



Municipality of Anchorage

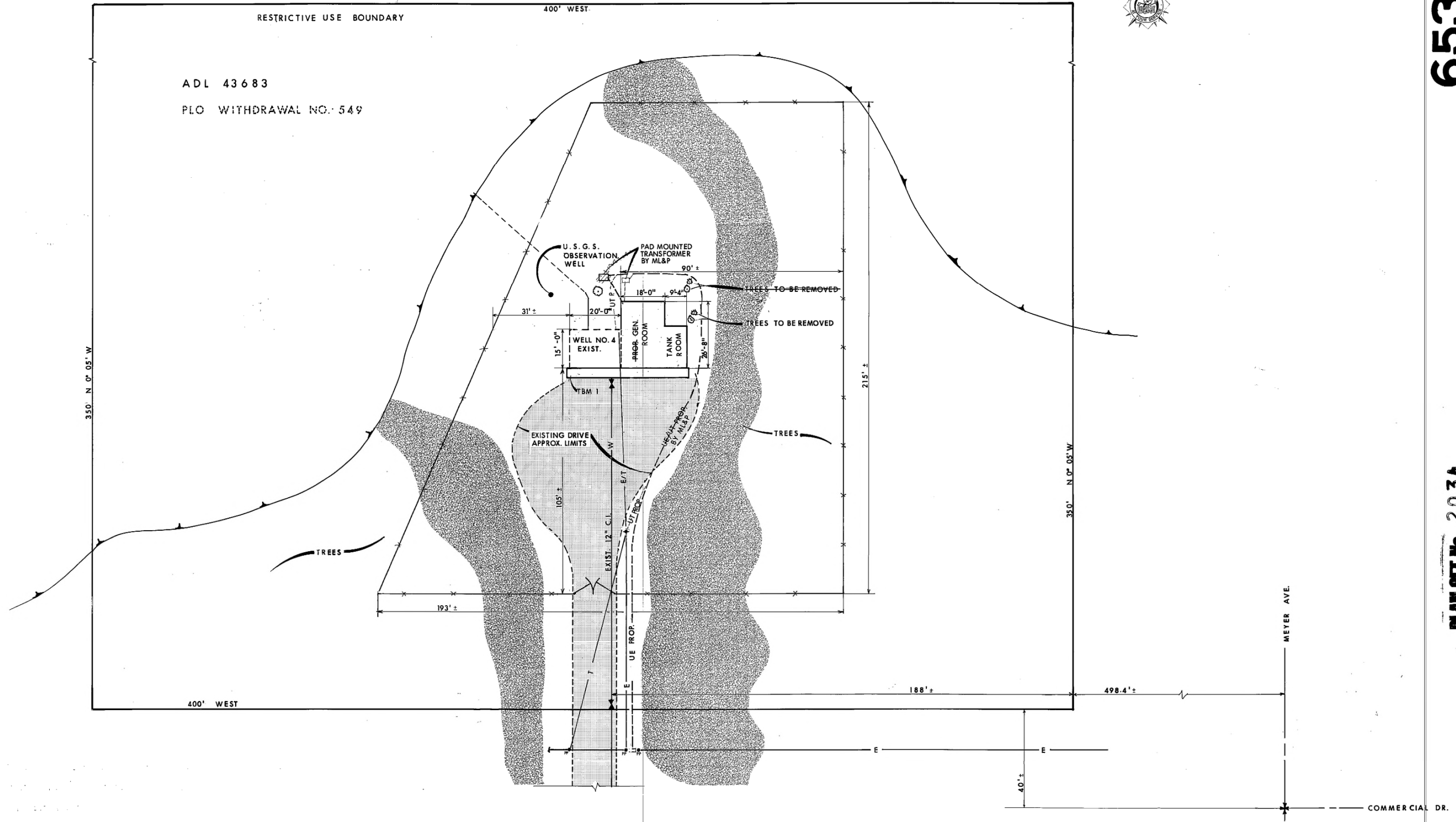
Anchorage Water and Wastewater Utility



**2022 WATER IMPROVEMENTS
ANCHORAGE WELL HOUSE CHLORINE ANALYZER
IMPROVEMENTS**

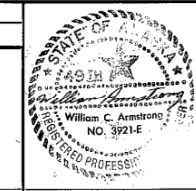
SECTION XI

RECORD DRAWINGS



ASBUILT

FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN BY	CHK BY	DATA	OWN BY	CHK BY
DESIGN					1	SW CORNER LOADING DOCK (ASSUMED ELEV.)	148.24				BASE			TELE		
STAKING											TOPO			ELEC		
ASBUILT											SAN SEWER			DESIGN		
CONTRACTOR WESTERN STATES ASSO.											STORM SEWER			QUANTITIES		
INSPECTOR BRYANT, KELLY, STEVENS											WATER			CITY CHECK		
CONSTRUCTION RECORD											GAS			G. A. A. B. CHECK		
			REVISIONS			VERTICAL DATUM			VERTICAL DATUM					PLAN CHECK		

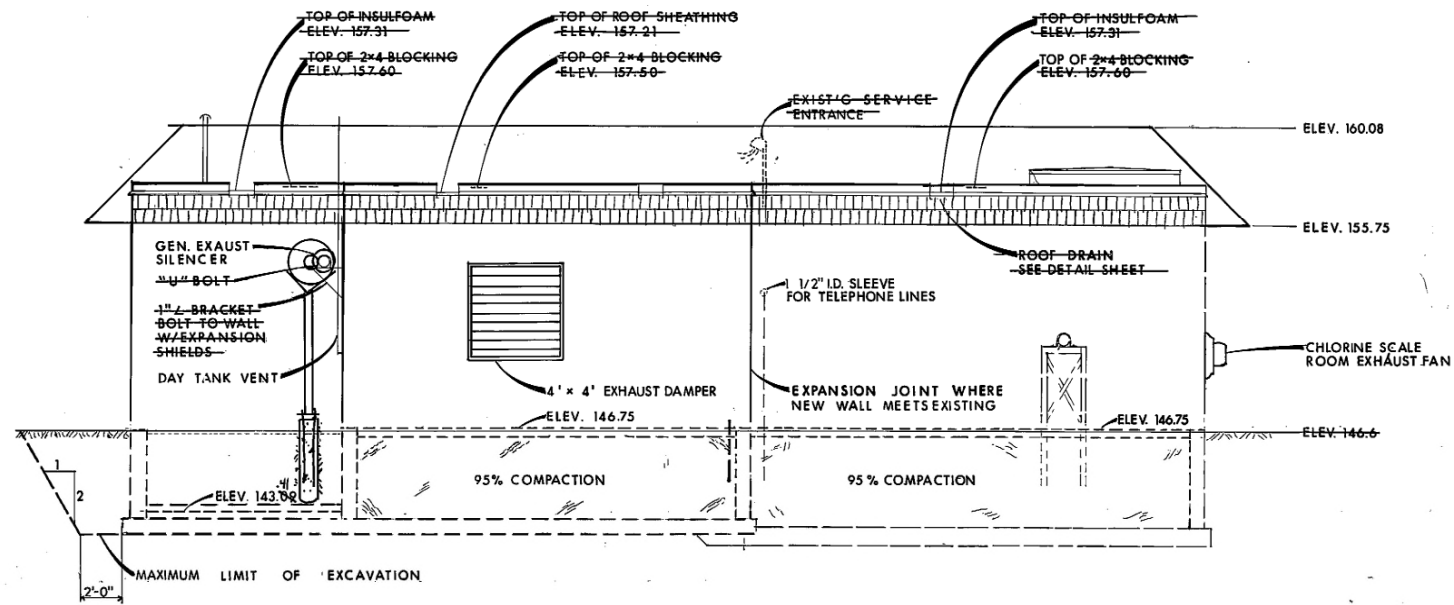


ANCHORAGE WATER UTILITY

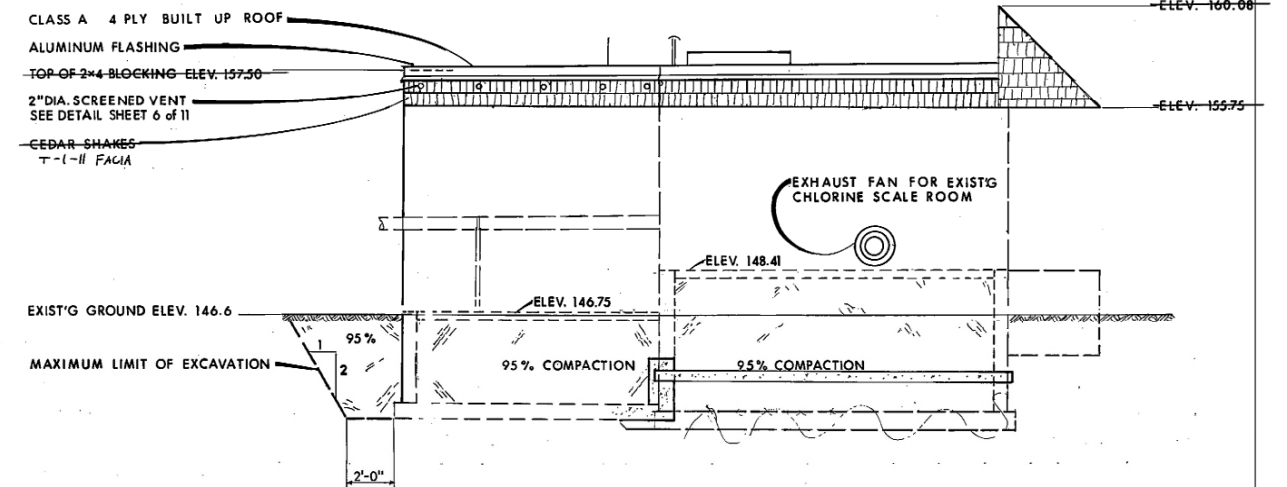
1979 WATER IMPROVEMENTS
WELL NO. 4 AUX. POWER FACILITY

SITE PLAN

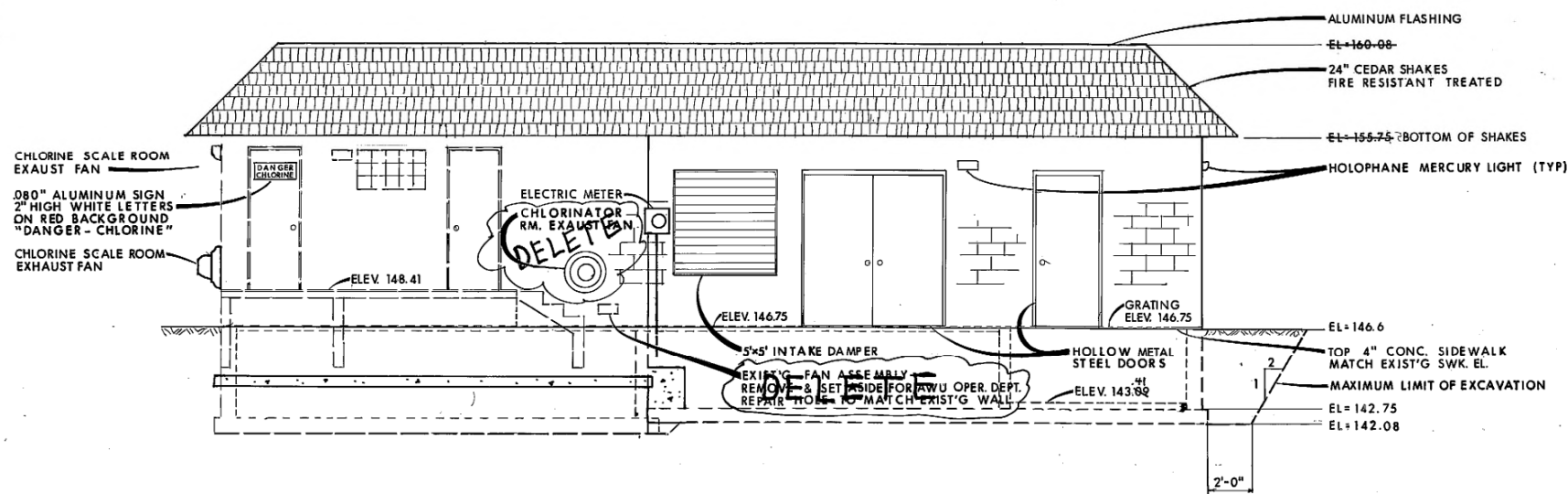
SCALE 1" = 20' DATE MARCH 79 GRID 1134 SHEET 3 of 11
FILE NO. 05-50-040-79005



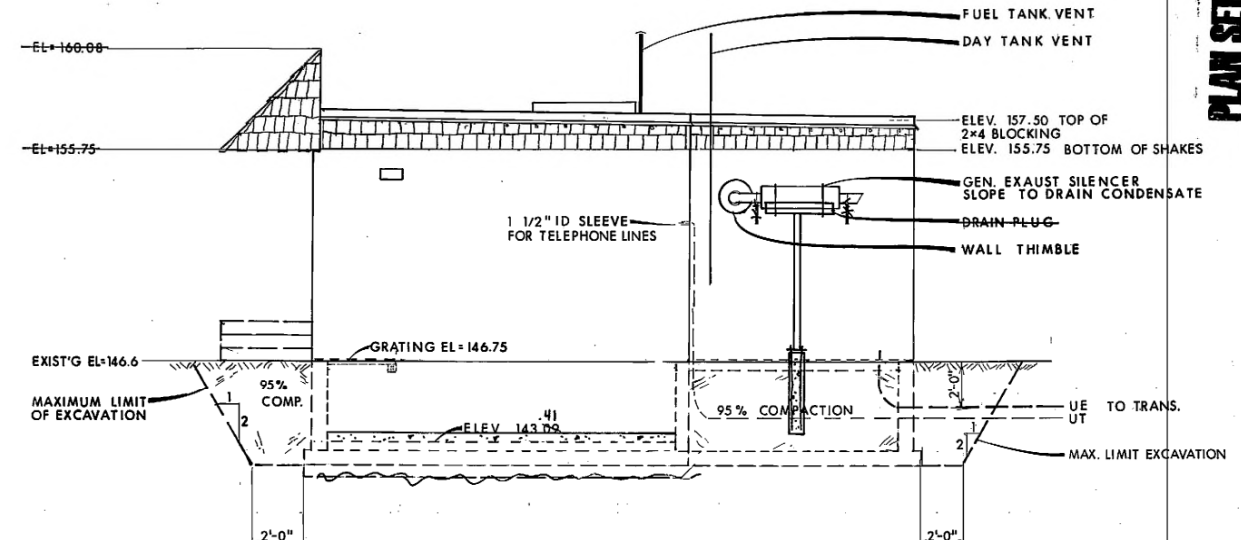
NORTH ELEVATION
1/4"=1'



WEST ELEVATION
1/4"=1'



SOUTH ELEVATION
1/4"=1'



EAST ELEVATION
1/4"=1'

ASBUILT

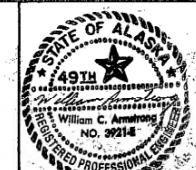
FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN	CHK	DATE	OWN	CHK	DATE
DESIGN	4	7/19/79	DELETE EXHAUST FAN IN CHLORINATOR ROOM	SL							BASE			TELE			
STAKING											PROFILE			ELEC			
ASBUILT											SAN SEWER			DESIGN			
CONTRACTOR WESTERN STATES ASSOCIATES											STORM SEWER			QUANTITIES			
INSPECTOR BRYANT, KELLY, STEVENS											WATER			PRELIM. CHECK			
CONSTRUCTION RECORD											GAS			FINAL CHECK			
			REVISIONS			VERTICAL DATUM								PLAN CHECK			
														ENGINEERS			
														SEAL			

ANCHORAGE WATER UTILITY

1979 WATER IMPROVEMENT
WELL NO. 4 AUX. POWER FACILITY

ELEVATIONS

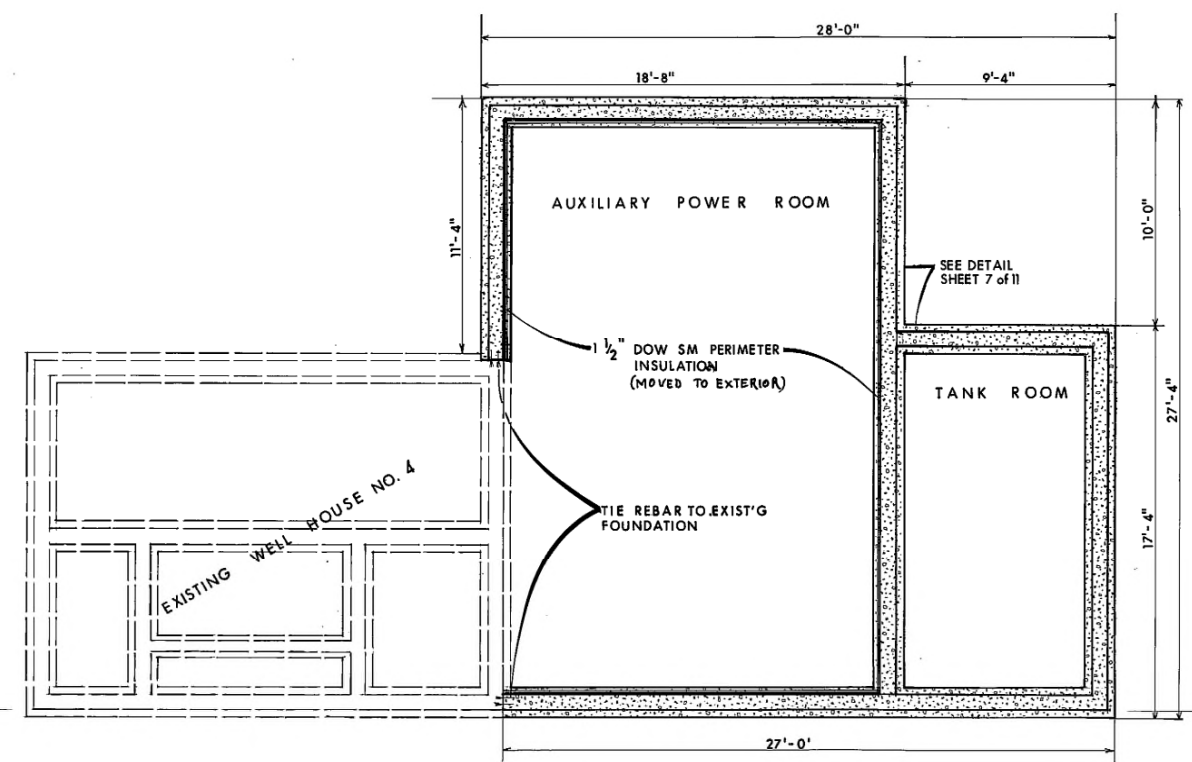
SCALE 1/4"=1' DATE MARCH 79 GRID 1134 SHEET 4 of 11
FILE NO. 05-50-040-79005



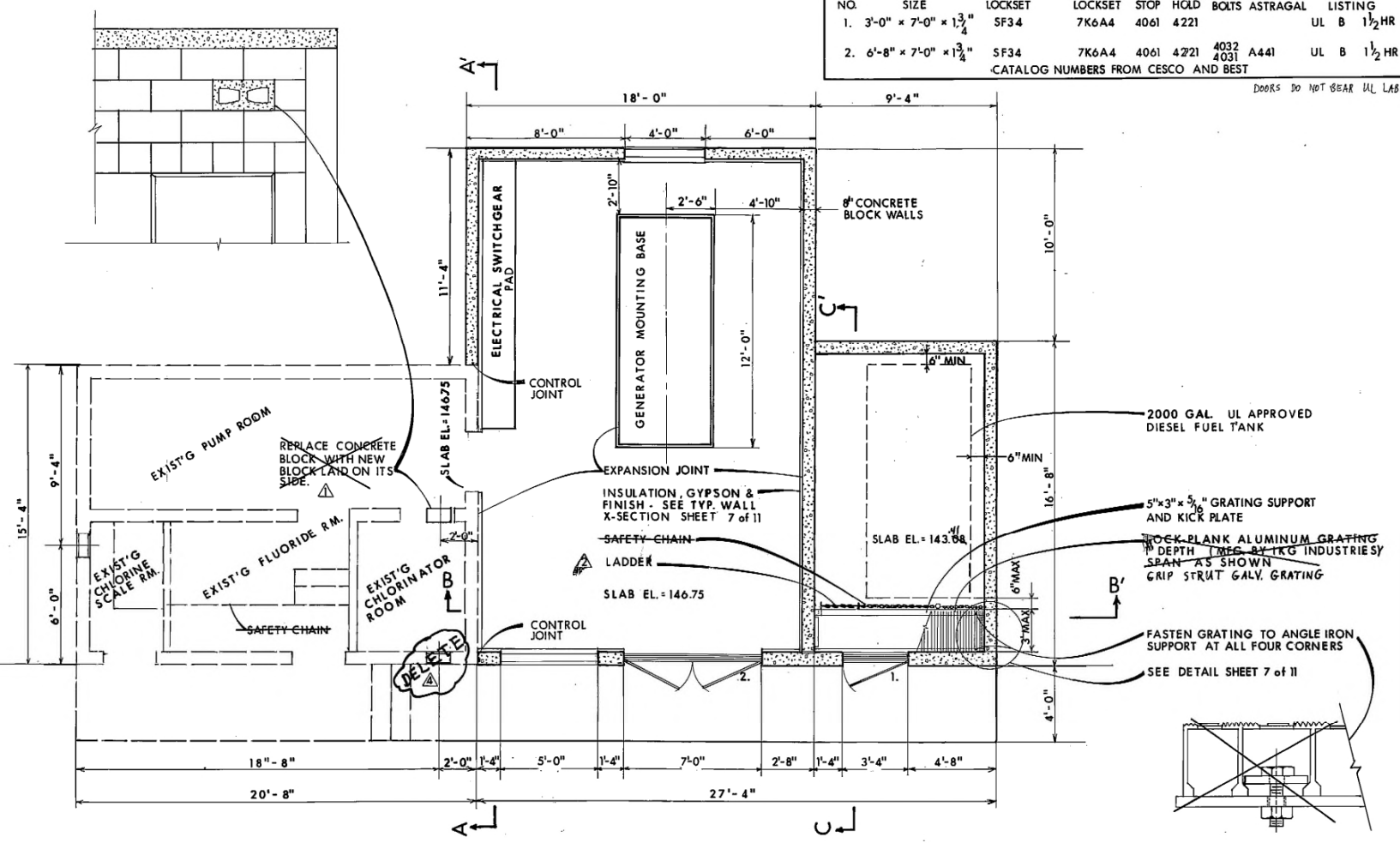
DOOR, FRAME & HARDWARE SCHEDULE									
NO.	SIZE	LOCKSET	LOCKSET	STOP	HOLD	BOXES	ASTRAGAL	LISTING	THRESH.
1.	3'-0" x 7'-0" x 1 3/4"	SF34	7K6A4	4061	4221			UL B	1 1/2 HR
2.	6'-8" x 7'-0" x 1 3/4"	SF34	7K6A4	4061	4221	4032	A441	UL B	1 1/2 HR

CATALOG NUMBERS FROM CESCO AND BEST
DOORS DO NOT BEAR UL LABEL

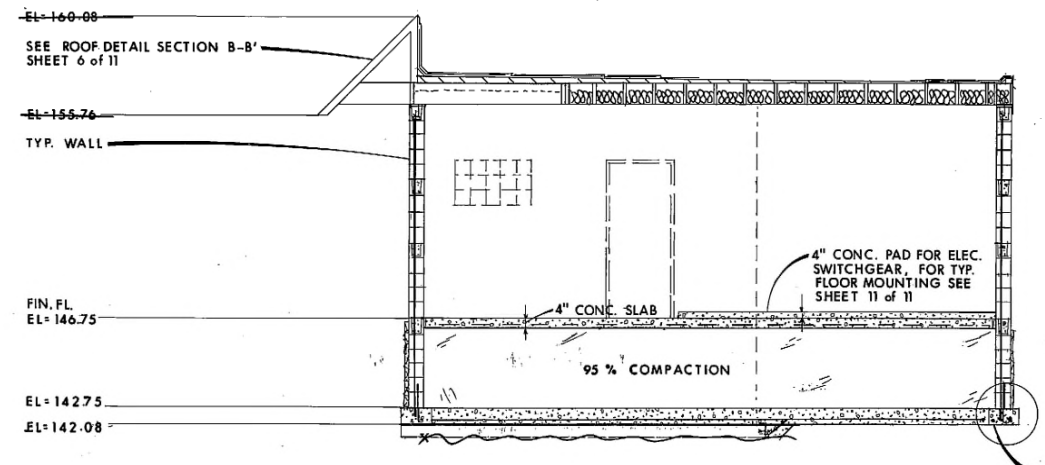
6538



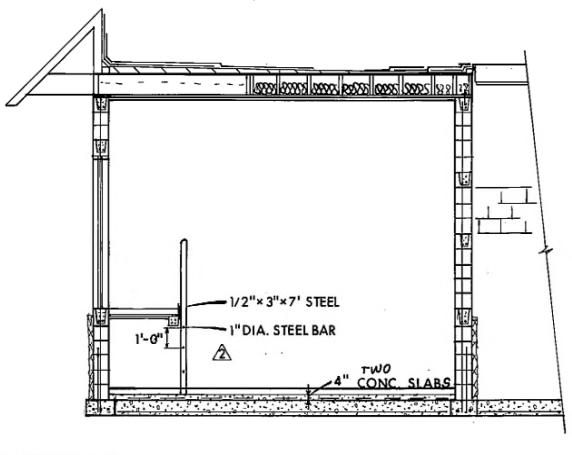
FOUNDATION PLAN
1/4" = 1'



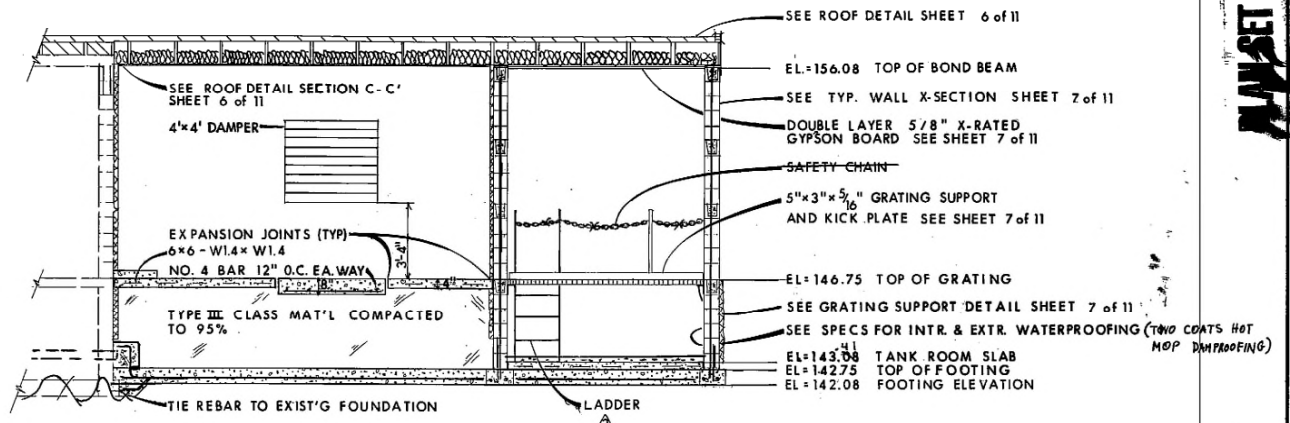
FLOOR PLAN
1/4" = 1'



SECTION A-A'
1/4" = 1'



SECTION C-C'
1/4" = 1'



SECTION B-B'
1/4" = 1'

ASBUILT

PROJECT NO. 2034

REVISIONS										VERTICAL DATUM										PLAN CHECK										ENGINEERS										SEAL									
NO.	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN BY	CHK BY	DATA	OWN BY	CHK BY	NO.	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	NO.	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.														
1	7/19/79	R&R CONC. BLOCK IN CHLORINATOR RM. WALL								BASE			TELE																																				
2	7/19/79	TANK ROOM LADDER								TOPO			ELEC																																				
3	7/19/79	DELETE EXHAUST FAN IN CHLORINATOR ROOM								PROFILE			DESIGN																																				

ANCHORAGE WATER L
1979 WATER IMPROVEMENT
WELL NO. 4 AUX. POWER FACILITY
STRUCTURAL

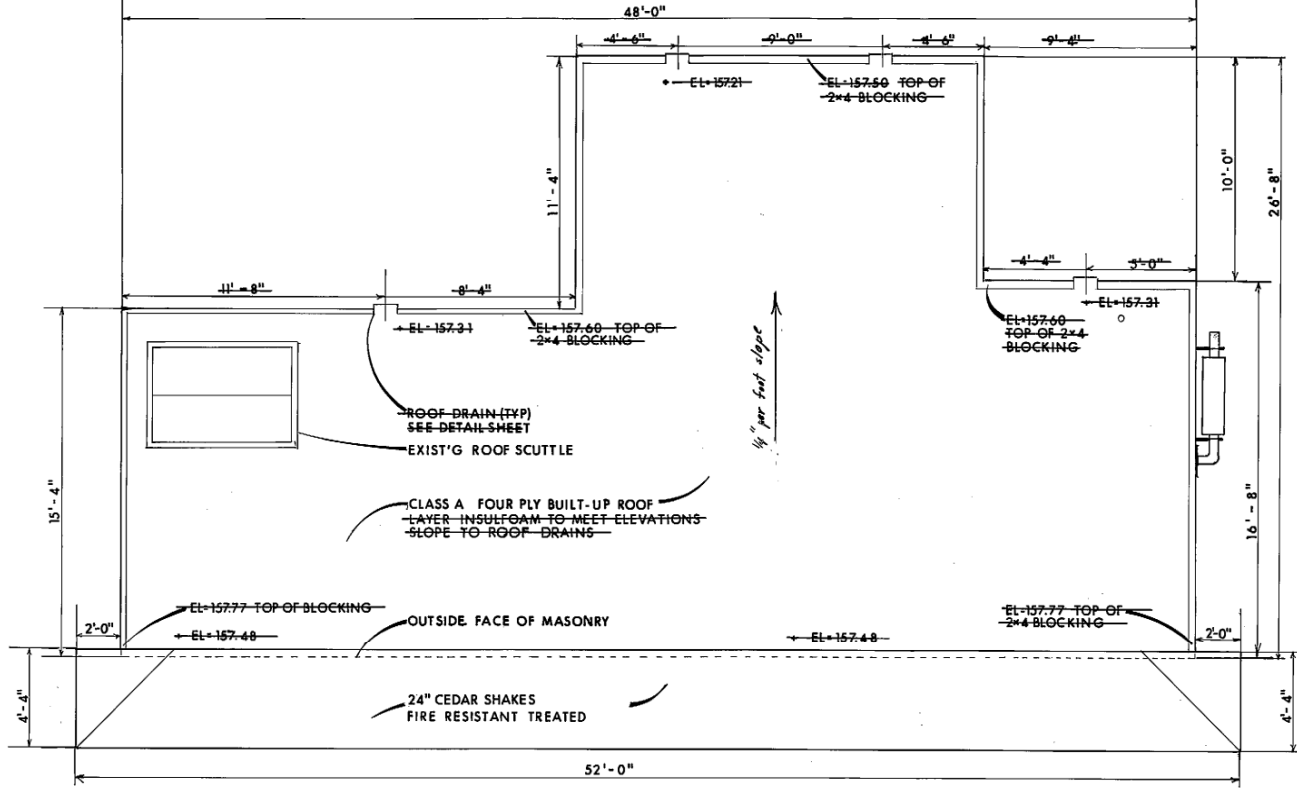
SCALE: 1/4" = 1' DATE: MARCH 79 GRID: 1134 SHEET: 5 of 11
FILE NO. 05-50-040-79005

1134-15

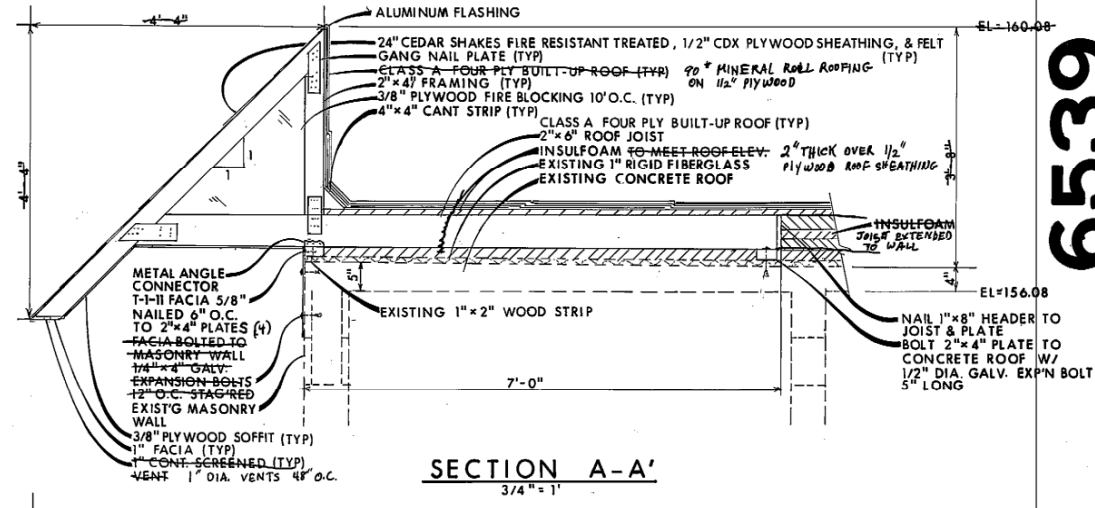
6539

PLAN SET NO. 2034

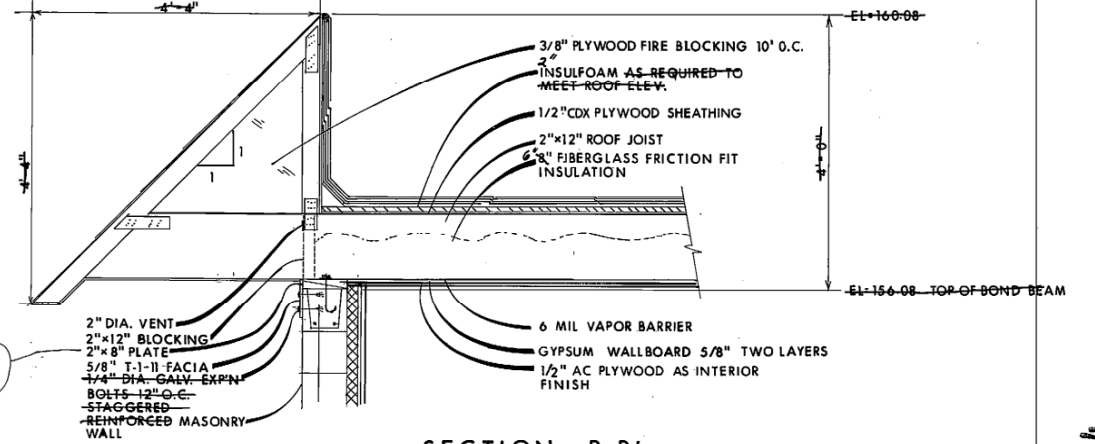
1134-16



ROOF PLAN
1/4" = 1'

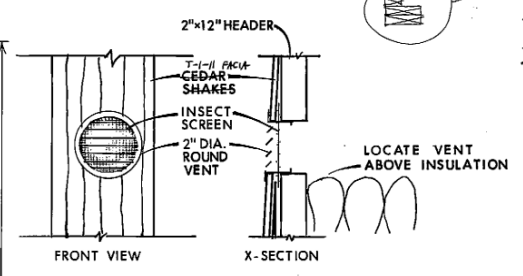


SECTION A-A'
3/4" = 1'

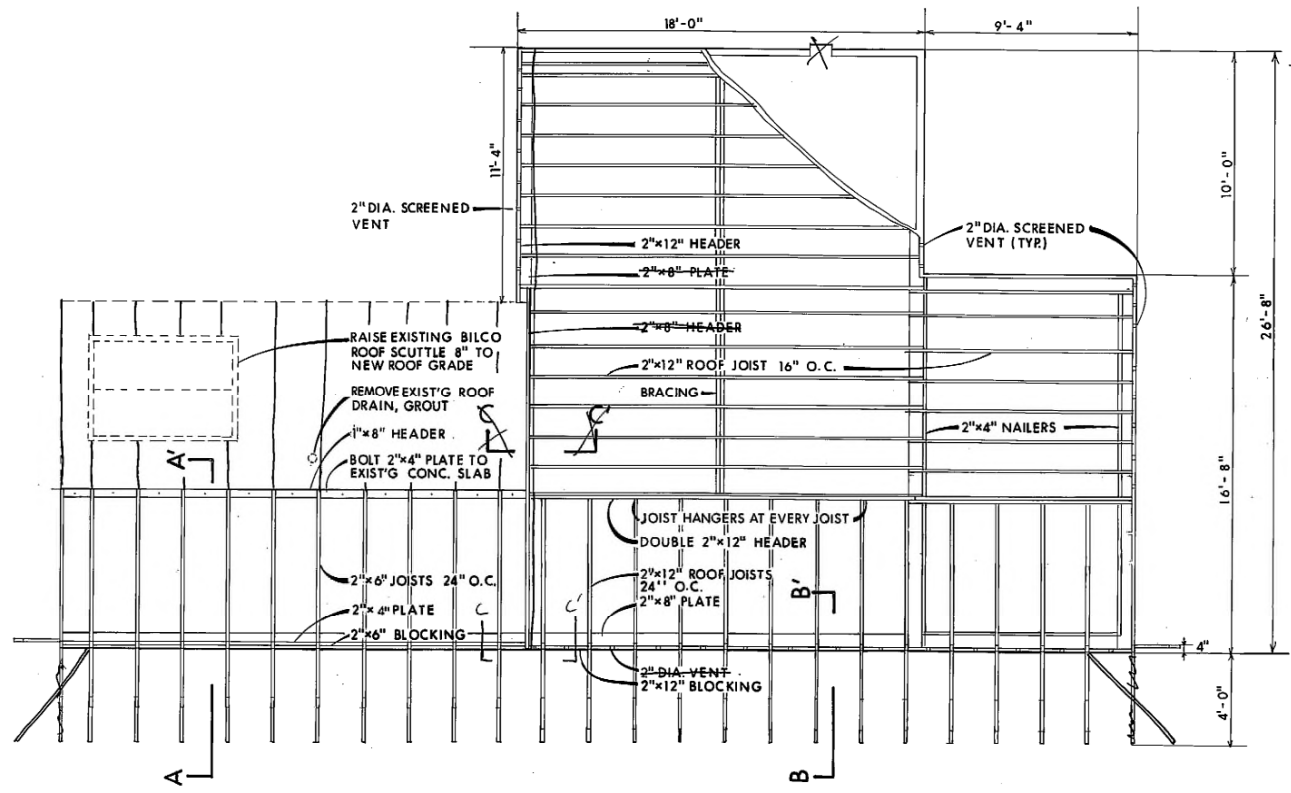


SECTION B-B'
3/4" = 1'

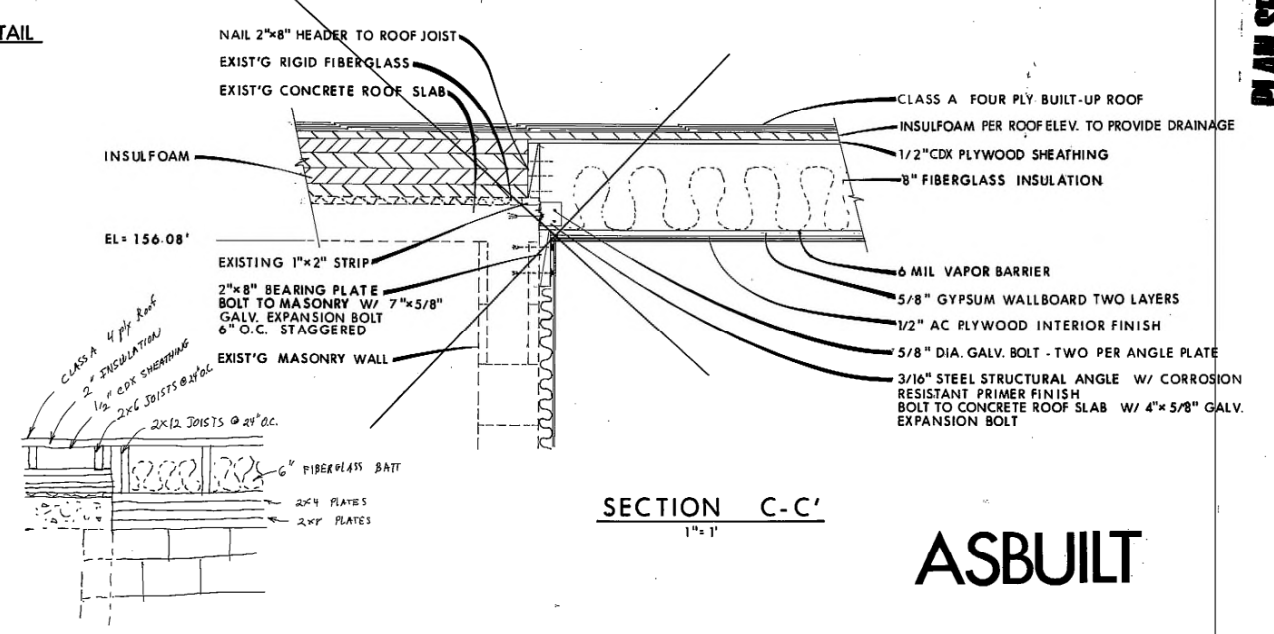
NOTE: ITEMS MARKED (TYP) IN SECTION A-A' APPLY TO SECTION B-B'



SCREENED VENT DETAIL
N.T.S.



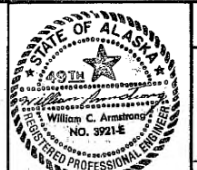
ROOF FRAMING PLAN
1/4" = 1'



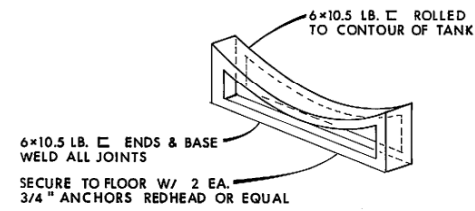
SECTION C-C'
1" = 1'

ASBUILT

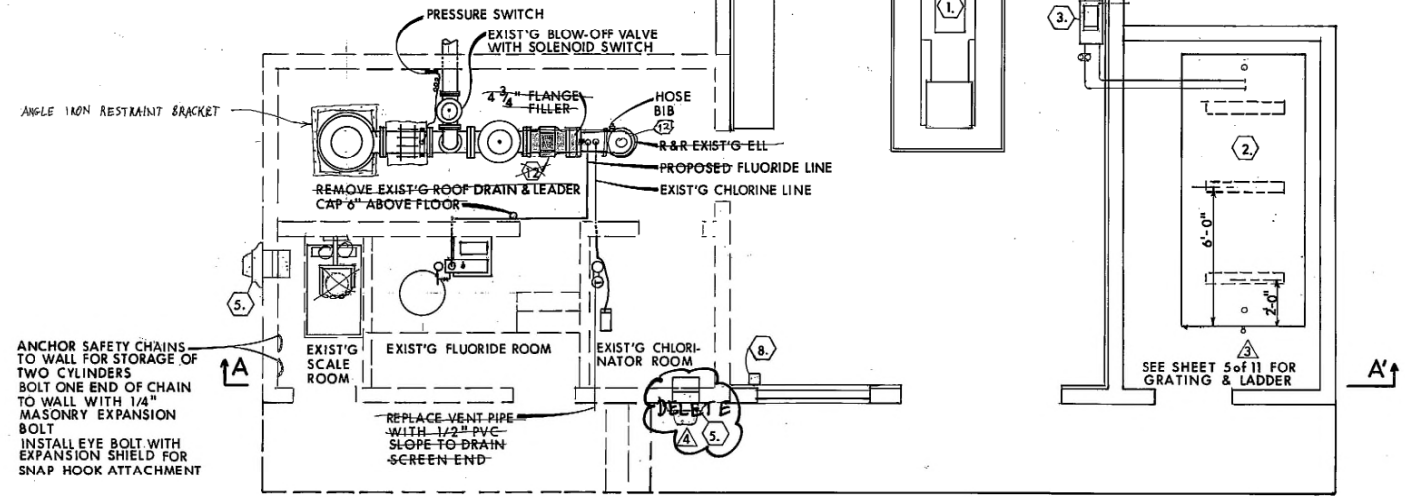
FIELD BOOKS		REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN BY	CD BY	DATE	DATA	OWN BY	CD BY	DATE	
DESIGN												BASE				TELE				
STAKING												TOPO				ELEC				
ASBUILT												SAN SEWER				DESIGN				
CONTRACTOR WESTERN STATES ASSOC.												STORM SEWER				QUANTITIES				
INSPECTOR BRYANT, KELLY, STEVENS												WATER				PRELIM. CHECK				
CONSTRUCTION RECORD												GAS				FINAL CHECK				
REVISIONS		VERTICAL DATUM		VERTICAL DATUM		PLAN CHECK		ENGINEERS		SEAL		DATE MARCH 79		GRID 1134		SHEET 6 of 11		FILE NO. 05-50-040-79005		



ANCHORAGE WATER UTILITY
1979 WATER IMPROVEMENT
WELL NO. 4 AUX. POWER FACILITY
ROOF PLAN & DETAILS
SCALE: AS NOTED
DATE: MARCH 79
GRID: 1134
FILE NO.: 05-50-040-79005
SHEET: 6 of 11
WATER UTILITY FILE NO.



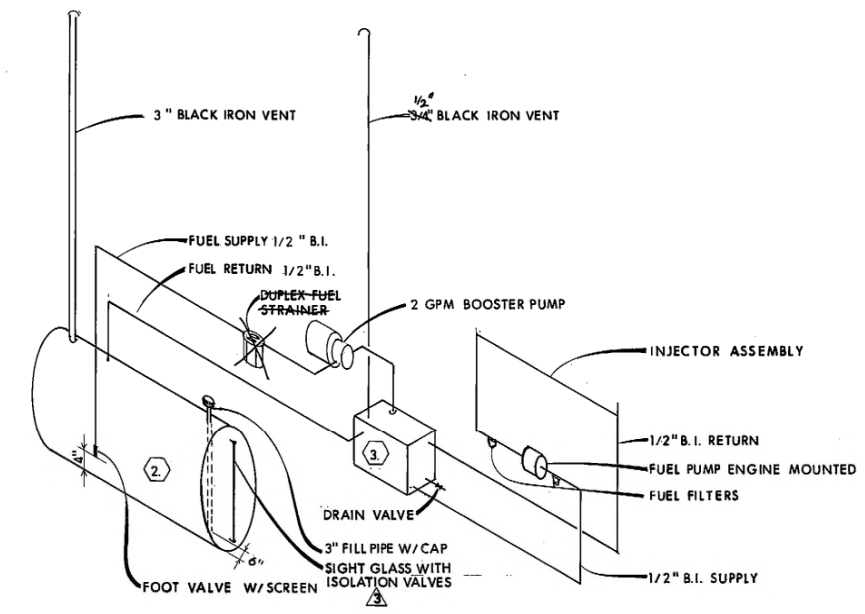
TANK SADDLE DETAIL
NO SCALE



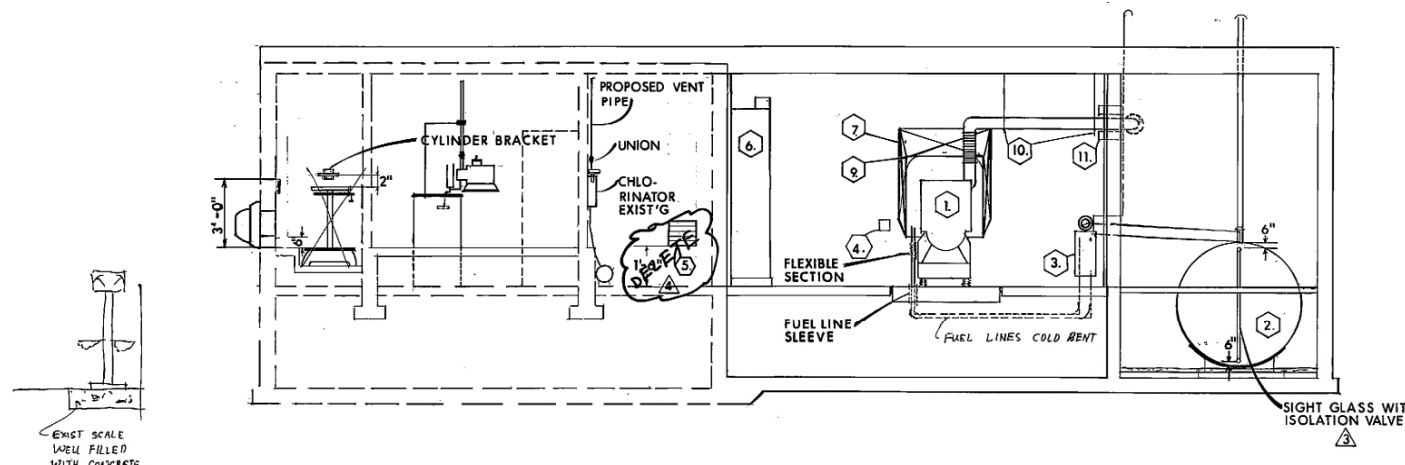
MECHANICAL FLOOR PLAN
1/4"=1'

EQUIPMENT LIST

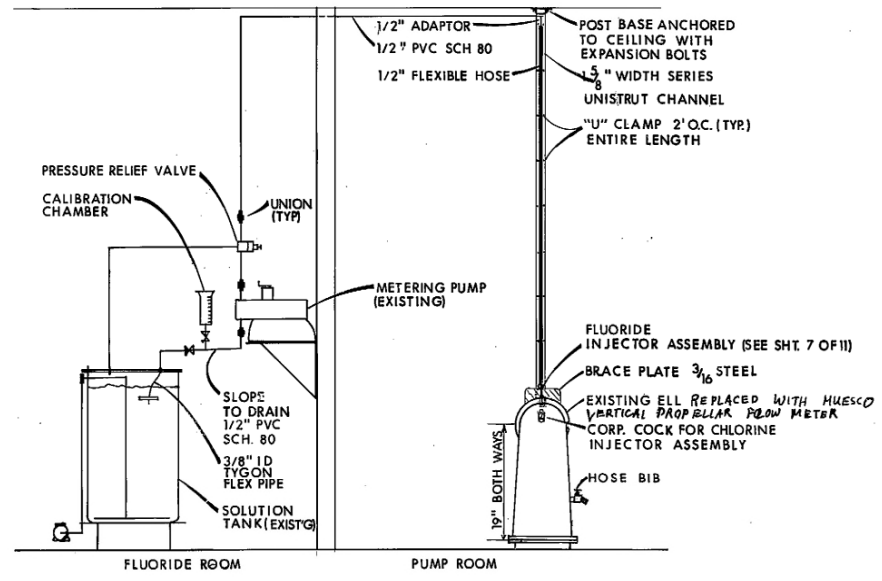
- 1 250 KW EMERGENCY GENERATOR
- 2 2000 GAL. DIESEL FUEL STORAGE TANK
- 3 25 GAL. WALL MOUNTED DAY TANK WITH 2 GPM BOOSTER PUMP
- 4 EXHAUST AIR DAMPER
- 5 EXHAUST FAN
- 6 ELECTRICAL SWITCHGEAR
- 7 EXHAUST AIR DUCT
- 8 INTAKE AIR DAMPER
- 9 CANVAS CONNECTION
- 10 ADJUSTABLE STEEL CLEVIS HANGER
- 11 METAL BESTOS DOUBLE-SLEEVE PIPE THIMBLE
- 12 HUESCO VIBRICLE PROPPELLAR ELECTROMAGNETIC FLOW METER



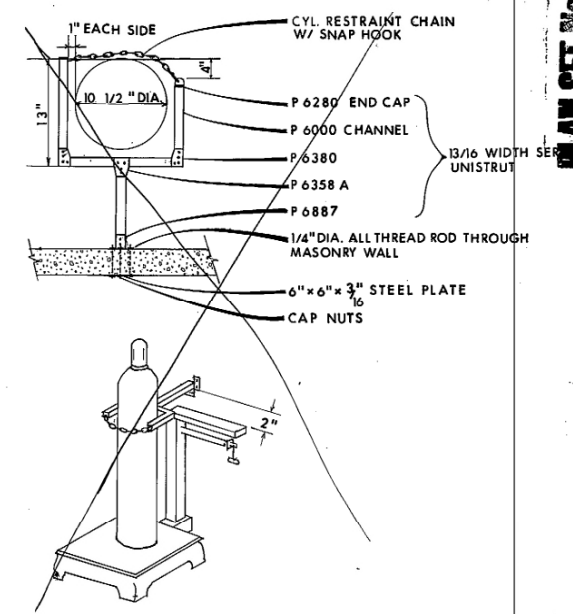
FUEL TRANSFER SYSTEM
NO SCALE



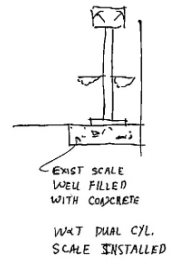
SECTION A-A'
1/4"=1'



FLUORIDE PIPING
NO SCALE



CHLORINE CYLINDER RESTRAINT BRACKET
NO SCALE



EXIST SCALE WELL FILLED WITH CONCRETE
WKT DUAL CYL. SCALE INSTALLED

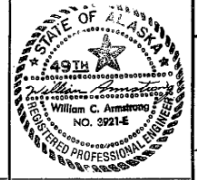
ASBUILT

FIELD BOOKS		REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN BY	CDP BY	DATA	OWN BY	CDP BY
DESIGN		7/19/79	ADD SIGHT GLASS WITH VALVES									BASE			TILE		
STAKING		7/19/79	DELETE EXHAUST FAN IN CHLORINATOR ROOM									TOPO			ELEC		
ASBUILT												PROFILE			DESIGN		
CONTRACTOR WESTERN STATES ASSOC.												SAN SEWER			QUANTITIES		
INSPECTOR BRYANT, KELLY, STEVENS												STORM SEWER			PRELIM. CHECK		
CONSTRUCTION RECORD												WATER			FINAL CHECK		
												GAS					

ANCHORAGE WATER UTILITY

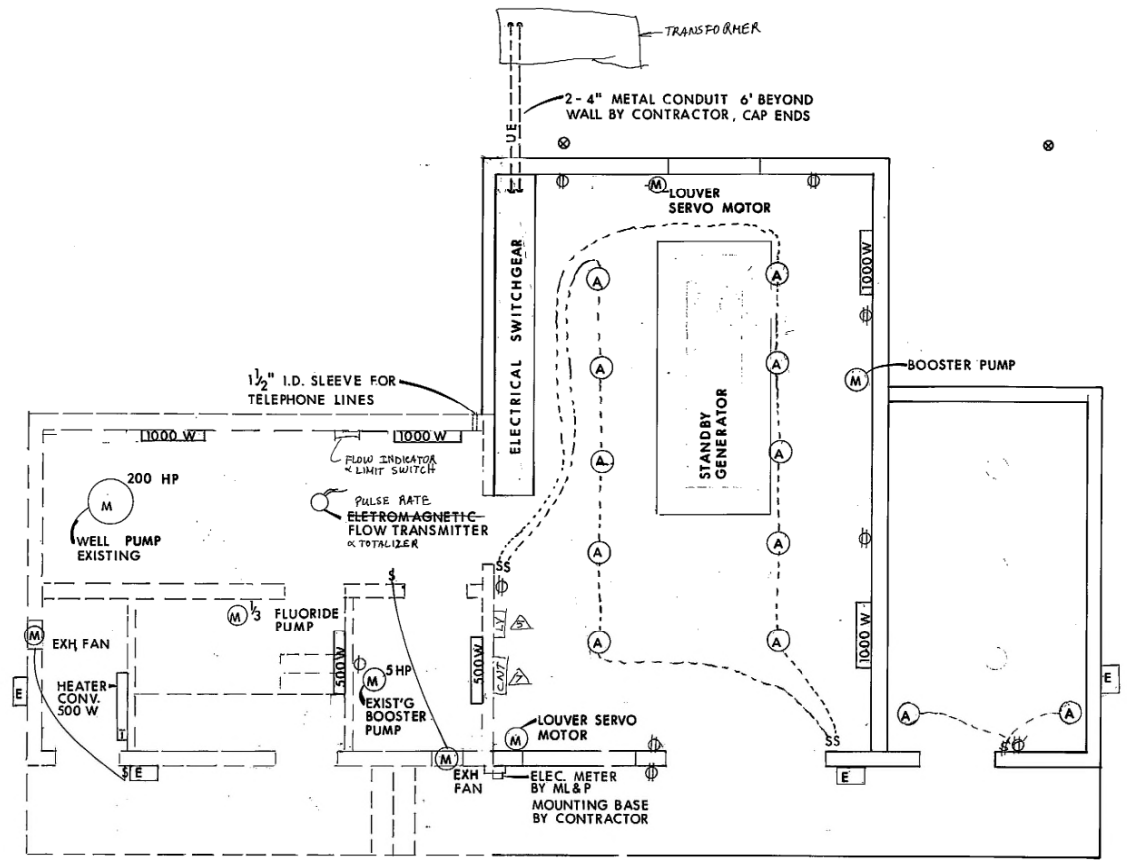
1979 WATER IMPROVEMENTS
WELL NO. 4 AUX. POWER FACILITY
MECHANICAL

SCALE AS NOTED DATE MARCH 79 GRID 1134 SHEET 8 of 11
FILE NO. 05-50-040-79005



ENGINEERS

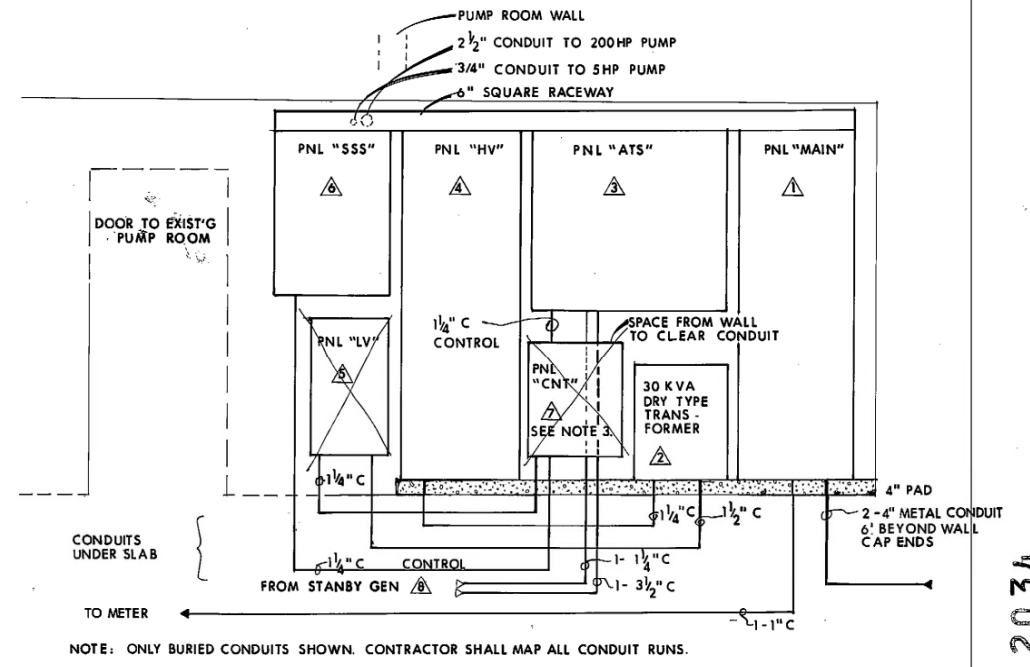
SEAL



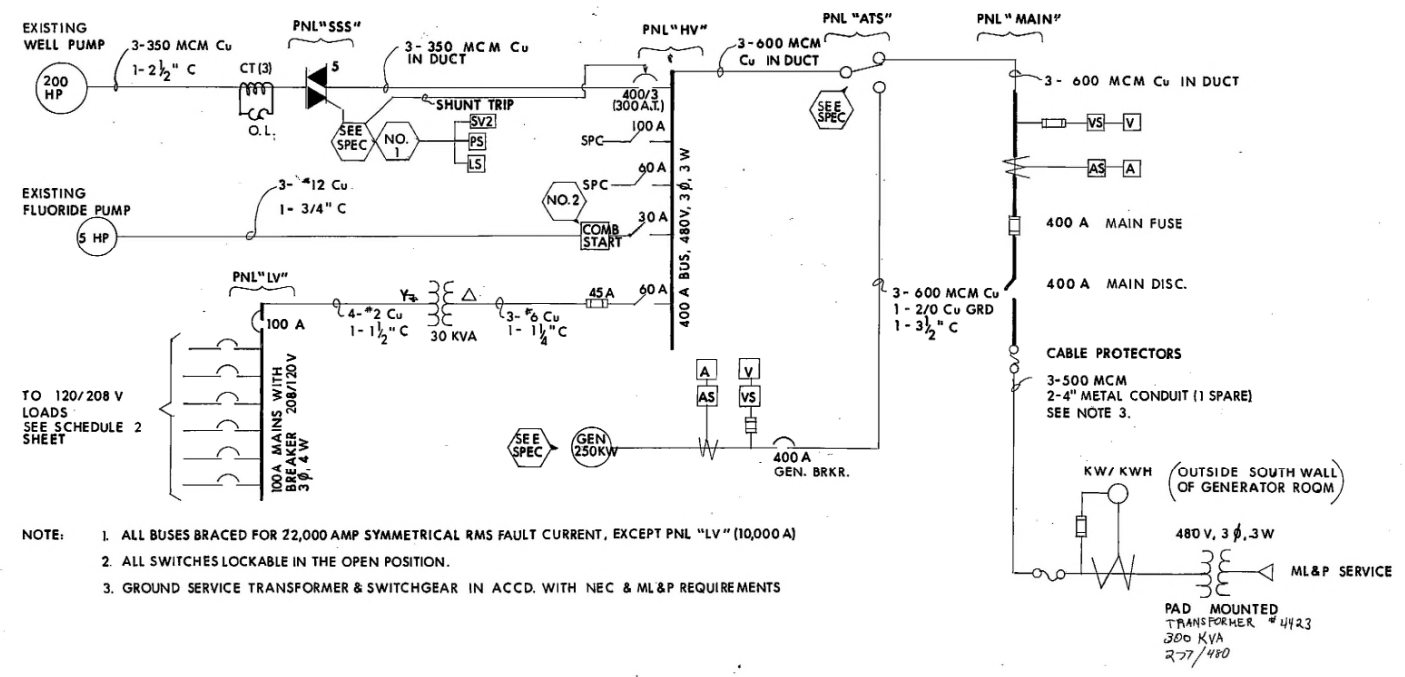
ELECTRICAL EQUIPMENT FLOOR PLAN
1/4" = 1'

- NOTES
- ⊙ SUGGESTED GROUND ROD LOCATIONS
 - 1. CONNECT EXISTING EQUIPMENT WITH ALL NEW WIRE IN ACCORDANCE WITH SPECIFICATIONS.
 - 2. LIGHTING FIXTURES:
 (A) 200 W INCAND.
 (E) 200 W MERCURY
 - 3. SEE SHEET 10 OF 11 FOR CIRCUITS AND DEVICES LOCATED IN PNL "CNT"
 - 4. INSTALL LIGHT SWITCHES FOR CHLORINE ROOMS BESIDE FAN SWITCHES

- ELECTRICAL SWITCHGEAR
- ⚡ COMBINED FUSIBLE MAIN DISCONNECT AND METER SECTION
 - ⚡ DRY TYPE TRANSFORMER
 - ⚡ AUTOMATIC TRANSFER SWITCH
 - ⚡ COMBINATION MOTOR STARTER / DISTRIBUTION PANEL
 - ⚡ DISTRIBUTION PANEL
 - ⚡ SOLID STATE STARTER
 - ⚡ CONTROL CABINET, 24" x 30" x 6"
 - ⚡ STANDBY GENERATOR

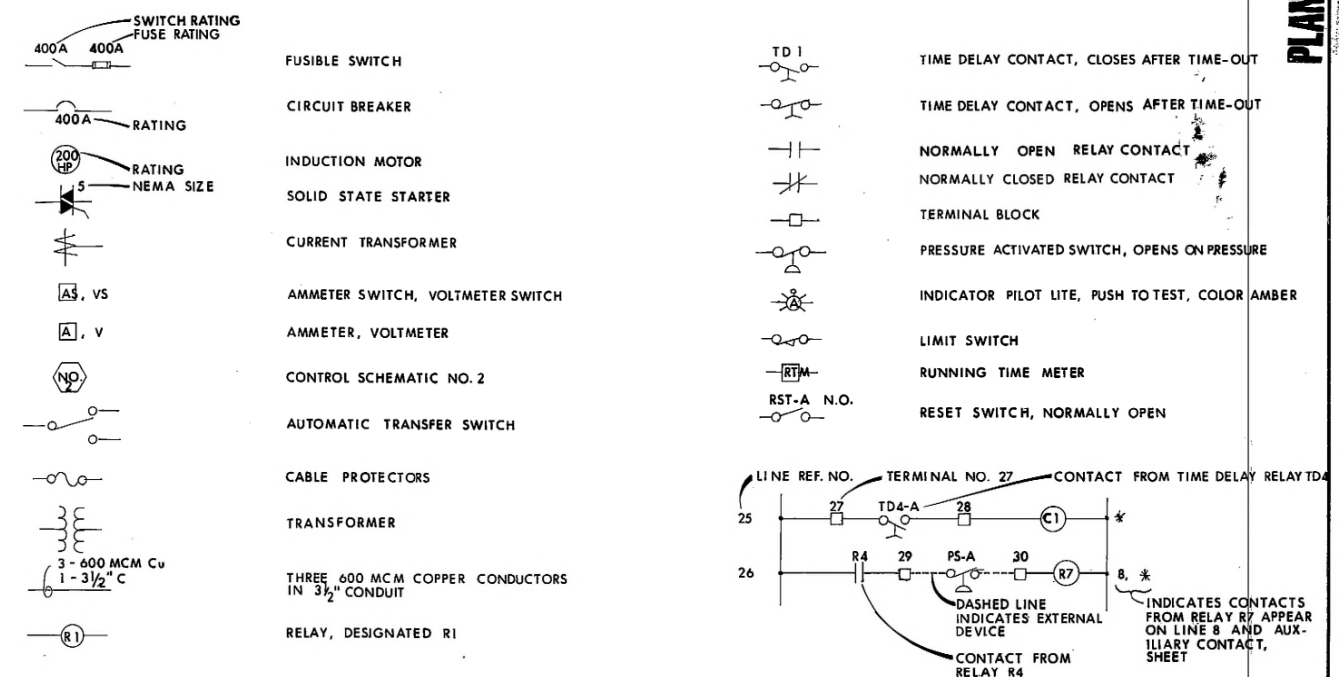


ELEVATION A-A'
1/2" = 1'



ONE LINE DIAGRAM

- NOTE:
1. ALL BUSES BRACED FOR 22,000 AMP SYMMETRICAL RMS FAULT CURRENT, EXCEPT PNL "LV" (10,000 A)
 2. ALL SWITCHES LOCKABLE IN THE OPEN POSITION.
 3. GROUND SERVICE TRANSFORMER & SWITCHGEAR IN ACCD. WITH NEC & ML&P REQUIREMENTS

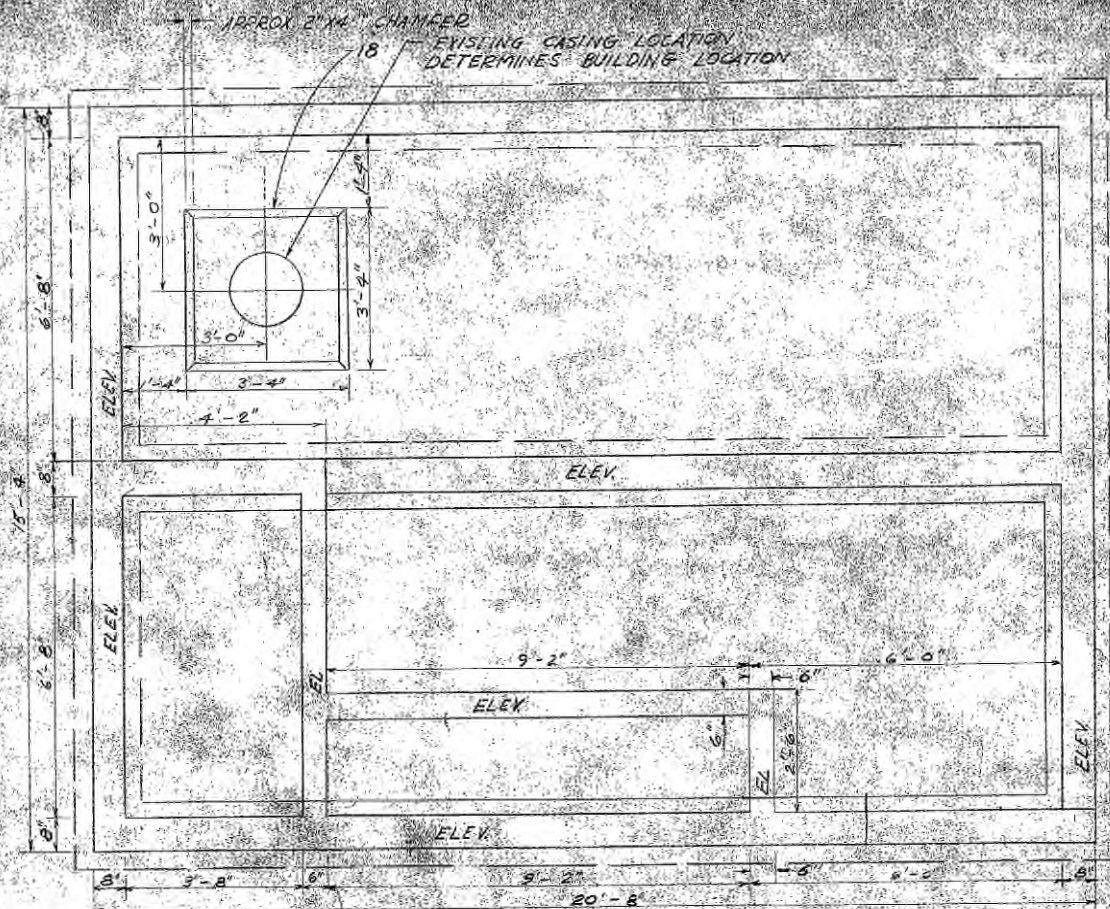


SYMBOLS

ASBUILT

FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN BY	CHK BY	DATE	OWN BY	CHK BY	DATE
DESIGN											BASE			TELE			
STAKING											TOPO			ELEC			
ASBUILT											PROFILE			DESIGN			
CONTRACTOR VISA - PUGH'S ELEC.											SAN SEWER			QUANTITIES			
INSPECTOR BRYANT, KELLY, STEVENS											STORM SEWER			PRELIM. CHECK			
CONSTRUCTION RECORD											WATER			FINAL CHECK			
											GAS						

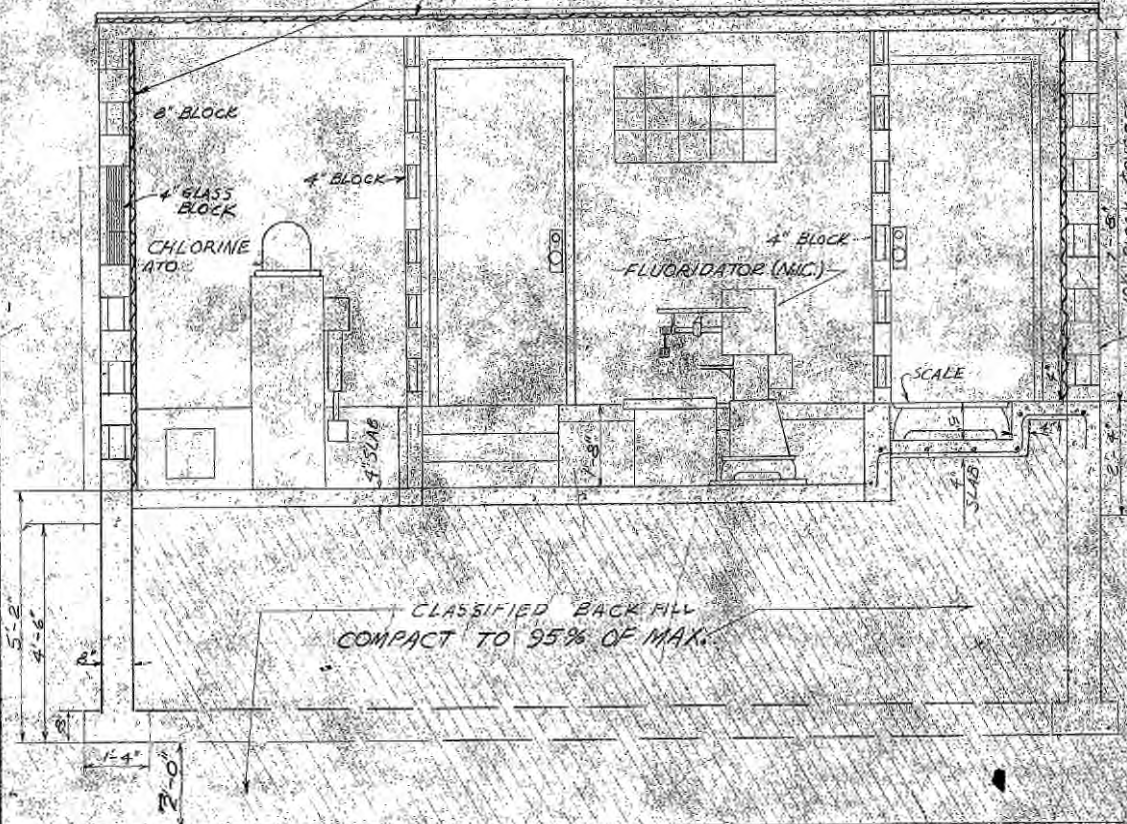
SCALE AS NOTED	DATE: MARCH 79	GRID 1134	SHEET 9 of 11
	FILE NO. 05-50-040-79005		



FOUNDATION PLAN
SCALE: 1/2" = 1'

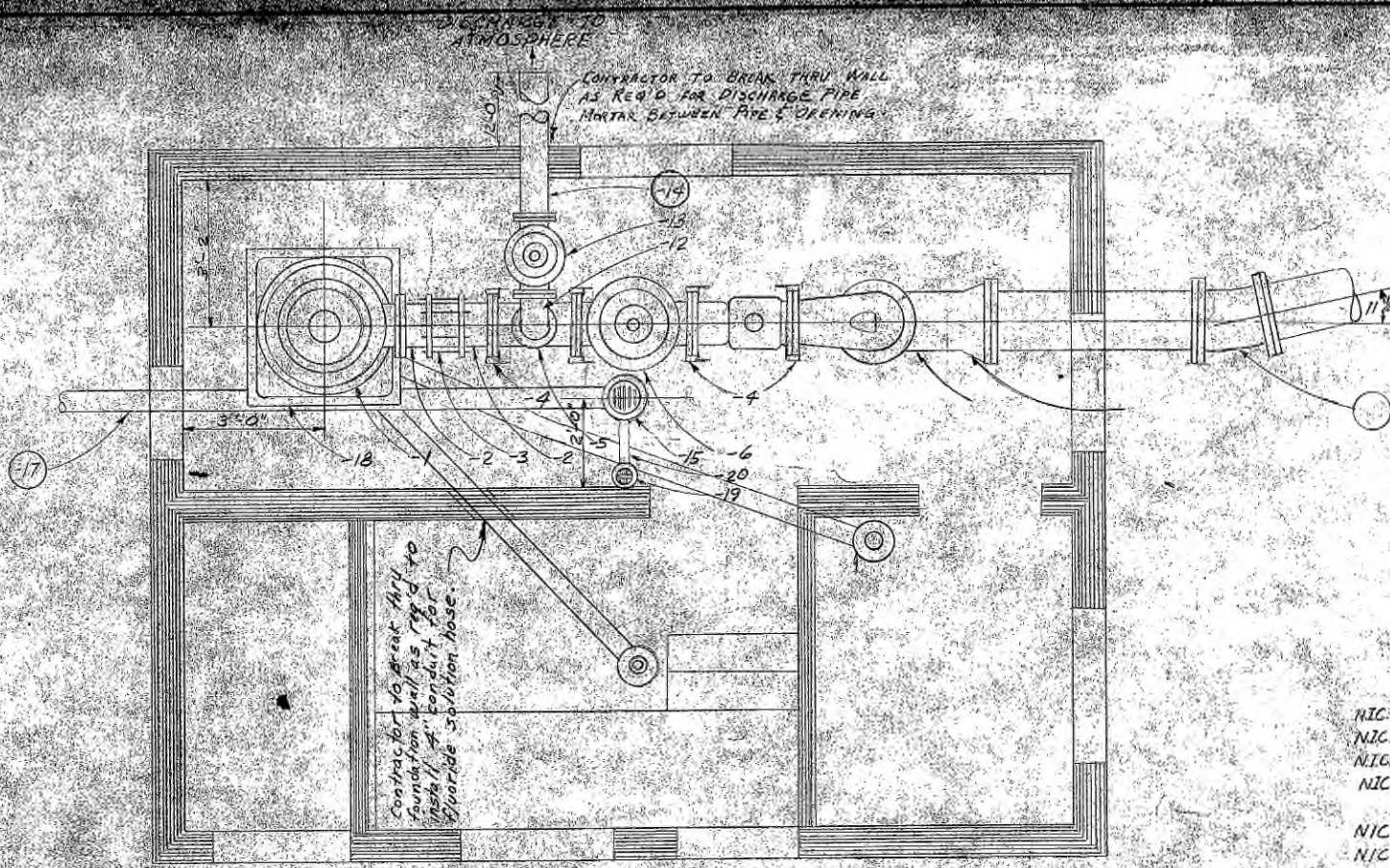
1" RIGID FIBERGLAS INSULATION ON INSIDE OF ALL EXTERIOR WALLS.

