a (2) 1978

ALASKA VILLAGE SAFE WATER PROJECT

TANANA , ALASKA

AS - BUILT
7/15/79

LIST OF DRAWINGS

UNDERGROUND PIPING

U-1	3	WATER LINE PLAN & PROFILE
U-2	4	WATER SYSTEM DETAILS
U-3	5	LAGOON EFFLUENT PLAN & PROFILE
U-4	6	LAGOON EFFLUENT PLAN & PROFILE
U-5	7	MANHOLE DETAILS
U-6	8	YARD PIPING

WASTEWATER TREATMENT PROCESS

WT-1	9	LAGOON DETAILS
WT-2	10	LAGOON DETAILS

STRUCTURAL

S-1	11	FOUNDATION PLAN & DETAILS
S-2	12	BASEMENT WALL PANEL ASSEMBLY DETAILS
S-3	13	BASEMENT FLOOR SLAB PLAN & DETAILS
S-4	14	FLOOR FRAMING PLAN & DETAILS
S-5	15	WALL FRAMING PLAN & DETAILS
S-6	16	INTERIOR FLOOR PLANS
S-7	17	ROOF & CEILING FRAMING PLANS
S-8	18	ROOF SHEATHING PLAN & DETAILS
S-9	19	SIDING DETAILS
S-10	20	MISC. SIDING & ROOFING DETAILS
S-11	21	BASEMENT WALL PANEL CONST. & DETAILS
S-12	22	BASEMENT WALL PANEL CONST. & DETAILS
S-13	23	STEEL TANK & MISC. FABRICATION
S-14	24	MISC. STEEL FABRICATION
~~S-15~~	~~25~~	~~ALUMINUM DUCT FLASHING~~ VOID
S-16	26	TRUSS DIAGRAM

PLUMBING

P-1	27	WATER SUPPLY & TREATMENT
P-2	28	WATER DISTRIBUTION SYSTEM
P-3	29	DRAINAGE SYSTEM
P-4	30	LOWER LEVEL PIPING - PLAN
P-5	31	LOWER LEVEL PIPING - SECTIONAL
P-6	32	FLOOR PLANS PLUMBING & PIPING (sk)
P-7	33	PLUMBING SCHEMATICS (skoglund)

HEATING & VENTILATING

H-1	34	MECHANICAL HEATING ISOMETRIC & PLAN VIEW
H-2	35	FLOOR PLAN SHEETMETAL (sk)
H-3	36	BUILDING SECTIONS (skoglund)
H-4	37	HEATING SYSTEMS SCHEMATICS(sk)
H-5	38	MECH. EQUIPMENT SCHEDULES (sk)
H-6	39	HEATING & VENTILATING ISOMETRIC
H-7	40	MISCELLANEOUS DETAILS

ELECTRICAL

E-1	41	ELECTRICAL LAYOUT & DETAILS
E-2	42	ELECTRICAL ONE LINE DIAGRAMS
E-3	43	ELEMENTARY INTERCONNECTION DIAGRAMS- VENTILATION SYSTEM
E-4	44	MISC. ELECTRICAL DIAGRAMS
E-5	45	FIRE ALARM PANEL & MISC. DETAILS
E-6	46	HEATING & VENTILATION
E-7	47	CONTROL DIAGRAMS

NO.	REVISION	DATE	BY
1	AS-BUILT	7-15-77	AA

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.
DESIGNED :
DRAWN :
CHECKED :
DATE :
SCALE :

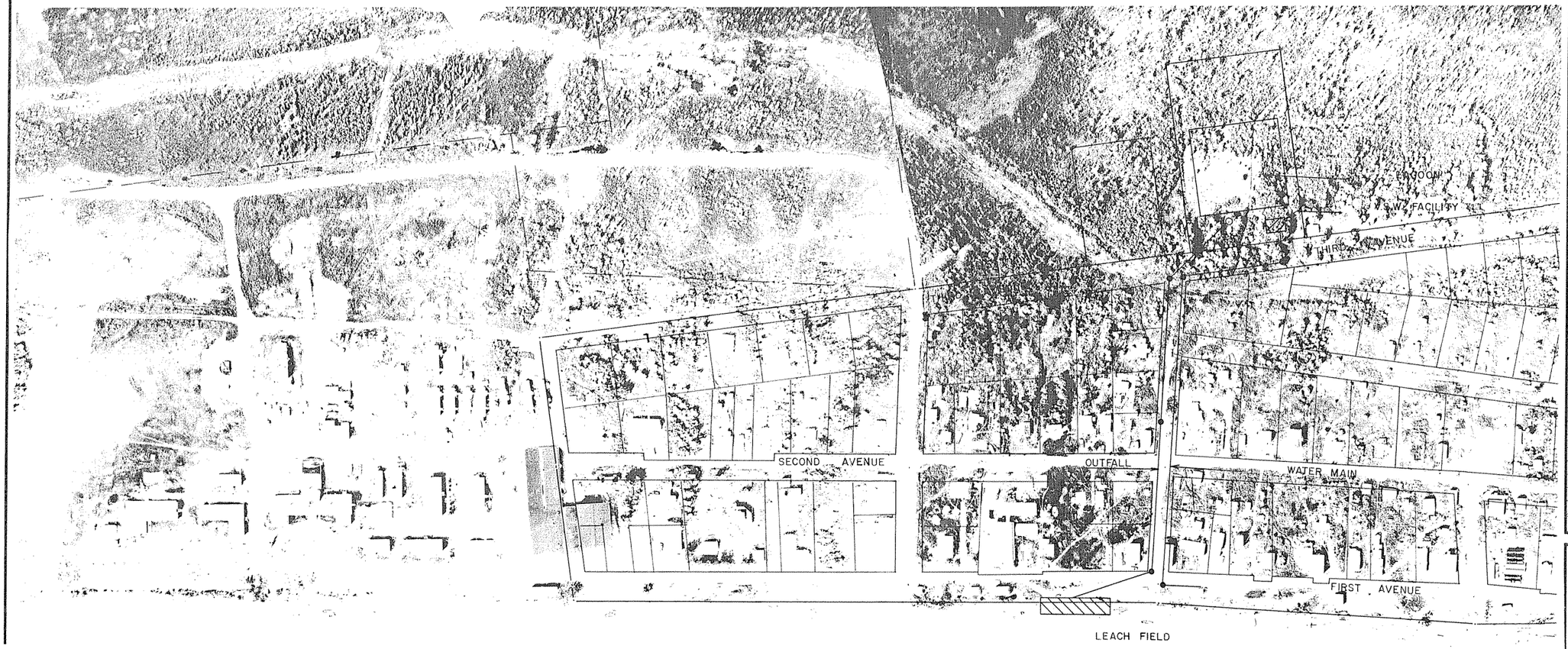
TANANA VILLAGE SAFE WATER FACILITY

INDEX

I - 1

SHEET 1 OF 42

NOTE: Property Lines Shown On This Drawing & Others Are Approximation Only Based On Control Monuments Found On Third Avenue & Park Street. A Control Survey Thru Town Was Not Made



NO.	REVISION	DATE	BY

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.
DESIGNED :
DRAWN :
CHECKED :
DATE :
SCALE :

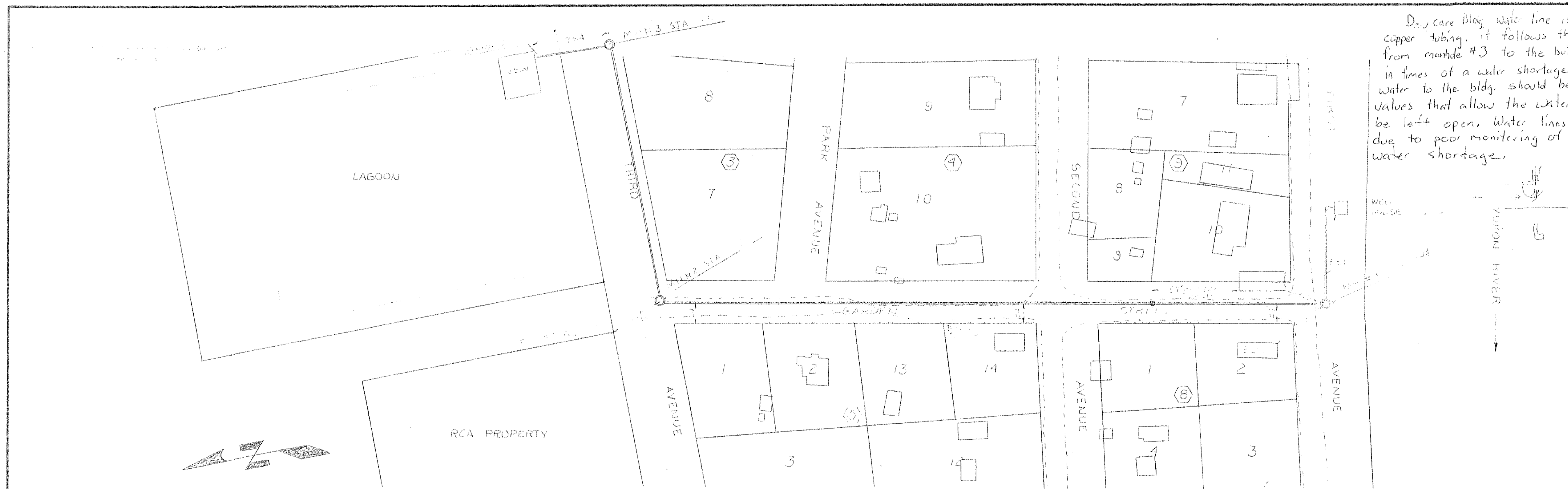
TANANA VILLAGE SAFE WATER FACILITY

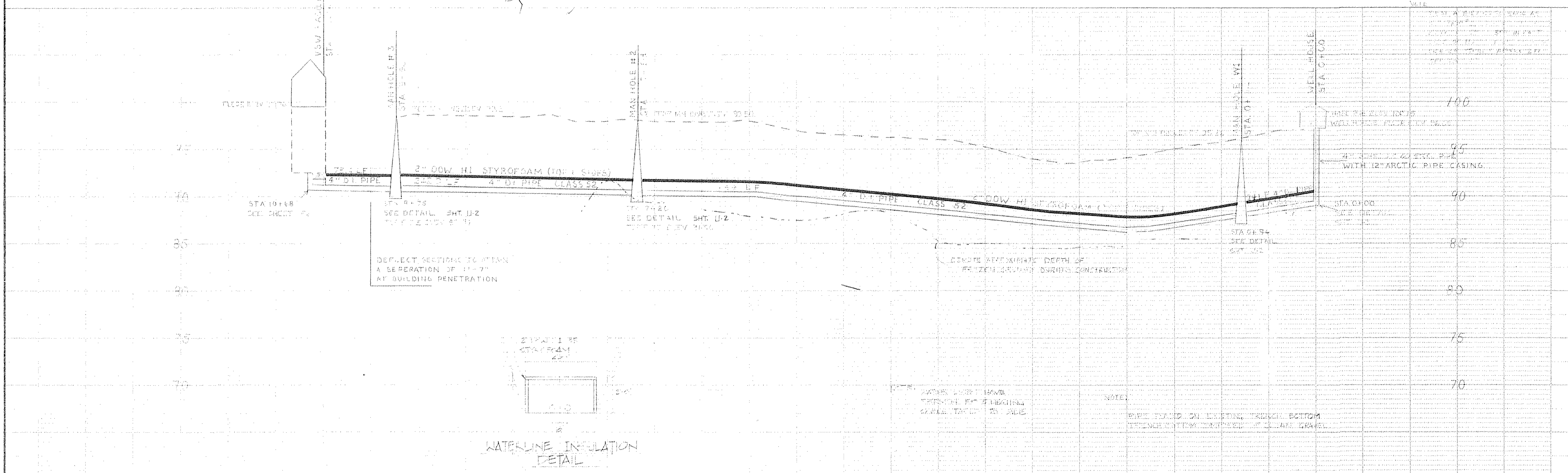
VICINITY MAP

V-1

SHEET OF

Day Care Bldg. water line is between 3/4" & 1 1/4" soft copper tubing. it follows the line of least resistance from manhole #3 to the buildings mechanical room in times of a water shortage the valve that supplies water to the bldg. should be shut off but the 2 valves that allow the water to recirculate should be left open. Water lines have froze twice due to poor monitering of this system during water shortage. PO'K 1-6-86





FIELD BOOKS		TBM NO.	LOCATION	ELEV.
DESIGN				
STAKING				
ASBUILT				
CONTRACTOR		BASIS OF THIS DATUM		
INSPECTOR				
CONSTRUCTION RECORD		VERTICAL DATUM		

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			
PLAN CHECK			

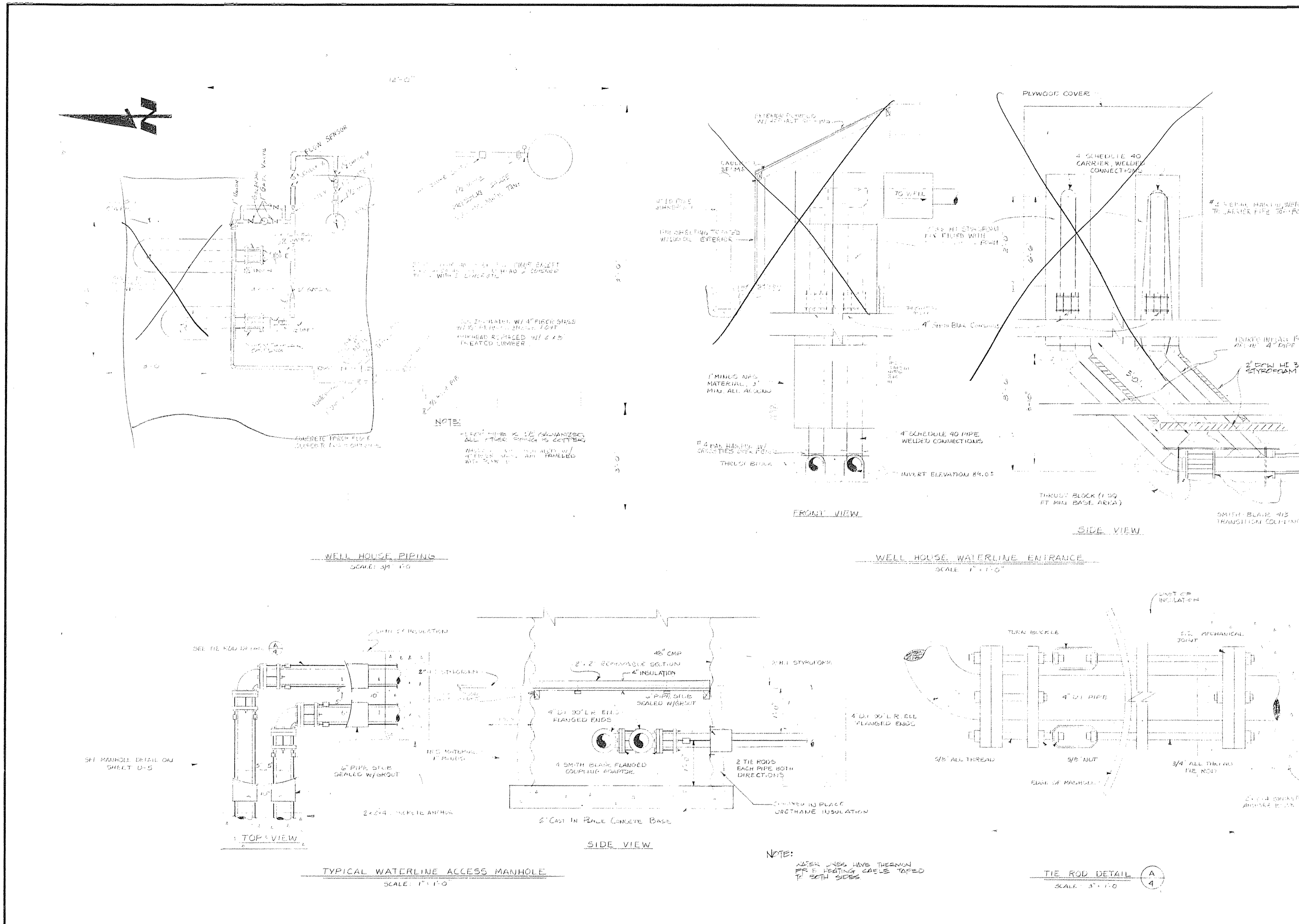
REV.	DATE	DESCRIPTION	BY
		REVISIONS	

Arctic Environmental Engineers, Anchorage, Alaska.

AEE

VSW WATER LINE

SCALE	HOR. / VER.	DRAWN BY	M.L.S.	DATE		FILE NO.	U1	SHEET 3 OF 4
		DESIGNED BY		PROJECT NO.				



NO.	REVISION	DATE	BY

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024 01 SAV
DESIGNED :	DSY
DRAWN :	HEC
CHECKED :	SEC
DATE :	MARCH 1978
SCALE :	AS SHOWN

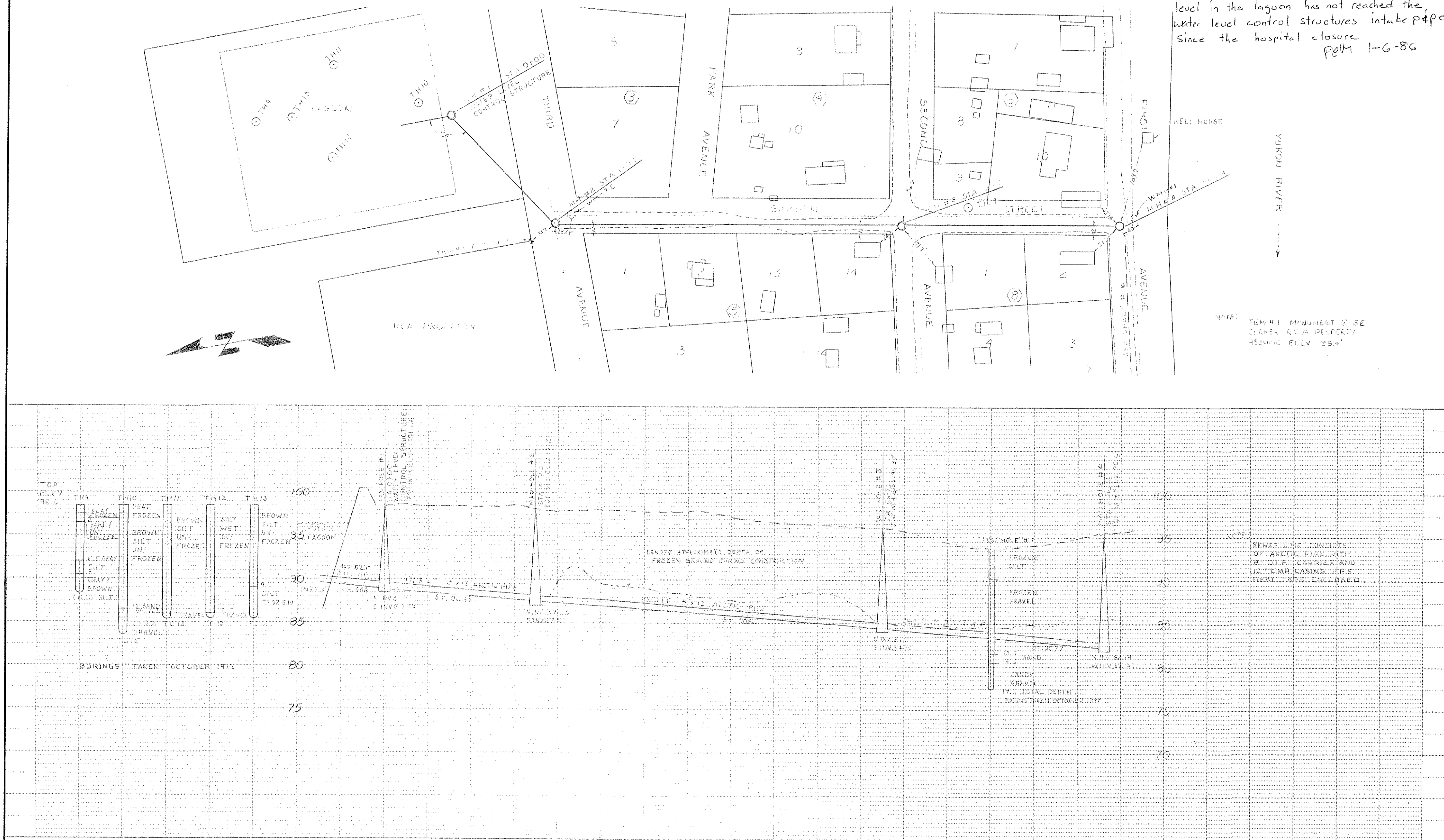
TANANA VSW FACILITY

WATER SYSTEM DETAILS

U-2

SHEET 4 OF 42

This line has been frozen since 1982 sewage level in the lagoon has not reached the, water level control structures intake pipe since the hospital closure
PGM 1-6-86



FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN			
STAKING			
ASBUILT			
CONTRACTOR	BASIS OF THIS DATUM		
INSPECTOR			
CONSTRUCTION RECORD	VERTICAL DATUM		

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN. SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			
PLAN CHECK			

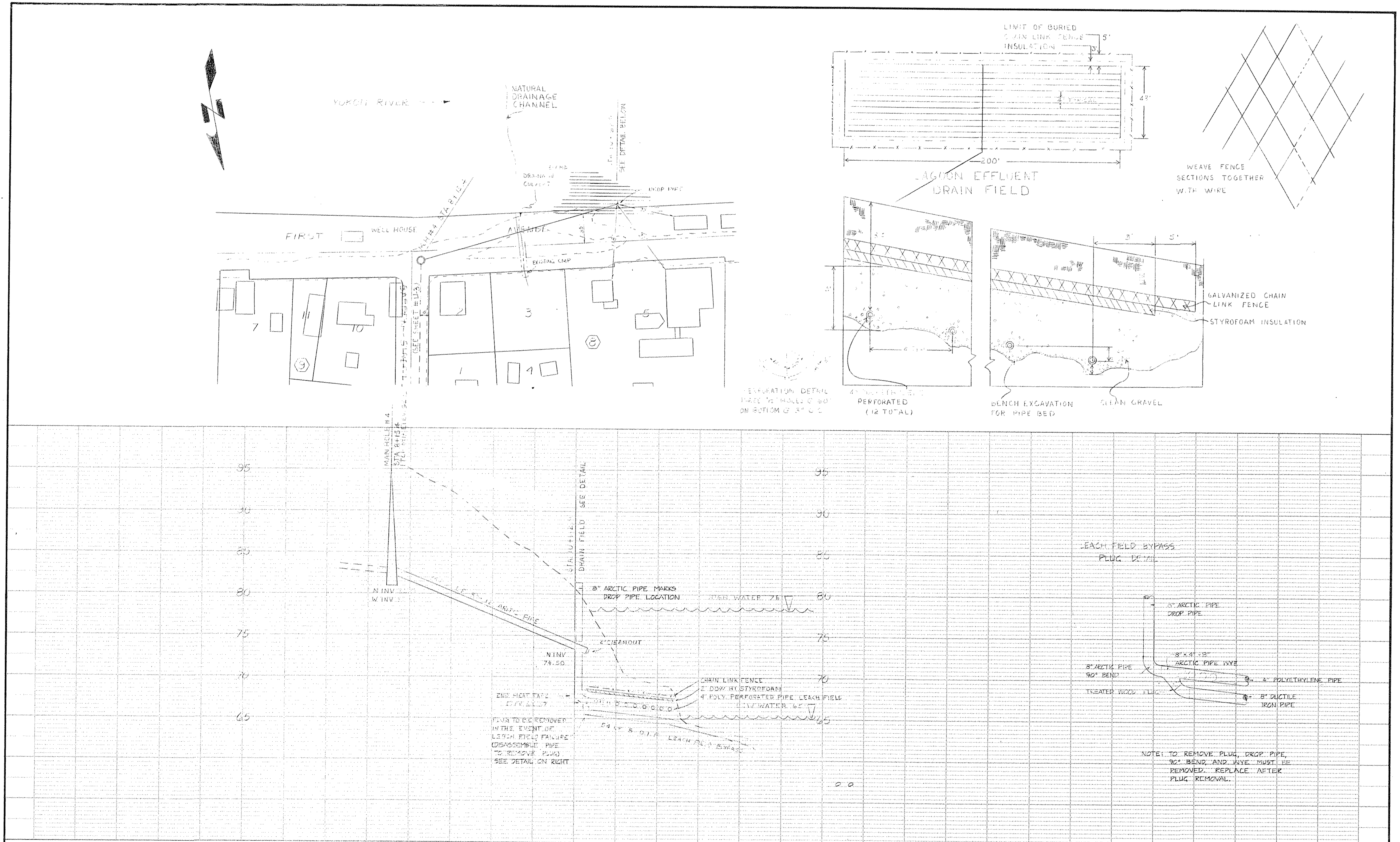
REV.	DATE	DESCRIPTION	BY

REVISIONS

Arctic Environmental Engineers, Anchorage, Alaska.

LAGOON EFFLUENT

SCALE HOR. 1" = 50' VER. 1" = 5'
DRAWN BY. MLE
DESIGNED BY. DSY
DATE 3-1-78
PROJECT NO. 77-024-01
FILE NO. U3
SHEET 5 OF 4[illegible]



FIELD BOOKS		TBM NO.	LOCATION	ELEV.
DESIGN				
STAKING				
ASBUILT				
CONTRACTOR		BASIS OF THIS DATUM		
INSPECTOR				
CONSTRUCTION RECORD		VERTICAL DATUM		

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN. SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			

PLAN CHECK

REV.	DATE	DESCRIPTION	BY
1	7-12-79	AS-BUILT	

REVISIONS

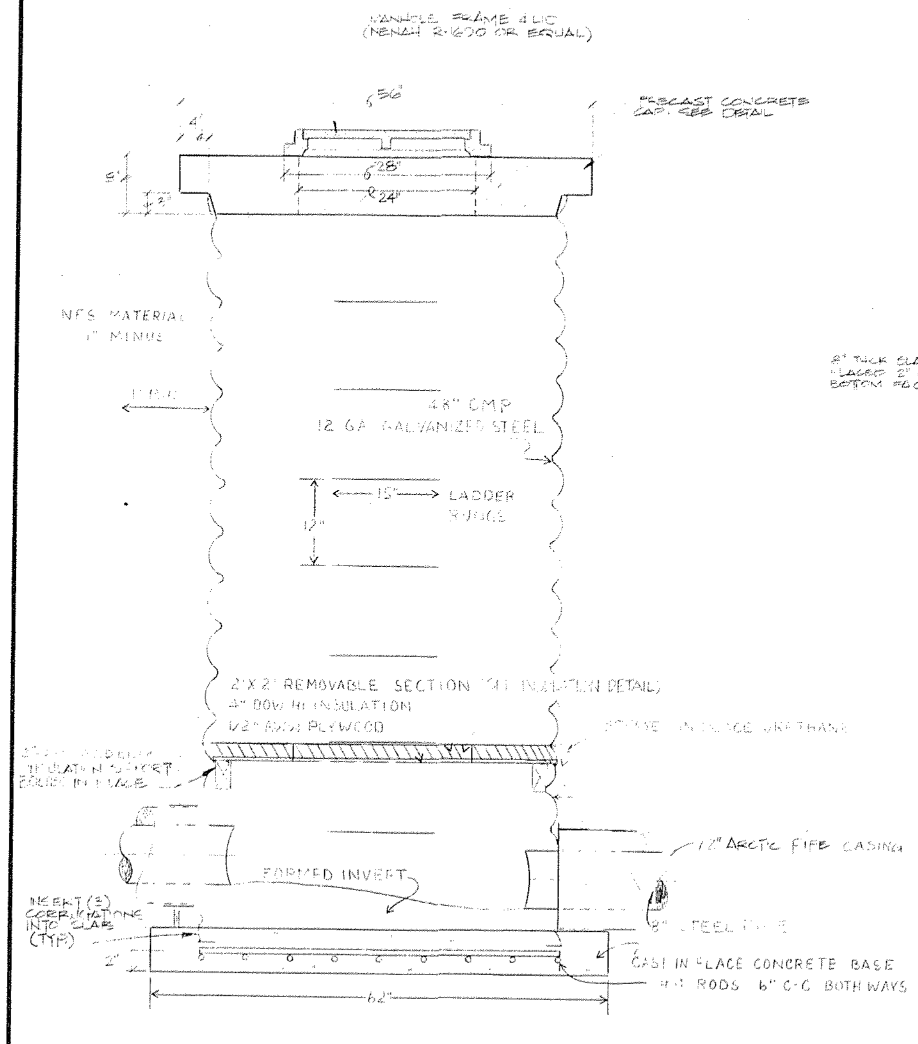
STATE OF ALASKA — 49TH — Sidney E. Clark — NO. 1568-E — REGISTERED PROFESSIONAL

Arctic Environmental Engineers, Anchorage, Alaska.

AEE

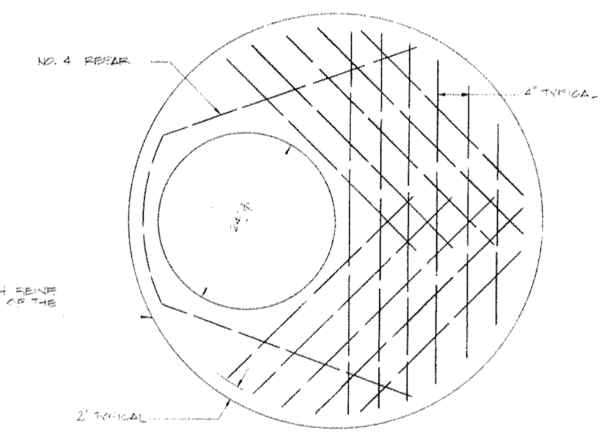
LAGOON EFFLUENT

SCALE	HOR. 1"=50' VER.	DRAWN BY:	DATE 3-1-78	FILE NO. U4	SHEET 6 OF 42
		DESIGNED BY: D.S.Y.	PROJECT NO. 77-024-01		

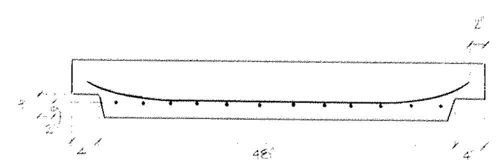


TYPICAL SANITARY MANHOLE

(HEIGHTS VARY)



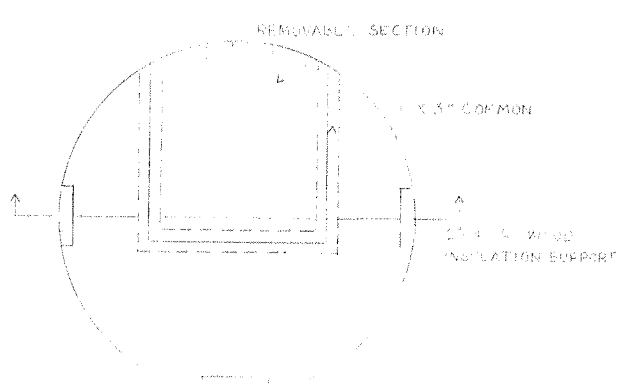
PLAN



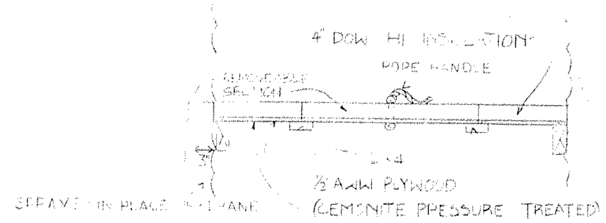
SIDE VIEW

PRECAST MANHOLE TOP

PRECAST ALASKA PRODUCT No. 611



PLAN



ELEVATION

MANHOLE INSULATION DETAILS

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	MP

Arctic Environmental Engineers

Anchorage, Alaska

PROJECT NO. 77-024-01
DESIGNED : DSV
DRAWN : MLS
CHECKED : WSVH
DATE : 3-78
SCALE : 1" = 1'

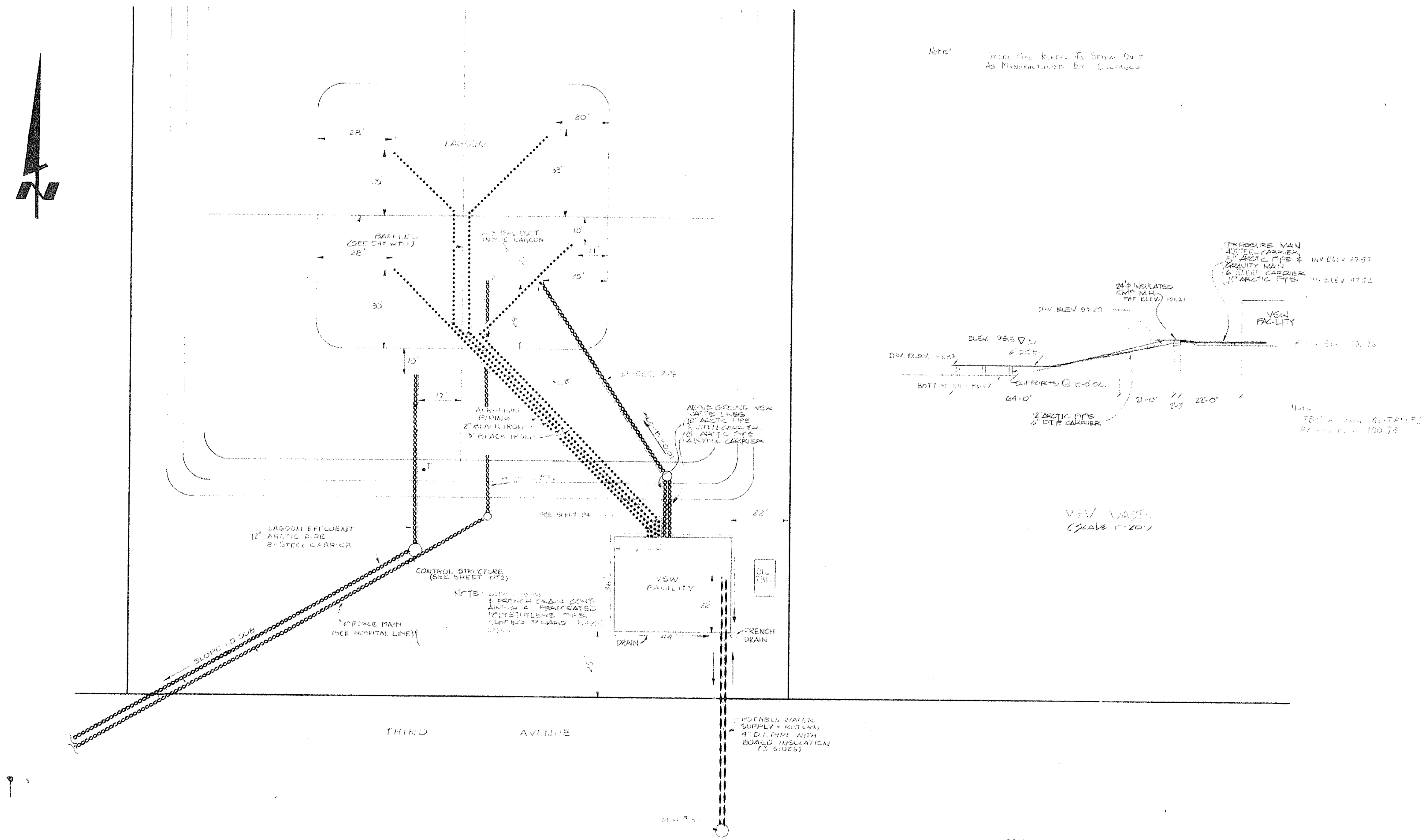
TANANA VSW FACILITY

MANHOLE DETAILS

U5

SHEET 7 OF 42

aeration pumps in basement of Laundramat did not run during summer of 84 + 85 if lagoon begins to smell they should be turned on periodicaly check operating manual
Pem 1-6-86



LEGEND

- AERATION PIPING
- SEWER LINES
- WATER LINES
- FRENCH DRAIN

NOTE:

ARCTIC PIPE HAS THERMON PIPE HEATING CABLE RUN THROUGH CABLE RACE ATTACHED TO CARRIER. ALL OTHER LINES W/ CABLE TAPED TO SIDE OF PIPE.

NO.	REVISION	DATE	BY
2		7-6-79	
1	ADDED HOSPITAL FORCE MAIN	7/16/78	W.S.V.H.

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-524-6-SKV
DESIGNED : D S Y
DRAWN : H E C
CHECKED : W S V H
DATE : MARCH 1978
SCALE : 1" = 20'

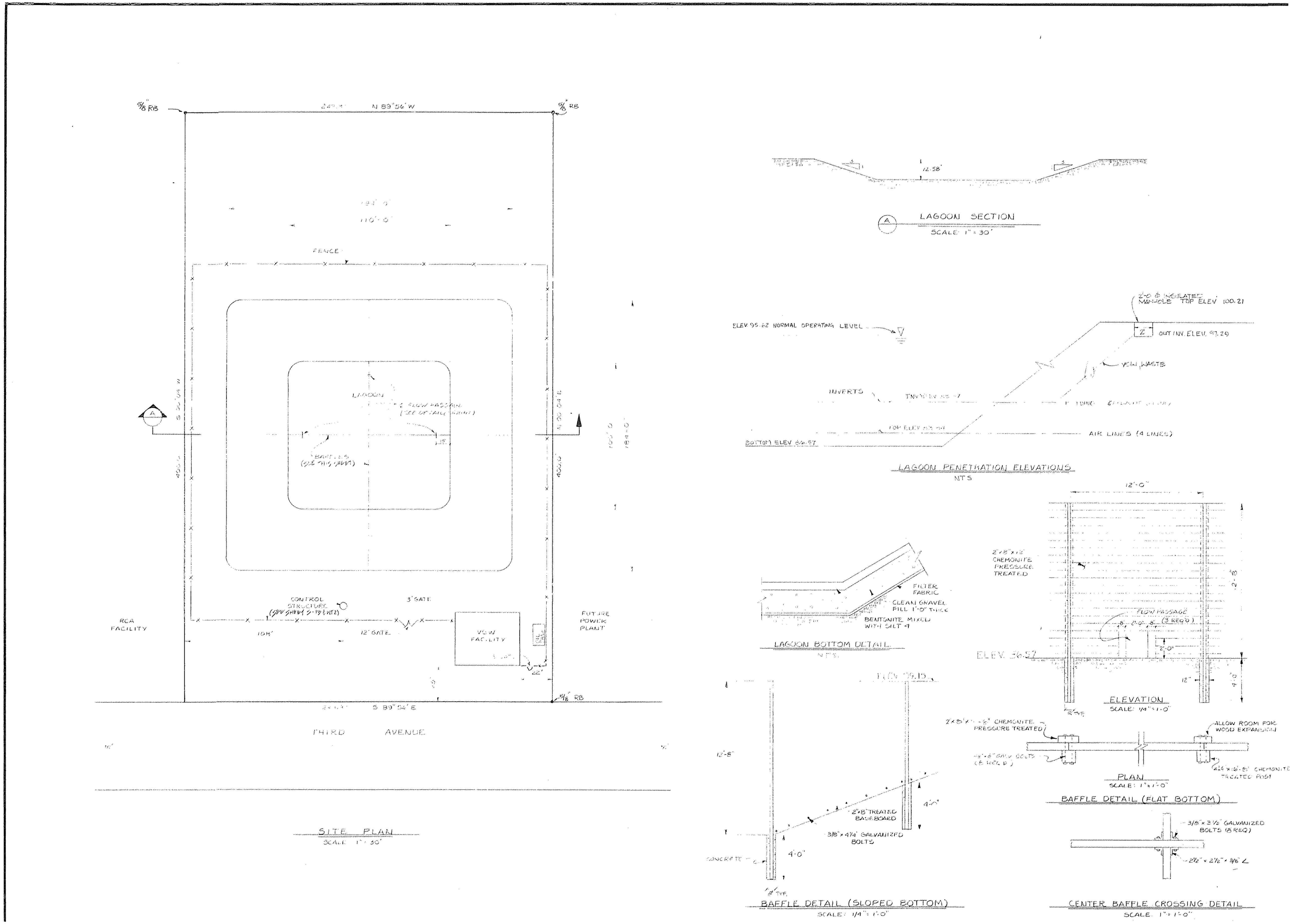
TANANA VSW FACILITY

YARD PIPING

U-6

SHEET 8 OF 42

3



NO.	REVISION	DATE	BY
#1	As Built	7-15-77	MP

STATE OF ALASKA — 49TH — REGISTERED PROFESSIONAL ENGINEER — Sidney E. Clark — NO. 1965-E

Arctic Environmental Engineers
Anchorage, Alaska

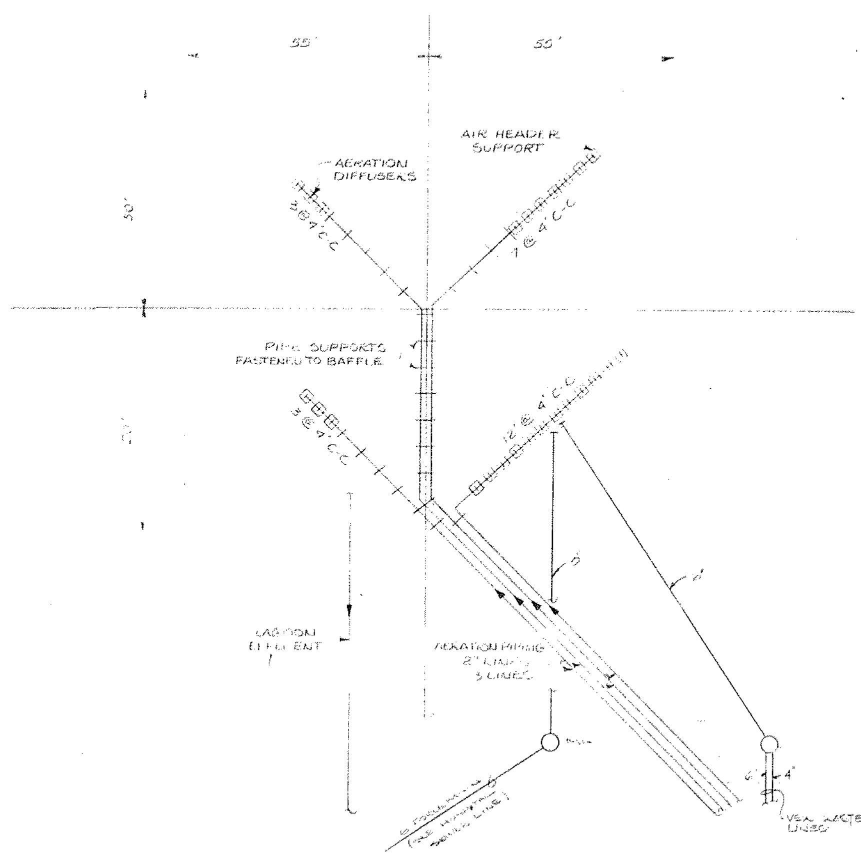
PROJECT NO.	77-024-01 SAV
DESIGNED :	D&S
DRAWN :	H F C
CHECKED :	W S V H
DATE :	MARCH 1978
SCALE :	AS NOTED

TANANA VSW FACILITY

LAGOON

WT-1

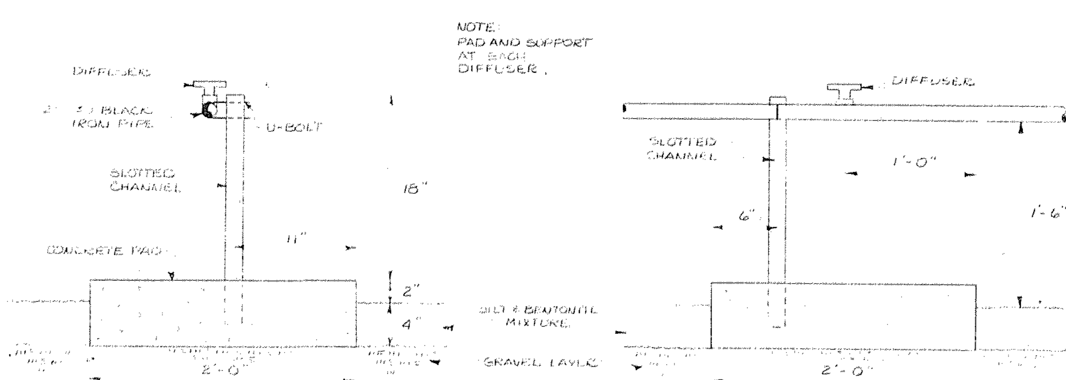
SHEET 9 OF 42



DIFFUSER LAYOUT

SCALE: 1" = 20'

NOTE:
PAD AND SUPPORT AT EACH DIFFUSER.

