

LEE STREET AND BONNIE BRAE PUMP STATION RENOVATIONS

VOLUME II of II

Contract No. BE21-122

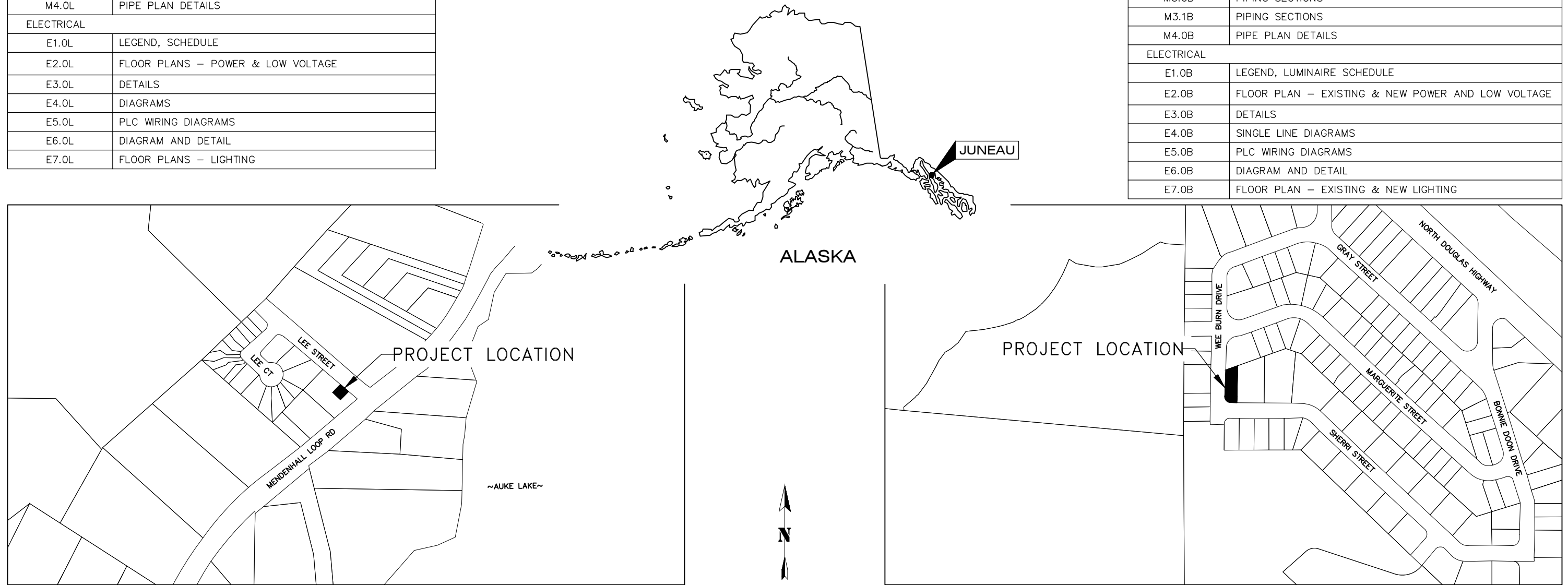
File No. 2018



LEE STREET AND BONNIE BRAE PUMP STATION RENOVATIONS BE21-122 CITY & BOROUGH OF JUNEAU, ALASKA

LEE STREET SHEET INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
G1.0	COMBINED COVER SHEET
G2.0	COMBINED LEGEND, ABBREVIATIONS & GENERAL NOTES
G3.0L	LEE STREET COVER SHEET
G4.0L	TEMPORARY WATER SERVICE PLAN OVERVIEW
G5.0L	TEMPORARY WATER PUMP PLAN
G6.0L	TEMPORARY WATER PUMP SINGLE LINE DIAGRAM
MECHANICAL	
M1.0L	PUMP & PIPING DEMOLITION PLAN
M2.0L	PIPING PLAN
M3.0L	PIPING SECTIONS
M4.0L	PIPE PLAN DETAILS
ELECTRICAL	
E1.0L	LEGEND, SCHEDULE
E2.0L	FLOOR PLANS - POWER & LOW VOLTAGE
E3.0L	DETAILS
E4.0L	DIAGRAMS
E5.0L	PLC WIRING DIAGRAMS
E6.0L	DIAGRAM AND DETAIL
E7.0L	FLOOR PLANS - LIGHTING

BONNIE BRAE SHEET INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
G1.0	COMBINED COVER SHEET
G2.0	COMBINED LEGEND, ABBREVIATIONS & GENERAL NOTES
G3.0B	BONNIE BRAE COVER SHEET
G4.0B	SUBDIVISION OVERVIEW
G5.0B	TEMPORARY WATER SERVICE PLAN OVERVIEW
G6.0B	TEMPORARY WATER PUMP PLAN
G7.0B	TEMPORARY WATER PUMP SINGLE LINE DIAGRAM
MECHANICAL	
M1.0B	PUMP & PIPING DEMOLITION PLAN
M2.0B	PIPING PLAN
M3.0B	PIPING SECTIONS
M3.1B	PIPING SECTIONS
M4.0B	PIPE PLAN DETAILS
ELECTRICAL	
E1.0B	LEGEND, LUMINAIRE SCHEDULE
E2.0B	FLOOR PLAN - EXISTING & NEW POWER AND LOW VOLTAGE
E3.0B	DETAILS
E4.0B	SINGLE LINE DIAGRAMS
E5.0B	PLC WIRING DIAGRAMS
E6.0B	DIAGRAM AND DETAIL
E7.0B	FLOOR PLAN - EXISTING & NEW LIGHTING



LEE STREET LOCATION MAP
NTS

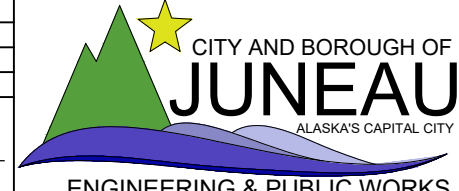
BONNIE BRAE LOCATION MAP
NTS



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



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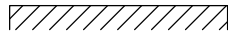




**LEE STREET AND BONNIE
BRAE PUMP STATION
RENOVATIONS**
 BE21-122

**COMBINED
COVER SHEET**

SHEET NUMBER
G1.0
 OF
34

CIVIL SITE LEGEND

DESCRIPTION	EXISTING	PROPOSED
BUILDING		
FIRE HYDRANT		
PAVEMENT	-----	
PROPERTY LINE	— P/L —	
UNDERGROUND PIPE CAP	[
WATER LINE PIPE	— PIPE SIZE & TYPE —	
WATER VALVE BOX		

ABBREVIATIONS

AC	ASPHALT CONCRETE
ACP	ASBESTOS CEMENT PIPE
BOP	BEGINNING OF PROJECT
BTM	BOTTOM
BVC	BEGIN VERTICAL CURVE
CB	CATCH BASIN
CBJ	CITY & BOROUGH OF JUNEAU
C/L	CENTERLINE
CMP	CORRUGATED METAL PIPE
CPP	CORRUGATED POLYETHYLENE PIPE
CONC	CONCRETE
CTE	CONNECT TO EXISTING
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
EL	ELEVATION
EOP	END OF PROJECT
EVC	END VERTICAL CURVE
FG	FINISHED GRADE
GV	GATE VALVE
HDPE	HIGH DENSITY POLYETHYLENE
INV	INVERT
LP	LOW POINT
LT	LEFT
MH	MANHOLE
MIN	MINIMUM
MTE	MATCH TO EXISTING
NIC	NOT IN CONTRACT
NO	NUMBER
NTS	NOT TO SCALE
OC	ON CENTER
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PRC	POINT OF REVERSE CURVATURE
P/L	PROPERTY LINE
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENT
PVC	POLYVINYL CHLORIDE PIPE
PVI	POINT OF VERTICAL INTERSECTION
RP	RADIUS POINT
RT	RIGHT
ROW	RIGHT-OF-WAY
STA	STATION
STD	STANDARD
TBC	TOP BACK OF CURB
TBG	TOP BACK OF GUTTER
TP	TOP OF PAVEMENT
TYP	TYPICAL

GENERAL NOTES

1. CBJ ENGINEERING STANDARD DETAILS BOOK FOR CIVIL ENGINEERING PROJECTS AND SUBDIVISION IMPROVEMENTS FOURTH ADDITION DATED AUGUST, 2011 AND CBJ ENGINEERING STANDARD SPECIFICATIONS DATED DECEMBER, 2003 ARE MADE A PART OF THIS CONTRACT, INCLUDING ALL ERRATA (NOS. 1-16) AND CURRENT REVISIONS AS APPLICABLE.
2. PROPERTY LINE LOCATIONS USED IN THESE PLANS ARE DERIVED FROM RECORD PLATS AND DO NOT REPRESENT BOUNDARY SURVEY.
3. CONTRACTOR SHALL ENSURE GARBAGE PICKUP, PRIVATE AND BUSINESS DELIVERIES, AND DAILY MAIL SERVICE WILL BE UNINTERRUPTED TO ALL BUSINESS AND RESIDENCES AFFECTED BY THIS PROJECT.
4. THE CONTRACTOR SHALL NOT STORE MATERIALS OR EQUIPMENT, OR OPERATE EQUIPMENT WITH ITS TRACKS OR WHEELS PLACED ON PRIVATE PROPERTY, WITHOUT THE WRITTEN APPROVAL OF THE PROPERTY OWNER.
5. THE CONTRACTOR SHALL NOTIFY CBJ WATER UTILITIES (LONI VANKIRK AT 723-4975) OF PROPOSED WATER SERVICE INTERRUPTION AND SUBMIT THE "WATER SYSTEM SPECIAL USE PERMIT" TO CBJ WATER UTILITIES SUPERINTENDENT FOR APPROVAL AT LEAST 48 HOURS PRIOR TO SHUTDOWN OR FLUSHING OF MAINLINE WATER PIPE. NO WATER SERVICE INTERRUPTION MAY PROCEED UNTIL THIS APPROVAL IS OBTAINED.
6. THE CONTRACTOR SHALL NOTIFY ALL RESIDENTS OF WATER SERVICE INTERRUPTIONS AT LEAST 24 HOURS PRIOR TO THE SERVICE INTERRUPTION. THIS WILL INCLUDE GOING DOOR TO DOOR TO MAKE RESIDENT CONTACT AND HANGING DOOR KNOCKERS ON EACH RESIDENCE. WATER SHUTDOWNS SHALL NOT EXCEED 4 HOURS.
7. PRIOR TO INTERRUPTING WATER SERVICE THE CONTRACTOR SHALL VERIFY THAT THE PUMPS, PIPES AND FITTINGS FOR THE WORK ARE ON SITE.
8. ALL ITEMS AND MATERIALS DESIGNATED TO BE REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR AND SHALL BE DISPOSED OF OFF-SITE, UNLESS NOTED OTHERWISE IN THE CONTRACT DOCUMENTS.
9. ALL PIPING, VALVES, FITTINGS, AND EQUIPMENT THAT WILL BE IN DIRECT CONTACT WITH WATER FOR THE CBJ WATER SYSTEM SHALL BE NSF 61 AND NSF 372 LISTED.
10. CALL 586-1333 BEFORE YOU DIG FOR UNDERGROUND POWER, TELEPHONE AND CABLE. CALL 811 ALASKA DIGLINE BEFORE YOU DIG FOR UNDERGROUND ACS & GCI. LOCATIONS AND ELEVATION OF EXISTING UNDERGROUND WATER, SEWER, POWER, TELEPHONE AND CABLE TELEVISION SHOWN ON THE PLANS WERE DERIVED FROM CBJ AS-BUILTS AND FIELD LOCATES. THE ACTUAL LOCATION OF UTILITIES MAY VARY FROM THOSE SHOWN. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING, PROTECTING AND MAINTAINING THE UTILITIES THROUGHOUT THE CONSTRUCTION OF THE PROJECT. ANY DAMAGE TO THE UNDERGROUND UTILITIES DURING CONSTRUCTION SHALL BE PAID FOR BY THE CONTRACTOR AND SHALL BE CONSIDERED INCIDENTAL TO THE CONTRACT.

TRAFFIC CONTROL NOTES

1. ALL TRAFFIC TO BE CONTROLLED PER REQUIREMENTS OF THE ALASKA TRAFFIC MANUAL, U.S. DEPARTMENT OF TRANSPORTATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" AND THE ALASKA SUPPLEMENT.
2. DETOURS SHALL BE APPROVED BY THE ENGINEER.
3. ROAD CLOSURES SHALL BE APPROVED BY THE ENGINEER.
4. THE CONTRACTOR WILL NOT BE PERMITTED TO OBSTRUCT VEHICULAR TRAFFIC BETWEEN THE HOURS OF 4:30 PM AND 8:00 AM SEVEN DAYS A WEEK. DURING THIS PERIOD ONE LANE SHALL BE OPEN TO VEHICULAR TRAFFIC AND HAVE A MINIMUM WIDTH OF 9 FEET.
5. PROVIDE ACCESS FOR EMERGENCY VEHICLES AT ALL TIMES.
6. A MINIMUM OF ONE LANE (9 FOOT MINIMUM WIDTH) SHALL BE KEPT OPEN TO VEHICULAR TRAFFIC AT ALL TIMES, EXCEPT A FIVE MINUTE MAXIMUM STOPPAGE TO VEHICULAR TRAFFIC WILL BE PERMITTED WITH NO MORE THAN ONE TRAFFIC STOPPAGE PER HOUR.
7. PEDESTRIAN TRAFFIC SHALL BE AVAILABLE ALONG AT LEAST ONE SIDE OF THE STREET AT ALL TIMES. THE PEDESTRIAN PATHWAY SHALL BE CLEARLY MARKED AND SHALL SATISFY THE REQUIREMENTS AS DESCRIBED IN THE SPECIAL PROVISIONS.

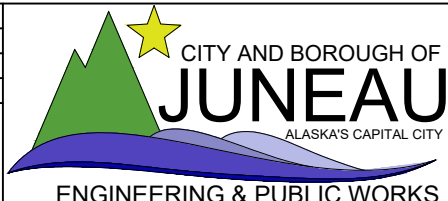


RECORD OF REVISIONS			
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LEE STREET AND BONNIE BRAE PUMP STATION RENOVATIONS

BE21-122

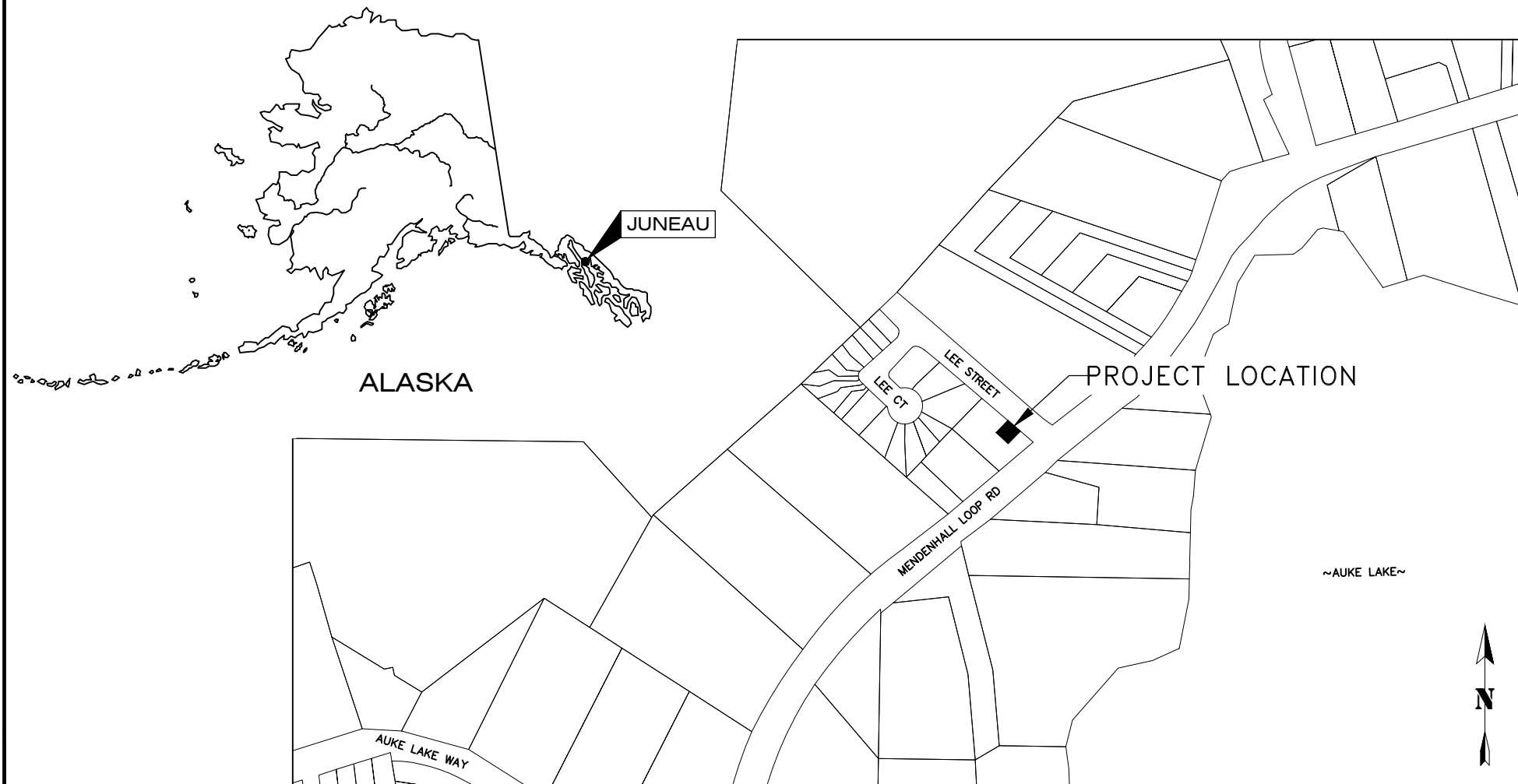
COMBINED LEGEND, ABBRVEIATIONS & GENERAL NOTES

SHEET NUMBER
G2.0
OF
34

LEE STREET PUMP STATION RENOVATION

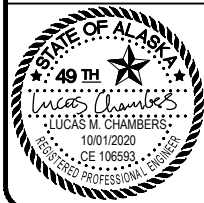
BE21-122

CITY & BOROUGH OF JUNEAU, ALASKA



PROJECT LOCATION MAP
NTS

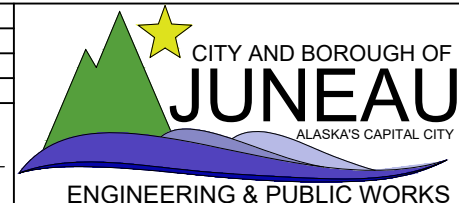
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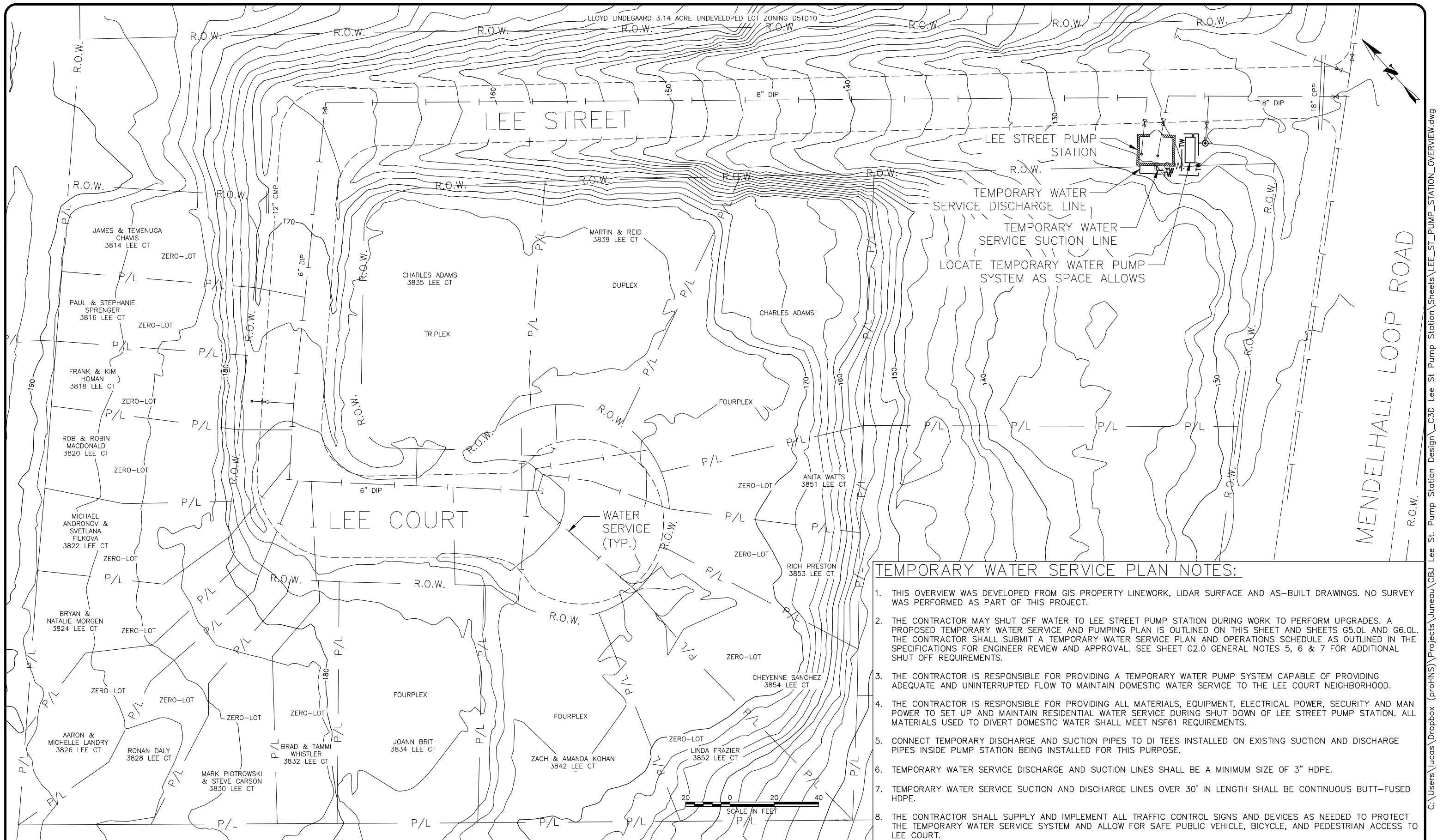
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LEE ST PUMP STATION RENOVATION
 BE21-122

LEE STREET COVER SHEET


SHEET NUMBER
G3.0L
 OF
34




TEMPORARY WATER SERVICE PLAN NOTES:

1. THIS OVERVIEW WAS DEVELOPED FROM GIS PROPERTY LINEWORK, LIDAR SURFACE AND AS-BUILT DRAWINGS. NO SURVEY WAS PERFORMED AS PART OF THIS PROJECT.
2. THE CONTRACTOR MAY SHUT OFF WATER TO LEE STREET PUMP STATION DURING WORK TO PERFORM UPGRADES. A PROPOSED TEMPORARY WATER SERVICE AND PUMPING PLAN IS OUTLINED ON THIS SHEET AND SHEETS G5.0L AND G6.0L. THE CONTRACTOR SHALL SUBMIT A TEMPORARY WATER SERVICE PLAN AND OPERATIONS SCHEDULE AS OUTLINED IN THE SPECIFICATIONS FOR ENGINEER REVIEW AND APPROVAL. SEE SHEET G2.0 GENERAL NOTES 5, 6 & 7 FOR ADDITIONAL SHUT OFF REQUIREMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A TEMPORARY WATER PUMP SYSTEM CAPABLE OF PROVIDING ADEQUATE AND UNINTERRUPTED FLOW TO MAINTAIN DOMESTIC WATER SERVICE TO THE LEE COURT NEIGHBORHOOD.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS, EQUIPMENT, ELECTRICAL POWER, SECURITY AND MAN POWER TO SET UP AND MAINTAIN RESIDENTIAL WATER SERVICE DURING SHUT DOWN OF LEE STREET PUMP STATION. ALL MATERIALS USED TO DIVERT DOMESTIC WATER SHALL MEET NSF61 REQUIREMENTS.
5. CONNECT TEMPORARY DISCHARGE AND SUCTION PIPES TO DI TEES INSTALLED ON EXISTING SUCTION AND DISCHARGE PIPES INSIDE PUMP STATION BEING INSTALLED FOR THIS PURPOSE.
6. TEMPORARY WATER SERVICE DISCHARGE AND SUCTION LINES SHALL BE A MINIMUM SIZE OF 3" HDPE.
7. TEMPORARY WATER SERVICE SUCTION AND DISCHARGE LINES OVER 30' IN LENGTH SHALL BE CONTINUOUS BUTT-FUSED HDPE.
8. THE CONTRACTOR SHALL SUPPLY AND IMPLEMENT ALL TRAFFIC CONTROL SIGNS AND DEVICES AS NEEDED TO PROTECT THE TEMPORARY WATER SERVICE SYSTEM AND ALLOW FOR SAFE PUBLIC VEHICLE, BICYCLE, AND PEDESTRIAN ACCESS TO LEE COURT.

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CITY AND BOROUGH OF JUNEAU
 ALASKA'S CAPITAL CITY
ENGINEERING & PUBLIC WORKS

LEE ST PUMP STATION RENOVATION
 BE21-122

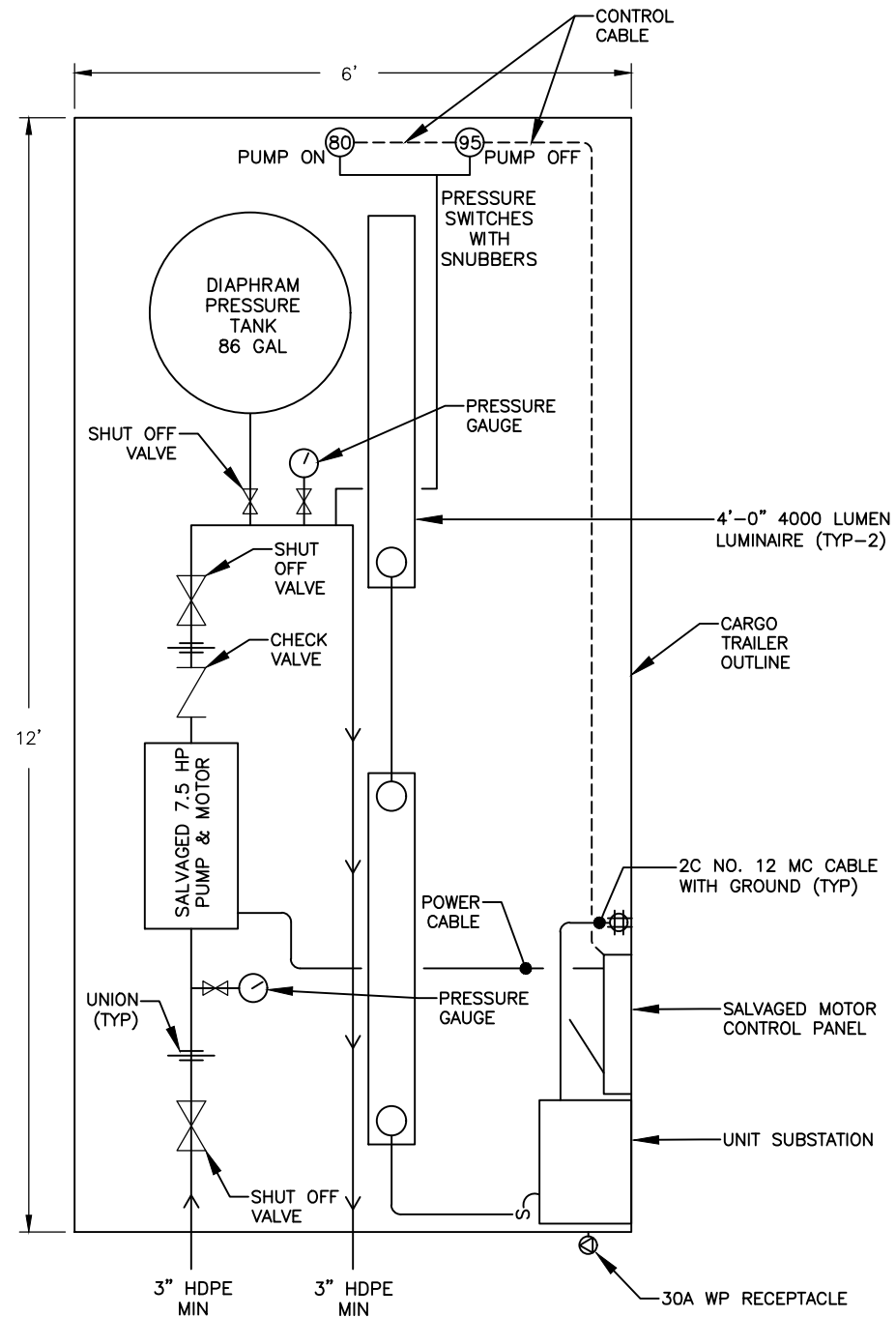
TEMPORARY WATER SERVICE PLAN OVERVIEW

SHEET NUMBER
G4.0L
 OF
34

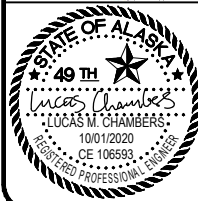
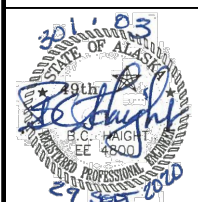
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 October 9, 2020

TEMPORARY WATER PUMP NOTES:


1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS, EQUIPMENT, ELECTRICAL POWER, SECURITY AND MAN POWER TO SET UP AND MAINTAIN THE TEMPORARY WATER PUMP.
2. SUCTION AND DISCHARGE LINES OUTSIDE THE TRAILER SHALL BE MINIMUM 3" HDPE. PIPING INSIDE THE TRAILER SHALL BE MATERIAL AND SIZE AS REQUIRED TO CONNECT COMPONENTS.
3. THE CONTRACTOR MAY PENETRATE THE EXTERIOR WALL TO ATTACH THE TEMPORARY SUCTION AND DISCHARGE PIPES TO THE PROPOSED DIP TEES INSTALLED ON THE SUCTION AND DISCHARGE PIPES INSIDE THE PUMP HOUSE. AFTER DECOMMISSIONING THE TEMPORARY PUMP RETURN EXTERIOR WALL TO EXISTING CONDITION. SEE PIPING PLAN ON SHEET M2.0L AND PIPING SECTIONS ON M3.0L FOR DETAILS ON DIP TEE AND VALVE INSTALLED ON SUCTION AND DISCHARGE PIPES INSIDE THE PUMP HOUSE INSTALLED FOR FACILITATING THE TEMPORARY PUMPING PLAN.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL MATERIAL AND EQUIPMENT NECESSARY TO MITIGATE THE EFFECTS OF WATER HAMMER ON THE SYSTEM.
5. THE CONTRACTOR SHALL FURNISH A CARGO TRAILER MEETING THE REQUIREMENTS OF THE SPECIFICATIONS. THE CONTRACTOR SHALL INSTALL TEMPORARY WATER PUMP SYSTEM INSIDE THE CARGO TRAILER. LAYOUT OF COMPONENTS INSIDE THE TRAILER MAYBE MODIFIED AS APPROVED BY THE ENGINEER. THE SALVAGED MOTOR CONTROL PANEL AND THE UNIT SUBSTATION SHALL BE MOUNTED TO A 3/4" PLYWOOD BOARD, MOUNTED TO THE INTERIOR OF THE TRAILER.
6. THE CONTRACTOR SHALL SALVAGE AND REUSE THE EXISTING 7.5HP PUMP AND MOTOR. THE CONTRACTOR SHALL SALVAGE AND REUSE THE EXISTING MOTOR CONTROL PANEL AND PRESSURE SWITCHES FOR USE IN THE TEMPORARY WATER PUMP SYSTEM. PROVIDE CONTROL CIRCUITING TO PRESSURE SWITCHES TO CONTROL THE MOTOR STARTER. A NEW NEMA 1 RATED STARTER MAY BE PROVIDED IN LIEU OF THE SALVAGED MOTOR CONTROL PANEL. NEW PRESSURE SWITCHES MAY BE PROVIDED IN LIEU OF THE SALVAGED PRESSURE SWITCHES.
7. THE CONTRACTOR SHALL PROVIDE POWER EQUIPMENT, INCLUDING 30A WP RECEPTACLE, UNIT SUBSTATION, GROUND ROD, AND ASSOCIATED CABLES AND CIRCUIT BREAKERS. PROVIDE LUMINARIES AND RECEPTACLE WITH ASSOCIATED SWITCH AND CABLES IN TRAILER INTERIOR.
8. PUMP OPERATION: PUMP SHALL BE CONTROLLED BY "PUMP ON" AND "PUMP OFF" PRESSURE SWITCHES. PUMP SHALL TURN ON WHEN LOW PRESSURE OF 80 PSI IS DETECTED AND REMAIN ON UNTIL HIGH PRESSURE OF 95 PSI IS DETECTED. AT 95 PSI PUMP SHALL TURN OFF AND REMAIN OFF UNTIL LOW PRESSURE OF 80 PSI IS DETECTED.
9. THE CONTRACTOR SHALL PROVIDE A 3/4" PLYWOOD WALL WITH DOOR AT REAR OF TRAILER. THE DOOR SHALL BE SECURABLE WITH A PADLOCK OR EQUAL MEANS. DRILL HOLES IN WALL FOR WATER PIPING AND ELECTRICAL CABLES. MOUNT THE 30A WP RECEPTACLE TO THE EXTERIOR SIDE OF THE PLYWOOD WALL.
10. SEE SHEET G6.0L FOR TEMPORARY WATER PUMP SINGLE LINE DIAGRAM.
11. THE CONTRACTOR SHALL CONSTRUCT AND TEST THE TEMPORARY PUMP SYSTEM TO ENSURE IT IS OPERATING AS INTENDED PRIOR TO SHUTTING OFF WATER TO THE PUMP STATION.