4 PLY BUILT UP ROOF OVER 1" RIGID INSULATION

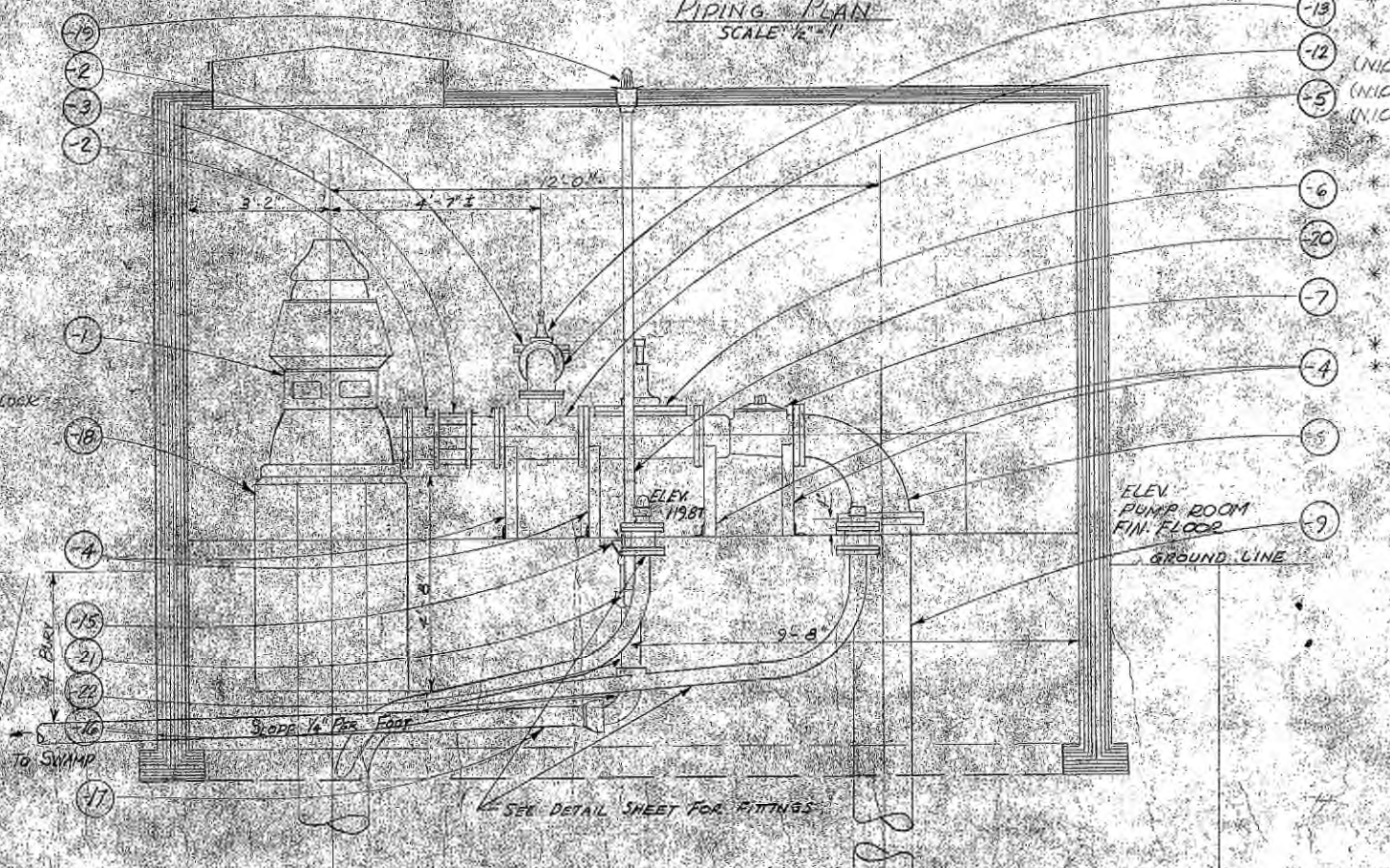


SECTION 13-13
SCALE: 1/2" = 1'

CLASSIFIED BACK FILL COMPACT TO 95% OF MAX.



PIPING PLAN
SCALE: 1/2" = 1'



PIPING ELEVATION
SCALE: 1/2" = 1'

PLACE CONCRETE THRUST BLOCK AS SHOWN ON SHT. (6)

CONTRACTOR TO CONNECT TO EXIST. PIPE STUB WITH 12\"/>

- NOTES:
1. * Indicates materials furnished by city. All other material to be furnished by contractor, except where noted (N.I.C.)
 2. Contractor to provide water supply to chlorinator from pump side of check valve & to break thru wall as required for piping
 3. Contractor to drill thru 4" walls as required for gas line of 3/4" black iron pipe as req'd by Eng.
 4. Connect 1" copper drain from chlorinator. 2" pump packing gland as required by Eng. prior to pouring floor slabs at well no. 4.
 5. Contractor to adjust elevation of pump base as required to fit particular pump used.
 6. At well no. 4, pump & riser pipe locations are reversed, & panel board is moved to corner by riser pipe.

NIC	QTY	DESCRIPTION	
-22	1	4" X 4" X 2" C.I. WYE B. & S.	
NIC	-21	1	2" 45° DRAINAGE ELL
NIC	-20	12	2" GALV. IRON PIPE
NIC	-19	1	ROOF DRAIN OSAM NO. 440
-18	1	CONCRETE PUMP FOUNDATION	
NIC	-17	49'	4" C.I. PIPE BELL & SPIGOT
NIC	-16	1	4" C.I. 90° LONG SWEEP EL.
NIC	-15	1	4" C.I. DRAIN C.I. NO. 3288B
-14	1	6" C.I. PIPE FLO. ONE END 1/4" LONG	
-15	1	CLA. VAL. NO. 61-P FL. PUMP CONTR. VALVE - 20	
-12	1	6" C.I. FL.	
(NIC)	-11	1	C.I. ADAPTER FL. TO M.U.
(NIC)	-10	1	12" C.I. FL. 90° LONG SWEEP EL.
(NIC)	-9	1	12" C.I. FL. PIPE 8" - 1 3/4" F. TO
-8	1	12" X 10" C.I. 90° FL. ELBOW W/ 2 TAP Y LOCATION	
-7	1	0" PRO. LOCATION	
-6	1	VALVE - 7 1/2" TOP	
-5	1	C.I. FL. TEE - 12"	
-4	1	10" PIPE	
-3	1	DRESSER COUPLING	
-2	1	FL. FLANGE	

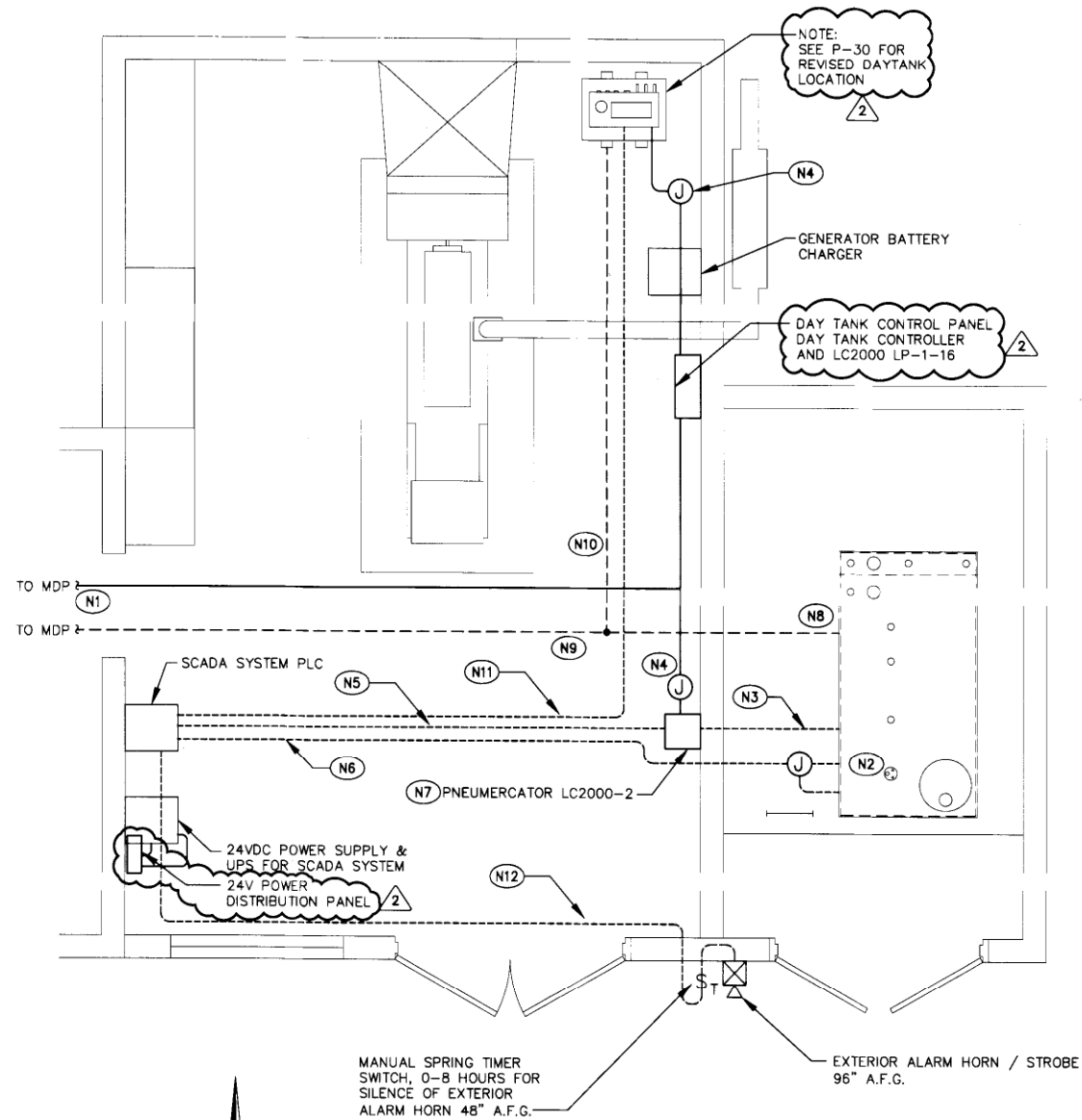


NO.	DATE	REVISIONS
ANCHORAGE, ALASKA OFFICE OF THE CITY ENGINEER		
DOMESTIC WATER SUPPLY PUMP HOUSE		
PIPING & FOUNDATION PLANS, ELEV. & SECTIONS		
DRAWN BY	SUBMITTED	
CHECKED BY	APPROVED	
SCALE: 1/2" = 1'	DATE: 8-15-50	
SHEET: 4 OF 6	DATE: 8-15-50	

13142
PLAN SET NO 2293

NOTE:

- (N1) REPLACE EXISTING 120VAC-15A-1P BREAKER AT PANEL LP-1, SPACE 25 LOCATED IN THE MDP. UPGRADE BREAKER TO 20A. ROUTE CIRCUIT TO NEW DAY TANK AND NEW PNEUMERCATOR LEAK DETECTION MONITORING PANEL AS SHOWN. TERMINATE CIRCUIT AT JUNCTION BOXES NEAR EACH POWERED DEVICE. CONNECT DEVICE TO JUNCTION BOX WITH FLEXIBLE METAL CONDUIT.
- (N2) SEE DRAWING E-02 FOR CONNECTION DETAILS FOR SCADA EQUIPMENT AT FUEL STORAGE TANK.
- (N3) PROVIDE CONTROL WIRING CONDUIT AND CONDUCTORS FROM MAIN FUEL STORAGE TANK INTERSTITIAL SPACE ENTRY POINT TO PNEUMERCATOR LEAK DETECTION PANEL FOR USE WITH LEAK DETECTION SENSOR, LD300.
- (N4) PROVIDE 4"x4"x2" STEEL CAST, WITH GASKET, JUNCTION BOX WITH 3/4" HUBS FOR POWER CONNECTION TO DAY TANK SYSTEM, AND PNEUMERCATOR LEAK DETECTION MONITORING PANEL.
- (N5) PROVIDE CONTROL WIRING CONDUIT AND CONDUCTORS FROM PNEUMERCATOR LEAK DETECTION PANEL TO EXISTING PLC ENCLOSURE FOR USE WITH PNEUMERCATOR LEAK DETECTION MONITORING PANEL GENERAL ALARM OUTPUT, LDA300.
- (N6) PROVIDE CONTROL WIRING CONDUIT AND CONDUCTORS FROM MAIN FUEL STORAGE TANK HIGH-HIGH FLOAT SWITCH AND LEVEL TRANSMITTER ASSEMBLY TO JUNCTION BOX THEN FROM JUNCTION BOX TO EXISTING PLC ENCLOSURE FOR USE WITH HIGH-HIGH (TANK OVERFILL) SENSOR, LSHH300, AND TANK LEVEL TRANSMITTER, LT300.
- (N7) PROVIDE PNEUMERCATOR LC2000-2 LEAK DETECTION MONITORING PANEL. SEE DRAWING E-02 FOR DEVICE CONFIGURATION DETAILS.
- (N8) NO GROUND ROD IS REQUIRED AT THIS LOCATION. SEE DRAWING E-01 FOR ADDITIONAL DETAILS.
- (N9) PROVIDE DEDICATED BONDING CONDUCTOR FROM MDP TO MAIN FUEL TANK FRAME. SEE DRAWING E-01 FOR ADDITIONAL DETAILS.
- (N10) PROVIDE DEDICATED BONDING CONDUCTOR FROM MAIN TANK BONDING CONDUCTOR TO DAY TANK GROUNDING POINT. SEE DRAWING E-01 FOR ADDITIONAL DETAILS AND DAY TANK MANUFACTURER'S INSTRUCTIONS FOR APPROPRIATE BONDING POINT.
- (N11) PROVIDE CONTROL WIRING CONDUIT AND CONDUCTORS FROM DAY TANK TO EXISTING PLC ENCLOSURE FOR USE WITH DAY TANK GENERAL ALARM OUTPUT, DTA300.
- (N12) PROVIDE HORN/STROBE WIRING CONDUIT AND CONDUCTORS FROM EXISTING PLC ENCLOSURE TO HORN SILENCE JUNCTION BOX AND THEN TO HORN/STROBE.



FACILITY PLAN

SCALE: 3/8" = 1'-0" (FULL SIZE 22"x34")
3/16" = 1'-0" (HALF SIZE 11"x17")

9250

PLOT DATE: PLOT SCALE: 1:1

DATA	BY	DATE	DESCRIPTION	BY
BASE			TELEPHONE	
TOPOGRAPHY			ELECTRIC	
PROFILE			CABLE TV	
SANITARY SEWER			TRAFFIC SIGNAL	
STORM SEWER			DESIGN	
WATER			QUANTITIES	
GAS			MUN. FINAL CHECK	

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

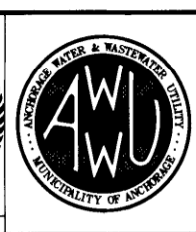
1. DATA PROVIDED BY: Thomas J. Hehnes
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: Frowner Corp.
 BY: [Signature] TITLE: General Manager
 DATE: 02/07/2011

2. DATA TRANSFERRED BY: Dave Korpi
 COMPANY: Great Northern Engineering
 DATE: 7/18/11

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: Jedd Carroll, P.E.
 COMPANY: AWWU
 BY: [Signature] TITLE: Project Manager
 DATE: Sept. 27, 2011

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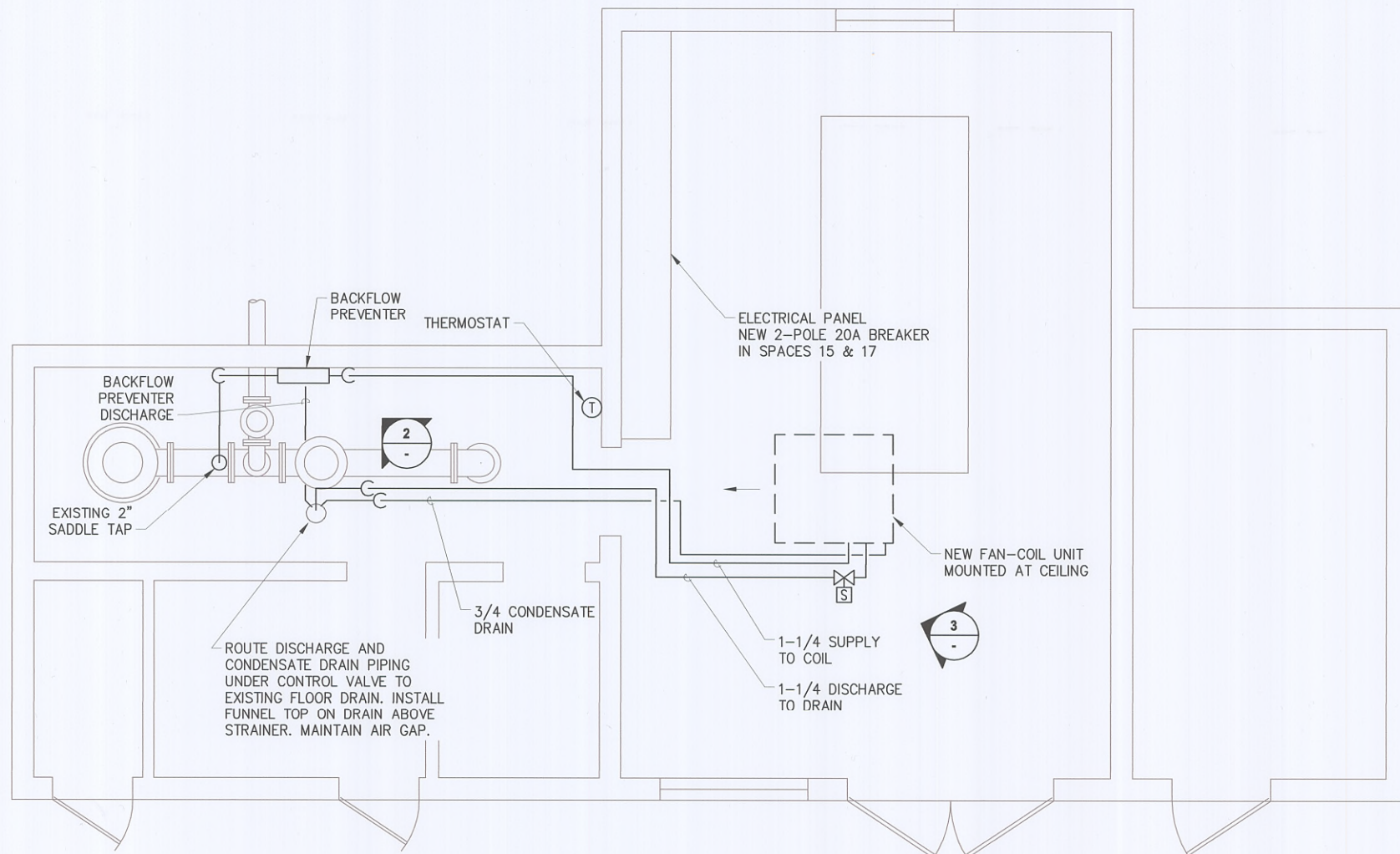


MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY

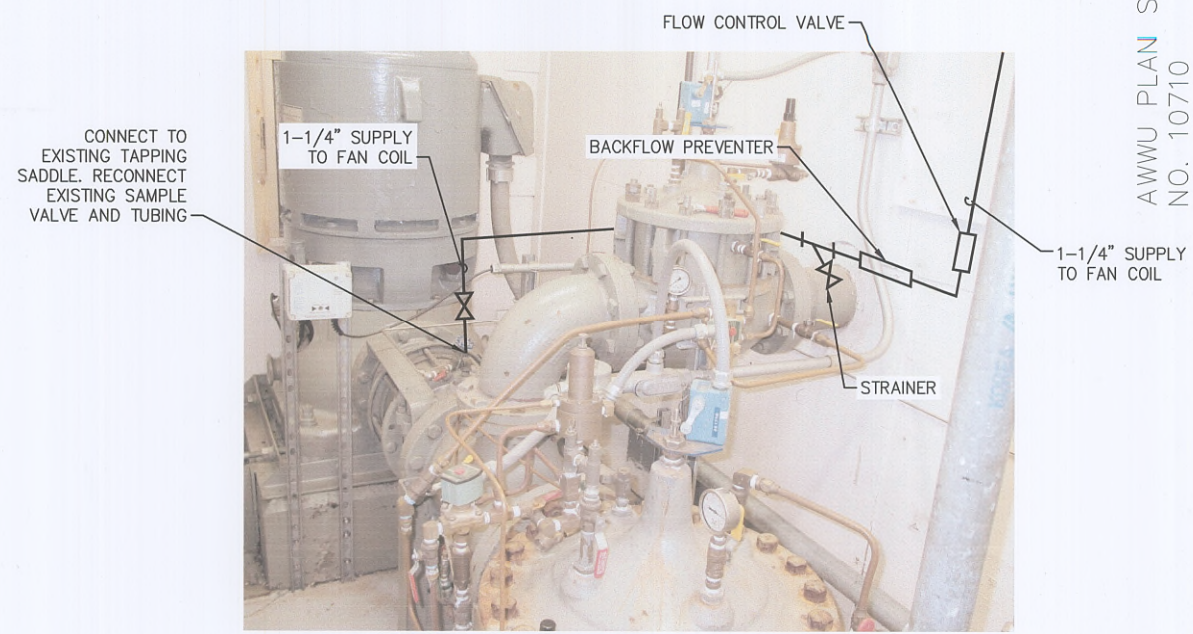
DISTRIBUTION OPERATIONS FUEL FACILITY UPGRADES
WELL #4

ELECTRICAL PLAN
E-30

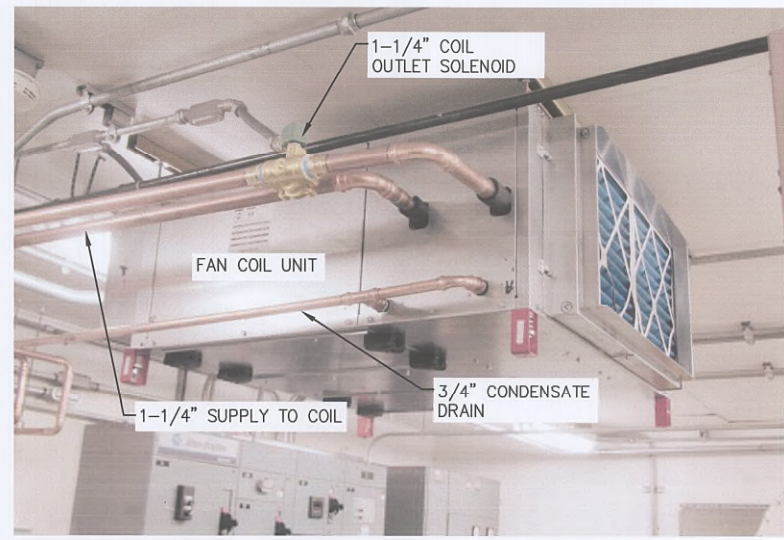
HORIZ SCALE: 3/8"=1'-0" DATE: JUN 2009 GRID: SW1141 SHEET 30 of 52
 VERT SCALE: PROJ. ID.: 0000005184



1 FLOOR PLAN
SCALE: 3/8" = 1'-0"



2 PHOTO 1
SCALE: NTS



3 PHOTO 2
SCALE: NTS

SHEET NOTES

- 1 PROVIDE A FAN COIL UNIT USING WATER FROM THE DISTRIBUTION SYSTEM TO COOL THE WELLHOUSE. UNIT SHALL BE CONFIGURED WITH A FAN, WATER COIL, AND INLET FILTER TO CIRCULATE AIR AND PROVIDE APPROXIMATELY 75,000 BTUH COOLING USING 40°F ENTERING WATER. UNIT SHALL BE MOUNTED AT CEILING LEVEL WITH DISCHARGE DIRECTED TOWARD THE VFD LOCATION USING AN OUTLET DIFFUSER TYPE 45 ELBOW. THE INLET SHALL BE OPEN TO THE ROOM WITH 2-INCH THICKNESS MERV 8 FILTER. CASING SHALL BE INSULATED WITH SOLID LINER, AND STAINLESS STEEL COIL DRIP PAN. PROVIDE SPRING ISOLATED HANGERS TO SUPPORT UNIT. UNIT SHALL BE PRICE MODEL BCH, SIZE 16 FAN COIL UNIT WITH FILTER RACK AND FILTERS, 1650 CFM, 1/2-INCH EXTERNAL STATIC PRESSURE, 1 HP 208V SINGLE PHASE MOTOR, 8-ROW WATER COIL. PROVIDE LOCAL DISCONNECT AND MOTOR CONTACTOR MOUNTED ON THE FAN-COIL UNIT.
- 2 CONNECT A 1-1/4" WATER SUPPLY TO THE WELL DISCHARGE PIPING AT THE EXISTING TAP, RECONNECT THE EXISTING VALVE AND TUBING CONNECTION. PROVIDE AN ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE BACKFLOW PREVENTER, FLOW CONTROL VALVE (GRISWOLD MODEL 3538- 8-128 PSI CONTROL RANGE, 14.0 GPM) AND FIELD ROUTE TO THE COIL INLET AS SHOWN. FIELD ROUTE 1-1/4" PIPING FROM COIL OUTLET PIPING THROUGH A SLOW CLOSING NORMALLY CLOSED 120VAC SOLENOID CONTROL VALVE (ASCO 8221G9 OR EQUAL) AND ISOLATION VALVE AND ROUTE TO THE FLOOR DRAIN AS NOTED.. CONNECT 3/4" CONDENSATE DRAIN PIPING TO THE FAN COIL UNIT DRAIN CONNECTION AND FIELD ROUTE TO THE FLOOR DRAIN. PROVIDE A DRAIN FUNNEL ON THE BACKFLOW PREVENTER AND ROUTE DISCHARGE PIPING TO THE FLOOR DRAIN.
- 3 CONNECT POWER TO THE FAN COIL UNIT FROM THE EXISTING POWER PANEL USING THE NEW TWO-POLE 20A BREAKER. CONTROL THE UNIT BASED ON A HIGH TEMPERATURE SIGNAL FROM A LOCAL LINE VOLTAGE DUAL CONTACT SPDT THERMOSTAT (HONEYWELL T678A1437 OR EQUAL) MOUNTED NEAR THE MCC. ON TEMPERATURE RISE THERMOSTAT CONTACTS CLOSE TO START THE FAN MOTOR AND OPEN THE SOLENOID VALVE.
- 4 MATERIALS IN CONTACT WITH WATER SHALL BE LEAD FREE, MEETING THE REQUIREMENTS OF NSF-61 ANNEX G.

P:\Projects\AWWU\Wellhouse Ventilation\Evaluation\Dwgs\Mech\M-1 WELL 4 PLAN.dwg

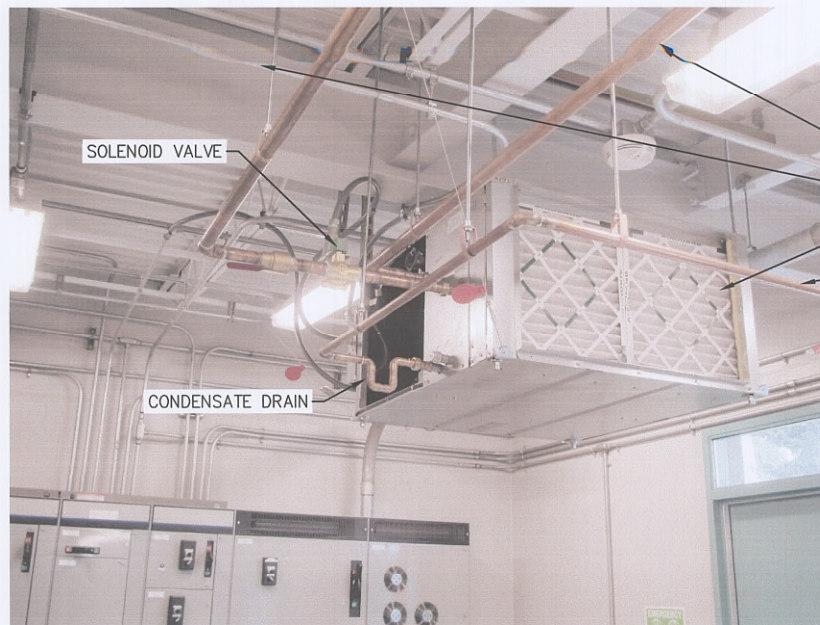
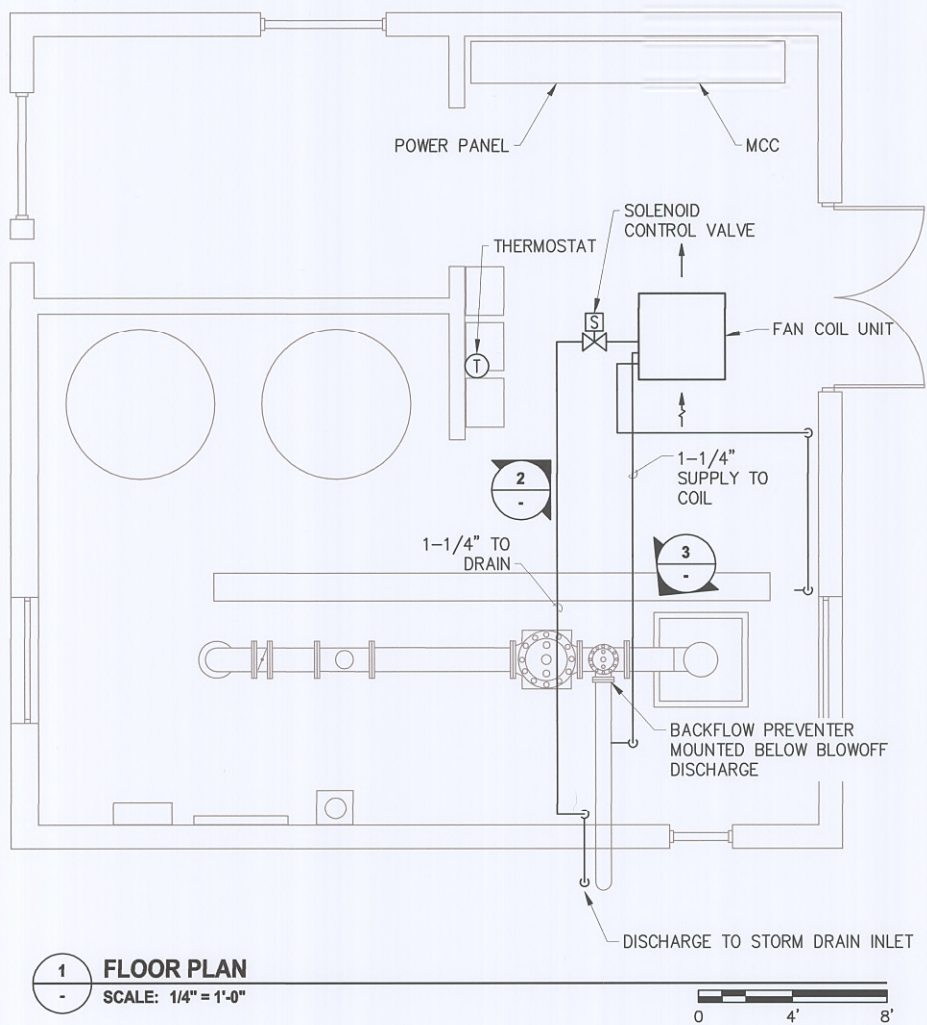
VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATE	DRAWN BY	DATE	DRAWN BY	REV	DATE	DESCRIPTION	BY
BASE		TELEPHONE			11/21/16	CORRECTED NOTE 2	KLH
TOPOGRAPHY		ELECTRIC		2	3/3/17	RECORD DRAWING	KLH
PROFILE		CABLE TV					
SANITARY SEWER		TRAFFIC SIGNAL					
STORM SEWER		DESIGN					
WATER		QUANTITIES					
GAS		MUN. FINAL CHECK					

RECORD DRAWING		Note: To be filled out on original drawings upon project completion.	
1. DATA PROVIDED BY:		3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.	
This shall serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.	CONTRACTOR: FRAWNER CORP	DATA TRANSFER CHECKED BY: KEVIN L. HANSEN	COMPANY: EDC, INC.
BY: <u>I. Foreman</u>	TITLE: FOREMAN	DATE: 10 FEB 2017	
2. DATA TRANSFERRED BY: K. HANSEN	COMPANY: EDC, INC.	DATE: 3/3/17	

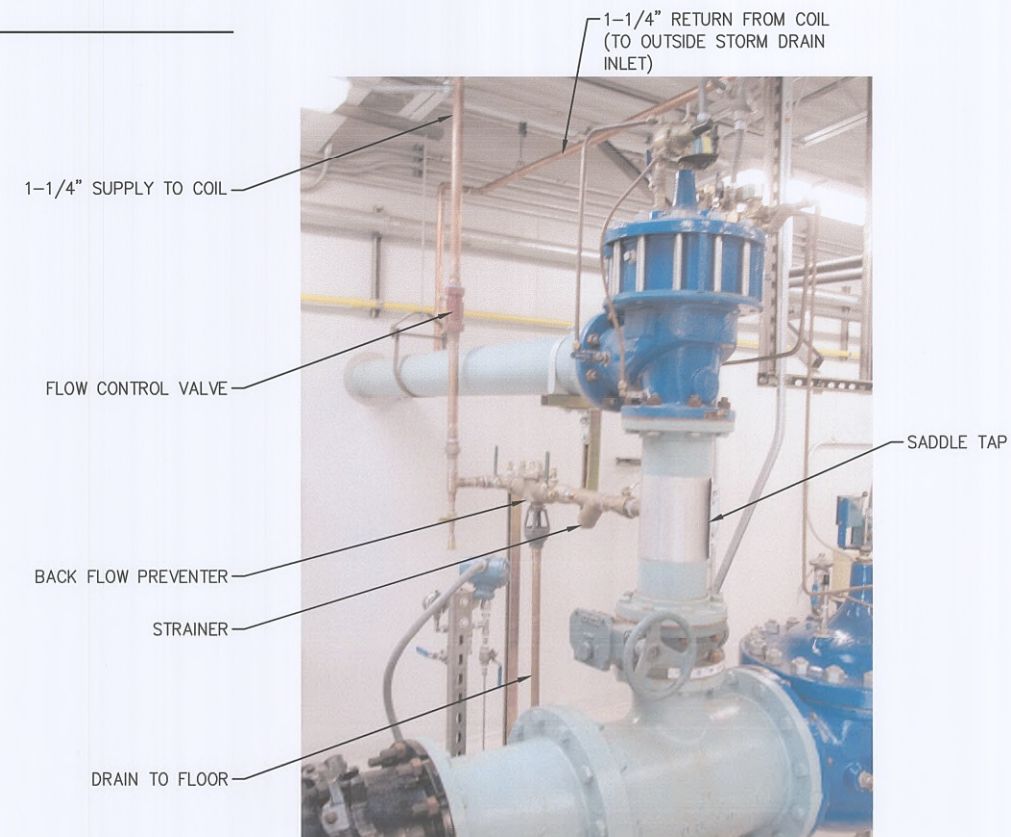
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 EDC, INC. 213 W. FIREWEED LANE ANCHORAGE, AK 99503 (907) 276-7933 CONSULTANT			MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY WELLHOUSE COOLING SYSTEM UPGRADES
			WELL 4 PLAN M-1
HORZ SCALE: AS SHOWN VERT SCALE: N/A PROJ. ID.: 0000007606			DATE: 6/3/2016 GRID: SW 1134 SHEET 1 of 4



2 PHOTO 1
SCALE: NTS



3 PHOTO 2
SCALE: NTS

SHEET NOTES

- PROVIDE A FAN COIL UNIT USING WATER FROM THE DISTRIBUTION SYSTEM TO COOL THE WELLHOUSE. UNIT SHALL BE CONFIGURED WITH A FAN, WATER COIL, AND INLET FILTER TO CIRCULATE AIR AND PROVIDE APPROXIMATELY 75,000 BTUH COOLING USING 40F ENTERING WATER. UNIT SHALL BE MOUNTED AT CEILING LEVEL WITH DISCHARGE DIRECTED TOWARD THE VFD LOCATION. THE INLET SHALL BE OPEN TO THE ROOM WITH 2-INCH THICKNESS MERV 8 FILTER. CASING SHALL BE INSULATED WITH SOLID LINER, AND STAINLESS STEEL COIL DRIP PAN. UNIT IS TRANE MODEL BCHD 054 SERIAL# T16G32508 FAN COIL UNIT WITH FILTER RACK AND FILTERS, 1650 CFM, 1/2-INCH EXTERNAL STATIC PRESSURE, 1 HP 208V SINGLE PHASE MOTOR, 8-ROW WATER COIL. PROVIDE LOCAL DISCONNECT.
- CONNECT A 1-1/4" WATER SUPPLY TO THE BLOW-OFF VALVE INLET RISER PIPING WITH A SADDLE TAP, ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE BACKFLOW PREVENTER, FLOW CONTROL VALVE (GRISWOLD MODEL 3538 - 8-128 PSI CONTROL RANGE, 14.0 GPM) AND FIELD ROUTE TO THE COIL INLET AS SHOWN ON THE ATTACHED PHOTOS. FIELD ROUTE 1-1/4" PIPING FROM COIL OUTLET PIPING THROUGH A SLOW CLOSING NORMALLY CLOSED SOLENOID CONTROL VALVE (ASCO 8221G9 OR EQUAL) AND ISOLATION VALVE THROUGH THE WALL ADJACENT TO THE DISCHARGE PIPING OF THE BLOW-OFF VALVE, AND DOWN TO THE INLET OF THE STORM DRAIN WITH A MINIMUM 3" AIR GAP ABOVE THE TOP OF THE INLET. CONNECT 3/4" CONDENSATE DRAIN PIPING TO THE FAN COIL UNIT DRAIN CONNECTION AND FIELD ROUTE TO DISCHARGE AT THE FLOOR DRAIN. PROVIDE A DRAIN FUNNEL ON THE BACKFLOW PREVENTER AND ROUTE DISCHARGE PIPING TO THE FLOOR DRAIN.
- CONNECT POWER TO THE FAN COIL UNIT FROM THE EXISTING POWER PANEL USING THE EXISTING SPARE TWO-POLE 20 A BREAKER. CONTROL THE UNIT BASED ON A HIGH TEMPERATURE SIGNAL FROM A LOCAL LINE VOLTAGE THERMOSTAT WITH 2 SPDT SWITCHES (HONEYWELL T678A1437 OR EQUAL). ON TEMPERATURE RISE THERMOSTAT CONTACTS CLOSE TO START THE FAN MOTOR AND OPEN THE SOLENOID VALVE.

P:\Projects\AWWU\Wellhouse Ventilation Evaluation\Drawings\Mech\W-3 WELL 7 PLAN.dwg Plotted 3/3/2017 4:07 PM

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	HORZ SCALE: AS SHOWN	VERT SCALE: N/A	BY
BASE		TELEPHONE		RECORD DRAWING			KLH
TOPOGRAPHY		ELECTRIC					
PROFILE		CABLE TV					
SANITARY SEWER		TRAFFIC SIGNAL					
STORM SEWER		DESIGN					
WATER		QUANTITIES					
GAS		MIN. FINAL CHECK					

RECORD DRAWING		Note: To be filled out on original drawings upon project completion.	
1. DATA PROVIDED BY:		3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.	
This shall serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.			
CONTRACTOR: SUPERIOR P&H			
BY: <u>S. Z...</u> TITLE: SUPERINTENDENT			
DATE: 10/21/16			
2. DATA TRANSFERRED BY: K. HANSEN			
COMPANY: EDC, INC.			
DATE: 11/2/16			

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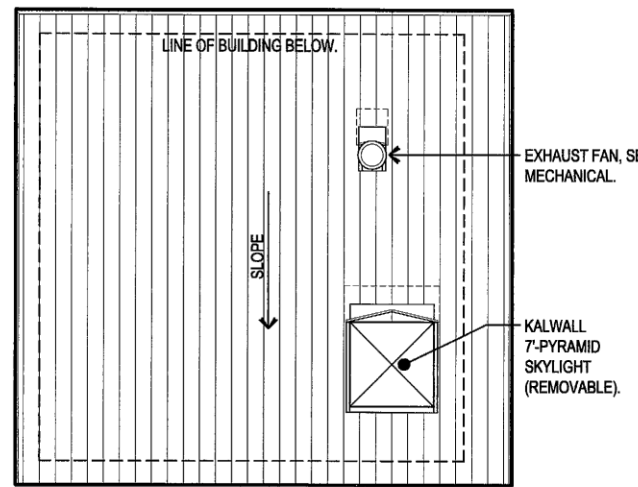
EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
CONSULTANT

STATE OF ALASKA
Professional Engineer
Kevin L. Hansen
No. ME-5641
11/2/16
SEAL

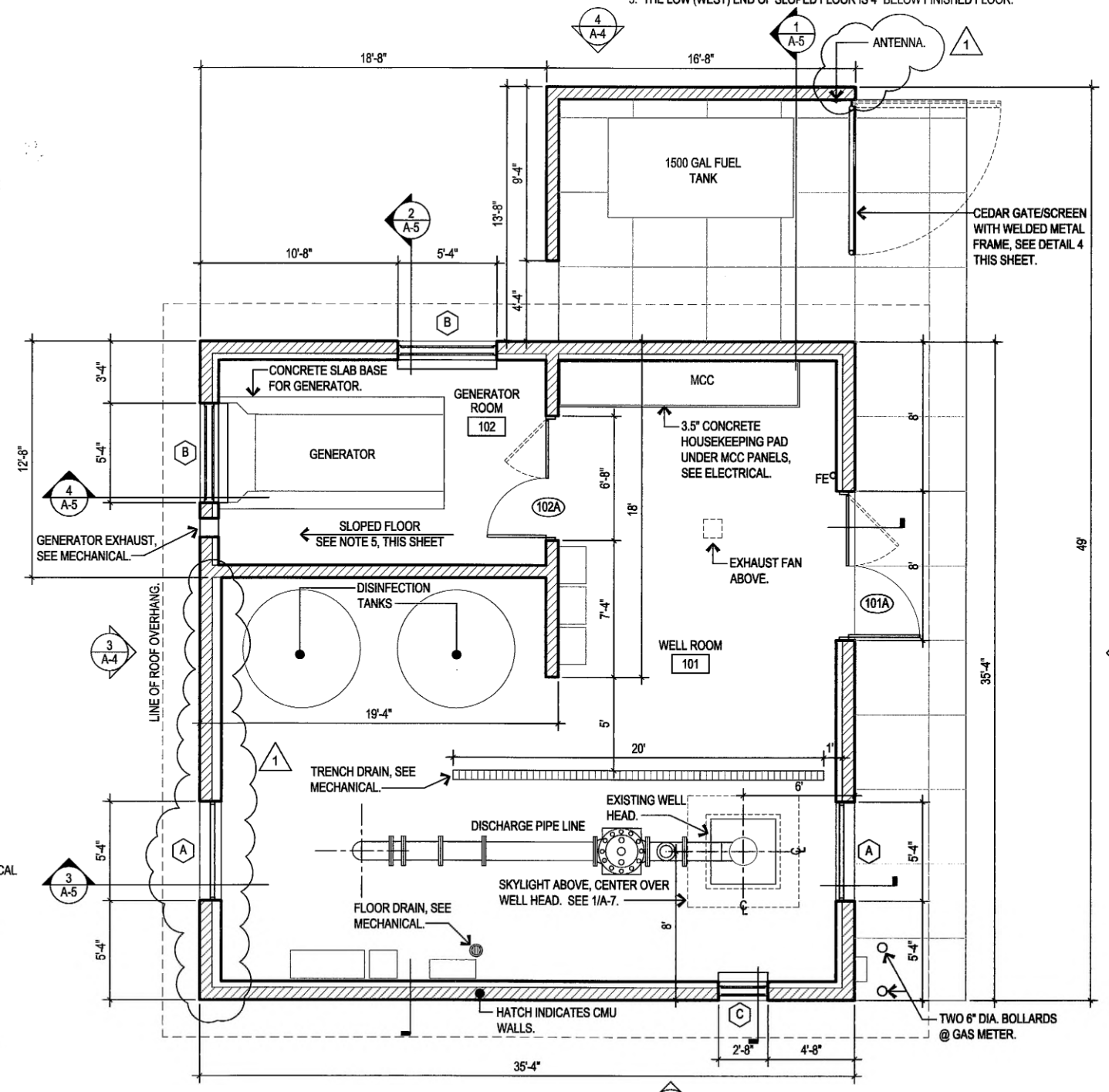
ANCHORAGE WATER & WASTEWATER UTILITY
MUNICIPALITY OF ANCHORAGE

MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY
WELLHOUSE COOLING SYSTEM UPGRADES
WELL 7 PLAN
M-3
HORZ SCALE: AS SHOWN
VERT SCALE: N/A
DATE: 6/3/2016
GRID: SW 1730
PROJ. ID.: 0000007606
SHEET 3 of 4

- SHEET NOTES:**
- DIMENSIONS ARE TO FACE OF BLOCK UNLESS NOTED OTHERWISE.
 - PROVIDE FIRE BLOCKING AND DRAFT STOPS IN ACCORDANCE WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE SECTION 717.
 - PROVIDE WALL MOUNTED 2A10BC FIRE EXTINGUISHER IN ONE LOCATION, ADJACENT TO DOOR, SHOWN ON DRAWING (FE).
 - SEE SHEET A-6 FOR WALL ASSEMBLY INFORMATION.
 - THE LOW (WEST) END OF SLOPED FLOOR IS 4" BELOW FINISHED FLOOR.

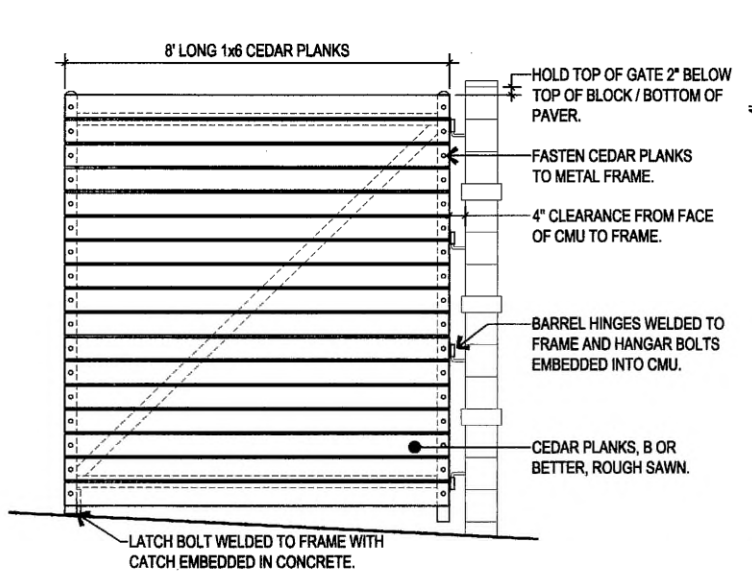


3 ROOF PLAN
1/8"=1'-0"

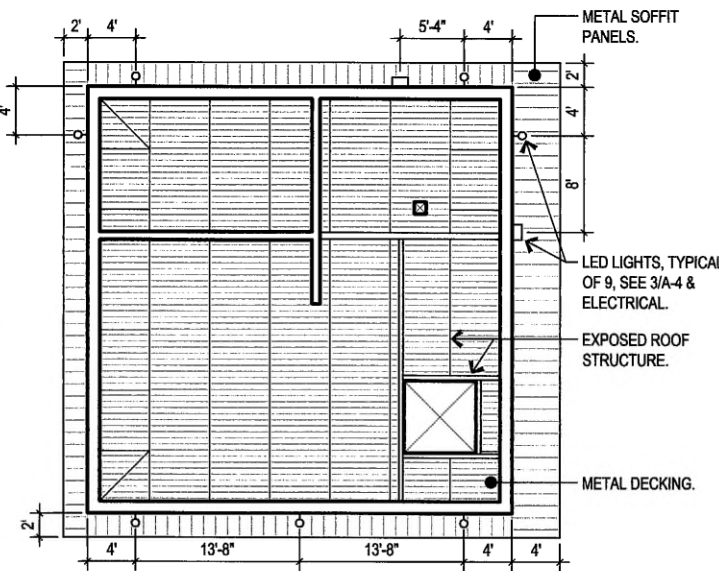


1 FLOOR PLAN
1/4"=1'-0"

PROJECT RECORD DRAWINGS:
THESE DRAWINGS HAVE BEEN PREPARED FROM INFORMATION FURNISHED BY THE GENERAL CONTRACTOR. THERE IS NO GUARANTEE AS TO THE ACCURACY OR COMPLETENESS OF THE INFORMATION CONTAINED HEREIN, EXPRESSED OR IMPLIED.



4 DETAIL
1/2"=1'-0"



2 REFLECTED CEILING PLAN
1/8"=1'-0"

REV	DATE	DESCRIPTION	BY

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: SR BALES
This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.

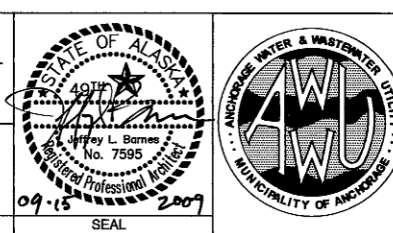
2. DATA TRANSFERRED BY: DOUGLASS LEAF
COMPANY: BARNES ARCHITECTURE INC.
DATE: 9-20-10

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.

DATA TRANSFER CHECKED BY: B MISKILL
COMPANY: MWH
BY: B Miskill TITLE: PROJECT MANAGER
DATE: 9-20-10

BARNES ARCHITECTURE INC.
218 East 4th Avenue, Anchorage, Alaska 99501 (907) 276-5161

MWH
Anchorage, Alaska
CONSULTANT

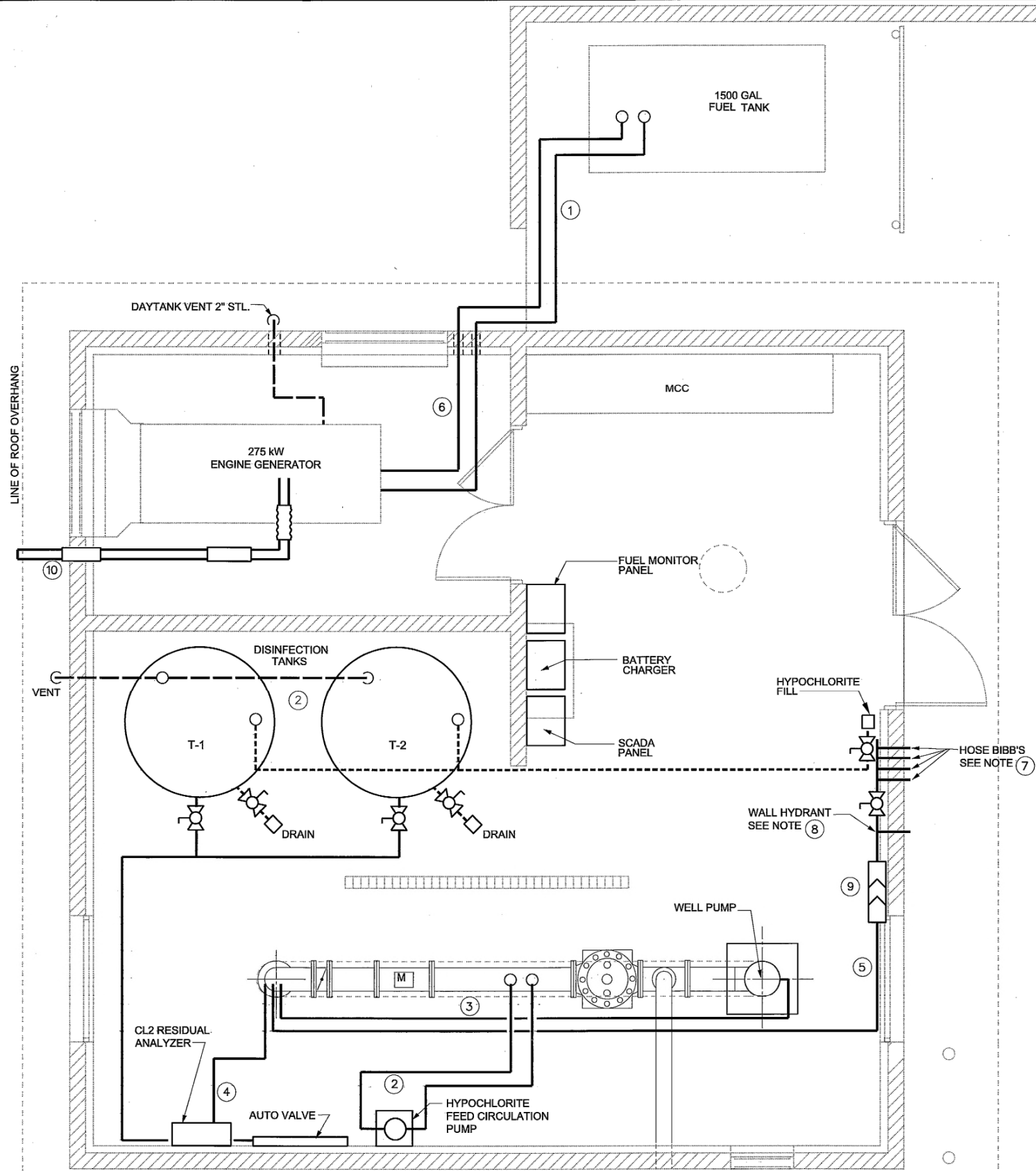
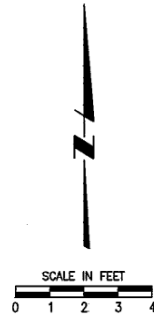


**MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY**
WELL 7 CAPACITY UPGRADE

PLANS

SCALE: DATE: JULY 2009 GRID: SW1731 SHEET 15 OF 79
PSP#000004870

DRAWING
A-1



NOTES

- ① SEE FUEL PIPING SCHEMATIC FOR DETAILS.
- ② SEE HYPOCHLORITE SYSTEM PIPING SCHEMATIC FOR DETAILS.
- ③ WELL PUMP PRE-LUBE LINE, 3/4-INCH COPPER.
- ④ CHLORINE RESIDUAL ANALYZER LINE, 1/8-INCH SS TUBING. MINIMIZE LENGTH TO TAP.
- ⑤ HOSE BIBB AND WALL HYDRANT PIPE, 3-INCH GALVANIZED STEEL, SCH.40.
- ⑥ PROVIDE SAFETY STEP FOR FUEL PIPING.
- ⑦ INSTALL (4) 3/4-INCH FREEZE-PROOF HOSE BIBBS WITH VACUUM BREAKERS.
- ⑧ INSTALL A SINGLE, FLUSH WALL HYDRANT WITH FIRE DEPARTMENT OUTLET CONNECTION AND VALVE CONTROL. SEE DETAIL 1.
- ⑨ INSTALL 3-INCH REDUCED-PRESSURE ZONE BACKFLOW PREVENTER. PROVIDE DRAIN PIPE TO FLOOR DRAIN.
- ⑩ ENGINE EXHAUST WALL THIMBLE. SEE SPECIFICATIONS.



FILE: D:\CAD\Proj\awwu\WELL 7\Drawings\Record Drawings - September 2010\Process Mechanical\PM-1.DGN

TIME: 16-NOV-2010 09:54

MWH JOB: 185120B.070101

WELL # 7

REV	DATE	DESCRIPTION	BY

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: SR BALES
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: SR BALES
 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

2. DATA TRANSFERRED BY: L FIALOVA
 COMPANY: MWH
 DATE: SEPTEMBER 2010

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: B. MISKILL
 COMPANY: MWH
 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

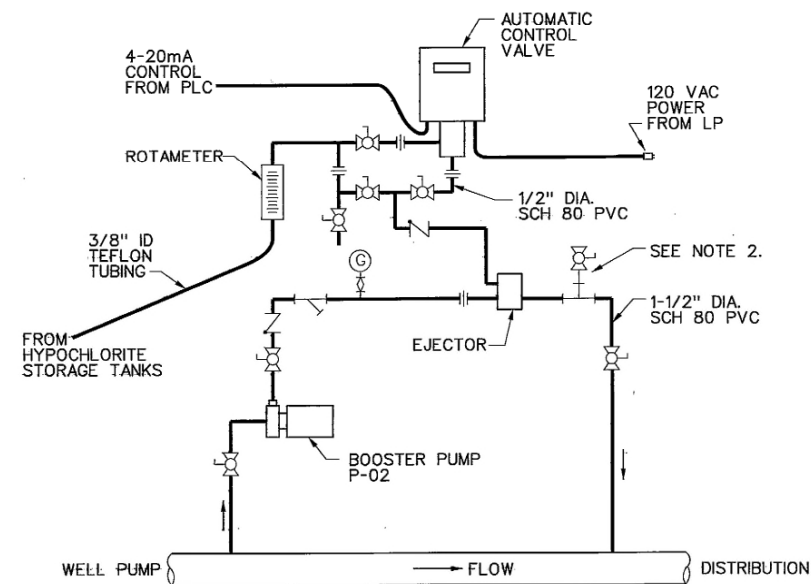
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MUNICIPALITY OF ANCHORAGE
 WATER & WASTEWATER UTILITY
 WELL 7 CAPACITY UPGRADE
PROCESS MECHANICAL FLOOR PLAN

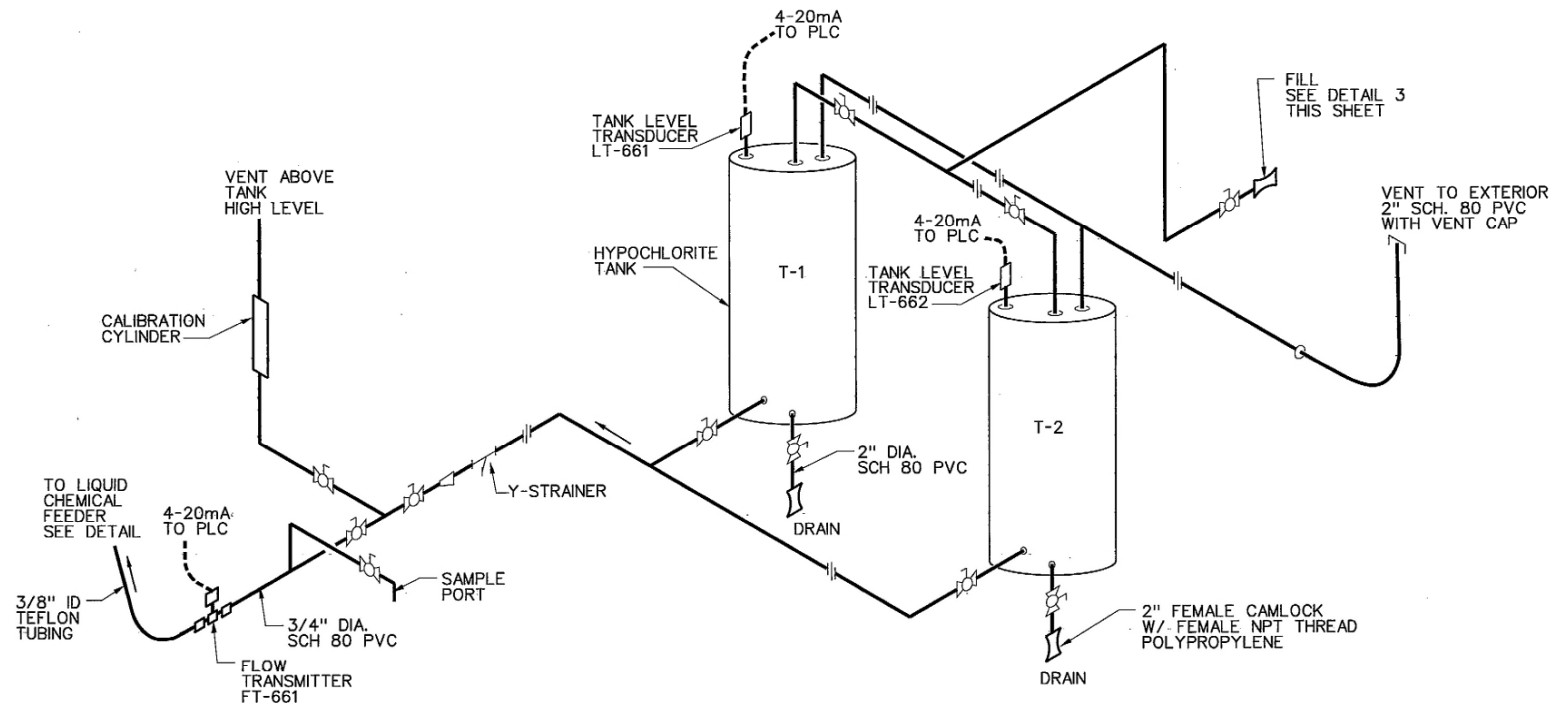
SCALE: AS NOTED DATE: JUNE 2010 GRID: SW1731
 SHEET: PSP#000004870

DRAWING
PM-1
 SHEET

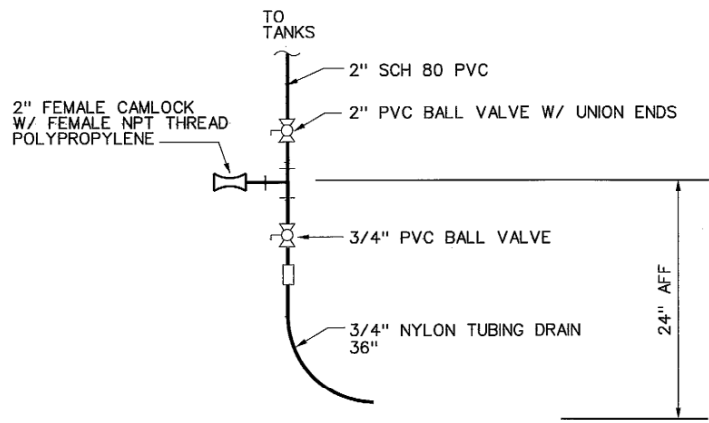


NOTE:
NYLON TUBING: SYNIFLEX 4225-650N2
GROUP 1 3/8" OD X 0.05 WALL

AUTOMATIC CONTROL VALVE SCHEMATIC ①
TYPICAL DETAIL NOT TO SCALE



TANK PIPING SCHEMATIC ②
TYPICAL DETAIL NOT TO SCALE



HYPOCHLORITE FILL DETAIL ③
NOT TO SCALE

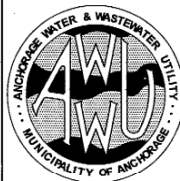
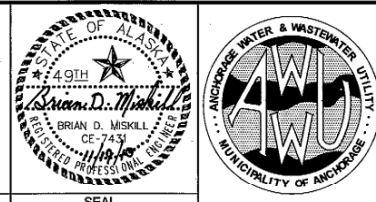
TANK SCHEDULE					
HYPOCHLORITE TANK NO.	SPEC. SECTION	SERVICE	TYPE	CAPACITY	DIMENSIONS
T-1	13675	SODIUM HYPOCHLORITE	UPRIGHT CYLINDRICAL	905 GAL	5'-4" DIA. x 6'-7" HT.
T-2	13675	SODIUM HYPOCHLORITE	UPRIGHT CYLINDRICAL	905 GAL	5'-4" DIA. x 6'-7" HT.

