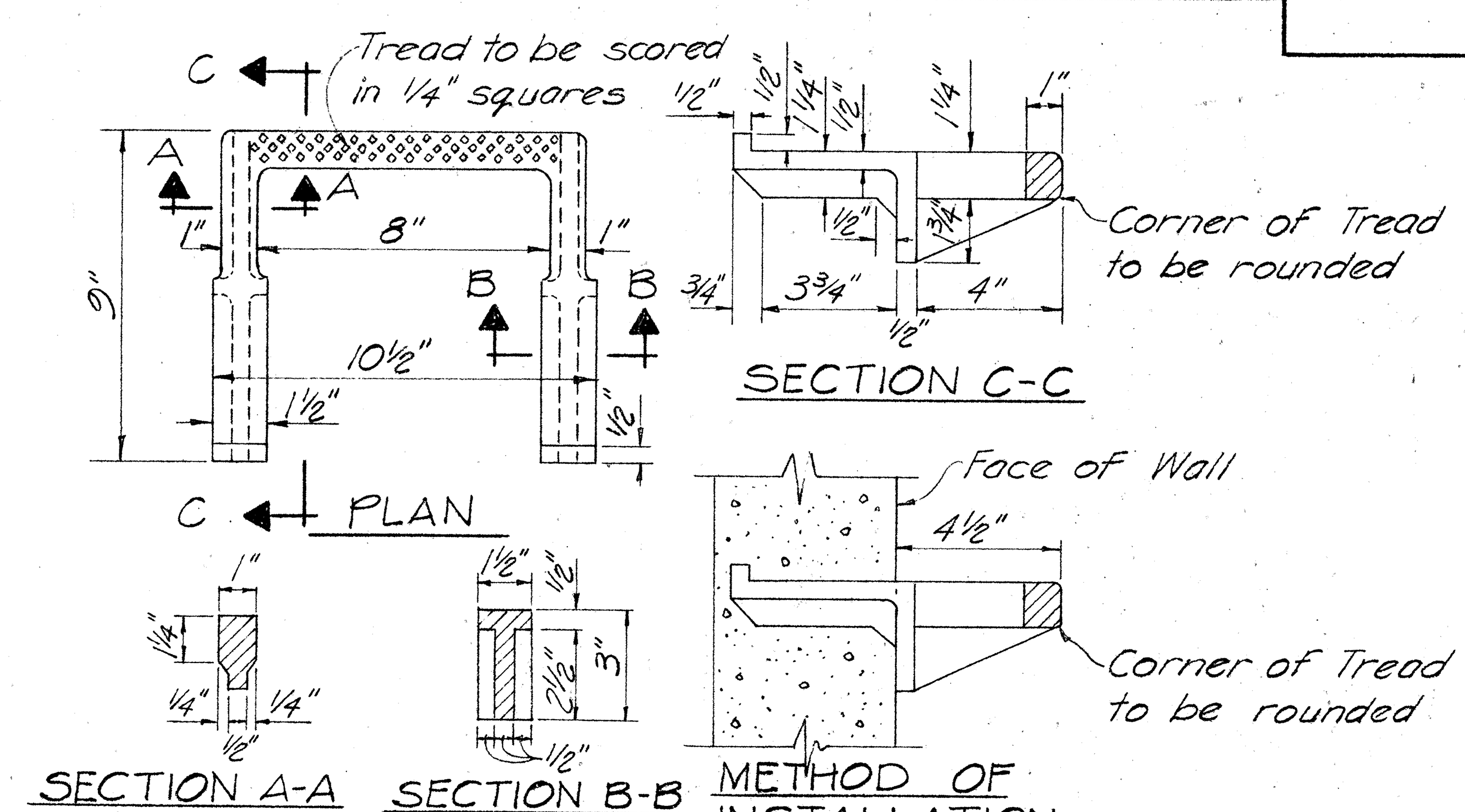


MANHOLE COVER (Type SA)
SCALE: 1½"=1'-0"

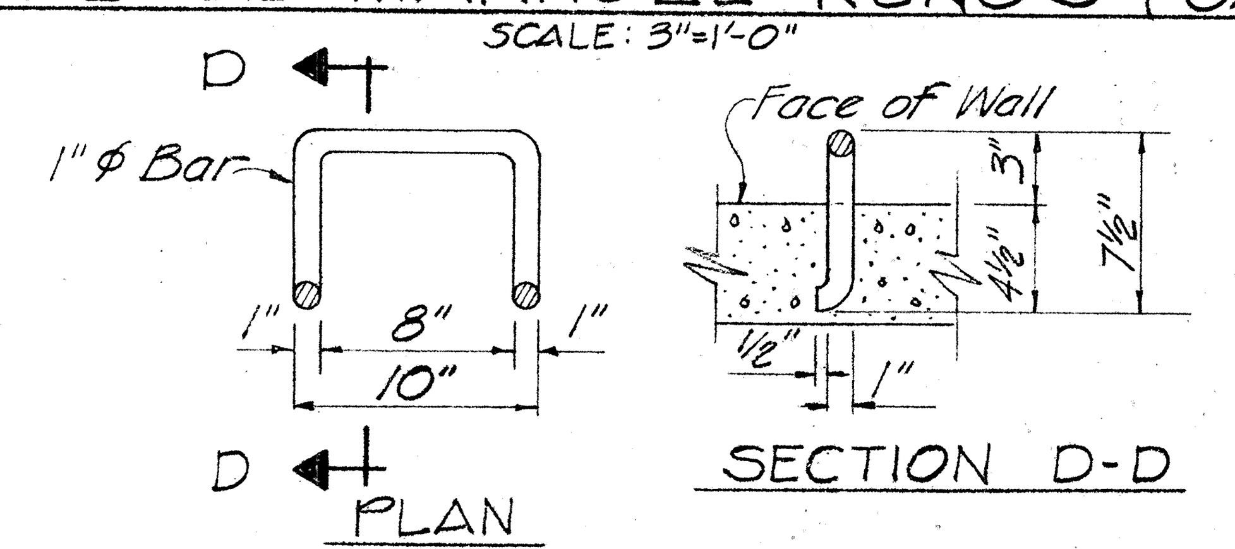


NOTE:
1. Manhole riser section shall be cast with opening to permit sewer pipe to pass thru.
2. Rungs shall not be aligned above any flow except in drop Manhole.