1 TEMPORARY WATER PUMP AND TRAILER PLAN VIEW
 G5.0L SCALE: NOT TO SCALE



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CITY AND BOROUGH OF JUNEAU
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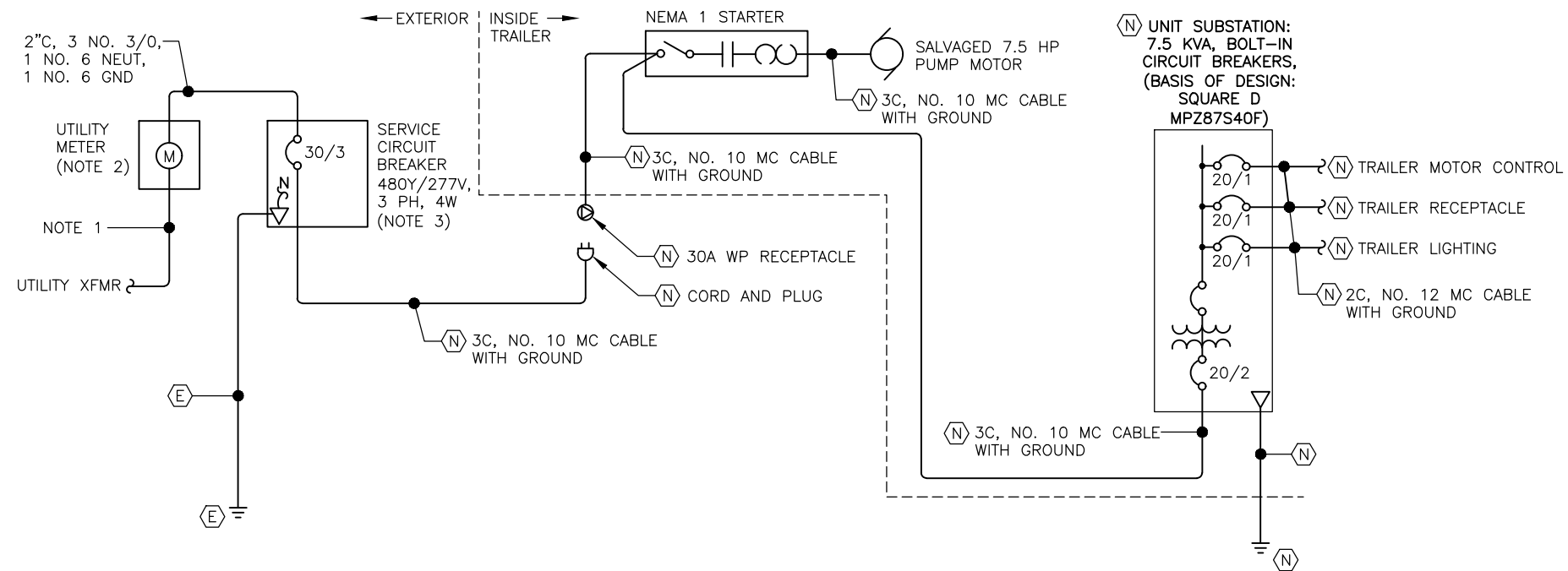
LEE ST PUMP STATION RENOVATION
 BE21-122

TEMPORARY WATER PUMP PLAN

SHEET NUMBER	G5.0L
OF	34

SINGLE LINE DIAGRAM NOTES: (SHUTDOWN PERIOD)

1. AEL&P WILL REPLACE SERVICE CONDUCTORS.
2. REPLACE UTILITY METER SOCKET.
3. PROVIDE A TEMPORARY 30/3 SERVICE CIRCUIT BREAKER TO ENERGIZE THE TEMPORARY WATER PUMP TRAILER, REPLACE WITH A NEW 200/3 SERVICE CIRCUIT BREAKER FOR PERMANENT SERVICE.
4. PROVIDE TEMPORARY FEEDER CABLE WITH CORD AND PLUG CONNECTION FROM SERVICE CIRCUIT BREAKER TO TRAILER RECEPTACLE.
5. THE SHUTDOWN PERIOD SHALL NOT BE LONGER THAN 4 HOURS.



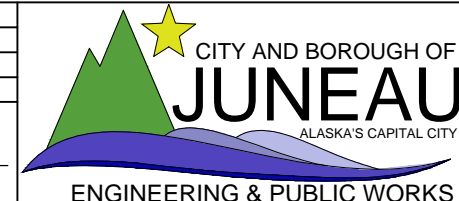
1 SINGLE LINE DIAGRAM – ELECTRICAL SERVICE
G6.0L SCALE: NOT TO SCALE



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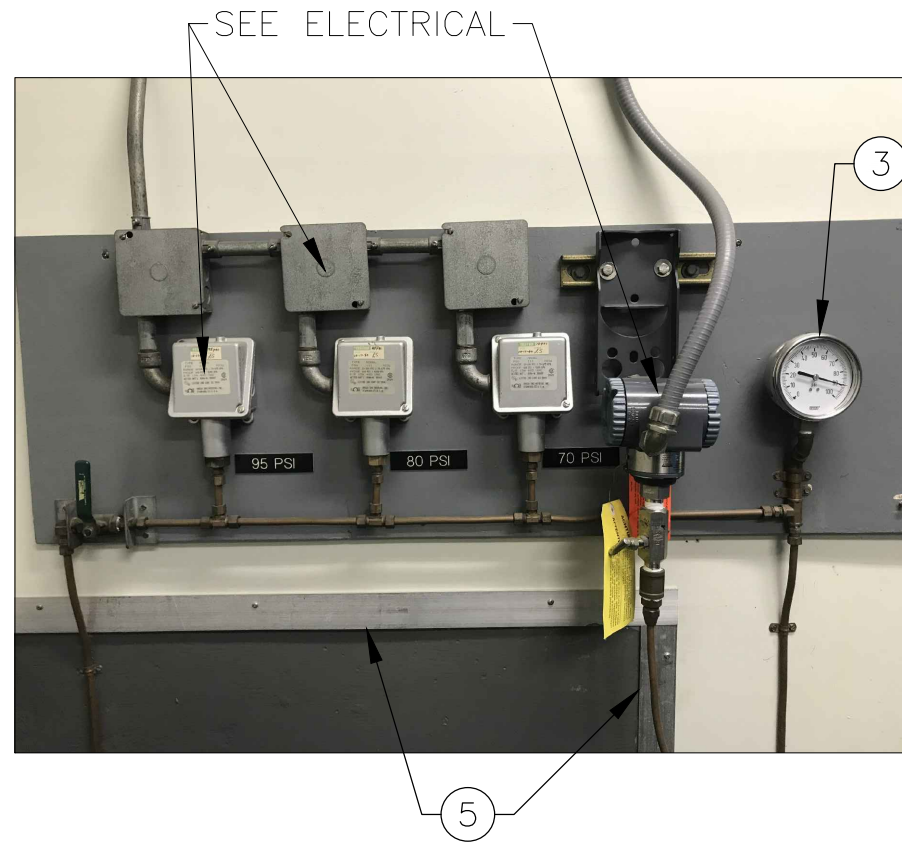
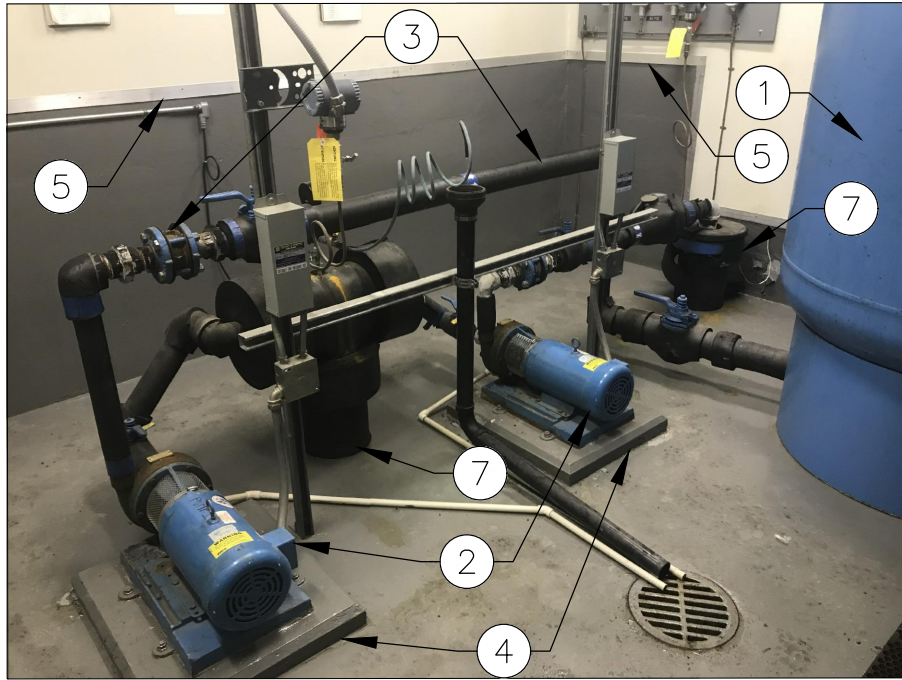
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DATE: Sep-2020



LEE STREET PUMP STATION
RENOVATIONS
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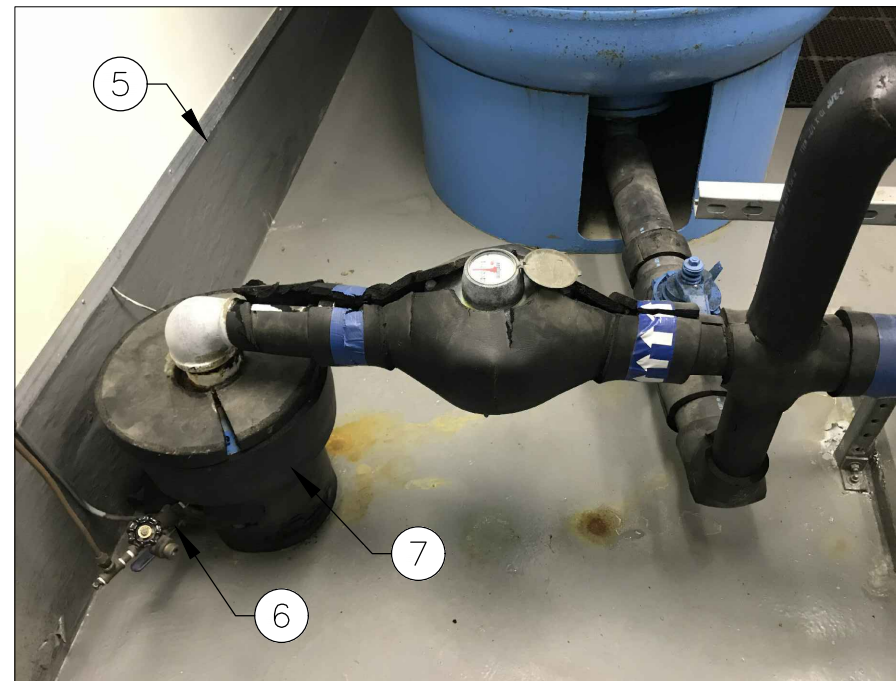
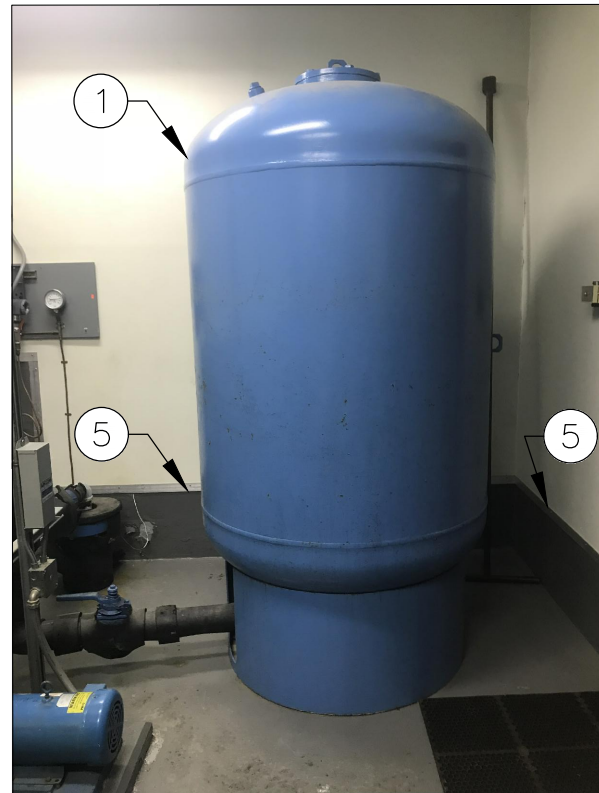
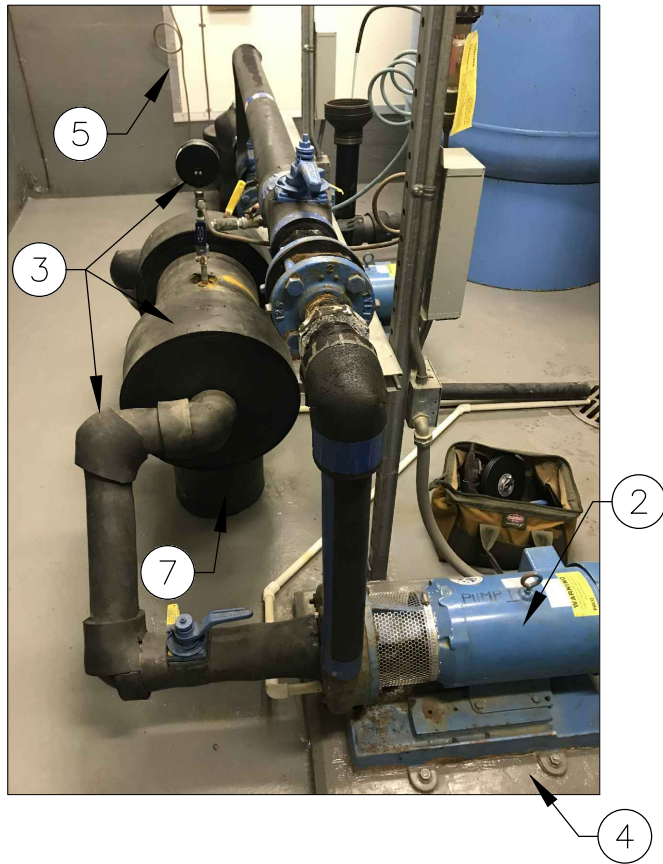
TEMPORARY WATER
PUMP
SINGLE LINE DIAGRAM

SHEET NUMBER	G6.0L
OF	34



DEMOLITION NOTES:

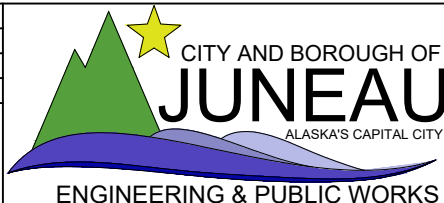
1. REMOVE AND SALVAGE EXISTING DIAPHRAGM PRESSURE TANK. DELIVER TO CBJ WATER DEPARTMENT SHOP AT 2520 BARRETT AVE. COORDINATE DELIVERY OF SALVAGED ITEMS WITH CBJ UTILITIES LONI VANKIRK (907-723-4975).
2. REMOVE AND SALVAGE EXISTING 7.5 HP PUMPS, MOTORS, AND BASE PLATES. REUSE SALVAGED ITEMS FOR TEMPORARY WATER PUMP SYSTEM. KEEP UNUSED 7.5 HP PUMP ONSITE FOR BACKUP.
3. REMOVE AND DISPOSE OF ALL EXISTING WATER PIPE, INSULATION, VALVES, FITTINGS, PRESSURE GAUGES AND SUPPORTS, EXCEPT AS NOTED IN NOTE 7 BELOW.
4. REMOVE AND DISPOSE OF EXISTING CONCRETE MOUNTING PAD. FLOOR SURFACE EXPOSED AFTER NEW PADS ARE INSTALLED SHALL MATCH SURROUNDING FLOOR ELEVATION AND TEXTURE, AND FINISH.
5. PAINT FLOOR TO LIMITS OF EXISTING FLOOR PAINT.
6. REMOVE AND DISPOSE OF EXISTING PRESSURE GAUGE AND PRESSURE SWITCH CONTROL FITTINGS ATTACHED TO THE 8" DI DISCHARGE PIPE PROTRUDING FROM THE FLOOR. INSTALL A BRASS PLUG IN EACH VOID.
7. PROTECT AND MAINTAIN EXISTING INITIAL 8" DI FLANGED SUCTION AND DISCHARGE PIPES PROTRUDING APPROXIMATELY 1' FROM THE FLOOR. ATTACH NEW DI PIPING TO EXISTING FLANGE.



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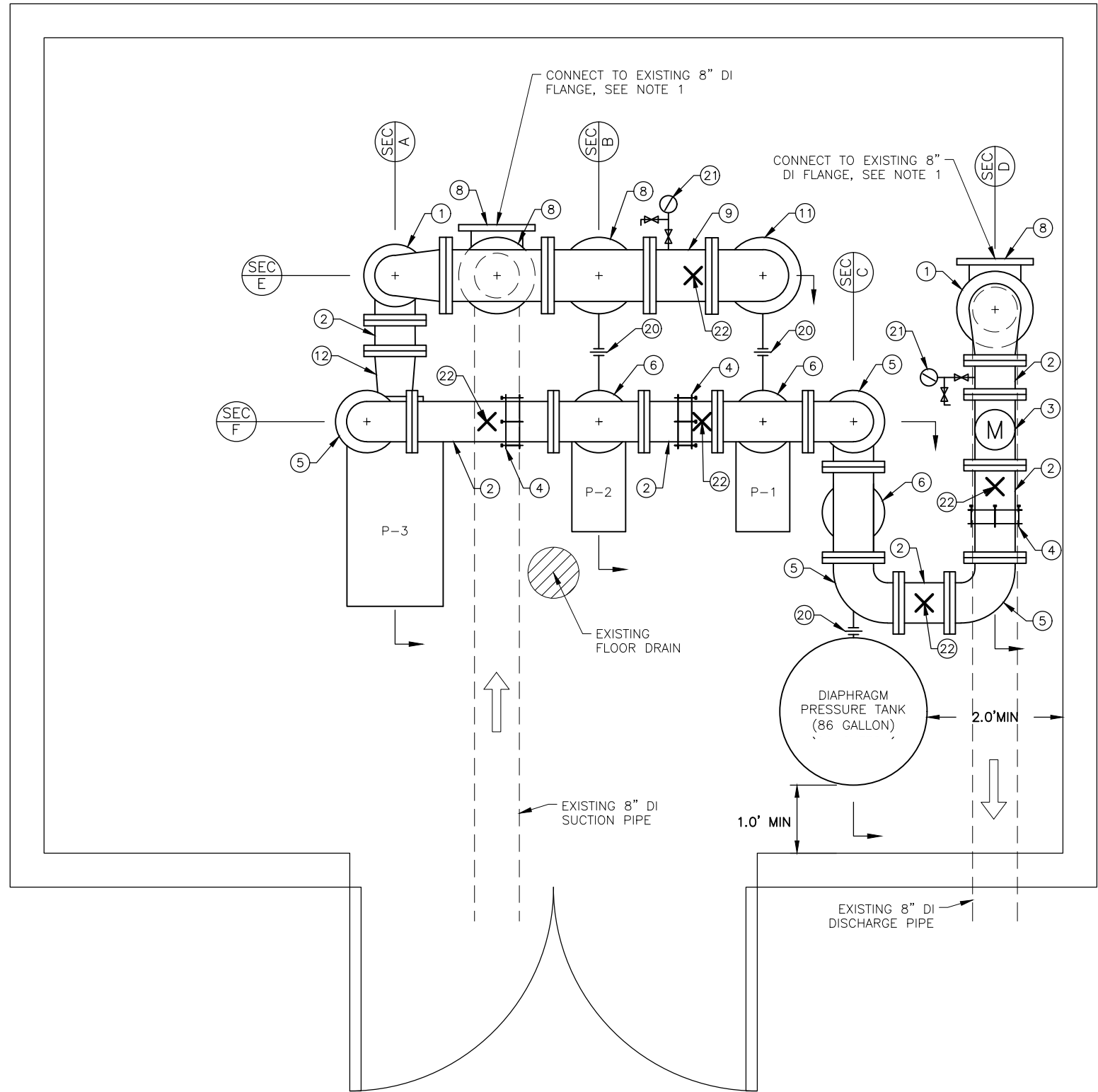
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 DATE: Sep-2020
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**LEE ST PUMP STATION
 RENOVATION**
 BE21-122

**PUMP & PIPING
 DEMOLITION PLAN**

SHEET NUMBER
M1.0L
 OF
34



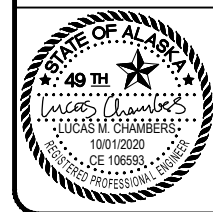
1 LEE STREET PUMP STATION FLOOR PLAN
M2.0L

GENERAL SHEET NOTES:

1. INSTALL 8"x8" DI FLANGE TEE TO EXISTING DI FLANGE WITH NEW GASKET AND STAINLESS STEEL BOLTS. THE 8"x8" DI FLANGE TEE AND 8" GATE VALVE INSTALLED DIRECTLY ON THE EXISTING 8" DI FLANGES PROTRUDING THROUGH THE PUMP HOUSE FLOOR ARE TO FACILITATE THE TEMPORARY PUMPING PLAN AND WILL REMAIN IN PLACE PERMANENTLY. INSTALL AN 8" DI CAP AND GASKET ON THE 8"x8" DI FLANGE ONCE THE TEMPORARY PUMP PIPING HAS BEEN REMOVED.
2. INSULATE ALL WATER PIPE, VALVES AND FITTINGS WITH 1/2" ARMAFLEX FOAM INSULATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
3. INDICATE DIRECTION OF FLOW WITH ARROWS ON WATER PIPE.
4. SEE PIPE SUPPORT DETAIL 3 ON SHEET M4.0L.
5. SEE PRESSURE GAUGE AND SAMPLING PORT ASSEMBLY DETAIL 1 ON SHEET M4.0L.
6. FLANGE COUPLING ADAPTER MAY BE SUBSTITUTED WITH A FLANGE SPOOL WITH APPROVAL BY THE ENGINEER.
7. CONTRACTOR RESPONSIBLE FOR VERIFYING PART QUANTITIES.

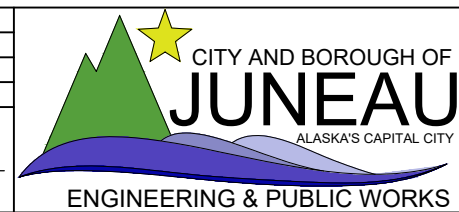
PARTS LIST	
NO.	ITEM
1	8"x6" DI FLANGED REDUCING 90° ELBOW
2	6" DI FLANGED PIPE
3	6" FLOW METER
4	6" DI FLANGE COUPLING ADAPTER *SEE NOTE 6 THIS SHEET
5	6" DI FLANGED PIPE 90° BEND
6	6"x6" DI FLANGED TEE
7	6"x4" DI FLANGED REDUCER
8	8"x8" DI FLANGED TEE
9	8" DI FLANGED PIPE
10	8" FLANGED COUPLING ADAPTER *SEE NOTE 6 THIS SHEET
11	8" DI FLANGED PIPE 90° BEND
12	6"x5" DI FLANGED ECCENTRIC REDUCER
13	6"x2" COMPANION FLANGE
14	8"x2" COMPANION FLANGE
15	2" BALL VLAVE
16	6" GATE VALVE
17	8" GATE VALVE
18	2" CHECK VALVE
19	6" CHECK VALVE
20	2" UNION
21	PRESSURE GAUGE & SAMPLING PORT
22	UNI STRUT PIPE SUPPORT LOCATION

PUMP LIST		
PUMP NO.	PUMP INFO	MOTOR INFO
P-1	1000 GPM, 170 FT HEAD	60 HP, 3,500 RPM
P-2	100 GPM, 160 FT HEAD	7.5 HP, 3,500 RPM
P-3	100 GPM, 160 FT HEAD	7.5 HP, 3,500 RPM



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
 CERTIFICATE OF AUTHORIZATION #100662
 1945 ALEX HOLDEN WAY #101
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 solutions@proHNS.com
 www.proHNS.com

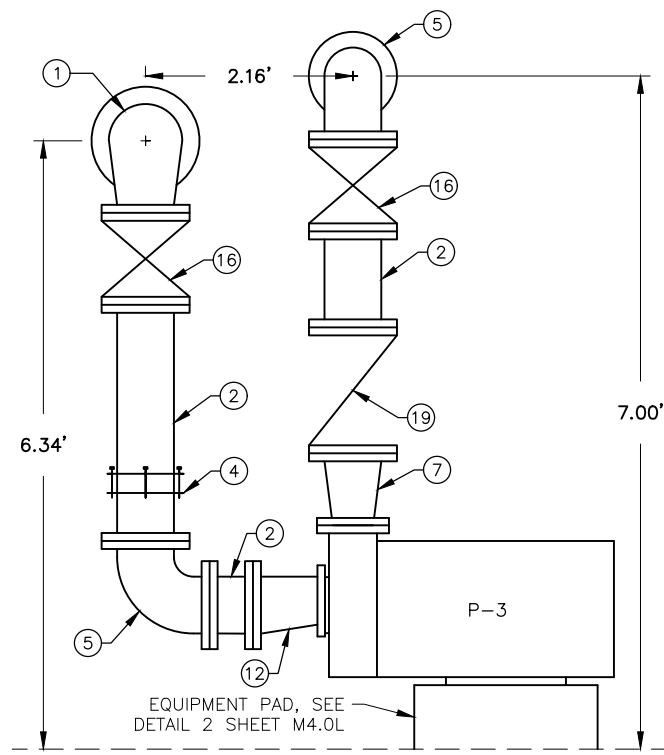


LEE ST PUMP STATION RENOVATION
 BE21-122

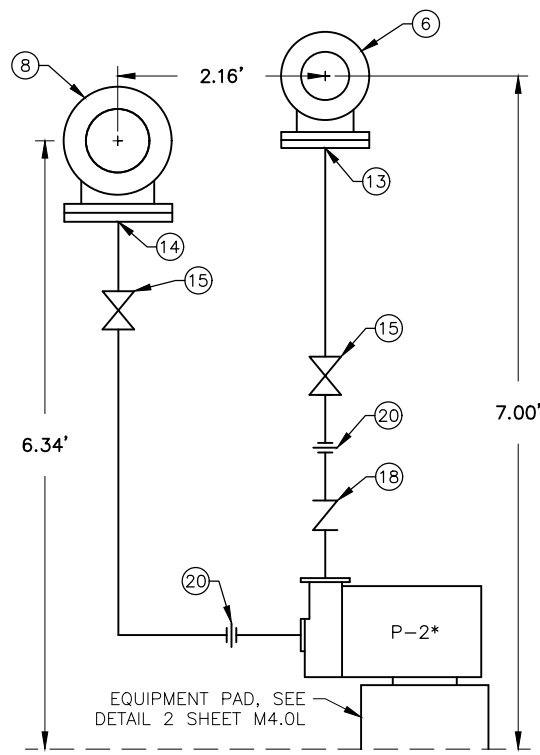
PIPING PLAN

SHEET NUMBER
M2.0L
 OF
34

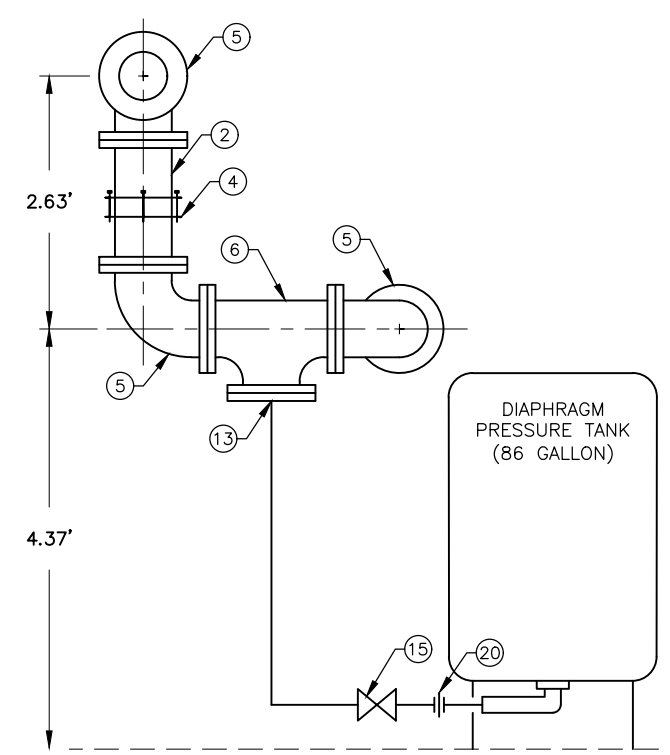
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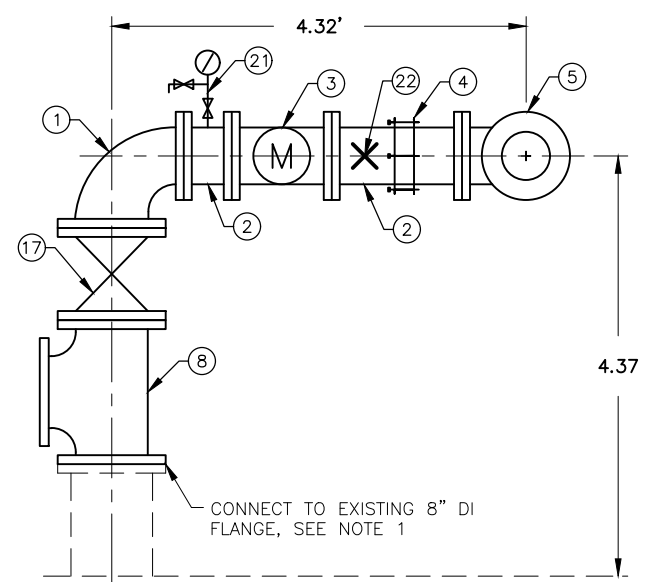
A SECTION A
M3.0L