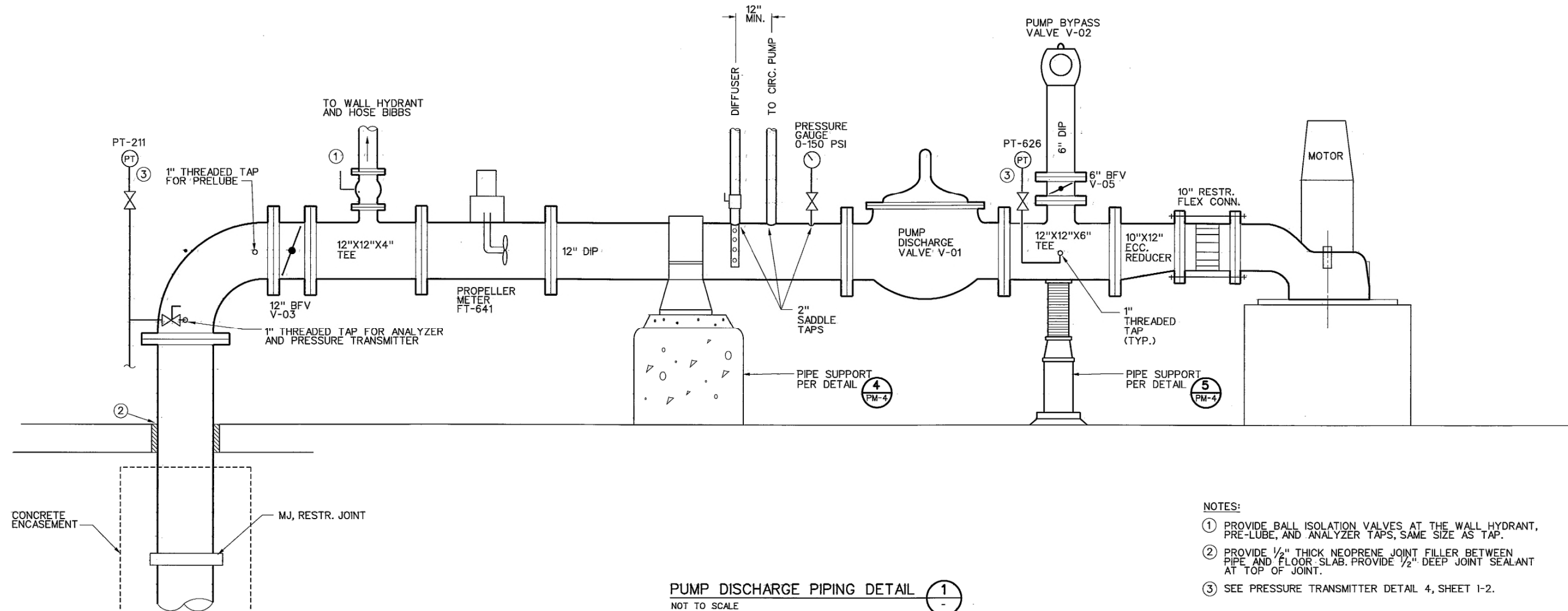
- LEGEND:**
- ECCENTRIC REDUCER
 - BALL VALVE WITH UNION ENDS
 - UNION
 - Y-STRAINER
 - PRESSURE GAUGE
 - FLOW DIRECTION
 - ROTAMETER
 - CHECK VALVE
 - TRANSITION

- SHEET NOTES:**
- HYPOCHLORITE FEED SYSTEM SHALL BE SIZED FOR 28 GPH.
 - CONTRACTOR SHALL INSTALL AN UPWARD-OPENING TEE AND 3/4-INCH BALL VALVE AT THE HIGH POINT OF THE PIPING TO RELIEVE AIR.

MWH JOB: 1851209.070101 TIME: 16-NOV-2010 09:55 FILE: D:\CAD\Proj\awwu\WELL 7\DSN\Record Drawings - September 2010\FProcess Mechanical\PM-2.DGN

<p>0 WARNING</p> <p>IF BAR IS NOT 1 INCH, ADJUST DRAWING SCALE ACCORDINGLY.</p> <p>FULL SIZE SCALE: 3/8" = 1'-0"</p>	<p>RECORD DRAWING Note: To be filled out on original drawings upon project completion.</p> <p>1. DATA PROVIDED BY: <u>SR BALES</u></p> <p>CONTRACTOR: <u>SR BALES</u></p> <p>BY: <u>[Signature]</u> TITLE: <u>PROJECT MANAGER</u></p> <p>DATE: <u>SEPTEMBER 2010</u></p> <p>2. DATA TRANSFERRED BY: <u>L.FIALOVA</u></p> <p>COMPANY: <u>MWH</u></p> <p>DATE: <u>SEPTEMBER 2010</u></p>	<p>3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.</p> <p>DATA TRANSFER CHECKED BY: <u>B. MISKILL</u></p> <p>COMPANY: <u>MWH</u></p> <p>BY: <u>[Signature]</u> TITLE: <u>PROJECT MANAGER</u></p> <p>DATE: <u>SEPTEMBER 2010</u></p>	<p>REUSE OF DOCUMENTS</p> <p>THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.</p>	<p>MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY</p> <p>WELL 7 CAPACITY UPGRADE</p> <p>HYPOCHLORITE SYSTEM SCHEMATICS</p> <p>SCALE: AS NOTED DATE: JUNE 2010 GRID: SW1731 SHEET: PSP#000004870</p>	<p>DRAWING</p> <p>PM-2</p> <p>SHEET</p>
--	---	--	---	---	---





- NOTES:
- ① PROVIDE BALL ISOLATION VALVES AT THE WALL HYDRANT, PRE-LUBE, AND ANALYZER TAPS, SAME SIZE AS TAP.
 - ② PROVIDE 1/2" THICK NEOPRENE JOINT FILLER BETWEEN PIPE AND FLOOR SLAB. PROVIDE 1/2" DEEP JOINT SEALANT AT TOP OF JOINT.
 - ③ SEE PRESSURE TRANSMITTER DETAIL 4, SHEET 1-2.

PUMP DISCHARGE PIPING DETAIL ①
NOT TO SCALE

VALVE SCHEDULE								
VALVE NO.	SPEC. SECTION	SERVICE	TYPE	SIZE	CLASS	OPERATOR	OPEN TIME (CLS. SEC)	REMARKS
V-03	15202	ISOLATION		12"	150 B	HANDWHEEL		FLANGED, AWWA RUBBER-SEATED
	15202	ISOLATION		12"	150 B	NUT W/ RISER AND VALVE BOX		BURIED, AWWA RUBBER-SEATED
V-05	15202	ISOLATION		6"	150 B	HANDWHEEL		FLANGED, AWWA RUBBER-SEATED

METER SCHEDULE							
METER NO.	SPEC. SECTION	SERVICE	TYPE	PRESSURE RATING (PSI)	SIZE	MIN. RANGE	REMARKS
FT-641	17102	POTABLE WATER	PROPELLER	150	12"	0-3500 GPM	FLANGED
FT-661	17102	SODIUM HYPOCHLORITE SOLUTION	MAGNETIC	150	5/32"	0-40 GPH	SEE SPECIFICATIONS

PUMP SCHEDULE							
EQUIP. NO.	SPEC. SECTION	SERVICE	TYPE	GPM	TDH (FT.)	HP (MIN)	REMARKS
P-01	11103	WELL PUMP	VERTICAL LINESHAFT TURBINE	2300	260	200	1200-1800 RPM VFD-DRIVEN
P-02	11110	HYDROCHLORITE FEED SYSTEM	VERTICAL MULTI-STAGE INLINE	28	175	3	3600 RPM CONSTANT SPEED

CONTROL VALVE SCHEDULE								
VALVE NO.	SPEC. SECTION	SERVICE	TYPE	SIZE	PRESSURE (PSI) INLET/OUTLET	FLOW RANGE (GPM)	CLASS	REMARKS
V-01	15214	PUMP DISCHARGE	GLOBE	12"	75-95 65-85	500-3000	150	HYD. OPERATED, PRESS. RED. CHECK SOLENOID CONTROL
V-02	15214	PUMP BLOW OFF	ANGLE	6"	75-95 -	500-1000	150	HYD. OPERATED, PRESS. RELIEF SOLENOID CONTROL

FILE: D:\CAD\Proj\awwu\WELL 7\DSM\Record Drawings - September 2010\Process Mechanical\PM-3.DGN
 TIME: 16-NOV-2010 09:57
 MWH JOB: 1851209.070101

0 WARNING		IF BAR IS NOT 1 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE:	
REV	DATE	DESCRIPTION	BY		
REVISIONS					

RECORD DRAWING Note: To be filled out on original drawings upon project completion.




1. DATA PROVIDED BY: SR BALES
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: SR BALES
 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

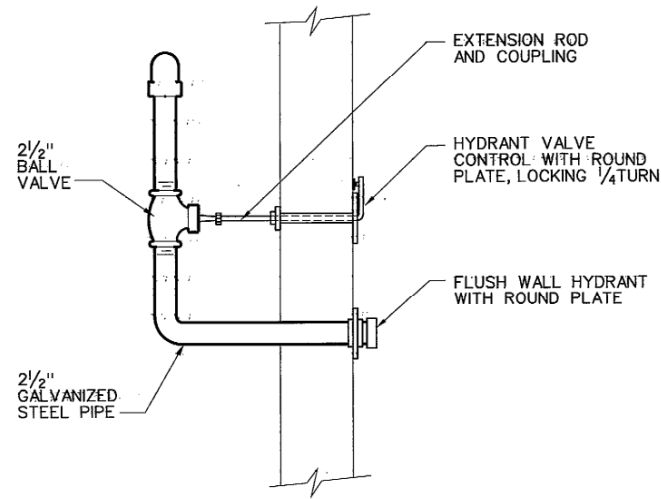
2. DATA TRANSFERRED BY: L. FIALOVA
 COMPANY: MWH
 DATE: SEPTEMBER 2010

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: B. MISKILL
 COMPANY: MWH
 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

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 MWH Anchorage Alaska CONSULTANT	 SEAL	 ANCHORAGE WATER & WASTEWATER UTILITY MUNICIPALITY OF ANCHORAGE	MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY WELL 7 CAPACITY UPGRADE MECHANICAL DETAILS	DRAWING PM-3
			DATE: JUNE 2010 PSP#000004870	SHEET

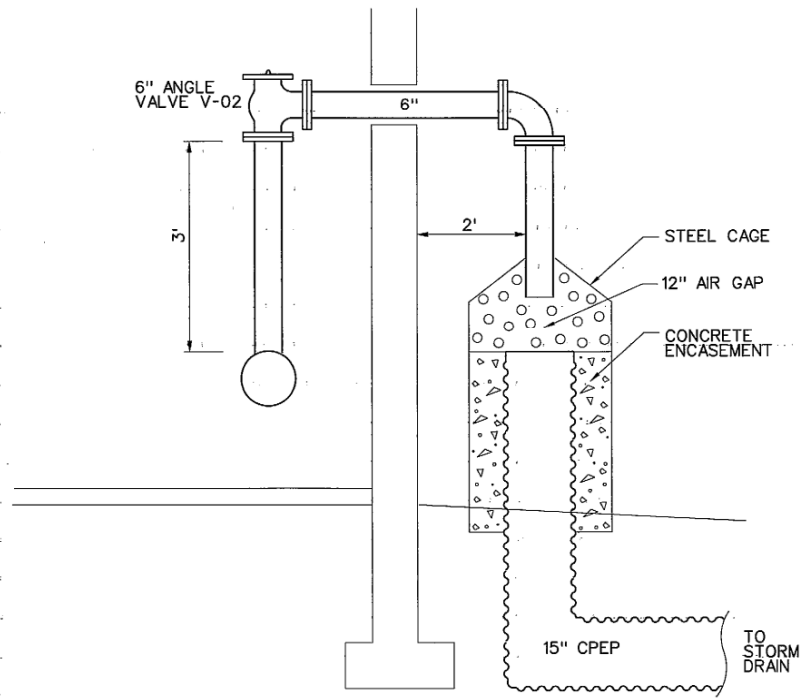


NOTES:

1. HYDRANT SHALL BE CAST BRASS, CROKER 6610 SERIES, OR EQUAL.
2. EXTERIOR WALL PLATES SHALL BE POLISHED BRASS WITH LETTERING: "WALL HYDRANT" AND "WALL-HYDRANT CONTROL".
3. PENETRATIONS SHALL BE PVC SLEEVED.

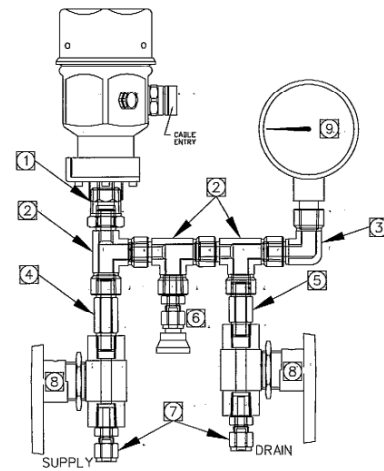
FIRE DEPARTMENT WALL HYDRANT
OUTLET CONNECTION DETAIL

NOT TO SCALE



DRAIN DETAIL

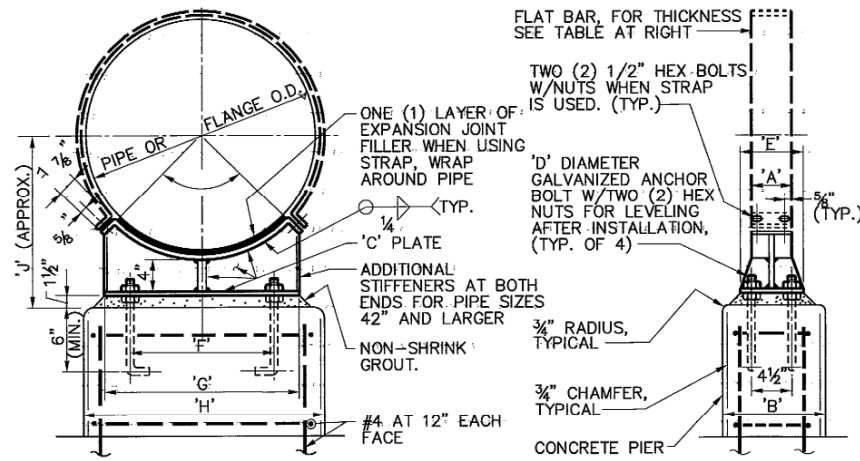
NOT TO SCALE



- 1 SWAGELOK SS-8-RB-4 REDUCING BUSHING AS REQUIRED
- 2 SWAGELOK SS-4-ST STREET TEE
- 3 SWAGELOK SS-4-SE STREET ELBOW
- 4 SWAGELOK SS-4-HLN-2.00 NIPPLE
- 5 SWAGELOK SS-4-HLN-1.50 NIPPLE
- 6 SWAGELOK SS-QC4-B-4PM FEMALE QUICK CONNECT
- 7 SWAGELOK SS-400-1-4 TUBING CONNECTOR
- 8 INLINE 204F-02S6-M-01 BALL VALVE
- 9 2 1/2" LIQUID FILLED SS GAUGE, SAME RATING AS INSTRUMENT

PRESSURE TRANSMITTER DETAIL

NOT TO SCALE



PIPE SUPPORT WITH STRAP

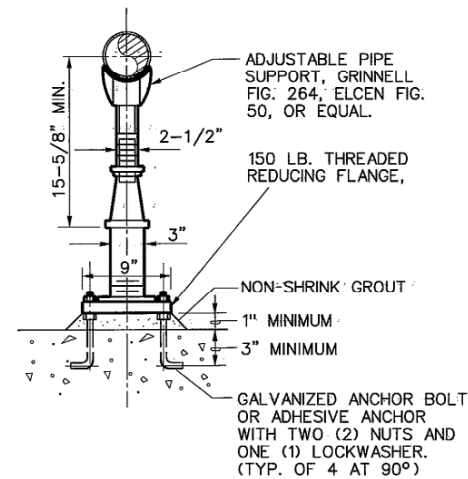
NOT TO SCALE



NOMINAL PIPE SIZE	DIMENSIONS IN INCHES													
	FLAT BAR					SUPPORTING								
	'A'	'B'	'C'	'D'	'E'	'F'	'G'	'H'	'J'	'F'	'G'	'H'	'J'	
12	4	12	3/8	5/8	6	1/4	7	11	17	13	10	15	20	16

NOTES:

1. WHEN SUPPORTING PIPE AND FLANGE ALTERNATELY ON THE SAME LINE, CONCRETE PIERS FOR PIPE SUPPORTS SHALL ALL HAVE THE SAME DIMENSION 'H' FOR FLANGE SUPPORT.
2. PIPE SUPPORTS TO BE LOCATED AS SHOWN ON PLANS.



ADJUSTABLE PIPE SUPPORT

NOT TO SCALE



FILE: D:\CAD\Proj\New\WELL 7\Drawings\Process Mechanical\PM-4.DGN TIME: 16-NOV-2010 09:58 MWH JOB: 1851209.0701.01

0 WARNING		IF BAR IS NOT 1 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE:	
REV	DATE	DESCRIPTION	BY		
REVISIONS					

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

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 CONTRACTOR: SR BALES
 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

2. DATA TRANSFERRED BY: L.FIALOVA
 COMPANY: MWH
 DATE: SEPTEMBER 2010

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: B. MISKILL
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 BY: [Signature] TITLE: PROJECT MANAGER
 DATE: SEPTEMBER 2010

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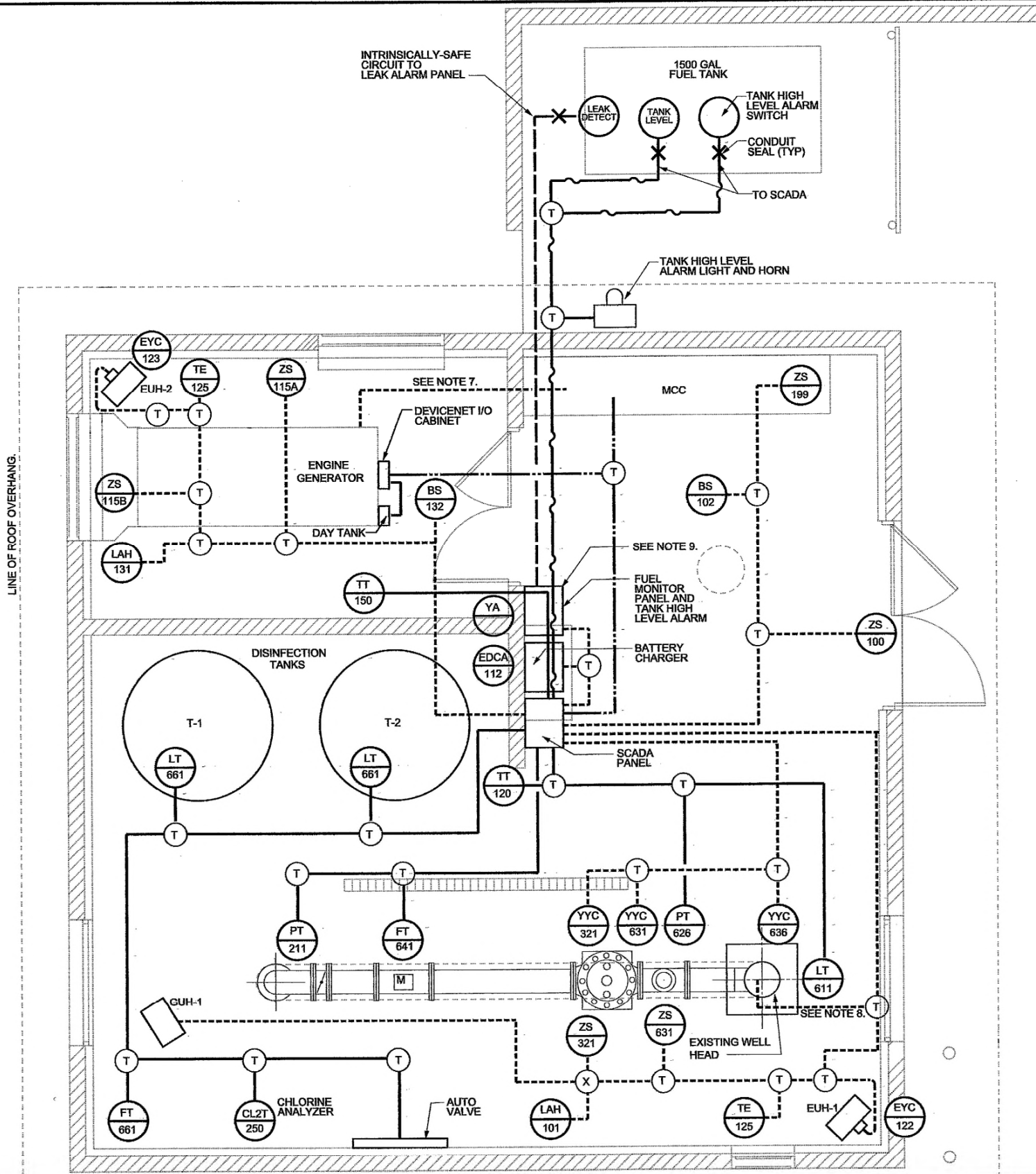
CONSULTANT

SEAL

MUNICIPALITY OF ANCHORAGE
 WATER & WASTEWATER UTILITY
 WELL 7 CAPACITY UPGRADE
 MECHANICAL DETAILS

SCALE: AS NOTED DATE: JUNE 2010 GRID: SW1731
 PSP#0000004870

DRAWING
 PM-4
 SHEET



NOTES:

1. PROVIDE SEPARATE CONDUIT SYSTEMS FOR:
 - DISCRETE I/O
 - ANALOG I/O
 - FUEL MONITORING INTRINSICALLY SAFE CIRCUITS
 - DEVICENET AND ETHERNET
2. FINAL CONNECTIONS TO SWITCHES, SOLENOID VALVES, AND TRANSMITTERS SHALL BE MADE WITH LFMC LESS THAN 3 FEET IN LENGTH.
3. ALL SOLENOID VALVE LEAD TERMINATIONS SHALL BE MADE IN A GUA-TYPE BOX.
4. ALL INSTRUMENT MOUNTING HARDWARE SHALL BE STAINLESS STEEL.
5. SEE LOOP DRAWINGS FOR WIRE REQUIREMENTS.
6. CONDUIT FILL FOR TSP IS (2) TSP - 3/4°C AND (4) TSP 1°C.
7. 2 #14 START CONTROL FROM ATS.
8. 2#14 FOR MOTOR THERMOSTAT.
9. 3#12 FOR FUEL MONITOR PANEL.

LEGEND:

