

BULK FUEL UPGRADES

SHAGELUK, ALASKA

ISSUED FOR BIDDING NOVEMBER 2025



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PROJECT SCOPE

AVEC BULK FUEL UPDATES:

- DECOMMISSION EXISTING AVEC TANKS, PROVIDE TEMPORARY FUEL SUPPLY TO POWER PLANT.
- CONSTRUCT A NEW BULK FUEL TANK FARM WITHIN THE OLD TANK FARM FOOTPRINT WITH TWO 30,000-GALLON SINGLE WALL, HORIZONTAL ASTS WITHIN A LINED STEEL DIKE CONTAINMENT.
- INSTALL ALL ASSOCIATED PIPING, CONTROLS, AND ELECTRICAL UPDATES AS REQUIRED FOR A COMPLETE & OPERABLE SYSTEM.

COMMUNITY BULK FUEL UPDATES:

- CONSTRUCT A NEW COMMUNITY BULK FUEL TANK FARM CONSISTING OF THREE NEW 30,000-GALLON SINGLE WALL AST, ONE 5,000-GALLON, DUAL PRODUCT DISPENSING TANK, & ONE SINGLE PRODUCT DISPENSING TANK WITHIN A LINED DIKE CONTAINMENT.
- INSTALL TWO RETAIL DISPENSERS (ONE DUAL PRODUCT, ONE SINGLE PRODUCT) AND THREE DIESEL HOSE REELS.
- INSTALL ALL ASSOCIATED FUEL PIPING, CONTROLS, ELECTRICAL UPDATES, ETC AS REQUIRED FOR A COMPLETE & OPERABLE SYSTEM.
- MAINTAIN TEMPORARY RETAIL DISPENSING DURING CONSTRUCTION.

GENERAL NOTES

- THE CONTRACTOR SHALL PROTECT ALL ITEMS NOT SCHEDULED FOR DEMOLITION DURING CONSTRUCTION. DISTURBED AREAS SHALL BE RESTORED TO PRE-CONSTRUCTION CONDITION.
- ALL EXISTING UTILITIES MAY NOT BE SHOWN ON THESE PLANS. THE CONTRACTOR SHALL CONSULT WITH THE APPROPRIATE UTILITY ORGANIZATIONS TO VERIFY AND LOCATE UTILITIES PRIOR TO CONSTRUCTION. SEE "CALL BEFORE YOU DIG" CONTACT INFORMATION ON THIS SHEET.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE APPROPRIATE TEMPORARY CUT SLOPES AND SHORING FOR EXCAVATIONS AND TRENCHES FOR SITE SOILS, GROUNDWATER AND RUNOFF CONDITIONS AND SURFACE LOADING CONDITIONS. THE CONTRACTOR MUST COMPLY WITH APPLICABLE FEDERAL AND STATE OSHA REGULATIONS. THE CONTRACTOR SHALL MAINTAIN ALL SIGNS, BARRICADES, WARNING LIGHTS AND OTHER PROTECTIVE DEVICES NECESSARY FOR SAFETY AND TRAFFIC CONTROL.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS WORK WITH EXISTING FACILITY OPERATORS, OTHER CONTRACTORS, SUBCONTRACTORS, THE CITY AND STATE AND FEDERAL AUTHORITIES.
- THE DRAWINGS ARE DIAGRAMMATIC AND DO NOT NECESSARILY SHOW ALL FEATURES OF THE REQUIRED WORK. PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS REQUIRED FOR A COMPLETE, AND CODE COMPLIANT SYSTEM. VERIFY EXISTING FIELD CONDITIONS PRIOR TO STARTING CONSTRUCTION. IMMEDIATELY CONTACT THE ENGINEER FOR CLARIFICATION OF QUESTIONABLE ITEMS OR APPARENT CONFLICTS.
- ALL ITEMS TO BE INSTALLED ARE NEW UNLESS SPECIFICALLY INDICATED AS EXISTING. INSTALL ALL MATERIALS AND EQUIPMENT IAW MANUFACTURER'S RECOMMENDATIONS, INSTRUCTIONS, AND INSTALLATION DRAWINGS, UNLESS OTHERWISE INDICATED ON THE DRAWINGS.
- THE SPECIFICATION OF A NAME BRAND PRODUCT FOLLOWED BY THE "OR EQUAL" PHRASE IS DONE MERELY TO ESTABLISH THE MINIMUM LEVEL OF QUALITY OF MATERIALS AND EQUIPMENT REQUIRED AND IS NOT A PRODUCT ENDORSEMENT. SUBMIT ANY PROPOSED SUBSTITUTIONS FOR REVIEW AND APPROVAL, UNLESS "NO SUBSTITUTIONS" IS SPECIFIED.
- FACILITY DESIGN IS IAW THE CURRENT INTERNATIONAL FIRE CODE, STATE OF ALASKA FIRE AND SAFETY REGULATIONS ADMINISTRATIVE CODES 13 AAC 50, 13 AAC 55, AND THE MEMORANDUM OF AGREEMENT BETWEEN THE AEA AND THE STATE OF ALASKA FIRE MARSHALL AT THE TIME OF DESIGN.
- CONTRACTOR TO PROVIDE SIGNAGE IAW THE SIGN SCHEDULE, AND AS IDENTIFIED ELSEWHERE IN THE DRAWINGS.
- PERFORM WORK WITH SKILLED CRAFTSMEN SPECIALIZED IN SAID WORK. INSTALL ALL MATERIALS IN A NEAT, ORDERLY, AND SECURE FASHION, AS REQUIRED BY THE DRAWINGS AND SPECIFICATIONS AND STANDARDS OF GOOD WORKMANSHIP.
- WHERE PIPE SUPPORTS ARE NOT SHOWN THEY SHALL BE SPACED A MAXIMUM OF 10 FEET ON CENTER IAW THE UPC.
- SCHEDULE AND COORDINATE DEMOLITION AND NEW CONSTRUCTION/RENOVATION ACTIVITIES SUCH THAT COMPLETE AND OPERABLE POWER GENERATION AND BULK FUEL STORAGE AND DISPENSING SYSTEMS ARE MAINTAINED AT ALL TIMES FOR ALL PROJECT PARTICIPANTS.

TESTING, STARTUP AND COMMISSIONING PROCEDURES

- CONTRACTOR SHALL PERFORM SYSTEM TESTING, STARTUP AND COMMISSIONING IAW THE PROCEDURES IN THE CONTRACT DOCUMENTS AND IAW MANUFACTURER INSTRUCTIONS. LEAVE ALL WORK SITES IN AN ORDERLY CONDITION CONSISTENT WITH THAT FOUND UPON ARRIVAL.
- PRESSURE TEST ALL PIPING AND FILL OUT ENGINEER-APPROVED PIPELINE PRESSURE TEST REPORTS, NOTIFY ENGINEER SEVEN DAYS PRIOR TO PLANNED PRESSURE TESTING. THE ENGINEER OR HIS APPROVED REPRESENTATIVE SHALL BE PRESENT DURING ALL PRESSURE TESTING UNLESS DIRECTED OTHERWISE IN WRITING. DELIVER ORIGINAL TEST REPORTS TO THE ENGINEER.
- CONTRACTOR SHALL BE PRESENT DURING INITIAL FILLING OF TANKS. UPON FILLING OF TANKS VERIFY PRODUCT LEVEL WITH GAUGING STICK AND RECALIBRATE ALL TANK GAUGES. REMOVE AND CLEAN ALL STRAINERS AFTER INITIAL FILLING.
- CHECK ALL PUMPS FOR PROPER ROTATION. PRIOR TO OPERATING CENTRIFUGAL PUMPS PRIME THE PUMP CAVITY WITH FUEL. PRIOR TO INITIAL START UP, WARM PUMP BODY IAW MANUFACTURER'S RECOMMENDATION.
- CHECK ALL CONTROL AND ALARM FUNCTIONS. MANIPULATE TANK FLOAT SWITCHES TO SIMULATE LOW AND HIGH LEVEL CONDITIONS. SET TIMING RELAYS FOR 30 SECONDS AND VERIFY TIME-OUT FUNCTION. RE-SET TIMERS TO SPECIFIED VALUES AFTER TESTING. VERIFY LATCHING AND RESET FUNCTIONS, EMERGENCY STOP FUNCTION, AND OPERATION OF ALL SIGNAL LAMPS AND HONKS. OBSERVE OPERATION OF MOTOR ACTUATED VALVES. VERIFY THAT AREA LIGHTING FUNCTIONS PROPERLY.
- VERIFY ALL SIGNS, PLACARDS, AND VALVE TAGS ARE PROPERLY LOCATED. VERIFY PROPER PRODUCT COLOR CODE AND LABELING FOR ALL TANKS AND PIPING.
- INSTALL PADLOCKS ON ALL VALVES AND FENCE GATES. KEY ALL LOCKS ALIKE FOR SYSTEMS WITH THE SAME OWNERSHIP. PROVIDE AVEC LOCKS TO MATCH EXISTING AVEC SYSTEM KEYS. PROVIDE FOUR SPARE LOCKS AND KEYS FOR EACH TANK FARM OWNER.
- INSTRUCT LOCAL OPERATORS IN THE OPERATION AND MAINTENANCE OF ALL SYSTEMS. PLACE SPARE PARTS, AND SPILL RESPONSE SUPPLIES IN DESIGNATED LOCATION.

ABBREVIATIONS

ADEC	ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION	LF	LINEAR FEET
ADOT	ALASKA DEPARTMENT OF TRANSPORTATION	LB	POUND
ALCA	ALUMINUM SURVEY CAP	LP	LIGHT POLE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	M	METERS
API	AMERICAN PETROLEUM INSTITUTE	MAX	MAXIMUM
APPROX	APPROXIMATE	MIL	0.001 INCH
ASTM	AMERICAN SOCIETY FOR TESTING OF MATERIALS	MIN	MINIMUM
AST	ABOVEGROUND STORAGE TANK	MPT	MALE NATIONAL PIPE TAPERED THREAD
AWS	AMERICAN WELDING SOCIETY	N	NORTH
AVEC	ALASKA VILLAGE ELECTRIC COOPERATIVE	NC	NORMALLY CLOSED
BLDG	BUILDING	NFS	NON FROST SUSCEPTIBLE (SOIL)
CMP	CORRUGATED METAL PIPE	NIC	NOT IN CONTRACT
CITY	CITY OF SHAGELUK	NO	NORMALLY OPEN
DCCED	DEPARTMENT OF COMMERCE, COMMUNITY & ECONOMIC DEVELOPMENT	NPT	NATIONAL PIPE TAPERED THREAD
DEMO	DEMOLISH	NVS	NOT TO SCALE
DFT	DRY FILM THICKNESS	OAE	OR APPROVED EQUAL
DIA	DIAMETER	OD	OUTSIDE DIAMETER
DWG	DRAWING	OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
E	EAST	OZ	OUNCE
EA	EACH	PCC	PORTLAND CEMENT CONCRETE
EL	ELEVATION	PL	PLATE
ELEC	ELECTRIC	PRV	PRESSURE RELIEF VALVE
EPA	U.S. ENVIRONMENTAL PROTECTION AGENCY	PSF	POUNDS PER SQUARE FOOT
ENGINEER	CRW ENGINEERING GROUP, LLC	PSI	POUNDS PER SQUARE INCH
E-VENT	EMERGENCY VENT	R	RADIUS
F	FAHRENHEIT	RF	RAISED FACE
FBE	FUSION BONDED EPOXY	S	SEWER
FF	FINISH FLOOR ELEV.	SCH	SCHEDULE
FG	FINISH GRADE	SHPO	STATE HISTORIC PRESERVATION OFFICER
FLG	FLANGED PIPE END	SIM	SIMILAR
FOE	FLANGED ONE END	SPEC	SPECIFICATION
FOR	FUEL OIL RETURN	SQ	SQUARE
FOS	FUEL OIL SUPPLY	SS	STAINLESS STEEL
FPT	FEMALE NATIONAL PIPE TAPERED THREAD	SSPC	STEEL STRUCTURES PAINTING COUNCIL
FT	FOOT OR FEET	SY	SQUARE YARD
GA	GAUGE	TBM	TEMPORARY BENCH MARK
GAL	GALLON	TS	TUBE STEEL
GALV	GALVANIZED	TYP	TYPICAL
GPM	GALLONS PER MINUTE		
HDPE	HIGH DENSITY POLYETHYLENE	UG	UNDER GROUND
HP	HORSE POWER	UL	UNDERWRITERS LABORATORY
HR	HOUR	ULSD	ULTRA-LOW SULFUR DIESEL
IAW	IN ACCORDANCE WITH	UPC	UNIFORM PLUMBING CODE
IBC	INTERNATIONAL BUILDING CODE	UST	UNDERGROUND STORAGE TANK
ID	INSIDE DIAMETER	UII	UNITED UTILITIES INCORPORATED
IFC	INTERNATIONAL FIRE CODE	W/	WITH
IPC	INTERNATIONAL PLUMBING CODE	W	WATER

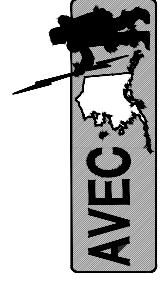
CIVIL LEGEND (GENERAL)

NOTE: SOME DETAILS UTILIZE SYMBOLS NOT IN THIS GENERAL LEGEND. WHERE THIS OCCURS, SYMBOLS ARE DEFINED ON THE SHEET ON WHICH THEY ARE USED.



SHAGELUK BULK FUEL UPDATES
NOTES, LEGEND & ABBREVIATIONS

SHAGELUK, ALASKA



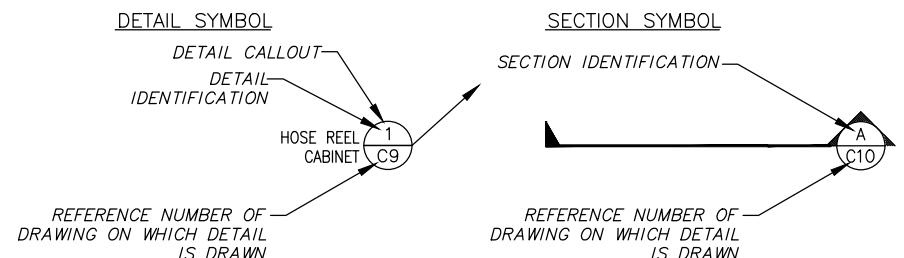
UTILITY LINE/PIPELINE DESIGNATIONS

F	FUEL	— x —	UNDERGROUND UTILITY LINE/PIPELINE: EXISTING
D	DIESEL FUEL	— x —	UNDERGROUND UTILITY LINE/PIPELINE: NEW
G	GASOLINE	— oe — x — oe —	ABOVEGROUND UTILITY LINE/PIPELINE: EXISTING
S	SANITARY SEWER	— oe — x — oe —	ABOVEGROUND UTILITY LINE/PIPELINE: NEW
W	WATER		UTILITY LINE/PIPELINE TO BE DECOMMISSIONED

CALL BEFORE YOU DIG

WATER/SEWER	CITY (907) 473-8221
ELECTRIC	AVEC (907) 561-1818

DETAIL/SECTION REFERENCES



NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25

Plot No.	Date	Designed	Drawn	Approved
1	1/20/25	AMH	CMK	AMH

NOTES:

1. INSTALL 4A:80-B:C PORTABLE FIRE EXTINGUISHERS AT LOCATIONS SHOWN (●). PROVIDE TWO SPARES TO EACH OWNER. EXTINGUISHERS MOUNTED OUTSIDE SHALL BE WITHIN HIGH QUALITY COLD RATED AND APPROVED WEATHER PROOF ENCLOSURES.

SETBACK/SEPARATION REQUIREMENTS:

THE PROPOSED AVEC TANK FARM REPLACES THE EXISTING FUEL STORAGE FACILITY AND WILL PROVIDE FUEL STORAGE FOR POWER GENERATION. ALL TANKS ARE INSTALLED ABOVE GROUND. TO COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL FIRE CODE, THE ALASKA ENERGY AUTHORITY/DIVISION OF FIRE PREVENTION MEMORANDUM OF AGREEMENT, AND STATE OF ALASKA REGULATIONS THE FOLLOWING MINIMUM CLEARANCES ARE REQUIRED:

10' FROM THE DISPENSER TO ALL BUILDINGS AND PROPERTY LINES.
 30' FROM 751-12,000 GAL BULK STORAGE TANKS TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON.
 40' FROM 12,001-30,000 GAL BULK STORAGE TANKS TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON.

WARNING SIGNS & INFORMATION PLACARD SCHEDULE:

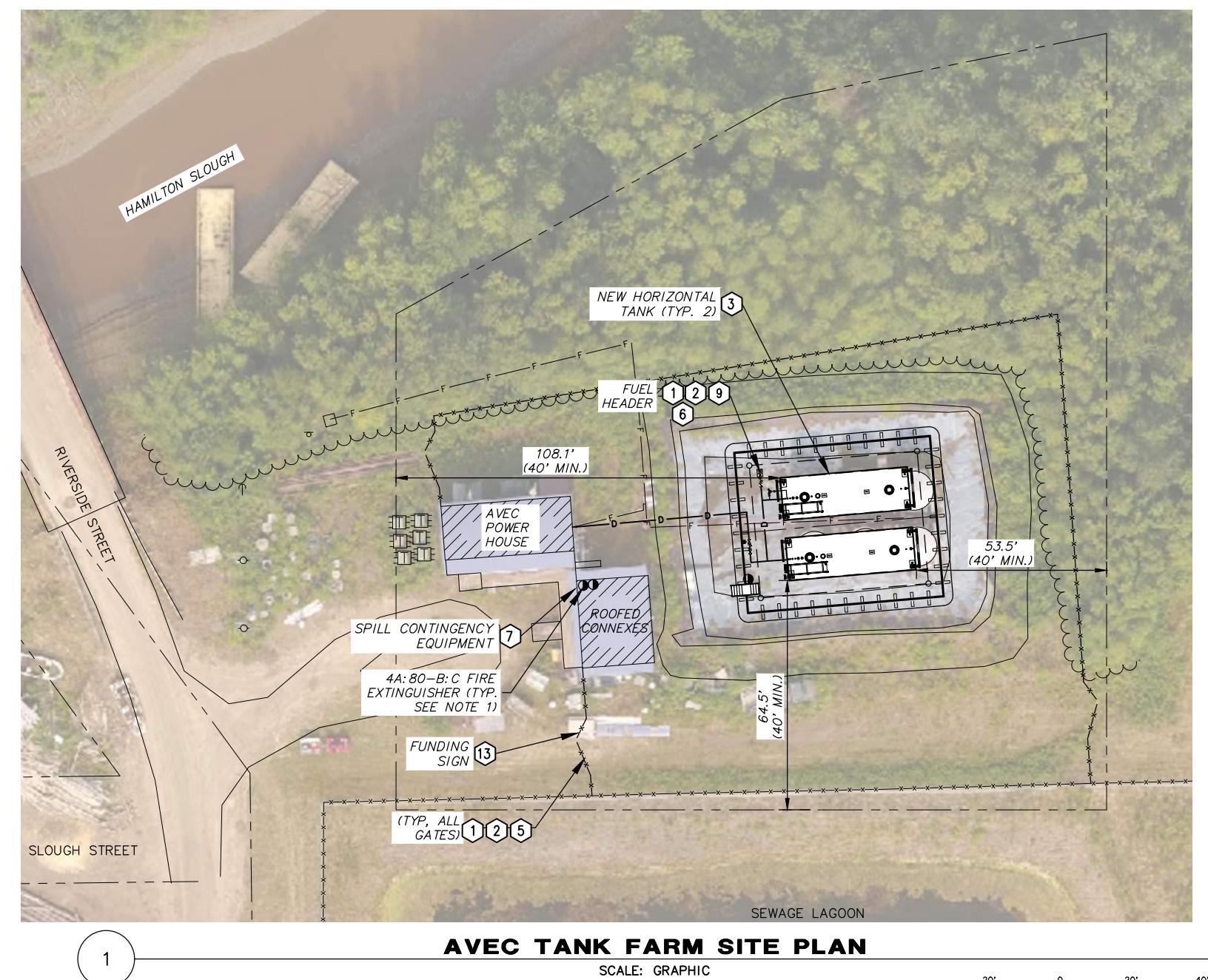
PROVIDE ALL SIGNS INDICATED IN THE SCHEDULE BELOW, QUANTITY & LOCATION AS INDICATED ON THE DRAWINGS. ALL SIGNS SHALL BE CONSTRUCTED FROM 0.08" ALUMINUM PLATE, AND SIZED IAW 2012 IFC. SIGN LETTERING IS SHOWN BELOW IN QUOTATIONS. PROVIDE 3/16" HOLES IN ALL FOUR CORNERS. PROVIDE NON-REFLECTIVE VINYL BACKGROUND, 3M 3650-10, WITH 3M SERIES 225 HIGH PERFORMANCE VINYL LETTERS, ONE SIDE ONLY, COLOR AS INDICATED. ATTACH TO FENCING WITH GALVANIZED HOG RINGS OR STAINLESS STEEL CABLE TIES. SIGNAGE PLACED DIRECTLY ON TANKS SHALL CONSIST OF HIGH QUALITY ADHESIVE BACK DECALS OR PAINTED STENCILS.

WARNING SIGNS - RED LETTERING ON WHITE BACKGROUND (3" HIGH X 1/2" STROKE LETTERS)

① "DANGER FLAMMABLE LIQUIDS"
 ② "NO SMOKING NO OPEN FLAMES"
 ③ "FLAMMABLE _____ GALLONS GASOLINE" OR "COMBUSTIBLE _____ GALLONS DIESEL",
 INSERT VOLUME IN GALLONS AS APPROPRIATE.

INFORMATIONAL PLACARDS - BLACK LETTERING ON WHITE BACKGROUND (2" HIGH 1/2" STROKE LETTERS)

⑤ "IN CASE OF FIRE SPILL OR RELEASE:
 1. USE EMERGENCY SHUTOFF
 2. CONTACT TANK FARM OWNER
 3. REPORT ACCIDENT TO ADEC"
 ⑥ PROVIDE ADEC SPILL SIGN: CONTRACTOR TO CONTACT ADEC FOR CURRENT SPILL REPORTING PLACARD (907-269-3063)
 ⑦ "SPILL CONTINGENCY EQUIPMENT"
 ⑧ (NOT USED)
 ⑨ "PRESSURE NOT TO EXCEED 75 PSI" (NOTE THIS SIGN SHALL BE PERMANENTLY AFFIXED TO THE BARGE HEADER SUPPORT). SEE DETAIL ⑤ C4.4
 ⑬ INSTALL OWNER PROVIDED FUNDING SOURCE SIGN AT EACH FACILITY (TYP 2)



SHAGELUK BULK FUEL UPGRADES

SETBACK & SIGNAGE PLAN - AVEC

SHAGELUK, ALASKA



NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25

Plot 1	1/20/25	Designed	AMH
Date		Drawn	CMK
		Approved	AMH

Sheet No.	G1.2
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NOTES:

1. INSTALL 4A:80-B:C PORTABLE FIRE EXTINGUISHERS AT LOCATIONS SHOWN (●). PROVIDE TWO SPARES TO EACH OWNER. EXTINGUISHERS MOUNTED OUTSIDE SHALL BE WITHIN HIGH QUALITY COLD RATED AND APPROVED WEATHER PROOF ENCLOSURES.

SETBACK/SEPARATION REQUIREMENTS:

THE PROPOSED CO-LOCATED TANK FARM WILL PROVIDE BULK STORAGE AND FUEL TRANSFER FACILITIES FOR THE CORPORATION, CITY, & BIG WHEEL TRANSPORT. ALL TANKS ARE INSTALLED ABOVE GROUND. TO COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL FIRE CODE, THE ALASKA ENERGY AUTHORITY/DIVISION OF FIRE PREVENTION MEMORANDUM OF AGREEMENT, AND STATE OF ALASKA REGULATIONS THE FOLLOWING MINIMUM CLEARANCES ARE REQUIRED:

10' FROM THE DISPENSER TO ALL BUILDINGS AND PROPERTY LINES.
 30' FROM 751-12,000 GAL BULK STORAGE TANKS TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON.
 40' FROM 12,001-30,000 GAL BULK STORAGE TANKS TO THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON.
 25' FROM THE BULK TRANSFER HOSE STAND TO THE NEAREST TANK, THE NEAREST IMPORTANT BUILDING, THE NEAREST PROPERTY LINE WHICH IS OR CAN BE BUILT UPON, COMBUSTIBLE MATERIALS, AND FIXED SOURCES OF IGNITION.
 50' FROM THE DISPENSER TO ALL UNPROTECTED TANKS. (INCLUDES PARKED TANK TRUCKS)

WARNING SIGNS & INFORMATION PLACARD SCHEDULE:

PROVIDE ALL SIGNS INDICATED IN THE SCHEDULE BELOW, QUANTITY & LOCATION AS INDICATED ON THE DRAWINGS. ALL SIGNS SHALL BE CONSTRUCTED FROM 0.08" ALUMINUM PLATE, AND SIZED IAW IFC. SIGN LETTERING IS SHOWN BELOW IN QUOTATIONS. PROVIDE 3/16" HOLES IN ALL FOUR CORNERS. PROVIDE NON-REFLECTIVE VINYL BACKGROUND, 3M 3650-10, WITH 3M SERIES 225 HIGH PERFORMANCE VINYL LETTERS, ONE SIDE ONLY, COLOR AS INDICATED. ATTACH TO FENCING WITH GALVANIZED HOG RINGS OR STAINLESS STEEL CABLE TIES. SIGNAGE PLACED DIRECTLY ON TANKS SHALL CONSIST OF HIGH QUALITY ADHESIVE BACK DECALS OR PAINTED STENCILS.

WARNING SIGNS - RED LETTERING ON WHITE BACKGROUND (3" HIGH X 1/2" STROKE LETTERS)

1 "DANGER FLAMMABLE LIQUIDS"
 2 "NO SMOKING NO OPEN FLAMES"
 3 "FLAMMABLE ____ GALLONS GASOLINE" OR "COMBUSTIBLE ____ GALLONS DIESEL",
 INSERT VOLUME IN GALLONS AS APPROPRIATE.

INFORMATIONAL PLACARDS - BLACK LETTERING ON WHITE BACKGROUND (2" HIGH 1/2" STROKE LETTERS)

4 "IMPORTANT - PRIOR TO DISPENSING:
 1. NO SMOKING.
 2. SHUT OFF MOTOR.
 3. DISCHARGE YOUR STATIC ELECTRICITY BEFORE FUELING BY TOUCHING A METAL SURFACE AWAY FROM THE NOZZLE.
 4. TO PREVENT STATIC CHARGE, DO NOT RE-ENTER YOUR VEHICLE WHILE GASOLINE IS PUMPING.
 5. IF A FIRE STARTS, DO NOT REMOVE NOZZLE - BACK AWAY IMMEDIATELY
 6. IT IS UNLAWFUL AND DANGEROUS TO DISPENSE FUEL INTO UNAPPROVED CONTAINERS
 7. NO FILLING OF PORTABLE CONTAINERS IN OR ON A MOTOR VEHICLE. PLACE CONTAINER ON GROUND BEFORE FILLING"

5 "IN CASE OF FIRE SPILL OR RELEASE:
 1. USE EMERGENCY SHUTOFF
 2. CONTACT TANK FARM OWNER
 3. REPORT ACCIDENT TO ADEC"

6 PROVIDE ADEC SPILL SIGN: CONTRACTOR TO CONTACT ADEC FOR CURRENT SPILL REPORTING PLACARD (907-269-3063)

7 "SPILL CONTINGENCY EQUIPMENT"

8 "EMERGENCY SHUTOFF" - SEE ELECTRICAL FOR SIGN LOCATIONS

9 "PRESSURE NOT TO EXCEED 75 PSI" (NOTE THIS SIGN SHALL BE PERMANENTLY AFFIXED TO THE BARGE HEADER SUPPORT). SEE DETAIL **5 C4.4**

INSTRUCTION PLACARDS - BLUE LETTERING ON WHITE BACKGROUND (1/2" HIGH X 3/8" STROKE LETTERS)

10 "RETAIL DISPENSING:
 1. SEE ATTENDANT TO PRE-PAY FOR FUEL
 2. REMOVE NOZZLE, LIFT LEVER AND BEGIN FUELING
 3. REPLACE NOZZLE AFTER FUELING
 4. SEE ATTENDANT FOR RECEIPT"

11 "BULK TRANSFER/FLEET DISPENSING:
 1. SHUT OFF VEHICLE AND CONNECT GROUNDING REEL
 2. RESET METER - SET TO DESIRED VOLUME
 3. DEPRESS "PUMP ON" BUTTON LOCATED NEAR HOSE REEL
 4. UNWIND HOSE
 5. PLACE NOZZLE IN FUEL RECEPTACLE
 6. DEPRESS NOZZLE LEVER TO BEGIN FLOW
 7. WHEN FUELING IS COMPLETE DEPRESS "PUMP OFF" BUTTON, REWIND HOSE AND HANG UP NOZZLE"

12 PROVIDE PLACARDS INDICATING PRODUCT TYPE AT HOSE REEL

13 INSTALL OWNER PROVIDED FUNDING SOURCE SIGN AT EACH FACILITY (TYP 2)

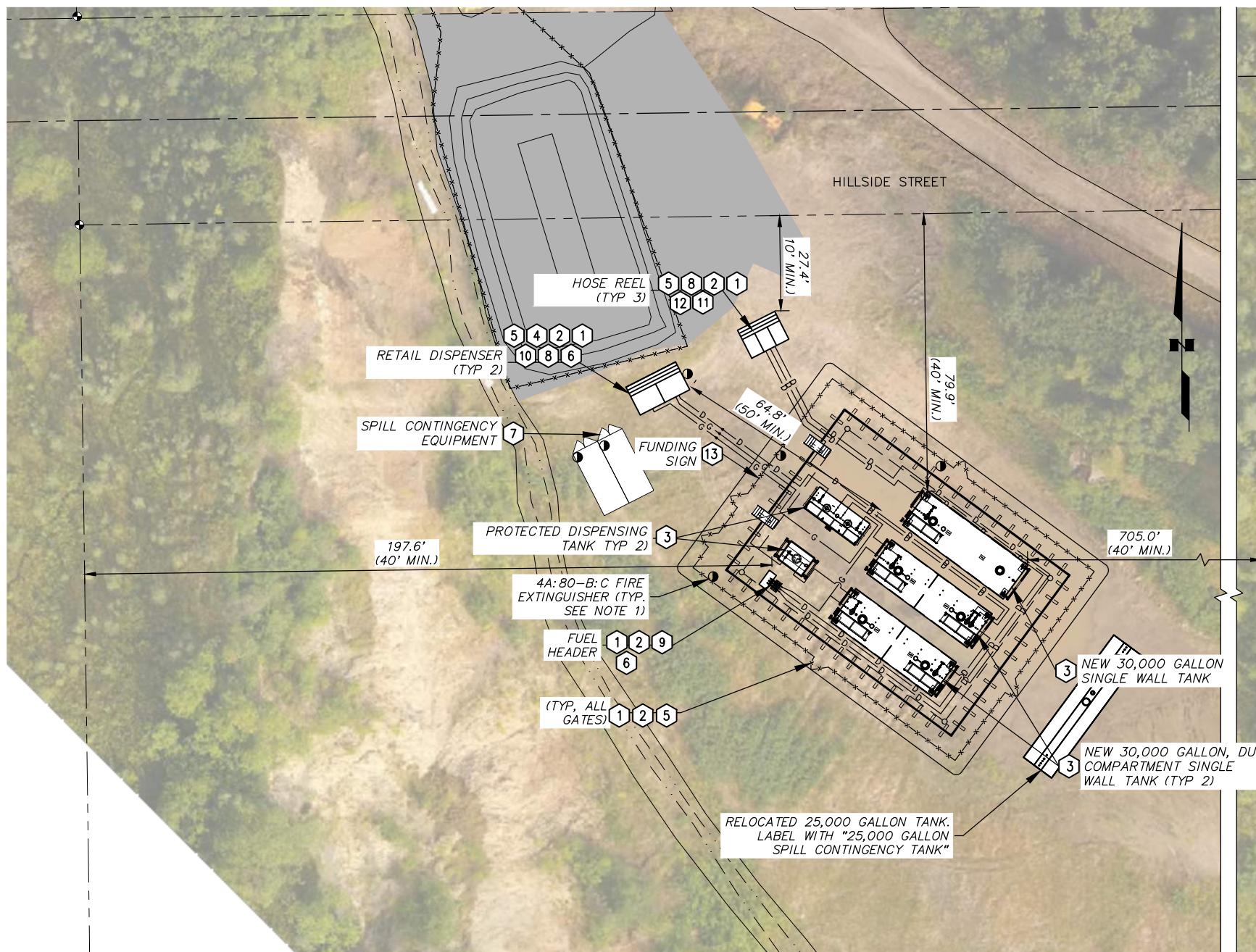
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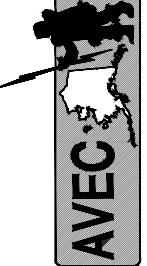
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**CO-LOCATED TANK FARM SITE PLAN**