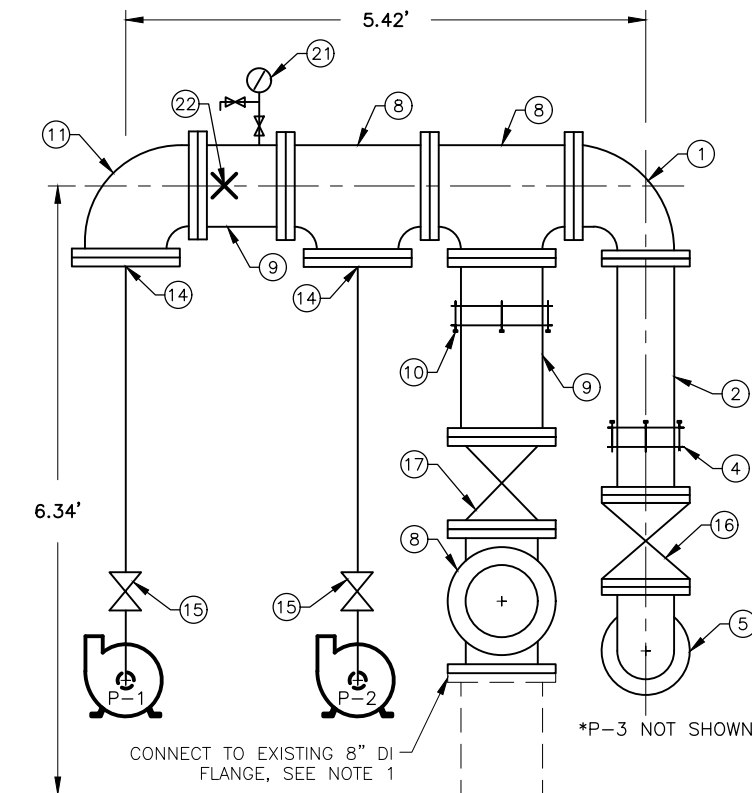
B SECTION B
M3.0L *INSTALL P-3 WITH SIMILAR LAYOUT



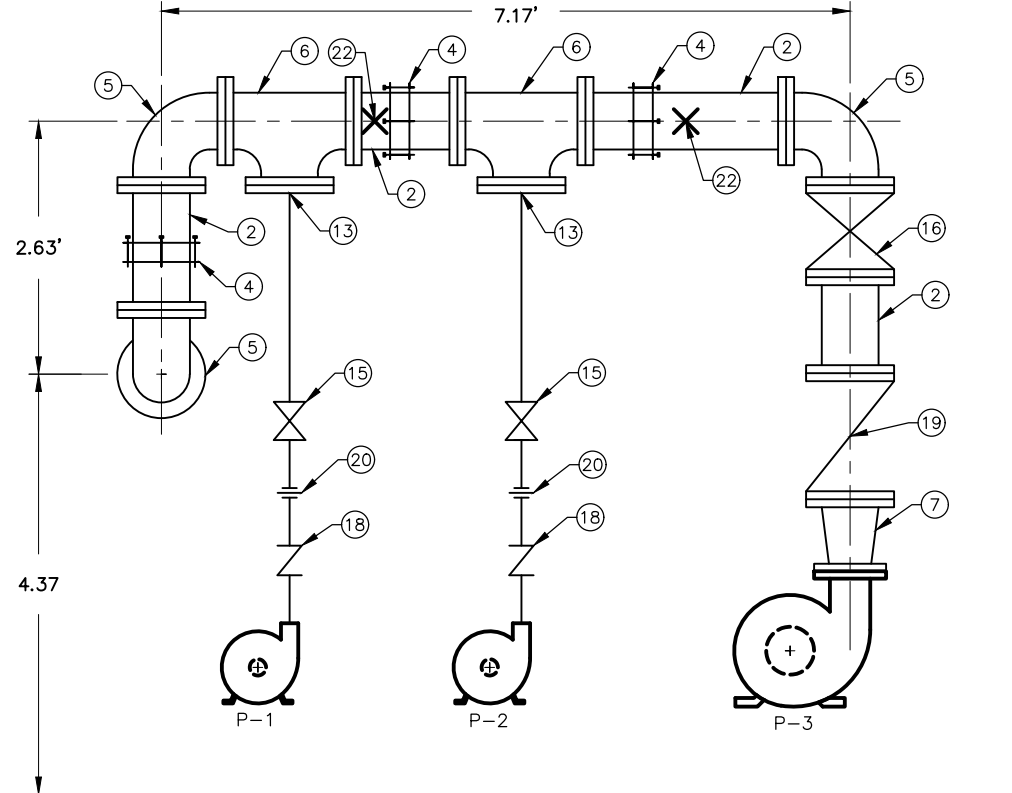
C SECTION C
M3.0L



D SECTION D
M3.0L



E SECTION E
M3.0L



F SECTION F
M3.0L

GENERAL SHEET NOTES:

- INSTALL 8"x8" DI FLANGE TEE TO EXISTING DI FLANGE WITH NEW GASKET AND STAINLESS STEEL BOLTS. THE 8"x8" DI FLANGE TEE AND 8" GATE VALVE INSTALLED DIRECTLY ON THE EXISTING 8" DI FLANGES PROTRUDING THROUGH THE PUMP HOUSE FLOOR ARE TO FACILITATE THE TEMPORARY PUMPING PLAN AND WILL REMAIN IN PLACE PERMANENTLY. INSTALL AN 8" DI CAP WITH GASKET ON THE 8"x8" DI FLANGE ONCE THE TEMPORARY PUMP PIPING HAS BEEN REMOVED.
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- INDICATE DIRECTION OF FLOW WITH ARROWS ON WATER PIPE.
- SEE PIPE SUPPORT DETAIL 3 ON SHEET M4.0L.
- SEE PRESSURE GAUGE AND SAMPLING PORT ASSEMBLY DETAIL 1 ON SHEET M4.0L.
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- CONTRACTOR RESPONSIBLE FOR VERIFYING PART QUANTITIES.

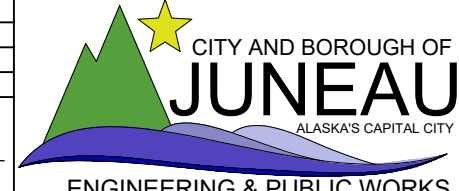
PUMP LIST		
PUMP NO.	PUMP INFO	MOTOR INFO
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P-2	100 GPM, 160 FT HEAD	7.5 HP, 3,500 RPM
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4	6" DI FLANGE COUPLING ADAPTER *SEE NOTE 6 THIS SHEET
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6	6"x6" DI FLANGED TEE
7	6"x4" DI FLANGED REDUCER
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9	8" DI FLANGED PIPE
10	8" FLANGED COUPLING ADAPTER *SEE NOTE 6 THIS SHEET
11	8" DI FLANGED PIPE 90° BEND
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17	8" GATE VALVE
18	2" CHECK VALVE
19	6" CHECK VALVE
20	2" UNION
21	PRESSURE GAUGE & SAMPLING PORT
22	UNI STRUT PIPE SUPPORT LOCATION



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No.	DATE	DESCRIPTION	BY

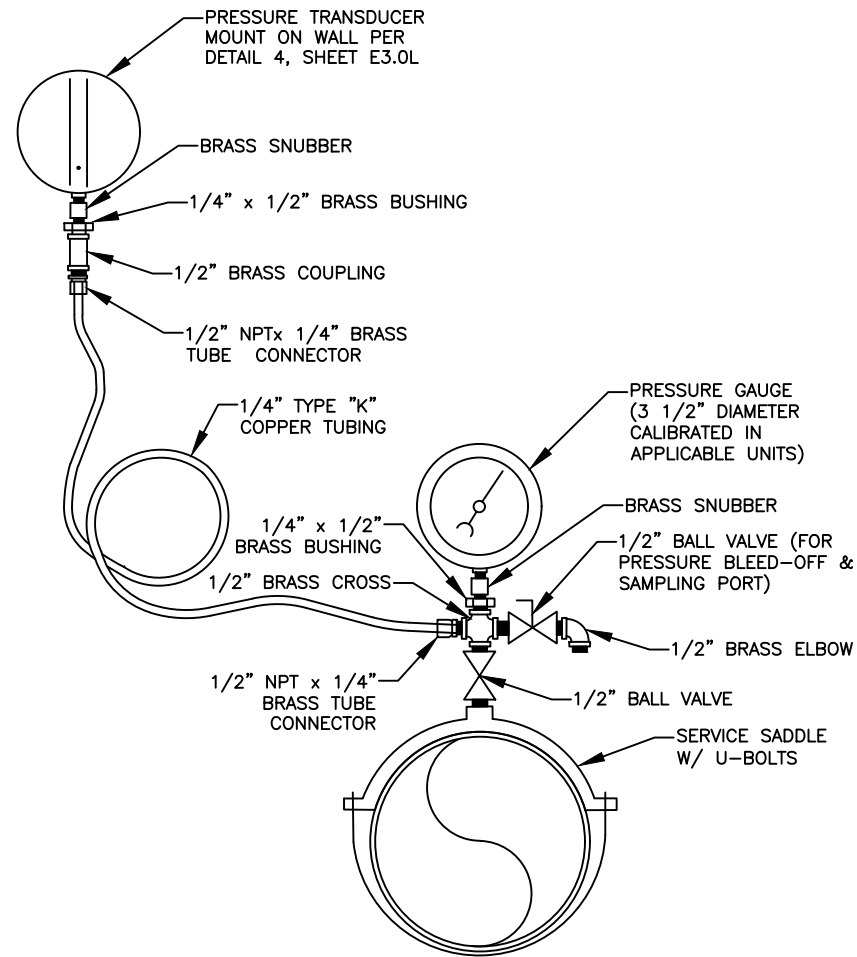
proHNS LLC
 1945 ALEX HOLDEN WAY #101
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 solutions@proHNS.com
 www.proHNS.com
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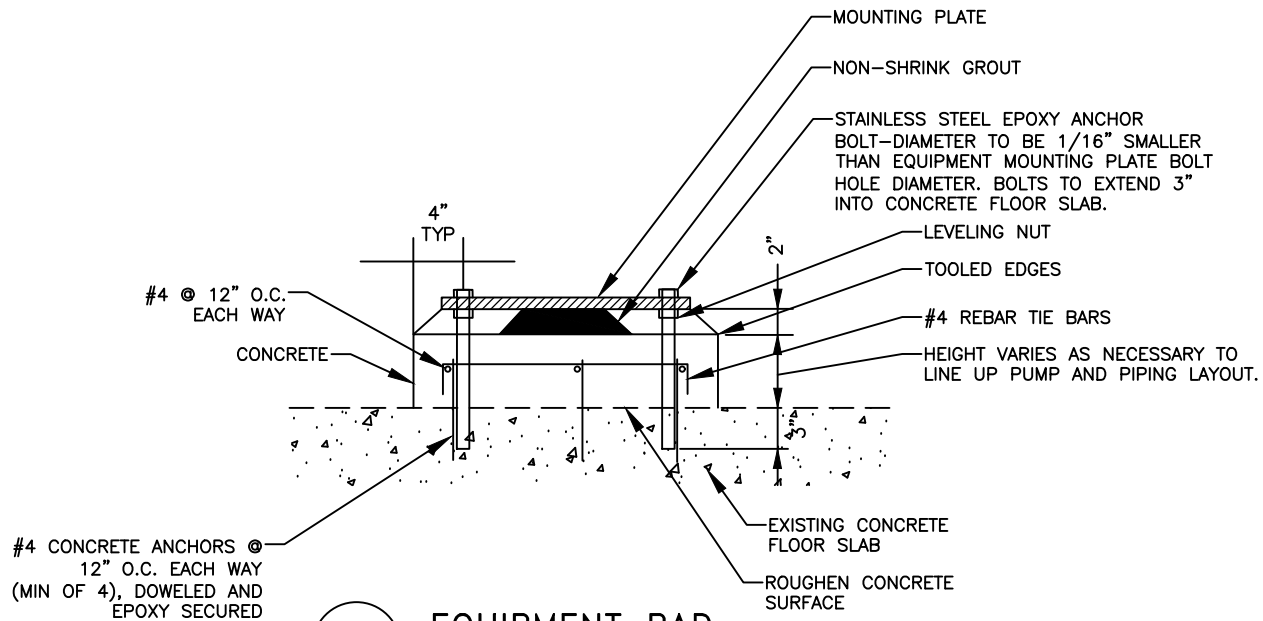
LEE ST PUMP STATION RENOVATION
 BE21-122

PIPING SECTIONS

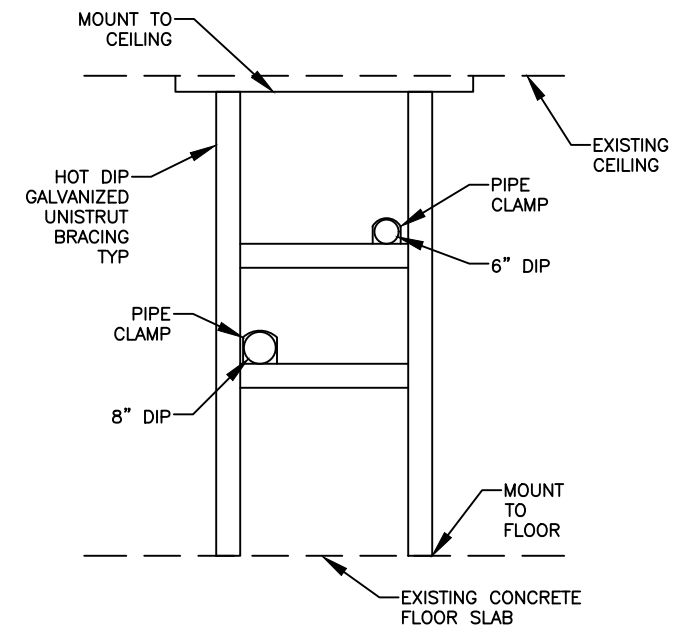
SHEET NUMBER
M3.0L
 OF
34



1 PRESSURE GAUGE & SAMPLING PORT ASSEMBLY
M4.0L SCALE: NOT TO SCALE



2 EQUIPMENT PAD
M4.0L SCALE: NOT TO SCALE



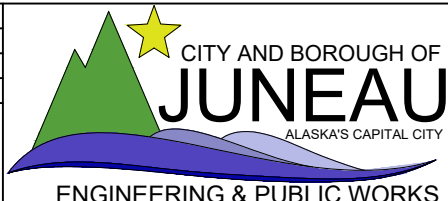
3 UNISTRUT PIPE SUPPORT
M4.0L SCALE: NOT TO SCALE



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: C.BYDLON
 DESIGNED BY: L. CHAMBERS
 CHECKED BY: J. DORN
 DATE: Sep-2020
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LEE ST PUMP STATION
 RENOVATION
 BE21-122

PIPE PLAN DETAILS

SHEET NUMBER	M4.0L
OF	34

LEGEND

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
GFI	GROUND FAULT INTERRUPTED
HDG	HOT-DIPPED GALVANIZED
HMI	HUMAN MACHINE INTERFACE
MDP	MAIN DISTRIBUTION PANEL
PE	PHOTOELECTRIC CELL
TB	TERMINAL BOARD
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

POWER:

	DOUBLE DUPLEX RECEPTACLE
	JUNCTION BOX
	CONDULET OR CONDUIT BODY
	MOTOR CONNECTION
	THERMOSTAT, 46" AFF
	UNIT HEATER
	PRESSURE TRANSDUCER

SERVICE EQUIPMENT:

	PANELBOARD
	UTILITY METER

DIAGRAM SYMBOLS:

	CIRCUIT BREAKER
	CONTACT (N.O.)
	DISCONNECT OR SWITCH
	FUSE
	THERMAL RELAY
	GROUND BUS
	GROUND ROD
	METER
	RELAY
	CURRENT TRANSFORMER
	TRANSFORMER

LIGHTING:

	EXTERIOR WALL MOUNTED LUMINAIRE
	SURFACE MOUNT LUMINAIRE

LIGHTING CONTROLS:

S	SINGLE POLE SWITCH
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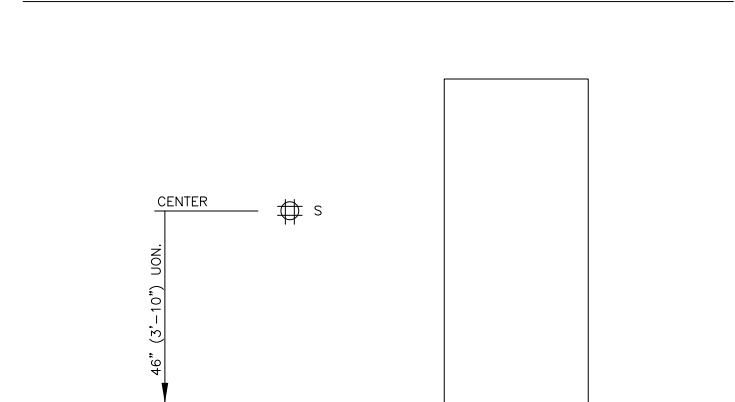
SHEET NOTE SYMBOLS:

	EXISTING TO REMAIN
	NEW
	RELOCATE EXISTING
	REMOVE EXISTING

CONDUIT & CONDUCTORS:

	HOME RUN
	CONDUIT: 1/2" UON.
	UNGROUND CONDUCTORS (#12 AWG)
	NEUTRAL: #10 WITH DOT #12 OTHERWISE
	GROUND CONDUCTOR
	CONDUCTORS NOT SHOWN WHERE ONLY #12 NEUTRAL AND UNGROUNDED CONDUCTOR ARE REQUIRED
	CONDUIT IN FLOOR OR UNDERGROUND
	FLEXIBLE CONDUIT

LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	MANUFACTURER	LAMPS	REMARKS
A	EXTERIOR WALL SCONCE, LED, DIE-CAST ALUMINUM HOUSING, TEMPERED GLASS LENS, VISUAL FORWARD THROW DISTRIBUTION, INTEGRAL ELECTRONIC DRIVER, 120V, 1500 LUMENS, BUTTON STYLE PHOTOELECTRIC CELL, PIR MOTION/AMBIENT LIGHT SENSOR, DARK BRONZE FINISH	LITHONIA LIGHTING WST LED P1 35K VW 120V PE PIR DDBXD	14W WHITE LED 3000K, CRI 80	ABOVE DOOR AT THE SAME HEIGHT AS EXISTING CONDUIT PENETRATION.
B	4' SURFACE MOUNTED LINEAR LED ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING, RIBBED FROSTED ACRYLIC LENS, HIGH LUMEN OUTPUT, INTEGRAL ELECTRONIC DRIVER, 120-277V	COLUMBIA LIGHTING LXEM4-35HL-RFA-EU	47W WHITE LED 3500K, CRI 80	



TYPICAL DEVICE MOUNTING HEIGHTS
NO SCALE

- NOTES:
1. HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS OTHERWISE NOTED.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

CERTIFICATE OF AUTHORIZATION
#100662

DRAWN BY: PEL
DESIGNED BY: KHD
CHECKED BY: BCH
DATE: 5-22-2019

1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801

solutions@proHNS.com
www.proHNS.com

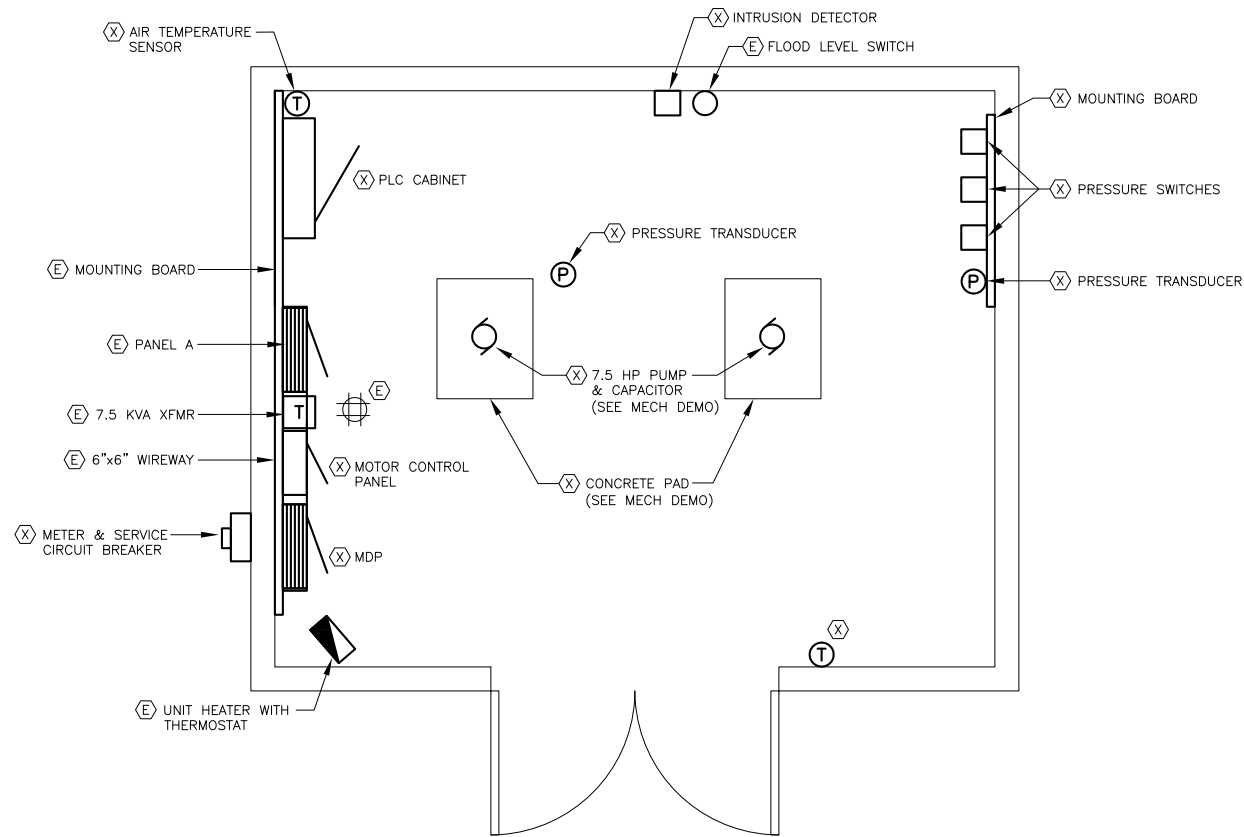
526 Main Street, Juneau, AK 99801
(907) 586-9788

**LEE STREET PUMP STATION
RENOVATIONS
BE21-122**

City and Borough of Juneau

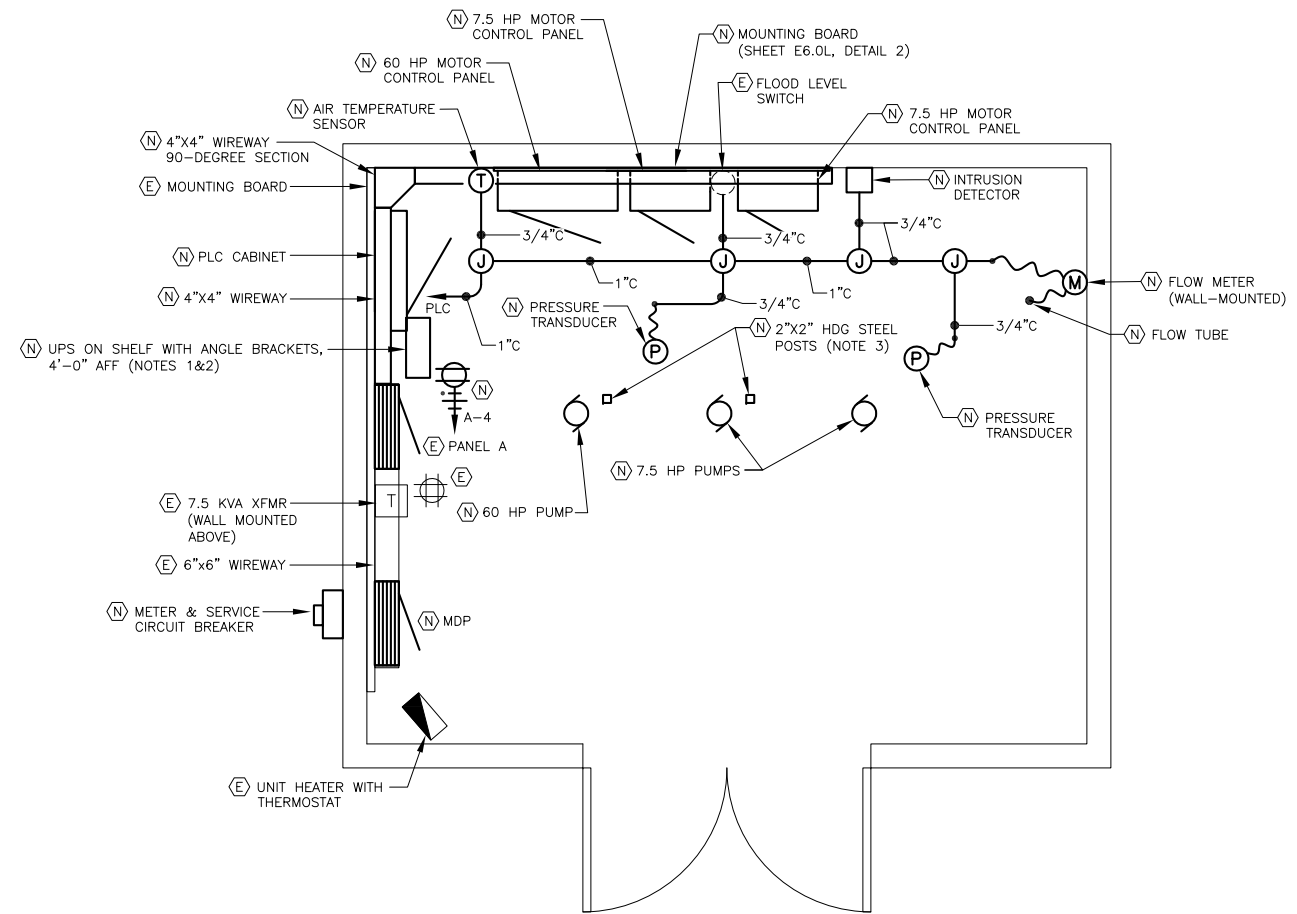
LEGEND, SCHEDULE

SHEET NUMBER
E1.0L
OF
34



1 FLOOR PLAN - EXISTING POWER & LOW VOLTAGE

SCALE: 0 1' 2' 4'



2 FLOOR PLAN - NEW POWER & LOW VOLTAGE

SCALE: 0 1' 2' 4'



NOTES:

1. NEW PLC CABINET SHALL BE POWERED FROM NEW UPS. UPS BASIS OF DESIGN: APC BACK-UPS CS 500.
2. UPS SHELF SHALL CONSIST OF (1 EA) 6"x15"x3/4" PLYWOOD AND (2 EA) SHELF BRACKETS (BASIS OF DESIGN: EATON B-LINE B888W).
3. PROVIDE (2 EA) 2"x2" HDG STEEL POSTS, BOLTED TO CEILING AND FLOOR. UTILIZE POSTS TO MOUNT PUMP MOTOR FEEDER CONDUITS FROM CEILING TO PUMP MOTOR TERMINATIONS.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

1945 ALEX HOLDEN WAY #101
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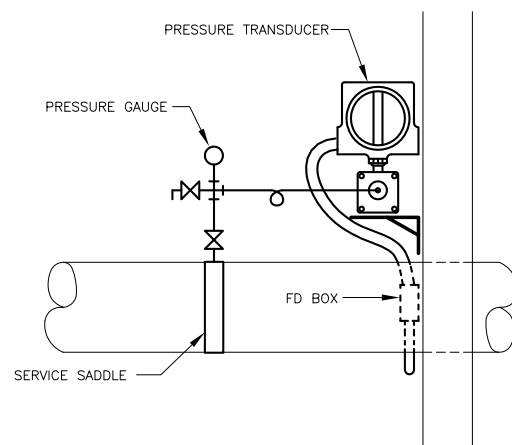
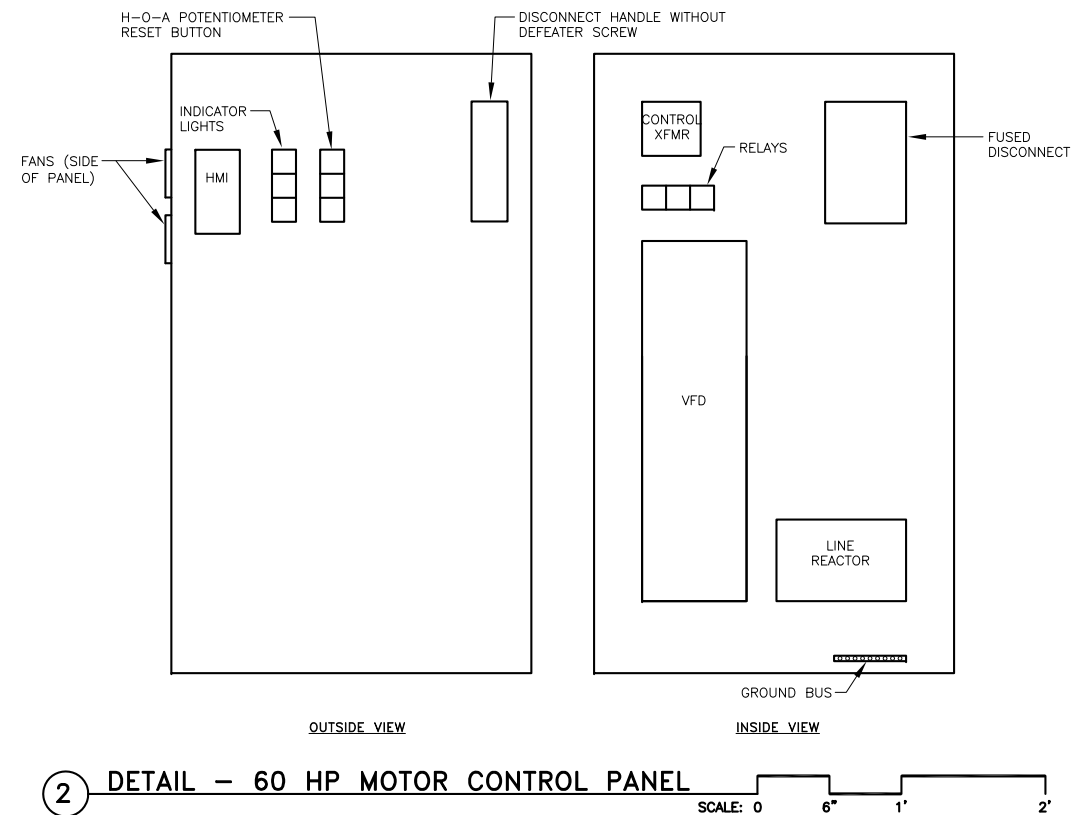
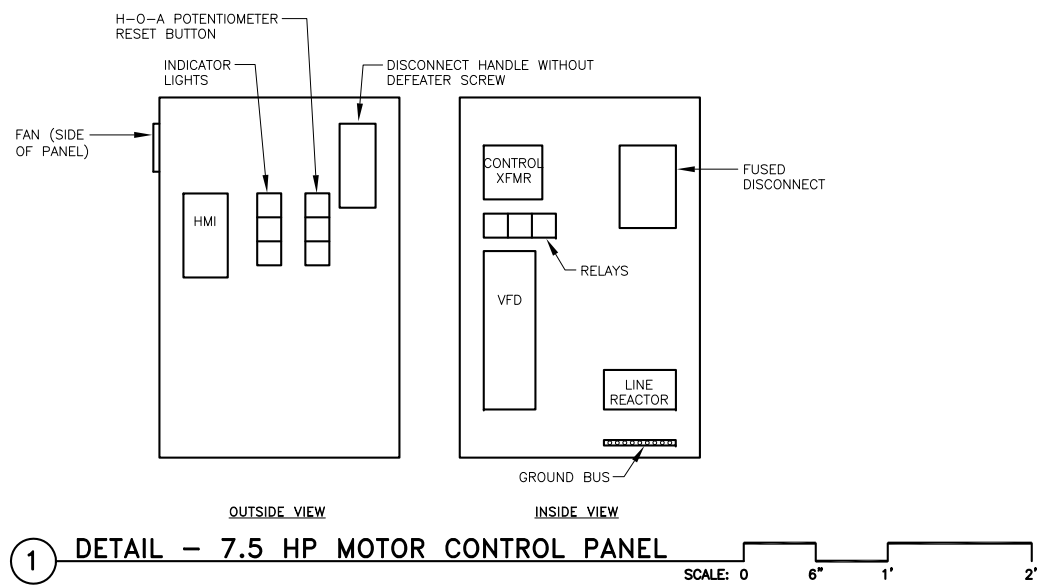
526 Main Street, Juneau, AK 99801
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LEE STREET PUMP STATION
RENOVATIONS
BE21-122

City and Borough of Juneau

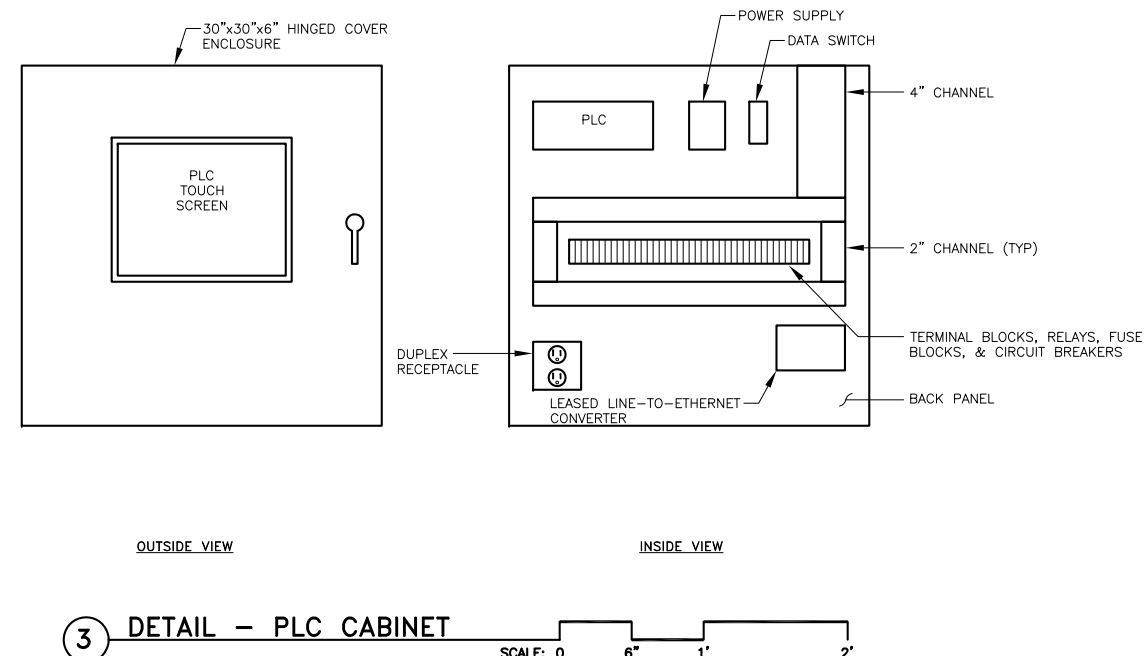
FLOOR PLANS -
POWER & LOW VOLTAGE

SHEET NUMBER	E2.0L
OF	34



- NOTES:
1. ALL PIPING & APPURTENANCES SHALL BE RATED FOR 250 psi, MINIMUM.
 2. THE CALIBRATION PORT SHALL BE 1/4" NPT.
 3. PRESSURE GAUGE ASSEMBLY PER MECHANICAL DRAWINGS.