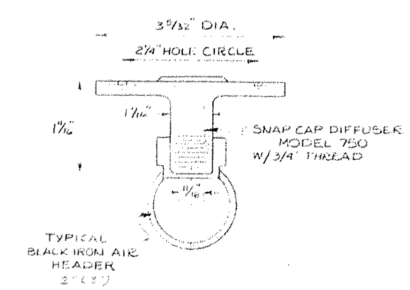


FRONT VIEW

SIDE VIEW

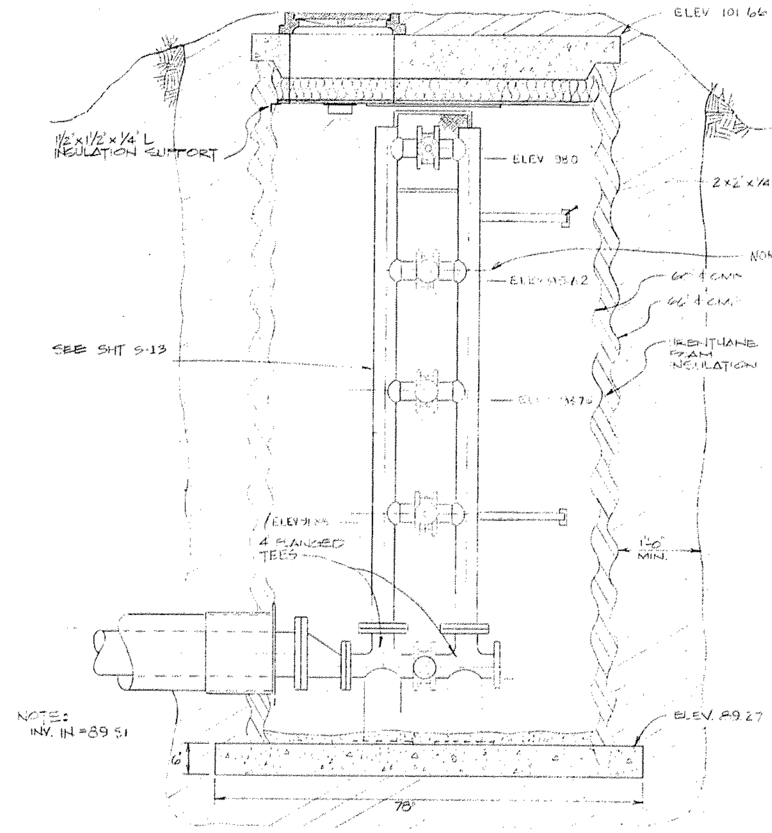
AIR PIPING SUPPORTS

SCALE: 1½" = 1'-0"



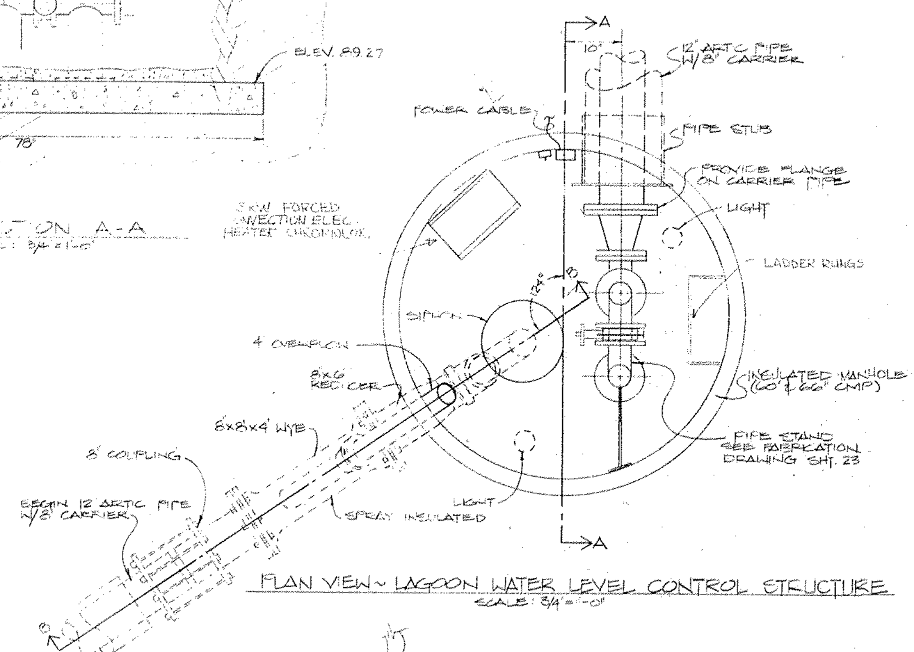
DIFFUSER DETAIL

N.T.S.



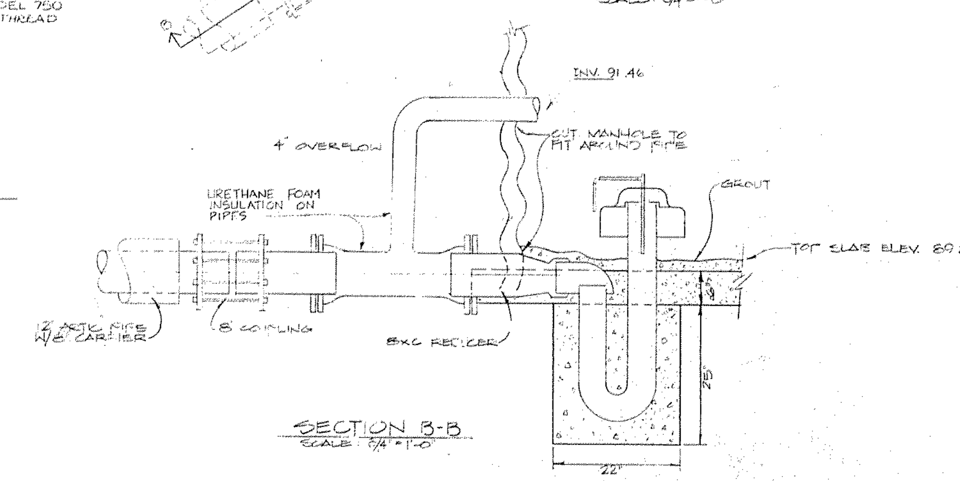
SECTION A-A

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



PLAN VIEW ~ LAGOON WATER LEVEL CONTROL STRUCTURE

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



SECTION B-B

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

NO.	REVISION	DATE	BY
2	[illegible]	7-15-79	MP
1	ADDED HOSPITAL SEWAGE	[illegible]	[illegible]

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024-01 SAV
DESIGNED :	D.S.V.
DRAWN :	H.E.C.
CHECKED :	W.S.V.H.
DATE :	MARCH 1978
SCALE :	AS SHOWN

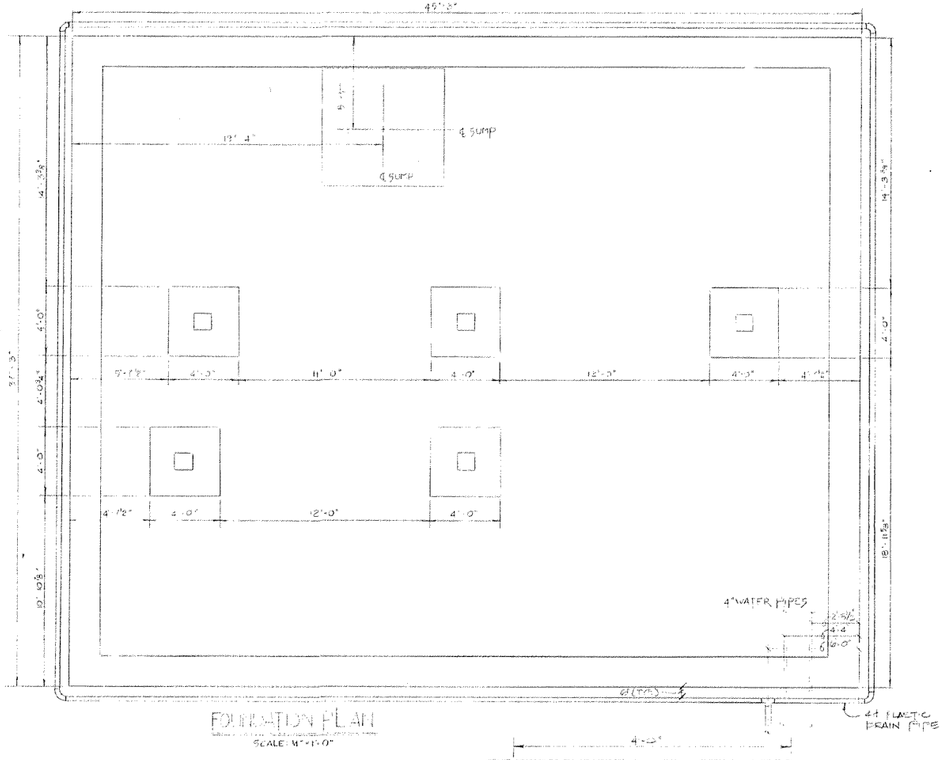
TANANA VSW FACILITY

LAGOON DETAILS

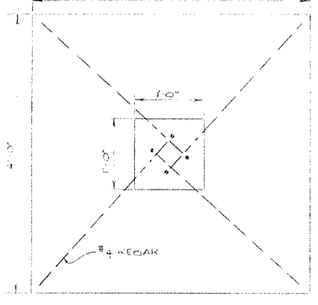
WT-2

SHEET 10 OF 42

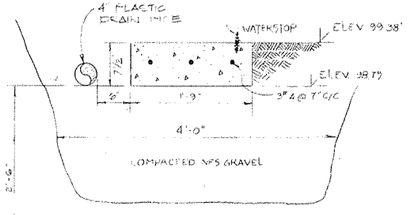
NOTE: ALL BUILDING ELEVATIONS ARE BASED ON ASSUMED 100.00 AT BASEMENT FLOOR.



FOUNDATION PLAN
SCALE: ¼"=1'-0"

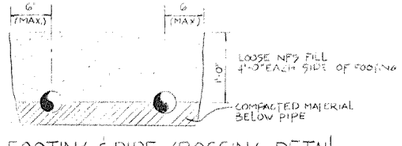


PLAN

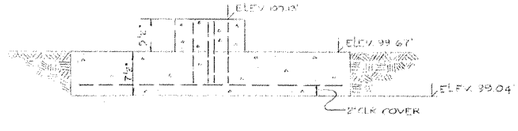


NATURAL NFS GRAVEL

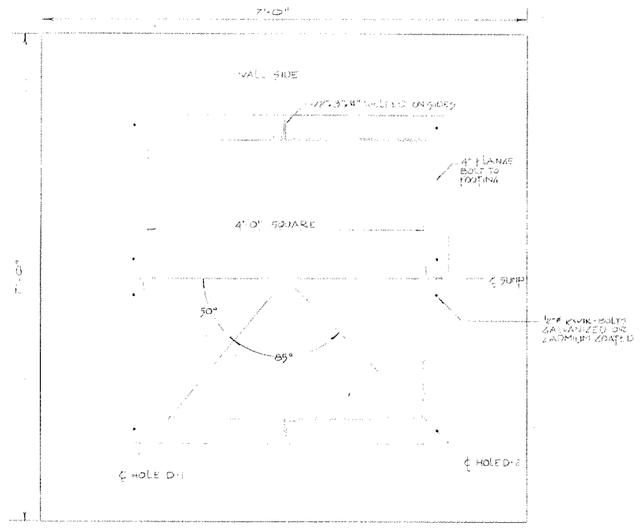
4" WATER PIPE



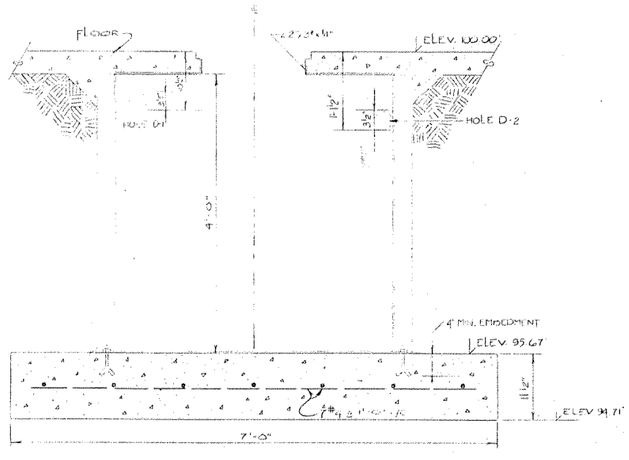
FOOTING & PIPE CROSSING DETAIL
SCALE: 1"=1'-0"



SECTION
COLUMN FOOTING DETAILS
SCALE: 1"=1'-0"



PLAN



SECTION
SUMP DETAILS
SCALE: 1"=1'-0"

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	NP

STATE OF ALASKA 49TH
Sidney E. Clark
NO. 1368
REGISTERED PROFESSIONAL ENGINEER

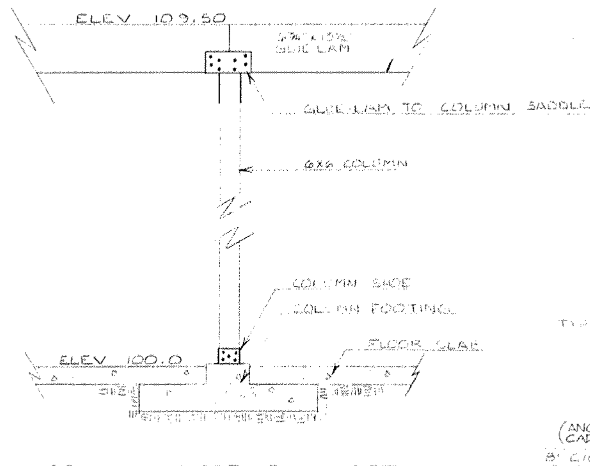
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024
DESIGNED : DPW
DRAWN : PEZ
CHECKED : WSVH
DATE : MARCH 1978
SCALE : AS NOTED

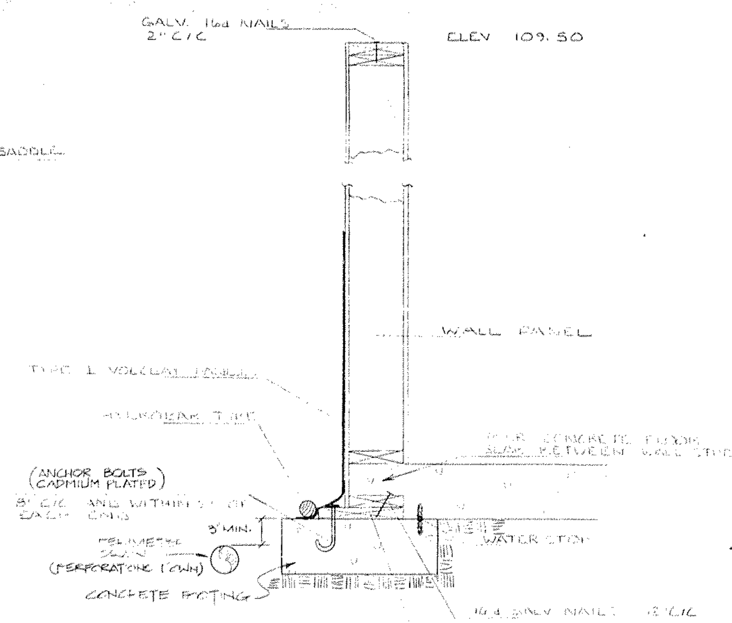
TANANA VILLAGE SAFE WATER FACILITY
FOUNDATION PLAN & DETAILS

S-1

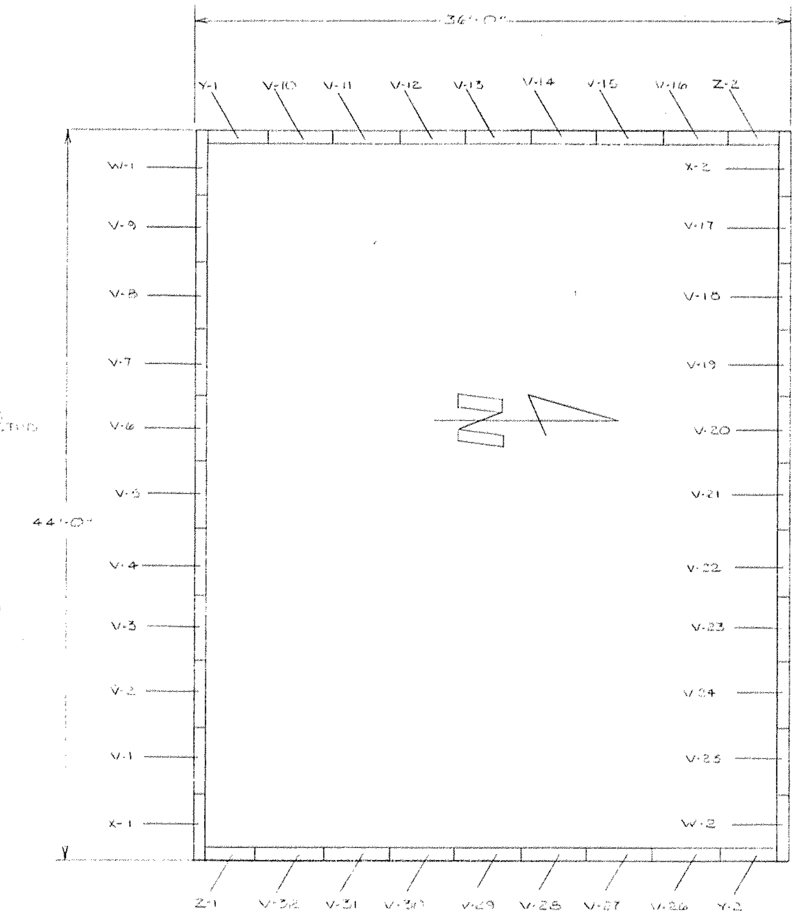
SHEET 11 OF 42



COLUMN ASSEMBLY DETAIL

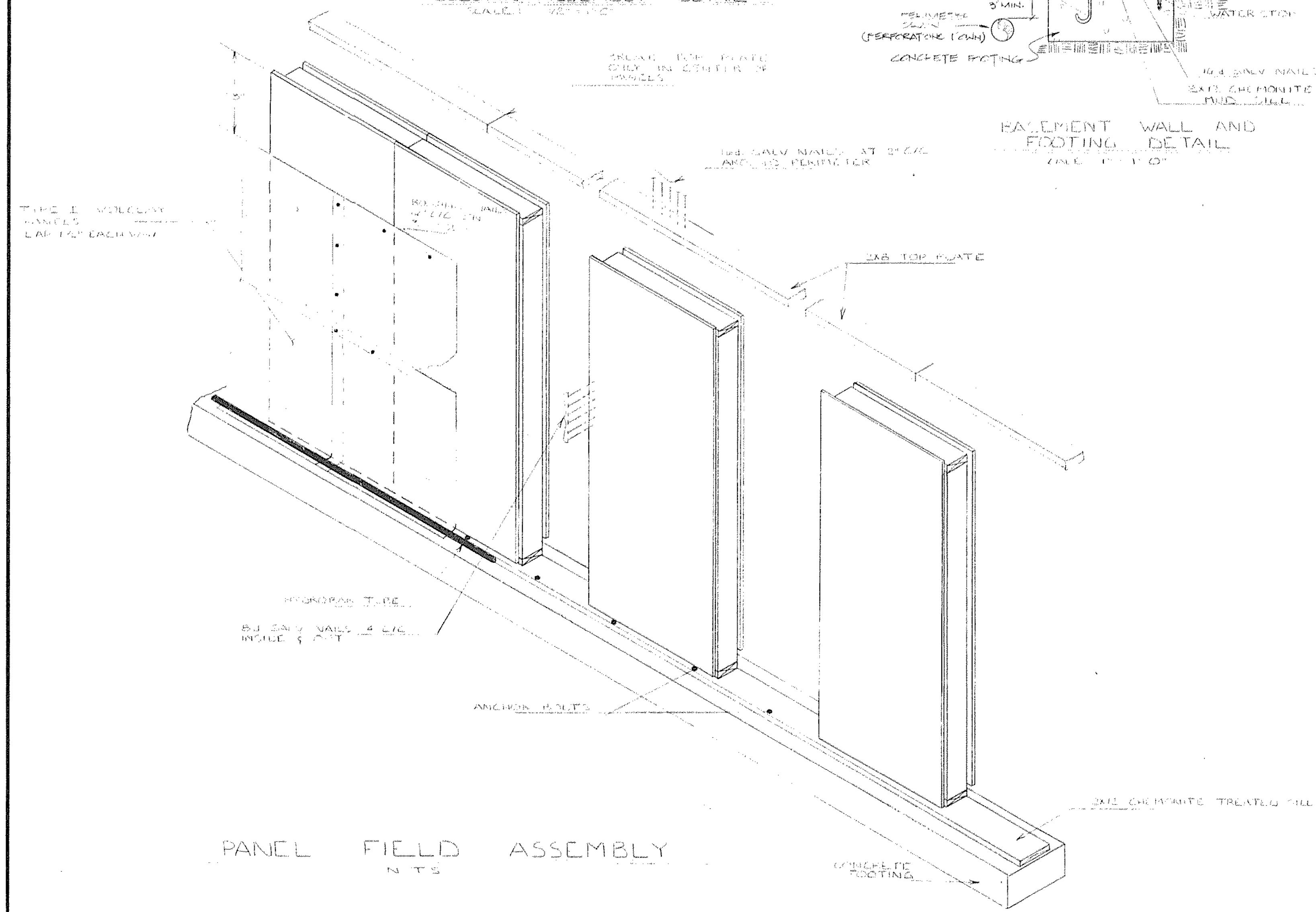


BASEMENT WALL AND FOOTING DETAIL



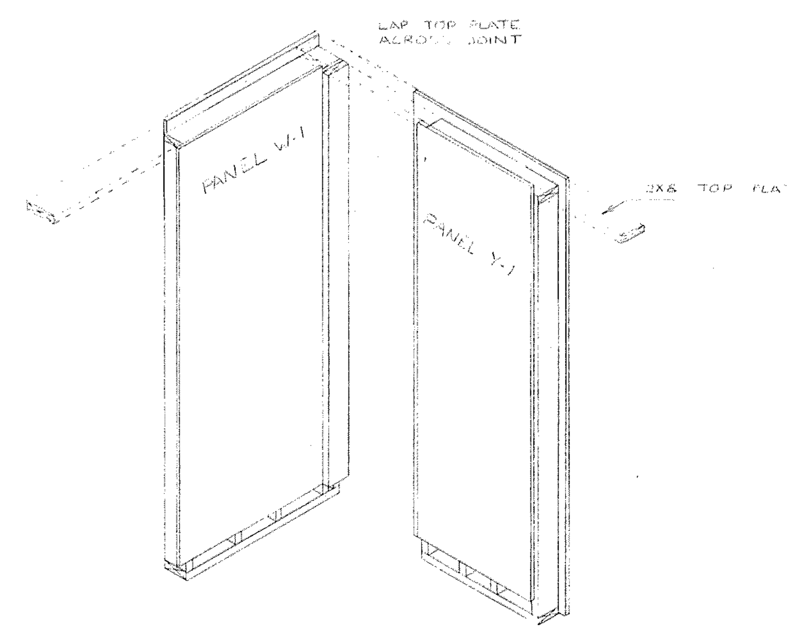
BASEMENT PANEL PLAN VIEW

SCALE: 3/16" = 1'-0"



PANEL FIELD ASSEMBLY

N.T.S.



PANEL CORNER W-1 Y-1

N.T.S.

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	

STATE OF ALASKA — 49TH — Sidney E. Clark — NO. 1568-E — REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

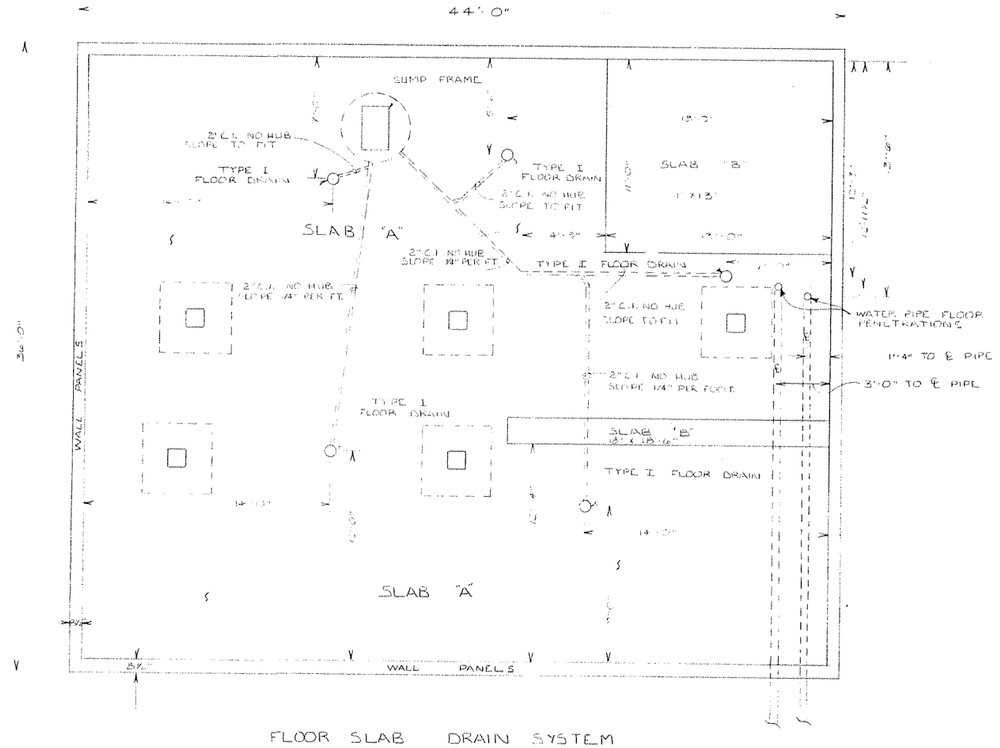
PROJECT NO. 77-024-01 SAV
DESIGNED: DPW
DRAWN: DER
CHECKED: W.S.V.H.
DATE: MARCH 78
SCALE: AS NOTED

TANANA VILLAGE SAFE WATER FACILITY

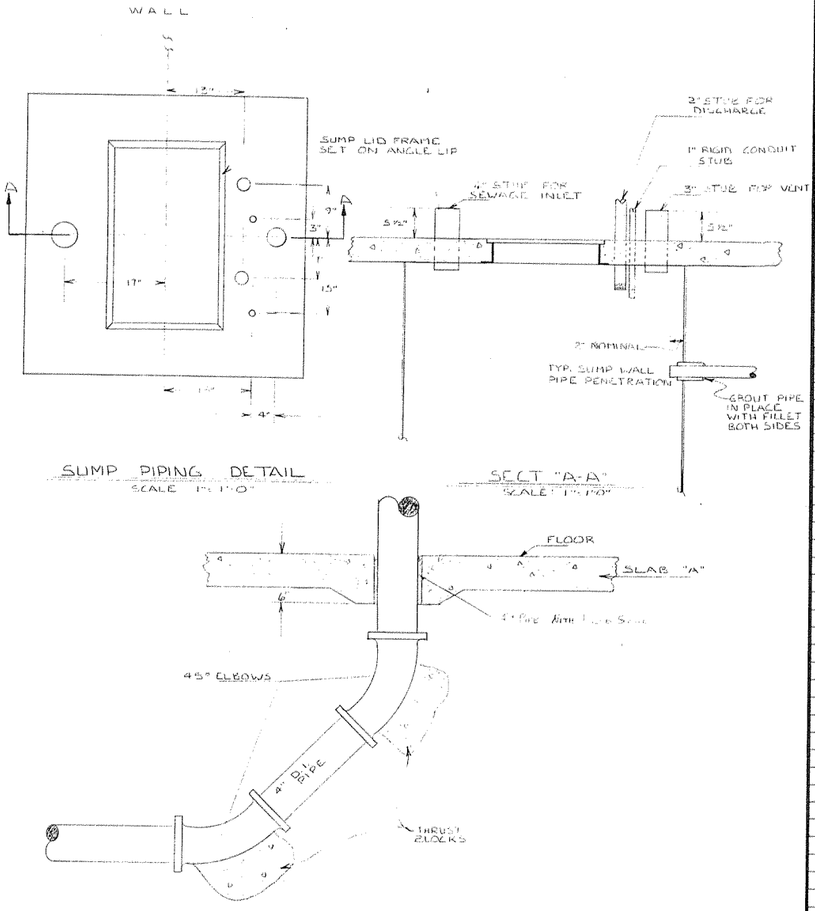
BASEMENT WALL PANEL ASSEMBLY DETAILS

S-2

SHEET 12 OF 42



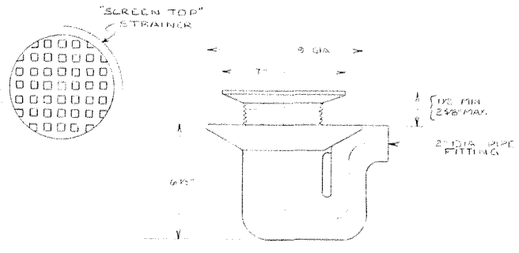
FLOOR SLAB DRAIN SYSTEM
SCALE 1/4" = 1'-0"



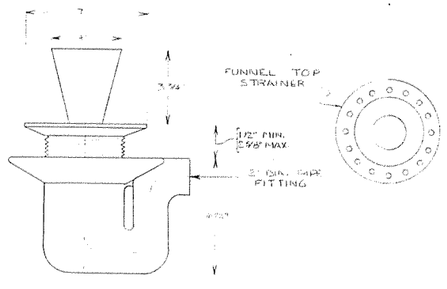
SUMP PIPING DETAIL
SCALE 1"=1'-0"

SECT "A-A"
SCALE 1"=1'-0"

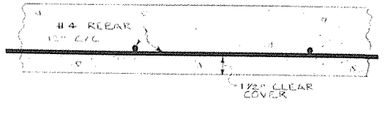
WATER PIPE FLOOR PENETRATION
SCALE: 1/2" = 1'-0"



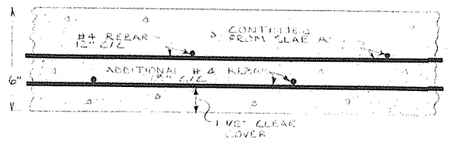
TYPE I FLOOR DRAIN
SCALE 1/4" = 1'



TYPE II FLOOR DRAIN
SCALE 1/4" = 1'



SLAB "A"
NTS



SLAB "B"
NTS

NO.	REVISION	DATE	BY
1	ADDENDUM	1-15-79	MP

STATE OF ALASKA 49TH
Sidney E. Clark
NO. 1368-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-534-01-JAV
DESIGNED :	DBW
DRAWN :	DER
CHECKED :	WSVH
DATE :	MARCH 1978
SCALE :	AS SHOWN

TANANA VILLAGE SAFE WATER FACILITY

BASEMENT FLOOR SLAB PLAN & DETAILS

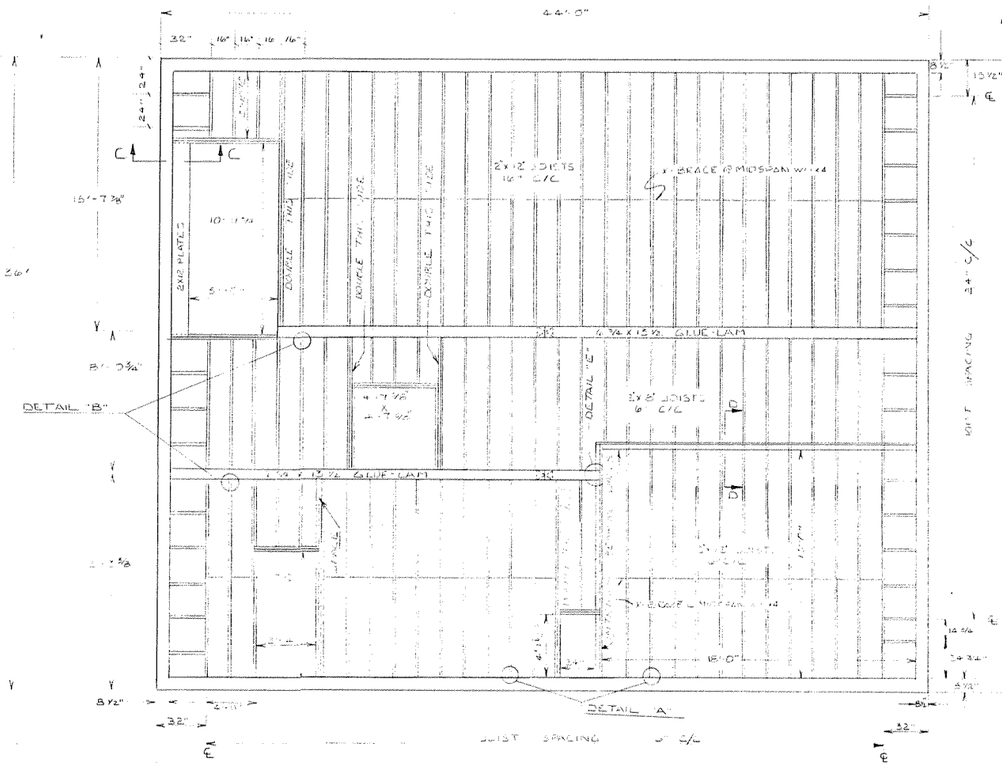
S-3

SHEET 13 OF 42

NAILING SCHEDULE: 8d GALVANIZED COMMON NAILS @ 6" C/C ON ALL JOISTS

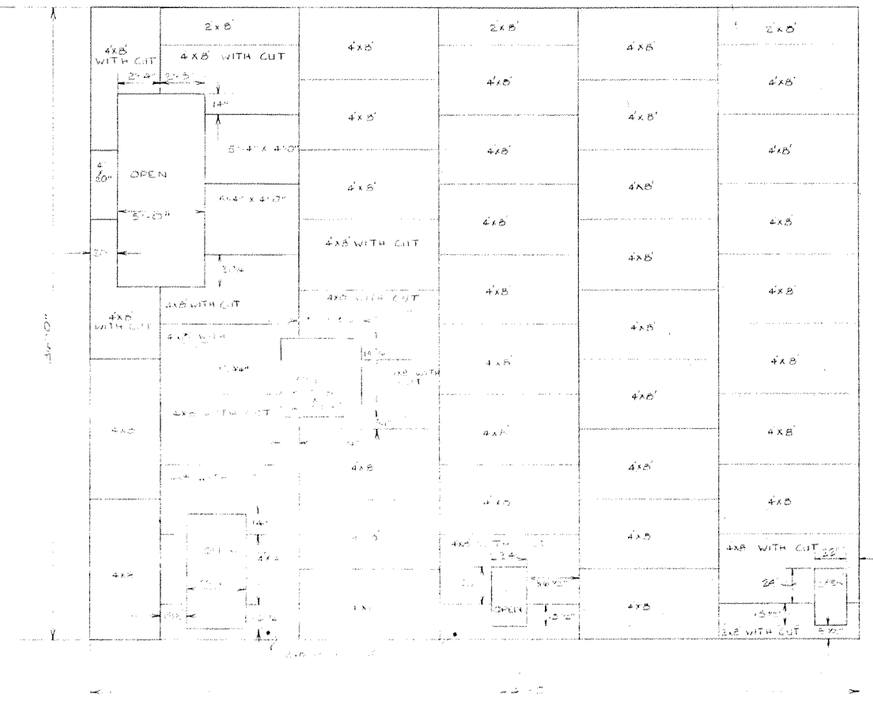
16 d. GALVANIZED COMMON NAILS @ 2" C/C AROUND THE PERIMETER

PLYWOOD 3/4" A-C EXTERIOR PLYWOOD GROUP A SPECIES

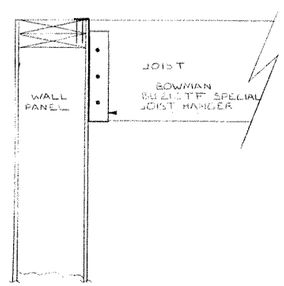


FLOOR FRAMING PLAN

SCALE: 1/4" = 1'-0"

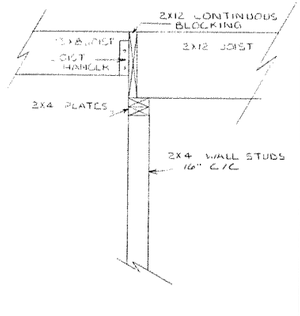


SECOND FLOOR JOIST



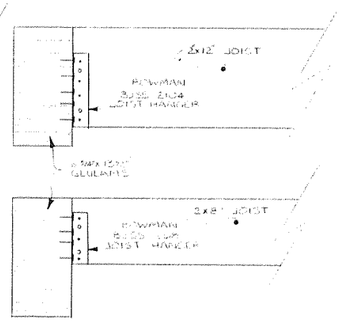
DETAIL "A" (TYP @ WALL)

SCALE 1 1/2" = 1'-0"



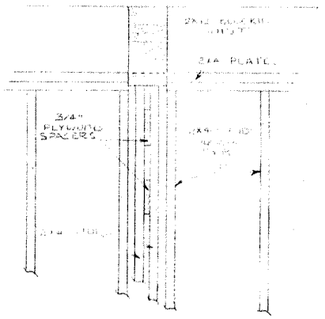
SECTION "D-D"

SCALE 1" = 1'-0"

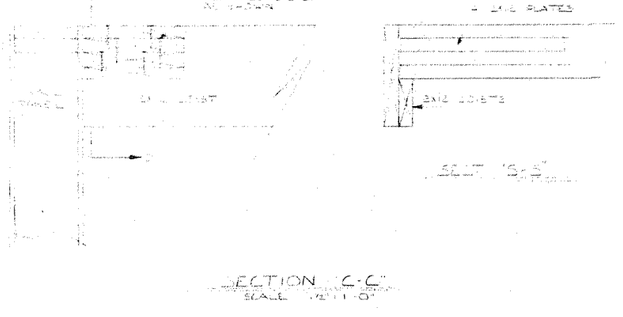


DETAIL "B" (TYP @ GLULAM)

SCALE 1" = 1'-0"



DETAIL "E"



SECTION "C-C"

SCALE 1/2" = 1'-0"

NO.	REVISION	DATE	BY
1	AS BUILT	7-15-79	M

STATE OF ALASKA 49TH Sidney V. Clara NO. 1568-E REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers

Anchorage, Alaska

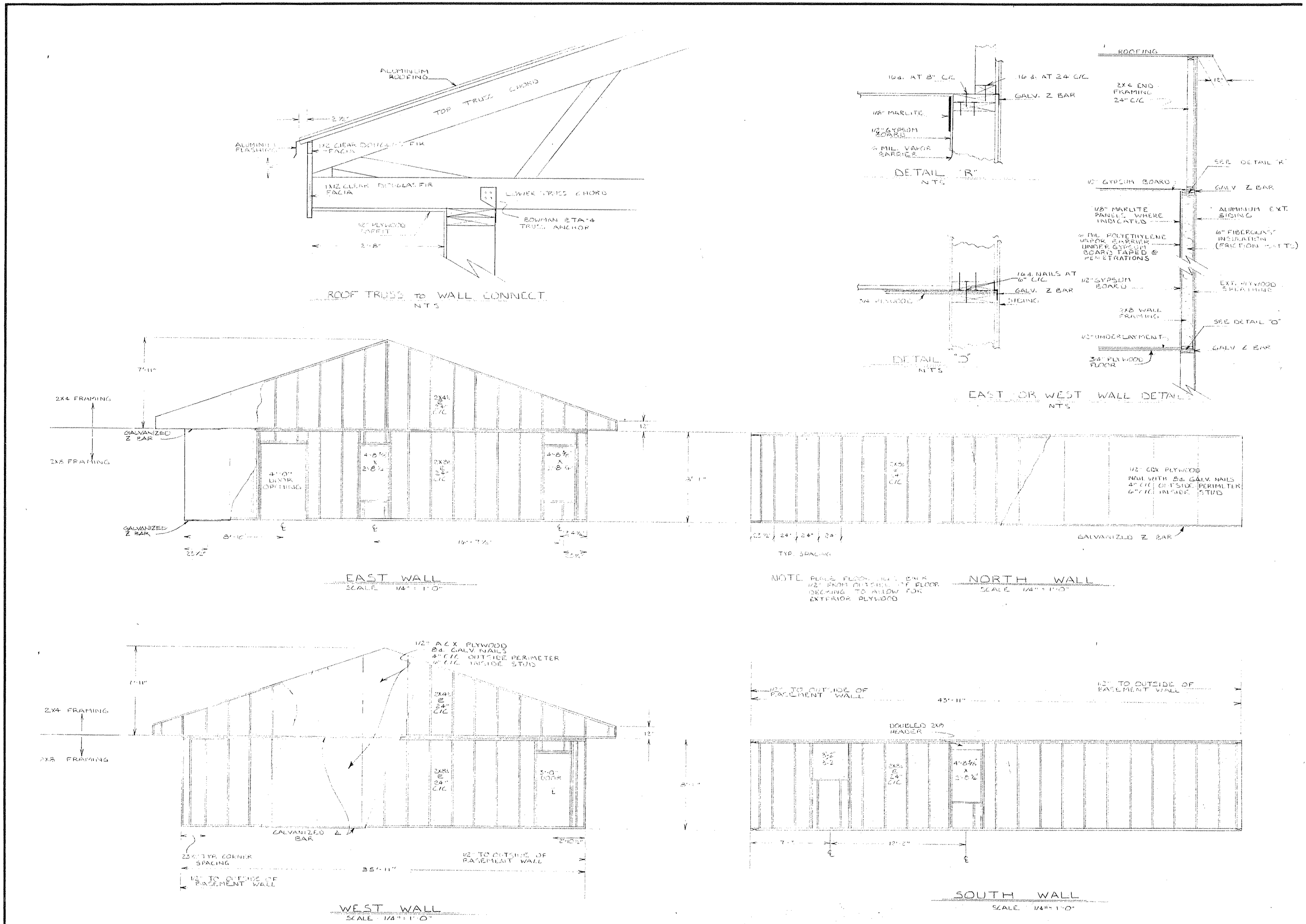
PROJECT NO.	77-024-01 SAV
DESIGNED :	DPW
DRAWN :	DEL
CHECKED :	WSVH
DATE :	MARCH 22 1978
SCALE :	AS NOTED