SCALE: GRAPHIC

20' 0 20' 40'

1



COLOCATED TANK FARM VALVE SCHEDULE					
VALVE ID	SIZE	LOCATION	END CONNECTION	COMMENT	ID TAG REQ'D
BALL VALVES (BV)					
BV-1	3"	TANK T1	FLG	TANK FILL	Y
BV-2A & BV-2B	3"	TANK T2A & T2B	FLG	TANK FILL	Y
BV-3A & BV-3B	3"	TANK T3A & T3B	FLG	TANK FILL	Y
BV-4A1 & BV-4B1	2"	TANK T4A & T4B	FLG	TANK ISSUE	Y
BV-4A2 & BV-4B2	2"	TANK T4A & T4B	FLG	TANK FILL	Y
BV-5A & BV-5B	2"	TANK T5	FLG	FILL/DRAW	Y
BV-6, BV-7, BV-8	3"	BARGE HEADER	FLG	TANK FARM FILL	Y
BV-9, BV-10, BV-11	1.5"	RETAIL DISPENSER	FLG	DISPENSER ISO	Y
BV-12	2"	CORP HOSE REEL	FLG	CORP HOSE REEL ISO	Y
BV-13 & BV-14	2"	CITY HOSE REELS	FLG	CITY HOSE REEL ISO	Y
MOTORIZED VALVES (MV)					
MV-1	2"	DIKED AREA	FLG	CITY ULSD HOSE REEL ISO	
MV-2B2	2"	DIKED AREA	FLG	CORP DIESEL HOSE REEL ISO	Y
MV-3B	2"	DIKED AREA	FLG	CITY DIESEL HOSE REEL ISO	Y
CHECK VALVES (CV)					
CV-1, 2, 3	3"	BARGE HEADER	FLG	-	N
CV-4A & CV-4B	2"	TANK T4A & T4B	FLG	-	N
CV-5	2"	TANK T5	FLG	-	N
ANTI SIPHON VALVE (ASV)					
ASV-1	2"	TANK T1	NPT	PUMP P-1 DISCHARGE	N
ASV-2 & 3	2"	TANK T4A & T4B	NPT	PUMP P-4A & P-4B DISCHARGE	N
ASV-4, 5, 6	2"	TANK T2A & T2B	NPT	PUMP P-2A1, P-2B1, P-2B2 DISCHARGE	N
ASV-7	2"	TANK T5	NPT	PUMP P-5 DISCHARGE	N
ASV-8 & 9	2"	TANK T3A & T3B	NPT	PUMP P-3A & P-3B DISCHARGE	N
PRESSURE RELIEF VALVES (PRV)					
PRV-1	1"	TANK T1	FLG	PRESSURE SET AT 25 PSI	Y
PRV-2A & 2B	1"	TANK T2A & T2B	FLG	PRESSURE SET AT 25 PSI	Y
PRV-3A & 3B	1"	TANK T3A & T3B	FLG	PRESSURE SET AT 25 PSI	Y
PRV-6, 7, 8	1"	MV-1, MV-2B2, MV-3B	FLG	PRESSURE SET AT 25 PSI	Y
PRV-9, 10, 11	1"	HOSE REELS	FLG	PRESSURE SET AT 25 PSI	Y
COLOCATED TANK FARM MISCELLANEOUS COMPONENTS					
COMPONENT ID	SIZE	LOCATION	END CONNECTION	COMMENT	ID TAG REQ'D
FLEX CONNECT (FC)					
FC-1, 2, 3, 4, 5	3" X 18"	TANK T1, T2A, T2B, T3A, T3B	FLG	TANK FILL	N
FC-6	2" X 12"	TANK T1	FLG X MNPT	PUMP P-1, THREAD TO ASV	N
FC-7	2" X 12"	TANK T4A	FLG	AT GRADE	
FC-8 & FC-9	2" X 12"	TANK T4A & T4B	FLG X MNPT	THREAD TO ASV ON PUMP	
FC-10	2" X 12"	TANK T4B	FLG	AT GRADE	
FC-11 & 12	2" X 12"	TANK T4A & T4B FILL	FLG	TOP OF TANK	
FC-13, 14, 15	2" X 12"	TANK T2A & T2B	FLG X MNPT	THREAD TO ASV ON PUMP	
FC-16	2" X 12"	TANK T5	FLG	AT GRADE	
FC-17	2" X 12"	TANK T5	FLG X MNPT	THREAD TO ASV ON PUMP	
FC-18	2" X 12"	TANK T5	FLG	AT GRADE	
FC-19	2" X 12"	TANK T3A	FLG	AT GRADE	
FC-20 & FC-21	2" X 12"	TANK T3A & T3B	FLG X MNPT	THREAD TO ASV ON PUMP	
FC-22, 23, 24	2" X 12"	HOSE REELS	FLG	AT GRADE	
FC-25, 26, 27	1.5" X 12"	HOSE REELS	FLG	THREAD OR FLANGE AT HOSE REEL	
FC-28, 29, 30	1.5" X 12"	DISPENSER BASE	FLG		
STRAINERS (S)					
S-1, 2, 3	3"	BARGE HEADER	FLG	-	N
QUICK COUPLER (QC)					
QC-1, 2, 3	3"	BARGE HEADER	-	-	N
PRESSURE TEST POINT (P)					
PT-ALL	-	LOCATIONS AS INDICATED	-	SEE DETAIL 2, C4.4	N
FLOW SWITCH (FS)					
FS-1	2"	MV-1	FLG	SEE ELECTRICAL	Y
FS-2B2	2"	MV-2B2	FLG	SEE ELECTRICAL	Y
FS-3B	2"	MV-3B	FLG	SEE ELECTRICAL	Y
FILTER (F)					
F-1, 2, 3	-	HOSE REELS	FLG	-	N
MISCELLANEOUS COMPONENTS					
PADLOCKS	-	BALL VALVES AND FENCE GATES	-	COORDINATE KEY CODES w/ ENGINEER	N

NOTES:

1. COMPONENT SCHEDULES ARE PROVIDED TO ASSIST CONTRACTOR DURING PROJECT PROCUREMENT. HOWEVER, SCHEDULES DO NOT INCLUDE ALL FITTINGS AND APPURTENANCES NECESSARY TO CONSTRUCT THE PROJECT. CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR FURNISHING ALL NECESSARY MATERIALS TO PROVIDE A FULLY OPERATIONAL FACILITY.
2. INSTALL PADLOCKS ON ALL VALVES AND FENCE GATES. PROVIDE AVEC LOCKS TO MATCH EXISTING AVEC KEYS. PROVIDE FOUR SPARE LOCK AND KEY SETS FOR EACH OWNER AND VERIFY LOCK MODEL WITH OWNER.

COLOCATED PUMP SCHEDULE					
PUMP ID	TYPE	PRODUCT	LOCATION	MOTOR (HP)	ELECTRICAL
P-1	SUB	ULSD	T1	3/4	208/230 VAC, 1-PH
P-2A1	SUB	GASOLINE	T2A	3/4	208/230 VAC, 1-PH
P-2B1	SUB	DIESEL	T2B	3/4	208/230 VAC, 1-PH
P-2B2	SUB	DIESEL	T2B	3/4	208/230 VAC, 1-PH
P-3A	SUB	GASOLINE	T3A	3/4	208/230 VAC, 1-PH
P-3B	SUB	DIESEL	T3B	3/4	208/230 VAC, 1-PH
P-4A	SUB	DIESEL	T4A	3/4	208/230 VAC, 1-PH
P-4B	SUB	GASOLINE	T4B	3/4	208/230 VAC, 1-PH
P-5	SUB	GASOLINE	T5	3/4	208/230 VAC, 1-PH

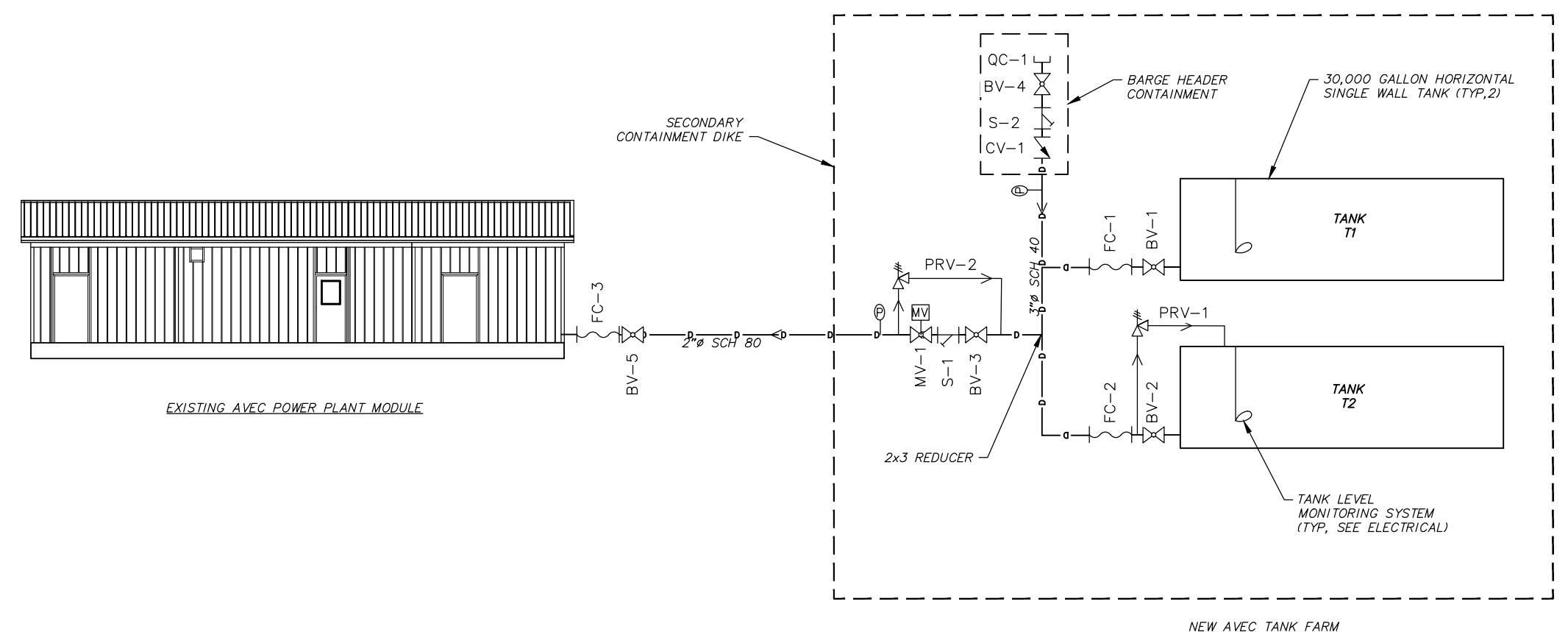
COLOCATED TANK FARM TANK SCHEDULE

TANK NUMBER	NOMINAL CAPACITY GALLONS	TANK TYPE	PRODUCT	NOTES	OWNER
T1	30,000	HORIZONTAL SINGLE WALL	ULSD	NEW 30K TANK	CITY
T2A	14,000	HORIZONTAL SINGLE WALL	GASOLINE	NEW, 30K SPLIT TANK	CORP
T2B	16,000	HORIZONTAL SINGLE WALL	DIESEL	NEW, 30K SPLIT TANK	CORP
T3A	15,000	HORIZONTAL SINGLE WALL	GASOLINE	NEW, 30K SPLIT TANK	BIG WHEEL
T3B	15,000	HORIZONTAL SINGLE WALL	DIESEL	NEW, 30K SPLIT TANK	CITY
T4A	2,500	HORIZONTAL PROTECTED	DIESEL	NEW, 5K SPLIT TANK	CORP
T4B	2,500	HORIZONTAL PROTECTED	GASOLINE	NEW, 5K SPLIT TANK	CORP
T5	2,500	HORIZONTAL PROTECTED	GASOLINE	NEW PROTECTED TANK	BIG WHEEL

AVEC TANK FARM VALVE SCHEDULE

VALVE ID	SIZE	LOCATION	END CONNECTION	COMMENT	ID TAG REQ'D
BALL VALVES (BV)					
BV-1	3"	TANK T1	FLG	Fill/Draw	Y
BV-2	3"	TANK T2	FLG	Fill/Draw	Y
BV-3	2"	MOTORIZED VALVE ASSEMBLY	FLG	-	Y
BV-4	3"	AVEC HEADER	FLG	-	Y
BV-5	2"	AVEC POWER PLANT	FLG	SEE DETAIL 7. C4.4	Y
MOTORIZED VALVES (MV)					
MV-1	2"	MOTORIZED VALVE ASSEMBLY	FLG	-	Y
CHECK VALVES (CV)					
CV-1	3"	AVEC HEADER	FLG	-	Y
PRESSURE RELIEF VALVES (PRV)					
PRV-1	1"	TANK T2	FLG	PRESSURE SET AT 25 PSI	Y
PRV-2	1"	MOTORIZED VALVE ASSEMBLY	FLG	PRESSURE SET AT 25 PSI	Y

COMPONENT ID	SIZE	LOCATION	END CONNECTION	COMMENT	ID TAG REQ'D
FLEX CONNECT (FC)					
FC-1 TO FC-2	3" X 18"	TANK T1 TO TANK T4	FLG	-	N



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AVEC TANK FARM OPERATING SCHEMATIC

NTS

TANK FARM OPERATIONAL NARRATIVE

FILLING TANK FARM FROM VIA BARGE HEADER:

THE TANK FARM IS FILLED VIA THE DIESEL BARGE HEADER LOCATED WITHIN THE STEEL DIKED AREA. BEFORE BEGINNING THE FILL PROCESS THE OPERATOR SHALL CONFIRM THAT ALL TANK ISOLATION VALVES ARE CLOSED. BULK TANKS SHOULD BE FILLED ONE AT A TIME BY SEQUENTIALLY OPENING AND CLOSING INDIVIDUAL TANK ISOLATION BALL VALVES. LINE PRESSURE WILL BE SUPPLIED BY THE BARGE FUEL PUMPING SYSTEM. THE TANK FARM OPERATOR WILL MONITOR THE FILLING PROCESS VIA CLOCK GAUGES AND GAUGING ROD AT EACH TANK. AT THE CONCLUSION OF FILLING, CLOSE HEADER ISOLATION VALVE, TANK ISOLATION VALVES, AND DISCONNECT FILL HOSE.

FILLING POWER PLANT DAY TANK:

FUEL IS TRANSFERRED FROM THE TANK FARM TO THE EXISTING INTERIOR POWER PLANT DAY TANK VIA A NEW 2-INCH, WELDED STEEL PIPELINE. THE NEW MOTORIZED VALVE & EXISTING DAY TANK PUMP WILL BE ENERGIZED BY THE OPERATOR UPON PRESSING THE PUMP START BUTTON ON THE EXISTING DAY TANK CONTROL PANEL. FLOATS WITHIN THE DAY TANK WILL DE-ENERGIZE THE PUMP WHEN THE TANK IS FULL. ALL TRANSFERS SHALL BE CONTINUOUSLY MONITORED.

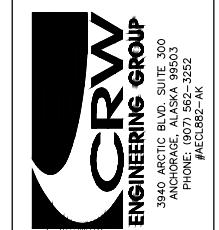
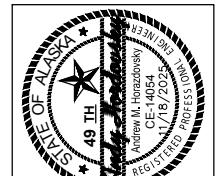
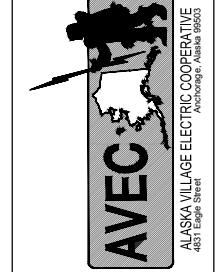
NOTES

1. SYSTEM REPRESENTATIONS ON THIS SHEET ARE SCHEMATIC. ALL ITEMS ARE NEW UNLESS DESIGNATED OTHERWISE.
2. NOT ALL TANK APPURTENANCES (VENTS, TANK LEVEL MONITORING, ETC.) ARE SHOWN ON THIS SHEET.
3. SEE SHEET G1.1 FOR SYMBOL LEGEND.
4. SEE SHEET G1.4 FOR TANK SCHEDULE.

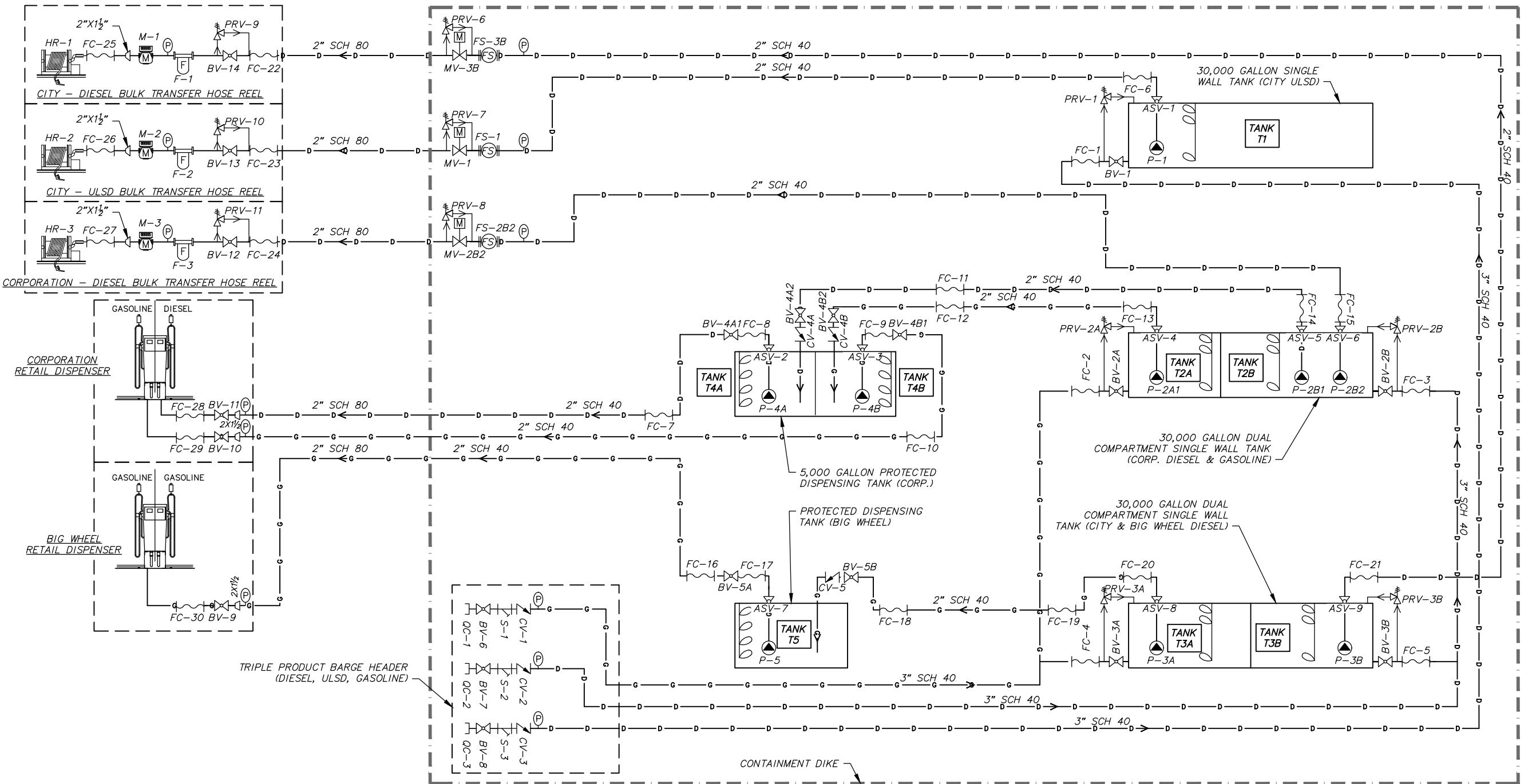
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Date	1/20/25		
Designed	AMH		
Drawn	CMK		
Approved	AMH		

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G1.5



SHAGELUK BULK FUEL UPGRADES
AVEC TANK FARM OPERATING SCHEMATIC
SHAGELUK, ALASKA



CO-LOCATED TANK FARM OPERATING SCHEMATIC

NTS

CO-LOCATED TANK FARM OPERATIONAL NARRATIVE

FILLING TANK FARM FROM BARGE HEADER:

THE CITY, CORPORATION, AND BIG WHEEL BULK TANKS ARE FILLED VIA THE BARGE HEADERS LOCATED WITHIN THE STEEL DIKED AREA. BEFORE BEGINNING THE FILL PROCESS THE OPERATOR SHALL CONFIRM THAT ALL TANK ISOLATION VALVES ARE CLOSED. BULK TANKS SHOULD BE FILLED ONE AT A TIME BY SEQUENTIALLY OPENING AND CLOSING INDIVIDUAL TANK ISOLATION BALL VALVES. LINE PRESSURE WILL BE SUPPLIED BY THE BARGE FUEL PUMPING SYSTEM. THE TANK FARM OPERATOR WILL MONITOR THE FILLING PROCESS VIA CLOCK GAUGES AND GAUGING ROD AT EACH TANK. WHEN THE TANK LEVEL REACHES 90% A LIGHT ON THE CONTROL PANEL WILL INDICATE THAT THE TANK IS FULL. IF FILLING CONTINUES TO THE 95% LEVEL, AN ALARM WILL SOUND. AT THE CONCLUSION OF FILLING, CLOSE HEADER ISOLATION VALVE, TANK ISOLATION VALVES, AND DISCONNECT FILL HOSE.

FILLING THE DISPENSING TANKS:

BIG WHEEL AND CORPORATION DISPENSING TANKS ARE FILLED FROM THEIR RESPECTIVE BULK TANKS VIA CONTROLS LOCATED AT THE CONTROL PANEL. FLOAT SWITCHES MONITOR THE LEVEL, IF THE DISPENSING TANK FALLS BELOW 40% A LOW LEVEL LIGHT WILL ILLUMINATE ON THE CP ALERTING THE OPERATOR. PRIOR TO FILLING THE DISPENSING TANK, THE OPERATOR MUST VERIFY THERE IS SUFFICIENT FUEL IN THE BULK TANK AND OPEN ASSOCIATED BALL VALVES. THE FILLING PROCESS IS INITIATED WHEN THE OPERATOR PURES THE PUMP START BUTTON ON THE CP. HIGH LEVEL FLOAT SWITCHES IN THE DISPENSING TANK AUTOMATICALLY DE-ENERGIZE THE TRANSFER PUMP WHEN FUEL LEVEL REACHES 90% FULL.

RETAIL FUEL SALES -BIG WHEEL & CORPORATION:

RETAIL FUEL SALES WILL BE CONDUCTED AT THE NEW BIG WHEEL (GASOLINE) & CORPORATION (DIESEL & GAS) RETAIL DISPENSERS. RETAIL SALES TRANSACTIONS WILL BE PROCESSED VIA THIRD PARTY SOFTWARE (CLOVER, SQUARE, ETC.). THE ATTENDANT WILL AUTHORIZE THE SALE AMOUNT AT THE DISPENSER KEYPAD AND THE DISPENSER WILL LIMIT FUEL TRANSFER TO THE PAID AMOUNT.

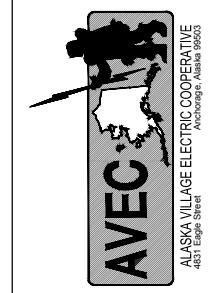
BULK TRANSFER HOSE REELS:

THREE HOSE REELS ARE PROVIDED TO FACILITATE BULK TRANSFER OF DIESEL FUEL. CITY DIESEL, CITY ULSD, & CORPORATION DIESEL. THE ATTENDANT SHALL INPUT DESIRED FUEL VOLUME INTO THE PRE-SET METER, SET SPRING LOADED MECHANICAL VALVE AND DEPRESS PUMP START BUTTON TO INITIATE TRANSFER. PROVIDE CONTINUOUS MONITORING DURING FUELING PROCESS. FLOW WILL STOP AT PRE-SET VOLUME BUT PUMP WILL CONTINUE TO RUN UNTIL THE PUMP STOP BUTTON IS DEPRESSED. REMOVE NOZZLE, WIND HOSE AND NOTE VOLUME OF FUEL DISPENSED.

NOTES

1. SYSTEM REPRESENTATIONS ON THIS SHEET ARE SCHEMATIC. ALL ITEMS ARE NEW UNLESS DESIGNATED OTHERWISE.
2. NOT ALL TANK APPURTENANCES (VENTS, ETC) ARE SHOWN ON THIS SHEET.
3. SEE SHEET G1.1 FOR SYMBOL LEGEND.
4. SEE SHEET G1.4 FOR TANK SCHEDULE.

SHAGELUK, ALASKA
COLOCATED TANK FARM OPERATING SCHEMATIC



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GENERAL NOTES:

1. THE PROJECT WILL REPLACE THE EXISTING AVEC TANK FARM WITHIN THE SAME FOOTPRINT. MISCELLANEOUS DEBRIS INCLUDING FENCING, OLD EQUIPMENT, SAND BAGS, TIMBERS, CONSTRUCTION MATERIALS ETC. ARE LOCATED IN AND NEAR THE PROJECT AREA. CONTRACTOR SHALL COORDINATE WITH AVEC AS NECESSARY TO RELOCATE MATERIALS THAT INTERFERE WITH PROPOSED IMPROVEMENTS TO AN OWNER APPROVED LOCATION. DISPOSE OF ALL UNWANTED MATERIALS.

HAMILTON SLOUGH

AVEC TANK DECOMMISSIONING/SALVAGE SCHEDULE

EXISTING AVEC TANK NUMBER	DIAMETER (FT-INCHES)	HEIGHT / LENGTH (FT)	TANK ORIENTATION VERTICAL (V) HORIZONTAL (H)	TANK TYPE	PRODUCT	CAPACITY (GALLONS)	COMMENTS
1	10'-11"	13'6"	V	SW	D1	8,823	DECOMMISSION
2	10 3/8'-9 1/2"	13 3/8'-9 1/2"	V	SW	D1	8,779	DECOMMISSION
3	11 3/8'-0 1/2"	13 3/8'-8 1/2"	V	SW	D1	9,078	DECOMMISSION
4	10 3/8'-4 1/2"	13 3/8'-5 1/2"	V	SW	D1	7,825	DECOMMISSION
5	10 3/8'-10 1/2"	13 3/8'-10 1/2"	V	SW	D1	8,968	DECOMMISSION
6	10 3/8'-5 1/2"	13 3/8'-9 1/2"	V	SW	D1	8,224	DECOMMISSION
					TOTAL	51,697	

DECOMMISSIONING NOTES:

- CONTRACTOR IS RESPONSIBLE FOR COORDINATING WITH AVEC PRIOR TO BEGINNING ANY DECOMMISSIONING/DEMOLITION WORK.
- CONTRACTOR SHALL PROVIDE TEMPORARY FUEL STORAGE AND PIPING SYSTEMS AS NECESSARY TO PROVIDE UNINTERRUPTED FUEL SUPPLY TO THE EXISTING AVEC POWER PLANT THROUGHOUT CONSTRUCTION. PROVIDE TEMPORARY FUEL SUPPLY PLAN TO OWNER FOR APPROVAL. SEE SPEC 01 51 19.
- DECOMMISSION EXISTING ABOVE GRADE FUEL PIPING, TANKS, TANK FOUNDATIONS, SAND BAGS, LINERS AND OTHER COMPONENTS. SEE SPECIFICATIONS.
- SEE PAD CONSTRUCTION SEQUENCE ON THE AVEC GRADING PLAN FOR DETAILS ON EXISTING EARTHEN BERMS.
- ALL DECOMMISSIONED PIPING & FUEL SYSTEM COMPONENTS SHALL BE DISPOSED OF IAW SPECIFICATIONS.

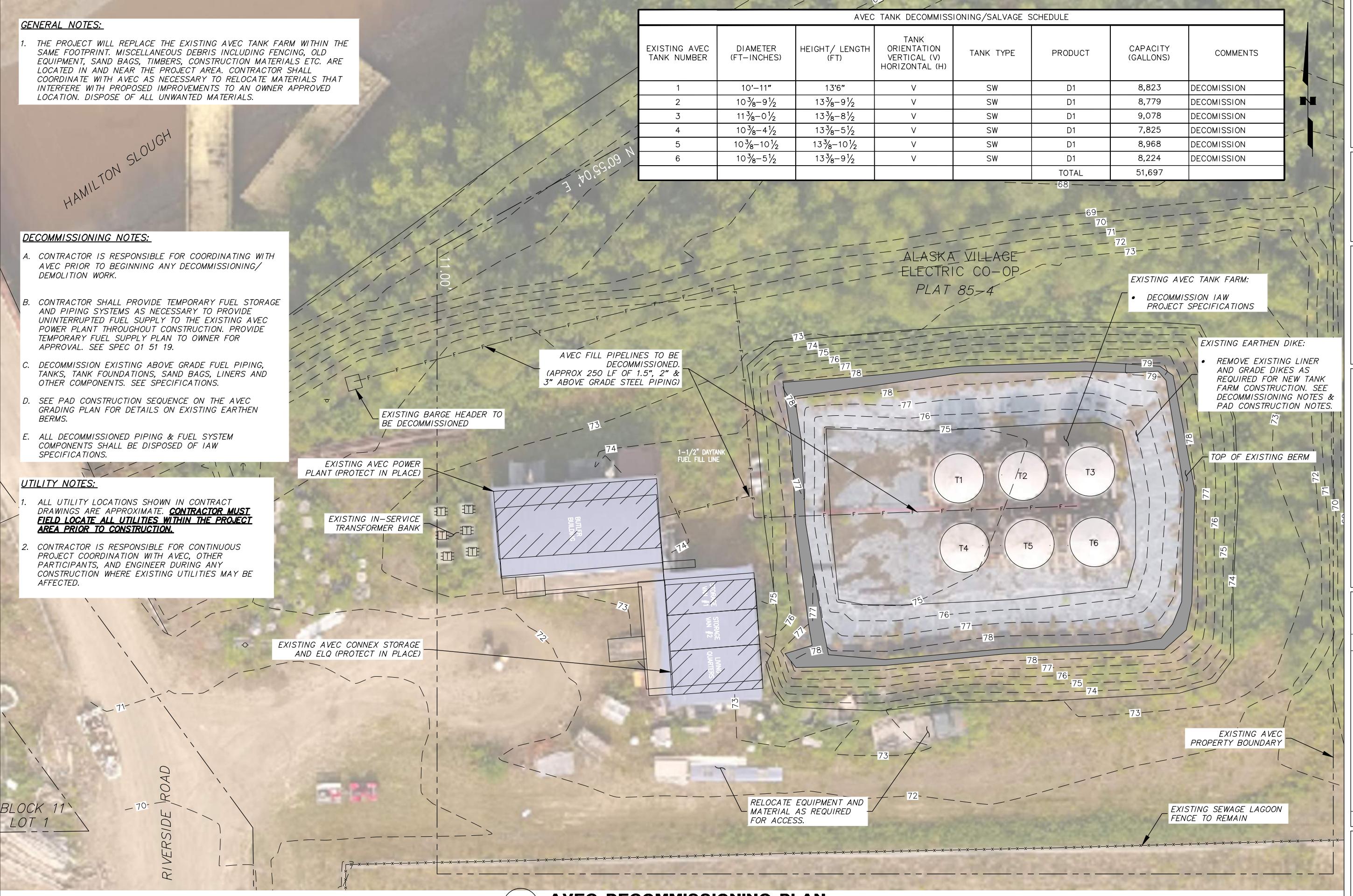
UTILITY NOTES:

1. ALL UTILITY LOCATIONS SHOWN IN CONTRACT DRAWINGS ARE APPROXIMATE. **CONTRACTOR MUST FIELD LOCATE ALL UTILITIES WITHIN THE PROJECT AREA PRIOR TO CONSTRUCTION.**
2. CONTRACTOR IS RESPONSIBLE FOR CONTINUOUS PROJECT COORDINATION WITH AVEC, OTHER PARTICIPANTS, AND ENGINEER DURING ANY CONSTRUCTION WHERE EXISTING UTILITIES MAY BE AFFECTED.