4 **DETAIL - WATER PRESSURE TRANSMITTER MOUNTING (TYP)**
NO SCALE



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No.	DATE	DESCRIPTION	BY



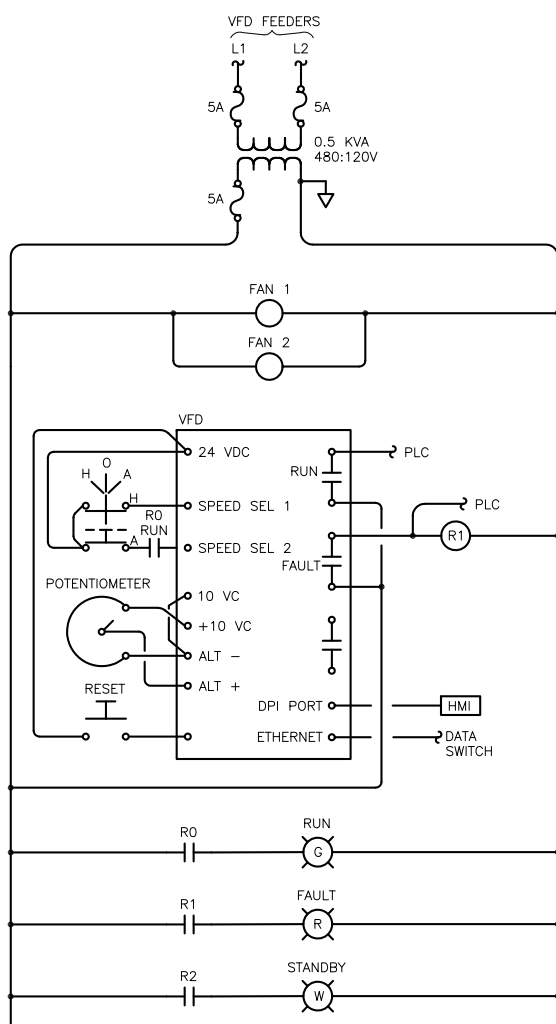
DRAWN BY: PEL
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 CHECKED BY: BCH
 DATE: 5-22-2019
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 solutions@proHNS.com
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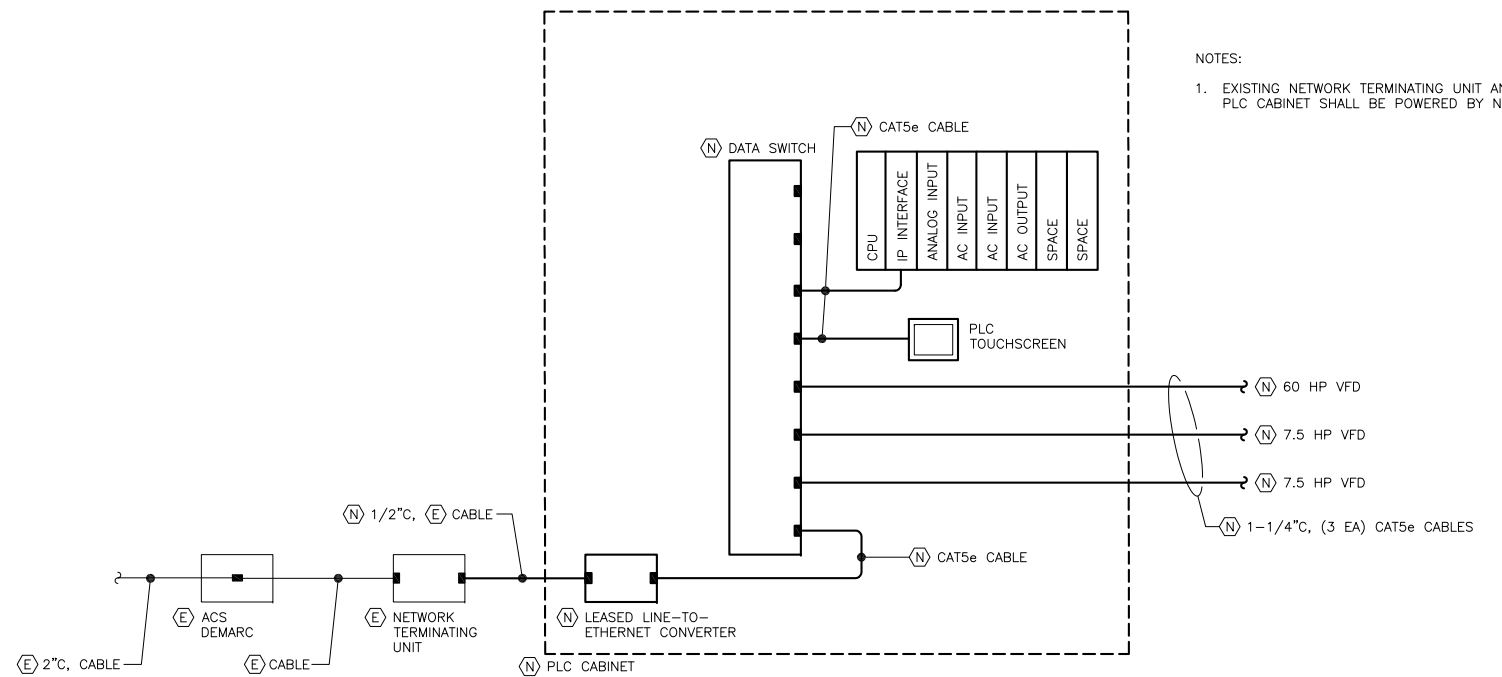
**LEE STREET PUMP STATION
 RENOVATIONS
 BE21-122**
 City and Borough of Juneau

DETAILS

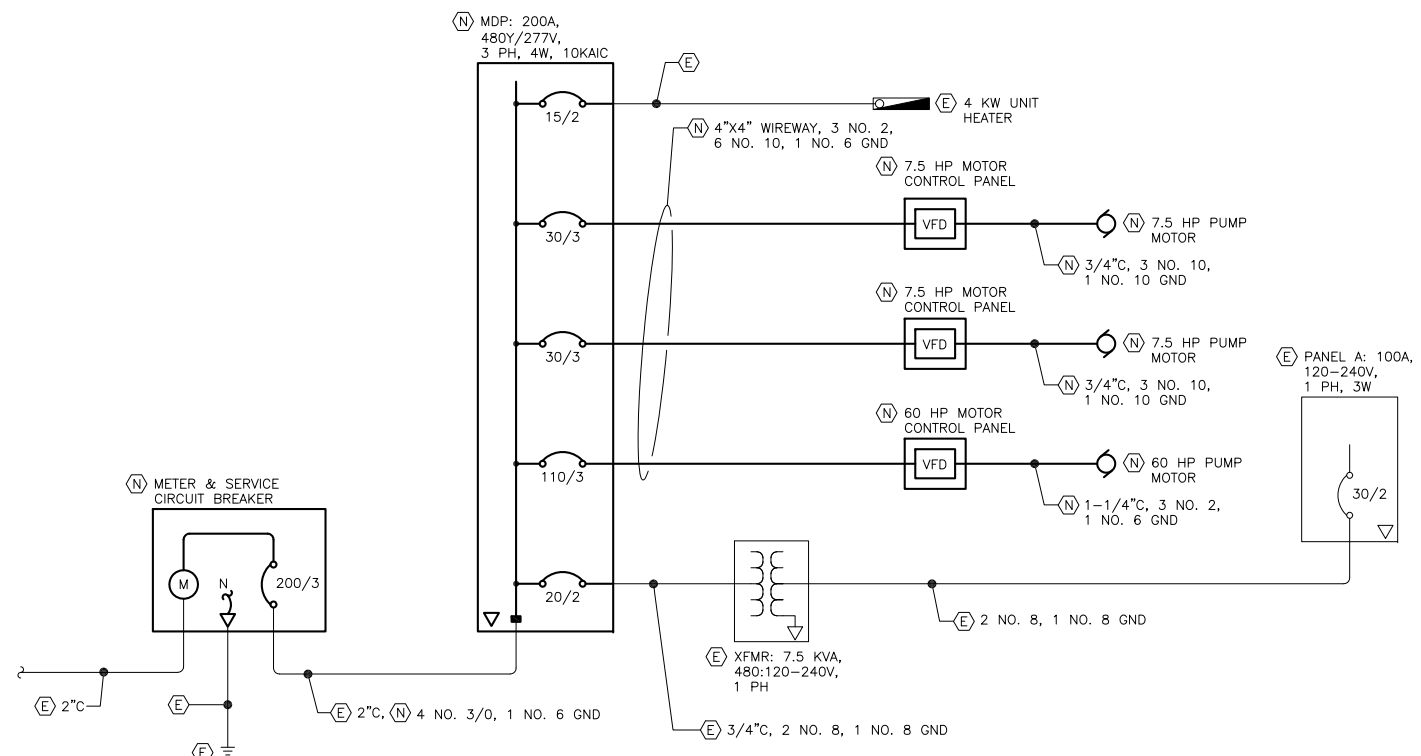
SHEET NUMBER
E3.0L
 OF
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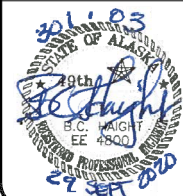
3 SCHEMATIC DIAGRAM - PUMP CONTROLS (TYP) NO SCALE



2 SCHEMATIC DIAGRAM - SYSTEM NETWORK NO SCALE



1 SINGLE LINE DIAGRAM - POWER DISTRIBUTION SYSTEM NO SCALE



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No.	DATE	DESCRIPTION	BY



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DESIGNED BY: KHD
CHECKED BY: BCH
DATE: 5-22-2019

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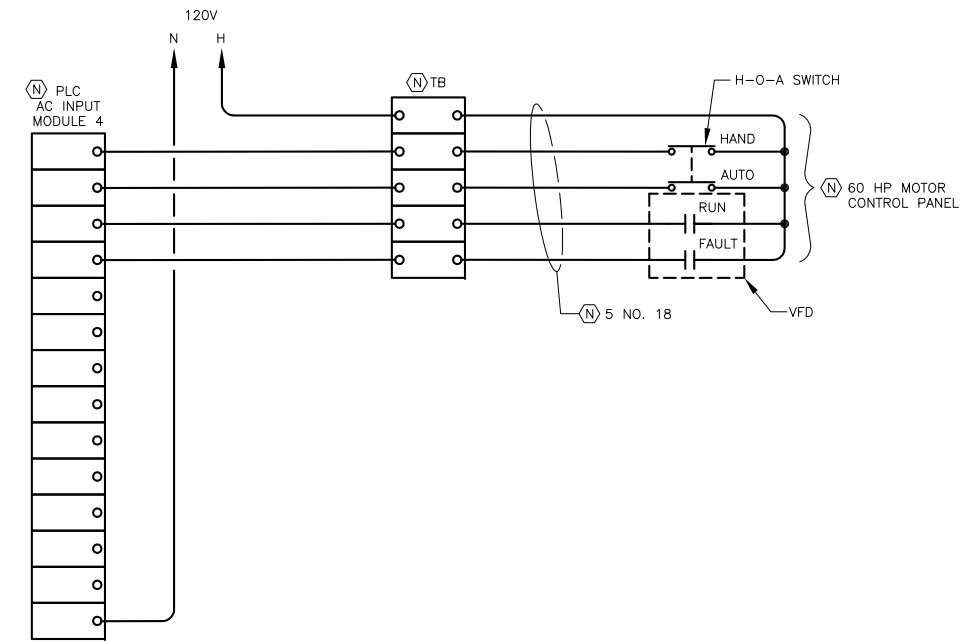
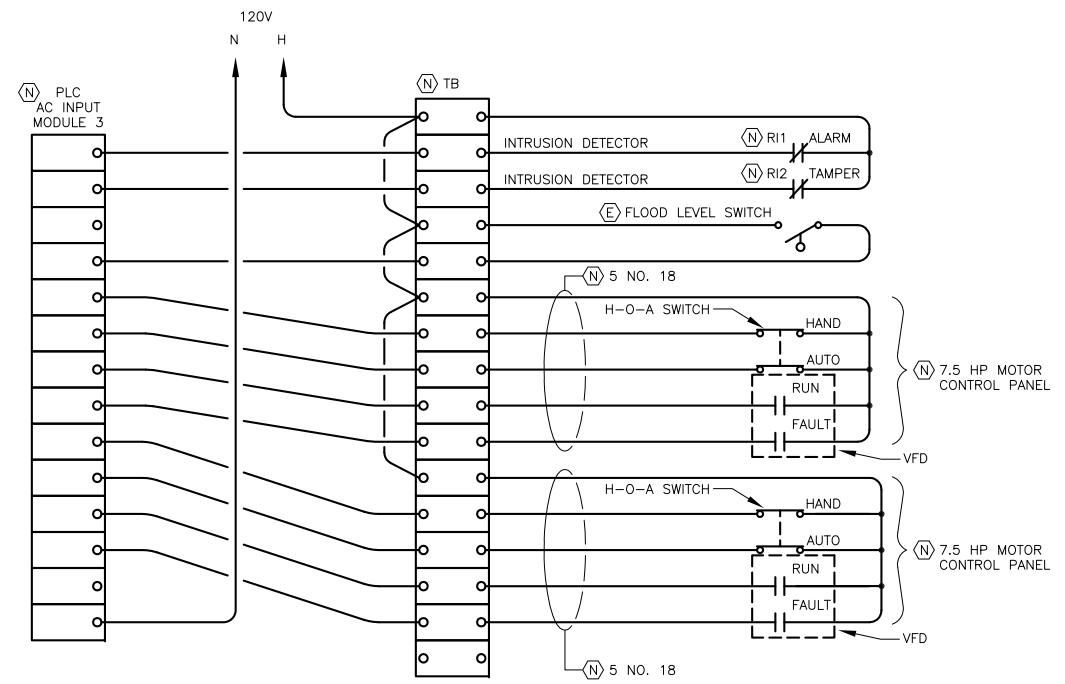
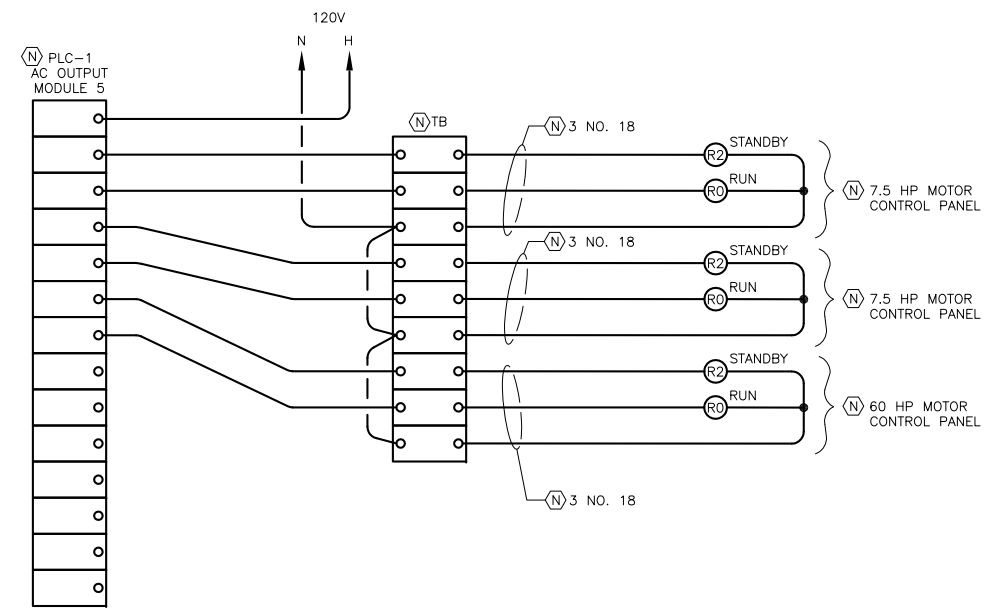
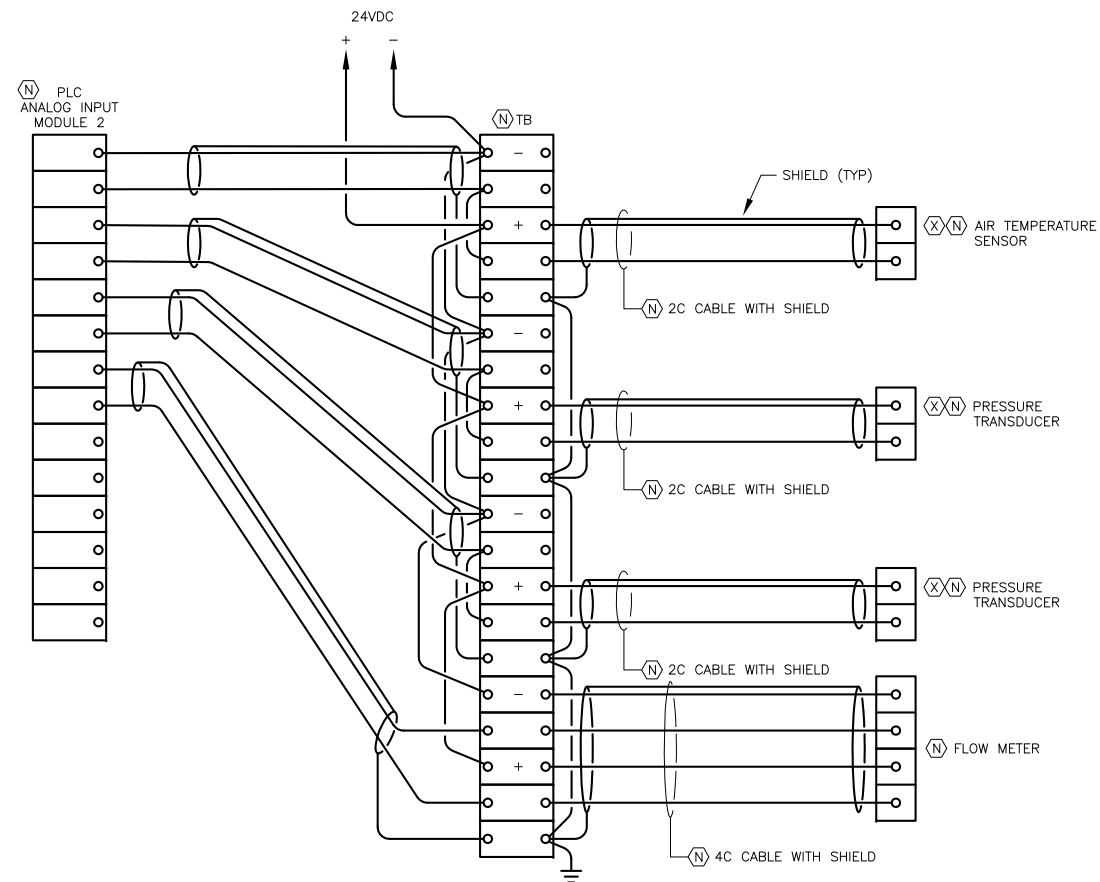


LEE STREET PUMP STATION
RENOVATIONS
BE21-122

City and Borough of Juneau

DIAGRAMS

SHEET NUMBER
E4.0L
OF
34



1 WIRING DIAGRAM - PLC NO SCALE



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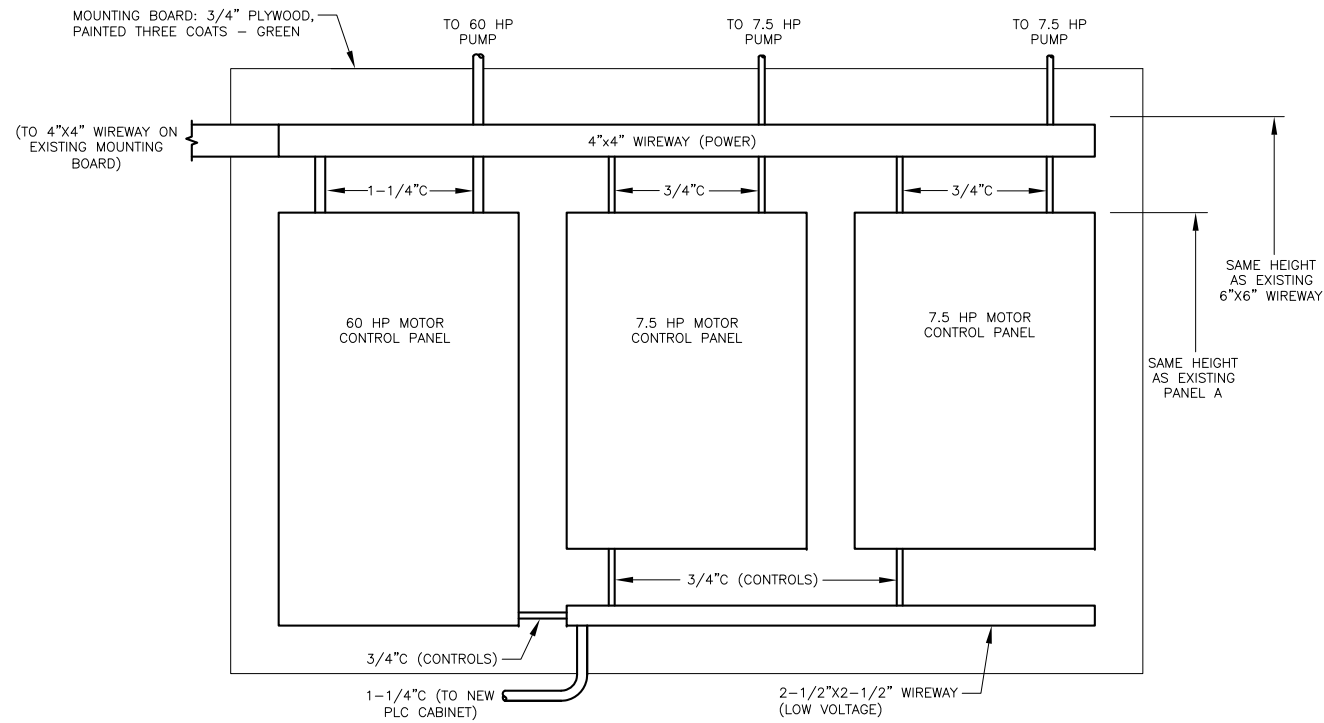
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LEE STREET PUMP STATION
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 City and Borough of Juneau

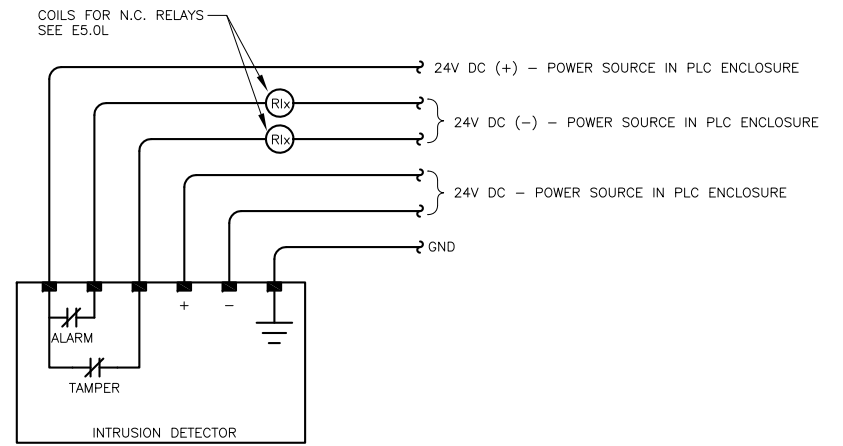
PLC WIRING DIAGRAMS

SHEET NUMBER
 E5.0L
 OF
 34



2 DETAIL - MOUNTING BOARD

SCALE: 0 6" 1' 2'



1 WIRING DIAGRAM - INTRUSION DETECTOR (TYP)

NO SCALE

301183
STATE OF ALASKA
ELECTRICAL ENGINEER
E.E. 48800
22 SEP 2020

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No.	DATE	DESCRIPTION	BY

proHNS LLC

CERTIFICATE OF AUTHORIZATION #100662

1945 ALEX HOLDEN WAY #101
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HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS

526 Main Street, Juneau, AK 99801
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LEE STREET PUMP STATION RENOVATIONS
BE21-122

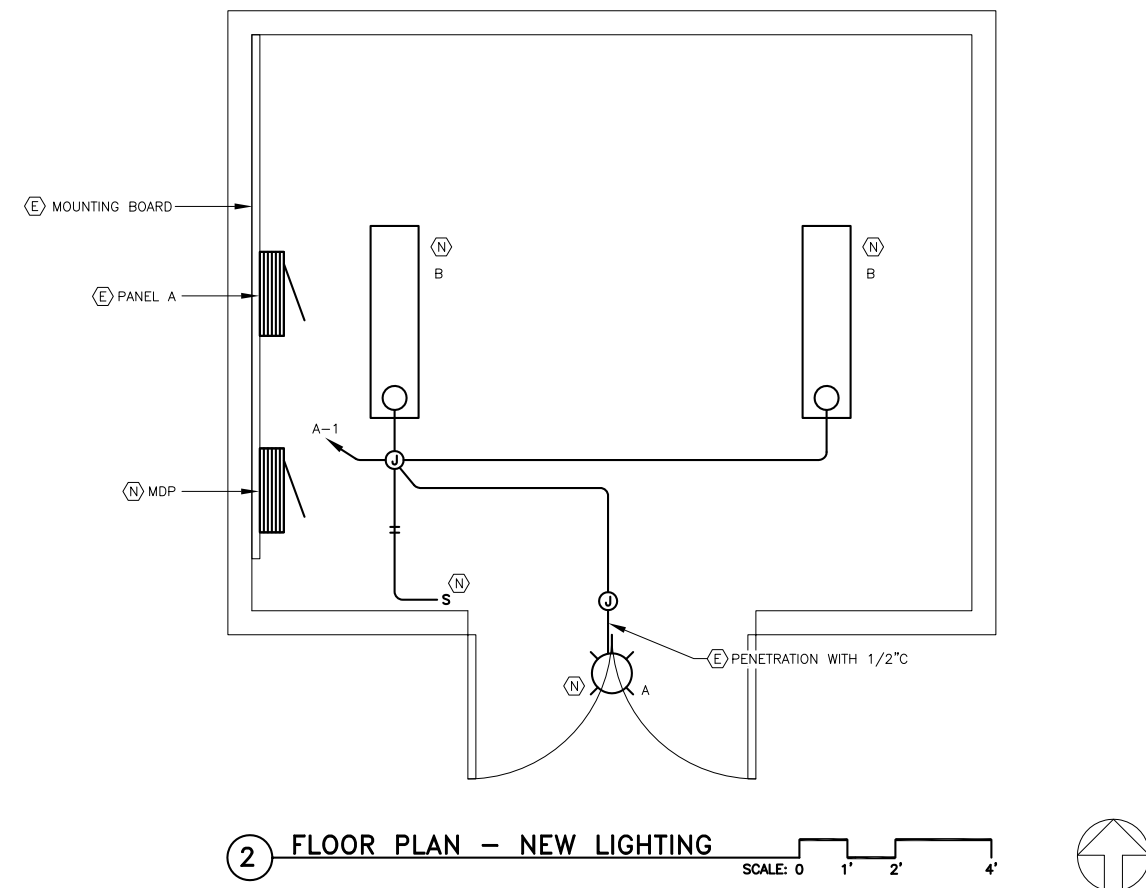
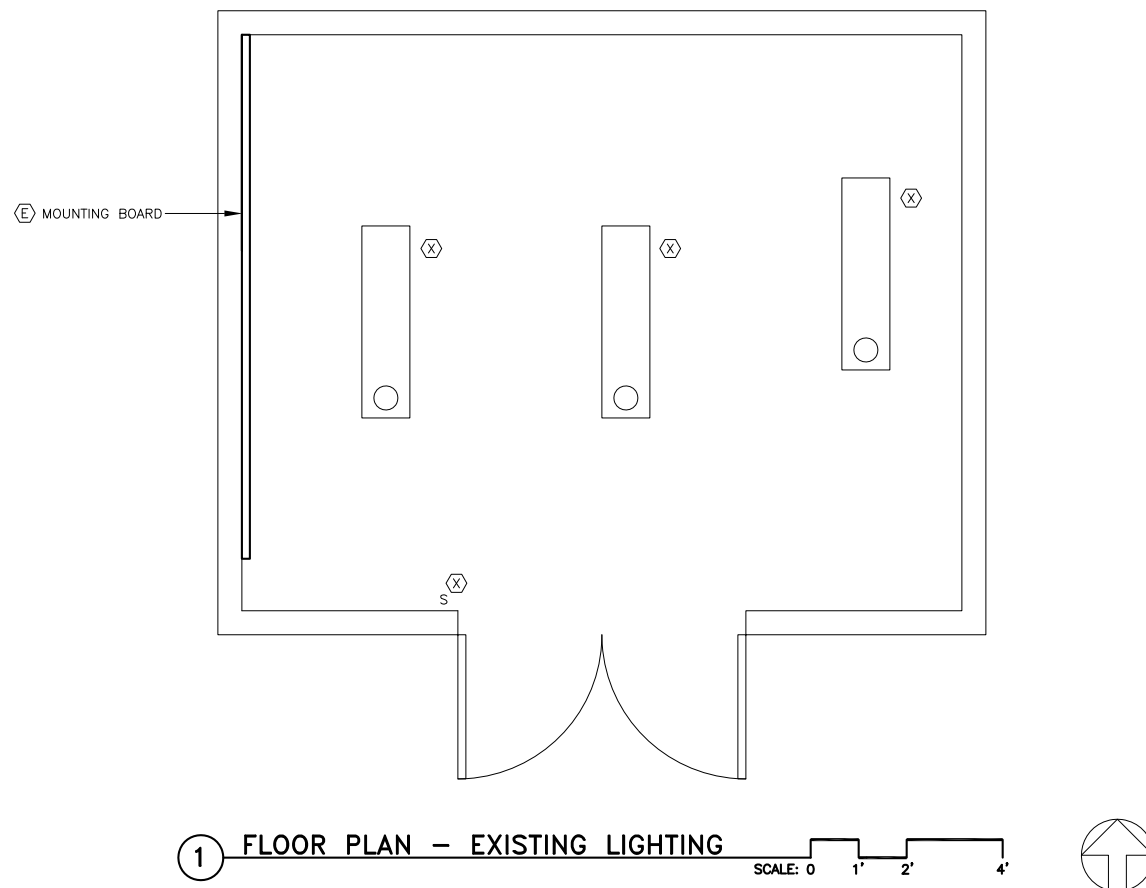
City and Borough of Juneau

DIAGRAM AND DETAIL

SHEET NUMBER
E6.0L
OF
34

NOTES:

- EXISTING CONDUITS AND JUNCTION BOXES MAY BE UTILIZED FOR NEW LIGHTING WHERE POSSIBLE. PROVIDE NEW CONDUCTORS.



