Administrative Record
SF File Number
2060000

Copies were sent to J.F. Sato and Mike Goodstein

0200655

1262302 - R8 SDMS

HOLLAND & HART
ATTORNEYS AT LAW

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CYNTHIA S. LEAP
(303) 295-8342

April 16, 1990

Site East Helena
File # 2.06 and 1.04.04.00 and 1.02.0102
Confidential: Yes ____ No ✓
Admin. Record: Yes ✓ No ____
Key Words/Comments: ASARCO's response to EPA's 104(e) request for info on connection between Lower Lake and zinc plant. 4 Attached design drawings: HG-4, 5, 17, 20

VIA HAND DELIVERY
RETURN RECEIPT REQUESTED

Sandra R. Moreno, Esq.
U.S. Environmental Protection Agency
Office of Regional Counsel, 8RC
999 18th Street, Suite 500
Denver, Colorado 80202-2405

RE: Response To Request For Information Pursuant To Section 104 of CERCLA

Dear Sandra:

This letter responds to EPA's request for information letter, issued pursuant to Section 104 of CERCLA, regarding the East Helena Site (the "Site") which was received by ASARCO Incorporated ("Asarco") on April 9, 1990. Specifically, EPA has inquired about the source, extent and nature of the release or threatened release of hazardous substances, pollutants or contaminants, or hazardous wastes related to the zinc plant which Asarco purchased from the Anaconda Minerals Company in 1972. EPA has requested Asarco respond to two questions and to supply any and all pertinent documentation.

The first question is stated as follows:

> Does Asarco have any records or documentation of process fluids, lines, pipes, ditches, or other circuits that conveyed process fluids to, from, or between the zinc fuming plant and any of the present or former process ponds at the Site. If available, also provide any information regarding the constituents, in particular metals concentrations, of those fluids.

According to available documentation, the zinc fuming facility did withdraw water from Lower Lake and discharge water back into Lower Lake from 1927 through 1982. Asarco has located several engineering drawings depicting various aspects of the zinc facility operations which confirm this withdrawal from and the discharge to Lower Lake. Engineering Drawing HG-5, dated August 2, 1927 and attached as Exhibit 1, identifies the general layout of the Anaconda slag plant water system as well as the withdrawal

and discharge points for Lower Lake. The water handling system at Anaconda's zinc fuming facility is shown in greater detail in Engineering Drawing HG-4, dated August 2, 1927 and attached as Exhibit 2. Photographs taken of the zinc facility, dated November 25, 1939 and August 13, 1954, copies of which are attached as Exhibits 3 and 4 respectively, depict distinct water discharges from the zinc fuming plant to Lower Lake. These discharges are indicated with arrows on each of the two photographs.

Later engineering drawings also confirm Anaconda's practice of discharging water to Lower Lake. Engineering Drawing HG-17, dated March 17, 1961 and attached as Exhibit 5, identifies this same discharge. Engineering Drawing HG-20, dated October 20, 1963 and attached as Exhibit 6, illustrates Anaconda's expansion of the zinc fuming water handling system. The expansion entailed replacing the former 2,000 gallons per minute ("gpm") pump with a larger 5,000 gpm pump.

Also attached as Exhibit 7 is an April 7, 1975 chemical analyses of the constituents of both the intake and discharge waters of the zinc fuming facility. The samples were taken prior to discharge of process waters to lower lake by the lead facility. Therefore, the results of the analyses demonstrate the nature and extent of the zinc fuming operation's contribution of metals (copper, lead, zinc, iron, and cadmium) as well as arsenic to Lower Lake.

EPA's second request for information is stated as follows:

> Does Asarco have any records or documentation of "contact water" being produced or used in any manner by the zinc plant, during any portion of its existence from 1927 to 1982? If so, what was the fate of this "contact water"?
>
> ("contact water" is herein used to refer to any fluid used in the smelting or fuming processes that came into direct contact with metal-bearing materials or by-products of the zinc fuming processes, including washdown water or water used to suppress dust at the zinc plant)

Asarco has been unable to locate any records or documentation which confirm "contact water" was either produced or used in any manner by the zinc fuming facility at any time during the course of its existence from 1927 to 1982.

Asarco has conducted a complete search for the information EPA has requested and is continuing to examine its records and

documents for any further information. If additional materials are located, Asarco will immediately provide these to EPA.

We have attached a telecopy of the executed notarized certificate; the original will be hand delivered to you tomorrow, April 17, 1990. If you have any questions regarding Asarco's response to EPA's request for information, please do not hesitate to contact me or Jon C. Nickel at 406-227-7191.

Very truly yours,

Cynthia S. Leap

Cynthia S. Leap
Peter W. Downing
for HOLLAND & HART
Attorneys for ASARCO Incorporated

cc: Mr. D. Scott Brown
Michael D. Goodstein, Esq.
William O. Hart, Esq.
Mr. J. B. Davis
Mr. Jon C. Nickel
Frank H. Morison, Esq.

0200658

NOTARIZED CERTIFICATE

I, William O. Hart, having been duly sworn and being of legal age, hereby state:

1. I am the person authorized by ASARCO Incorporated to respond to the Environmental Protection Agency's (EPA's) request for information concerning the East Helena Smelter Site in East Helena, Montana.

2. To the best of my knowledge, I have made a complete and thorough review of all documents, information, and sources relevant to the request.

3. I hereby certify that the attached response to EPA's request is, to the best of my knowledge, complete and contains all currently available information and documents responsive to the request.

William O. Hart
(Signature)

William O. Hart
(Print Name)

Assistant General Counsel
(Title)

Subscribed and sworn to me this 16th day of April, 1990.

Beth Bernett
Notary Public

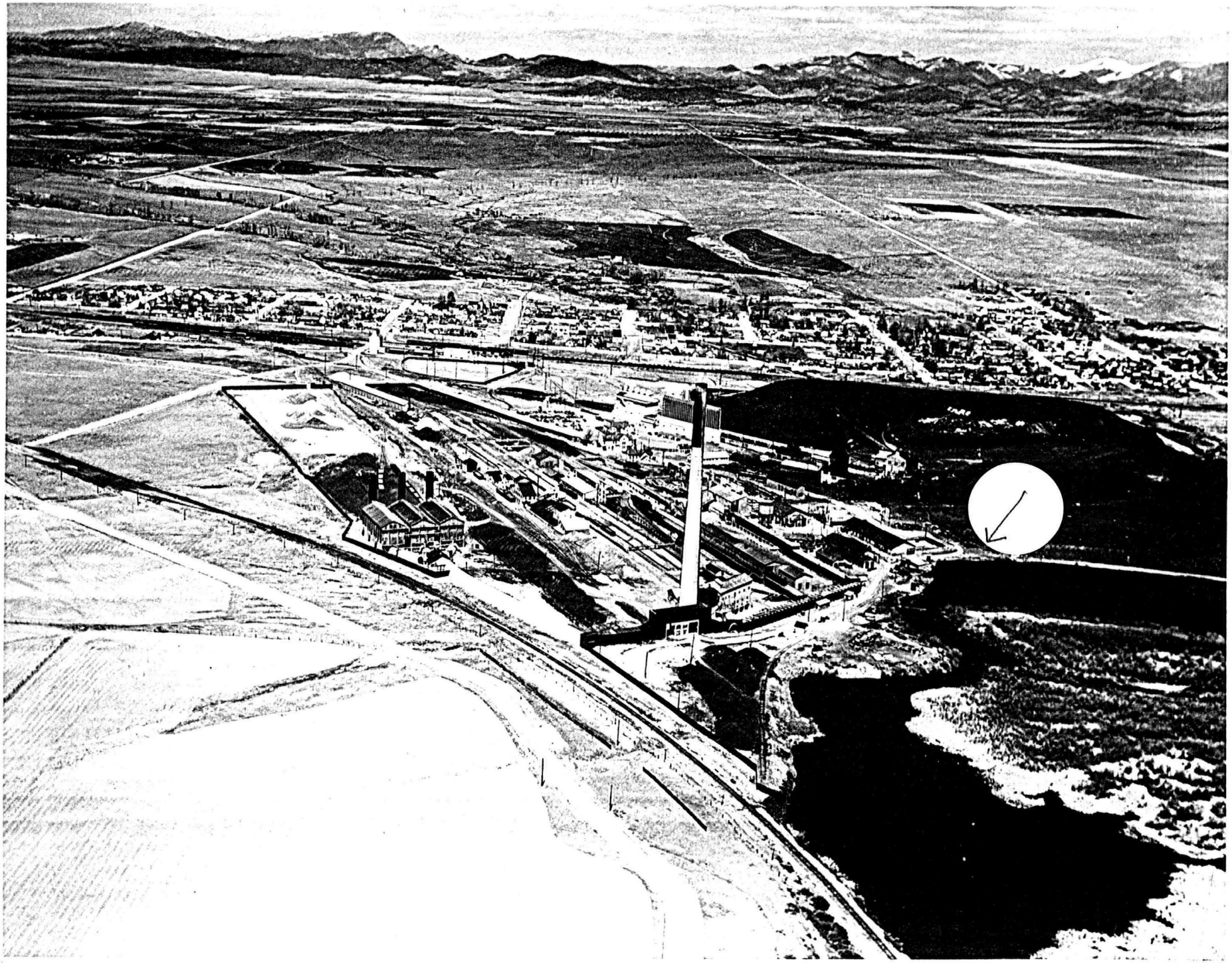
BETH BERNETT
NOTARY PUBLIC, State of New York
No. 01-4882218
Qualified in New York County
Commission Expires June 30, 1990

My Commission Expires

[SEAL]

My address is 165 E. 36th Street
New York NY 10016

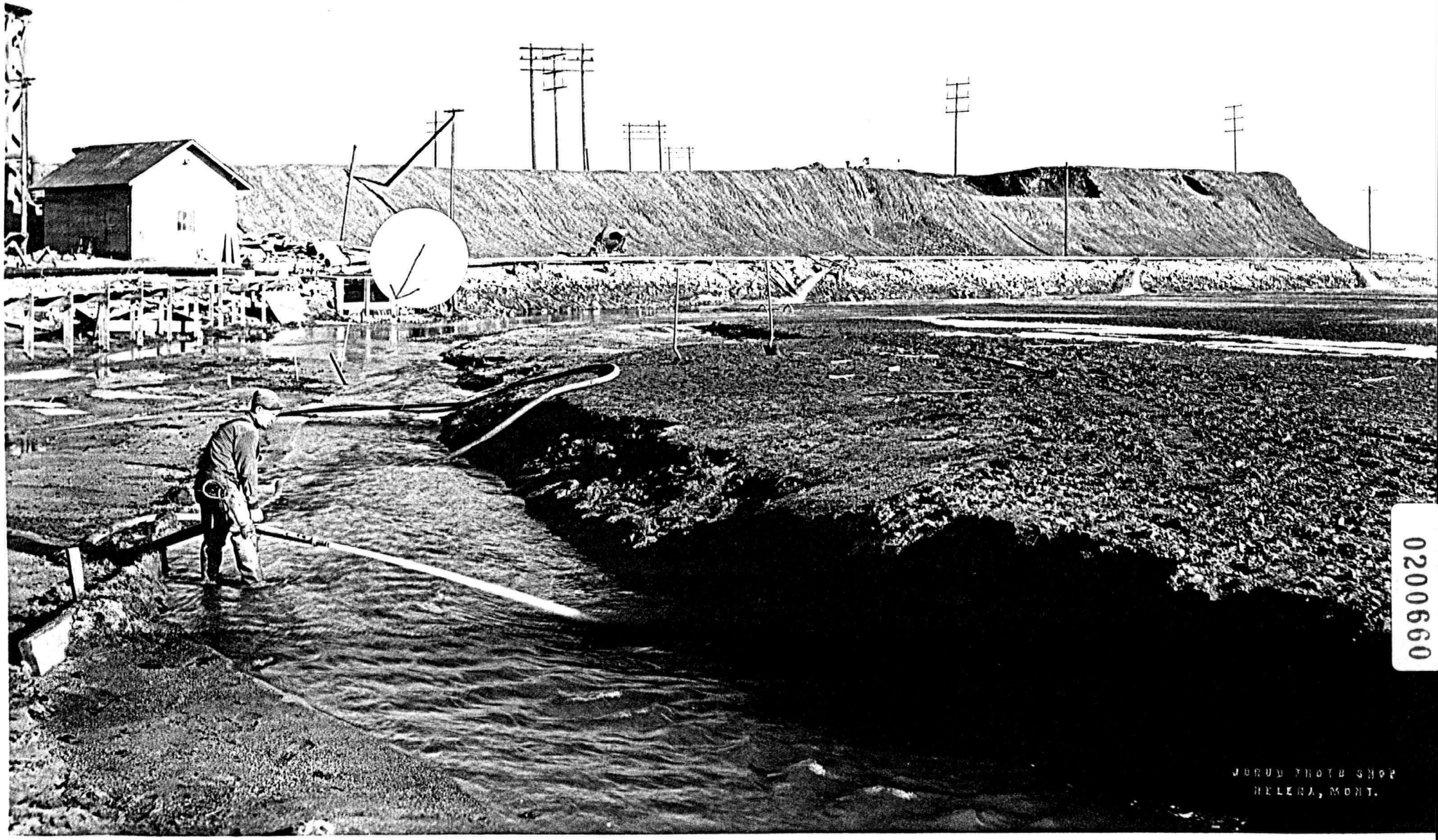
1954



Anaconda Ditch

02000659

1939

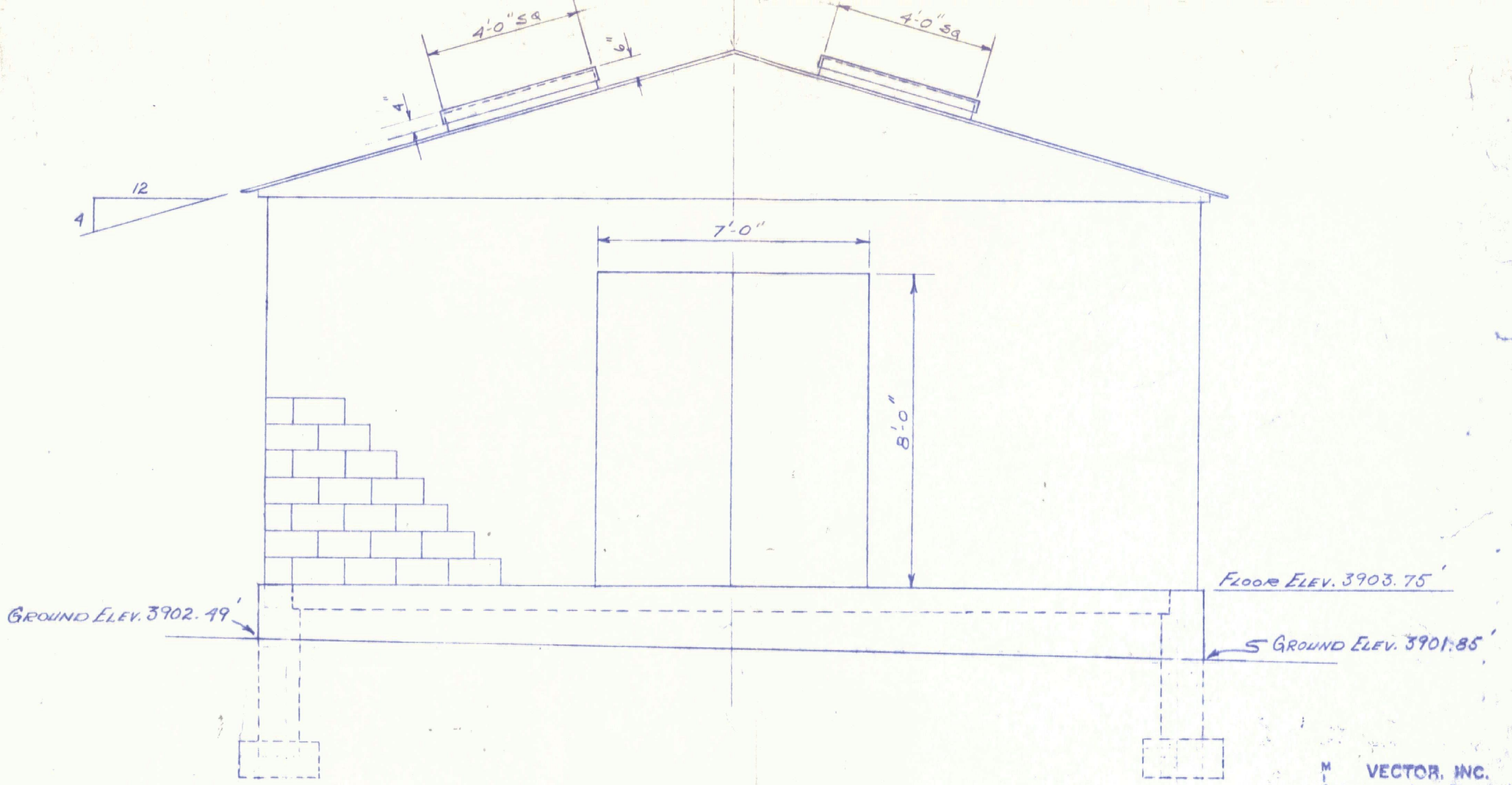


0200660

EAST HELENA WATER SAMPLES

1975 ASARCO Lab No.	East Helena No.	Description	Date	Concentration (ppm) Cu	Pb	Cd	Zn	Fe	As
998	1	Lake at Lead Plant Intake	4/7/75	.023	.30	.010	.14	.37	.023
999	2	Zinc Plant Discharge before entry to lake	4/7/75	.033	.43	.010	.22	.57	.025

0200661



NORTH ELEVATION

MICROFILMED
VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE
JUL 26 1967
HELENA, MONTANA
406/442-4710
THIS DATE

NO.	NAME	MATERIAL & DESCRIPTION	REQ'D

APPROVED		APPROVED		APPROVED	
APPROVED	12/9/63	APPROVED		DATE OF ISSUE	APR 10 1990

DESCRIPTION

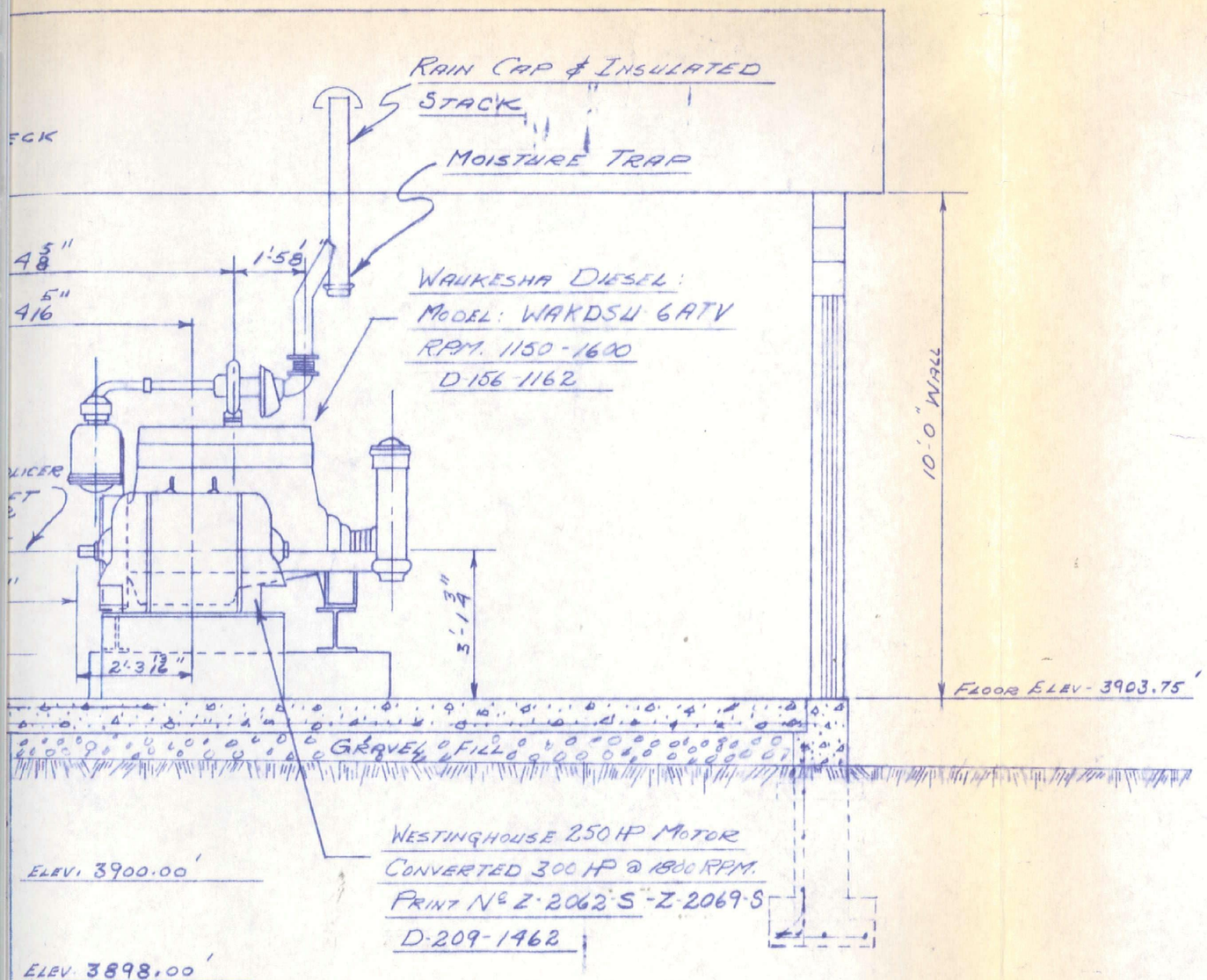
DRAWN BY SCHLOSSER DATE 10-63
TRACED BY
CHECKED BY
APPROVED RADDON 12-9-63

EAST HELENA SLAG PLANT
WATER SUPPLY FOR FURN. BLDG.
GENERAL PLAN OF PUMP HOUSE
FOR VERTICAL PUMPS

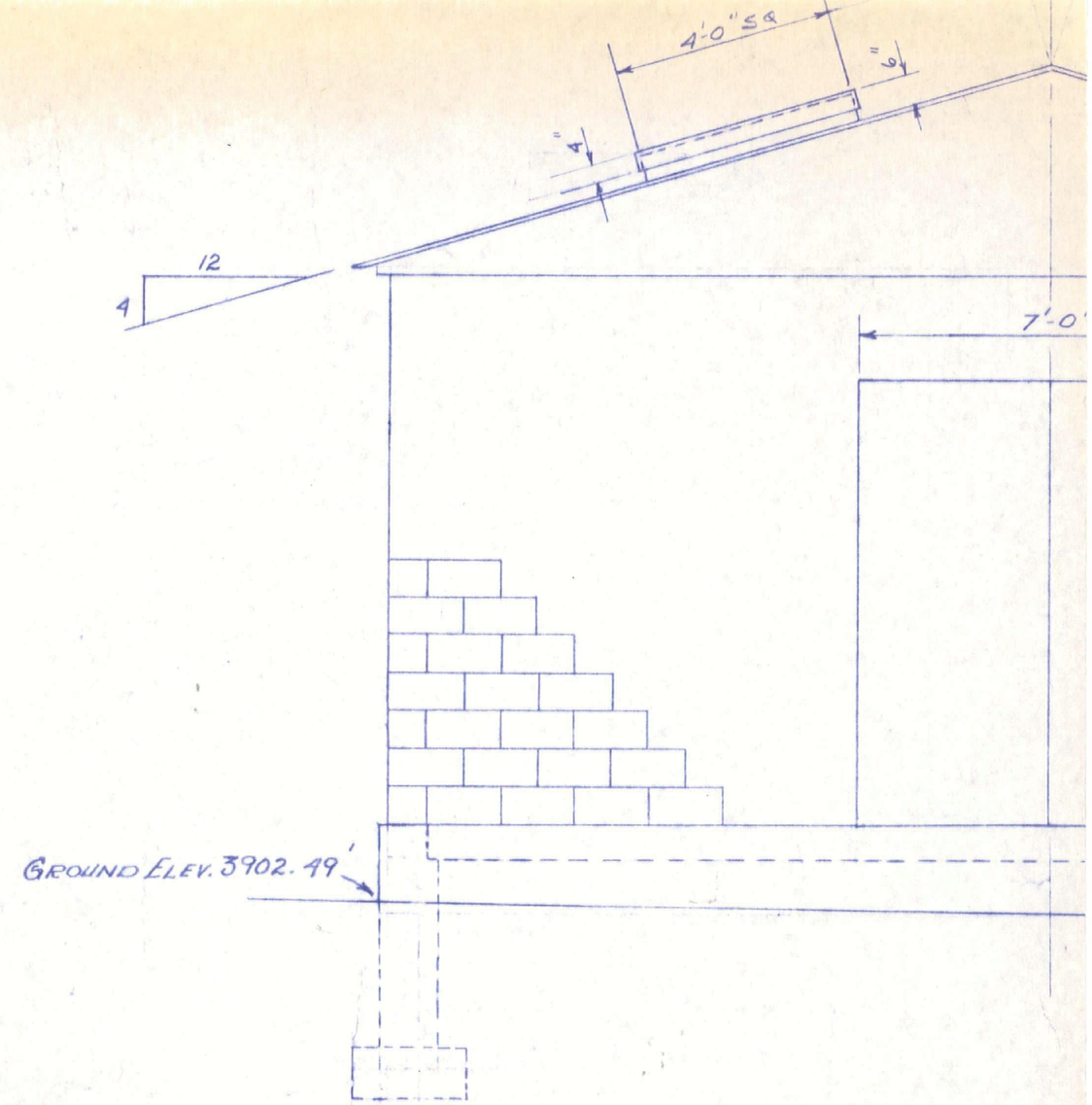
THE ANACONDA COMPANY
GREAT FALLS, MONTANA