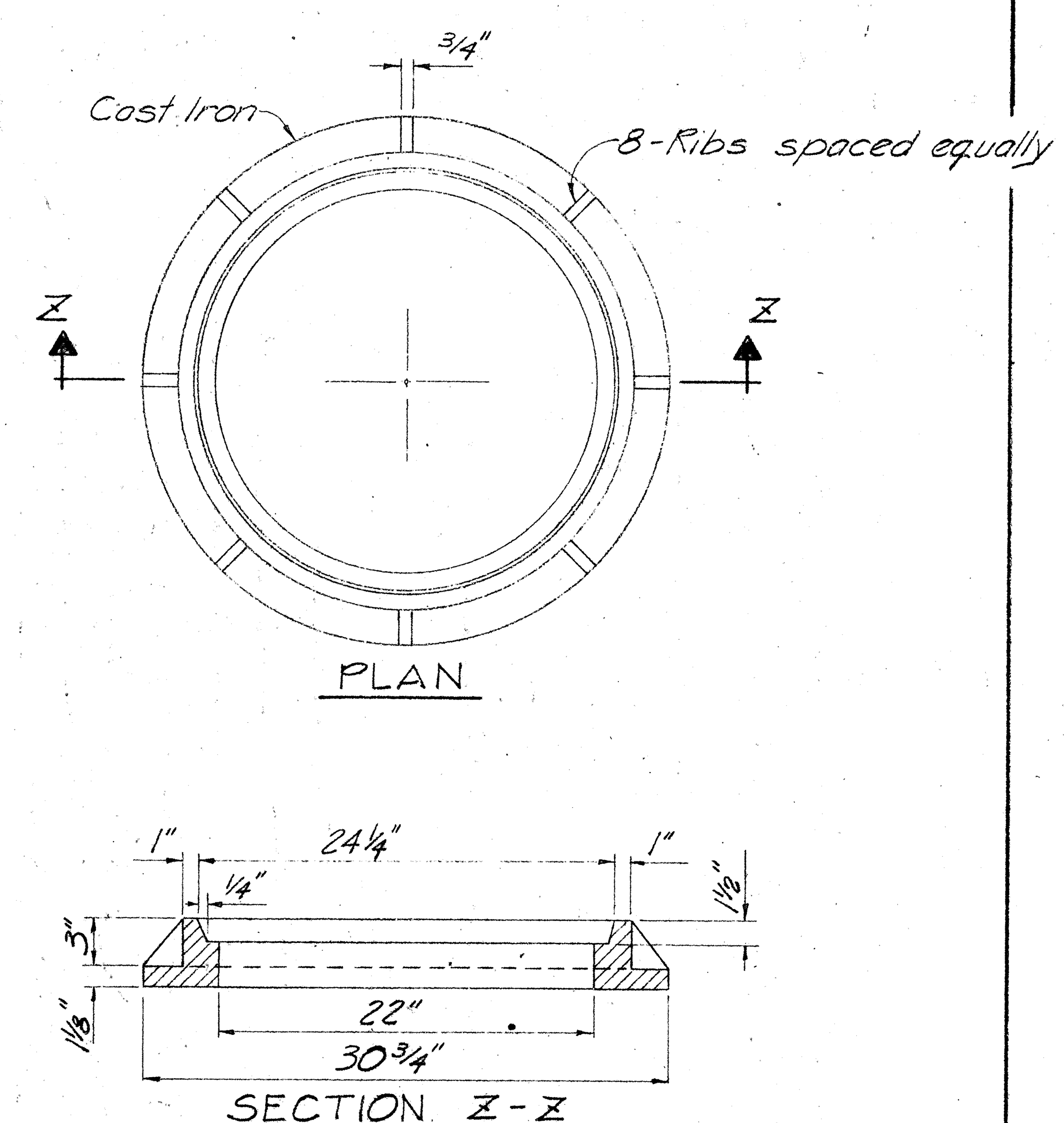
PLAIN MANHOLE (Pre-Cast Concrete)
SCALE: ½"=1'-0"



TYPE SB MANHOLE RUNGS (CAST IRON)
SCALE: 3"=1'-0"



TYPE SA MANHOLE RUNGS (WROUGHT IRON)
SCALE: 1½"=1'-0"



MANHOLE FRAME (Type SA)
SCALE: 1½"=1'-0"

EDWARD C. STEVENSON
REGISTERED PROFESSIONAL ENGINEER
No. 3299
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Signature

APPROVED:

CHIEF, DIVISION OF SEWERS — 3/3/77 DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEWER DETAILS

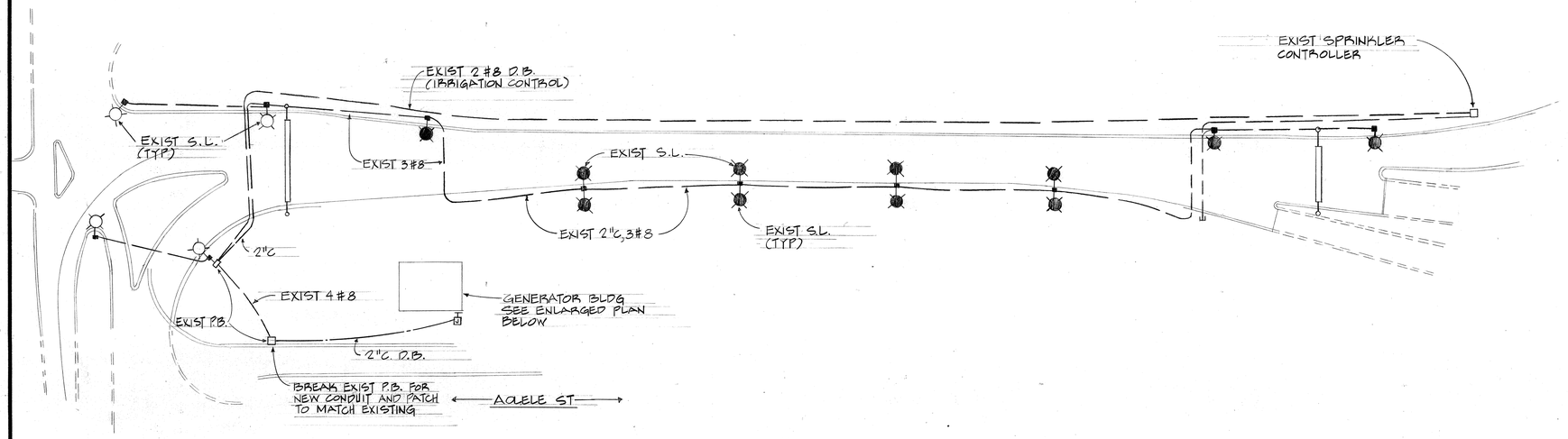
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-H1-1(122):16

SCALE: AS SHOWN — DATE: FEB.1,1977

SHEET No. U5 OF 11 SHEETS

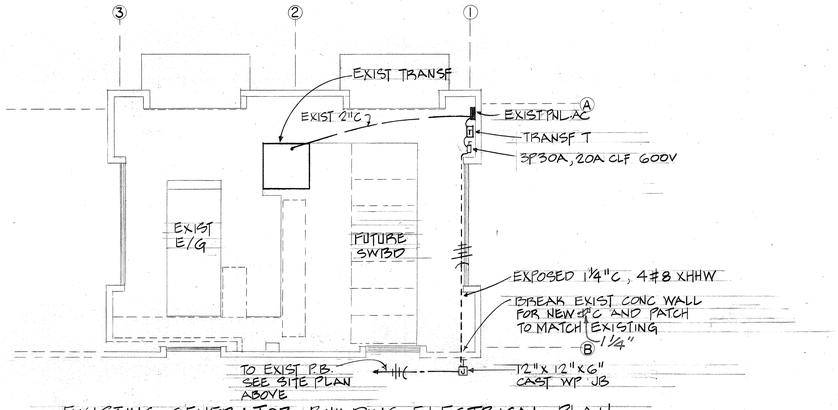
ORIGINAL PLAN		DATE
SURVEY PLOTTED BY		
DRAWN BY		
TRACED BY		
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
No.	CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122)16	1978	63A	173



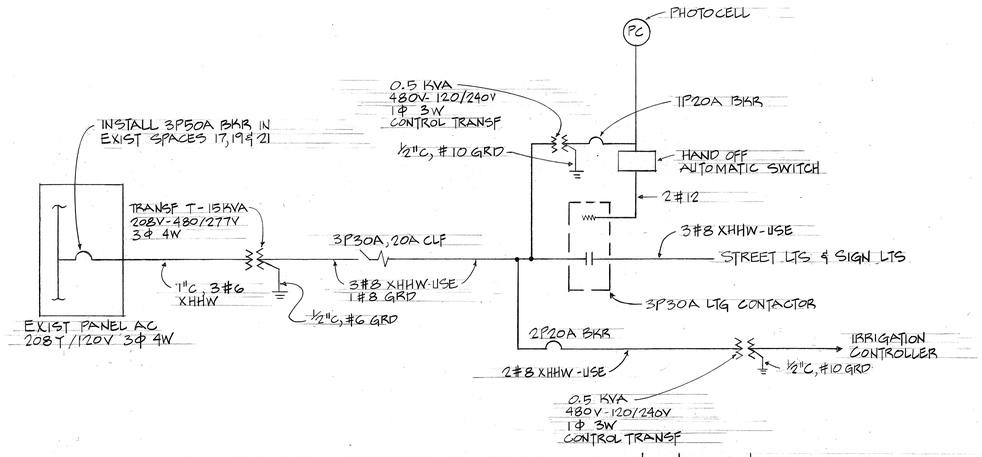
ELECTRICAL SITE PLAN

SCALE : 1" = 20'-0"



EXISTING GENERATOR BUILDING ELECTRICAL PLAN

SCALE : ⅛" = 1'-0"