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



DRAWN BY: PEL
 DESIGNED BY: KHD
 CHECKED BY: BCH
 DATE: 5-22-2019

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LEE STREET PUMP STATION
 RENOVATIONS
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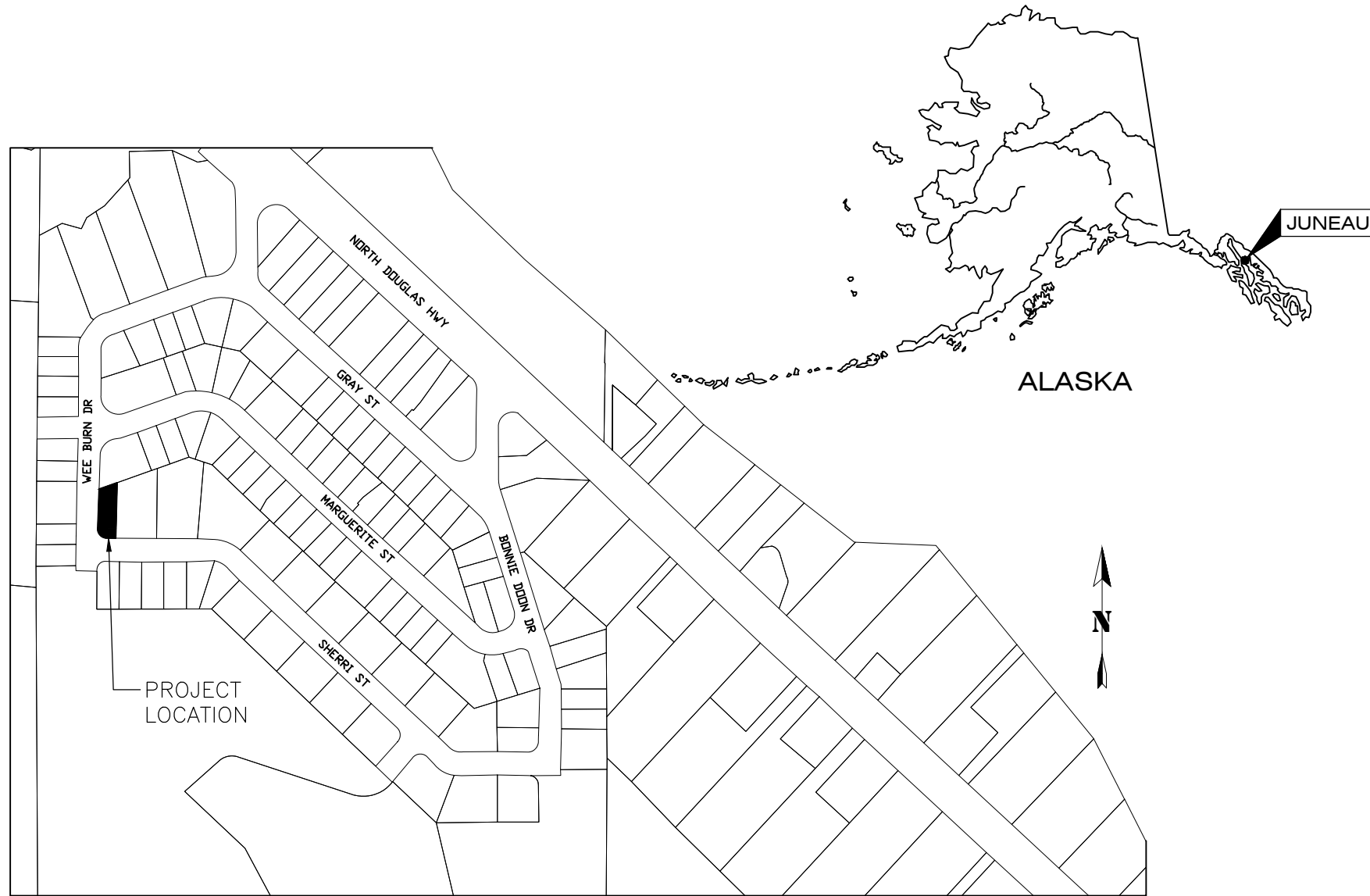
FLOOR PLANS -
 LIGHTING

SHEET NUMBER
 E7.0L
 OF
 34

BONNIE BRAE PUMP STATION RENOVATION

BE21-122

CITY & BOROUGH OF JUNEAU, ALASKA



PROJECT LOCATION MAP

NTS

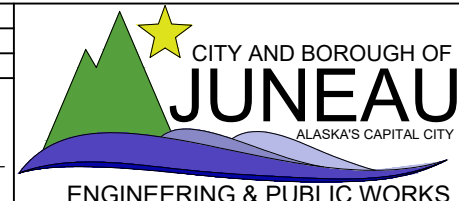
SHEET INDEX	
SHEET NO.	DESCRIPTION
GENERAL	
G3.0B	BONNIE BRAE COVER SHEET
G4.0B	SUBDIVISION OVERVIEW
G5.0B	TEMPORARY WATER SERVICE PLAN OVERVIEW
G6.0B	TEMPORARY WATER PUMP PLAN
G7.0B	TEMPORARY WATER PUMP SINGLE LINE DIAGRAM
MECHANICAL	
M1.0B	PUMP & PIPING DEMOLITION PLAN
M2.0B	PIPING PLAN
M3.0B	PIPING SECTIONS
M3.1B	PIPING SECTIONS
M4.0B	PIPE PLAN DETAILS
ELECTRICAL	
E1.0B	LEGEND, LUMINAIRE SCHEDULE
E2.0B	FLOOR PLAN – EXISTING & NEW POWER AND LOW VOLTAGE
E3.0B	DETAILS
E4.0B	SINGLE LINE DIAGRAMS
E5.0B	PLC WIRING DIAGRAMS
E6.0B	DIAGRAM AND DETAIL
E7.0B	FLOOR PLAN – EXISTING & NEW LIGHTING



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY



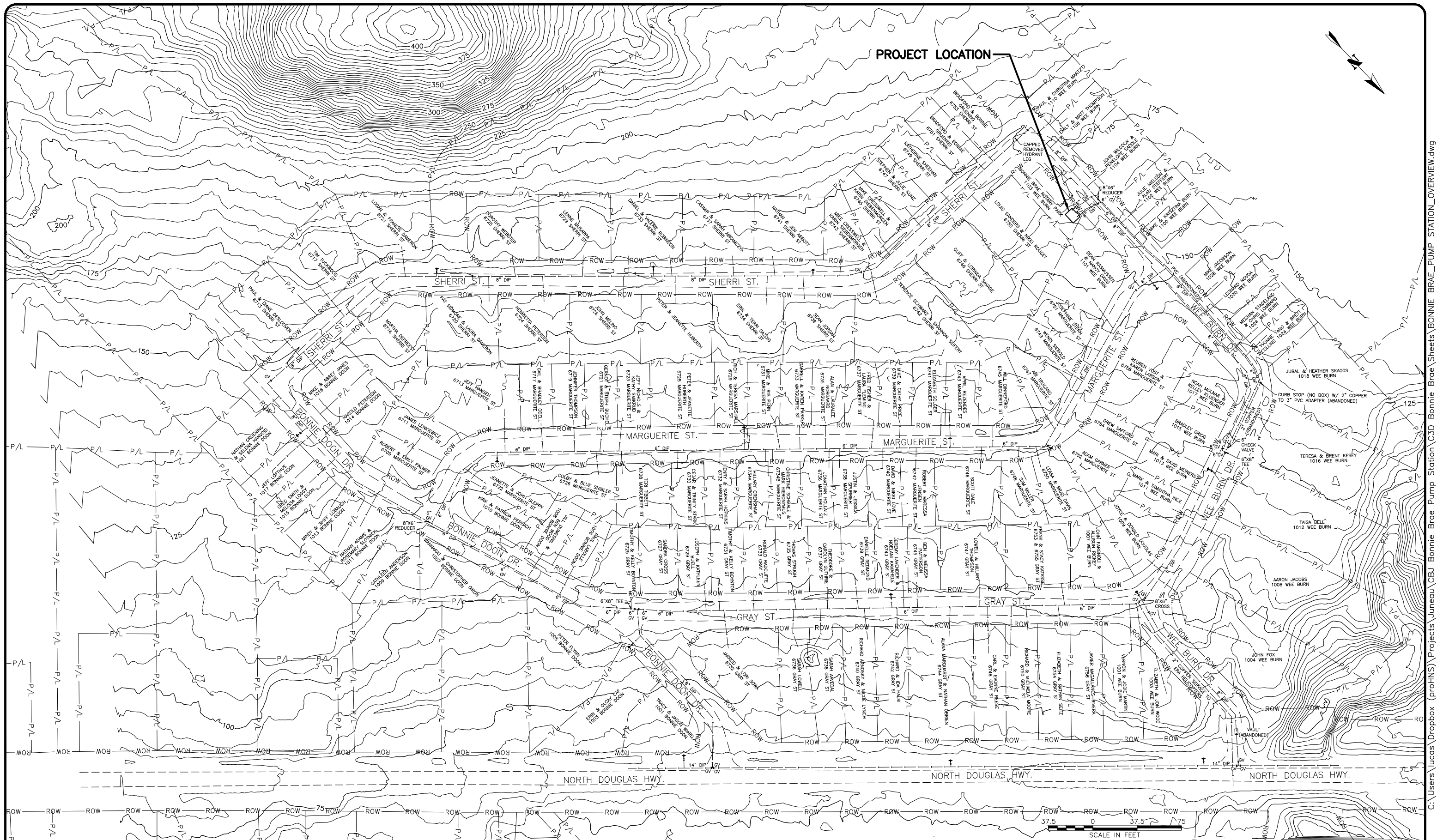
DRAWN BY: L. CHAMBERS
DESIGNED BY: L. CHAMBERS
CHECKED BY: G. GLADSO
1945 ALEX HOLDEN WAY #101
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BONNIE BRAE PUMP STATION RENOVATION
BE21-122

BONNIE BRAE COVER SHEET

SHEET NUMBER
G3.0B
OF
34



RECORD OF REVISIONS			
No.	DATE	DESCRIPTION	BY

proHNS LLC
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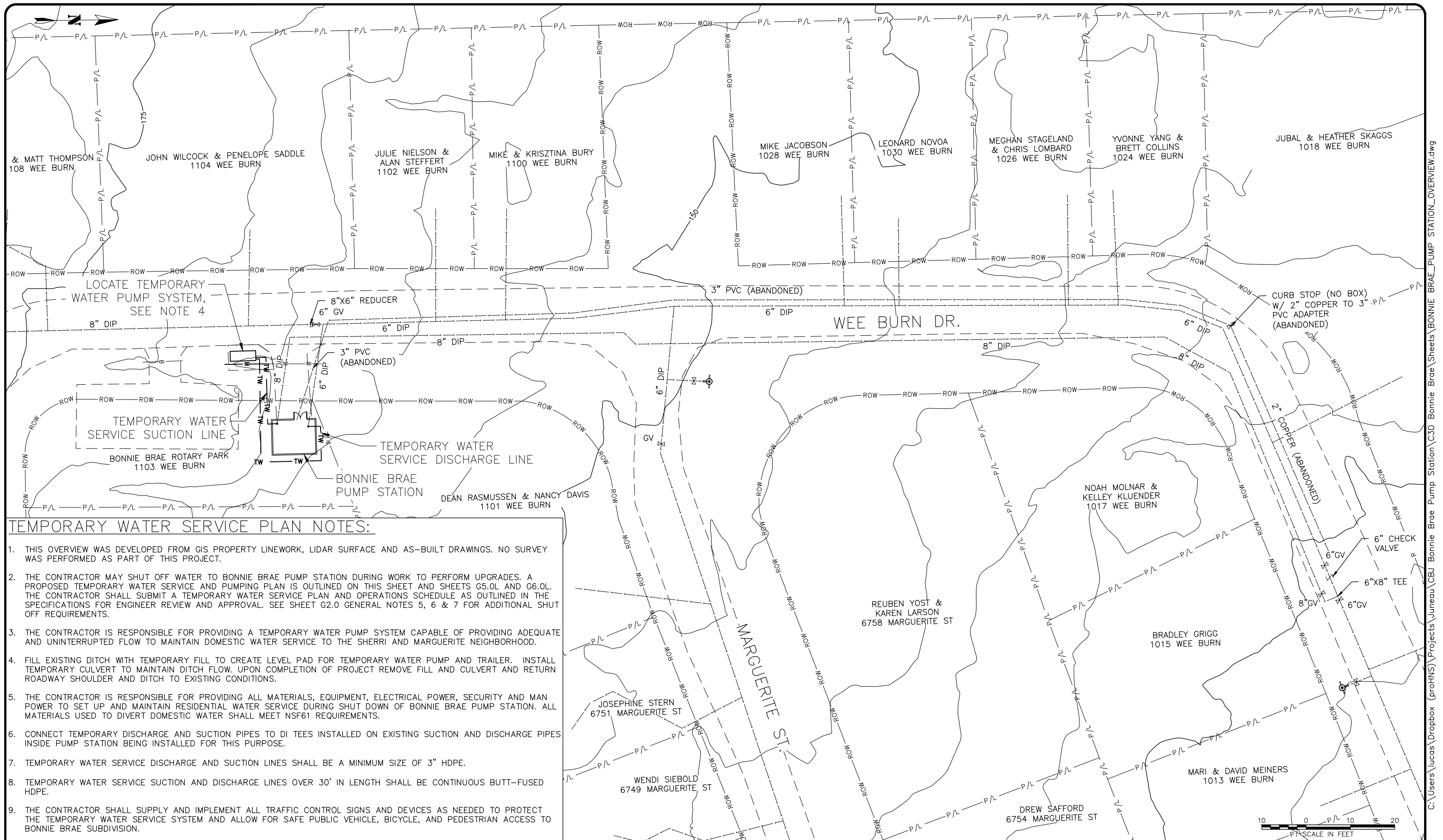
DRAWN BY: L. CHAMBERS
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ENGINEERING & PUBLIC WORKS

BONNIE BRAE PUMP STATION RENOVATION
 BE21-122

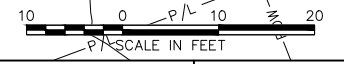
SUBDIVISION OVERVIEW

SHEET NUMBER
G4.0B
 OF
34



TEMPORARY WATER SERVICE PLAN NOTES:

1. THIS OVERVIEW WAS DEVELOPED FROM GIS PROPERTY LINEWORK, LIDAR SURFACE AND AS-BUILT DRAWINGS. NO SURVEY WAS PERFORMED AS PART OF THIS PROJECT.
2. THE CONTRACTOR MAY SHUT OFF WATER TO BONNIE BRAE PUMP STATION DURING WORK TO PERFORM UPGRADES. A PROPOSED TEMPORARY WATER SERVICE AND PUMPING PLAN IS OUTLINED ON THIS SHEET AND SHEETS G5.0L AND G6.0L. THE CONTRACTOR SHALL SUBMIT A TEMPORARY WATER SERVICE PLAN AND OPERATIONS SCHEDULE AS OUTLINED IN THE SPECIFICATIONS FOR ENGINEER REVIEW AND APPROVAL. SEE SHEET G2.0 GENERAL NOTES 5, 6 & 7 FOR ADDITIONAL SHUT OFF REQUIREMENTS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING A TEMPORARY WATER PUMP SYSTEM CAPABLE OF PROVIDING ADEQUATE AND UNINTERRUPTED FLOW TO MAINTAIN DOMESTIC WATER SERVICE TO THE SHERRI AND MARGUERITE NEIGHBORHOOD.
4. FILL EXISTING DITCH WITH TEMPORARY FILL TO CREATE LEVEL PAD FOR TEMPORARY WATER PUMP AND TRAILER. INSTALL TEMPORARY CULVERT TO MAINTAIN DITCH FLOW. UPON COMPLETION OF PROJECT REMOVE FILL AND CULVERT AND RETURN ROADWAY SHOULDER AND DITCH TO EXISTING CONDITIONS.
5. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS, EQUIPMENT, ELECTRICAL POWER, SECURITY AND MAN POWER TO SET UP AND MAINTAIN RESIDENTIAL WATER SERVICE DURING SHUT DOWN OF BONNIE BRAE PUMP STATION. ALL MATERIALS USED TO DIVERT DOMESTIC WATER SHALL MEET NSF61 REQUIREMENTS.
6. CONNECT TEMPORARY DISCHARGE AND SUCTION PIPES TO DI TEES INSTALLED ON EXISTING SUCTION AND DISCHARGE PIPES INSIDE PUMP STATION BEING INSTALLED FOR THIS PURPOSE.
7. TEMPORARY WATER SERVICE DISCHARGE AND SUCTION LINES SHALL BE A MINIMUM SIZE OF 3" HDPE.
8. TEMPORARY WATER SERVICE SUCTION AND DISCHARGE LINES OVER 30' IN LENGTH SHALL BE CONTINUOUS BUTT-FUSED HDPE.
9. THE CONTRACTOR SHALL SUPPLY AND IMPLEMENT ALL TRAFFIC CONTROL SIGNS AND DEVICES AS NEEDED TO PROTECT THE TEMPORARY WATER SERVICE SYSTEM AND ALLOW FOR SAFE PUBLIC VEHICLE, BICYCLE, AND PEDESTRIAN ACCESS TO BONNIE BRAE SUBDIVISION.



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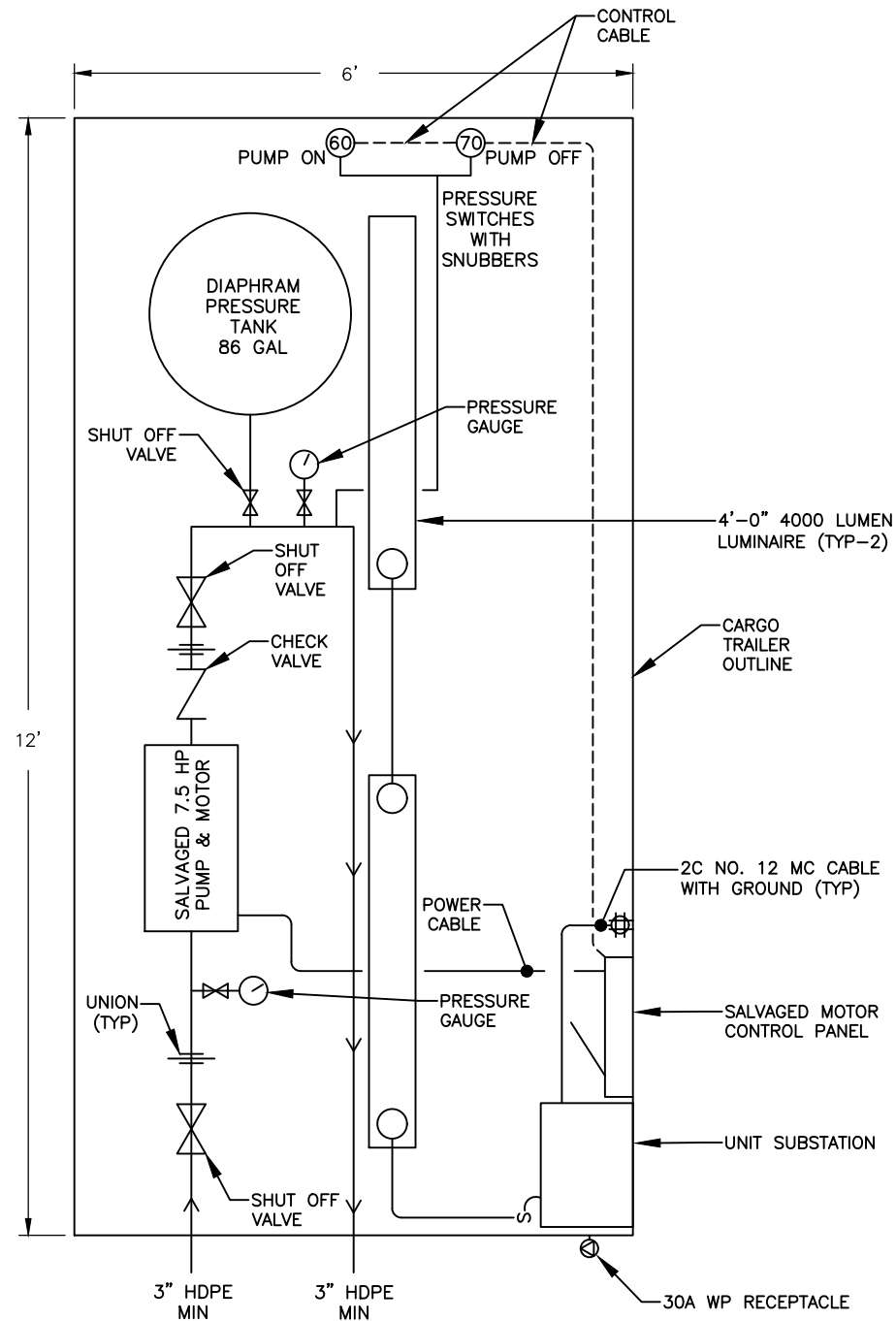
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BONNIE BRAE PUMP STATION RENOVATION
 BE21-122

TEMPORARY WATER SERVICE PLAN OVERVIEW

SHEET NUMBER
G5.0B
 OF
34



TEMPORARY WATER PUMP NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL MATERIALS, EQUIPMENT, ELECTRICAL POWER, SECURITY AND MAN POWER TO SET UP AND MAINTAIN THE TEMPORARY WATER PUMP.
2. THE CONTRACTOR SHALL UTILIZE THE TEMPORARY WATER PUMP AND TRAILER SET UP FROM THE LEE STREET PUMP STATION RENOVATION PROJECT FOR THIS PROJECT IN ORDER TO MAINTAIN WATER SUPPLY DURING THE BONNIE BRAE PUMP STATION RENOVATION. THE CONTRACTOR SHALL MAKE MODIFICATIONS AS NECESSARY TO THE TEMPORARY WATER PUMP AND TRAILER SET UP TO ENSURE THE SYSTEM WILL PROVIDE UNINTERRUPTED WATER SERVICE TO THE BONNIE BRAE SUBDIVISION DURING THE PROJECT.
3. THE CONTRACTOR MAY PENETRATE THE EXTERIOR WALL TO ATTACH THE TEMPORARY SUCTION AND DISCHARGE PIPES TO THE PROPOSED DIP TEES INSTALLED ON THE SUCTION AND DISCHARGE PIPES INSIDE THE PUMP HOUSE. AFTER DECOMMISSIONING THE TEMPORARY PUMP RETURN EXTERIOR WALL TO EXISTING CONDITION. SEE PIPING PLAN ON SHEET M2.0B AND PIPING SECTIONS ON M3.0B AND M3.1B FOR DETAILS ON DIP TEE AND VALVE INSTALLED ON SUCTION AND DISCHARGE PIPES INSIDE THE PUMP HOUSE. THESE PARTS ARE BEING INSTALLED FOR FACILITATING THE TEMPORARY PUMPING PLAN.
4. THE CONTRACTOR SHALL PROVIDE AND INSTALL MATERIAL AND EQUIPMENT NECESSARY TO MITIGATE THE EFFECTS OF WATER HAMMER ON THE SYSTEM.
5. PUMP OPERATION: PUMP SHALL BE CONTROLLED BY "PUMP ON" AND "PUMP OFF" PRESSURE SWITCHES. PUMP SHALL TURN ON WHEN LOW PRESSURE OF 60 PSI IS DETECTED AND REMAIN ON UNTIL HIGH PRESSURE OF 70 PSI IS DETECTED. AT 70 PSI PUMP SHALL TURN OFF AND REMAIN OFF UNTIL LOW PRESSURE OF 60 PSI IS DETECTED.
6. SEE SHEET G7.0B FOR THE TEMPORARY WATER PUMP AND SINGLE LINE DIAGRAM.
7. THE CONTRACTOR SHALL CONSTRUCT AND TEST THE TEMPORARY PUMP SYSTEM TO ENSURE IT IS OPERATING AS INTENDED PRIOR TO SHUTTING OFF WATER TO THE PUMP STATION.
8. UPON COMPLETION OF THE PROJECT THE CONTRACTOR SHALL DELIVER THE CARGO TRAILER AND THE TEMPORARY WATER PUMP SYSTEM INCLUDING ELECTRICAL COMPONENTS TO CBJ WATER DEPARTMENT SHOP AT 2520 BARRET AVENUE. CBJ WILL ASSUME OWNERSHIP OF THE CARGO TRAILER AND TEMPORARY WATER PUMP SYSTEM. IT IS THE INTENT THAT THE TEMPORARY WATER SYSTEM WILL BE DECOMMISSIONED AND STORED FOR FUTURE USE AND THE CARGO TRAILER MAY BE USED INDEPENDENTLY. THE EXTERIOR WALLS SHALL NOT BE DAMAGED AS A RESULT OF INSTALLING THE TEMPORARY PUMP SYSTEM.

1
G6.0B **TEMPORARY WATER PUMP AND TRAILER PLAN VIEW**
SCALE: NOT TO SCALE



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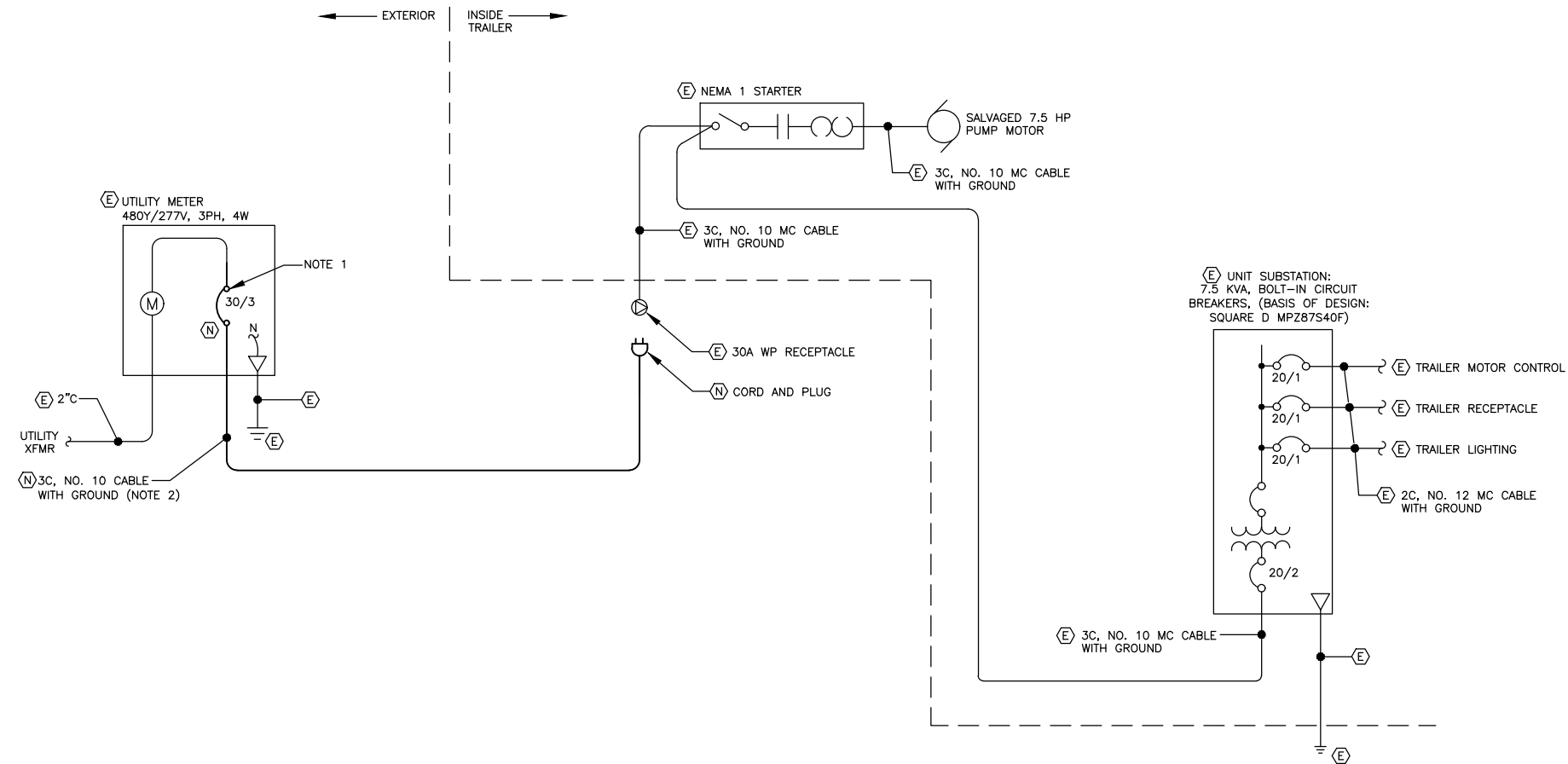
BONNIE BRAE PUMP STATION RENOVATION
 BE21-122

TEMPORARY WATER PUMP PLAN

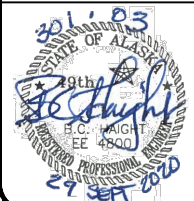
SHEET NUMBER	G6.0B
OF	34

SINGLE LINE DIAGRAM NOTES: (SHUTDOWN PERIOD)

1. PROVIDE A TEMPORARY 30/3 SERVICE CIRCUIT BREAKER TO ENERGIZE THE TEMPORARY WATER PUMP TRAILER. REPLACE WITH THE EXISTING 100/3 SERVICE CIRCUIT BREAKER FOR PERMANENT SERVICE.
2. PROVIDE TEMPORARY FEEDER CABLE WITH CORD AND PLUG CONNECTION FROM SERVICE CIRCUIT BREAKER TO TRAILER RECEPTACLE.
3. THE SHUTDOWN PERIOD SHALL NOT BE LONGER THAN 4 HOURS.