SCALE 3/8" = 1'-0"

HG-20



SECTION "AA"



NORTH

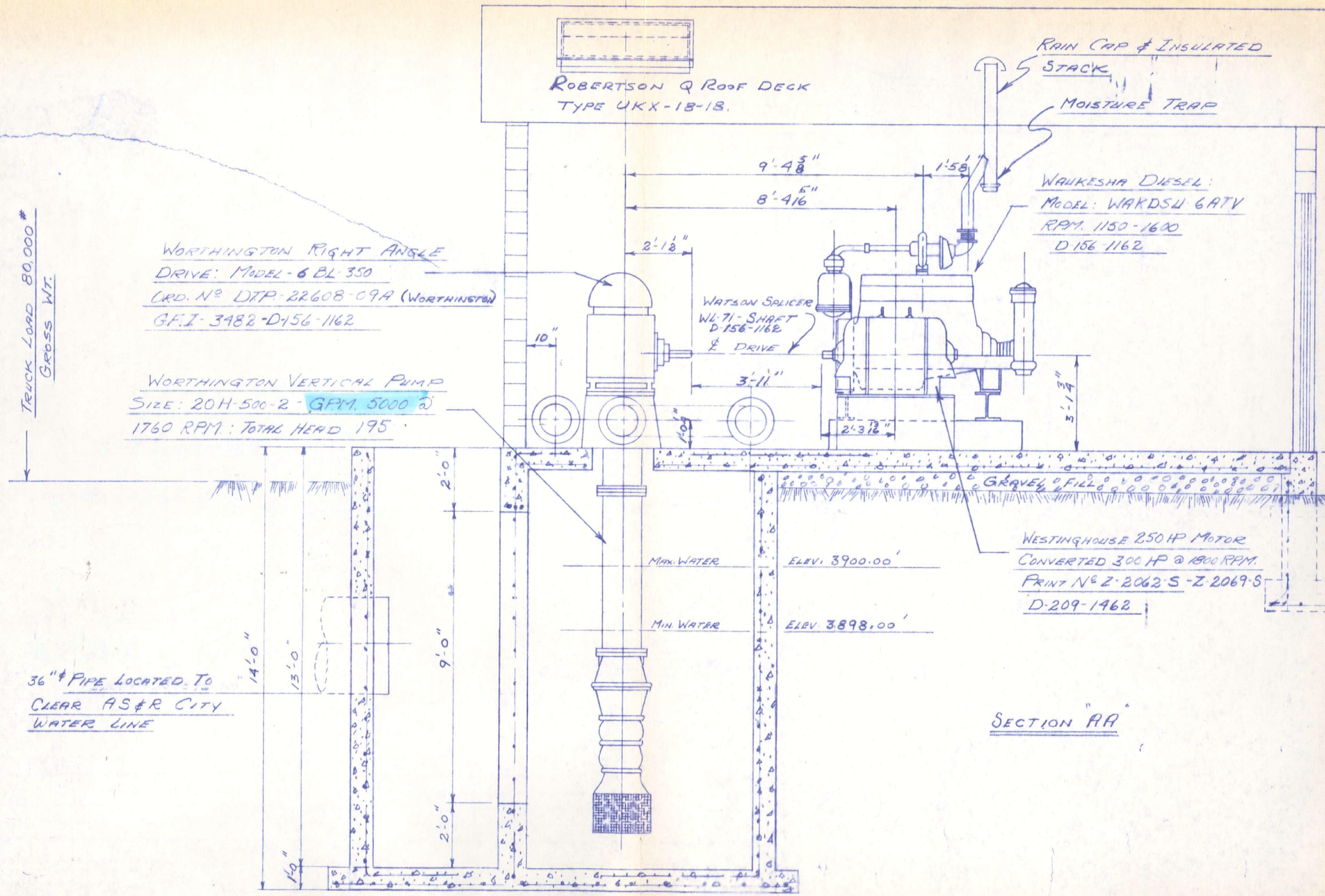
REVISIONS NO.	MADE BY	CHECKED	DATE	DESCRIPTION
5				
6				
7				
8				

REVISIONS NO.	MADE BY	CHECKED	DATE	DESCRIPTION
1				
2				
3				
4				

DRAWN BY SCHLOSSER DATE 10-63
TRACED BY
CHECKED BY
APPROVED PADDON 12-9-63

NO. N
APPROVED
APPROVED

EAST HELE
WATER SUPPL
GENERAL PLA
FOR VERTICAL



REFERENCES	DWG. NO.	TITLE

REFERENCES	DWG. NO.	TITLE

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REVISIONS	NO.
	1
	2
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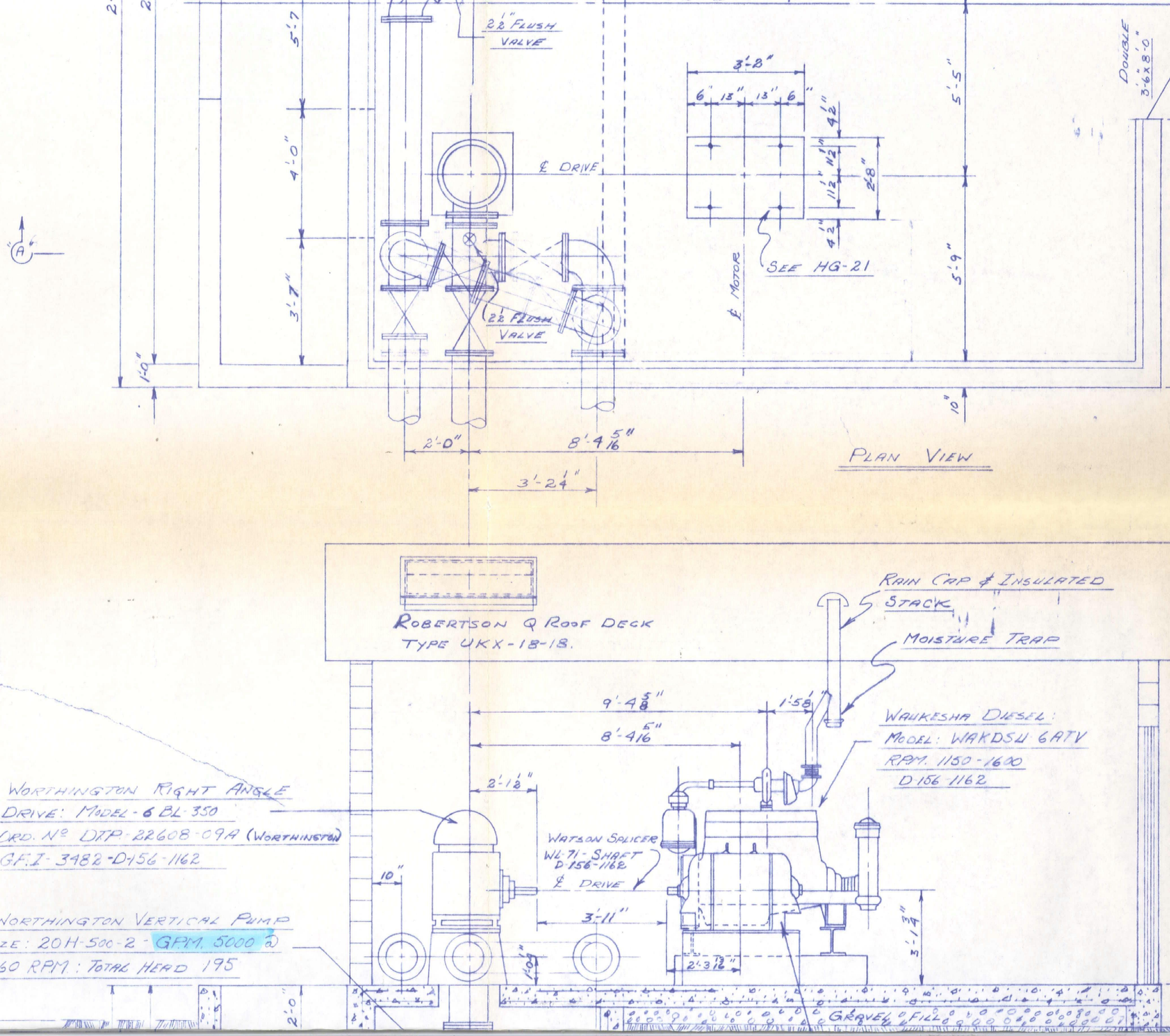
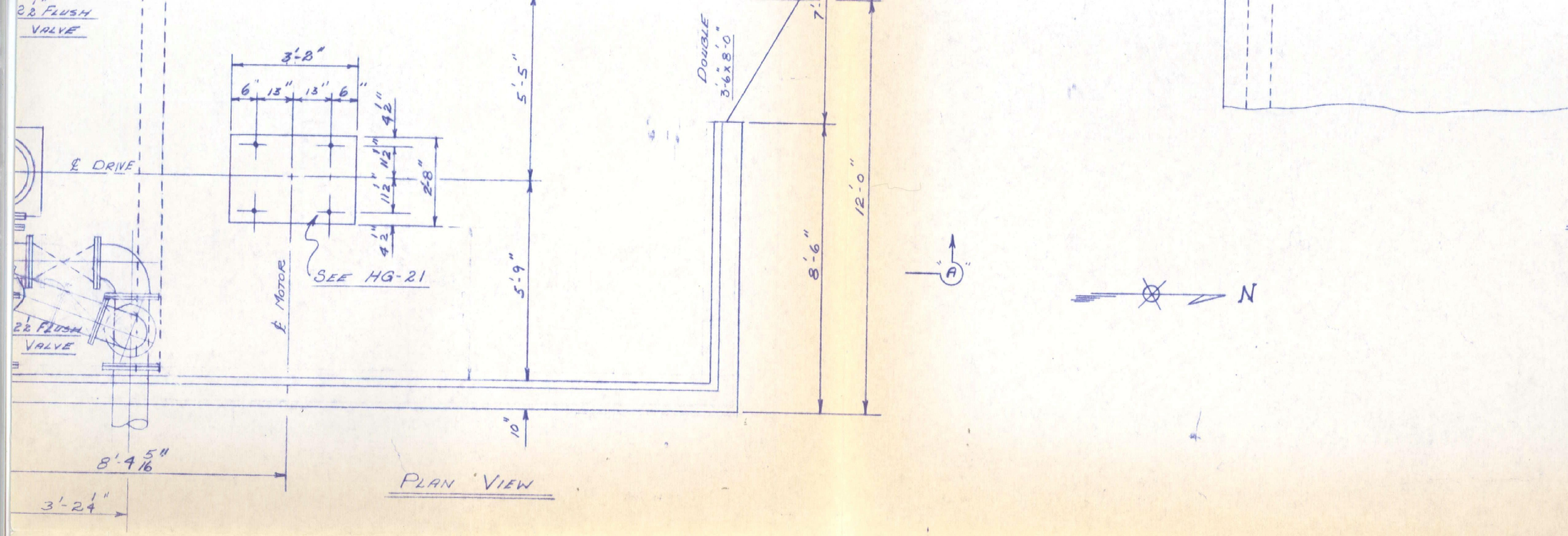
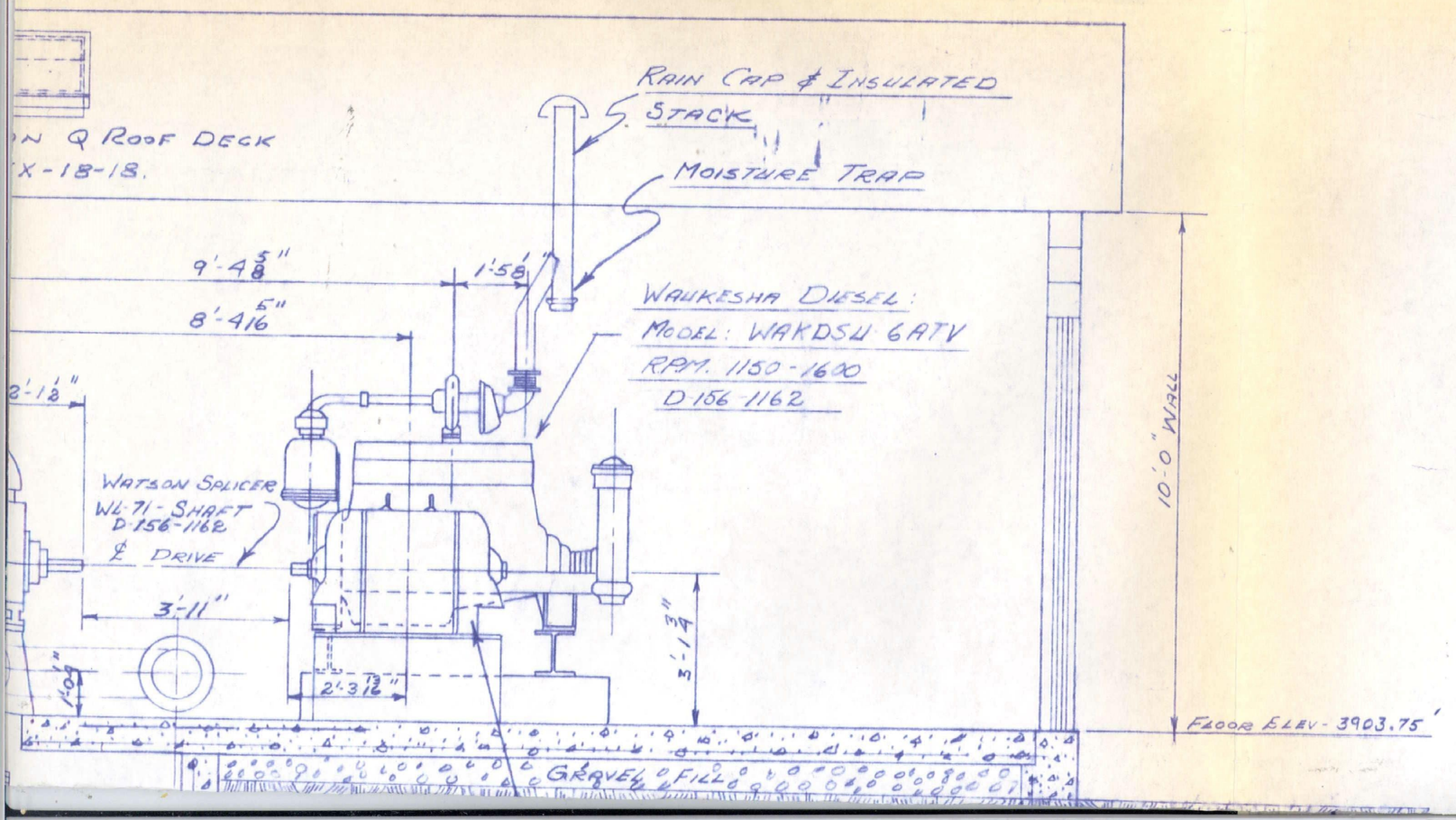
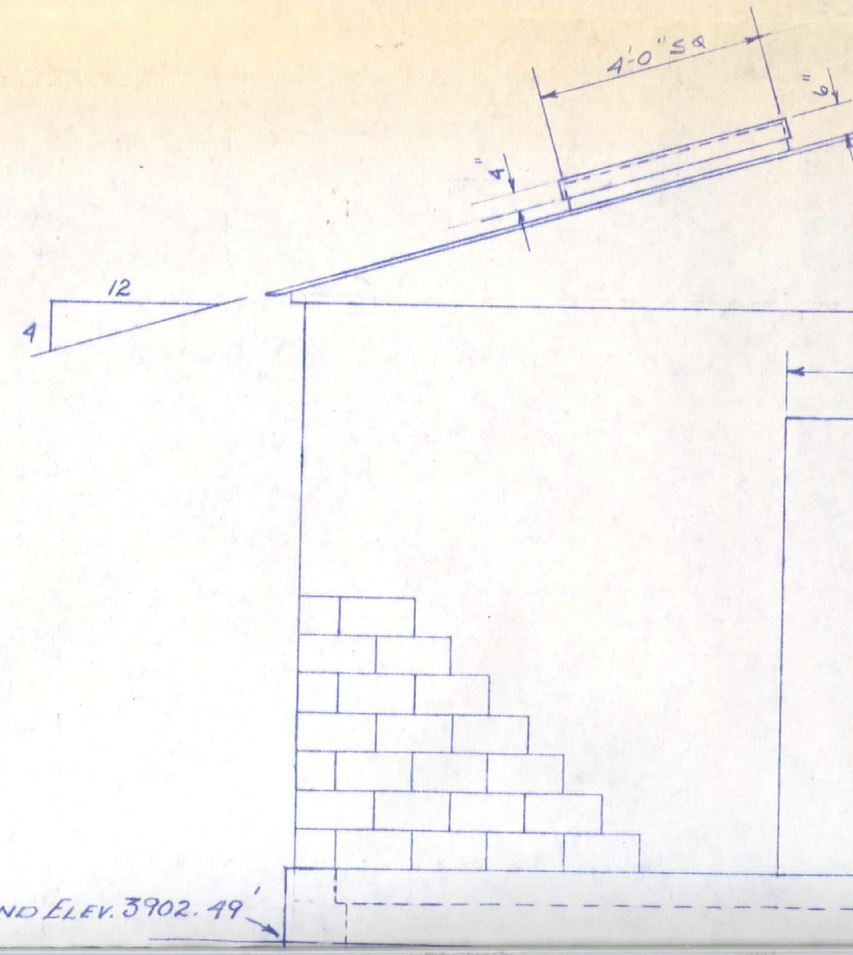
	4


2½" FLUSH VALVE
5'-7"
4'-0"
3'-7"
1'-0"
℄ DRIVE
3'-8"
6" 13" 13" 6"
4½"
11½"
2'-8"
SEE HG-21
℄ MOTOR
5'-5"
5'-9"
DOUBLE 3'-6"x8'-0"
10"
2'-0"
8'-4 5/16"
3'-2¼"
PLAN VIEW
ROBERTSON Q ROOF DECK
TYPE UKX-18-18.
RAIN CAP & INSULATED STACK
MOISTURE TRAP
9'-4⅝"
1'-5⅛"
8'-4 5/16"
2'-1½"
WAUKESHA DIESEL:
MODEL: WAKDSU 6ATV
RPM. 1150-1600
D-156-1162
WORTHINGTON RIGHT ANGLE
DRIVE: MODEL-6BL-350
ORD. Nº DTP-22608-09A (WORTHINGTON)
G.F.I-3482-D-156-1162
WATSON SPLICER
WL-71-SHAFT
D-156-1162
℄ DRIVE
10"
3'-11"
2'-3 13/16"
3'-1¾"
1'-0"
TRUCK LOAD 80,000#
GROSS WT.
WORTHINGTON VERTICAL PUMP
SIZE: 20H-500-2-GPM. 5000 @
1760 RPM: TOTAL HEAD 195
2'-0"
GRAVEL FILL

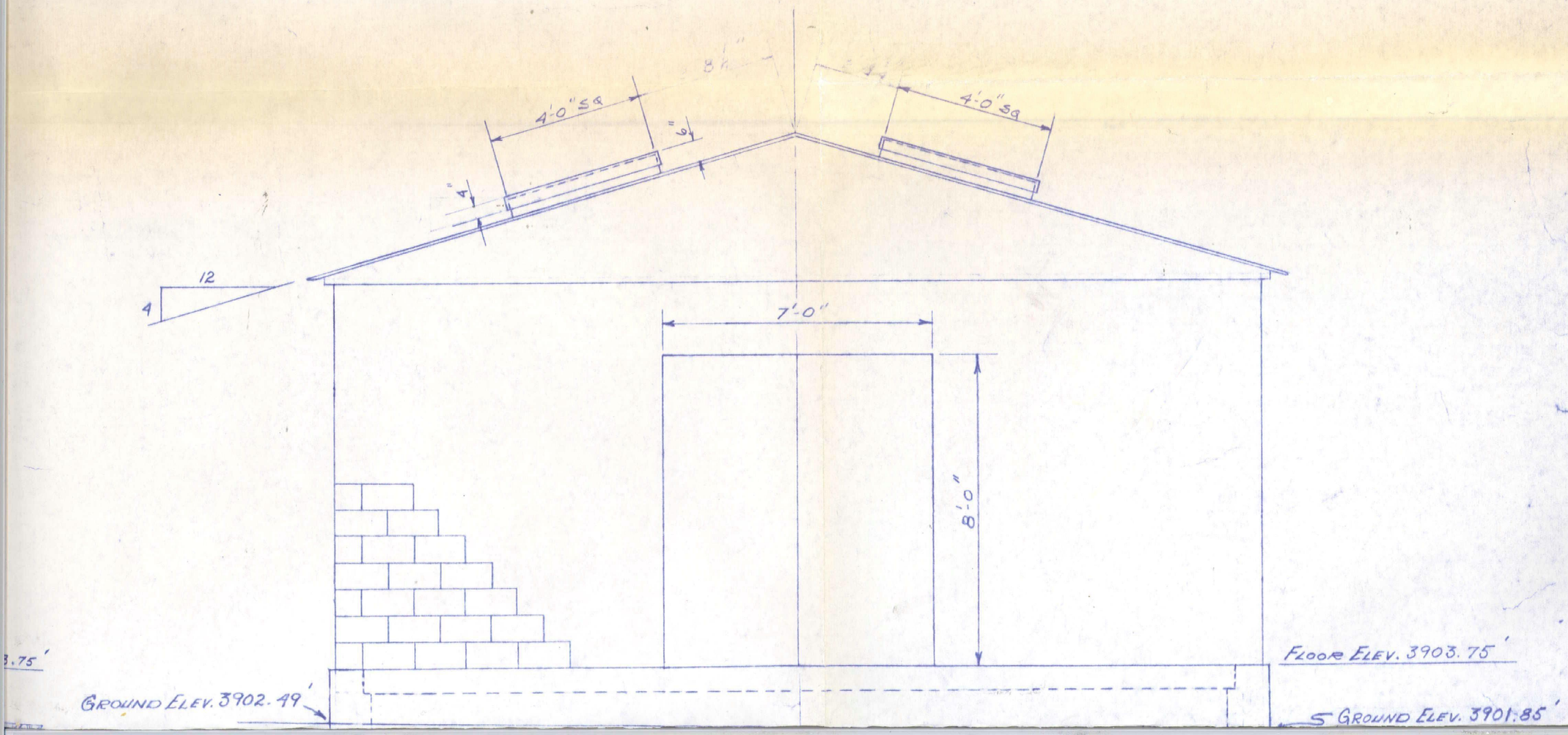

2" FLUSH VALVE
3'-8"
6" 13" 13" 6"
4½"
1½"
1½"
2'-8"
4½"
℄ DRIVE
SEE HG-21
℄ MOTOR
2" FLUSH VALVE
5'-5"
5'-9"
10"
DOUBLE 3'-6"x8'-0"
7'
8'-6"
12'-0"
8'-4 5/16"
3'-2¼"
PLAN VIEW
A
N