SINGLE LINE DIAGRAM

NO	DATE	REVISION
1	8/28/78	ADDED SHEET

ORIGINAL PLAN		DATE
	SURVEY PLOTTED BY	
	DRAWN BY	
	TRACED BY	
NOTE BOOK	DESIGNED BY	
No.	QUANTITIES BY	
	CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

ROADWAY LIGHTING
GROUND LEVEL

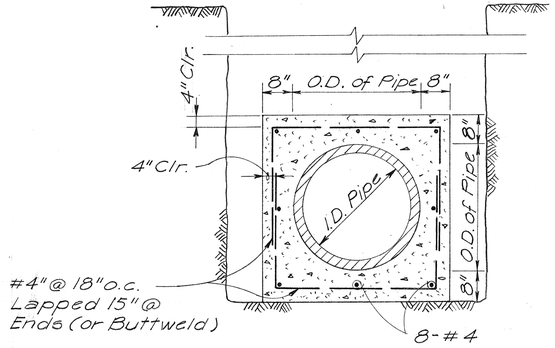
AIPORT INTERCHANGE
FAI PROJECT NO. I-H1-1(122)16

SCALE: AS NOTED DATE: AUG. 25, 1978

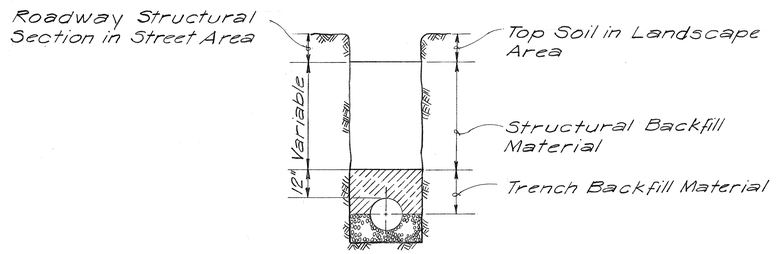
SHEET No. OF SHEETS

C063A

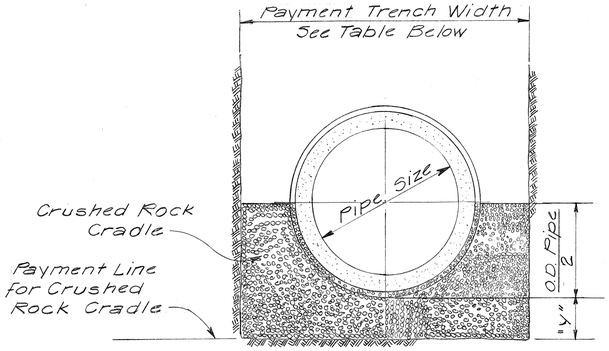
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122)16	1977	64	181



DETAIL OF CONCRETE JACKET
FOR PIPES GREATER THAN 12"
NOT TO SCALE



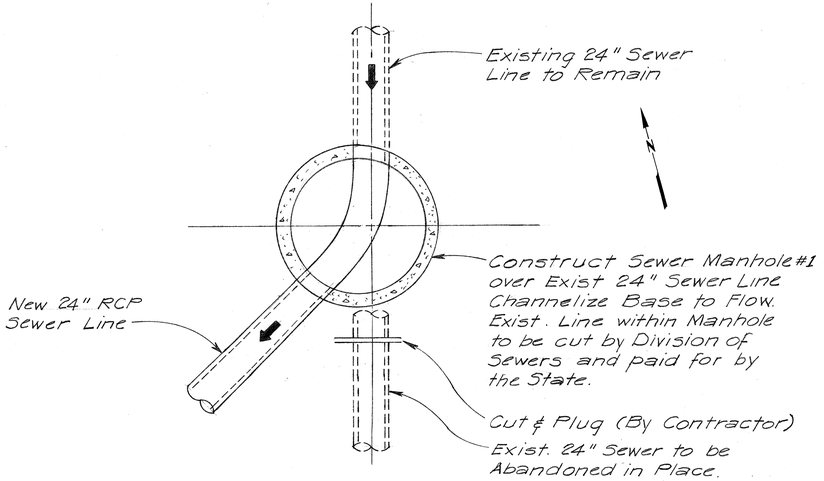
METHOD OF BACKFILL
NOT TO SCALE



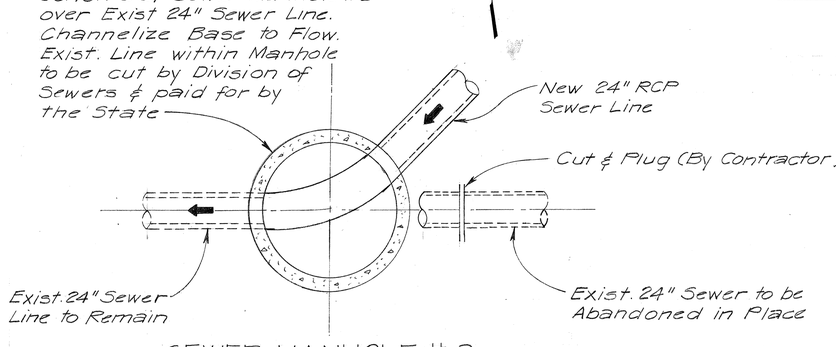
ROCK CRADLE
NOT TO SCALE

Pipe Size	Payment Trench Width	Crushed Rock Cradle "Y" (Min)	Crushed Rock Cradle CY/LF
~~15"~~	~~38"~~	~~6~~	~~.116~~
~~18"~~	~~41"~~	~~6~~	~~.131~~
8"	24"	4"	.045
24"	50"	8"	.203

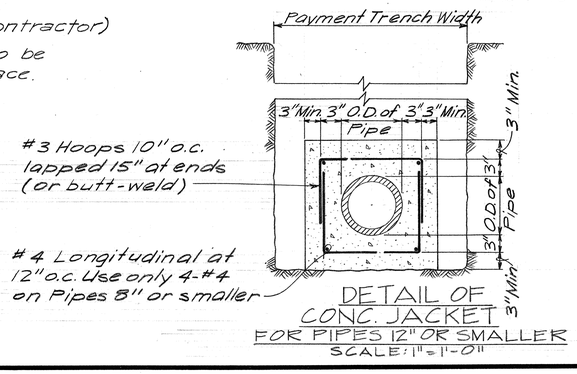
ROCK CRADLE



SEWER MANHOLE #1
NOT TO SCALE



SEWER MANHOLE # 2
NOT TO SCALE



DETAIL OF
CONC. JACKET
FOR PIPES 12" OR SMALLER
SCALE: 1" = 1'-0"

EDWARD C. STEVENSON
REGISTERED PROFESSIONAL ENGINEER
No. 3299
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Signature

APPROVED:
Tillona
CHIEF, DIVISION OF SEWERS
3/16/77
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

SEWER DETAILS

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE: AS SHOWN DATE: FEB. 1, 1977