TANANA VILLAGE SAFE WATER FACILITY

FLOOR FRAMING PLAN & DETAILS

S-4

SHEET 14 OF 42



NO.	REVISION	DATE	BY
1	AS BUILT		

Arctic Environmental Engineers
Anchorage, Alaska

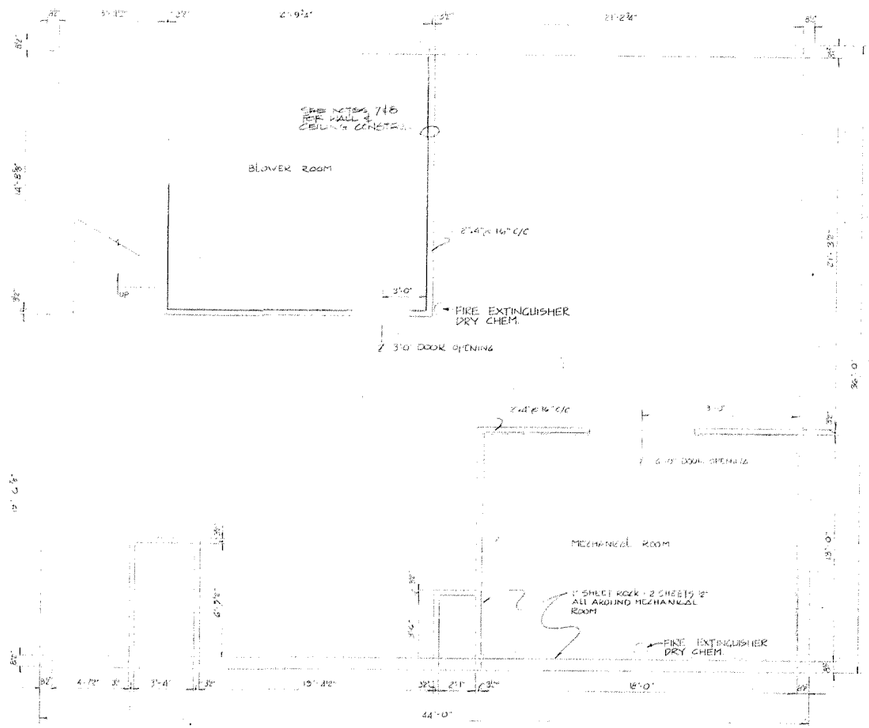
PROJECT NO. 77-024-01 SAV
DESIGNED: DPW
DRAWN: DER
CHECKED: W.S.V.H
DATE: MARCH 78
SCALE: AS SHOWN

TANANA VILLAGE SAFE WATER FACILITY

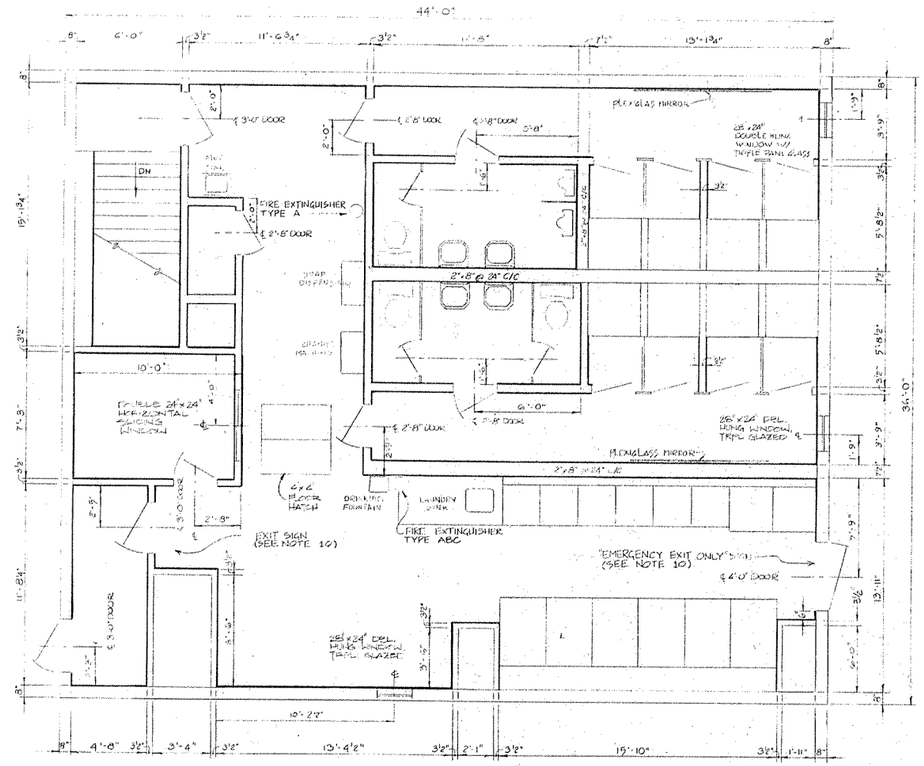
WALL FRAMING ELEVATIONS AND DETAILS

S-5

SHEET 15 OF 42



FLOOR PLAN - BASEMENT



FLOOR PLAN - MAIN FLOOR

NOTE:
1. ALL INTERIOR WALLS FRAMED SINGLE SILL & PLATE, 2'-4" @ 16" C/C EXCEPT MECHANICAL ROOM BEARING WALL & AS NOTED (SEE FLOOR FRAMING PLAN FOR MECHANICAL ROOM BEARING WALL DETAILS).
2. ALL WALLS ½" GYPSUM BOARD.
3. HEAVY LINE INDICATES 6" MARLITE APPLIED OVER GYPSUM BOARD.
4. MECHANICAL ROOM CEILING & WALLS: 2 LAYERS ½" GYPSUM BOARD.
5. FIRST FLOOR RECEIVED ½" PRESSBOARD UNDERLAYMENT & LINOLEUM TILE (NO-WAX SOLARIAN)
6. INTERIOR DIMENSIONS FROM PLATE-TO-PLATE OUTSIDE DIMENSION LINE INDICATES OUTSIDE OF BASEMENT PANELS.
7. BLOWER RM. CEILING: 2 LAYERS ½" GYPSUM BOARD SCREWED TO RESILIENT FURRING CHANNEL SUPPORTS @ 16" C/C. USE 6" INSULATION ABOVE FURRING CHANNEL.
8. BLOWER RM. WALLS - NOISE # LAYER 1 = ½" GYPSUM BOARD H.N.T. ON RESILIENT FURRING CHANNELS @ 24" C/C. STUDIES = 1 LAYER ¼" GYPSUM SOUND DEADENING BOARD & 1 - LAYER ½" GYPSUM BOARD.
9. FIRE EXTINGUISHERS AS SHOWN
10. "EXIT" SIGN - SETON 745M, "EMERGENCY EXIT ONLY" - SETON 762

NO.	REVISION	DATE	BY
1	AS BUILT	7-15-81	

STATE OF ALASKA 49TH
Sidney Clark
NO. 1568-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-029 01 SAV
DESIGNED :	SHW
DRAWN :	PEZ
CHECKED :	WSVH
DATE :	MARCH '78
SCALE :	¼"-1'-0"

TANANA V.S.V. FACILITY
FLOOR LAYOUT & WALL PLACEMENT

S-6

SHEET 16 OF 82

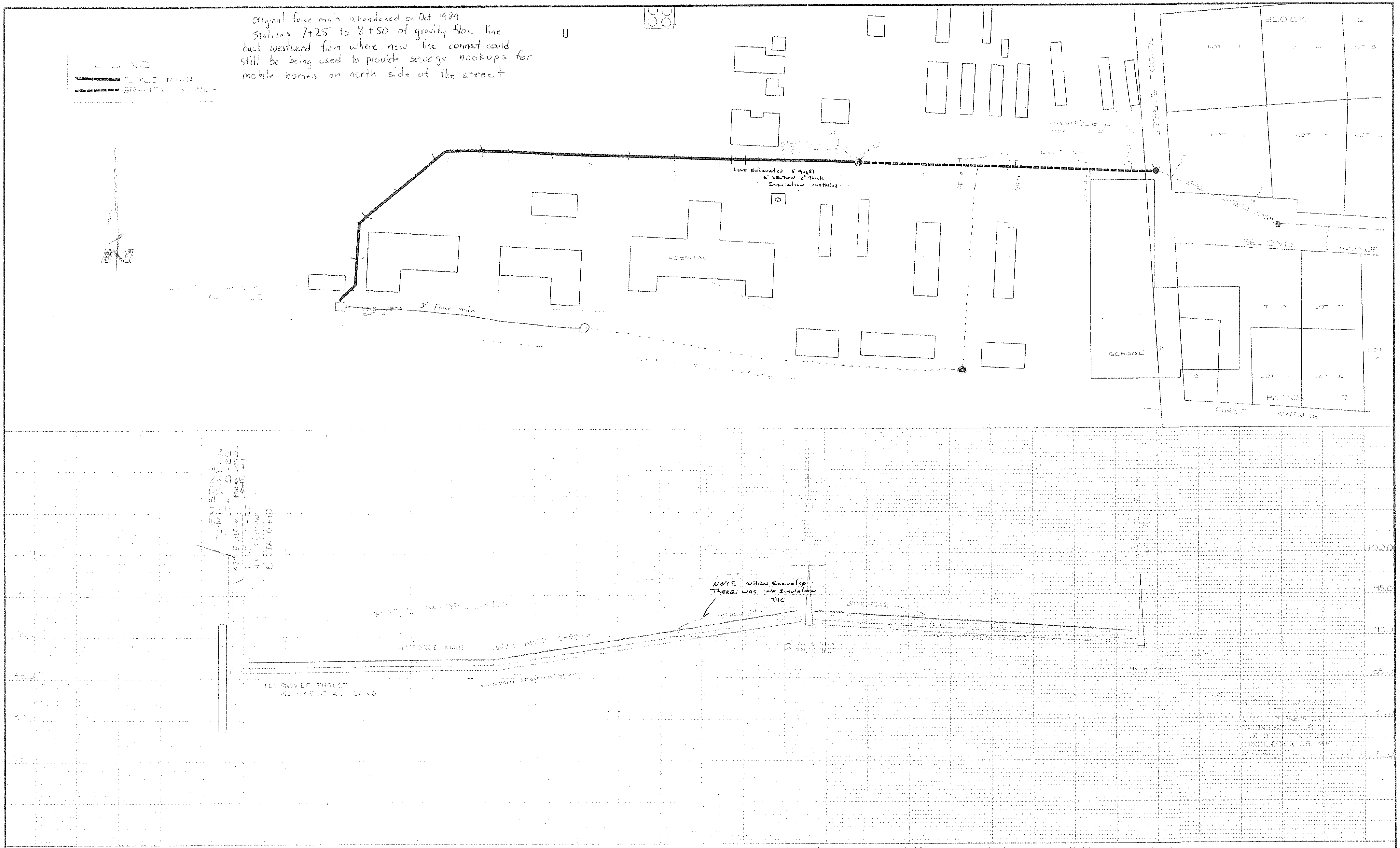
8

ALASKA VILLAGE SAFE WATER PROJECT

TANANA HOSPITAL SEWER LINE

AS-BUILT
7/15/79

Arctic Environmental Engineers
Anchorage, Alaska



FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN			
STAKING			
ASBUILT			
CONTRACTOR	BASIS OF THIS DATUM		
INSPECTOR			
CONSTRUCTION RECORD	VERTICAL DATUM		

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN. SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			
PLAN CHECK			

REV.	DATE	DESCRIPTION	BY
1	8-9-78	Change MH-1 Invert	WSvH
2			
REVISIONS			

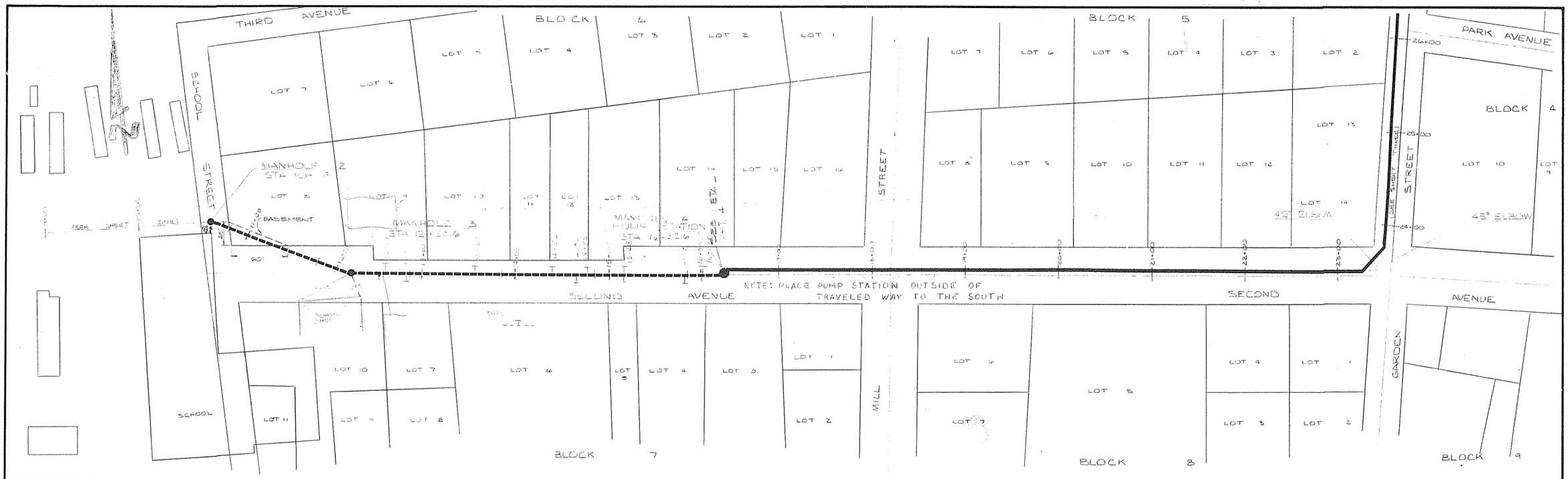
STATE OF ALASKA · 49th · Willem Van Hemert · No. CE 4503 · REGISTERED PROFESSIONAL ENGINEER

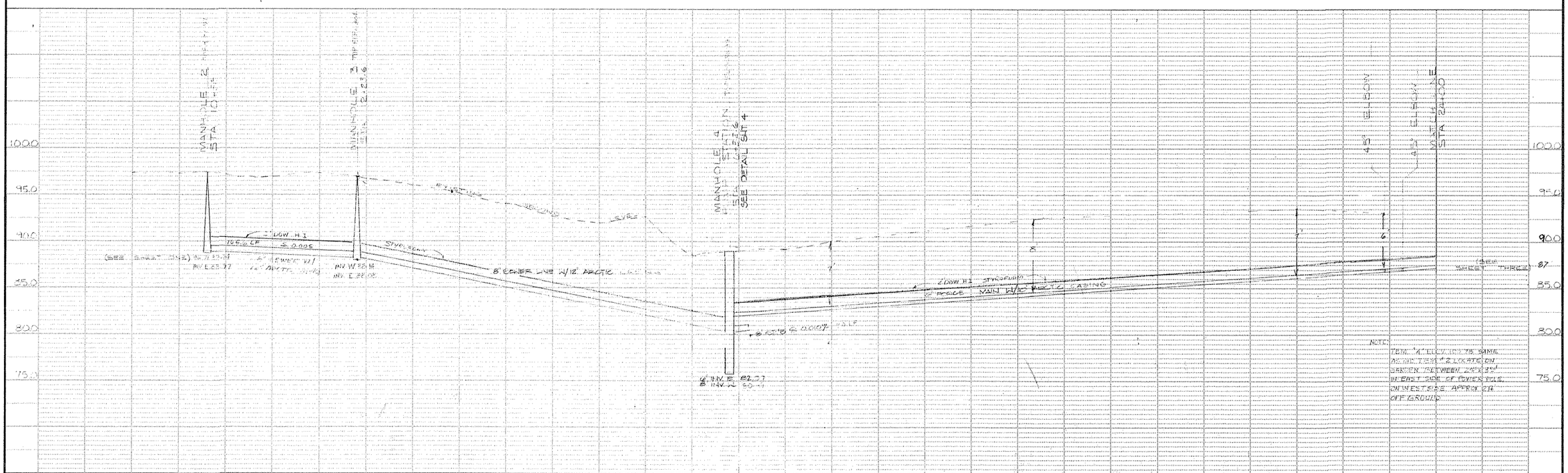
AEE

Arctic Environmental Engineers, Anchorage, Alaska.

TAN-NA V-V HOSPITAL SEWER SYSTEM

SCALE HOR. / VER.	DRAWN BY	DESIGNED BY	DATE	PROJECT NO.	FILE NO.	SHEET
		WSvH	7 FEBRUARY 1978		HS-1	1 OF





FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN			
STAKING			
ASBUILT			
CONTRACTOR	BASIS OF THIS DATUM		
INSPECTOR			

CONSTRUCTION RECORD — VERTICAL DATUM

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN. SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			

PLAN CHECK

REV.	DATE	DESCRIPTION	BY
1	7-15-77	AS BUILT	

REVISIONS

STATE OF ALASKA — 49TH — Willem Von Hemert No. CE 4503 — REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers, Anchorage, Alaska.

TANANA VSW HOSPITAL SEWER SYSTEM

SCALE HOR. 1"=50' VER. 1"=5' | DRAWN BY. DCS | DESIGNED BY. WSVH | DATE 7 FEBRUARY 1978 | PROJECT NO. 77-024-01SAV | FILE NO. HS-2 | SHEET 2 OF 7

LAGOON MH DETAIL

SCALE 1" = 1'-0"

FIELD BOOKS	TBM NO.	LOCATION	ELEV.
DESIGN			
STAKING			
ASBUILT			
CONTRACTOR	BASIS OF THIS DATUM		
INSPECTOR			
CONSTRUCTION RECORD	VERTICAL DATUM		

DATA	CK'ED BY	DATA	CK'ED BY
BASE		TELE.	
TOPO.		ELEC.	
PROFILE		DESIGN	
SAN. SEWER		QUANTITIES	
STORM DR.		PRELIM. CHECK	
WATER		FINAL CHECK	
GAS		EARTHWORK	
OTHER FACILITIES			
PLAN CHECK			

REV.	DATE	DESCRIPTION	BY
1	7-15-77	ASBUILT	
REVISIONS			

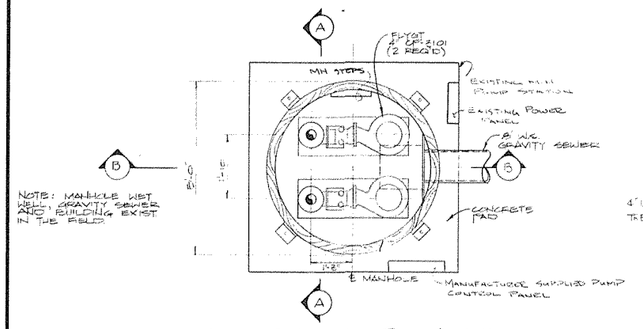
STATE OF ALASKA 4971 William Von Hemert No. CE 4503 REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers, Anchorage, Alaska.

TANANA VSW HOSPITAL SEWER SYSTEM

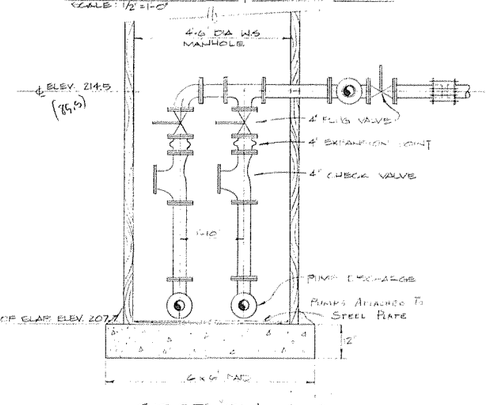
SHT HS-3

SCALE	DRAWN BY	DATE	FILE NO.	SHEET
HOR. 1"=50' VER. 1"=5'	DCS	7 FEBRUARY 1978	H5-3	3 OF 7
	DESIGNED BY WSVH	PROJECT NO 77-024-01		



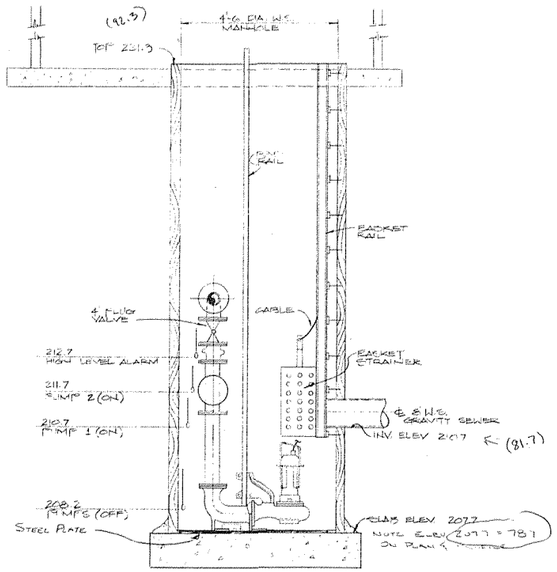
LOWER LEVEL PLAN VIEW

SCALE: 1/2"=1'-0"



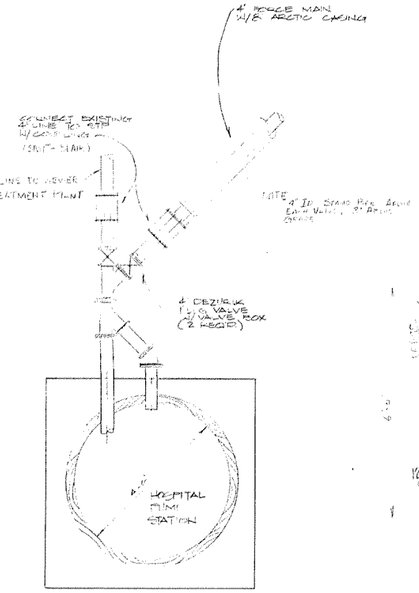
SECTION A-A

SCALE: 1/2"=1'-0"



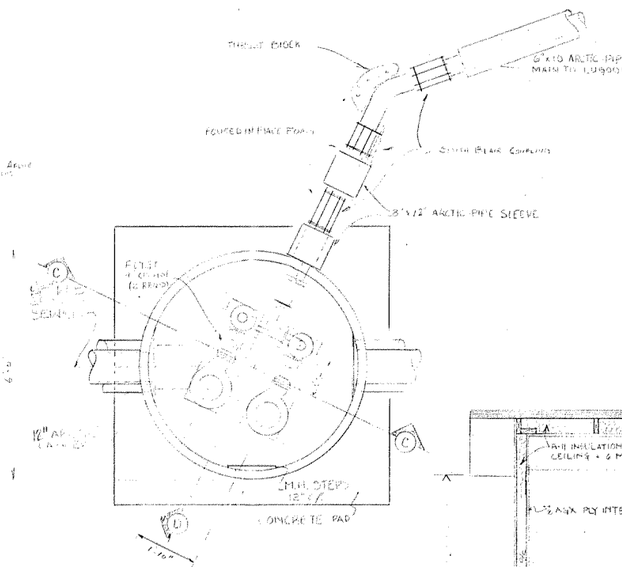
SECTION B-B

SCALE: 1/2"=1'-0"



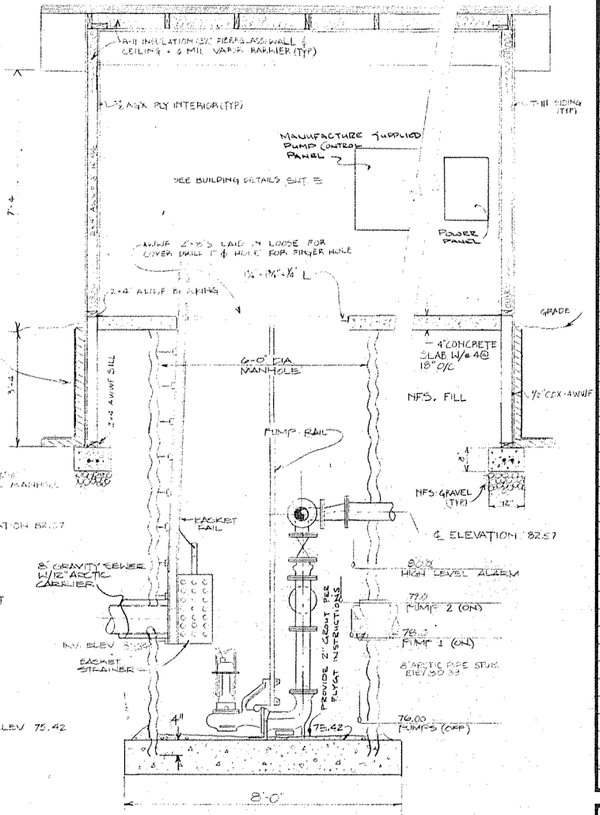
BY-PASS PIPING DETAIL

SCALE: 1/2"=1'-0"



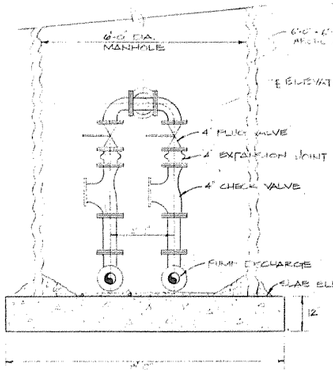
PUMP STATION No 2 - PLAN

SCALE: 1/2" = 1'-0"



SECTION D-D

SCALE: 1/2"=1'-0"



SECTION C-C

SCALE: 1/2"=1'-0"

NO.	REVISION	DATE	BY
2	As Built	7-15-79	
1	Add Grout	5-9-79	WSVH

STATE OF ALASKA 49TH
Willem Van Hemert No. CE 4503
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

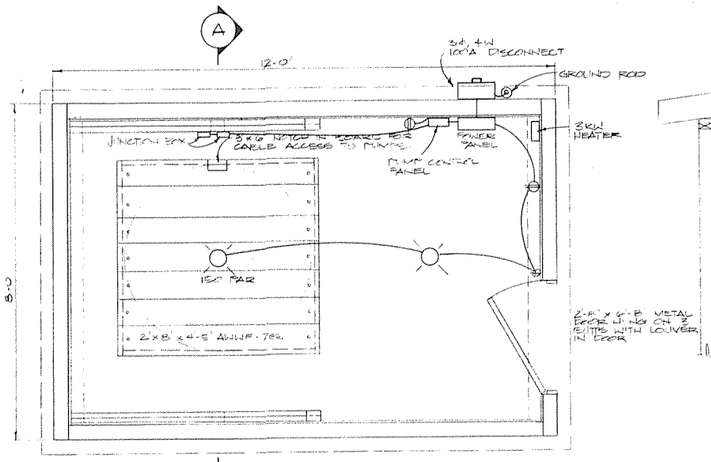
PROJECT NO.	77-024-01
DESIGNED :	W.S.V.H.
DRAWN :	L.D.M.
CHECKED :	W.S.V.H.
DATE :	7-5-78
SCALE :	AS NOTED

PUMP STATION DETAILS

TANANA VSW HOSPITAL SEWER SYSTEM

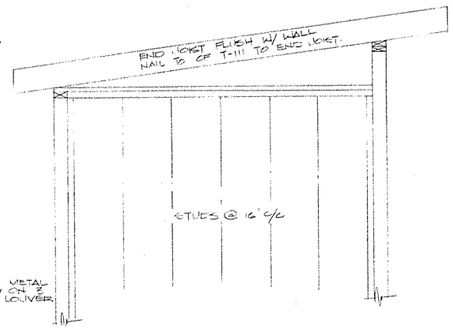
PS-1

SHEET 4 OF 7



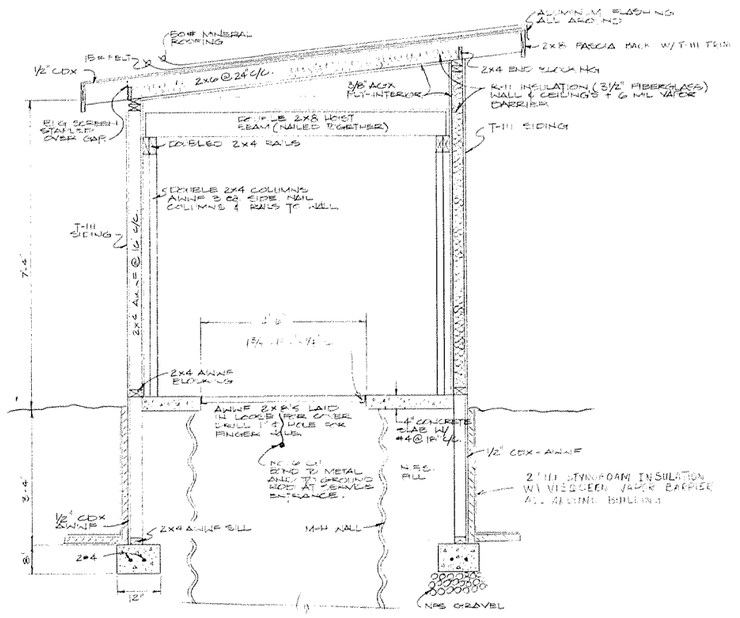
PUMP STATION NO. 2 PLAN

NTS



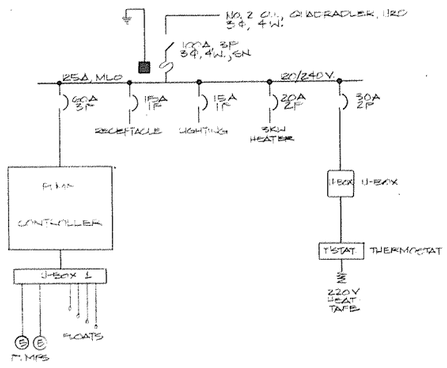
END WALL FRAMING

NTS

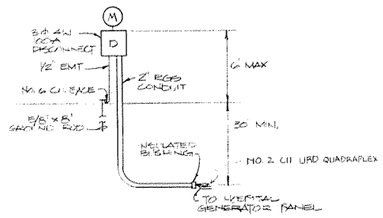


SECTION A-A

NTS

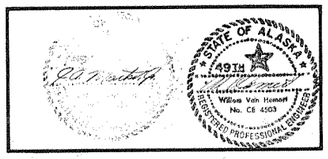


ONE LINE DIAGRAM



SERVICE ENTRANCE DETAIL

NO.	REVISION	DATE	BY
1	AS BUILT	7-15-79	NP



Arctic Environmental Engineers
Anchorage, Alaska

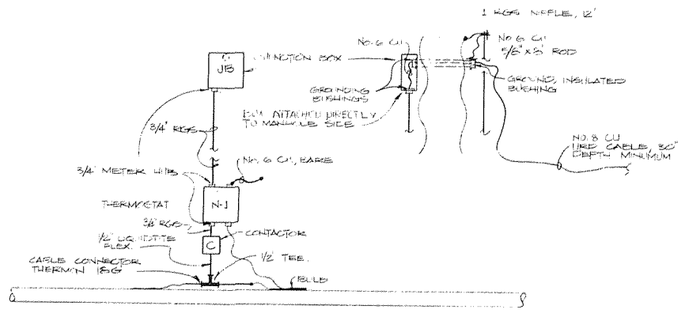
PROJECT NO.
DESIGNED :
DRAWN : E.D.M.
CHECKED :
DATE : 7/24/78
SCALE : AS NOTED

PUMP HOUSE
&
ELECTRICAL

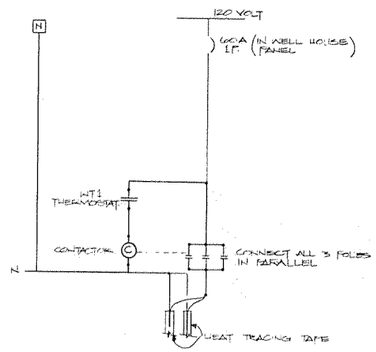
TANANA VSW HOSPITAL SEWER SYSTEM

PS-2

SHEET 5 OF 7

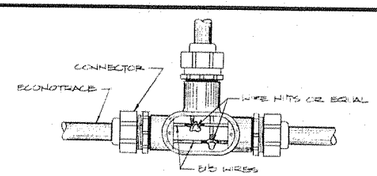


DETAIL A
NTS

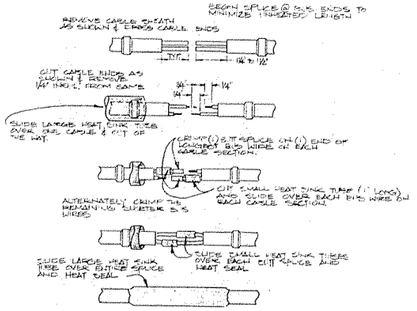


WATER LINE HEAT TRACING
(SAME FOR SEWER LINE)

DETAIL B
NTS



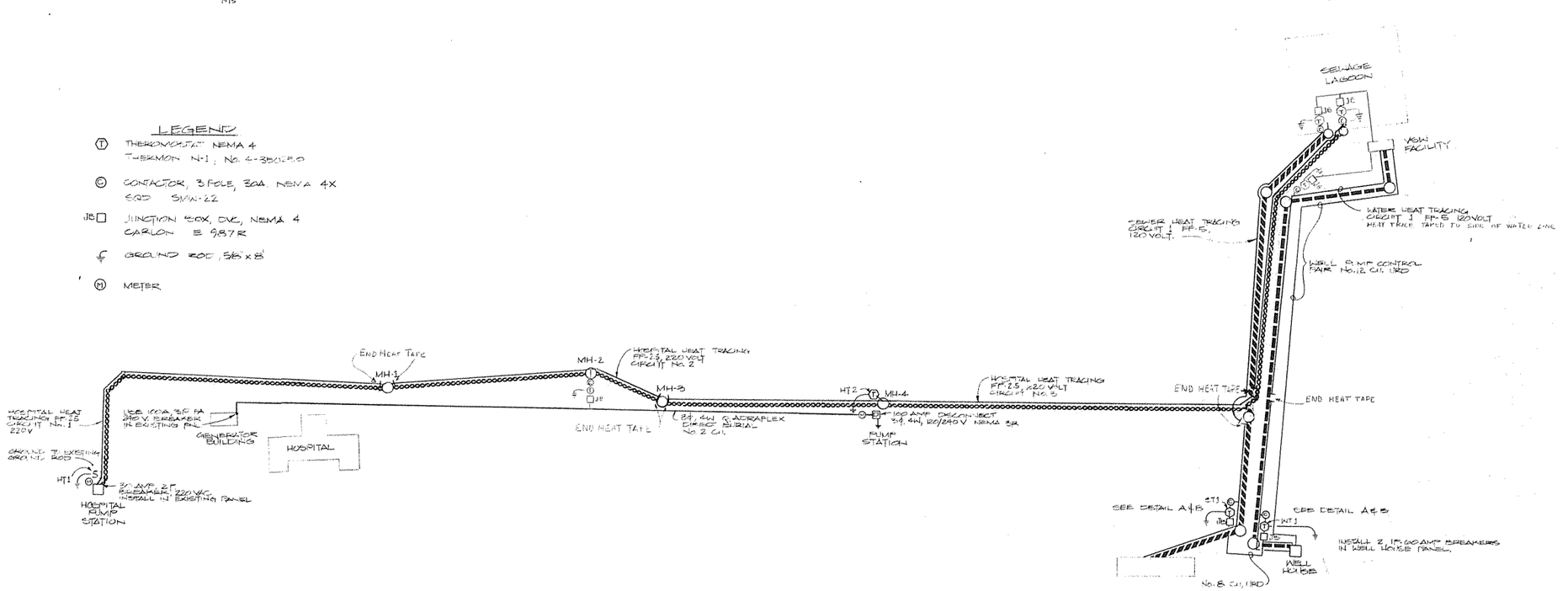
TYPICAL 3-WAY CONNECTION
NTS



HEAT TRACE SPLICING DETAIL
NTS

LEGEND

- (T) THERMOSTAT, NEMA 4 TWEKMON N-1, No. 4-350-F-0
- (C) CONTACTOR, 3 POLE, 30A. NEMA 4X ECD SMA-22
- JB□ JUNCTION BOX, PVC, NEMA 4 CARLON E 987R
- ⏚ GROUND ROD, 5/8" x 8'
- (M) METER



NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	MP

STATE OF ALASKA 49TH STATE

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024-03
DESIGNED :	
DRAWN :	K.P.M.
CHECKED :	
DATE :	8-1-78
SCALE :	AS NOTED

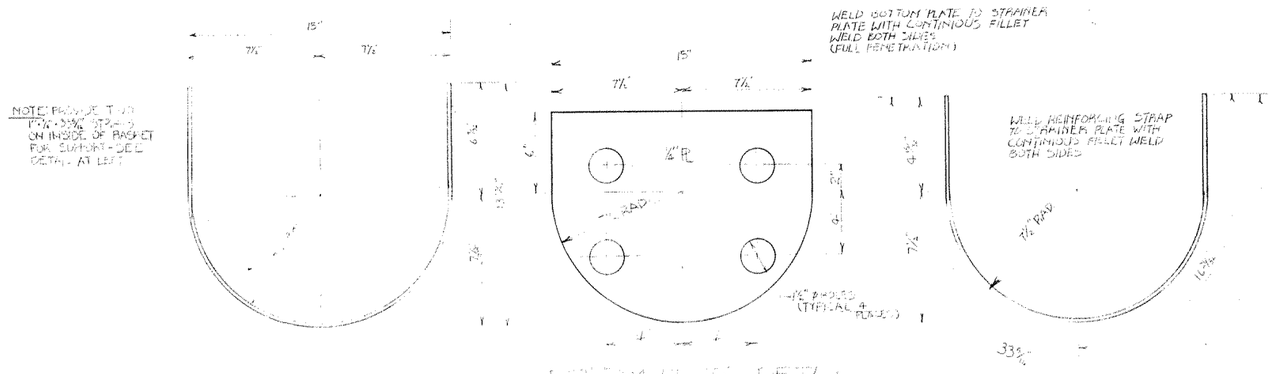
HEAT TRACE

TANANA VSW HOSPITAL SEWER SYSTEM

HT-1

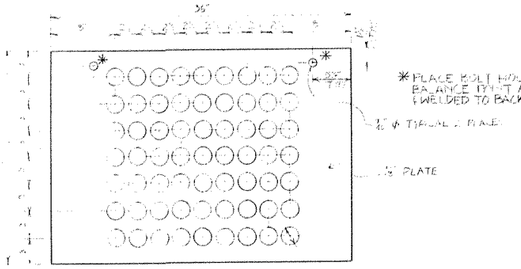
SHEET 6 OF 7

ALL MATERIAL TO BE ALUMINUM-TYPE 6061, 5086, OR 5052

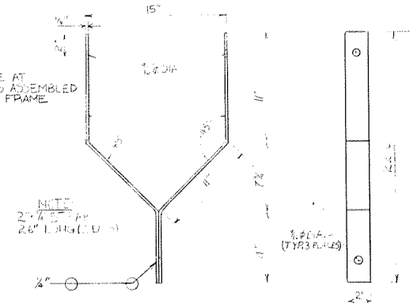


BOTTOM PLATE DETAIL

1"x¼" STRAP
2 EACH REQ'D
N.T.S.

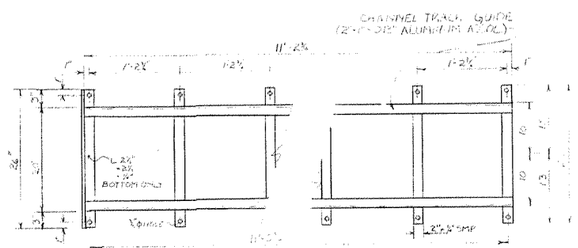


STRAINER PLATE DETAIL
N.T.S.

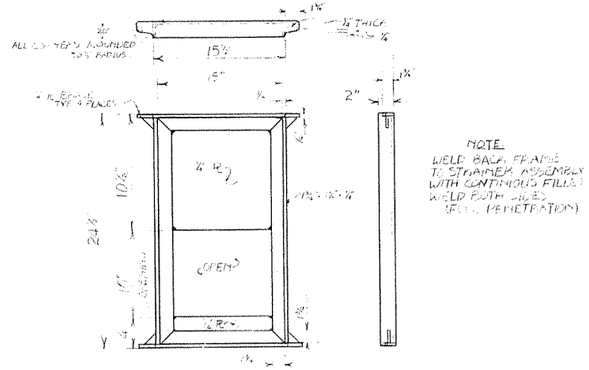


BOLT HANDLE TO STRAINER PLATE WITH 2-⅜" Ø STAINLESS STEEL HEX BOLTS

HANDLE DETAIL
N.T.S.

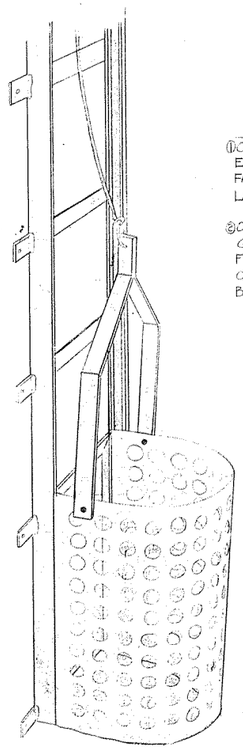


RAIL DETAIL
SCALE 1"=1'



NOTE
WELD BACK FRAME TO STRAINER ASSEMBLY WITH CONTINUOUS FILLET WELD BOTH SIDES (FULL PENETRATION)

BACK FRAME DETAIL
N.T.S.