- ANALOG
- DISCRETE
- - - - - FUEL MONITORING
- · - · - DEVICENET/ ETHERNET
- ~~~~~ FUEL TANK HIGH LEVEL

FILE: D:\CAD\Proj\en\m\WELL_7\Drawings\Record Drawings - September 2010\Equipment ElectricalVE-7.DGN
 TIME: 16-NOV-2010 09:41
 MWH JOB: 1851209.070101

REV	DATE	DESCRIPTION	BY

RECORD DRAWING Note: To be filled out on original drawings upon project completion.


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 DATE: SEPTEMBER 2010


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 COMPANY: MWH
 BY: [Signature] TITLE: PROJECT MANAGER
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MWH
Anchorage
Alaska
CONSULTANT

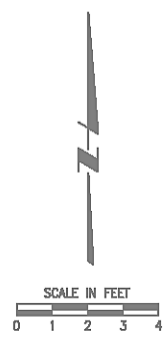


SEAL



ANCHORAGE WATER & WASTEWATER UTILITY
MUNICIPALITY OF ANCHORAGE

MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY WELL 7 CAPACITY UPGRADE INSTRUMENTATION CONDUIT PLAN			DRAWING E-7
SCALE: AS NOTED	DATE: JUNE 2010	GRID: SW1731	SHEET
PSP#0000004870			



**SUMMER WORK 2014
DAY TANK
OVERFLOW/RETURN PUMP
BY-PASS**

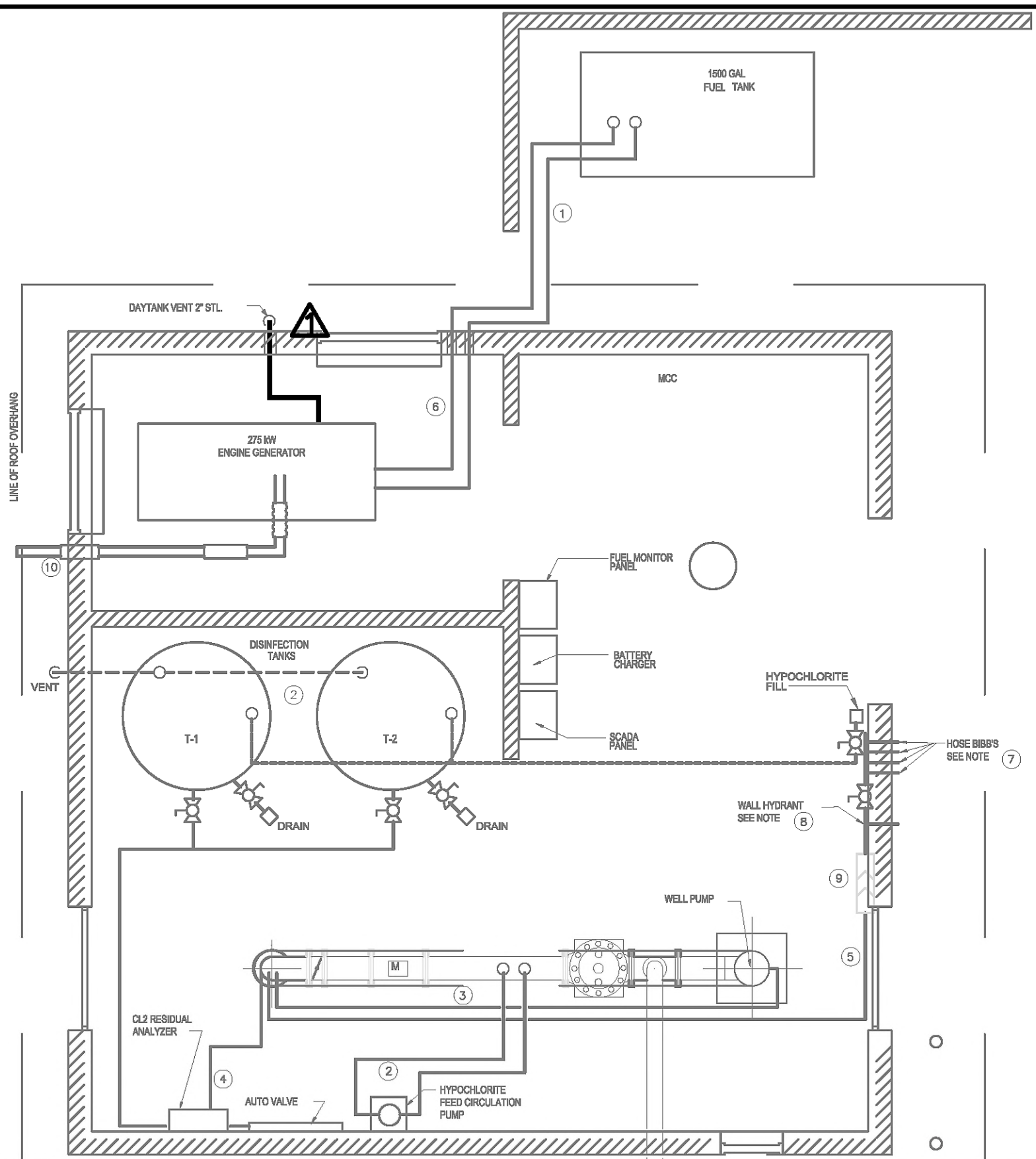
PROJECT ID: 7099/7100
TERM CONTRACT:

- EDC: MECHANICAL ENGINEERING
- BC EXCAVATING: PLUMBING INSTALLERS
- AWWU: INSPECTOR



NOTES

- SEE FUEL PIPING SCHEMATIC FOR DETAILS.
- SEE HYPOCHLORITE SYSTEM PIPING SCHEMATIC FOR DETAILS.
- WELL PUMP PRE-LUBE LINE, 3/4-INCH COPPER.
- CHLORINE RESIDUAL ANALYZER LINE, 1/8-INCH SS TUBING. MINIMIZE LENGTH TO TAP.
- HOSE BIBB AND WALL HYDRANT PIPE, 3-INCH GALVANIZED STEEL, SCH.40.
- PROVIDE SAFETY STEP FOR FUEL PIPING.
- INSTALL (4) 3/4-INCH FREEZE-PROOF HOSE BIBBS WITH VACUUM BREAKERS.
- INSTALL A SINGLE, FLUSH WALL HYDRANT WITH FIRE DEPARTMENT OUTLET CONNECTION AND VALVE CONTROL. SEE DETAIL
- INSTALL 3-INCH REDUCED-PRESSURE ZONE BACKFLOW PREVENTER. PROVIDE DRAIN PIPE TO FLOOR DRAIN.
- ENGINE EXHAUST WALL THIMBLE. SEE SPECIFICATIONS.



0 WARNING		IF BAR IS NOT 1 INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE: 3/8" = 1'-0"	
REV	DATE	DESCRIPTION	BY		
▲	10/14	RETURN PUMP BY-PASS	ALR		
REVISIONS					

RECORD DRAWING Notes: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: _____
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CONTRACTOR: _____ TITLE: _____
BY: _____ DATE: _____

2. DATA TRANSFERRED BY: _____
COMPANY: _____
DATE: _____

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DATA TRANSFER CHECKED BY: _____
BY: _____ TITLE: _____
DATE: _____

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CONSULTANT _____ SEAL _____



MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY

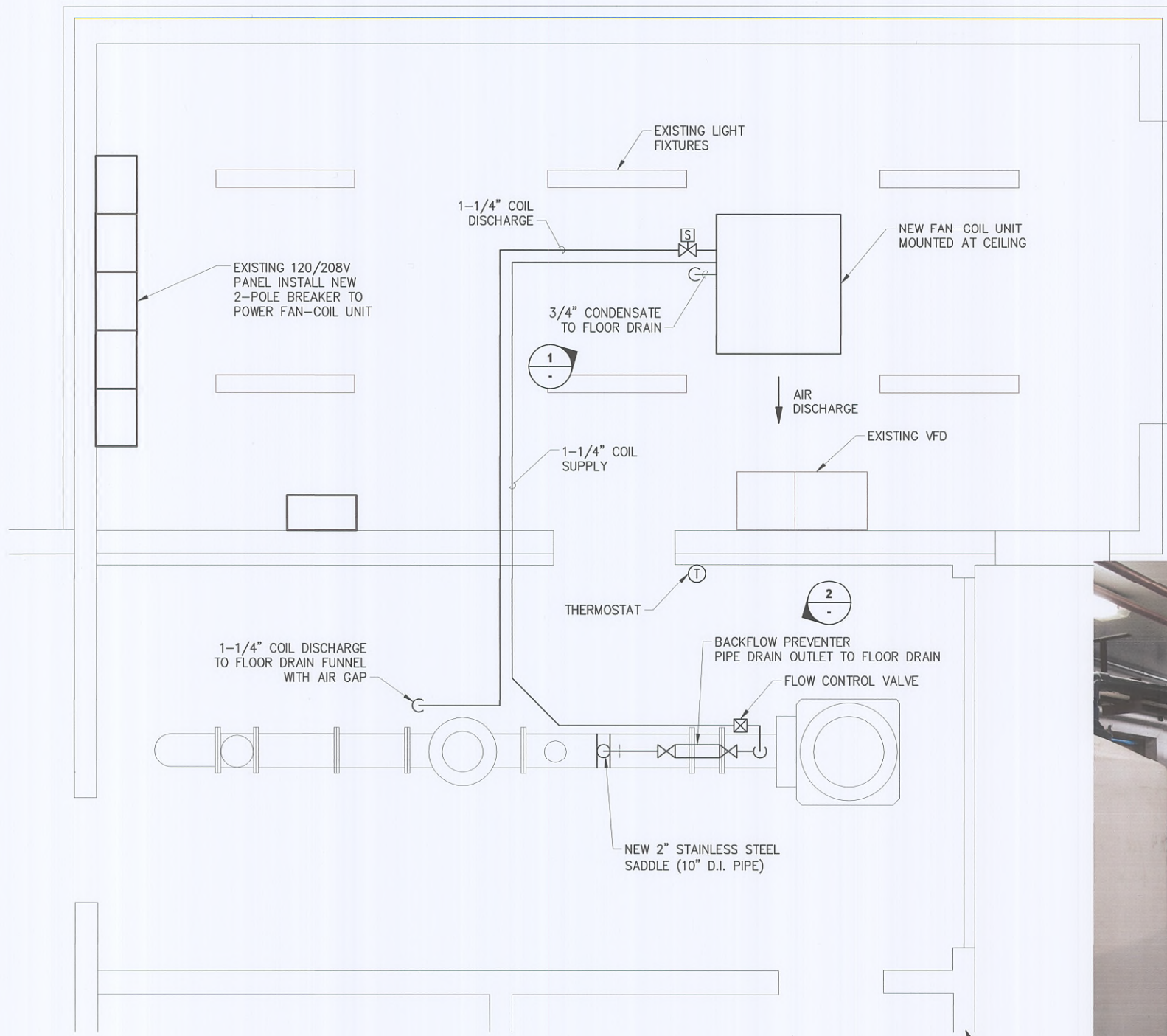
WELL 7 CAPACITY UPGRADE
FUEL TANK REHAB. WTR. 2014
PROCESS MECHANICAL FLOOR PLAN

SCALE: AS NOTED DATE: OCT.2014 GRID: SW1791
PSP#000007100 WTR / 7099 SWR

DRAWING
PM-1
SHEET

SHEET NOTES

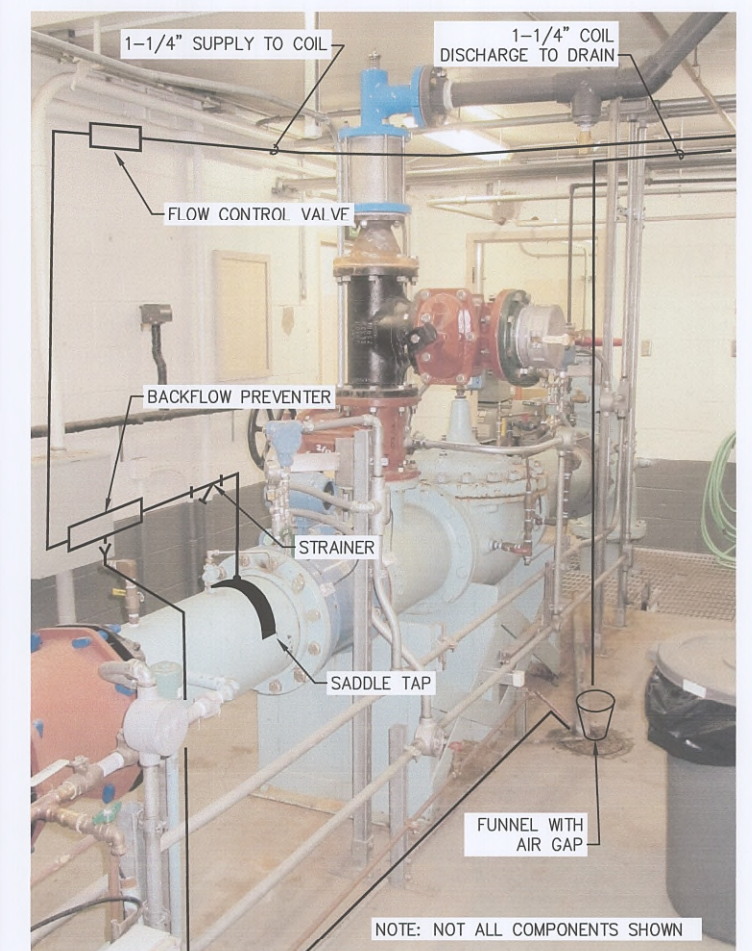
- ① PROVIDE A FAN COIL UNIT USING WATER FROM THE DISTRIBUTION SYSTEM TO COOL THE WELLHOUSE. UNIT SHALL BE CONFIGURED WITH A FAN, WATER COIL, AND INLET FILTER TO CIRCULATE AIR AND PROVIDE APPROXIMATELY 75,000 BTUH COOLING USING 40°F ENTERING WATER. UNIT SHALL BE MOUNTED AT CEILING LEVEL WITH DISCHARGE DIRECTED TOWARD THE VFD LOCATION. THE INLET SHALL BE OPEN TO THE ROOM WITH 2-INCH THICKNESS MERV 8 FILTER. CASING SHALL BE INSULATED WITH SOLID LINER, AND STAINLESS STEEL COIL DRIP PAN. PROVIDE SPRING ISOLATED HANGERS TO SUPPORT UNIT. UNIT SHALL BE PRICE MODEL BCH, SIZE 16 FAN COIL UNIT WITH FILTER RACK AND FILTERS, 1650 CFM, 1/2-INCH EXTERNAL STATIC PRESSURE, 1 HP 208V SINGLE PHASE MOTOR, 8-ROW WATER COIL. PROVIDE LOCAL DISCONNECT AND MOTOR CONTACTOR MOUNTED ON THE FAN-COIL UNIT.
- ② CONNECT A 1-1/4" WATER SUPPLY TO THE WELL DISCHARGE PIPING WITH A SADDLE TAP, ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE BACKFLOW PREVENTER, FLOW CONTROL VALVE (GRISWOLD MODEL 3538- 8-128 PSI CONTROL RANGE, 14.0 GPM) AND FIELD ROUTE TO THE COIL INLET AS SHOWN ON THE PHOTOS. FIELD ROUTE 1-1/4" PIPING FROM COIL OUTLET PIPING THROUGH A SLOW CLOSING NORMALLY CLOSED 120VAC SOLENOID CONTROL VALVE (ASCO 8221G9 OR EQUAL) AND ISOLATION VALVE DOWN TO THE EXISTING FLOOR DRAIN. CONNECT 3/4" CONDENSATE DRAIN PIPING TO THE FAN COIL UNIT DRAIN CONNECTION AND FIELD ROUTE TO DISCHARGE AT THE FLOOR DRAIN. PROVIDE A DRAIN FUNNEL ON THE BACKFLOW PREVENTER AND ROUTE DISCHARGE PIPING TO THE FLOOR DRAIN.
- ③ CONNECT POWER TO THE FAN COIL UNIT FROM THE EXISTING POWER PANEL USING THE NEW TWO-POLE 20A BREAKER. CONTROL THE UNIT BASED ON A HIGH TEMPERATURE SIGNAL FROM A LOCAL LINE VOLTAGE DUAL CONTACT SPDT THERMOSTAT (HONEYWELL T678A1437 OR EQUAL) MOUNTED NEAR THE MCC. ON TEMPERATURE RISE THERMOSTAT CONTACTS CLOSE TO START THE FAN MOTOR AND OPEN THE SOLENOID VALVE.
- ④ MATERIALS IN CONTACT WITH WATER SHALL BE LEAD FREE, MEETING THE REQUIREMENTS OF NSF-61 ANNEX G.



1 PARTIAL FLOOR PLAN
M-2 SCALE: 1/2" = 1'-0"



1 PHOTO 1
M-2 SCALE: NTS



2 PHOTO 2
M-2 SCALE: NTS

Plotted 3/3/2017 4:11 PM P:\Projects\AWWU\Wellhouse Ventilation Evaluation\Drawgs\Mech\W-2_WELL_9_PLAN.dwg

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	BY	DATE	SCALE
BASE				RECORD DRAWING	KLH		
TOPOGRAPHY							
PROFILE							
SANITARY SEWER							
STORM SEWER							
WATER							
GAS							

RECORD DRAWING		Note: To be filled out on original drawings upon project completion.	
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This shall serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.		DATA TRANSFER CHECKED BY: KEVIN L. HANSEN	
CONTRACTOR: FRAWNER CORP		COMPANY: EDC, INC.	
BY: <i>[Signature]</i> TITLE: FOREMAN		BY: <i>[Signature]</i> TITLE: PROJECT ENGINEER	
DATE: 10 FEB 2017		DATE: 3/3/17	
2. DATA TRANSFERRED BY: K. HANSEN			
COMPANY: EDC, INC.			
DATE: 3/3/17			

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EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933

CONSULTANT

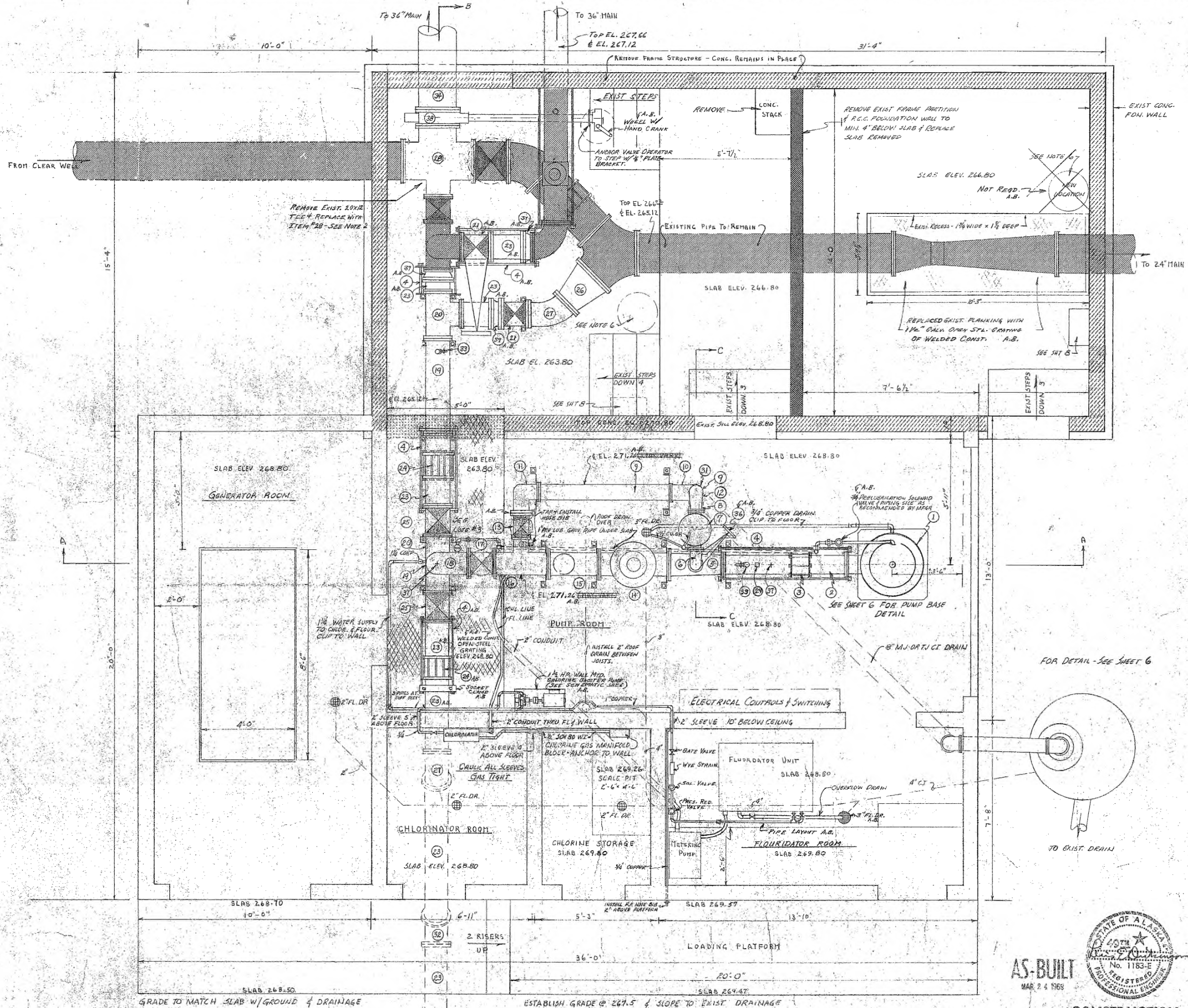
MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY

WELLHOUSE COOLING SYSTEM UPGRADES

WELL 9 PLAN

HORIZ SCALE: AS SHOWN
VERT SCALE: N/A
DATE: 6/3/2016
GRID: SW 1141
PROJ. ID.: 0000007606

SHEET 2 of 4



EXISTING PIPE & FITTINGS TO REMAIN IN PLACE
 EXISTING CONCRETE FOUNDATION WALL TO BE REMOVED
 EXISTING FRAME STRUCTURE TO BE REMOVED

1. DEEP WELL TURBINE PUMP (SEE SHEET 5) PRESSURE TANK SIDE 12" X 8" 1700 RPM A.S.
2. 10" C.I. JOINT A.S. REQUIRED, ONE END PLAIN
3. 10" SLEEVE TYPE COUPLING
4. 3/4" TIE RODS
5. 12" X 10" TEE
6. 6" SHORT RADIUS 90° ELL.
7. 6" AUTOMATIC PUMP CONTROL VALVE - CLAYTON MOD. C.P.P. A.S.
8. 6" X 8" 90° REDUCING ELL.
9. 8" SPOOLS AS REQUIRED - C.I.
10. 8" TEE
11. 8" 90° SHORT RADIUS ELL.
12. 8" SPOOL OR SPACERS AS REQUIRED - C.I.
13. 8" GATE VALVE WITH HANDWHEEL
14. 12" NO-SLAM CHECK VALVE - CLAYTON MOD. 81 B A.S.
15. 12" PROPELLER TYPE METER SPARLING TYPE CF115 A.S.
16. 12" X 8" TEE
17. 12" GATE VALVE WITH HANDWHEEL
18. 12" LONG RADIUS 90° ELL.
19. 12" SPOOL AS REQUIRED - C.I.
20. 12" TEE
21. 12" SQUARE BOTTOM RISING STEM GATE VALVE WITH HANDWHEEL
22. APPROX. 5' JOINT 36" CCP WITH 20" FL TEE SEE DETAIL SHEET #1 A.S.
23. 12" C.I. JOINT AS REQUIRED, ONE END PLAIN
24. 12" SLEEVE TYPE COUPLING
25. 12" GATE VALVE WITH STANDARD OPERATING NUT
26. 12" X 20" REDUCER
27. 12" 45° SHORT RADIUS ELL.
28. 20 X 20 X 20 X 12 CROSS
29. PRESSURE SWITCH - SET TO MAKE AT 15 PSI
30. 20" SPOOL AS REQUIRED - DUCTILE IRON - PLAIN ENDS - CAST IRON A.S.
31. 8" 90° M.J. SHORT RADIUS ELL
32. 12" 45° M.J. SHORT RADIUS ELL
33. 1/2" HOSE BIB FOR RAW WATER SAMPLING
34. 20" JOINT AS REQUIRED, PL ONE END - DUCTILE IRON CAST IRON A.S.
35. 20" 45° M.J. SHORT RADIUS ELL
36. 6" GATE VALVE WITH HANDWHEEL - RISING STEM A.S.
37. 1/2" HOSE TO 150 PSI PRESSURE GAUGE (WITH VALVE) TAPPED IN TOP OF PIPE
38. 20" BUTTERFLY VALVE WITH EXTENSION BONNET & WORM GEAR TYPE OPERATOR - BRASS MODEL ELL OR APPROVED EQUAL DEMCO # 2178-5115319 A.S.
39. 12" FLANGE X M.J. ADAPTOR. A.S.
40. 8" SLEEVE TYPE COUPLING.

- NOTES
1. ALL FITTINGS SHALL BE FLANGED UNLESS OTHERWISE NOTED.
 2. CONTRACTOR IS CAUTIONED TO INSTALL A CROSS OF SUCH DIMENSION THAT WILL MATCH THE OPENING LEFT BY THE REMOVAL OF THE EXISTING TEE SO AS TO MINIMIZE THE OUT-OF-SERVICE TIME OF THE EXISTING 20" MAIN.
 3. THE GRATING SHALL BE MANUFACTURED SO AS TO LEAVE HOLES IMMEDIATELY ABOVE THE TWO 12" GATE VALVES LARGE ENOUGH TO PERMIT READY ACCESS TO THE OPERATING NUTS WITH A STANDARD VALVE WRENCH. CONTRACTOR IS TO FURNISH ONE FIVE FOOT VALVE WRENCH WITH HANDWHEEL, WITH EACH OF THE TWO VALVES.
 4. CONTRACTOR IS CAUTIONED TO BE ESPECIALLY AWARE OF OUT-SIDE DIAMETERS OF PIPE WHEN ORDERING M.J. OR T.J. FITTINGS NO. 31, 32 AND 35.
 5. THE CITY WILL FURNISH, AT THEIR YARD, THE LENGTH OF 36" CCP REQUIRED (WITH TEE INSTALLED) ACCORDING TO THE RECORDED LOCATION OF THE EAST END OF THE EXISTING 36" CCP. SEE SPECIAL PROVISIONS OF THE SPECIFICATIONS. SEE DET. SHEET #1 A.S.
 6. EXISTING PNEUMATIC TANK FOR PRV ALARM TO BE RELOCATED AS INDICATED - RECONNECT TO 3/4" LINE (FROM PRV DET.) AND ALARM UNIT AS DIRECTED. TANK NOT REQ. PER WATER DEPT. A.S.



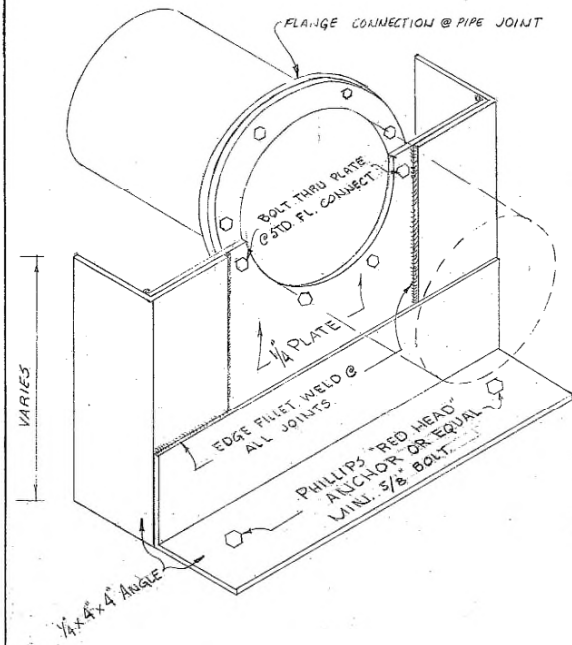
AS-BUILT
MAR 7 4 1968

CONSTRUCTION
5-10-68

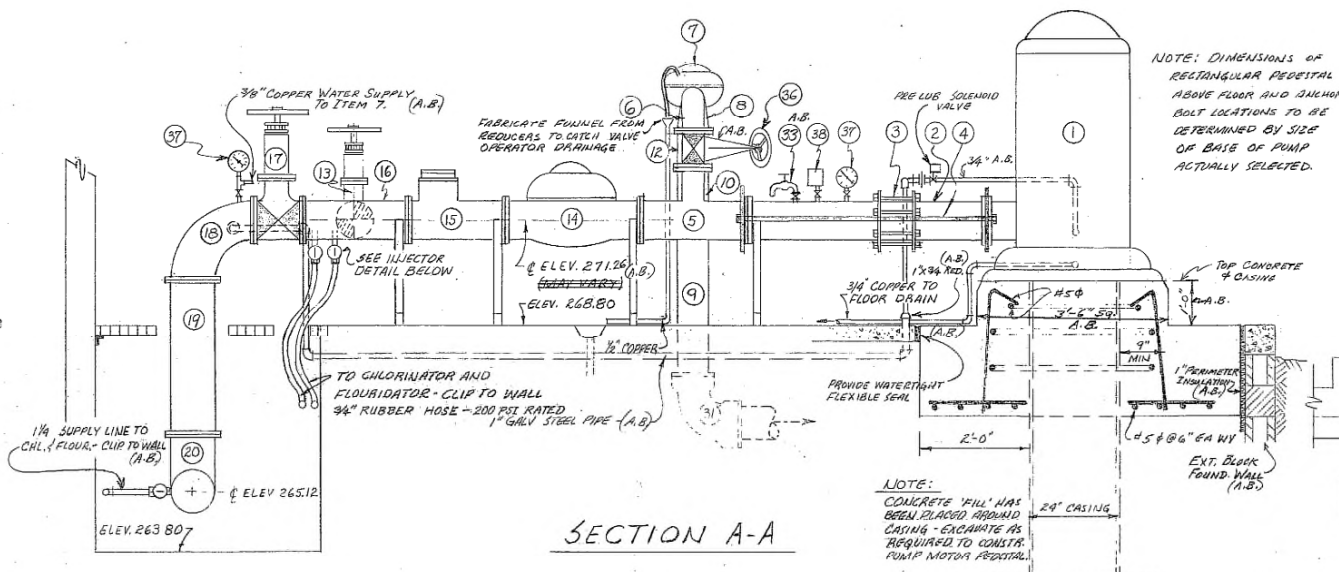
CITY OF ANCHORAGE, ALASKA WELL HOUSE - WELL NO 9		MECHANICAL PIPING PLAN & DETAILS	
DRAWN BY FENN-JDM		DATE 1-17-67	WO 1663
CHECKED BY [Signature]		SCALE 1/8" = 1'-0"	GRID 114
APPROVED BY [Signature]		FILE NO 28-70	5
DICKINSON OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 433 NINTH AVENUE ANCHORAGE ALASKA		APPROVED BY [Signature] CITY WATER UTILITY MGR	

ESTABLISH GRADE @ 267.5 & SLOPE TO EXIST DRAINAGE

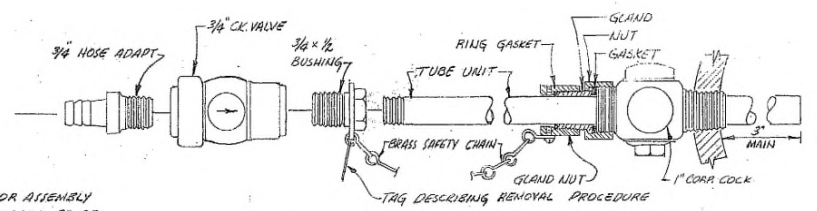
EXTEND 12" NORTH OF SLAB
INSTALL BLIND FLANGE & 2"x4" MARKER



TYPICAL PIPE ANCHOR
NOT TO SCALE

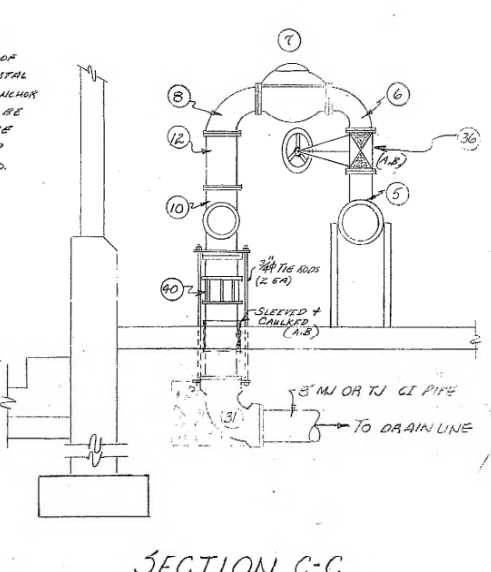


SECTION A-A

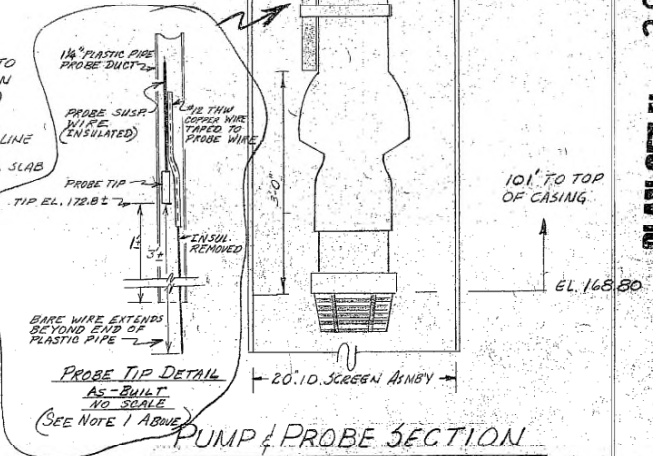
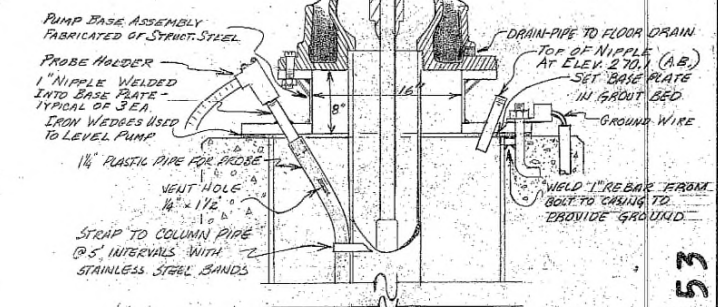


CHLORINE-FLUORIDE INJECTOR ASSEMBLY DETAIL
NOT TO SCALE

NOTES:
(1) ALL MATERIALS OF INJECTOR ASSEMBLY IN CONTACT WITH SOLUTION SHALL BE OF MATERIALS RESISTANT TO THE ATTACK OF THE SOLUTION TO BE HANDLED. ALL OTHER MATERIALS SHALL BE CORROSION RESISTANT (BRASS, ETC.).
(2) THE SAFETY CHAIN SHALL BE OF SUFFICIENT LENGTH TO ALLOW WITHDRAWAL OF INJECTOR TUBE TO CLEAR PLUG OF CORP COCK AND NO FURTHER.

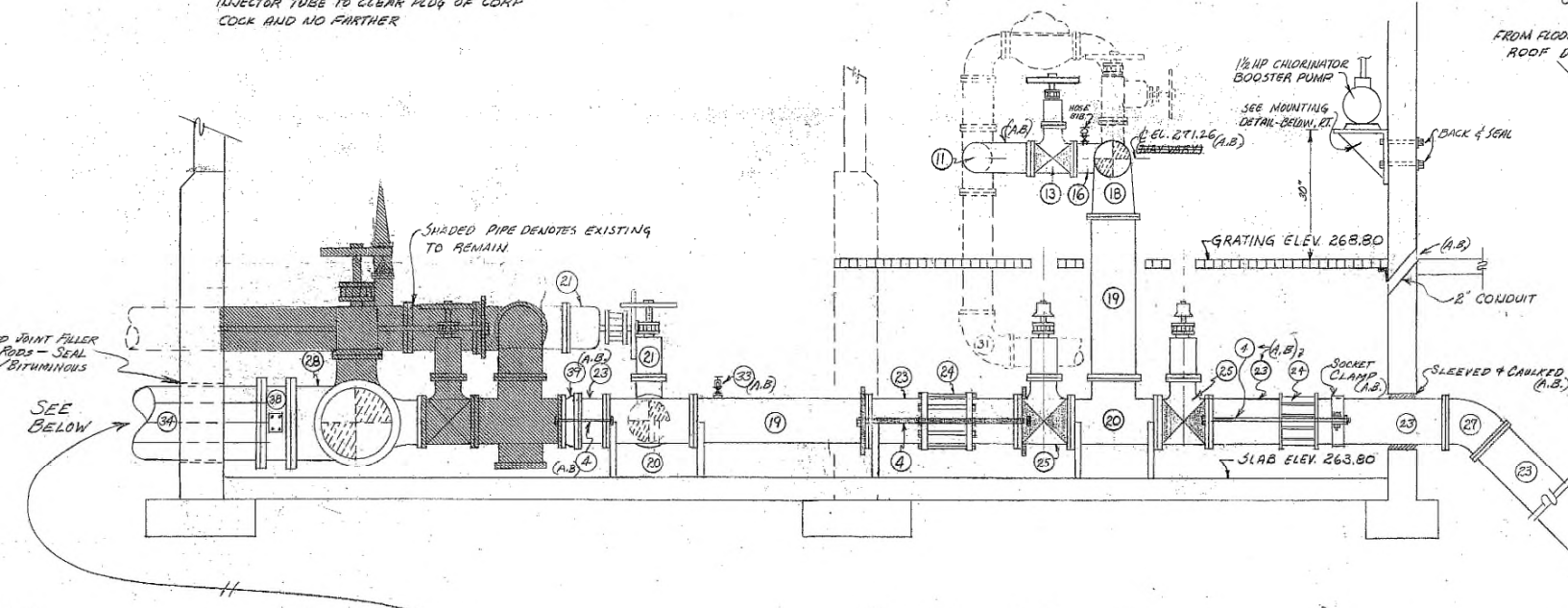


SECTION C-C

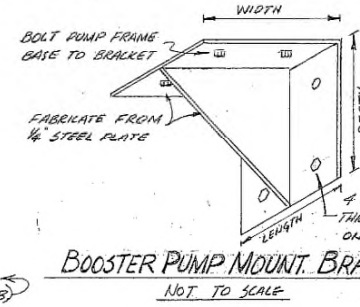


DRAIN LINE CONNECT TO MANHOLE

PUMP & PROBE SECTION
NOT TO SCALE

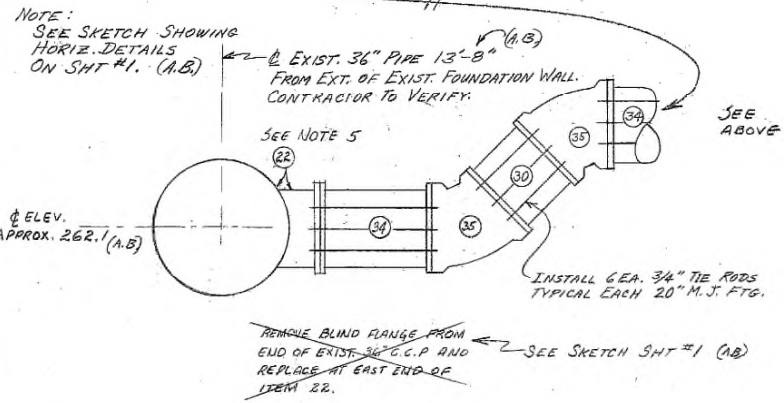


SECTION B-B

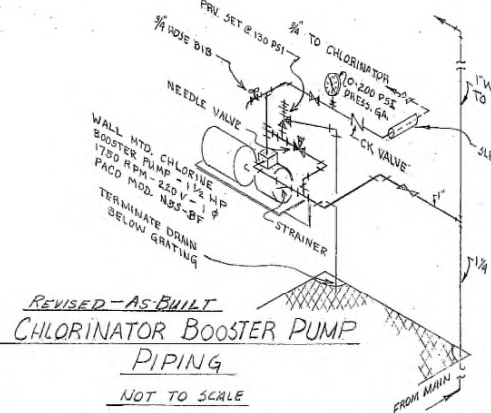


BOOSTER PUMP MOUNT. BRACKET
NOT TO SCALE

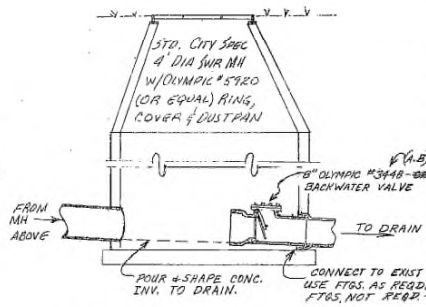
WIDTH & DEPTH TO BE EQUAL. LENGTH, WIDTH & DEPTH TO BE DETERMINED BY SIZE OF PUMP SELECTED FOR USE.



NOTE: SEE SKETCH SHOWING HORIZ. DETAILS ON SHT #1 (A.B.)

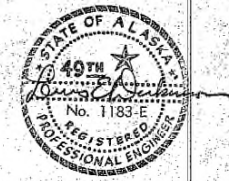


REVISED-AS-BUILT CHLORINATOR BOOSTER PUMP PIPING
NOT TO SCALE



BACKWATER CHECK MH
NOT TO SCALE

NOTES: (AS-BUILT)
1. THE ADDITION OF BARE WIRE BEYOND PROBE TIP WAS REQUIRED WHEN IT WAS FOUND THAT THE COLUMN OF WATER IN THE PLASTIC PIPE BETWEEN THE END OF PROBE AND OPEN END OF PIPE LACKED SUFFICIENT CONDUCTIVITY TO HOLD LOW WATER CONTROL RELAY IN. BARE WIRE INCREASES CONDUCTIVITY OF WATER WITHOUT ALTERING DESIGN OPERATION POINT.
2. PUMP BASE ASSEMBLY WAS FURNISHED TO MAINTAIN 2' OF DISCHARGE PIPING NEAR DESIGN ELEV.



CONSTRUCTION
5-10-68
AS-BUILT
MAR 24 1969

Revision Date	Description	By
1-31-69	ADDED AS-BUILT REVISIONS - NOTED (A.B.)	BK

CITY OF ANCHORAGE, ALASKA
WELL HOUSE - WELL NO. 9
MECHANICAL
PIPE SECTIONS A-A, B-B & C-C

DICKINSON OSWALD & ASSOCIATES
ENGINEERS - SURVEYORS
433 NINTH AVENUE
ANCHORAGE, ALASKA

APPROVED BY:
[Signature]
C.O.P. & WATER UTILITY MGR.

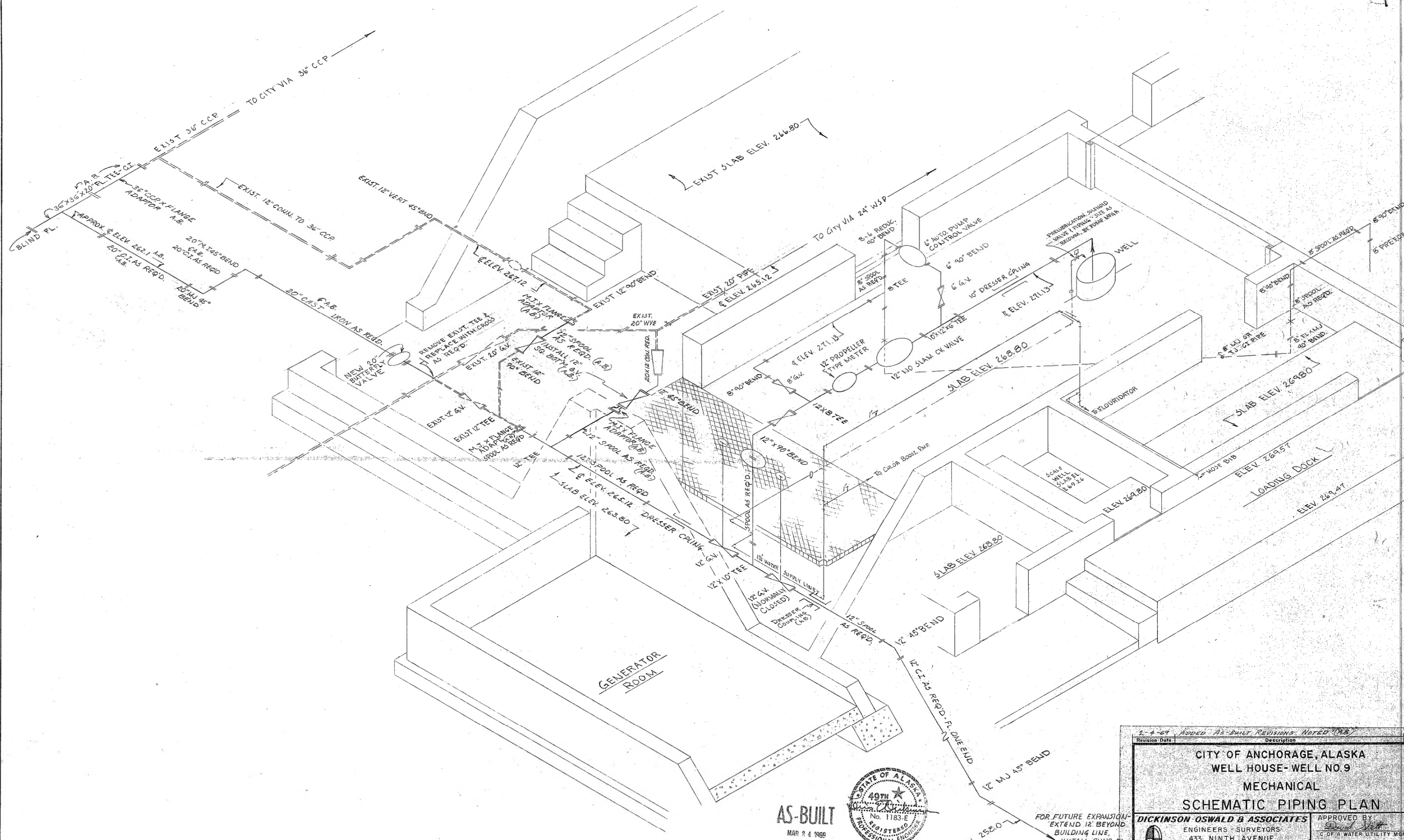
DRAWN BY: JDM DATE: 1-22-68 W.D. GRID: FILE NO: 6
CHECKED BY: BK SCALE: 1/2" = 1' 1663 1141 28-70 9

PLAN SET NO. 2053

6590

313-08

141-9



AS-BUILT
MAR 24 1968
CONSTRUCTION
5-10-68



FOR FUTURE EXPANSION -
EXTEND 12' BEYOND
BUILDING LINE,
INSTALL BLIND FL.
& 2"x4"x10' MARKER

1-4-68		ADDED AS-BUILT REVISIONS, NOTED ON		EX
Revision Date	Description			BY
CITY OF ANCHORAGE, ALASKA WELL HOUSE - WELL NO. 9 MECHANICAL SCHEMATIC PIPING PLAN				
DICKINSON OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 433 NINTH AVENUE ANCHORAGE, ALASKA			APPROVED BY CHIEF OF WATER UTILITY MGR	
DRAWN BY - JDM	DATE - 1-24-68	WO. 1663	GRID 1141	FILE NO. 28-70
CHECKED BY - BK	SCALE - 1/2" = 1'			7/9

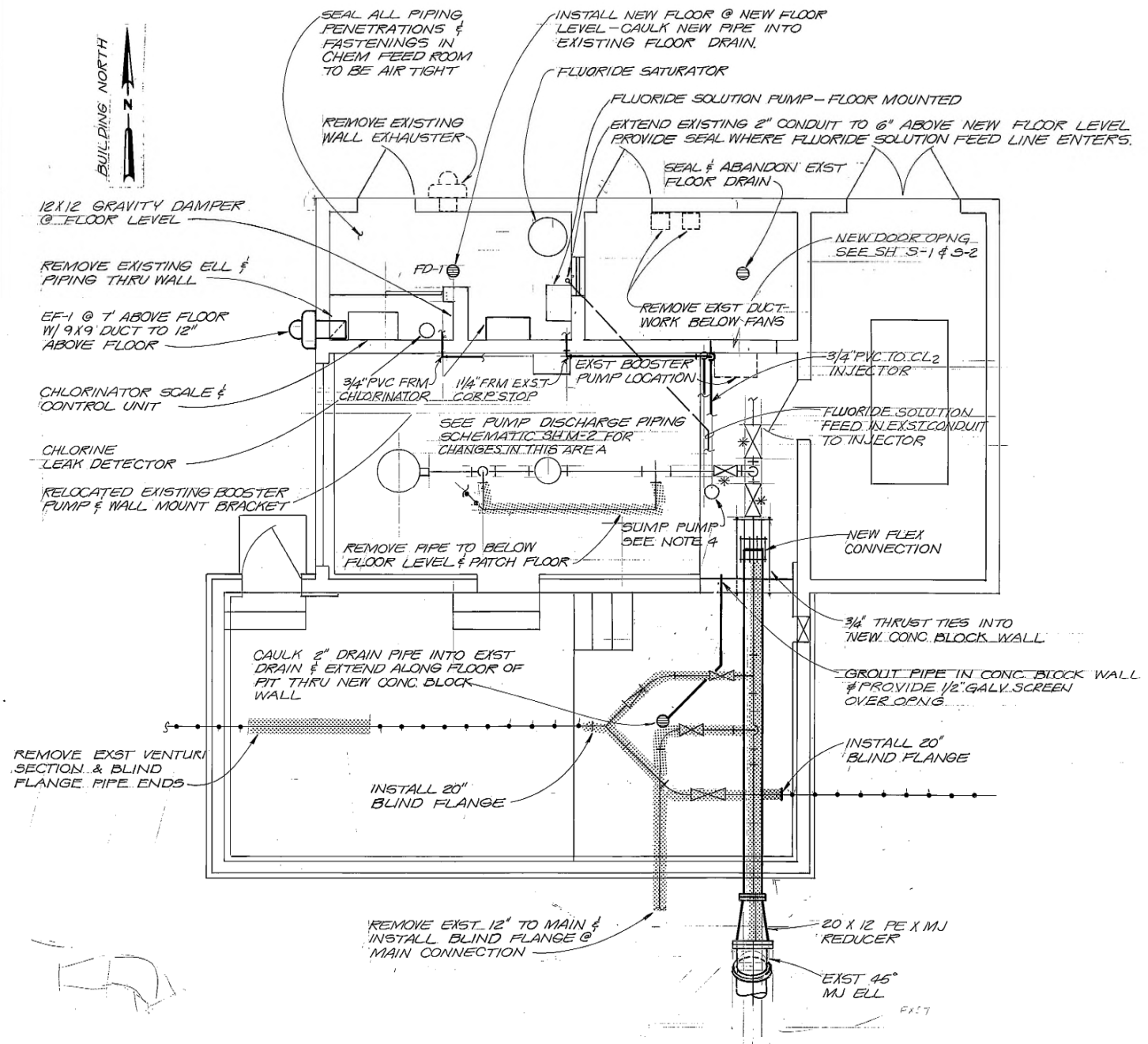
NOTES:

- CONTRACTOR SHALL REMOVE AND INSPECT ALL EXISTING VALVES INTENDED FOR RE-USE, REPORT CONDITION TO THE ENGINEER, REBUILD AS DIRECTED AND REINSTALL.
- CONTRACTOR SHALL CLEAN AND FLUSH ALL FLOOR DRAIN LINES AND THE MANHOLE AT NORTHWEST CORNER OF BUILDING TO INSURE FREE DRAINAGE.
- SEE SHT C-2 FOR THRUST BLOCK NOTES AND DETAILS FOR BURIED PIPE.
- INSTALL SUMP PUMP AT BOTTOM OF PIT, PACO PIP 700 36 GPM @ 10' TDH 1/3 HP 115V, 1Ø WITH INTEGRAL FLOAT SWITCH. PROVIDE DISCHARGE CHECK VALVE & PIPING ALONG PUMP ROOM FLOOR TO EXST FLOOR DRAIN BELOW CONTROL VALVE.

LEGEND AND SYMBOLS

- GATE
- BUTTERFLY
- GLOBE
- BALL
- PLUG OR COCK
- STRAINER
- HOSE VALVE (HV-X)
X = NO. IN SPECS
- SWING CHECK
- SOLENOID
- PRESSURE RELIEF
- AIR AND/OR VACUUM RELEASE
- GAUGE WITH COCK
- FLOOR DRAIN
X = NO. IN SPECS
Y = T WITH TRAP
Y = P WITH PRIMED TRAP

- DOUBLE LINE SINGLE LINE
- EXISTING PIPE
 - NEW PIPE
 - EXISTING PIPE TO BE ABANDONED
 - EXISTING PIPE TO BE REMOVED



MECHANICAL FLOOR PLAN - WELL HOUSE NO. 9
1/4" = 1'-0"



CH2M HILL	DSGN	Kevin L. Hansen				
	DR	CHAD FILER				
	CHK	Kevin L. Hansen				
	APVB					
	NO.	DATE	REVISION	BY	APVD	

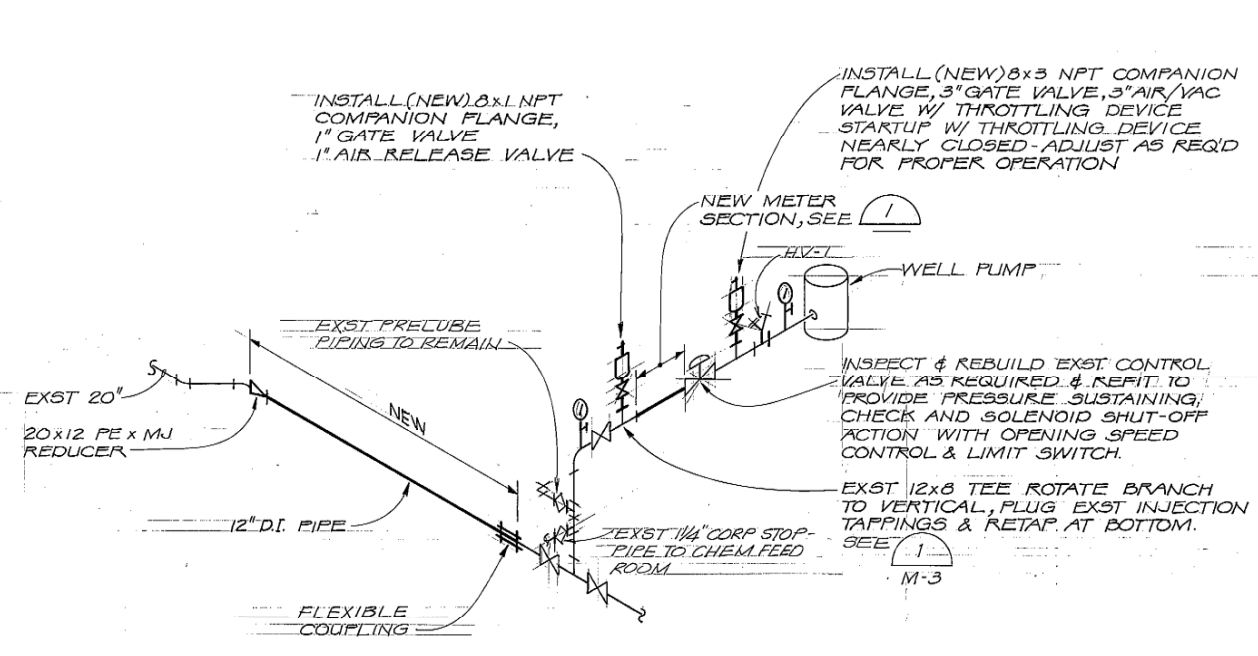
VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER FACILITY
ANCHORAGE, ALASKA

SCHEDULE I
WELL HOUSE NO. 9
MECHANICAL PLAN & LEGEND

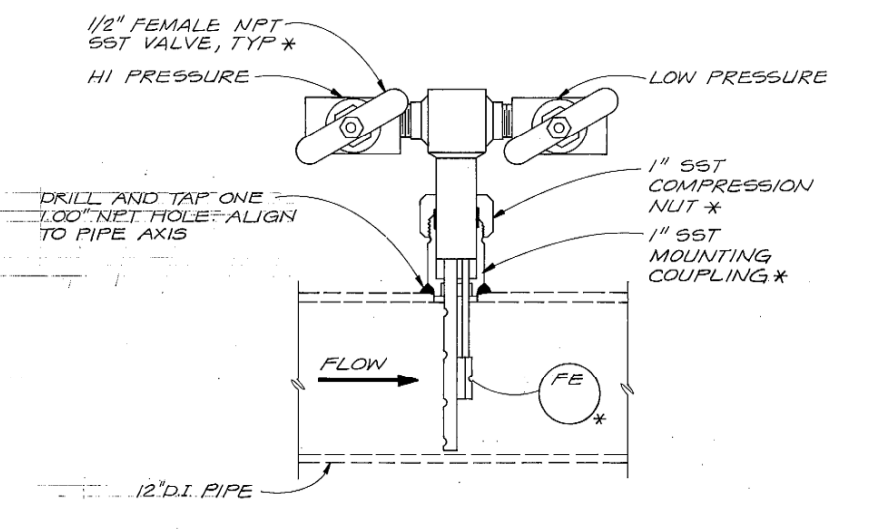
SHEET	M-1
DATE	JULY, 1983
PROJ. NO.	K16888-A130

AZ
1 02
PRINTED
3 0M
FILED KE
FORMAT 381-1334 DC



PUMP DISCHARGE PIPING SCHEMATIC

NTS

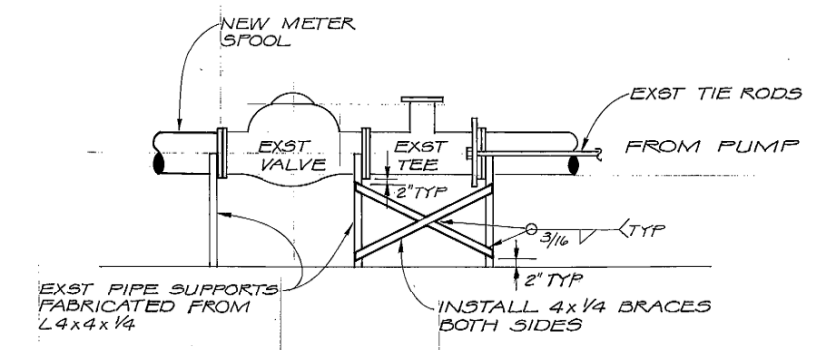


NOTES:

1. COMPONENTS DESIGNATED BY * ARE SUPPLIED BY INSTRUMENT MFR.
2. PIPE TAP BELOW HORIZ. C. OF PIPE.
3. SPOOL LENGTH AS REQD. LOCATE FE 1/4 LENGTH FROM DOWNSTREAM END.

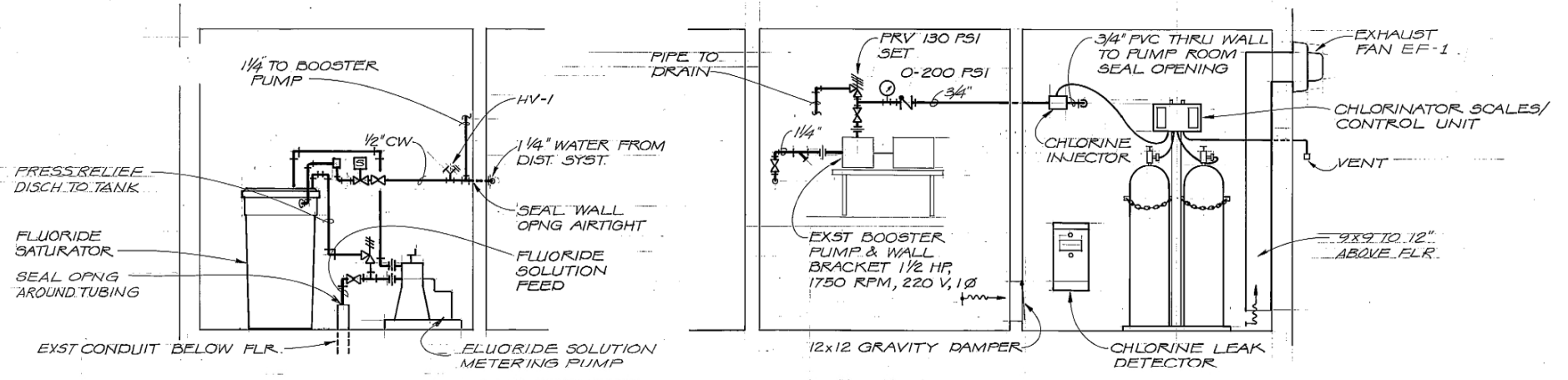
FLOW METER INSTALLATION DETAIL 1

NTS



PIPE SUPPORT DETAIL

NTS



EAST WALL SOUTH WALL

NOTE: PIPING SIMILAR FOR WELL 11 EXCEPT NEW BOOSTER PUMP W/ RELIEF VALVE PIPED THRU WALL TO PUMP ROOM.

CHEMICAL FEED ROOM SCHEMATIC

1/2" = 1'-0"



CH2M HILL	DSGN	Kevin L. Hansen			
	DR	VND, CWN			
	CHK	[Signature]			
	APV	[Signature]			
	NO.	DATE	REVISION	BY	APVD

VERIFY SCALES
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0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER FACILITY
ANCHORAGE, ALASKA

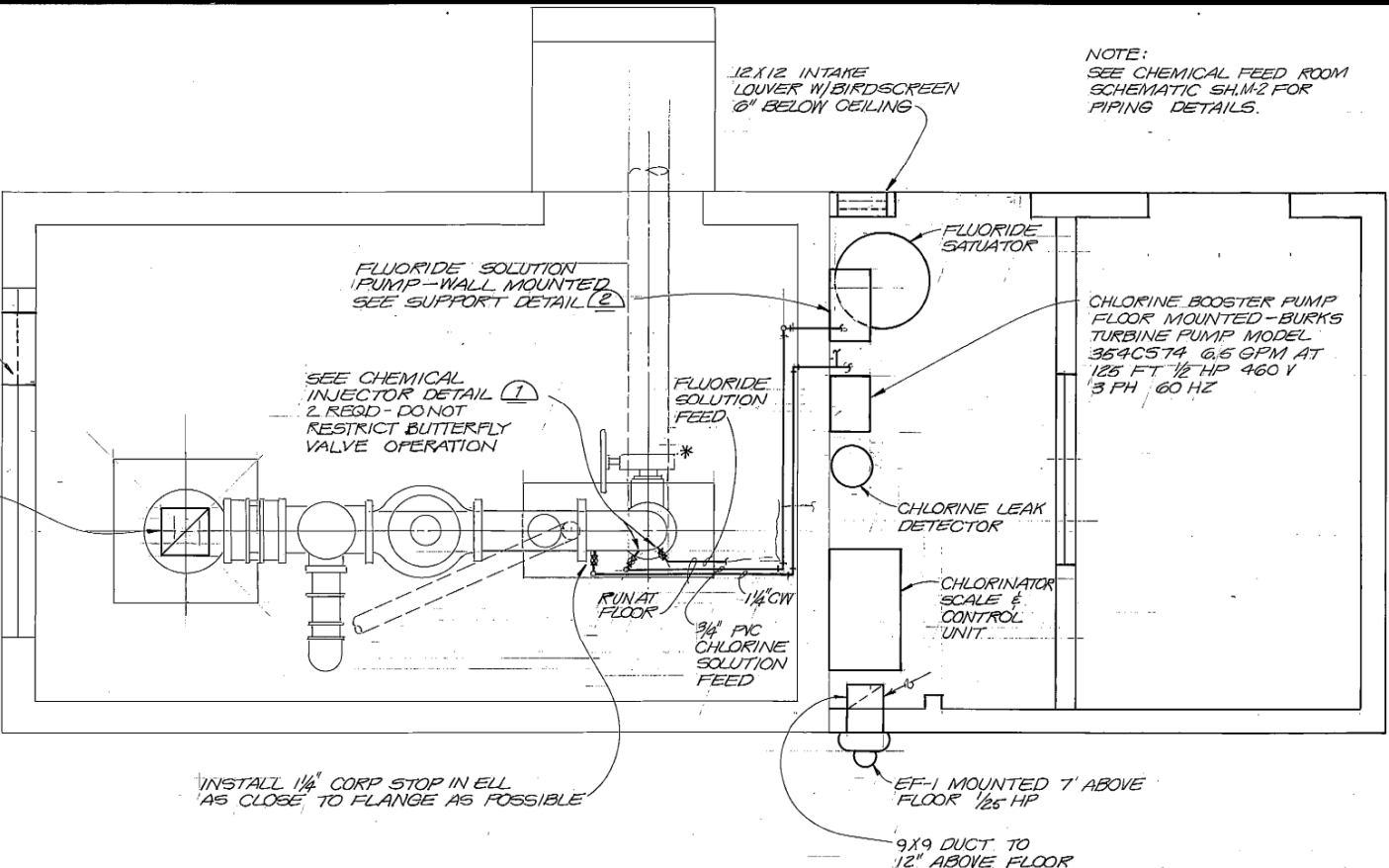
SCHEDULE I
WELL HOUSE NO. 9
MECHANICAL DETAILS

SHEET	M-2
DATE	JULY 1983
PROJ	NO. K16888.A1.30

BUILDING NORTH

18 X 18 LOUVER W/ BIRD-SCREEN AND MOTORIZED DAMPER AT TOP OF REMOVABLE WALL PANEL

12 X 12 OPENING TO EF-2 W/ BACKDRAFT DAMPER ON REMOVABLE HATCH

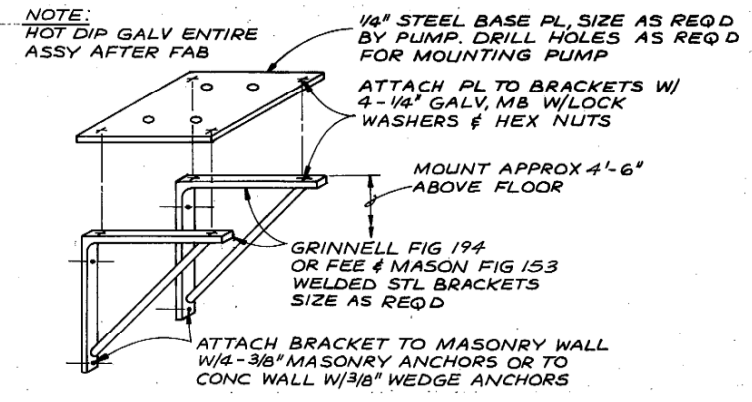
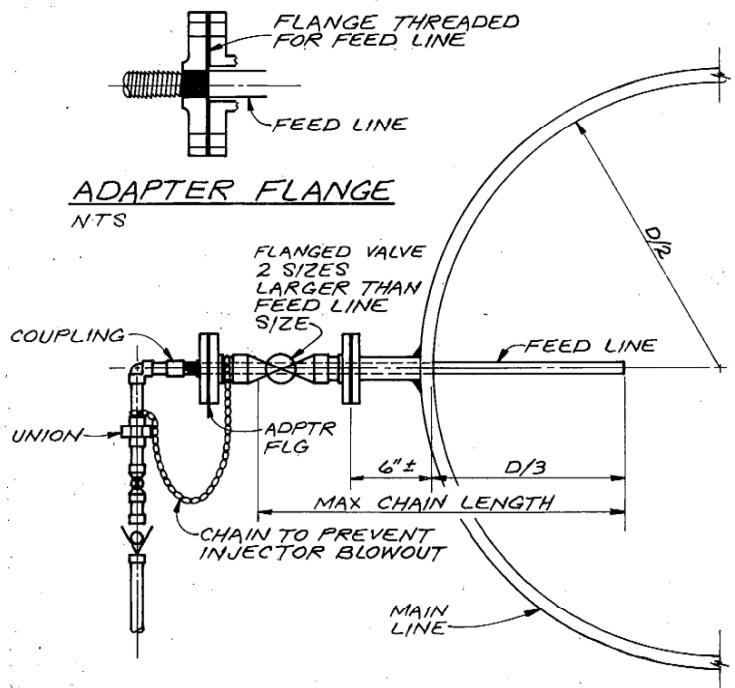


NOTE:
SEE CHEMICAL FEED ROOM SCHEMATIC SH.M-2 FOR PIPING DETAILS.

* CONTRACTOR SHALL REMOVE & INSPECT BUTTERFLY VALVE, REPORT CONDITION TO THE ENGINEER, REBUILD AS DIRECTED AND REINSTALL.

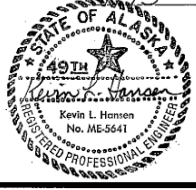
INSTALL 1/4" CORP STOP IN ELL AS CLOSE TO FLANGE AS POSSIBLE

MECHANICAL PLAN
1/2" = 1'-0"



CHEMICAL INJECTOR (1) M-2

PUMP SUPPORT (2) N.T.S.



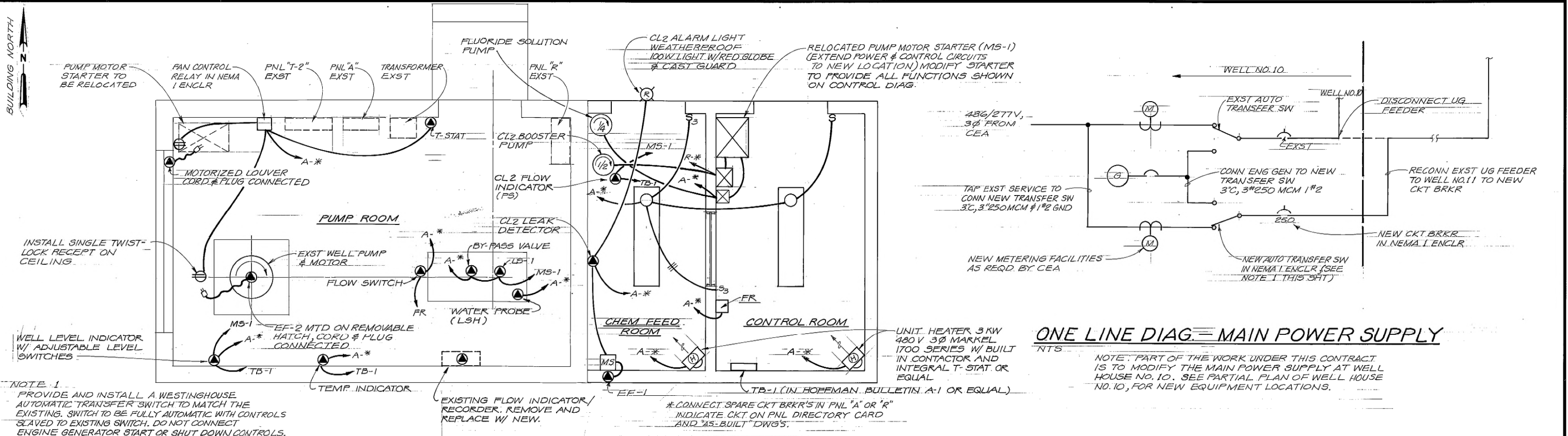
	DSGN	Kevin L. Horner				
	DR	CHAD FILER				
	CHK	Kevin L. Horner				
	APVD					
	NO.	DATE	REVISION	BY	APVD	

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

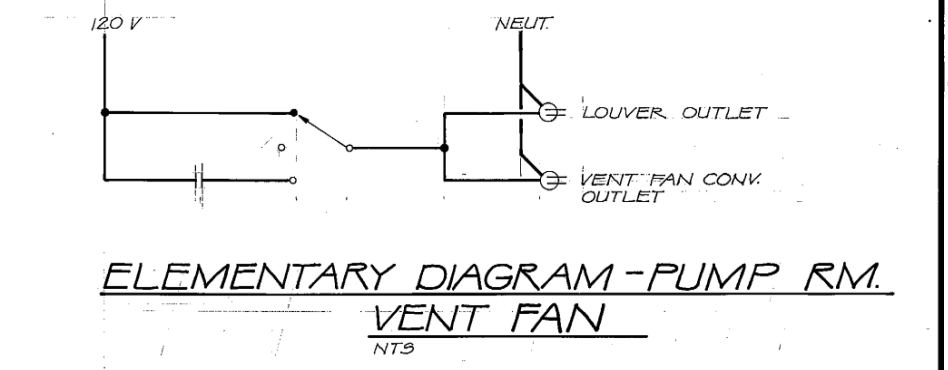
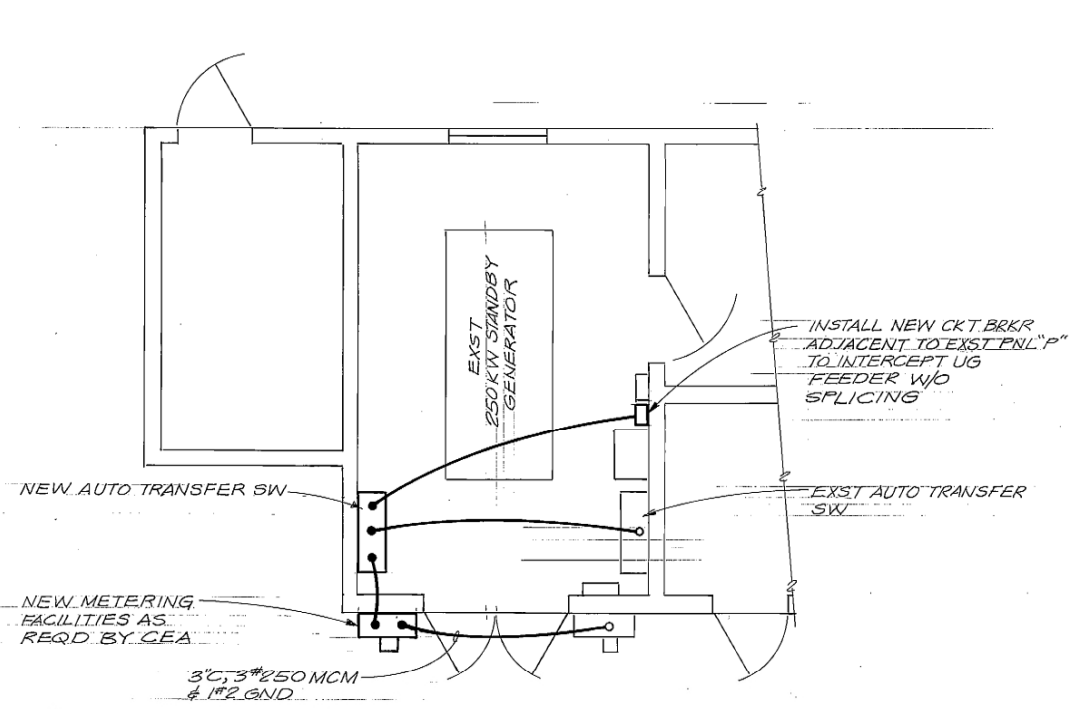
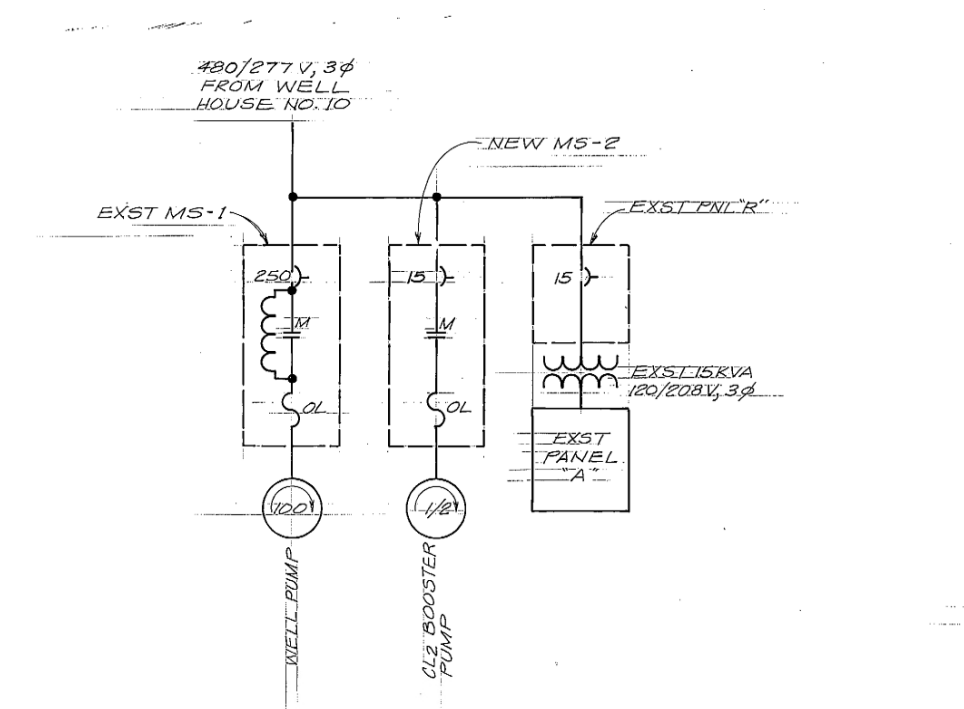
MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY
ANCHORAGE, ALASKA

SCHEDULE II
WELL HOUSE NO. 11
MECHANICAL PLAN & DETAILS

SHEET	M-3
DATE	JULY, 1983
PROJ	NO. K16888.A140



WELL HOUSE NO. 11 - POWER & LIGHTING PLAN
1/2" = 1'-0"



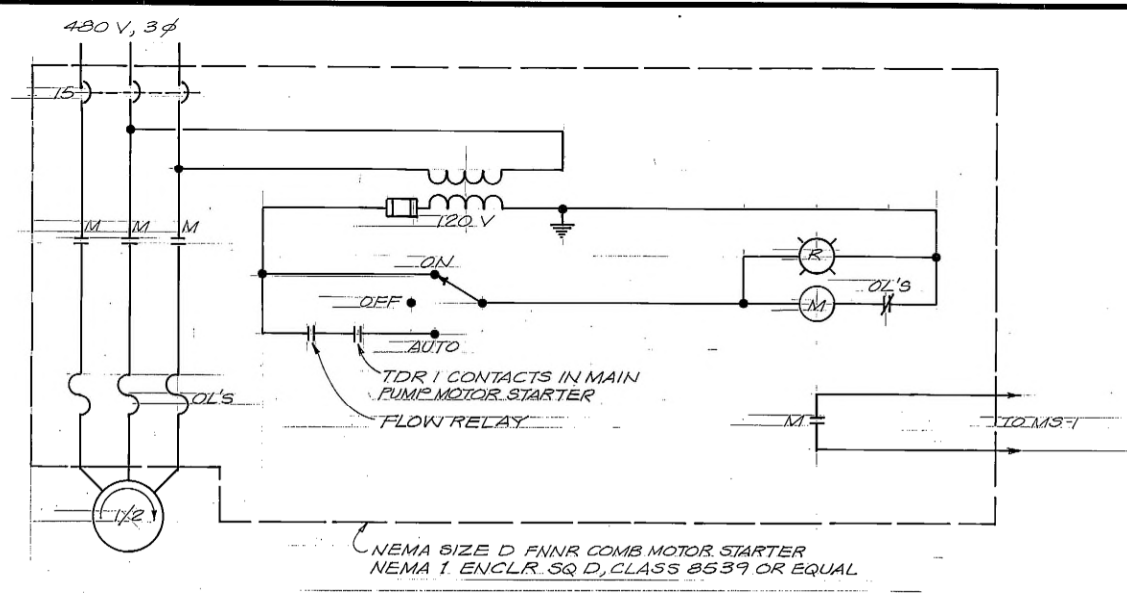
CH2M HILL	DSGN	WGE					
	DR	C. Nubson					
	CHK	WGE					
	APVD						
	NO.	DATE	REVISION	BY	APVD		

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
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IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

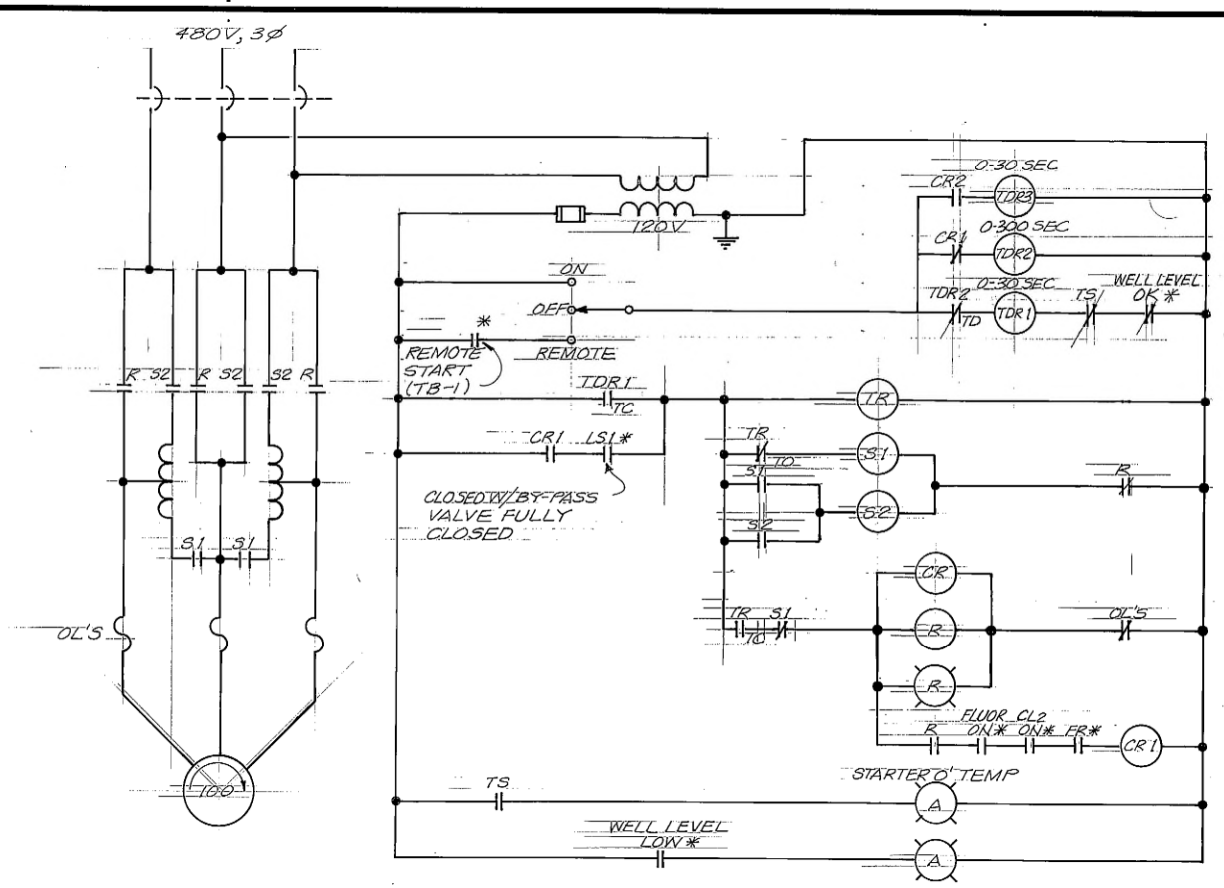
MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER FACILITY
ANCHORAGE, ALASKA

SCHEDULE II
WELL HOUSES NO. 10 & 11
ELECTRICAL PLAN & DETAILS

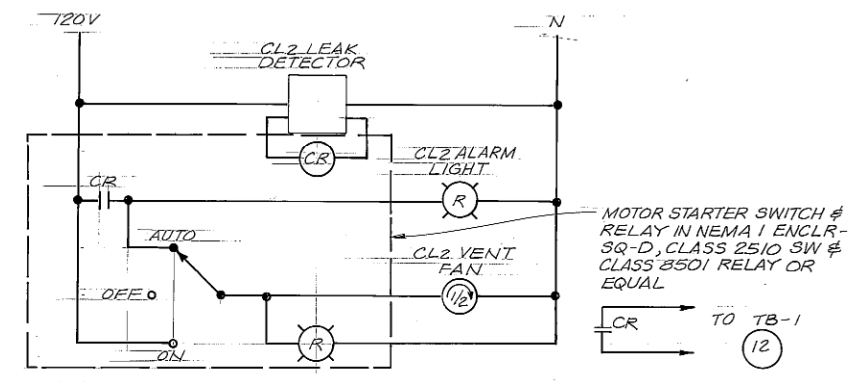
SHEET E-3
DATE JULY, 1983
PROJ NO. K16888A1.40



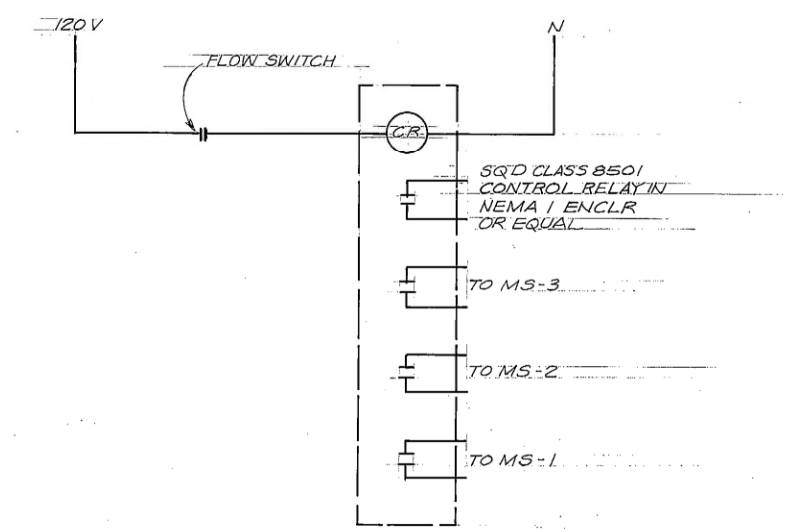
CL₂ BOOSTER PUMP (MS-2) - CONTROL DIAG.



CONTROL DIAGRAM - MS 1



ELEM. DIAG. - CL₂ LEAK ALARM SYS.



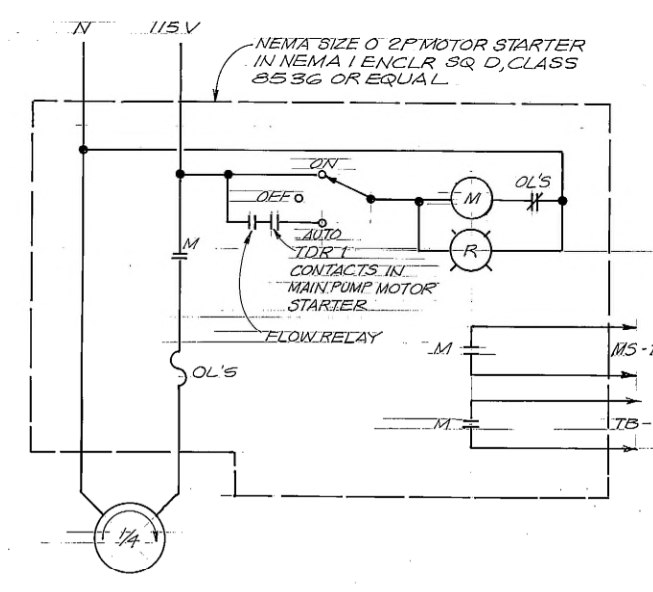
ELEM. DIAG. - FLOW RELAY

TB-1

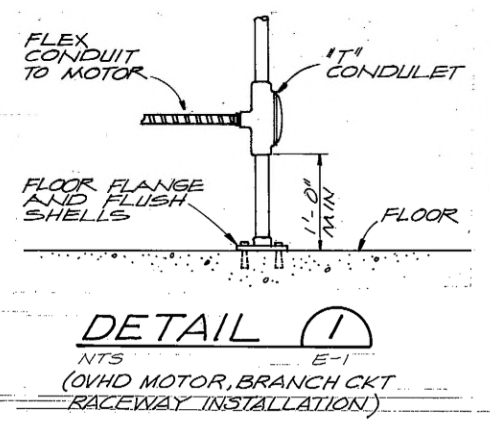
1	SYS FAILURE ALARM	01
	WELL START SEQ SATISFACT FLOW	02
		03
11	CL ₂ LEAK ALARM	04
	WELL PUMP REMOTE START	05
	SMOKE ALARM	06
12	AUX GENERATOR ON	07
	AUX GENERATOR FAIL	08
10	SYSTEM PRESSURE	09
2	TEMPERATURE	10
3	FLOOD ALARM	11
4	CL ₂ FLOW ON	12
5	FLUORIDE FLOW ON	13
6	WELL LEVEL BLDG SECURITY ALARM	14
7		15
8		16
9		17
13		18
		19
		20
		21
		22
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		24