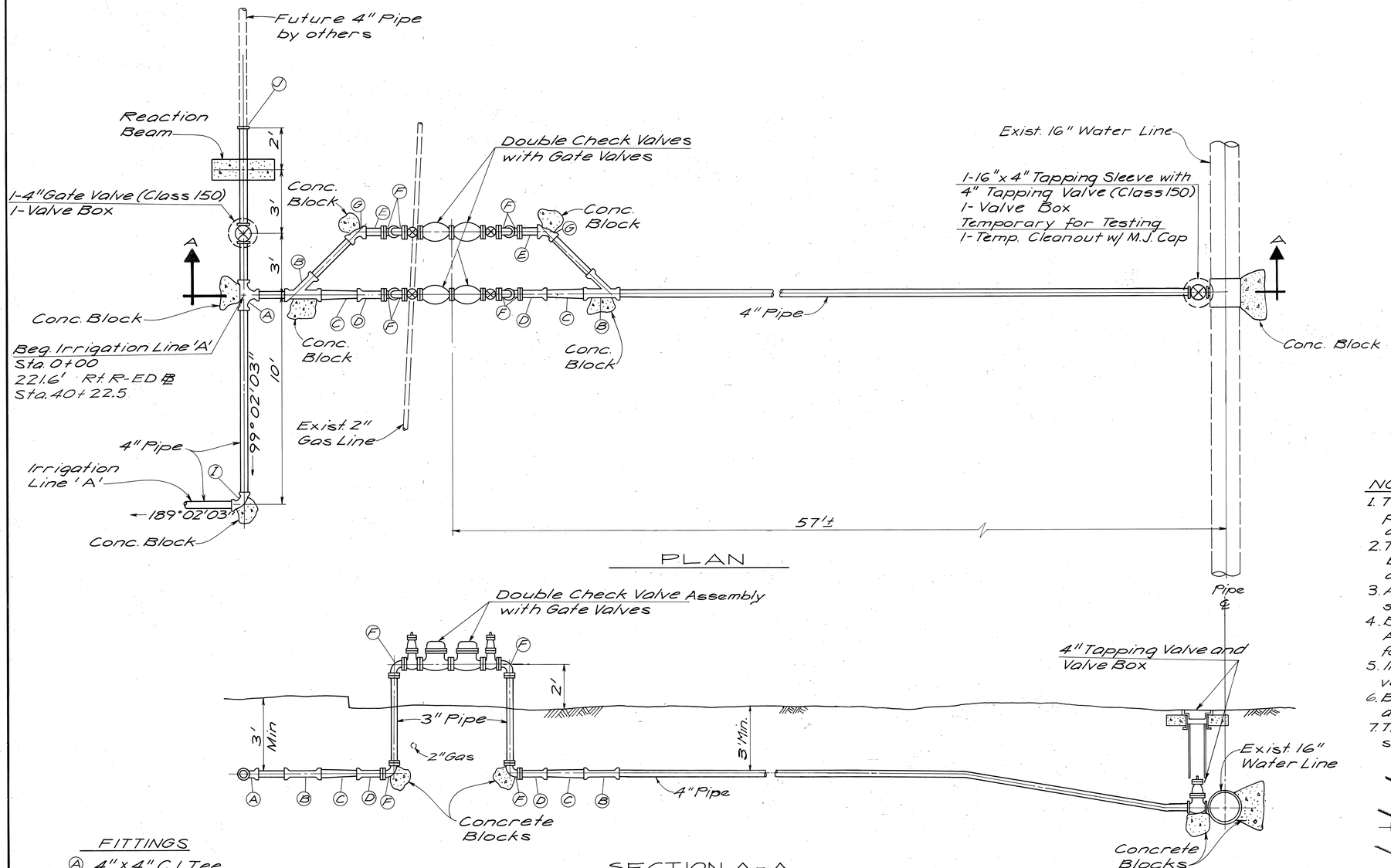
SHEET No. 46 OF 11 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
NOTE BOOK	TRACED BY	"
No.	DESIGNED BY	"
	QUANTITIES BY	"
	CHECKED BY	"

K+E © TRACING PAPER

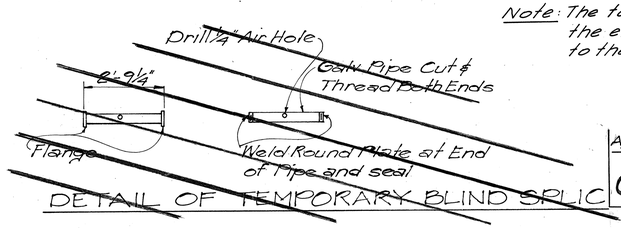
64

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122):16	1977	65	181



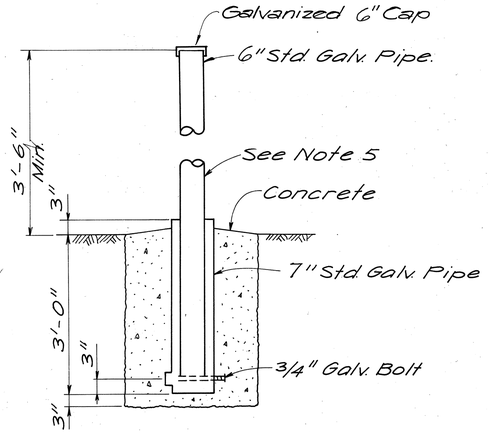
PLAN

SECTION A-A



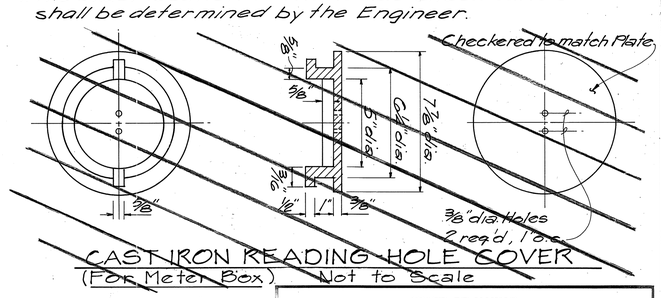
DETAIL OF TEMPORARY BLIND SPLICE

Note: The tapping valve shall be installed only after the existing BWS Water System is turned over to the Air Transportation Facilities Division.



BARRIER POST
Not To Scale

NOTES:
1. The double check valve assembly shown for the purpose of illustration only. Details of actual assembly may vary with manufacturer.
2. The 3" double check valves shall be a type approved by B.W.S. and shall have a maximum loss of 2 p.s.i at a flow rate of 150 g.p.m. for entire assembly.
3. All exposed bolts on the double check valve assembly shall be painted with red lead paint.
4. Barrier posts are to be painted yellow as per ANSI Spec. Z531 to comply with the OSHA standards for color coding.
5. Install 4 barrier posts 2' clear from check valves or as directed by Engineer.
6. Barries posts will not be measured for payment and shall be incidental to the double check valves.
7. The exact location of the double check valves shall be determined by the Engineer.



CAST IRON READING HOLE COVER
(For Meter Box) Not to Scale

FITTINGS

- (A) 4" x 4" C.I. Tee
- (B) 4" x 3" C.I. Wye
- (C) 4" x 3" C.I. Reducer
- (D) 3" Adapter - Flange and Bell
- (E) 3" Adapter - Flange and Spigot
- (F) 3" C.I. Flanged 1/4 Elbow
- (G) 3" C.I. 1/8 Elbow
- (I) 4" C.I. 1/4 Elbow
- (J) 4" Plug
- (K) 4" C.I. Flanged 1/4 Elbow

DETAIL 'A'
Not to Scale

NO.	DATE	REVISION	Appr'd
3	11-22-77	Deleted Water Meter and Meter Box, Added Note, Deleted Blindsplice Detail and Reading Hole Cover Detail	
2	10-11-77	Added Water Meter Box and BWS Approval Block	

APPROVED:
FOR CROSS CONNECTION CONTROL BOARD OF WATER SUPPLY — DATE 10/13/77

APPROVED:
CHIEF, PLANNING AND ENGINEERING BOARD OF WATER SUPPLY — DATE 10/19/77

EDWARD C. STEVENSON
REGISTERED PROFESSIONAL ENGINEER
No. 3299
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER DETAILS