ON Q ROOF DECK
X-18-18.
RAIN CAP & INSULATED STACK
MOISTURE TRAP
9'-4 5/8"
8'-4 5/16"
1'-5 1/8"
WAUKESHA DIESEL:
MODEL: WAKDSU 6ATV
R.P.M. 1150-1600
D-156-1162
WATSON SPLICER
WL-71-SHAFT
D-156-1162
℄ DRIVE
3'-11"
2'-3 13/16"
3'-1¾"
10'-0" WALL
FLOOR ELEV. 3903.75'
GRAVEL FILL

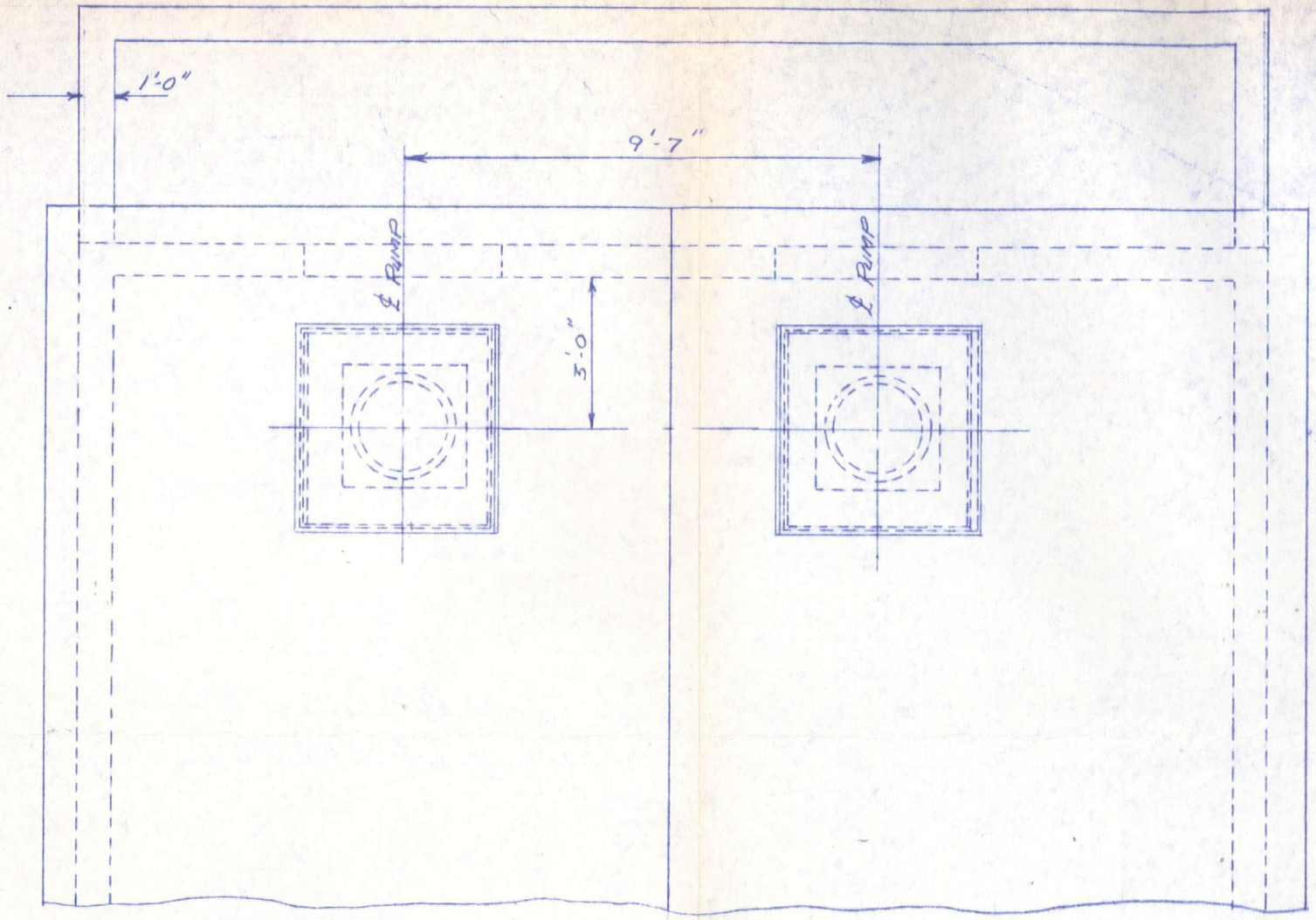

4'-0" SQ
6"
4"
12
4
GROUND ELEV. 3902.49'

ROOF VIEW

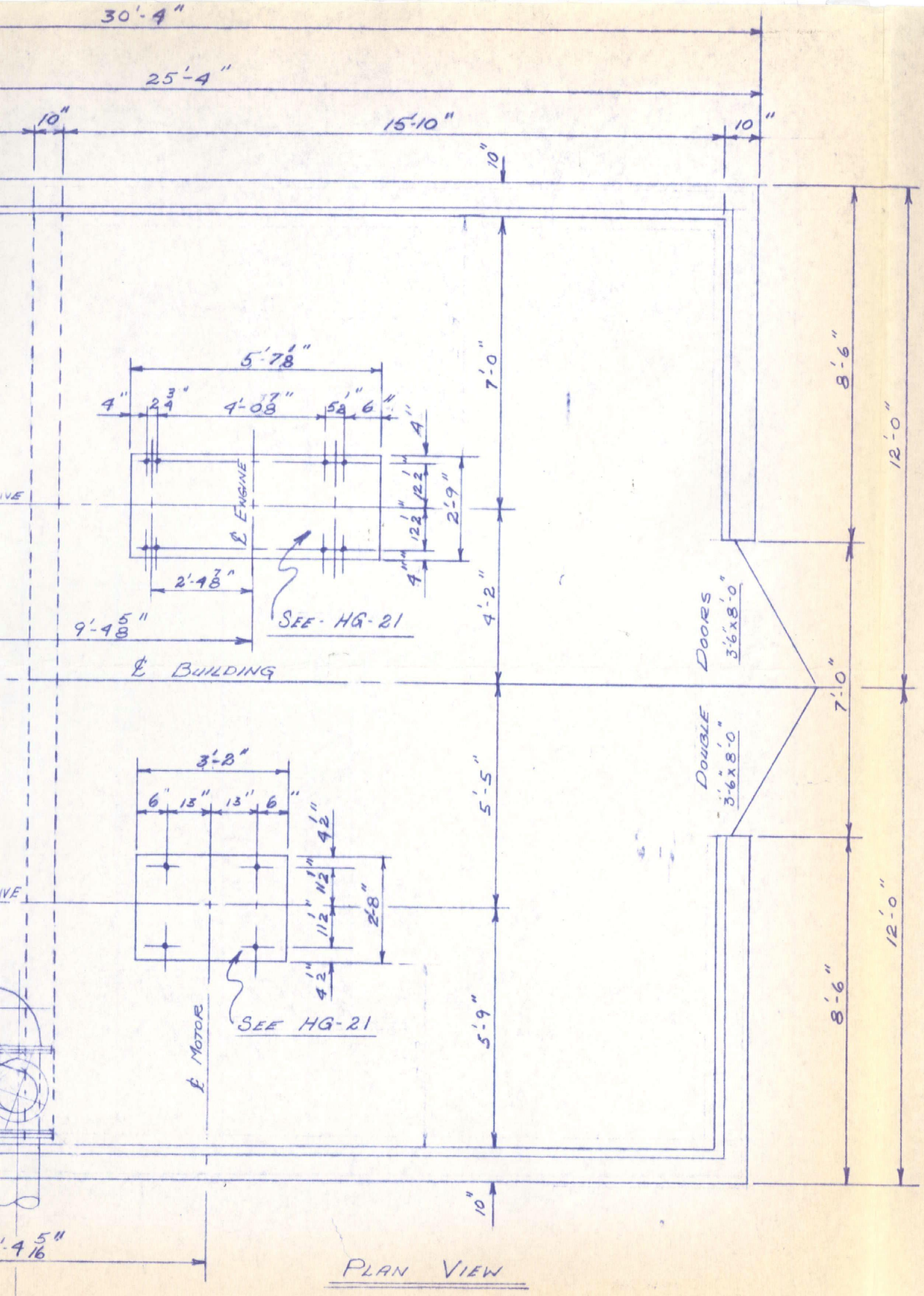
N

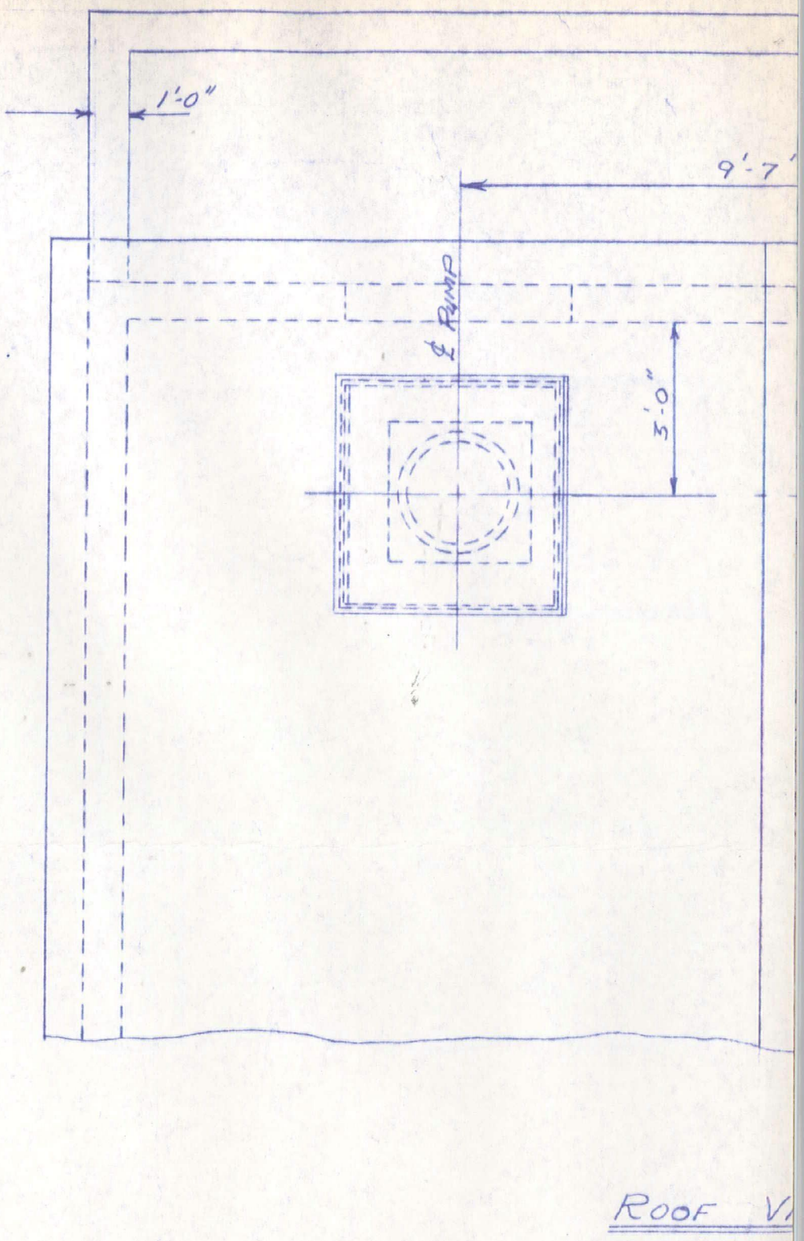

4'-0" sq
4'-0" sq
6"
4"
12
4
7'-0"
8'-0"
FLOOR ELEV. 3903.75'
GROUND ELEV. 3902.49'
GROUND ELEV. 3901.85'

0200665
0200655

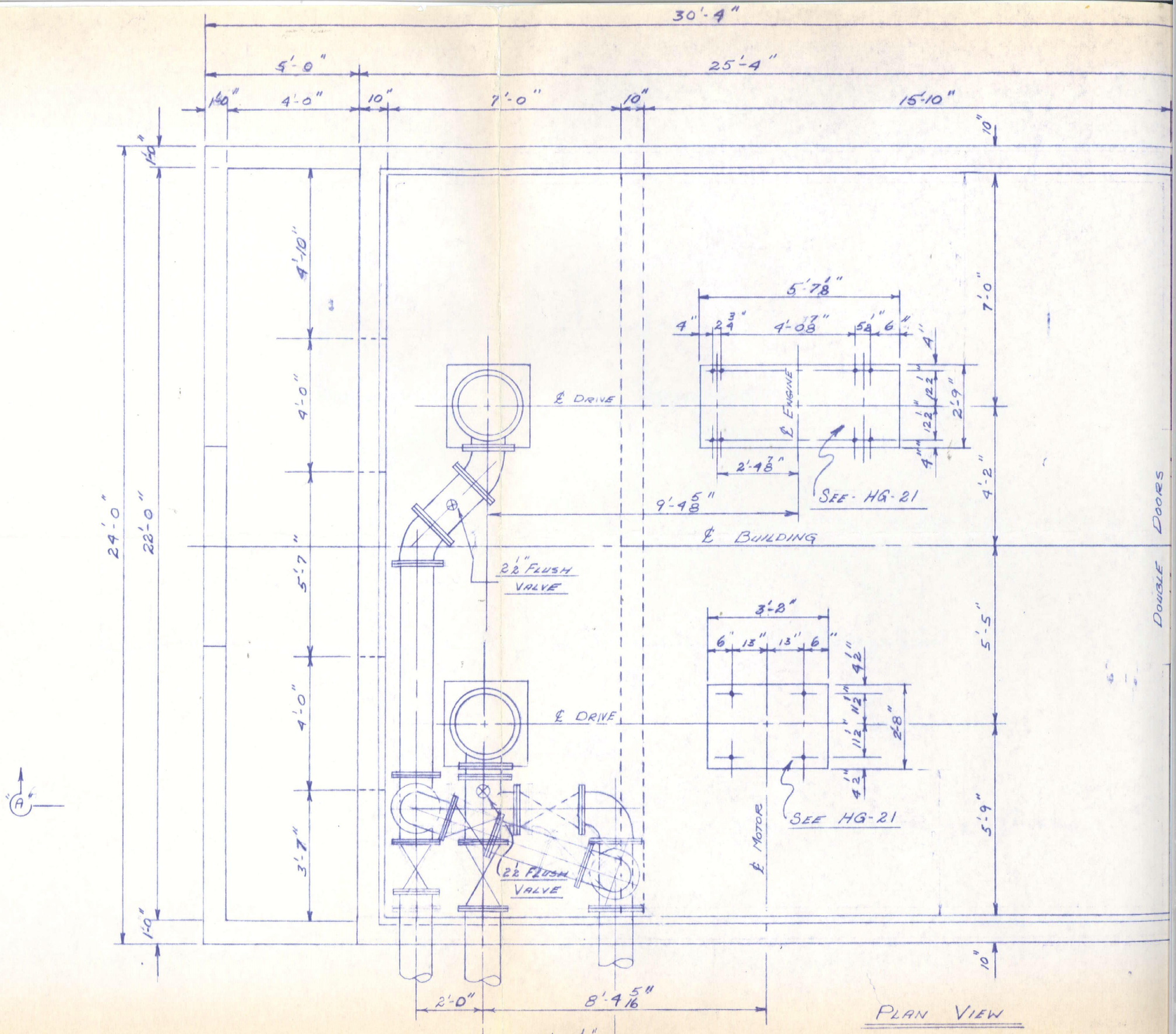


ROOF VIEW


30'-4"
25'-4"
10"
15'-10"
10"
10"
5'-7 7/8"
4"
2 3/4"
4'-0 7/8"
5 1/2"
6"
4"
2'-9"
12 1/2"
12 1/2"
4"
2'-4 7/8"
9'-4 5/8"
℄ ENGINE
SEE HG-21
℄ BUILDING
7'-0"
4'-2"
8'-6"
12'-0"
DOORS
3'-6"x8'-0"
7'-0"
DOUBLE
3'-6"x8'-0"
3'-8"
6"
13"
13"
6"
4 1/2"
11 1/2"
11 1/2"
2'-8"
4 1/2"
SEE HG-21
℄ MOTOR
5'-5"
5'-9"
8'-6"
12'-0"
10"
4'-4 5/16"
PLAN VIEW

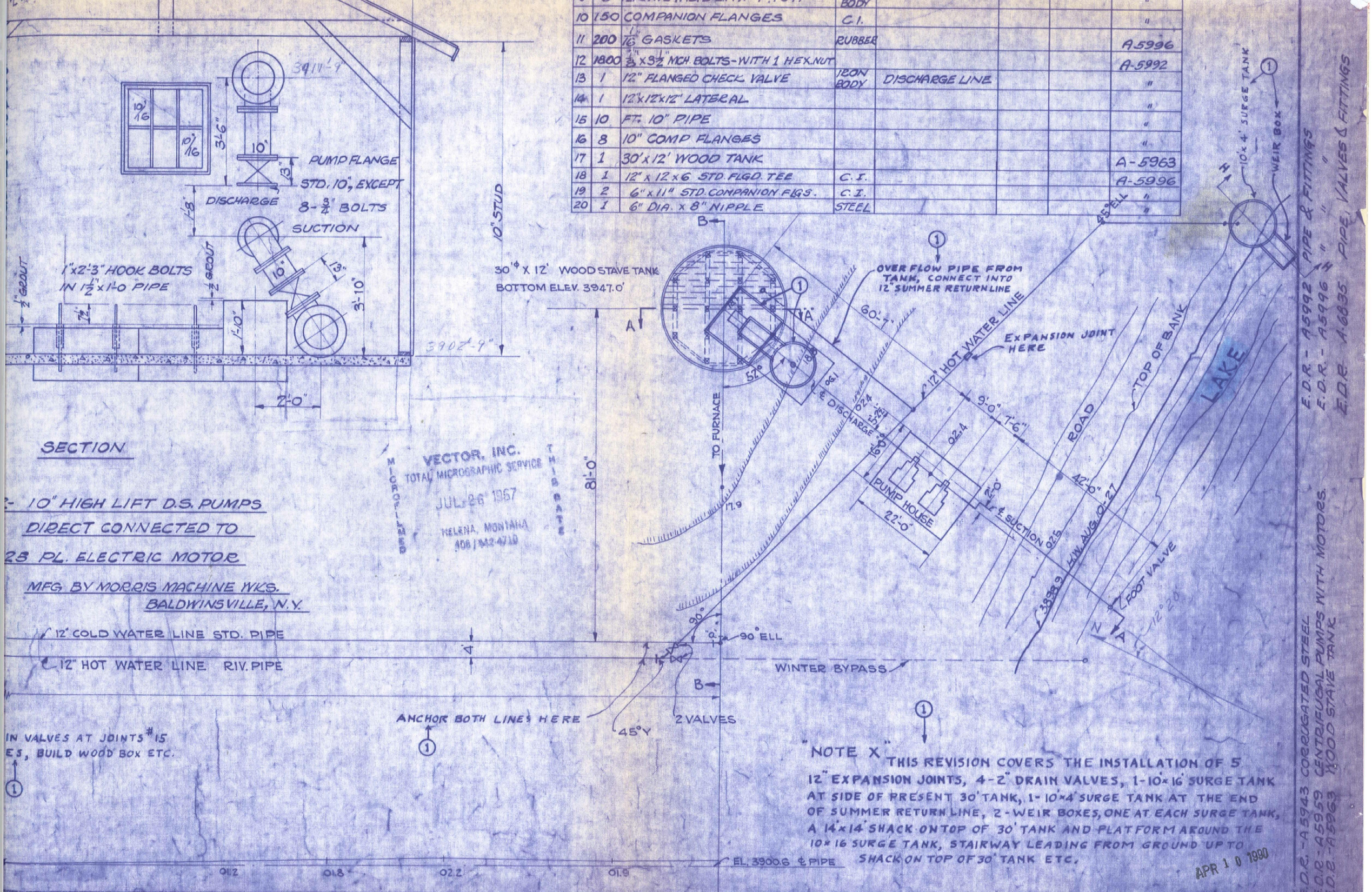

1'-0"
9'-7"
℄ PUMP
3'-0"
ROOF V

A
N


30'-4"
5'-0"
25'-4"
1'-0"
4'-0"
10"
7'-0"
10"
15'-10"
10"
4'-10"
4'-0"
5'-7"
4'-0"
3'-7"
24'-0"
22'-0"
1'-0"
℄ DRIVE
℄ DRIVE
℄ ENGINE
℄ BUILDING
℄ MOTOR
2½" FLUSH VALVE
2½" FLUSH VALVE
5'-7⅛"
4"
2¾"
4'-0⅞"
5⅛"
6"
4"
12½"
12½"
4"
2'-9"
2'-4⅞"
9'-4⅝"
SEE - HG-21
7'-0"
4'-2"
3'-8"
6"
13"
13"
6"
4½"
11½"
11½"
4½"
2'-8"
SEE HG-21
5'-5"
5'-9"
10"
2'-0"
8'-4 5/16"
3'-2¼"
"A"
DOUBLE DOORS

PLAN VIEW

10	150	COMPANION FLANGES	C.I.				"
11	200	7/16" GASKETS	RUBBER				A-5996
12	1800	3/8" x 3 1/2" MCH. BOLTS - WITH 1 HEX. NUT					A-5992
13	1	12" FLANGED CHECK VALVE	IRON BODY	DISCHARGE LINE			"
14	1	12"x12"x12" LATERAL					"
15	10	FT. 10" PIPE					"
16	8	10" COMP FLANGES					"
17	1	30'x12' WOOD TANK					A-5963
18	1	12"x12x6 STD. FLGD. TEE	C.I.				A-5996
19	2	6"x11" STD. COMPANION FLGS.	C.I.				"
20	1	6" DIA. x 8" NIPPLE	STEEL				"



VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE
JUL 26 1967
HELENA, MONTANA
406 / 442-4710
MICROFILMED
THIS DATE

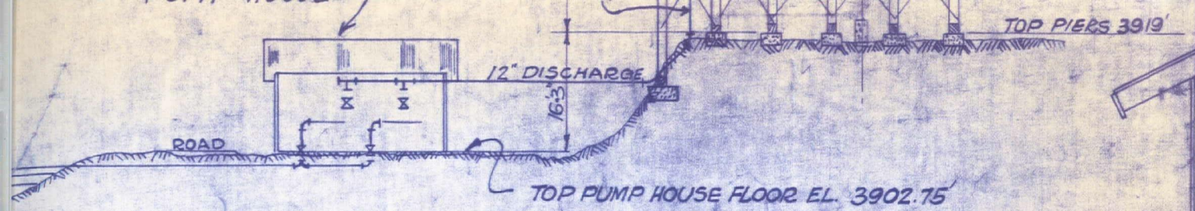
IN VALVES AT JOINTS #15
ES, BUILD WOOD BOX ETC.

"NOTE X" THIS REVISION COVERS THE INSTALLATION OF 5 12" EXPANSION JOINTS, 4-2" DRAIN VALVES, 1-10"x16' SURGE TANK AT SIDE OF PRESENT 30' TANK, 1-10"x4' SURGE TANK AT THE END OF SUMMER RETURN LINE, 2-WEIR BOXES, ONE AT EACH SURGE TANK, A 14'x14' SHACK ON TOP OF 30' TANK AND PLATFORM AROUND THE 10'x16' SURGE TANK, STAIRWAY LEADING FROM GROUND UP TO SHACK ON TOP OF 30' TANK ETC.