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Plot Date: 11/20/2025

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AVEC DECOMMISSIONING PLAN

SCALE: GRAPHIC

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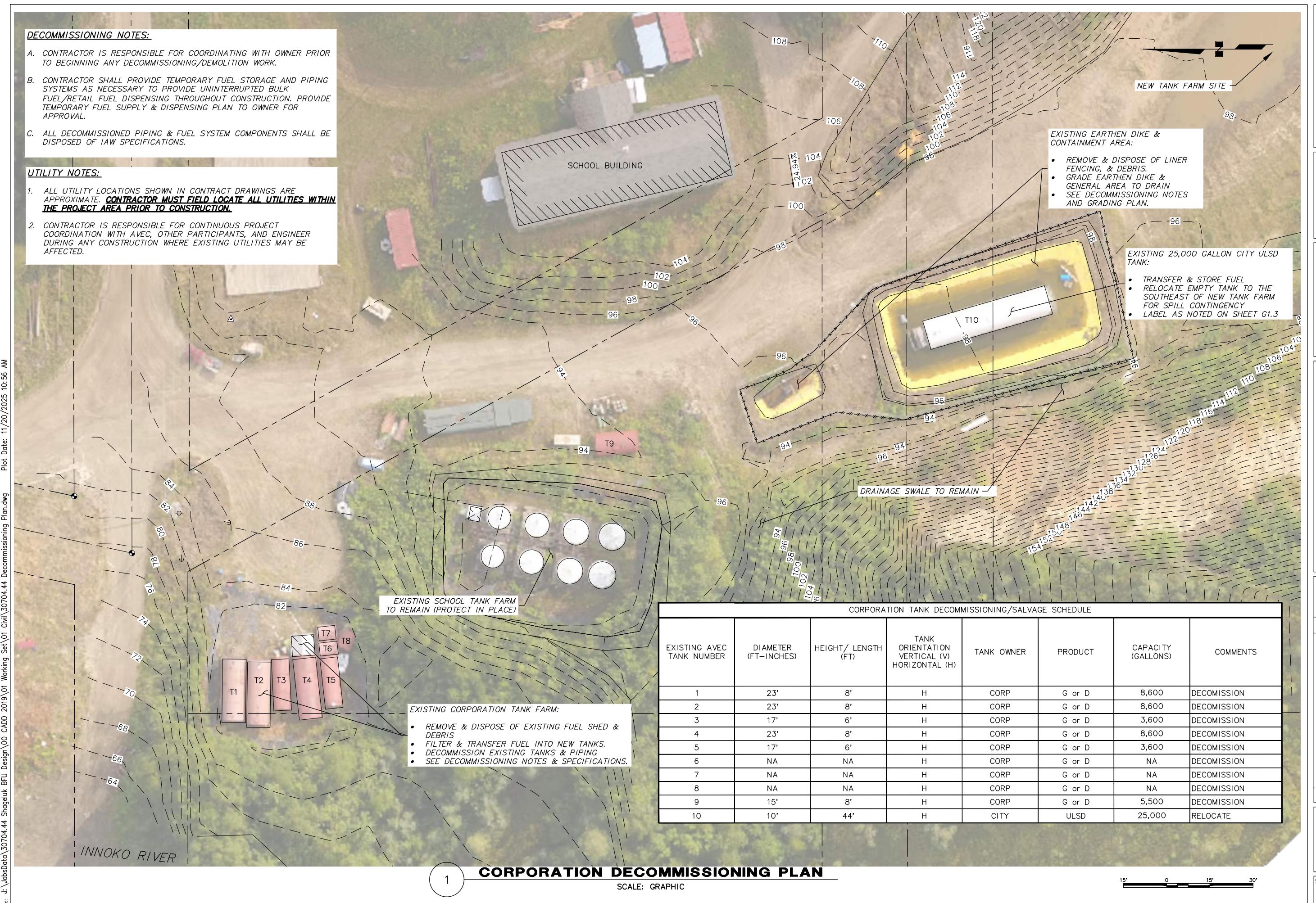


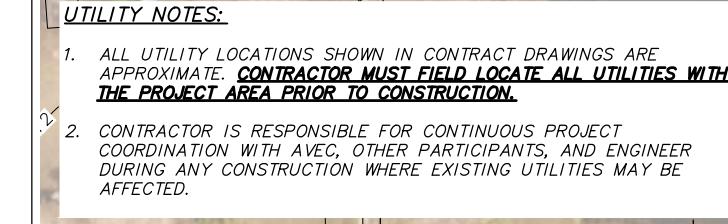
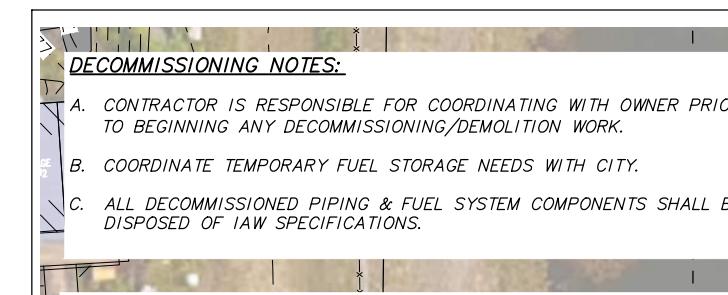
SHAGELUK, ALASKA
AVEC DECOMMISSIONING PLAN

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25

Sheet No.

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CITY TANK DECOMMISSIONING/SALVAGE SCHEDULE							
EXISTING AVEC TANK NUMBER	DIAMETER (FT-INCHES)	HEIGHT/ LENGTH (FT)	TANK ORIENTATION VERTICAL (V) HORIZONTAL (H)	TANK TYPE	PRODUCT	CAPACITY (GALLONS)	COMMENTS
1	10'-0"	NA	V	SW	D1	NA	DECOMMISSION
2	7 ³ / ₈ -6 ¹ / ₂	NA	V	SW	D1	NA	DECOMMISSION

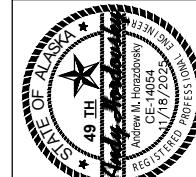
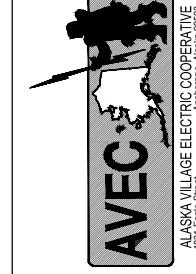
CITY DECOMMISSIONING PLAN

SCALE: GRAPHIC

1

15' 0 15' 30'

SHAGELUK BULK FUEL UPGRADES
CITY DECOMMISSIONING PLAN
SHAGELUK, ALASKA



NO.	REVISION	BY	DATE
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SHAGELUK, ALASKA			
CITY DECOMMISSIONING PLAN			
SHAGELUK BULK FUEL UPGRADES			
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HORIZONTAL AND VERTICAL DATUM

CRW ENGINEERING GROUP CREATED A LOCAL LOW DISTORTION PROJECTION (LDP) SURFACE GRID COORDINATE SYSTEM FOR THE COMMUNITY OF SHAGELUK WATER AND SEWER IMPROVEMENTS PROJECTS.

CRW LOCAL COORDINATE SYSTEM LDP PARAMETERS:

NAME: SHAGELUK TM LDP GRS80
LINEAR UNIT: US SURVEY FEET
GEOGRAPHIC DATUM: NAD83 (2011)
ELLIPSOID: GRS80
PROJECTION: TRANSVERSE MERCATOR
LATITUDE OF ORIGIN: 62° 37' 00.00" N
CENTRAL MERIDIAN: 159° 32' 00.00" W
FALSE NORTHING = 40,000.00
FALSE EASTING = 80,000.00
SCALE FACTOR = 1.00000615

THE VERTICAL DATUM IS A LOCAL DATUM THAT WAS PREVIOUSLY ESTABLISHED BY OTHERS FOR THE SEWER AND WATER IMPROVEMENT PROJECTS. CRW FOUND THE LOCAL VERTICAL DATUM ELEVATIONS ARE APPROXIMATELY 4.1 FEET LOWER THAN THE COMPUTED GEOID 12B ELEVATIONS FOUND ON THE PREVIOUSLY SET CONTROL. THESE PREVIOUS CONTROL POINTS HAVE BEEN LOST DURING THE WATER AND SEWER CONSTRUCTION. CRW CONTROL POINTS, 1-2, AND TBM 351 ELEVATIONS ARE SHOWN IN THE LOCAL VERTICAL DATUM.

NOTES:

1. ALL COORDINATES AND DIMENSIONS ARE SHOWN IN U.S. SURVEY FEET.
2. THE SET CONTROL POINTS WERE ESTABLISHED IN AUGUST, 2019 BY CRW ENGINEERING GROUP. THE FOUND AND SET PROPERTY CORNERS SHOWN ARE FROM SURVEYS CONDUCTED IN AUGUST 2019, SEPTEMBER AND OCTOBER, 2023.
3. FIELD NOTES ARE CONTAINED IN CRW FIELD BOOKS 162, 167, 246, AND 247.
4. ALL CONTROL POINTS ARE SUBJECT TO SEASONAL DISTURBANCE. HORIZONTAL AND VERTICAL CONTROL POSITIONS MUST BE VALIDATED PRIOR TO USE FOR CONSTRUCTION.
5. WHETHER LISTED OR NOT, ALL MONUMENTS OR PROPERTY MARKERS, CORNERS, OR ACCESSORIES, WHICH WILL BE DISTURBED OR BURIED, SHALL BE REFERENCED OR RE-ESTABLISHED IN THE ORIGINAL POSITION AND RECORDED PER ALASKA STATUTES 19.10.260 & 34.65.040 RESPECTIVELY.
6. SEE SHEET G2.1 FOR CAP DIAGRAMS OF SET AND FOUND CONTROL POINTS.

HORIZONTAL CONTROL			
POINT	NORTHING	EASTING	DESCRIPTION
611	54493.80	79932.89	FOUND 1 1/2" BRASS CAP
612	54293.34	79892.44	FOUND 1 1/2" BRASS CAP
613	54093.31	79851.47	FOUND 1 1/2" BRASS CAP
615	54098.36	80191.64	FOUND 1 1/2" BRASS CAP
616	54296.72	80188.52	FOUND 1 1/2" BRASS CAP
636	54525.35	79936.17	FOUND 1 1/2" BRASS CAP
637	54530.54	80309.79	FOUND 1 1/2" ALUM. CAP
640	54061.58	80439.35	FOUND 1 1/2" BRASS CAP
703	53773.48	79779.99	FOUND 1 1/2" BRASS CAP
704	53833.43	79779.37	FOUND 1 1/2" BRASS CAP
705	53831.41	79659.16	FOUND 1 1/2" ALUM. CAP
706	54073.00	79831.94	FOUND 3 1/4" BRASS CAP
707	54509.03	79920.83	FOUND 3 1/4" BRASS CAP
821	54096.82	80066.92	SET 2" ALUM. CAP
822	54495.51	80060.63	SET 2" ALUM. CAP
823	54296.32	80063.46	SET 2" ALUM. CAP
910	53843.32	80643.10	FOUND 1 1/2" ALUM. CAP
911	53843.52	80541.83	FOUND 1 1/2" ALUM. CAP
912	53842.36	80441.76	FOUND 1 1/2" BRASS CAP
913	53839.82	80316.34	FOUND 1 1/2" ALUM. CAP

HORIZONTAL & VERTICAL CONTROL				
POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	54898.97	79944.58	71.57	SET 2" ALUM CAP - CRW CONTROL
2	54039.64	79913.53	91.78	SET 2" ALUM CAP - CRW CONTROL
351	54515.24	80698.18	81.50	CHISELED X IN SSMH RIM
709	55267.35	79801.94	69.56	FOUND 3 1/4" ALUM. CAP - DOT GPS

LEGEND

- FOUND OR SET ALUMINUM CAP
- FOUND BRASS CAP OR COPPERWELD
- FOUND REBAR OR STAINLESS STEEL ROD
- ▲ SET CRW CONTROL - 2" ALUMINUM CAP
- SET TEMPORARY BENCHMARK (TBM)

**SURVEY CONTROL**

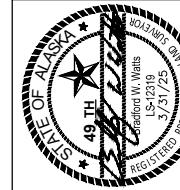
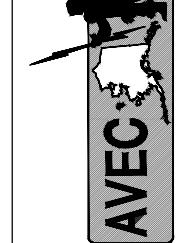
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100' 0 100' 200'

SHAGELUK, ALASKA SURVEY CONTROL

SURVEY CONTROL

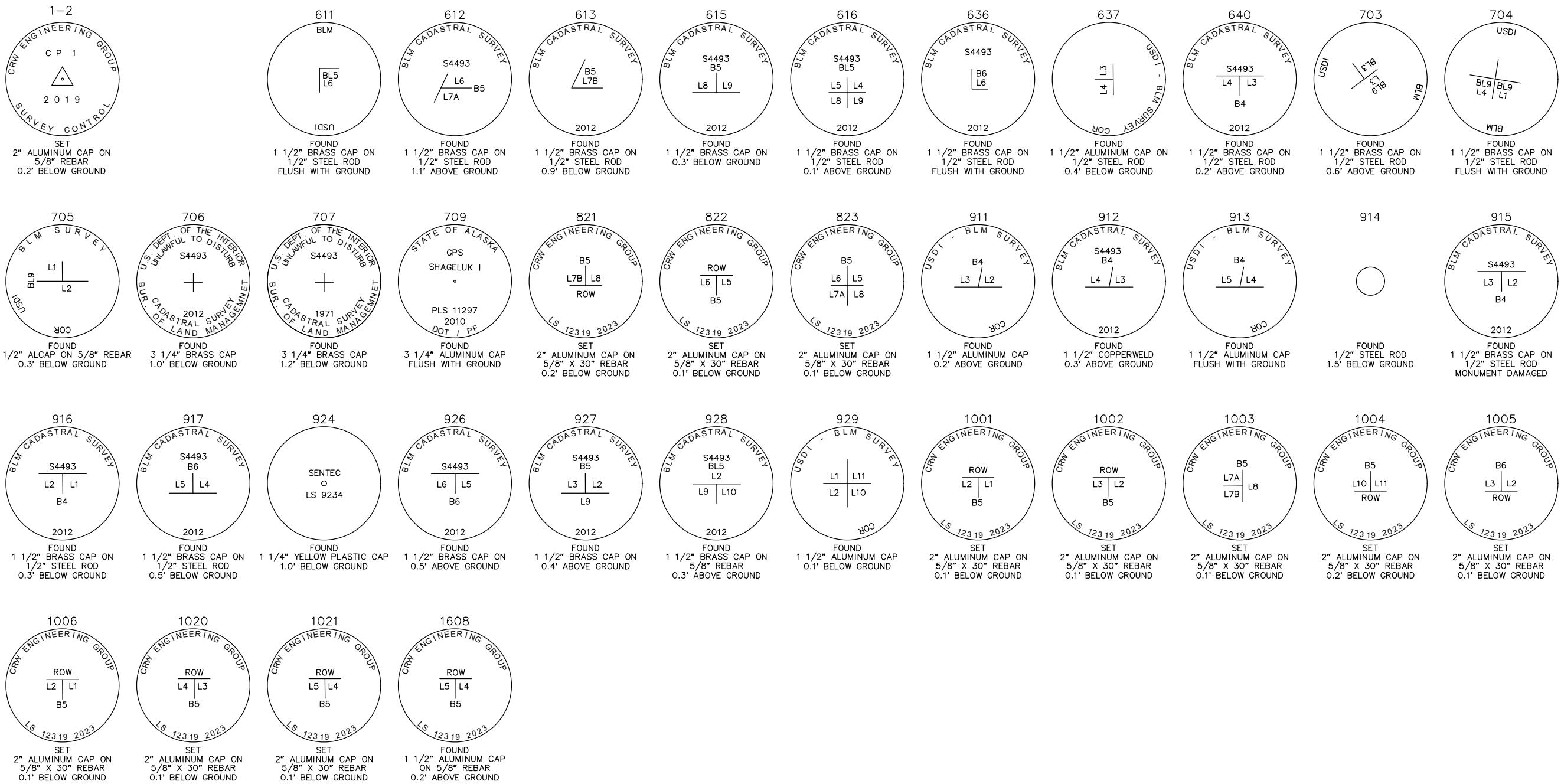
SHAGELUK, ALASKA



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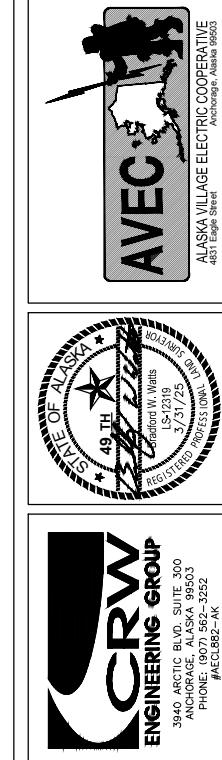
G2.0



SURVEY CONTROL - CAP DIAGRAMS

NOTES:

1. ALL CAP DIAGRAMS SHOWN ARE ORIENTED NORTH



Plot	3/31/25	A	ISSUED FOR BIDDING	11/18/25
Date				
Designed	AMH			
Drawn	BWW			
Approved	AMH			

sheet No. **G2.1**



1

VICINITY MAP

SCALE: GRAPHIC

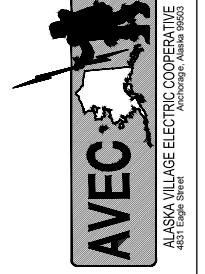
150' 0 150' 300'

C1.1

SHAGELUK BULK FUEL UPGRADES
VICINITY MAP
SHAGELUK, ALASKA

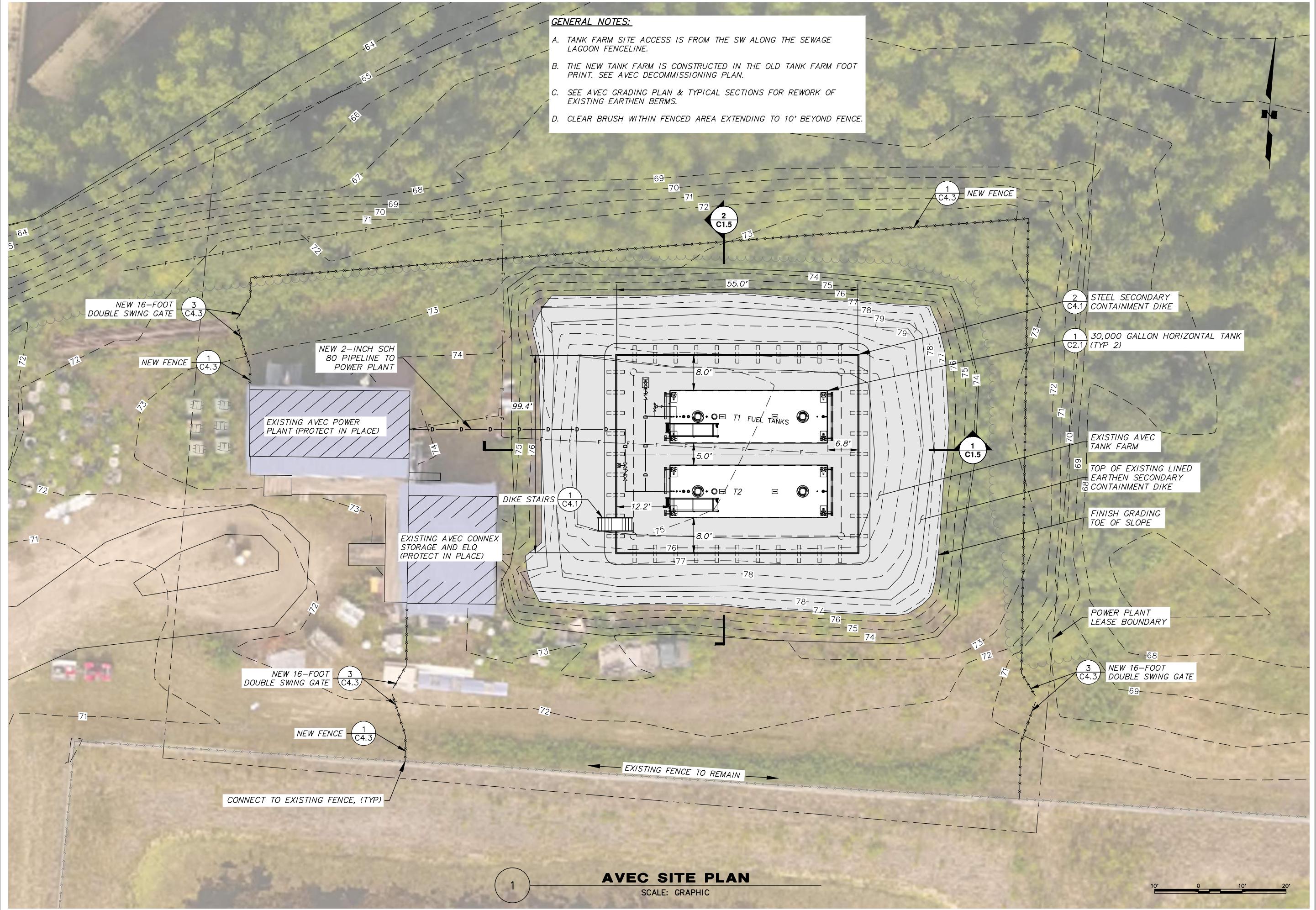
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A	ISSUED FOR BIDDING	AH	11/18/25
Plot 1	Date 1/20/25	Designed	AMH
Drawn	CMK	Drawn	AMH
Approved	AMH	Approved	AMH

CRW
ENGINEERING GROUP



3900 ARCTIC BLVD, SUITE 300
ANCHORAGE, AK 99503
PHONE: (907) 562-3552
#ACC882-AK

ALASKA VILLAGE ELECTRIC COOPERATIVE
4831 Edge Street
Anchorage, Alaska 99503

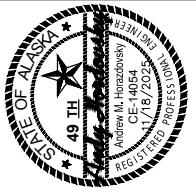
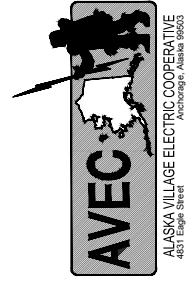


C1.2

SHAGELUK, ALASKA
AVEC TANK FARM SITE PLAN
SHAGELUK BULK FUEL UPDATES

NO.	REVISION	ISSUED FOR BIDDING	BY	DATE
A			AH	11/18/25

Plot	Date	Designed	Drawn	Approved
1	11/20/25	AMH	CMK	AMH

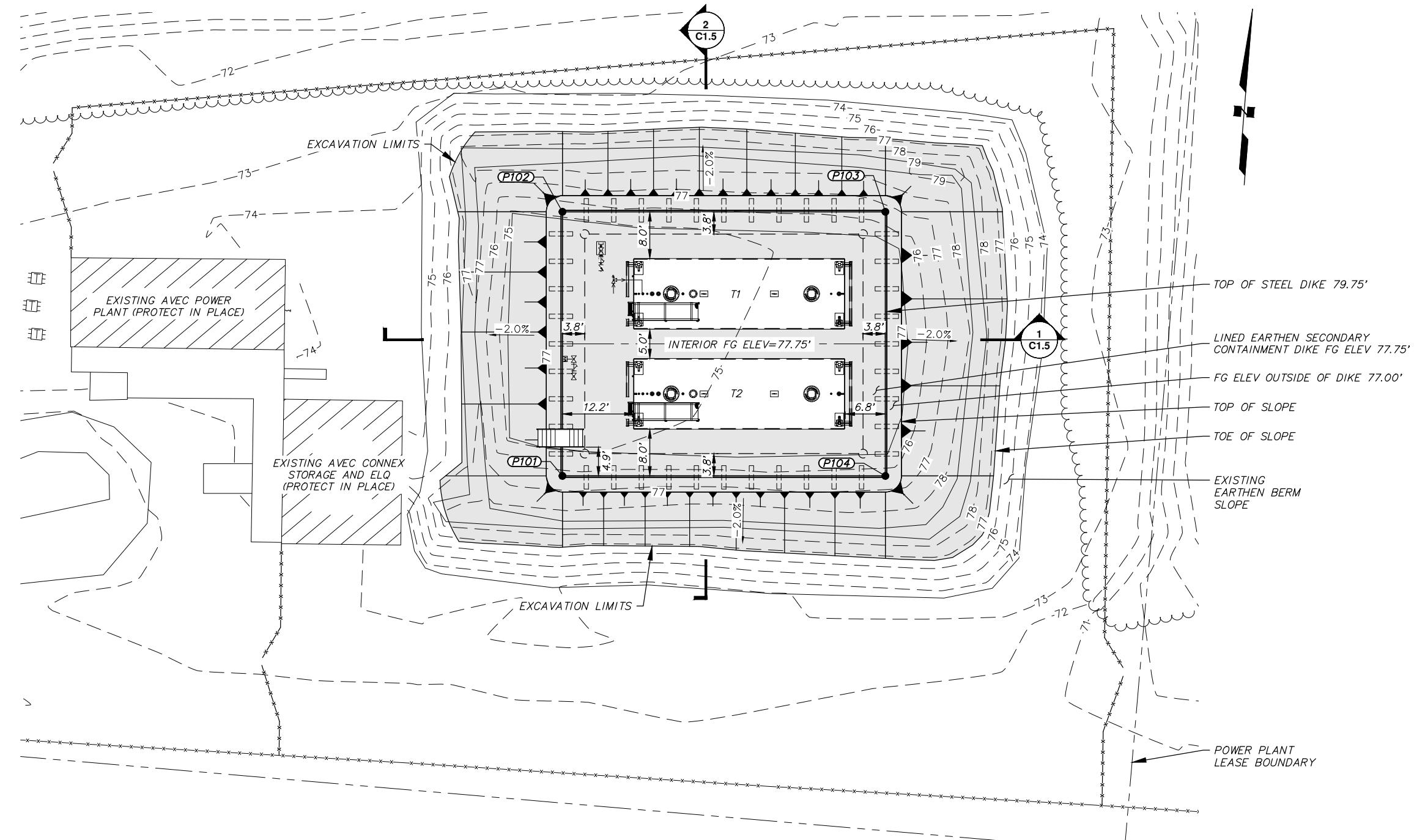


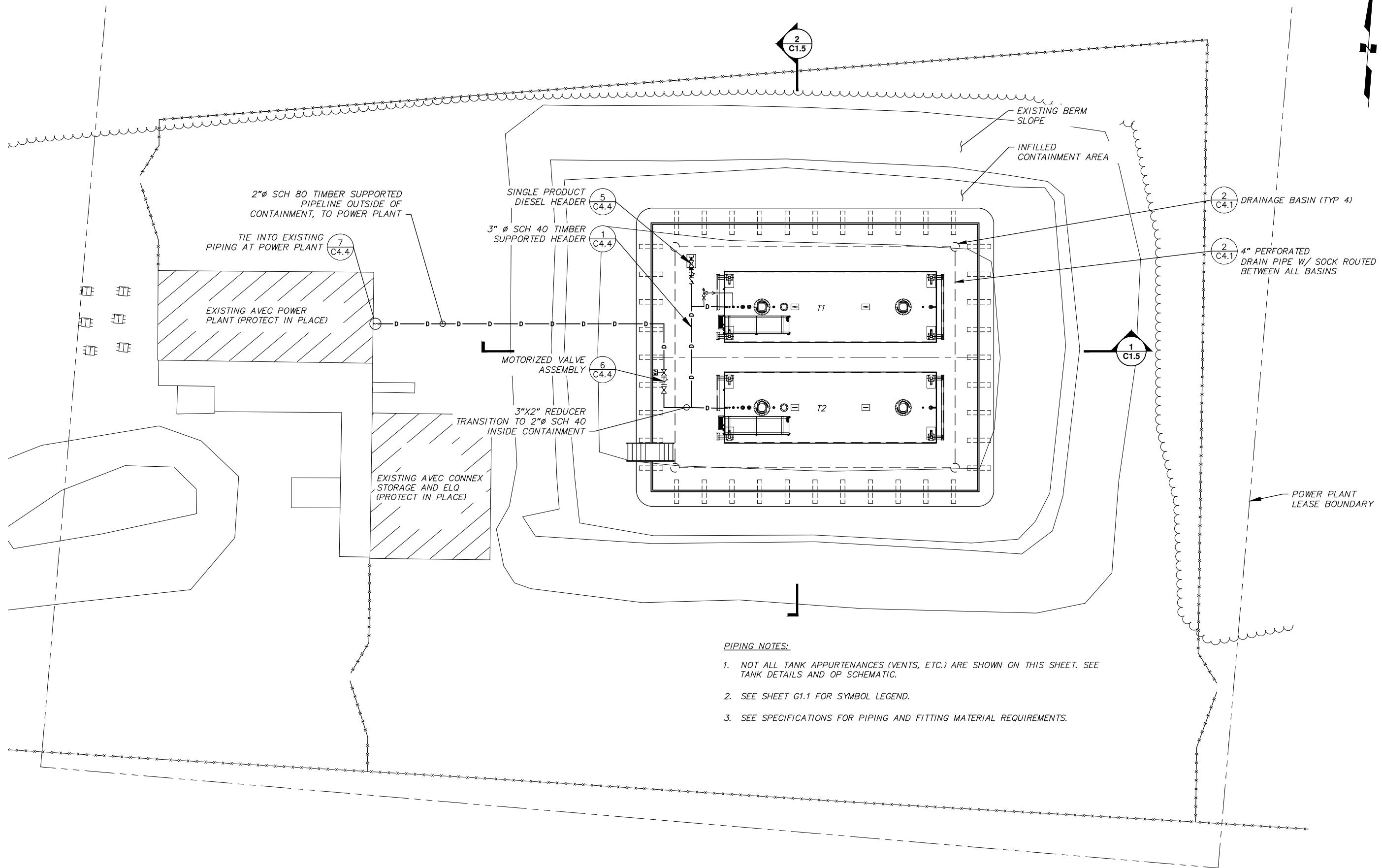
GRADING POINT TABLE					
POINT	EASTING	NORTHING	ELEVATION	POINT DESCRIPTION	NOTES
101	80069.6549'	55109.7150'	77.00'	AVEC DIKE & PAD CORNER, R=2.75'	
102	80065.8039'	55154.5499'	77.00'	AVEC DIKE & PAD CORNER, R=2.75'	
103	80120.6022'	55159.2566'	77.00'	AVEC DIKE & PAD CORNER, R=2.75'	
104	80124.4531'	55114.4217'	77.00'	AVEC DIKE & PAD CORNER, R=2.75'	

AVEC PAD CONSTRUCTION SEQUENCE:

1. DECOMMISSION EXISTING TANK FARM, SEE DECOMMISSIONING PLAN. REMOVE TANKS AND DEBRIS FROM WITHIN THE PAD FOOTPRINT. CLEAR BRUSH FROM SITE TO 10-FEET BEYOND NEW FENCELINE.
2. PROOF COMPACT THE INSITU SOILS BENEATH THE TANK FARM. REPORT ANY UNDESIRABLE MATERIAL OR SOFT SPOTS TO THE ENGINEER PRIOR TO BACKFILLING.
3. BASED ON VISUAL OBSERVATION AND HAND DUG TESTHOLES, THE EXISTING TANK FARM EARTHEN BERM APPEARS TO BE CONSTRUCTED OF GRANULAR FILL FROM THE LOCAL BORROW SOURCE. HOWEVER, A PORTION OF THE WESTERN BERM APPEARS TO CONTAIN ORGANIC SOILS. GRADE ORGANIC SOILS AND SILTS ONTO THE FINISHED PAD SLOPE AND REPLACE WITH
4. PLACE AND COMPACT CLASSIFIED FILL MATERIAL TO THE ELEVATION AND GRADES SHOWN ON THE GRADING PLAN AND TYPICAL SECTIONS.
5. THE EXISTING TOP OF BERM EXCEEDS FINAL GRADE ELEVATIONS. GRADE EXCESS MATERIAL ONTO FILL PAD SLOPE AS INDICATED IN THE TYPICAL SECTIONS.
6. INSTALL CONTAINMENT LINER SYSTEM, SUMPS, AND CONTAINMENT FILL IAW PROJECT SPECIFICATIONS AND MANUFACTURE'S RECOMMENDATIONS.

CLASSIFIED MATERIAL.