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. 1-HI-1(122):16

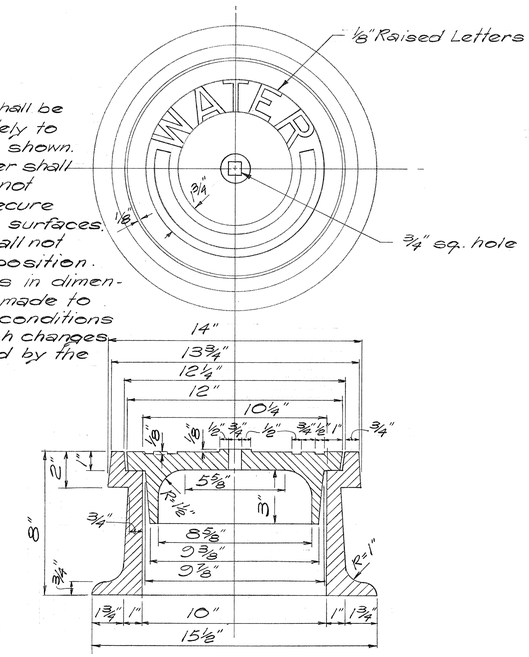
SCALE AS SHOWN DATE: FEB. 1, 1977

SHEET No. 17 OF 11 SHEETS

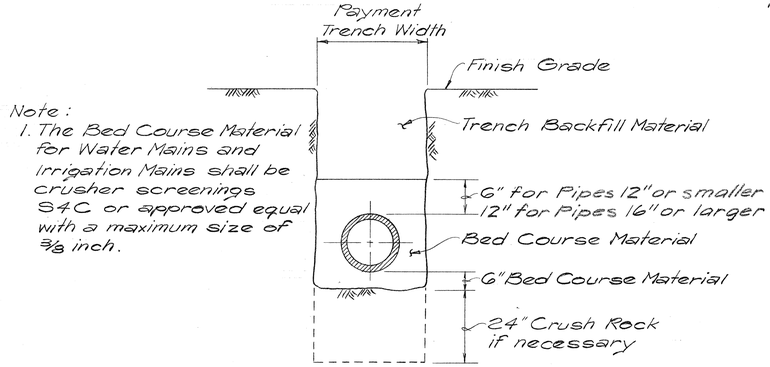
C065

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122):16	1977	66	181

Note:
All castings shall be made accurately to the dimensions shown. Seat and cover shall be machined, not ground to secure flat and true surfaces. The cover shall not rattle in any position. Minor changes in dimensions may be made to suit foundry conditions provided such changes are approved by the Engineer.

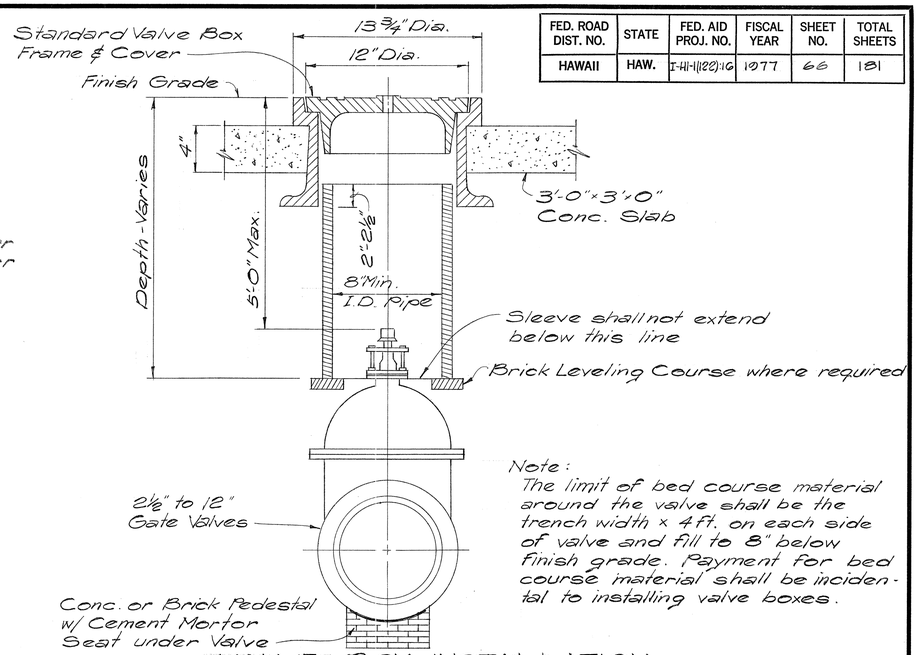


VALVE BOX FRAME & COVER
Scale: 1/4" = 1'-0"



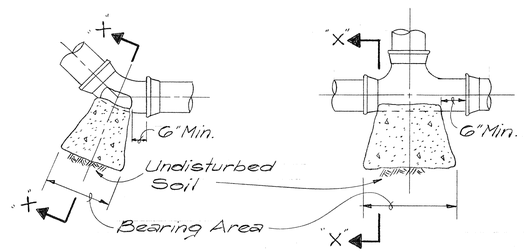
Note:
1. The Bed Course Material for Water Mains and Irrigation Mains shall be crusher screenings S4C or approved equal with a maximum size of 3/8 inch.

TYPICAL DETAIL OF TRENCH BACKFILL FOR WATER AND IRRIGATION MAINS
Not to Scale

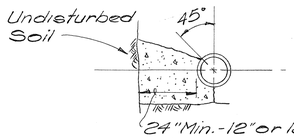


Note:
The limit of bed course material around the valve shall be the trench width x 4 ft. on each side of valve and fill to 8" below finish grade. Payment for bed course material shall be incidental to installing valve boxes.

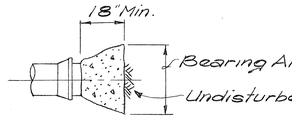
VALVE BOX INSTALLATION
Not to Scale



BENDS PLAN VIEW
TEES PLAN VIEW



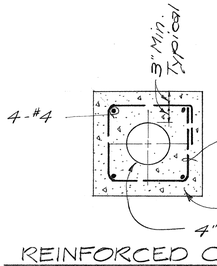
SECTION "X"-"X"
BENDS & TEES



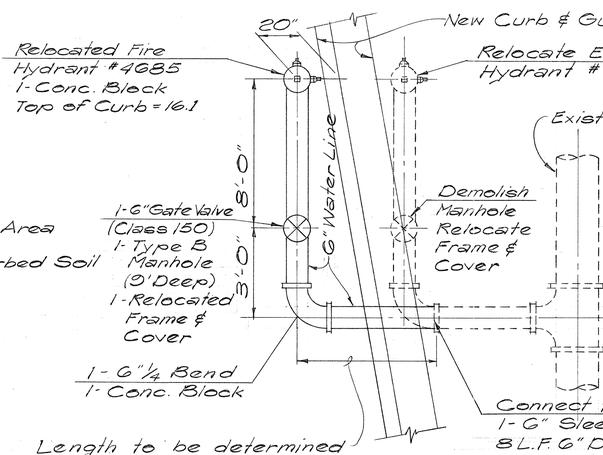
PLUGS PLAN & ELEVATION

CONCRETE BLOCK
Not to Scale

FITTINGS	BEARING AREA sq.ft.
4" 1/32 Bend	0.5
3" 1/8 Bend	1.0
3" 1/4 Bend	1.7
4" 1/4 Bend	2.0
4" Plug	1.5
4" x 3" Tee	1.5
4" x 4" Tee	1.5
4" x 3" Wye	1.0
16" x 4" Tee	1.5
16" 1/32 Bend	5.5
16" 1/8 Bend	10.5
16" 1/4 Bend	19.5
6" 1/4 Bend	2.7

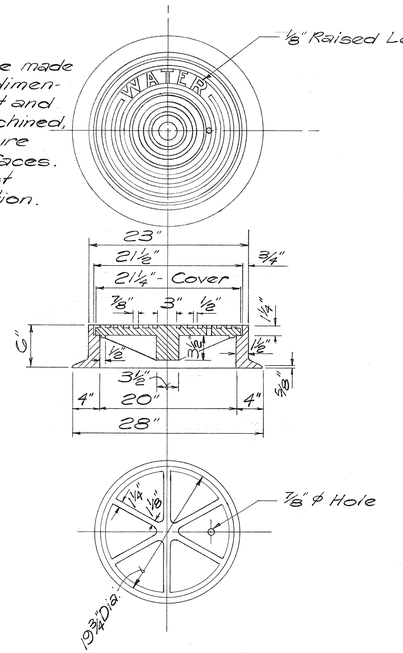


REINFORCED CONCRETE JACKET
Not to Scale



Notes:
1. See Standard Fire Hydrant Connection (Sht. U9) for additional Details.
2. Undimensioned length of Pipe are shown for estimating purposes. Actual length shall be determined in the field.

RELOCATED FIRE HYDRANT #4685
Not to Scale



Note:
All castings shall be made accurately to the dimensions shown. Seat and cover shall be machined, not ground to secure flat and true surfaces. The cover shall not rattle in any position.