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		26
		27
		28
		29
		30

36 TERMINAL STRIP INSTALL IN NEW TELEPHONE CABINET

FUTURE CONNECTIONS TO SCADA SYSTEM IN OTHER CONTRACTS



FLUORIDE PUMP (MS-3) - CONTROL DIAG.



CH₂M HILL

DSGN WGE

DR W. Nickerson

CHK WGE

APVD

NO.	DATE	REVISION	BY	APVD

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING.

0 1"

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MUNICIPALITY OF ANCHORAGE

WATER & WASTEWATER FACILITY

ANCHORAGE, ALASKA

SCHEDULE II

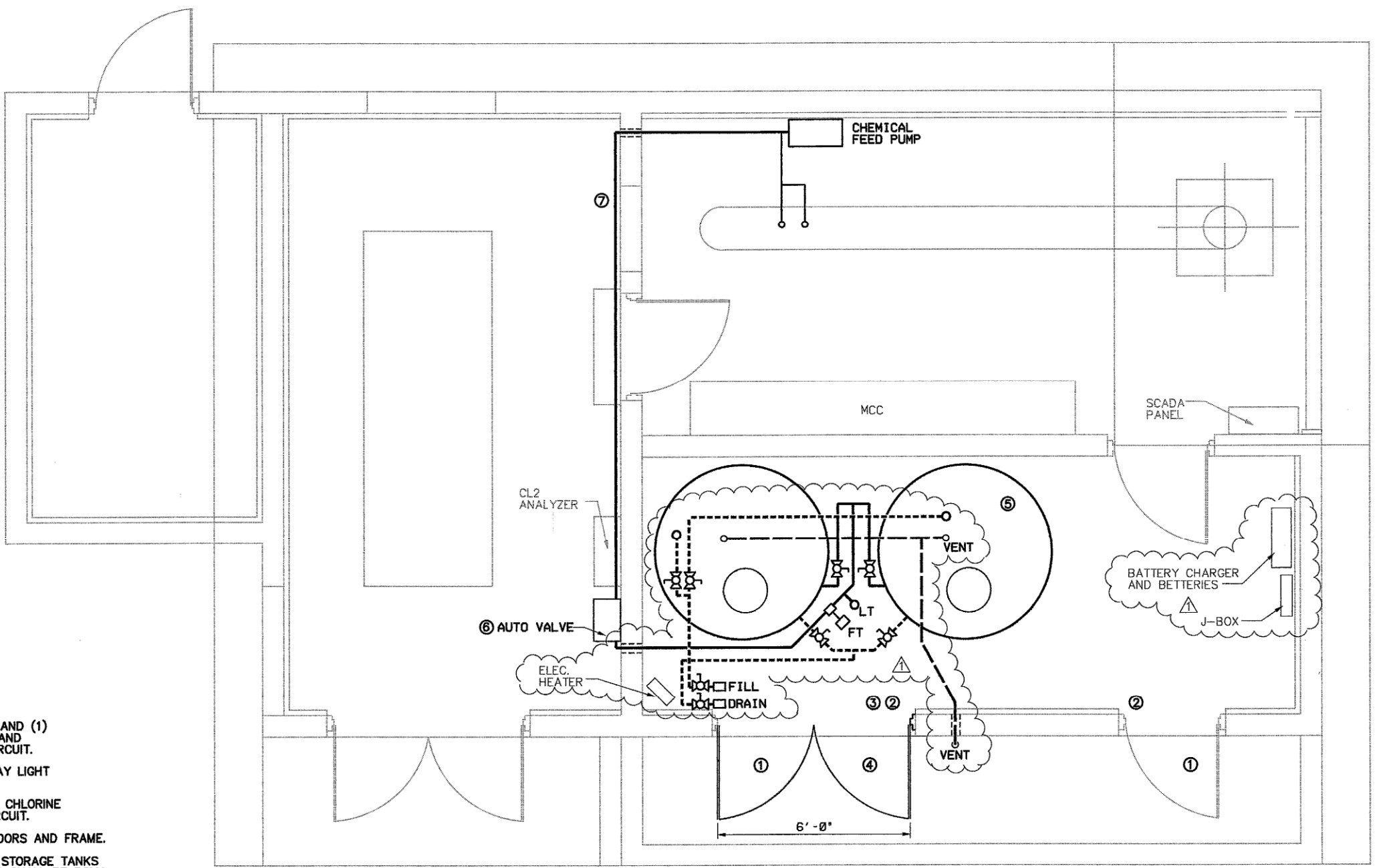
WELL HOUSE NO. 11

ELECTRICAL DETAILS

SHEET E-4

DATE JULY, 1983

PROJ NO. K16888.A140



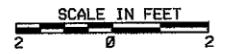
NOTES:

- ① RE-INSTALL EXISTING INTRUSION SWITCH AND (1) NEW INTRUSION SWITCH ON NEW DOORS AND INCORPORATE INTO INTRUSION SWITCH CIRCUIT.
- ② REPLACE LIGHT SWITCHES WITH (2) 3-WAY LIGHT SWITCHES.
- ③ WIRE NEW LIGHT SWITCHES AND EXISTING CHLORINE ROOM LUMINAIRE INTO MAIN LIGHTING CIRCUIT.
- ④ INSTALL NEW 6'-0" BY 6'-8" DOUBLE DOORS AND FRAME.
- ⑤ INSTALL (2) 905 GALLON HYPOCHLORITE STORAGE TANKS 5'-4" OD, 6'-7" OVERALL HEIGHT. TANKS SHALL BE POLY PROCESSING HDPE, OR EQUAL, AND SHALL BE EQUIPPED WITH:
 - 2" IMFO FOR FULL DRAIN WITH FLEXIBLE CONNECTION
 - 2" HYPOCHLORITE SUPPLY FITTING ON LOWER SIDEWALL WITH DROP TUBE AND FLEXIBLE CONNECTION
 - THREADED COVER
 - 2" VENT FITTING ON TOP
 - 2" FILL FITTING ON TOP
 - IMFO PAD 4"
- ⑥ INSTALL AUTOMATIC FEED VALVE, HYDRO SERIES 110 OMNI-VALVE WITH SERIES LF LIQUID CHEMICAL FEED SYSTEM, OR EQUAL, AND INJECTION PIPING.
- ⑦ INSTALL 1-INCH SCH 80 PVC PIPING LOOP FROM CHEMICAL FEED PUMP TO AUTOMATIC FEED VALVE AND INJECTION POINTS.

LEGEND:

- LIQUID FEED, 2" SCH 80 PVC
- FILL AND DRAIN, 2" SCH 80 PVC
- VENT, 2" SCH 80 PVC
- LT LEVEL TRANSMITTER
- FT FLOW TRANSMITTER

EQUIPMENT IDENTIFICATION		
DESCRIPTION	LOCATION	EQUIP. #
HYPO. TANK 1	W010 CHEM TANK	1428
HYPO. TANK 2	W010 CHEM TANK	1430
AUTOMATIC FEED VALVE	W010 CHEM FEED	1432
FLOW TRANSMITTER	W010 CHEM INST	1431
LEVEL TRANSMITTER	W010 CHEM INST	1433



FILE: D:\Cad\Proj\AWWU WellDisinfection\11-12\Asbitt - Sept. 2009\SHIT 04.DGN
 TIME: 15-DEC-2009 14:24
 JOB No. 1851209.020101

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	BY	DATE	BY	DATE	DESCRIPTION	BY	DATE
BASE							
TOPOGRAPHY							
PROFILE							
SANITARY SEWER							
STORM SEWER							
WATER							
GAS							

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

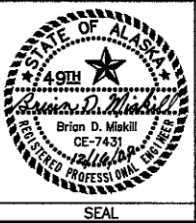
1. DATA PROVIDED BY: *Francis Corp.*
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: *Francis Corp.*
 BY: *Shawn Hill* TITLE: *Project Mgr.*
 DATE: *12/13/09*

2. DATA TRANSFERRED BY: _____ LF
 COMPANY: _____ MWH
 DATE: _____ SEPTEMBER 2009

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: *Todd Correll*
 COMPANY: *AWWU*
 BY: *Todd Correll* TITLE: *Project Manager*
 DATE: *December 22, 2009*

REUSE OF DOCUMENTS

THIS DOCUMENT AND THE IDEAS INCORPORATED HEREIN, AS AN INSTRUMENT OF PROFESSIONAL SERVICE, IS THE PROPERTY OF AWWU AND IS NOT TO BE USED, IN WHOLE OR IN PART, FOR ANY OTHER PROJECT WITHOUT WRITTEN AUTHORIZATION OF AWWU.



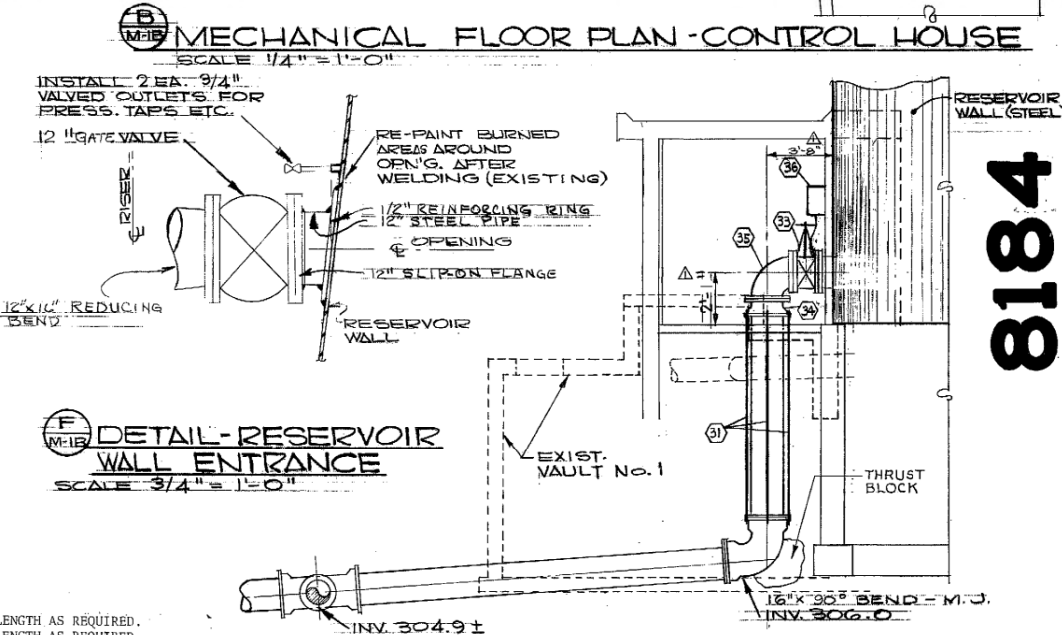
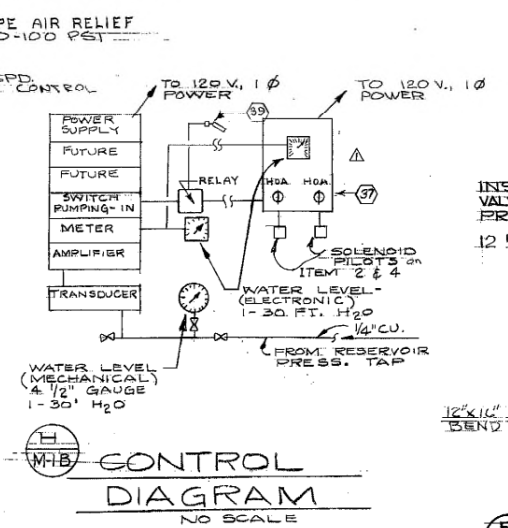
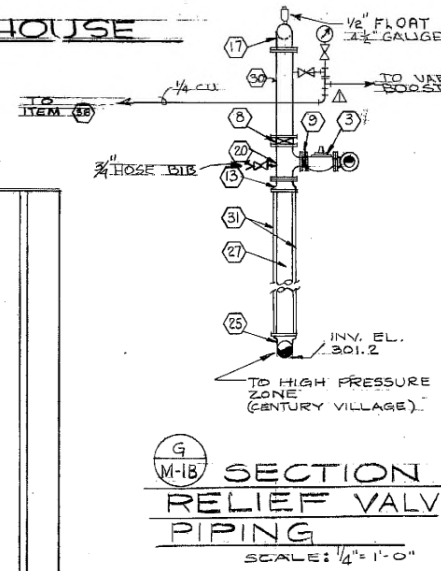
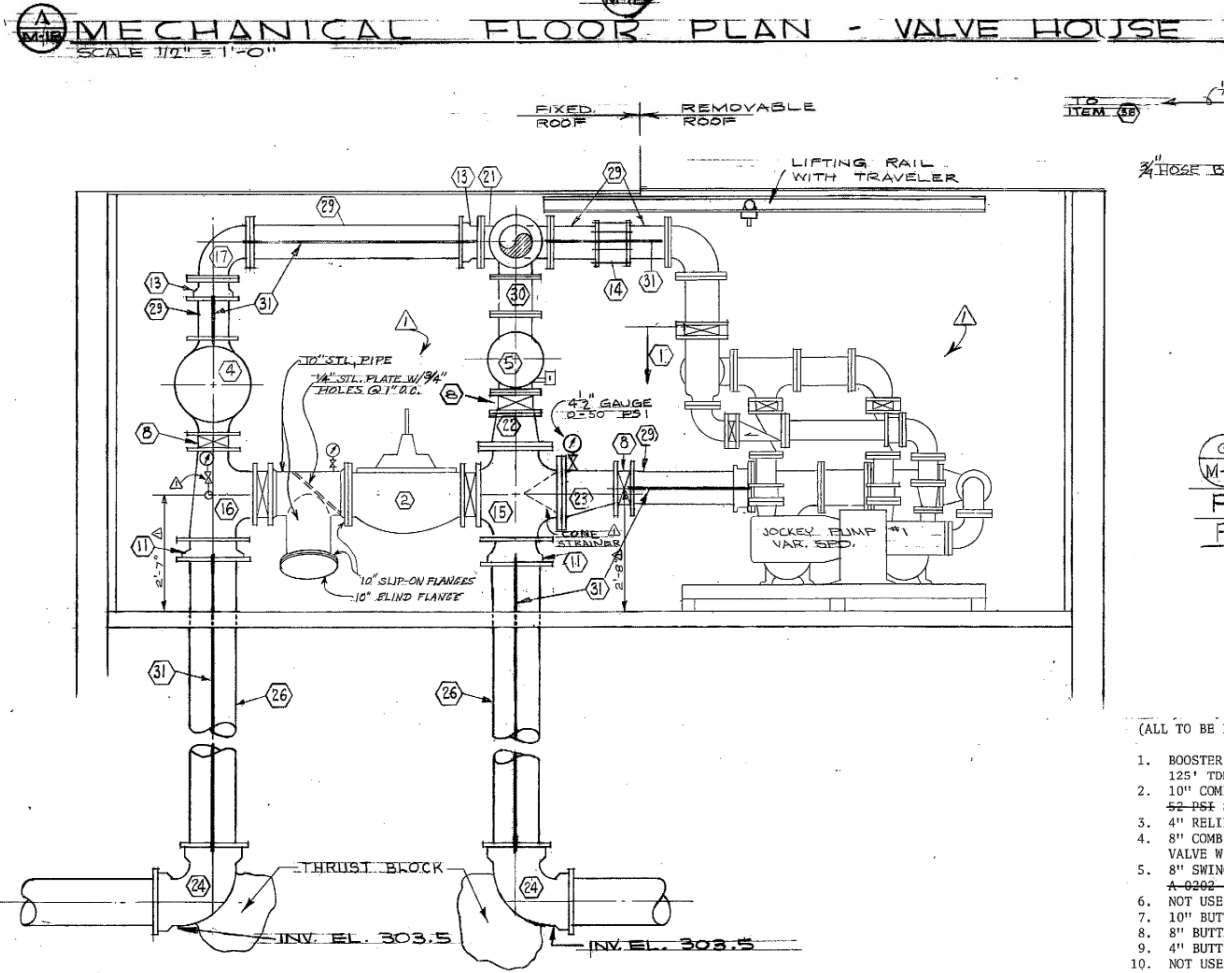
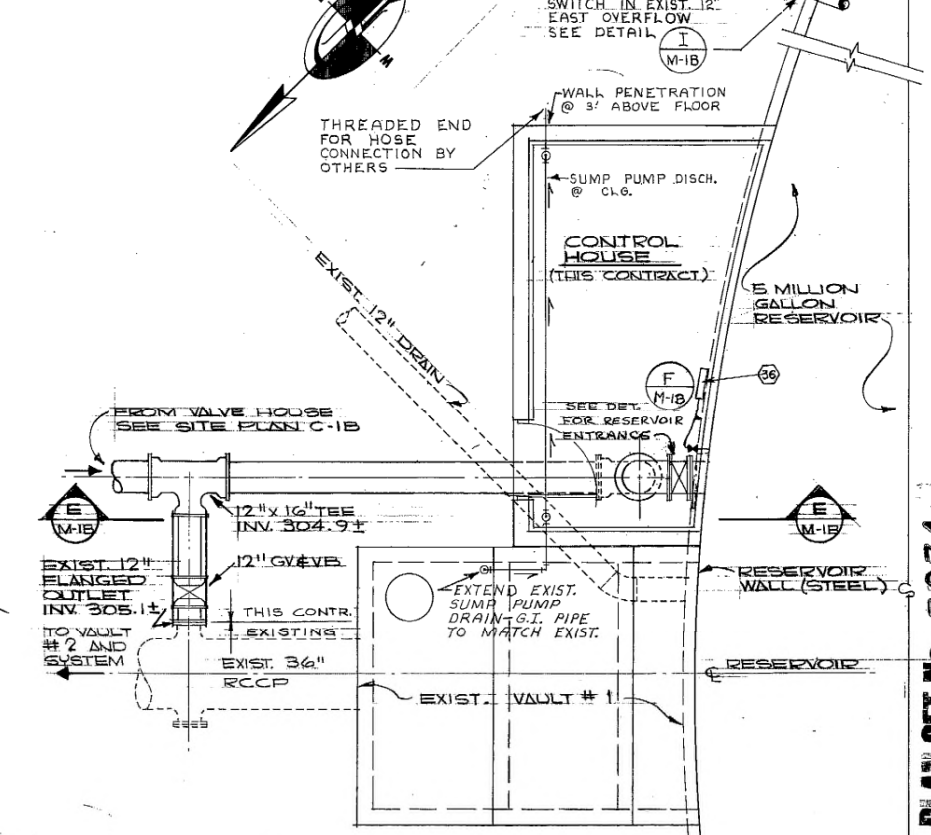
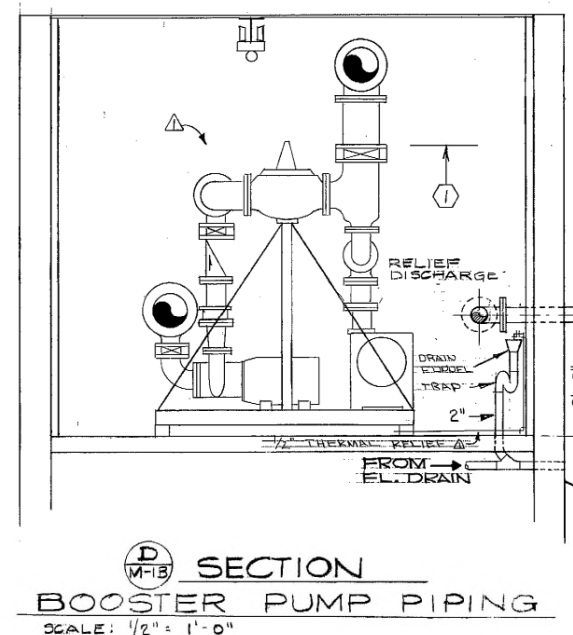
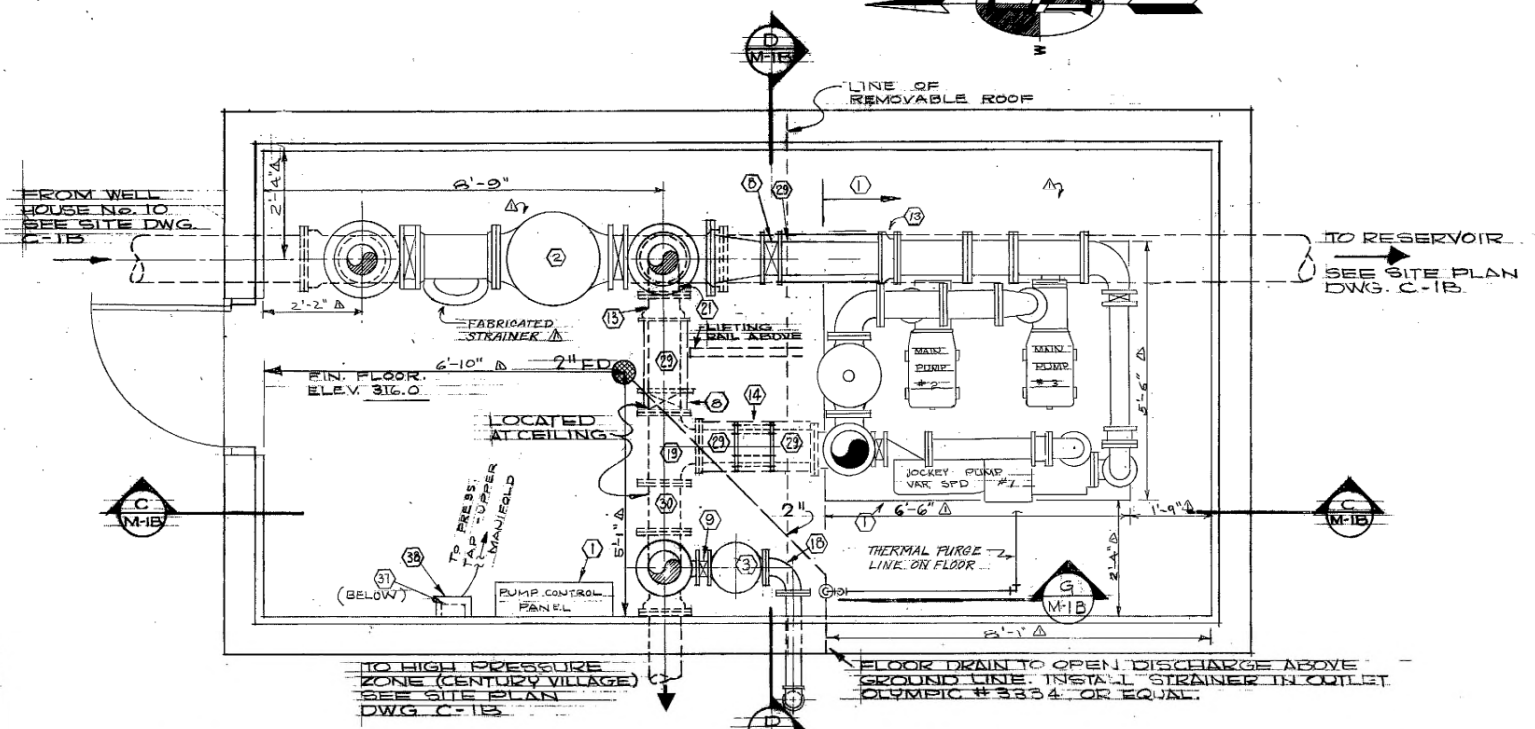
MUNICIPALITY OF ANCHORAGE
 WATER & WASTEWATER UTILITY

WELL ONSITE DISINFECTION

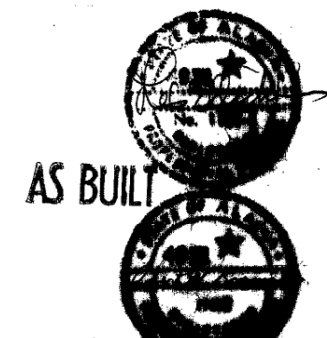
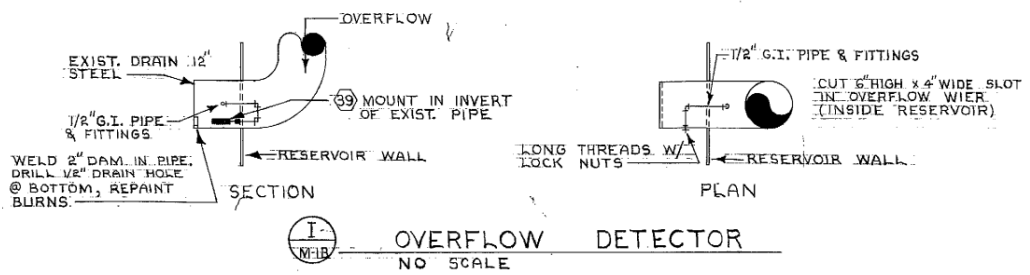
**WELL NO. 10
 FLOOR PLAN**

HORIZ SCALE: AS SHOWN DATE: APRIL 2008 GRID: SW1941
 VERT SCALE: _____
 PROJ. ID.: 000003442

SHEET 4 of 14



- EQUIPMENT LIST**
(ALL TO BE FURNISHED AND INSTALLED BY MECHANICAL--SEE SPECS.)
- BOOSTER PUMP ASSEMBLY INCLUDING CONTROL PANEL--1,500 GPM @ 125' TDH.
 - 10" COMBINATION PRESSURE SUSTAINING & SOLENOID SHUTOFF VALVE--REF SET POINT. 60 PSI.
 - 4" RELIEF VALVE--REF SET POINT. 58 PSI.
 - 8" COMBINATION 2 STAGE PRESSURE REDUCING & PRESSURE RELIEF VALVE WITH REDUCING RANGES SOLENOID SELECTED.
 - 8" SWING CHECK VALVE W/OUTSIDE LEVER & WEIGHT, MUELLER A-6202-6-01 OR EQUAL. A-2602-6-01.
 - NOT USED.
 - 10" BUTTERFLY VALVE.
 - 8" BUTTERFLY VALVE.
 - 4" BUTTERFLY VALVE.
 - NOT USED.
 - 12" MJ. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 10" MJ. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 8" MH. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 8" FLEXIBLE COUPLING--SMITH BLAIR 411 OR EQUAL.
 - 10" X 12" CROSS FLANGED.
 - 12" X 8" X 10" TEE--FLANGED.
 - 8" - 90° BEND--FLANGED.
 - 4" - 90° BEND--FLANGED.
 - 8" TEE--FLANGED.
 - 8" X 4" TEE--FLANGED.
 - 8" SIDE OUTLET ELBOW--FLANGED.
 - 12" X 8" REDUCER--CONCENTRIC--FLANGED.
 - 10" X 8" REDUCER--ECCENTRIC--FLANGED.
 - 12" X 90° BEND--MECHANICAL JOINT.
 - 8" X 90° BEND--MECHANICAL JOINT.
 - 12" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 - 8" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 - 10" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 8" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 8" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 3/4" TIE RODS.
 - ADJUSTABLE PIPE SUPPORT--GRINNELL FIG. 264 OR EQUAL.
 - 12" GATE VALVE--FLANGED ENDS W/HAND WHEEL.
 - 16" MJ. X PL. ADAPTOR--SMITH BLAIR 913 OR EQUAL.
 - 12" X 16" - 90° REDUCING BEND--FLANGED.
 - RESERVOIR LEVEL INDICATOR, CONTROLLER & TRANSMITTER AUTOCON AUTO-MOD CLASS 1701 OR EQUAL.
 - SELECTOR SWITCHES FOR 2 AND 4, SQUARE D CLASS 9001--TYPE K542 OR EQUAL.
 - PRESSURE CONTROL--AUTOCON TANKTROL CLASS 1100 OR EQUAL.
 - OVERFLOW SWITCH--GEMS LS-2050 OR EQUAL W/RELAY AS REQUIRED.



Revision	Date	Description	By

ADDED ASPHALT NOTATIONS NOTED BY

ANCHORAGE WATER UTILITY
PRODUCTION WELL No. 10 - WELL HOUSE
& ASSOCIATED STRUCTURES

MECHANICAL PLANS & SECTIONS
VALVE HOUSE & CONTROL HOUSE
SITE - B

1972 UNIT No. 12

DICKINSON-OSWALD & PARTNERS
CONSULTING ENGINEERS
800 CORDOVA STREET
ANCHORAGE, ALASKA

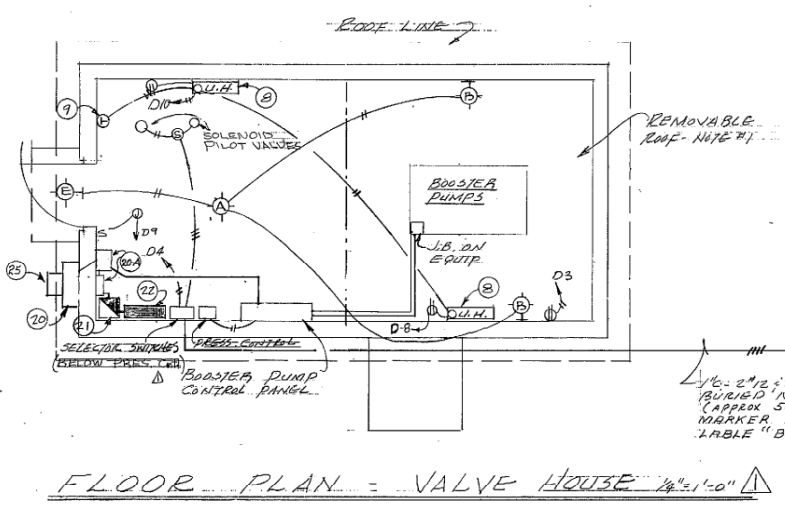
APPROVED:
Jac R. Meuld
ANCHORAGE WATER UTILITY

DRAWN BY: AL DATE: OCT. 1971. W.O. GRID FILE NO. 69-71 M-1B

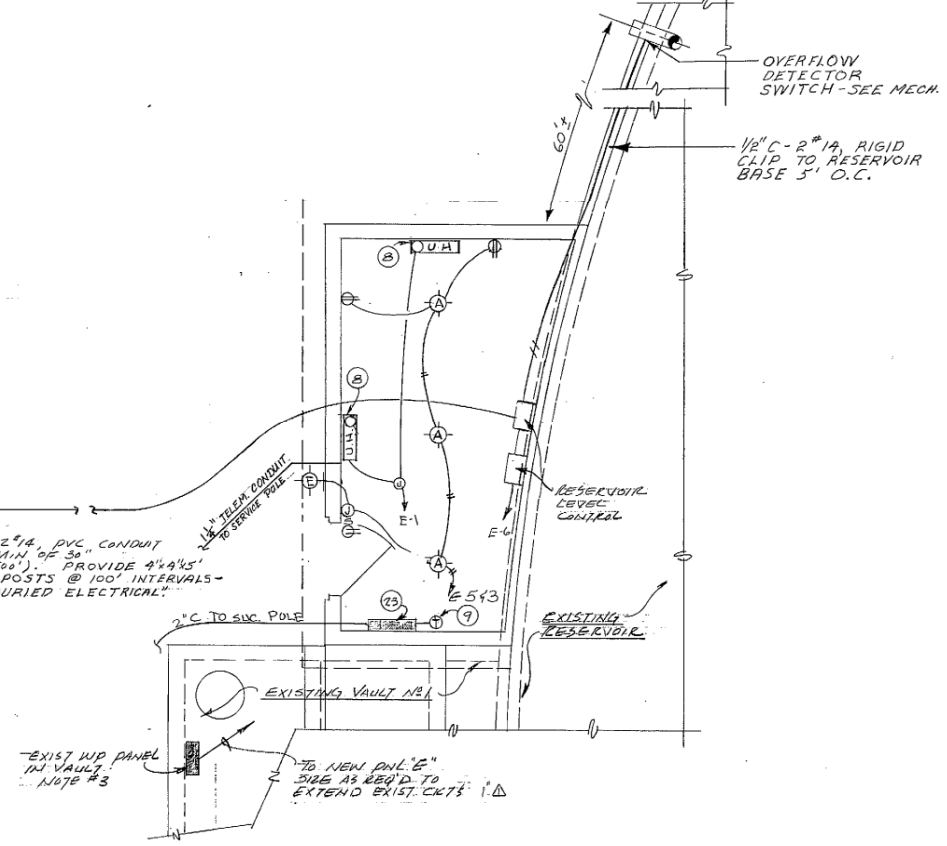
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PLAN SET NO. 3031

1839-13



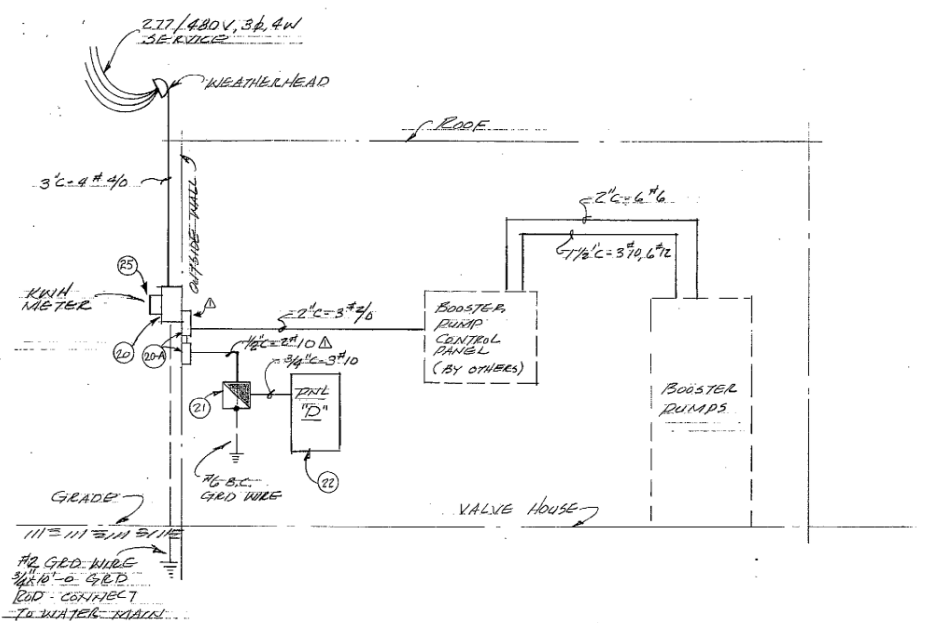
FLOOR PLAN - VALVE HOUSE 1/4" = 1'-0"



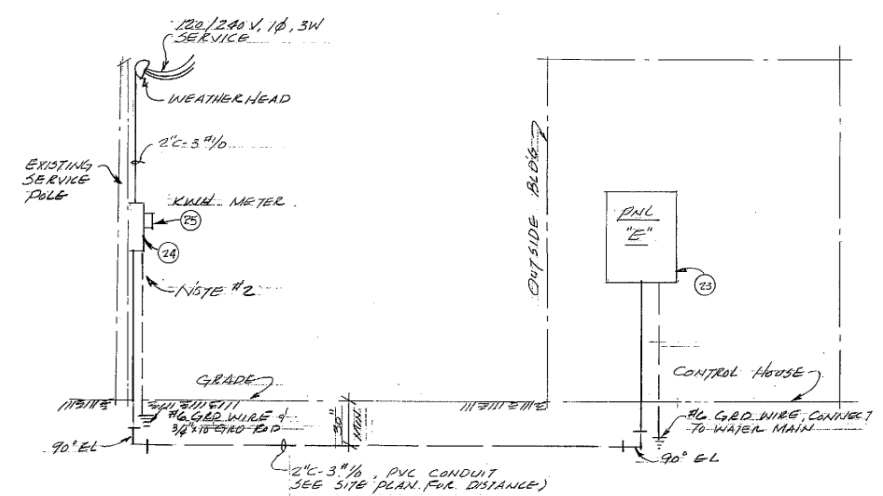
FLOOR PLAN - CONTROL HOUSE 1/4" = 1'-0"

SYMBOL	MANUFACTURE		MOUNTING		LAMP		REMARKS
	NAME	CAT. NO.	TYPE	WEIGHT	QTY.	SIZE	
⊙	MILLER	AE-3042	SURFACE	CEILING	1	INCAND	200W
⊙	MILLER	AE-3312	BRACKET	7'-0"	1	"	200W
⊙	ART METAL	3670-PC	BRACKET	OVER DOOR	1	"	200W w/ PHOTO CELL

- LEGEND:**
- ⊙ OUTLET
 - ⊕ CONVENIENCE OUTLET - DUPLEX - WEATHERPROOF
 - ⊖ SINGLE POLE SWITCH
 - ⊙ THERMAL OVERLOAD SWITCH
 - ⊙ MOTOR
 - ⊙ DISCONNECT SWITCH
 - ⊙ JUNCTION BOX
 - ⊙ CONTROLLER
 - CONDUIT RUN - SLASH LINES INDICATE NO. OF CONDUCTORS



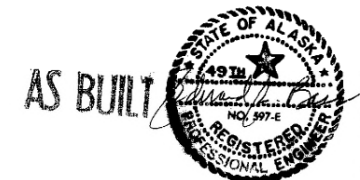
ELECTRICAL ONE LINE DIAGRAM
VALVE HOUSE NO SCALE



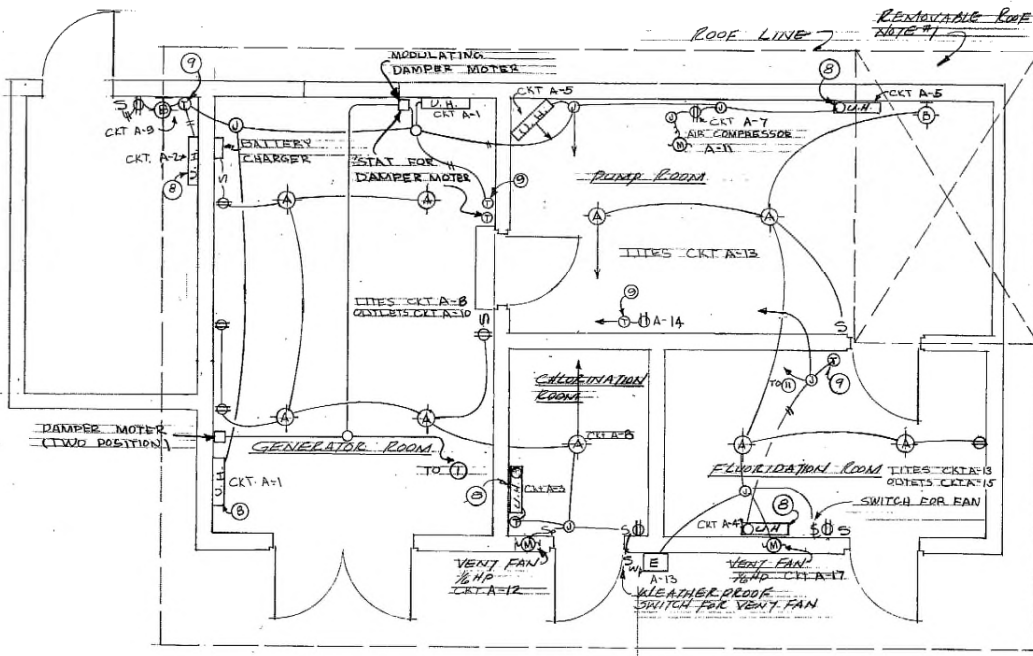
ELECTRICAL ONE LINE DIAGRAM
CONTROL HOUSE NO SCALE

- EQUIPMENT LIST:**
- 20 METER PANEL 100 AMP, 600V, 3 PHASE, SWISS MADE Δ COMBINATION METER & MAIN SERVICE BRK., 600V, 200 AMP, W/ kWh METER SOCKET & 175 AMP, 2P BRK. & 1 30 AMP, 2P BRK., SIMILAR TO CIRCUIT A-W MODEL ANEM 2MAG 7.
 - 21 DRY TYPE TRANSFORMER, 480-120/240V, 1φ, SEE SPECIFICATIONS.
 - 22 PANEL "D" RATED 120/240V, 1φ, 3W, 100 AMP MAINS, LUGS ONLY, 3φ "D" TYPE "NQB", SURFACE MTD WITH THE FOLLOWING BRK'S:
1-2P-20 AMP BRK (CKT #10) - HEATERS Δ
3-1P-20 AMP BRK'S - CKTS. A, B, C Δ
7-1P-20 AMP BRK'S (SPARE)
 - 23 PANEL "E" RATED 120/240V, 1φ, 3W, 100 AMP MAINS, 60 AMP MAIN BRK, 3φ "D" TYPE "NQB", SURFACE MTD W/ FOLLOWING BRK'S:
4-2P-20 AMP BRK (CKT #1 & 3 EXISTING)
7-1P-20 AMP BRK'S
5-1P-20 AMP BRK'S (SPARE)
 - 24 COMBINATION METER - SERVICE DEVICE, RATED 240V, 150 AMP, 1φ, 3W, 3φ "D" TYPE CISOQB, W/ NEMA 3R ENCLOSURE.
 - 25 PROVIDE METER METER COVER AS MFGD. BY F.D. KES, BEATRICE - NEB. Δ
 - 26 1-175 AMP, 3 POLE BREAKER & 1-30 AMP, 2 POLE BREAKER IN SEPARATE NEMA 1 ENCLOSURES, SQUARE D. Δ

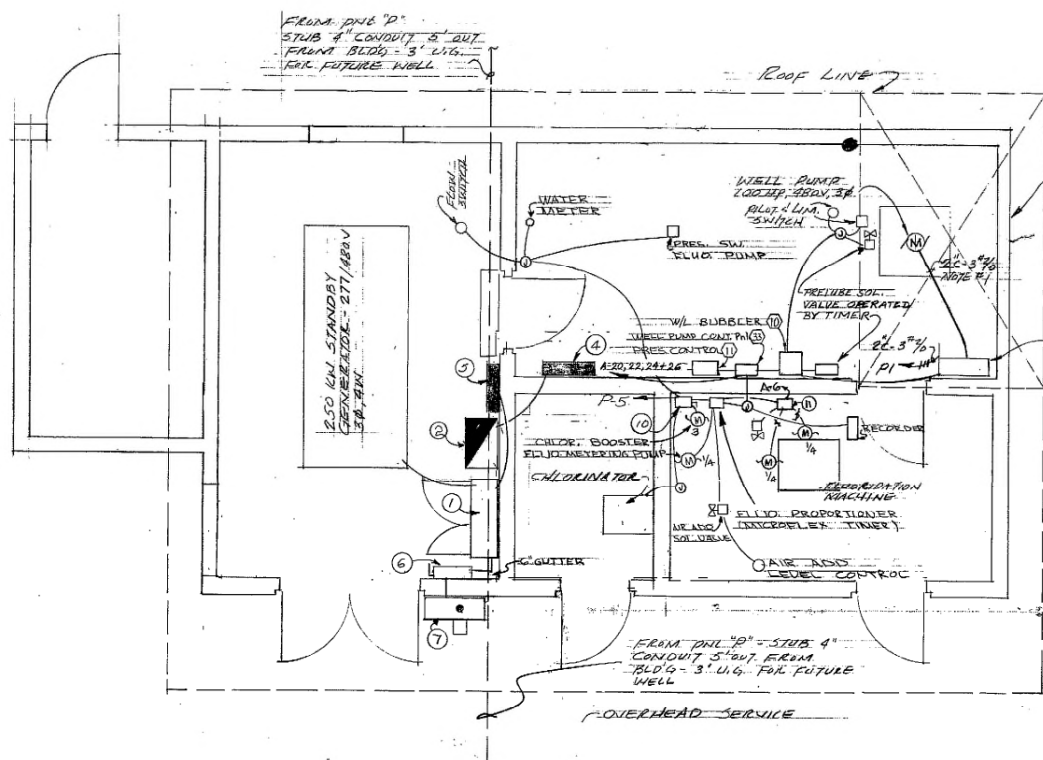
- NOTES:**
1. ROUTE ALL CONDUITS TO AVOID REMOVABLE ROOF SECTION
 2. REMOVE EXISTING kWh METER, RISER, WEATHERHEAD, SWITCH, & U.G. SERVICE TO EXIST. U.G. VAULT. INSTALL NEW COMBINATION METER DEVICE, ITEM #24, RISER & NEW U.G. SERVICE TO NEW PANEL "E" IN CONTROL HOUSE.
 3. REMOVE EXIST. EAGLE PNL IN U.G. VAULT. EXTEND EXIST. CKTS TO NEW PNL IN CONTROL HOUSE (3 HEATER CKTS 220V & 4 LUG RECEPT. CKTS 120V). USE EXIST. PNL CABINET AS SOURCE BOX. REMOVE EXIST. SERVICE CONDUIT TO BOX & PLUG. SEAL BOX SO AS TO BE WATERPROOF.



Revision Date	Description	By
	ADDED AS BUILT NOTATIONS - NOTED	
ANCHORAGE WATER UTILITY PRODUCTION WELL No. 10 - WELL HOUSE & ASSOCIATED STRUCTURES		
ELECTRICAL VALVE HOUSE & CONTROL HOUSE SITE - B		
1972 UNIT No. 12		
DRAWN BY - JR		APPROVED: <i>Dee R. Mewer</i> ANCHORAGE WATER UTILITY
DATE - MAR. 1972		
W.O. 4128	GRID	FILE NO. E-1B



FLOOR PLAN - LIGHTING, HEATING & RECEPTACLES
WELL HOUSE NO 10 - 1/2" = 1'-0"



FLOOR PLAN - POWER & CONTROLS
WELL HOUSE NO 10 - 1/2" = 1'-0"

NOTES:

1. ROUTE ALL CONDUIT TO AVOID REMOVABLE ROOF SECTION & REMOVABLE WALL PANEL.
2. ALL WIRING SHALL BE SURFACE MOUNTED.



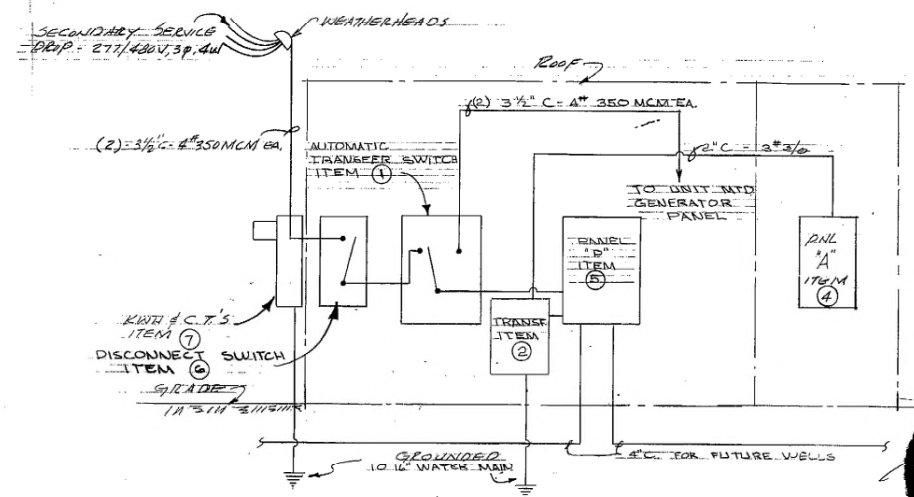
EQUIPMENT LIST

1. AUTOMATIC TRANSFER SWITCH - 600 V, 600 AMP, FULL RELAY PROTECTION, 3Ø, 2W, SOLID NEUTRAL. AUTOMATIC SWITCH CO. "A500" BULLETIN 500 SWITCH - SEE SPECIFICATIONS.
2. DRY TYPE TRANSFORMER - 37.5 KVA, 480V - 120/240V, 1Ø, - SEE SPECIFICATIONS.
3. WELL PUMP REDUCED VOLTAGE STARTER - 100 HP, 3Ø, 480V, AUTO-TRANSFORMER STARTER WITH CLOSED TRANSITION, 3 OVERLOAD ELEMENTS, 1 AUXILIARY NORMALLY OPEN CONTACT ON "RUN" CONTACTOR. STARTER TO HAVE NON-FUSIBLE DISCONNECT SWITCH. UNIT TO BE SQUARE "D" CLASS 8006 TYPE 5Ø, 1/2" NEMA 1 ENCLOSURE.
4. PANEL "A" RATED 120/240V, 1Ø, 3W, 225 AMP MAINS, 200 AMP MAIN BRK, SQUARE "D" TYPE "NOB", SURFACE MTD, WITH THE FOLLOWING BRKS:
 - 1-1Ø-50 AMP BRK (CT#13)
 - 5-2Ø-20 AMP BRKS (CT#1 THRU #5)
 - 15-1Ø-1Ø-20 AMP BRKS
 - 12-1Ø-1Ø-20 AMP BRKS (SPARE)
5. PANEL "P" RATED 277/480V, 3Ø, 4W, 600 AMP MAINS, LUGS ONLY, SQUARE "D" TYPE "ML", SURFACE MTD WITH THE FOLLOWING BRKS:
 - 1-3Ø-175 AMP BRK - CT#1 (DEEP WELL PUMP)
 - 1-3Ø-175 AMP BRK - SPACE (FLUORIDE TROOP PUMP)
 - 1-2Ø-100 AMP BRK - CT#3 (TRANS 1 Ø, 1/2")
 - 1-3Ø-20 AMP BRKS - CT#5 (COMB) (FLUORINATION BOOSTER PUMP)
 - 6-3Ø-20 AMP BRKS - SPACE ONLY
 - 1-2Ø-20 AMP BRKS - SPARE (R.B.)
6. MAIN SERVICE DISCONNECT SWITCH, HEAVY DUTY, 600 AMPS, 600 VOLTS, 3Ø, FUSED AT 600 AMPS, SQUARE "D" ENCLOSURE WITH NEMA 3E ENCLOSURE - GENERAL ELECTRIC.
7. CURRENT TRANSFORMER ENCLOSURE WITH (3) .600/5 C.T.'S IN NEMA 3E ENCLOSURE AND KILOWATT-HOUR METER.
8. ELECTRIC HEATER - CHROMALOX H-2406, 2KW, 240V, 1Ø, MOUNTED 4" FROM FLOOR, NO MANUAL SWITCH REQ'D.
9. THERMOSTAT - CHROMALOX WR-80, MTD. AT 4'-6" FROM FLOOR.
10. 3ØP. COMBINATION STARTER, 480V, 3Ø, SIZE 0, 5Ø "D" CLASS 8539, TYPE 5ØG-2 NEMA 1 ENCLOSURE, WITH "OFF-AUTOMATIC" SWITCH IN COVER.
11. MAGNETIC CONTACTOR 115V, 1Ø, 1Ø, 1Ø, 5Ø "D" CLASS 8502 TYPE 5ØG-5 NEMA 1 ENCLOSURE, WITH "OFF-AUTOMATIC" SWITCH IN COVER.
12. ELECTRIC HEATER, CHROMALOX C5F-220, 2KW, 240V, 1Ø, CEILING MOUNTED.
13. METAL METER COVER BY NFGD. BY F.D. KEES, BERTALICE, NEB. OR EQUAL.

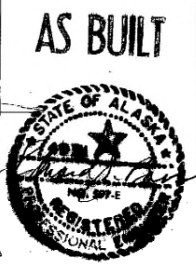
FIXTURE SCHEDULE								
SYMBOL	MANUFACTURE		MOUNTING		QUAN	LAMP		REMARKS
	NAME	CAT. NO.	TYPE	HEIGHT		TYPE	SIZE	
Ⓐ	MILLER	AE-308Z	SURFACE	CEILING	1	INCAND	200W	
Ⓑ	MILLER	AE-331Z	BRACKET	7'-0"	1	INCAND	200W	
Ⓒ	MILLER	AE-330Z	SURFACE	CEILING	1	INCAND	200W	
Ⓔ	HOLOPHANE	AID-120-PC	BRACKET	9'-6"	1	MERCURY	100W	BLACK EXIST'G PHOTO-CELL

LEGEND:

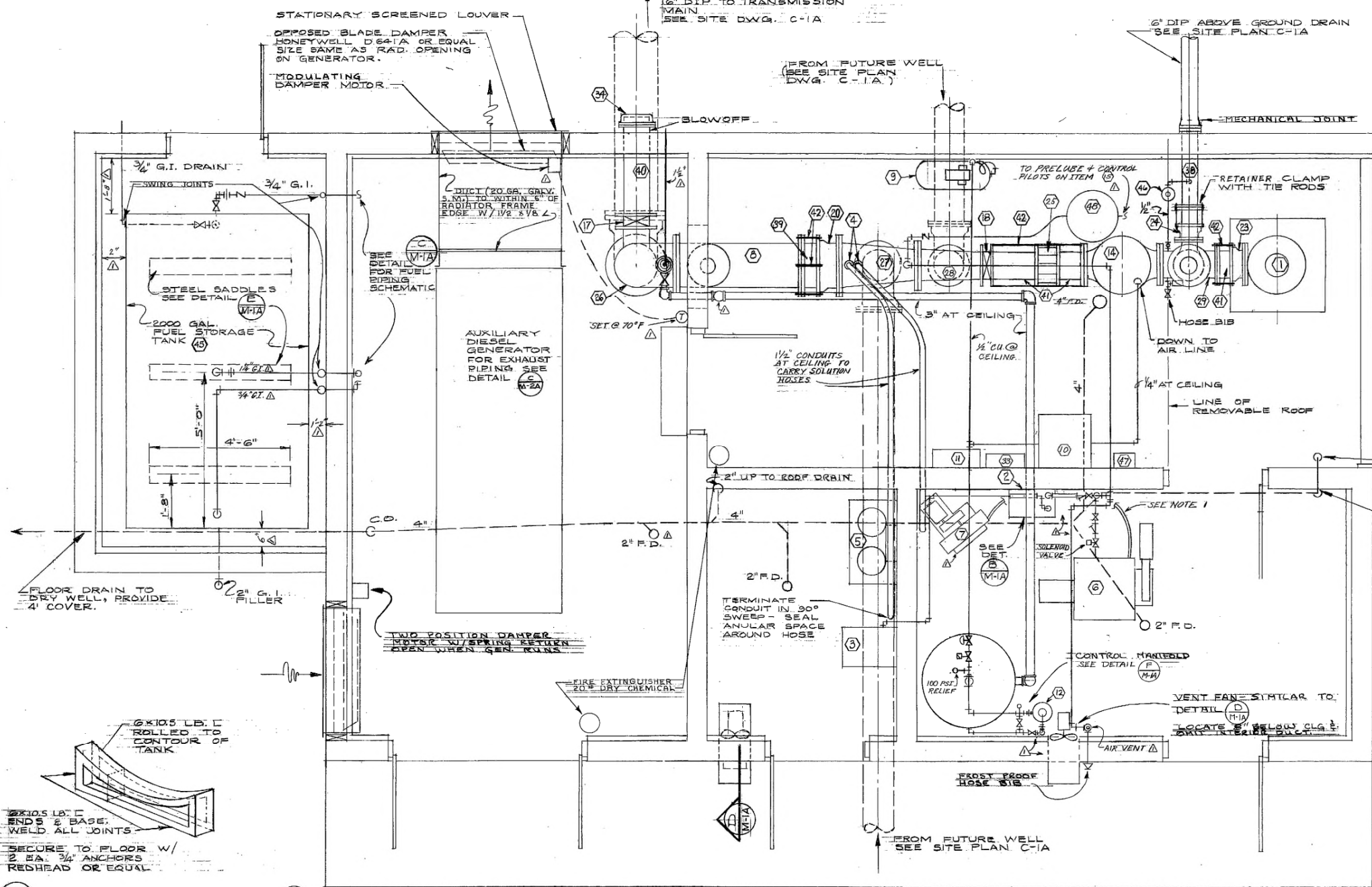
- OUTLET
- ⊕ CONVENIENCE OUTLET - DUPLEX, WEATHERPROOF
- ⊖ SINGLE POLE SWITCH
- ⊕ THERMAL OVERLOAD SWITCH
- ⊗ MOTOR
- ⊠ DISCONNECT SWITCH
- POWER PANEL
- ⊙ JUNCTION BOX
- ⊞ CONTROLLER
- CONDUIT RUN - SLASH LINES INDICATE NO. OF CONDUCTORS



ELECTRICAL ONE LINE DIAGRAM NO SCALE

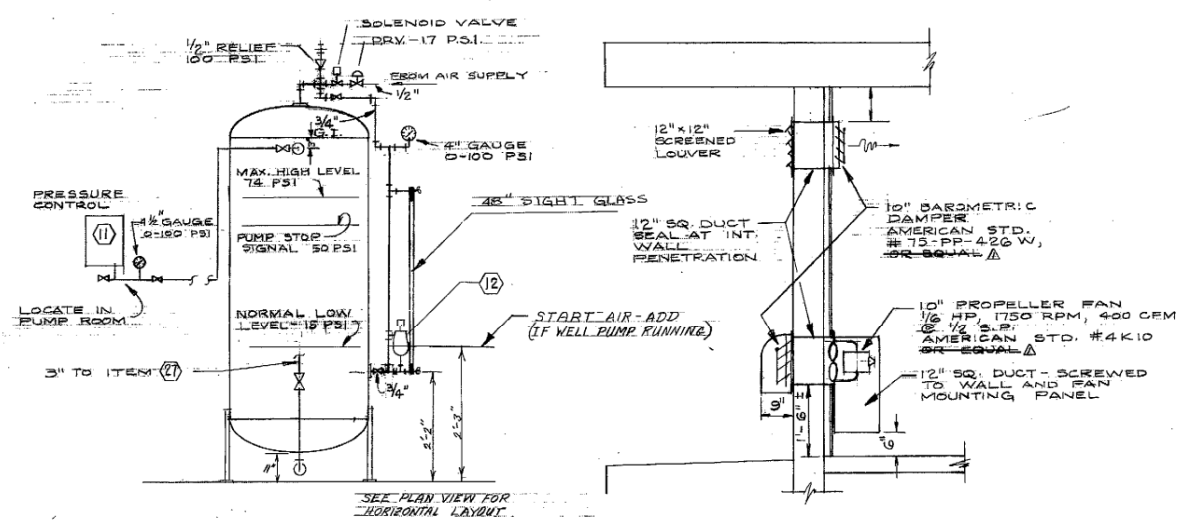


REVISIONS ADDED ASBUILT NOTATIONS - NOTED		Revision Date	Description	By
ANCHORAGE WATER UTILITY PRODUCTION WELL No. 10 - WELL HOUSE & ASSOCIATED STRUCTURES ELECTRICAL WELL HOUSE 10 SITE - A 1972 UNIT No. 12				
DICKINSON-OSWALD & PARTNERS CONSULTING ENGINEERS 800 CORDOVA STREET ANCHORAGE, ALASKA			APPROVED: DAN R. MURRELL ANCHORAGE WATER UTILITY	
DRAWN BY - JR	DATE - MAR. 1972	WO. 1100	GRID	FILE NO. E-1A



(M-1A) MECHANICAL FLOOR PLAN - WELL HOUSE NO. 10 SCALE: 1/2" = 1'-0"

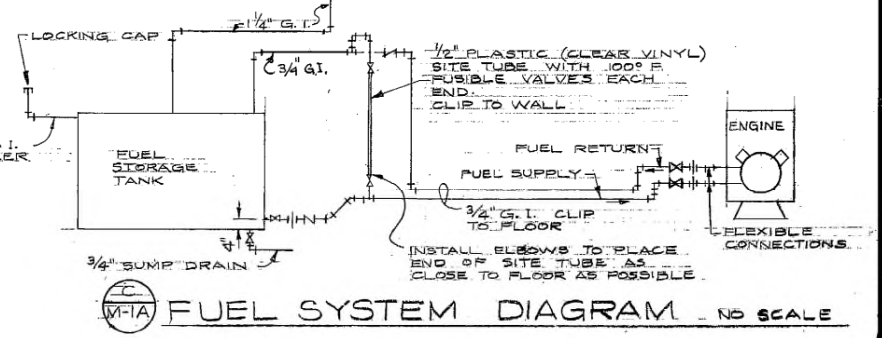
(M-1A) TANK SADDLE DETAIL NO SCALE



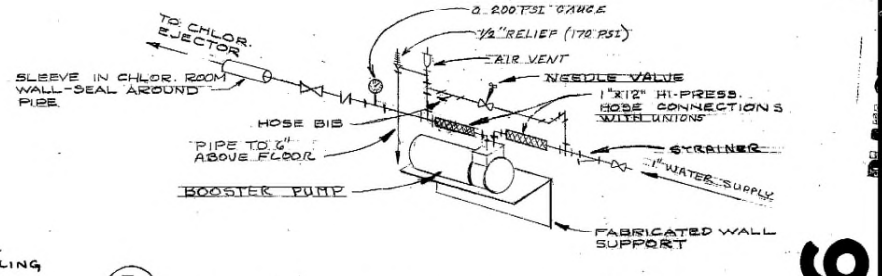
(M-1A) PRESSURE TANK DETAIL SCALE: 1/2" = 1'-0"

(M-1A) CHLORINATION ROOM VENTILATION SCALE: 1/2" = 1'-0"

- NOTES**
1. FLUORINATION METERING PUMP SUCTION TO BE 5/8" I.D. CLEAR PLASTIC TUBE - TYGON OR EQUAL - ON FLOOR. - PROTECT WITH TAPERED "X'S" ANCHORED TO FLOOR EACH SIDE. Δ
 2. SLOPE FLOORS 1" IN 7' TO DRAINS.
 3. PROVIDE SIGN ON CHLORINATION ROOM DOOR OF 0.080 ALUMINUM WITH WORDING "DANGER - CHLORINE GAS - OPERATE FAN 5 MINUTES BEFORE ENTERING" WHITE LETTERS ON RED. 1 FT. SQUARE MIN.



(M-1A) FUEL SYSTEM DIAGRAM NO SCALE



(M-1A) CHLORINATION BOOSTER PUMP PIPING NO SCALE

- EQUIPMENT LIST**
- (ALL TO BE FURNISHED & INSTALLED BY MECHANICAL--SEE SPECS.)
1. DEEP WELL TURBINE PUMP--1,500 GPM @ 180 FT. TDH, 100 HP, 480 VOLT, 3-PHASE.
 2. CHLORINATION BOOSTER PUMP--REGENERATIVE TURBINE TYPE--7.8 GPM @ 130 PSI TDH, 3 HP, 480 VOLT, 3-PHASE.
 3. CHLORINATOR AUTOMATIC ELECTRICALLY OPERATED.
 4. CHEMICAL SOLUTION INJECTOR ASSEMBLY W/CORP. STOP--SIMILAR TO FISCHER & PORTER #07-4627.
 5. CHLORINE BOTTLE SCALES.
 6. FLUORIDE VOLUMETRIC FEEDER ASSEMBLY.
 7. FLUORINATION METERING PUMP.
 8. FLOW METER, PROPELLER TYPE, MAGNETIC DRIVE, WITH THREE TWO Δ ELECTRIC SENDING HEADS.
 9. AIR COMPRESSOR W/TANK--3.8 CFM @ 75 PSI.
 10. WATER LEVEL BUBBLER SYSTEM WITH STRIP CHART RECORDER.
 11. PRESSURE CONTROL--AUTOCOON TANKROL CLASS 1,100 OR EQUAL Δ SEE SPEC.
 12. AIR ADD WATER LEVEL CONTROL--DISPLACER TYPE--OMNITROL Δ OR EQUAL--664-C-150-SH WITH A-4 SWITCHING.
 13. FLOW SWITCH--MC DONNELL FS7-4 OR EQUAL Δ
 14. 10" HYDRAULICALLY OPERATED CHECK VALVE, WITH POSITION INDICATOR
 15. 6" PUMP CONTROL VALVE--ANGLE PATTERN
 16. 16" BUTTERFLY VALVE.
 17. 12" BUTTERFLY VALVE.
 18. 10" BUTTERFLY VALVE.
 19. 6" BUTTERFLY VALVE.
 20. 16" M.J. X F.L. ADAPTOR--SMITH BLAIR 913 OR EQUAL.
 21. 12" M.J. X F.L. ADAPTOR--SMITH BLAIR 913 OR EQUAL.
 22. 10" M.J. X F.L. ADAPTOR--SMITH BLAIR 913 OR EQUAL.
 23. 10" M.J. X F.L. ADAPTOR--SMITH BLAIR 912 OR EQUAL Δ
 24. 6" M.J. X F.L. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 25. 10" FLEXIBLE COUPLING--SMITH BLAIR 411 OR EQUAL.
 26. 16" X 90° BEND W/12" SIDE OUTLET--FLANGED.
 27. 16" X 12" X 12" TEE--FLANGED.
 28. 12" X 10" X 10" TEE--FLANGED.
 29. 10" X 6" TEE--FLANGED.
 30. 16" X 90° BEND--MECHANICAL JOINT.
 31. 12" X 90° BEND--MECHANICAL JOINT.
 32. 10" X 90° BEND--MECHANICAL JOINT.
 33. WELL PUMP CONTROL PANEL.
 34. 12" CAP--MECHANICAL JOINT.
 35. 16" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 36. 12" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 37. 10" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 38. 6" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 39. 16" PIPE-DUCTILE IRON-PLAIN END X FLANGED--LENGTH AS REQUIRED.
 40. 12" PIPE-DUCTILE IRON-PLAIN END X FLANGED--LENGTH AS REQUIRED.
 41. 10" PIPE-DUCTILE IRON-PLAIN END X FLANGED--LENGTH AS REQUIRED.
 42. 3/4" TIE RODS.
 43. ADJUSTABLE PIPE SADDLE SUPPORT--GRINNELL FIG. 264 OR EQUAL.
 44. PRESSURE TANK, 315 GAL. VERT., 36" DIA., 100 P.S.I. WORKING PRESS., GALVANIZED.
 45. FUEL TANK, 2,000 GAL., CONSTRUCT IN ACCORDANCE W/UL STD. 142.
 46. 1/2" RELIEF VALVE, MUELLER H-9054 OR EQUAL.
 47. PRELUBE TIMER--TO OPERATE SOLENOID VALVE 2 MIN. EVERY 4 HOURS.
 48. 30 GAL. PRESSURE TANK W/AIR SEPARATION BLADDER Δ

AS BUILT



Revision Date	Description	By
1/16/73	ADDED AS-BUILT NOTATIONS - NOTED IN	BK

ANCHORAGE WATER UTILITY
 PRODUCTION WELL No. 10 - WELL HOUSE
 & ASSOCIATED STRUCTURES

MECHANICAL PLANS & SECTIONS
WELL HOUSE 10
 SITE - A
 1972 UNIT No. 12

DICKINSON OSWALD & PARTNERS
 CONSULTING ENGINEERS
 800 CORDOVA STREET
 ANCHORAGE, ALASKA

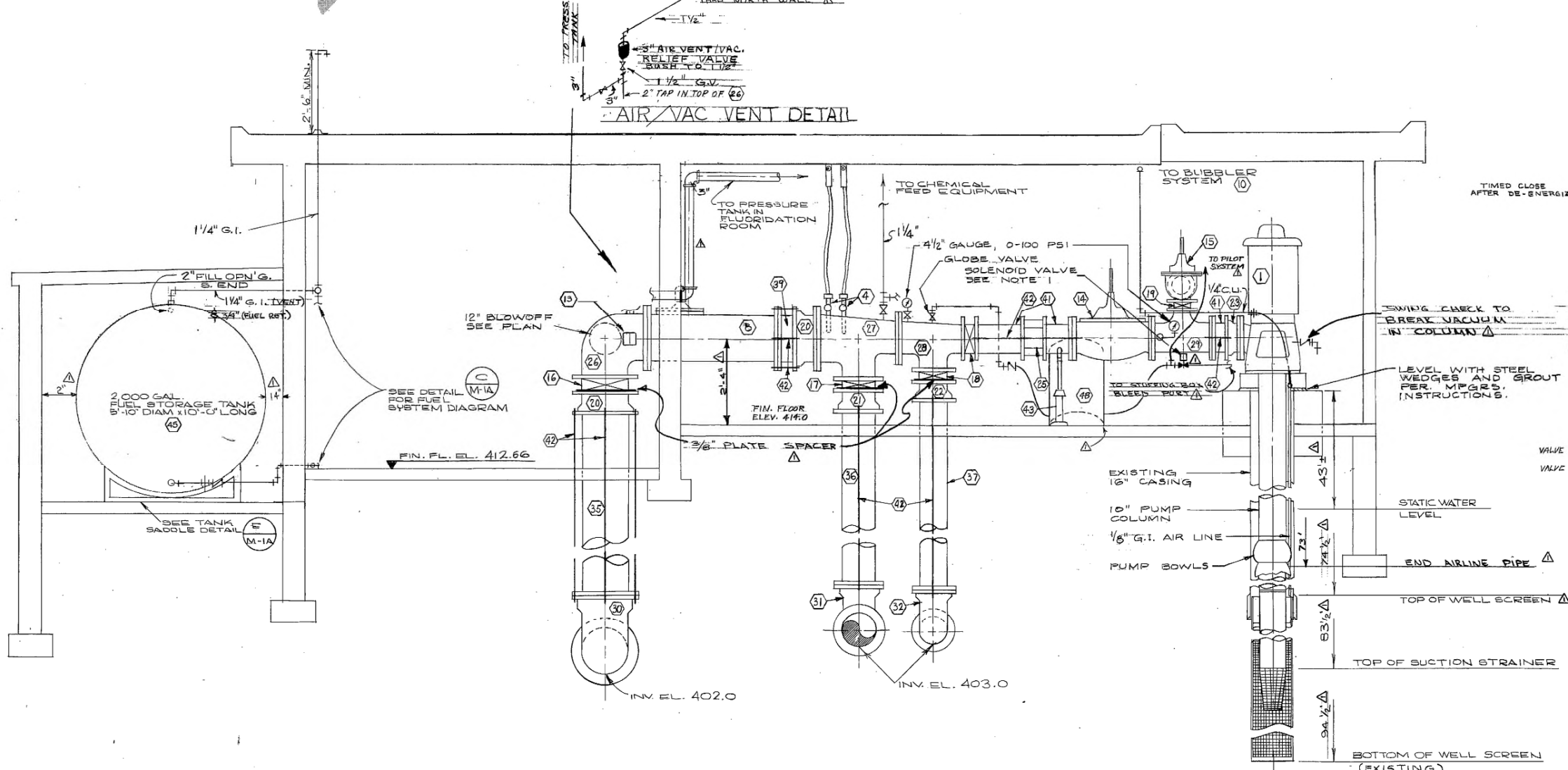
APPROVED:
Gene R. Merrill
 ANCHORAGE WATER UTILITY

DRAWN BY - GRR DATE - MAR. 1972 W.O. GRID FILE NO. M-1A

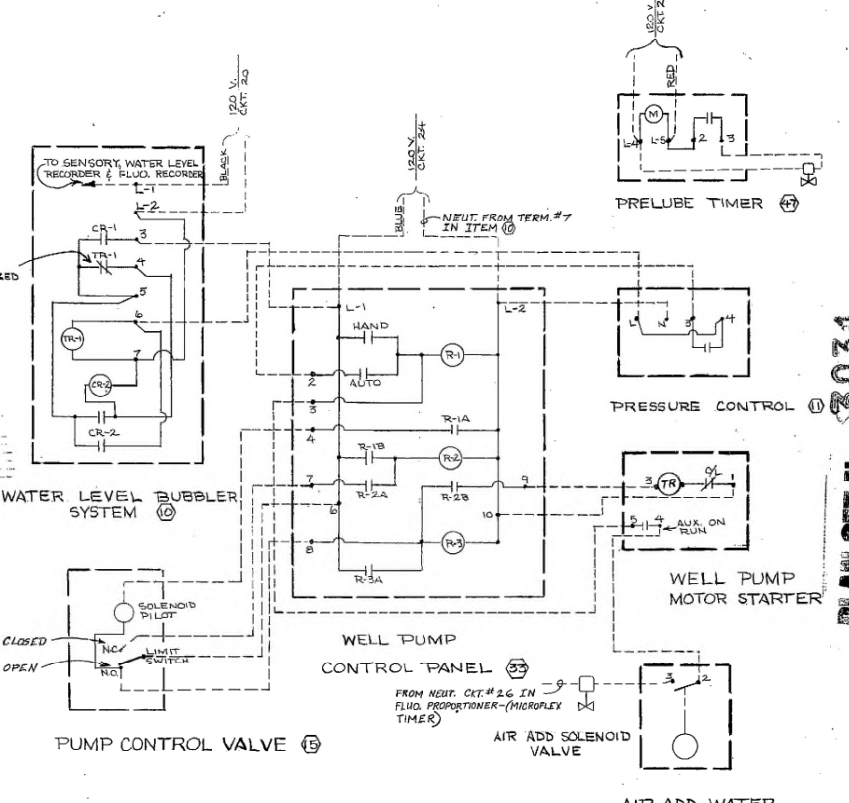
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PLAN SET NO. 3031

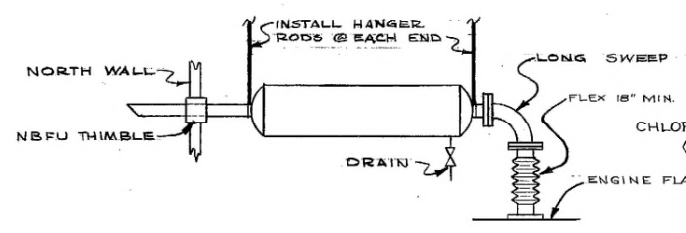
1841-6



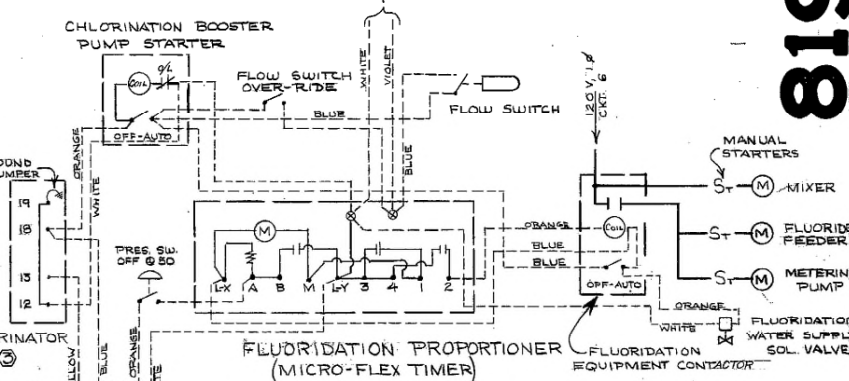
(A) SECTION - PUMP RM. GENERATOR RM. and TANK RM. - WELL HOUSE NO. 10 SCALE 1/2" = 1'-0"



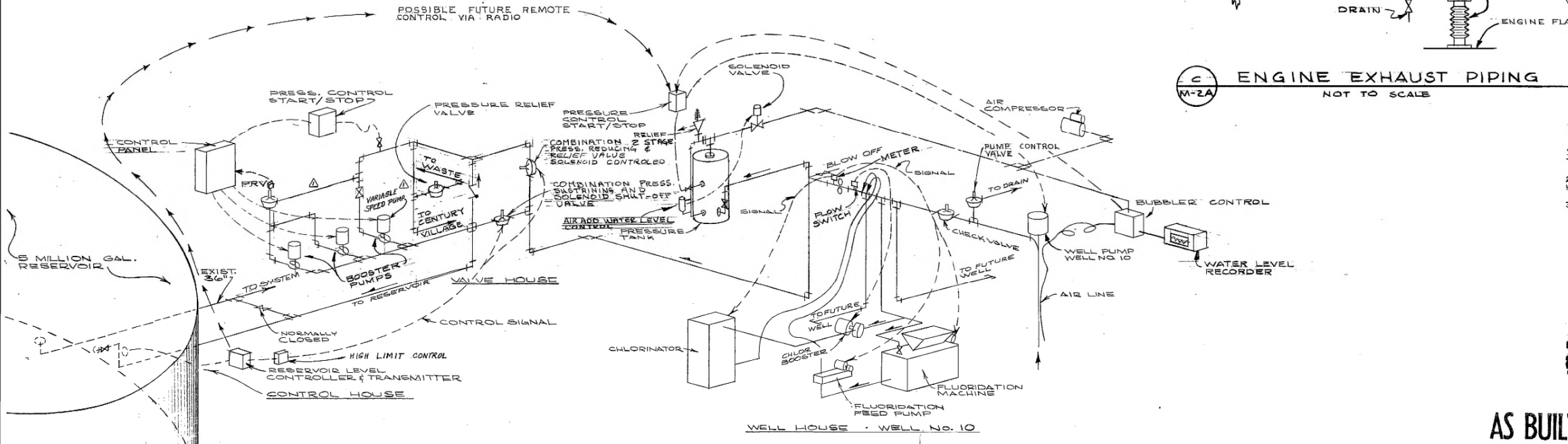
(B) CONTROL WIRING DIAGRAM FOR WELL PUMP - NO SCALE



(C) ENGINE EXHAUST PIPING NOT TO SCALE



(D) CONTROL WIRING DIAGRAM CHEMICAL FEED EQUIPMENT NO SCALE



(A) SYSTEM SCHEMATIC NO SCALE

- NOTES:
1. SOLENOID VALVE IN PRELUDE LINE TO BE OPERATED TWO MINUTES EVERY 4 HOURS BY TIME CLOCK
 2. FOR INTERNAL WIRING OF ITEM (B) SEE MAINTENANCE MANUAL.
 3. FOR SENSORY PORTION OF ITEMS (C) & (D) SEE MAINTENANCE MANUALS.

AS BUILT

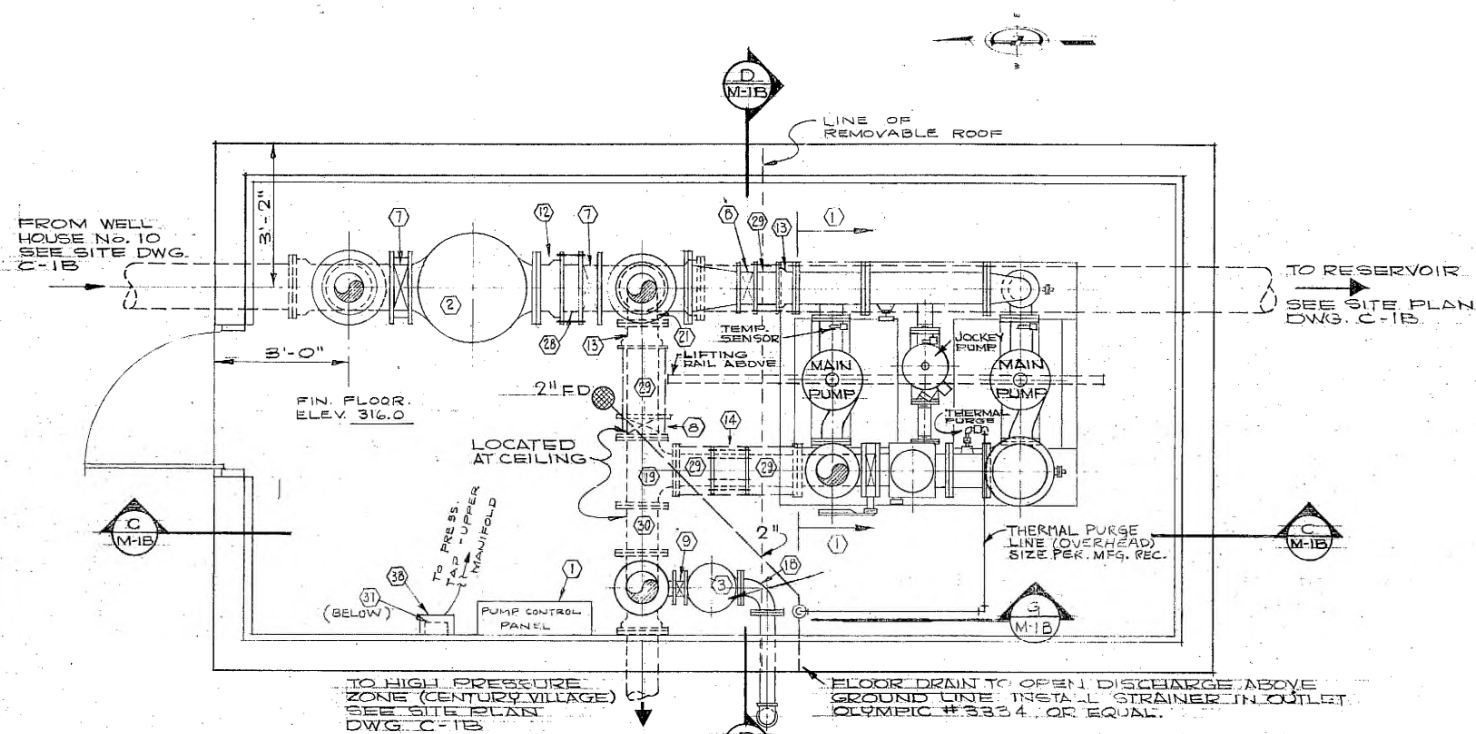