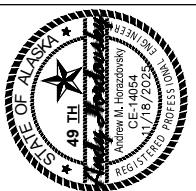
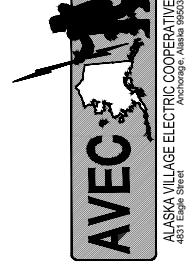




1 AVEC TANK FARM PIPING PLAN
SCALE: GRAPHIC

8' 0 8' 16'

SHAGELUK, ALASKA
AVEC TANK FARM PIPING PLAN

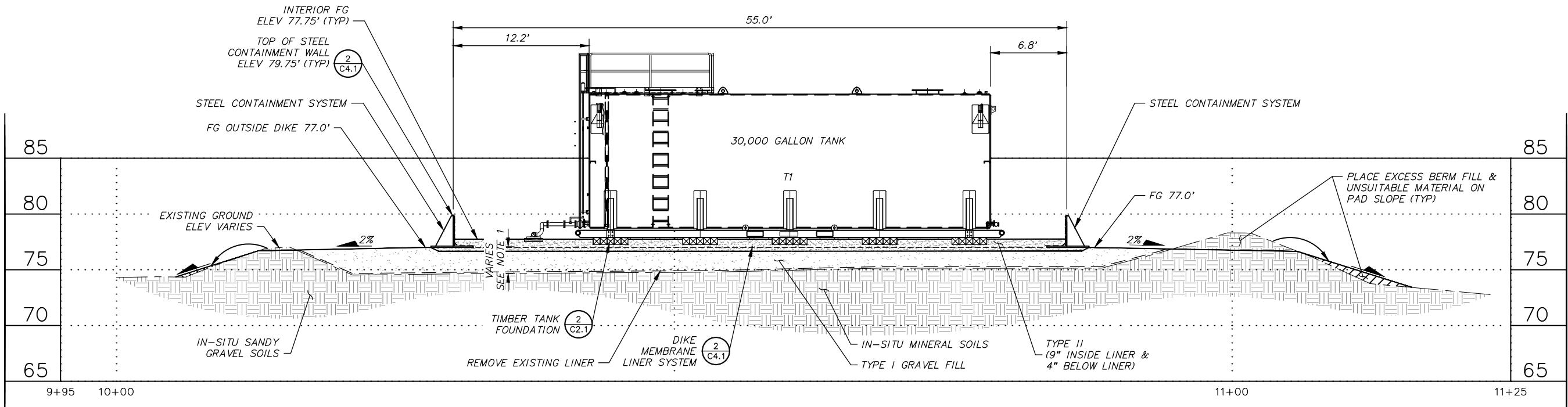


SHAGELUK BULK FUEL UPGRADES
AVEC TANK FARM PIPING PLAN
SHAGELUK, ALASKA

NO.	REVISION	BY	DATE
	A	ISSUED FOR BIDDING	AH 11/18/25
Plot	1/20/25	Designed	AMH
Date		Drawn	CMK
		Approved	AMH
Sheet No.			

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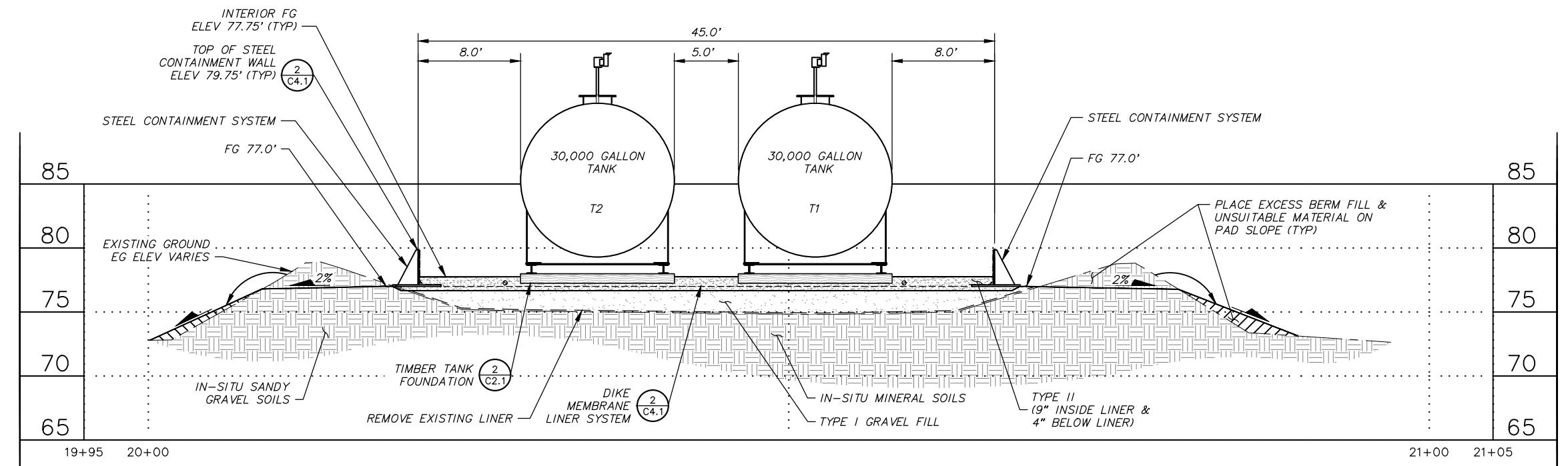
NOTES:
1. SEE PAD CONSTRUCTION SEQUENCE ON GRADING PLAN.



AVEC TYPICAL SECTION

SCALE: GRAPHIC

5' 0 5' 10'



AVEC TYPICAL SECTION

SCALE: GRAPHIC

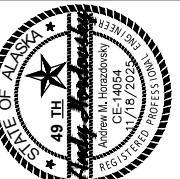
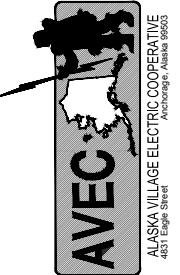
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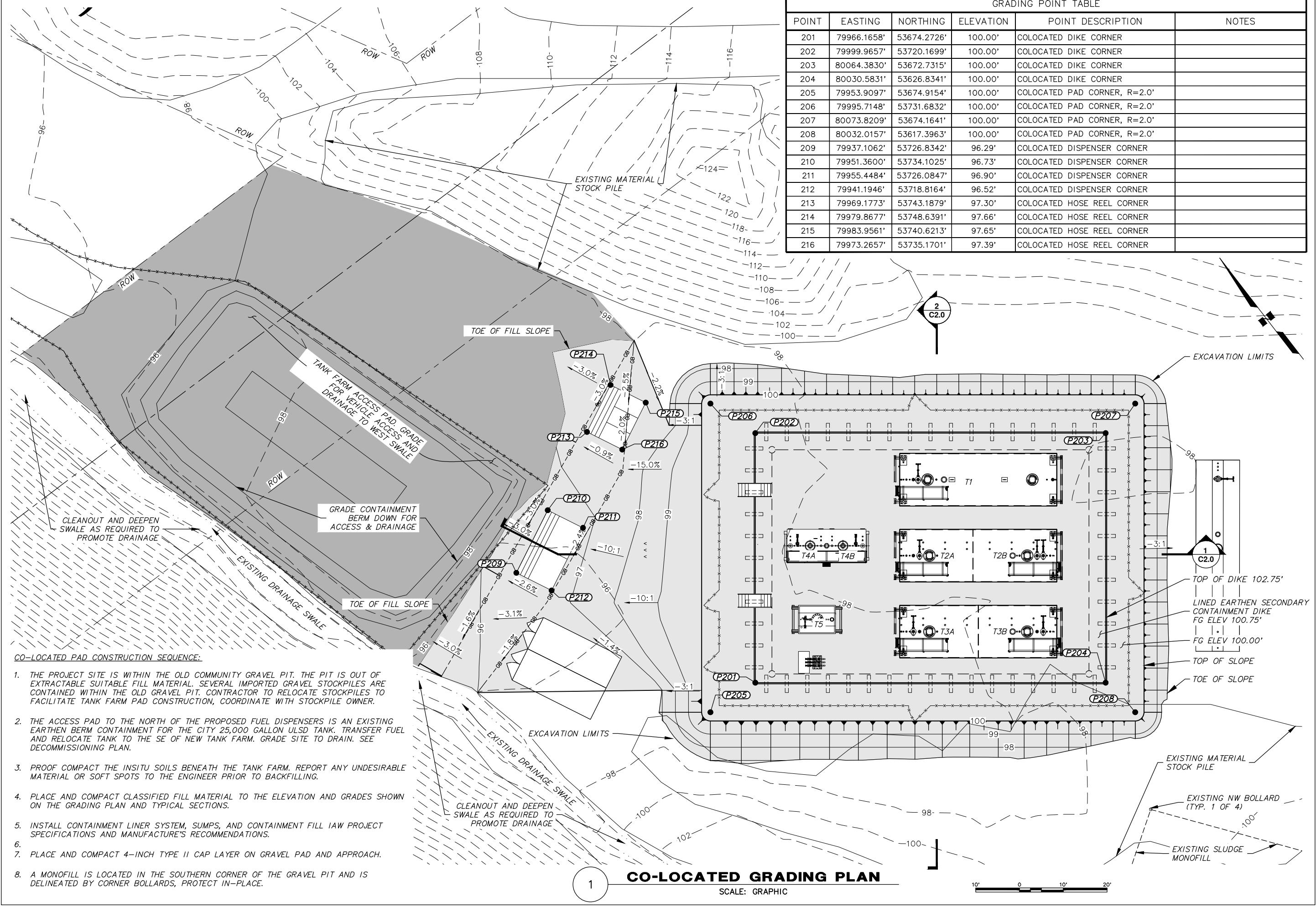
SHAGELUK BULK FUEL UPGRADES
AVEC TANK FARM TYPICAL SECTIONS
SHAGELUK, ALASKA

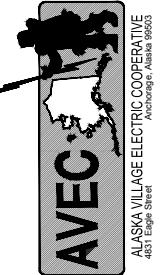
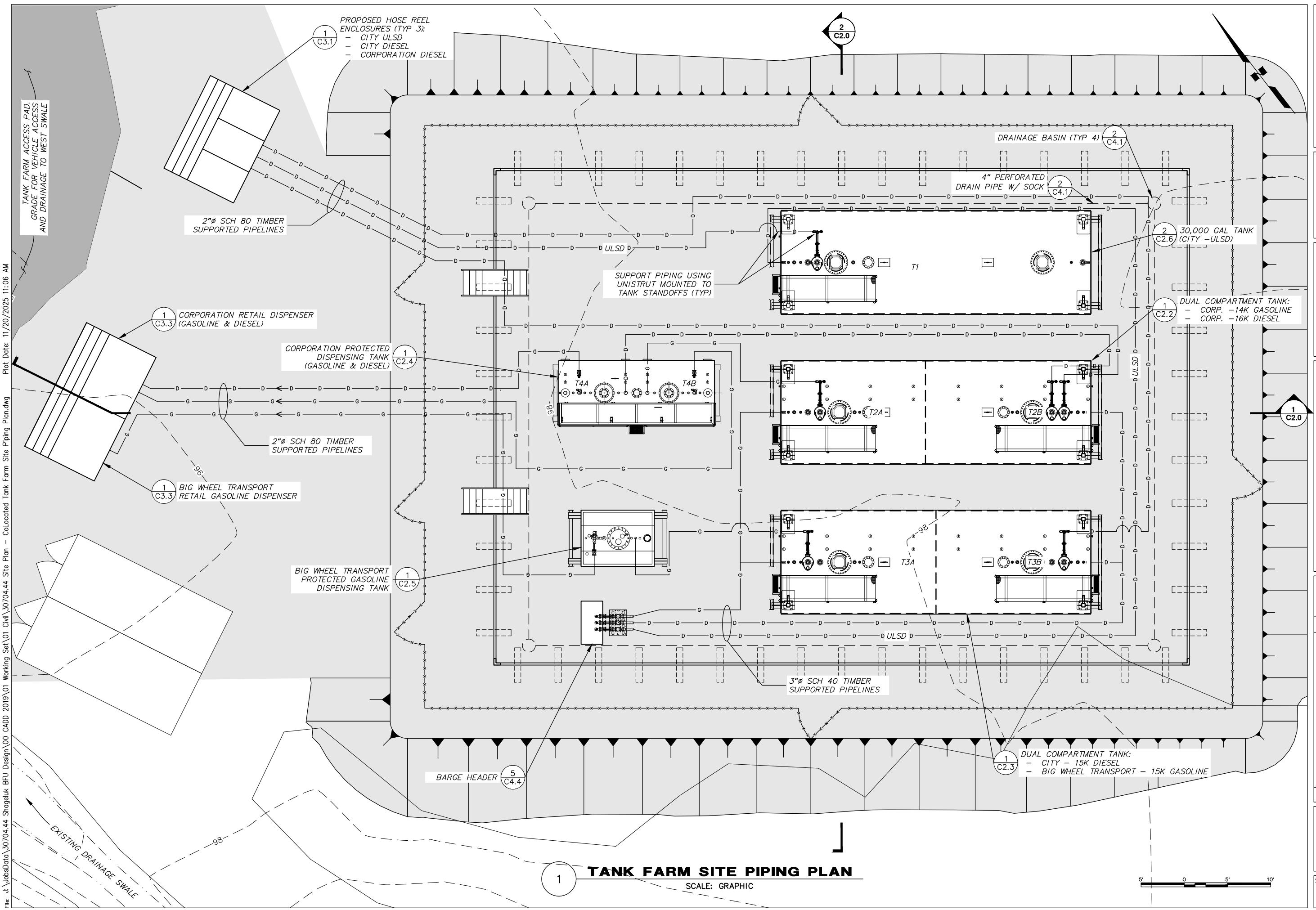
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Plot 1/20/25
Designed AMH
Drawn CMK
Approved AMH

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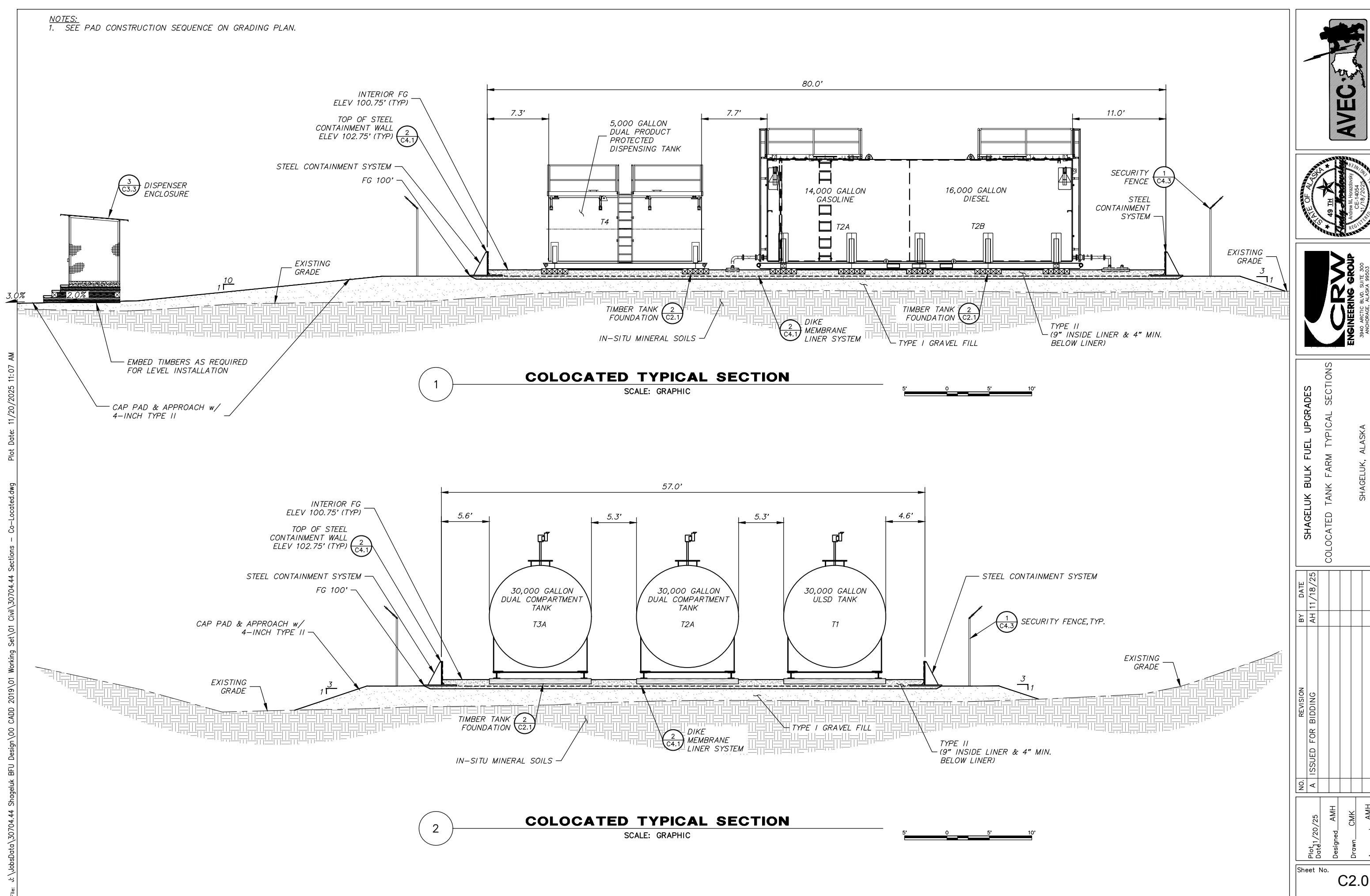


COLOCATED TANK FARM SITE PIPING PLAN

A ISSUED FOR BIDDING	
DATE	11/18/25
Designed	AMH
Drawn	CMK
Approved	AMH

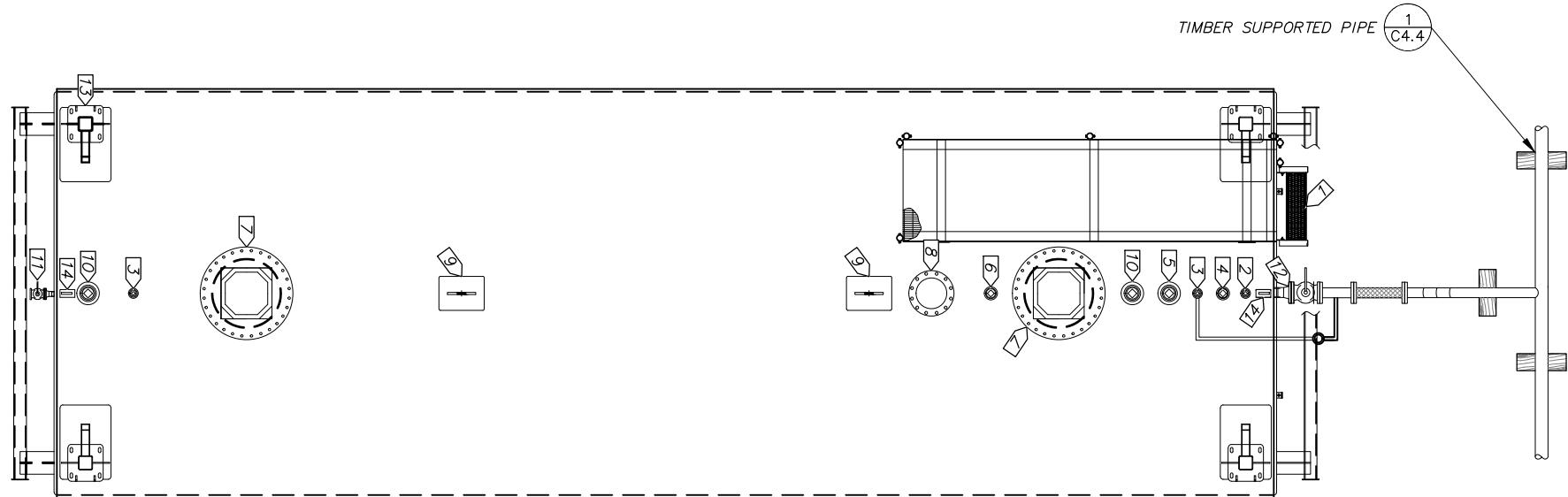
t No. **C1.8**

C1.8



SPECIFIC NOTES:

- 1> SHOP FABRICATED BOLT ON ACCESS LADDER & CATWALK
- 2> 2" NPT THREADED TANK OPENING – GAUGE HATCH
- 3> 2" NPT THREADED TANK OPENING – PRV OR SPARE WITH PLUG AS APPROPRIATE
- 4> 2" NPT THREADED TANK OPENING – CLOCK GAUGE
- 5> 4" NPT THREADED TANK OPENING – LEVEL SENSOR PROBE
- 6> 3" NPT THREADED TANK OPENING – PRESSURE/VACUUM VENT WITH WHISTLE ALARM
- 7> 24" FLANGED ACCESS HATCH WITH COVER
- 8> 10" FLANGED PENETRATION – EMERGENCY VENT
- 9> LIFTING LUG
- 10> 4" NPT THREADED TANK OPENING – SPARE WITH PLUG
- 11> 1" ANSI#300 R.F FLANGED TANK NOZZEL – WATER DRAW
- 12> 3" FLANGED NOZZLE w/BALL VALVE – FILL/DRAW
- 13> INTEGRAL TANK STACKING SUPPORT, (TYP OF 4)
- 14> PERSONNEL TIE OFF

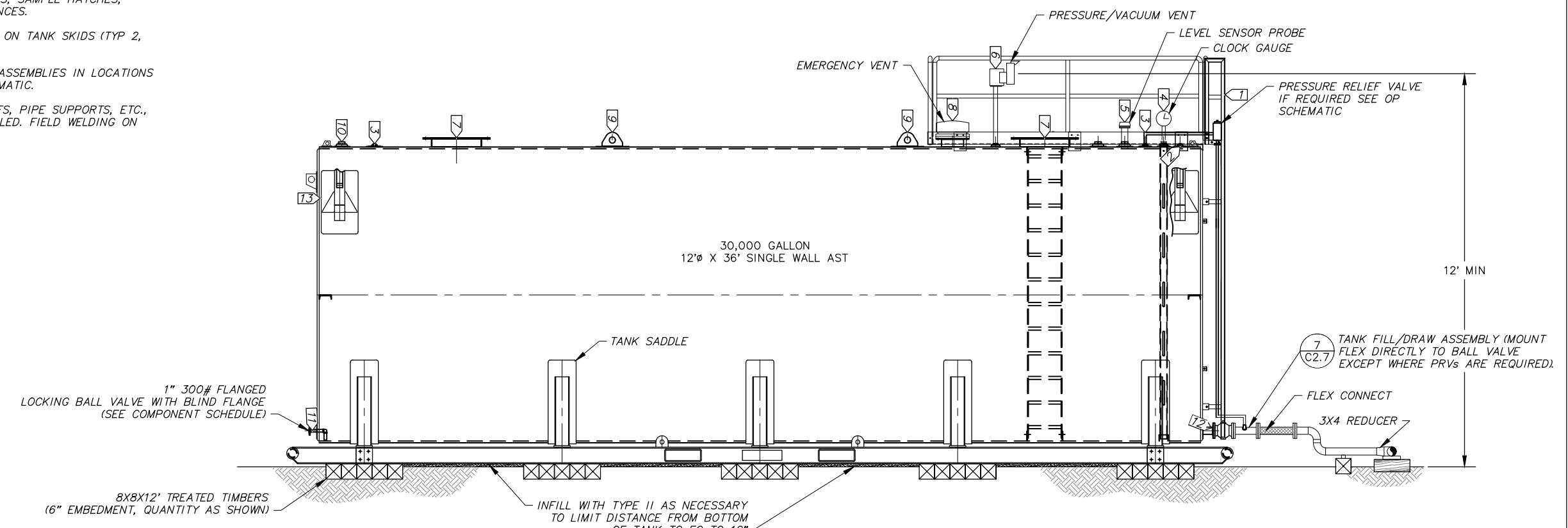


NOTES:

1. 30,000 GALLON TANKS ARE OWNER PROVIDED. TANK IS A NOMINAL 30,000 GALLON 12'0" x 36' UL 142 LISTED TANK. SEE SHOP DRAWINGS WITH FINAL DIMENSIONS, WEIGHT, LADDER CONFIGURATIONS, LOCATIONS OF TANK PENETRATIONS AND APPURTENANCES.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL VALVES, NORMAL VENTS, EMERGENCY VENTS, LEVEL GAUGES, SAMPLE HATCHES, FLOATS, PLUGS AND OTHER APPURTENANCES.
4. PROVIDE UL APPROVED GROUNDING LUG ON TANK SKIDS (TYP 2, OPPOSITE CORNERS).
5. INSTALL PRESSURE RELIEF VALVE (PRV) ASSEMBLIES IN LOCATIONS INDICATED ON PIPING PLAN & OP SCHEMATIC.
6. ALL REQUIRED PENETRATIONS, STANDOFFS, PIPE SUPPORTS, ETC., SHALL BE BOLT ON OR FACTORY INSTALLED. FIELD WELDING ON TANKS IS PROHIBITED.

1 AVEC 30,000 GALLON SINGLE WALL TANK PLAN VIEW

SCALE: NTS



2 AVEC 30,000 GALLON SINGLE WALL TANK ELEVATION VIEW

SCALE: NTS

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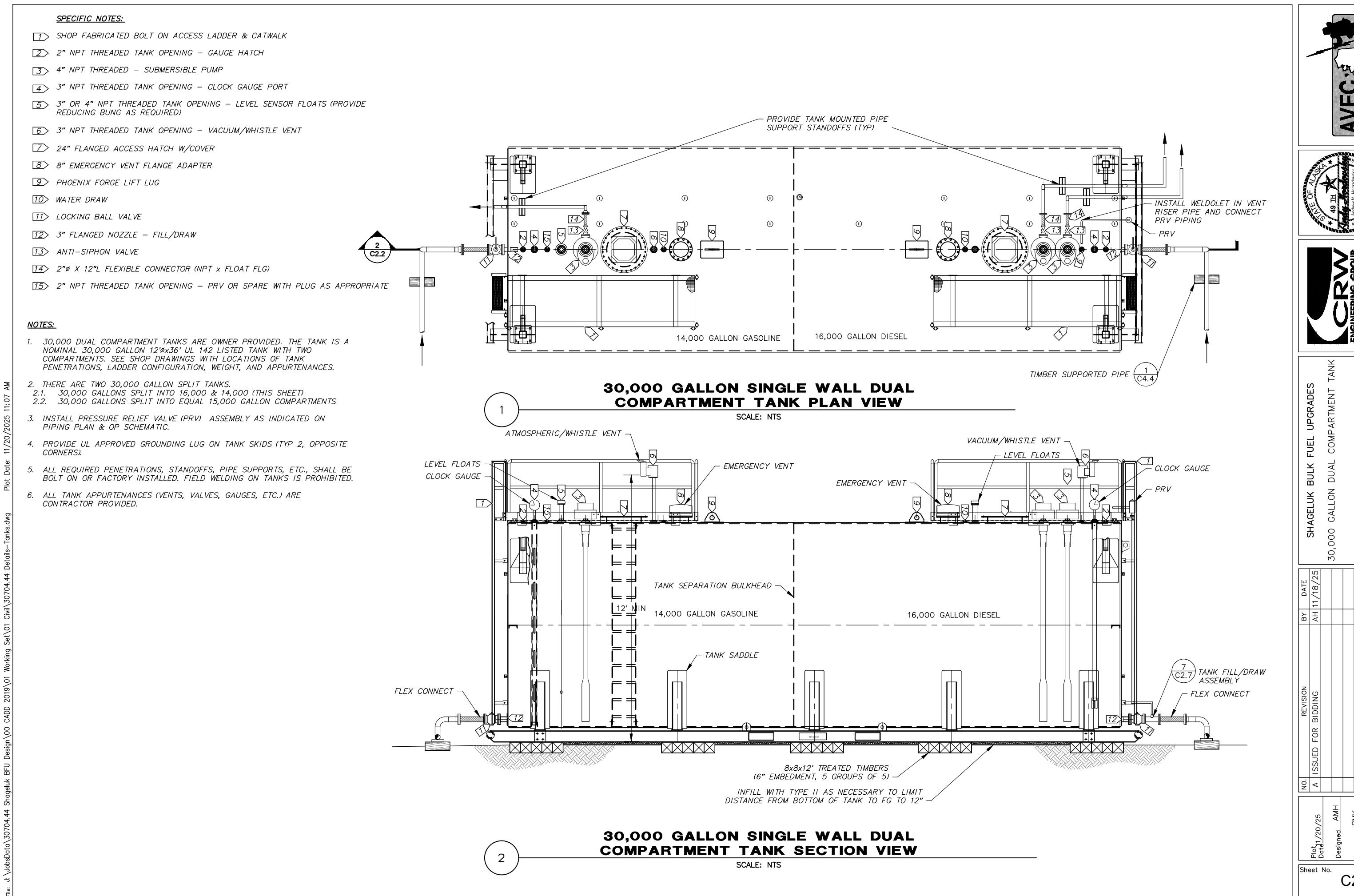
SHAGELUK, ALASKA
AVEC 30,000 GALLON TANK DETAILS



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Plot Date: 11/20/2025
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Approved AMH

Sheet No. C2.1

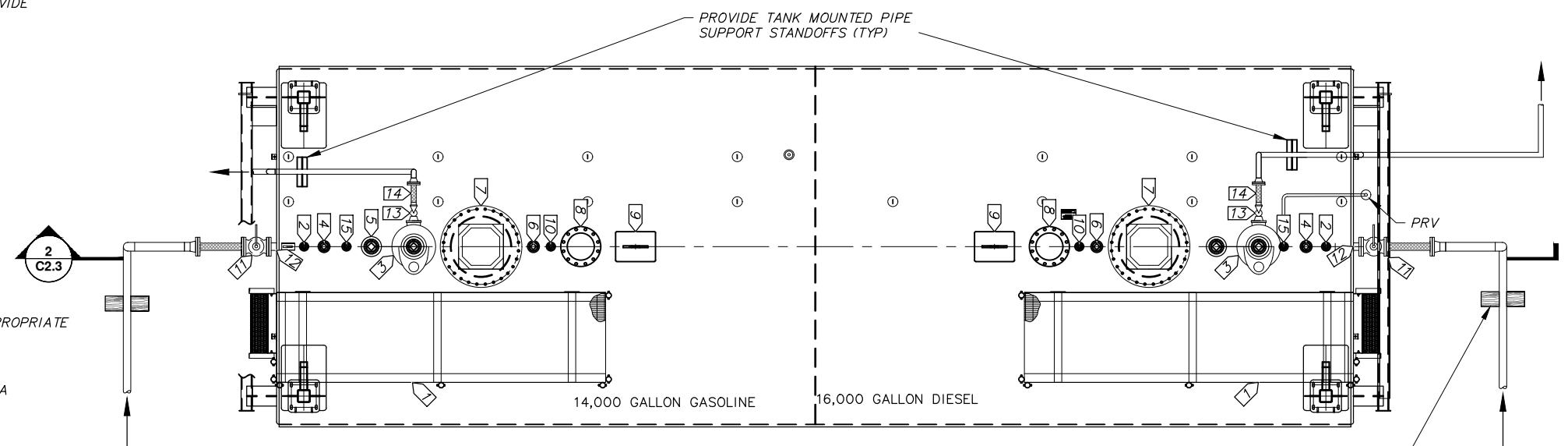


SPECIFIC NOTES:

- 1> SHOP FABRICATED BOLT ON ACCESS LADDER & CATWALK
- 2> 2" NPT THREADED TANK OPENING - GAUGE HATCH
- 3> 4" NPT THREADED - SUBMERSIBLE PUMP
- 4> 3" NPT THREADED TANK OPENING - CLOCK GAUGE PORT
- 5> 3" OR 4" NPT THREADED TANK OPENING - LEVEL SENSOR FLOATS (PROVIDE REDUCING BUNG AS REQUIRED)
- 6> 3" NPT THREADED TANK OPENING - VACUUM/WHISTLE VENT
- 7> 24" FLANGED ACCESS HATCH W/COVER
- 8> 8" EMERGENCY VENT FLANGE ADAPTER
- 9> PHOENIX FORGE LIFT LUG
- 10> WATER DRAW
- 11> LOCKING BALL VALVE
- 12> 3" FLANGED NOZZLE - FILL/DRAW
- 13> ANTI-SIPHON VALVE
- 14> 2"Ø X 12'L FLEXIBLE CONNECTOR (NPT x FLOAT FLG)
- 15> 2" NPT THREADED TANK OPENING - PRV OR SPARE WITH PLUG AS APPROPRIATE

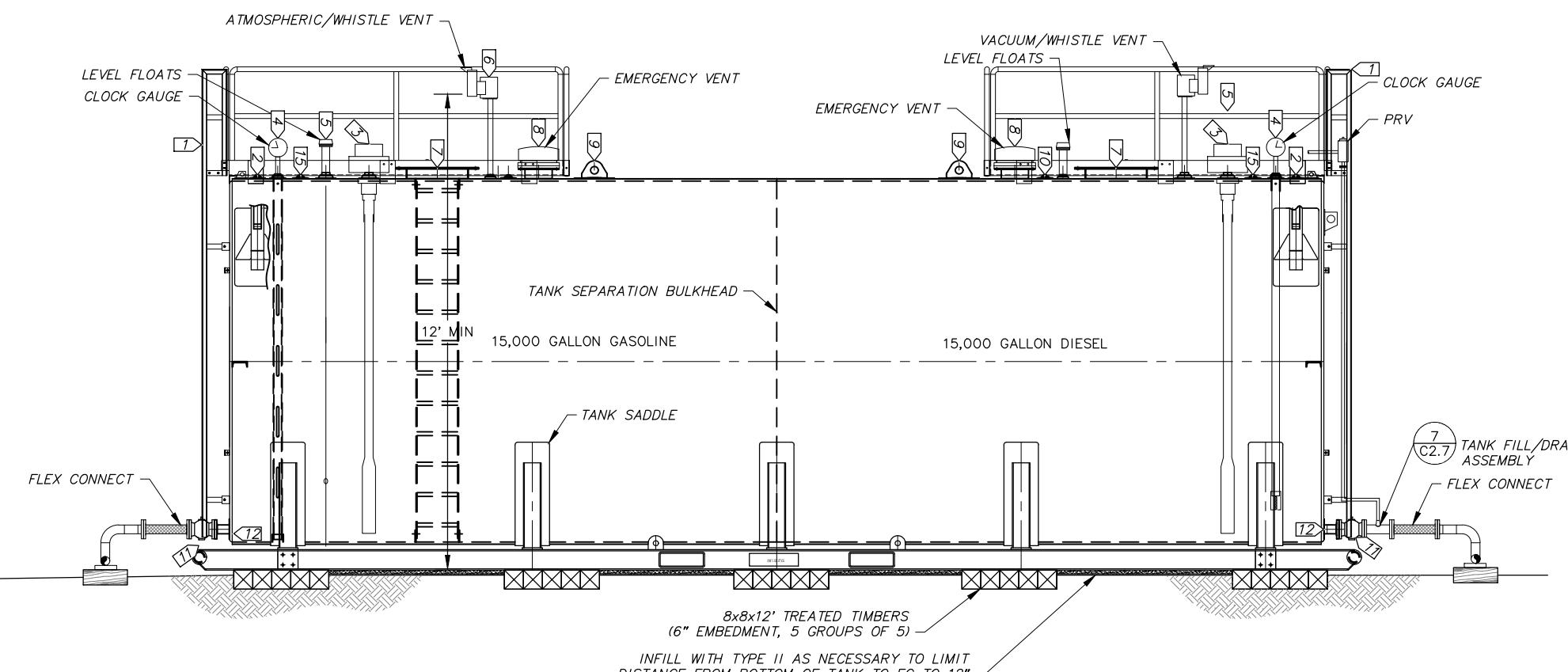
NOTES:

1. 30,000 DUAL COMPARTMENT TANKS ARE OWNER PROVIDED. THE TANKS IS A NOMINAL 30,000 GALLON 12'ØX36' UL 142 LISTED TANK WITH TWO COMPARTMENTS. SEE SHOP DRAWINGS FOR FINAL LOCATIONS OF TANK PENETRATIONS, LADDER CONFIGURATION, WEIGHT, AND APPURTENANCES.
2. THERE ARE TWO 30,000 GALLON SPLIT TANKS.
 - 2.1. 30,000 GALLONS SPLIT INTO 16,000 & 14,000
 - 2.2. 30,000 GALLONS SPLIT INTO EQUAL 15,000 GALLON COMPARTMENTS (THIS SHEET)
3. INSTALL PRESSURE RELIEF VALVE (PRV) ASSEMBLY AS INDICATED ON PIPING PLAN & OP SCHEMATIC.
4. PROVIDE UL APPROVED GROUNDING LUG ON TANK SKIDS (TYP 2, OPPOSITE CORNERS).
5. ALL REQUIRED PENETRATIONS, STANDOFFS, PIPE SUPPORTS, ETC., SHALL BE BOLT ON OR FACTORY INSTALLED. FIELD WELDING ON TANKS IS PROHIBITED.
6. ALL TANK APPURTENANCES (VENTS, VALVES, GAUGES, ETC.) ARE CONTRACTOR PROVIDED.