PERSPECTIVE

THE ENTIRE ASSEMBLY SHALL BE COATED (AS SEPERATE PIECES) WITH THE FOLLOWING COATING SYSTEM:

1. CLEAN ALL SURFACES WITH SOLVENT PREPARED BY COMPLETE STEAM CLEANING - DRY IN A DUST-FREE AREA.
2. PRIME CLEANED SURFACE USING ONE OF THE FOLLOWING A) TNEMEC-TNEME-GRIP .03 DRY MILS B) TNEMEC-32(2.0) VINOLINE W-P .03 DRY MILS
3. TOP COATED WITHIN TWENTY-FOUR HOURS WITH ONE OF THE FOLLOWING:
   A) TNEMEC-413 TNEME TAR .16 DRY MILS (2 COATS @ 8 DRY MILS/COAT
   B) UNITED-ELASTUFF 504 OR 701 .16 DRY MILS (ONE COAT)

FIELD INSTALLATION

(1) ON WOOD STAVE MANHOL, SHIM EACH RAIL AS REQUIRED AND FASTENED WITH ⅜" x 3" GALVANIZED LAG BOLTS

(2) ON CMP MANHOLE PROVIDE ½" GALVANIZED PIPE AND CUT TO FIT TO PROVIDE UNIFORM SHIM ON RAILS - USE ⅜ x 6" GALVANIZED BOLTS WITH NUTS AND WASHERS

NO.	REVISION	DATE	BY

STATE OF ALASKA 49TH
Willem Van Hemert No. CE 4503
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-027-03
DESIGNED :	W.S.V.H.
DRAWN :	B.L.
CHECKED :	W.S.V.H.
DATE :	JULY 10, 1978
SCALE :	AS SHOWN

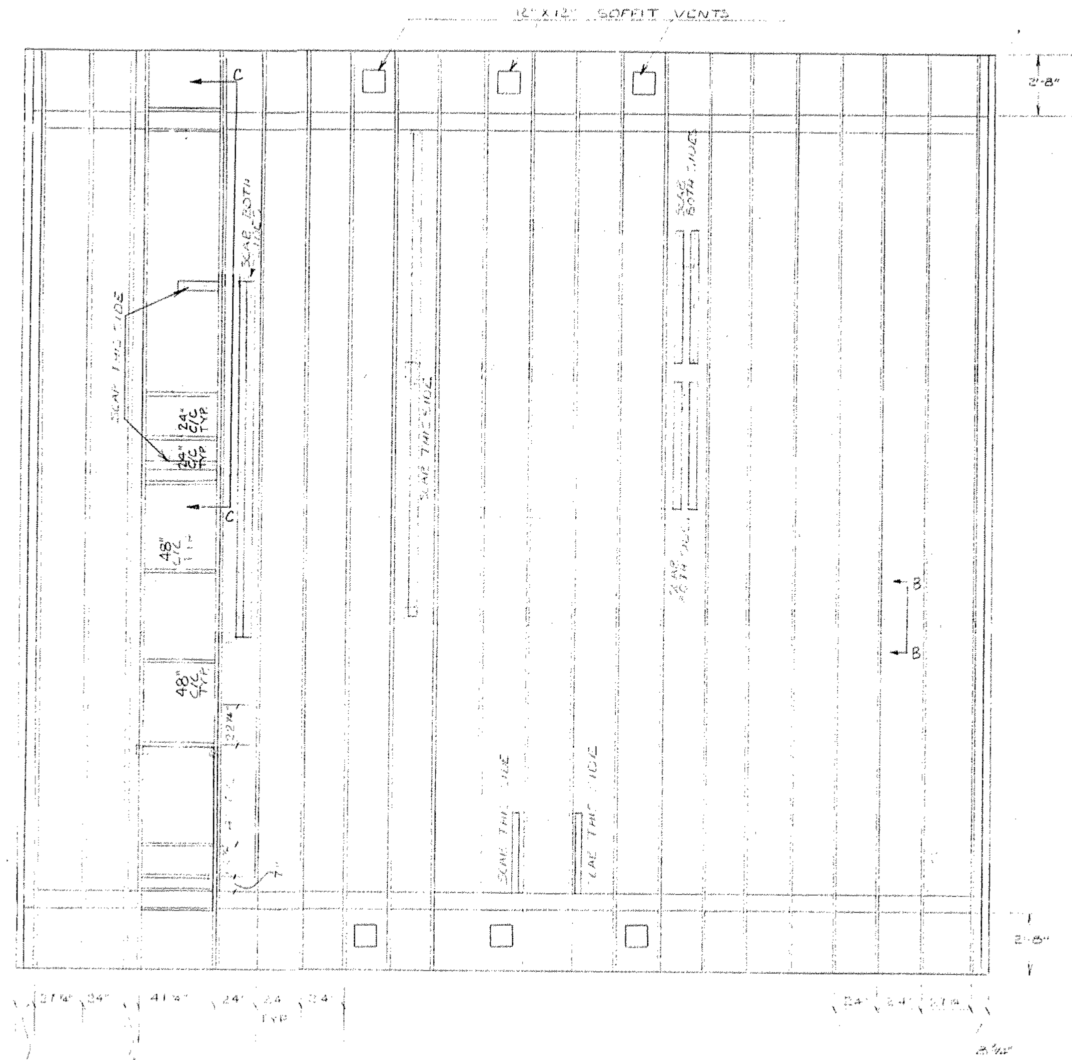
BASKET STRAINER DETAIL

TANANA VSW PROJECT
HOSPITAL SEWER SYSTEM

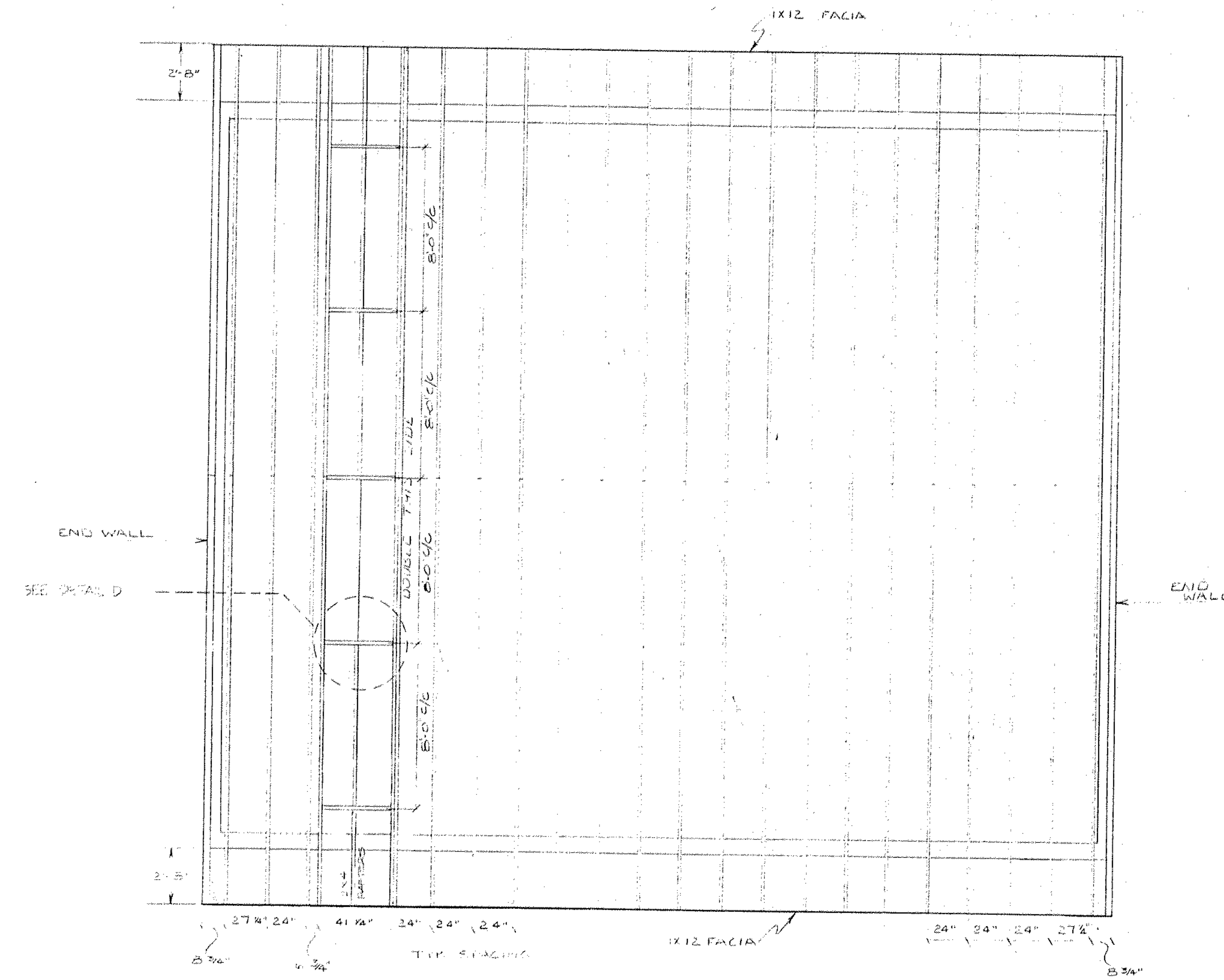
BS-1

SHEET 7 OF 7

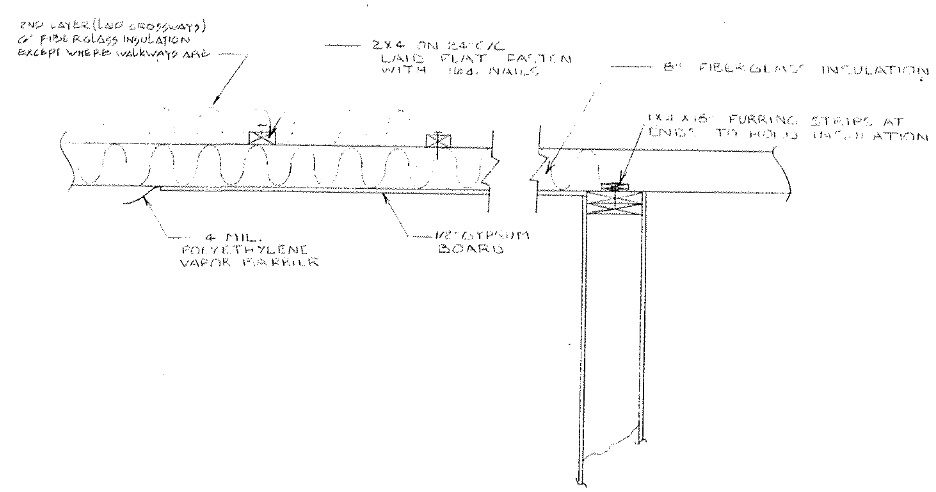
6



CEILING FRAMING PLAN
SCALE 1/4" = 1'-0"

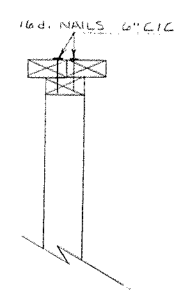


ROOF FRAMING PLAN
SCALE 1/4" = 1'-0"



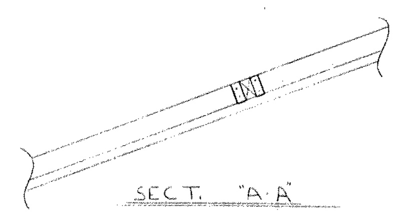
INTAKE DUCT SUPPORT DETAIL
SCALE 1" = 1'-0"

SECTION C-C

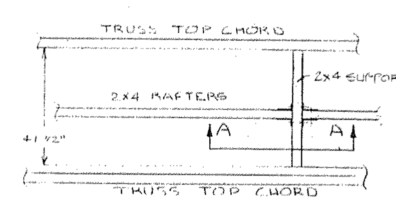


INTERIOR WALL SCAB FOR CEILING FRAMING (TYP)
N.T.S.

SECTION B-B

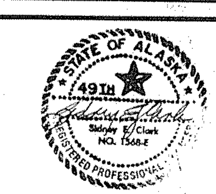


SECT. "A-A"



SPECIAL ROOF FRAMING (DETAIL D)
N.T.S.

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	



Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED: DPW
DRAWN: DBL
CHECKED: WSVH
DATE: MARCH 78
SCALE: AS SHOWN

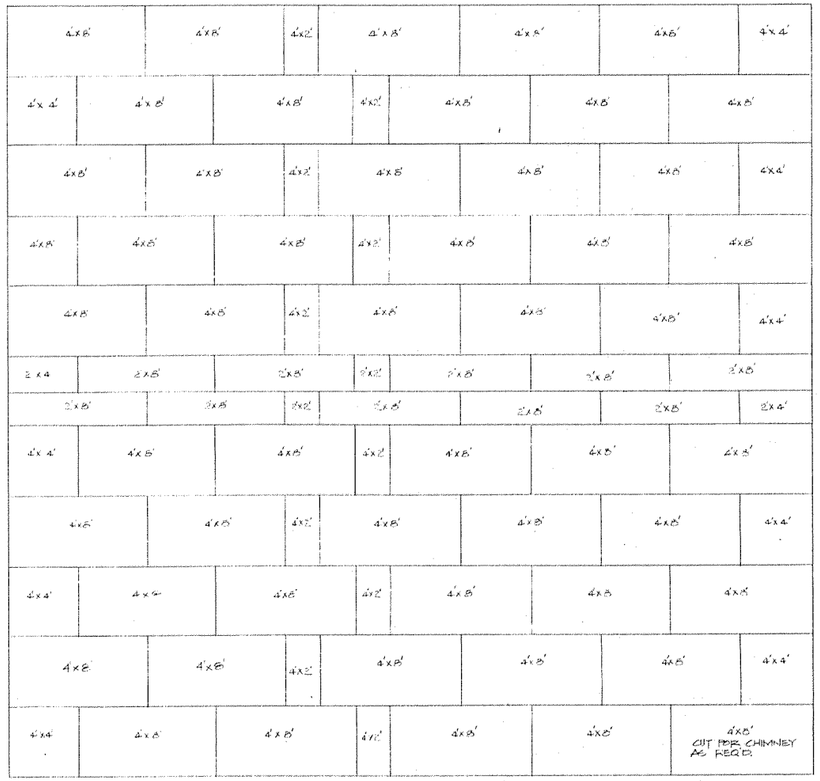
TANANA VILLAGE SAFE WATER FACILITY

ROOF & CEILING FRAMING PLAN

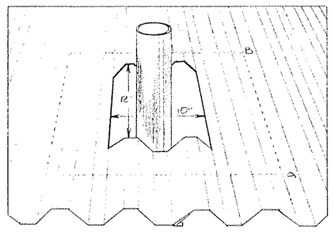
S-7

SHEET 17 OF 42

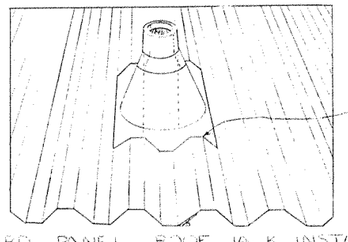
ALUMINUM SHEATHING PLAN
NTS



ROOF SHEATHING PLAN
SCALE 1/8" = 1'-0"



CAULK ALL DRAIN CHANNELS RUNNING THROUGH FLASHED OPENINGS



GAP AT PEAKS FILLED WITH RUBBER AND SEALED WITH ATCO PLASTIC FIBRE SEAL

VANGARD PANEL ROOF JACK INSTALLATION
NTS

NOTE: CAULKING BEAD APPLIED ONLY WHERE OPENINGS ARE CUT THROUGH ROOFING

DRAIN CHANNEL CAULKING DETAIL
NTS

NO.	REVISION	DATE	BY
1	AS BUILT	7-15-79	M

STATE OF ALASKA 49TH
Sidney F. Clark
NO. 1368-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

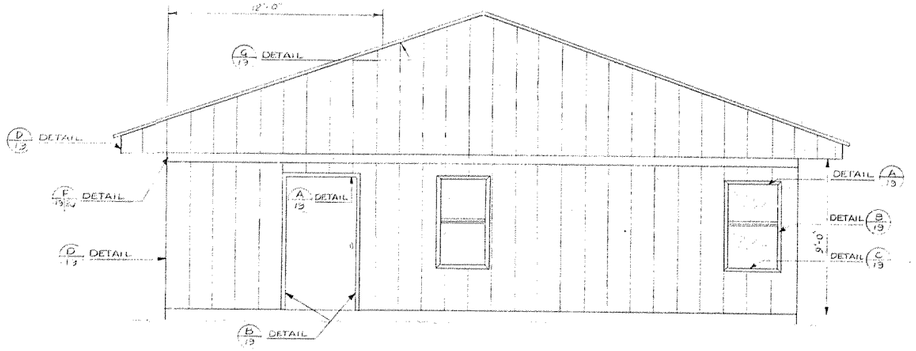
PROJECT NO.	77-034 01 AV
DESIGNED :	DRW
DRAWN :	DER
CHECKED :	WSVH
DATE :	MARCH 78
SCALE :	AS NOTED

TANANA VILLAGE SAFE WATER FACILITY

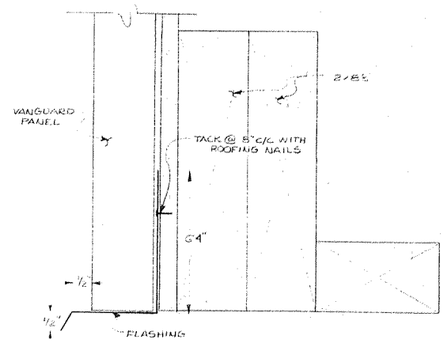
ROOF SHEATHING PLAN AND DETAILS

5-8

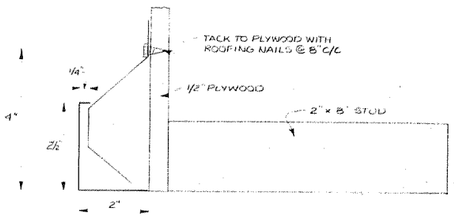
SHEET 18 OF 42



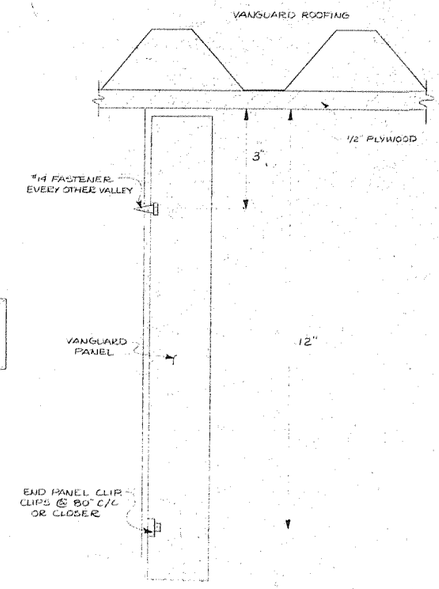
WALL SIDING ELEVATION
SCALE: 1/4" = 1'-0"



A 19 DOOR, WINDOW & WALL HEAD FLASHING
SCALE: 1/2" = 1"

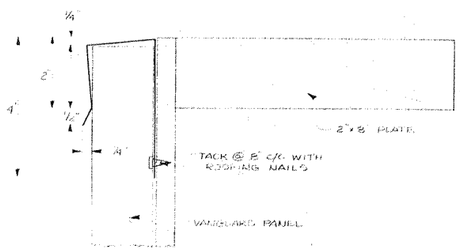


B 19 DOOR, WINDOW & WALL JAMB FLASHING
SCALE: 1/2" = 1"



E 19 SIDING TOP DETAIL - SIDE WALL (TYP)
SCALE: 1/2" = 1"

D 19 SIDING CORNER DETAIL
SCALE: 1/2" = 1"



C 19 WINDOW SILL FLASHING
SCALE: 1/2" = 1"

NO.	REVISION	DATE	BY
1	AS BUILT	7-16-79	MP

STATE OF ALASKA 49TH
Gurney E. Gish
NO. 1568-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

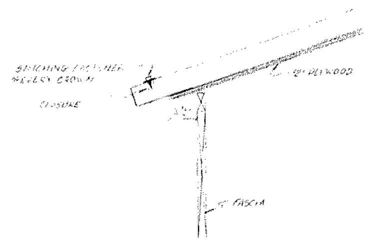
PROJECT NO.	[illegible]
DESIGNED :	[illegible]
DRAWN :	[illegible]
CHECKED :	W.S.A.R.
DATE :	MARCH 1978
SCALE :	AS NOTED

TANANA VSW FACILITY

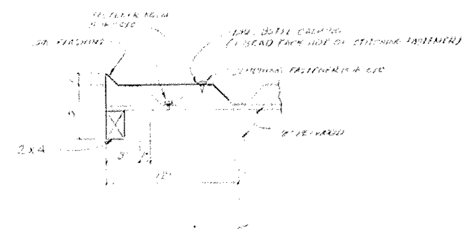
SIDING DETAILS

S-9

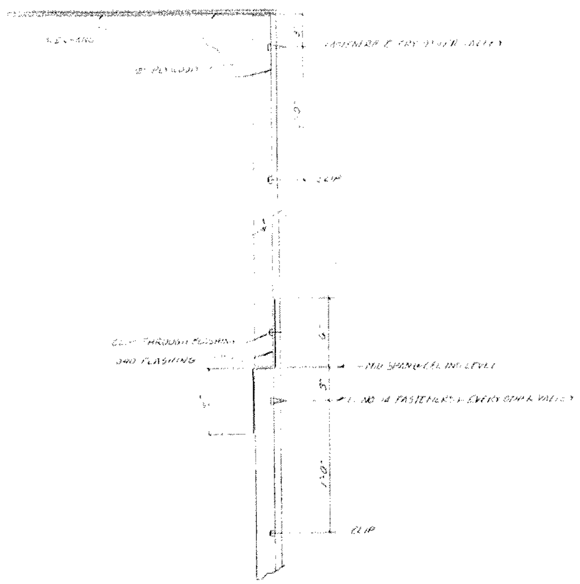
SHEET 19 OF 42



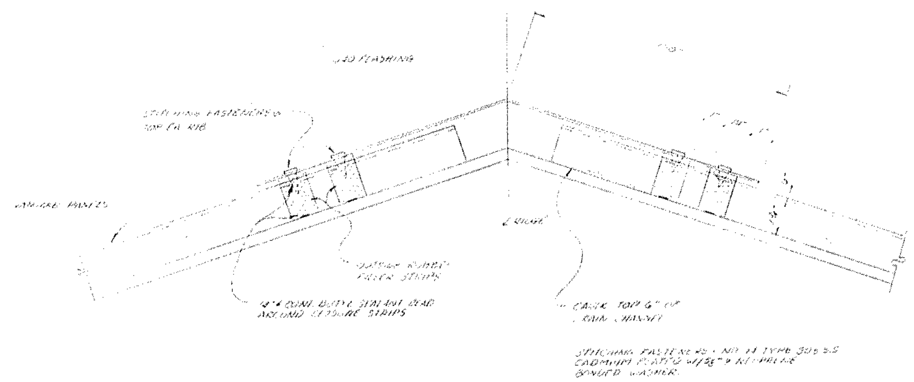
ROOFING EAVE DETAIL



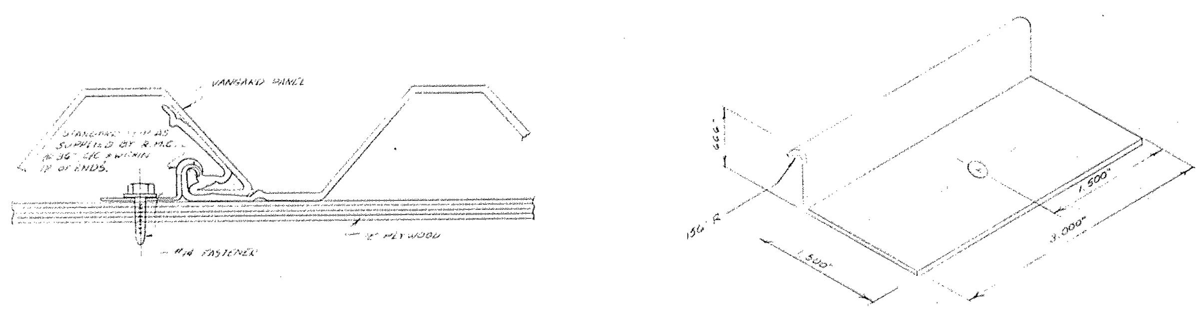
G ROOFING GABLE DETAIL



F 19/20 SIDING END WALL FLASHINGS



VANGARD PANEL RIDGE DETAIL



STANDARD CLIP DETAIL

N.T.S.

NO.	REVISION	DATE	BY
1	As Built	7-15-79	MP

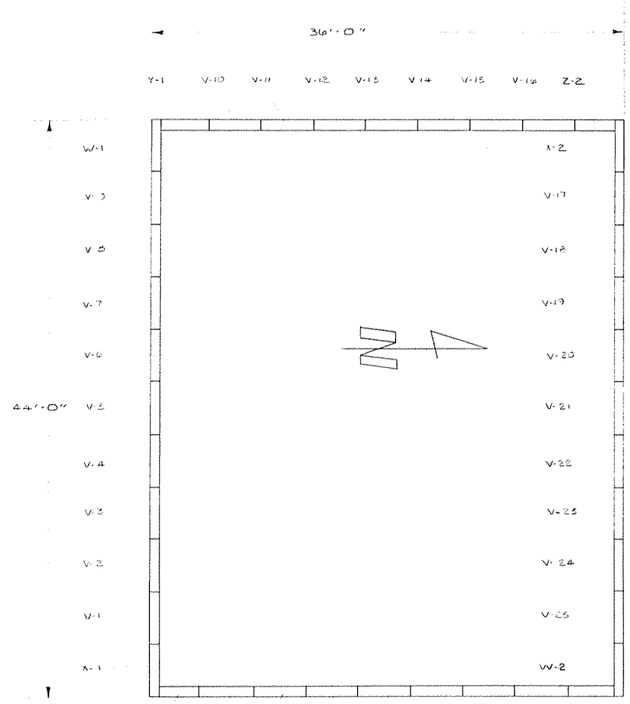
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-084-01 SAV
DESIGNED : DPW
DRAWN : REZ
CHECKED : WSVH
DATE : MARCH 1978
SCALE : AS NOTED

TANANA V.S.W. FACILITY
MISC. SIDING & ROOF DETAILS

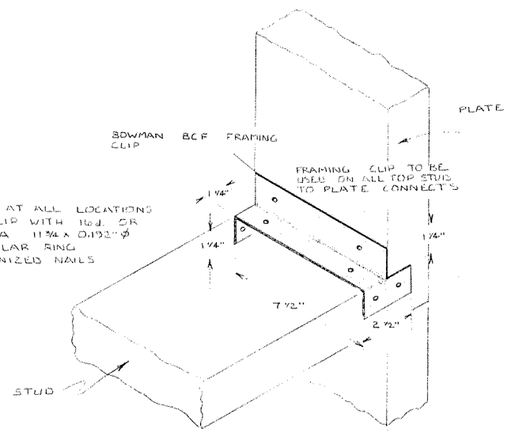
S-10

SHEET 20 OF 42

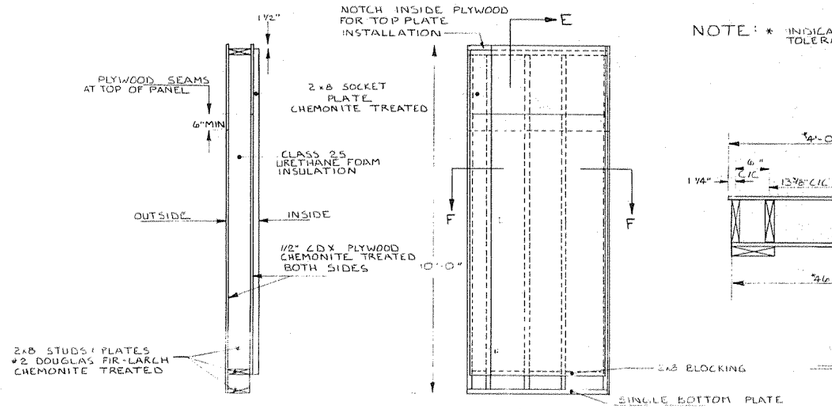


BASEMENT PANEL PLAN VIEW
SCALE : 3/16" = 1'-0"

NOTE: ALL NAILS, BOLTS, AND METAL ACCESSORIES IN CONTACT WITH CHEMONITE TREATED PLYWOOD OR LUMBER MUST BE EITHER GALVANIZED OR CADMIUM PLATED OR OF 300 SERIES STAINLESS STEEL.



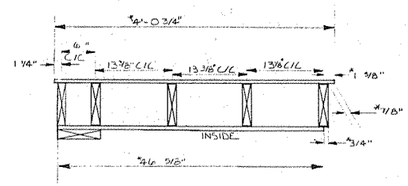
FRAMING CLIP
SCALE 3" = 1'-0"



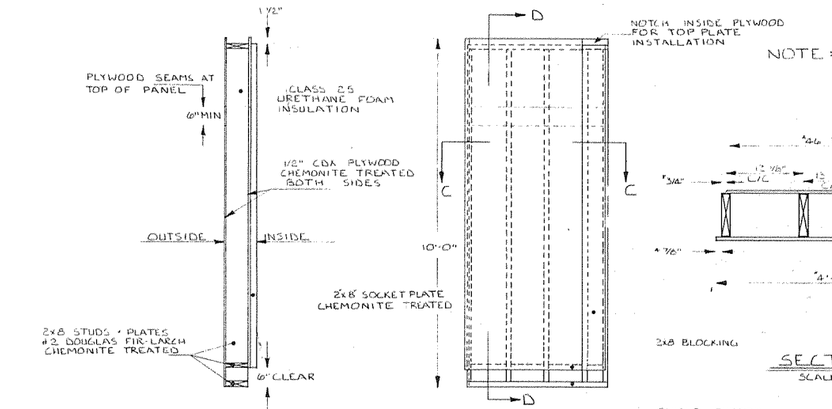
SECT. "EE"
SCALE 1/2" = 1'-0"

SECT. "F-F"
SCALE 1" = 1'-0"

NOTE: * INDICATES DIMENSION TOLERANCES OF ± 1/32"



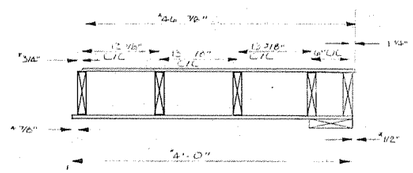
PANEL "X" 1:2
INSIDE ELEV.
SCALE 1/2" = 1'-0"



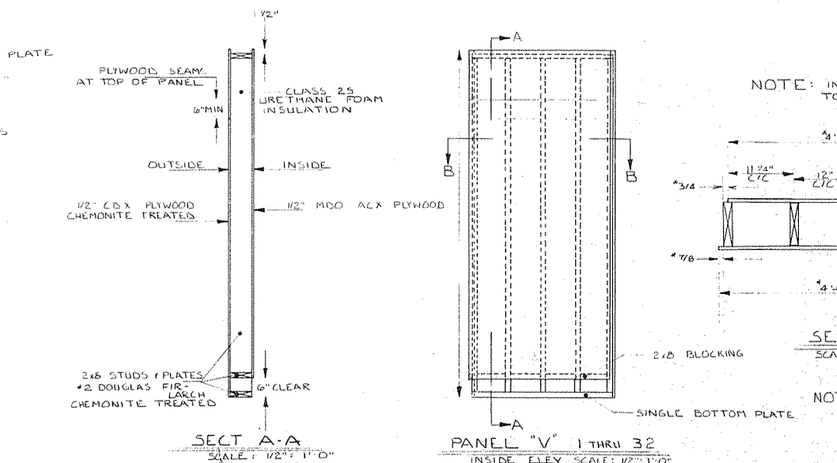
SECT. DD
SCALE 1/2" = 1'-0"

SECT. C-C
SCALE 1" = 1'-0"

NOTE: * INDICATES DIMENSION TOLERANCES OF ± 1/32"



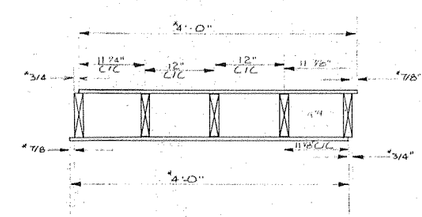
PANEL "W" 1:2
INSIDE ELEV
SCALE 1/2" = 1'-0"



SECT A-A
SCALE: 1/2" = 1'-0"

PANEL "V" 1 THRU 32
INSIDE ELEV SCALE: 1/2" = 1'-0"

NOTE: INDICATES DIMENSION TOLERANCES OF ± 1/32"



SECT. B-B
SCALE 1" = 1'-0"

NOTE: SEE SPECIAL DETAILS FOR PANELS V-19 & V-20

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	M

STATE OF ALASKA 49TH STATE Sidney Clark NO. 1565 REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024-01 SAV
DESIGNED :	DPW
DRAWN :	DER
CHECKED :	WSVH
DATE :	16 MARCH 1978
SCALE :	AS NOTED

TANANA VILLAGE SAFE WATER FACILITY

BASEMENT WALL PANEL CONSTRUCTION DETAILS

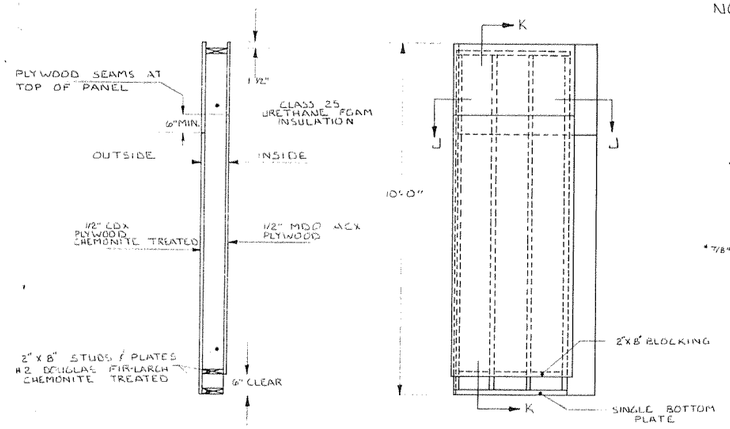
S-11.

SHEET 21 OF 42

NOTE: 1. PANELS TO BE BONDED TO STUDS AND PLATES WITH "3-C" BRAND WALL BOND ADHESIVE AND STAPLED WITH 14 GA. OR HEAVIER X 1 3/8" STAPLES AT 2" C/C

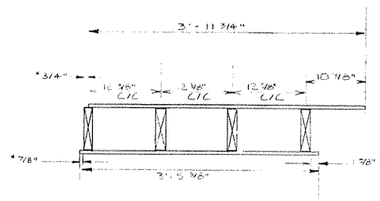
2. ALL METAL FASTENERS AND CONNECTIONS TO BE GALVANIZED, CADMIUM PLATED, OR OF TYPE 304 STAINLESS

3. CHEMONITE TREATED LUMBER & PLYWOOD SHALL BE MARKED "AWPB, FDN" AS ACCEPTABLE FOR AWWF



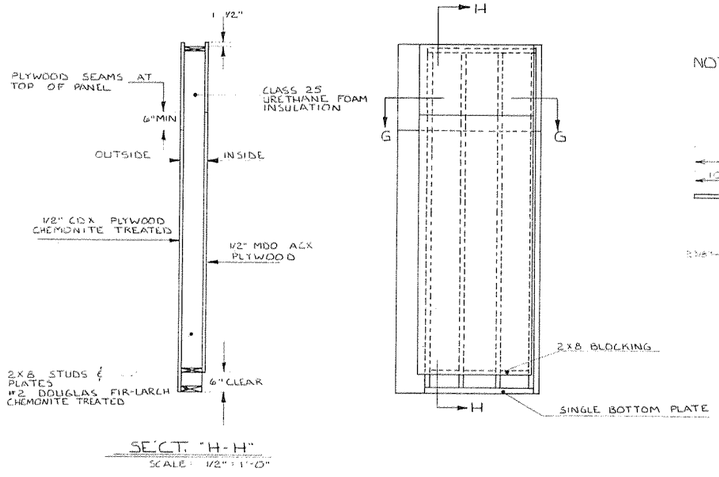
SECT. "K-K"
SCALE 1/2" = 1'-0"

NOTE: * INDICATES DIMENSION TOLERANCES OF ± 1/32"



SECT. "J-J"
SCALE 1" = 1'-0"

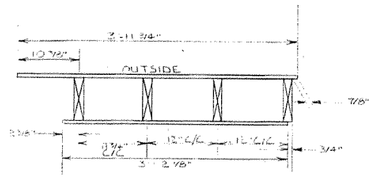
PANEL "Z" 1/2
INSIDE ELEV.
SCALE 1/2" = 1'-0"



SECT. "H-H"
SCALE 1/2" = 1'-0"

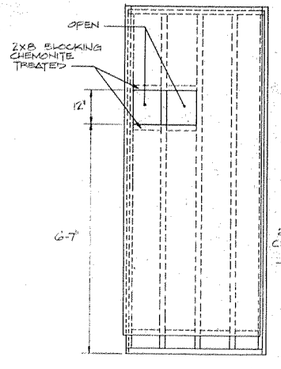
PANEL "Y" 1/2
INSIDE ELEV.
SCALE 1/2" = 1'-0"

NOTE: * INDICATES DIMENSION TOLERANCES OF ± 1/32"

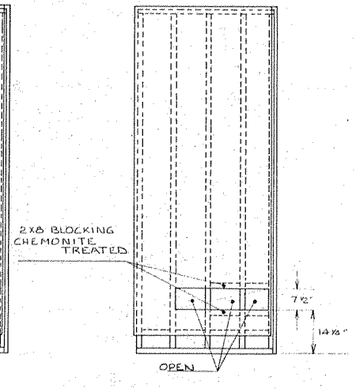


SECT. "GG"
SCALE 1" = 1'-0"

NOTE: DIMENTIONS AND MATERIALS FOR V-19 & V-20 ARE TO REMAIN THE SAME AS FOR V-1 THRU 32 EXCEPT AS NOTED BELOW



PANEL V-20



PANEL V-19

SPECIAL CONSTRUCTION PANELS
SCALE 1/2" = 1'-0"

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	H

STATE OF ALASKA 49TH
Sidney E. Clark NO. 1368-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

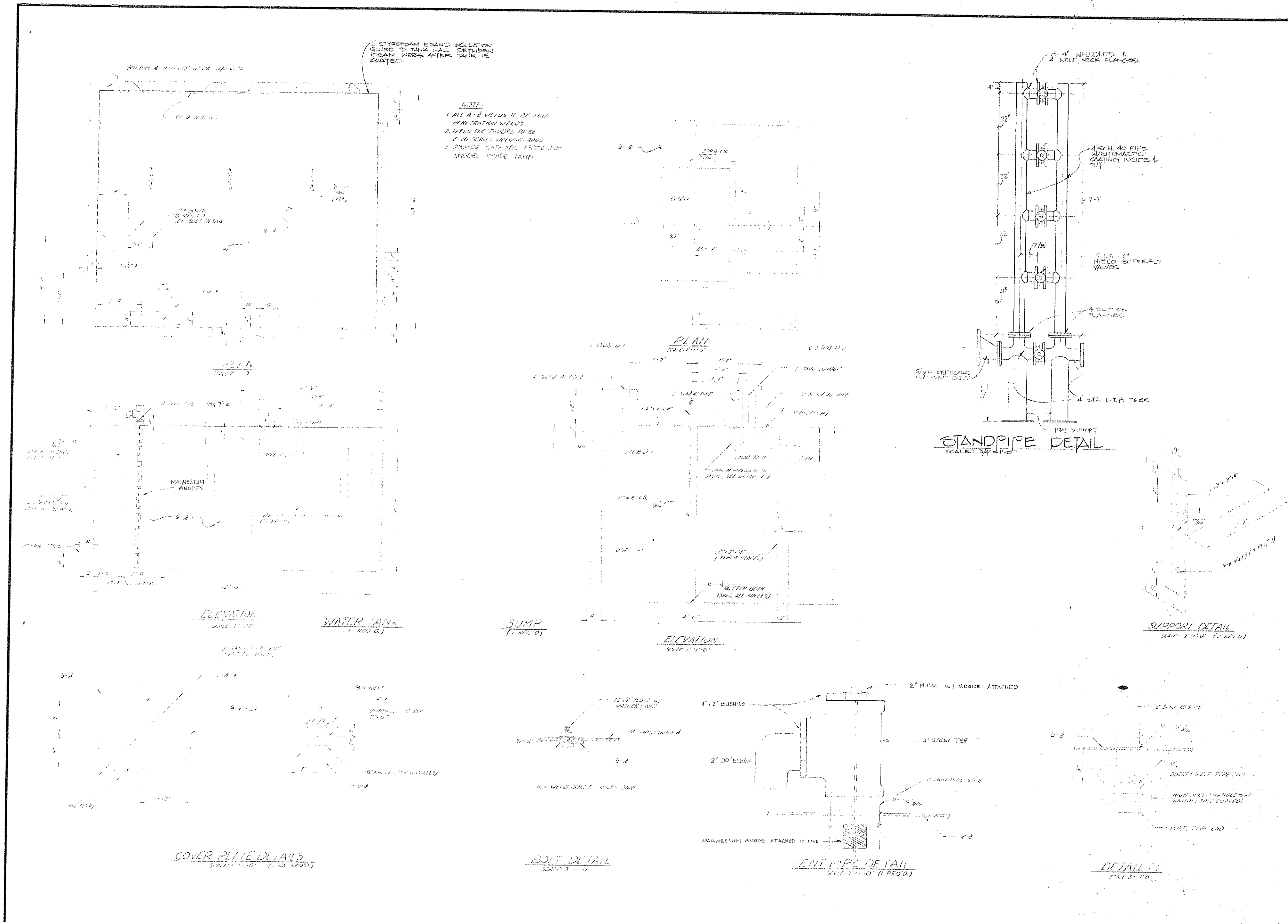
PROJECT NO.	77-024-01 SAV
DESIGNED :	DPW
DRAWN :	DER
CHECKED :	WSVH
DATE :	16 MARCH 1978
SCALE :	AS NOTED

TANANA VILLAGE SAFE WATER FACILITY

BASEMENT WALL PANEL CONSTRUCTION DETAILS

S-12

SHEET 22 OF 42



NO.	REVISION	DATE	BY
01	ASBUILT	7-15-78	M

STATE OF ALASKA — 49th — REGISTERED — NO. 3364

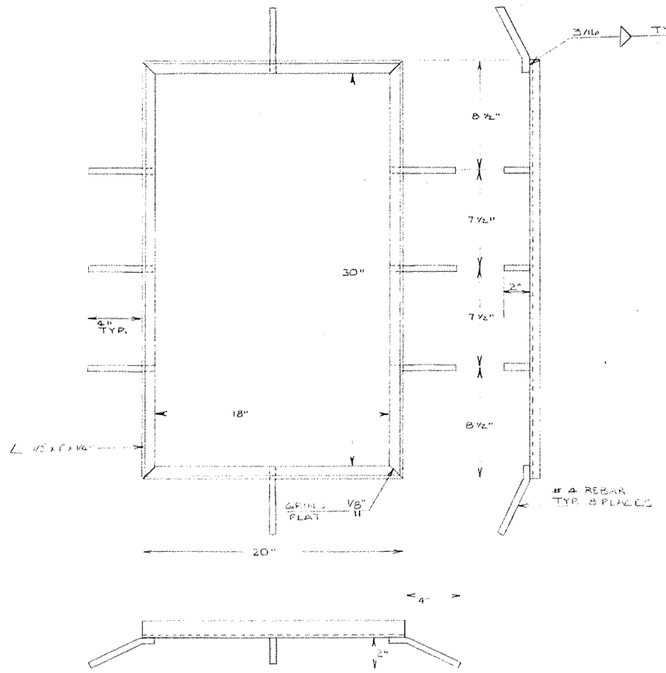
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED: DPW
DRAWN: REL
CHECKED: WSVH
DATE: MARCH 1978
SCALE: AS NOTED