11/16/72 ADDED AS BUILT NOTATIONS - NOTED		BY	
Revision Date	Description		
ANCHORAGE WATER UTILITY PRODUCTION WELL No. 10 - WELL HOUSE & ASSOCIATED STRUCTURES			
MECHANICAL SECTION WELL HOUSE 10 SITE - A 1972 UNIT No. 12			
DRAWN BY - GRR		DATE - MAR, 1972	NO. 4128
CHECKED BY - BK		SCALE - AS NOTED	GRID FILE NO. 69 75
APPROVED:		M-2A	
DICKINSON OSWALD & PARTNERS CONSULTING ENGINEERS 800 CORDOVA STREET ANCHORAGE, ALASKA		Date R. Muesel ANCHORAGE WATER UTILITY	

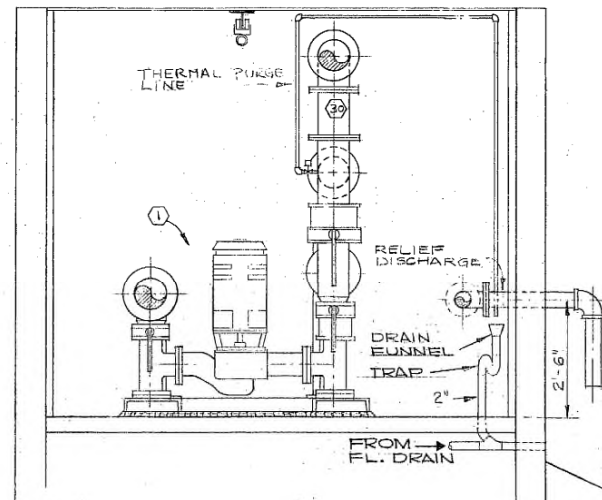
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PLAN SET NO. 3031

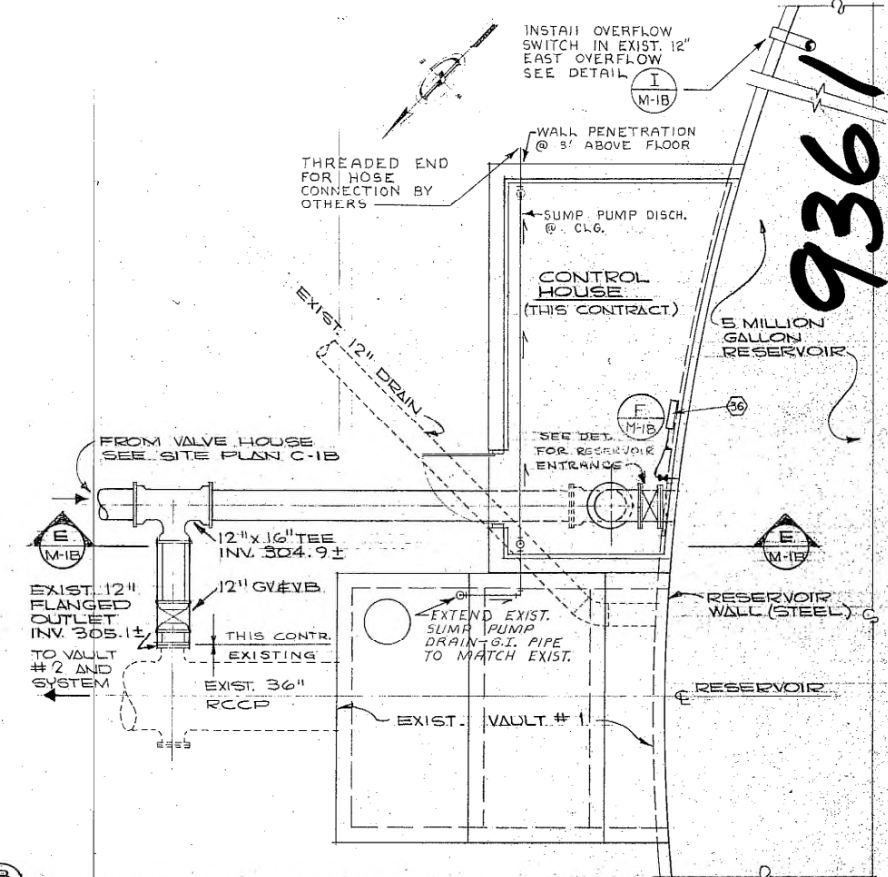
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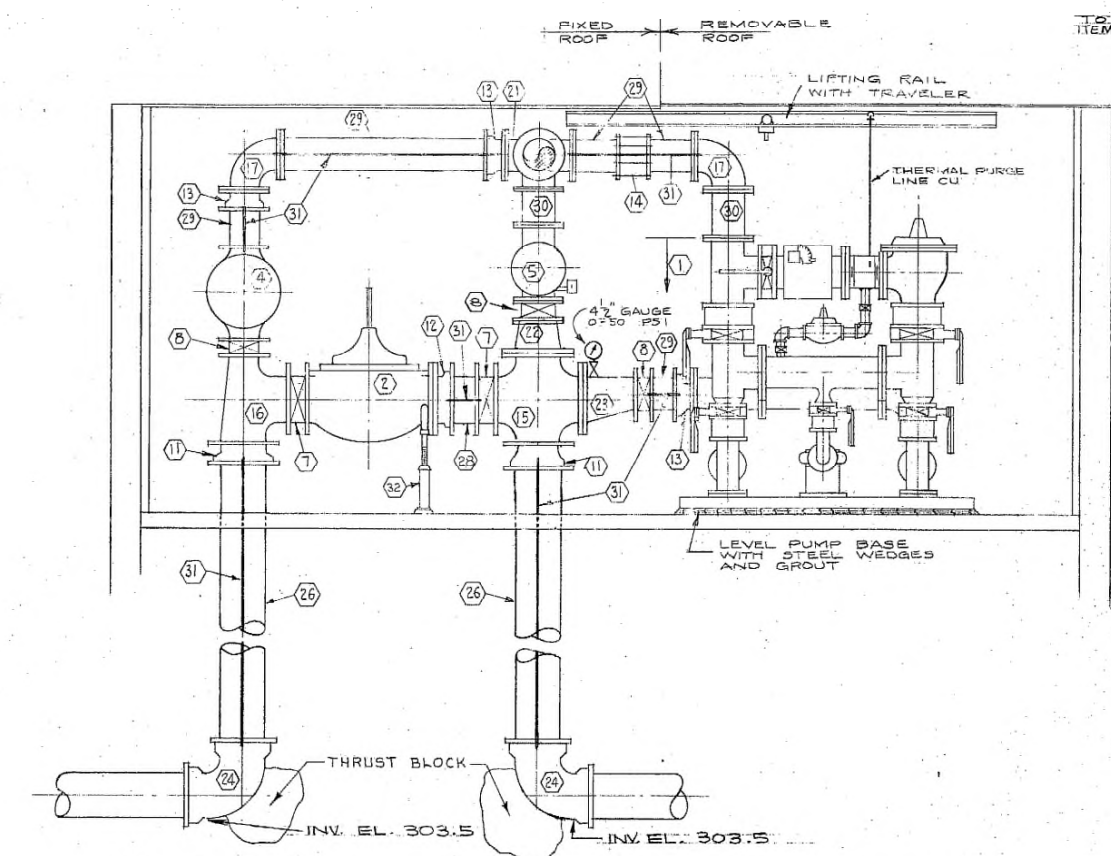
(A) MECHANICAL FLOOR PLAN - VALVE HOUSE
SCALE: 1/2" = 1'-0"



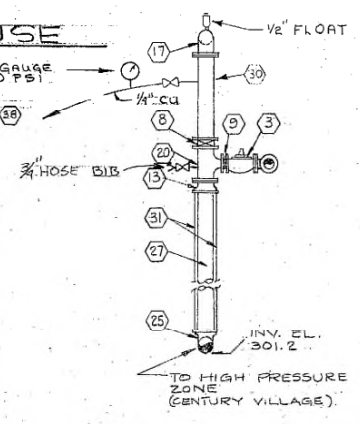
(D) SECTION BOOSTER PUMP PIPING
SCALE: 1/2" = 1'-0"



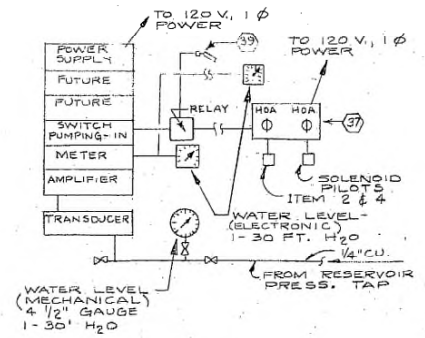
(B) MECHANICAL FLOOR PLAN - CONTROL HOUSE
SCALE: 1/4" = 1'-0"



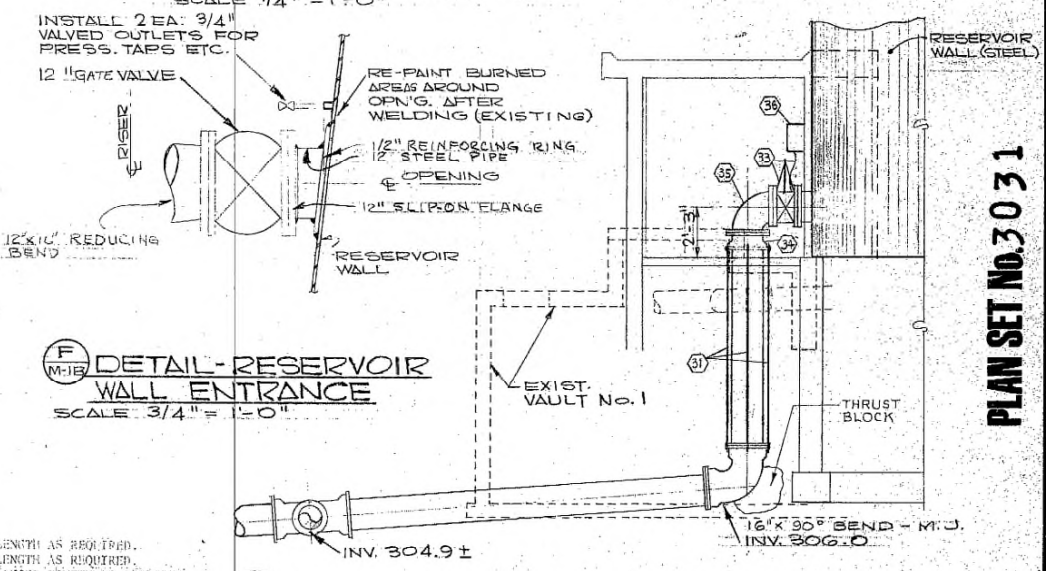
(C) SECTION - VALVE HOUSE PIPING
SCALE: 1/2" = 1'-0"



(G) SECTION RELIEF VALVE PIPING
SCALE: 1/4" = 1'-0"



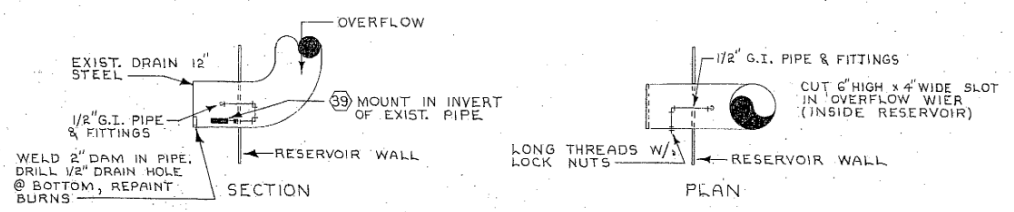
(H) CONTROL DIAGRAM
NO SCALE



(F) DETAIL - RESERVOIR WALL ENTRANCE
SCALE: 3/4" = 1'-0"

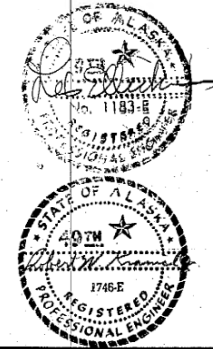
(E) SECTION - CONTROL HOUSE PIPING
SCALE: 1/4" = 1'-0"

- EQUIPMENT LIST**
- (ALL TO BE FURNISHED AND INSTALLED BY MECHANICAL--SEE SPECS.)
- BOOSTER PUMP ASSEMBLY INCLUDING CONTROL PANEL--1,500 GPM @ 125' TDH.
 - 10" COMBINATION PRESSURE SUSTAINING & SOLENOID SHUTOFF VALVE 52 PSI SET POINT.
 - 4" RELIEF VALVE, 62 PSI SET POINT.
 - 8" COMBINATION 2 STAGE PRESSURE REDUCING & PRESSURE RELIEF VALVE WITH REDUCING RANGES SOLENOID SELECTED.
 - 8" SWING CHECK VALVE W/OUTSIDE LEVER & WEIGHT, MUELLER A-0202-6-01 OR EQUAL.
 - NOT USED.
 - 10" BUTTERFLY VALVE.
 - 8" BUTTERFLY VALVE.
 - 4" BUTTERFLY VALVE.
 - NOT USED.
 - 10" M.J. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 10" M.J. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 8" M.J. X FL. ADAPTOR--SMITH BLAIR 912 OR EQUAL.
 - 8" FLEXIBLE COUPLING--SMITH BLAIR 411 OR EQUAL.
 - 10" x 12" CROSS FLANGED.
 - 12" x 8" x 10" TEE--FLANGED.
 - 8" - 90° BEND--FLANGED.
 - 4" - 90° BEND--FLANGED.
 - 8" TEE--FLANGED.
 - 8" x 4" TEE--FLANGED.
 - 8" SIDE OUTLET ELBOW--FLANGED.
 - 12" x 8" REDUCER--CONCENTRIC--FLANGED.
 - 10" x 8" REDUCER--ECCENTRIC--FLANGED.
 - 12" x 90° BEND--MECHANICAL JOINT.
 - 8" x 90° BEND--MECHANICAL JOINT.
 - 12" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 - 8" DUCTILE IRON PIPE--PLAIN ENDS--LENGTH AS REQUIRED.
 - 10" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 8" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 8" PIPE-DUCTILE IRON-PLAIN END X FLANGED-LENGTH AS REQUIRED.
 - 5/8" TIE BOLTS
 - ADJUSTABLE PIPE SUPPORT--GRINNELL FIG. 264 OR EQUAL.
 - 12" GATE VALVE--FLANGED ENDS W/HAND WHEEL.
 - 16" M.J. X FL. ADAPTOR--SMITH BLAIR 915 OR EQUAL.
 - 12" x 16" - 90° REDUCING BEND--FLANGED.
 - RESERVOIR LEVEL INDICATOR, CONTROLLER & TRANSMITTER AUTOCON AUTO-300 CLASS 1701 OR EQUAL.
 - SELECTION SWITCHES FOR 2 AND 4. SQUARE D CLASS 9061--TYPE 1552 OR EQUAL.
 - PRESSURE CONTROL--AUTOCON TANKTROL CLASS 1100 OR EQUAL.
 - OVERFLOW SWITCH--GEAS LS-2050 OR EQUAL W/RELAY AS REQUIRED.



(I) OVERFLOW DETECTOR
NO SCALE

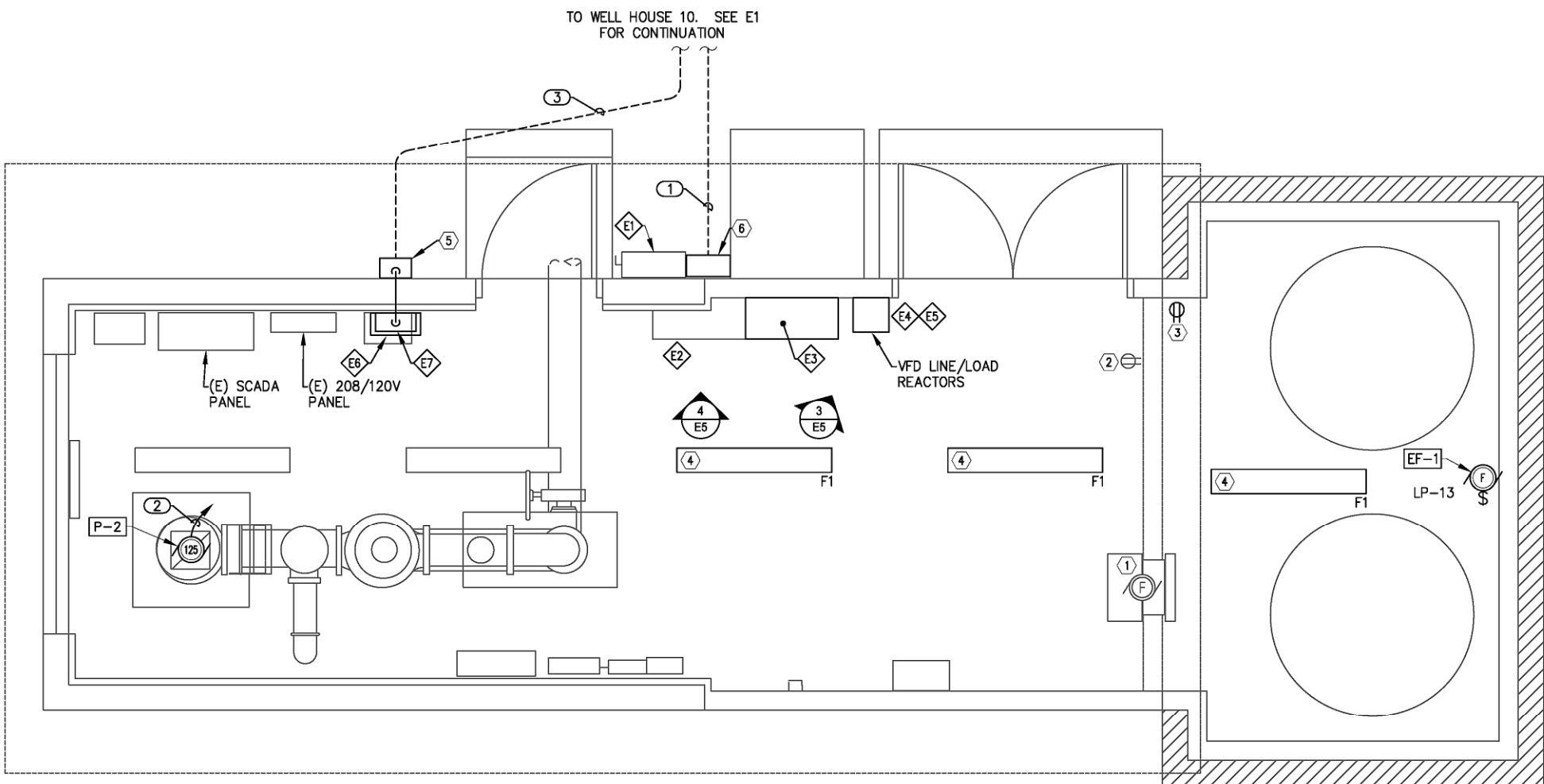
CPR OCT 72 SUT.



Revision Date	Description	By
	ANCHORAGE WATER UTILITY PRODUCTION WELL No. 10 - WELL HOUSE & ASSOCIATED STRUCTURES	
	MECHANICAL PLANS & SECTIONS VALVE HOUSE & CONTROL HOUSE SITE - B	
	1972 UNIT No. 12	
	DICKINSON OSWALD & PARTNERS CONSULTING ENGINEERS	APPROVED: <i>James R. McNeill</i>
	800 CORDOVA STREET ANCHORAGE, ALASKA	ANCHORAGE WATER UTILITY
DRAWN BY - AL	DATE - OCT. 1971	W.D. GRID FILE NO. M-1B
CHECKED BY - BK	SCALE - AS NOTED	4128 69-71

9361

PLAN SET No. 3031



- SHEET NOTES**
- ① (E) EXHAUST FAN TO BE REMOVED. RECONNECT (E) CIRCUIT TO (N) EF-1.
 - ② (E) RECEPTACLE TO BE REMOVED.
 - ③ (N) RECEPTACLE TO BE CONNECTED TO (E) CIRCUIT.
 - ④ (N) LIGHT FIXTURE TO BE CONNECTED TO (E) CIRCUIT.
 - ⑤ FIBER OPTIC PULL BOX, NEMA 4X, WALL MOUNTED. SIZE SHALL BE PER CABLE MANUFACTURER'S RECOMMENDATION (TYP. 2).
 - ⑥ FEEDER JUNCTION BOX, NEMA 4X, WALL MOUNTED. PROVIDE WATERPROOF BUTT-SPLICING OF WELL HOUSE 11 FEEDER CONDUCTORS.

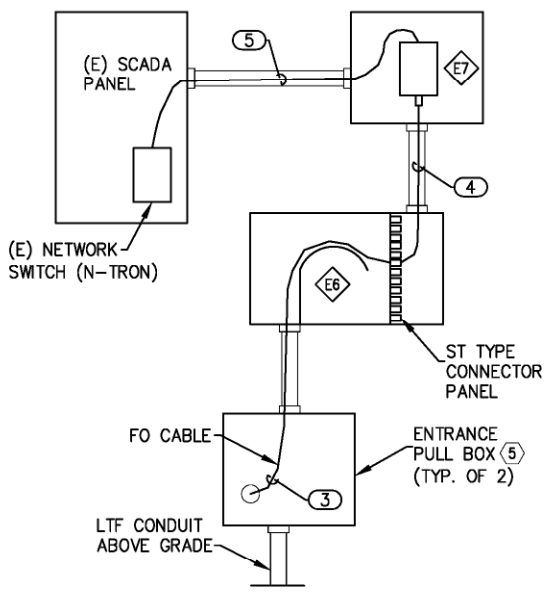
EQUIPMENT CONNECTION SCHEDULE							
TAG ID	LOAD					CIRCUIT SIZE	NOTES
	KVA	HP	FLA	V	PH		
EF-1				120	1	1/2C", (2) #12 AWG, (1) #12 AWG (G)	
P-2		125	142	480	3	SEE WELL 11 POWER ONE-LINE	

COMPONENT SCHEDULE		
ITEM NO.	DESCRIPTION	COMMENTS
E1	(E) 400A, 480V, 3Ø, 4W MAIN FUSED DISCONNECT SWITCH	SIEMENS NO. HF365R
E2	(E) 600A, 480Y/277V, 3Ø, 4W MOTOR CONTROL CENTER (MCC)	ALLEN-BRADLEY REF. NO. 0113347/22
E3	(E) 125HP RATED, 480V, 3Ø, VARIABLE FREQUENCY DRIVE (VFD)	ALLEN-BRADLEY REF. NO. 0113347/22
E4	(E) VFD LINE REACTOR	REPLACE WITH (N) LINE REACTOR.
E5	(E) VFD LOAD REACTOR	DEMOLISH AND REMOVE.
E6	FIBER OPTIC CABLE ENTRANCE HOUSING. SEE DETAIL 2, SHEET E4.	CORNING PWH. SEE SPECIFICATIONS. TERMINATE ALL (12) FIBERS ON CONNECTOR PANEL.
E7	MEDIA CONVERTER IN HINGED NEMA 4X ENCLOSURE. SEE DETAIL 2, SHEET E4.	SEE SPECIFICATIONS.

CIRCUIT SCHEDULE	
TAG	DESCRIPTION
①	2EA: 3"C, (4) #350KCMIL, (1) #1 AWG GND
②	SEE WELL 11 POWER ONE-LINE
③	6-PAIR (12-STRAND) SINGLE-MODE, DIRECT BURIAL, ARMORED FIBER OPTIC CABLE
④	1"C, 1-PAIR, SINGLE-MODE FIBER OPTIC PATCH CABLE, ST TYPE CONNECTORS
⑤	1"C, CAT 6 CU PATCH CABLE

FIXTURE SCHEDULE					
TYPE	LAMP SIZE	TYPE	HEIGHT	DESCRIPTION	NOTES
F1	2-32W FLUOR	CEILING PENDANT		FLUORESCENT, 2-LAMP LITHONIA #AE10-2-32-MVOLT	

1 WELL HOUSE 11 ELECTRICAL FLOOR PLAN
 E4 SCALE: 1/2"=1'-0"
 0 2 4



2 FIBER OPTIC CABLE ENTRANCE ELEVATION
 E4 SCALE: 1/2"=1'-0"
 0 2 4

Design Drawing Only

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		0" = 1"		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	DRAWN BY	DATE	CHECKED BY	REV	DATE	DESCRIPTION	BY	DATE	DESCRIPTION
BASE						TELEPHONE			
TOPOGRAPHY						ELECTRIC			
PROFILE						CABLE TV			
SANITARY SEWER						TRAFFIC SIGNAL			
STORM SEWER						DESIGN			
WATER						QUANTITIES			
GAS						MUN. FINAL CHECK			

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

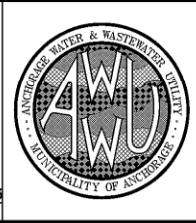
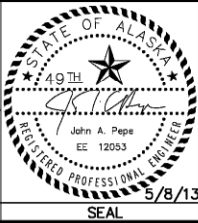
1. DATA PROVIDED BY: _____
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: _____
 BY: _____ TITLE: _____
 DATE: _____

2. DATA TRANSFERRED BY: _____
 COMPANY: _____
 DATE: _____

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: _____
 COMPANY: _____
 BY: _____ TITLE: _____
 DATE: _____

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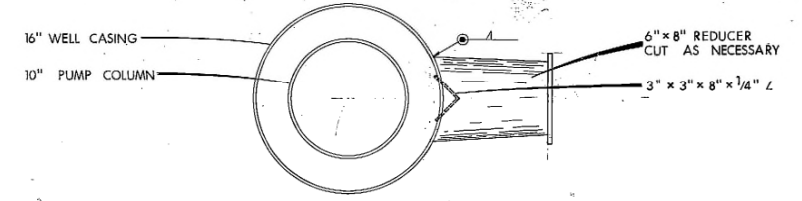
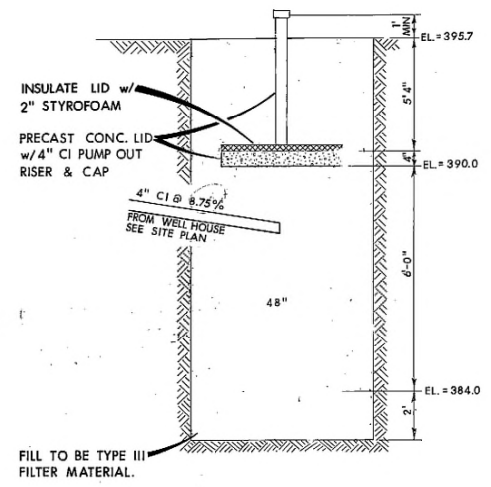
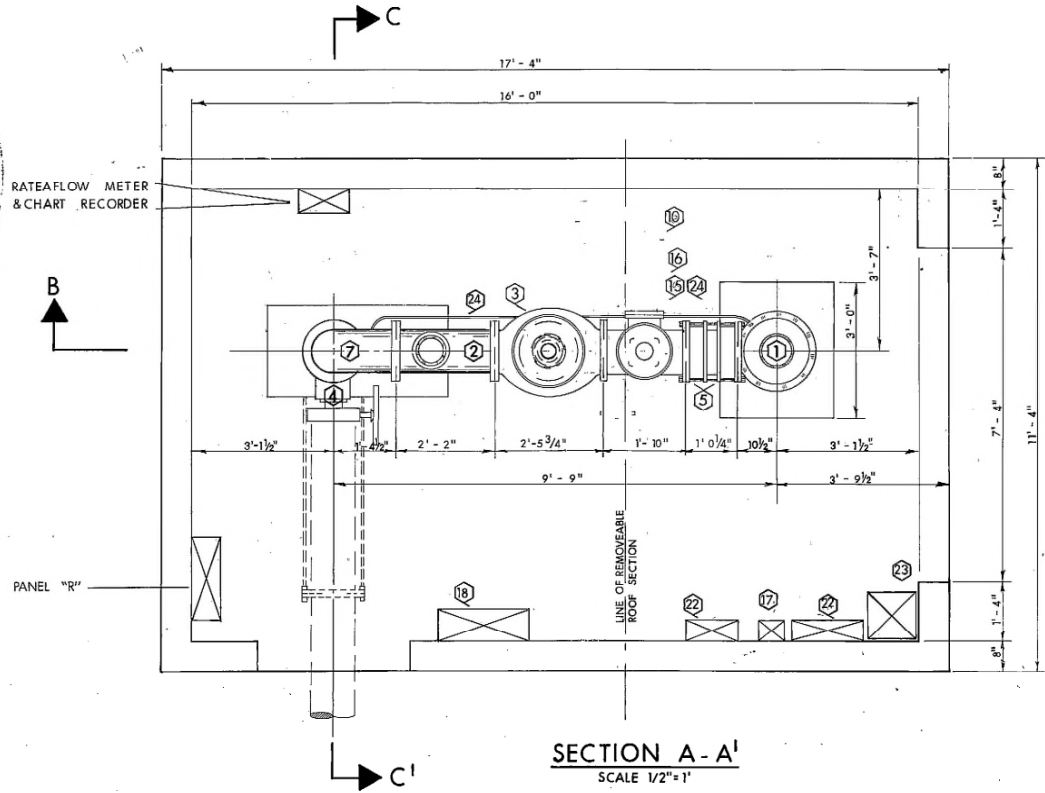
MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY		
WELLS 10 AND 11 CAPACITY UPGRADES		DWG
WELL 11 ELECTRICAL FLOOR PLAN		E4
HORIZ SCALE: NA VERT SCALE: NA	DATE: MAY 2013	GRID: SW 1941
PROJ. ID.: 0000004919		SHEET 25 of 26

8242

EQUIPMENT DESCRIPTION

1. DEEP-WELL TURBINE PUMP - 1500 GPM & 180 FT. TDH, 480V, 3 PHASE
2. FLOW METER - SPARLING CF 115*
3. 10" CLA-VALVE TYPE 81-C*
4. 10" MUELLER* BUTTERFLY VALVE, FLANGED ENDS, SHORT BODY WITH OPERATOR KENNEDY
5. 10" SMITH BLAIR 912*, FLANGED PLAIN-END COUPLING ADAPTER
6. 10" D.I. PIPE CUT TO REQUIRED LENGTH
7. 10" D.I. 90° LONG-RADIUS BEND FL x FL
8. 10" x 6" C.I. TEE, FL x FL
9. 6" x 8" FABRICATED STEEL REDUCER (SEE DETAIL BELOW)
10. 6" SCHEDULE 40 STEEL 90° BEND
11. 10" D.I. PIPE, M.J. x P.E., LENGTHED AS REQUIRED
12. 10" 90° BEND, M.J. w/TIE RODS AS SHOWN
13. 6" MUELLER* GATE VALVE w/OPERATOR
14. 6" CLA-VALVE TYPE 2061P-2A*
15. 6" SCHEDULE 40 STEEL PIPE BLOW-OFF ASSY.
16. 6" SMITH-BLAIR 411 COUPLING, P.E. x P.E.
17. CLASS 36 AUTO-TRANSFORMER STARTER
18. DRY TYPE TRANSFORMER
19. 4"x3"x13" CLOW F-3942* C.I. BELL TRAP w/LOOSE STRAINER
20. 4" C.I. 45° BELL & BELL BENDS
21. ADJUSTABLE PIPE SUPPORT CLOW F-1608*
22. CONTROL PANEL "T2" (SEE BELOW AND SHT. 6/7)
23. LOW-WATER SHUT-OFF, B & W, LH 120 LIQUID LEVEL CONTROL (ALSO 23-A)
24. 1/8" COPPER TUBING PRE-LUBE SYSTEM (SEE NOTE 2)
25. WATER LEVEL GAUGE & HAND PUMP, FITTINGS, ETC. ATTACHED TO 1/8" G.I. AIR LINE (NOT SHOWN)

* OR EQUAL



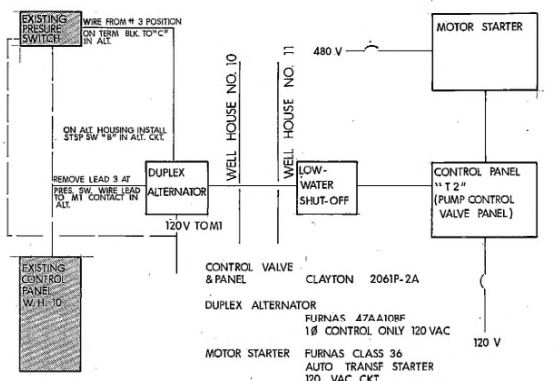
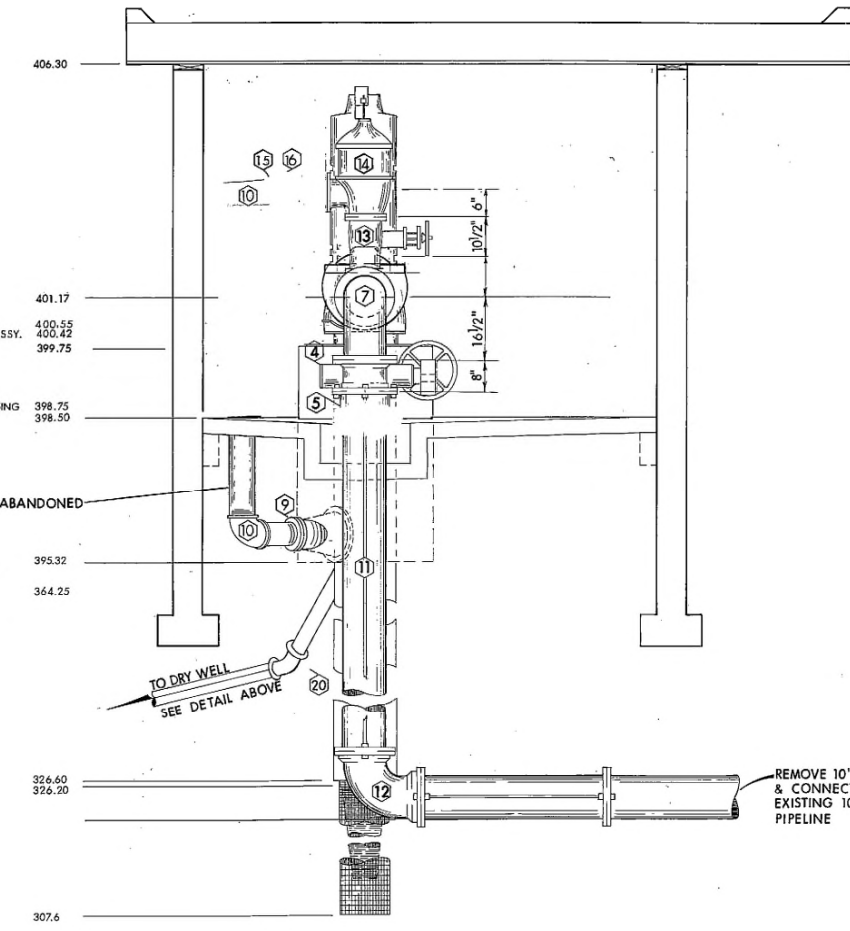
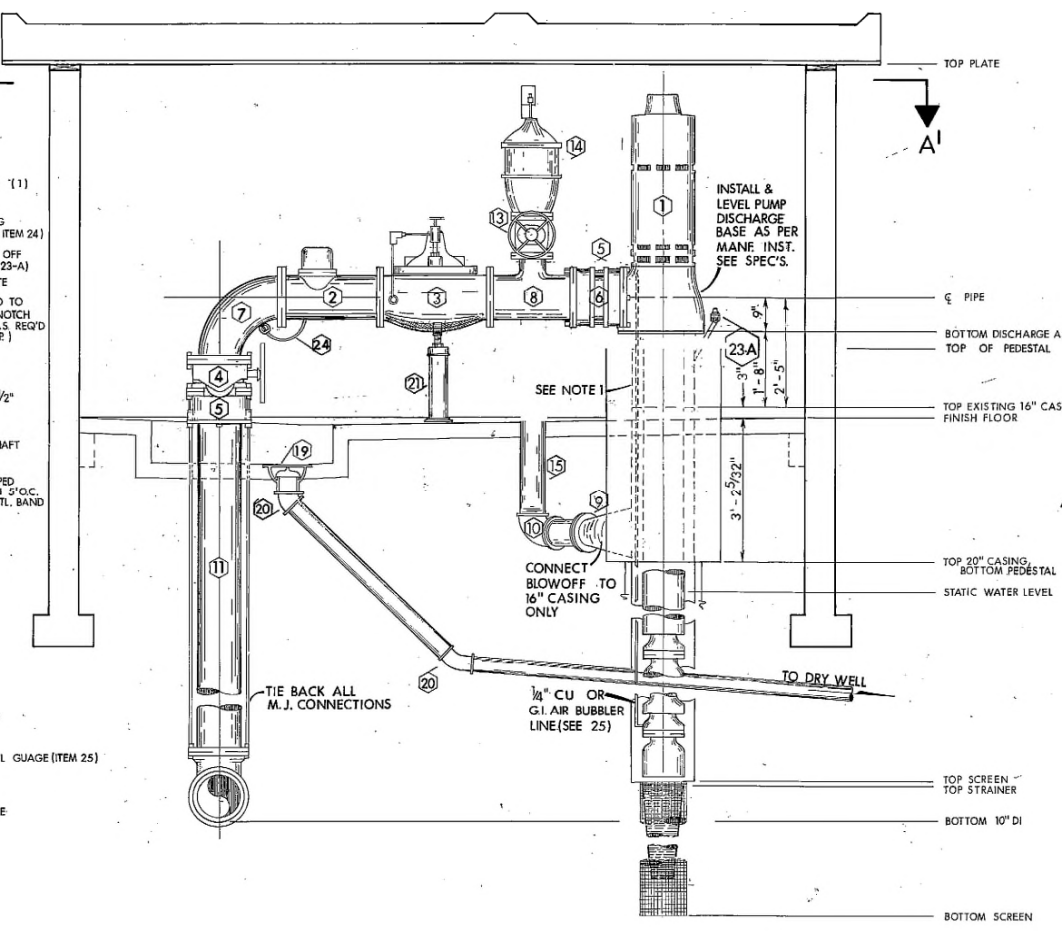
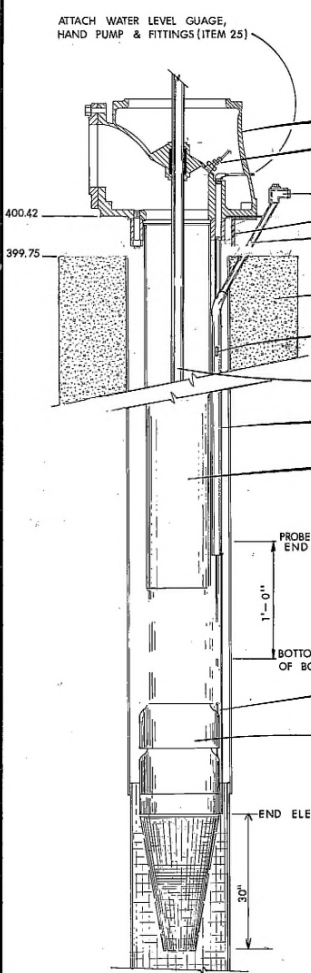
NOTE:

FABRICATE 6" x 8" REDUCER SO AS TO PROHIBIT DIRECT FLOW OF WATER UNDER PRESSURE FROM STRIKING 10" PUMP COLUMN (INSIDE 16") AT OR NEAR A PERPENDICULAR ANGLE. REDUCER SHALL BE CUT AND WELDED TO 16" STEEL PRIOR TO POURING CONCRETE PEDESTAL. (i.e. WELD 3" x 3" x 1/4" x 8" L VERTICAL INSIDE 8" END OF 6" x 8" REDUCER TO SERVE AS A DEFLECTOR.)

6" x 8" REDUCER BLOW OFF DETAIL
1 1/2" = 1'-0"

GENERAL NOTES:

1. THE ADDITIONAL 100 L.F. OF 16" STL. WELL CASING SHALL BE WELDED TO THE EXISTING 16" STL. CASING TO ATTAIN THE REQUIRED ELEVATION.
2. PRELUBE SYSTEM SHALL CONSIST OF 1/8" CU INTO SPIGOT ON DISCHARGE HEAD STUFFING BOX. FLOW SHALL BE REGULATED BY THE CORR. STOP ON THE LONG RADIUS BEND (7).



ASBUILT

ONE LINE CONTROL DIAGRAM

GRAPHIC SCALE										
FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.
DESIGN	1	3/15/76	Altered Equipment List - Items 16,17,18,22-26 & The Drawings There of.	FEC						
STAKING										
ASBUILT		4/1/77		GG						
CONTRACTOR										
INSPECTOR										
CONSTRUCTION RECORD										

ANCHORAGE WATER UTILITY

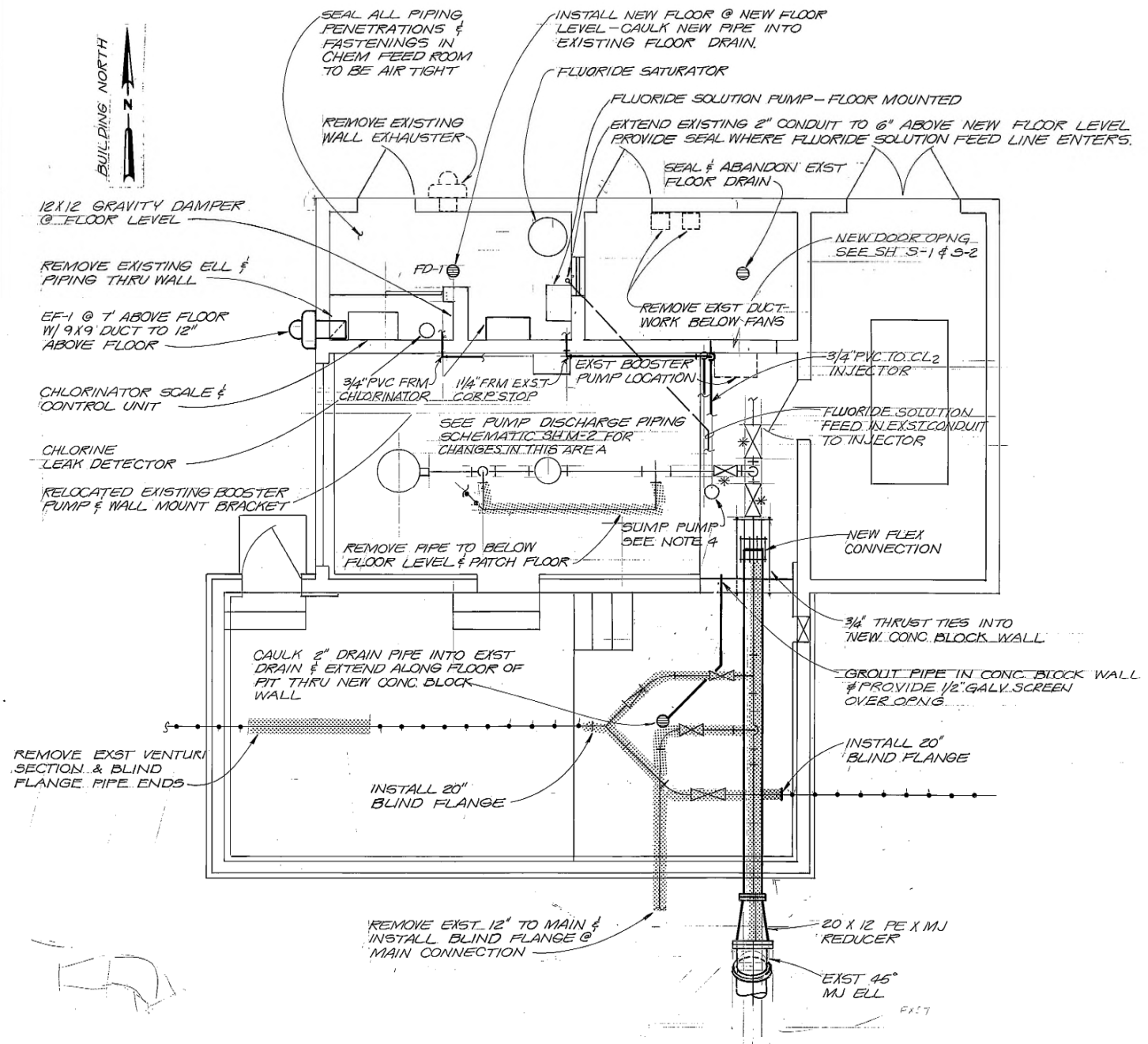
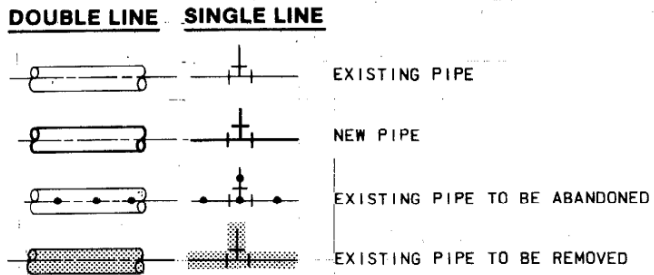
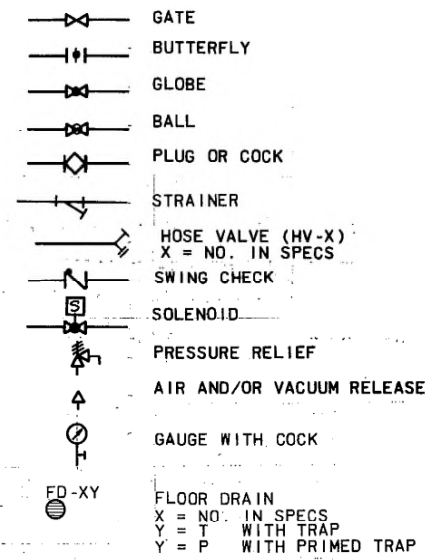
1975 WATER IMPROVEMENTS UNIT NO. 1
WELL HOUSE NO. 11
MECHANICAL PLANS & DETAILS

1941-4

NOTES:

- CONTRACTOR SHALL REMOVE AND INSPECT ALL EXISTING VALVES INTENDED FOR RE-USE, REPORT CONDITION TO THE ENGINEER, REBUILD AS DIRECTED AND REINSTALL.
- CONTRACTOR SHALL CLEAN AND FLUSH ALL FLOOR DRAIN LINES AND THE MANHOLE AT NORTHWEST CORNER OF BUILDING TO INSURE FREE DRAINAGE.
- SEE SHT C-2 FOR THRUST BLOCK NOTES AND DETAILS FOR BURIED PIPE.
- INSTALL SUMP PUMP AT BOTTOM OF PIT, PACO PIP 700 30 GPM @ 10' TDH 1/3 HP 115V, 1Ø WITH INTEGRAL FLOAT SWITCH. PROVIDE DISCHARGE CHECK VALVE & PIPING ALONG PUMP ROOM FLOOR TO EXST FLOOR DRAIN BELOW CONTROL VALVE.

LEGEND AND SYMBOLS



MECHANICAL FLOOR PLAN - WELL HOUSE NO. 9
1/4" = 1'-0"



CH2M HILL	DSGN	Kevin L. Hansen					
	DR	CHAD FILER					
	CHK	Kevin L. Hansen					
	APVB						
	NO.	DATE	REVISION	BY	APVD		

VERIFY SCALES
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"
IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER FACILITY
ANCHORAGE, ALASKA

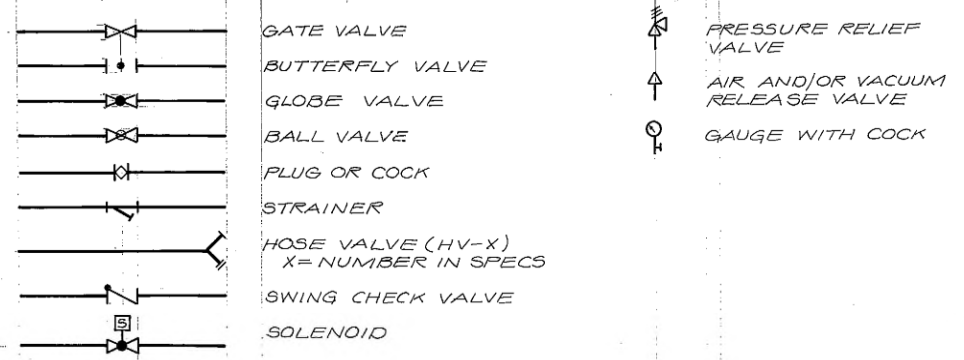
SCHEDULE I
WELL HOUSE NO. 9
MECHANICAL PLAN & LEGEND

SHEET	M-1
DATE	JULY, 1983
PROJ. NO.	K16888-A130

NOTE:
SEE CHEMICAL FEED ROOM SCHEMATIC THIS SHEET FOR PIPING DETAILS

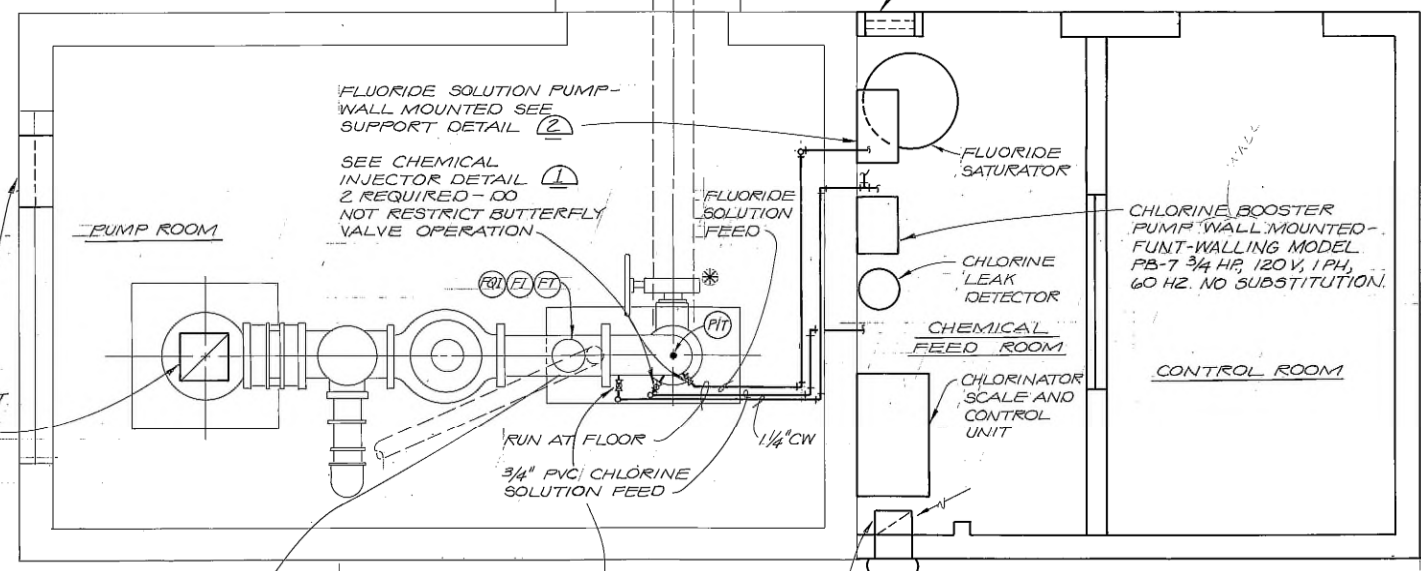
* CONTRACTOR SHALL REMOVE AND INSPECT BUTTERFLY VALVE, REPORT CONDITION TO THE ENGINEER, REBUILD AS DIRECTED AND REINSTALL.

LEGEND AND SYMBOLS



18 x 18 LOUVER WITH BIRDSCREEN AND MOTORIZED DAMPER AT TOP OF REMOVEABLE WALL PANEL

12 x 12 OPENING TO EF-2 WITH BACKDRAFT DAMPER ON REMOVEABLE HATCH



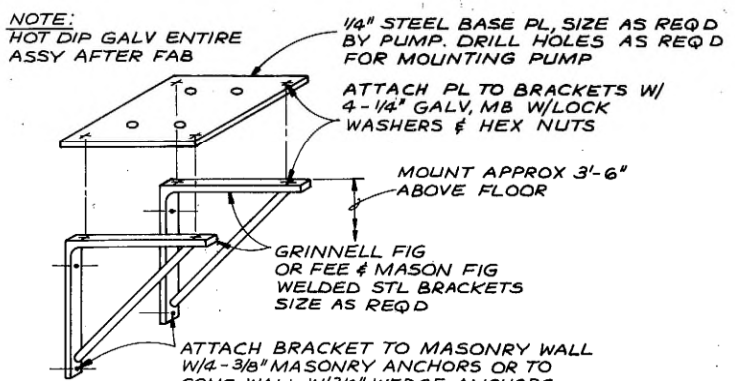
REMOVE, RECONDITION/REINSTALL EXISTING 10" MUESCO METER - REFIT WITH NEW INDICATOR (0-2000 GPM), TOTALIZER (6 DIGIT), MUESCO MODEL ROF-101 AND PULSE RATE TRANSMITTER MUESCO MODEL PRT-1

INSTALL 1/4" CORP STOP IN ELL AS CLOSE TO FLANGE AS POSSIBLE

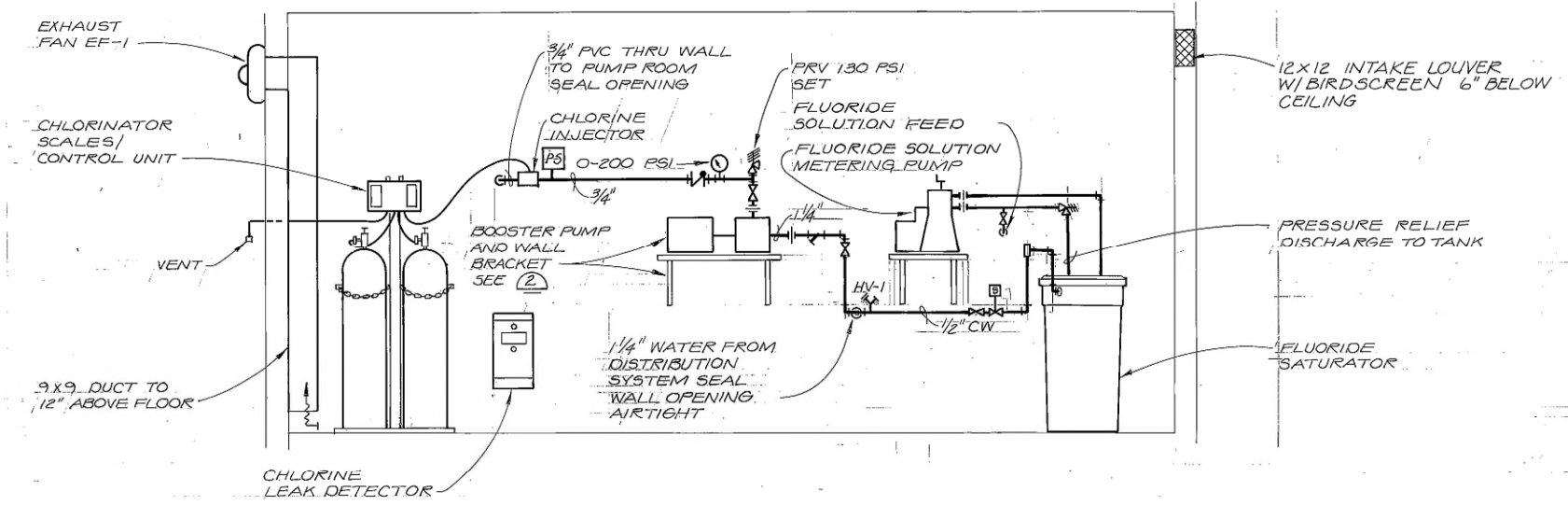
9x9 DUCT TO 12" ABOVE FLOOR

EF-1 MOUNTED 7' ABOVE FLOOR 1/25 HP

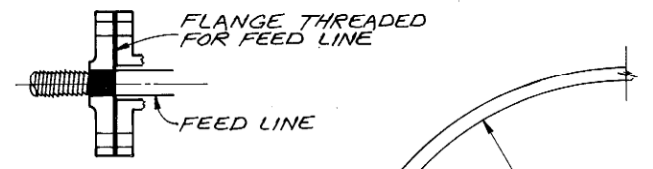
MECHANICAL PLAN
1/2" = 1'-0"



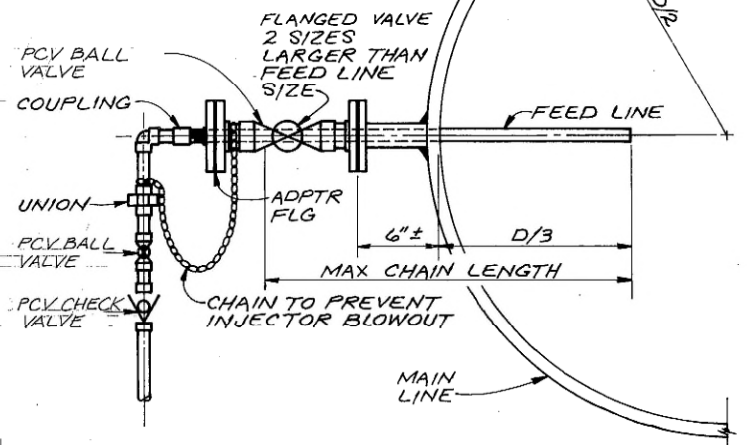
SMALL PUMP SUPPORT (2)
NTS



CHEMICAL FEED ROOM SCHEMATIC
NTS



ADAPTER FLANGE
NTS



CHEMICAL INJECTOR (1)
NTS



DSGN K.L. Hansen					
DR C.D. FILER					
CHK C.W. [Signature]					
APVD F.J. DAMRON					
NO.	DATE	REVISION	BY	APVD	

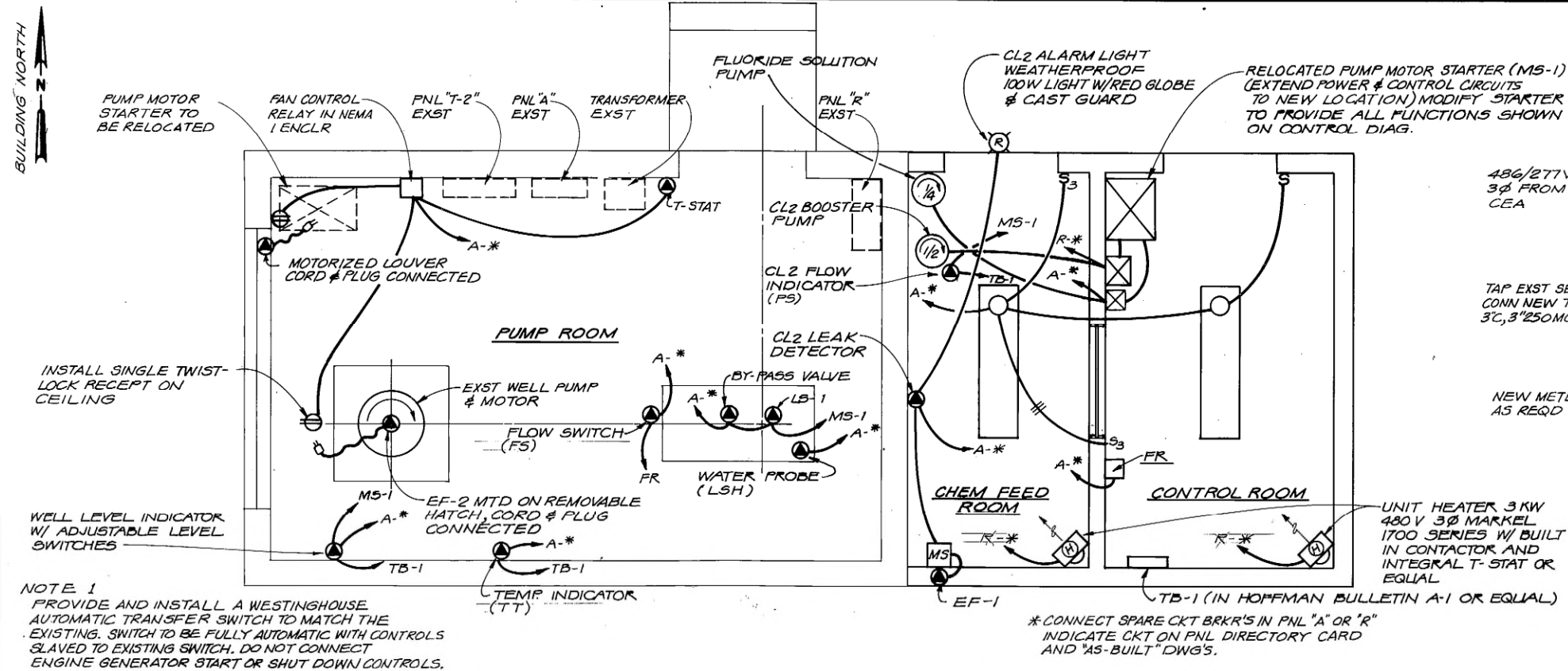
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WATER & WASTEWATER FACILITY
ANCHORAGE, ALASKA

WELLHOUSE NO. 11
MECHANICAL PLAN AND DETAILS

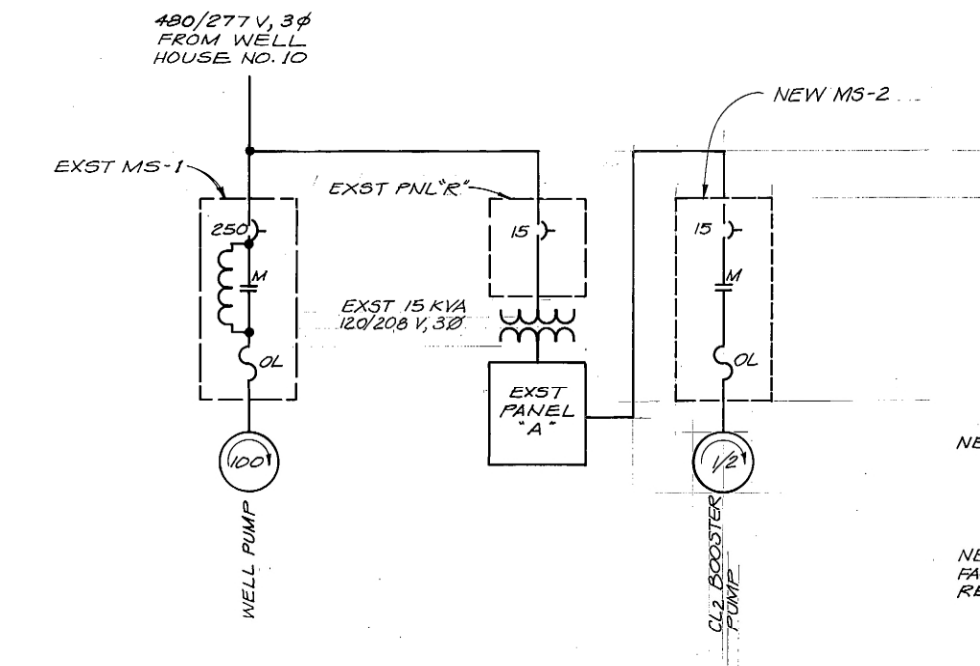
SHEET	3 of 6
DWG NO.	M-1
DATE	MAY 1985
PROJ NO.	K16888.A2



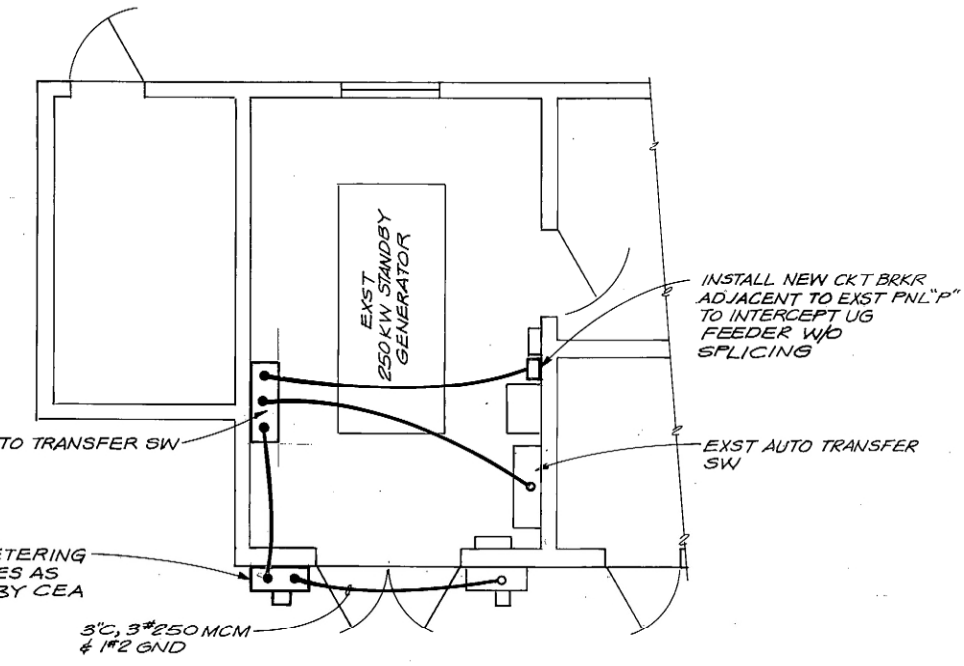
ONE LINE DIAG. - MAIN POWER SUPPLY
NTS



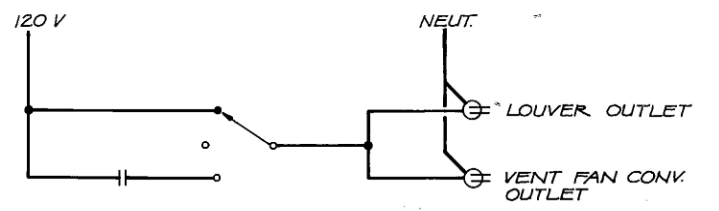
WELL HOUSE NO. 11 - POWER & LIGHTING PLAN
1/2" = 1'-0"



ONE LINE DIAG. - WELL HOUSE NO. 11
NTS



PARTIAL PLAN WELL HOUSE NO. 10
NTS



ELEMENTARY DIAGRAM - PUMP RM. VENT FAN
NTS



CH2M HILL
 DSGN: M.J.B.
 DR: C.D. FILER
 CHK: C.W. WILSON
 APVD: F.J. DAMRON

NO.	DATE	REVISION	BY	APVD

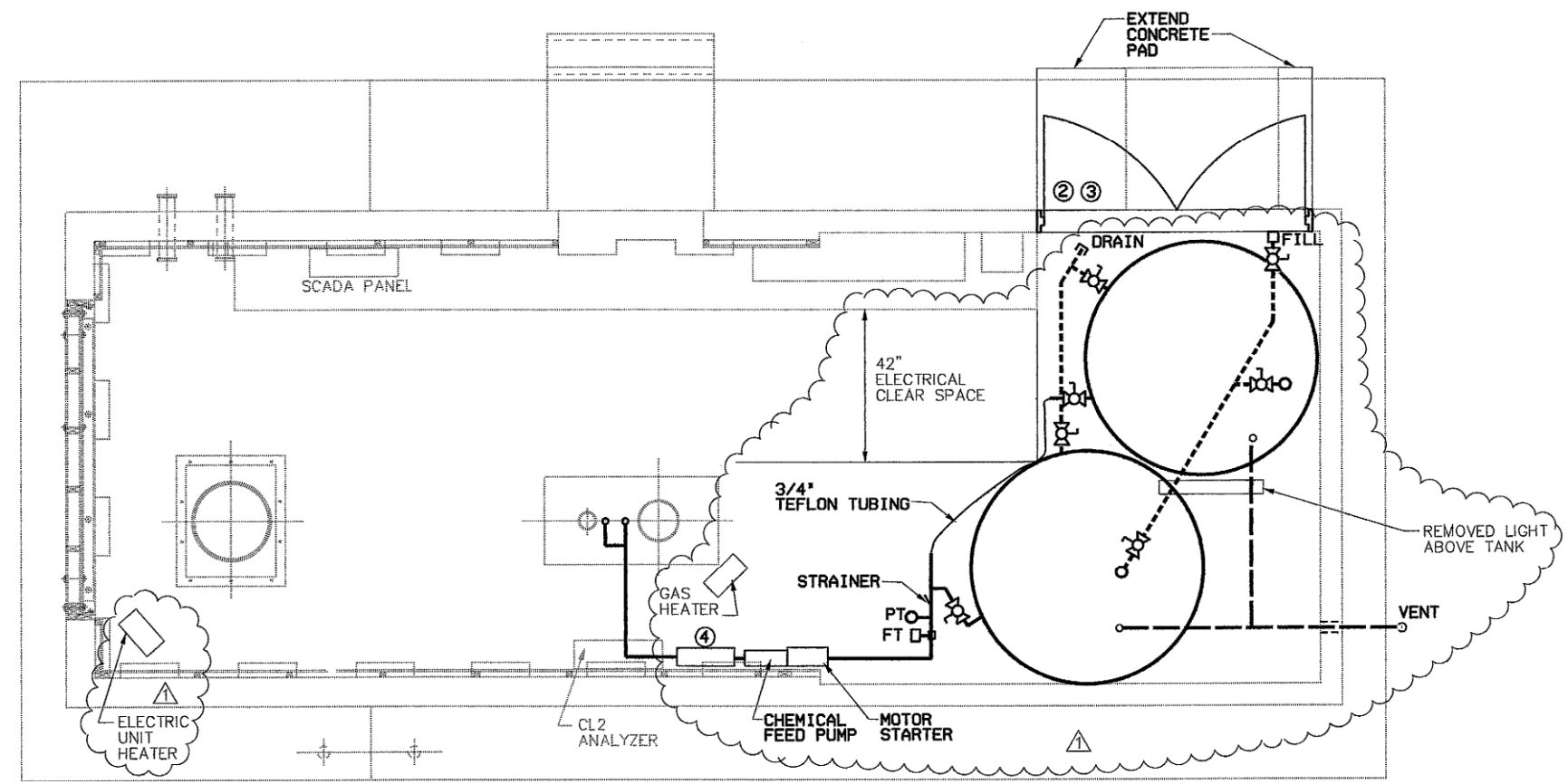
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 WATER & WASTEWATER FACILITY
 ANCHORAGE, ALASKA

WELLHOUSE NO. 11
ELECTRICAL PLAN AND DETAILS

SHEET	4 of 6
DWG NO.	E-1
DATE	MAY 1985
PROJ NO.	K16888.A2



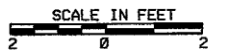
LEGEND:

	LIQUID FEED, 2" SCH 80 PVC
	FILL AND DRAIN, 2" SCH 80 PVC
	VENT, 2" SCH 80 PVC
LT	LEVEL TRANSMITTER
FT	FLOW TRANSMITTER

- NOTES:**
- TANK DIA. 5'-4", 6'-7" HIGH, CAPACITY 905 GAL EACH TANK. TANKS SHALL BE POLY PROCESSING HDPE, OR EQUAL, AND SHALL BE EQUIPPED WITH:
 - 2" IMFO FOR FULL DRAIN WITH FLEXIBLE CONNECTION
 - 2" HYPOCHLORITE SUPPLY FITTING ON LOWER SIDEWALL WITH DROP TUBE AND FLEXIBLE CONNECTION
 - THREADED COVER
 - 2" VENT FITTING ON TOP
 - 2" FILL FITTING ON TOP
 - IMFO PAD 4"
 - INSTALL NEW 6'-0" X 6'-8" HT DOUBLE LEAF DOOR AND FRAME.
 - INSTALL (1) NEW INTRUSION SWITCH AND EXISTING INTRUSION SWITCH ON NEW DOORS AND INCORPORATE INTO INTRUSION SWITCH CIRCUIT.
 - INSTALL AUTOMATIC FEED VALVE, HYDRO SERIES 110 OMNI-VALVE WITH SERIES LF LIQUID CHEMICAL FEED SYSTEM, OR EQUAL.

EQUIPMENT IDENTIFICATION

DESCRIPTION	LOCATION	EQUIP. #
HYPO. TANK 1	W011 CHEM TANK	1434
HYPO. TANK 2	W011 CHEM TANK	1435
AUTOMATIC FEED VALVE	W011 CHEM FEED	1438
FLOW TRANSMITTER	W011 CHEM INST	1437
LEVEL TRANSMITTER	W011 CHEM INST	1436



FILE: D:\Cad\Proj\AWWU\WellDisinfection\10-11-12\Asbt - Sept. 2009\SH1 06.DGN
TIME: 15-DEC-2009 14:50
JOB No. 1851209.020101

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	DRAWN BY	CHECKED BY	DATE	REV	DATE	DESCRIPTION	BY
BASE TOPOGRAPHY							
PROFILE							
SANITARY SEWER							
STORM SEWER							
WATER							
GAS							
PLAN CHECK				REVISIONS			

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: Frank Corp
This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: Frank Corp
BY: Stan A. Allen TITLE: Project Mgr.
DATE: 12/3/09

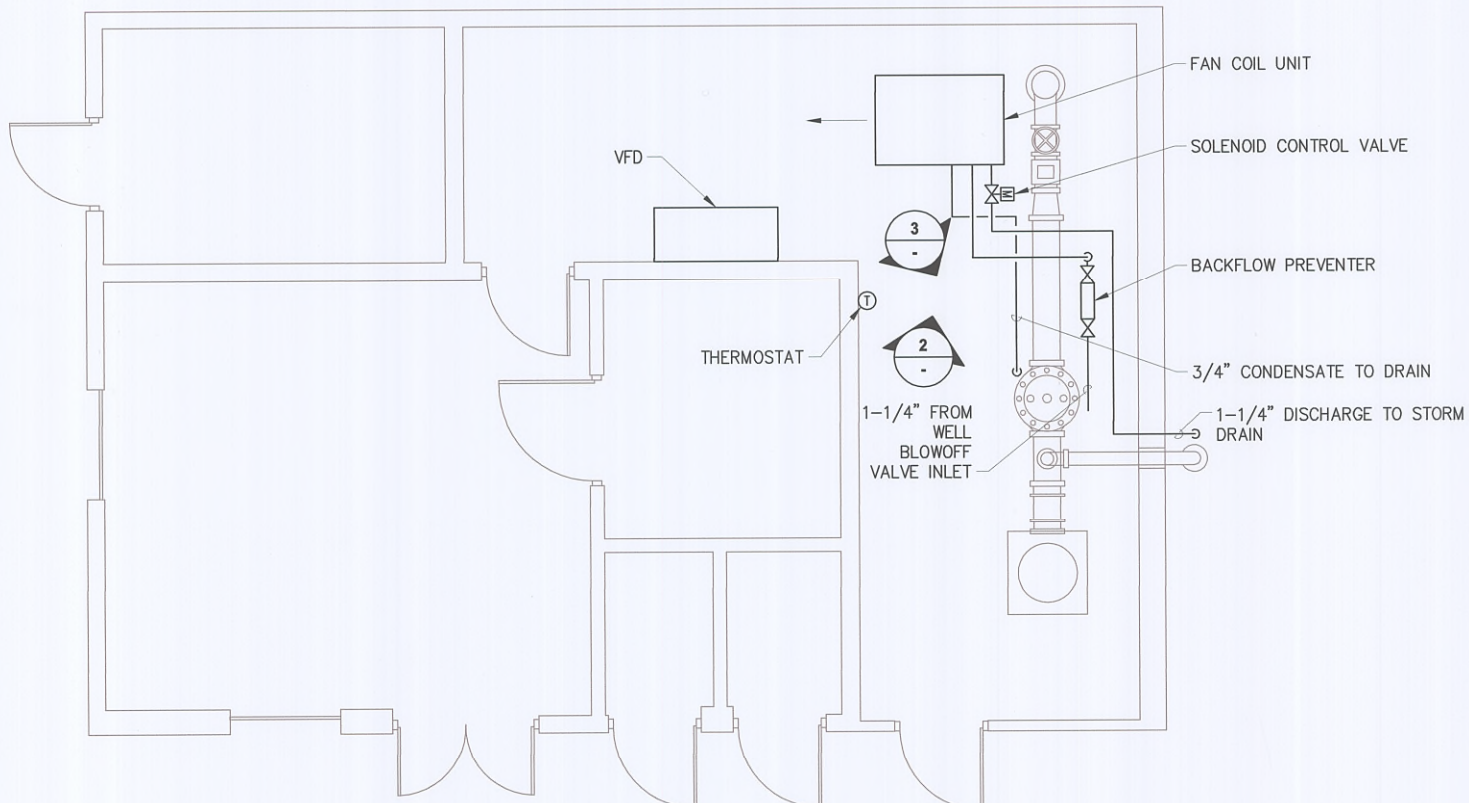
2. DATA TRANSFERRED BY: LF
COMPANY: MWH
DATE: SEPTEMBER 2009

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: Todd Carroll
COMPANY: AWWU
BY: Todd Carroll TITLE: Project Manager
DATE: December 22, 2009

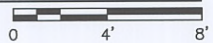
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 MWH Anchorage, Alaska CONSULTANT	 49th Brian D. Mitchell CE-7437 REGISTERED PROFESSIONAL ENGINEER	 ANCHORAGE WATER & WASTEWATER UTILITY WELL ONSITE DISINFECTION	MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY	
			WELL NO. 11 FLOOR PLAN	
HORZ SCALE: AS SHOWN DATE: APRIL 2008 GRID: SW1941 SHEET 6 of 14		PROJ. ID.: 000003442		

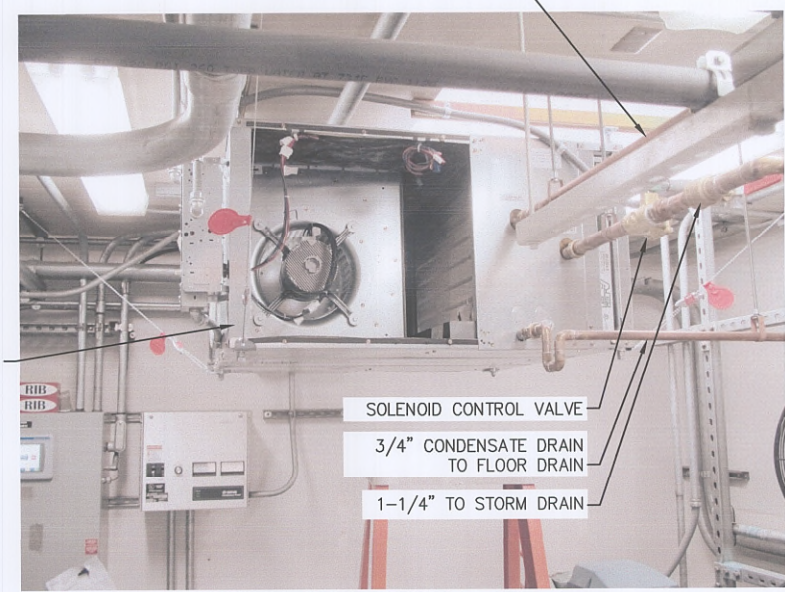


1 FLOOR PLAN
SCALE: 1/4" = 1'-0"

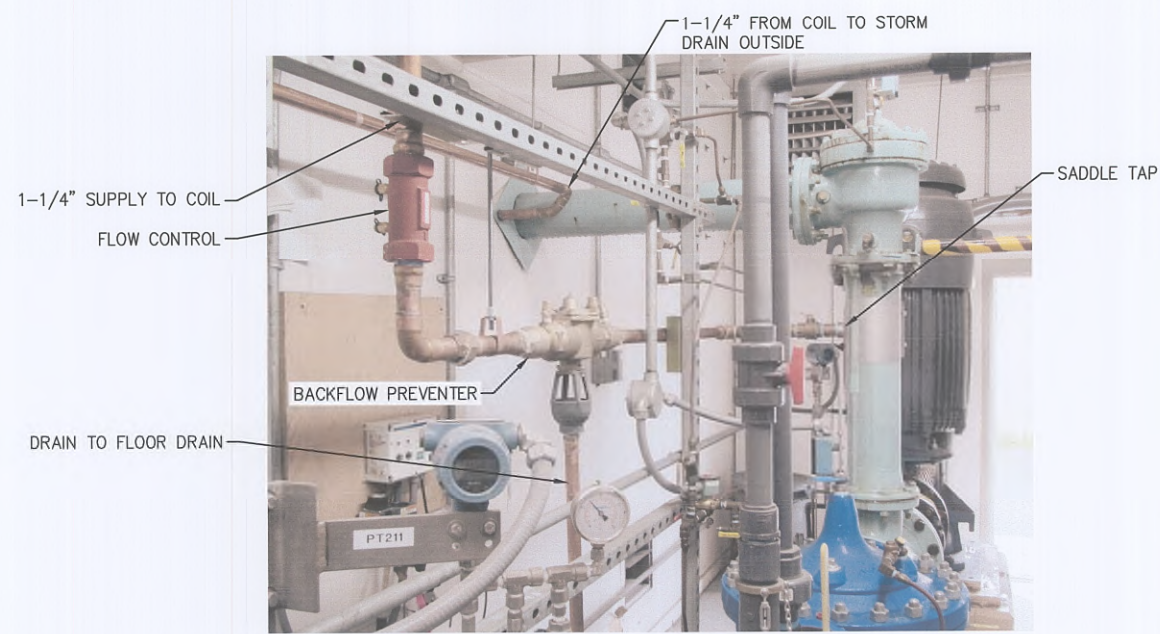


SHEET NOTES

- 1 PROVIDE A FAN COIL UNIT USING WATER FROM THE DISTRIBUTION SYSTEM TO COOL THE WELLHOUSE. UNIT SHALL BE CONFIGURED WITH A FAN, WATER COIL, AND INLET FILTER TO CIRCULATE AIR AND PROVIDE APPROXIMATELY 75,000 BTUH COOLING USING 40F ENTERING WATER. UNIT SHALL BE MOUNTED AT CEILING LEVEL WITH DISCHARGE DIRECTED TOWARD THE VFD LOCATION. THE INLET SHALL BE OPEN TO THE ROOM WITH 2-INCH THICKNESS MERV 8 FILTER. CASING SHALL BE INSULATED WITH SOLID LINER, AND STAINLESS STEEL COIL DRIP PAN. PROVIDE SPRING ISOLATED HANGERS TO SUPPORT UNIT. UNIT IS TRANE MODEL BCHD054 FAN COIL UNIT WITH FILTER RACK AND FILTERS, 1650 CFM, 1/2-INCH EXTERNAL STATIC PRESSURE, 1 HP 208V SINGLE PHASE MOTOR, 8-ROW WATER COIL. PROVIDE LOCAL DISCONNECT AND MOTOR CONTACTOR MOUNTED ON THE FAN-COIL UNIT.
- 2 CONNECT A 1-1/4" WATER SUPPLY TO THE BLOW-OFF VALVE INLET RISER PIPING WITH A WELD-IN TAP, ISOLATION VALVE, STRAINER, AND REDUCED PRESSURE BACKFLOW PREVENTER, FLOW CONTROL VALVE (GRISWOLD MODEL 3538 - 8-128 PSI CONTROL RANGE, 14.0 GPM) AND FIELD ROUTE TO THE COIL INLET AS SHOWN ON THE ATTACHED PHOTOS. FIELD ROUTE 1-1/4" PIPING FROM COIL OUTLET PIPING THROUGH A SLOW CLOSING NORMALLY CLOSED SOLENOID CONTROL VALVE (ASCO 8221G9 OR EQUAL) AND ISOLATION VALVE THROUGH THE WALL ADJACENT TO THE DISCHARGE PIPING OF THE BLOW-OFF VALVE, AND DOWN TO THE INLET OF THE STORM DRAIN WITH A MINIMUM 3" AIR GAP ABOVE THE TOP OF THE INLET. CONNECT 3/4" CONDENSATE DRAIN PIPING TO THE FAN COIL UNIT DRAIN CONNECTION AND FIELD ROUTE TO DISCHARGE AT THE FLOOR DRAIN. PROVIDE A DRAIN FUNNEL ON THE BACKFLOW PREVENTER AND ROUTE DISCHARGE TO THE FLOOR DRAIN.
- 3 CONNECT POWER TO THE FAN COIL UNIT FROM THE EXISTING POWER PANEL USING THE EXISTING SPARE TWO-POLE 20 A BREAKER. CONTROL THE UNIT BASED ON A HIGH TEMPERATURE SIGNAL FROM A LOCAL LINE VOLTAGE THERMOSTAT (HONEYWELL T678A1437/U OR EQUAL). ON TEMPERATURE RISE THERMOSTAT CONTACTS CLOSE TO START THE FAN MOTOR AND OPEN THE SOLENOID VALVE.