30,000 GALLON SINGLE WALL DUAL COMPARTMENT TANK PLAN VIEW

SCALE: NTS



30,000 GALLON SINGLE WALL DUAL COMPARTMENT TANK SECTION VIEW

SCALE: NTS

SHAGELUK, ALASKA
30,000 GALLON DUAL COMPARTMENT TANK

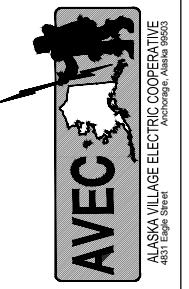
SHAGELUK BULK FUEL UPGRADES

SHAGELUK, ALASKA

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Plot Date: 11/20/2025 11:07 AM
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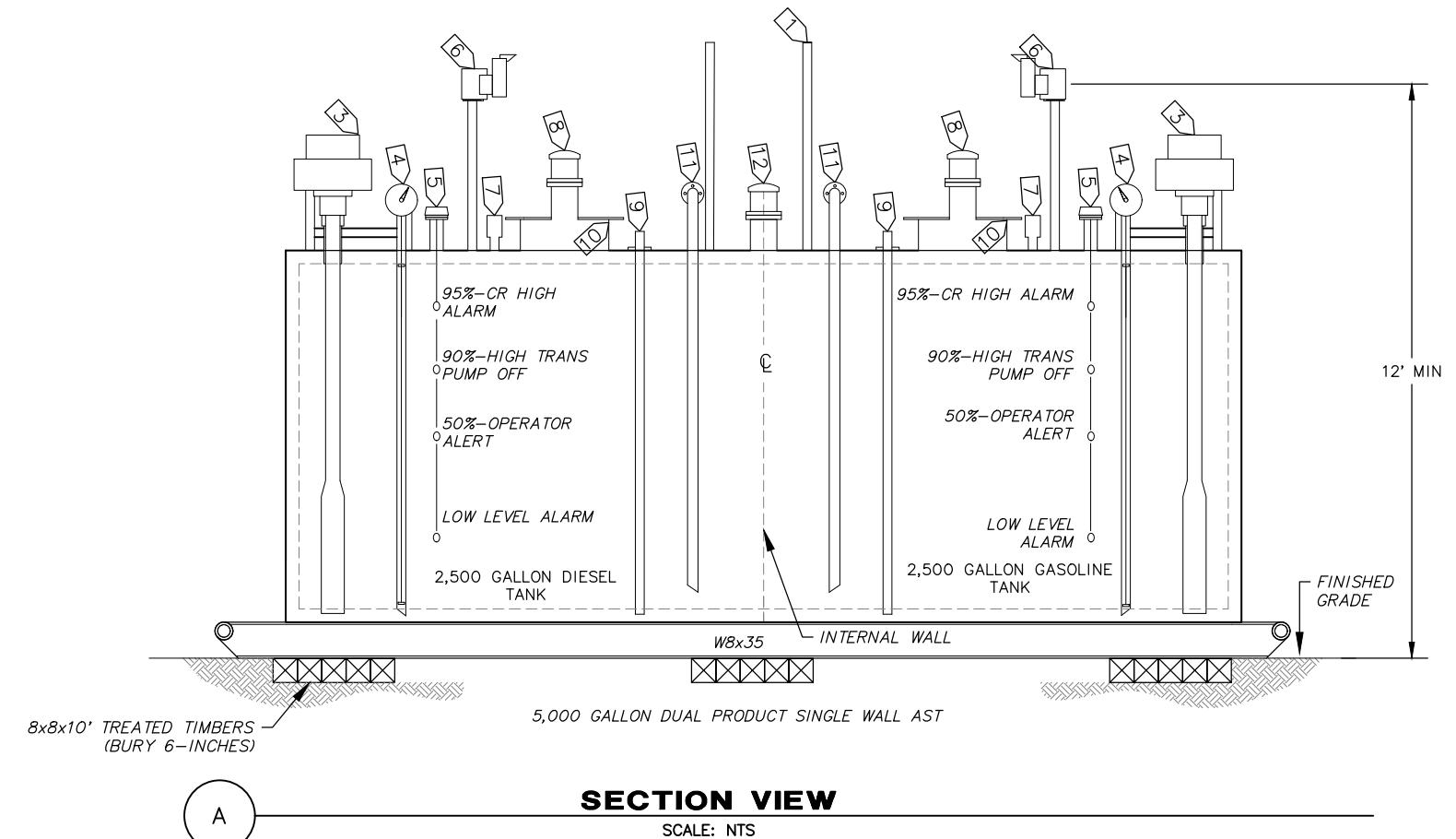
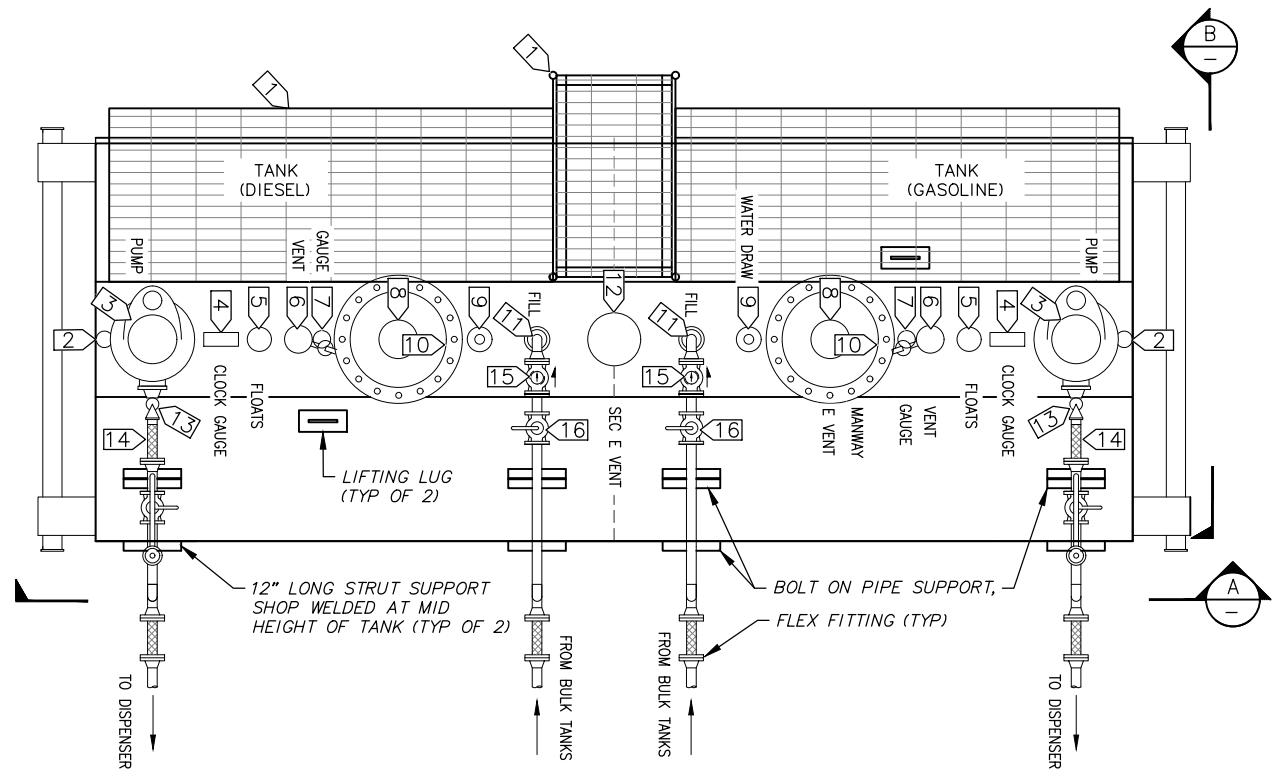
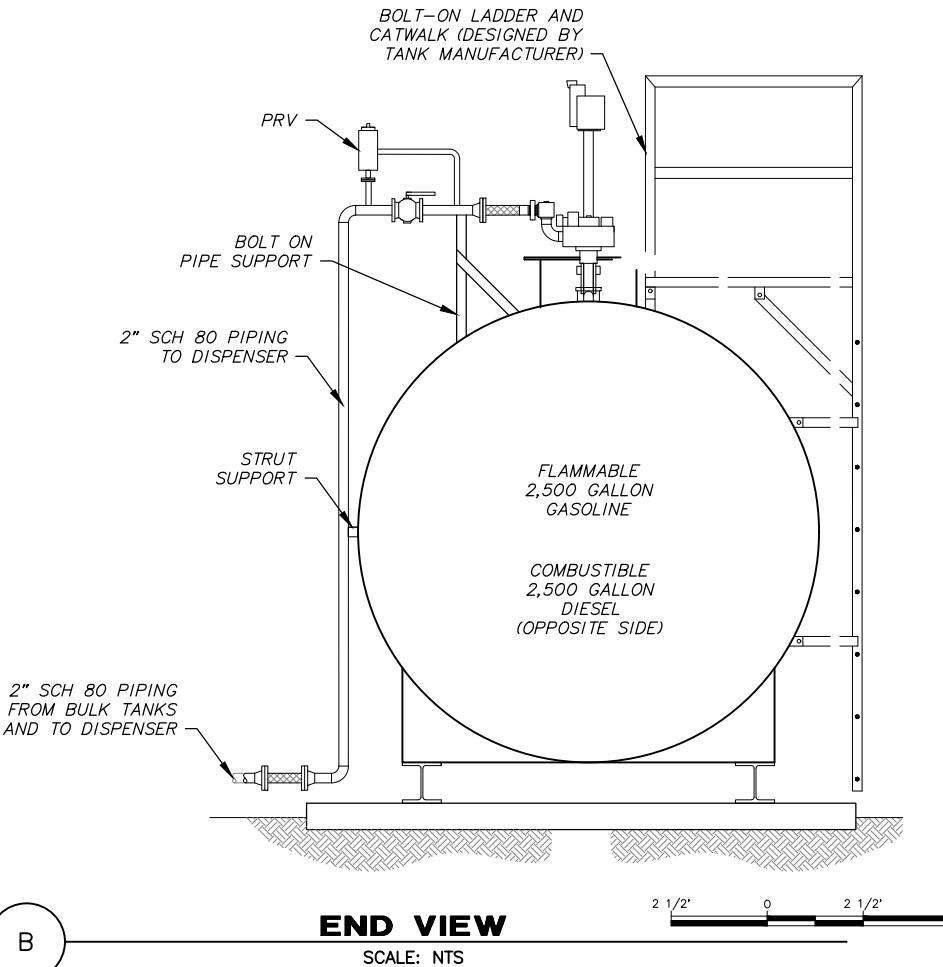


SPECIFIC NOTES:

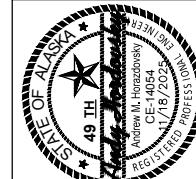
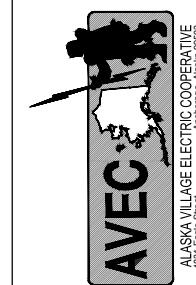
1. SHOP FABRICATED BOLT ON LADDER AND PLATFORM
2. 2" FPT SECONDARY TANK MONITORING BUNG WITH MPT PLUG
3. SUBMERSIBLE PUMP
4. 2" CLOCK GAUGE INSTALLED ON 2"X18" NIPPLE. SET GREEN ARROW AT 50% LEVEL AND RED ARROW AT 90%.
5. 3" FLANGED 4-POSITION LEVEL SWITCH. SENSOR POSITIONS FACTORY SET AS SHOWN.
6. 2" PRESSURE VACUUM VENT WITH WHISTLE ALARM. INSTALL ON 3" BUNG WITH 3X2 REDUCING BUSHING. NIPPLE LENGTH WILL VARY WITH TANK DIAMETER. VENT MUST BE 12' ABOVE FINISHED GRADE. FEED CABLE THROUGH PIPE PRIOR TO CONNECTING TO TANK. SET WHISTLE TO ALARM AT 90% FULL.
7. 2" FPT GAUGE HATCH INSTALLED ON 2"ØX4" LONG NIPPLE
8. 8" FLANGED PRIMARY EMERGENCY VENT
9. 1" THREADED WATER DRAW
10. 20" MANHOLE
11. 2" FILL w/ DROP TUBE
12. 8" FLANGED SECONDARY EMERGENCY VENT
13. ANTI-SIPHON VALVE
14. 2"Ø X 12'L FLEXIBLE CONNECTOR (NPT x FLOAT FLG)
15. 2" FLANGED CHECK VALVE
16. 2" FLANGED BALL VALVE

GENERAL NOTES:

1. TANK SHALL BE A CONTRACTOR PROVIDED NEW, UL142 2085 LISTED AND LABELED, APPROXIMATELY 7'Øx17.5' HORIZONTAL PROTECTED AST AS DETAILED. SUBMIT SHOP DRAWINGS FOR ENGINEER APPROVAL.
2. SEE SPECIFICATIONS FOR DETAILED COMPONENT SPECIFICATIONS.
3. PROVIDE UL APPROVED GROUNDING LUG ON TANK SKIDS (TYP 2, ON OPPOSITE CORNERS).
4. FIELD WELDING ON TANKS IS PROHIBITED.



5,000 GALLON PROTECTED DISPENSING TANK DETAILS
SHAGELUK, ALASKA



5,000 GALLON BULK FUEL UPGRADES

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SPECIFIC NOTES:

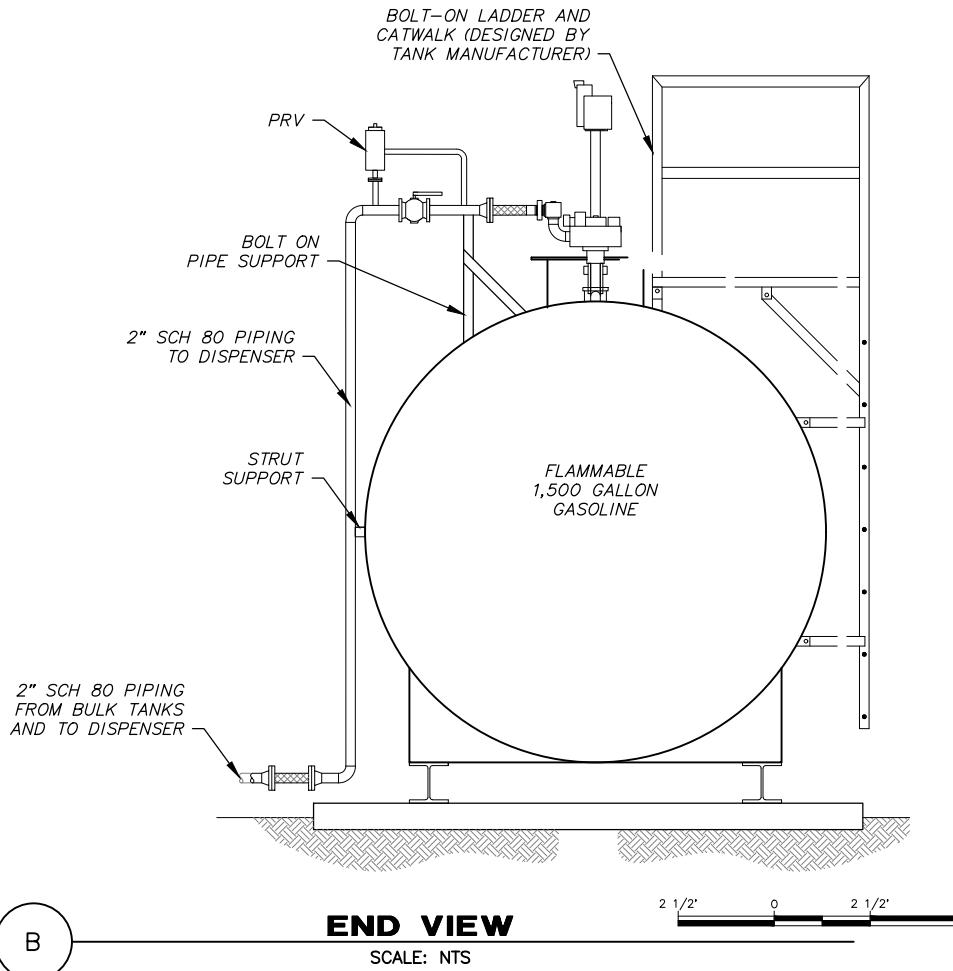
- 1 SHOP FABRICATED BOLT ON LADDER AND PLATFORM
- 2 2" FPT SECONDARY TANK MONITORING BUNG WITH MPT PLUG
- 3 SUBMERSIBLE PUMP
- 4 2" CLOCK GAUGE INSTALLED ON 2"X18" NIPPLE. SET GREEN ARROW AT 50% LEVEL AND RED ARROW AT 90%
- 5 3" FLANGED 4-POSITION LEVEL SWITCH. SENSOR POSITIONS FACTORY SET AS SHOWN.
- 6 2" PRESSURE VACUUM VENT WITH WHISTLE ALARM. INSTALL ON 3" BUNG WITH 3X2 REDUCING BUSHING. NIPPLE LENGTH WILL VARY WITH TANK DIAMETER. VENT MUST BE 12' ABOVE FINISHED GRADE. FEED CABLE THROUGH PIPE PRIOR TO CONNECTING TO TANK. SET WHISTLE TO ALARM AT 90% FULL.
- 7 2" FPT GAUGE HATCH INSTALLED ON 2"ØX4" LONG NIPPLE
- 8 8" FLANGED PRIMARY EMERGENCY VENT
- 9 1" THREADED WATER DRAW
- 10 20" MANHOLE
- 11 2" FILL w/ DROP TUBE
- 12 8" FLANGED SECONDARY EMERGENCY VENT
- 13 ANTI-SIPHON VALVE
- 14 2"Ø X 12" L FLEXIBLE CONNECTOR (NPT x FLOAT FLG)
- 15 2" FLANGED CHECK VALVE
- 16 2" FLANGED BALL VALVE

GENERAL NOTES:

1. TANK SHALL BE A CONTRACTOR PROVIDED NEW, UL142 2085 LISTED AND LABELED, APPROXIMATE 5'0" x 10' HORIZONTAL PROTECTED AST AS DETAILED. SUBMIT SHOP DRAWINGS FOR ENGINEER APPROVAL.
2. SEE SPECIFICATIONS FOR DETAILED COMPONENT SPECIFICATIONS.
3. PROVIDE UL APPROVED GROUNDING LUG ON TANK SKIDS (TYP 2, ON OPPOSITE CORNERS).
4. FIELD WELDING ON TANKS IS PROHIBITED.

Plot Date: 11/20/2025 11:07 AM

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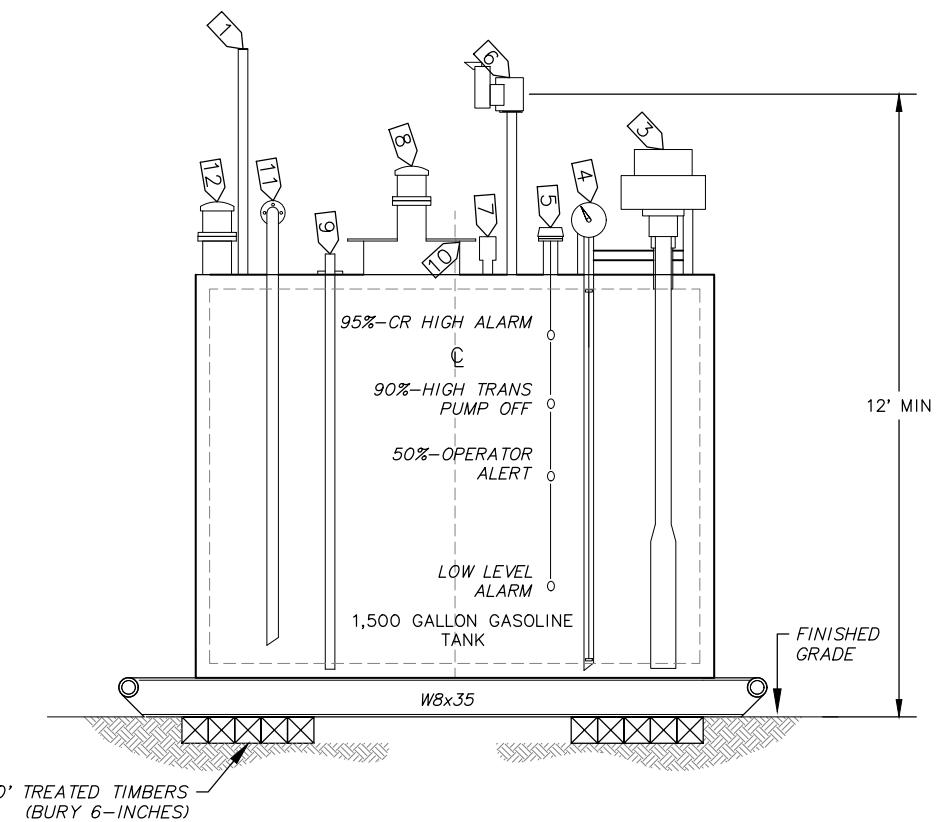


END VIEW

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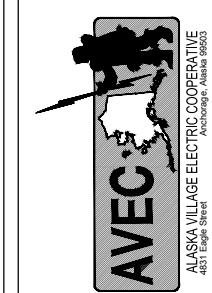
1,500 GALLON DUAL PRODUCT PROTECTED DISPENSING TANK

SCALE: NTS



SECTION VIEW

SCALE: NTS



SHAGELUK BULK FUEL UPGRADES
1,500 GALLON BIG WHEEL DISPENSING TANK

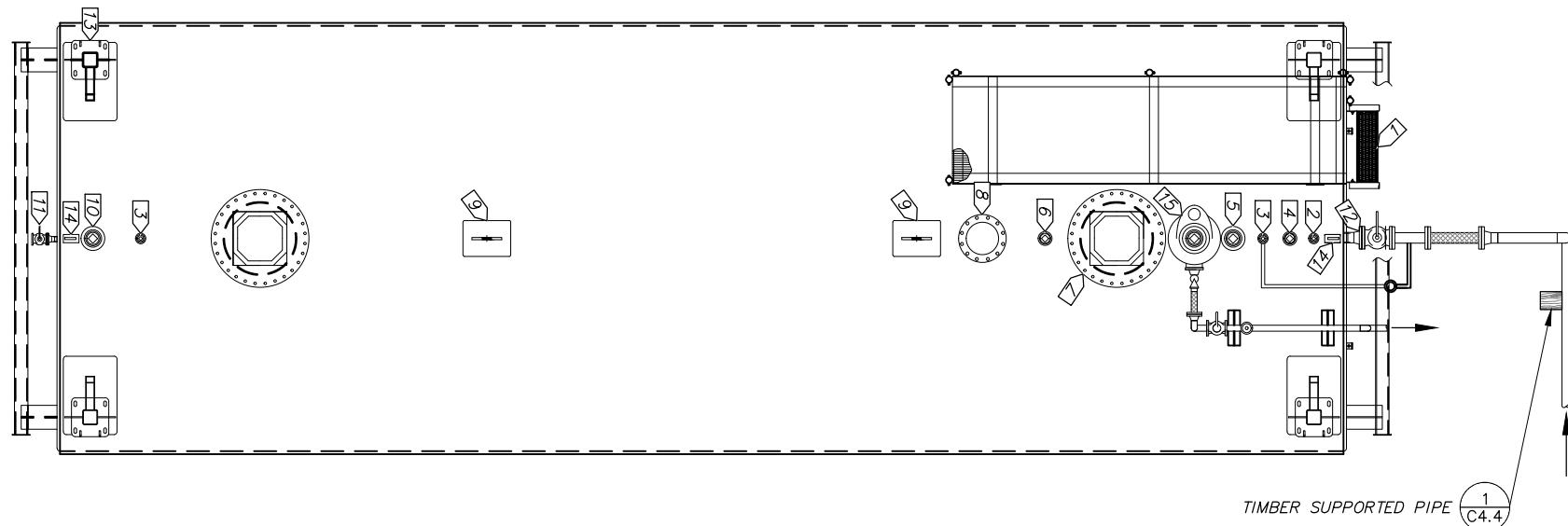
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Approved <u>AMH</u>			
Sheet No. C25			

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C2.5

SPECIFIC NOTES:

- 1> SHOP FABRICATED BOLT ON ACCESS LADDER & CATWALK
- 2> 2" NPT THREADED TANK OPENING – GAUGE HATCH
- 3> 2" NPT THREADED TANK OPENING – PRV OR SPARE WITH PLUG AS APPROPRIATE
- 4> 2" NPT THREADED TANK OPENING – CLOCK GAUGE
- 5> 4" NPT THREADED TANK OPENING – LEVEL SENSOR PROBE
- 6> 3" NPT THREADED TANK OPENING – PRESSURE/VACUUM VENT WITH WHISTLE ALARM
- 7> 24" FLANGED ACCESS HATCH WITH COVER
- 8> 10" FLANGED PENETRATION – EMERGENCY VENT
- 9> LIFTING LUG
- 10> 4" NPT THREADED TANK OPENING – SPARE WITH PLUG
- 11> 1" ANSI#300 R.F FLANGED TANK NOZZEL – WATER DRAW
- 12> 3" FLANGED NOZZLE – FILL/DRAW
- 13> INTEGRAL TANK STACKING SUPPORT, (TYP OF 4)
- 14> PERSONNEL TIE OFF
- 15> SUBMERSIBLE PUMP

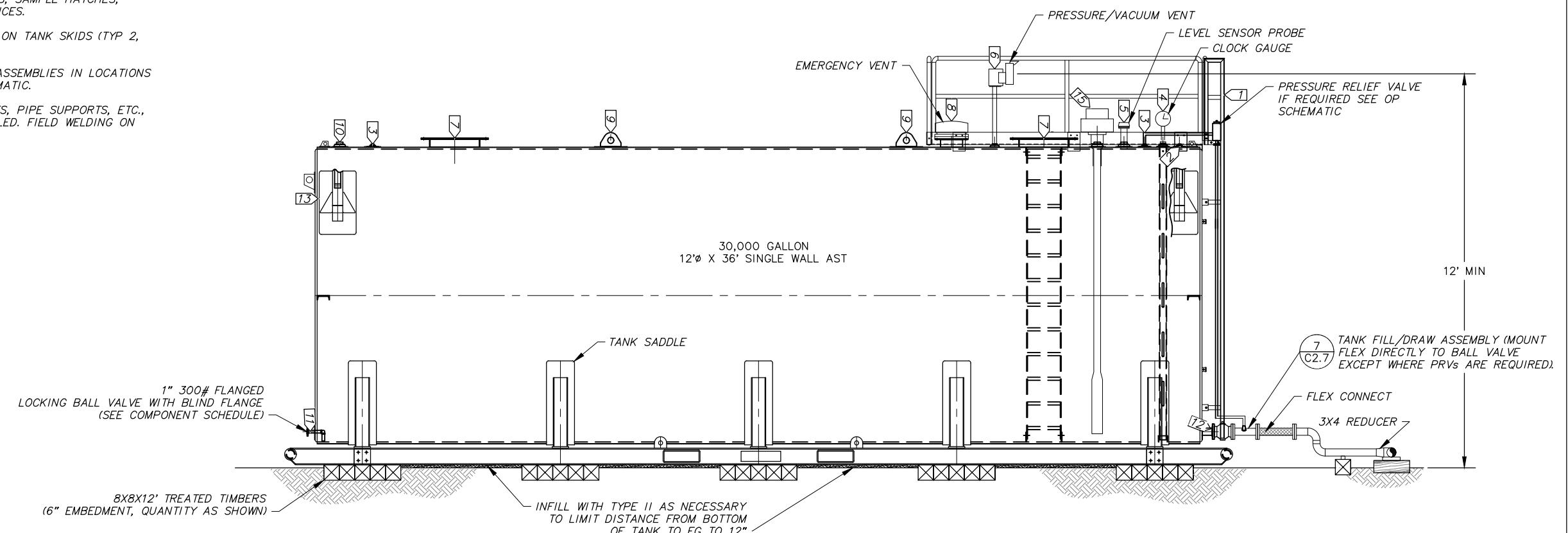


NOTES:

1. 30,000 GALLON TANKS ARE OWNER PROVIDED. TANK IS A NOMINAL 30,000 GALLON 12'0" x 36' UL 142 LISTED TANK. SEE SHOP DRAWINGS WITH FINAL DIMENSIONS, WEIGHT, LADDER CONFIGURATIONS, LOCATIONS OF TANK PENETRATIONS AND APPURTENANCES.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL VALVES, NORMAL VENTS, EMERGENCY VENTS, LEVEL GAUGES, SAMPLE HATCHES, FLOATS, PLUGS AND OTHER APPURTENANCES.
4. PROVIDE UL APPROVED GROUNDING LUG ON TANK SKIDS (TYP 2, OPPOSITE CORNERS).
5. INSTALL PRESSURE RELIEF VALVE (PRV) ASSEMBLIES IN LOCATIONS INDICATED ON PIPING PLAN & OP SCHEMATIC.
6. ALL REQUIRED PENETRATIONS, STANDOFFS, PIPE SUPPORTS, ETC., SHALL BE BOLT ON OR FACTORY INSTALLED. FIELD WELDING ON TANKS IS PROHIBITED.