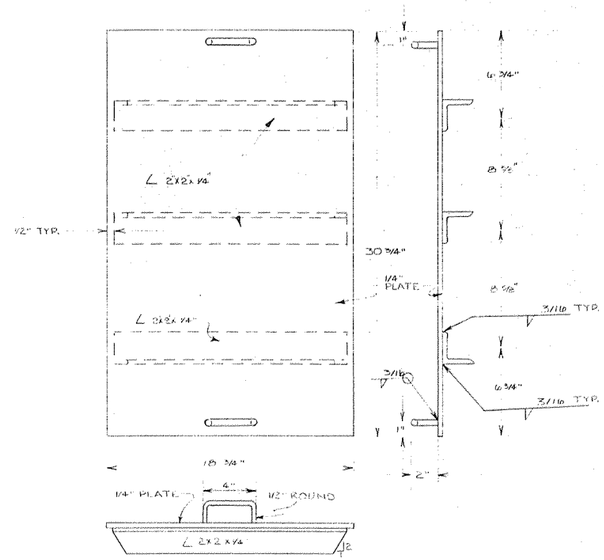
TANANA V.S.W. FACILITY
STEEL TANK & MISC. FABRICATIONS

S-13

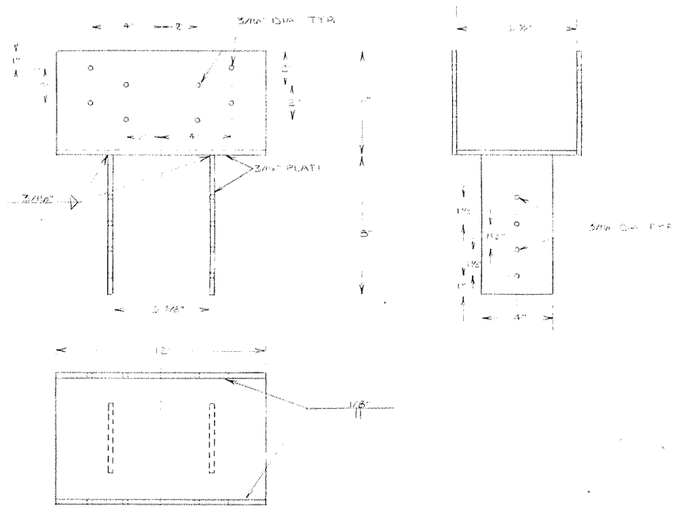
SHEET 23 OF 42



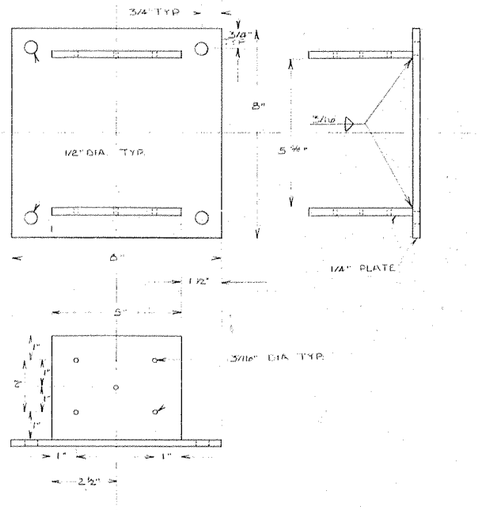
SUMP LID FRAME
SCALE 3/16" = 1"



SUMP LID
SCALE 3/16" = 1"



GUIDE LAM to COLUMN SADDLE
SCALE 1/4" = 1"



COLUMN SHOE
SCALE: 3/8" = 1"

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	M

Arctic Environmental Engineers
Anchorage, Alaska

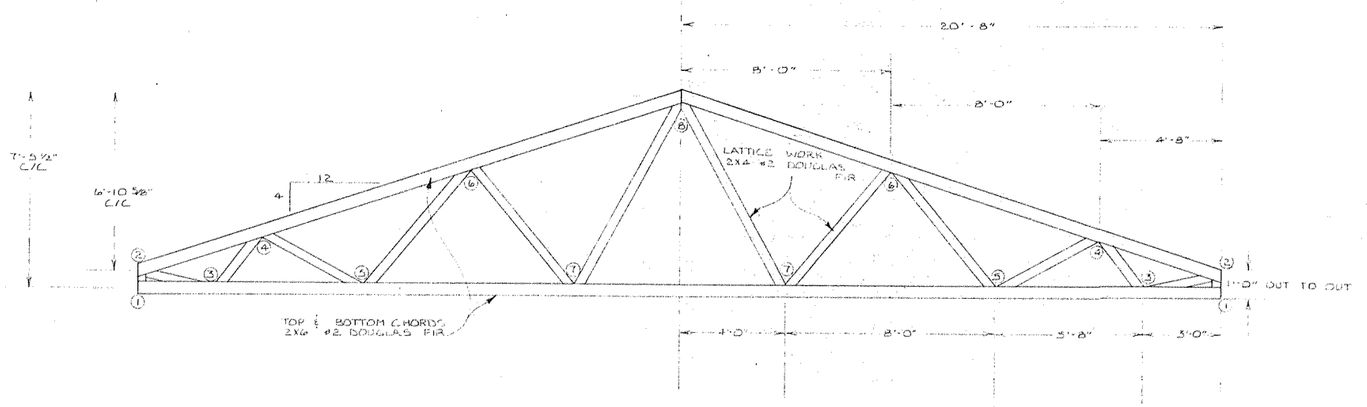
PROJECT NO.	77-024-01 SAV
DESIGNED :	DPW
DRAWN :	GER
CHECKED :	WSVH
DATE :	MARCH 1978
SCALE :	AS NOTED

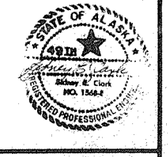
TANANA V.S.V. FACILITY
MISCELLANEOUS STEEL FABRICATIONS

S-14

SHEET 24 OF 42

CONNECTION	MAX. STRESS (LBS.)
1	NEGLIGIBLE.
2	350
3	3,200
4	3,200
5	1,800
6	600
7	1,000
8	3,400
CHORD SPLICES @ PANEL POINTS	4,400





Arctic—Environmental—Engineers, Anchorage, Alaska

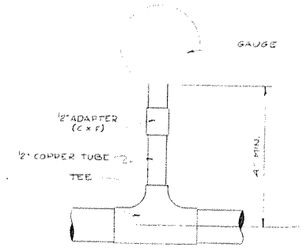
REVISION	DATE	BY
1 Permit	7-15-77	M

TANANA VSW FACILITY

PROJECT NO. 77-024-01
DRAWN: DER
CHECKED: WSVM
DATE: MAR. '78
SCALE: 3/8"=1'-0"

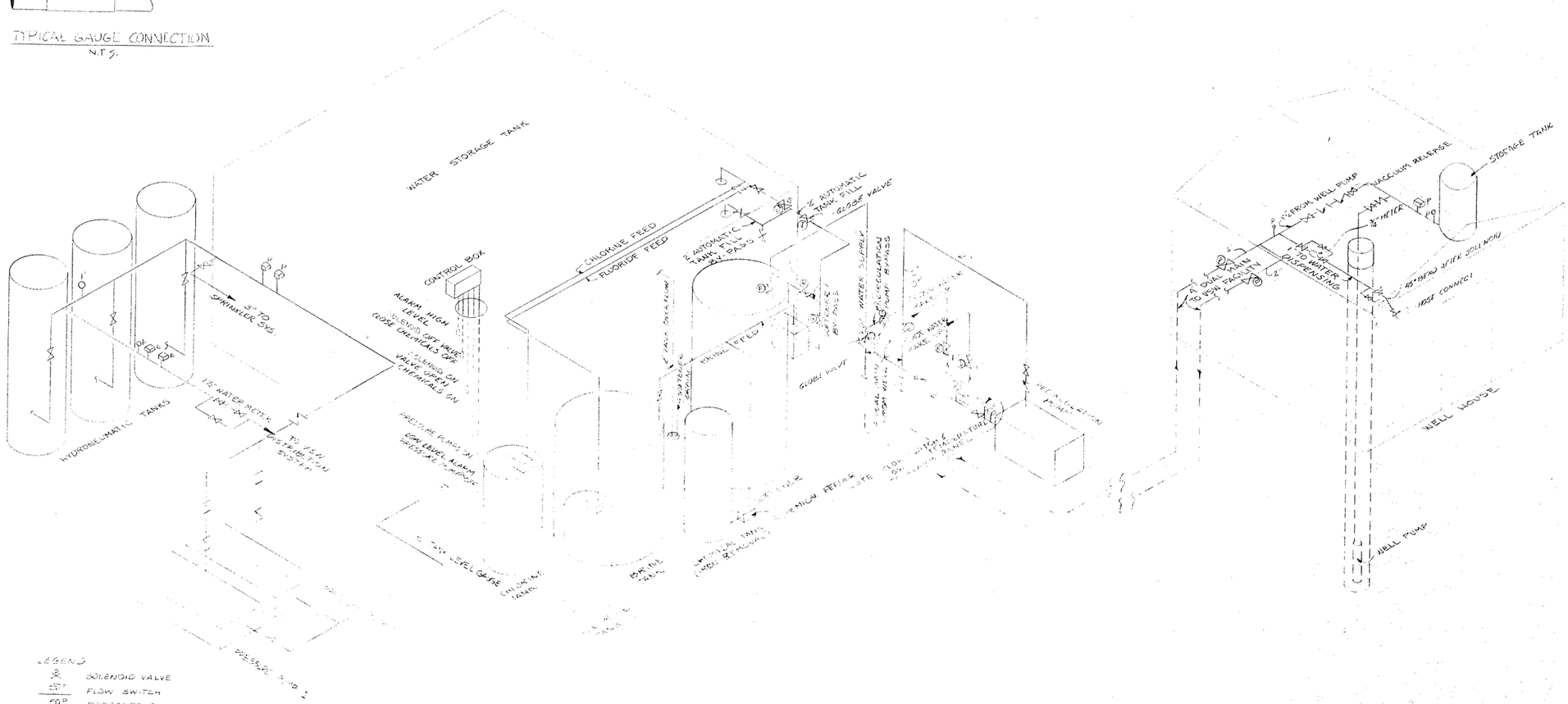
TRUSS DIAGRAM
S-16

SHEET 26



TYPICAL GAUGE CONNECTION
N.T.S.

NOTE: This drawing is for schematic purposes only. For complete system schematic, see 8 / by 11 sketches in O&M manual.



LEGEND

- SOLENOID VALVE
- FS — FLOW SWITCH
- PS — PRESSURE SWITCH
- PG — PRESSURE GAUGE
- T — TEMP. GAUGE
- GATE VALVE UNLESS OTHERWISE NOTED
- CHECK VALVE

SUMMER OPERATION

A. Well Pump Operation

The well pump operated by pressure switch

B. Transfer to VSW Facility

Normally both 4-inch lines are left open to provide water to the VSW Facility (Valves A,B,C, D and Valve E closed)

Note: If the normal incoming line to the VSW Facility is non-functional Valves B & C are closed and A,D & E are open.

C. Treatment

1. Flow goes directly thru the softener from pressure developed by the well pump. Valves F and G are open and Valve H is closed. The reverse setting is utilized if the softener is to be bypassed.

2. Chlorine and fluoride are fed directly into the incoming line to the storage tank. The chemical feed pumps are controlled by the same floats as the well pump and also a flow switch in the incoming line which must be activated before the pumps will turn on.

D. Storage Tank Fill Line

After passing through the softener the water is fed to the water storage tank. The rate into the storage tank must be adjusted with the globe valve to match the pumping capacity of the well pump. This is especially important when either Valves K or L are open to maintain pressure in the distribution system. Measure flow using bucket test at hose bib W.

A solenoid valve is placed on the incoming line to the storage tanks and is controlled by the floats. (Valve J)

E. Pressure System

1. Pressure to the distribution system is provided by dual alternating recirculation pumps. Pressure is maintained by three hydropneumatic tanks (119 gallons each).

2. Pressure in the duplex mains from the well house is maintained by a hydropneumatic tank in the well house. The make-up line is provided with a solenoid valve which opens whenever the solenoid valve is open. This is to minimize water being treated twice.

WINTER OPERATION

A. Well Pump Operation

Well pump only operated by pressure switch in well house.

B. Transfer to VSW Facility & Recirculation

1. Flow circulates from well thru Valve B & C, with some going to the storage tank and the rest thru the recirculation pump, Valve D and A.

2. The recirculation pump is manually operated with a flow switch cut-off to protect against running dry.

Note: Hot water can be run through the mains by closing Valves C,E & K and opening D,L, A and the hose connect at the well house.

C. Treatment - same as summer operation

D. Storage Tank Fill Line - Same as summer operation

E. Pressure System - Same as summer operation

NO.	REVISION	DATE	BY
1	As Built	4-79	LL

STATE OF ALASKA 49TH — Robert R. Clark NO. 1368-E — REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

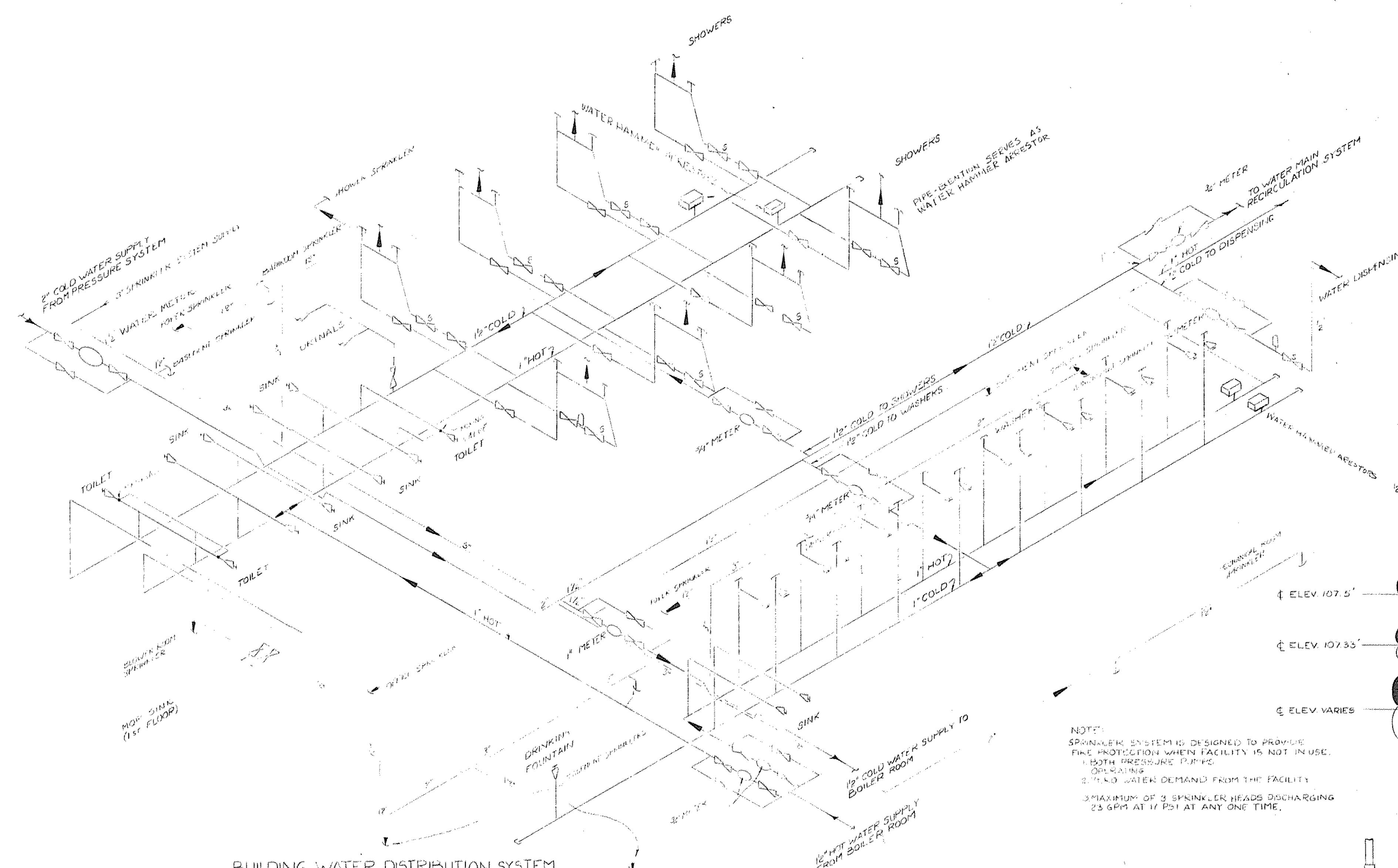
PROJECT NO.	77-064 TI SEV
DESIGNED :	WSVN
DRAWN :	HEC
CHECKED :	SEC
DATE :	MARCH 1978
SCALE :	N.T.S

TANANA VSW FACILITY

WATER SUPPLY AND TREATMENT

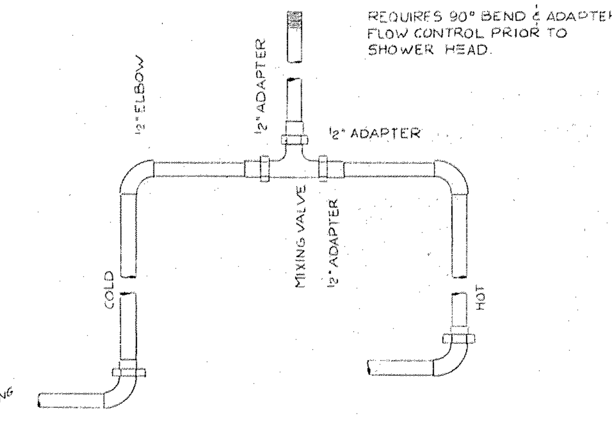
P-1

SHEET 27 OF 42

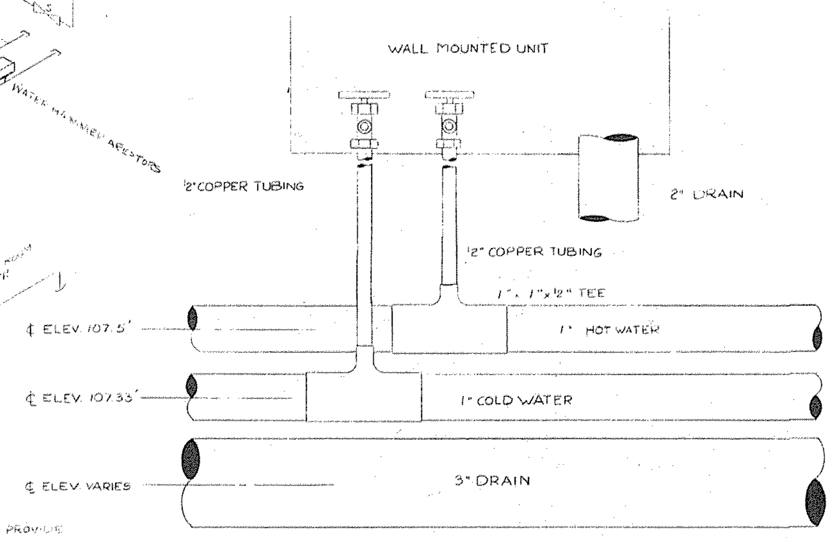


NOTE:
SPRINKLER SYSTEM IS DESIGNED TO PROVIDE FIRE PROTECTION WHEN FACILITY IS NOT IN USE:
1. BOTH PRESSURE PUMPS OPERATING
2. NO WATER DEMAND FROM THE FACILITY
3. MAXIMUM OF 3 SPRINKLER HEADS DISCHARGING 23 GPM AT 17 PSI AT ANY ONE TIME.

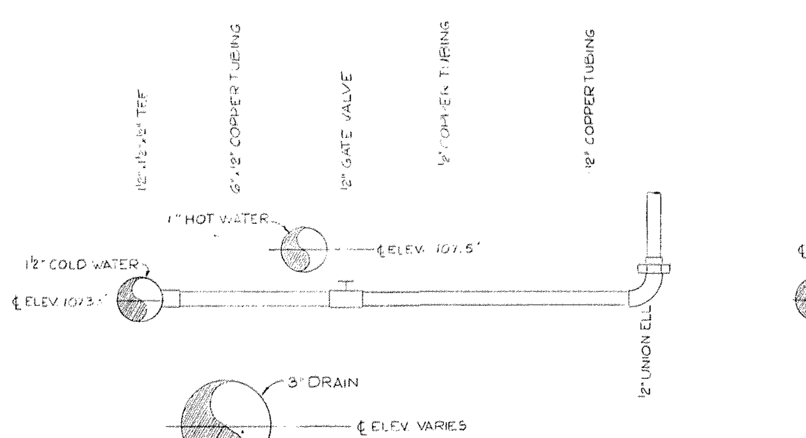
BUILDING WATER DISTRIBUTION SYSTEM
N.T.S.



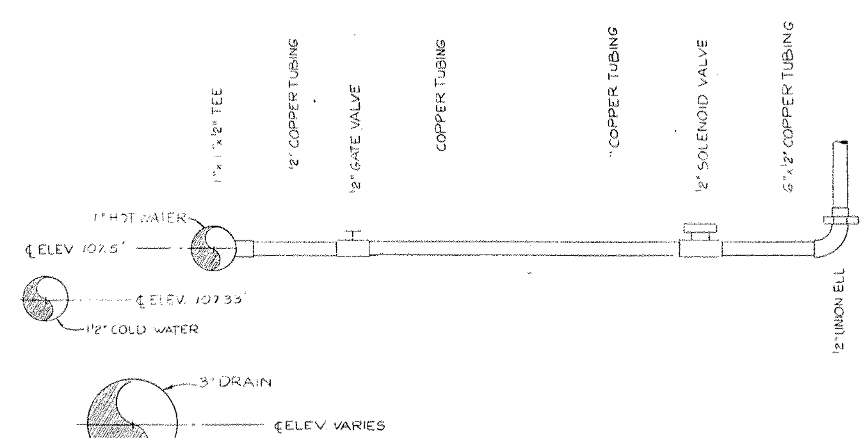
TYPICAL SHOWER CONNECT
N.T.S.



TYPICAL WASHER CONNECT
N.T.S.

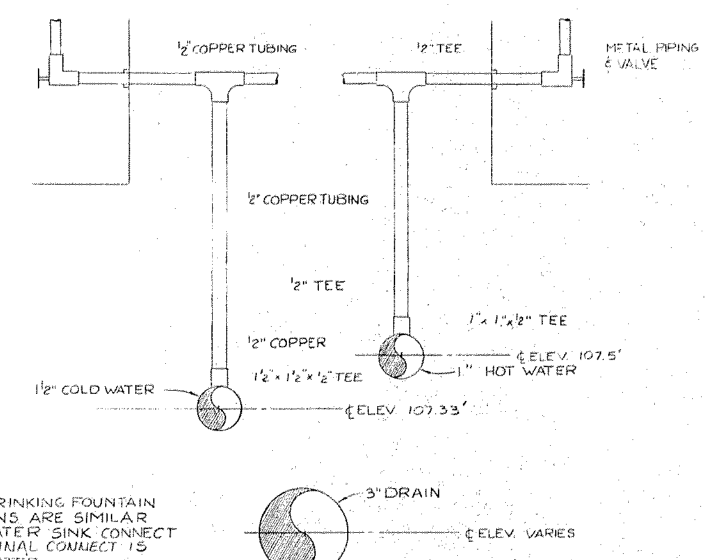


TYPICAL COLD WATER CONNECTION - SHOWERS
N.T.S.



TYPICAL HOT WATER CONNECTION - SHOWERS
N.T.S.

NOTE:
W.C. AND DRINKING FOUNTAIN CONNECTIONS ARE SIMILAR TO COLD WATER SINK CONNECT DETAIL. URINAL CONNECT IS 3/4" COLD WATER.



TYPICAL SINK CONNECT
N.T.S.

NO.	REVISION	DATE	BY
2	As-Built	[illegible]	[illegible]
1	See [illegible]	[illegible]	[illegible]

STATE OF ALASKA — 49th — REGISTERED PROFESSIONAL ENGINEER — NO. 1568-E

Arctic Environmental Engineers
Anchorage, Alaska

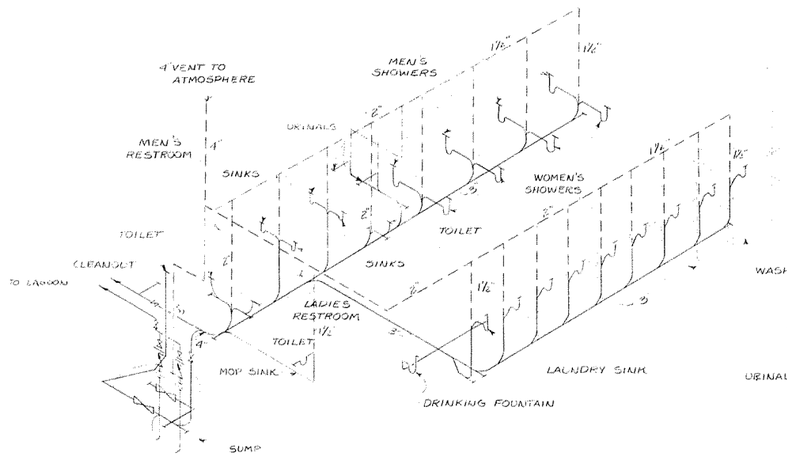
PROJECT NO. 77-024
DESIGNED: W.S.V.H.
DRAWN: P.E.Z.
CHECKED: S.E.C.
DATE: MARCH 1978
SCALE: N.T.S.

TANANA V.S.W. FACILITY
WATER DISTRIBUTION SYSTEM

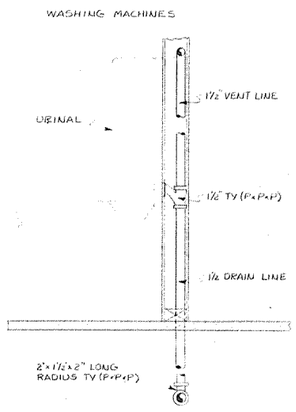
P-2

SHEET 28 OF 42

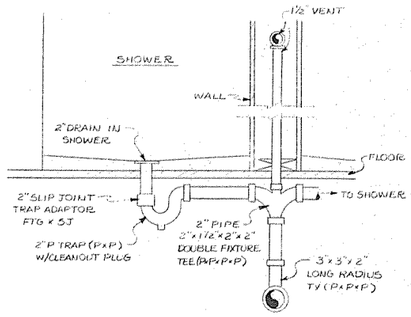
NOTE: ALL DRAIN PIPING IS NO HUB CAST IRON



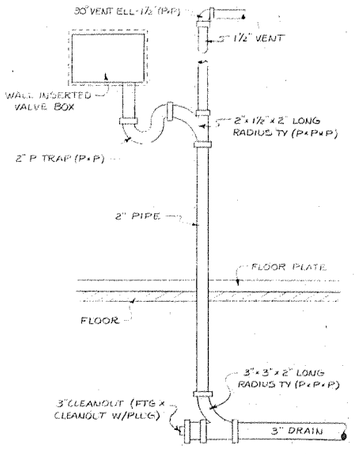
DRAIN SYSTEM DIAGRAM
N.T.S.



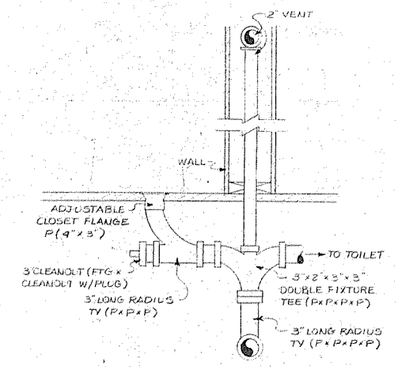
TYPICAL URINAL DRAIN
SCALE: 1"=1'-0"



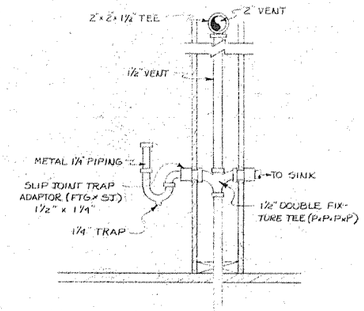
TYPICAL SHOWER DRAIN
SCALE: 1"=1'-0"



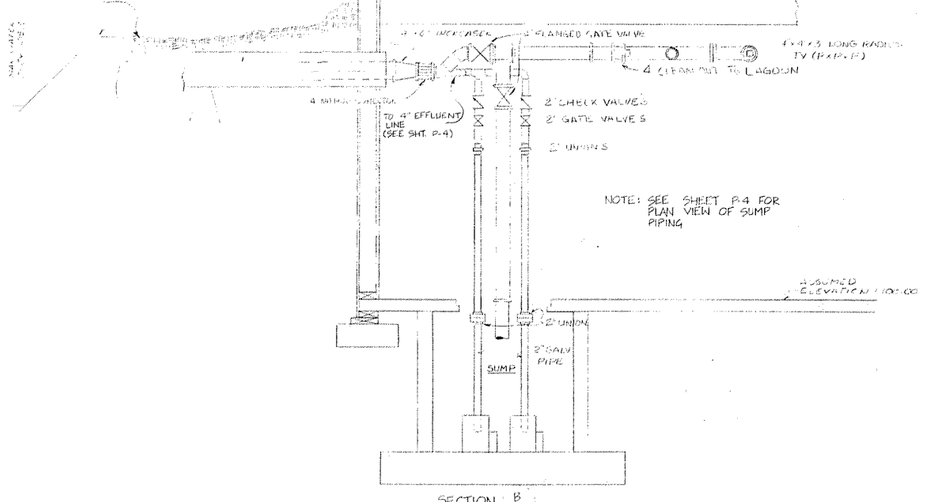
TYPICAL WASHING MACHINE DRAIN
SCALE: 1"=1'-0"



TYPICAL TOILET DRAIN
SCALE: 1"=1'-0"

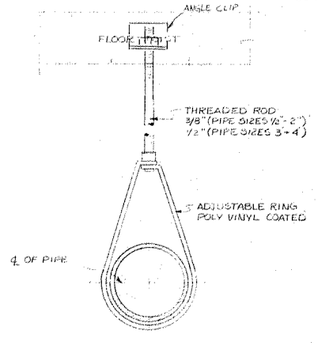


TYPICAL SINK DRAIN
SCALE: 1"=1'-0"



SECTION B (P4P3)

BUILDING DRAIN EFFLUENT
SCALE: 1"=1'-0"



TYPICAL PIPE SUPPORT DETAIL
N.T.S.

2 SEE SKAGLUND DWGS 7-15-77 M
1 AS BUILT 7-15-77 M

NO.	REVISION	DATE	BY

STATE OF ALASKA 49TH
Sidney R. Clark NO. 1568-E
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024-01 SAV
DESIGNED :	WSVH
DRAWN :	HEC
CHECKED :	SEC
DATE :	MARCH 1978
SCALE :	AS NOTED

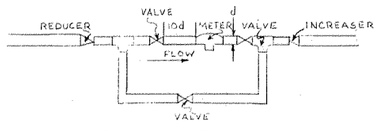
TANANA VSW FACILITY

DRAINAGE SYSTEM

P-3

SHEET 29 OF 42

NOTES: (1) GENERAL ARRANGEMENT DRAWING ONLY
(2) METERS ARE ATTACHED TO WALL



TYPICAL METER DETAIL

LEGEND
MS SOLENOID VALVE
OS SPRINKLER

NO.	REVISION	DATE	BY
2	As Built	7-15-79	M
1	See Shoreline Bldg.	7-15-79	M

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-024-01-SAV
DESIGNED :	WSVH
DRAWN :	HEC
CHECKED :	SEC
DATE :	MARCH 1978
SCALE :	1/2" = 1'-0"

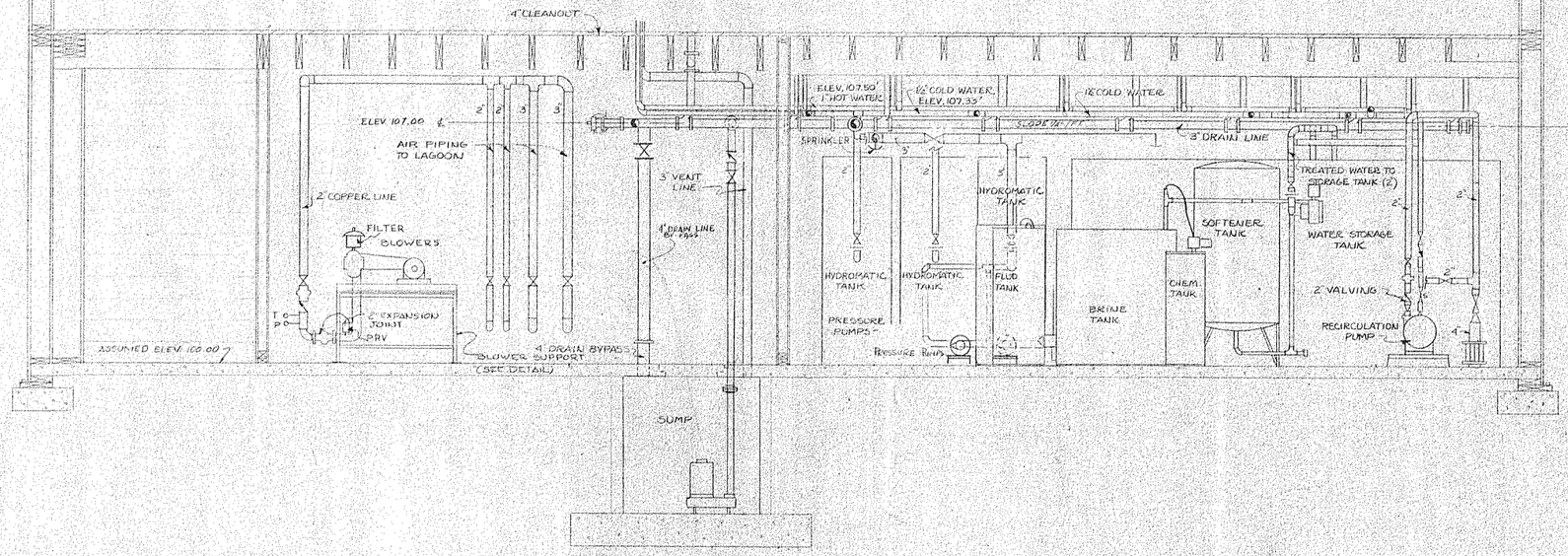
TANANA VSW FACILITY

LOWER LEVEL PIPING

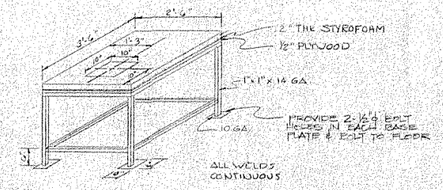
P-4

SHEET 30 OF 42

NOTE: GENERAL ARRANGEMENT DRAWING ONLY



SECTION A-A



BLOWER SUPPORT DETAIL
N.T.S.

ASBUILT 7-15-79 M
SEE SKOGLUND DWGS 7-15-79 M

NO.	REVISION	DATE	BY

STATE OF ALASKA 49TH
Sidney F. Clark
NO. 1568
REGISTERED PROFESSIONAL ENGINEER

Arctic Environmental Engineers
Anchorage, Alaska

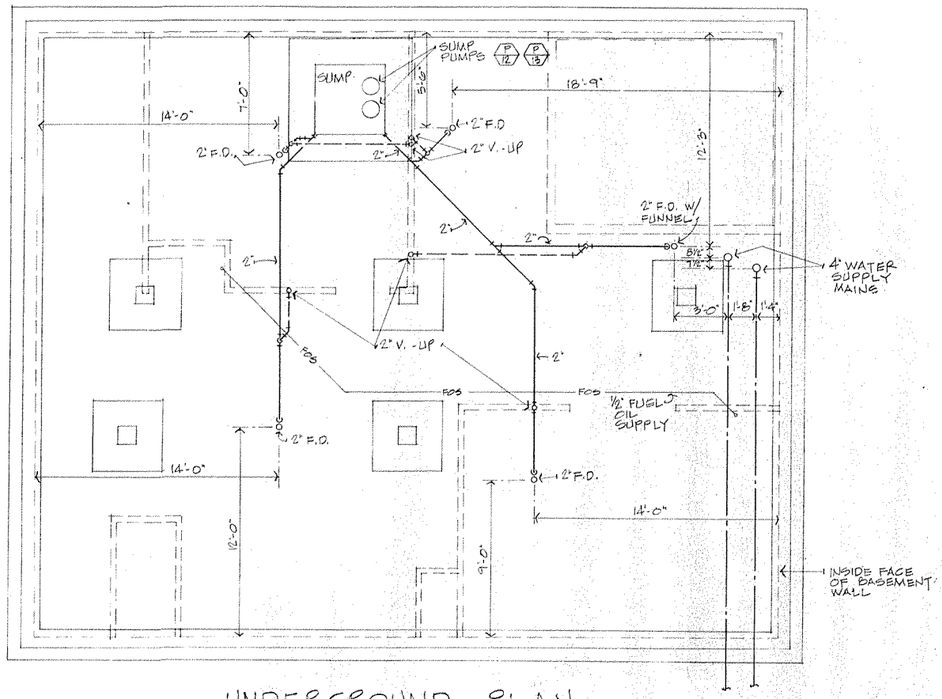
PROJECT NO.	77-024-01 SAV
DESIGNED :	W.S.V.H.
DRAWN :	H.E.C.
CHECKED :	S.E.C.
DATE :	MARCH 1978
SCALE :	1/2"= 1'-0"

TANANA VSW FACILITY

LOWER LEVEL PIPING SECTION

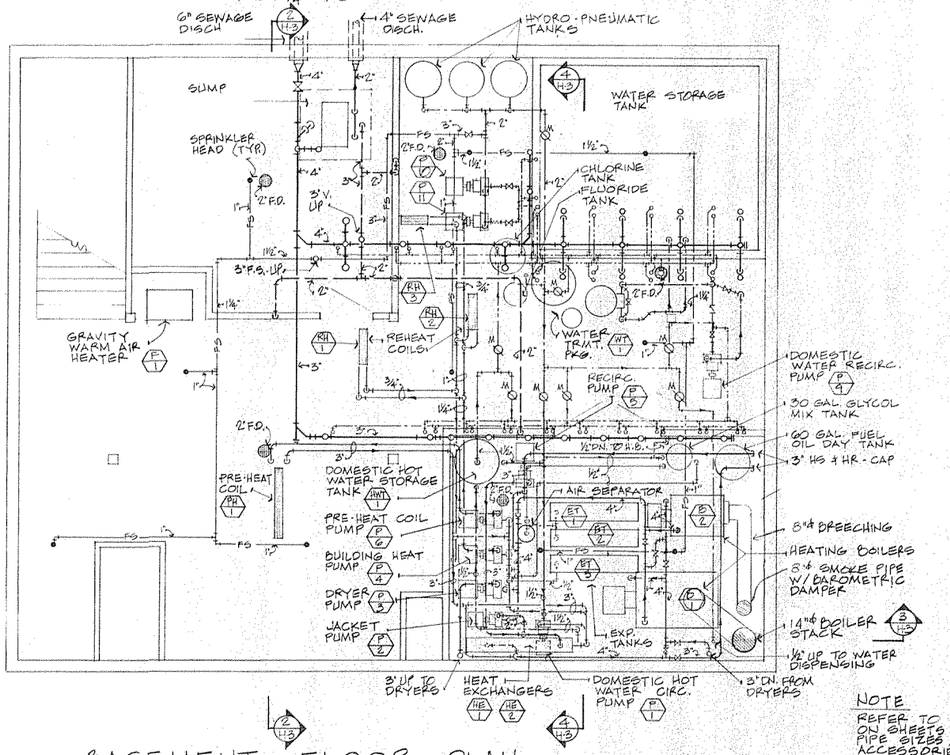
P-5

SHEET 31 OF 42



UNDERGROUND PLAN

SCALE : 1/4" = 1'-0"

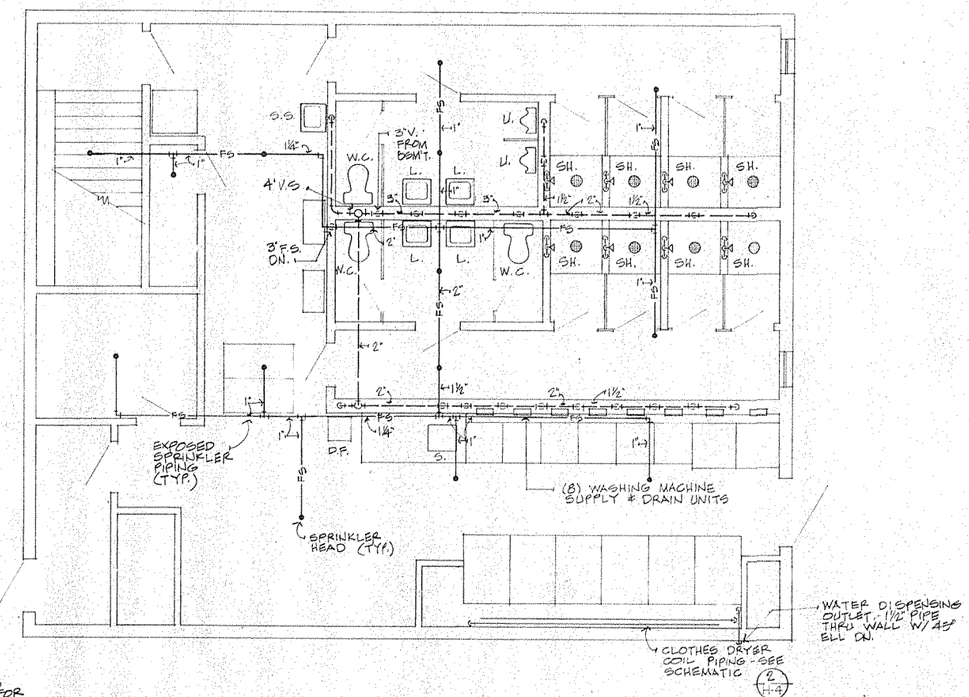


BASEMENT FLOOR PLAN

SCALE : 1/4" = 1'-0"

NOTE

REFER TO SCHEMATICS ON SHEETS M-4 & M-5 FOR PIPE SIZES, VALVES AND ACCESSORIES.