1 SINGLE LINE DIAGRAM – ELECTRICAL SERVICE NO SCALE



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TEMPORARY WATER PUMP SINGLE LINE DIAGRAM

SHEET NUMBER	G7.0B
OF	34



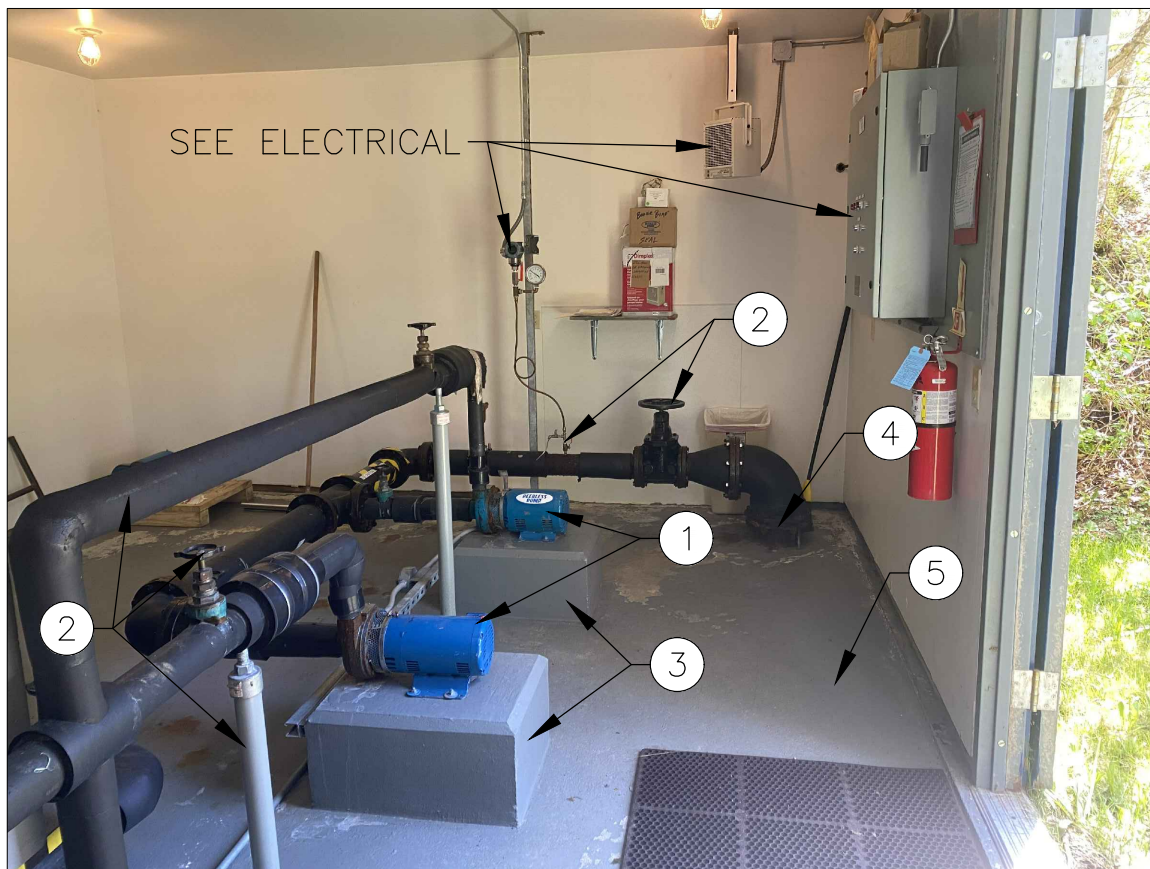
8" DUCTILE IRON SUCTION PIPE



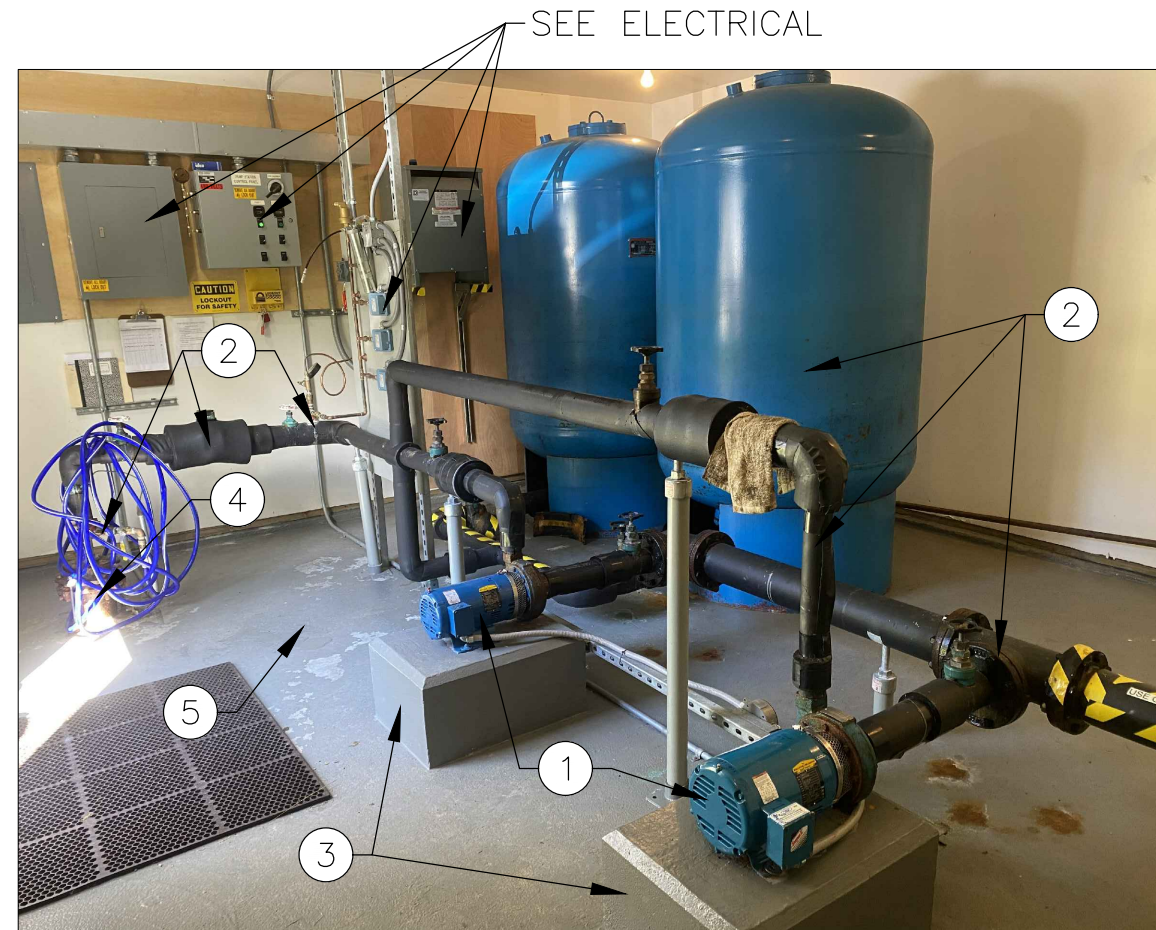
6" DUCTILE IRON DISCHARGE PIPE

DEMOLITION NOTES:

1. REMOVE AND SALVAGE EXISTING 5 HP PUMPS, MOTORS, AND BASE PLATES. DELIVER TO CBJ WATER DEPARTMENT SHOP AT 2520 BARRETT AVE. COORDINATE DELIVERY OF SALVAGED ITEMS WITH CBJ UTILITIES LONI VANKIRK (907-723-4975).
2. REMOVE AND DISPOSE OF ALL EXISTING WATER PIPE, INSULATION, VALVES, DIAPHRAGM PRESSURE TANK, FITTINGS, PRESSURE GAUGES, METER AND SUPPORTS, EXCEPT AS OUTLINED IN NOTE 4.
3. REMOVE AND DISPOSE OF CONCRETE MOUNTING PAD. FLOOR TO REMAIN EXPOSED AFTER NEW MOUNTING PADS ARE INSTALLED SHALL MATCH SURROUNDING FLOOR ELEVATION AND TEXTURE.
4. PROTECT AND MAINTAIN EXISTING INITIAL 8" DUCTILE IRON SUCTION AND 6" DUCTILE IRON DISCHARGE PIPES PROTRUDING APPROXIMATELY 12" FROM THE FLOOR. REMOVE RUST AND APPLY CORROSION PROTECTIVE COATING TO EXISTING DUCTILE IRON PIPE MEETING NSF 61. REMOVE EXISTING DUCTILE IRON MECHANICAL JOINT. ATTACH NEW DUCTILE IRON PIPING TO EXISTING PIPE WITH NEW MEGALUG MECHANICAL JOINT RESTRAINT FOR DIP.
5. PAINT FLOOR TO LIMITS OF EXISTING FLOOR PAINT.



FROM ENTRY WAY LOOKING RIGHT



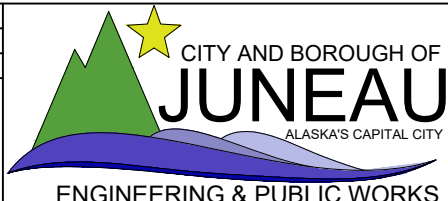
FROM ENTRY WAY LOOKING LEFT



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**BONNIE BRAE PUMP
 STATION RENOVATION**
 BE21-122

**PUMP & PIPING
 DEMOLITION PLAN**

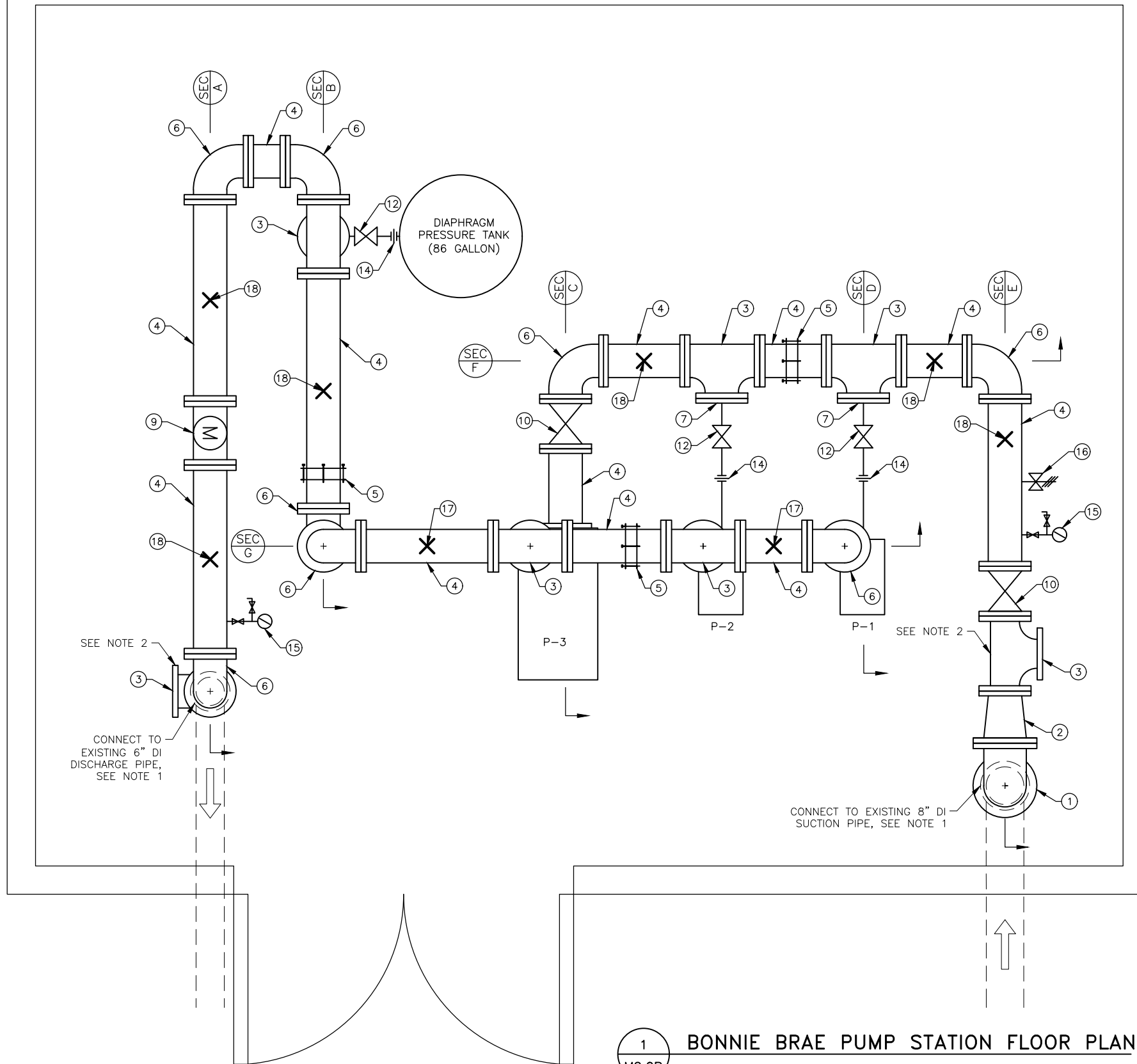
SHEET NUMBER
M1.0B
OF
34

GENERAL SHEET NOTES:


- CONNECT TO EXISTING DIP WITH MEGALUG MECHANICAL JOINT RESTRAINT FOR DIP.
- THE 6"x6" DI FLANGE TEE AND 6" GATE VALVE INSTALLED IN THESE LOCATIONS ARE TO FACILITATE THE TEMPORARY PUMPING PLAN AND WILL REMAIN IN PLACE PERMANENTLY. INSTALL A 6" DI CAP AND GASKET ON THE 6"x6" DI FLANGE ONCE THE TEMPORARY PUMP PIPING HAS BEEN REMOVED.
- INSULATE ALL WATER PIPE, VALVES AND FITTINGS WITH 1/2" ARMAFLEX FOAM INSULATION. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- INDICATE DIRECTION OF FLOW WITH ARROWS ON WATER PIPE.
- SEE PIPE SUPPORT DETAIL 3 & 4 ON SHEET M4.0B.
- SEE PRESSURE GAUGE AND SAMPLING PORT ASSEMBLY DETAIL 1 ON SHEET M4.0B.
- FLANGE COUPLING ADAPTER MAY BE SUBSTITUTED WITH A FLANGE SPOOL WITH APPROVAL BY THE ENGINEER.
- CONTRACTOR RESPONSIBLE FOR VERIFYING PART QUANTITIES.

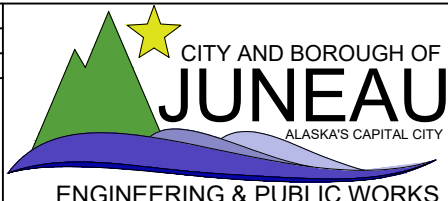
PUMP LIST		
PUMP NO.	PUMP INFO	MOTOR INFO
P-1	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-2	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-3	1000 GPM, 95 FT HEAD	30 HP, 1750 RPM

PARTS LIST	
NO.	ITEM
1	8"x8" DI FLANGED 90° ELBOW
2	8"x6" DI REDUCER
3	6"x6" DI FLANGED TEE
4	6" DI FLANGED PIPE
5	6" DI FLANGE COUPLING ADAPTER *SEE NOTE 7 THIS SHEET
6	6" DI FLANGED 90° ELBOW
7	6"x2" COMPANION FLANGE
8	6"x4" DI REDUCER
9	6" FLOW METER
10	6" GATE VALVE
11	6" CHECK VALVE
12	2" BALL VALVE
13	2" CHECK VALVE
14	UNION
15	PRESSURE GAUGE & SAMPLING PORT
16	AIR RELEASE VALVE
17	UNI STRUT PIPE SUPPORT LOCATION
18	U-BOLT PIPE SUPPORT LOCATION



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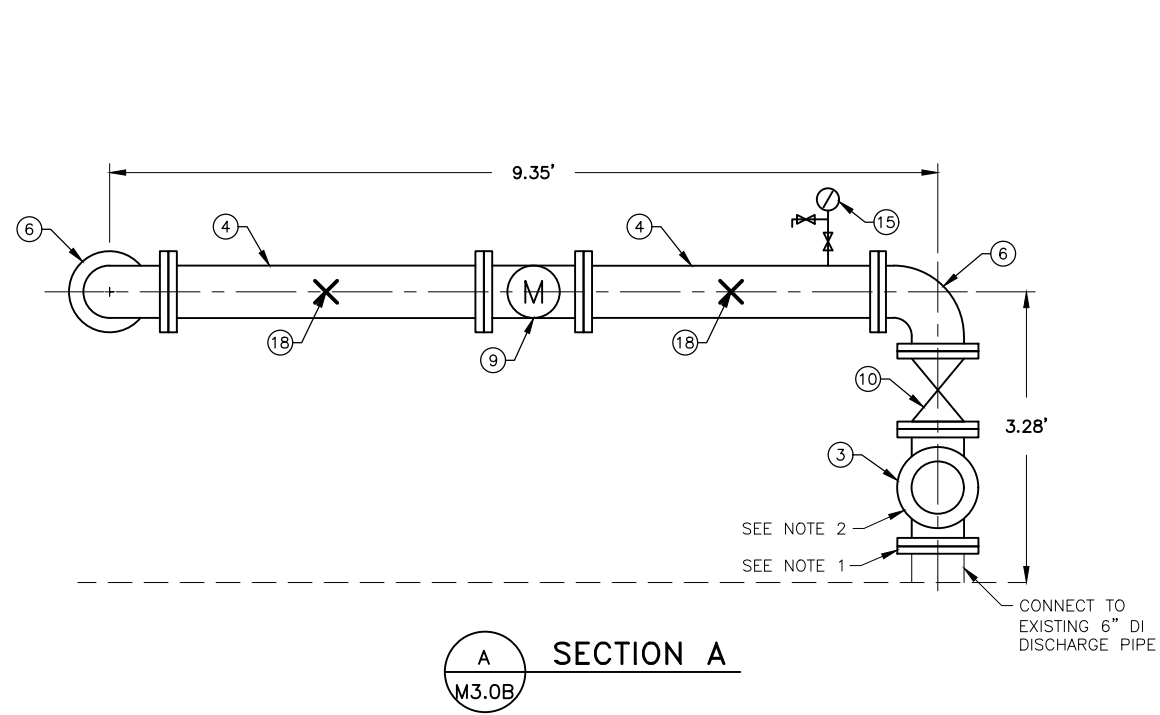
BONNIE BRAE PUMP STATION RENOVATION
 BE21-122

PIPING PLAN

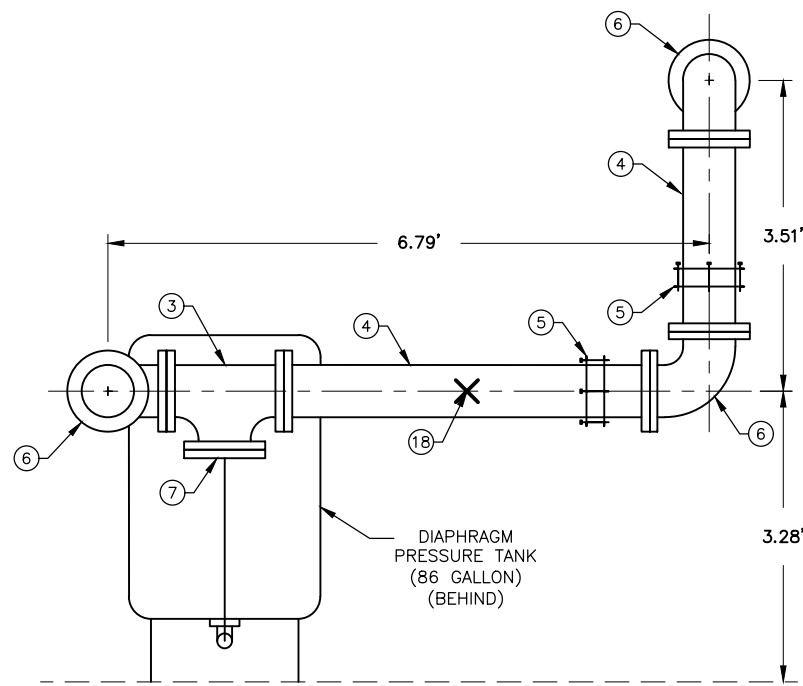
SHEET NUMBER
M2.0B
 OF
34

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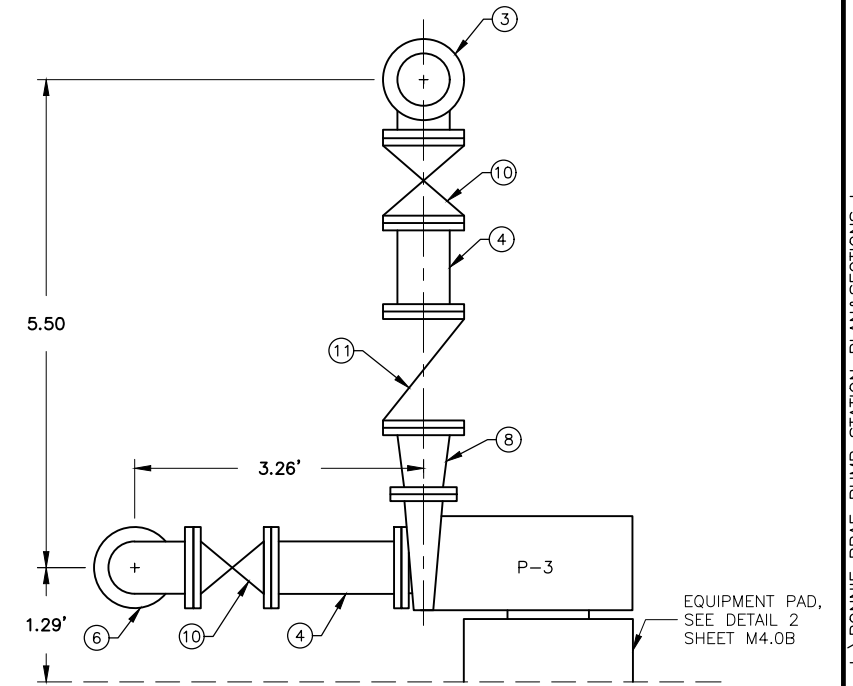
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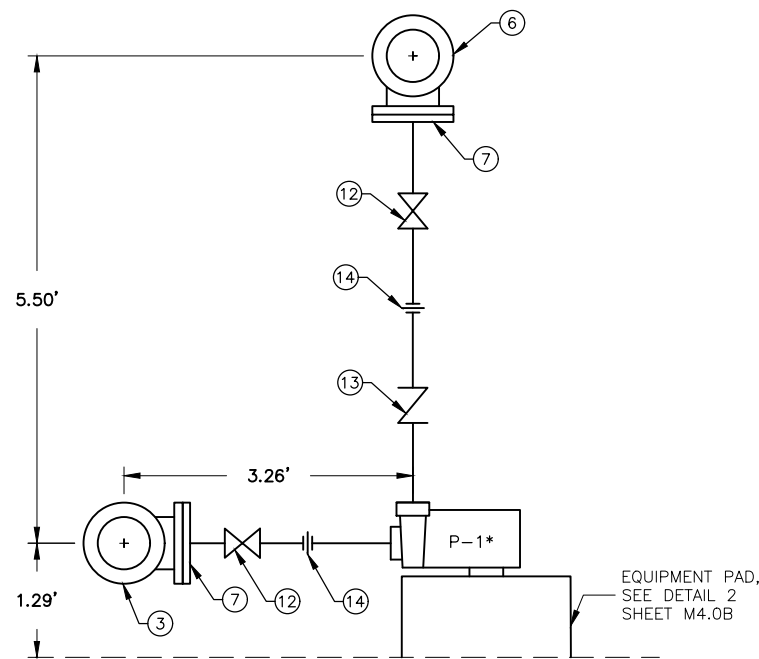
A SECTION A
M3.0B



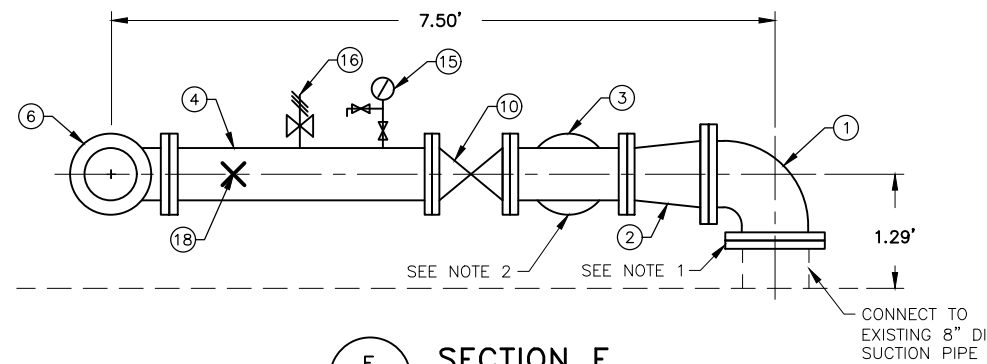
B SECTION B
M3.0B



C SECTION C
M3.0B



D SECTION D
M3.0B *INSTALL P-2 WITH SIMILAR LAYOUT



E SECTION E
M3.0B

GENERAL SHEET NOTES:

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- INDICATE DIRECTION OF FLOW WITH ARROWS ON WATER PIPE.
- SEE PIPE SUPPORT DETAIL 3 & 4 ON SHEET M4.0B.
- SEE PRESSURE GAUGE AND SAMPLING PORT ASSEMBLY DETAIL 1 ON SHEET M4.0B.
- FLANGE COUPLING ADAPTER MAY BE SUBSTITUTED WITH A FLANGE SPOOL WITH APPROVAL BY THE ENGINEER.
- CONTRACTOR RESPONSIBLE FOR VERIFYING PART QUANTITIES.

PARTS LIST

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3	6"x6" DI FLANGED TEE
4	6" DI FLANGED PIPE
5	6" DI FLANGE COUPLING ADAPTER *SEE NOTE 7 THIS SHEET
6	6" DI FLANGED 90° ELBOW
7	6"x2" COMPANION FLANGE
8	6"x4" DI REDUCER
9	6" FLOW METER
10	6" GATE VALVE
11	6" CHECK VALVE
12	2" BALL VALVE
13	2" CHECK VALVE
14	UNION
15	PRESSURE GAUGE & SAMPLING PORT
16	AIR RELEASE VALVE
17	UNI STRUT PIPE SUPPORT LOCATION
18	U-BOLT PIPE SUPPORT LOCATION

PUMP LIST

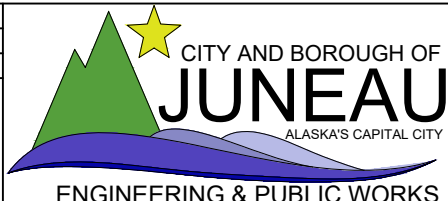
PUMP NO.	PUMP INFO	MOTOR INFO
P-1	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-2	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-3	1000 GPM, 95 FT HEAD	30 HP, 1750 RPM



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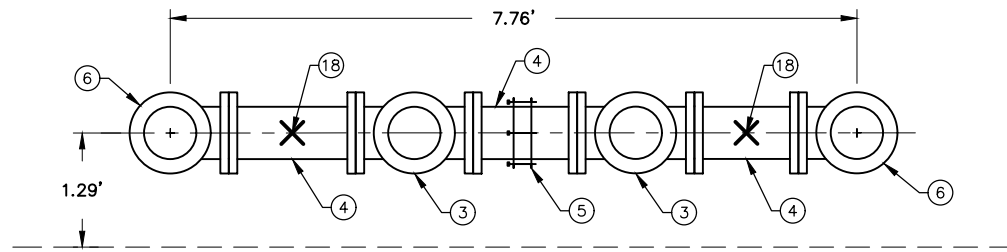
BONNIE BRAE PUMP STATION RENOVATION
 BE21-122

PIPING SECTIONS

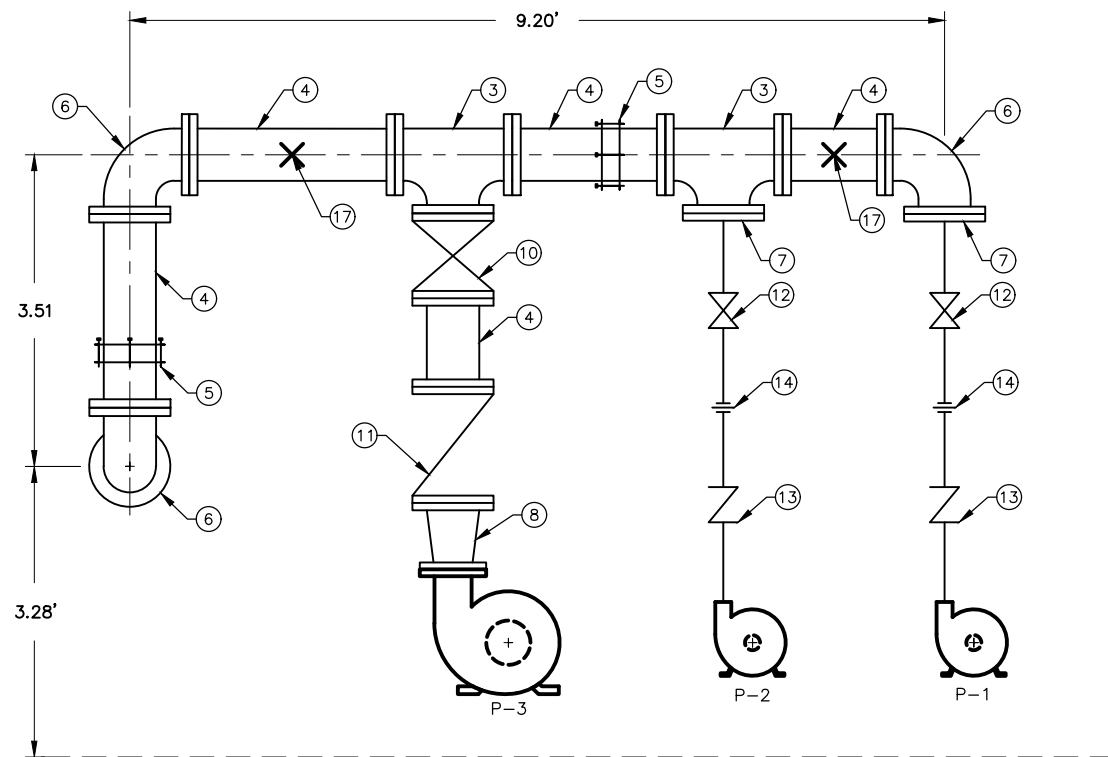
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- SEE PRESSURE GAUGE AND SAMPLING PORT ASSEMBLY DETAIL 1 ON SHEET M4.0B.
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- CONTRACTOR RESPONSIBLE FOR VERIFYING PART QUANTITIES.