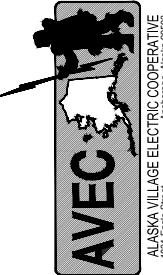
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ULSD 30,000 GALLON SINGLE WALL TANK PLAN VIEW

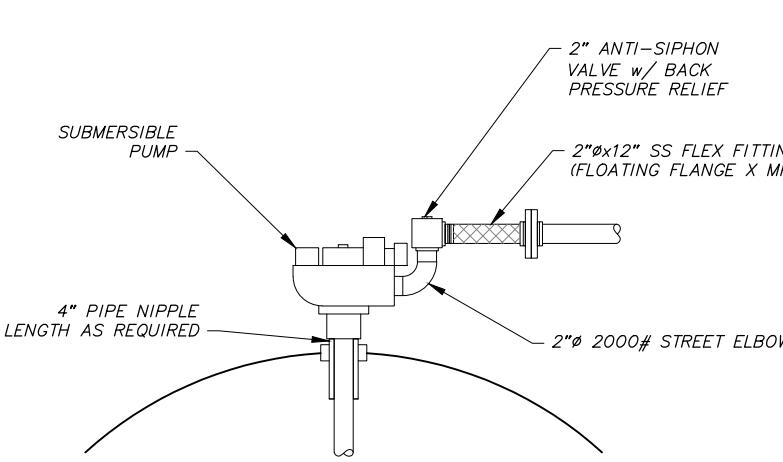


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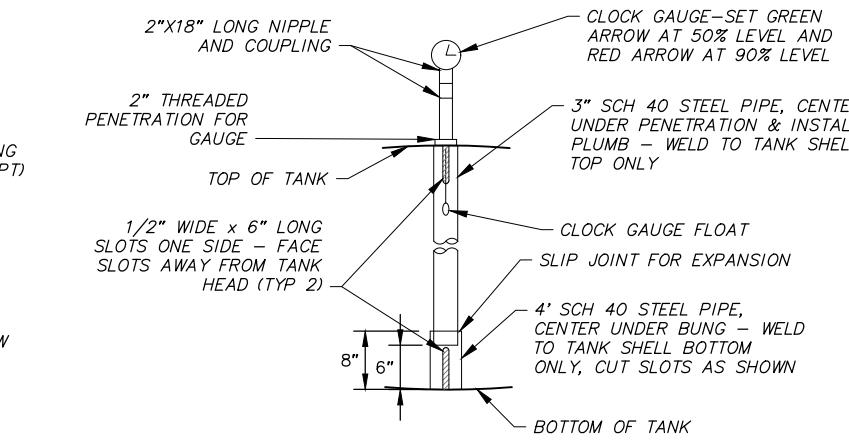
ULSD 30,000 GALLON SINGLE WALL TANK ELEVATION VIEW



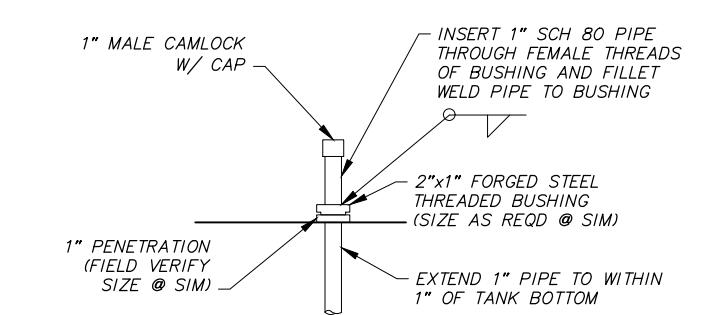
1 SUBMERSIBLE PUMP ASSEMBLY
SCALE: NTS



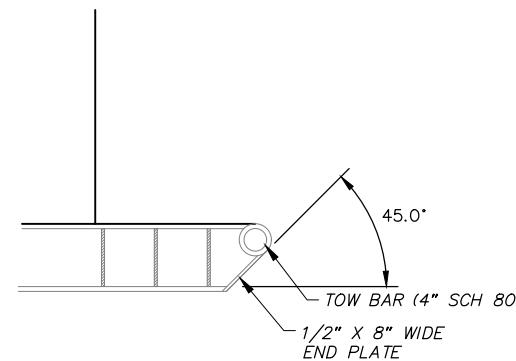
2 CLOCK GAGE STILLING WELL
SCALE: NTS



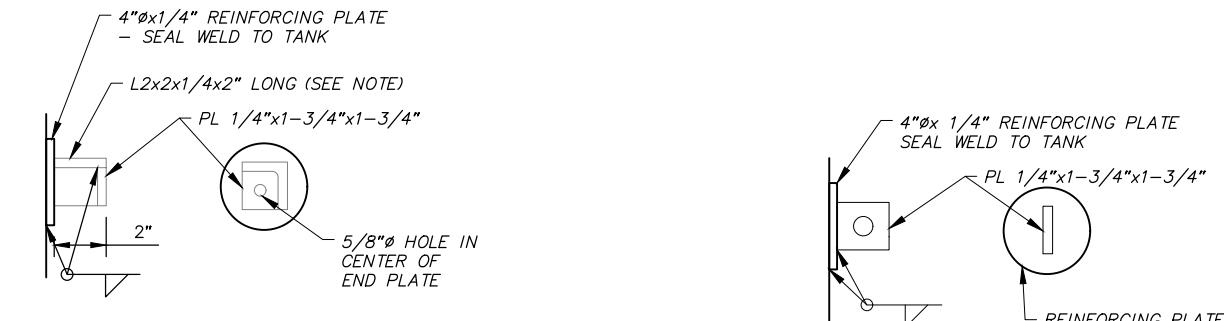
3 TYP TOP MOUNTED WATER DRAW
SCALE: NTS



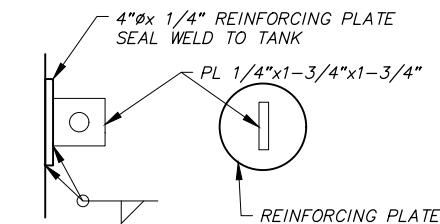
4 END OF TANK SKID
SCALE: NTS



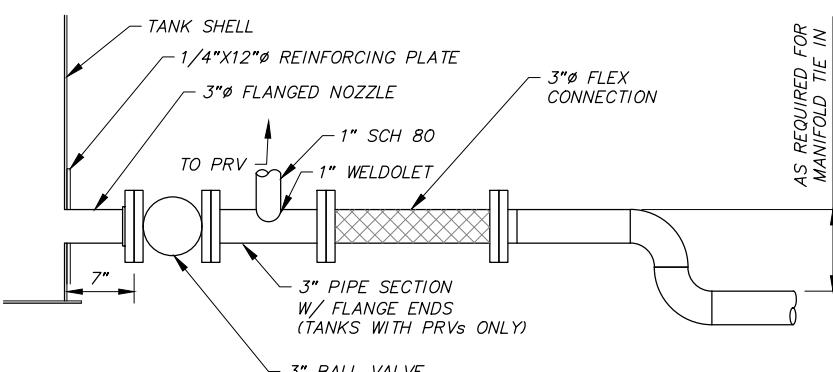
5 STRUT STAND OFF
SCALE: NTS



6 LADDER STAND OFF
SCALE: NTS



7 TANK FILL/DRAW DETAIL
SCALE: NTS



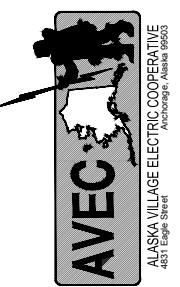
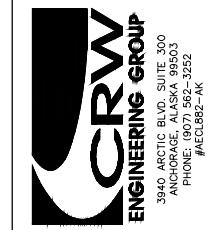
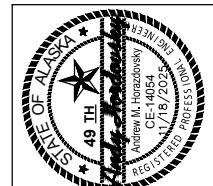
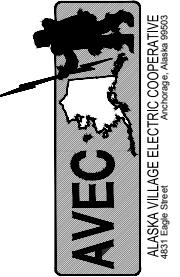
GENERAL NOTES:

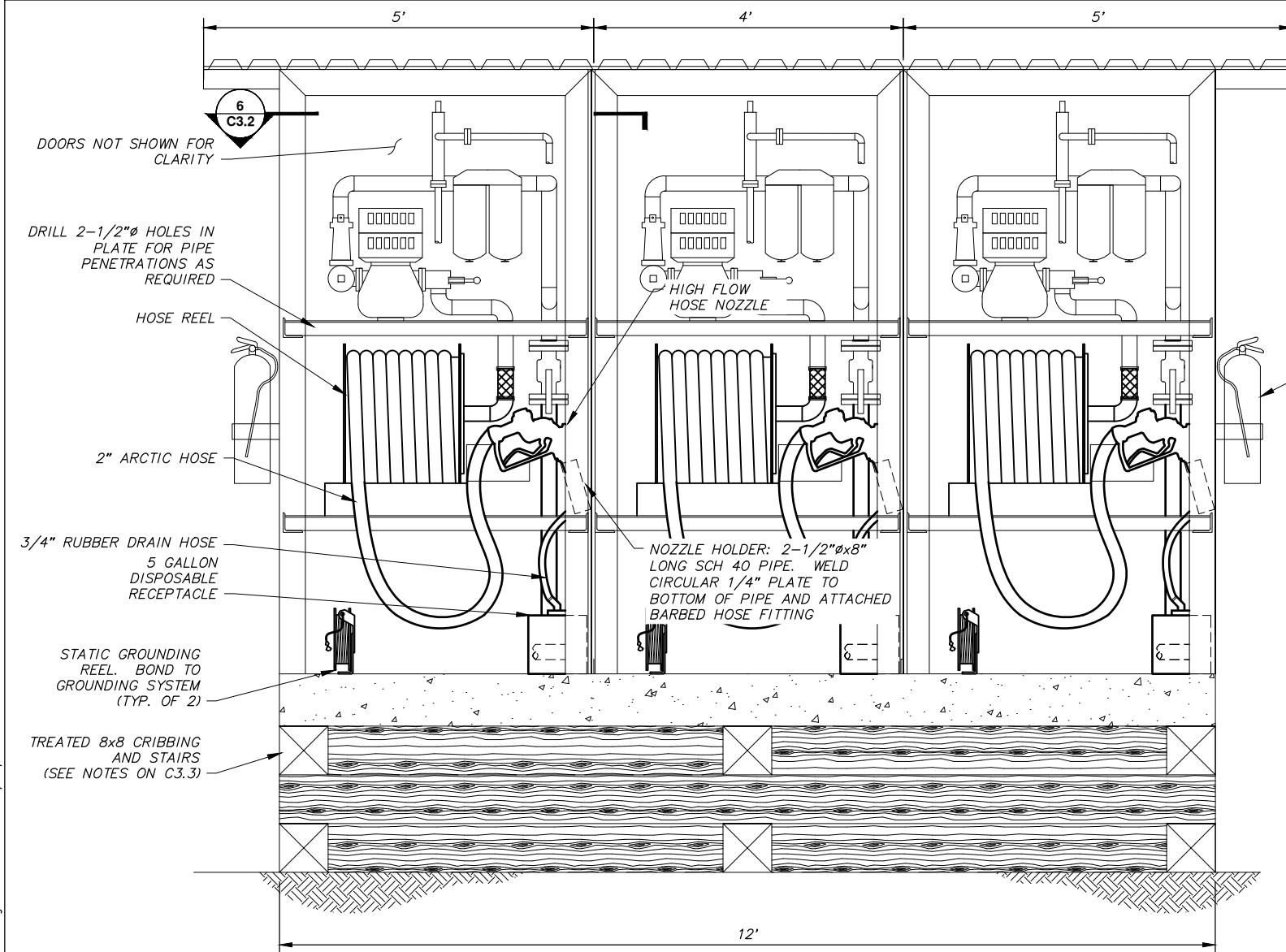
1. FIELD WELDING ON TANKS IS PROHIBITED. ALL STANDOFFS, STILLING WELLS, BUNGS, ETC. ARE TO BE INSTALLED BY THE CERTIFIED TANK MANUFACTURER.

SHAGELUK, ALASKA
SHAGELUK BULK FUEL UPGRADES
MISCELLANEOUS TANK DETAILS

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25
Plot 1	1/20/25	AMH	
Designed	AMH	CMK	
Drawn	AMH	AMH	
Approved	AMH		

Sheet No. C2.7



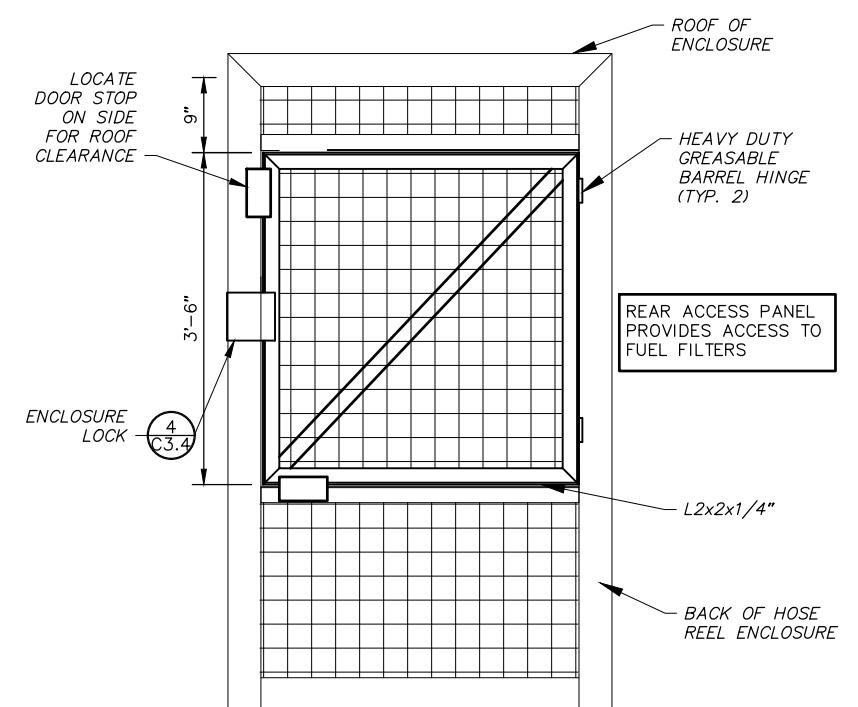


HOSE REEL ELEVATION VIEW

SCALE: NTS

GENERAL NOTES:

1. THE DESIGN, FABRICATION, AND ERECTION OF ALL STRUCTURAL STEEL COMPONENTS SHALL COMPLY WITH THE CURRENT CODE OF STANDARD PRACTICE OF THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION. ALL WELDING TO BE DONE IAW THE CURRENT CODE OF AMERICAN WELDING SOCIETY.
2. MAKE ALL CONNECTIONS WITH CONTINUOUS FILLET OR BUTT WELDS. ROUND ALL CORNERS & SHARP EDGES AFTER FABRICATION.
3. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE ENGINEER PRIOR TO FABRICATION FOR REVIEW AND APPROVAL.
4. ALL STEEL TO BE COATED IN ACCORDANCE WITH THE SPECIFICATIONS.
5. SUPPORT PIPE USING UNISTRUT MOUNTED TO STRUCTURAL STEEL AS REQUIRED.

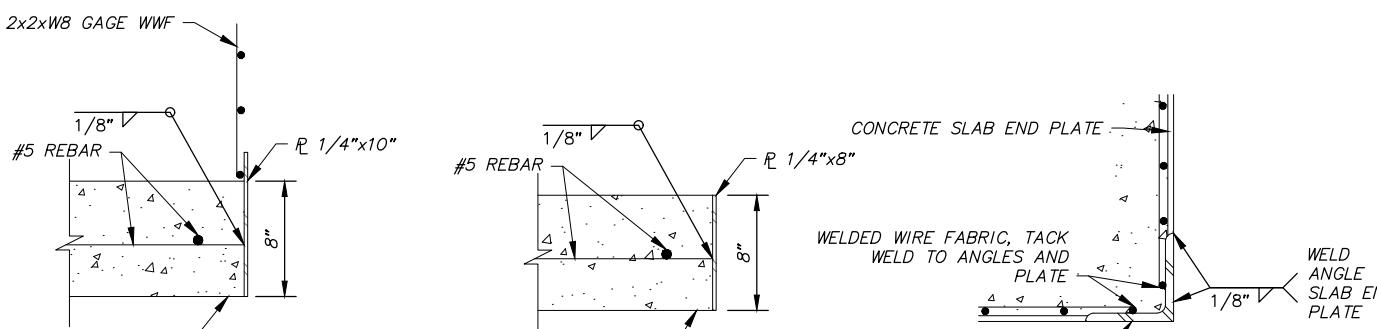
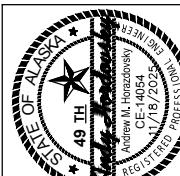
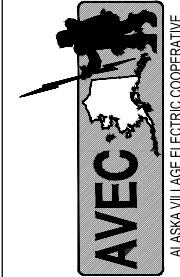


FILTER ACCESS PANEL

SCALE: NTS

SHAGELUK BULK FUEL UPGRADES

SHAGELUK, ALASKA



CONCRETE SLAB END SECTION

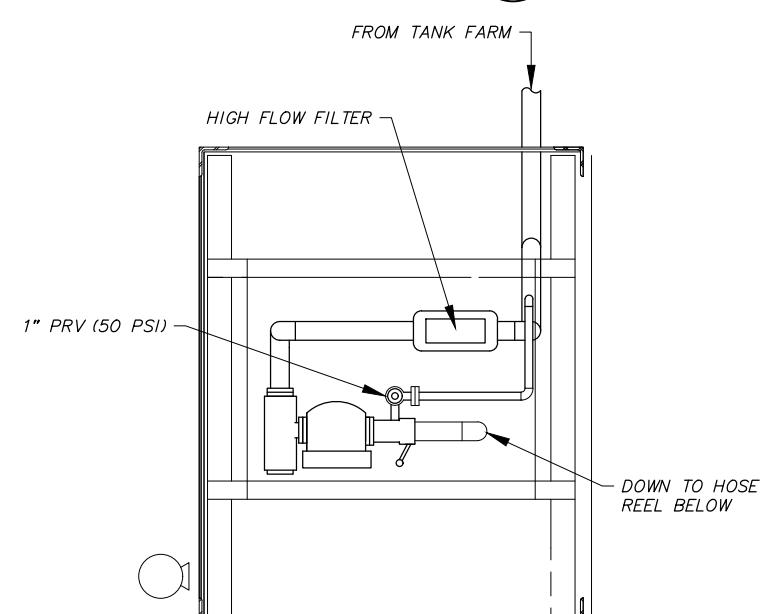
SCALE: NTS

CONCRETE SLAB END SECTION

SCALE: NTS

CORNER DETAIL AT SLAB

SCALE: NTS

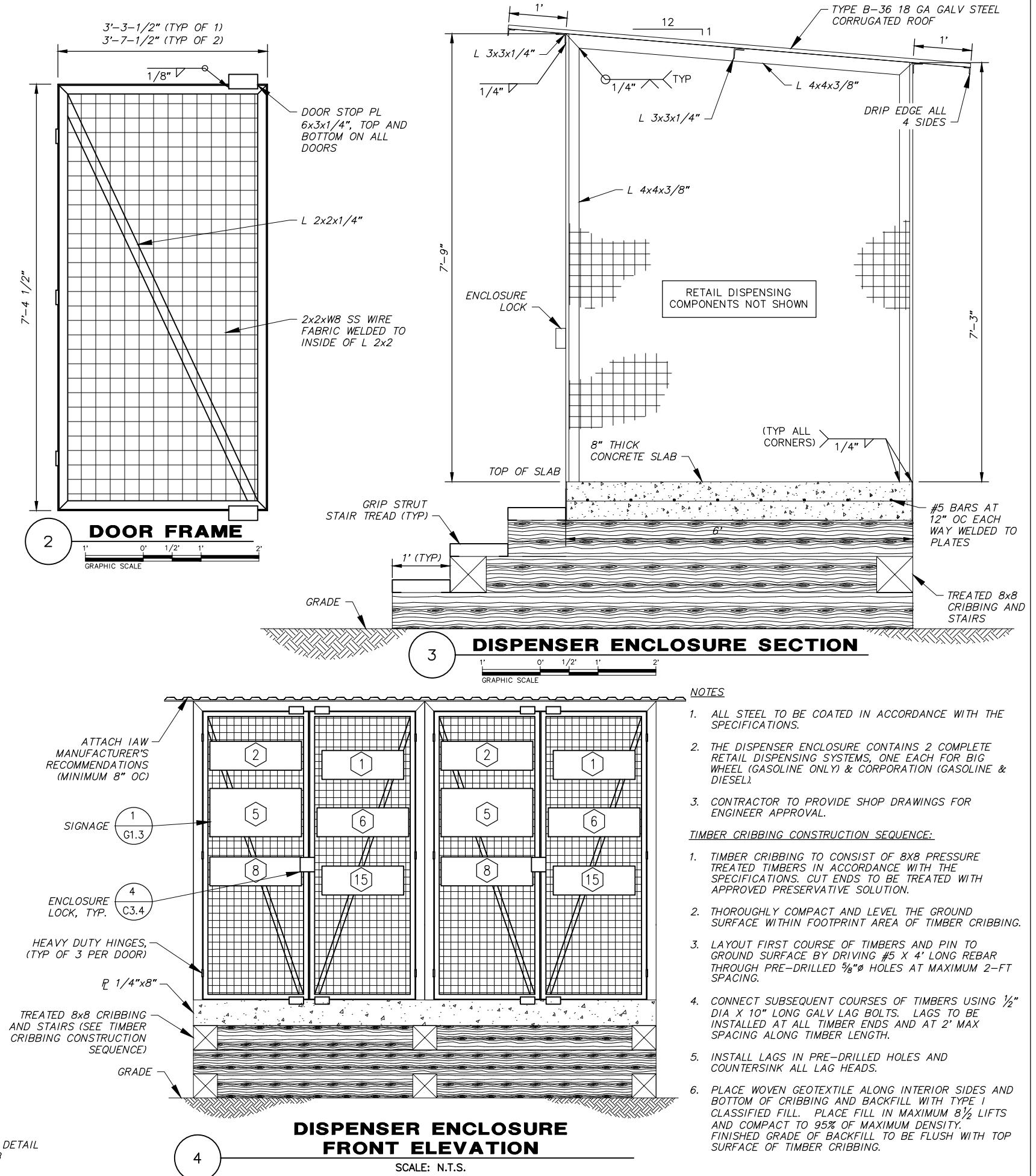
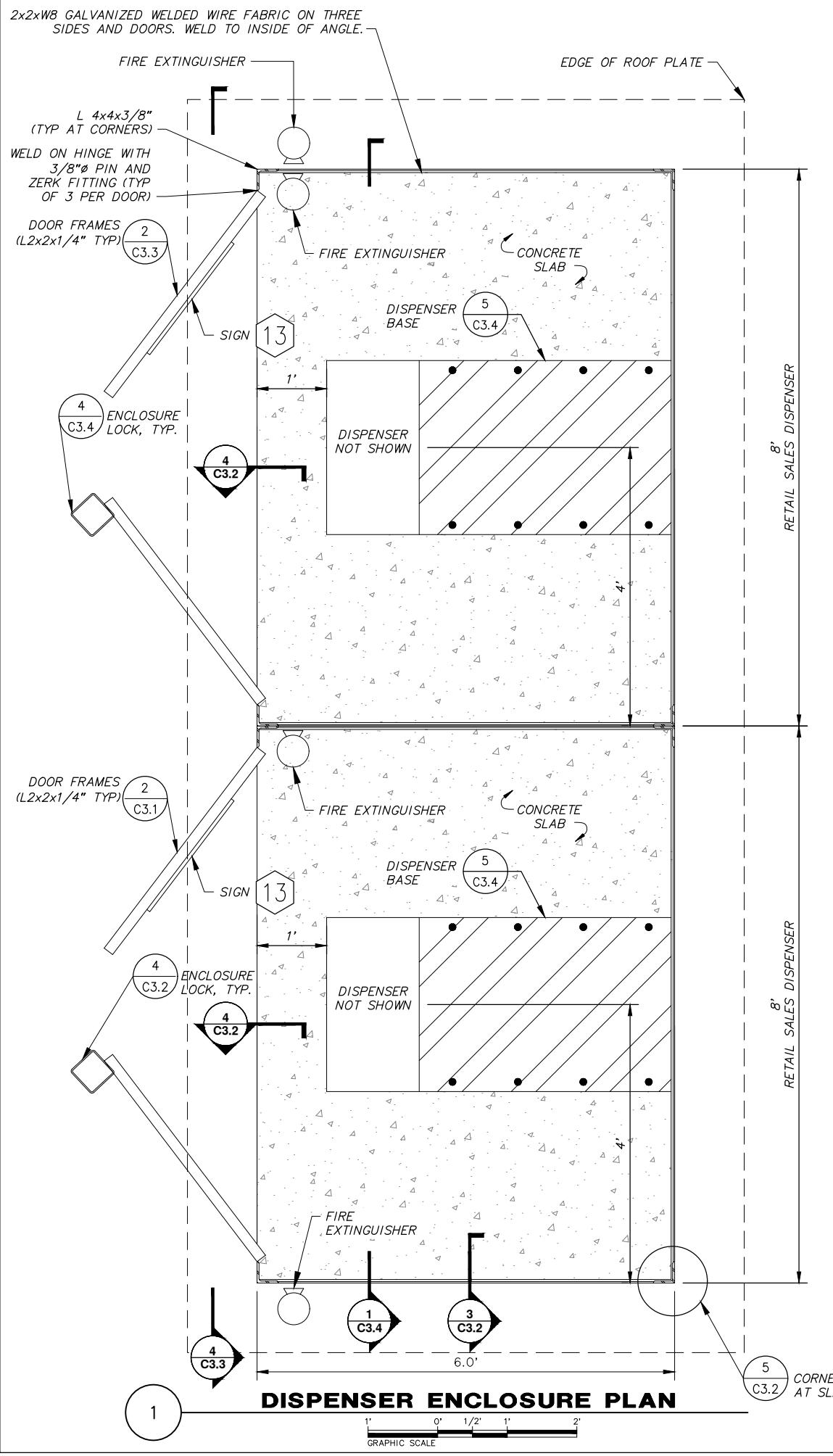


HOSE REEL SYSTEM PLAN VIEW

SCALE: NTS

NO.	REVISION	ISSUED FOR BIDDING	BY	DATE
A	AH	AH	AH	11/18/25
Plot 1	1/20/25			
Designed	AMH			
Drawn	CMK			
Approved	AMH			

Sheet No. **C3.2**

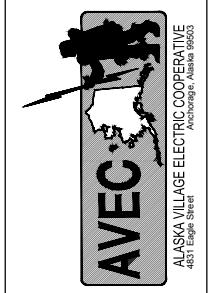


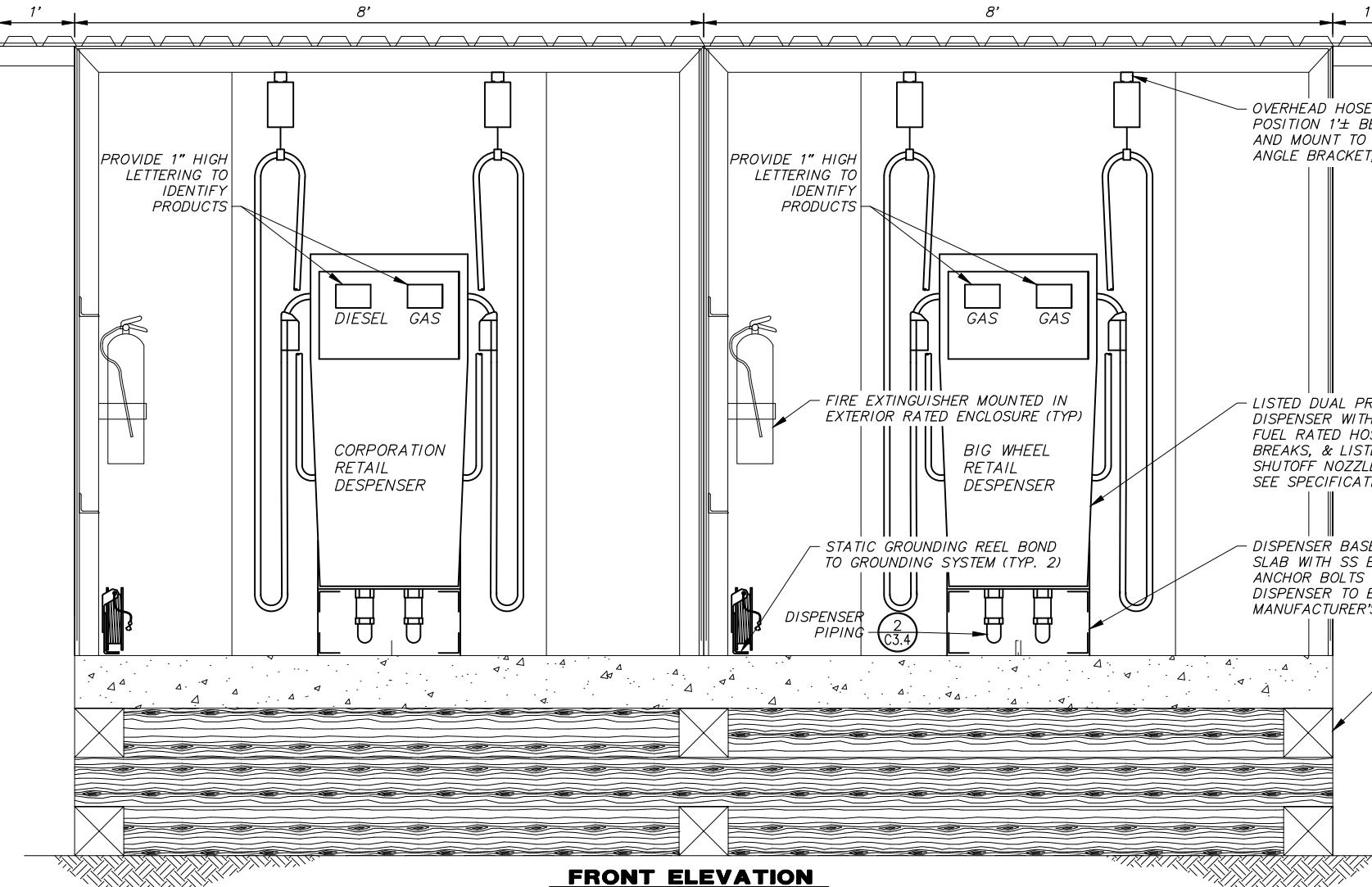
SHAGELUK, ALASKA
RETAIL DISPENSER ENCLOSURE DETAILS
SHAGELUK BULK FUEL UPGRADES

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25

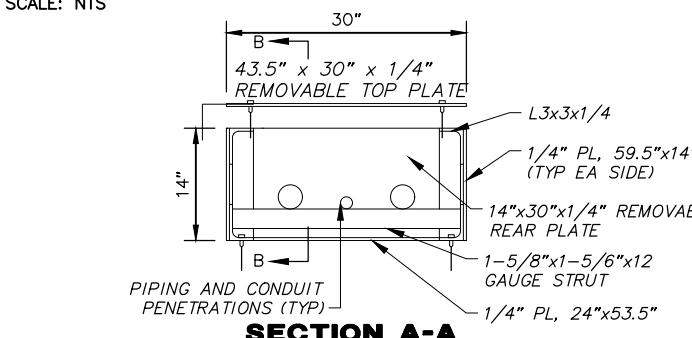
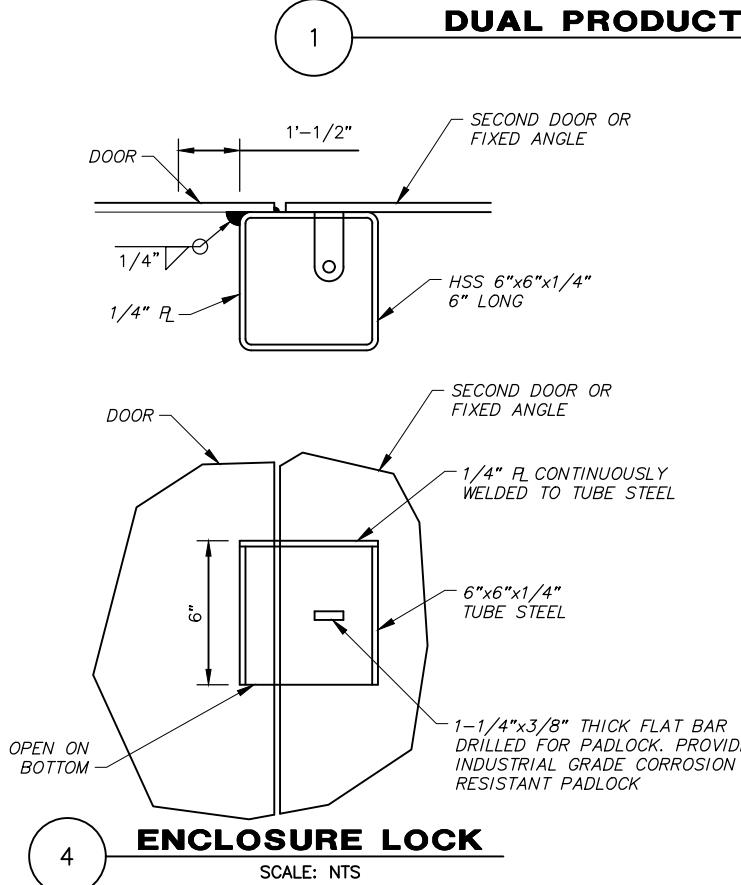
Plot Date: 11/20/25
Designed: AMH
Drawn: CMK
Approved: AMH