APR 10 1990

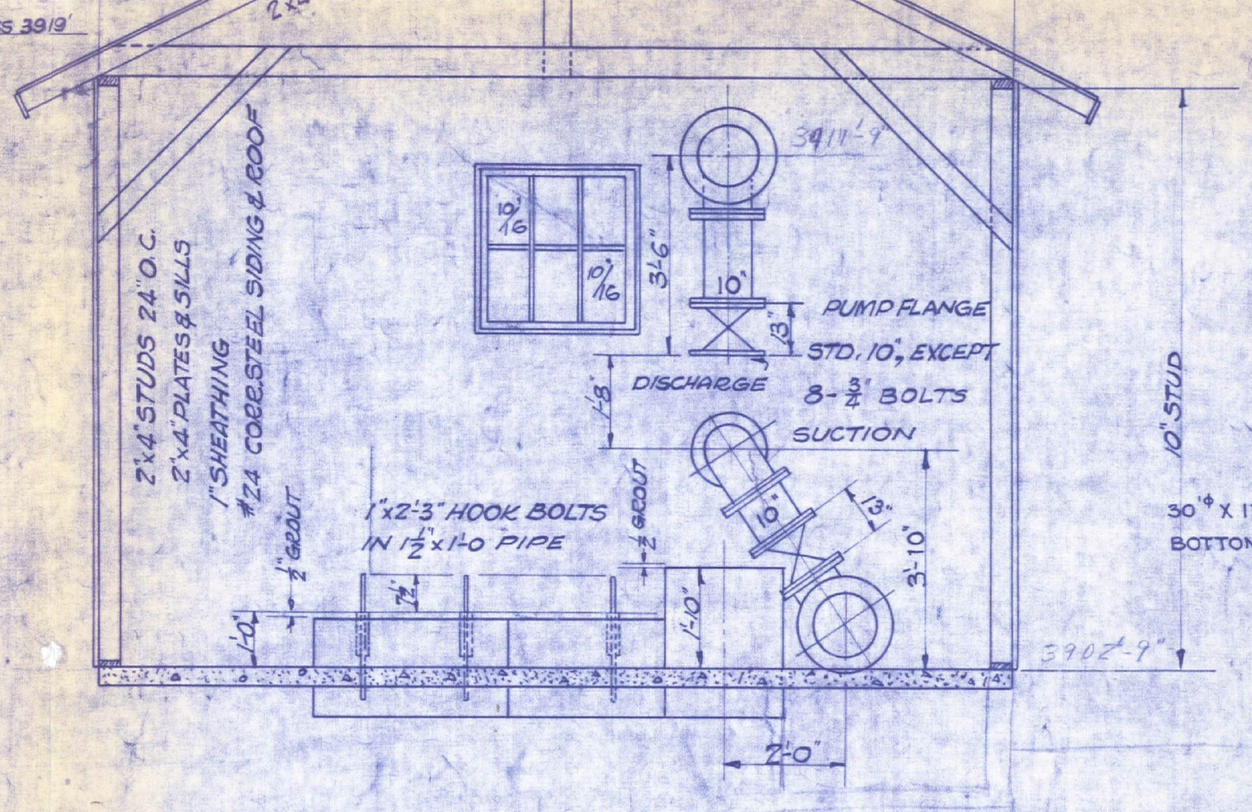
E.D.R. - A5943 CORRUGATED STEEL
E.D.R. - A5959 CENTRIFUGAL PUMPS WITH MOTORS
E.D.R. - A5963 WOOD STAVE TANK
E.D.R. - A5992 PIPE & FITTINGS
E.D.R. - A5996 " "
E.D.R. A-6835 PIPE, VALVES & FITTINGS

DESCRIPTION		DATE			
SEE "NOTE X"	DRAWN BY WARNER & DAVENPORT	8-17-27	EAST HELENA SLAG PLANT WATER SUPPLY TO FURNACE BLDG. LAYOUT & DETAILS	ANACONDA COPPER MINING COMPANY. EAST HELENA, MONTANA	SCALE 3/8"=1'-0" & 1:40
	TRACED BY C.R. HURST	8-17-27			HG-4
	CHECKED BY				
	APPROVED				



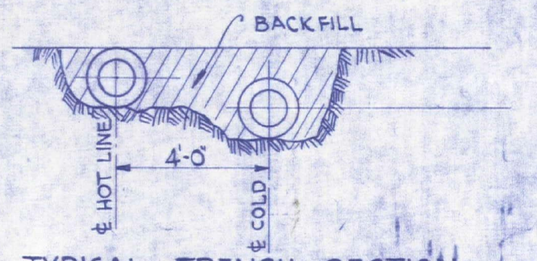
SECTION "AAA"

MATERIAL FOR TANK	
POSTS	12"x14"
BOTTOM SILLS	12"x17"
TOP SILLS	12"x14"
FLOOR JOISTS	3"x12"
BRACING	2"x6"



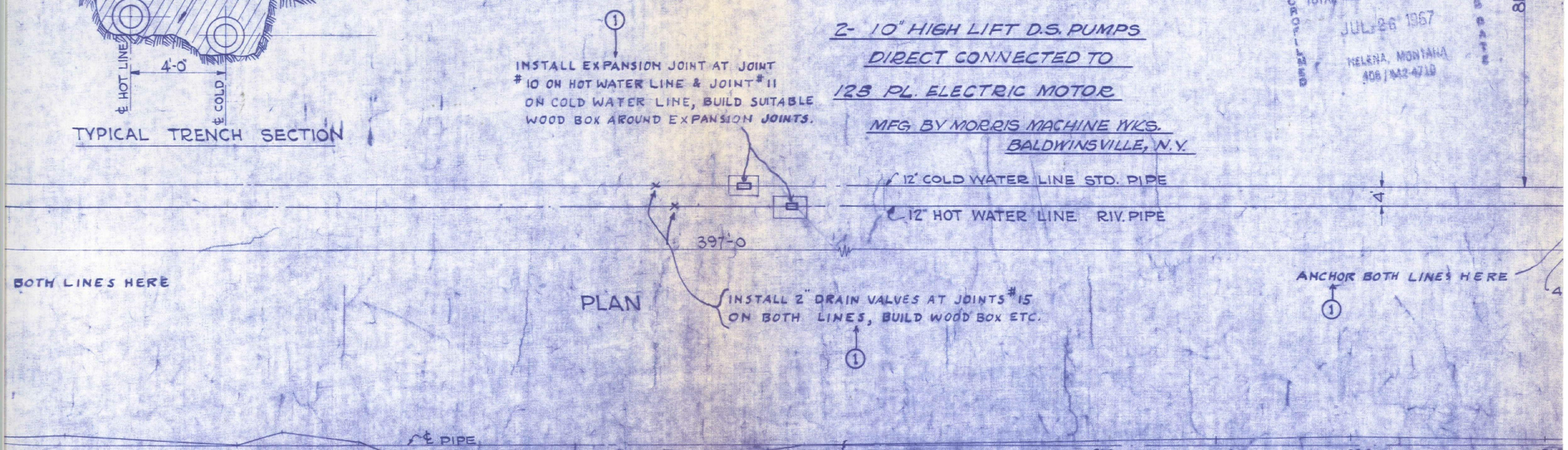
SECTION

30"Φ X 12' WOOD STAVE
BOTTOM ELEV. 3947.0'



TYPICAL TRENCH SECTION

2- 10" HIGH LIFT D.S. PUMPS
DIRECT CONNECTED TO
128 PL. ELECTRIC MOTOR
MFG BY MORRIS MACHINE WKS.
BALDWINSVILLE, N.Y.



PLAN

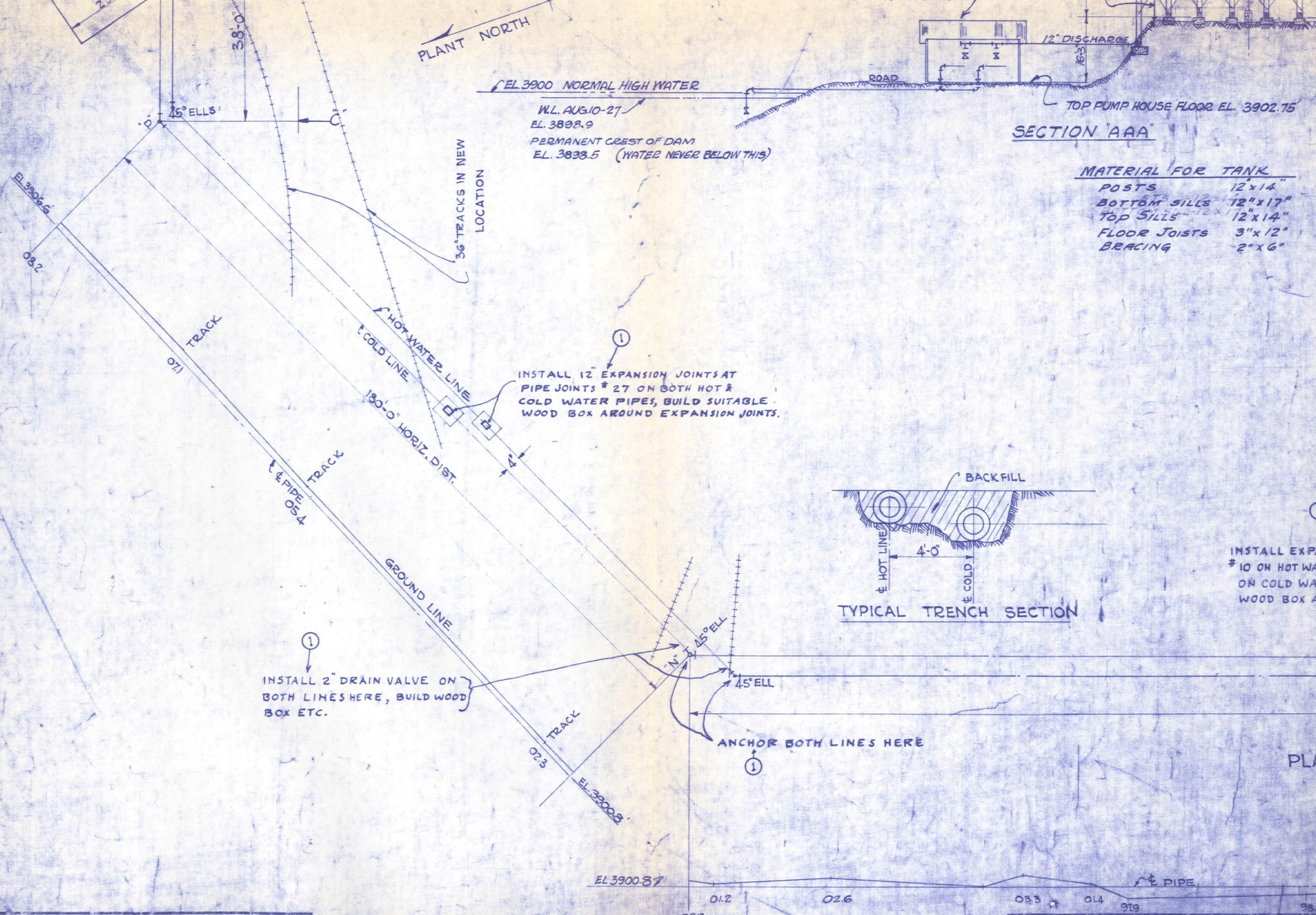
VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE
JUL 26 1967
HELENA, MONTANA
406/442-4719
MICROFILMED
THIS DATE

REVISIONS NO.	MADE BY	DATE	DESCRIPTION
5			
6			
7			
8			

REVISIONS NO.	MADE BY	DATE	DESCRIPTION
1	A.G.O. & S.O.	4-6-28	SEE "NOTE X"
2			
3			
4			

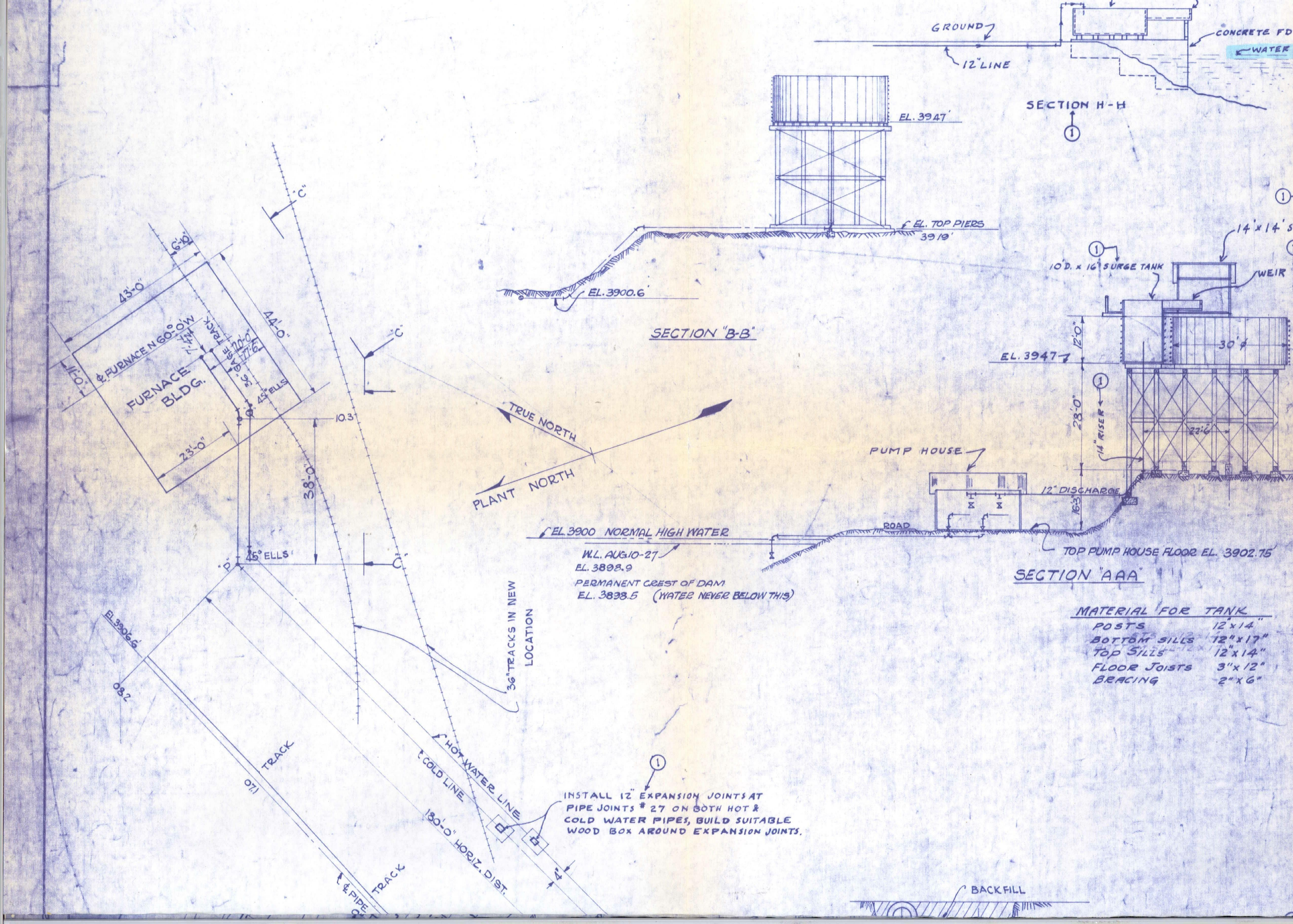
		DATE
DRAWN BY	WARNER & DAVENPORT	8-17-27
TRACED BY	C.D. HURST	8-17-27
CHECKED BY		
APPROVED		

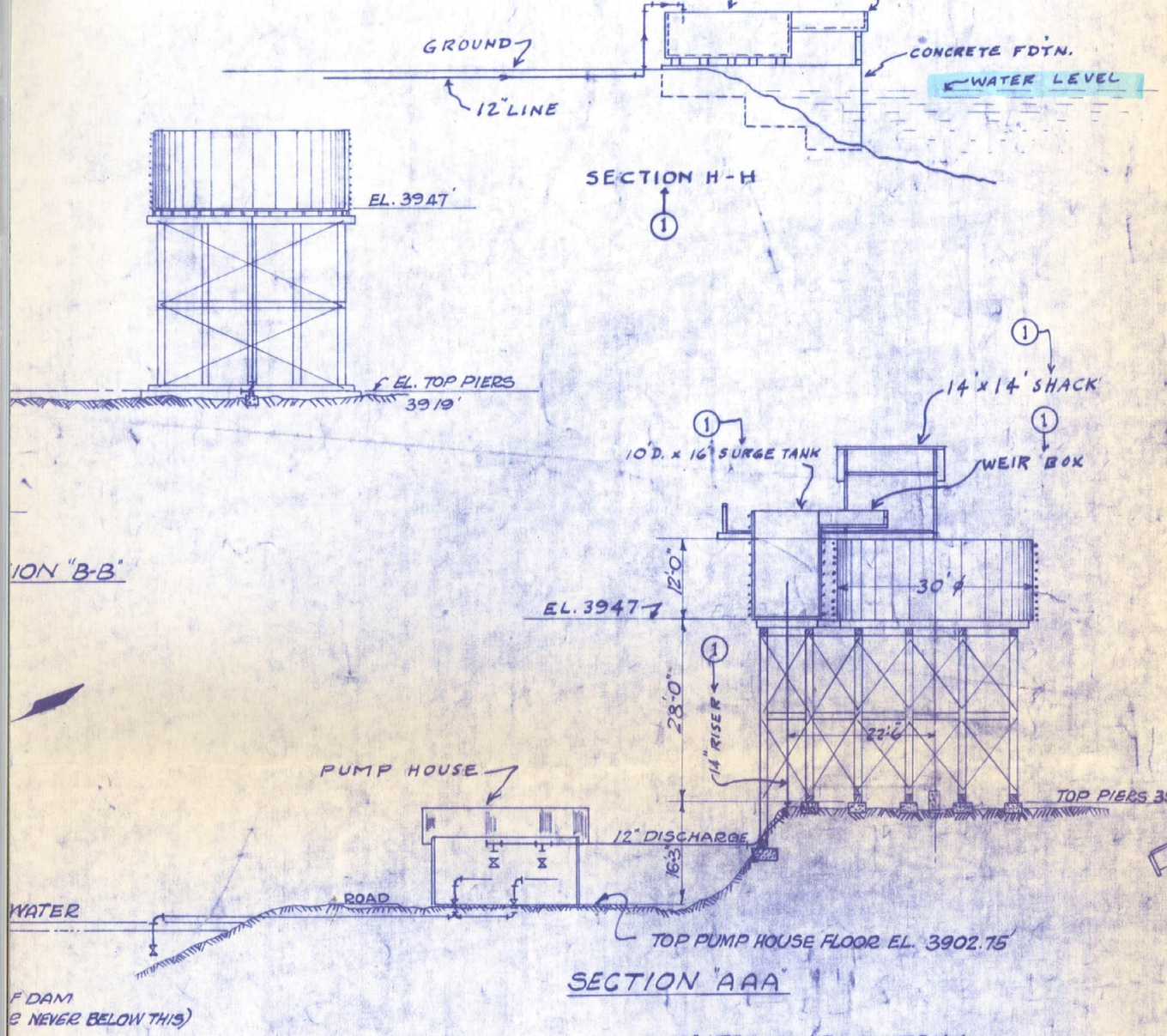
EAST HELENA
WATER SUPPLY
LAYOUT & D

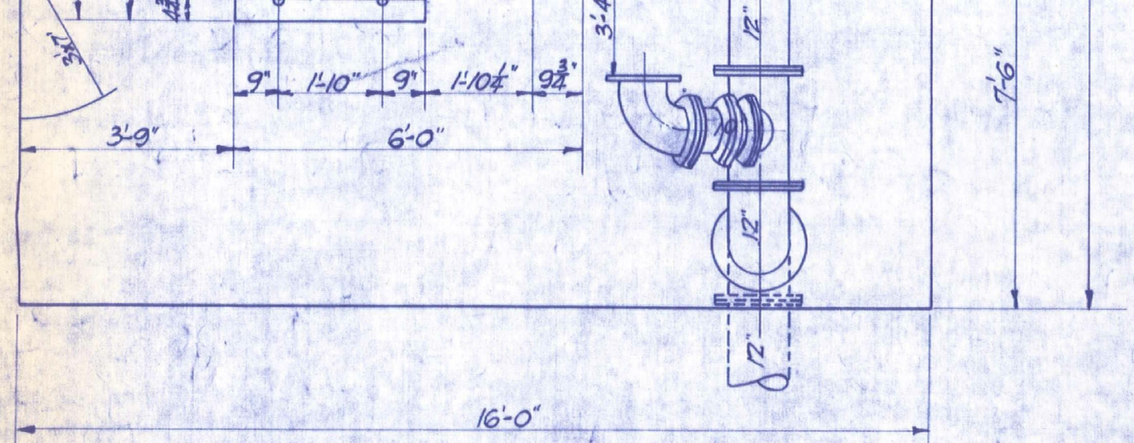


REFERENCES	DWG. NO.	DESCRIPTION
	HG-3	GENERAL MAP
	HG-9	DETAILS OF SURGE TANKS & WEIR BOXES. ← 1

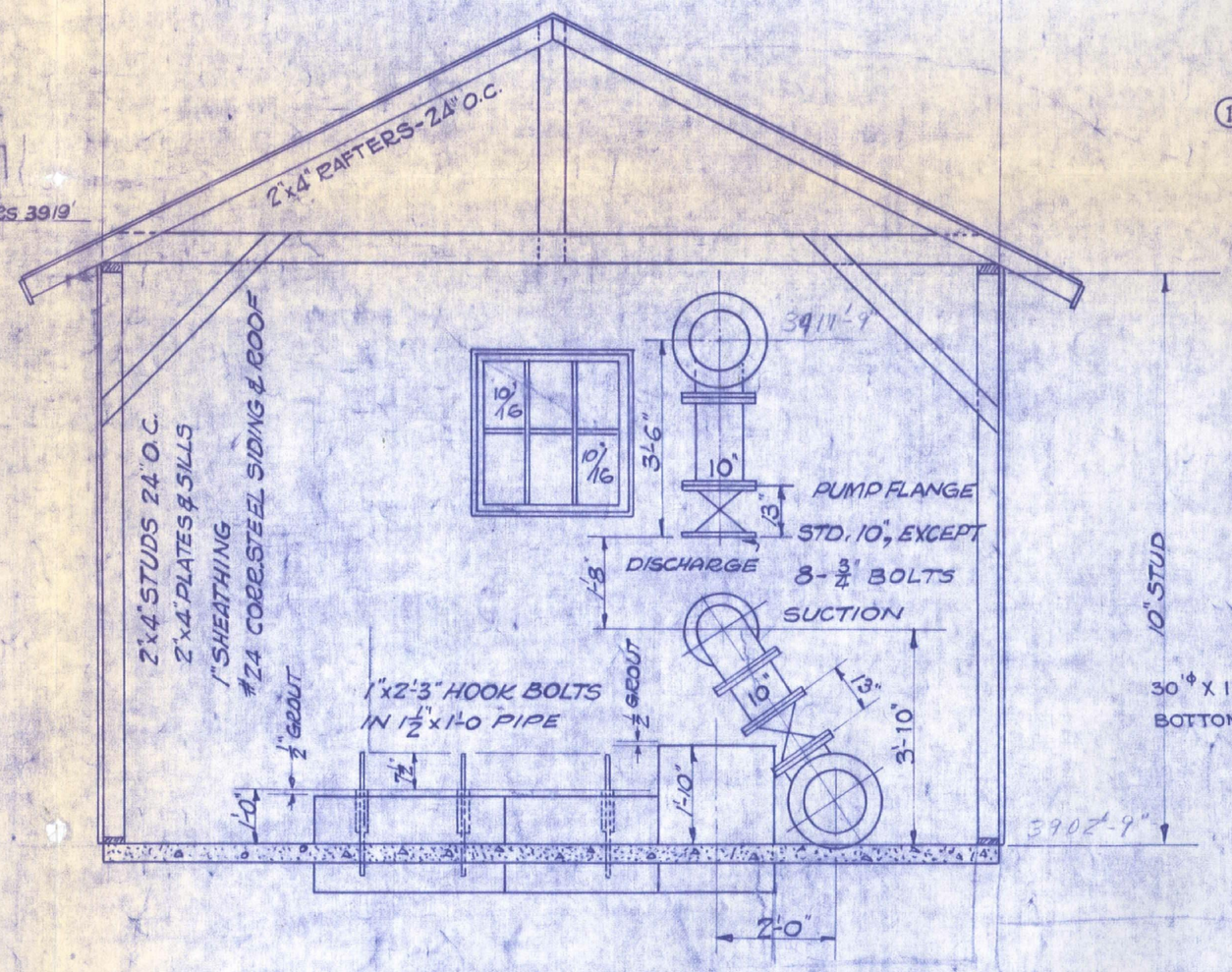
REVISIONS	NO.	MADE BY	DATE	DESCRIPTION
	5			
	6			
	7			
	8			


GROUND
12" LINE
CONCRETE FD
WATER
SECTION H-H
EL. 3947'
EL. TOP PIERS 3919'
EL. 3900.6'
SECTION "B-B"
14"x14" S
10'D. x 16' SURGE TANK
WEIR
EL. 3947
30' ϕ
28'-0"
22'-6"
14" RISER
PUMP HOUSE
12" DISCHARGE
16'-3"
ROAD
TOP PUMP HOUSE FLOOR EL. 3902.75
SECTION "AAA"
MATERIAL FOR TANK
POSTS 12"x14"
BOTTOM SILLS 12"x17"
TOP SILLS 12"x14"
FLOOR JOISTS 3"x12"
BRACING 2"x6"
43'-0"
6'-0"
11'-0"
℄ FURNACE N 60°0'0" W
FURNACE BLDG.
PACK
36" ϕ
45° ELLS
44'-0"
23'-0"
38'-0"
10.3
"C"
"P"
TRUE NORTH
PLANT NORTH
EL. 3900 NORMAL HIGH WATER
W.L. AUG. 10-27
EL. 3898.9
PERMANENT CREST OF DAM
EL. 3838.5 (WATER NEVER BELOW THIS)
36" TRACKS IN NEW LOCATION
EL. 3906.6'
TRACK
HOT WATER LINE
COLD LINE
130'-0" HORIZ. DIST.
4'
℄ PIPE
INSTALL 12" EXPANSION JOINTS AT PIPE JOINTS # 27 ON BOTH HOT & COLD WATER PIPES, BUILD SUITABLE WOOD BOX AROUND EXPANSION JOINTS.
BACKFILL





PLAN
SHOWING OUTLINE OF PUMP HOUSE, PUMP FOUNDATIONS AND SUCTION LINE TO PUMPS.