MANHOLE FRAME & COVER
Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
NOTE BOOK	TRACED BY	"
	DESIGNED BY	"
No.	QUANTITIES BY	"
	CHECKED BY	"

NO.	DATE	REVISION
1	10-11-77	Added BWS Approval Block

APPROVED:
Richard D. Marumoto 11/15/77
CHIEF, PLANNING AND ENGINEERING DATE
BOAD OF WATER SUPPLY

EDWARD C. STEVENSON
REGISTERED PROFESSIONAL ENGINEER
No. 3299
HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Edward C. Stevenson
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER DETAIL

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

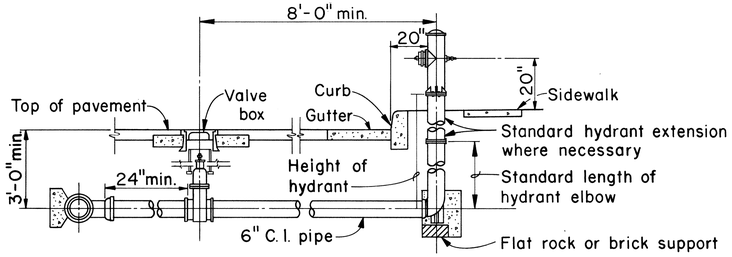
SCALE: AS SHOWN DATE: FEB. 1, 1977

SHEET No. U8 OF 11 SHEETS

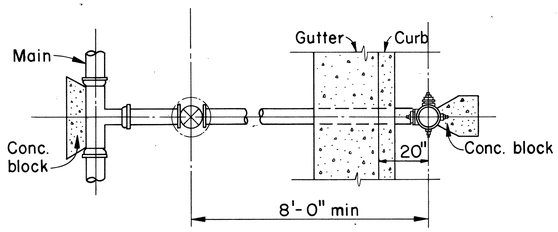
K-E ® TRACING PAPER

CO 66

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122):16	1977	67	181



SECTION



PLAN

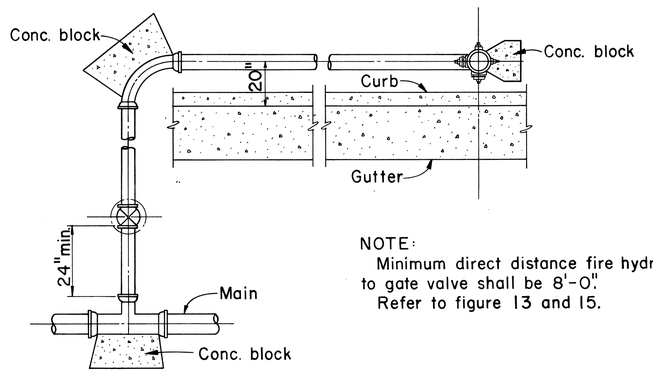
STANDARD LENGTHS FOR HYDRANT ELBOW
30"
36"
42"
48"

Standard hydrant extensions are available in the following lengths:
6 to 30 inches long in increments of 6 inches.

NOTE:
Gaskets for flanged joints shall be 1/16" duck-inserted rubber packing Garlock No. 19.
Bolts shall be 5/8" diameter x 2 3/4" long steel machine bolts with cut threads, American Standard heavy hexagon heads, galvanized.
Nuts shall be American Standard heavy cold punched hexagon nuts, galvanized.

HYDRANT CONNECTION STRAIGHT RUN

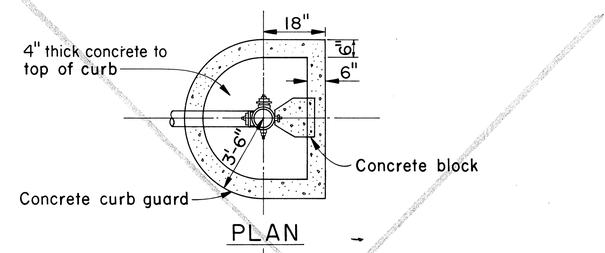
FIGURE 13



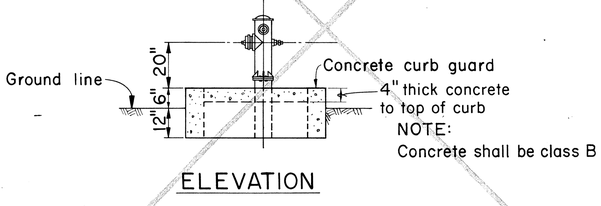
NOTE:
Minimum direct distance fire hydrant to gate valve shall be 8'-0"
Refer to figure 13 and 15.

HYDRANT CONNECTION WITH ELBOW

FIGURE 14



PLAN

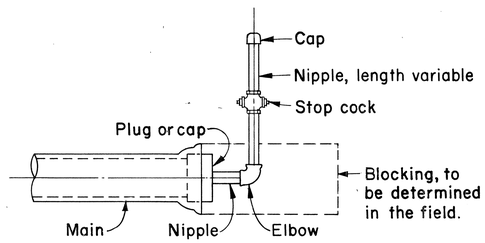


NOTE:
Concrete shall be class B

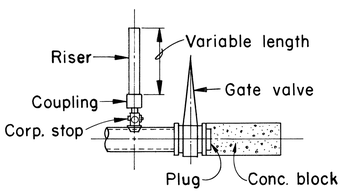
ELEVATION

DETAIL OF CURB GUARD AT HYDRANT

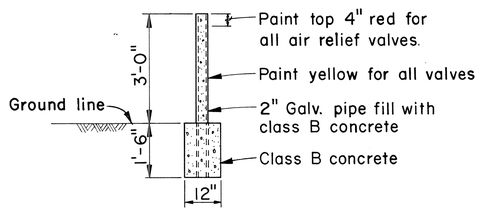
FIGURE 15



DETAIL OF TEMPORARY CLEANOUT



DETAIL OF RISER



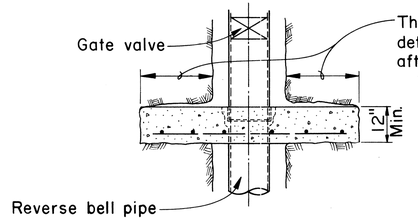
DETAIL OF VALVE MARKER

CLEANOUTS, RISERS AND VALVE MARKERS

NOTES:
1. The sizes of cleanout unless otherwise shown on the plans or directed by the Engineer shall be:
8 inch and smaller mains - 2 1/2 inch cleanout
12 inch to 20 inch mains - 4 inch cleanout
24 inch and larger mains - 6 inch cleanout

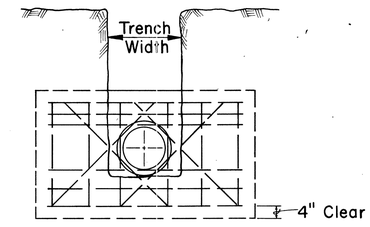
2. Temporary cleanout shall include the plug or cap, concrete block, and all appurtenances as shown.

FIGURE 16



PLAN

NOTE:
Size and spacing of bars will depend on working pressure. Detail of actual beam to be used shall be furnished during construction by the engineer who prepared the plans.