F SECTION F
M3.1B



G SECTION G
M3.1B

PUMP LIST

PUMP NO.	PUMP INFO	MOTOR INFO
P-1	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-2	50 GPM, 95 FT HEAD	3 HP, 3500 RPM
P-3	1000 GPM, 95 FT HEAD	30 HP, 1750 RPM

PARTS LIST

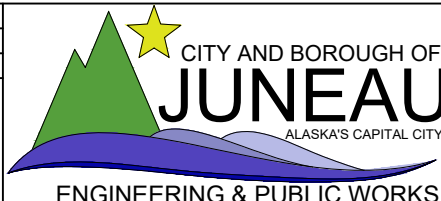
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16	AIR RELEASE VALVE
17	UNI STRUT PIPE SUPPORT LOCATION
18	U-BOLT PIPE SUPPORT LOCATION



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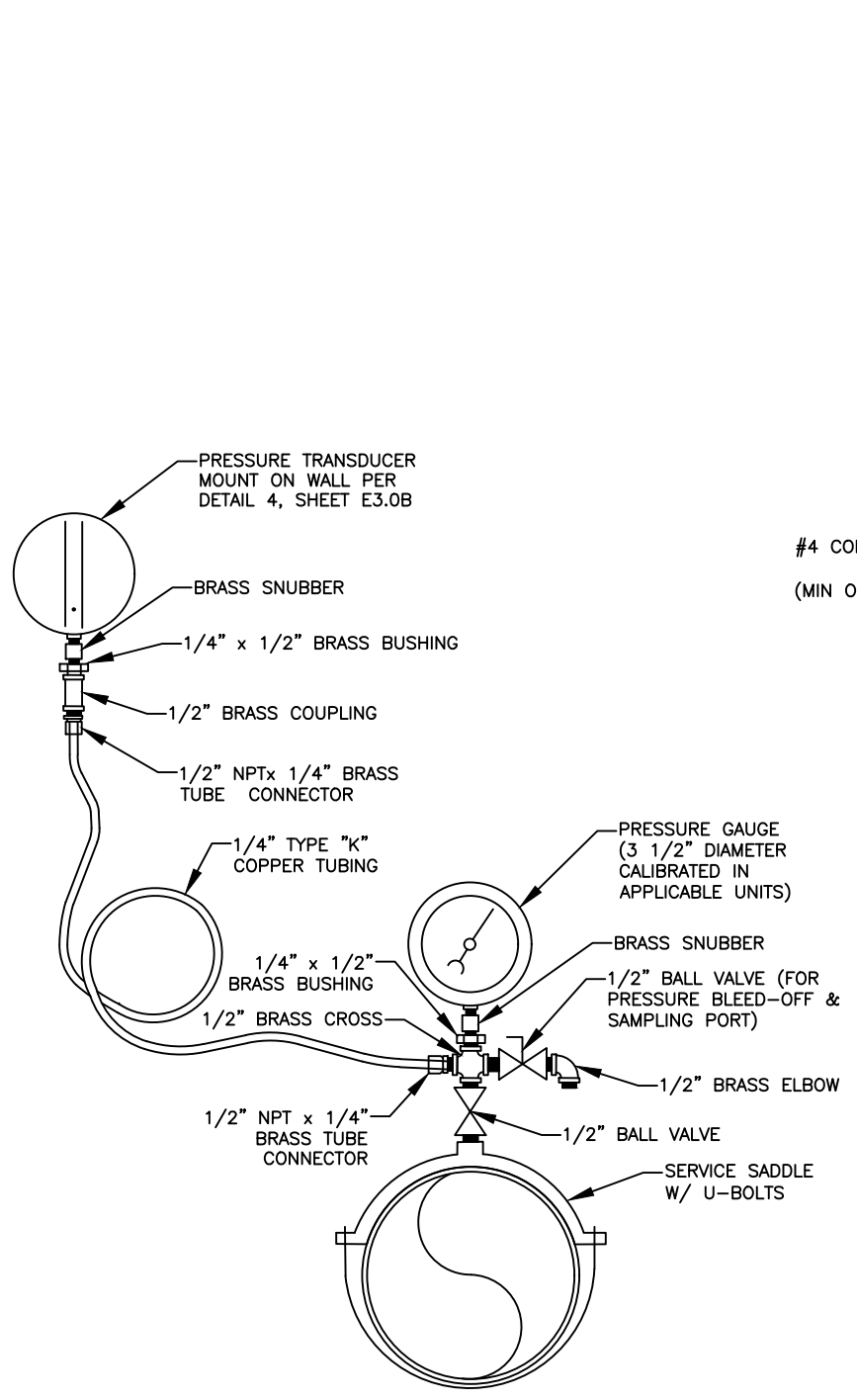
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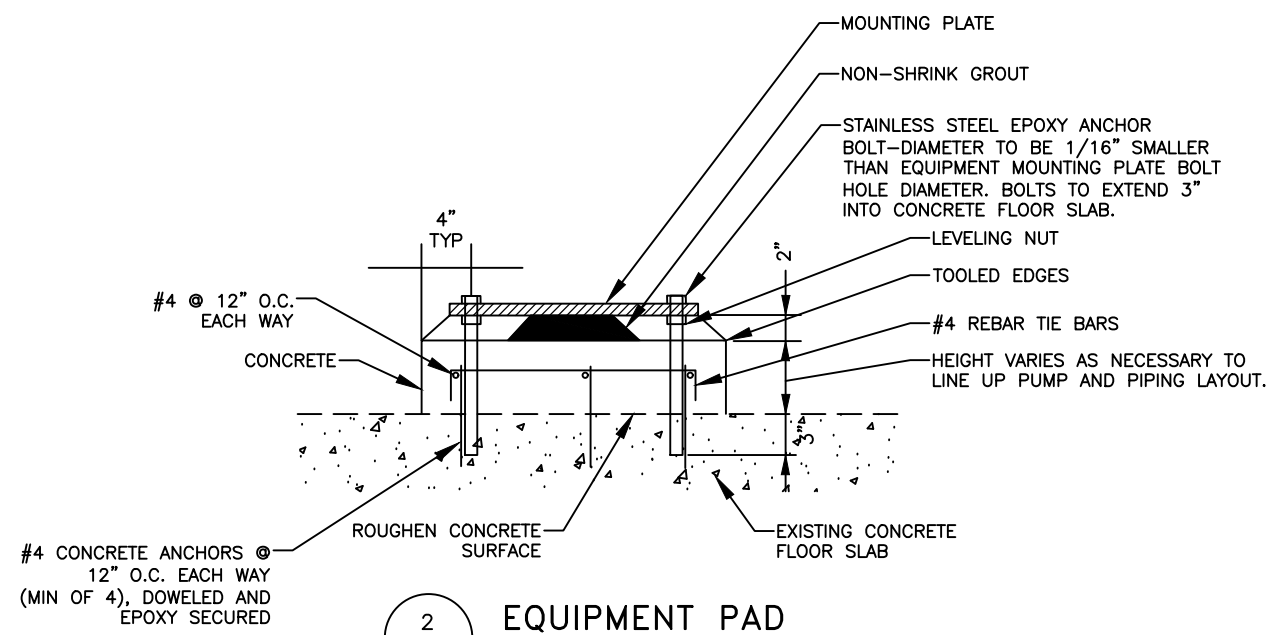
**BONNIE BRAE PUMP
 STATION RENOVATION**
 BE21-122

PIPING SECTIONS

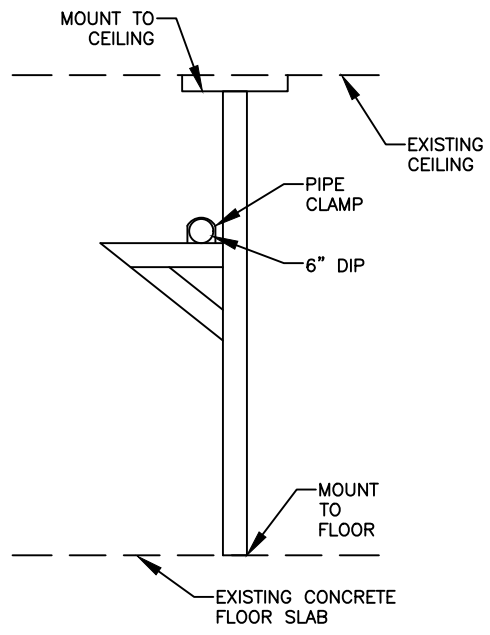
SHEET NUMBER
M3.1B
 OF
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1 PRESSURE GAUGE & SAMPLING PORT ASSEMBLY
M4.0B SCALE: NOT TO SCALE

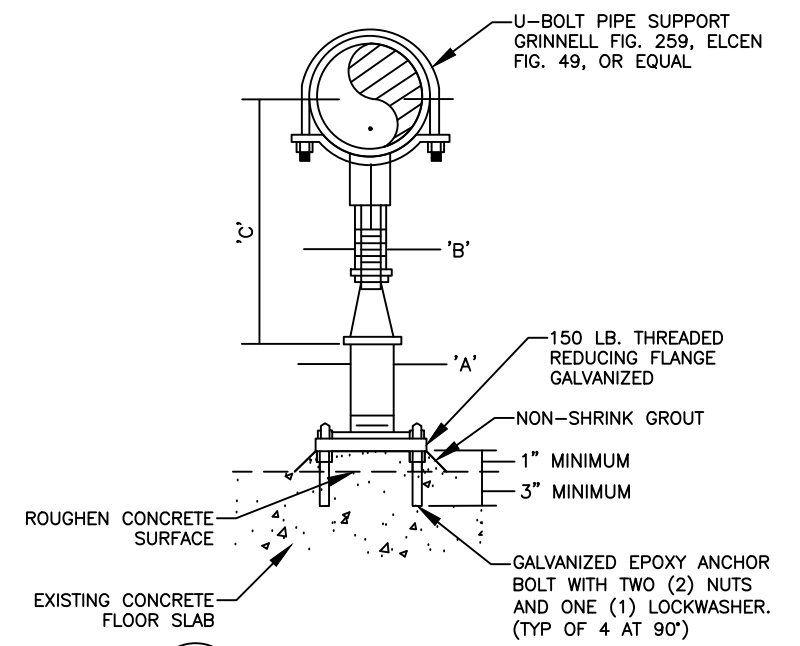


2 EQUIPMENT PAD
M4.0B SCALE: NOT TO SCALE

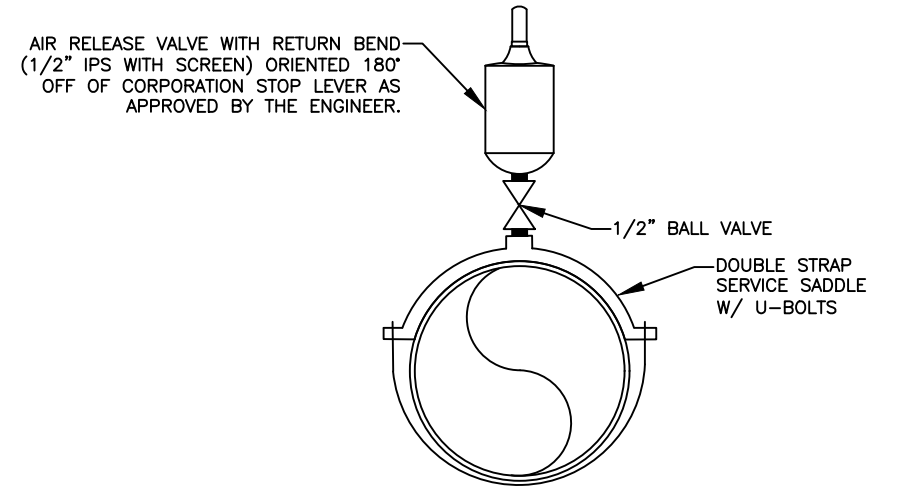


4 UNISTRUT PIPE SUPPORT
M4.0B SCALE: NOT TO SCALE

ADJUSTABLE PIPE SUPPORT APPROXIMATE DIMENSIONS IN INCHES				
PIPE SIZE	'A'	'B'	'C' MINIMUM	'C' MAXIMUM
6"	3	2	10	15



3 U-BOLT PIPE SUPPORT
M4.0B SCALE: NOT TO SCALE



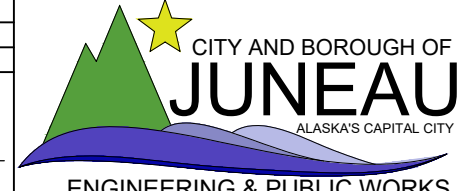
5 AIR RELEASE VALVE
M4.0B SCALE: NOT TO SCALE



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BONNIE BRAE PUMP
STATION RENOVATION
BE21-122

PIPE PLAN DETAILS

SHEET NUMBER
M4.0B
OF
34

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October 9, 2020

LEGEND

ABBREVIATIONS:

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
GFI	GROUND FAULT INTERRUPTED
HDG	HOT-DIPPED GALVANIZED
HMI	HUMAN MACHINE INTERFACE
MDP	MAIN DISTRIBUTION PANEL
PE	PHOTOELECTRIC CELL
TB	TERMINAL BOARD
UH	UNIT HEATER
UON	UNLESS OTHERWISE NOTED
VFD	VARIABLE FREQUENCY DRIVE
WP	WEATHERPROOF
XFMR	TRANSFORMER

POWER:

	DUPLEX RECEPTACLE
	JUNCTION BOX
	CONDULET OR CONDUIT BODY
	MOTOR CONNECTION
	THERMOSTAT, 46" AFF
	UNIT HEATER
	PRESSURE TRANSDUCER

SERVICE EQUIPMENT:

	PANELBOARD
	UTILITY METER

DIAGRAM SYMBOLS:

	CIRCUIT BREAKER
	CONTACT (N.O.)
	DISCONNECT OR SWITCH
	FUSE
	THERMAL RELAY
	GROUND BUS
	GROUND ROD
	METER
	RELAY
	CURRENT TRANSFORMER
	TRANSFORMER

LIGHTING:

	EXTERIOR WALL MOUNTED LUMINAIRE
	SURFACE MOUNT LUMINAIRE
	SURFACE MOUNT LUMINAIRE

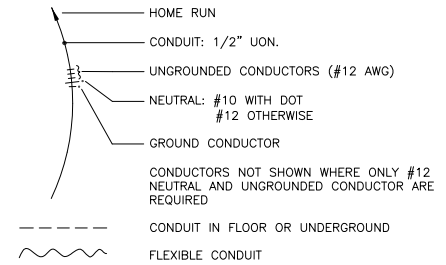
LIGHTING CONTROLS:

S	SINGLE POLE SWITCH
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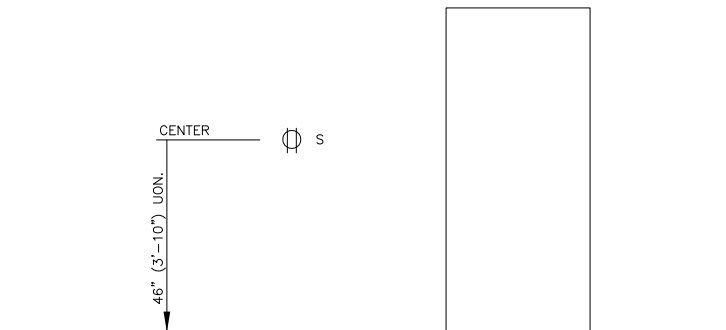
SHEET NOTE SYMBOLS:

	EXISTING TO REMAIN
	NEW
	RELOCATE EXISTING
	REMOVE EXISTING

CONDUIT & CONDUCTORS:



LUMINAIRE SCHEDULE				
TYPE	DESCRIPTION	MANUFACTURER	LAMPS	REMARKS
A	EXTERIOR WALL SCONCE, LED, DIE-CAST ALUMINUM HOUSING, TEMPERED GLASS LENS, VISUAL FORWARD THROW DISTRIBUTION, INTEGRAL ELECTRONIC DRIVER, 120V, 1500 LUMENS, BUTTON STYLE PHOTOELECTRIC CELL, PIR MOTION/AMBIENT LIGHT SENSOR, DARK BRONZE FINISH	LITHONIA LIGHTING WSTLED P1 30K VW 120V PE PIR DDBXD	14W WHITE LED 3000K, CRI 80	ABOVE DOOR AT THE SAME HEIGHT AS EXISTING CONDUIT PENETRATION.
B	4" SURFACE MOUNTED LINEAR LED ENCLOSED INDUSTRIAL, FIBERGLASS HOUSING, RIBBED FROSTED ACRYLIC LENS, HIGH LUMEN OUTPUT, INTEGRAL ELECTRONIC DRIVER, 120-277V	COLUMBIA LIGHTING LXEM4-35HL-RFA-EU	47W WHITE LED 3500K, CRI 80	



TYPICAL DEVICE MOUNTING HEIGHTS
NO SCALE

NOTES:
1. HEIGHTS SHOWN ARE TYPICAL TO CENTERLINE OF BOX UNLESS OTHERWISE NOTED.



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1945 ALEX HOLDEN WAY #101
JUNEAU, AK 99801

CERTIFICATE OF AUTHORIZATION
#100662

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www.proHNS.com

HAIGHT & ASSOCIATES
CONSULTING ELECTRICAL ENGINEERS

526 Main Street, Juneau, AK 99801
(907) 586-9788

**BONNIE BRAE PUMP STATION
RENOVATIONS
BE21-122**

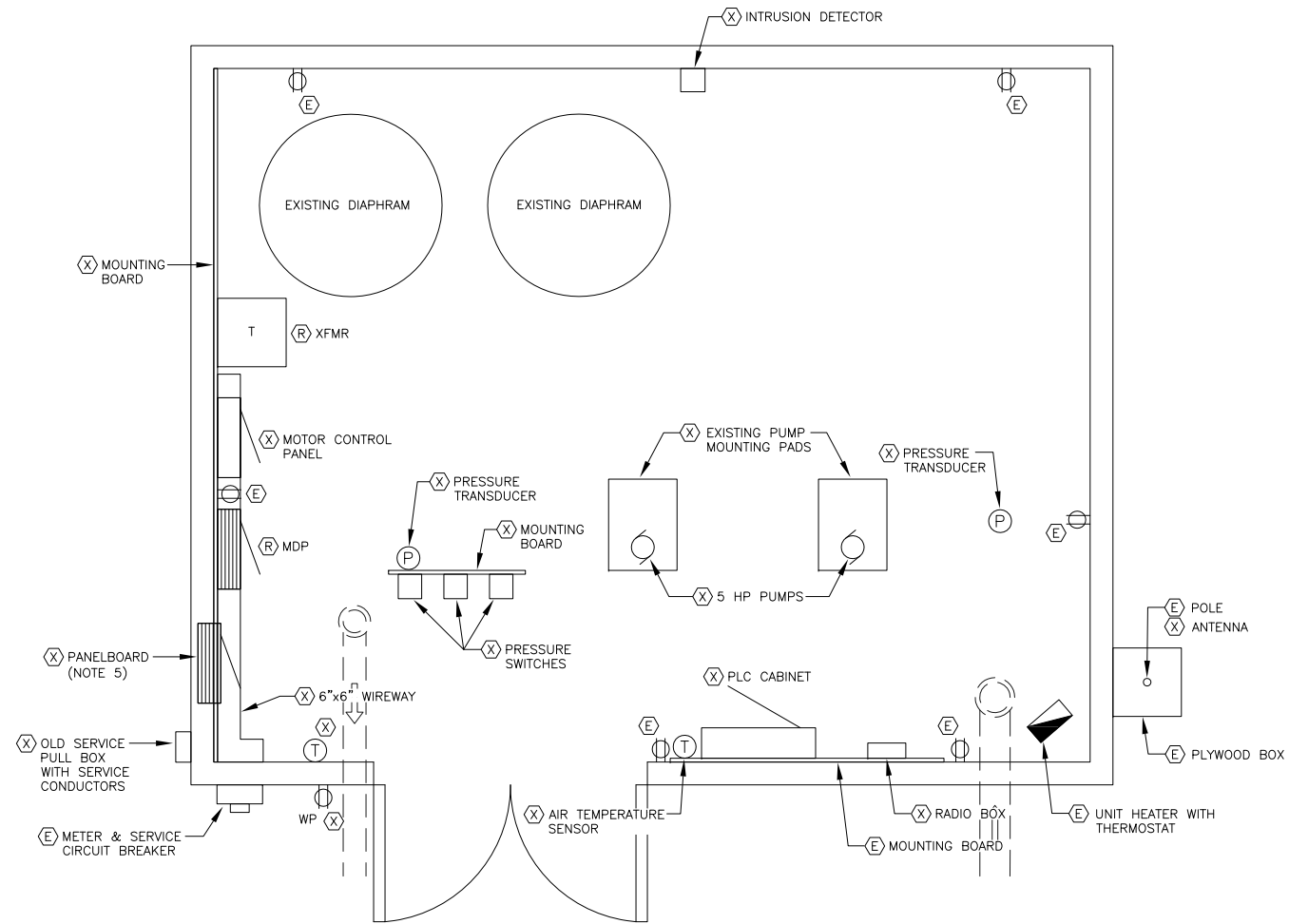
City and Borough of Juneau

**LEGEND, LUMINAIRE
SCHEDULE**

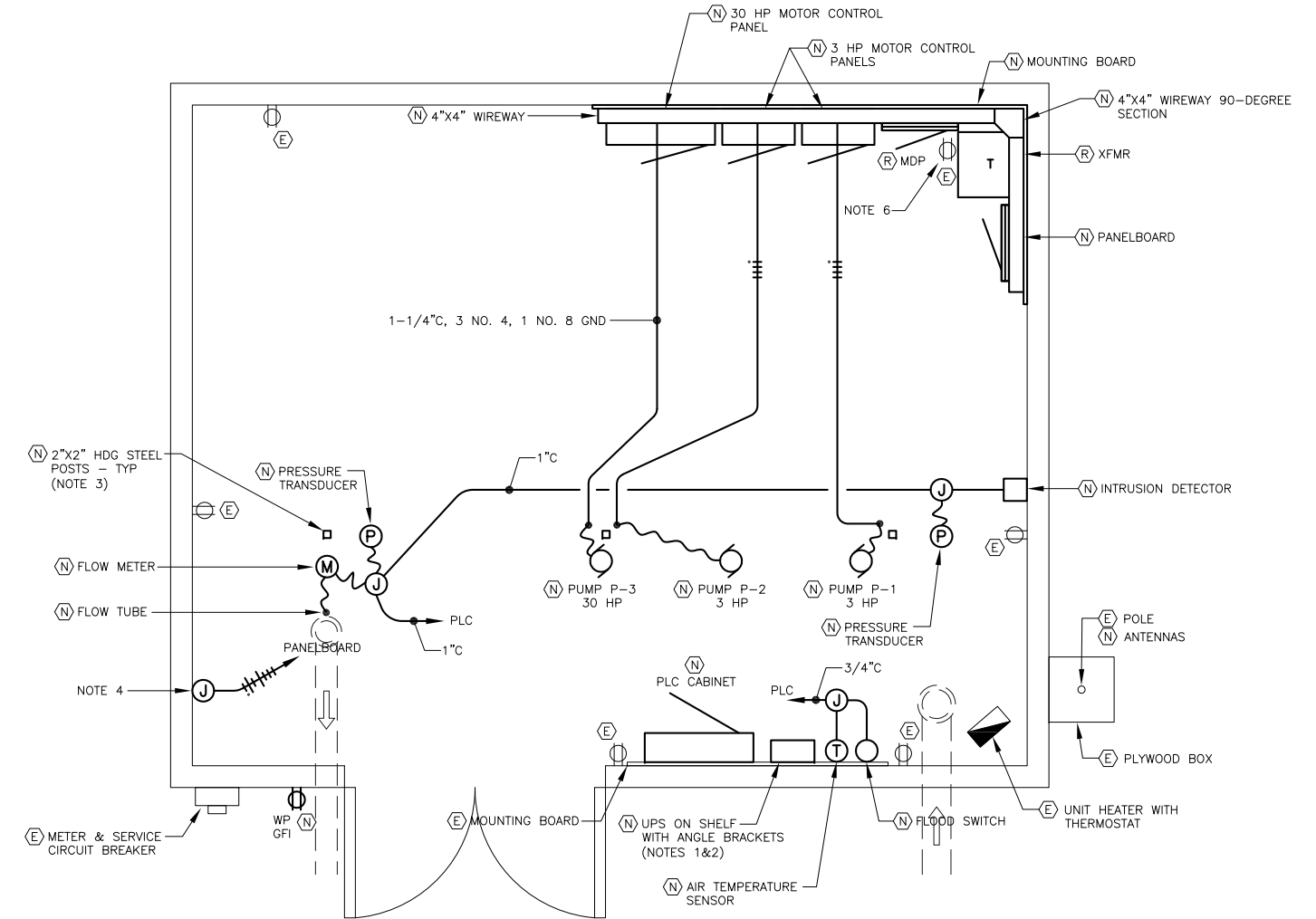
SHEET NUMBER
E1.0B
OF
34

NOTES:

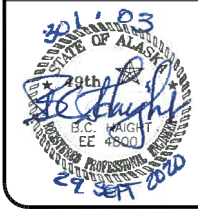
1. NEW PLC CABINET SHALL BE POWERED FROM NEW UPS. UPS BASIS OF DESIGN: APC BACK-UPS CS 500.
2. UPS SHELF SHALL CONSIST OF (1 EA) 6"x15"x3/4" PLYWOOD AND (2 EA) SHELF BRACKETS (BASIS OF DESIGN: EATON B-LINE B888W).
3. PROVIDE (3 EA) 2"x2" HDG STEEL POSTS, BOLTED TO CEILING AND FLOOR. UTILIZE POSTS TO MOUNT PUMP MOTOR FEEDER CONDUITS FROM CEILING TO PUMP MOTOR TERMINATIONS.
4. PROVIDE A JUNCTION BOX TO INTERCEPT AND EXTEND THE EXISTING RECEPTACLE AND UNIT HEATER CIRCUITS TO THE NEW PANELBOARD.
5. REPAIR AND PATCH WALL TO MATCH EXISTING WALL CONSTRUCTION AFTER REMOVING EXISTING PANELBOARD.
6. CUT HOLE IN NEW MOUNTING BOARD TO ALLOW ACCESS TO EXISTING DUPLEX RECEPTACLE.



1 FLOOR PLAN - EXISTING POWER & LOW VOLTAGE SCALE: 0 1' 2' 4'



2 FLOOR PLAN - NEW POWER & LOW VOLTAGE SCALE: 0 1' 2' 4'



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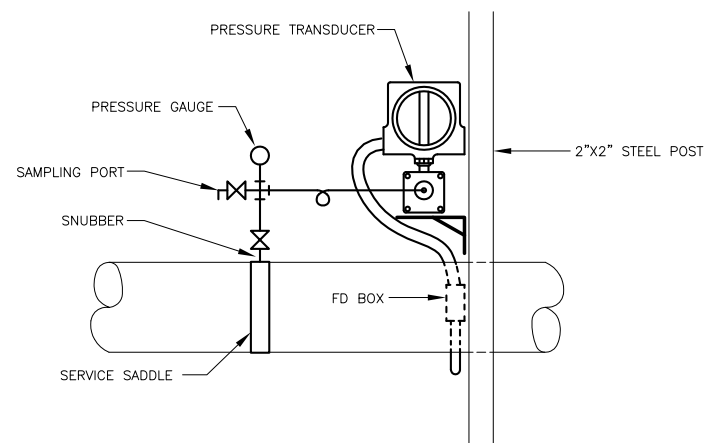
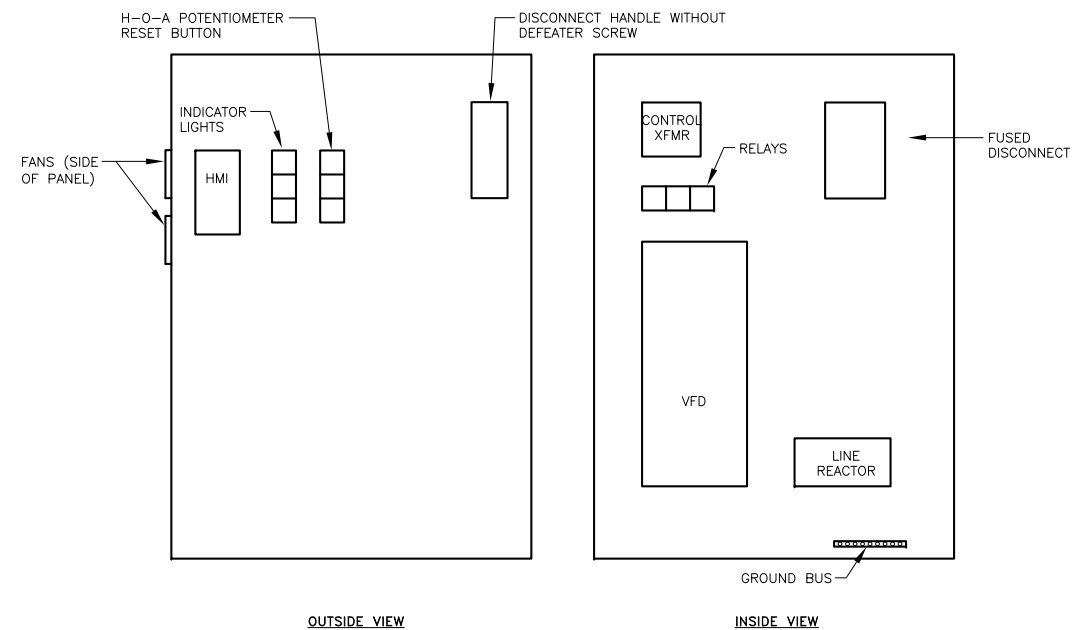
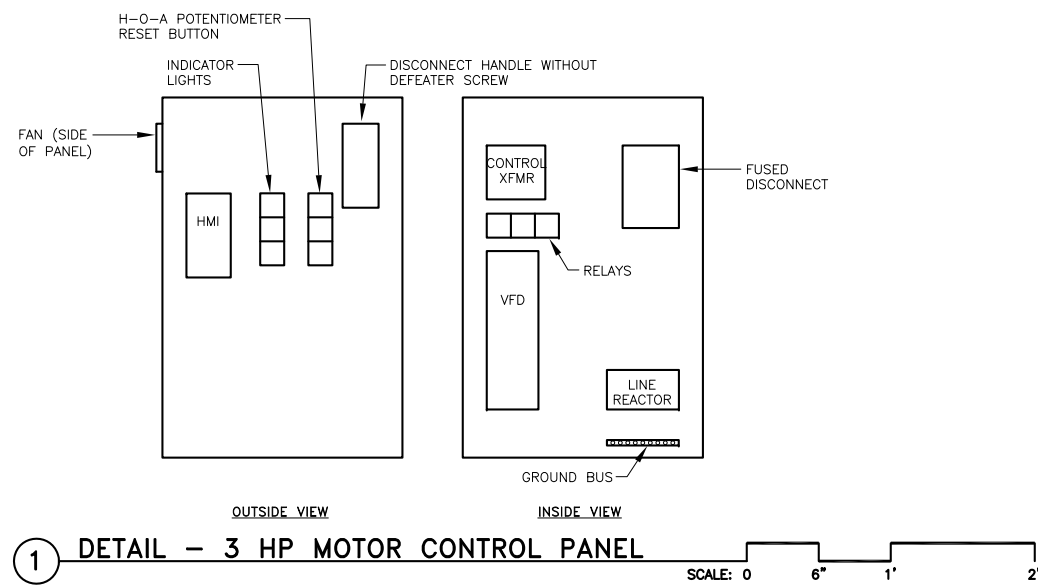
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 City and Borough of Juneau

FLOOR PLAN - EXISTING & NEW POWER AND LOW VOLTAGE

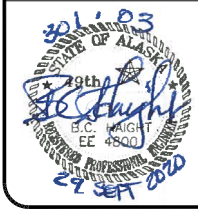
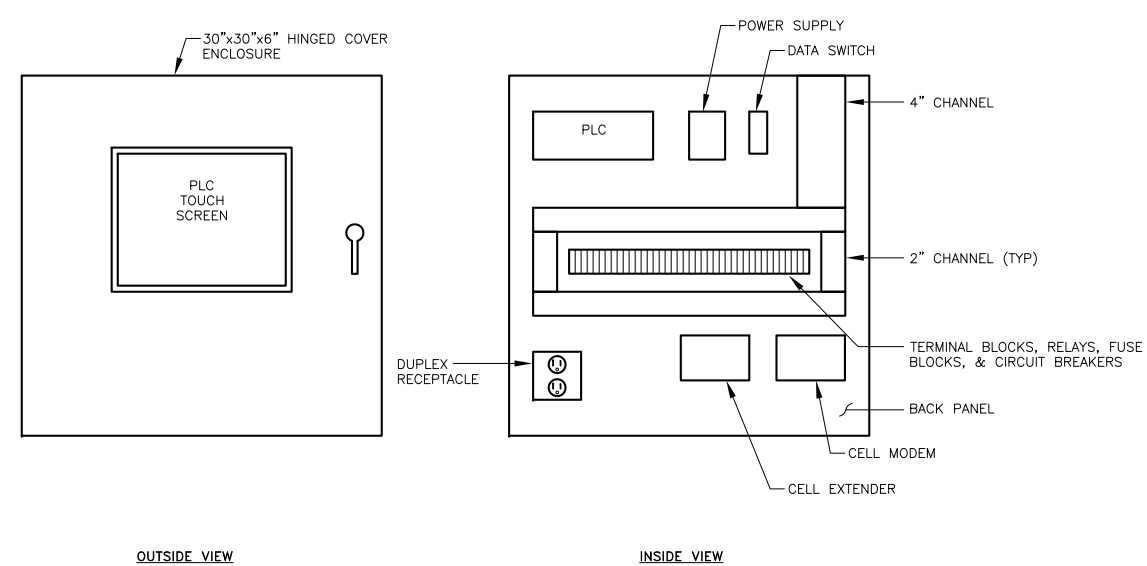
SHEET NUMBER	E2.0B
OF	34

Plotted 9/29/2020 10:22 AM by Robbie Jensen G:\SHARED DRIVES\PROJECTS\301 HNS ENGINEERS\03 BONNIE BRAE PUMP STATION_DRAWINGS\WORKING\E2.0B.DWG



- NOTES:
1. ALL PIPING & APPURTENANCES SHALL BE RATED FOR 250 psi, MINIMUM.
 2. THE CALIBRATION PORT SHALL BE 1/4" NPT.
 3. PRESSURE GAUGE ASSEMBLY PER MECHANICAL DRAWINGS.