MAIN FLOOR PLAN

SCALE : 1/4" = 1'-0"

N

ASBUILT 7-15-79 TA

Skoglund Company
MECHANICAL
ENGINEERS & CONTRACTORS
Anchorage Alaska

STATE OF ALASKA
TED A. SKOGLUND
No. 3058 E
JUNE 23, 1972
PROFESSIONAL ENGINEER

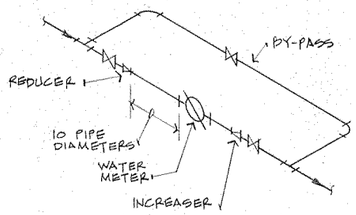
Skoglund Company
Mechanical Engineers & Contractors
ANCHORAGE ALASKA

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
FOR
ARCTIC ENVIRONMENTAL ENGINEERS

FLOOR PLANS
PLUMBING #PIPING

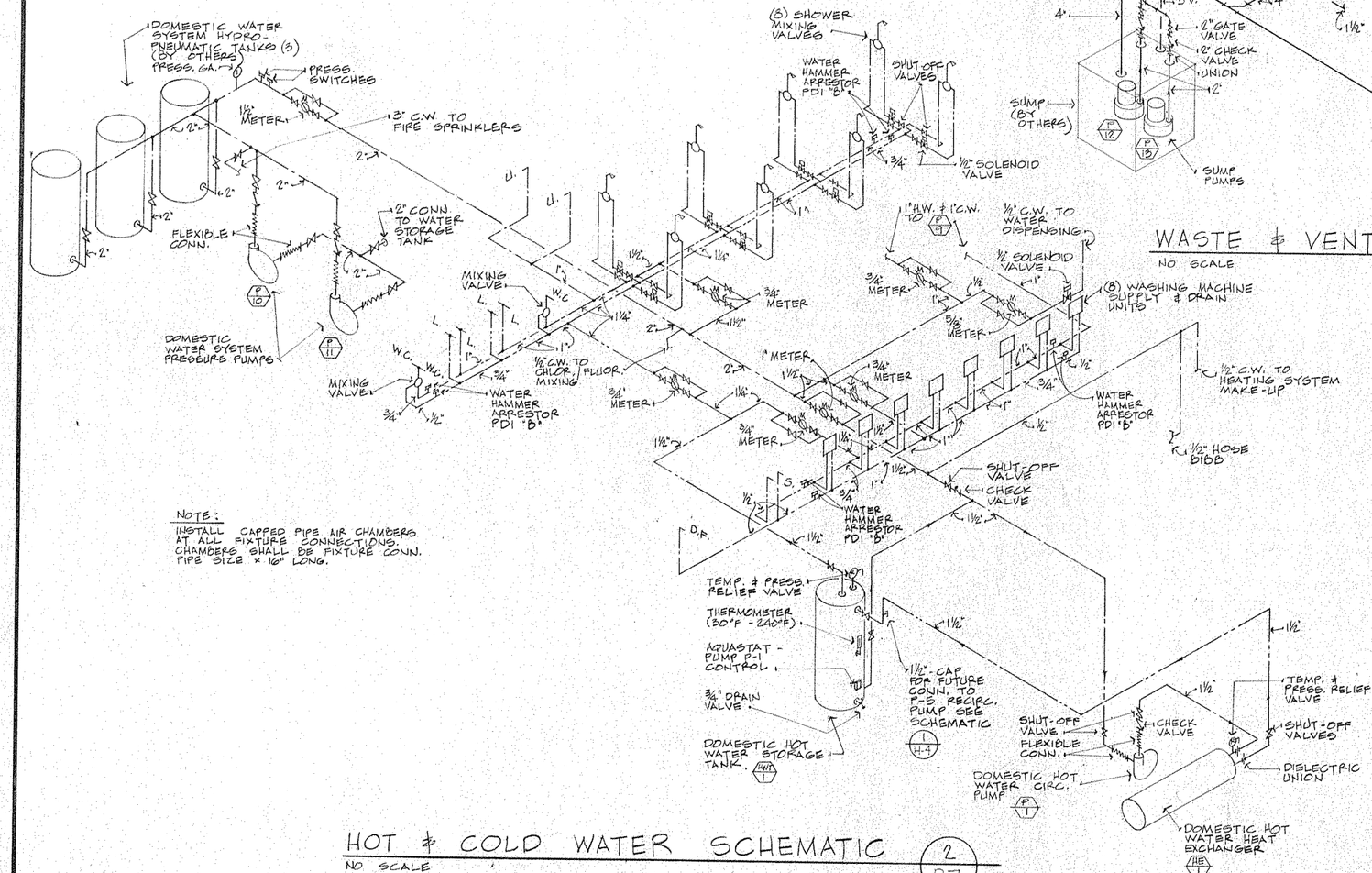
JOB NO: 78286
DRAWN: LS
CHECKED:
DATE: 7/28/78
SHEET: P-6

32 - 46



WATER METER DETAIL (4/P-7)

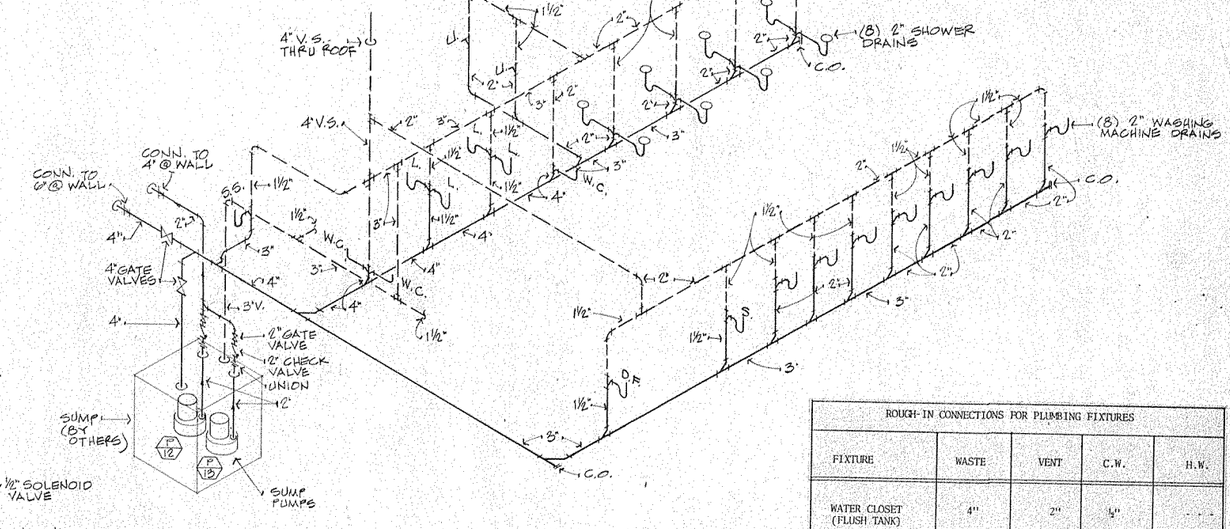
NO SCALE



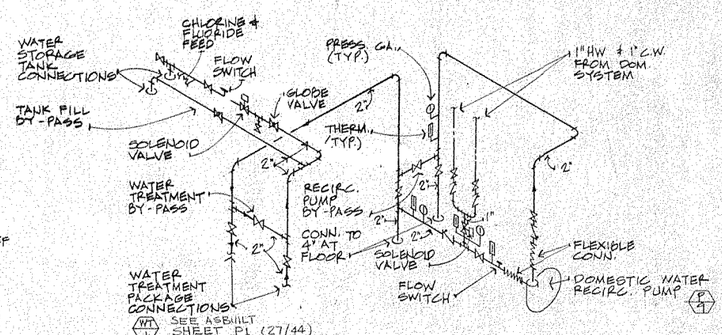
NOTE:
INSTALL CAPPED PIPE AIR CHAMBERS AT ALL FIXTURE CONNECTIONS. CHAMBERS SHALL BE FIXTURE CONN. PIPE SIZE x 16" LONG.

HOT & COLD WATER SCHEMATIC (2/P-7)

NO SCALE



ROUGH-IN CONNECTIONS FOR PLUMBING FIXTURES				
FIXTURE	WASTE	VENT	C.W.	H.W.
WATER CLOSET (FLUSH TANK)	4"	2"	½"	- - -
URINAL	2"	1½"	¾"	- - -
LAVATORY	1½"	1½"	½"	½"
SINK	1½"	1½"	½"	½"
DRINKING FOUNTAIN	1½"	1½"	½"	- - -
JANITOR SINK	3"	1½"	½"	½"
SHOWER	2"	1½"	½"	½"
WASHER SUPPLY & DRAIN UNIT	2"	1½"	½"	½"



WATER SUPPLY SCHEMATIC (3/P-7)

NO SCALE

Skoglund Company
MECHANICAL ENGINEERS & CONTRACTORS
Anchorage Alaska

STATE OF ALASKA 49TH
REGISTERED No. 3058-E
DATE EXPIRES JUNE 23, 1972
PROFESSIONAL ENGINEER

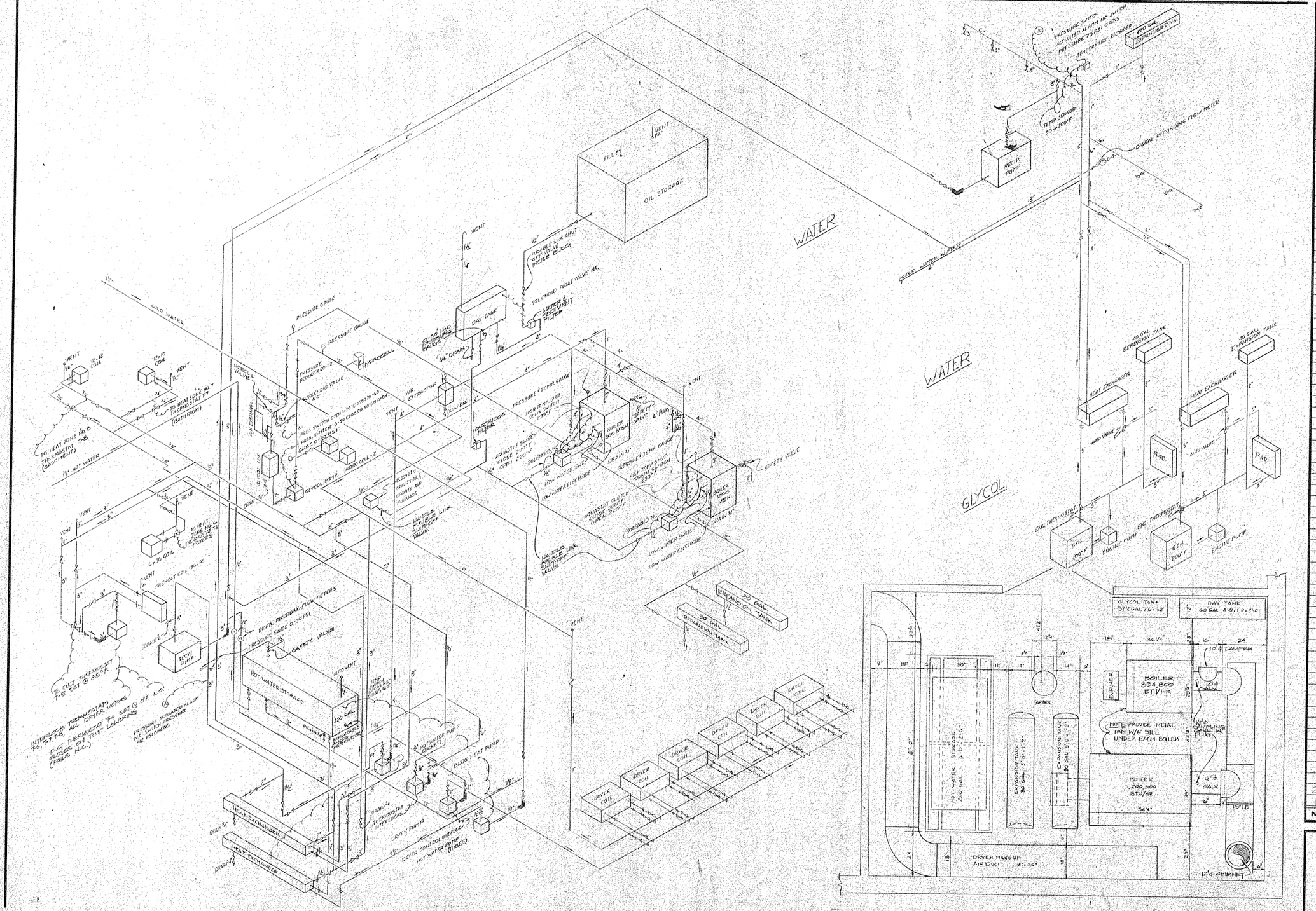
Skoglund Company
Mechanical Engineers & Contractors
ANCHORAGE ALASKA

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
FOR
ARCTIC ENVIRONMENTAL ENGINEERS

PLUMBING SCHEMATICS

JOB NO: 7828G
DRAWN: LB
CHECKED:
DATE: 7/28/76
SHEET: P-7
33 of 44

AS BUILT 7-15-77 M



NO.	REVISION	DATE	BY
2	ASBUILT	7-15-77	M
1	SEE SKOGLUND DWG'S	7-15-77	M

STATE OF ALASKA 49TH
Sidney Clark NO. 1568
REGISTERED PROFESSIONAL

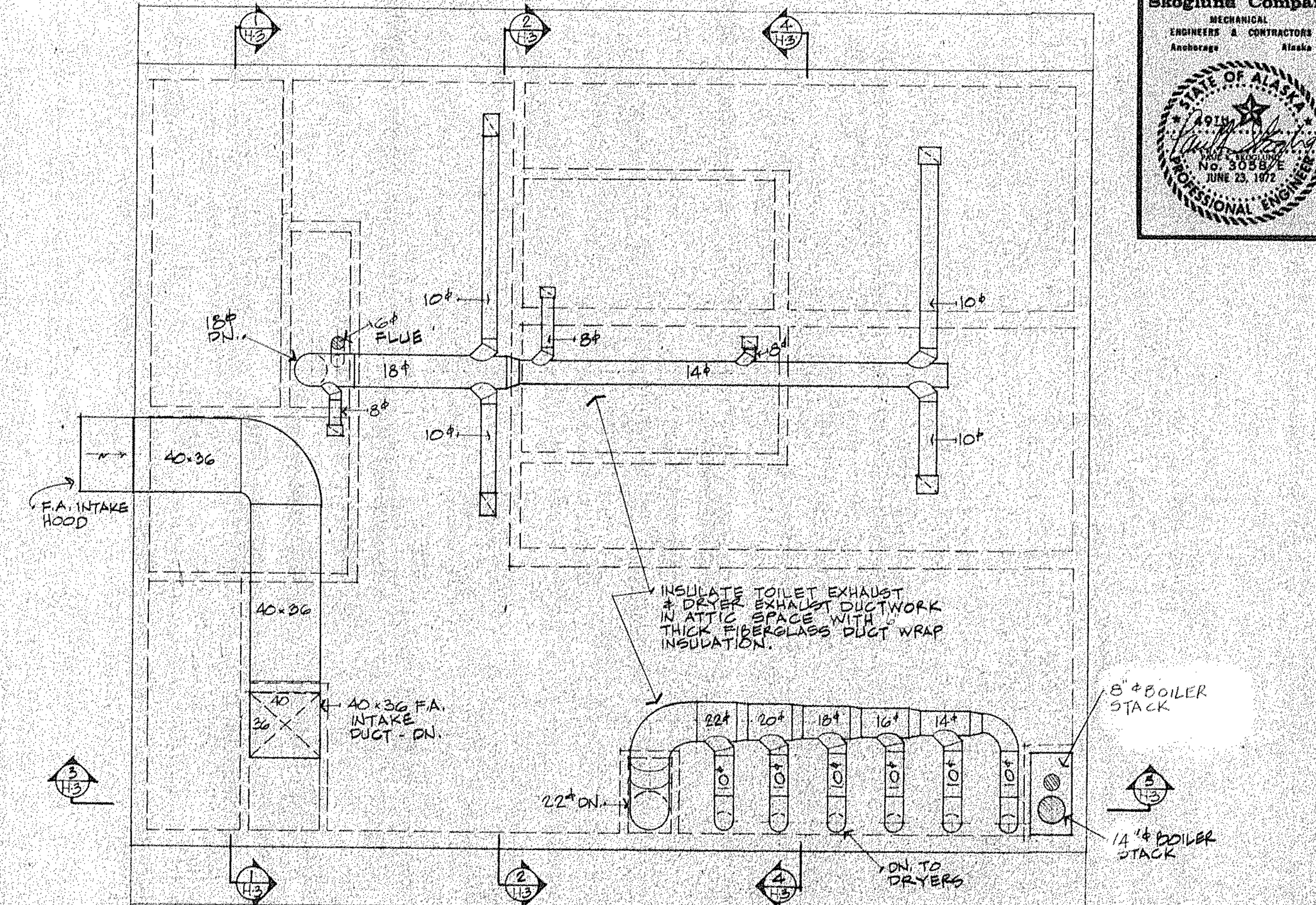
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 GAV
DESIGNED : ALS
DRAWN : PEZ
CHECKED : WSVH
DATE : MARCH 1978
SCALE : NTS

TANANA V.S.V. FACILITY
MECH. HEATING ISO. & PLAN VIEW

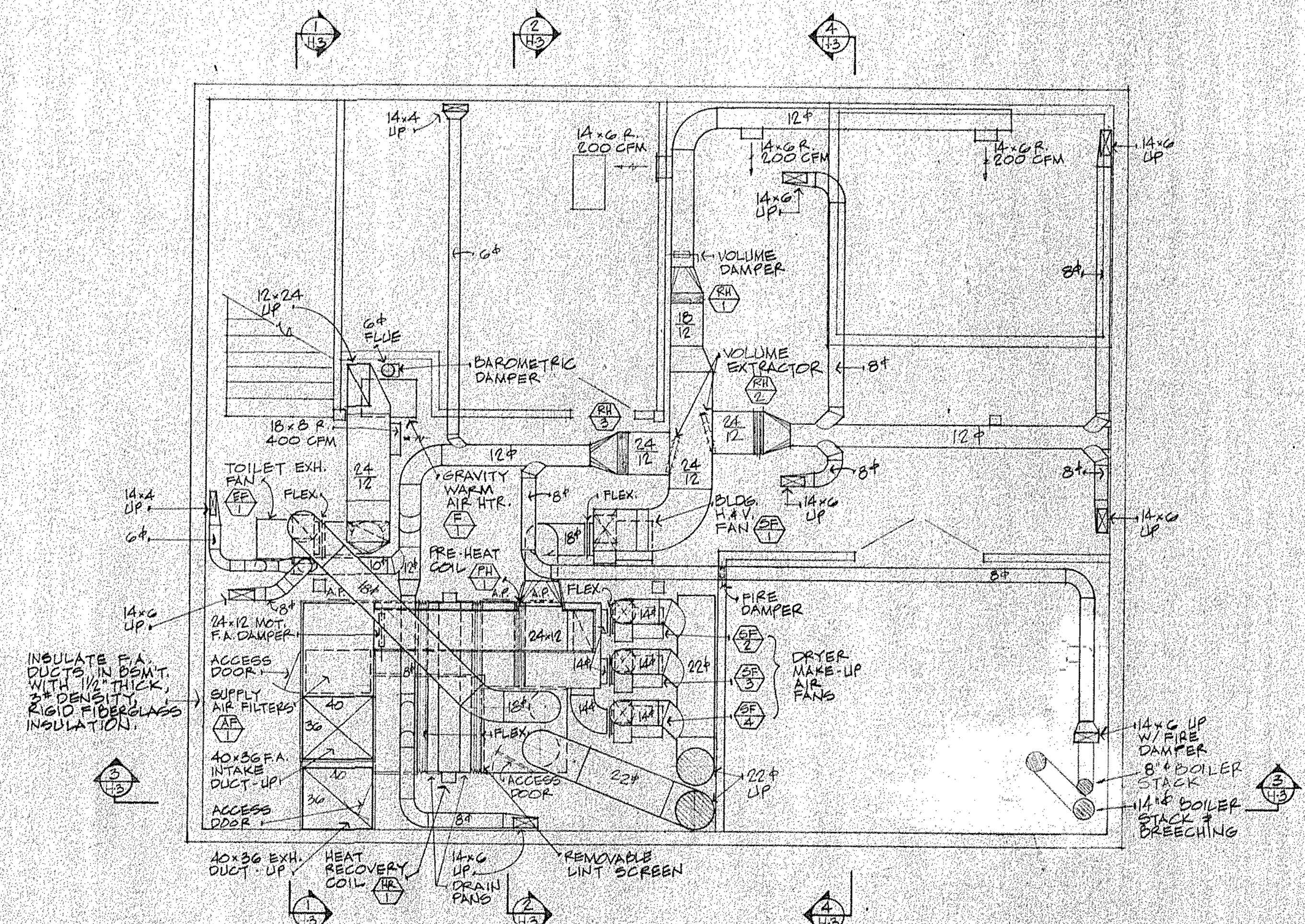
H-1

SHEET 34 OF 47



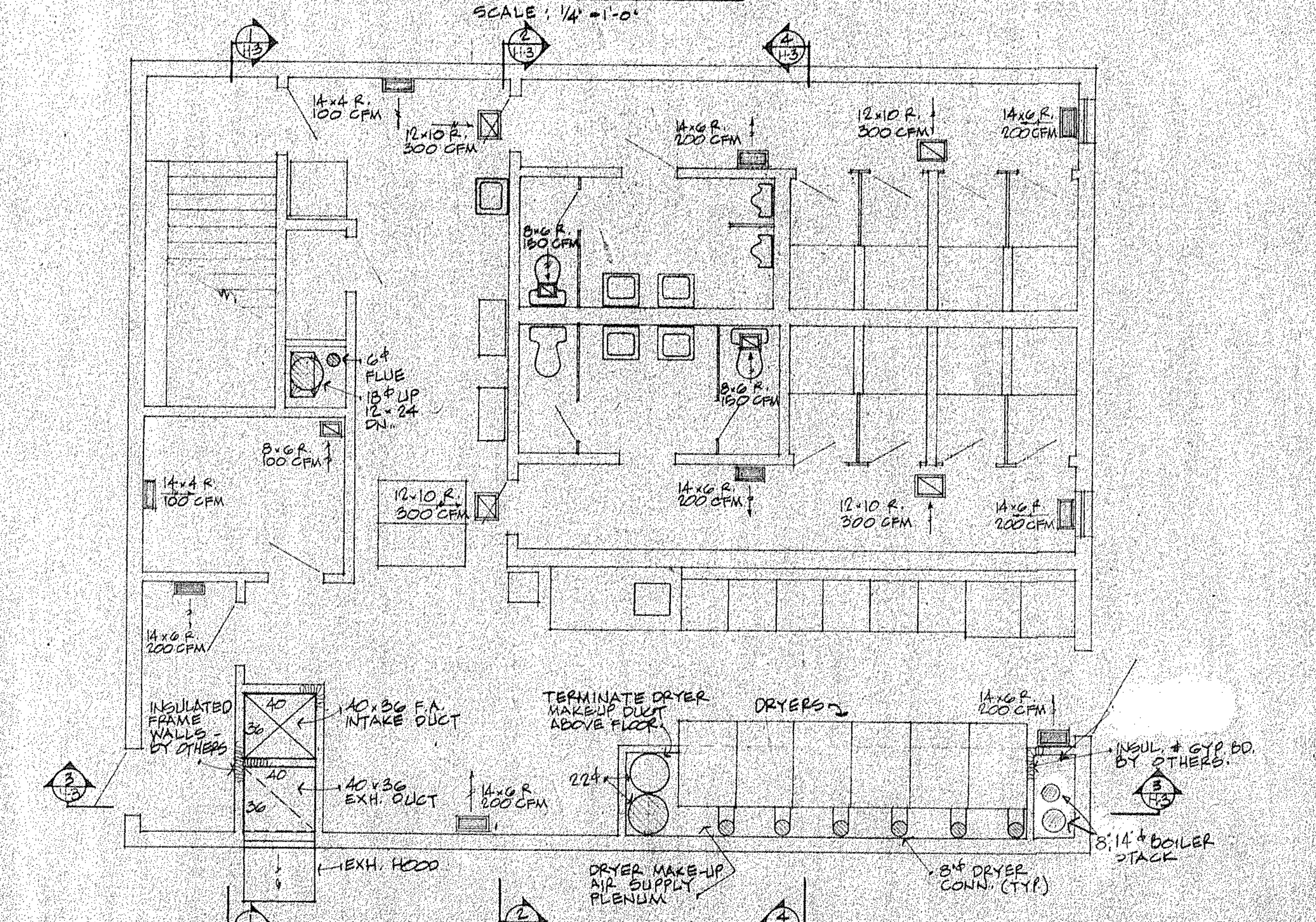
ATTIC PLAN

SCALE: 1/4" = 1'-0"



BASEMENT FLOOR PLAN

SCALE: 1/4" = 1'-0"



MAIN FLOOR PLAN

SCALE: 1/4" = 1'-0"

ASBUILT 7-15-79 M

Skoglund Company
MECHANICAL ENGINEERS & CONTRACTORS
Anchorage Alaska

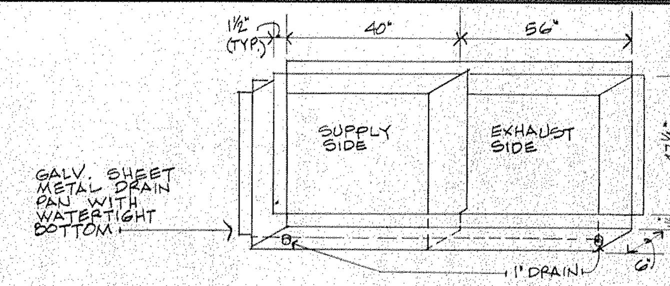
STATE OF ALASKA · 49TH · No. 3058-E · JUNE 23, 1972 · PROFESSIONAL ENGINEER

Skoglund Company Mechanical Engineers & Contractors ANCHORAGE ALASKA

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
FOR
ARCTIC ENVIRONMENTAL ENGINEERS

FLOOR PLANS
SHEETMETAL

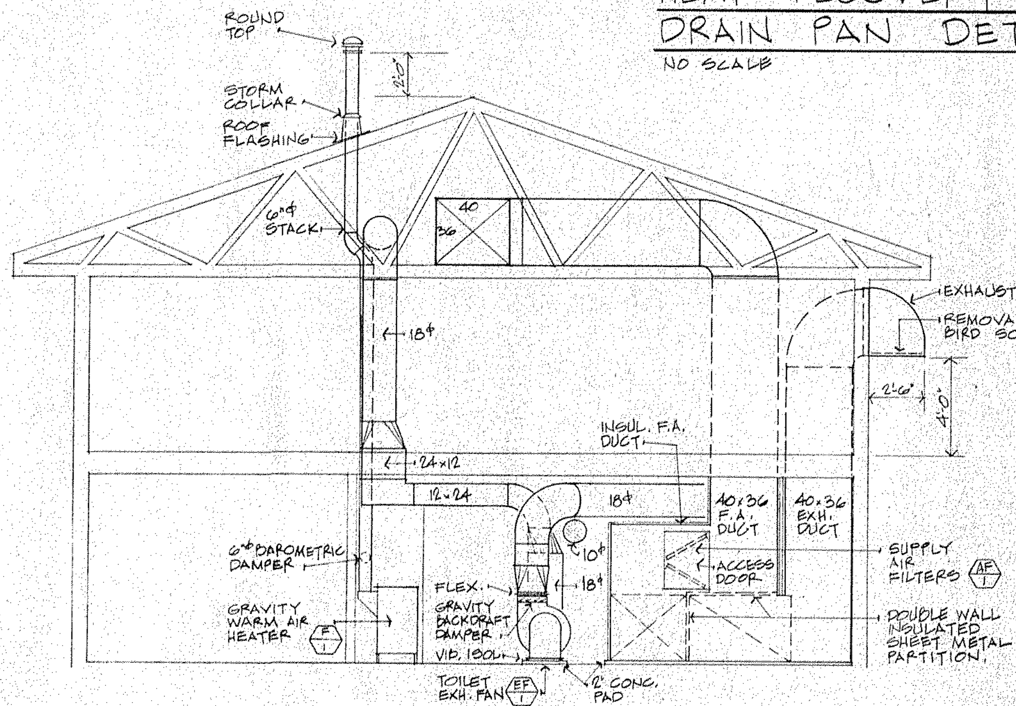
JOB NO: 78236
DRAWN: LS
CHECKED:
DATE: 7/28/78
SHEET: 33
H-2
OF 46



HEAT RECOVERY COIL DRAIN PAN DETAIL

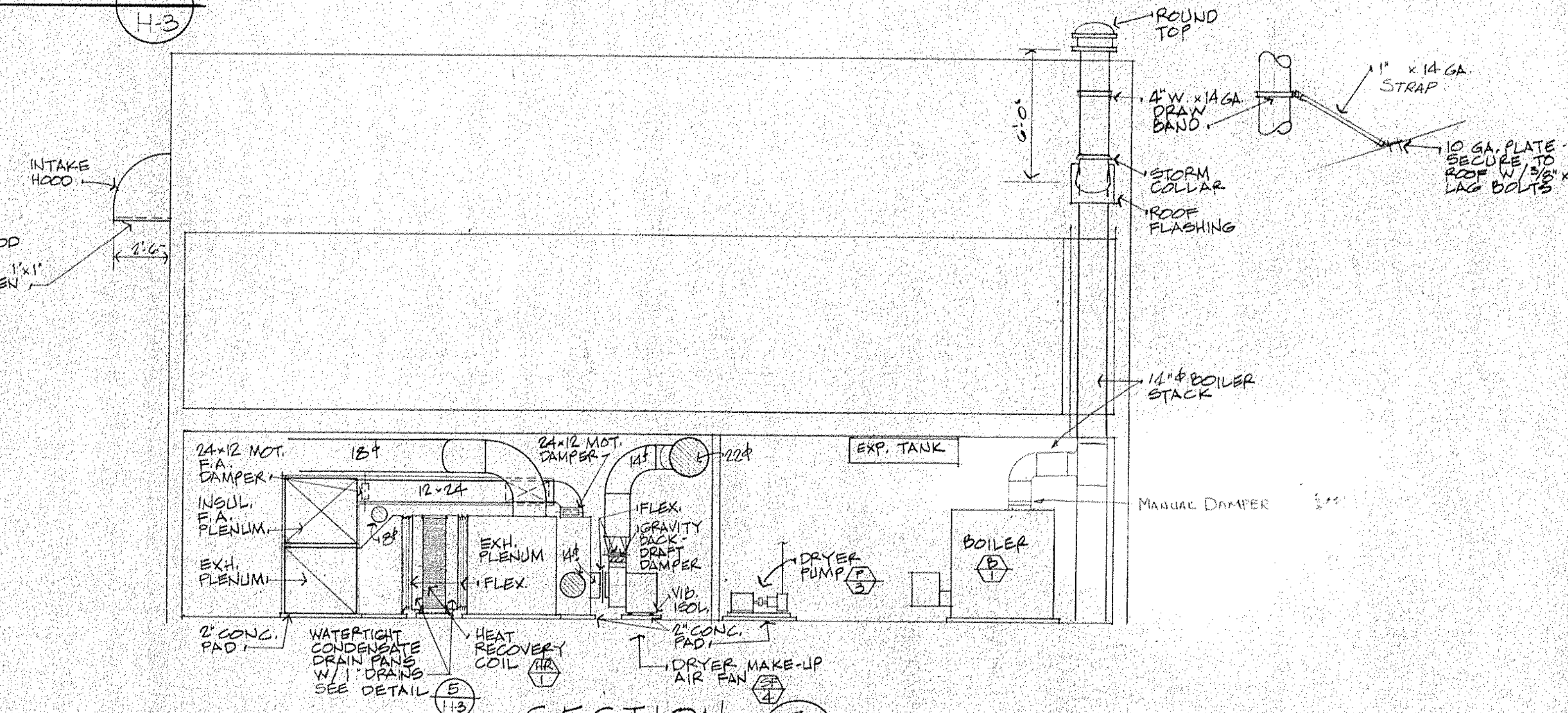
NO SCALE

5 / H-3



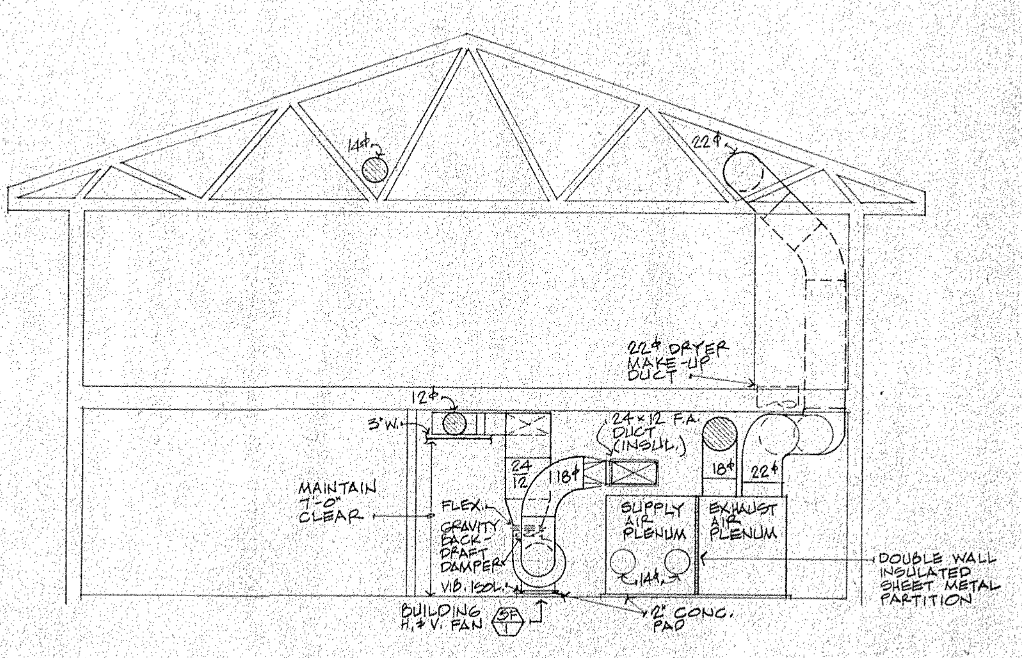
SECTION 1 / H-3

SCALE: ¼" = 1'-0"



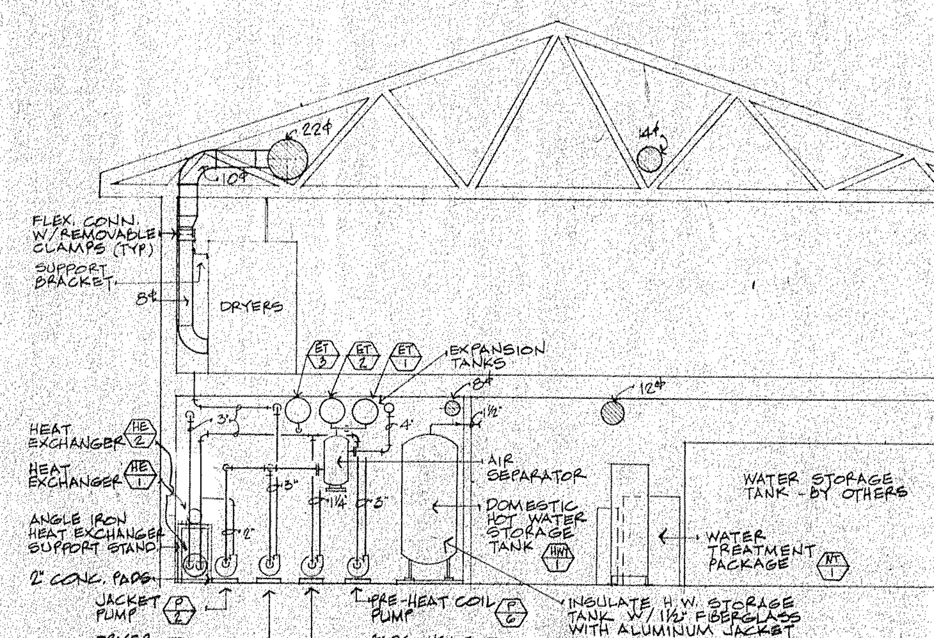
SECTION 3 / H-3

SCALE: ¼" = 1'-0"



SECTION 2 / H-3

SCALE: ¼" = 1'-0"



SECTION 4 / H-3

SCALE: ¼" = 1'-0"

ASBUILT 7-15-79 M

Skoglund Company
MECHANICAL ENGINEERS & CONTRACTORS
Anchorage Alaska

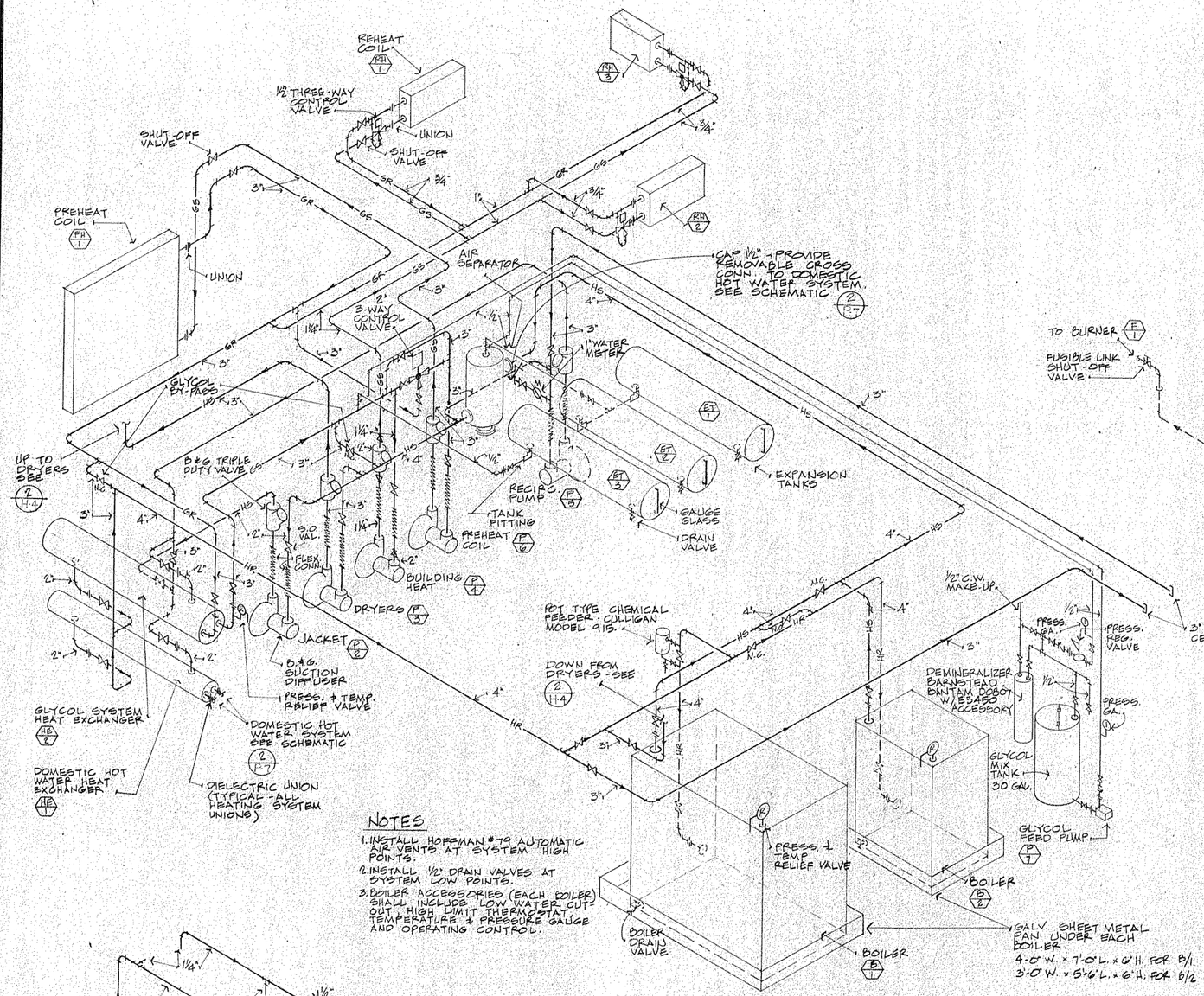
STATE OF ALASKA — 49TH — Paul R. Skoglund — No. 3058-E — JUNE 23, 1972 — PROFESSIONAL ENGINEER

Skoglund Company Mechanical Engineers & Contractors ANCHORAGE ALASKA

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
for ARCTIC ENVIRONMENTAL ENGINEERS

BUILDING SECTIONS

JOB NO: 78286
DRAWN: LS
CHECKED:
DATE: 7/28/78
SHEET: H-3
OF 46

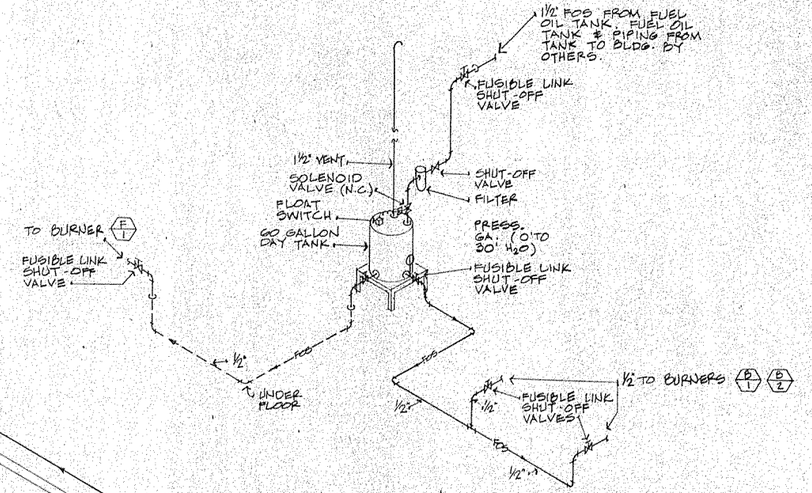


HEATING WATER SYSTEM SCHEMATIC 1/H-4

NO SCALE

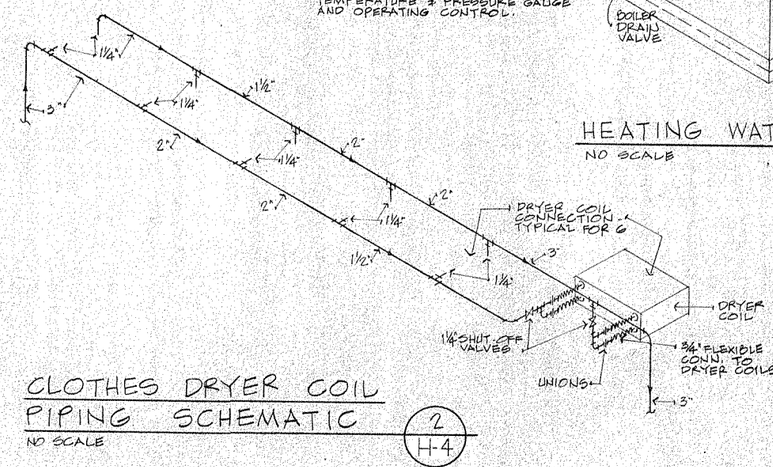
NOTES

1. INSTALL HOFFMAN #79 AUTOMATIC AIR VENTS AT SYSTEM HIGH POINTS.
2. INSTALL ½" DRAIN VALVES AT SYSTEM LOW POINTS.
3. BOILER ACCESSORIES (EACH BOILER) SHALL INCLUDE: LOW WATER CUT-OUT, HIGH LIMIT THERMOSTAT, TEMPERATURE & PRESSURE GAUGE AND OPERATING CONTROL.