2 PHOTO 1
SCALE: NTS



3 PHOTO 2
SCALE: NTS

P:\Projects\AWWU\Wellhouse Ventilation Evaluation\Drawings\Mech\W-4 WELL 12 PLAN.dwg

VERIFY SCALE

DATA	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	BY
BASE TOPOGRAPHY					
PROFILE					
SANITARY SEWER					
STORM SEWER					
WATER					
GAS					

DATA	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	BY
TELEPHONE					
ELECTRIC					
CABLE TV					
TRAFFIC SIGNAL					
DESIGN					
QUANTITIES					
MUN. FINAL CHECK					

RECORD DRAWING

Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: _____
This shall serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: SUPERIOR P&H
BY: SZ TITLE: SUPERINTENDENT
DATE: 10/21/16

2. DATA TRANSFERRED BY: K. HANSEN
COMPANY: EDC, INC.
DATE: 11/2/16

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: KEVIN L. HANSEN
COMPANY: EDC, INC.
BY: KH TITLE: PROJECT ENGINEER
DATE: 11/2/16

REUSE OF DOCUMENTS

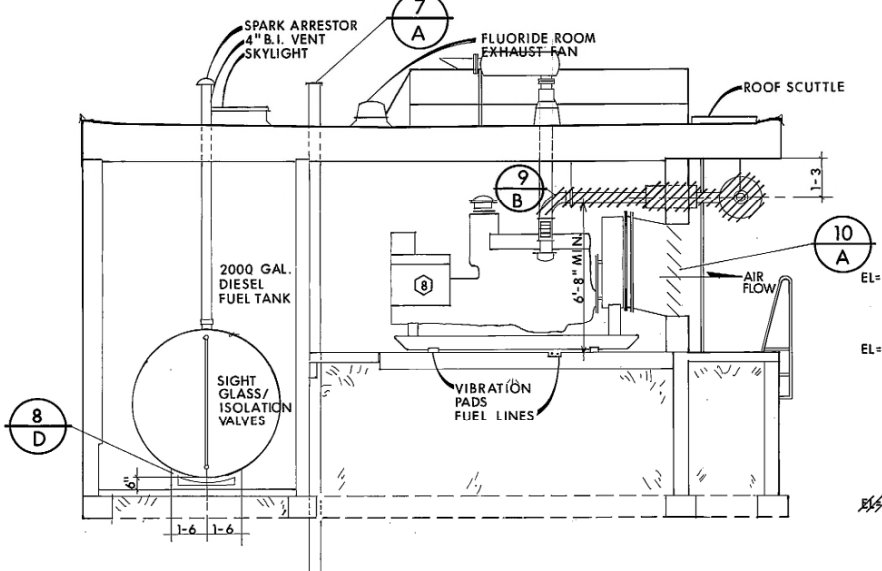
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EDC, INC.
213 W. FIREWEED LANE
ANCHORAGE, AK 99503
(907) 276-7933
CONSULTANT

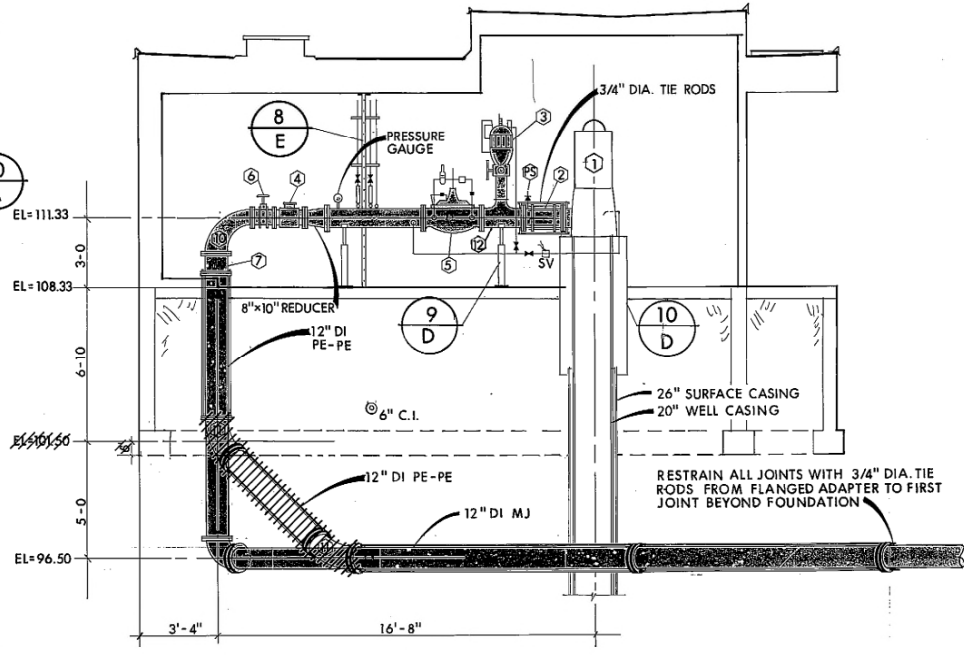
STATE OF ALASKA
49th
Kevin L. Hansen
No. ME-5641
REGISTERED PROFESSIONAL ENGINEER
11/2/16
SEAL

ANCHORAGE WATER & WASTEWATER UTILITY
AWWU
MUNICIPALITY OF ANCHORAGE

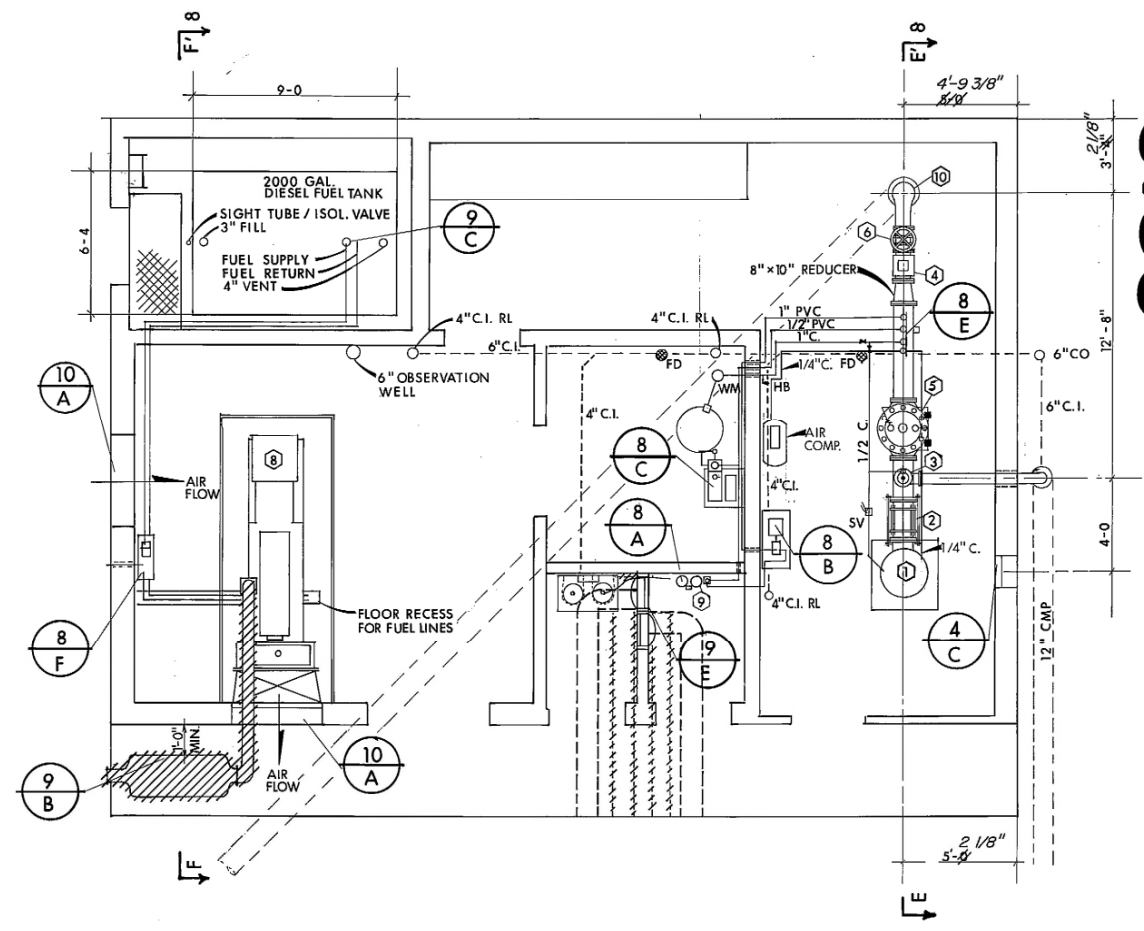
MUNICIPALITY OF ANCHORAGE
WATER & WASTEWATER UTILITY
WELLHOUSE COOLING SYSTEM UPGRADES
WELL 12 PLAN
M-4
HORZ SCALE: AS SHOWN
VERT SCALE: N/A
DATE: 6/3/2016
GRID: SW 1731
PROJ. ID.: 0000007606
SHEET 4 of 4



MECH. VERT. SECTION F-F'
1/4"=1'-0"

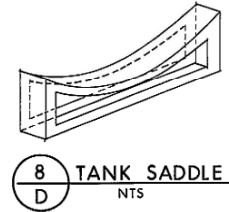


MECH. VERT. SECTION E-E'
1/4"=1'-0"

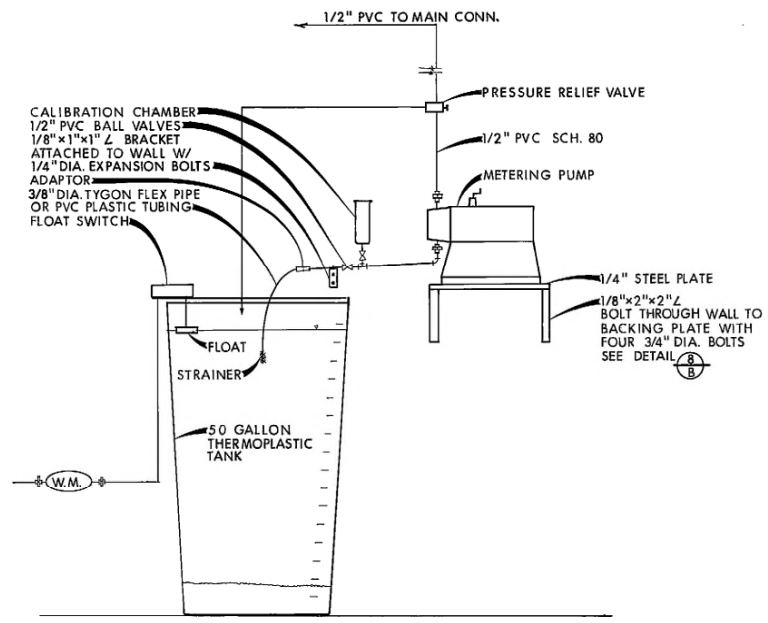


MECHANICAL PLAN
1/4"=1'-0"

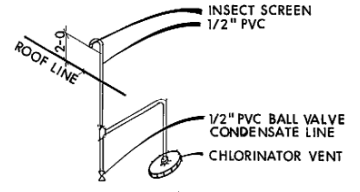
- 1 VERT. TURBINE PUMP
- 2 COUPLING
- 3 PUMP CONTROL VALVE 6"
- 4 FLOW METER 8"
- 5 PRESSURE REDUCING CHECK VALVE 10"
- 6 BUTTERFLY VALVE 8"
- 7 FLANGE TO MECH. JOINT ADAPTOR 12"
- 8 GENERATOR
- PS PRESSURE SWITCH
- SV SOLENOID VALVE
- FD FLOOR DRAIN
- RL ROOF LEADER
- CO CLEAN OUT
- HB HOSE BIB
- 9 CHLORINATOR
- 10 8" x 12" DI LONG RADIUS 90° BEND REDUCER
- 11 12" x 12" x 1/2" DI. 90° BEND
- 12 10" x 6" TEE



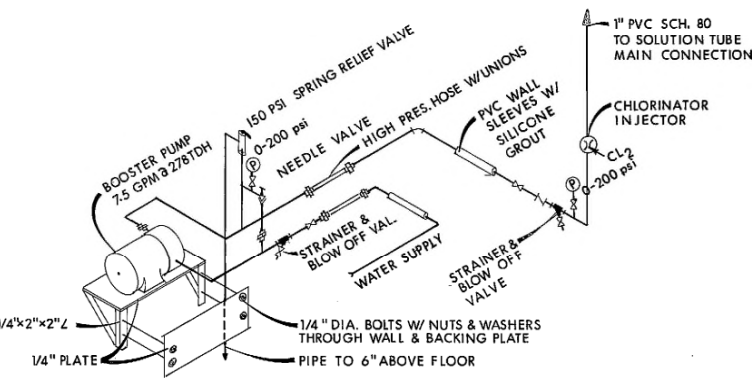
8 TANK SADDLE
D NTS



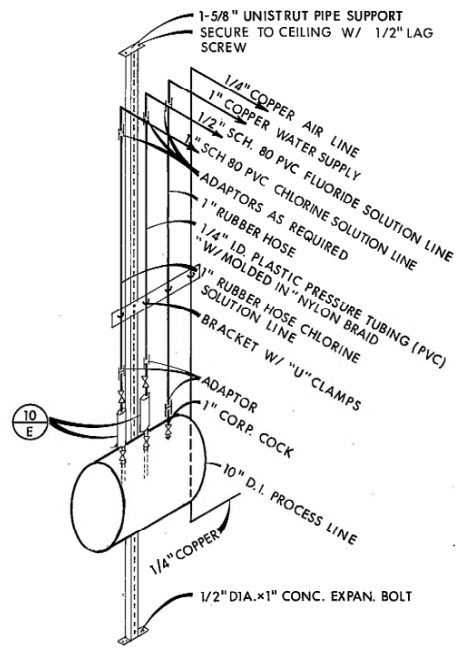
8 C FLUORIDE SATURATOR
NTS



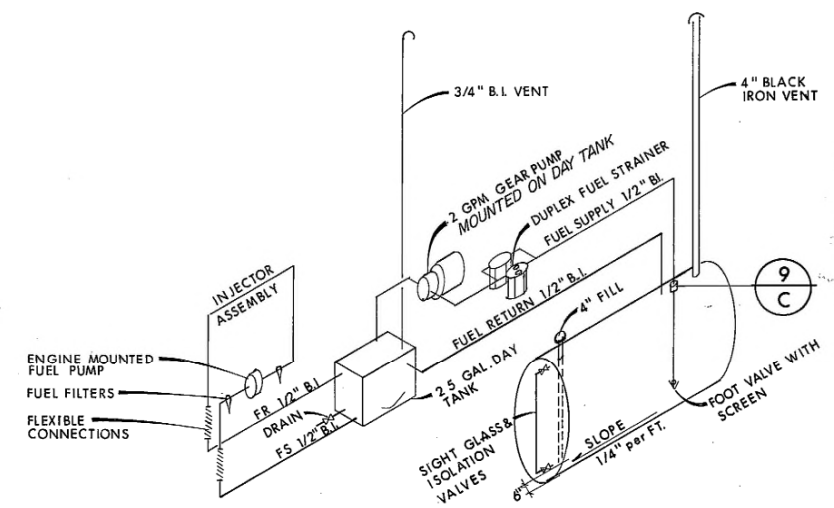
8 A CHLORINATOR VENT.
NTS



8 B CHLORINATOR BOOSTER PUMP
NTS



8 E VERT. SUPPORT FOR CHEM. LINES
NTS

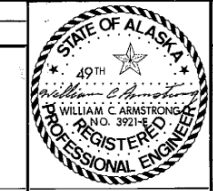


8 F FUEL TRANSFER SYSTEM
NTS

GRAPHIC SCALE

FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.
DESIGN	1	8-22-80	CHANGE FLUORIDE SOLUTION TO 1/2" DIAMETER	GS						
STAKING	2	8-22-80	CHANGE TYGON FLEX PIPE TO 3/8" DIAMETER	GS						
ASBUILT	3	8-22-80	ADDITION OF AIR COMPRESSOR AND 1/4" COPPER AIR LINE	GS						

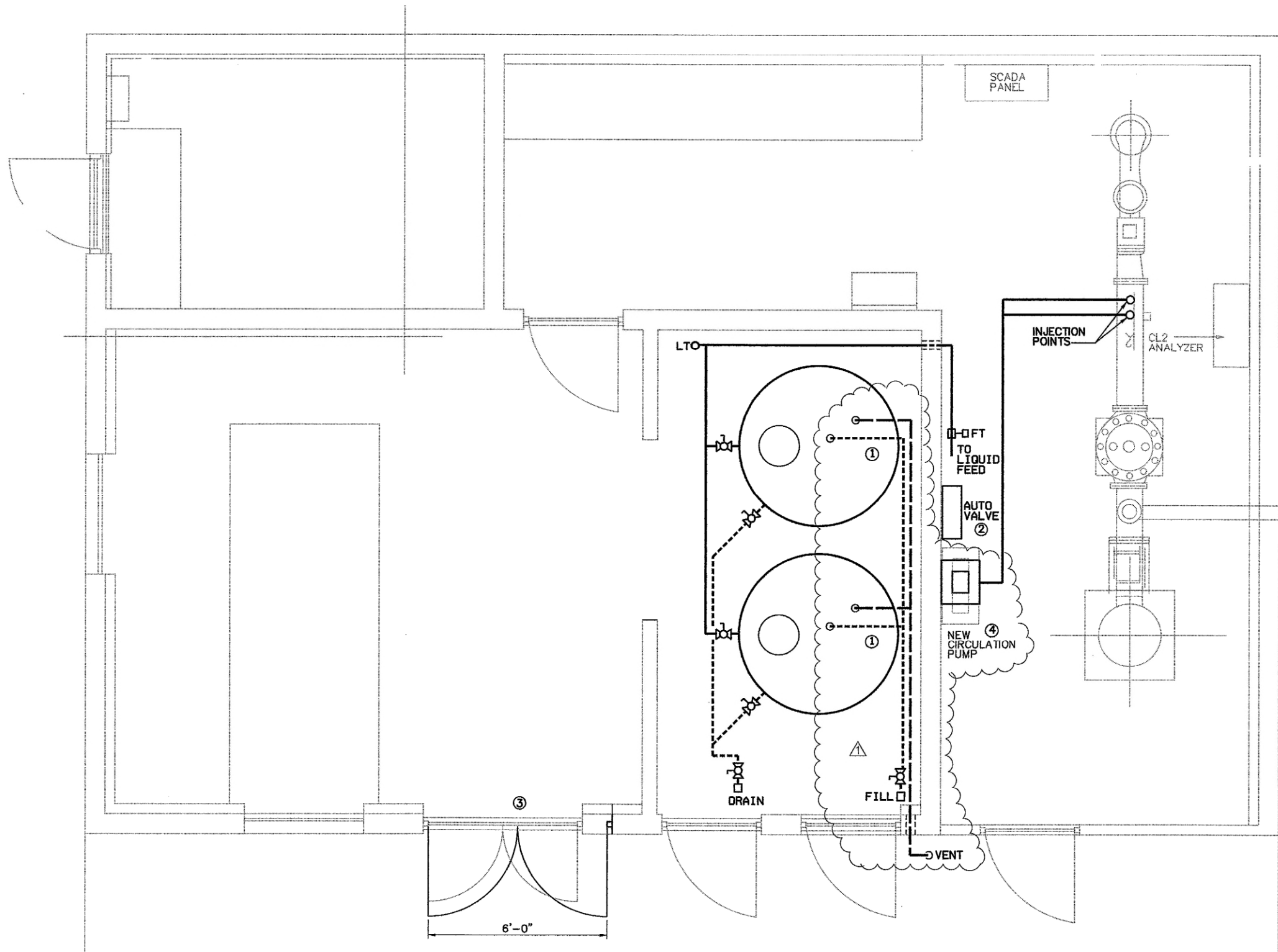
DATA	OWN	CDP	DATE	DATA	OWN	CDP	DATE
BASE				FILE			
TOPO				ELEC			
PROFILE				DESIGN			
SAN SEWER				QUANTITIES			
STORM SEWER				CITY CHECK			
WATER				G: A. A. B. CHECK			
GAS				CODED BY			



ANCHORAGE WATER UTILITY

1980 WATER IMPROVEMENTS
WELL HOUSE NO. 12
MECHANICAL PLAN, VERTICAL SECTIONS,
CHEMICAL EQUIPMENT SCHEMATICS

SCALE: AS NOTED DATE 5-9-1980 GRID 1730 SHEET 8 of 13
ACCT. NO.

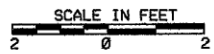


EQUIPMENT IDENTIFICATION		
DESCRIPTION	LOCATION	EQUIP. #
HYPO. TANK 1	W012 CHEM TANK	1441
HYPO. TANK 2	W012 CHEM TANK	1442
AUTOMATIC FEED VALVE	W012 CHEM FEED	1446
FLOW TRANSMITTER	W012 CHEM INST	1444
LEVEL TRANSMITTER	W012 CHEM INST	1443
CIRC. PUMP	W012 WELL PUMP 02	

LEGEND:

	LIQUID FEED, 2" SCH 80 PVC
	FILL AND DRAIN, 2" SCH 80 PVC
	VENT, 2" SCH 80 PVC
LT	LEVEL TRANSMITTER
FT	FLOW TRANSMITTER

- NOTES:**
- ① INSTALL (2) 905 GALLON HYPOCHLORITE STORAGE TANKS 5'-4" OD, 6'-7" OVERALL HEIGHT. TANKS SHALL BE POLY PROCESSING HDPE, OR EQUAL, AND SHALL BE EQUIPPED WITH:
 - 2" IMFO FOR FULL DRAIN WITH FLEXIBLE CONNECTION
 - 2" HYPOCHLORITE SUPPLY FITTING ON LOWER SIDEWALL WITH DROP TUBE AND FLEXIBLE CONNECTION
 - THREADED COVER
 - 2" VENT FITTING ON TOP
 - 2" FILL FITTING ON TOP
 - IMFO PAD 4"
 - ② INSTALL AUTOMATIC FEED VALVE, HYDRO SERIES 110 OMNI-VALVE WITH SERIES LF LIQUID CHEMICAL FEED SYSTEM, OR EQUAL, AND ALL INJECTION PIPING.
 - ③ INSTALL 6'-0" X 6'-8" DOUBLE-LEAF DOOR AND FRAME.
 - ④ INSTALL NEW HYPOCHLORITE CIRCULATION PUMP.



TIME: 15-DEC-2009 14:58
 FILE: D:\Ced\Proj\AWWU\WellDisinfection\11-12\Tabit - Sept 2009\SHT 08.DGN
 JOB No. 1851209.02101

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE	
DATA	BY	DATE	DESCRIPTION	REVISION	DATE	DESCRIPTION	BY
BASE					SEP. 2009	RECORD DRAWING	
TOPOGRAPHY							
PROFILE							
SANITARY SEWER							
STORM SEWER							
WATER							
GAS							
PLAN CHECK						REVISIONS	

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

1. DATA PROVIDED BY: Essex Corp.
 This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
 CONTRACTOR: Essex Corp.
 BY: [Signature] TITLE: Project Mgr
 DATE: 12/18/09

2. DATA TRANSFERRED BY: LF
 COMPANY: MWH
 DATE: SEPTEMBER 2009

3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
 DATA TRANSFER CHECKED BY: [Signature]
 COMPANY: AWWU
 BY: [Signature] TITLE: Project Manager
 DATE: December 22, 2009

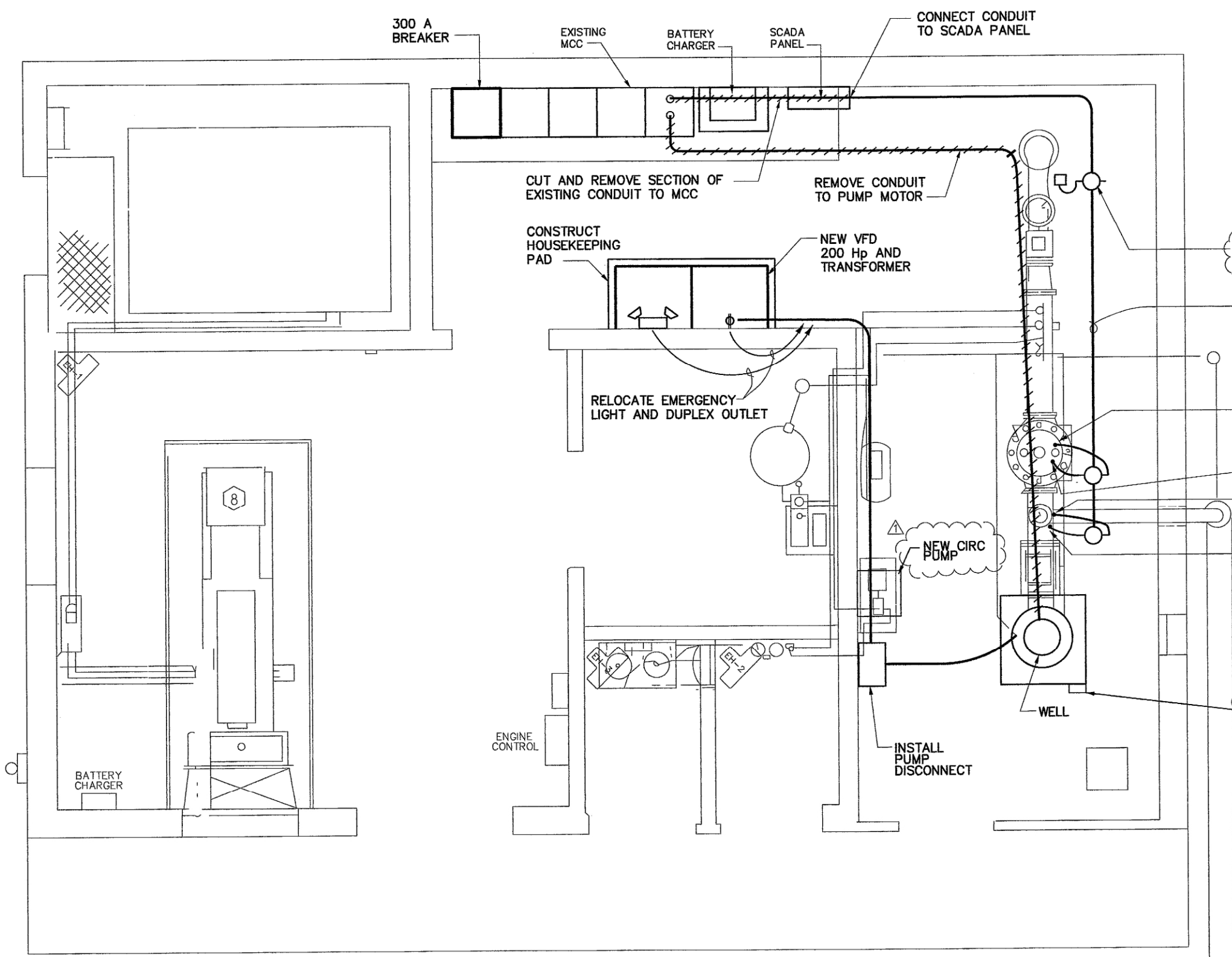
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MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY			
WELL ONSITE DISINFECTION			
WELL NO. 12 FLOOR PLAN			
HORIZ SCALE: AS SHOWN	DATE: APRIL 2008	GRID: SW 1730	SHEET 8 of 14
PROJ. ID.: 000003442			

- NOTES:
- SEE SHEET 12 FOR NEW PUMP ELECTRICAL POWER AND DEVICENET WIRING AND CONDUIT.
 - WIRE TWO OFFSEAT SWITCHES TO FIRST TWO SPARE DIGITAL INPUTS IN SCADA PANEL. SEE LOOP DIAGRAMS.
 - WIRE THREE SOLENOID VALVES TO FIRST THREE SPARE DIGITAL OUTPUT RELAYS IN SCADA PANEL, N.O. CONTACTS. PROVIDE 24 VDC POWER FROM SPARE 3A FUSE IN SCADA PANEL. SEE LOOP DIAGRAMS.



YY-636 PRE-LUBE SOLENOID
F-18/0:00.3.3

EXISTING
1" C WITH 10 #14 Cu
SEE NOTES 2. AND 3.

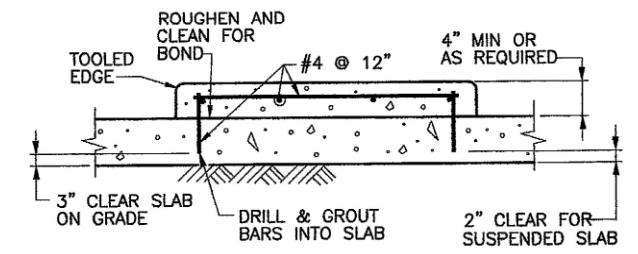
YYC-321 SOLENOID
F-20/0:00.3.4

ZS-321 OFFSEAT SWITCH
1-11/1:00.2.10

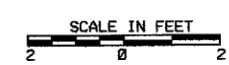
YYC-631 SOLENOID
F-25/0:00.3.5

ZS-631 OFFSEAT SWITCH
1-12/1:00.2.11

NEW LEVEL TRANSDUCER/TRANSMITTER
POWER TERMINATION ENCLOSURE



HOUSEKEEPING PAD DETAIL
NOT TO SCALE



FILE: D:\Cadd\Pro\AWWU\WellDisinfection\0-11-12\Asst - Sept. 2009\SH1 12.DGN
TIME: 15-DEC-2009 16:04
JOB No. 181209.020101

VERIFY SCALE		THIS BAR REPRESENTS ONE INCH ON ORIGINAL DRAWING.		IF BAR IS NOT ONE INCH, ADJUST DRAWING SCALE ACCORDINGLY.		FULL SIZE SCALE HORZ SCALE: AS SHOWN VERT SCALE:	
DATA	DRAWN BY	CHECKED BY	DATE	REV	DESCRIPTION	BY	DATE
BASE					RECORD DRAWING		
TOPOGRAPHY							
PROFILE							
SANITARY SEWER							
STORM SEWER							
WATER							
GAS							
PLAN CHECK		REVISIONS					

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

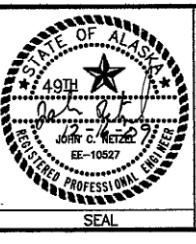
1. DATA PROVIDED BY: *Frank Corp*
This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: *Frank Corp*
BY: *John Smith* TITLE: *Project Mgr*
DATE: *12/18/09*

2. DATA TRANSFERRED BY: LF
COMPANY: MWH
DATE: SEPTEMBER 2009

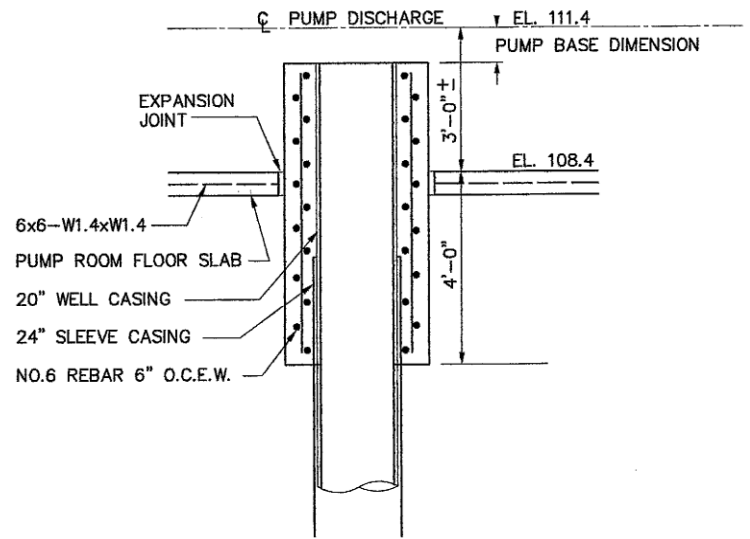
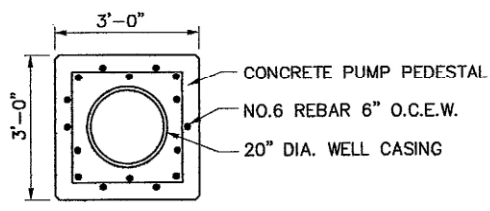
3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: *Jack Carroll*
COMPANY: *AWWU*
BY: *Jack Carroll* TITLE: *Project Manager*
DATE: *December 22, 2009*

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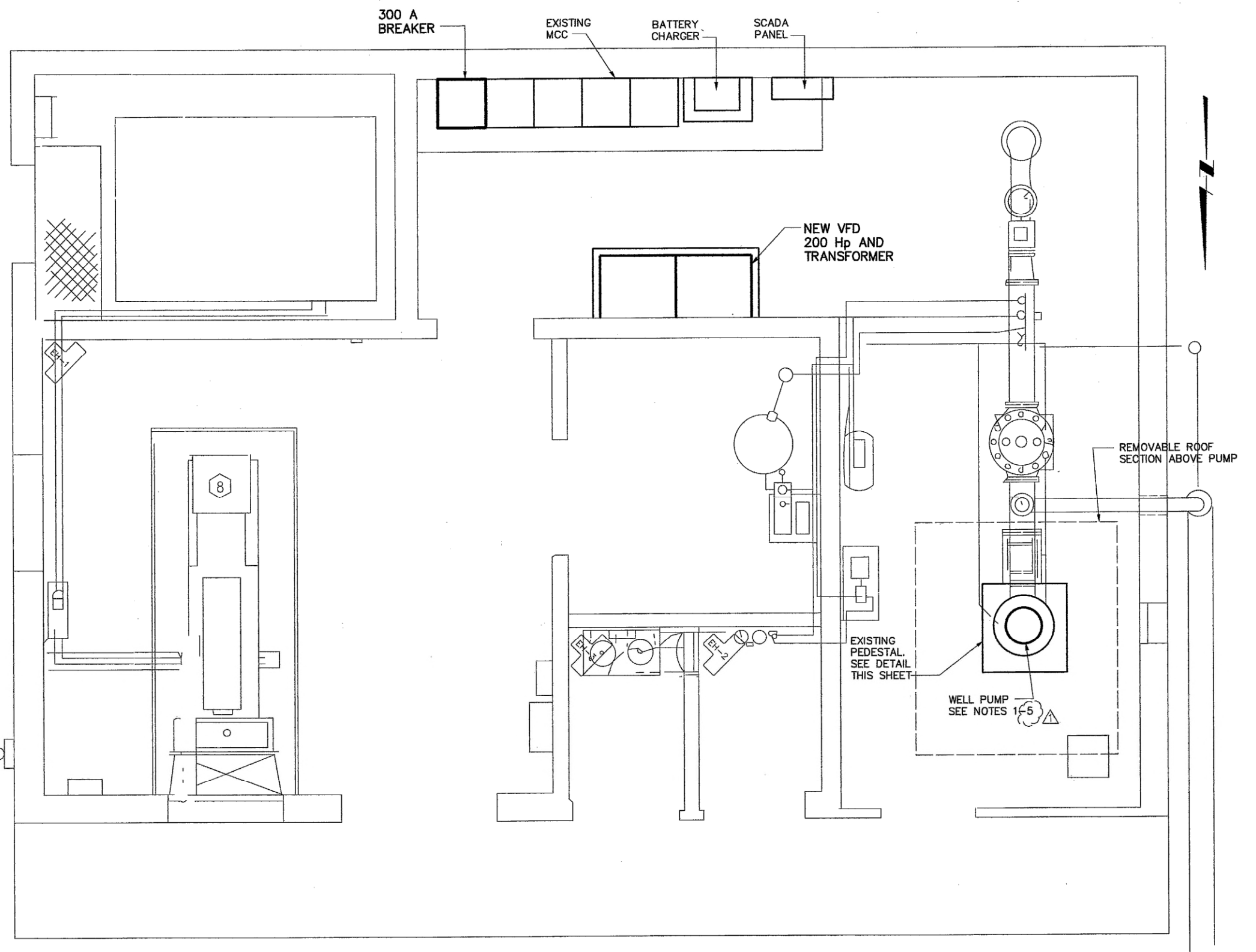
MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY			
WELL ONSITE DISINFECTION UPGRADES WELL 12			
ELECTRICAL PLAN			
HORZ SCALE: AS SHOWN	DATE: APRIL 2008	GRID: SW1730	SHEET 12 of 14
PROJ. ID.: 000003442			



EXISTING PUMP PEDESTAL 1
SCALE IN FEET
0 2

EQUIPMENT IDENTIFICATION		
DESCRIPTION	LOCATION	EQUIP. #
WELL PUMP	W012 WELL PUMP 03	1519
VFD	W012 MCC	1518
LEVEL TRANSMITTER	W012 INST	

- NOTES:**
- REMOVE AND DISPOSE OF EXISTING VERTICAL TURBINE PUMP, MOTOR, COLUMN, AND DISCHARGE HEAD.
 - INSTALL NEW VERTICAL TURBINE PUMP, MOTOR, COLUMN, AND DISCHARGE HEAD. CONNECT TO EXISTING 10" DISCHARGE PIPING WITH RESTRAINED FLEXIBLE CONNECTOR. SEE SPECIFICATIONS.
 - RE-CONNECT PRE-LUBE PIPING TO NEW DISCHARGE HEAD.
 - INSTALL LEVEL TRANSDUCER TUBE. SEE SPECIFICATIONS.
 - INSTALLED NEW LEVEL TRANSDUCER AND TRANSMITTER GE PTX 1830.



SCALE IN FEET
2 0 2

FILE: D:\Cad\Pro\AWWU\WellDisinfection\10-11-12\Asst - Sept 2009\SH1 14.DGN
TIME: 15-DEC-2009 15:28
JOB No. 1851209.020101

DATA	DRAWN BY	CHECKED BY	DATE	DESCRIPTION	BY
BASE			SEP 2009	RECORD DRAWING	
TOPOGRAPHY					
PROFILE					
SANITARY SEWER					
STORM SEWER					
WATER					
GAS					

RECORD DRAWING Note: To be filled out on original drawings upon project completion.

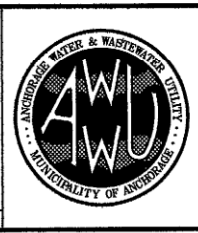
1. DATA PROVIDED BY: *Flagstar Corp.*
This will serve to certify that these Record Drawings are a true and accurate representation of the project as constructed.
CONTRACTOR: *Flagstar Corp.*
BY: *Shawn H. [Signature]* TITLE: *Project Manager*
DATE: *12/18/09*

2. DATA TRANSFERRED BY: *LF*
COMPANY: *MWH*
DATE: *SEPTEMBER 2009*

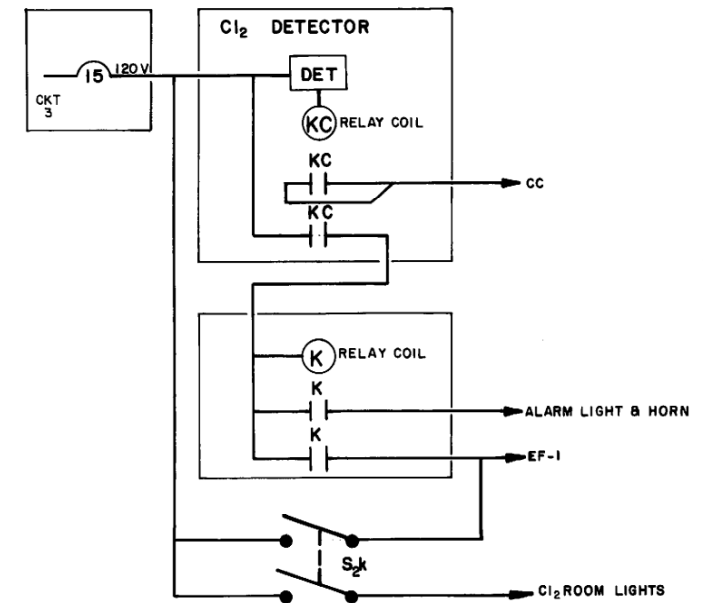
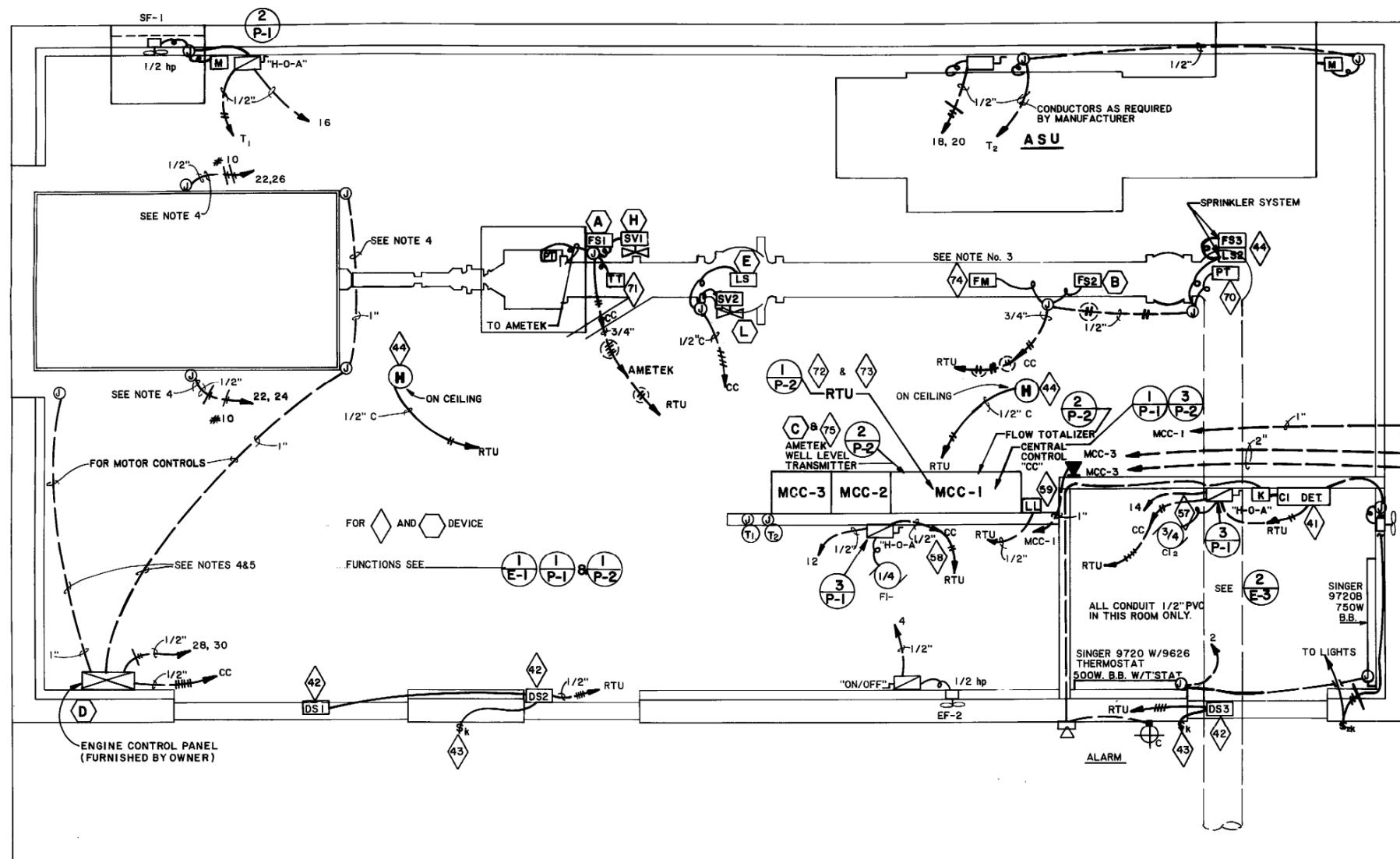
3. Based on periodic field observations by the Engineer (or an individual under his/her direct supervision), the Contractor-provided data appears to represent the project as constructed.
DATA TRANSFER CHECKED BY: *Todd Carroll*
COMPANY: *AWWU*
BY: *Todd Carroll* TITLE: *Project Manager*
DATE: *December 22, 2009*

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MUNICIPALITY OF ANCHORAGE WATER & WASTEWATER UTILITY			
WELL ONSITE DISINFECTION UPGRADES WELL 12 WELL 12 PUMP			
HORIZ SCALE: AS SHOWN	DATE: APRIL 2008	GRID: SW1730	SHEET 14 of 14
PROJ. ID.: 000003442			



- NOTES:**
1. FOR LOCATION OF DEVICES 51, 52, 56, F, G, I, J, K IN "CC" SEE (1/P-1)
 2. HOMERUNS FOR AMETEK, FLOW TOTALIZER AND RTU RUN FROM MCC-1 TO MCC-2, SEE PANEL SCHEDULE SHEET E-4 FOR CIRCUITS.
 3. 74 4-20 ma SIGNAL SUPPLIED TO RTU VIA THE FLOW TOTALIZER.
 4. RELOCATE & RESIZE CONDUITS AS REQUIRED FOR UNIT SUPPLIED.
 5. LOCATE BATTERY RACK AS REQUIRED FOR UNIT SUPPLIED.

(1/P-1) ELECTRICAL FLOOR PLAN

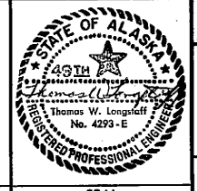
(2/E-3) CHLORINE ROOM WIRING ONE LINE NOT TO SCALE

LONGSTAFF ENGINEERS INC
ELECTRICAL - DESIGN, PROJECT MANAGEMENT & INSPECTION

- ▲ Commercial / Industrial Parks
- ▲ Retail and Office Centers
- ▲ Hotel, Motel or Housing Projects
- ▲ Municipal Water and Waste Water Systems
- ▲ Utility Power Distribution Systems

2002 POST ROAD, ANCHORAGE - 276-7933

GRAPHIC SCALE											
FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA
DESIGN											BASE
STAKING											TOPO
ASBUILT											PROFILE
CONTRACTOR											SAN SEWER
INSPECTOR											STORM SEWER
											WATER
											GAS
											DATA
											OWNED BY
											DATE
											OWNED BY
											DATE
											PLAN CHECK
											ENGINEERS
											SEAL



MUNICIPALITY OF ANCHORAGE
ANCHORAGE WATER & WASTEWATER UTILITY
WELL HOUSE # 13

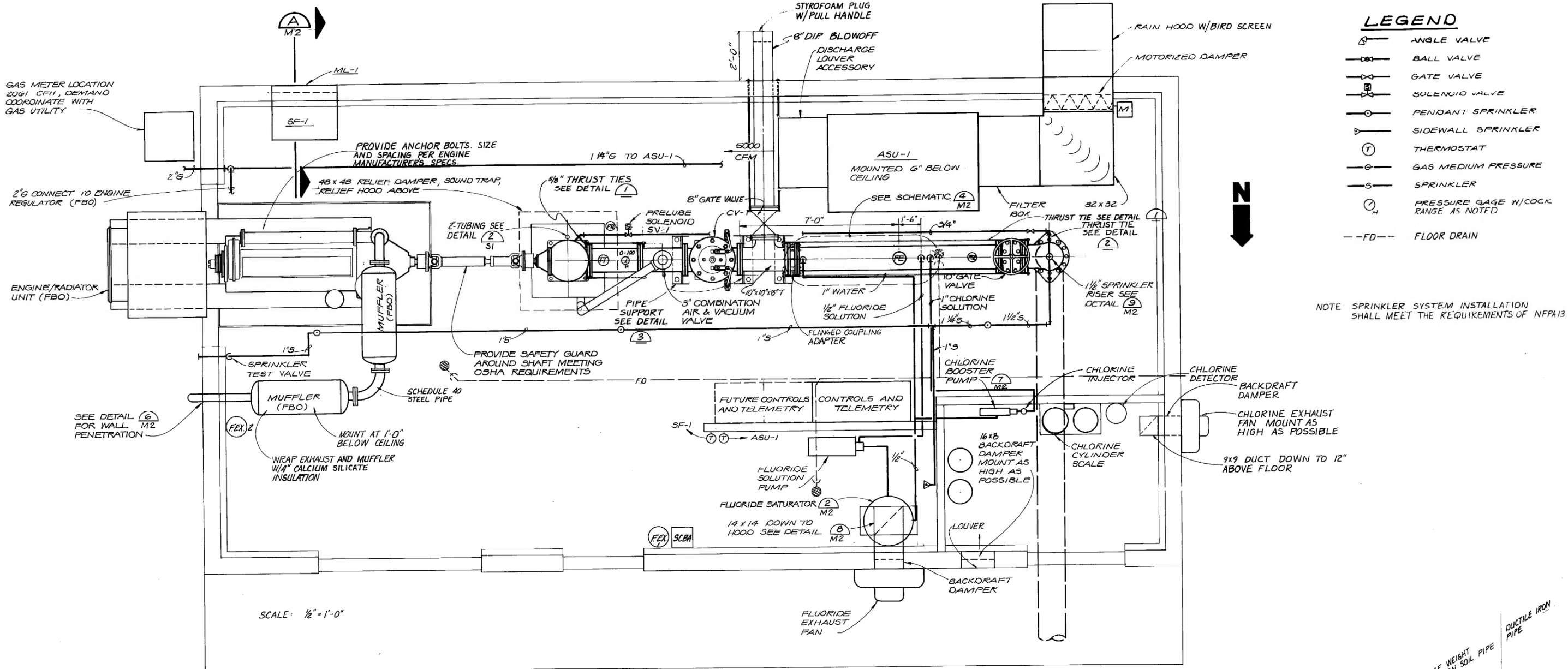
ELECTRICAL PLAN

SCALE 1/2" = 1'-0"

8 April 1985
CITY GRID 2036
SEWER GRID

SHEET E-3 of 4

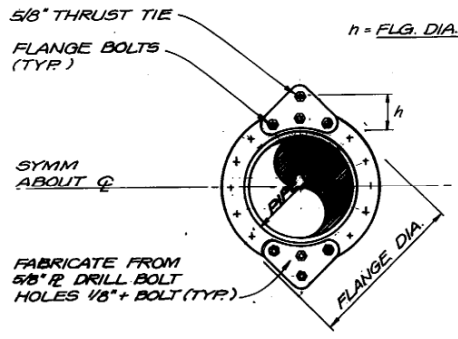
AWWU WO # 8880-8022-3141



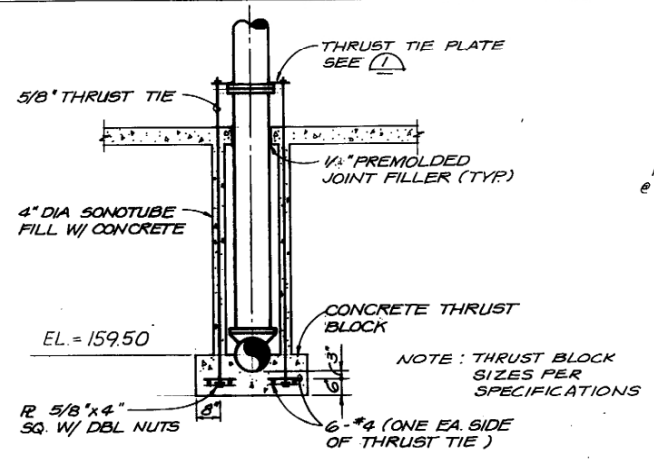
- LEGEND**
- ANGLE VALVE
 - BALL VALVE
 - GATE VALVE
 - SOLENOID VALVE
 - PENDANT SPRINKLER
 - SIDEWALL SPRINKLER
 - THERMOSTAT
 - GAS MEDIUM PRESSURE
 - SPRINKLER
 - PRESSURE GAGE W/COCK RANGE AS NOTED
 - FLOOR DRAIN

NOTE: SPRINKLER SYSTEM INSTALLATION SHALL MEET THE REQUIREMENTS OF NFPA 13

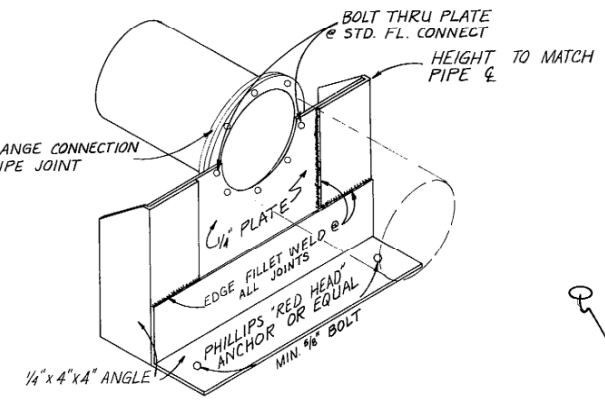
SCALE: 1/2" = 1'-0"



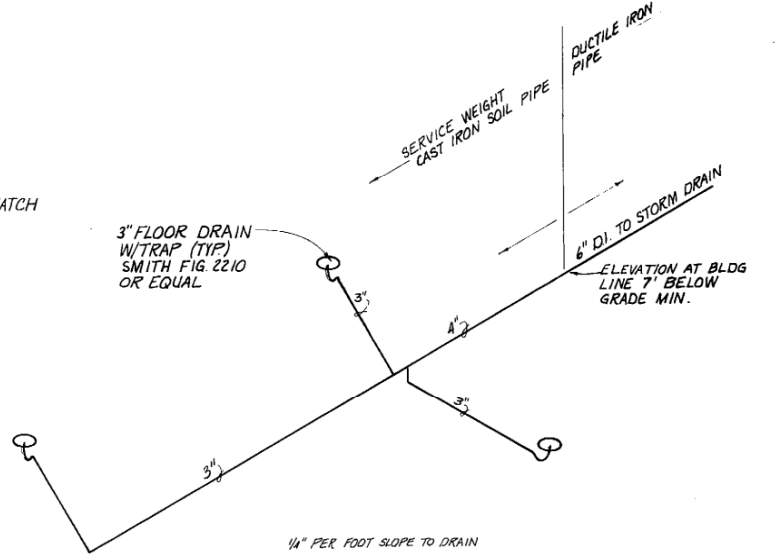
THRUST TIE PLATE @ FLANGES (1)
N.T.S.



THRUST TIE THRU FOUNDATION (2)
N.T.S.



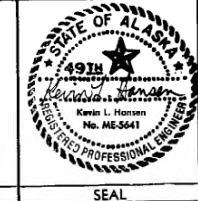
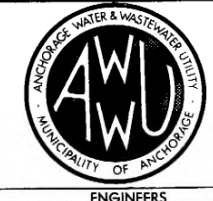
PIPE SUPPORT (3)
N.T.S.



FLOOR DRAIN PLUMBING
N.T.S.

GRAPHIC SCALE

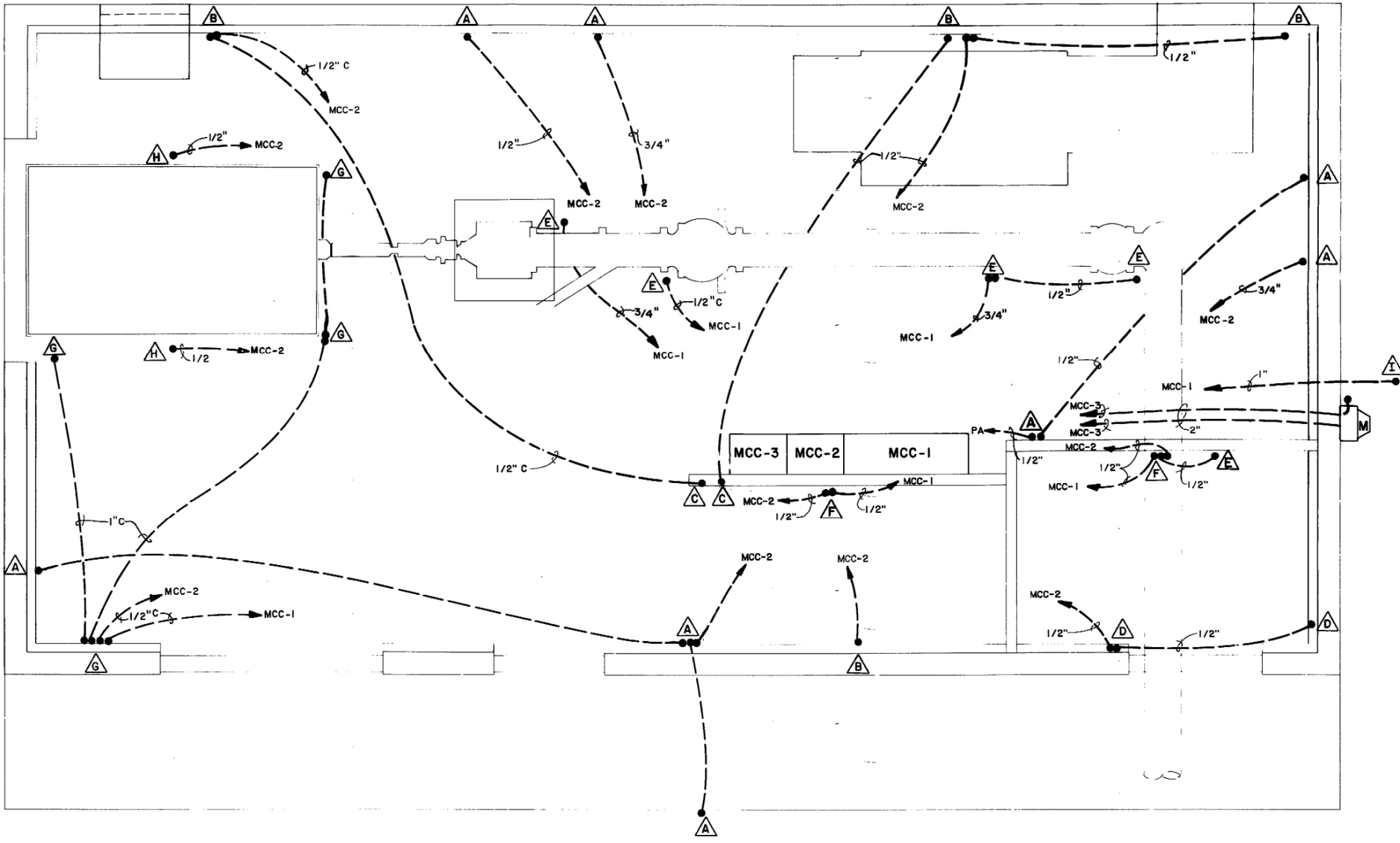
FIELD BOOKS	REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.	DATA	OWN	CD	BY	DATA	OWN	CD	BY	
DESIGN											BASE				TELE				
STARTING											TOPO				ELEC				
ASBUILT											PROFILE				DESIGN				
CONTRACTOR											SAN SEWER				QUANTITIES				
INSPECTOR											STORM SEWER				PRELIMINARY				
CONSTRUCTION RECORD											WATER				FINAL				
											GAS				MUNICIPAL/STATE				



MUNICIPALITY OF ANCHORAGE
ANCHORAGE WATER & WASTEWATER UTILITY
WELL HOUSE #13

PLAN AND DETAILS

SCALE: MARCH 1985 CITY 2036 SHEET M1 of 2



COMPONENT IDENTIFICATION

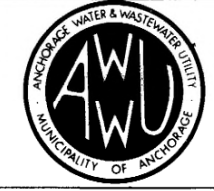
- ▲ RECEPTACLE
- ▲ FAN & ASU CONTROLLER COMPONENTS
- ▲ THERMOSTAT
- ▲ BASEBOARD HEATER
- ▲ INSTRUMENT OR CONTROL DEVICE
- ▲ PUMP CONTROLS
- ▲ ENGINE CONTROLS
- ▲ OIL HEATER OR PUMP
- ▲ TELEPHONE SERVICE ENTRY

LONGSTAFF ENGINEERS INC
 ELECTRICAL - DESIGN, PROJECT MANAGEMENT & INSPECTION

- ▲ Commercial / Industrial Parks
- ▲ Retail and Office Centers
- ▲ Hotel, Motel or Housing Projects
- ▲ Municipal Water and Waste Water Systems
- ▲ Utility Power Distribution Systems

2002 POST ROAD, ANCHORAGE - 276-7933

GRAPHIC SCALE											
FIELD BOOKS		REV	DATE	DESCRIPTION	BY	TBM NO.	LOCATION	ELEV.	TBM NO.	LOCATION	ELEV.
DESIGN											
STAKING											
ASBUILT											
CONTRACTOR											
INSPECTOR											
CONSTRUCTION RECORD				REVISIONS			VERTICAL DATUM			VERTICAL DATUM	



MUNICIPALITY OF ANCHORAGE
 ANCHORAGE WATER & WASTEWATER UTILITY
 WELL HOUSE #13

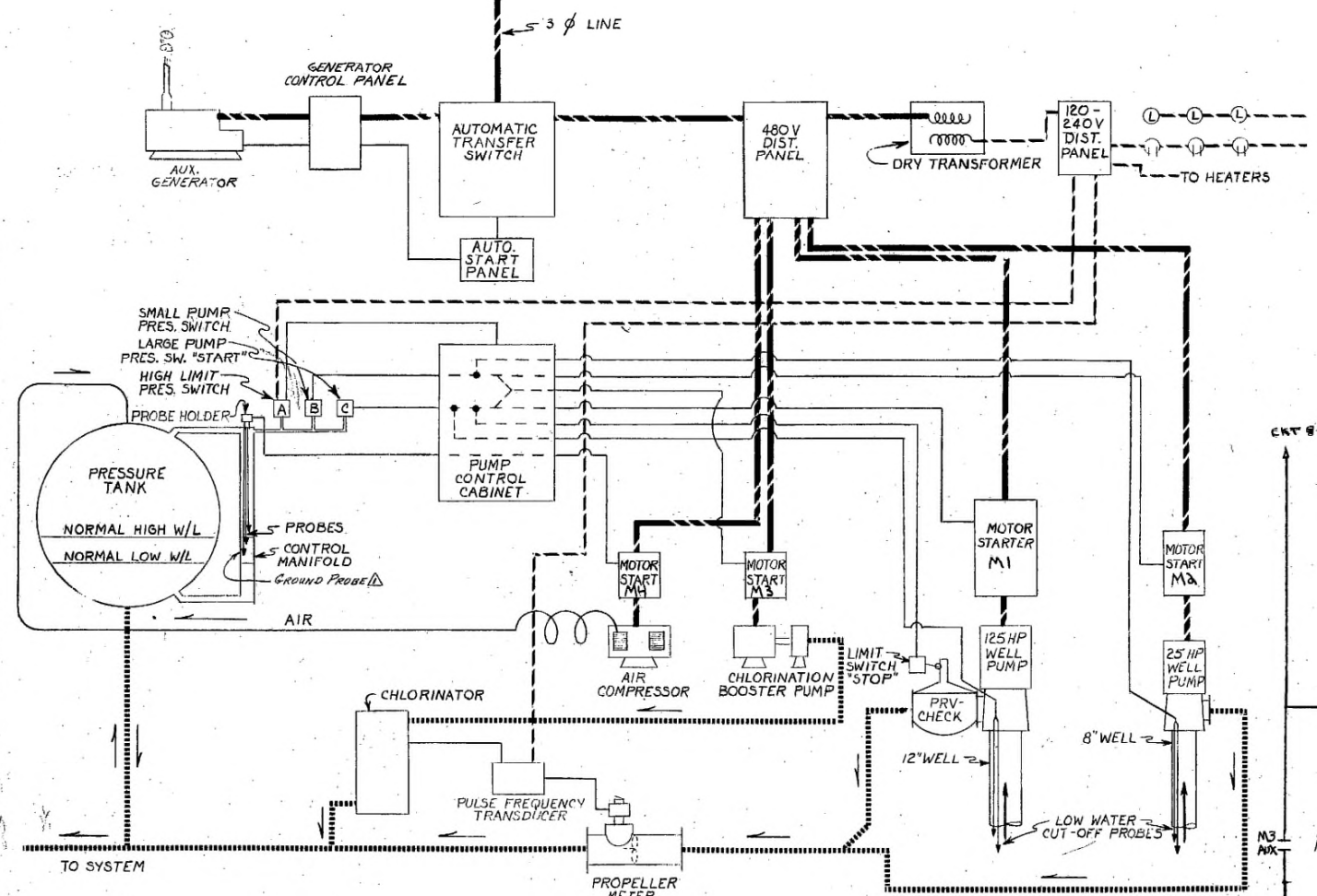
CONDUIT UNDER SLAB

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

8 April 1986
 CITY GRID: 2036 SEWER GRID: []

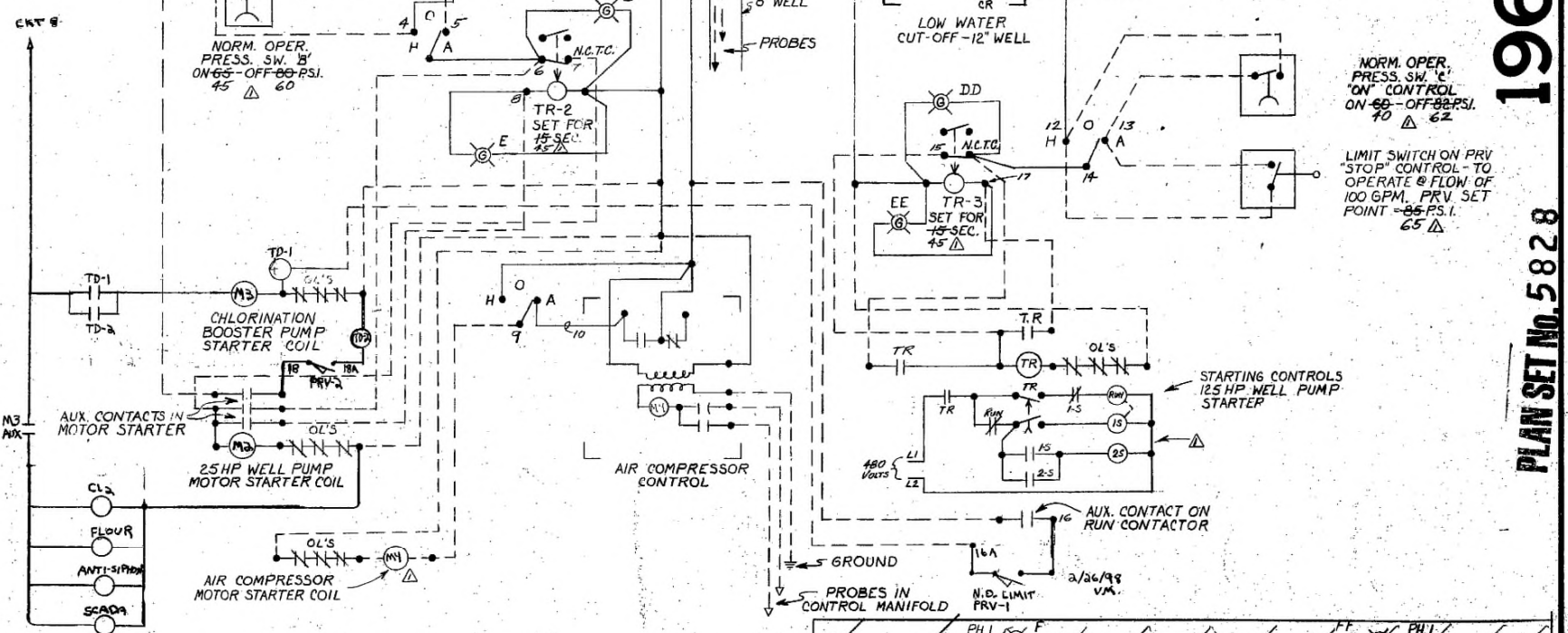
AWWU PROJECT # 8880-R022-3141

SHEET E-2 of 4



SYSTEM LINE DIAGRAM
NOT TO SCALE

LEGEND
 - - - - - = 3 ϕ POWER
 - - - - - = 1 ϕ POWER
 - - - - - = CONTROL - 120V
 - - - - - = WATER



ELEMENTARY CONTROL DIAGRAM
NOT TO SCALE

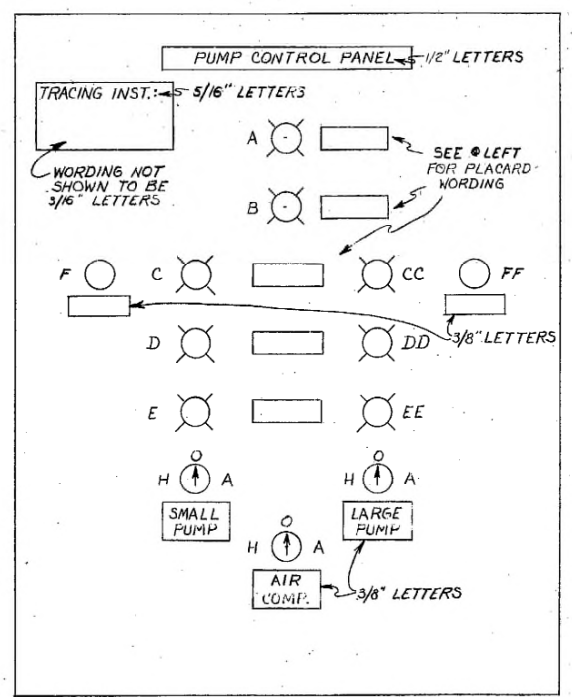
TD-1
TBP-3 3-1 TD-1 3-2 TBP-3
TBP-3 3-2 TD-2 3-4 TBP-3
TBP-3 3B CHEM 3-4 TBP-3

PUMP CONTROL PANEL COMPONENT LIST

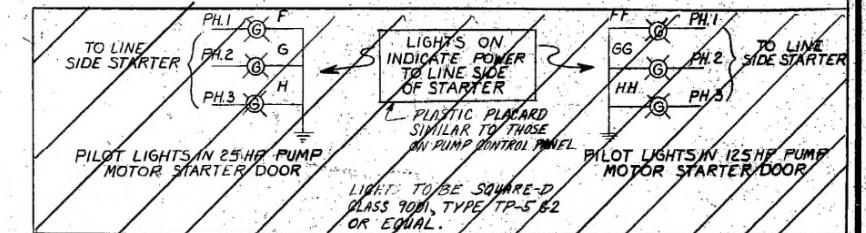
1. YH-1 Timing Relay - Delay adjustable .2 sec. to 3 min., 120 volt coil, one N.O. and one N.C. timed contacts, time delay after energization Square D Class, 9050 Type B0-1E.
2. TR-2 & TR-3 Timing Relays - Delay adjustable .2 sec. to 3 min., 120 volt coil, one N.O. and one N.C. timed contacts, time delay after de-energization - Square D Class, 9050, Type B0-1D.
3. Low Water Cut-Off Probe Control Units - Differential level service for pumping down, 120 volt primary, one N.O. and one N.C. load contacts - Charles F. Warrick Co., Model 161D0.
4. Compressor Control Probe Unit - Same as Item 3 above.
5. Hand-Off-Auto Selector Switches - Three position rotary selector switch with single pole, double throw contacts, - Square D, Class 9001, Type TS-3A.
6. Low Water Cut-Off Emergency Over-Ride - Push button (red) with padlock attachment - Square D, Class 9001, Type TR-2A, with Class 9001, Type TL-1 latch type padlock attachment.
7. Pilot Lights - Low voltage lamp type with integral transformer and green glass lense - Square D, Class 9001, Type TP-1G2.
8. Terminal Strip - Spaces are as required plus 5 extra - Square D, Class 9080, Type KCA-1.
9. Label Placards - Engraved plastic plates with lettering of sizes shown. Placards to be black with white letters.
10. Enclosure - Standard NEMA 1 cabinet 24" wide x 30" high x 8" deep hinged on left side when viewed from front.

LABEL INFORMATION
TRACING INST.
 INDICATOR LIGHTS ARE ARRANGED IN ORDER OF CONTROL PRIORITY SEQUENCE. TRACE CONTROL SIGNAL SEQUENCE FROM TOP DOWN.

A - CONTROL CIRCUIT ENERGIZED
 B - HIGH LIMIT PRESSURE SWITCH CLOSED - CONDITION NORMAL.
 C & CC - WATER LEVEL IN WELL O.K.
 D & DD - ALL CONTROLS CALL FOR WATER. (PUMP WILL NOT START UNTILL 15 SEC. AFTER LAST STOP)
 E & EE - ALL CONTROLS IN "60" CONDITION. PUMP SHOULD START IF POWER TO STARTER. IF ALL BUT THIS LIGHT ON, PUSH RESET ON STARTER. IF PUMP STILL DOESN'T START CALL ELECTRICIAN.
 F & FF - LOW WATER CUT-OFF EMERGENCY OVER-RIDE.



CONTROL PANEL COVER
SCALE: 1/4" = 1"

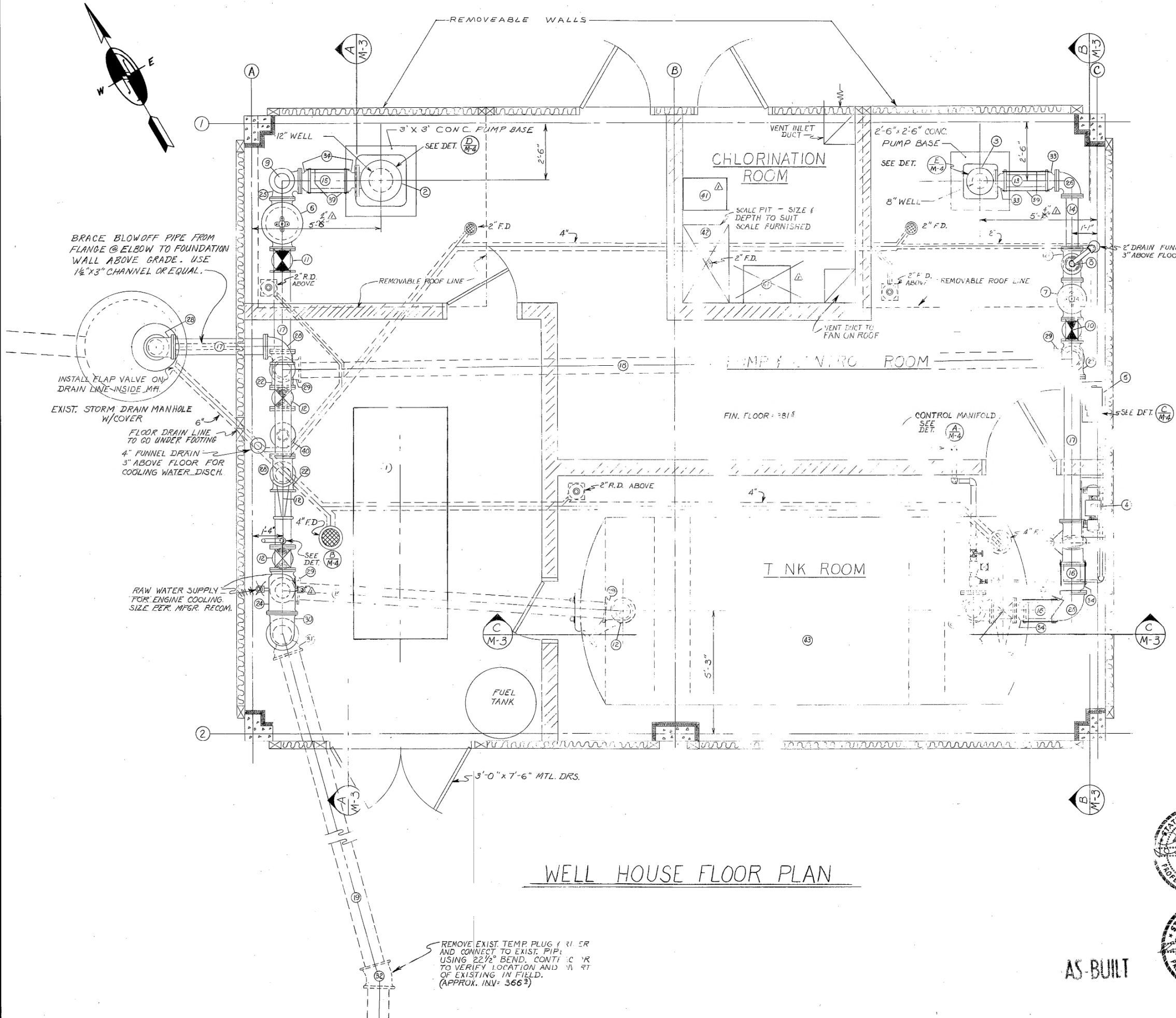


12/22/71 Δ ADDED AS-BUILT INFO.		3K
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT WELL HOUSE SERVICE-HANSEW JR./SR. HIGH SCHOOL LINE & ELEM. DIAGRAMS		
DICKINSON OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 800 CORDOVA STREET ANCHORAGE, ALASKA		
DRAWN BY - RAS	DATE - 2-18-70	NO. 2848
CHECKED BY - BK	SCALE - NONE	GRID 2337
FILE NO. E-2		47-11

MATERIALS DESCRIPTION

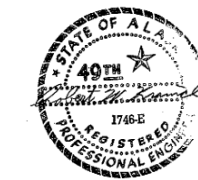
1. AUXILIARY DIESEL ENGINE-GENERATOR SET-175KW, 277/480V, 3PH, 60CYC.
2. DEEP WELL TURBINE PUMP, 1,200 GPM, 125 HP, 480V, 3-PHASE.
3. DEEP WELL TURBINE PUMP, 200 GPM, 25 HP, 480V, 3-PHASE (EXIST).
4. AIR COMPRESSOR, 1-1/2 HP, 480V, 3-PHASE, BELL & GOSSETT MOD. D1715-T OR EQUAL.
5. CHLORINATION BOOSTER PUMP 1 HP, 1750 RPM, 480V, 3-PHASE, ^{Augra Mod. 105} HOP-65 OR EQUAL.
6. 8" COMBINATION PRV/CHECK VALVE WITH LIMIT SWITCH FOR PUMP SHUT-DOWN - CLA-VAL NO. 91 H/NO. X105R LIMIT SWITCH.
7. 6" NO-SLAM CHECK VALVE - CLA-VAL NO. 81C.
8. AIR VENT AND VACUUM VALVE, 1" OLYMPIC FOUNDRY OR EQUAL.
9. AIR VENT AND VACUUM VALVE, 2" OLYMPIC FOUNDRY OR EQUAL.
10. 6" SQUARE BOTTOM GATE VALVE W/RISING STEM.
11. 8" SQUARE BOTTOM GATE VALVE W/RISING STEM.