4 **DETAIL - WATER PRESSURE TRANSMITTER MOUNTING (TYP)** NO SCALE



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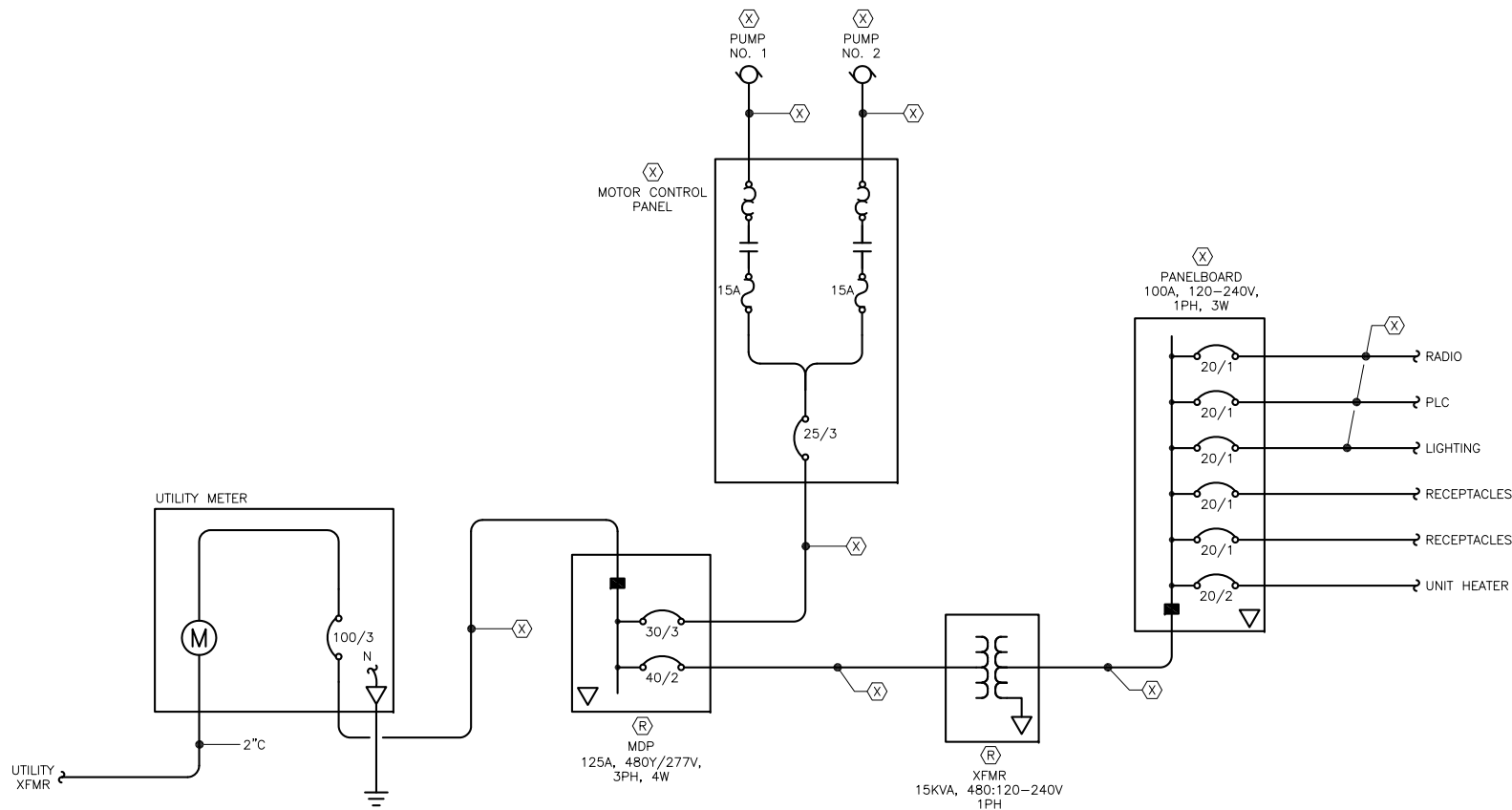
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BONNIE BRAE PUMP STATION RENOVATIONS BE21-122
 City and Borough of Juneau

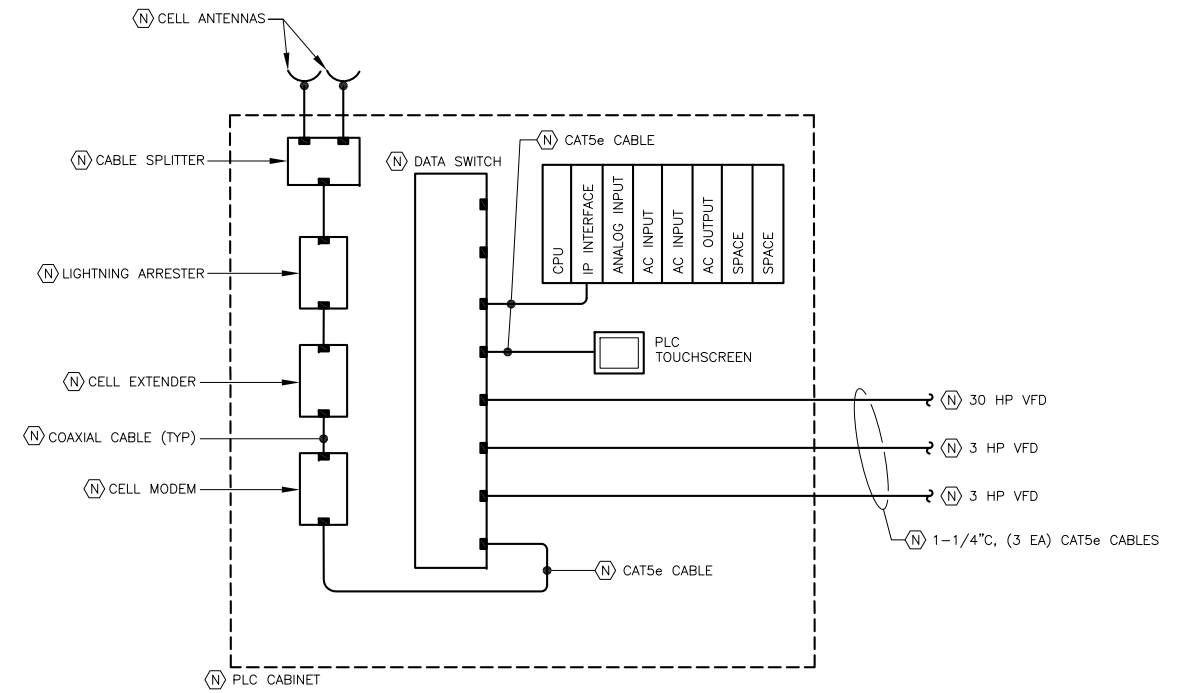
DETAILS

SHEET NUMBER
E3.0B
 OF
34

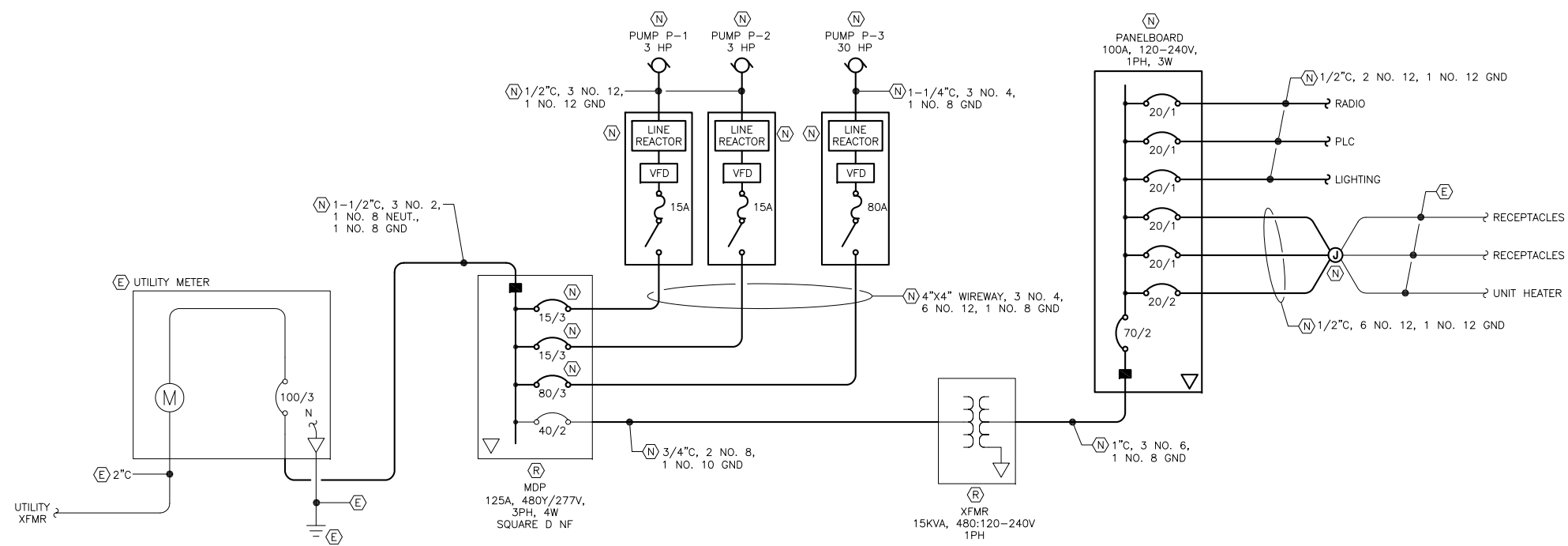
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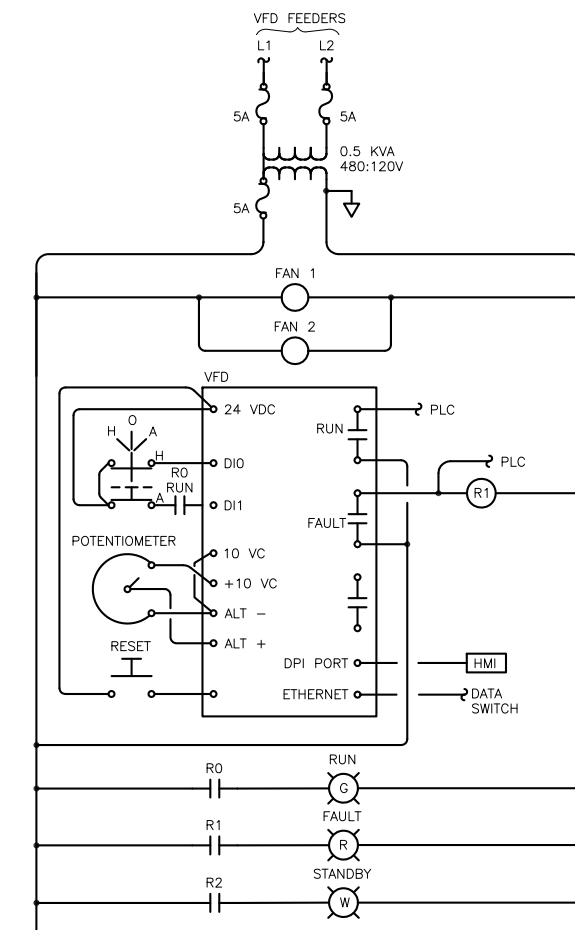
1 SINGLE LINE DIAGRAM - EXISTING POWER DISTRIBUTION SYSTEM
NO SCALE



3 SCHEMATIC DIAGRAM - SYSTEM NETWORK
NO SCALE



2 SINGLE LINE DIAGRAM - NEW POWER DISTRIBUTION SYSTEM
NO SCALE



4 SCHEMATIC DIAGRAM - PUMP CONTROLS (TYP)
NO SCALE



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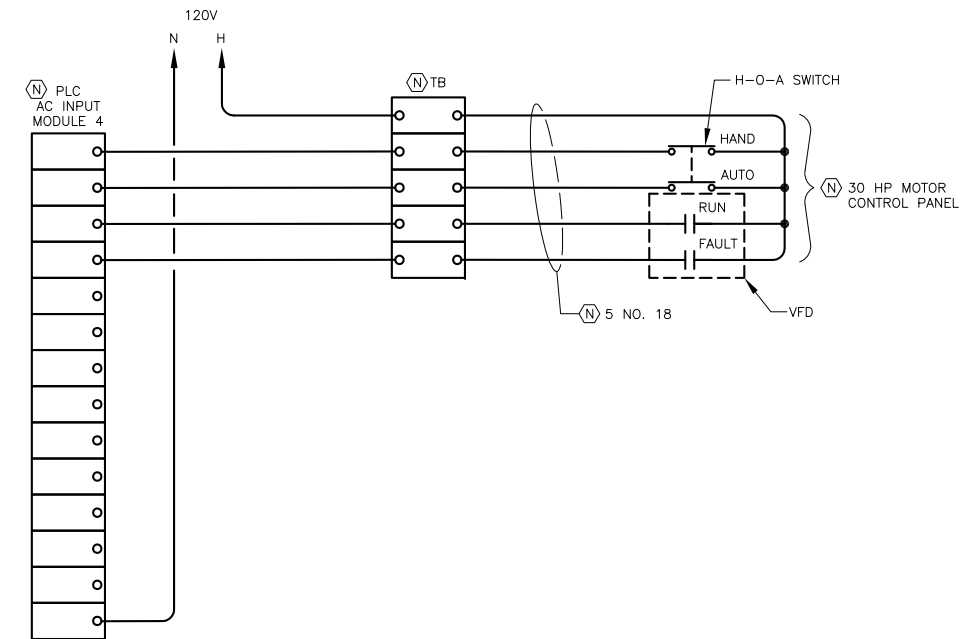
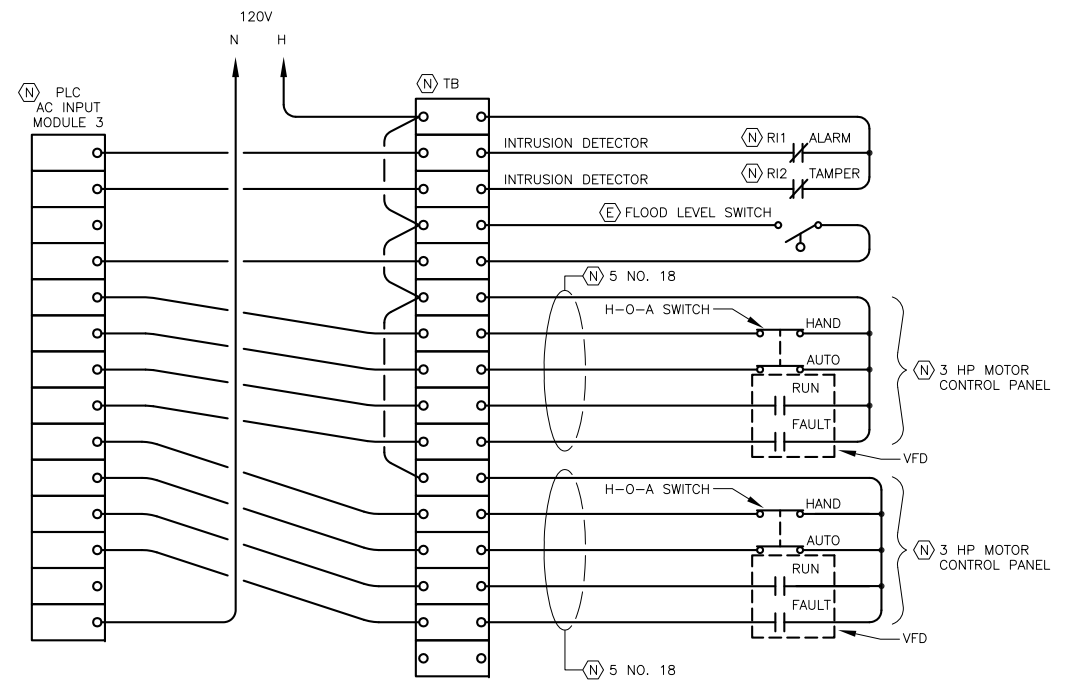
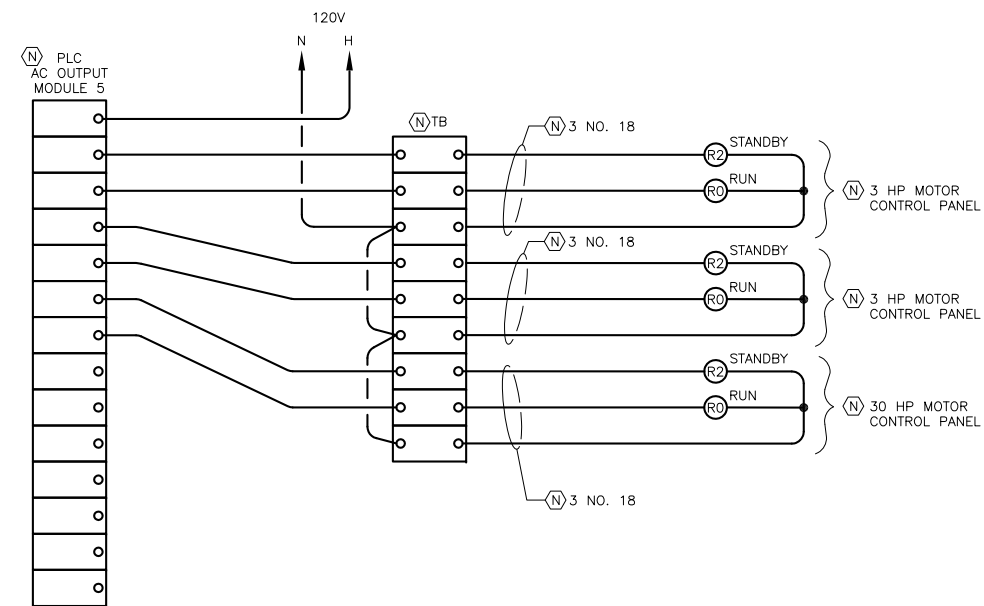
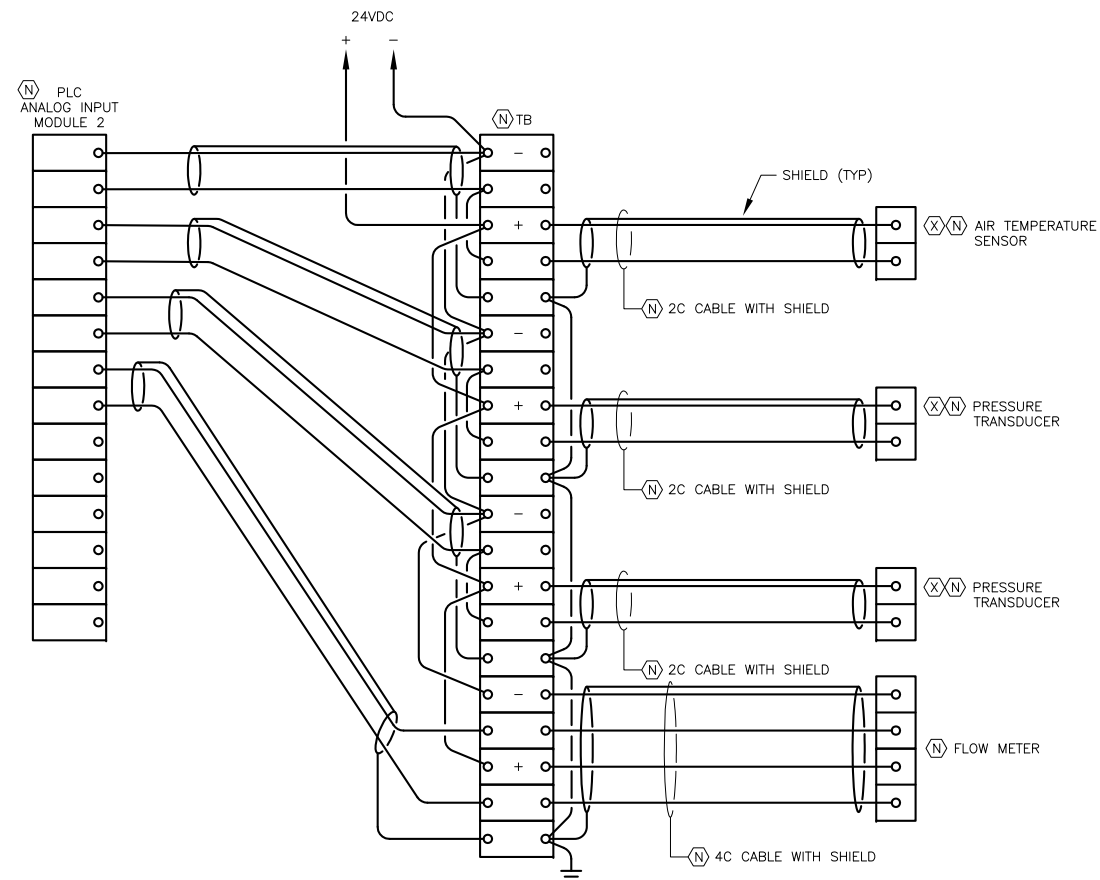
DRAWN BY: REJ
 DESIGNED BY: KHD
 CHECKED BY: BCH
 DATE: 9-22-2020
 1945 ALEX HOLDEN WAY #101
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SINGLE LINE DIAGRAMS

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E4.0B
 OF
34



1 WIRING DIAGRAM - PLC NO SCALE



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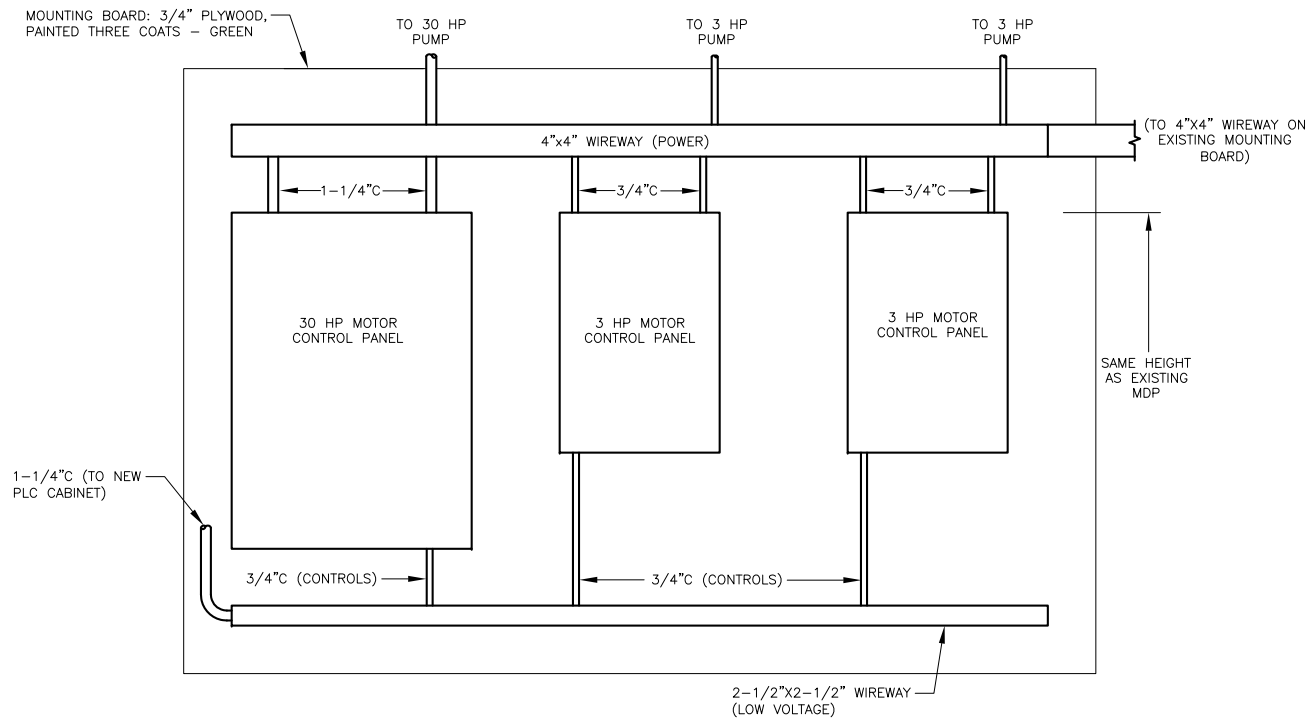
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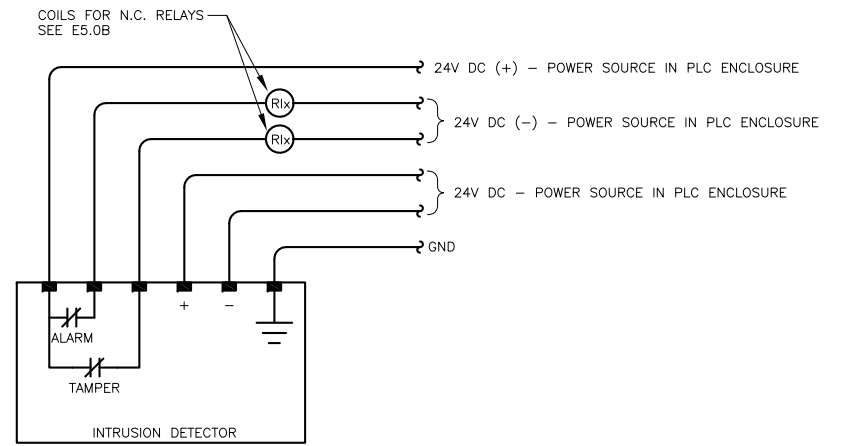
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PLC WIRING DIAGRAMS

SHEET NUMBER
 E5.0B
 OF
 34



2 DETAIL - MOUNTING BOARD
SCALE: 0 6" 1' 2'



1 WIRING DIAGRAM - INTRUSION DETECTOR (TYP)
NO SCALE



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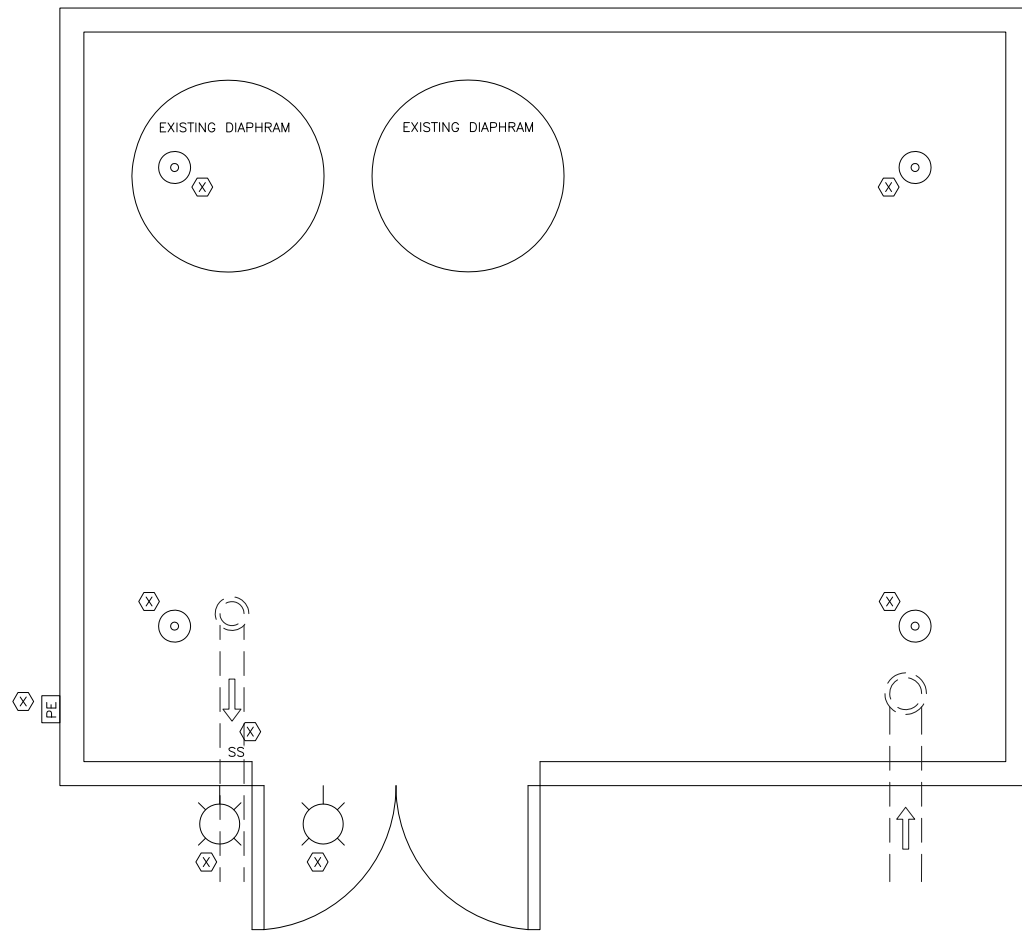
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City and Borough of Juneau

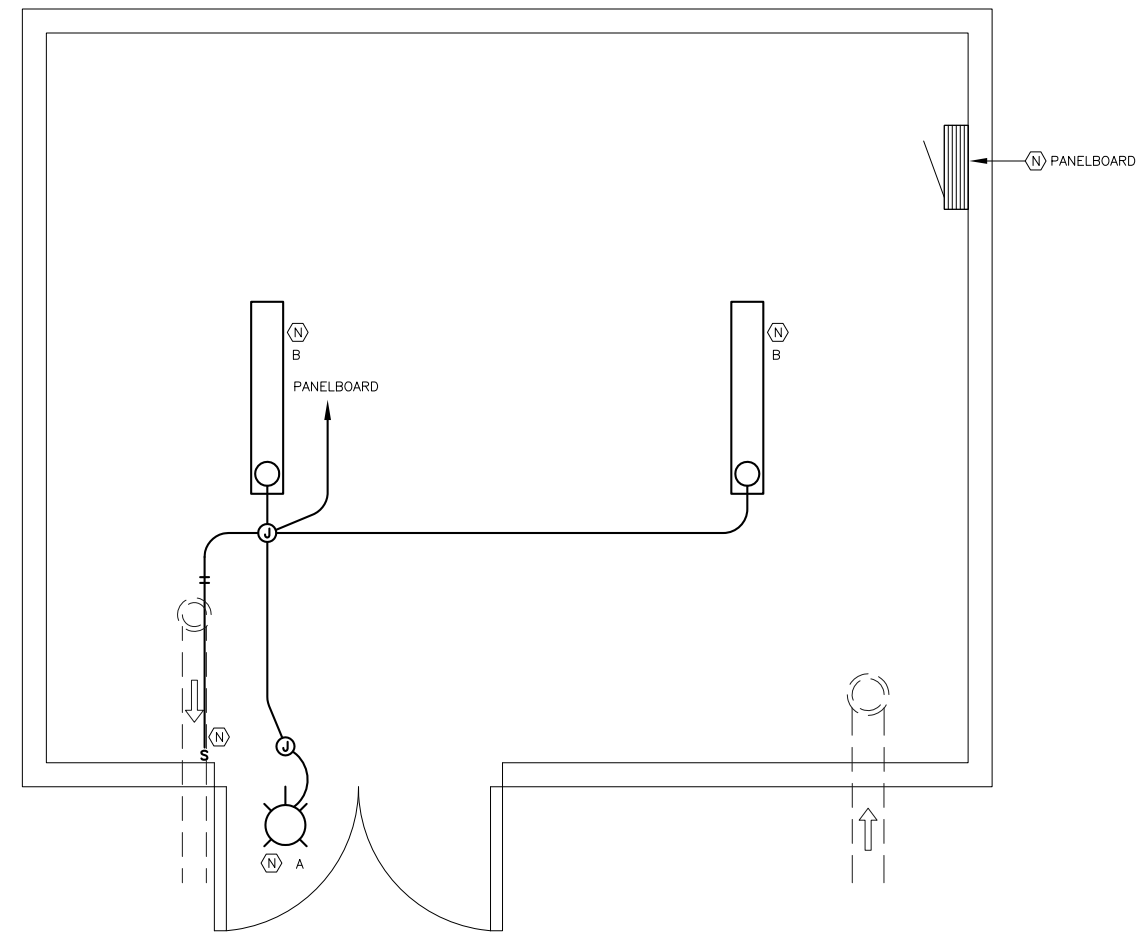
DIAGRAM AND DETAIL

SHEET NUMBER
E6.0B
OF
34



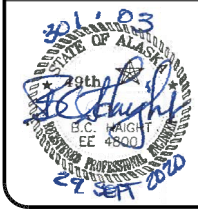
1 FLOOR PLAN - EXISTING LIGHTING

SCALE: 0 1' 2' 4'



2 FLOOR PLAN - NEW LIGHTING

SCALE: 0 1' 2' 4'



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FLOOR PLAN - EXISTING & NEW LIGHTING

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OF
34