FUEL OIL PIPING SCHEMATIC 3/H-4

NO SCALE



CLOTHES DRYER COIL PIPING SCHEMATIC 2/H-4

NO SCALE

NOTE:
SEE 8½x11 SHEETS IN O&M MANUAL FOR FURTHER HEAT EXCHANGE, BOILER AND DEMINERALIZER DETAILS

Skoglund Company
MECHANICAL ENGINEERS & CONTRACTORS
Anchorage Alaska

STATE OF ALASKA
REGISTERED
No. 3058
JUNE 23, 1972
PROFESSIONAL ENGINEER

Skoglund Company
Mechanical Engineers & Contractors
Anchorage Alaska

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
FOR
ARCTIC ENVIRONMENTAL ENGINEERS

HEATING SYSTEM SCHEMATICS

JOB NO: 7826
DRAWN: LS
CHECKED:
DATE: 7/28/78
SHEET: 5-7
H-4
OF 46

AS BUILT 7-15-79 M

MECHANICAL EQUIPMENT SCHEDULE

SYMBOL	ITEM	DESCRIPTION
P 1	DOMESTIC HOT WATER CIRC. PUMP (TUBES)	END SUCTION, STEEL FRAME MOUNTED, CENTRIFUGAL PUMP, 25 GPM AT 15 FT. TDH. 2" SUCT. 1½" DISCH. ½ HP, 1750 RPM, 115 V./1/60. PACO 1550-5.
P 2	HEATING WATER PUMP (JACKET)	END SUCTION, STEEL FRAME MOUNTED, CENTRIFUGAL PUMP. 50 GPM AT 10 FT. TDH. 2" SUCT., 1½" DISCH. ½ HP. 1750 RPM, 115 V./1/60. PACO 1550-5.
P 3	HEATING WATER PUMP (DRYERS)	END SUCTION, STEEL FRAME MOUNTED, CENTRIFUGAL PUMP. 85 GPM AT 50 FT. TDH. 2" SUCT., 1½" DISCH. 2 HP. 1750 RPM, 230 V./3/60. PACO 1570-1.
P 4	HEATING WATER PUMP (BUILDING HEAT)	END SUCTION, STEEL FRAME MOUNTED, CENTRIFUGAL PUMP. 20 GPM AT 30 FT. TDH. 1¼" SUCT., 1" DISCH. ½ HP, 1750 RPM, 115 V./1/60. PACO 1070-1.
P 5	HEATING WATER PUMP (RECIRC. PUMP)	END SUCTION, STEEL FRAME MOUNTED CENTRIFUGAL PUMP. 100 GPM AT 25 FT. TDH OR 200 GPM AT 15 FT. TDH. 3" SUCT. 2½" DISCH. 2 HP, 1750 RPM, 230 V./3/60. PACO 2570-5.
P 6	HEATING WATER PUMP (PRE-HEAT COIL)	END SUCTION, STEEL FRAME MOUNTED CENTRIFUGAL PUMP. 110 GPM AT 20 FT. TDH. 2" SUCT. 1½" DISCH. 2 HP. 1750 RPM. 230 V./3/60. PACO 1570-1.
P 7	GLYCOL FEED PUMP	REGENERATIVE TURBINE PUMP, FRAME MOUNTED. ½ HP 1750 RPM 115 V./1/60. PACO MODEL C-10.
P 8	WELL PUMP	SUBMERSIBLE WELL PUMP, 9 STAGE, 1½" DISCH. 20 GPM AT 175 FT. TDH. 250 FT. S.O. HD. 1½ HP 1750 RPM 230 V./1/60. MEYERS SGK 15-15 B.
P 9	DOMESTIC WATER RECIRC. PUMP	END SUCTION, STEEL FRAME MOUNTED CENTRIFUGAL PUMP. 100 GPM AT 30 FT. TDH. 2" SUCT., 1½" DISCH. 2 HP 1750 RPM. 230 V./3/60. PACO 1570.
P 10, P 11	DOMESTIC WATER SYSTEM PRESS. PUMPS.	END SUCTION, STEEL FRAME MOUNTED, CENTRIFUGAL PUMP. 40 GPM AT 110 FT. TDH. 1¼" SUCT. 1¼" DISCH. 2 HP. 3500 RPM, 230 V./3/60. PACO 1250-5.
P 12, P 13	SUMP PUMPS	SUBMERSIBLE NON-CLOG DUPLEX PUMP SET. 50 GPM AT 20 FT. TDH. 1 HP 1750 RPM 230 V/3/60. HYDROMATIC MODEL SK-60AD3-4 WITH CONTROL PANEL, ALTERNATOR, LEVEL CONTROLS AND HIGH LEVEL ALARM.
WT 1	WATER TREATMENT PACKAGE	PACKAGE SHALL CONSIST OF BRINE TANK, CHEMICAL TANK AND EXCHANGE TANK, WITH COMPLETE PIPING, VALVES AND CONTROLS. SERVICE FLOW RATE: 25 GPM PEAK, 12 GPM CONTINUOUS PRESSURE RANGE: 30-100 PSI. TEMPERATURE RANGE: 40° TO 140°F. 120 V./1/60. CULLIGAN HF-20.
HWT 1	DOMESTIC HOT WATER STORAGE TANK	220 GALLON ASME GLASS LINES STROAGE TANK. VERTICAL MOUNTING. 30" DIA. X 6'-0" H. ACE BUEHLER VS30-5G
HE 1	DOMESTIC HOT WATER HEAT EXCHANGER	6" Ø X 5'-0" L., 4 PASS, STRAIGHT TUBE, TUBES: 25 GPM. 40°F EWT, 140°F. LWT. SHELL: 50 GPM. 220°F EWT, 180°F. LWT. FOULING ALLOWANCE .001, B & G OF-65-4.
HE 2	GLYCOL SYSTEM HEAT EXCHANGER	12" Ø X 6' -0" L., 4 PASS, STRAIGHT TUBE. TUBES: 130 GPM. 145°F EWT, 165°F LWT. (GLYCOL) SHELL: 100 GPM. 175°F EWT, 155°F LWT. FOULING ALLOWANCE .001, B & G OF-126-4.

MECHANICAL EQUIPMENT SCHEDULE

SYMBOL	ITEM	DESCRIPTION
B 1	BOILER	PACKAGE BOILER/BURNER UNIT. NO. 2 OIL FIRED, 12.65 GPH (1771 MBH) INPUT. 1257 MBH IBR NET OUTPUT. BURNHAM AMERICA PF-509-WO. WITH RELIEF VALVE, TEMP.-PRESS. GAUGE, HIGH LIMITS AND LOW WATER CUT-OFF.
B 2	BOILER	PACKAGE BOILER/BURNER UNIT. NO. 2 OIL FIRED, 3.95 GPH (553 MBH) INPUT. 391 MBH IBR NET OUTPUT. BURNHAM AMERICA PF-36W. WITH RELIEF VALVE, TEMP. PRESS. GAUGE, HIGH LIMITS AND LOW WATER CUT-OFF.
ET 1, ET 2	EXPANSION TANK	30 GALLON ASME EXPANSION TANK. 13" Ø X 61½" L. WITH B & G TANK FITTING, GAUGE GLASS AND DRAIN VALVE.
ET 3	EXPANSION TANK	30 GALLON ASME EXPANSION TANK. 13" Ø X 61½" L. WITH B & G TANK FITTING, GAUGE GLASS AND DRAIN VALVE.
F 1	GRAVITY WARM AIR HEATER	75 MBH INPUT, 56.6 MBH OUTPUT, GRAVITY #2 OIL FIRED, GRAVITY WARM AIR HEATER. PREWAY MODEL DVM-75.
AF 1	SUPPLY AIR FILTERS	4 - 20" X 25" X 2" THICK THROW-AWAY FILTERS. FARR 30/30.
SF 1	BUILDING H. & V. FAN	BELT DRIVE UTILITY FAN. 2200 CFM AT 1.75" S.P. 1700 FPM O.V., 1700 RPM, CCW ROTATION, UB DISCHARGE, 15" BI WHEEL, 2 HP 230V./3/60. WITH VIBRATION ISOLATORS AND GRAVITY BACKDRAFT DAMPER.
SF 2, SF 3, SF 4	DRYER MAKE-UP AIR FAN	BELT DRIVE UTILITY FAN. 1200 CFM AT 1.5" S.P. 1900 FPM O.V. 1300 RPM, CCW ROTATION, UB DISCHARGE 10" FC WHEEL, 1 HP 230V./3/60, WITH VIBRATION ISOLATORS AND GRAVITY BACKDRAFT DAMPER.
EF 1	TOILET EXHAUST FAN	BELT DRIVE UTILITY FAN 2000 CFM AT 1.0" S.P. 1560 FPM O.V., 770 RPM, CW ROTATION, UB DISCHARGE, 15" F.C. WHEEL 1 HP 230V./3/60 WITH VIBRATION ISOLATORS AND GRAVITY BACKDRAFT DAMPER.
HR 1	HEAT RECOVERY COIL	48" W X 96" NTL, 6 ROW. SUPPLY: 5800 CFM, -60°F EAT, .25" WG. ΔP. EXHAUST: 5600 CFM, 135°F EAT, .25" WG. ΔP. Q-DOT WITH TILT CONTROL.
PH 1	PRE-HEAT COIL	48" W X 48" NTL, 5800 CFM, -65°F EAT, 85°F LAT, 175°F EWT, 155° LWT. (50% GLYCOL)
RH 1	REHEAT COIL (LAUNDRY ROOM)	12"W X 24" NTL. 800 CFM, 55°F EAT, 115°F LAT. 175°F EWT, 155°F LWT. (50% GLYCOL)
RH 2	REHEAT COIL (SHOWERS)	12" W. X 24" NTL. 800 CFM, 55°F EAT, 115°F LAT, 175°F EWT, 155°F LWT (50% GLYCOL)
RH 3	REHEAT COIL (BASEMENT)	12"W. X 18" NTL. 600 CFM, 55°F EAT, 115°F LAT, 175°F EWT, 155°F LWT (50% GLYCOL)

MECHANICAL EQUIPMENT SCHEDULE

SYMBOL	ITEM	DESCRIPTION
W.C.	WATER CLOSET	AMERICAN STANDARD CADET 2109.056, ELONGATED SIPHON JET ACTION BOWL, CLOSE COUPLED TANK, FREE STANDING, WHITE VITREOUS CHINA. WITH WHITE OPEN FRONT SEAT AND ½" ANGLE COMPRESSION SUPPLY.
U.	URINAL	AMERICAN STANDARD WASHBROOK 6500.011 WHITE VITREOUS CHINA, 3/4" TOP SPUD, 2" OUTLET. DELANEY 451 FLUSH VALVE WITH VACUUM BREAKER.
L.	LAVATORY	AMERICAN STANDARD SCOTIAN 0361.055, WHITE VITREOUS CHINA. FAUCET HOLES ON 4" CENTERS. 2379.018 AQUARIAN II FAUCET WITH POP-UP DRAIN, 1½" TAILPIECE AND 1¼ X 1½" P-TRAP, ½" ANGLE COMPRESSION SUPPLIES.
S.S.	SERVICE SINK	AMERICAN STANDARD LAKEWELL 7692.049 ENAMELED CAST IRON SERVICE SINK WITH 7798.176 TRAP AND 8340.234 SERVICE SINK FAUCET.
DF.	DRINKING FOUNTAIN	AMERICAN STANDARD SARATOGA 8310.112 WHITE VITREOUS CHINA, ANGLE JET BUBBLER, WITH 1¼" TRAP.
S.	LAUNDRY SINK	AMERICAN STANDARD LEDGEMOUNT 7601.016 ENAMELED CAST IRON LAUNDRY SINK WITH 4200.010 AQUARIAN II SINK FAUCET. 4362.034 STOPPER DRAIN, 1½" P-TRAP AND ½" ANGLE COMPRESSION SUPPLIES.
SH	SHOWER	MIXING VALVE AND SHOWER ASSEMBLY FURNISHED WITH SHOWER STALL.
	WASHING MACHINE SUPPLY AND DRAIN UNIT	GUY GRAY MODEL FB-200 WITH ½" HOT AND COLD WATER SUPPLIES AND 2" DRAIN.
R.	FLOOR SUPPLY REGISTERS	HART AND COOLEY 531 ALUMINUM FLOOR DIFFUSER WITH VOLUME DAMPER (2 EACH 14 X 4, 7 EACH 14 X 6)
R.	SIDEWALL REGISTERS	HART AND COOLEY A661 ALUMINUM DOUBLE DEFLECTION REGISTER WITH VOLUME DAMPER (3 EACH 14 X 6, 1 EACH 18 X 8)
R.	CEILING RETURN REGISTER	HART AND COOLEY RED5 ALUMINUM GRID CORE REGISTER WITH VOLUME DAMPER (4 EACH 12 X 10, 3 EACH 8 X 6)

Skoglund Company
MECHANICAL ENGINEERS & CONTRACTORS
Anchorage Alaska

STATE OF ALASKA
1949
PAUL A. SKOGLUND
No. 3056-E
JUNE 23, 1972
PROFESSIONAL ENGINEER

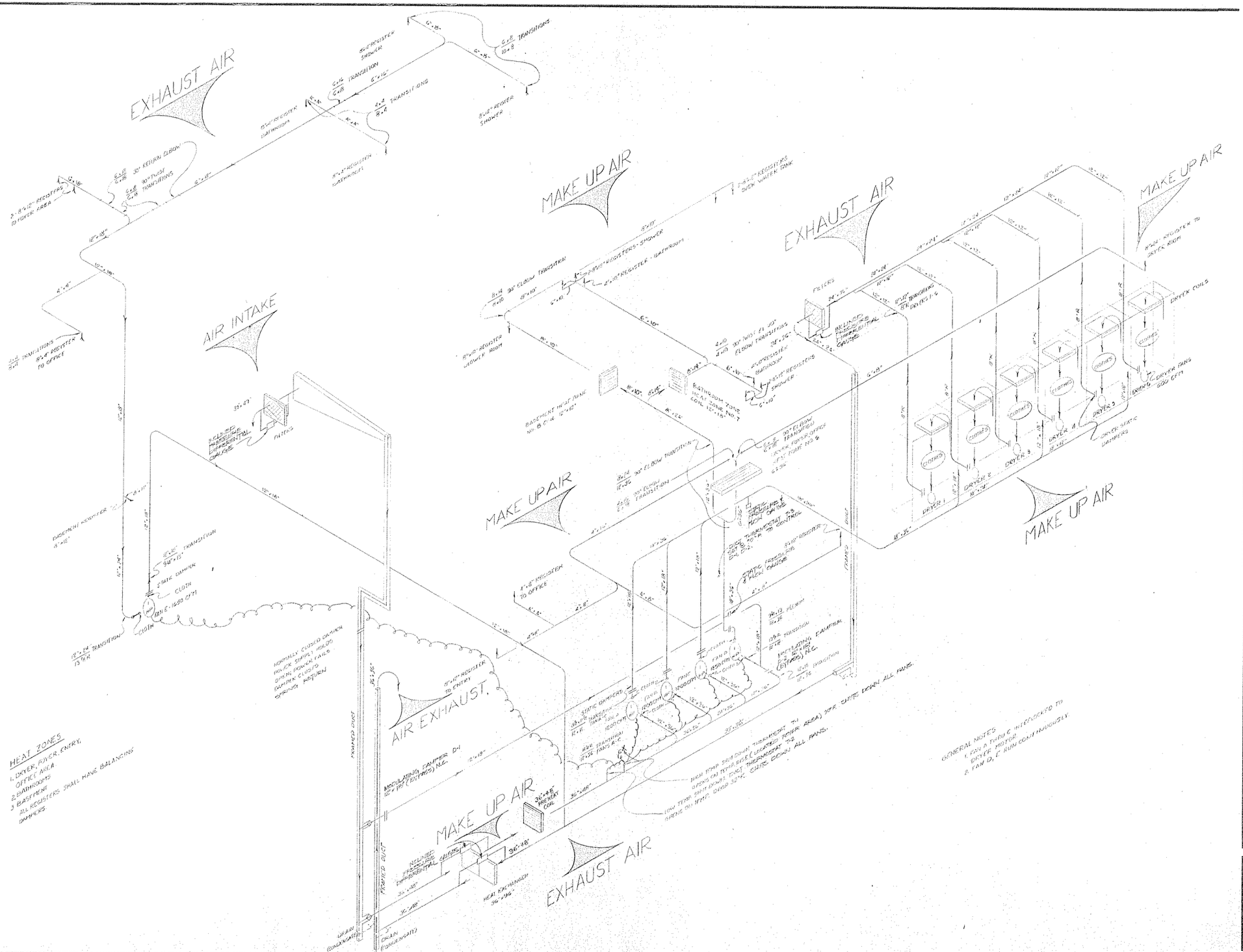
Skoglund Company
Mechanical Engineers & Contractors
ANCHORAGE ALASKA

AS BUILT 7-15-76

CONTRACTORS SHOP DRAWING
TANANA V.S.W. FACILITY
FOR
ARCTIC ENVIRONMENTAL ENGINEERS

MECHANICAL EQUIPMENT SCHEDULES

JOB NO: 7826
DRAWN: LS
CHECKED:
DATE: 7/23/76
SHEET: 58
H-5
OF 46



NO.	REVISION	DATE	BY
2	ASBUILT	7-15-79	PM
1	SEE SKOGLUND DWG	7-15-79	

STATE OF ALASKA
Sidney El'Clark
NO. 1568-E
REGISTERED PROFESSIONAL

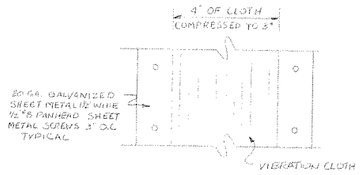
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED : A.L.S.
DRAWN : R.E.Z.
CHECKED : W.S.V.H.
DATE : MARCH 1978
SCALE : NTS

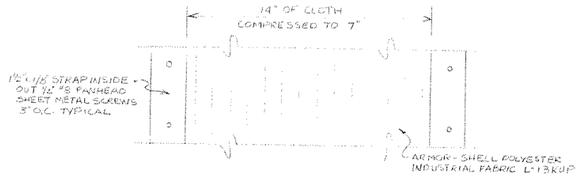
TANANA V.S.A.V. FACILITY
HEATING & VENTILATING ISOMETRIC

H-6

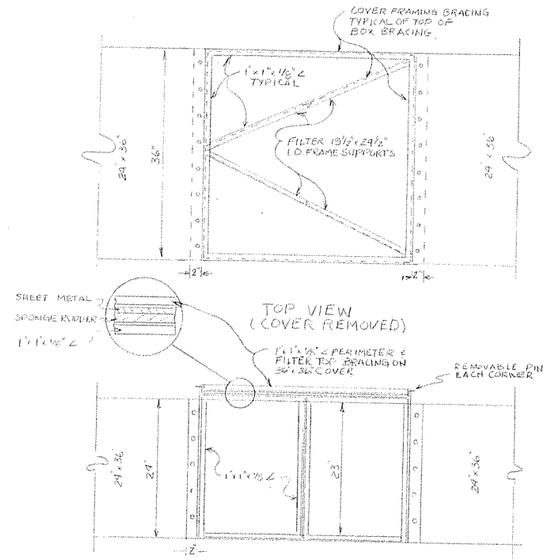
SHEET 39 OF 47



BLOWER VIBRATION CLOTH EXHAUST & INTAKE TYPICAL ALL BLOWERS
SCALE: 1/2" = 1"

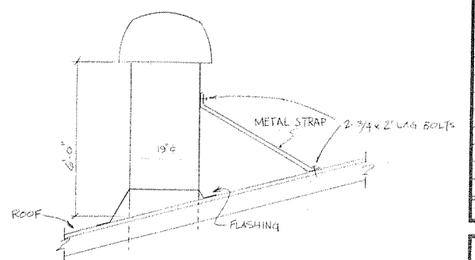


HEAT EXCHANGER EXPANSION JOINT
SCALE 1/2" = 1"



ELEVATION SECTION

DRYER EXHAUST FILTER
SCALE: 1" = 1'-0"



STACK DETAIL
NTS

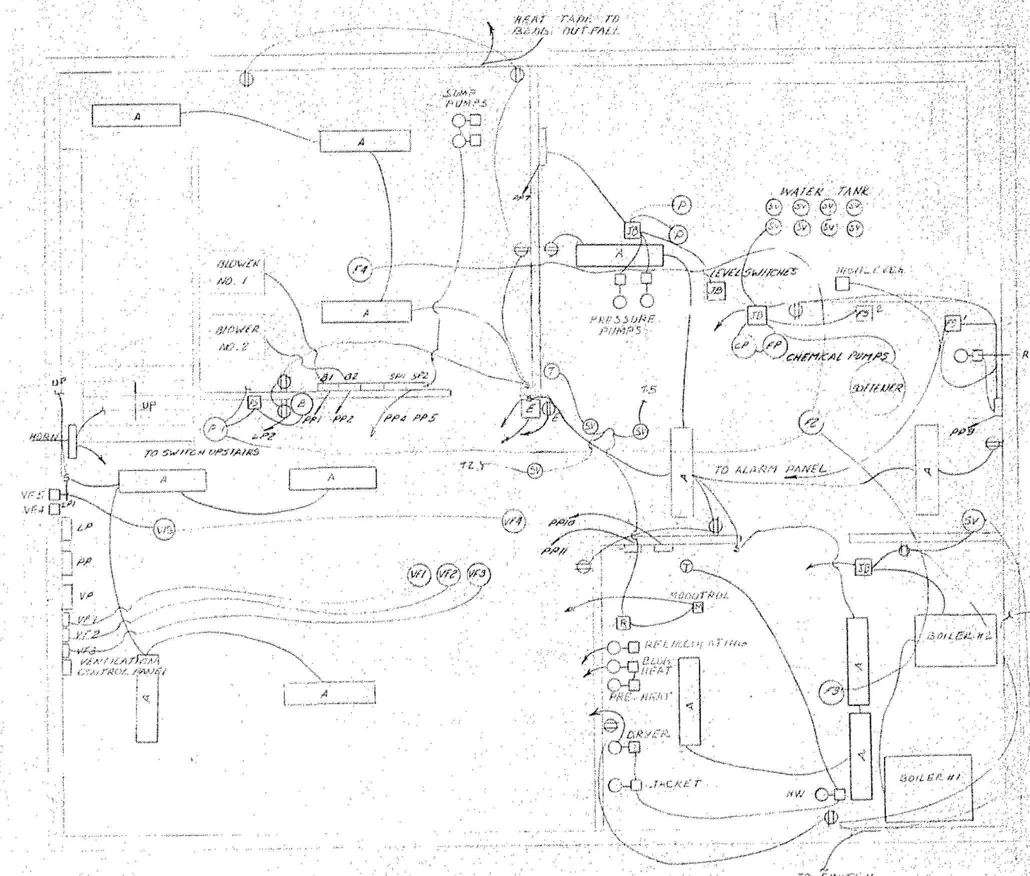
NO.	REVISION	DATE	BY
	As Built	7-15-79	M

Arctic Environmental Engineers
Anchorage, Alaska

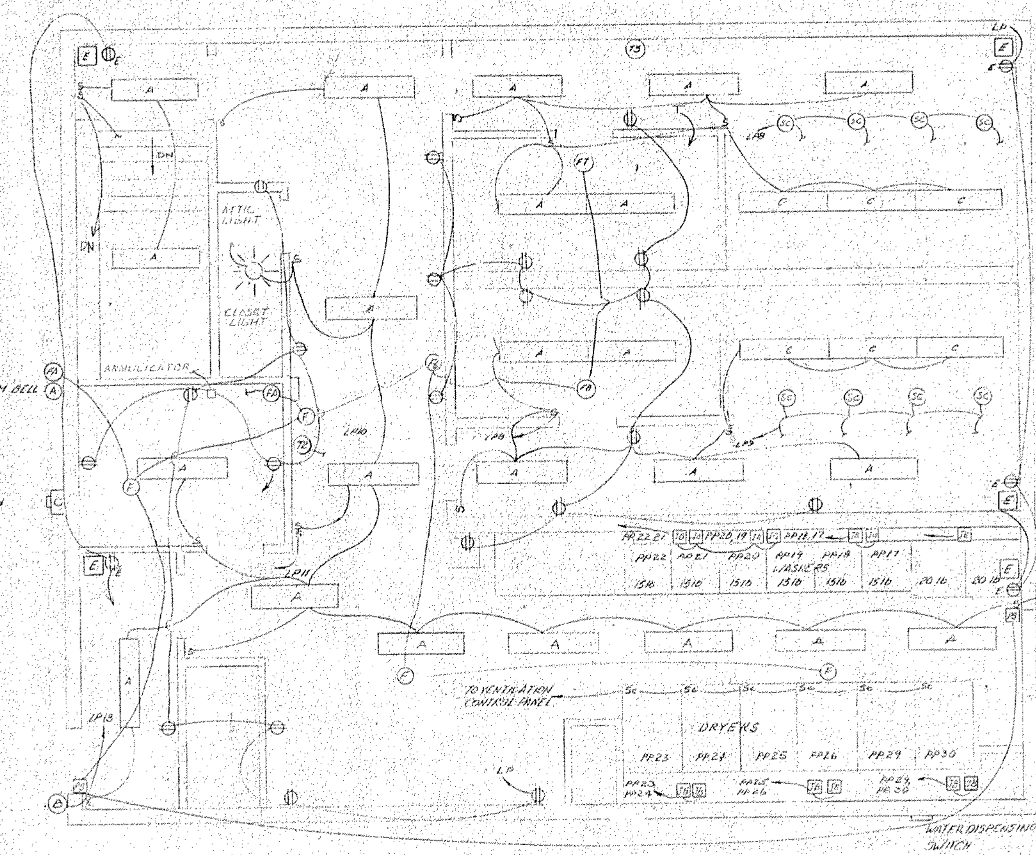
PROJECT NO. 77-024
DESIGNED : ALS
DRAWN : MP - REDRAWN
CHECKED :
DATE : AUG '79
SCALE : AS NOTED

TANANA V.S.W FACILITY
ATTIC & BASEMENT HEATING & VENTILATION DETAILS

H-7



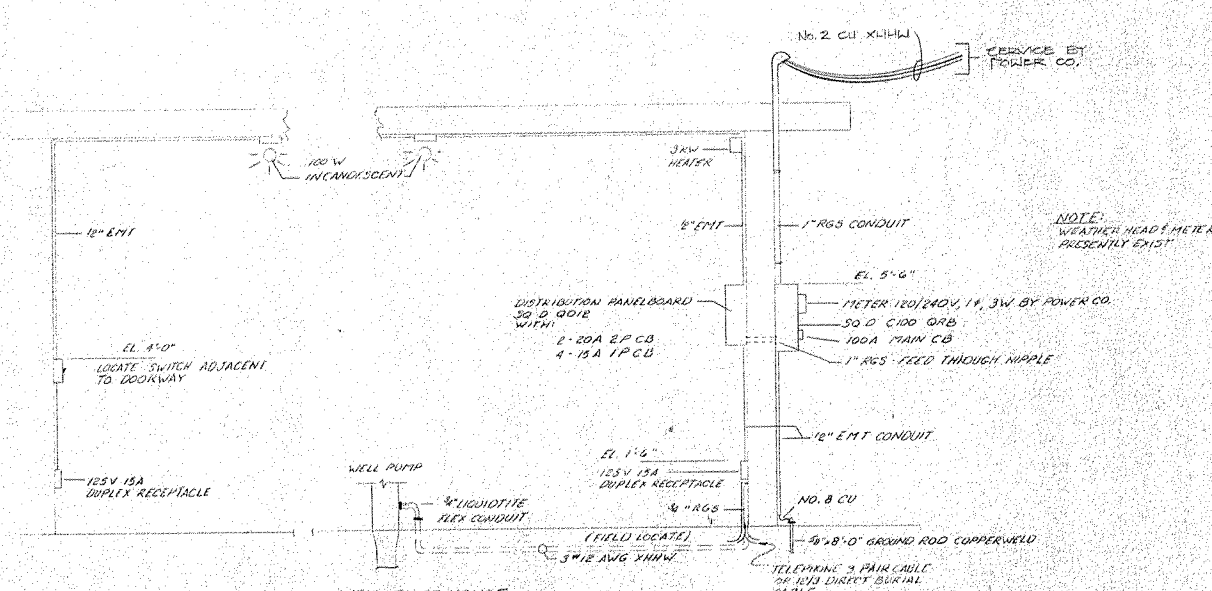
BASEMENT ELECTRICAL PLAN



FIRST FLOOR ELECTRICAL PLAN

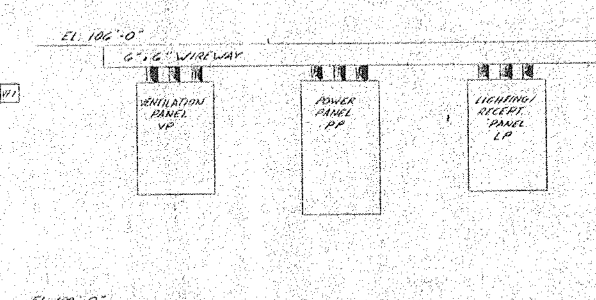
LEGEND

E	EMERGENCY LIGHTS
FI	HEAT/SMOKE DETECTORS
FA	ALARM BELL
Sc	COIN SWITCH
SV	SOLENOID VALVE
VF1	VENTILATION FAN
B	100W INCANDESCENT
A	2-40W FLUORESCENT
TI	THERMOSTAT
C	2-20W FLUORESCENT
PS	FIRE PULL STATION
JB	JUNCTION BOX
R	RELAYS
M	MODUTROL
P	PRESSURE SWITCH
F	FIRE DETECTOR

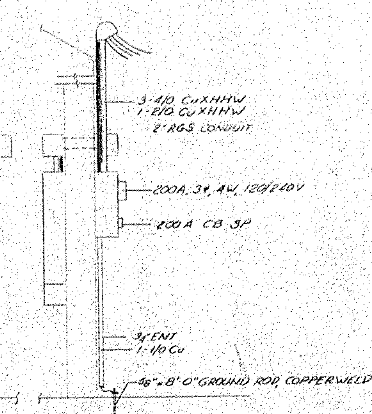


NOTE: WEATHER HEAD & METER PRESENTLY EXIST

WELL PUMP HOUSE
SCALE: 1/4" = 1'-0"



PANEL LAYOUT DETAIL
SCALE: 1/2" = 1'-0"



SERVICE ENTRANCE DETAIL
SCALE: 1/2" = 1'-0"

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	MP

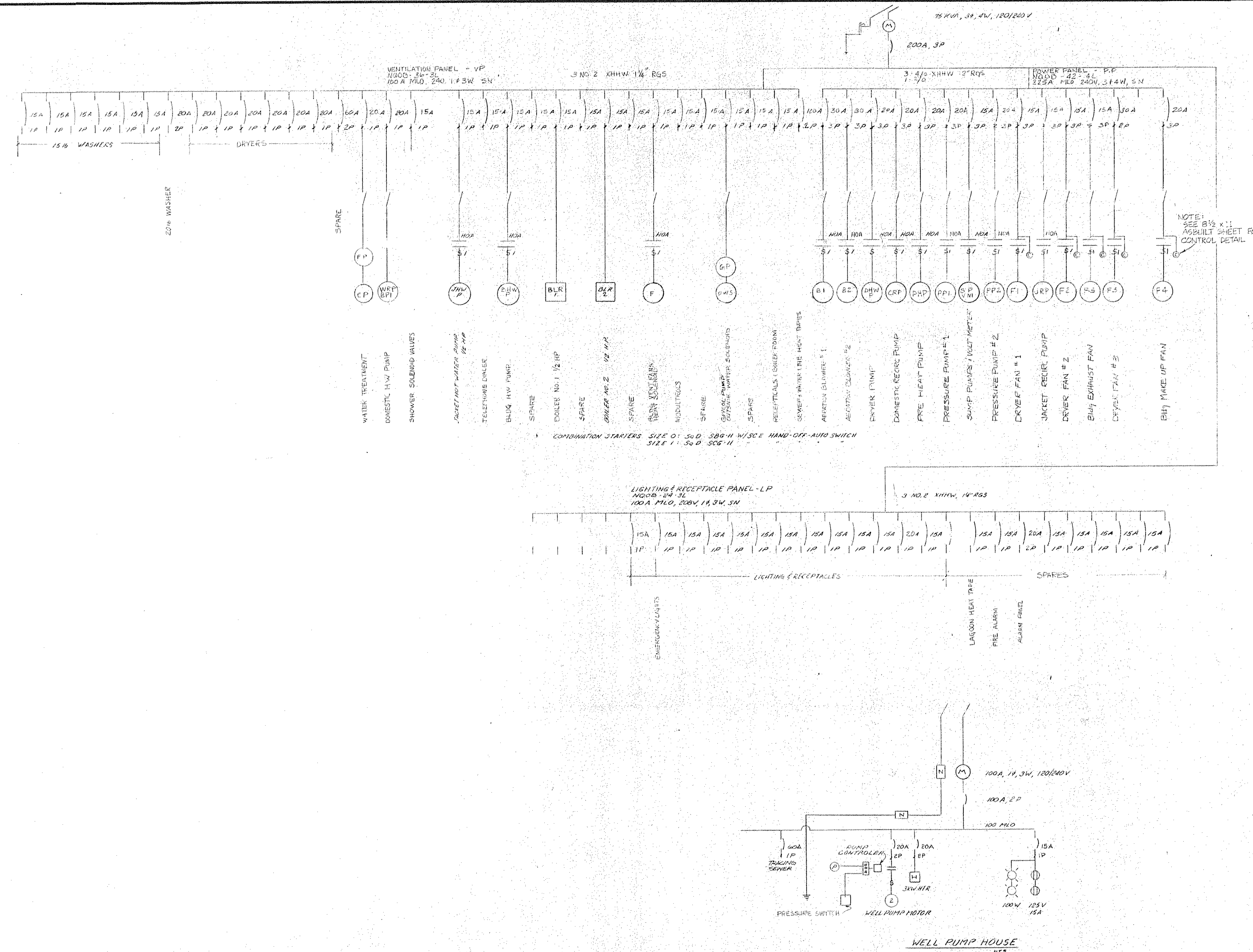
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED : JAM
DRAWN : PEZ
CHECKED : WSVH
DATE : MARCH 1978
SCALE : AS NOTED

TANANA V.S.W. FACILITY
ELECTRICAL LAYOUT & DETAILS

E-1

SHEET 41 OF 47



NO.	REVISION	DATE	BY
1	Asbuilt	7-15-7?	

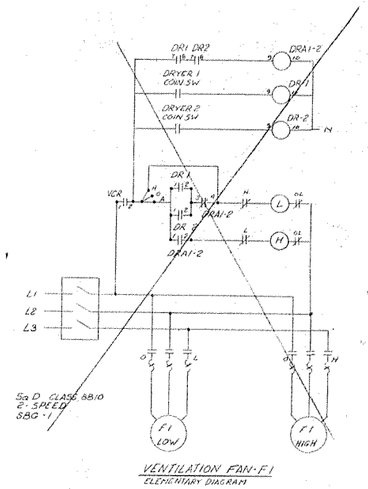
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED: J.A.M.
DRAWN: REZ.
CHECKED: J.A.M.
DATE: MARCH '78
SCALE: N.T.S.

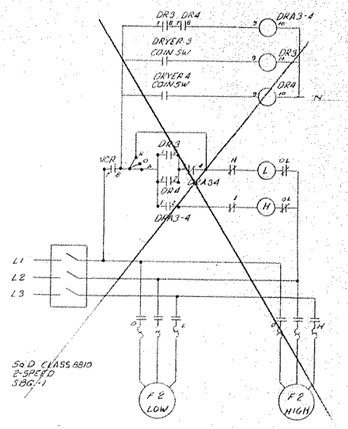
TANANA V.S.W. FACILITY
ELECTRICAL ONE LINE DIAGRAMS

E-2

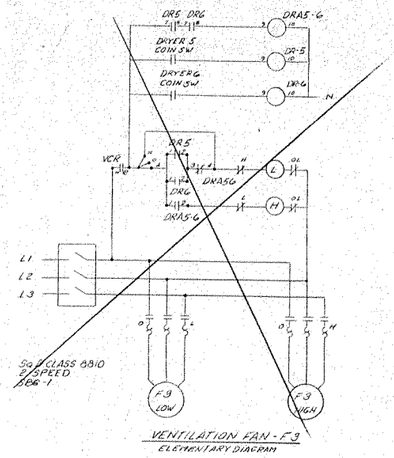
SHEET 42 OF 47



VENTILATION FAN-F1
ELEMENTARY DIAGRAM



VENTILATION FAN-F2
ELEMENTARY DIAGRAM



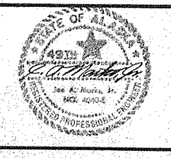
VENTILATION FAN-F3
ELEMENTARY DIAGRAM

NOTE: FANS ARE ONE SPEED. EACH FAN IS CONNECTED TO TWO DRYERS AND IF EITHER OR BOTH DRYERS ARE TURNED ON, THE FAN OPERATES.

VENTILATION CONTROL PANEL

1 ASBUILT SEE 8½x11 DETAIL SHEET 7-15-78

NO.	REVISION	DATE	BY



Arctic Environmental Engineers
Anchorage, Alaska

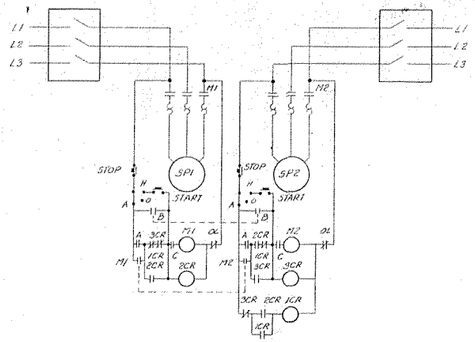
PROJECT NO. 77-029-01 SAV
DESIGNED : J.A.M.
DRAWN : A.E.E.
CHECKED : J.A.M.
DATE : MARCH 78
SCALE : N.T.S.

TANANA V.S.A.V. FACILITY
ELEMENTARY & INTERCONNECTION DIAGRAMS
VENTILATION SYSTEM

E-3

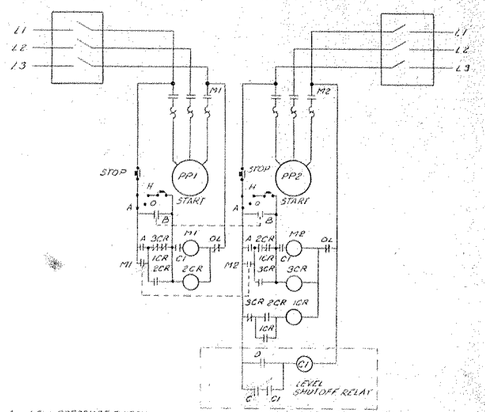
SHEET 43 OF 47

SEWAGE PUMPS DIAGRAM



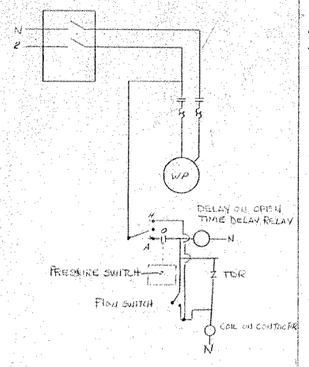
A - HIGH LEVEL SWITCH
B - HIGH LEVEL OVERIDE SWITCH
C - LOW LEVEL SHUTOFF SWITCH

PRESSURE PUMPS 1 & 2 DIAGRAM



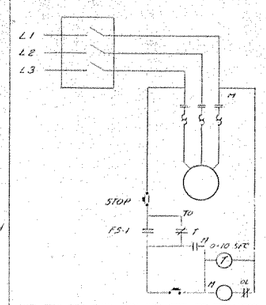
A - LOW PRESSURE SWITCH
B - LOW PRESSURE OVERRIDE SWITCH
C - LOW LEVEL SHUTOFF SWITCH
D - LOW LEVEL START SWITCH

WELL PUMP DIAGRAM

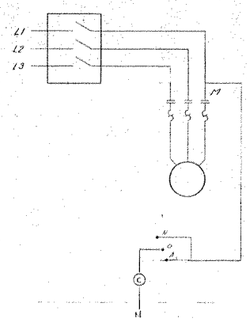


MAIN BUILDING

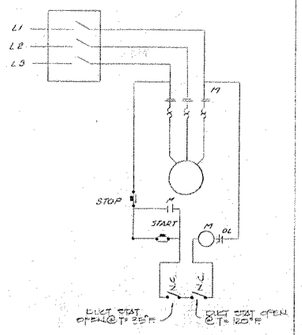
RECIRCULATING PUMP DIAGRAM



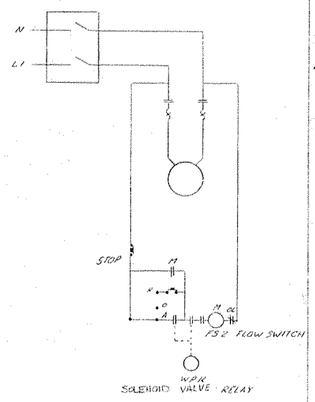
BLOWER DIAGRAM
B1, B2, B3



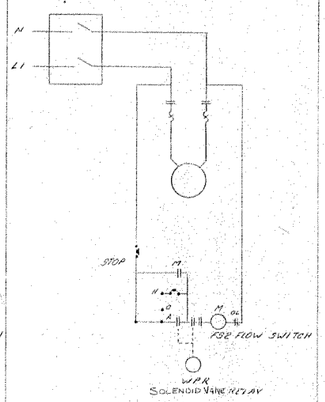
VENTILATION FANS F4 & F5



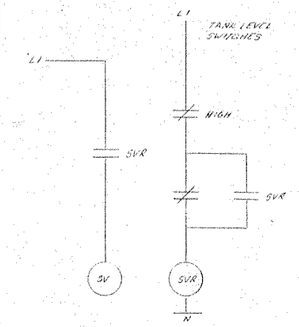
CHLORINE PUMP



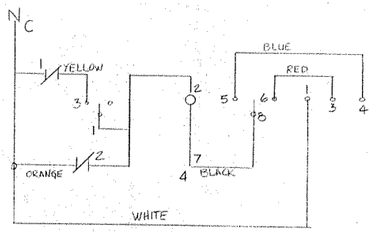
FLUORIDE PUMP



WATER TANK SOLENOID VALVE



OIL DAY TANK LEVEL SWITCH



NOTE:
SEE 8½ x 11 IN O&M MANUAL FOR COMPLETE CONTROL WIRING SCHEMATICS

NO.	REVISION	DATE	BY
2	SEE 8½x11 IN O&M MANUEL FOR CONTROL DIA		
1	ASPHALT	7-19-79	M

STATE OF ALASKA
7671
Joe A. Meeks, Jr.
REGISTERED PROFESSIONAL ENGINEER

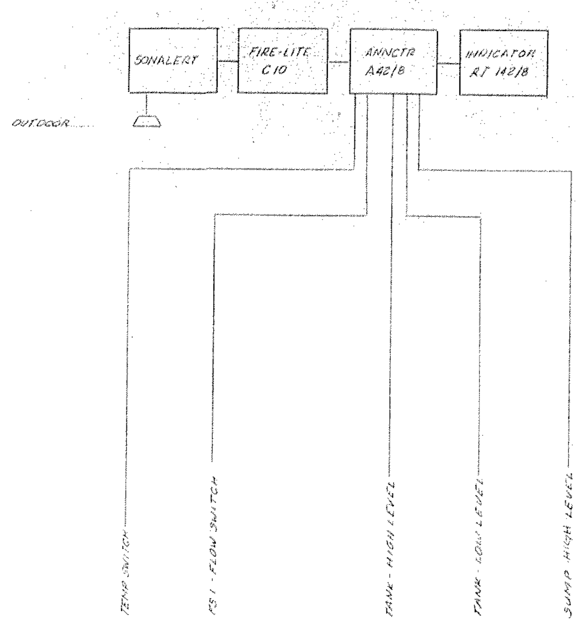
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED : J.A.M.
DRAWN : P.E.I.
CHECKED : J.A.M.
DATE : MARCH 1978
SCALE : N.T.S.