12. 8" GATE VALVE - NRS.
13. 6" C.I. PIPE - PLAIN ENDS - LENGTH AS REQUIRED.
14. 6" C.I. PIPE - FLANGED BOTH ENDS - LENGTH AS REQUIRED.
15. 8" C.I. PIPE - PLAIN ENDS - LENGTH AS REQUIRED.
16. 8" C.I. PIPE - FLANGED ONE END - LENGTH AS REQUIRED.
17. 8" C.I. PIPE - FLANGED BOTH ENDS - LENGTH AS REQUIRED.
18. 8" C.I. PIPE W/M.J. ENDS AS REQUIRED - LENGTH AS REQUIRED.
19. 10" C.I. PIPE W/M.J. ENDS AS REQUIRED - LENGTH AS REQUIRED.
20. 10" C.I. PIPE - PLAIN ENDS - LENGTH AS REQUIRED.
21. 6X6X6 TEE.
22. 8X8X8 TEE.
23. 8X8X8 TEE.
24. 10X8X8 TEE.
25. 8X8X8 SIDE OUTLET ELBOW.
26. 6"X 90° ELBOW - FLANGED.
27. 8"X 45° ELBOW - FLANGED.
28. 8"X 90° ELBOW - FLANGED.
29. 8"X 90° ELBOW - M.J.
30. 10"X 90° ELBOW - FLANGED.
31. 10"X 90° ELBOW - M.J.
32. 10"X 22-1/2° ELBOW - M.J.
33. 6" FLANGE X M.J. ADAPTOR - DRESSER STYLE 127 OR EQUAL.
34. 8" FLANGE X M.J. ADAPTOR - DRESSER STYLE 127 OR EQUAL.
35. 10" FLANGE X M.J. ADAPTOR - DRESSER STYLE 127 OR EQUAL.
36. 3/4" HOSE BIB W/STOP COCK.
37. 2"X 1 3/8" O.D. REDUCING FLANGE.
38. ADJUSTABLE PIPE SADDLE SUPPORT - GRINNELL FIG. 264-OR-EQUAL.
39. 3/4" TIE RODS - W/BRAKETS WHERE REQUIRED.
40. 8" PROPELLER TYPE METER W/ELECTRIC SENDING CONTACTS - SEE SPECS.
41. CHLORINATOR, AUTOMATIC, ELECTRICALLY OPERATED - SEE SPECS.
42. PLATFORM SCALE - SEE SPECS.
43. PRESSURE TANK - 8,700 GAL. CAPACITY FOR 100 P.S.I. WORKING PRESSURE - SEE SPECS.
44. PRESSURE GAUGE W/STOP COCK - 0-200 P.S.I., 4-1/2" DIAMETER.
45. 1"X 1 1/2" O.D. REDUCING FLANGE.

- NOTES:
1. ALL SLEEVES AND CONDUITS THROUGH CHLORINATION ROOM WALLS SHALL BE SEALED.
 2. FLOORS SHALL SLOPE 1" IN 7' TO FLOOR DRAINS.



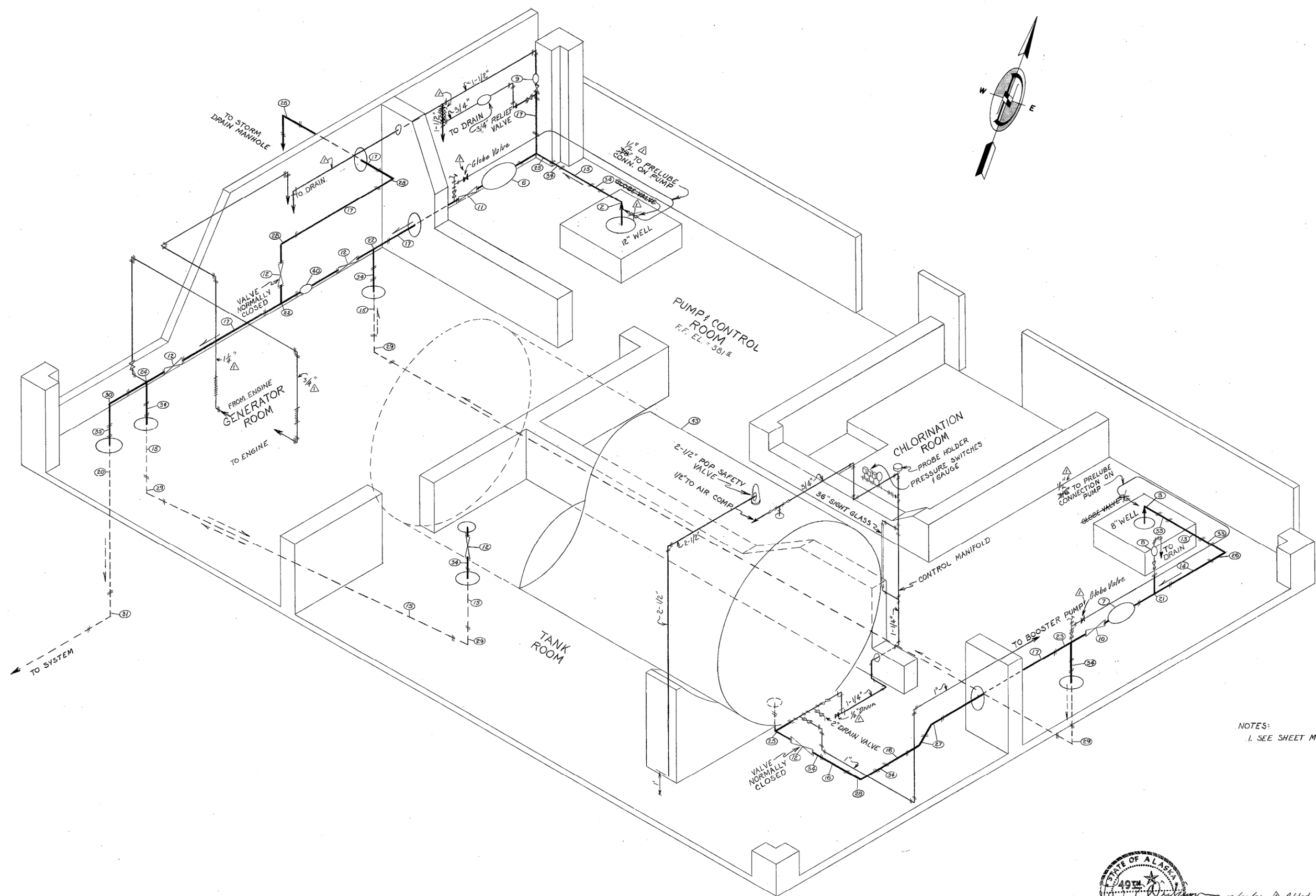
WELL HOUSE FLOOR PLAN

AS-BUILT



12/22/71		Added As-built Info.		By
Revision Date	Description			
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT WELL HOUSE SERVICE-HANSHEW JR./SR. HIGH SCHOOL MECHANICAL PIPING PLAN				
DICKINSON-OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 800 CORDOVA STREET ANCHORAGE, ALASKA				
DRAWN BY - DAM/RAS	DATE - 2-9-70	NO. 2848	GRID 2337	FILE NO. M-1
CHECKED BY - BK	SCALE - 1/2" = 1'-0"	W.H.	47-5	

PLAN SET No. 3924 11490



NOTES:
1. SEE SHEET M-1 FOR MATERIALS DESCRIPTION.



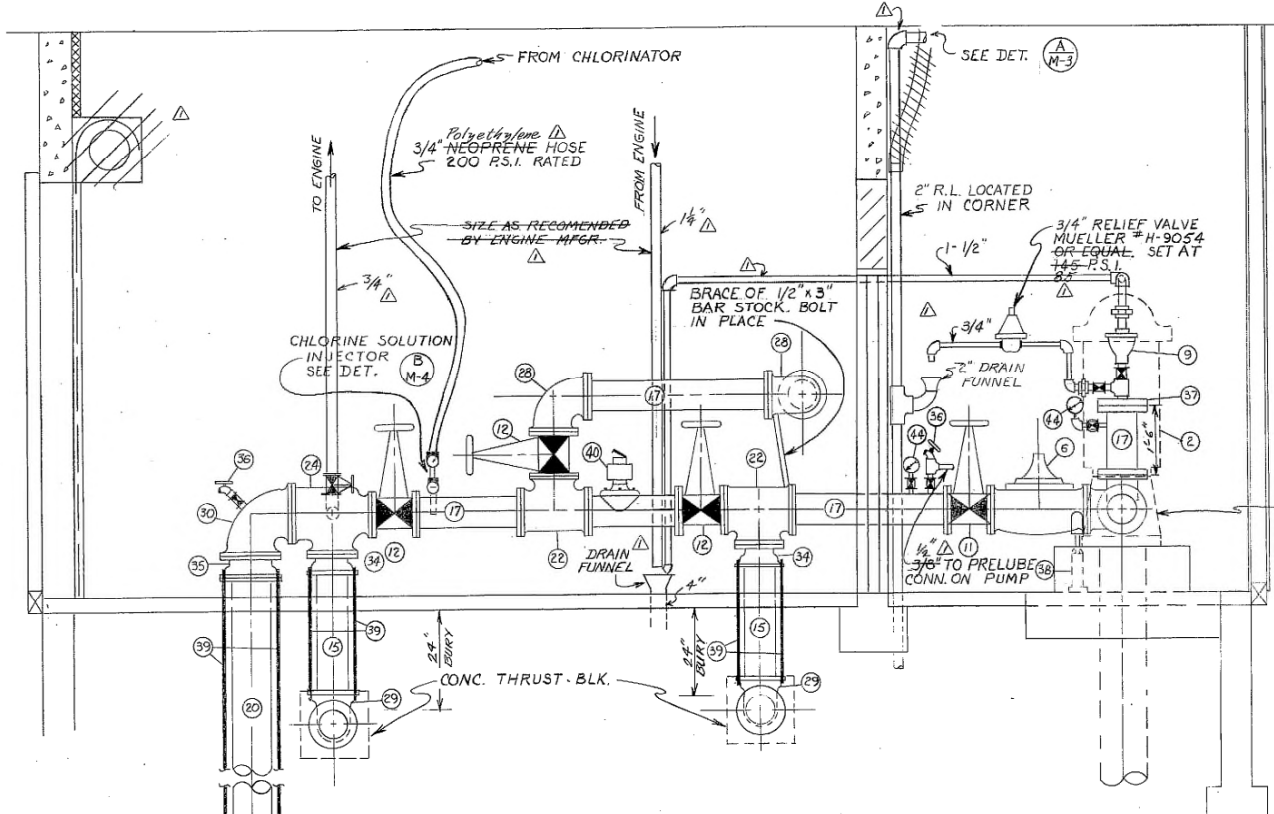
AS BUILT

Revision Date	12/22/71	Description	Added As Built Info.	By	BK
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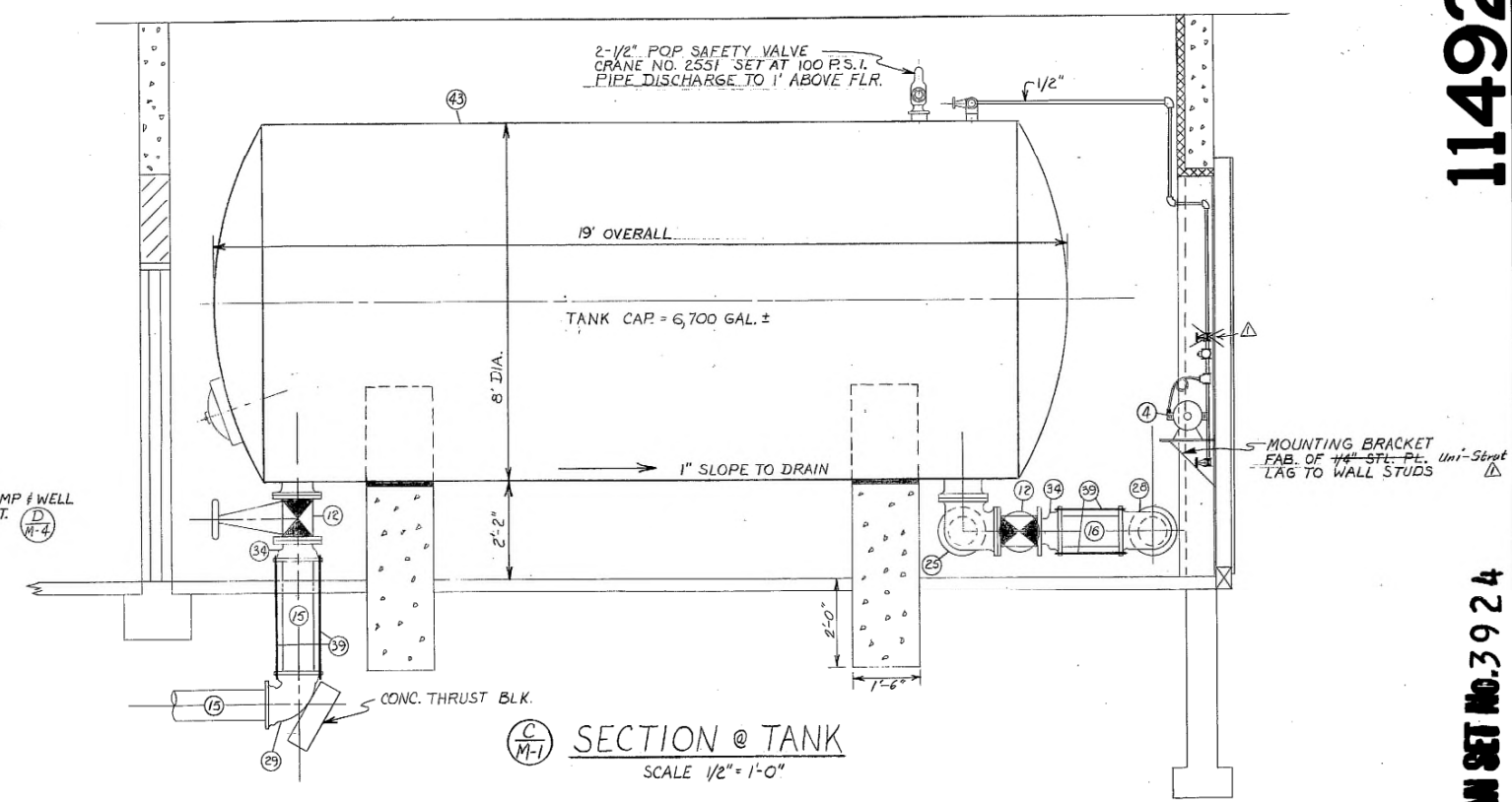
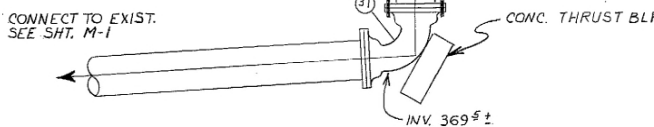
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT
WELL HOUSE
SERVICE-HANSHEW JR./SR. HIGH SCHOOL
MECHANICAL
PIPING ISOMETRIC

DICKINSON-OSWALD & ASSOCIATES
ENGINEERS - SURVEYORS
800 CORDOVA STREET
ANCHORAGE, ALASKA

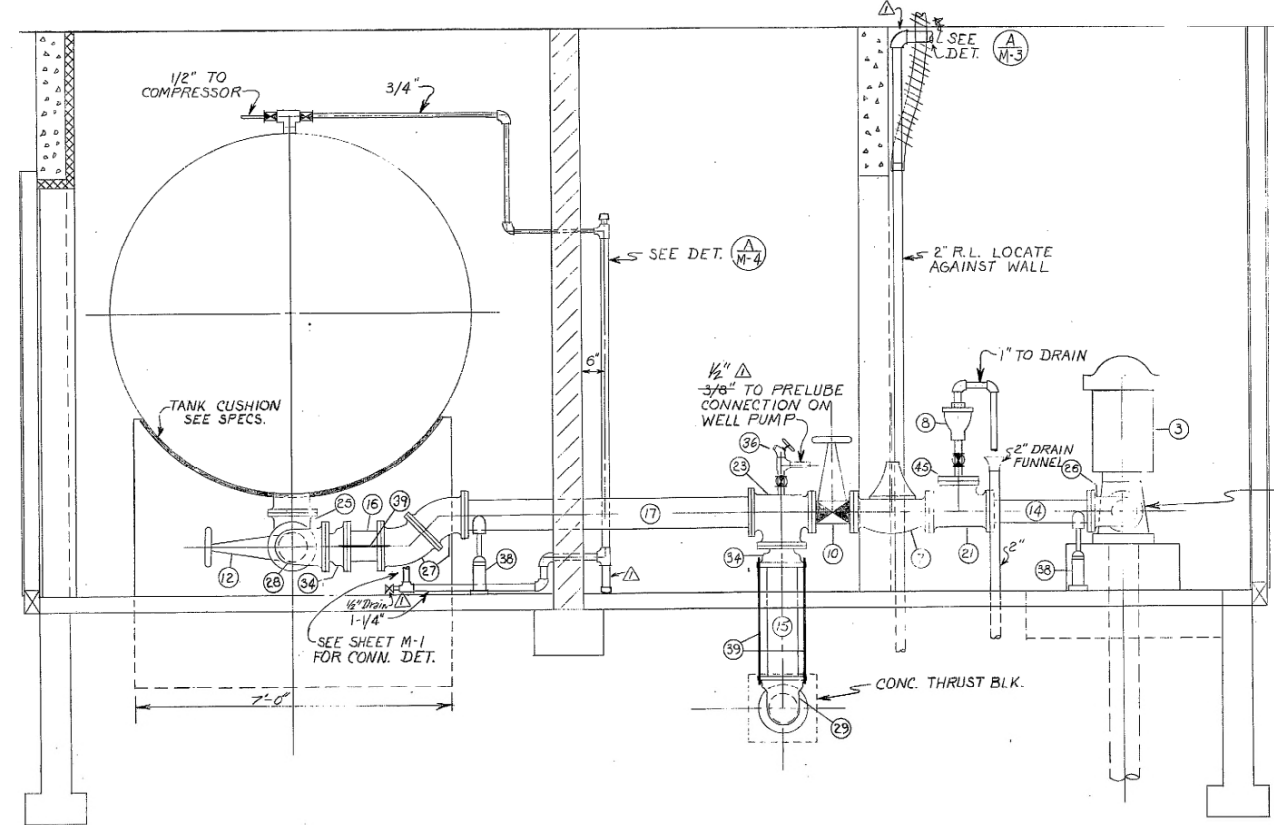
DRAWN BY - RAS	DATE - 2-25-70	W.O. 2848	GRID 2337	FILE NO. 47-6	M-2
CHECKED BY - BK	SCALE - 1/2" = 1'-0"	W.H.			



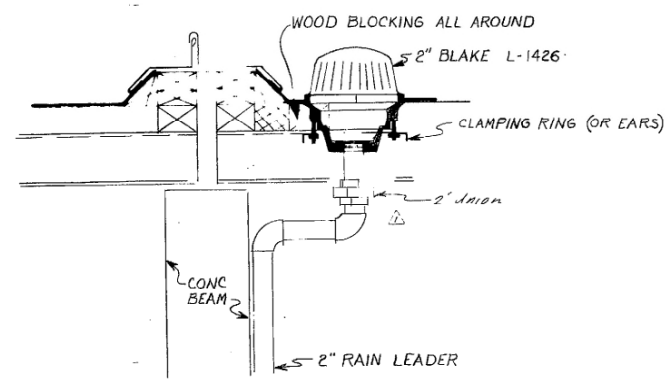
(A) SECTION @ GENERATOR ROOM
SCALE: 1/2" = 1'-0"



(C) SECTION @ TANK
SCALE 1/2" = 1'-0"



(B) SECTION TANK & PUMP ROOM
SCALE 1/2" = 1'-0"



(A) ROOF DRAIN @ REMOVABLE ROOF
NOT TO SCALE

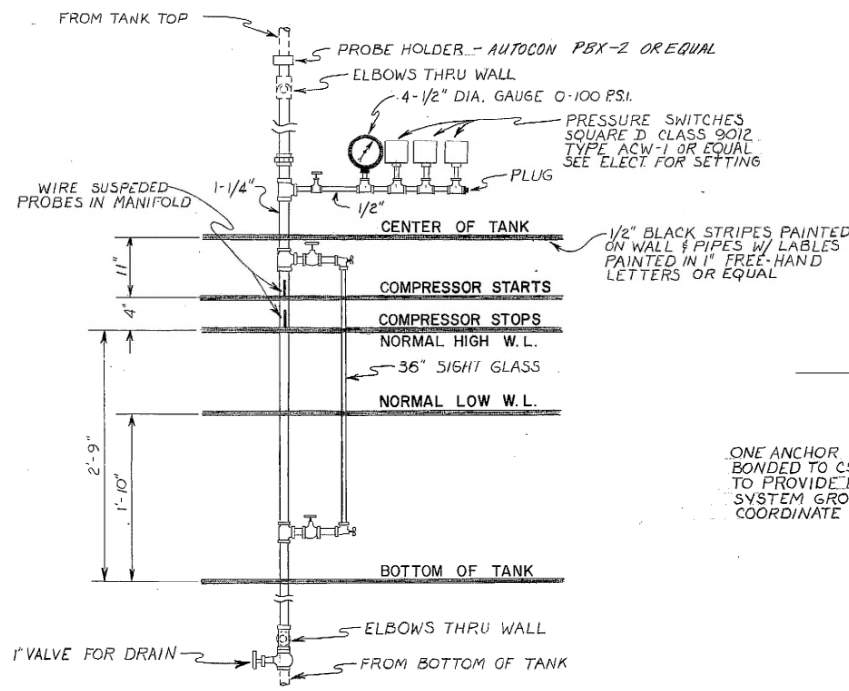
NOTES:
1. SEE SHEET M-1 FOR MATERIALS DESCRIPTION.



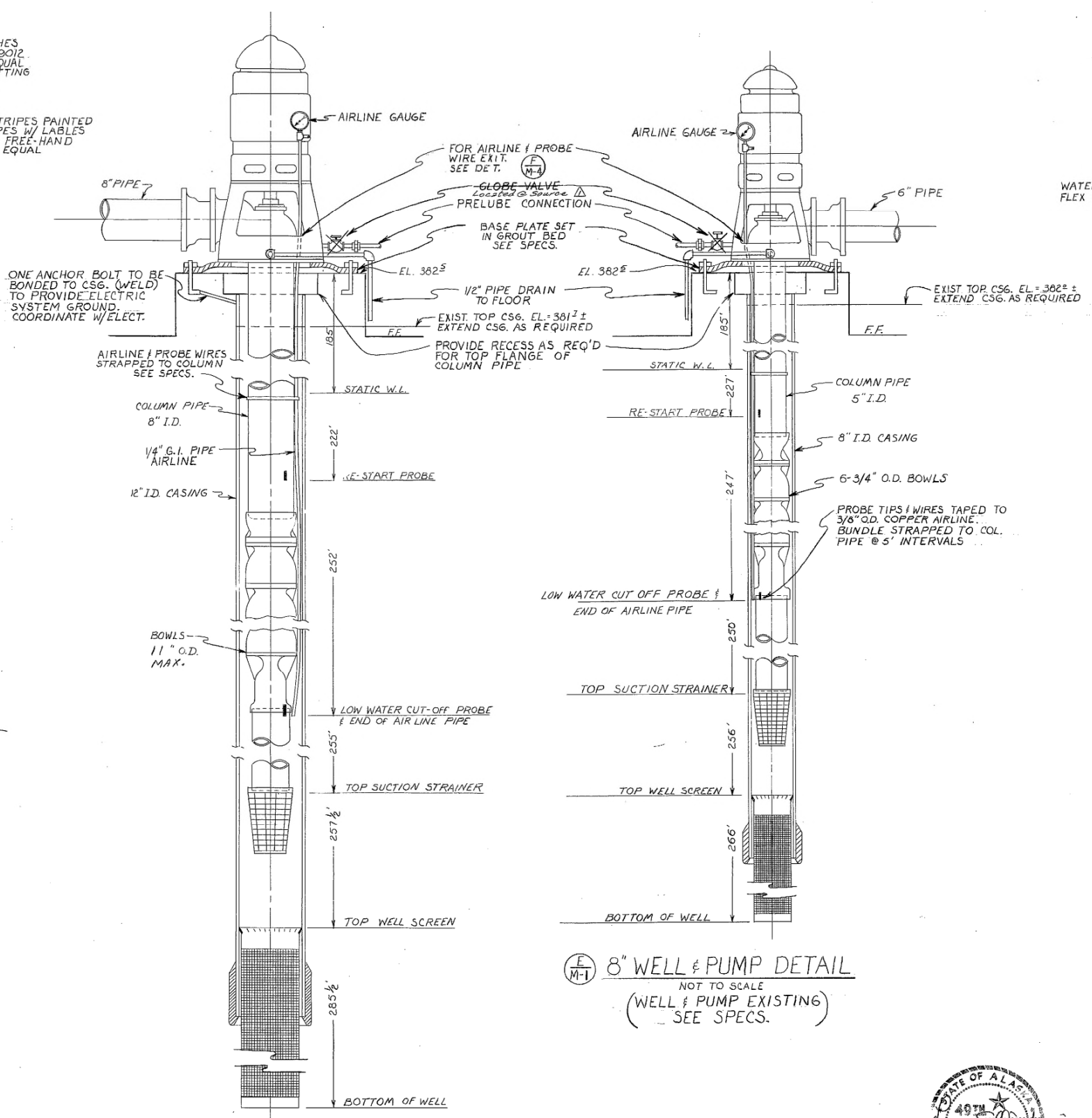
AS-BUILT

Revision	Date	Description	By
12/22/71	11	Added As-Built Info.	SR

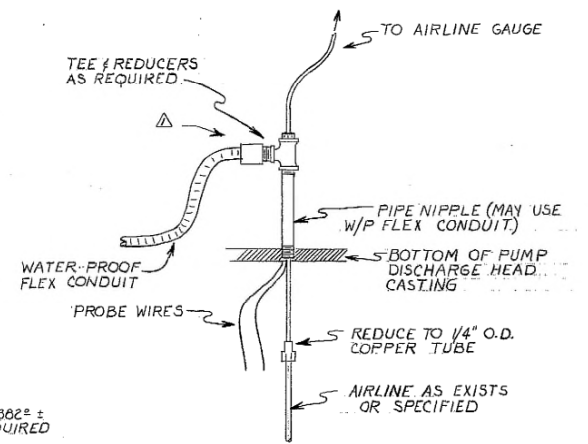
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT			
HOUSE			
SERVICE-HANSHAW JR./SR. HIGH SCHOOL			
MECHANICAL			
PIPING SECTIONS			
DICKINSON-OSWALD & ASSOCIATES			
ENGINEERS - SURVEYORS			
800 CORDOVA STREET			
ANCHORAGE, ALASKA			
DRAWN BY - RAS	DATE - 1-20-70	W.D. 2848	GRID 2337
CHECKED BY - BK	SCALE - 1/2" = 1'	FILE NO. M-3	47-7



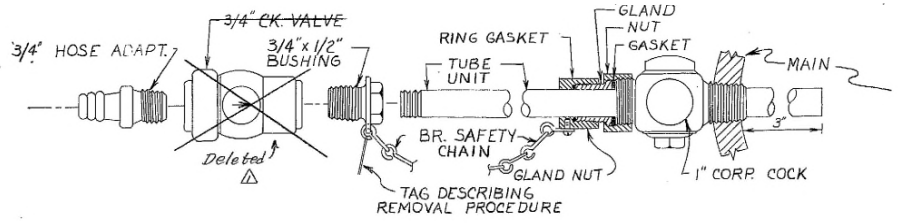
(A) CONTROL MANIFOLD
NOT TO SCALE



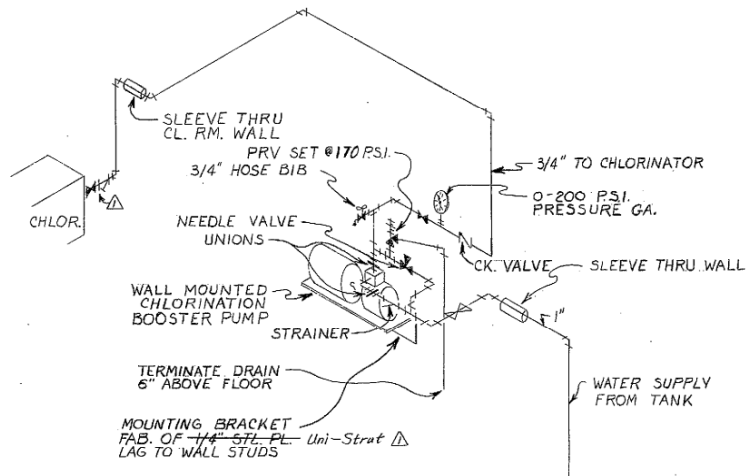
(D) 12\"/>



(F) AIRLINE & PROBE WIRE EXIT AT PUMP DISCHARGE HEAD
NOT TO SCALE



(B) CHLORINE INJECTOR ASSEMBLY
NOT TO SCALE



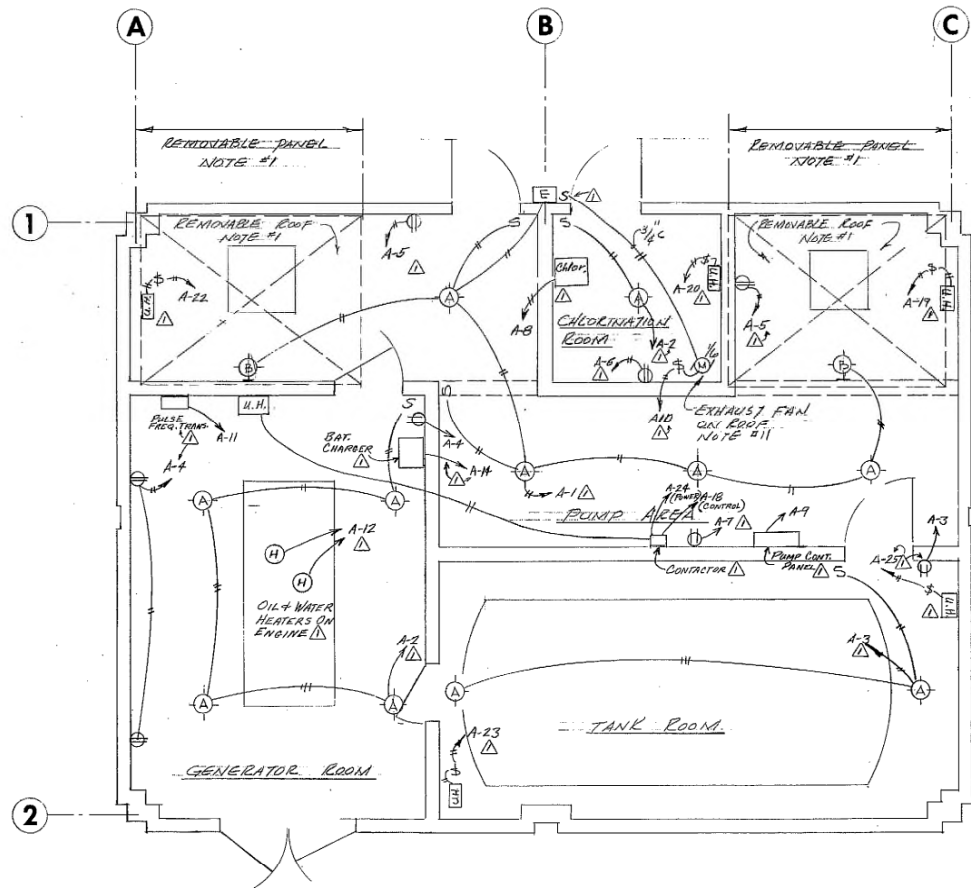
(C) CHLORINATION BOOSTER PUMP PIPING
NOT TO SCALE

(E) 8\"/>



AS-BUILT

Revision Date	Description	By
12/22/71	Added As-Built Info.	BC
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT WELL HOUSE SERVICE-HANSHAW JR./SR. HIGH SCHOOL MECHANICAL DETAILS		
DICKINSON-OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 800 CORDOVA STREET ANCHORAGE, ALASKA		
DRAWN BY - RAS CHECKED BY - BK	DATE - 2-9-70 SCALE - NONE	W.O. 2848 W.H. GRID 2337 FILE NO. 47-8 M-4



FLOOR PLAN - LIGHTING, HEATING & RECEPTACLES 1/4"=1'-0"

FIXTURE SCHEDULE							
SYMBOL	MANUFACTURE		MOUNTING		LAMP		REMARKS
	NAME	CAT. NO.	TYPE	HEIGHT	QUAN.	TYPE SIZE	
(A)	SHURLOCK HATFIELD	13816 AC 3042	SURFACE	CEILING	1	INCAND 200W	
(B)	SHURLOCK HATFIELD	13412 AC 3342	BRACKET	10'-0"	1	INCAND 200W	
(E)	HOLOPHANE	410-120 -PR	BRACKET	9'-6"	1	MERCURY H-38 100W	BLACK FINISH & PHOTO-CELL

ELECTRIC HEATER SCHEDULE				
SYMBOL	KN	VOLTS	PHASE	MANUFACTURE CAT. NO.
(H)	2.0	240	3	CHROMALOX - UB-23
(H)	3.0	240	1	" UB-32
(H)	7.5	240	1	" UB-752 (NOTE #15)
(T)	240	1		MEARS MTD

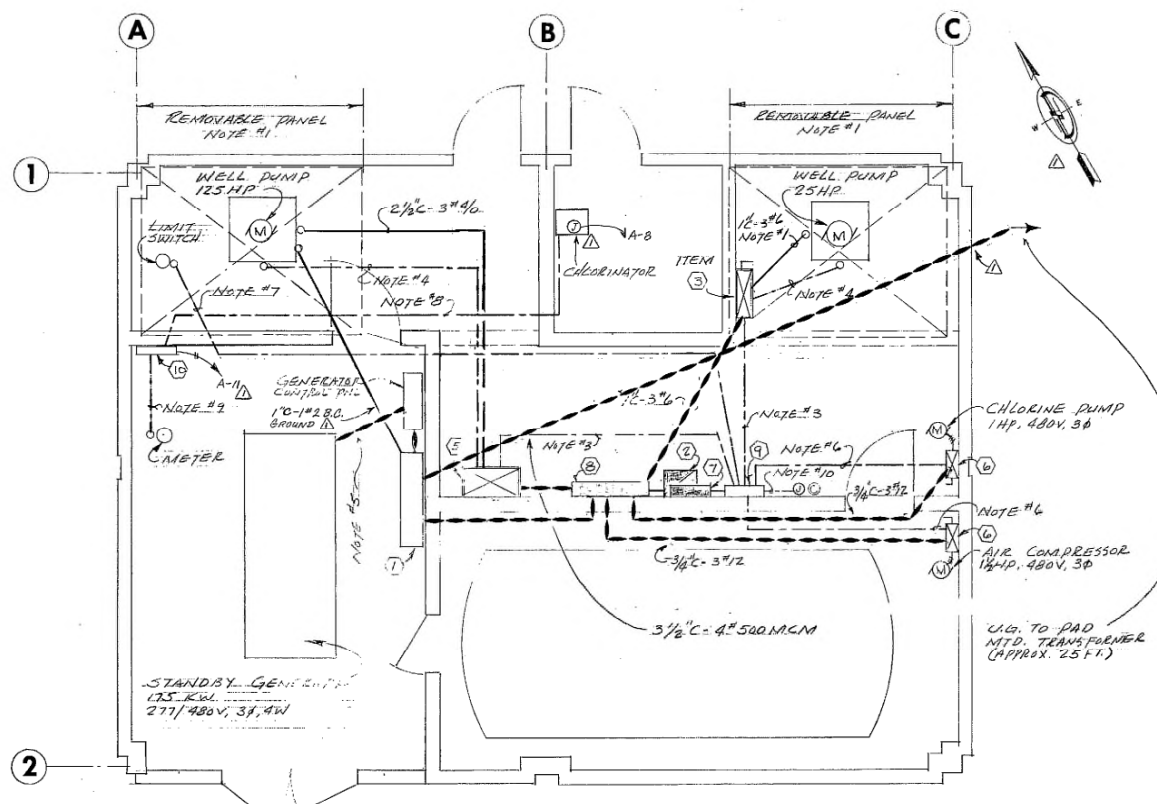
- LEGEND**
- OUTLET
 - ⊕ CONVENIENCE OUTLET - DUPLEX, WEATHERPROOF
 - ⊞ SINGLE POLE SWITCH
 - ⊞ THERMAL OVERLOAD SWITCH (BUILT-IN)
 - ⊞ MOTOR
 - ⊞ DISCONNECT SWITCH
 - ⊞ POWER PANEL
 - ⊞ JUNCTION BOX
 - ⊞ CONTROLLER
 - CONDUIT RUN - SLASH LINES INDICATE NO. OF CONDUCTORS

EQUIPMENT LIST

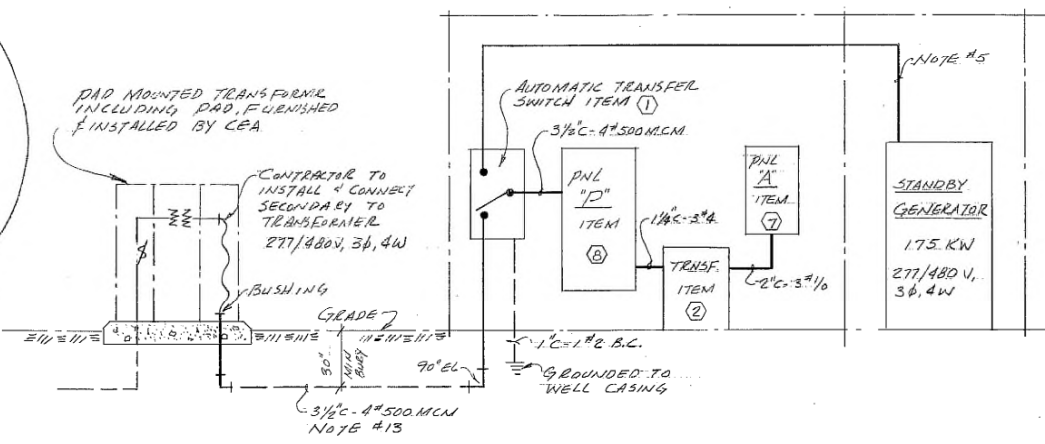
- 1 Automatic Transfer Switch - 600 volt, 300 amp, full relay protection, 3-phase, 4-wire, solid neutral. Automatic Switch Co., HASCON - 006 switch - see specifications.
- 2 Dry Type Transformer - 25 KVA, 480-120/240 volts, single phase - see specifications.
- 3 Well Pump - 25 Hp, 3 phase, 480 volt, combination disconnect & starter - owner furnished. Electrical Contractor to furnish and install 2 normally open contacts.
- 4 Well Pump Reduced Voltage Starter - 125 Hp, 3 phase, 480 volt, auto-transformer starter with closed transition, 3 overload elements, 1 auxiliary normally open contact on "run" contactor. Sq. "D" class 8006 type 33-1, NEMA type 1 enclosure.
- 5 Combination Starter - 3 pole, 480 volt, non-fused, size C, combination magnetic starter in NEMA type 1 enclosure, class 3338 type S80-11.
- 6 Panel "A" - rated 120/240 volt, 1-phase, 3-wire, 225 Amp mains, lugs only, Square "D" type HQCR, surface mounted, with following breakers:
 - 1-2p-50 Amp Bkr (ckt #3) 24
 - 5x2p-20 Amp Bkrs (ckt #1, 2, 4, 5) 17, 20, 22, 23, #25
 - 1/8x1p-20 Amp Bkrs (ckt #1-18)
 - 1-1p-20 Amp Bkr (space)
- 7 Panel "B" - Rated 277/480 volts, 3-phase, 4-wire, 400 Amp mains, 400 Amp main breaker, Square "D" type "ML", surface mounted with following breakers:
 - 1-3p-250 Amp Bkr (ckt #3) 125 Hp pump
 - 1-3p-70 Amp Bkr (ckt #4) 25 Hp pump
 - 1-3p-20 Amp Bkr (ckt #2) 1-1/2 Hp air compressor
 - 1-3p-20 Amp Bkr (ckt #1) 1/2 Hp Chlorine pump
 - 1-2p-70 Amp Bkr (ckt #6) transformer & Panel "A"
 - 1-3p-100 Amp Bkr (space)
 - 1-3p-400 AMP MAIN
- 8 Meter/Transmitter Panel (PULSE FREQUENCY TRANSDUCER)

NOTES

1. Route all conduit to avoid removable roof section & removable wall panel.
2. Stub conduit up with flush coupling at floor slab, install 10" conduit nipple (made up with waterproof thread compound in flush coupling) with neoprene jacketed flexible conduit & copper bonding jumpers to motor terminal box. See drawing for cable and conduit size.
3. Install 3/4" - 5 #12 to motor starters
4. Install 3/4" - 3 #12 for probe connection in well. Install conduit as per Note No. 1.
5. Install 3" - 4 #250 MCM exposed on ceiling, elbow down at point designated in the field by the engineer.
6. Install 3/4" - 2 #12 to motor starters.
7. Install 3/4" - 2 #12 to limit switch. Install conduit as per Note No. 1. See control diagram for wiring required.
8. Install 3/4" to chlorinator
9. Install 3/4" to meter
10. Install 1-1/4" - 9 #12 to junction box located on wall. Connect pressure switches as per control wiring diagram.
11. Exhaust fan for chlorinator room to be connected to weatherproof ext. switch & timer. See mechanical drawing for exact location and control.
12. Electrical Contractor to furnish, install and wire electric heaters complete. See Heater Schedule this sheet and mechanical drawing "HV-1" for location and controls.
13. Contractor to install underground secondary service, (3-1/2" - 4 #500 MCM, approximately 25 ft.) trench, backfill, and make secondary connections. CEA will install primary service, transformer and pad.
14. Conductors for control wiring may be smaller than #12 awg if sized for load controlled.
15. Use Chromalox contactor type K-250F for 7.5 KW heater.



FLOOR PLAN - POWER & CONTROLS 1/4"=1'-0"

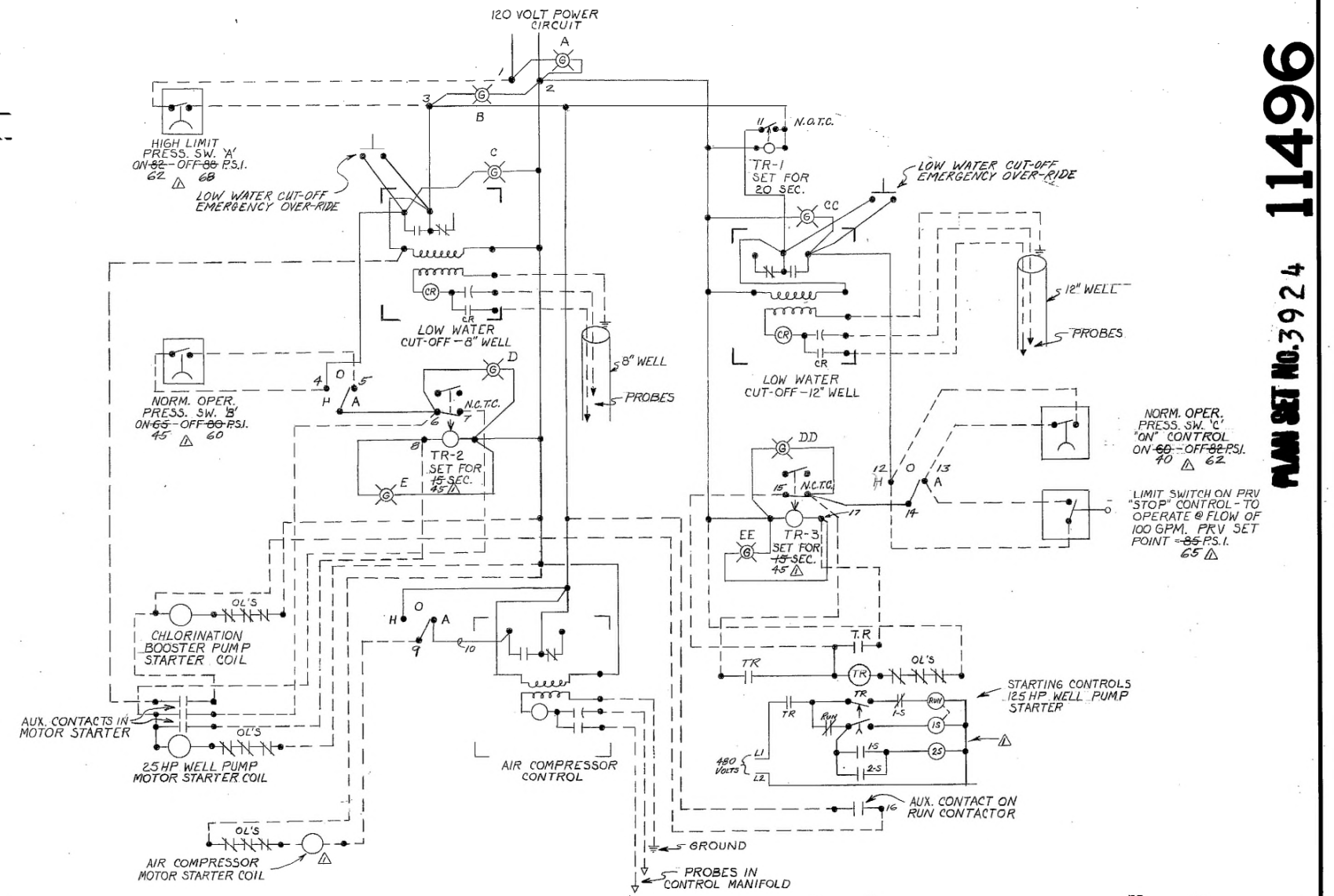
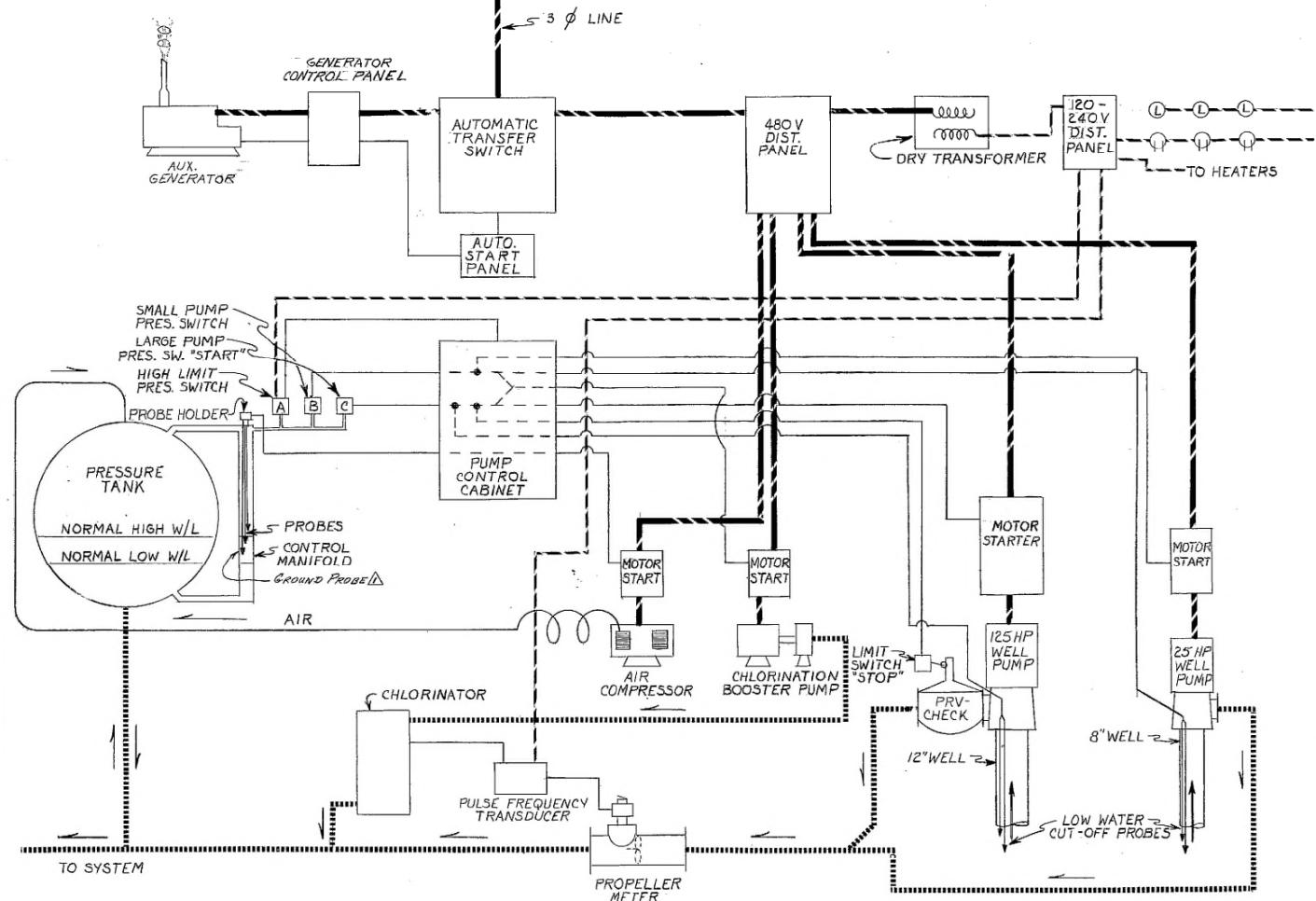


ELECTRICAL ONE LINE DIAGRAM NO SCALE

AS-BUILT



12/22/71		Added As-built info.		By
Revision Date	Description			
GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT WELL HOUSE SERVICE-HANSHEW JR./SR. HIGH SCHOOL ELECTRICAL LIGHTING-POWER-CONTROLS				
DICKINSON-OSWALD & ASSOCIATES ENGINEERS - SURVEYORS 800 CORDOVA STREET ANCHORAGE, ALASKA		W.O. 2848	GRID 2337	FILE NO. E-1
DRAWN BY - JR	DATE - 2-20-70	SCALE - AS NOTED	47-10	
CHECKED BY -				



LABEL INFORMATION

TRACING INST.:

- INDICATOR LIGHTS ARE ARRANGED IN ORDER OF CONTROL PRIORITY SEQUENCE.
- TRACE CONTROL SIGNAL SEQUENCE FROM TOP DOWN.

A - CONTROL CIRCUIT ENERGIZED.

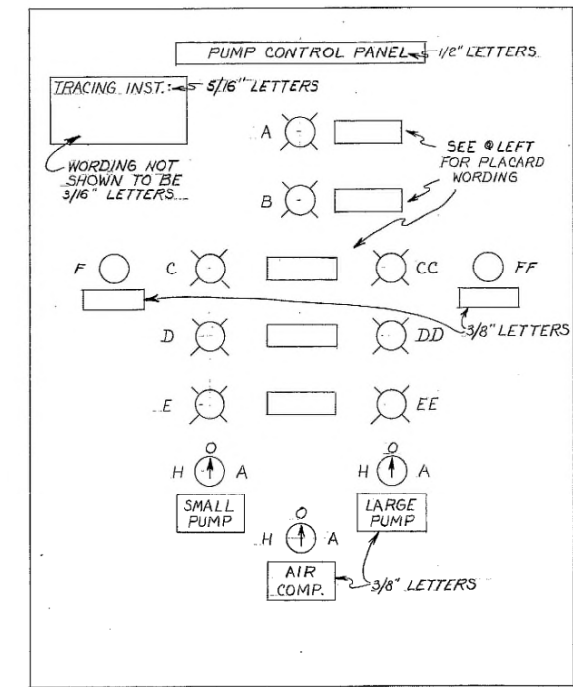
B - HIGH LIMIT PRESSURE SWITCH CLOSED - CONDITION NORMAL.

C & CC - WATER LEVEL IN WELL O.K.

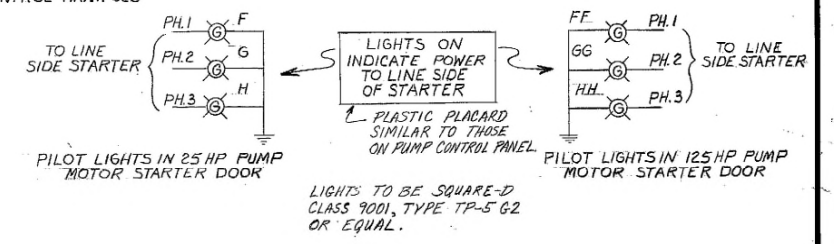
D & DD - ALL CONTROLS CALL FOR WATER (PUMP WILL NOT START UNTILL 15 SEC. AFTER LAST STOP)

E & EE - ALL CONTROLS IN "GO" CONDITION. PUMP SHOULD START IF POWER TO STARTER. IF ALL BUT THIS LIGHT ON, PUSH RESET ON STARTER. IF PUMP STILL DOESN'T START CALL ELECTRICIAN.

F & FF - LOW WATER CUT-OFF EMERGENCY OVER-RIDE.



- PUMP CONTROL PANEL COMPONENT LIST**
- TR-1 Timing Relay - Delay adjustable .2 sec. to 3 min., 120 volt coil, one N.O. and one N.C. timed contacts, time delay after energization - Square D Class, 9050 type B0-1E.
 - TR-2 & TR-3 Timing Relays - Delay adjustable .2 sec. to 3 min., 120 volt coil, one N.O. and one N.C. timed contacts, time delay after de-energization - Square D Class, 9050, Type B0-1D.
 - Low Water Cut-Off Probe Control Units - Differential level service for pumping down, 120 volt primary, one N.O. and one N.C. load contacts - Charles F. Warrick Co., Model 1G1D0.
 - Compressor Control Probe Unit - Same as Item 3 above.
 - Hand-Off-Auto Selector Switches - Three position rotary selector switch with single pole, double throw contacts, - Square D, Class 9001, Type TS-3A.
 - Low Water Cut-Off Emergency Over-Ride - Push button (red) with padlock attachment - Square D, Class 9001, Type TR-2A, with Class 9001, Type TL-1 latch type padlock attachment.
 - Pilot Lights - Low voltage lamp type with integral transformer and green glass lense - Square D, Class 9001, Type TP-1G2.
 - Terminal Strip - Spaces are as required plus 5 extra - Square D, Class 9080, Type KCA-1.
 - Label Placards - Engraved plastic plates with lettering of sizes shown. Placards to be black with white letters.
 - Enclosure - Standard NEMA 1 cabinet 24" wide x 30" high x 8" deep hinged on left side when viewed from front.



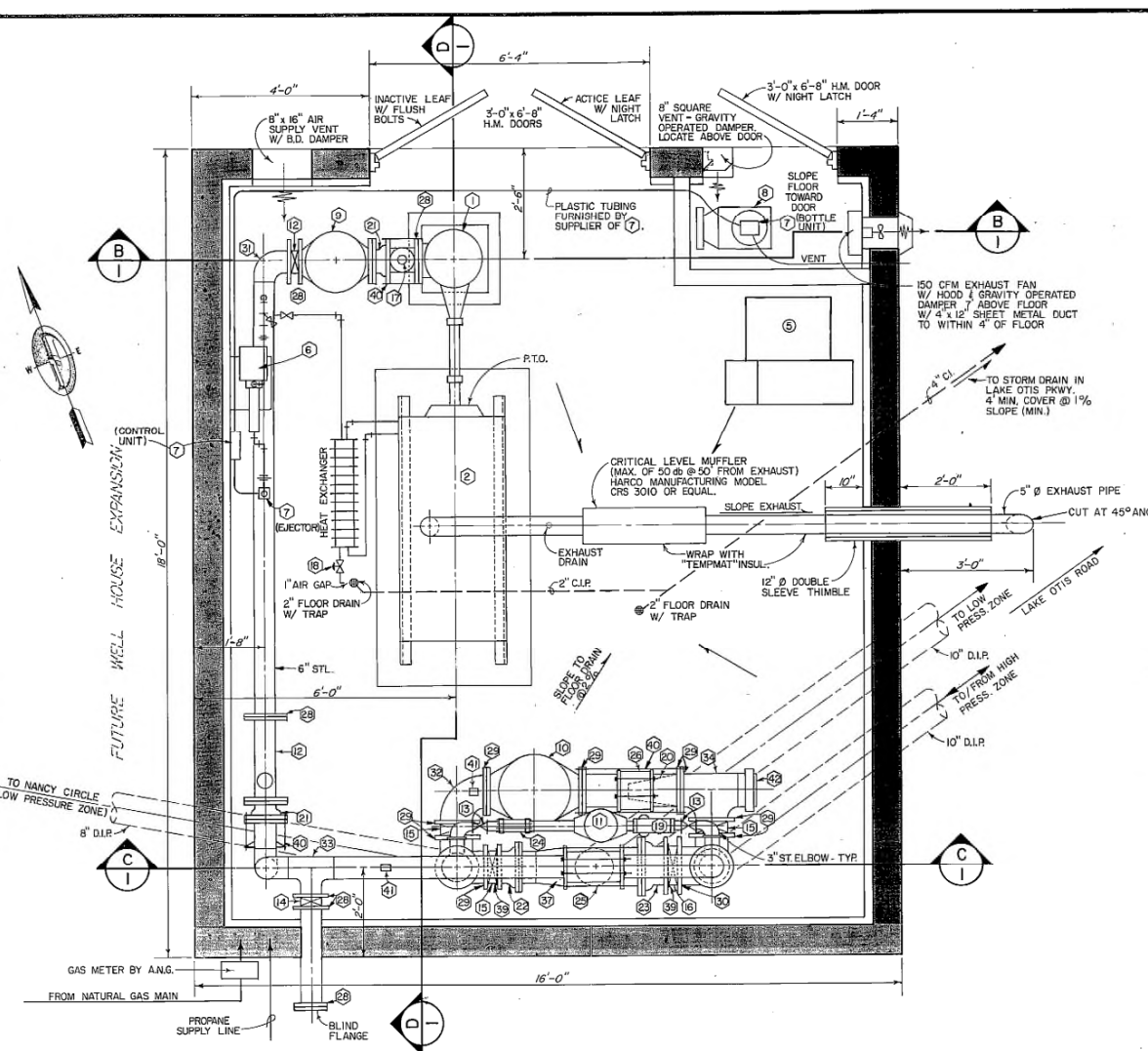
Revision Date	Description	By
12/22/71	ADDED AS-BUILT INFO.	BK

GREATER ANCHORAGE AREA BOROUGH SCHOOL DISTRICT
WELL HOUSE
SERVICE-HANSHEW JR./SR. HIGH SCHOOL
LINE & ELEM. DIAGRAMS

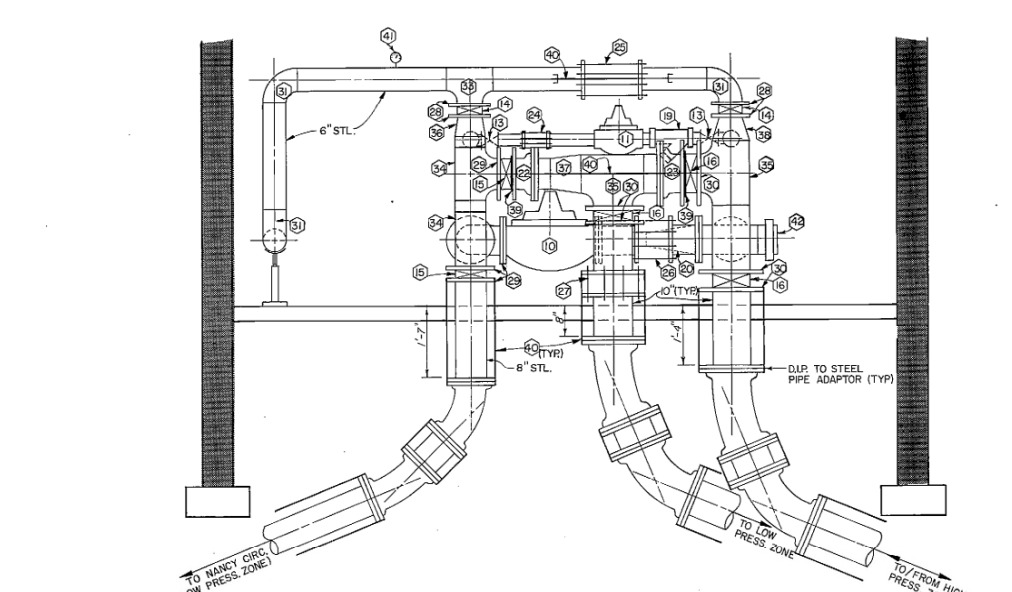
DICKINSON-OSWALD & ASSOCIATES
ENGINEERS - SURVEYORS
800 CORDOVA STREET,
ANCHORAGE, ALASKA

DRAWN BY - RAS	DATE - 2-18-70	NO. 2848	GRID 2337	FILE NO. E-2
CHECKED BY - BK	SCALE - NONE			47-11

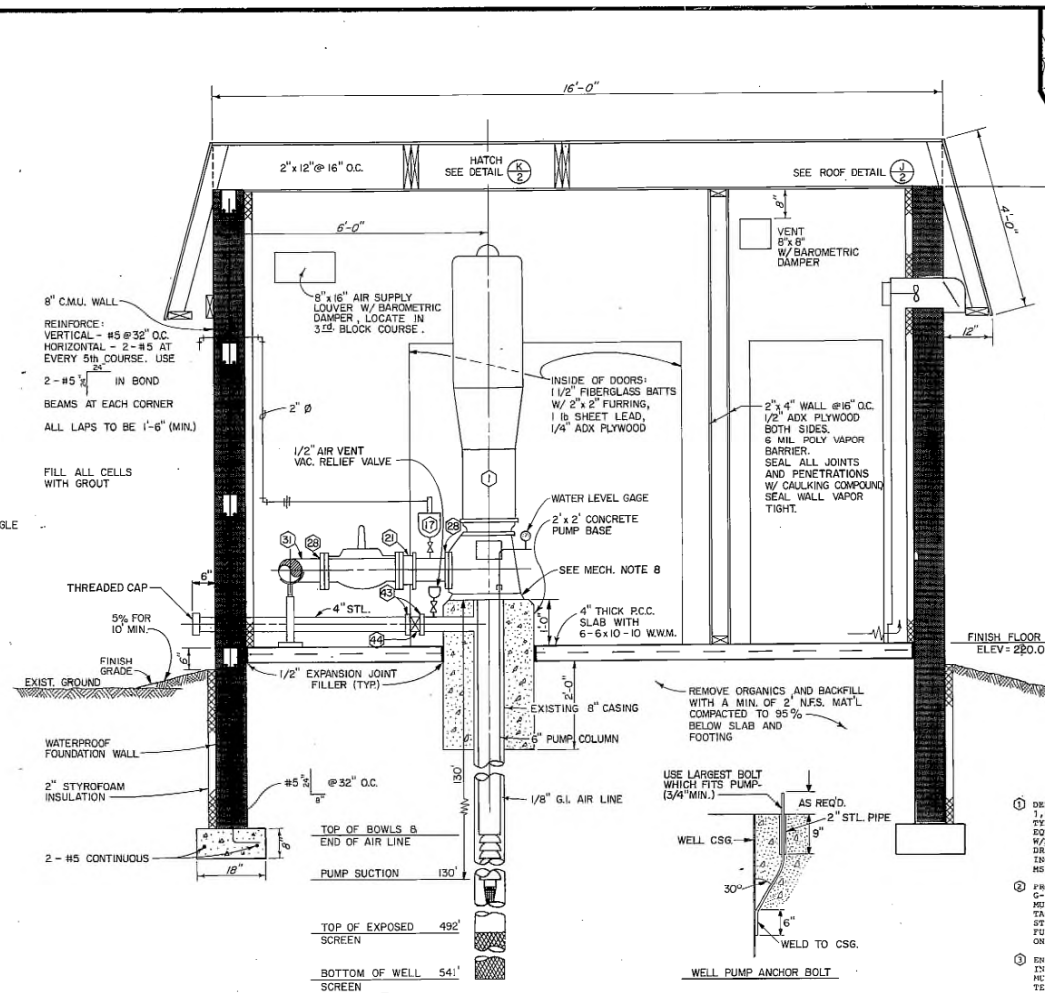
AS-BUILT



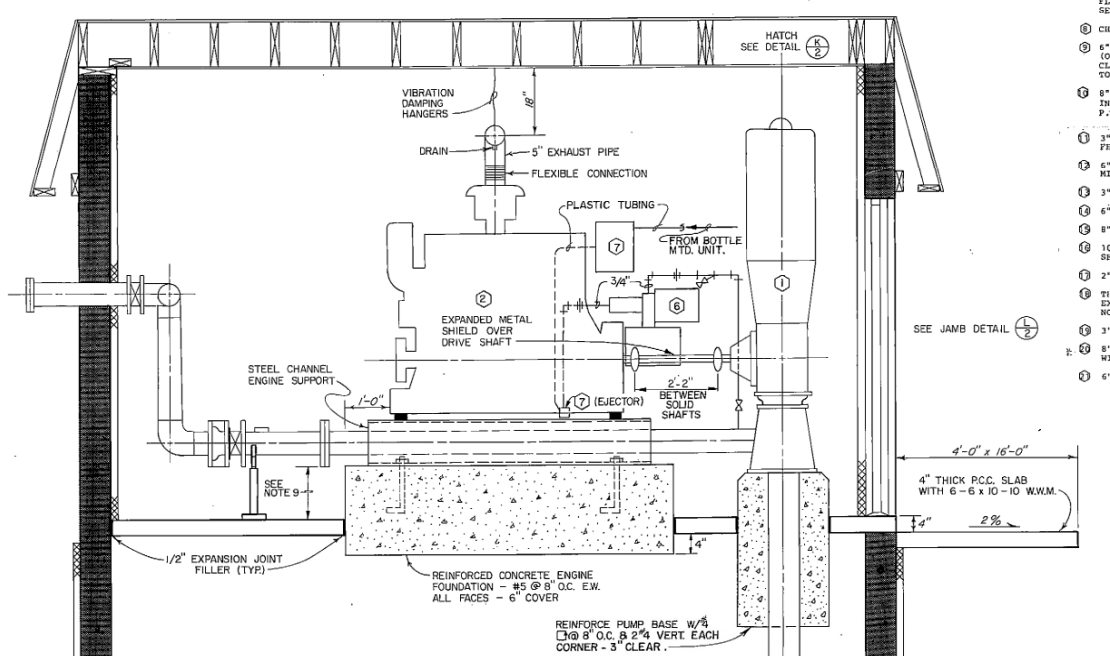
A WELL HOUSE PLAN VIEW
1/2" = 1'-0"



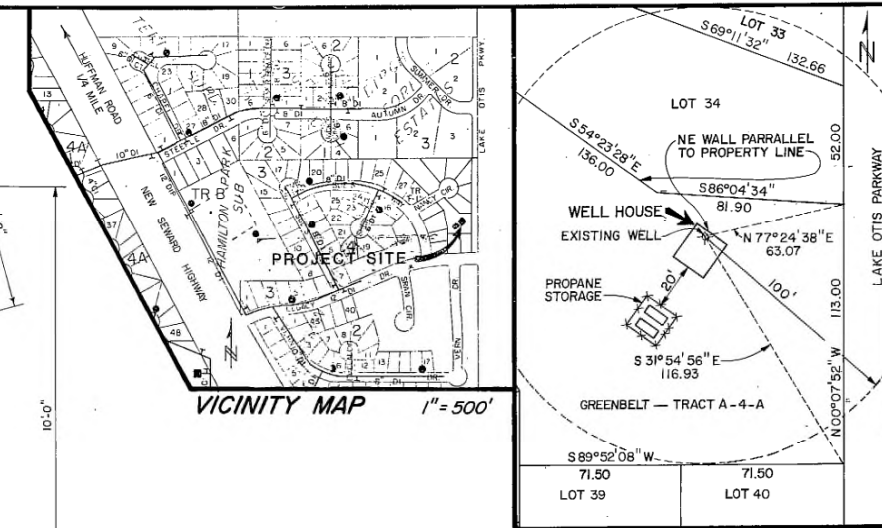
C WELL HOUSE SECTION
1/2" = 1'-0"



B WELL HOUSE SECTION
1/2" = 1'-0"



D WELL HOUSE SECTION
1/2" = 1'-0"



- MECHANICAL EQUIPMENT LIST**
- DEEP WELL TURBINE PUMP: 500 G.P.M. @ 270' T.D.H. @ 1800 R.P.M. AND 1,000 G.P.M. @ 330' T.D.H. @ 2,400 R.P.M., 8" BONUS, 6" COLUMN, 6"x12" TIE "X" DISCHARGE HEAD - BRASS-FLANGES 8 PIP - 12 STAGE, OR APPROVED LOCAL; 50 R.P.M. MAX., 230 V., 3 PHASE, 1800 R.P.M. VHS ELECTRIC MOTOR W/400-REVERSE SWITCH AND AUXILIARY DRIVE CONSISTING OF GEARHEAD/COMPO DRIVE WITH MECHANICAL DRIVE FOR 125 R.P.M. @ 1400 R.P.M., SPEED INCREASING RATIO OF HORIZONTAL SHAFT TO VERTICAL SHAFT 3:4. RANDOLPH M812.
 - PROPANE/NATURAL GAS ENGINE: 135 H.P. @ 1800 R.P.M. - COMBUSTION MODEL G-743 WITH THE FOLLOWING ACCESSORIES: HEAT EXCHANGER, CRITICAL TYPE MUFFLER AND FLEX EXHAUST CONNECTOR, BATTERY BOX, STARTER, ADAPTER, TACHOMETER WITH HOUR METER, P.T.O., 1500 WATT JACKET WATER HEATER, STRUCTURAL STEEL BASE W/INTERNAL GEAR PAN, WATER COOLED MANIFOLD, AND FUEL SYSTEM COMPONENTS LOCATED INSIDE BUILDING (EXCEPT PIPE) AS SHOWN ON THE SCHEMATIC DIAGRAM.
 - ENGINE CONTROL PACKAGE INCLUDING ENGINE CONTROLLER WITH THERMISTOR INDICATORS FOR WATER TEMPERATURE, OIL PRESSURE, OVERHEAT AND OVERCRANK MURPHY MODEL A-77-MC-4; MAGNETIC PICK-UP MURPHY MODEL TIP 2084; WATER TEMPERATURE SWITCH - MURPHY MODEL 207; OIL PRESSURE SWITCH - MURPHY MODEL 209; PRESSURE SWITCH - MURPHY MODEL OPL; BATTERY CHARGER - MURPHY MODEL BC-18-8; THROTTLE CONTROLLER - MURPHY MODEL AT-9720; AND THROTTLE STEPPER - MURPHY STR-71204.
 - PRESSURE CONTROL - AUTOCON BASIC TANKTROL, CLASS 1100, 120 VOLT, SINGLE PUMP FOR 30-90 P.S.I. RANGE IN NEMA 1 ENCLOSURE.
 - 500 GALLON PROPANE TANK WITH PERCENTAGE VOLUME GAUGE, FILLER VALVE, PRESSURE RELIEF VALVE, VAPOR ELIMINATOR VALVE, SERVICE VALVE, FIX OUTAGE VALVE, EXCESS FLOW VALVE, AND STEEL SUPPORTS COMPATIBLE WITH REINFORCED CONCRETE FOUNDATIONS. TANK SHALL BE EPOXY COATED.
 - CHLORINATION ROOSTER PUMP - CENTRIFUGAL TYPE - STER FOR 8 G.P.M. @ 230' T.D.H. TO HAVE 220 VOLT, SINGLE PHASE MOTOR. (VERIFY SIZING W/CHLORINATOR REQUIREMENTS). GOULDS H8 705.
 - CHLORINATION SYSTEM - VACUUM OPERATED PIPE WITH ELECTRIC POSITIONER AND CONTROL COMPONENTS REQUIRED TO PACE CHLORINE STORAGE PROPORTIONAL TO FLOW, COMPLETE W/50 PPD METERING TUBE AND INJECTOR. WALLACE & TIERNAN SERIES Y-500.
 - CHLORINE CYLINDER SCALE - ADVANCE NO. 437.
 - 6" COMBINATION PRESSURE REDUCING AND CHECK VALVE WITH 3 LIMIT SWITCHES (ONE SINGLE POLE AND ONE DOUBLE POLE) AND NEEDLE VALVE OPENING AND CLOSING SPEED CONTROLS. CLAYTON 91-G-01. DOWNSTREAM PRESSURE RANGE 30 TO 300 P.S.I.
 - 6" COMBINATION PRESSURE REDUCING/PRESSURE SUSTAINING VALVE W/POSITION INDICATOR - CLAYTON 92-G-01. ADJUSTMENT RANGE DOWNSTREAM: 15 TO 75 P.S.I.; UPSTREAM: 28 TO 200 P.S.I.
 - 3" COMBINATION PRESSURE REDUCING/PRESSURE SUSTAINING VALVE - SAME FEATURES AS 6"
 - 6" PROCELIER METER WITH INDICATOR - TOTALIZER AND 15 - 150 PULSES PER MINUTE SENSOR FOR CHLORINATOR PAGING. SPARLING SERIES 100.
 - 3" GATE VALVE W/SCREENED ENDS.
 - 6" BUTTERFLY VALVE WITH LOG BODY AND LEVER OPERATOR - DEMCO SERIES NE.
 - 8" BUTTERFLY VALVE WITH LOG BODY AND LEVER OPERATOR - DEMCO SERIES NE.
 - 10" BUTTERFLY VALVE WITH LOG BODY AND GEAR OPERATOR W/CRANK - DEMCO SERIES NE.
 - 2" AIR VENT/VACUUM RELIEF VALVE - APCO MODEL 144 WD.
 - TERMO-REGULATOR VALVE - TO MONITOR TEMPERATURE OF WATER LEAVING HEAT EXCHANGER - SET TO OPEN AT 80° F AND CLOSE AT 55° F. FONSBOE MODEL NO. 11A.
 - 3" "Y" - STRAINER W/SCREENED ENDS AND 20 MESH SCREEN.
 - 8" BASKET STRAINER FOR USE BETWEEN 150 LB. FLANGES ON SCHEDULE 40 PIPE WITH OPEN AREA OF 2000 - WENSTON TYPE 51-F.
 - 6" FLANGED COUPLING ADAPTOR FOR STEEL PIPE - SMITH-BLAIR 912.

- MECHANICAL NOTES**
- ALL PIPING ABOVE FLOOR 3" TO BE WELDED STEEL WITH FLANGED JOINTS WHERE REQUIRED FOR CONNECTION TO EQUIPMENT. PAINT WITH EPACT PAINT AFTER WELDING 2-30 BEFORE ASSEMBLY.
 - PIPING UNDER 3" TO BE GALVANIZED STEEL OR COPPER.
 - UNDERGROUND PIPING TO BE DUCTILE IRON WITH MECHANICAL JOINT FITTINGS.
 - ALL PIPING TO BE PRESSURE TESTED AND STERILIZED IN ACCORDANCE WITH CAU WATER CONSTRUCTION SPECIFICATIONS.
 - ALL MECHANICAL WORK SHALL COMPLY WITH APPLICABLE MUNICIPALITY OF ANCHORAGE CODES.
 - WRAP ALL SLAB PENETRATIONS W/3 LAYERS OF TAR PAPER.
 - AFTER BELOW GROUND INSTALLATION, STEEL PIPE, TIE RODS AND ACCESSORIES SHALL BE THOROUGHLY COVERED WITH ASPHALT OR OTHER ACCEPTABLE CORROSION-RETARDING MATERIAL.
 - BESIDE INSTALLATION OF WELL PUMP, CLIP 1/8" NEOPRENE GASKET TO BOTTOM OF DISCHARGE HEAD. SHIM HEAD W/STL. WEDGES AS REQUIRED FOR SHAFT ALIGNMENT AND GROUT. AFTER GROUT SETS, REMOVE WEDGES AND TIGHTEN ANCHOR BOLTS.
 - CONSTRUCT ENGINE FOUNDATION 6" LARGER ALL SIDES THAN STEEL ENGINE BASE, AND LOCATE TO PROVIDE PLACEMENT WITH RESPECT TO WELL PUMP AS SHOWN. ADJUST HEIGHT TO PROVIDE 2 DEG. ANGLE AT SHAFT UNIVERSAL JOINTS. INSTALL 4-3/4" X 8" ANCHOR BOLTS.



DATE	BY	DATA	BY	REVISION
DESIGNED DEC. 1980	WMB	San. Sewer Storm Sewer		
DRAWN JAN. 1981	WRM	Water Gas		
CHECKED DEC. 1981	RWK	Electric Easements		
APPROVED		Footings Elev. T.B.M. Data		

DICKINSON · OSWALD · WALCH · LEE
ENGINEERS ANCHORAGE, ALASKA

CENTRAL ALASKA UTILITIES
APPROVED: [Signature] DATE: 1-13-82

HUFFMAN HILLS WELL HOUSE
STRUCTURAL & MECHANICAL
PLANS & DETAILS

SCALE: Horz. AS NOTED, Vert. 1" = 2'-0"
SHEET: 2 of 3
W.O. D12483
GRID 2633
FILE NO. 203-28

PLAN SET NO. 3758
11037

CR 682 ST