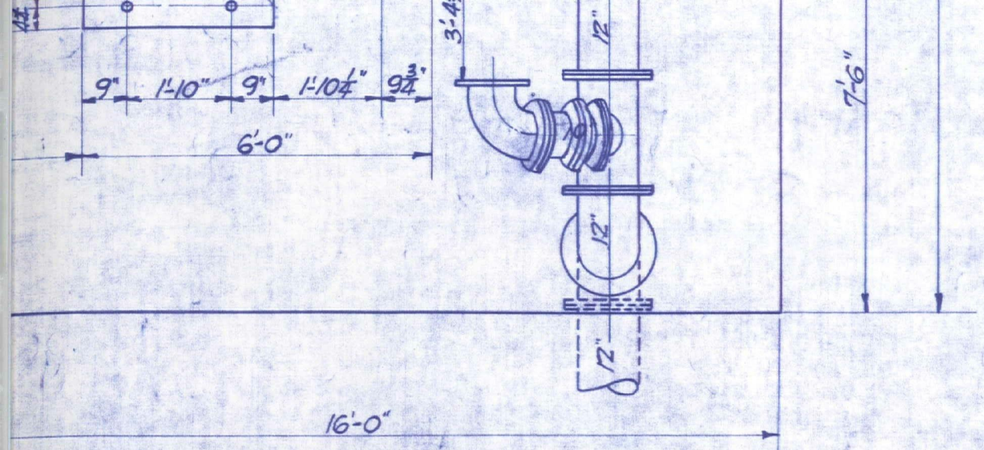


SECTION

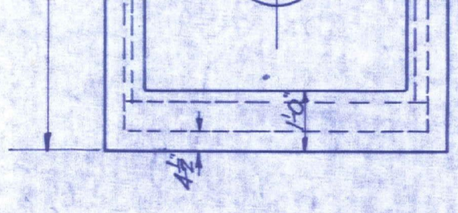
MATERIAL FOR TANK

POSTS	12"x14"
BOTTOM SILLS	12"x17"
TOP SILLS	12"x14"
FLOOR JOISTS	3"x12"
BRACING	2"x6"

VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE



PLAN
HOWING OUTLINE OF PUMP HOUSE,
UMP FOUNDATIONS AND SUCTION LINE
O PUMPS.



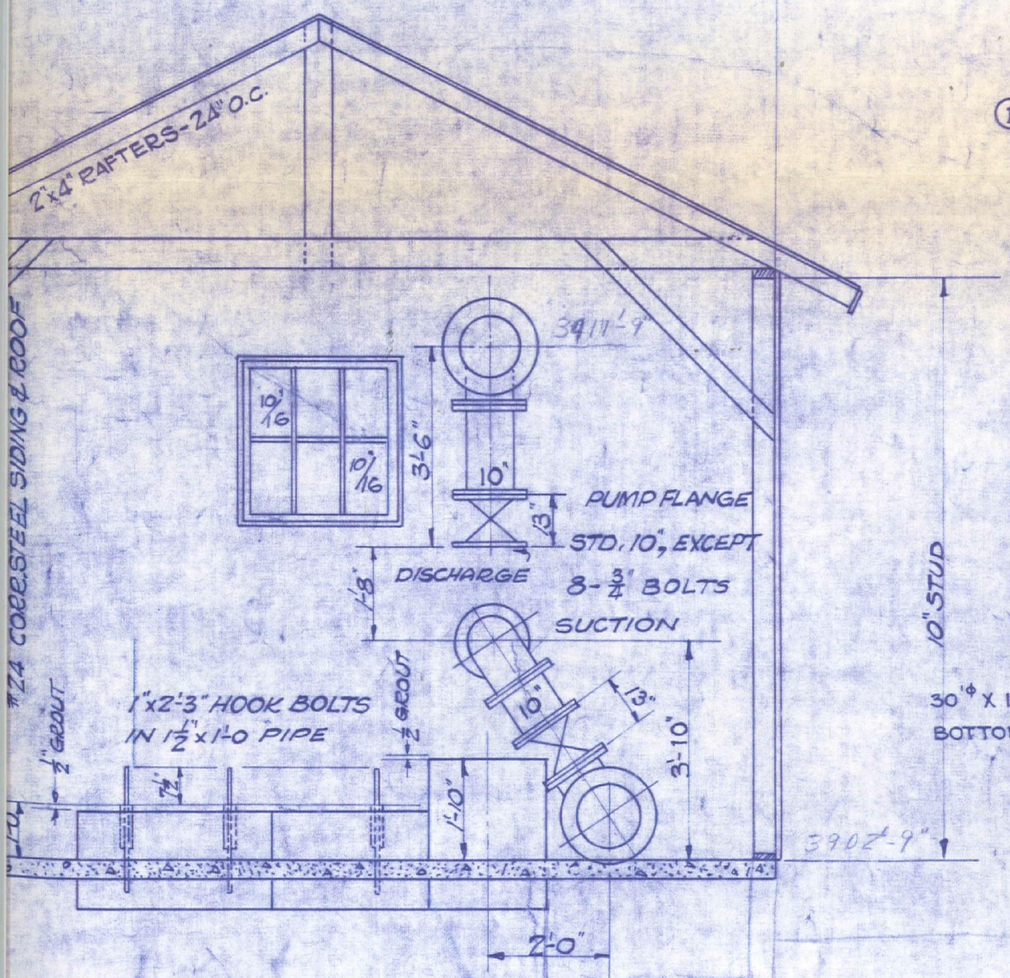
ELEVATION

DETAIL OF INTAKE BOX- CONCRETE

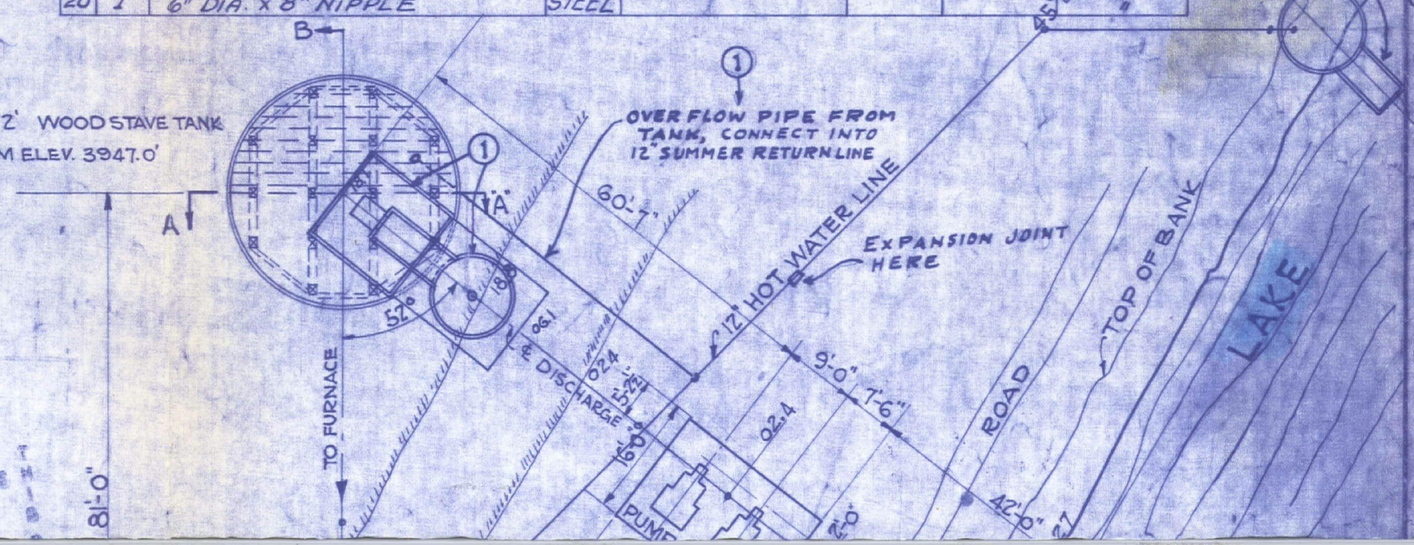
(PRE-CAST THIS BOX AND SET IN PLACE IN LAKE)

BILL OF MATERIAL FOR 12" SUPPLY & RETURN LINES

ITEM	No REQ	DESCRIPTION	MAT'L	LOCATION	MARK OR PATT	DETAILED ON DWG	REQ'N
21	1	6" STD. GATE VALVE	ALL IRON				A-5996
1	1800	FT. OF 12" STD. PIPE	STL.				A-5992
2	1	12" FOOT VALVES	C.I.				"
3	4	12"x12"x10" STD. FLANGED TEES	"				"
4	2	10" STD. 90° FLANGED ELBOWS	"				"
5	4	10" STD. GATE VALVES	IRON BODY				"
6	8	12" STD. 45° FLANGED ELBOWS	C.I.				"
(1) 7	5	12" EXPANSION JOINTS		12" LINES	Crane #401		
8	11	12" STD 90° " "	"				A-5992
9	3	12" GATE VALVE-L.P. 11" F. TO F.	IRON BODY				"
10	150	COMPANION FLANGES	C.I.				"
11	200	1/16" GASKETS	RUBBER				A-5996
12	1800	5/8"x3½" MCH. BOLTS-WITH 1 HEX. NUT					A-5992
13	1	12" FLANGED CHECK VALVE	IRON BODY	DISCHARGE LINE			"
14	1	12"x12"x12" LATERAL					"
15	10	FT. 10" PIPE					"
16	8	10" COMP FLANGES					"
17	1	30'x12' WOOD TANK					A-5963
18	1	12"x12x6 STD. FLGD. TEE	C.I.				A-5996
19	2	6"x11" STD. COMPANION FLGS.	C.I.				"
20	1	6" DIA. x 8" NIPPLE	STEEL				"



SECTION

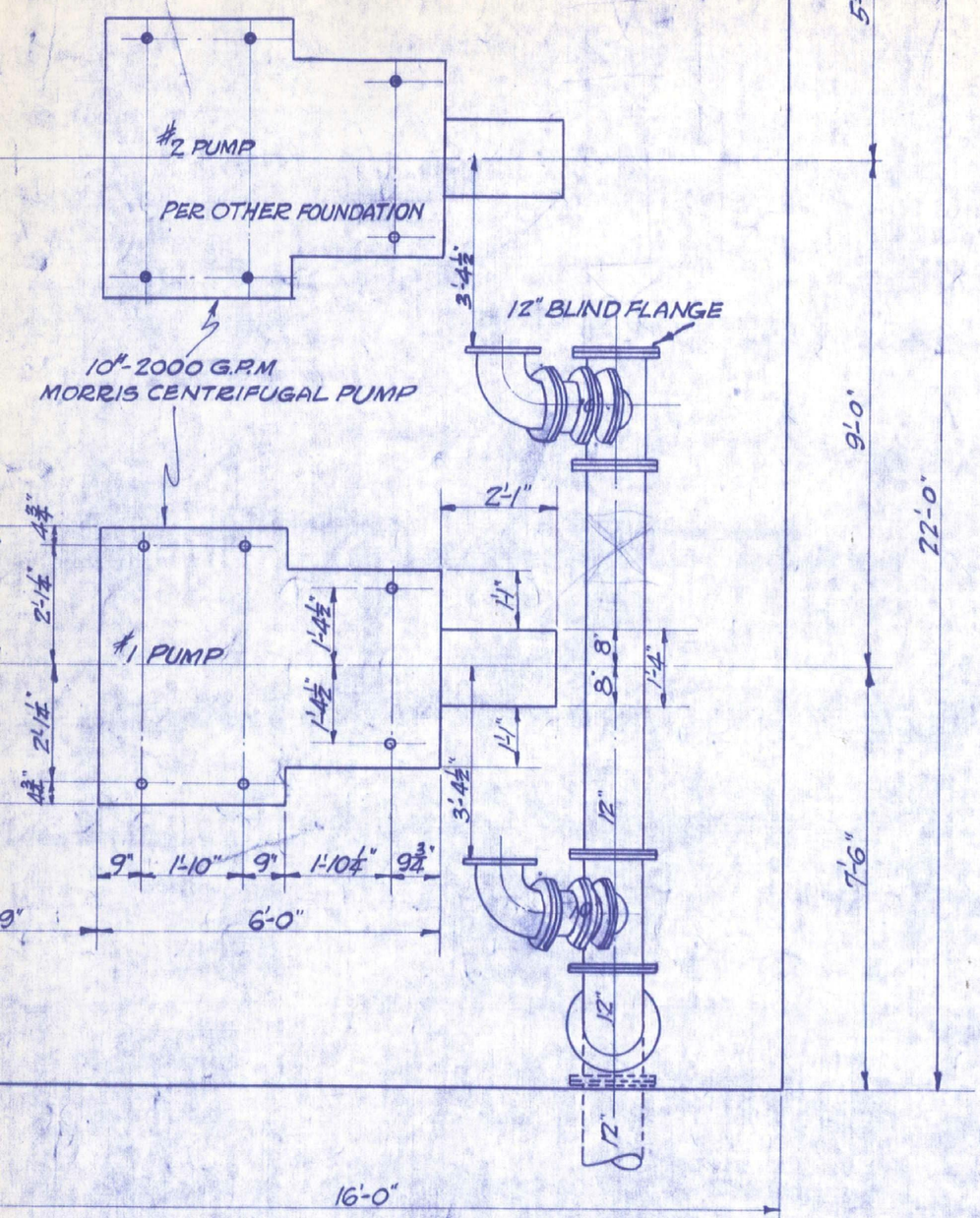


E.D.R. - A5992 PIPE & FITTINGS
E.D.R. - A5996 " "
E.D.R. A6835 PIPE, VALVES & FITTINGS

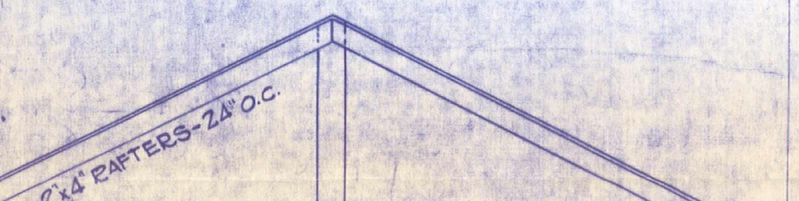
VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE

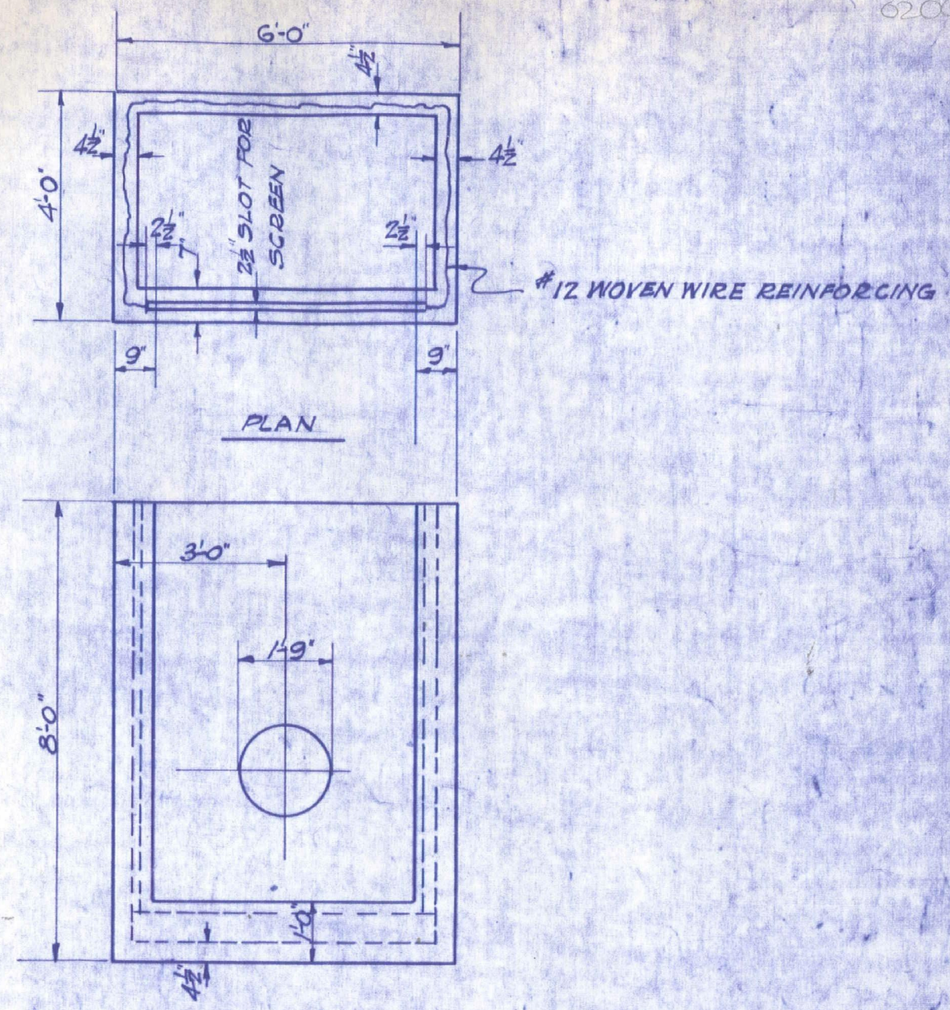
0200662

0200655



PLAN
SHOWING OUTLINE OF PUMP HOUSE, PUMP FOUNDATIONS AND SUCTION LINE TO PUMPS.



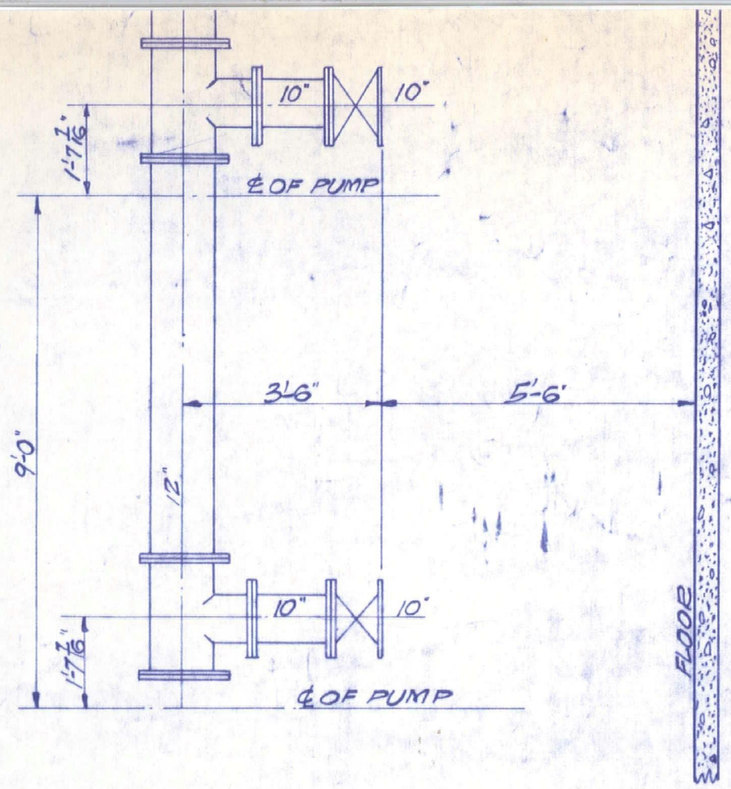


DETAIL OF INTAKE BOX- CONCRETE

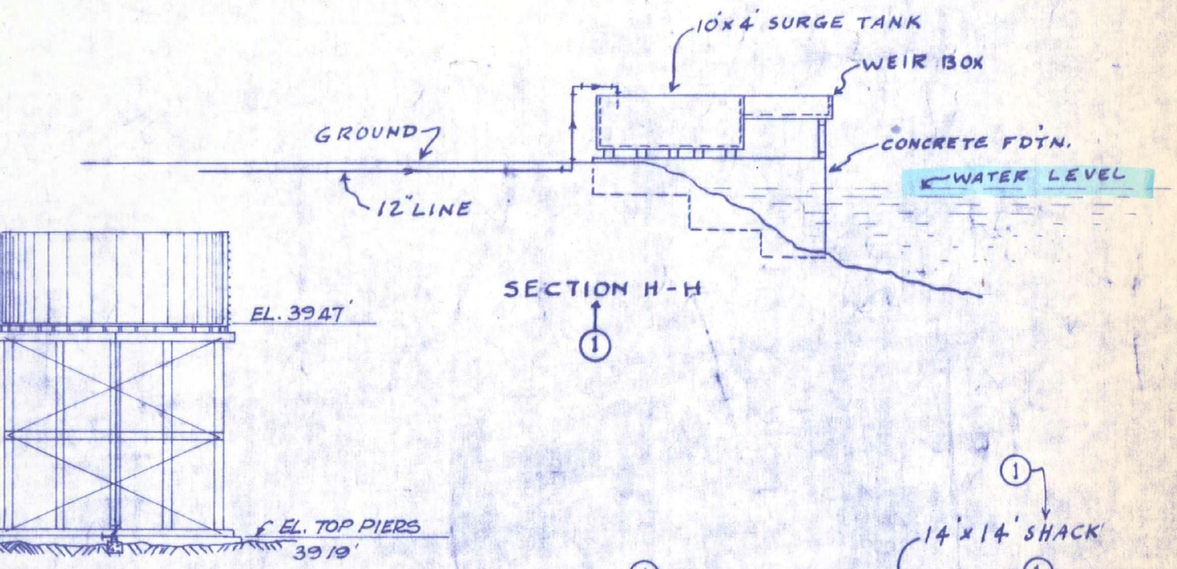
(PRE-CAST THIS BOX AND SET IN PLACE IN LAKE)