ELEVATION

CONCRETE REACTION BEAM

FIGURE 18

APPROVED:

ASSISTANT CHIEF ENGINEER
BOARD OF WATER SUPPLY

1/27/77
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STANDARD DETAILS
BOARD OF WATER SUPPLY

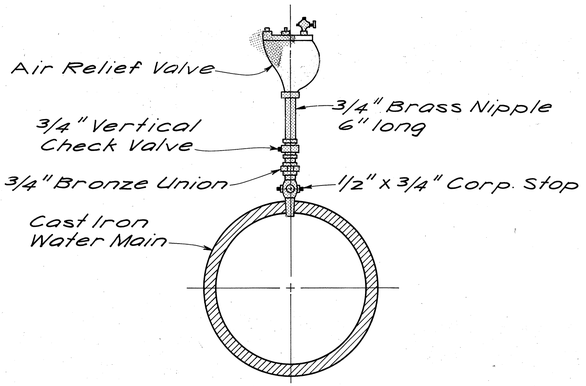
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE: AS SHOWN DATE: FEB. 1, 1977

SHEET No. 29 OF 11 SHEETS

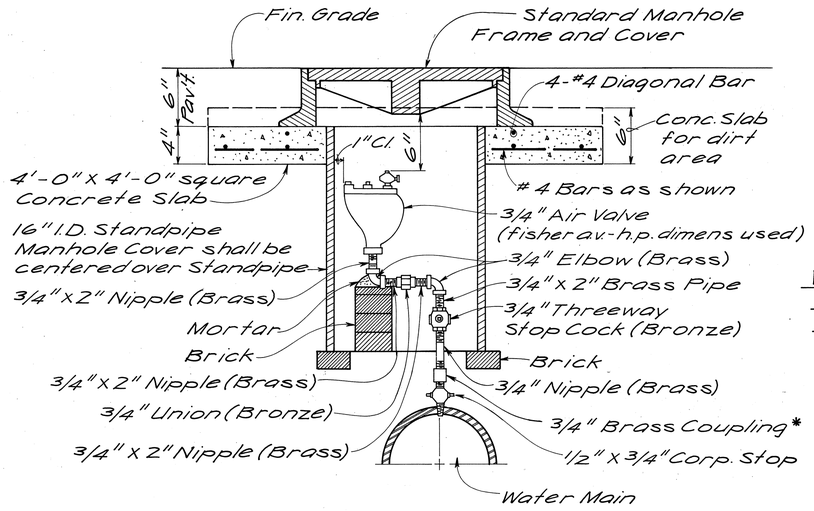
ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
	DRAWN BY	"
	TRACED BY	"
NOTE BOOK	DESIGNED BY	"
	QUANTITIES BY	"
No.	CHECKED BY	"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122):16	1977	68	181



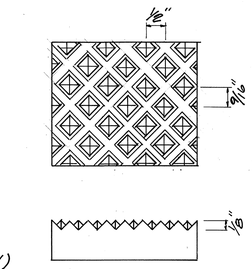
STANDARD CONNECTION FOR AIR RELIEF VALVE

NOTE:
Vertical check valve required when air relief valve is immersed in water.



STANDARD CONNECTION FOR 3/4" AIR RELIEF VALVE AT VALVE BOX
N.T.S.

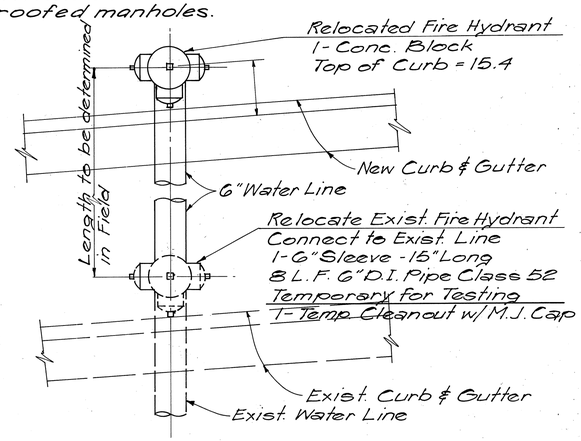
NOTE:
*Vertical check valve shall be used in lieu of coupling when threeway stop cock is immersed in water.



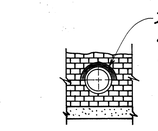
DETAIL OF RAISED SURFACE FOR METER BOX FRAME & COVER

TYPE B MANHOLE

NOTE:
1. Concrete shall be Class "B".
2. Omit drain holes and crushed rock for waterproofed manholes.

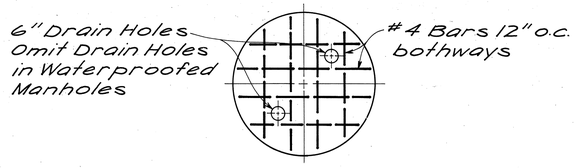


RELOCATED FIRE HYDRANT
See Sht. U3

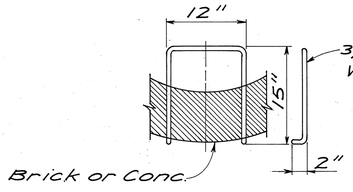


FILLER DETAIL

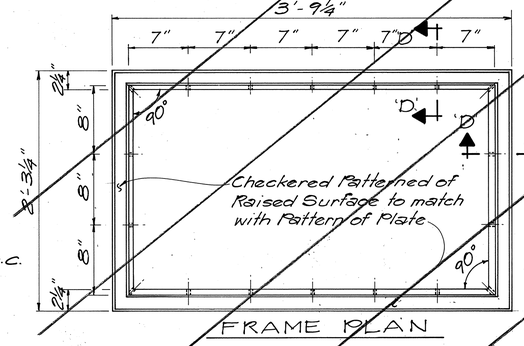
NOTE:
Concrete shall be Class "B"



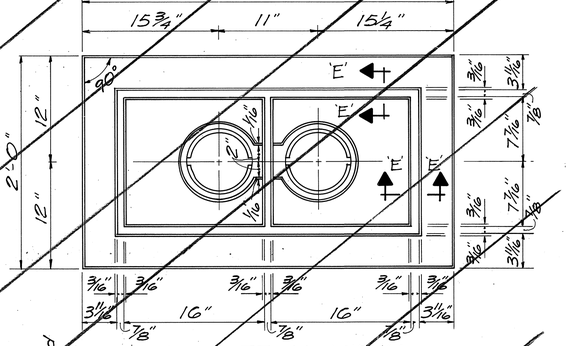
BOTTOM SLAB PLAN



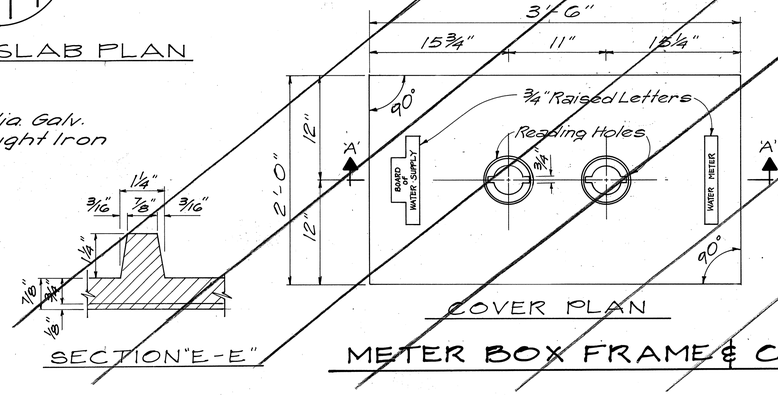
RUNG DETAIL



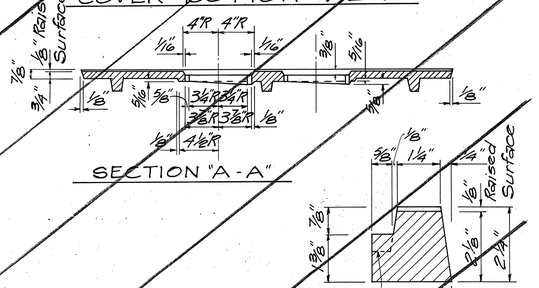
FRAME PLAN



COVER BOTTOM VIEW



COVER PLAN



SECTION "A-A"

SECTION "E-E"

SECTION "D-D"

METER BOX FRAME & COVER

NO.	DATE	REVISION
2	10-22-77	Deleted Meter Box Frame & Cover Details
1	10-11-77	Added BWS Approval Block and Meter Box Frame & Cover Detail

Appr'd

APPROVED:
CHIEF, PLANNING AND ENGINEERING 10/19/77
BOARD OF WATER SUPPLY — DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

WATER DETAILS

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

NO SCALE — DATE: FEB 1, 1977

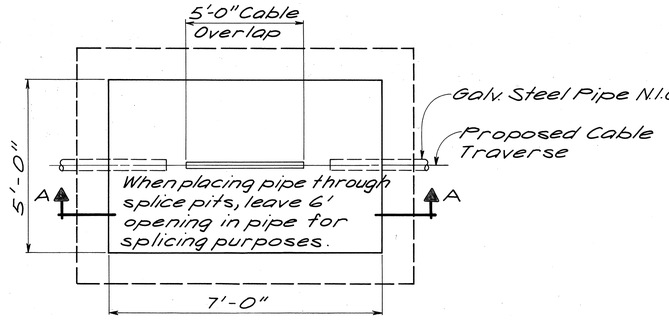
EDWARD C. STEVENSON — REGISTERED PROFESSIONAL ENGINEER — No. 3299 — HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