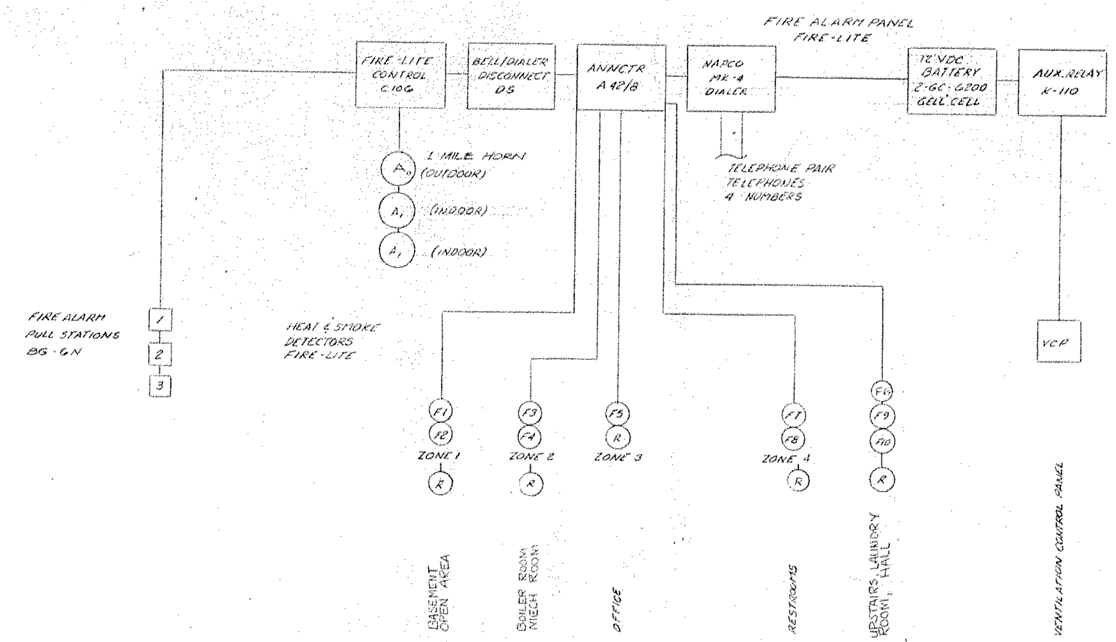
TANANA V.S.V FACILITY
MISCELLANEOUS ELECTRICAL DIAGRAMS

E-4

SHEET 44 OF 47



ALARM ANNUNCIATOR



FIRE-LITE SYSTEM
FIRE ALARM SYSTEM DIAGRAM
N.T.S.

F1 - SD (SMOKE DETECTOR)
F2 - SD
F3 - HD (HEAT DETECTOR)
F4 - SD
F5 - SD
F6 - SD
F7 - HD
F8 - HD
F9 - SD
F10 - SD
R - EOLR, END OF LINE RESISTOR
[1] - BG-GN
(A_o) - BD10-12VDC-WP
(A_i) - BD10-12VDC
(A_i) - SOLR/12

NO.	REVISION	DATE	BY
01	ASBUILT	7-15-79	MP

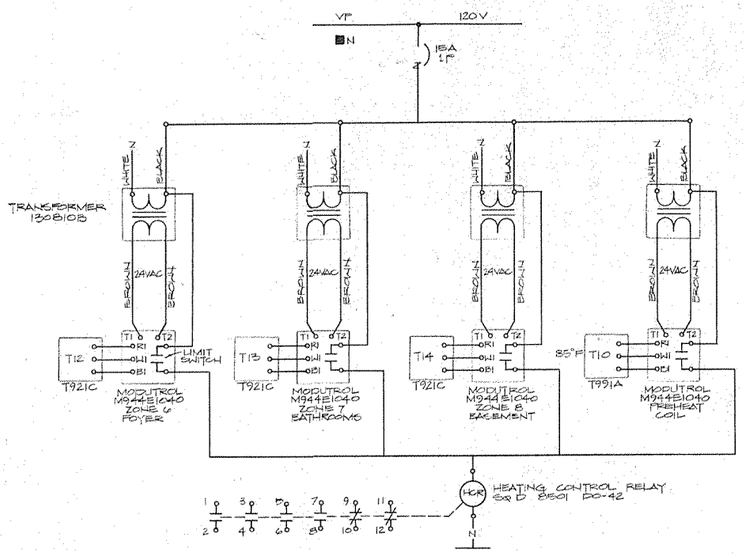
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-01 SAV
DESIGNED : J.A.M.
DRAWN : R.E.Z.
CHECKED : J.A.M.
DATE : MARCH 1978
SCALE : N.T.S.

TANANA V.S.W. FACILITY
FIRE ALARM PANEL & MISCELLANEOUS DETAILS

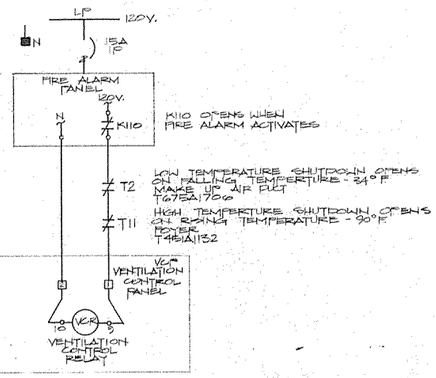
E-5

SHEET 45 OF 47



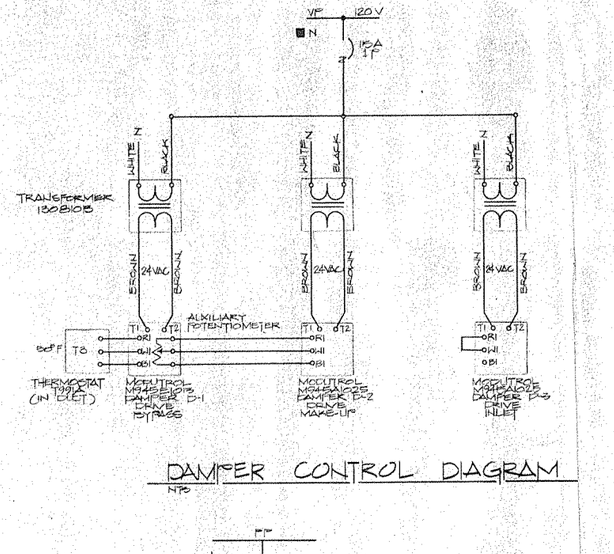
ZONE 6,7,8 AND PREHEAT COIL CONTROL DIAGRAM

NTS



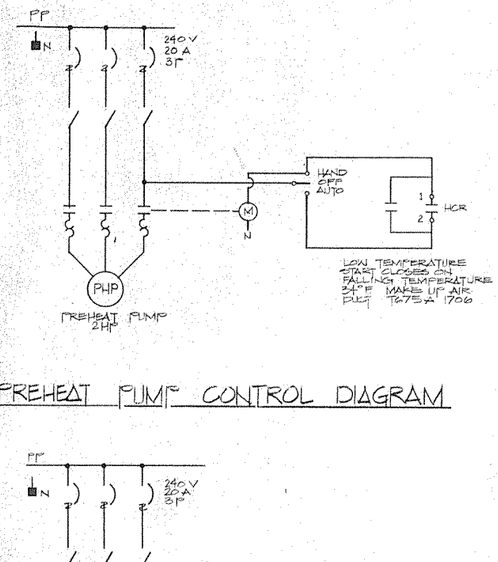
VENTILATION - FIRE ALARM INTERLOCK DIAGRAM

NTS

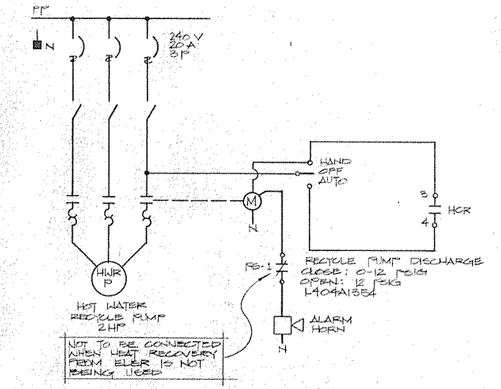


DAMPER CONTROL DIAGRAM

NTS

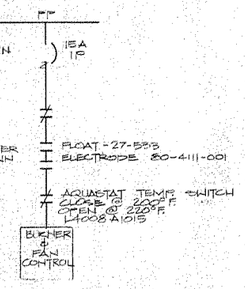


PREHEAT PUMP CONTROL DIAGRAM



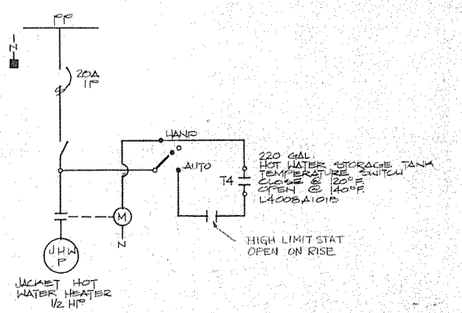
HOT WATER RECYCLE PUMP CONTROL DIAGRAM

NTS



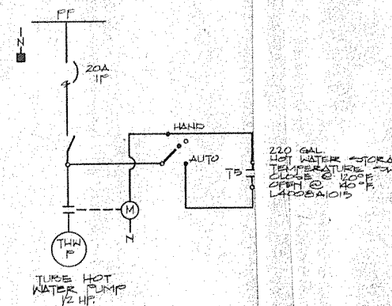
BOILER No. 1 & No.2

NTS



JACKET HOT WATER PUMP CONTROL DIAGRAM

NTS



TUBE HOT WATER PUMP CONTROL DIAGRAM

NTS

NOTE: SEE 8½x11 IN O&M MANUAL FOR COMPLETE CONTROL WIRING SCHEMATIC

NO.	REVISION	DATE	BY
1	ASBUILT	7-15-79	PM

Arctic Environmental Engineers
Anchorage, Alaska

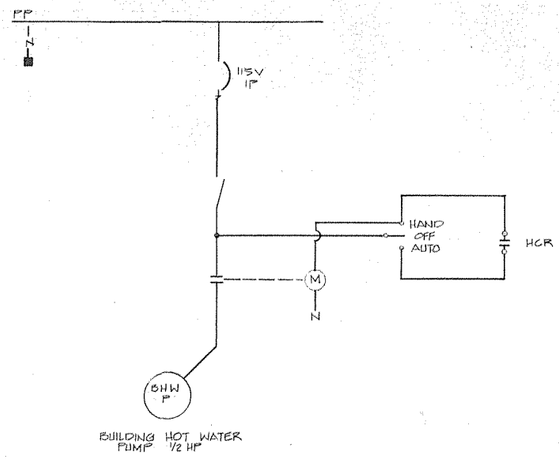
PROJECT NO.	77-024-01 TAV.
DESIGNED :	J.A.M.
DRAWN :	L.E.M.
CHECKED :	J.A.M.
DATE :	OCTOBER 4, 1978
SCALE :	N.T.S.

TANANA V.S.W. FACILITY

HEATING & VENTILATION CONTROL DIAGRAMS

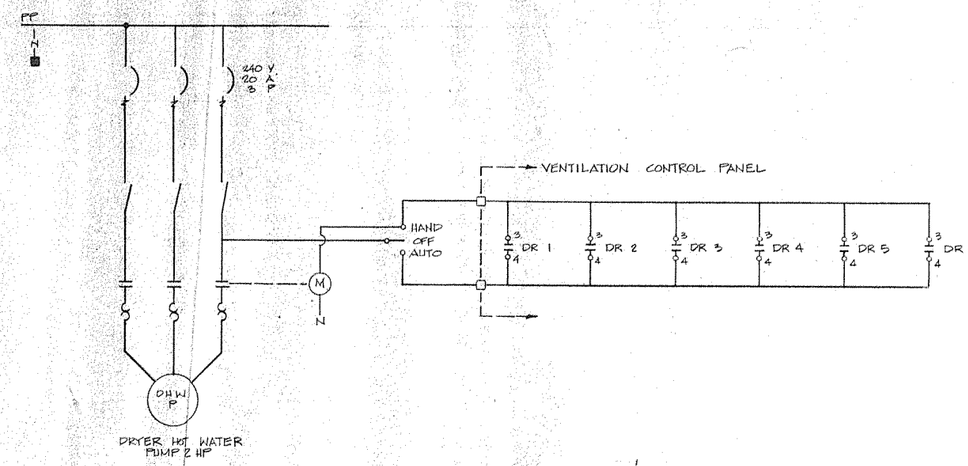
E-6

SHEET 46 OF 47



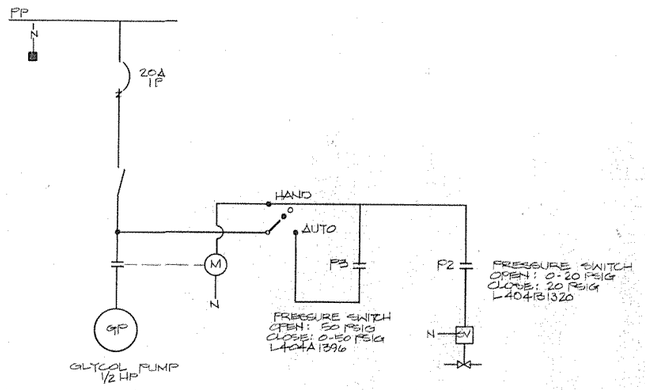
BUILDING HOT WATER PUMP 1/2 HP

BUILDING HOT WATER PUMP CONTROL DIAGRAM



DRYER HOT WATER PUMP 2 HP

DRYER HOT WATER PUMP CONTROL DIAGRAM



GLYCOL PUMP 1/2 HP

GLYCOL PUMP CONTROL DIAGRAM

NOTE: SEE 8½ × 11" IN O&M MANUAL FOR COMPLETE CONTROL WIRING SCHEMATIC

NO.	REVISION	DATE	BY
1	AS BUILT	7-15-79	M

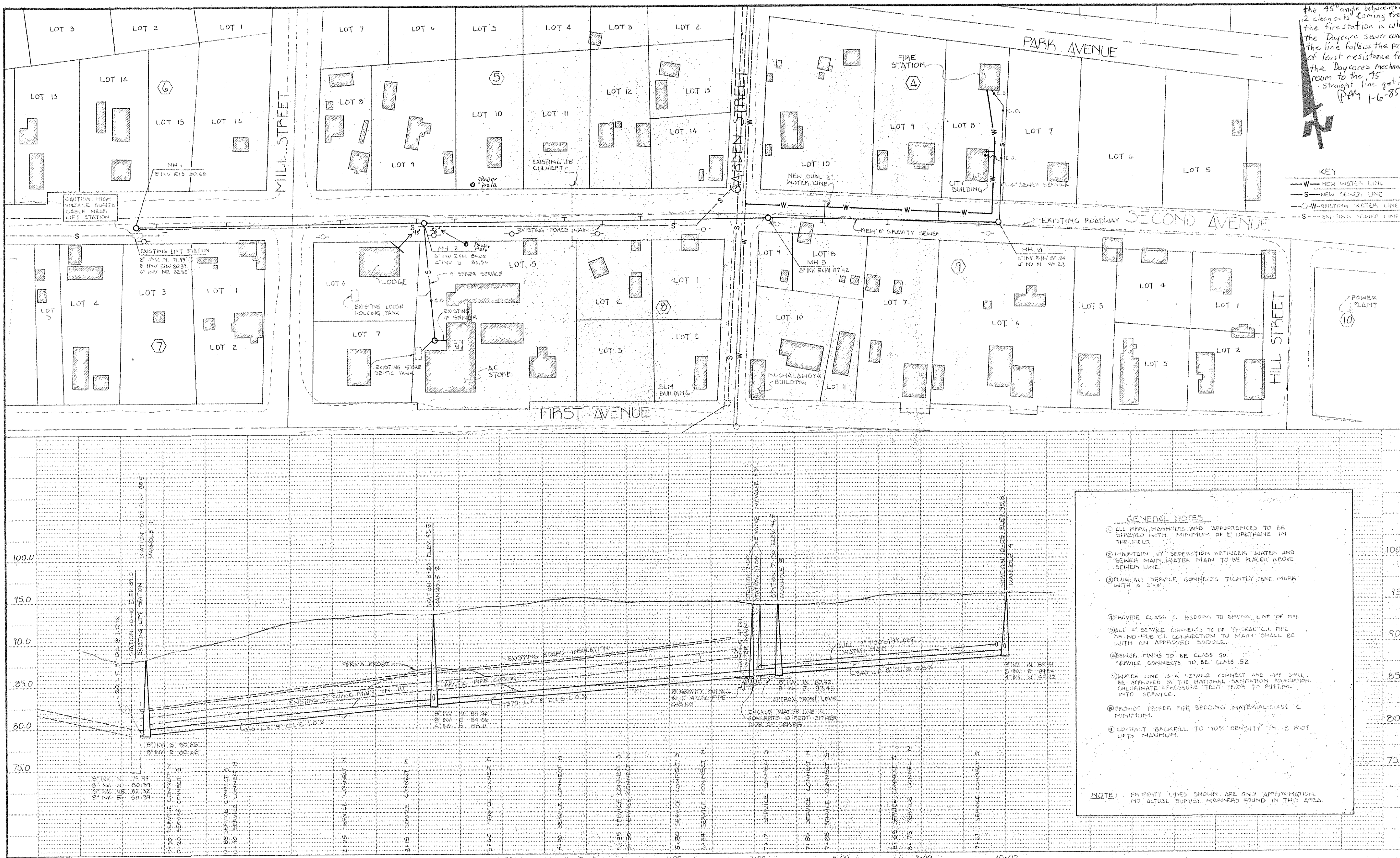
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO.	77-CRA-01 SAV
DESIGNED :	J.A.M.
DRAWN :	L.D.M.
CHECKED :	J.A.M.
DATE :	OCTOBER 4, 1978
SCALE :	N.T.S.

TANANA V.S.W. FACILITY
HEATING & VENTILATION CONTROL DIAGRAMS

E-7

SHEET 47 OF 47



GENERAL NOTES

1. ALL PIPING, MANHOLES AND APPURTENANCES TO BE SPRAYED WITH MINIMUM OF 2" URETHANE IN THE FIELD.
2. MAINTAIN 10' SEPERATION BETWEEN WATER AND SEWER MAIN. WATER MAIN TO BE PLACED ABOVE SEWER LINE.
3. PLUG ALL SERVICE CONNECTS TIGHTLY AND MARK WITH A 3"×4".
4. PROVIDE CLASS C BEDDING TO SPRING LINE OF PIPE.
5. ALL 4" SERVICE CONNECTS TO BE TY-SEAL C.I. PIPE OR NO-HUB C.I. CONNECTION TO MAIN SHALL BE WITH AN APPROVED SADDLE.
6. SEWER MAINS TO BE CLASS 50. SERVICE CONNECTS TO BE CLASS 52.
7. WATER LINE IS A SERVICE CONNECT AND PIPE SHALL BE APPROVED BY THE NATIONAL SANITATION FOUNDATION. CHLORINATE & PRESSURE TEST PRIOR TO PUTTING INTO SERVICE.
8. PROVIDE PROPER PIPE BEDDING MATERIAL-CLASS C MINIMUM.
9. COMPACT BACKFILL TO 90% DENSITY IN 3 FOOT LIFTS MAXIMUM.

NOTE: PROPERTY LINES SHOWN ARE ONLY APPROXIMATION. NO ACTUAL SURVEY MARKERS FOUND IN THIS AREA.

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 79-010 TWS
DESIGNED: W.V.H
DRAWN: B.D.L.
CHECKED: S.E.C.
DATE: AUG 3, 1979
SCALE: 1"=50'-0" - HOR; 1"=5'-0" - VERT

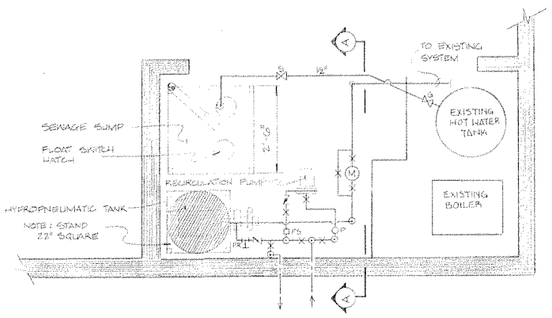
REV	DATE	REVISION DESCRIPTION	BY
1	[illegible]	AS BUILT ON NEW GRAVITY SEWER & MANHOLE	SZ
2	[illegible]	REVISION ON SERVICE CONNECT	SZ

STATE OF ALASKA 49TH — Willem Van Hemert No. CE 4503 — REGISTERED PROFESSIONAL ENGINEER

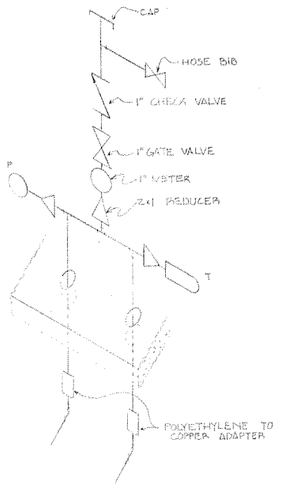
CITY OF TANANA
WATER & SEWER EXTENSION
CITY BUILDING - FIRE STATION

S-1

SHEET 1 OF 3

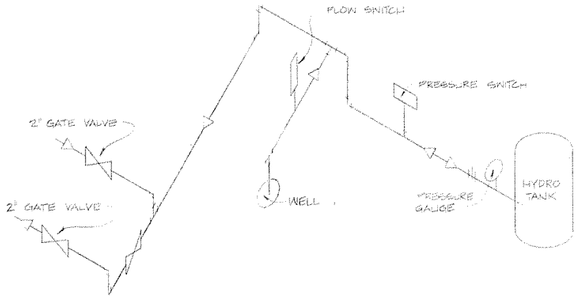


PLAN VIEW



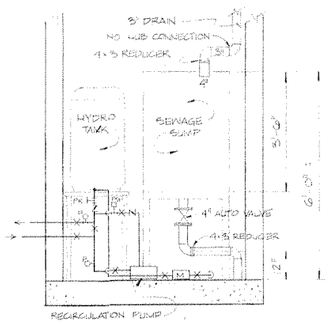
CITY BUILDING WATER SYSTEM

NTS



EXISTING WELL HOUSE WATER SYSTEM

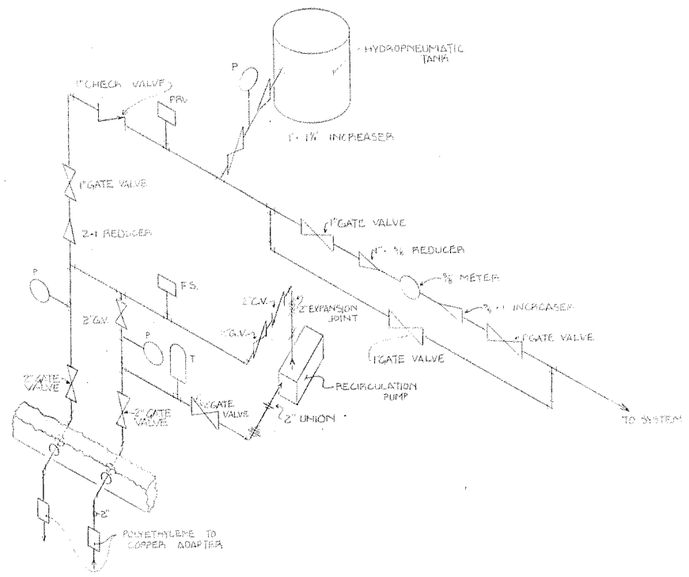
NTS



SECTION A-A

FIRE STATION PLUMBING IMPROVEMENTS

SCALE : 1"=1'-0"



FIRE STATION WATER SYSTEM

NTS

LEGEND

- T — THERMOMETER
- P — PRESSURE GUAGE
- F.S. — FLOW SWITCH
- PRV — PRESSURE REDUCING VALVE
- G — GLOBE VALVE
- S — SOLENOID VALVE

NO.	REVISION	DATE	BY
3	DELETION OF HEAT TRACE DETAIL	11-14-79	GZ
2	AS BUILT ON CITY BUILDING WATER SYSTEM	11-14-79	GZ
1	AS BUILT ON FIRE STATION PLUMBING	11-14-79	GZ

Arctic Environmental Engineers
Anchorage, Alaska

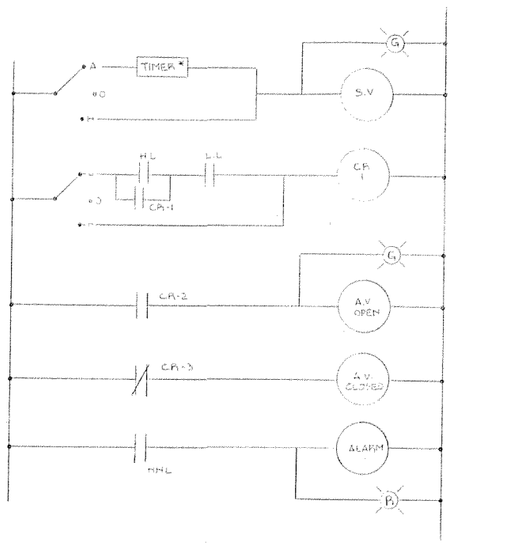
PROJECT NO. 79-010-TWS
DESIGNED : W.V.H.
DRAWN : B.D.L.
CHECKED : S.E.C.
DATE : AUG 4, 1979
SCALE : AS SHOWN

STATE OF ALASKA — Walter Von Hamel — No. CE 4503 — REGISTERED PROFESSIONAL ENGINEER

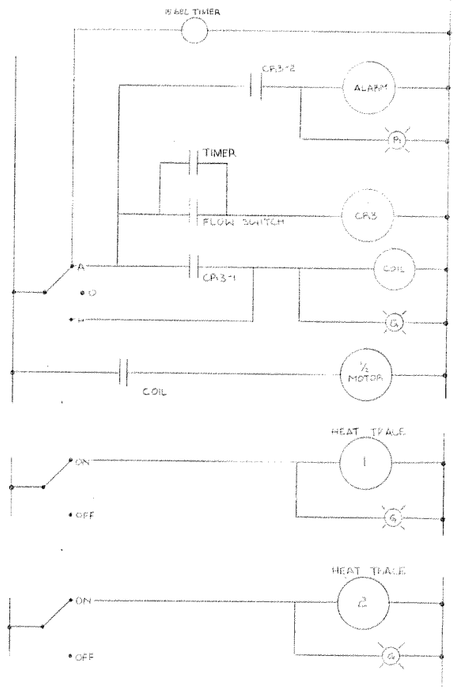
CITY OF TANANA
WATER & SEWER EXTENSION
CITY BUILDING - FIRE STATION

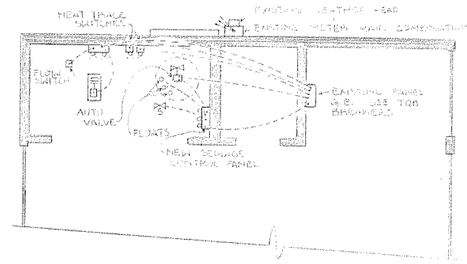
S-2

SHEET 2 OF 3



* 2 HR TIME INCREMENTS





ELECTRICAL DIAGRAM

	NO. BREAKERS	SIZE	VOLTS	WIRE SIZE
WATER PUMP	1	2#2	240/1Ø	1C
SEWAGE CONTROLS	1	1#1	120	1C
AUTOMATIC VALVE	1	1#1	120	1C

OPERATION

(A) SOLENOID VALVE - SOLENOID VALVE IS ACTUATED BY A 24 HR TIMER AND FEEDS HOT WATER INTO THE SEWAGE TANK. FLOW RATE IS CONTROLLED BY A GLOBE VALVE.

(B) AUTOMATIC VALVE - WHEN THE TANK FILLS TO THE HIGH LEVEL FLOAT, CR1 IS ACTIVATED, CAUSING THE VALVE TO OPEN. WHEN THE LOW LEVEL IS REACHED, CR1 IS DE-ENERGISED AND THE VALVE IS CLOSED THROUGH A NORMALLY CLOSED CONTACT.

(C) IF THE HIGH LEVEL FLOAT IS REACHED AN ALARM IS ACTIVATED.

SEWAGE SYSTEM CONTROLS

OPERATION:

(A) RECIRCULATION PUMP - IN AUTOMATIC PUMP IS PROTECTED WITH A FLOW SWITCH. WHEN PUMP IS TURNED ON, A 15 SECOND TIMER ALLOWS FLOW TO BEGIN, ON HAND THE FLOW SWITCH IS BY-PASSED. PUMP RUNS CONTINIOUSLY

(B) HEAT TRACE - OPERATED BY ON-OFF SWITCH AND PLUG IN.

WATER SYSTEM CONTROLS

1 DELETION OF HEAT TAPE ON BLDG. ENTRY LIST 11-14-79 SZ

NO.	REVISION	DATE	BY

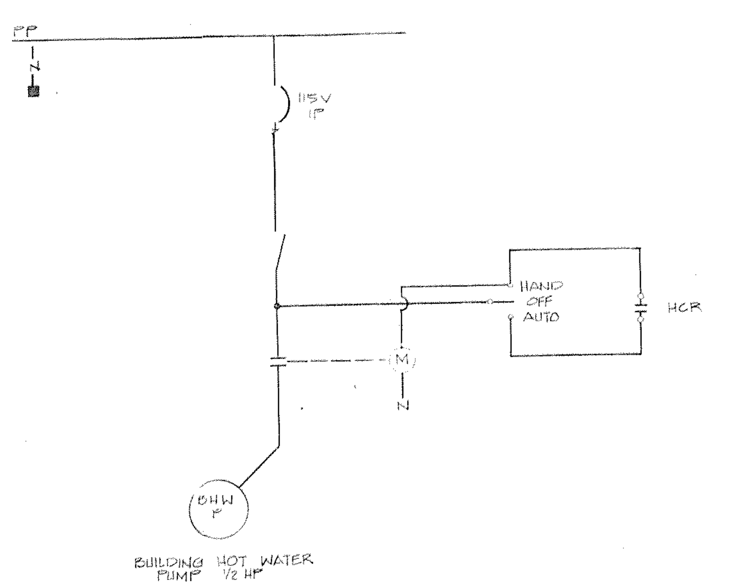
Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 7910-TWS
DESIGNED : N.V.H.
DRAWN : B.D.L.
CHECKED : S.B.L.
DATE : AUG 1, 1979
SCALE : AS SHOWN

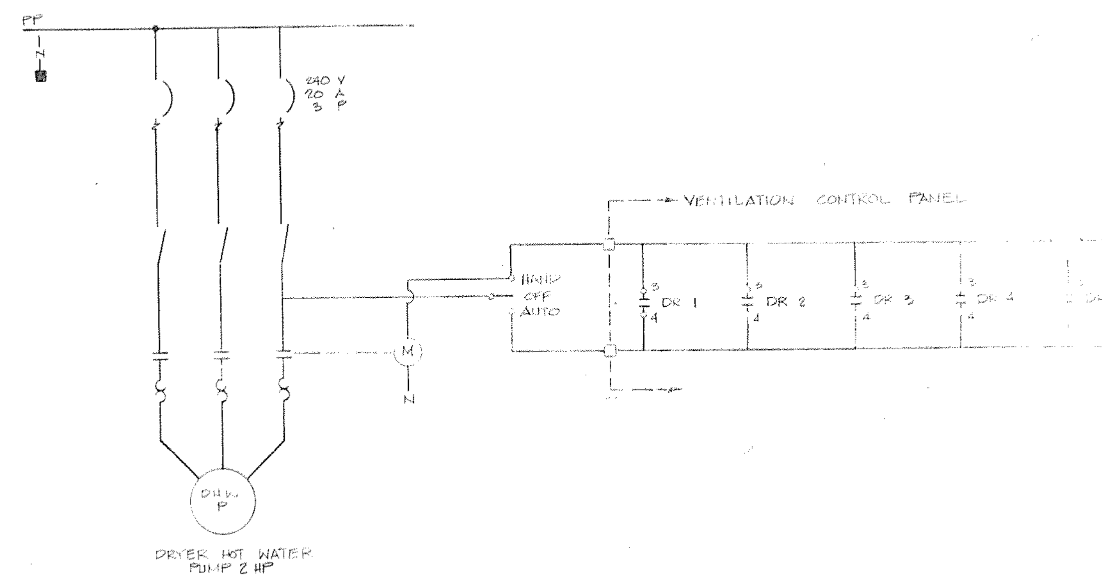
CITY OF TANANA
WATER & SEWER EXTENSION
CITY BUILDING - FIRE STATION

S-3

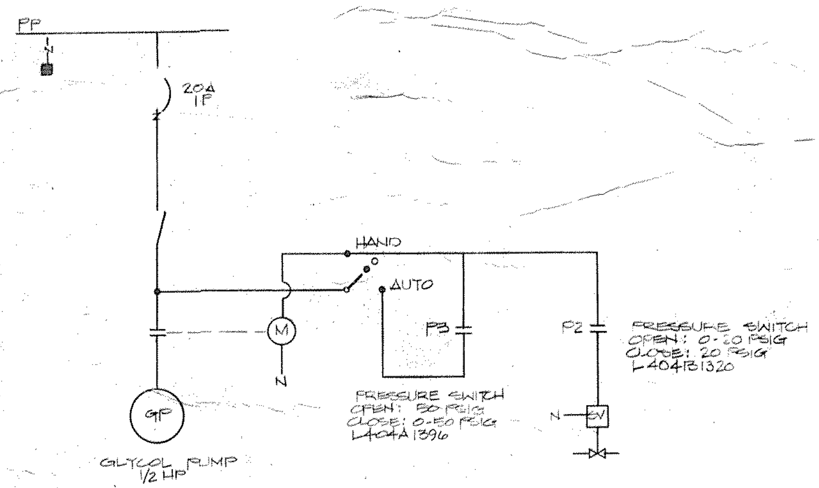
SHEET 3 OF 3



BUILDING HOT WATER PUMP CONTROL DIAGRAM



DRYER HOT WATER PUMP CONTROL DIAGRAM



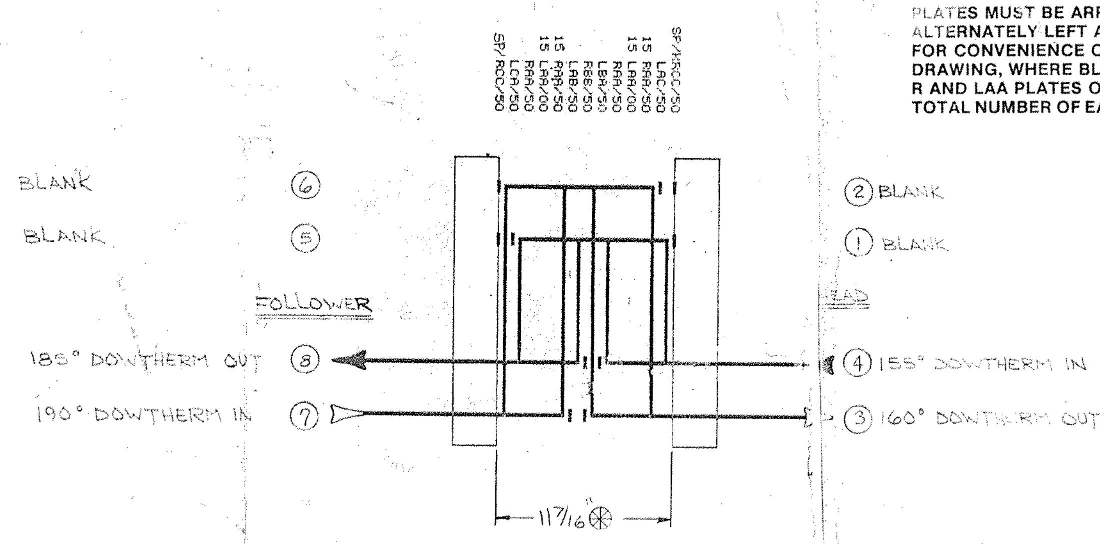
GLYCOL PUMP CONTROL DIAGRAM

Arctic Environmental Engineers
Anchorage, Alaska

PROJECT NO. 77-024-...
DESIGNED : J.A.M.
DRAWN : L.E.M.
CHECKED : J.A.M.
DATE : OCTOBER ..., 1977
SCALE : NONE

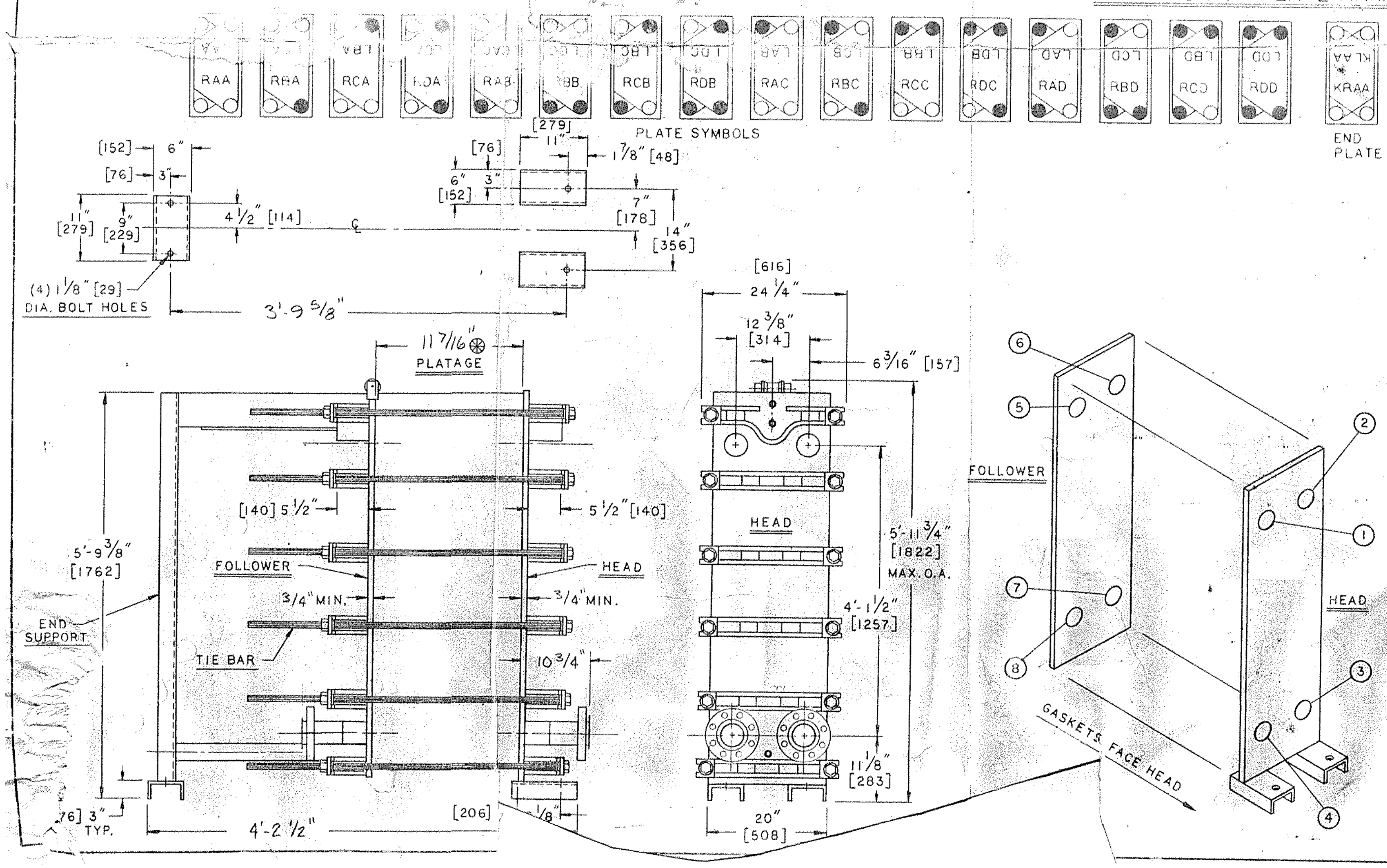
TANANA VS ...

PLATES MUST BE ARRANGED ALTERNATELY LEFT AND RIGHT. FOR CONVENIENCE ON THIS DRAWING, WHERE BLOCKS OF R AND LAA PLATES OCCUR, THE TOTAL NUMBER OF EACH IS GIVEN.



PASSES
155° DOWTHERM - 2 OF 17
190° DOWTHERM - 2 OF 17

ELEVATION OF PLATE ARRANGEMENT



DIM. TOLERANCES
FRAME FOU[illegible]ION ℄
BOLT HOL[illegible] ± 1/4" [6]
NOZZLE FACE DIM. ± 1/8" [3]

NOTES

1. ALL PLATES VI[illegible]D FROM GASKET SIDE.
2. [illegible]ND PLATES DE[illegible]D BY LETTER "K" PRECEDING [illegible]MBOL
3. [illegible]HIS MODEL HEAT EXCHANGER IS DESIGNED TO OPERATE WITH METAL TO METAL CONTACT BETWEEN PLATE SURFACES. ALL SUPPORT IS FROM PLATE CROSS OVER POINTS AND NOT FROM GASKET SEAL. THEREFORE THIS MACHINE MUST ALWAYS BE TIGHTENED TO A DEAD HARD CONDITION BEFORE OPERATION. THE PLATAGE DIM. SHOWN IS NOMINAL ONLY. DUE TO PLATE MFG. TOLERANCES PLATAGE CAN VARY ±0.005" PER PLATE.
4. INSTALL PLATES ALTERNATING LEFT AND RIGHT.
5. THIS MODEL HEAT EXCHANGER IS TIGHTENED USING WRENCH ON HEX NUTS AT THE FOLLOWER OR HEAD END.
6. CUSTOMER'S PIPING TO FOLLOWER OR CONNECTOR GRID NOZZLES MUST ALLOW FOR FREE MOVEMENT WHEN UNIT IS OPENED FOR SERVICE AND PROVIDE FOR VARIATION OF THE TIGHTENED PLATAGE DIM. ⊛ OF ± 1/2" PER 100 PLATES.
7. ALL DIMENSIONS ARE IN INCHES. DIMENSIONS IN BRACKETS [ ] ARE IN MILLIMETERS.

DUTY
50%
50%

LIST OF PLATES
TOTAL "L" PLATES
35-LAA/00
1-LAB/50
1-LAC/50
1-LBA/50
1-LA[illegible]
TOTAL "R"
[illegible]RAA
[illegible]RBB/5[illegible]
[illegible]SPR[illegible]
1-SPK[illegible]

FRAME
MAX. OPERATING PRESSURE
⊛ PLATAGE INCHES
VOL. OF PRODUCT [illegible] GALS.
WT. OF MACHINE DRY [illegible] LBS.
WT. OF MACHINE FLOODED [illegible]35 LBS.
FITTINGS
STUDS 4
LAP
TIE B[illegible]

MODEL SR-50
HEAT EXCHANGER

	DATE	REVISION
E		
D		
C		
B		
A		

APV EQUIPMENT, INC.
395 FILLMORE AVE.
TONAWANDA, N.Y.
DR. BY BRUGG[illegible]