BILL OF MATERIAL FOR 12" SUPPLY & RETURN LINES

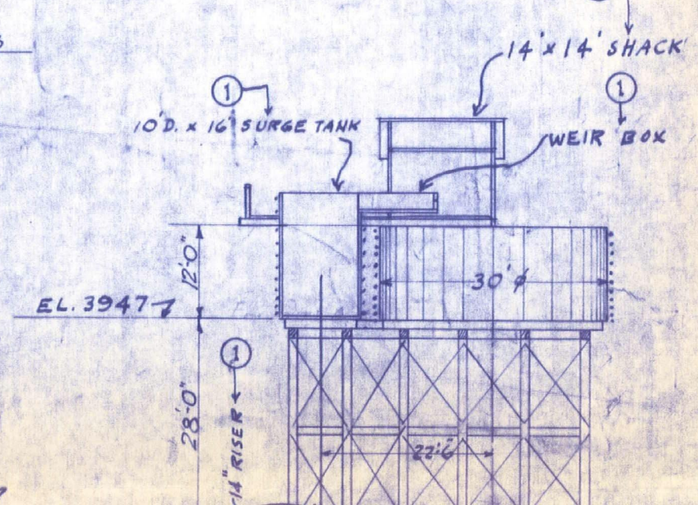
ITEM	No REQ	DESCRIPTION	MAT'L	LOCATION	MARK OR PATT	DETAILED ON DWG	REQ'N
21	1	6" STD. GATE VALVE	ALL IRON				A-5996
1	1800	FT. OF 12" STD. PIPE	STL.				A-5992
2	1	12" FOOT VALVES	C.I.				"
3	4	12"x12"x10" STD. FLANGED TEES	"				"
4	2	10" STD. 90° FLANGED ELBOWS	"				"
5	4	12" STD. GATE VALVES	IRON BODY				"
6	8	12" STD. 45° FLANGED ELBOWS	C.I.				"
1 → 7	5	12" EXPANSION JOINTS		12" LINES	Crane #401		
8	11	12" STD 90° " "	"				A-5992
9	3	12" GATE VALVE-L.P.U. E TO F	IRON				"

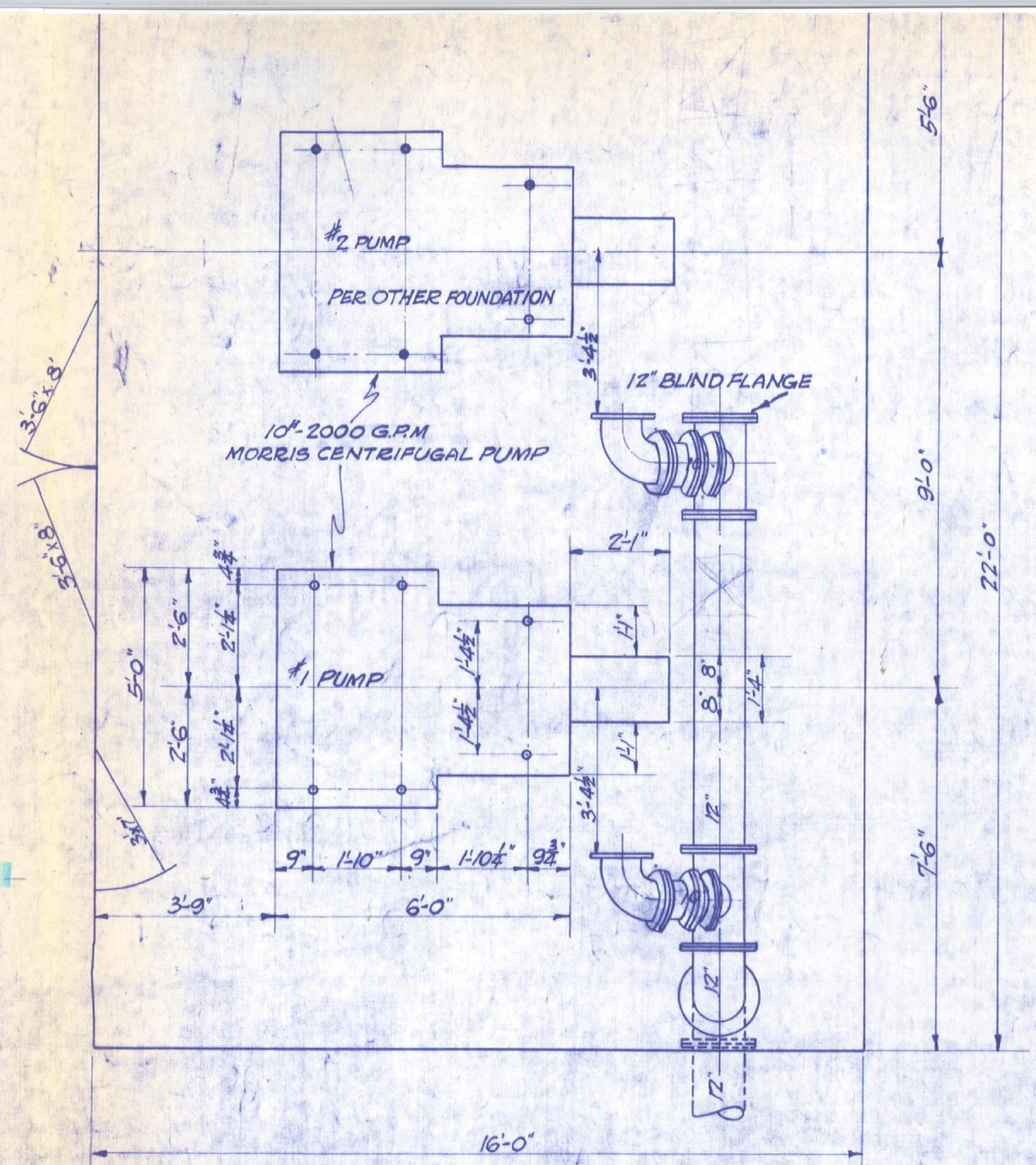


SIDE ELEVATION
SHOWING DISCH FROM PUMPS

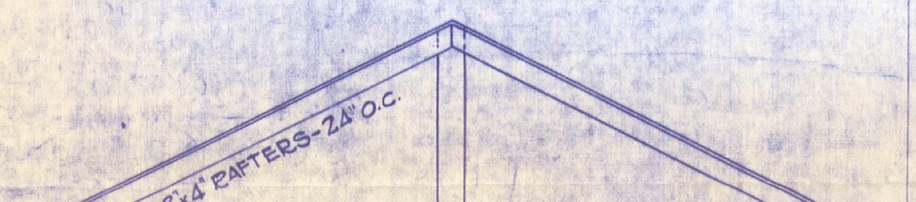


SECTION H-H
1

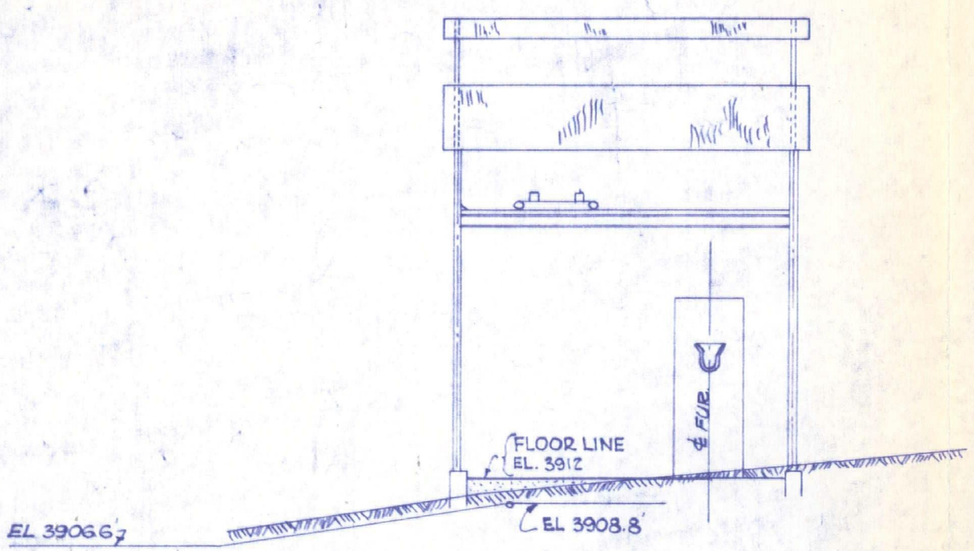




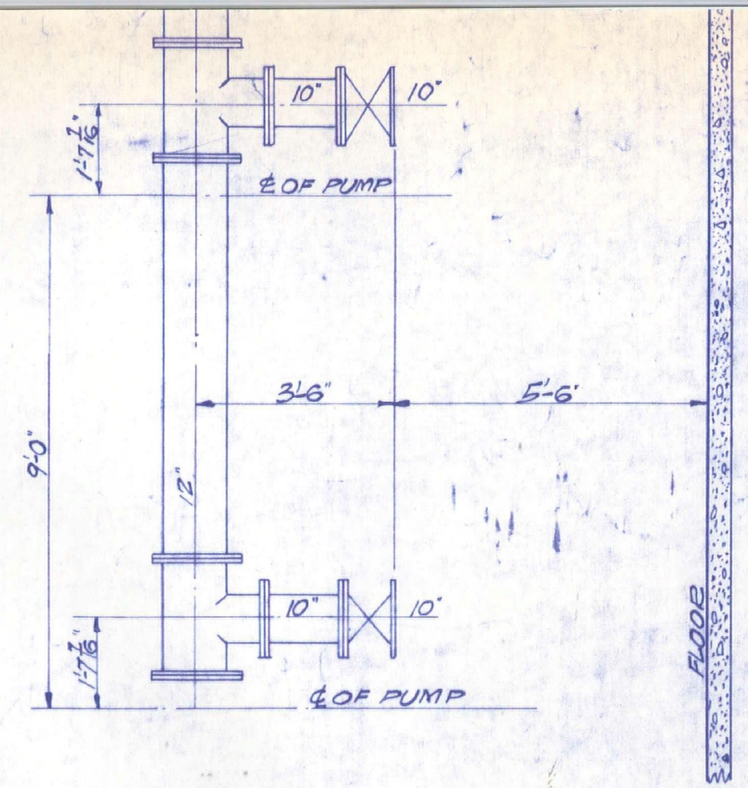
PLAN
SHOWING OUTLINE OF PUMP HOUSE, PUMP FOUNDATIONS AND SUCTION LINE TO PUMPS.



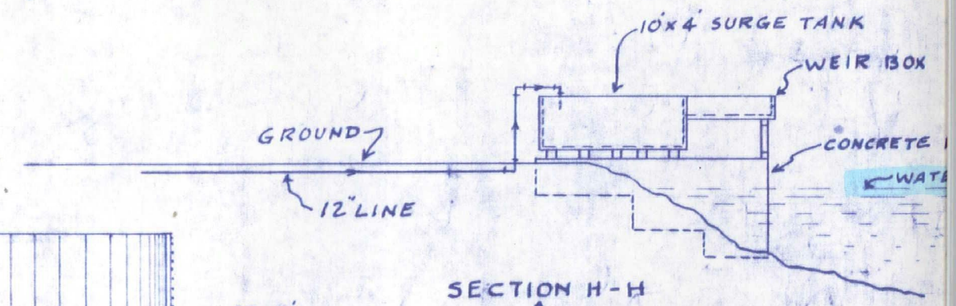
ITEM	NO REQ	
21	1	
1	1800	F
2	1	1
3	4	1.
4	2	1
5	4	1
6	8	1.
1 → 7	5	1
8	11	1
9	3	1



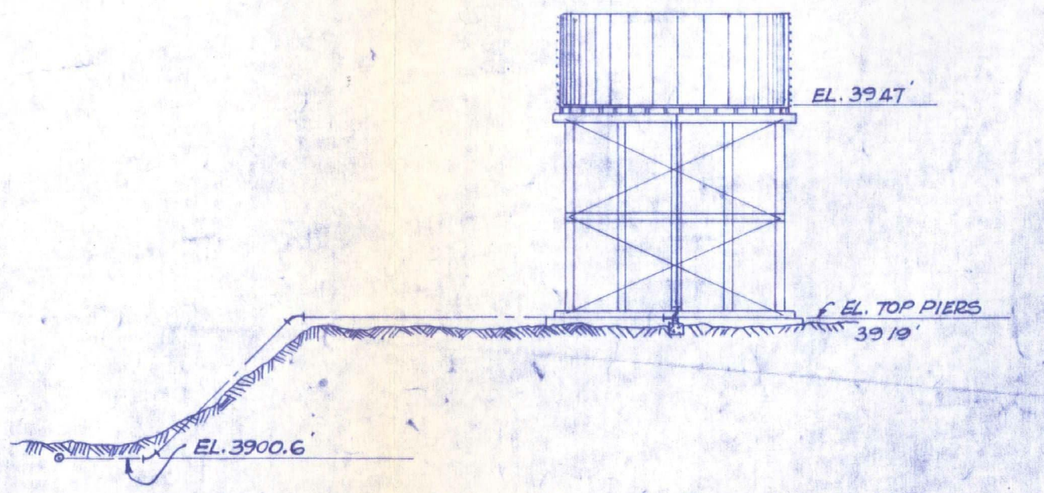
SECTION "GG-C"



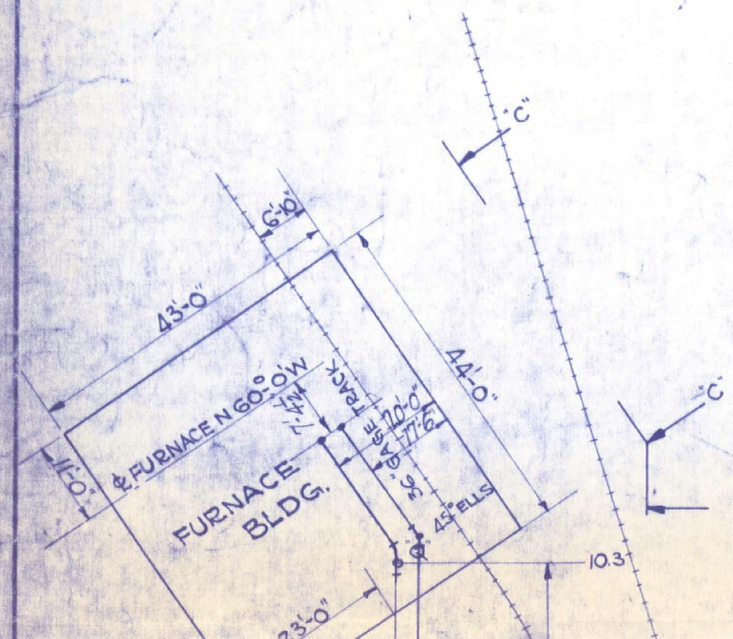
SIDE ELEVATION
SHOWING DISCH FROM PUMPS

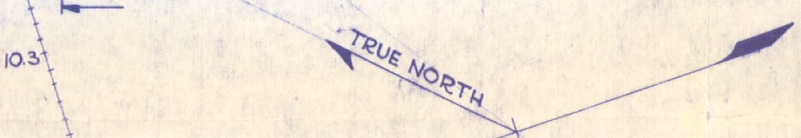


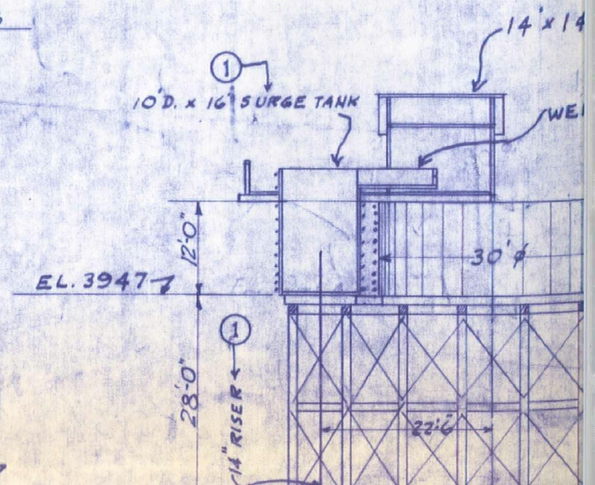
SECTION H-H
1

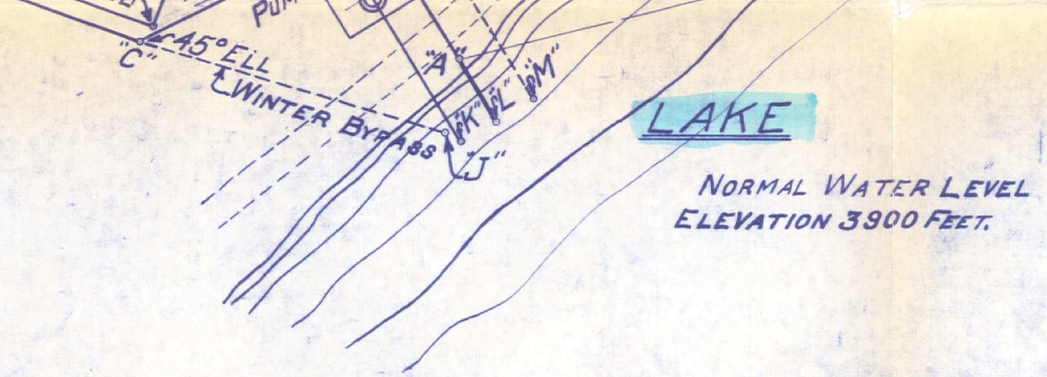


SECTION "B-B"









NOTES:-

12" STANDARD PIPE FROM LAKE TO TANK AND FROM TANK TO FURNACE BUILDING.
12" RIVETED STEEL PIPE FROM FURNACE BUILDING BACK TO LAKE.

DESCRIPTION OF WATER LINES.

BEGINNING AT POINT "A" ON NORTH BANK OF A.S. AND R. LAKE, WHICH POINT IS THE BEGINING OF THIS WATER SURVEY AND FROM WHICH THE EAST ¼ CORNER OF SECTION 36 - TOWNSHIP 10 NORTH - RANGE 3 WEST, BEARS SOUTH 59°-41' EAST 1274 FEET.

NOW FROM SAID POINT "A" NORTH 12°-10'-EAST - 100 FEET TO "B" WHICH IS THE CENTER OF THE ELEVATED TANK; FROM "B" TO "C" SOUTH 64°-10' WEST 81 FEET; FROM "C" TO "D" NORTH 25°-50' WEST 398 FEET; FROM "D" TO "E" NORTH 19°-10' EAST 180 FEET; FROM "E" TO "F" NORTH 64°-10' EAST 30 FEET; THENCE RETURNING ON THE SAME LINES, "F" TO "E" SOUTH 64°-10' WEST 30 FEET; "E" TO "D" SOUTH 19°-10' WEST 180 FEET; "D" TO "C" SOUTH 25°-50' EAST 398 FEET; FROM "C" TO "G" SOUTH 70°-50' EAST 123 FEET; FROM "G" TO "H" SOUTH 25°-50 EAST - 56 FEET, WHICH POINT IS IN THE A. S. AND R. LAKE. RETURN LINE "C"-"G"-"H" USED DURING WARM WEATHER.

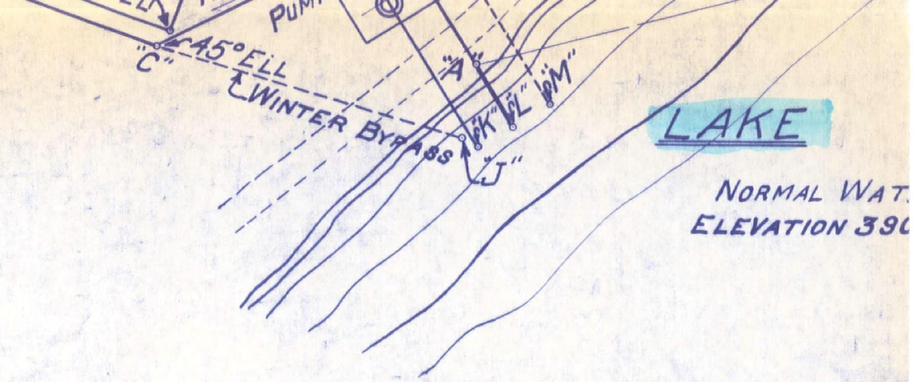
LINE FROM "C" TO "J" SOUTH 25°-50' EAST 87 FEET, WHICH IS TO BE USED AS HOT WATER RETURN IN FREEZING WEATHER, TO KEEP ICE FROM FORMING AROUND INTAKE PIPES "K" AND "L".

PIPE "M" - CONNECTION FOR FUTURE EXPANSION.

MICROFILMED
VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE
JUL 26 1987
HELENA, MONTANA
406/442-4710
FILMED DATE

DESCRIPTION		DATE			
	DRAWN BY J. H. WARNER	8-2-27	EAST HELENA SLAG PLANT WATER SYSTEM GENERAL LAYOUT	ANACONDA COPPER MINING COMPANY. ANACONDA, MONTANA.	SCALE 1" = 40'-0"
	TRACED BY L. E. HURD.	8-5-27			HG-5
	CHECKED BY				
	APPROVED				