Sheet No. C3.3

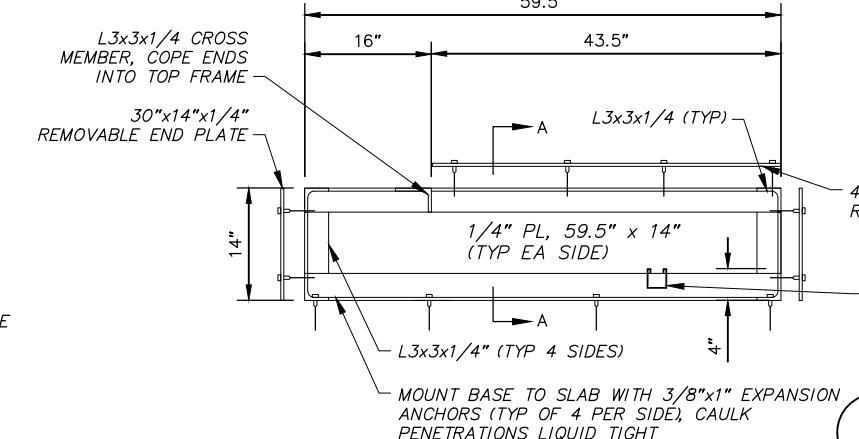




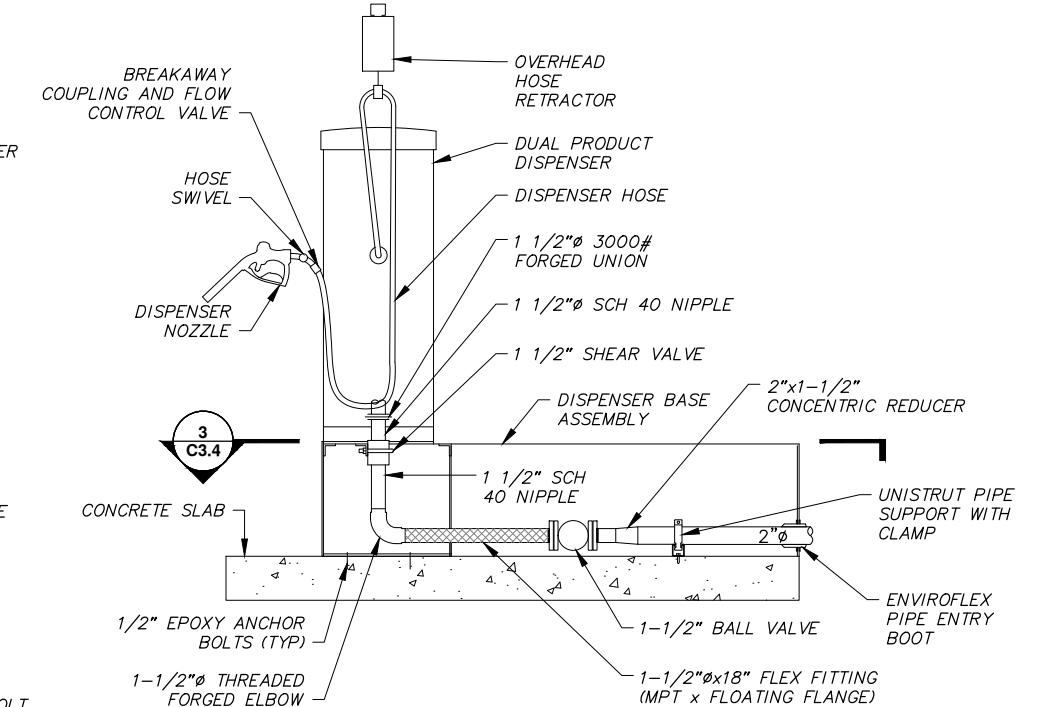
DUAL PRODUCT RETAIL DISPENSERS
SCALE: NTS



SECTION A-A

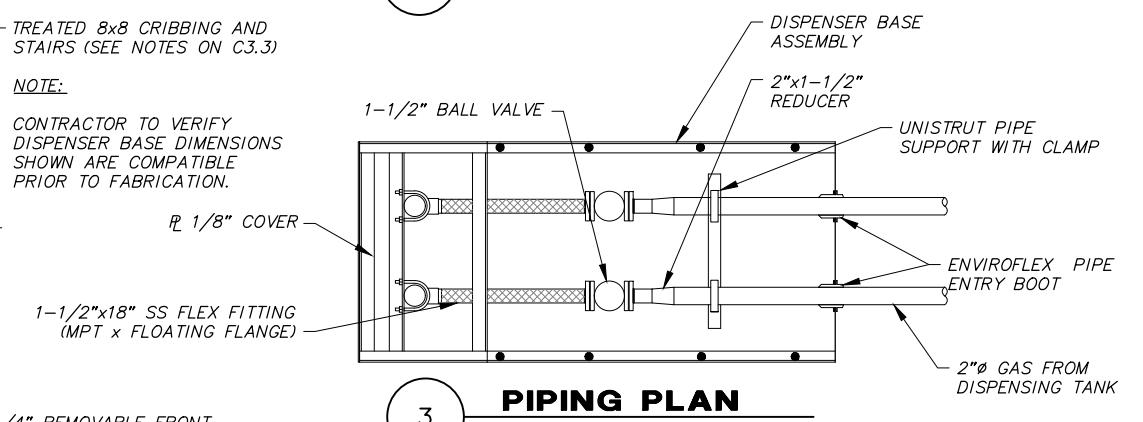


DISPENSER BASE FABRICATION
SCALE: NTS



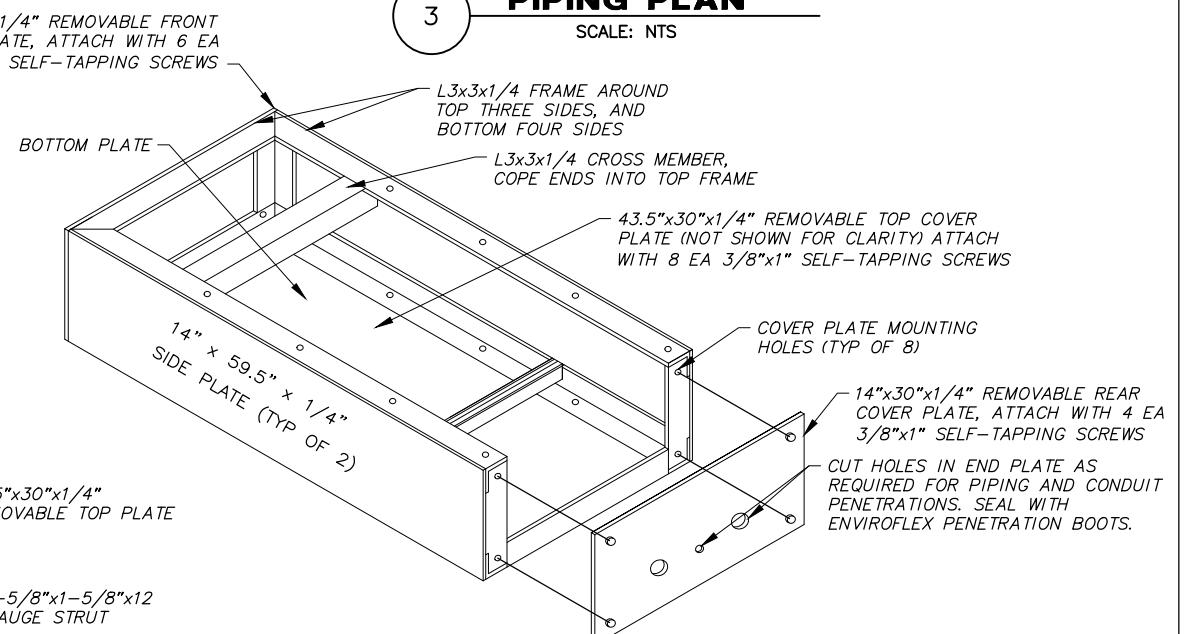
SIDE ELEVATION

SCALE: NTS



PIPING PLAN

SCALE: NTS



ISOMETRIC VIEW

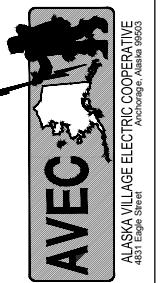
NO.	REVISION	ISSUED FOR BIDDING	BY	DATE
A			AH	11/18/25

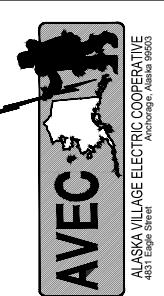
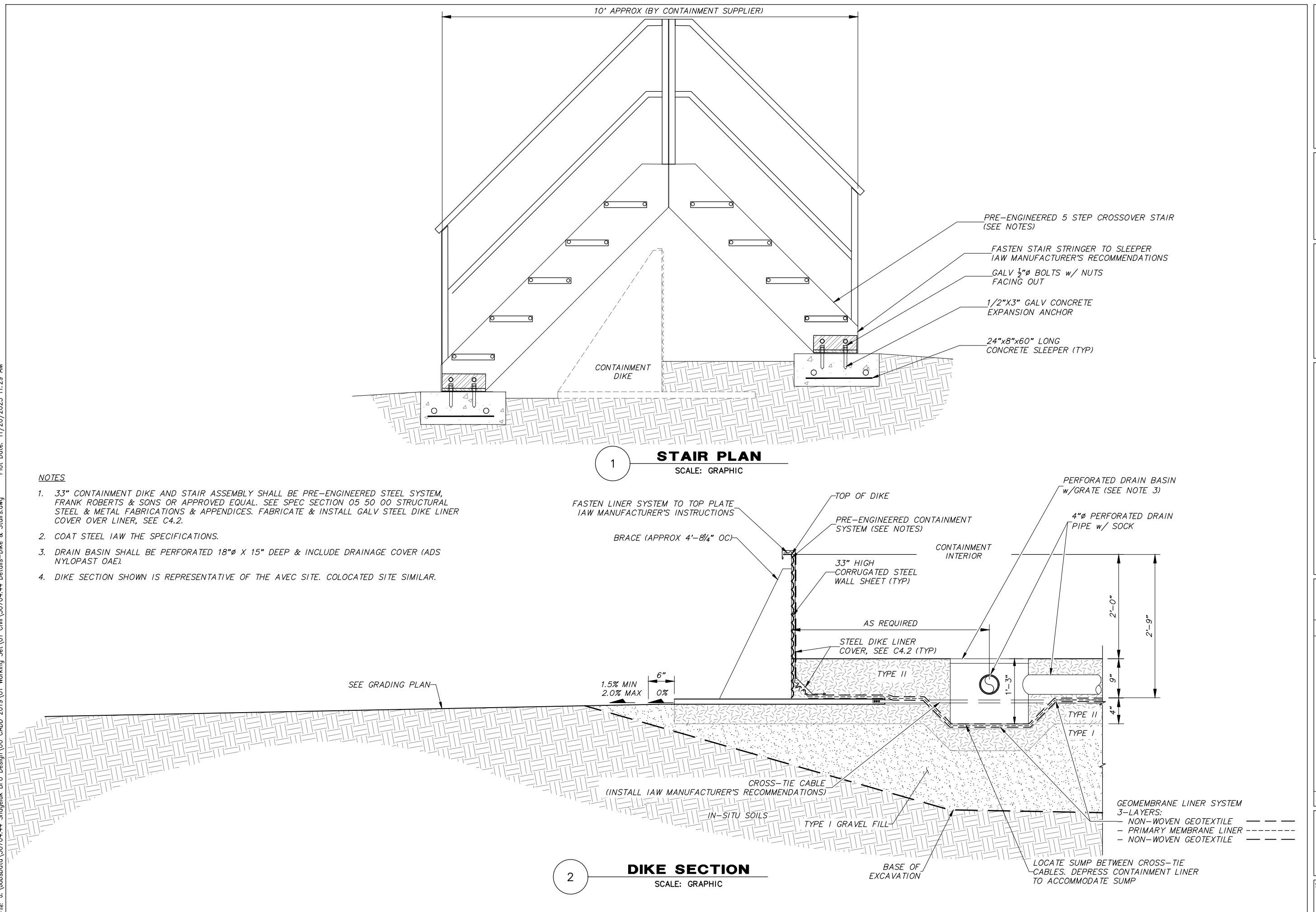
Plot Date	20/25	Designed	AMH
		CMK	
		Approved	AMH

Sheet No.	C3.4

SHAGELUK, ALASKA
RETAIL DISPENSER DETAILS

SHAGELUK, ALASKA

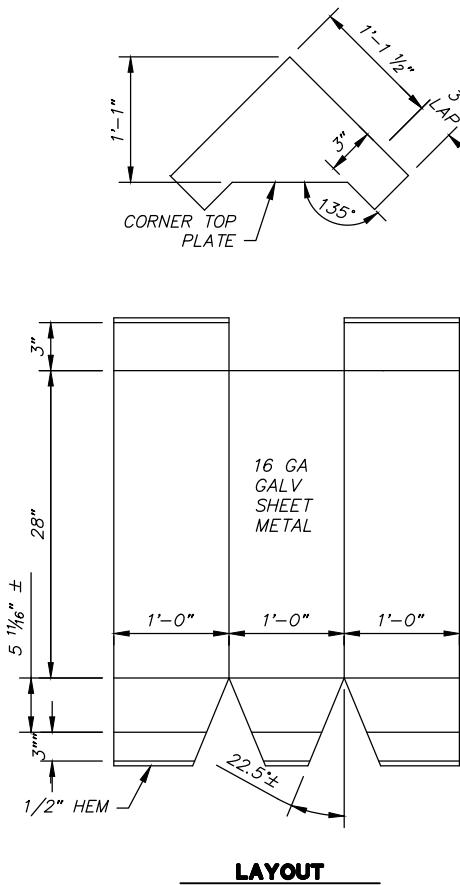




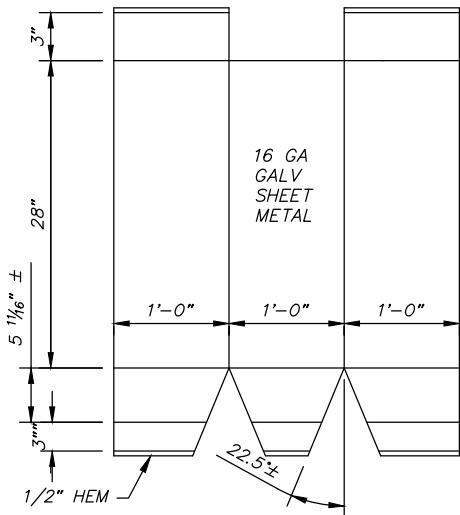
CONTAINMENT DIKE & STAIR DETAILS

SHAGELUK, ALASKA

A ISSUED FOR BUILDING		AMH	11/10/25
Date	11/20/25	Designed	AMH
		Drawn	CMK
		Approved	AMH
t No.		C4.1	



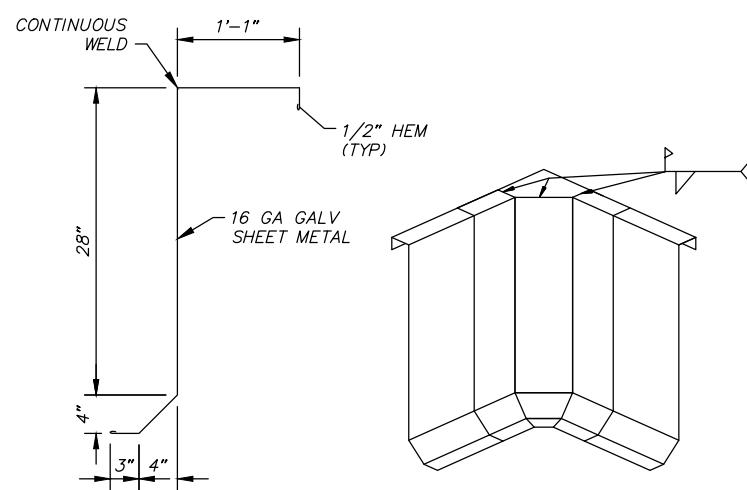
LAYOUT



1

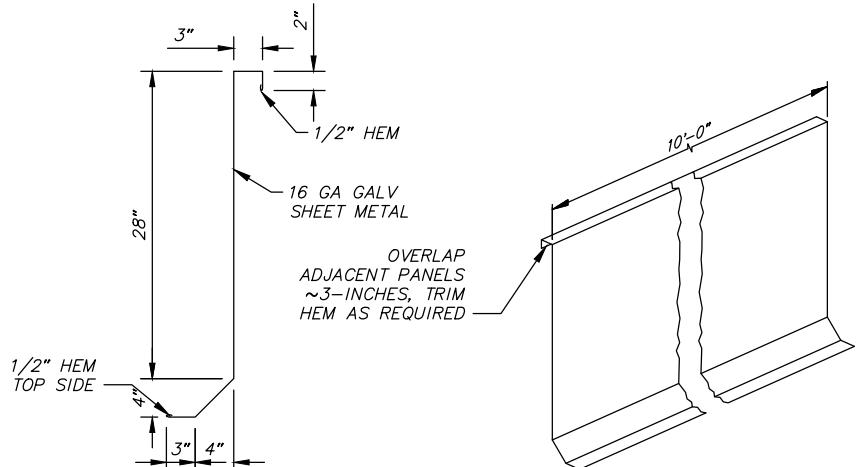
LINER COVER CORNER DETAILS

SCALE: NTS



SECTION AT CORNER

ISOMETRIC
NOT TO SCALE



LINER COVER SECTION

DIKE LINER COVER DETAILS

SCALE: NTS

2

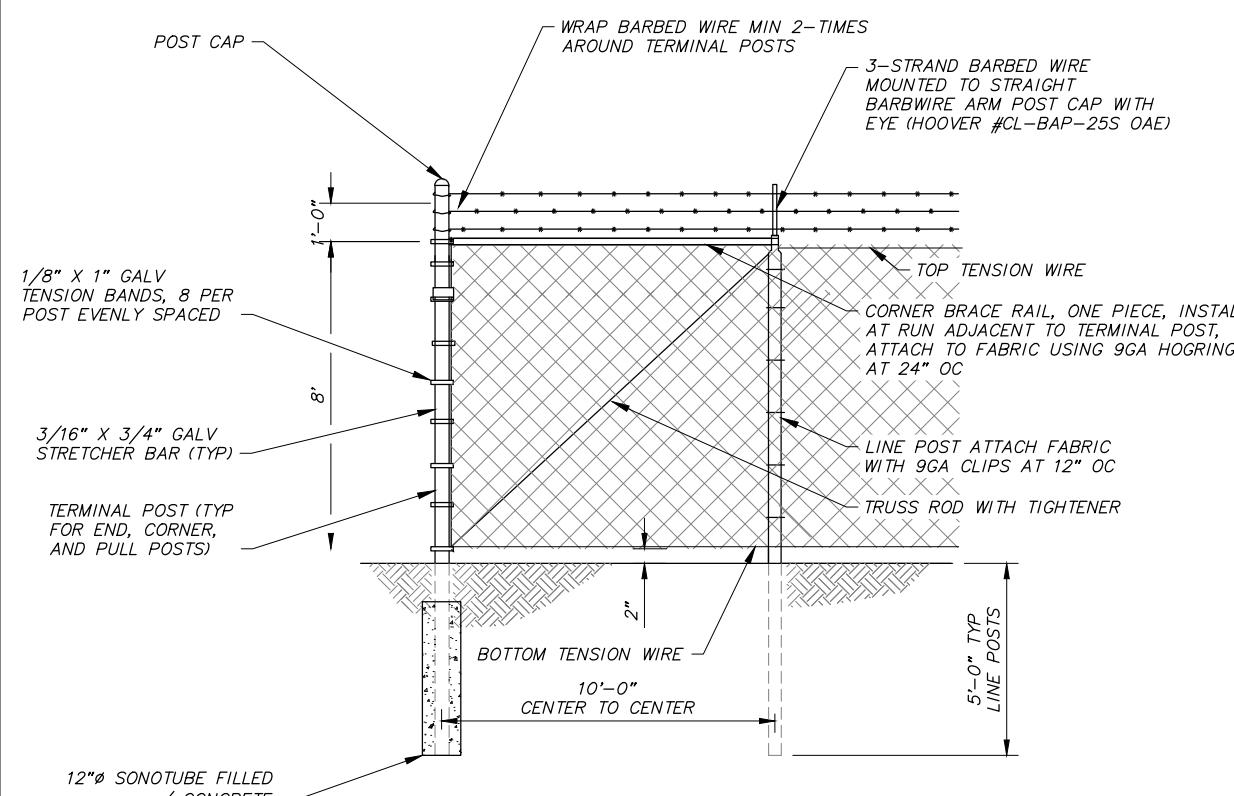
SHAGELUK BULK FUEL UPGRADES
DIKE DETAILS
SHAGELUK, ALASKA

NO.	REVISION	BY	DATE
1	A	ISSUED FOR BIDDING	AH 11/18/25
		Designed	AMH
		Drawn	CMK
		Approved	AMH

Sheet No.

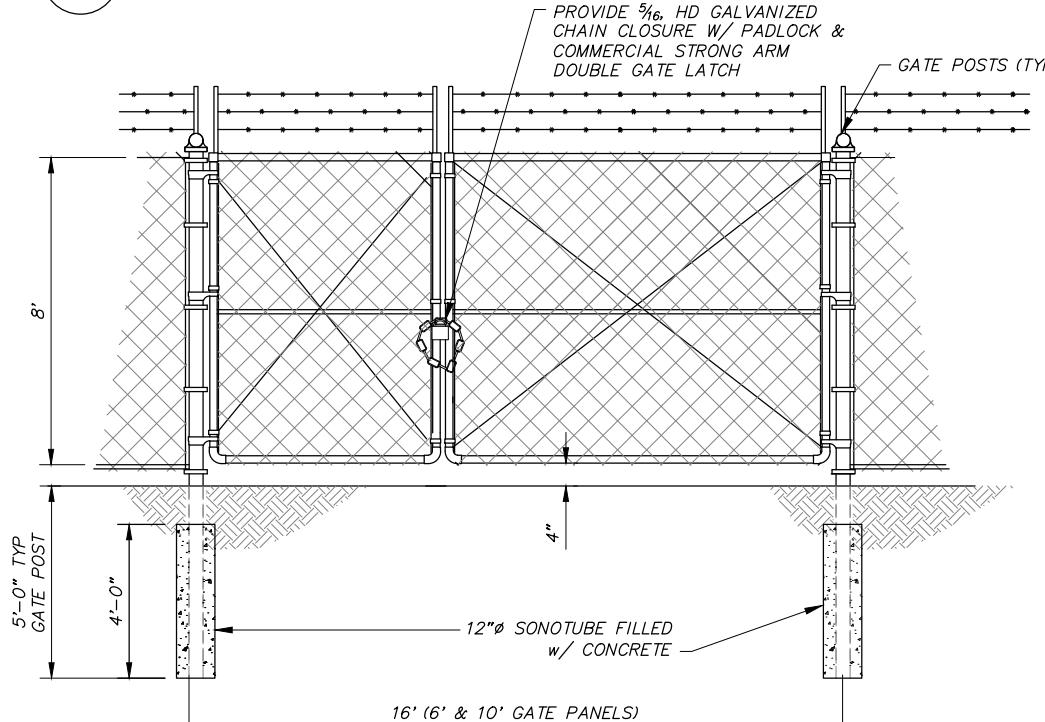
C4.2





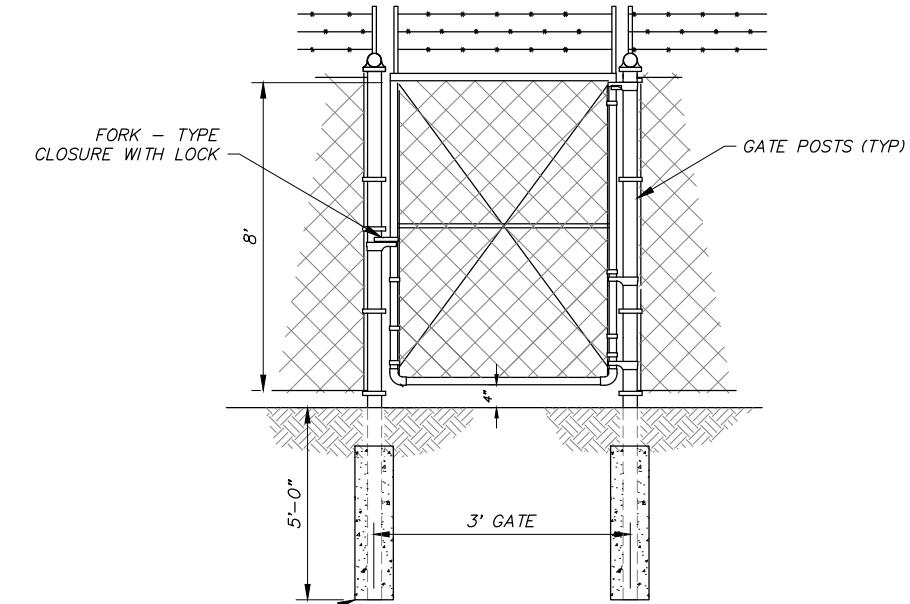
FENCE DETAIL

SCALE: NTS



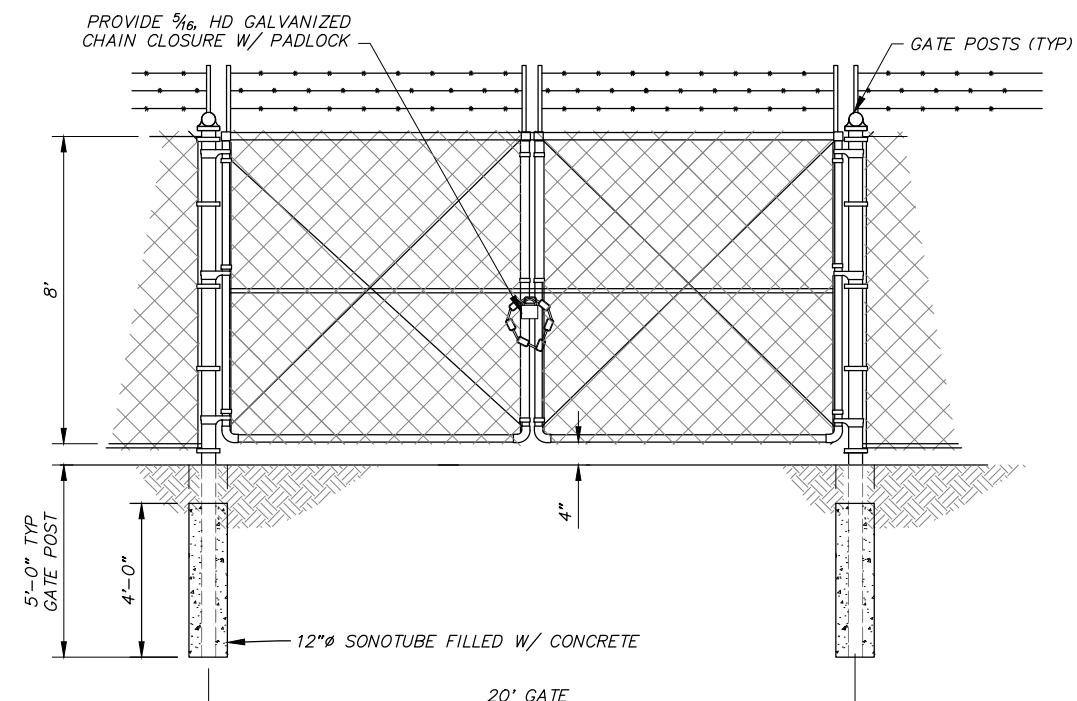
16-FOOT DOUBLE SWING GATE DETAIL

SCALE: NTS



MAN GATE DETAIL

SCALE: NTS



20-FOOT DOUBLE SWING GATE DETAIL

SCALE: NTS

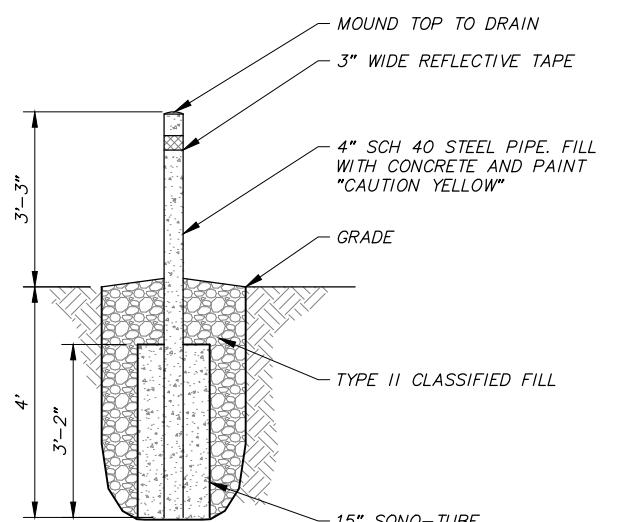
FENCE NOTES:

1. LINE POSTS MAY BE DRIVEN AT CONTRACTORS RISK IF APPROVED BY ENGINEER. CORNER POSTS SHALL BE BEDDED IN CONCRETE AS SHOWN.
2. GROUNDING: SEE ELECTRICAL AND AVEC STANDARD FENCE GROUNDING DETAILS.

FENCE DETAILS

SHAGELUK, ALASKA

FENCE DETAILS



BOLLARD DETAIL

SCALE: NTS

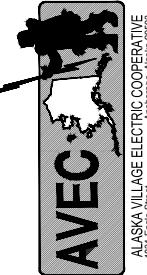
Plot No. Revision By Date

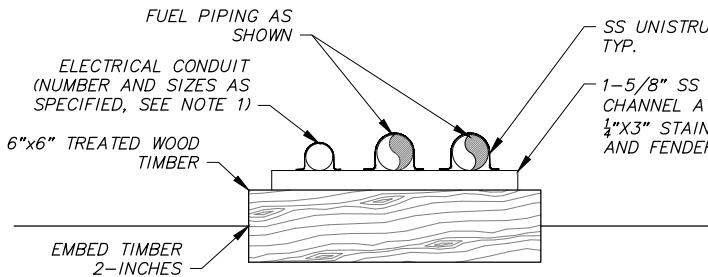
Plot Date: 11/18/25 A AMH CMK AMH Approved

Designed Drawn Sheet No.

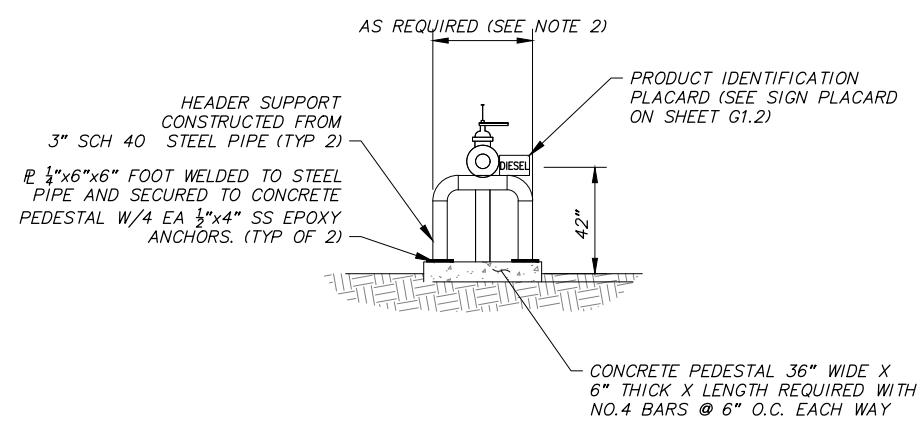
Drawn Approved

C4.3



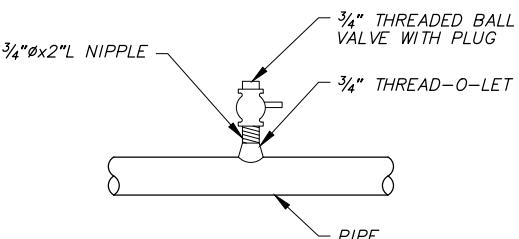


TIMBER PIPE SUPPORT
SCALE: NTS

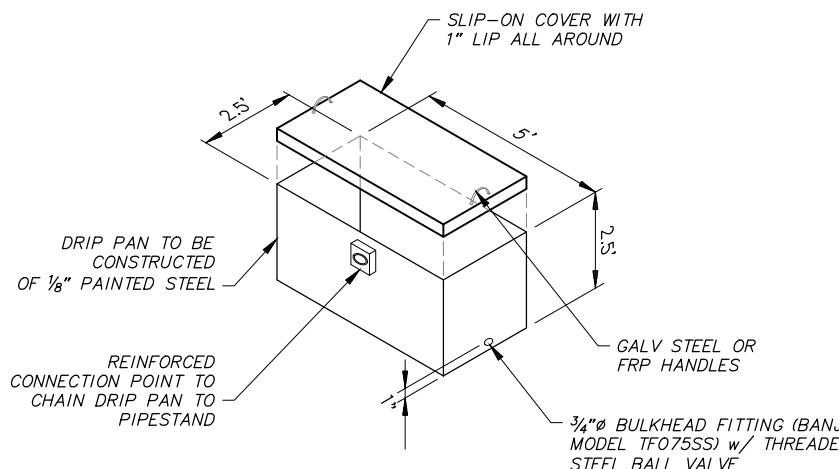


NOTES

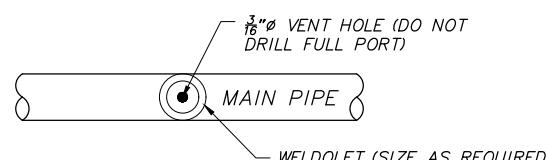
- ROUTE ALL CONDUIT IN THE AVEC TANK FARM ABOVE THE TOP OF CONTAINMENT DIKE ELEVATION.
- AVEC SINGLE HEADER SHOWN. CO-LOCATED TRIPLE PRODUCT HEADER SIMILAR. FABRICATE ASSOCIATED SUPPORTS, STANDS AND DRIP PAN AS NECESSARY TO ACCOMMODATE.