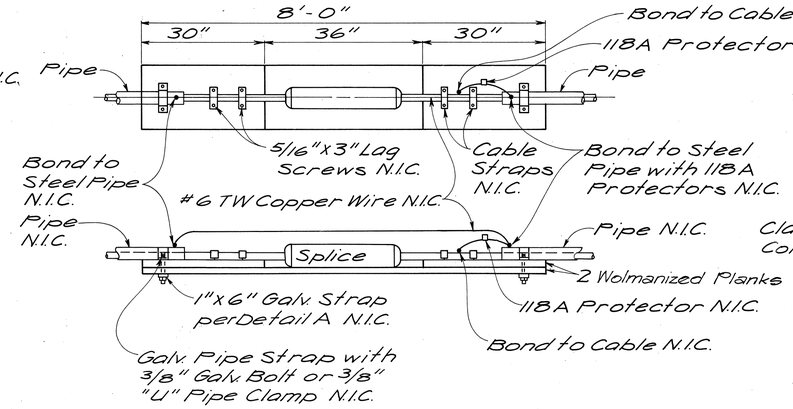
SHEET No. U10 OF 11 SHEETS

CO 68

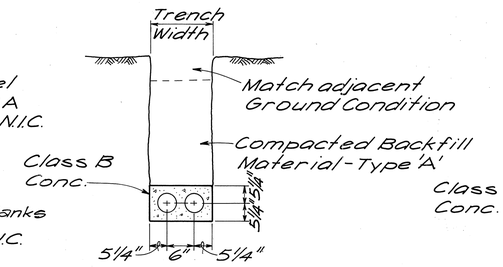
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(122)16	1977	69	181



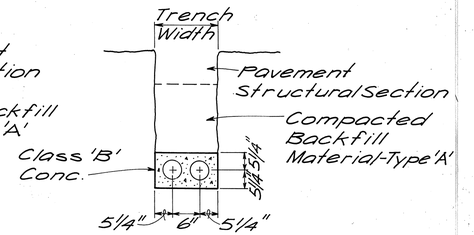
PLAN
DETAIL 1
TYP. SPLICING PITS FOR BURIED CABLE
N.T.S.



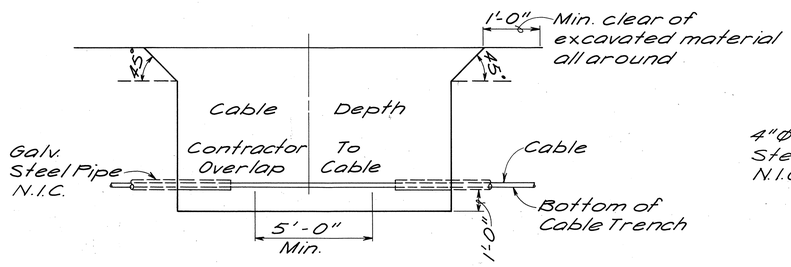
DETAIL 3
SPLICE SUPPORT BETWEEN PIPE SECTIONS
N.T.S.



TRENCH DETAIL IN OPEN AREAS
N.T.S.

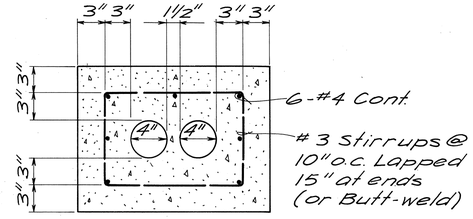


TRENCH DETAIL IN ROADWAY AREAS
N.T.S.

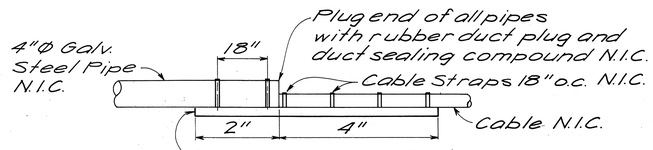


SECTION A-A
N.T.S.

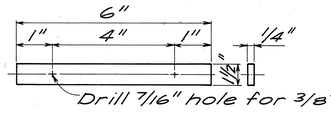
NOTES:
1. The contractor shall dig pits at specified locations.
2. One face of pit shall be kept free of excavation material.
3. Where pits are located on sloping or irregular ground, the excavated material shall be placed in such a manner as to prevent surface water from draining into pit.
4. Provide a fence around the pit of any location where stock have access to the route, and pits near farm homes to keep out small animals and pets.



REINFORCED CONCRETE JACKET FOR 2-4" DUCTS
N.T.S.

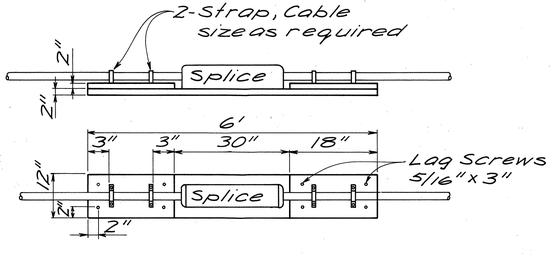


DETAIL 4
DETAIL FOR WOLMANIZED PLANK AT ALL PIPE ENDS
N.T.S.

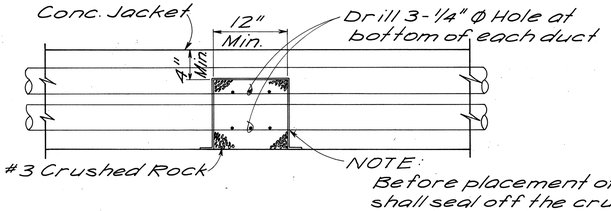


NOTE:
Galv. Strap may be substituted with Pipe Clamp

DETAIL A N.I.C.
1/4" x 1" x 6" GALV. STRAP
N.T.S.

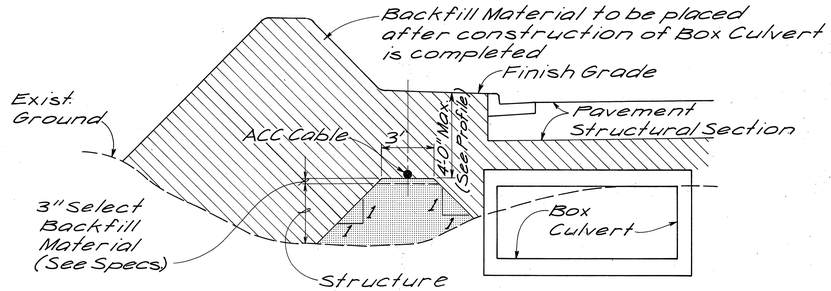


DETAIL 2
SPLICE SUPPORT DIRECT BURIED CABLE
N.T.S.



ELEVATION
DUCT DRAIN DETAIL
SCALE: 1"=1'-0"

Note: To be constructed at low points in ductline.



SECTION Y-Y
N.T.S.

Construction Notes for Direct Buried ACC Cable

1. A berm with 1:1 side slopes shall be constructed as shown prior to Hawaiian Telephone Co. laying the cable
2. At locations where the Hawaiian Telephone Co. will perform splices, the contractor shall increase the top of berm from 3' to 5'.
3. After the cable has been laid, the contractor shall place 1' of cover of Type 'A' backfill material over the cable.
4. During backfilling of the ditch, the contractor shall place only Type 'A' backfill over the cable.

APPROVED:
a. f. Gustafson — 5-2-77
HAWAIIAN TELEPHONE CO. — DATE

EDWARD C. STEVENSON REGISTERED PROFESSIONAL ENGINEER No. 3299 HAWAII, U.S.A.

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAILS
ARMY COMM. CABLE

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(122):16

SCALE: AS SHOWN DATE: FEB. 1, 1977

SHEET No. 111 OF 11 SHEETS