APR 10 1990



NOTE

DESCRIP

WHICH POI
OF SECTIO

WHICH IS T
FROM "C" TO
TO "F" NORT
10' WEST 30
FROM "C" TO
POINT IS IN
LINE FROM "
IN FREEZING
PIPE "M" - CON

REVISIONS	NO.	MADE BY	DATE	DESCRIPTION
	5			
	6			
	7			
	8			

REVISIONS	NO.	MADE BY	DATE	DESCRIPTION
	1			
	2			
	3			
	4			

		DATE
DRAWN BY	J. H. WARNER	8-2-27
TRACED BY	L. E. HURD.	8-5-27
CHECKED BY		
APPROVED		

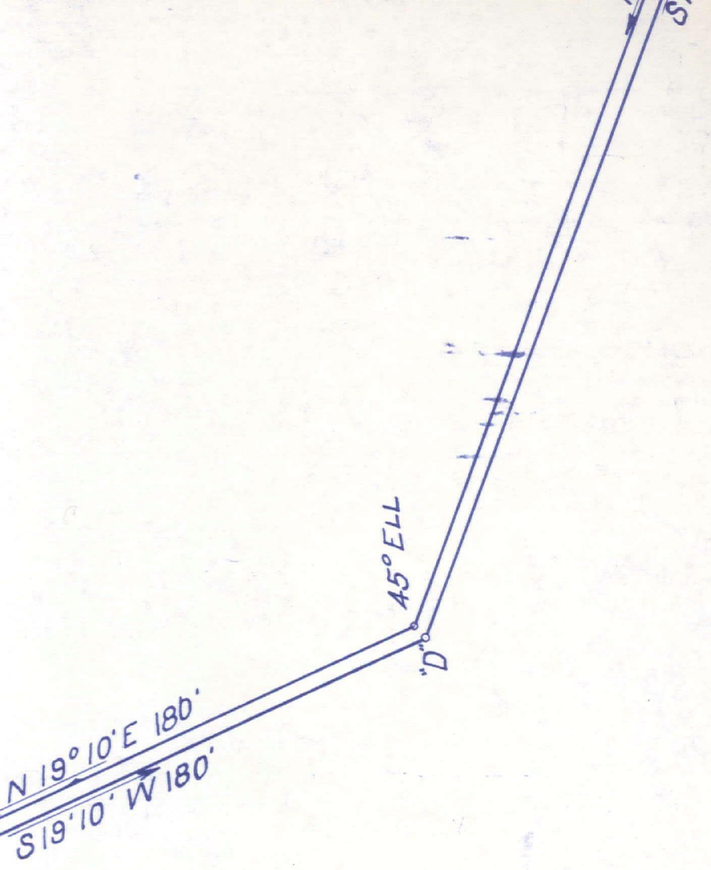
EAST HEL
WATER
GENERA

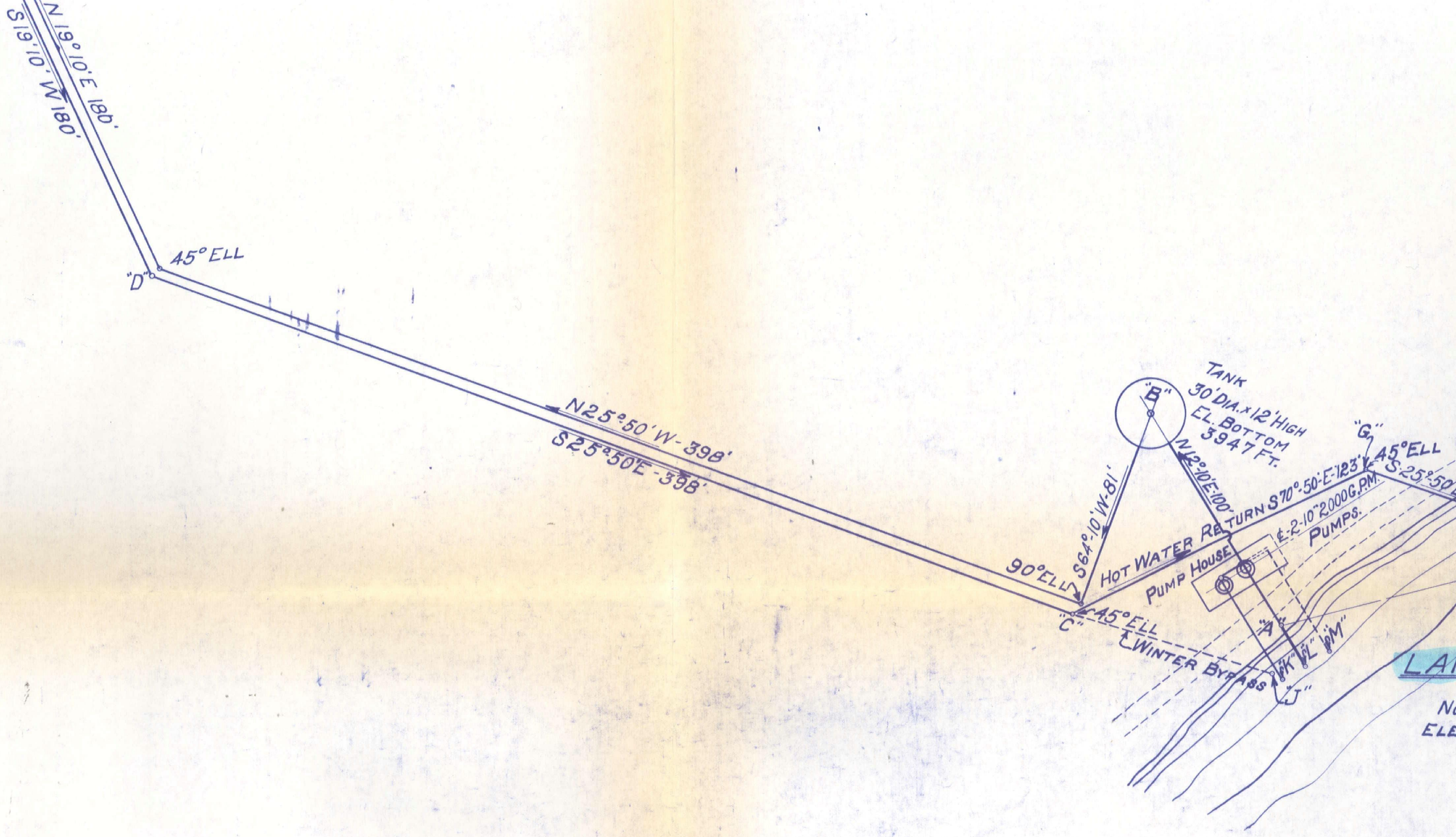
REFERENCES

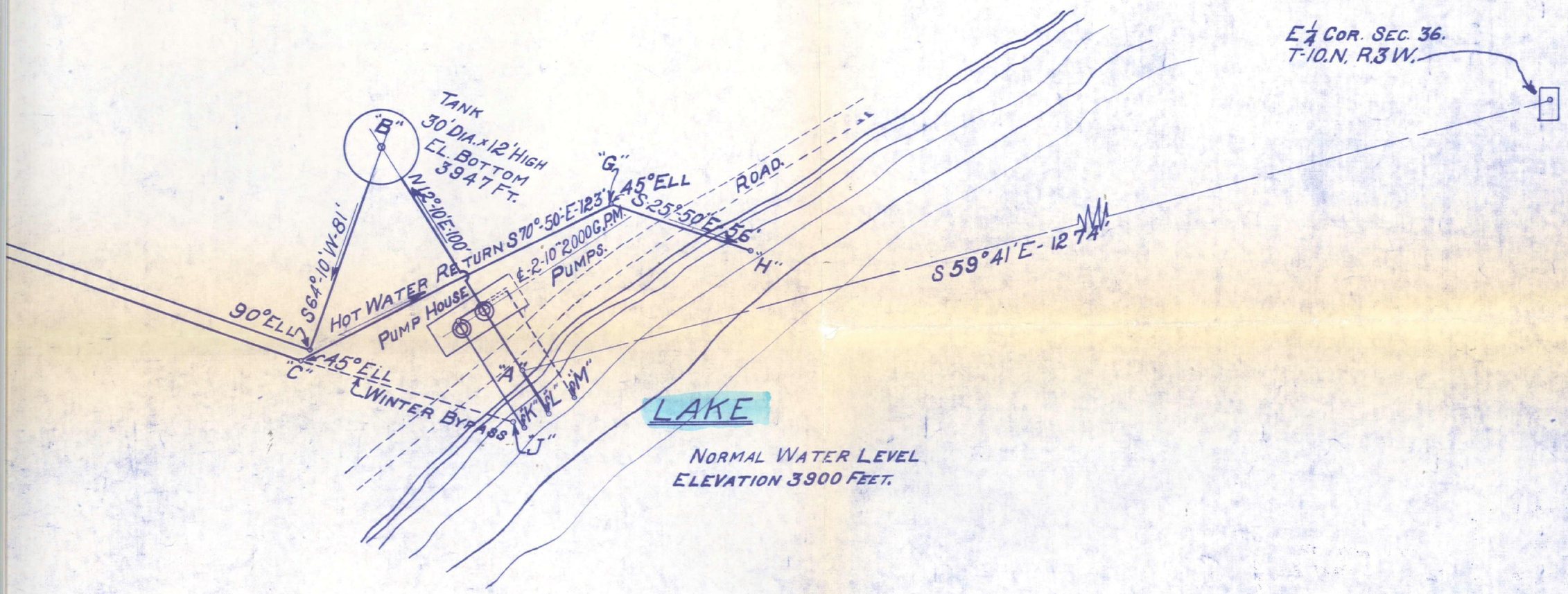
DWG. NO.	DESCRIPTION

REVISIONS

NO.	MADE BY	DATE	DESCRIPTION
5			
6			
7			
8			


45° ELL
"D"
N 19° 10' E 180'
S 19° 10' W 180'


S 19°10' W 180'
N 19°10' E 180'
45° ELL
"D"
N 25°50' W - 398'
S 25°50' E - 398'
90° ELL
S 64°10' W 81'
N 12°10' E 100'
"B"
TANK
30' DIA. x 12' HIGH
EL. BOTTOM
3947 FT.
"G"
45° ELL
S 25°50'
S 70°50' E 123'
HOT WATER RETURN
PUMP HOUSE
℄ 2-10" 2000 G.P.M.
PUMPS.
"C"
45° ELL
WINTER BYPASS
"A"
"J"
"K"
"L"
"M"
LA
NO
ELE

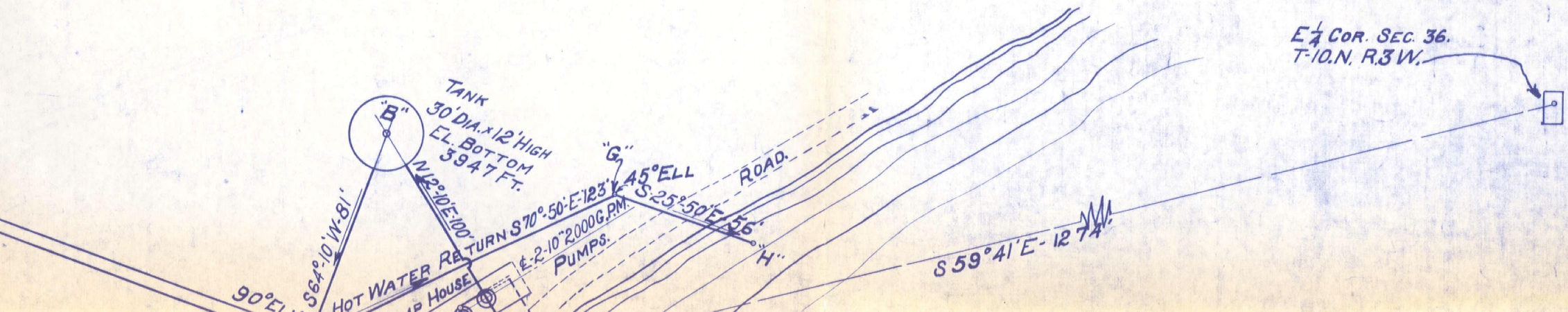


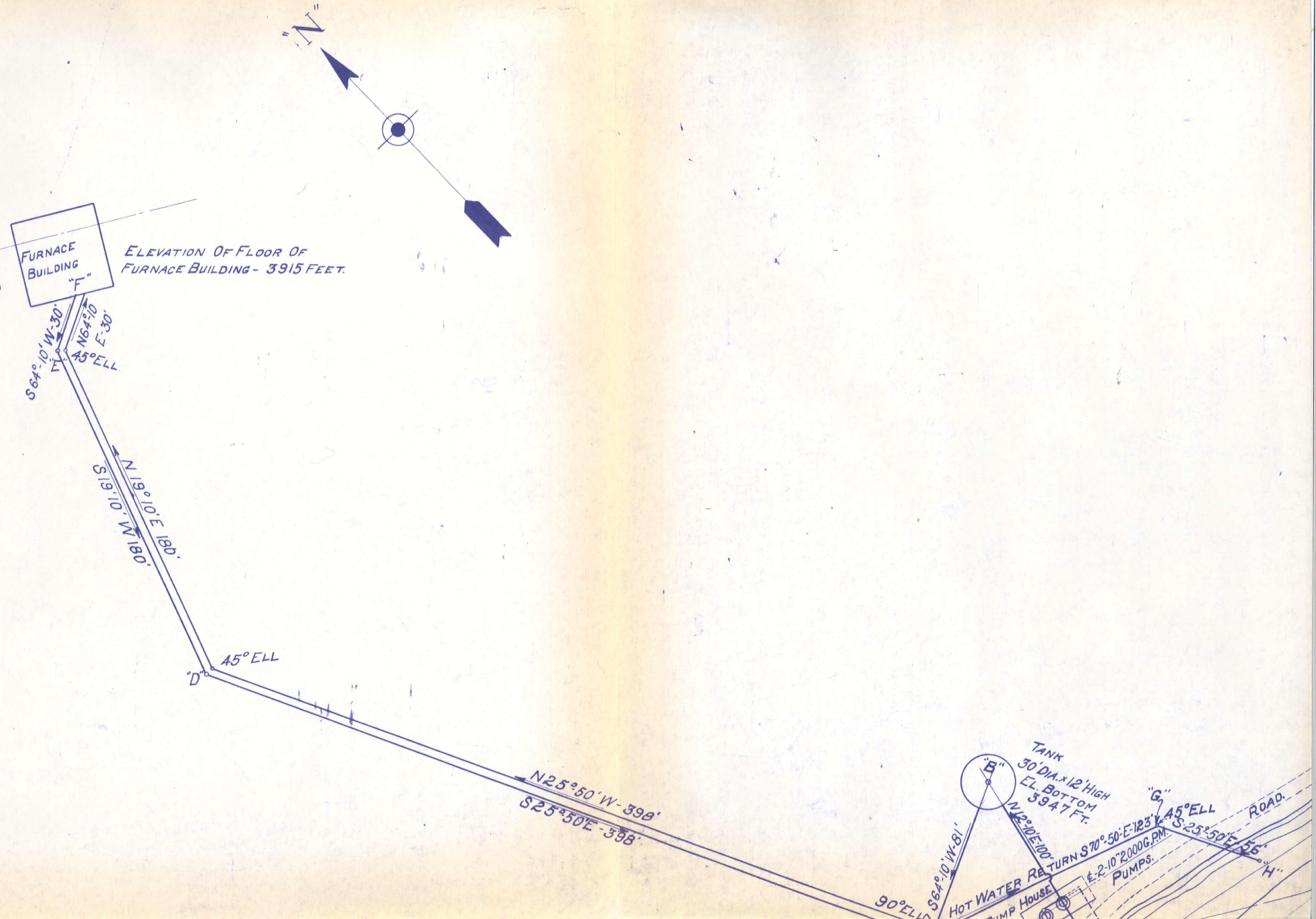
NOTES:-

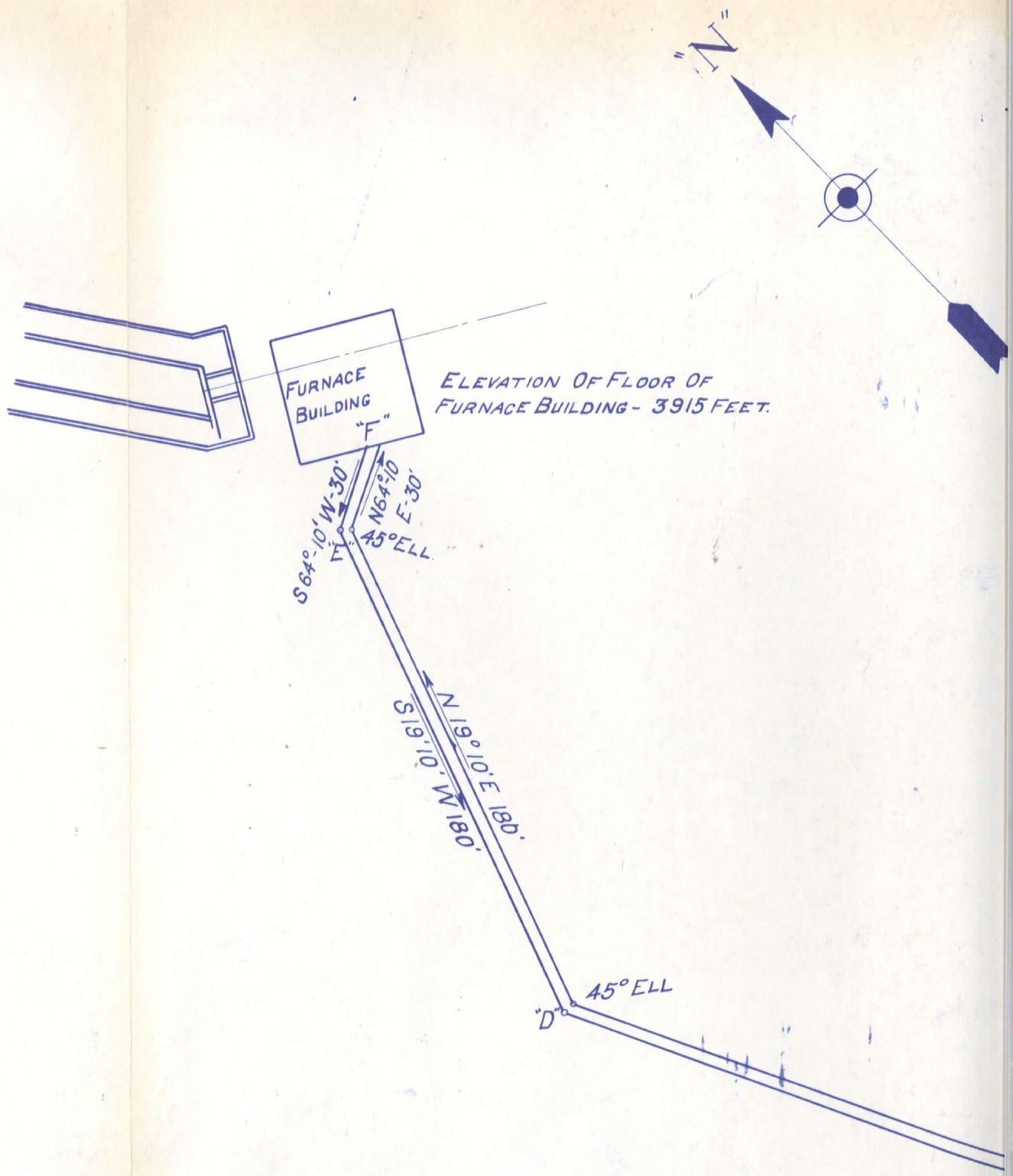
12" Standard Pipe From Lake To Tank And From Tank To Furnace Building.
12" Riveted Steel Pipe From Furnace Building Back To Lake.

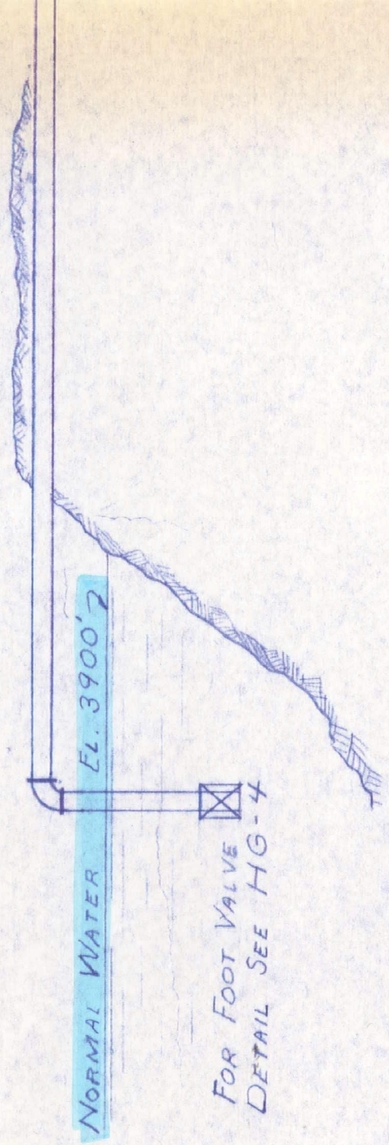
Description Of Water Lines.

0200663
0200655




"N"
FURNACE BUILDING "F"
ELEVATION OF FLOOR OF FURNACE BUILDING - 3915 FEET.
S64°-10' W-30'
N64°-10' E-30'
"E"
45° ELL
N 19°-10' E 180'
S19°-10' W 180'
"D"
45° ELL
N25°-50' W-398'
S25°-50' E-398'
TANK 30' DIA. x 12' HIGH EL. BOTTOM 3947 FT.
"B"
N12°-10' E-100'
90° ELL
S64°-10' W-81'
HOT WATER RETURN
S70°-50' E-123'
"G"
45° ELL
S-25°-50' E-56'
ROAD.
"H"
PUMP HOUSE
℄-2-10" 2000 G.P.M. PUMPS.


"N"
FURNACE BUILDING "F"
ELEVATION OF FLOOR OF FURNACE BUILDING - 3915 FEET.
S64°-10' W-30'
N64°-10' E-30'
"E"
45° ELL
N 19°-10' E 180'
S 19°-10' W 180'
45° ELL
"D"



2,000 gpm

MICROFILMED
VECTOR, INC.
TOTAL MICROGRAPHIC SERVICE
JUL 26 1967
HELENA, MONTANA
406/442-4710
THIS DATE

NO.	NAME	MATERIAL & DESCRIPTION	REQ'D
7	38° Offset 90° El.	12" Fabricate in Shop for Application	1
6	38° Elbow	" " " " " "	1
5	Wedge Gate Valve	" Standard Iron Body	6
4	Tee	" 125# Cast " Flanged	3
3	45° Lateral	" " " " "	2
2	45° Ell	" " " " "	4
1	12" Pipe	Schedule #30	243 Ft

APPROVED		APPROVED	
APPROVED		APPROVED	
APPROVED		DATE OF ISSUE	APR 10 1990

DESCRIPTION

DRAWN BY Dizg DATE 3-17-61
TRACED BY
CHECKED BY
APPROVED

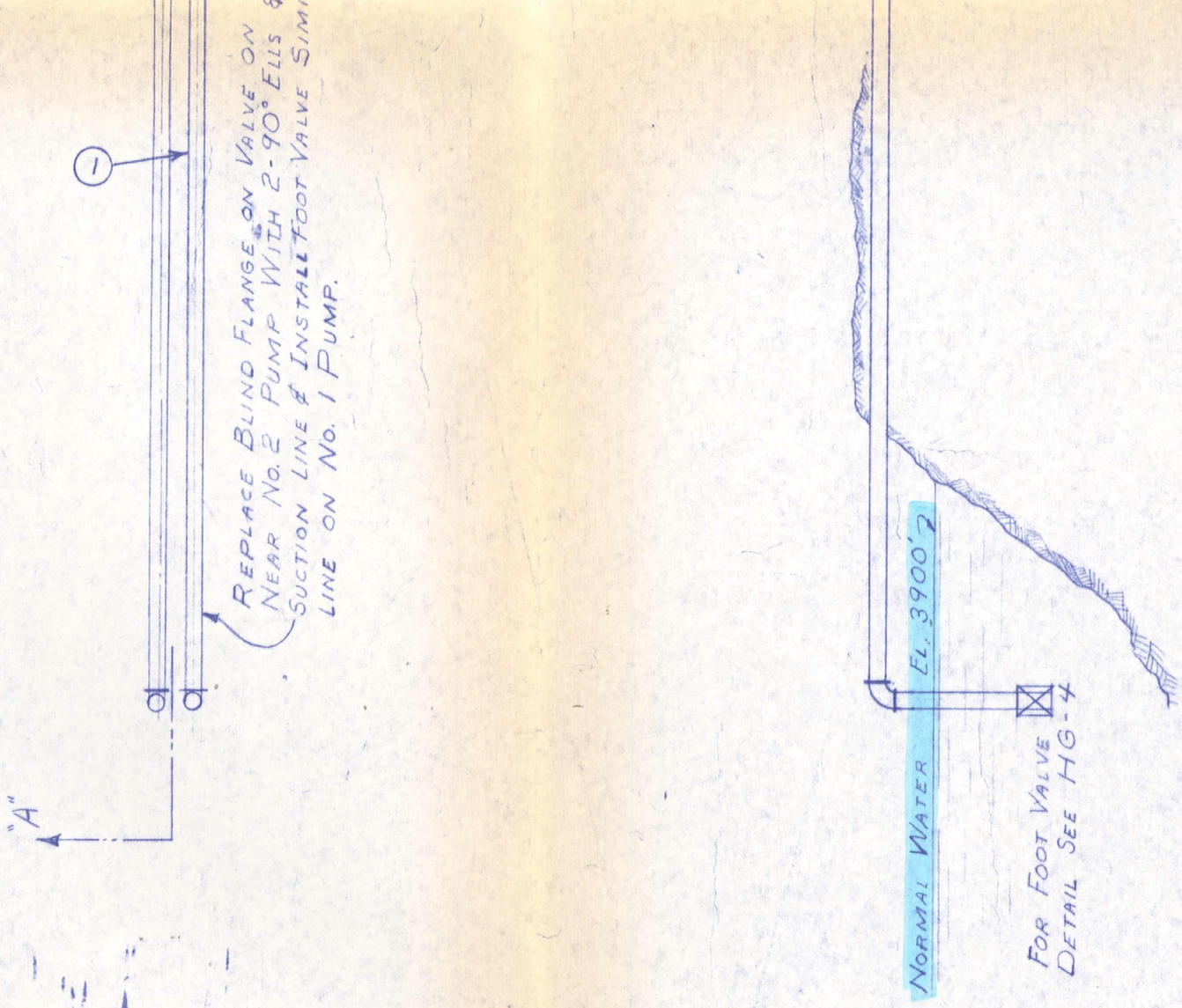
EAST HELENA SLAG PLANT
WATER SUPPLY DIVISION
PIPING ALTERATIONS TO FACILITATE USE OF
No. 1 & No. 2 PUMPS SIMULTANEOUSLY

THE ANACONDA COMPANY
EAST HELENA MONTANA

SCALE 1/8" = 1'-0"

HG-17

VIEW



NO.	
7	38° O
6	38° E
5	WEDG
4	TEE
3	45° LA
2	45° E
1	12" PIP
NO.	NA

APPROVED
APPROVED

REVISIONS NO.	MADE BY	CHECKED	DATE	DESCRIPTION
5				
6				
7				
8				

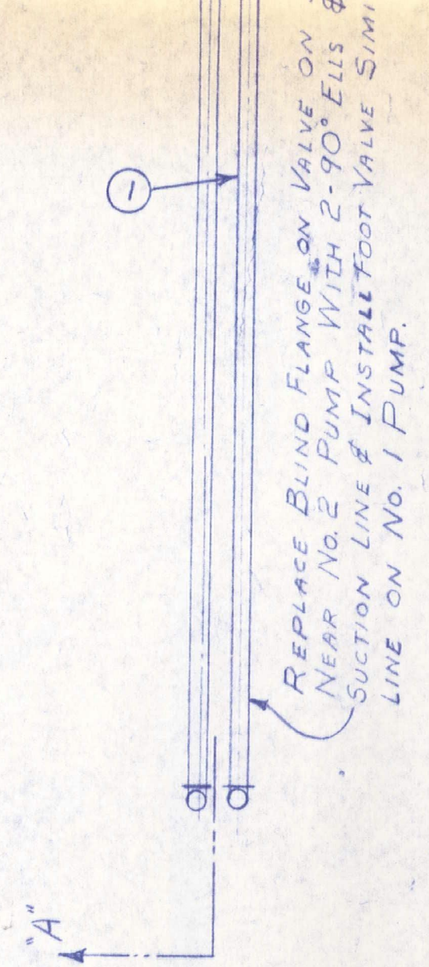
REVISIONS NO.	MADE BY	CHECKED	DATE	DESCRIPTION
1				
2				
3				
4				

DRAWN BY Dig DATE 3-17-61
TRACED BY
CHECKED BY
APPROVED

EAST HELE
WATER
PIPING ALTERATION
No. 1 & No. 2 PUM

(5) SECTI

PLAN VIEW

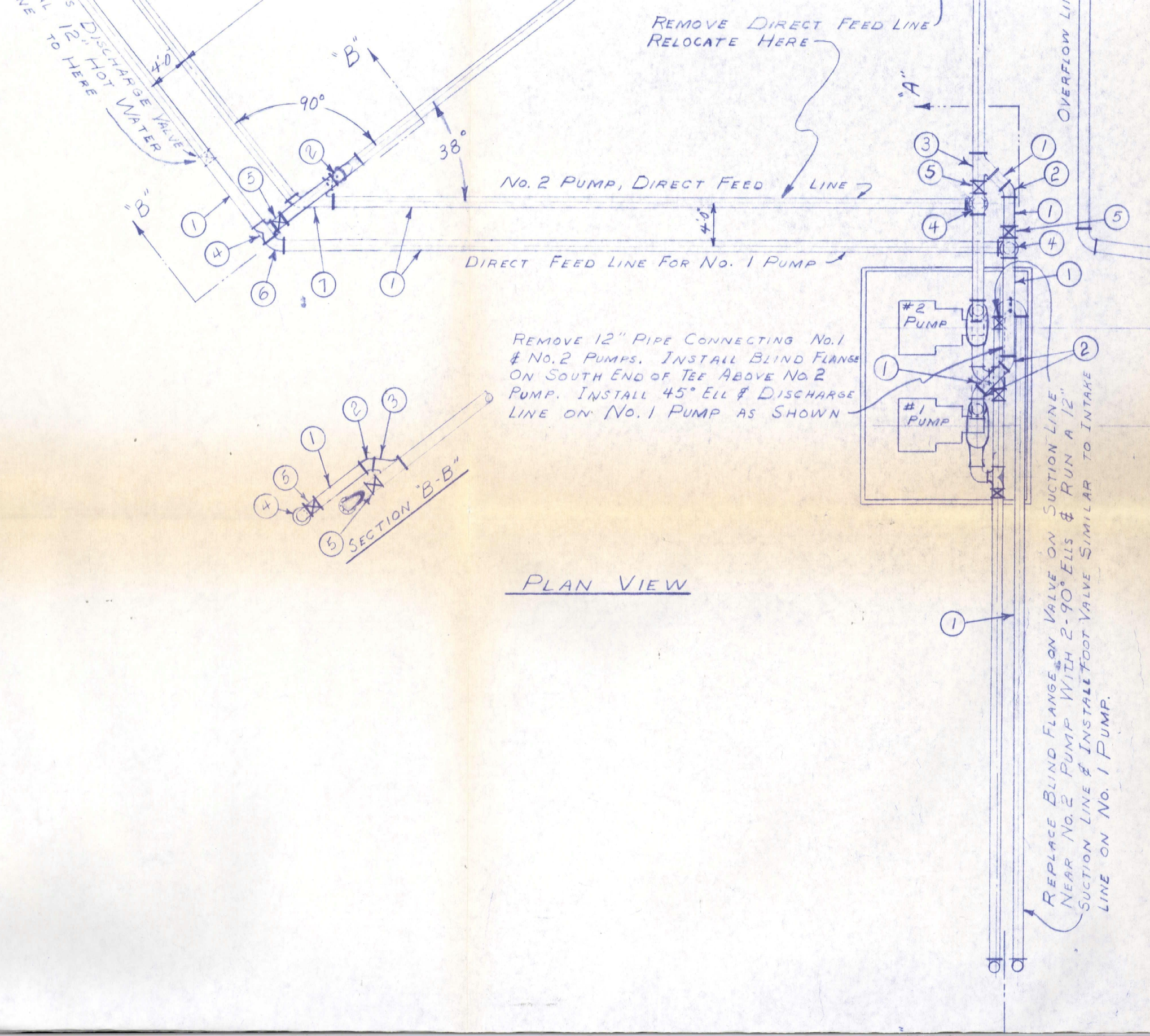


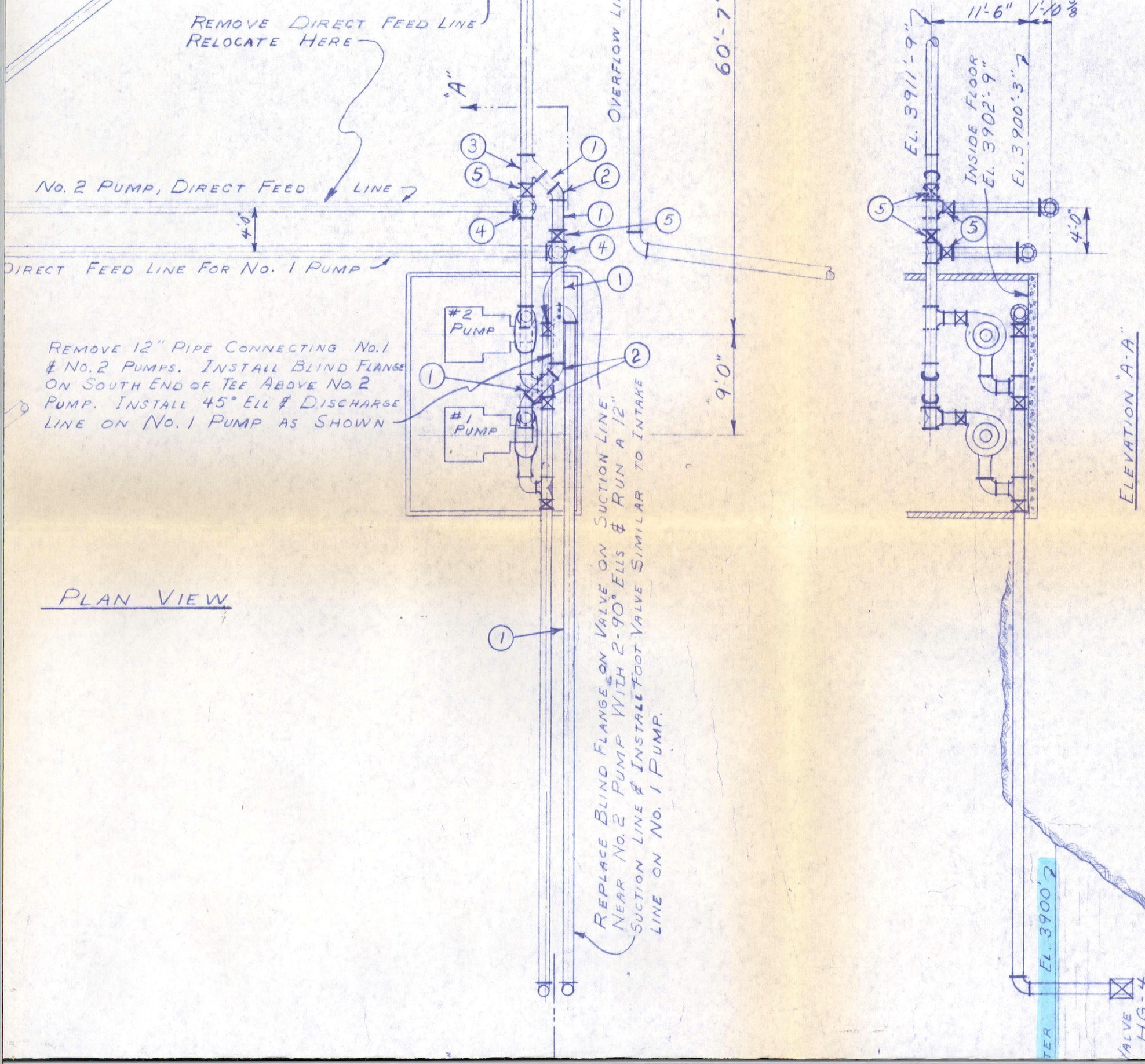
REFERENCES	DWG. NO.	TITLE
	HG-4	E. HEL. SLAG PT. WATER SUPPLY TO FUR. BLD'G

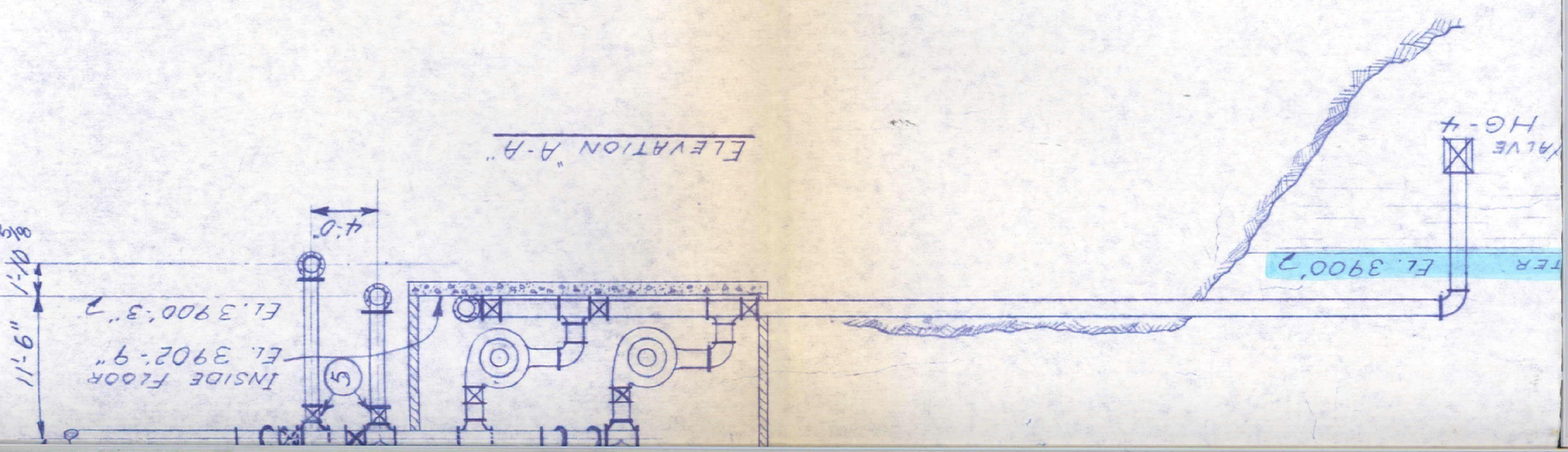
REFERENCES	DWG. NO.	TITLE

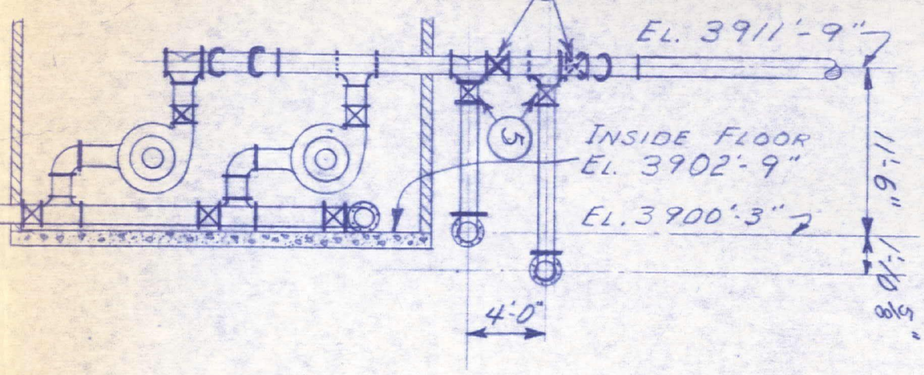
REVISIONS	NO.	MADE BY	CHECKED	DATE	DESCRIPTION
	5				
	6				
	7				
	8				

REVISIONS	NO.
	1
	2
	3
	4


REMOVE DIRECT FEED LINE
RELOCATE HERE
OVERFLOW LINE
"A"
"B"
"B"
90°
38°
4'-0"
4'-0"
DISCHARGE VALVE
12" HOT WATER
NO. 2 PUMP, DIRECT FEED LINE
DIRECT FEED LINE FOR NO. 1 PUMP
#2 PUMP
#1 PUMP
REMOVE 12" PIPE CONNECTING NO. 1 & NO. 2 PUMPS. INSTALL BLIND FLANGE ON SOUTH END OF TEE ABOVE NO. 2 PUMP. INSTALL 45° ELL & DISCHARGE LINE ON NO. 1 PUMP AS SHOWN
SECTION "B-B"
PLAN VIEW
REPLACE BLIND FLANGE ON VALVE ON SUCTION LINE NEAR NO. 2 PUMP WITH 2-90° ELLS & RUN A 12" SUCTION LINE & INSTALL FOOT VALVE SIMILAR TO INTAKE LINE ON NO. 1 PUMP.

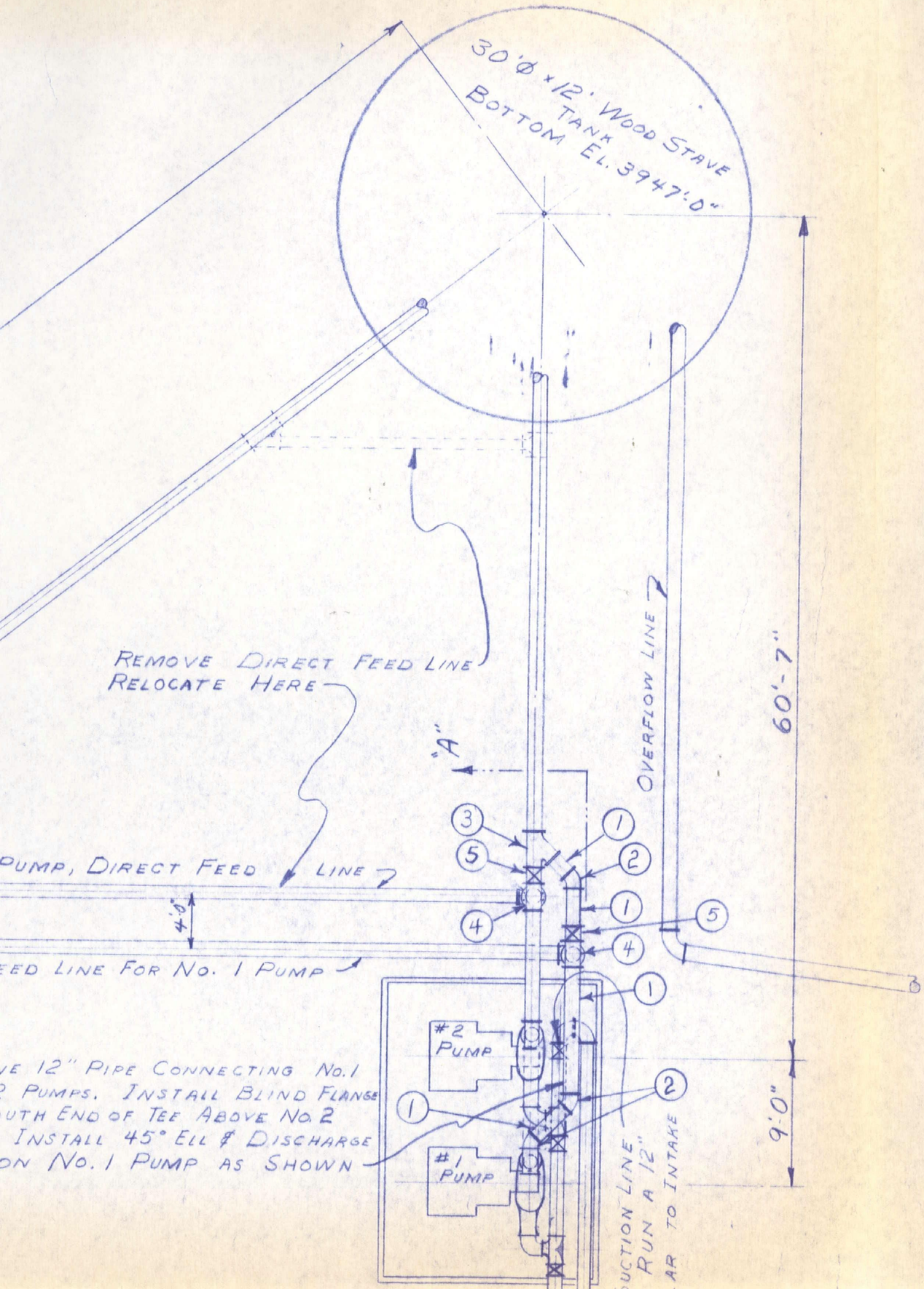

REMOVE DIRECT FEED LINE
RELOCATE HERE
"A"
OVERFLOW LINE
60'-7"
NO. 2 PUMP, DIRECT FEED LINE
4'-0"
DIRECT FEED LINE FOR NO. 1 PUMP
#2 PUMP
#1 PUMP
REMOVE 12" PIPE CONNECTING NO. 1 & NO. 2 PUMPS. INSTALL BLIND FLANGE ON SOUTH END OF TEE ABOVE NO. 2 PUMP. INSTALL 45° ELL & DISCHARGE LINE ON NO. 1 PUMP AS SHOWN
9'-0"
REPLACE BLIND FLANGE ON VALVE ON SUCTION LINE NEAR NO. 2 PUMP WITH 2-90° ELLS & RUN A 12" SUCTION LINE & INSTALL FOOT VALVE SIMILAR TO INTAKE LINE ON NO. 1 PUMP.
PLAN VIEW
11'-6"
1'-10 3/8"
EL. 3911'-9"
INSIDE FLOOR EL. 3902'-9"
EL. 3900'-3"
4'-0"
ELEVATION "A-A"
EL. 3900'
VALVE HG-4

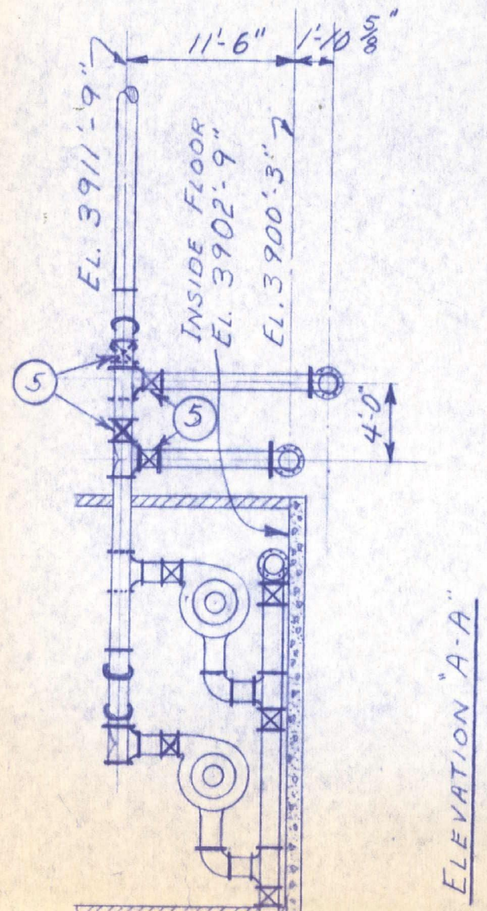

ELEVATION "A-A"
INSIDE FLOOR
EL. 3902'-9"
EL. 3900'-3"
11'-6"
4'-0"
EL. 3900'
HG-4



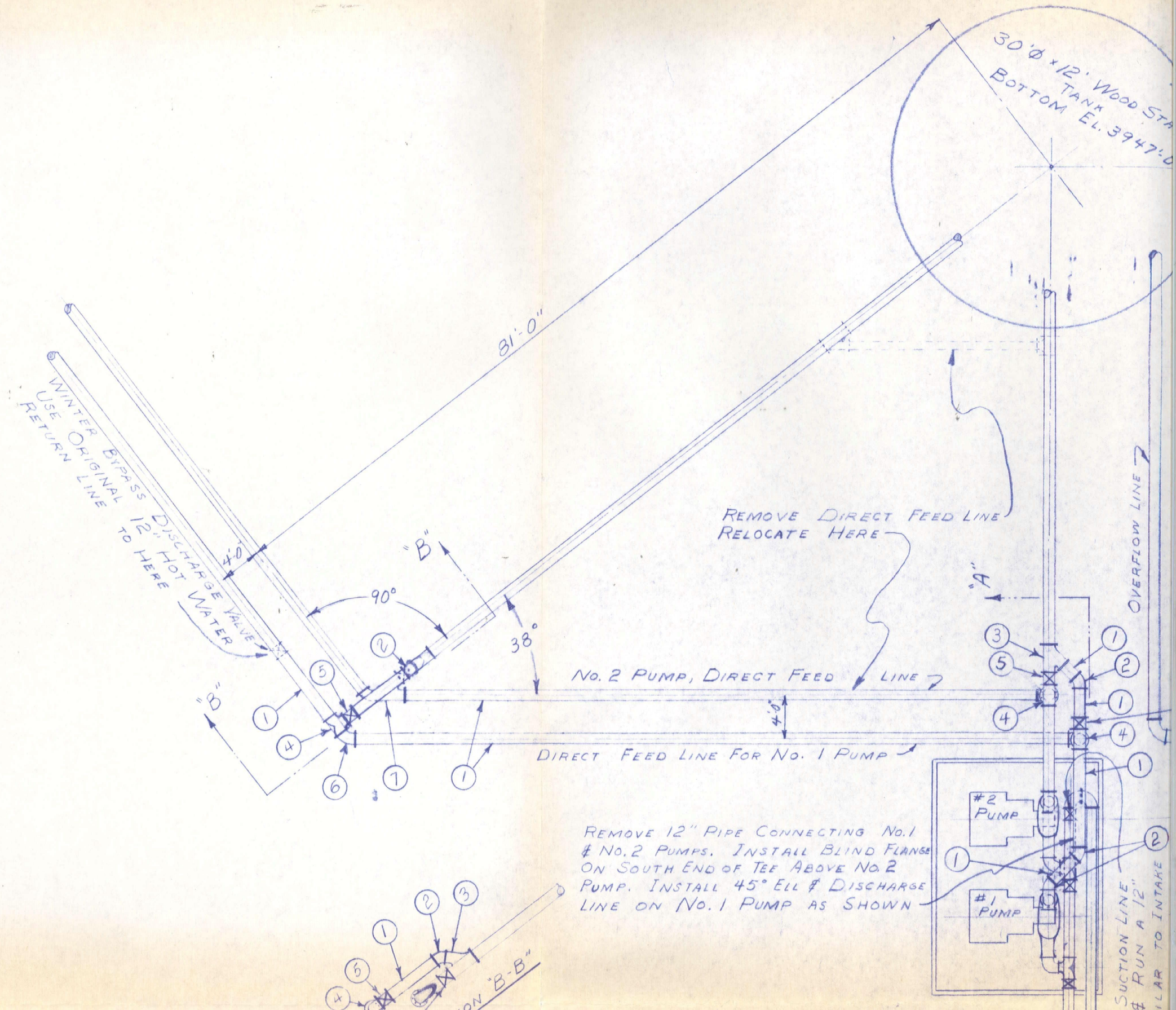
ELEVATION "A-A"

0200664
0200655





ELEVATION "A-A"


30'Ø x 12' Wood Stave Tank
Bottom El. 3947'-0"
81'-0"
Winter Bypass Discharge Valve
Use Original 12" Hot Water Return Line
4'-0"
"B"
90°
38°
"B"
Remove Direct Feed Line
Relocate Here
"A"
Overflow Line
No. 2 Pump, Direct Feed Line
4'-0"
Direct Feed Line For No. 1 Pump
#2 Pump
#1 Pump
Remove 12" Pipe Connecting No. 1 & No. 2 Pumps. Install Blind Flange On South End of Tee Above No. 2 Pump. Install 45° Ell & Discharge Line on No. 1 Pump as Shown
Suction Line & Run a 12" Pipe Parallel to Intake
Section "B-B"