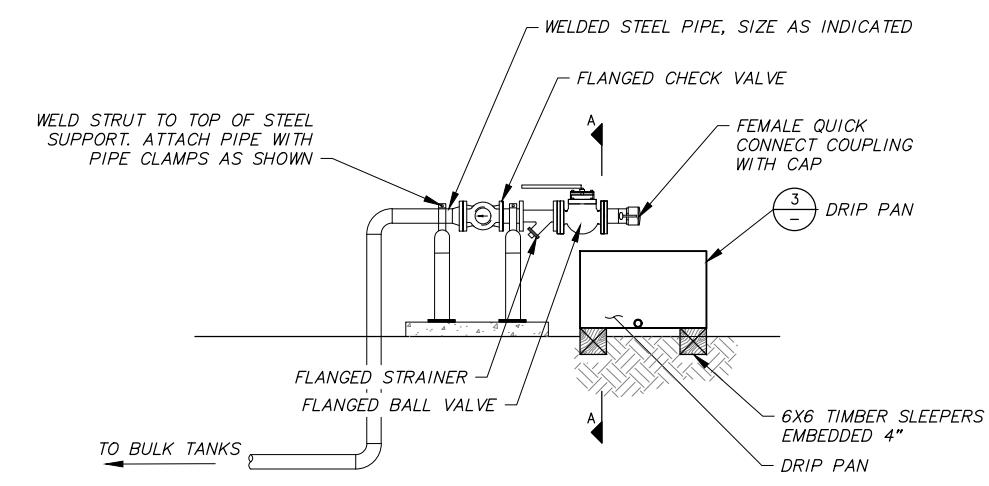
PRESSURE TEST PORT
SCALE: NTS



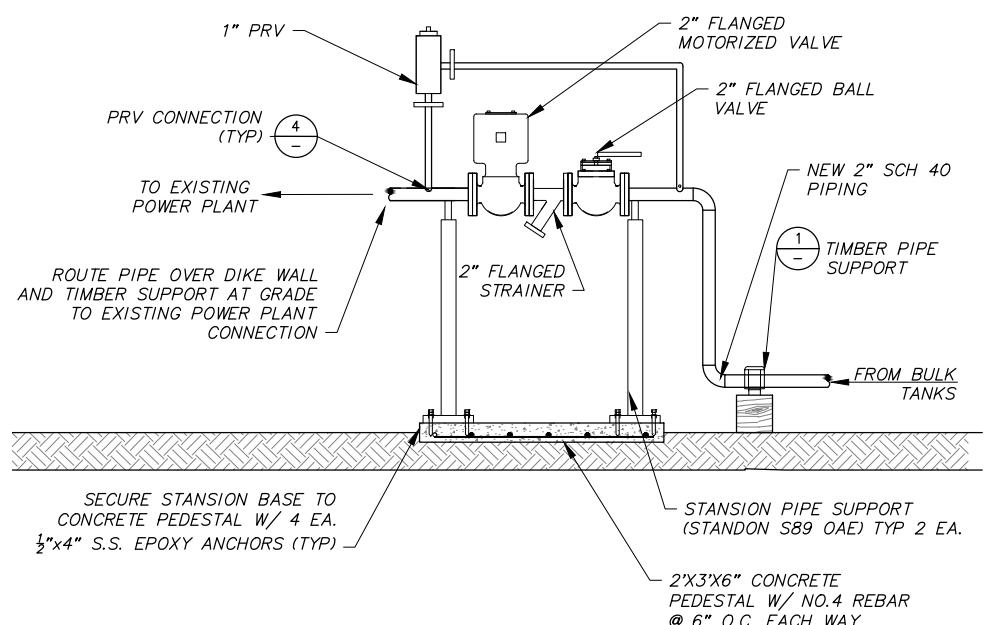
DRIP PAN
SCALE: NTS



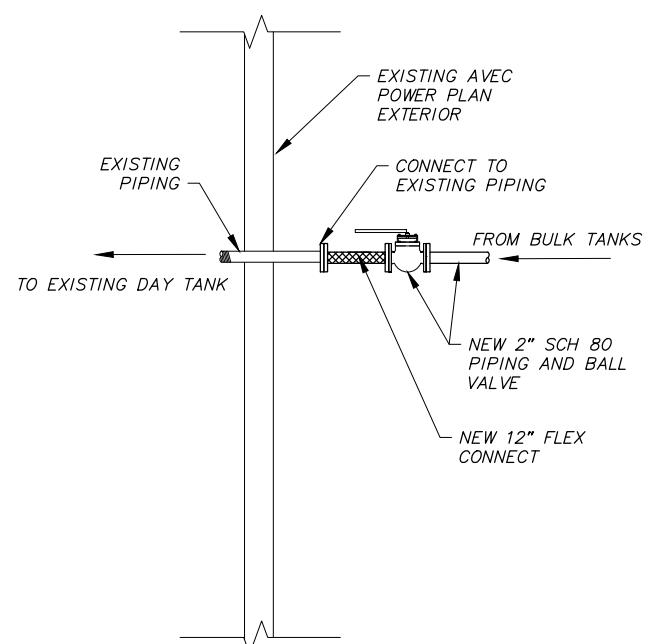
PRV CONNECTION DETAIL
SCALE: NTS



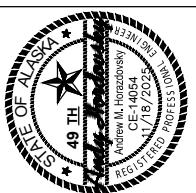
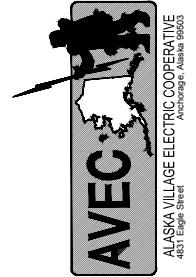
BARGE HEADER (SEE NOTE 2)
SCALE: NTS



AVEC MOTORIZED VALVE DETAIL
SCALE: NTS



TIE-IN AT EXISTING POWER PLANT
SCALE: NTS



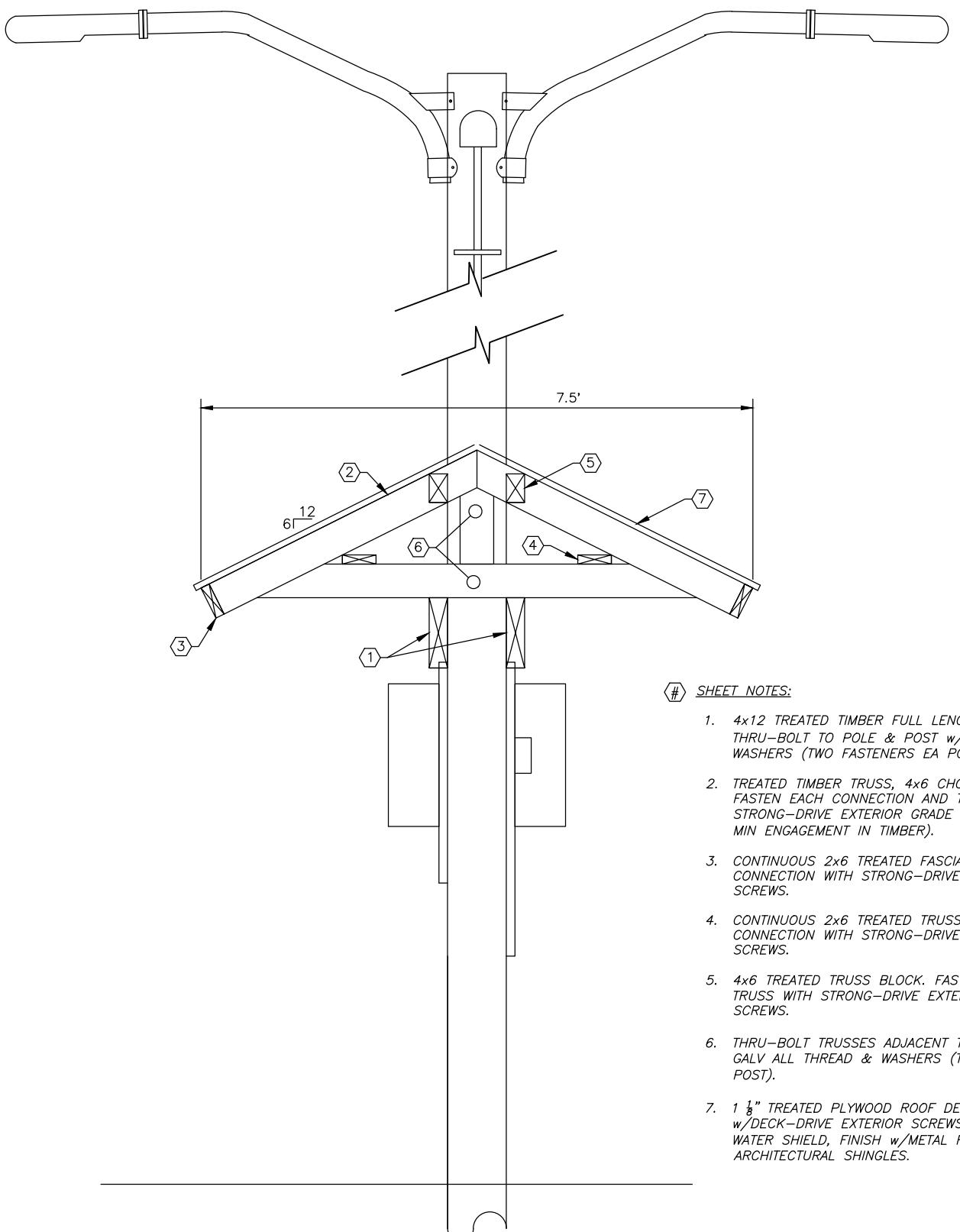
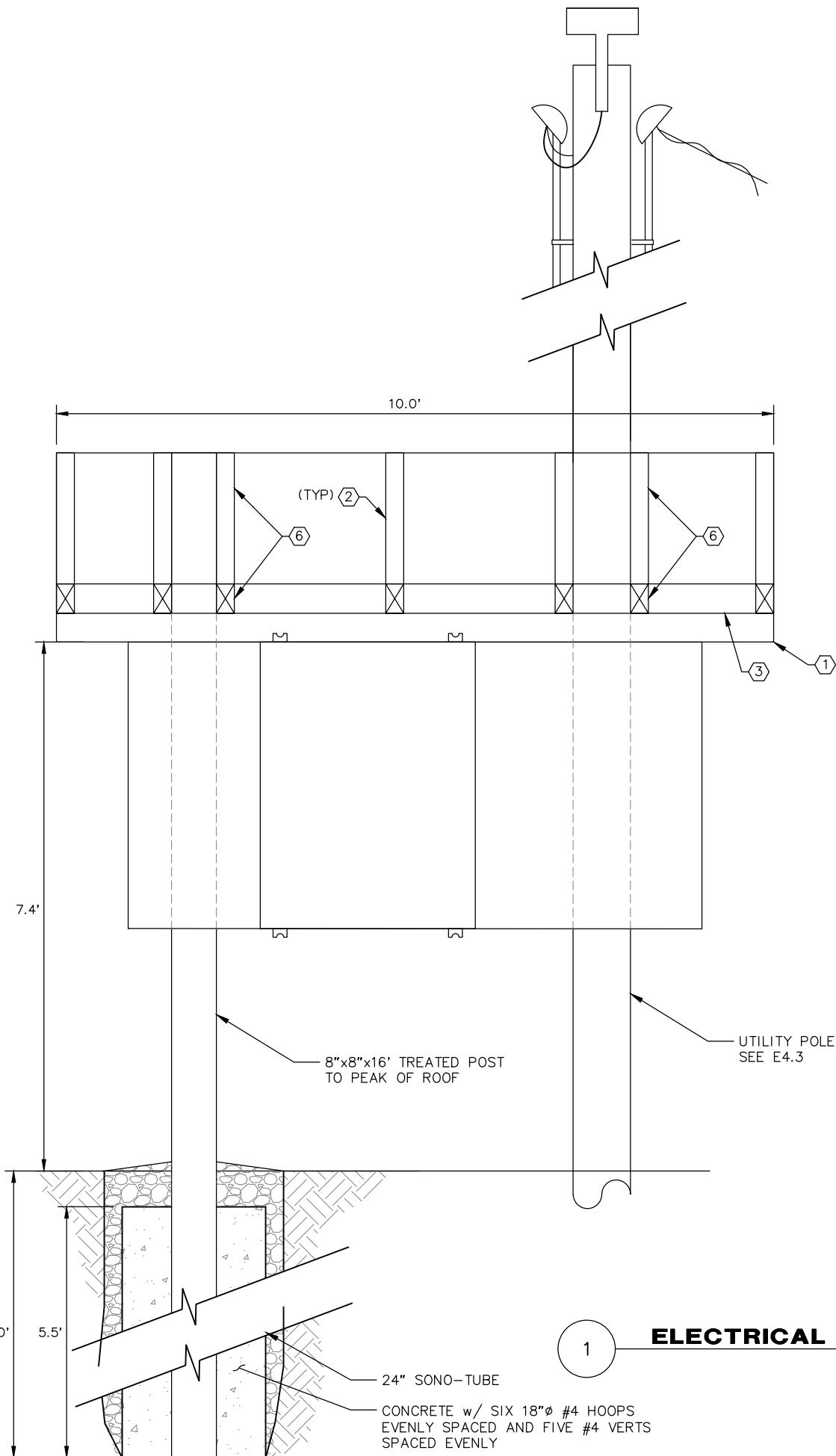
SHAGELUK BULK FUEL UPGRADES
PIPING DETAILS
SHAGELUK, ALASKA

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	AH	11/18/25

Plot Date: 11/20/2025 11:09 AM
Plot: 30704.44 Details-Piping.dwg

Designed AMH
Drawn CMK
Approved AMH

Sheet No. C4.4



ELECTRICAL PANEL ROOF & POST FOUNDATION

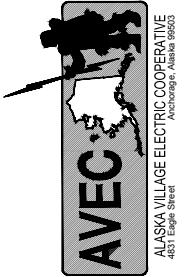
SCALE: M

⑥ SHEET NOTES:

1. *4x12 TREATED TIMBER FULL LENGTH OF CANOPY, THRU-BOLT TO POLE & POST w/ $\frac{3}{8}$ " GALV ALL THREAD & WASHERS (TWO FASTENERS EA POST).*
2. *TREATED TIMBER TRUSS, 4x6 CHORDS & KING POST. FASTEN EACH CONNECTION AND TO 4x12 BEAMS WITH STRONG-DRIVE EXTERIOR GRADE TIMBER SCREWS (2.5" MIN ENGAGEMENT IN TIMBER).*
3. *CONTINUOUS 2x6 TREATED FASCIA. FASTEN EACH CONNECTION WITH STRONG-DRIVE EXTERIOR GRADE TIMBER SCREWS.*
4. *CONTINUOUS 2x6 TREATED TRUSS BRACE. FASTEN EACH CONNECTION WITH STRONG-DRIVE EXTERIOR GRADE TIMBER SCREWS.*
5. *4x6 TREATED TRUSS BLOCK. FASTEN TO POLE/POST & TRUSS WITH STRONG-DRIVE EXTERIOR GRADE TIMBER SCREWS.*
6. *THRU-BOLT TRUSSES ADJACENT TO POLE/POST w/ $\frac{3}{8}$ " GALV ALL THREAD & WASHERS (TWO FASTENERS EA POST).*
7. *1 $\frac{1}{2}$ " TREATED PLYWOOD ROOF DECK, FASTEN w/DECK-DRIVE EXTERIOR SCREWS. COVER WITH ICE & WATER SHIELD, FINISH w/METAL FLASHING AND ARCHITECTURAL SHINGLES*

Plot	1	Date	1/20/25	ISSUED FOR BIDDING	A	11/18/25	AMH
Designed							
Drawn							CMK
Approved							AMH

HAGELUK BULK FUEL UPGRADES



C4.5

LEGEND

	BUS
	EXPOSED CONDUIT
	CONDUIT/CABLE - RUN OVERHEAD
	CONDUIT/CABLE - RUN UNDERGROUND OR IN CONCRETE
	HOMERUN TO PANEL "X", CIRCUITS NO. Y AND Z CONDUIT RUNS NOT DEFINED ARE 1/2" C with 3#12.
	GROUND
	CONDUIT RUN - CHANGE IN ELEVATION
	LIQUID-TIGHT FLEXIBLE CONDUIT
	MOTOR, HP AS SHOWN, SINGLE PHASE, "F" = FRACTIONAL
	PANELBOARD
	DISCONNECT SWITCH
	TRANSFORMER
	KILOWATT-HOUR METER
	125V DUPLEX GROUND FAULT INTERRUPT WEATHER PROOF RECEPTACLE, CONFIGURATION 5 - 2OR
	SHEET NOTE "X"
	ELECTRICAL EQUIPMENT TAG "X"
	CONDUIT TAG "X"

Fixture Schedule

Symbol	Lamp Size	Mounting	Description	Manufacturer
	54W LED	35' CLASS 5 POLE	TANK FARM POLE MOUNTED LIGHT, 54W LED WITH 2' MOUNTING ARM, -40F RATED, AND PHOTOCELL LITHONIA CANTILEVER ARM: PN#SMAWT14US2-5GALV AVEC PN#593-0464	WESCO - PHILIPS STREETLIGHT: PN#RFS54W16LED4KG2R3MUNVDMGRCD7GY3 AVEC PN#593-0669
	25W LED	SURFACE MOUNT	VAPORTITE L.E.D AREA LIGHT SURFACE MOUNT. CLASS 1, DIV. 2.	CROUSE HINDS: V2LCA3/UNV1 WITH J-BOX VXFT20

Grounding Plan Legend

Symbol	Item	Item Description	Notes
	GROUND ROD	3/4"Ø x 10' LENGTH	—
	BOND TO GROUND	—	—
	NEW FENCE	CHAINLINK	—
	EXISTING FENCE	CHAINLINK	—
	FENCE POST BOND	PIPE CLAMP	—
	SURFACE GROUNDING CONDUCTOR	#2/0 AWG B.C., UON	BURY 30" BELOW GRADE, UON
	BURIED GROUNDING CONDUCTOR	#2/0 AWG B.C., UON	BURY 30" BELOW GRADE, UON

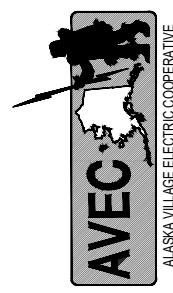
ABBREVIATIONS

	JUNCTION BOX OR FITTING	A	AMPERE
	CONDUIT TEE	AFF	ABOVE FINISH FLOOR
	FUSE, X=SIZE IN AMPS	AIC	AMPERES INTERRUPTING CAPACITY
	MOLDED CASE CIRCUIT BREAKER, X = AMPERE RATING, Y = NO. OF POLES THERMAL/MAGNETIC UNION	AVEC	ALASKA VILLAGE ELECTRIC COOPERATIVE
	CONTROL PANEL	B.C.	BARE COPPER
	SEAL-OFF FITTING	C	CONDUCTOR
	PHOTO ELECTRIC CONTROL	C1D1	CONDUIT
	INSTRUMENT DEVICE LOCATION (SEE TAG)	C1D2	CLASS 1, DIVISION 1
	MUSHROOM HEAD, EMERGENCY PUSHBUTTON	CP	CLASS 1, DIVISION 2
	REMOTE OPERATOR FOR CONTROL PANEL	CT	CONTROL PANEL
	PUSH TO TEST PILOT LIGHT	DWG	CURRENT TRANSFORMER
	X= LENS TINT	EA	DRAWING EACH
	TERMINAL - X = CONTRACTOR DERIVED NUMBERING	ESD	EMERGENCY SHUTDOWN
	STROBE ALARM	EXP	EXPLOSION PROOF
	HAND-OFF-AUTO SWITCH	FVNR	FULL VOLTAGE NON-REVERSING, THERMAL MAGNETIC OCP
		G	GROUND CONDUCTOR
		GFI	GROUND FAULT INTERRUPTING
		H	HOT CONDUCTOR
		HOA	HAND OFF AUTO
		HP	HORSEPOWER
		KVA	KILO-VOLT-AMPERES
		KW	KILOWATT
		LFMC	LIQUID-TIGHT FLEXIBLE METAL CONDUIT
		LTG	LIGHTING
		MAX	MAXIMUM
		MCM	THOUSAND CIRCULAR MILS
		MIN	MINIMUM
		MV	MOTORIZED VALVE
		N	NEUTRAL CONDUCTOR
		NEMA	NATIONAL ELECTRICAL MANUFACTURES ASSOCIATION
		NTS	NOT TO SCALE
		OCP	OVERCURRENT PROTECTION
		P	POLE
		RCP	RECEPTACLE
		RMC	RIGID METAL CONDUIT, GALVANIZED
		SIG	SIGNAL CONDUCTOR
		SL	SWITCH LEG
		SS	STAINLESS STEEL
		TWSH	TWISTED/SHELDDED CONDUCTOR
		TYP	TYPICAL
		UG	UNDERGROUND
		UON	UNLESS OTHERWISE NOTED
		V	VOLTS
		VA	VOLT-AMPERES
		WP	WEATHER PROOF
		XFMR	TRANSFORMER

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NOTES, LEGEND, & ABBREVIATIONS

SHAGELUK, ALASKA



Electrical Equipment Schedule

ITEM NO.	DESCRIPTION	MANUFACTURER	NOTES
	EMERGENCY WP SHUTOFF SWITCH. 4 DIE-CAST ALUMINUM ENCLOSURE, 2-1/4" DIA. RED MUSHROOM HEAD MAINTAINED CONTACT PUSH BUTTON WITH 1 EA. NC CONTACT, 10A RATED MIN.	ALLEN BRADLEY 800T-FX6D4 WITH 800T-1TZ ENCLOSURE & 800T-N247R HEAD	
	WEATHER PROOF RECEPTACLE. COMPLETE WITH 20A, 125V DUPLEX GFCI RECEPTACLE. INSTALL IN CAST SINGLE GANG FD BOX WITH WEATHERPROOF COVER.	P&S 2095TRWRI RED DOT CCGV COVER RED DOT IH32LM BOX	
	LIGHT SWITCH AND RECEPTACLE. COMPLETE WITH 20A, 125V DUPLEX GFCI RECEPTACLE, 20A SINGLE POLE SWITCH. INSTALL IN CAST MULTI-GANG FD BOX WITH WEATHERPROOF COVER.	P&S 2095TRWRI RECEPTACLE P&S PS20AC1-I SWITCH RED DOT 2CCTG COVER RED DOT 2IH4-2 BOX	
	LOCKABLE SWITCH. 4, 7, 9 EXPLOSION PROOF CONSTRUCTION WITH 3/4" FEED THRU HUB, 4PST, 250V, 20A.	KILLARK	
	FOUR POSITION FLOAT ACTIVATED LEVEL SWITCH, 316 SS STEM, 2" 316 SS FLOAT, 2" NPT BUSHING, 1/2" NPT CONDUIT ENTRY, EXPLOSION PROOF CONSTRUCTION, LISTED FOR CLASS 1, DIVISION 1, GROUP D, 120VAC, 100W MAX SWITCHING POWER. PROVIDE FLOAT ACTIVATED SWITCHES AT DIMENSIONS BASED ON APPROVED SHOP DRAWINGS. CONTRACTOR SHALL VERIFY ACTUAL TANK DIMENSIONS AND SUBMIT SWITCH DIMENSIONS TO CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO ORDERING.	CUSTOM SWITCHES, INC. MODEL LS-1900 TYPE 8 OR APPROVED EQUAL. CONTRACTOR TO VERIFY CUSTOM PROBE LENGTHS PRIOR TO ORDERING. SEE DESCRIPTION.	
	THREE POSITION FLOAT ACTIVATED LEVEL SWITCH, 316 SS STEM, 2" 316 SS FLOAT, 2" NPT BUSHING, 1/2" NPT CONDUIT ENTRY, EXPLOSION PROOF CONSTRUCTION, LISTED FOR CLASS 1, DIVISION 1, GROUP D, 120VAC, 100W MAX SWITCHING POWER. PROVIDE FLOAT ACTIVATED SWITCHES AT DIMENSIONS BASED ON APPROVED SHOP DRAWINGS. CONTRACTOR SHALL VERIFY ACTUAL TANK DIMENSIONS AND SUBMIT SWITCH DIMENSIONS TO CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO ORDERING.	CUSTOM SWITCHES, INC. MODEL LS-1900 TYPE 7 OR APPROVED EQUAL. CONTRACTOR TO VERIFY CUSTOM PROBE LENGTHS PRIOR TO ORDERING. SEE DESCRIPTION.	
	LIQUID LEVEL MONITOR SYSTEM FOR AVEC DIESEL TANKS. PROVIDE INSTRUMENTS FOR EACH TANK AS REQUIRED. INSTALL AND CONNECT MONITOR PANEL IN DAY TANK ROOM PER OPERATORS DIRECTION.	PANEL: FRANKLIN FUEL, SYSTEM EVO550, PROBE: FRANKLIN FMP-LL3-137-1, PROBE: INSTALL KIT TSP-C2A, FLOAT: TSP-IDF2 (2" FOR DIESEL), CABLE TO PROBE: BELDEN #89182	

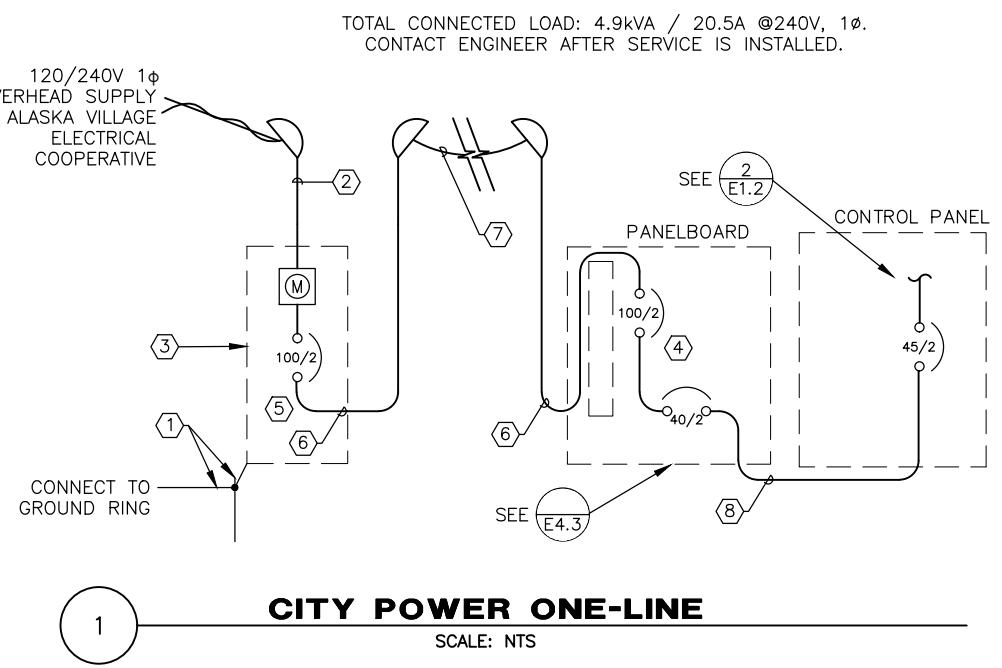
Sheet No. E1.1

Date 4/1/25

Designed BC

Drawn ESCJB

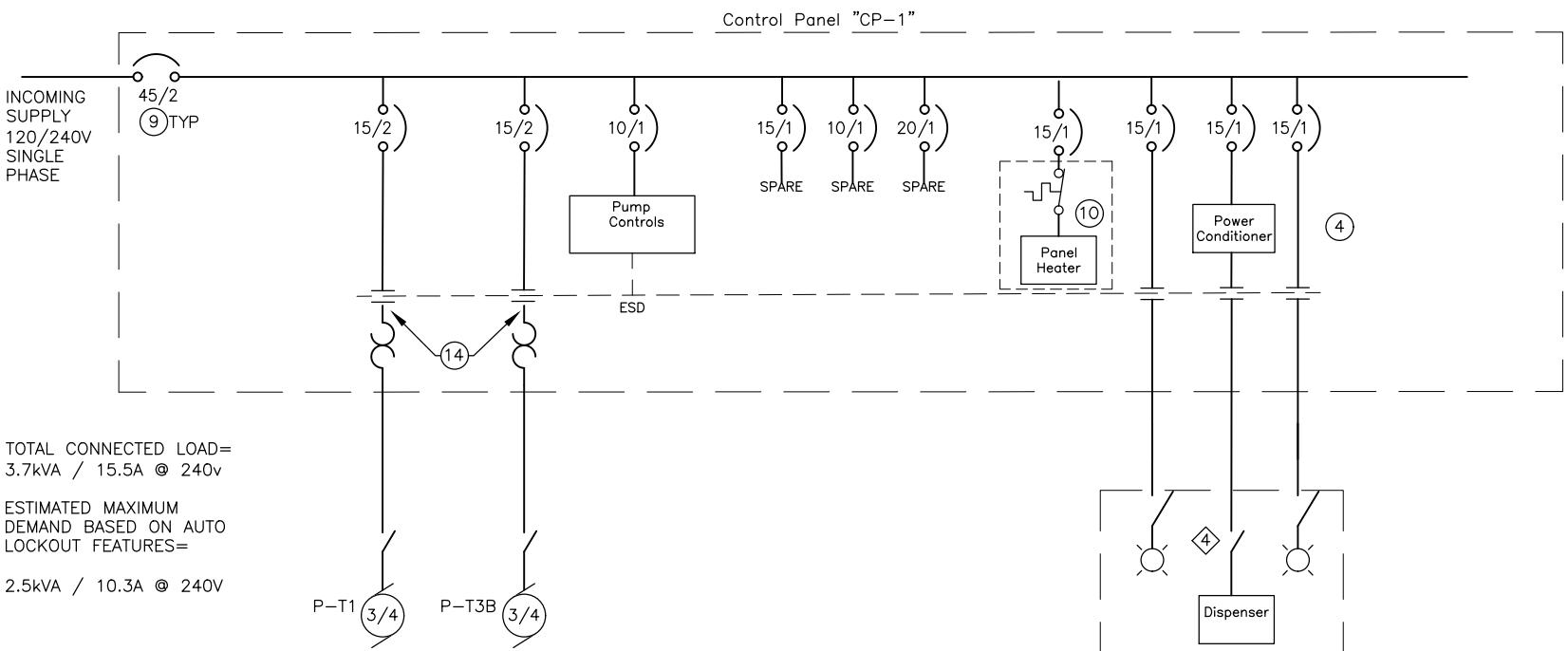
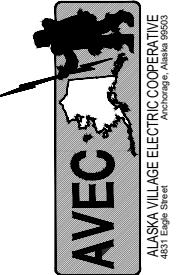
Approved BC



PANEL "A" SCHEDULE									
Location: TANK FARM STAIRS			240/120V			1φ , 3 Wire		10,000 AIC	
Served from: AVEC Transformer			100A MCB			NEMA 4X			
POLE #	AMP TRIP	LOAD DESCRIPTION	POLE Kva	MLO L1 L2	POLE Kva	LOAD DESCRIPTION	AMP TRIP	POLE #	
1	40/2	CP-1	2.1	2.3	0.2	AREA LIGHTING	20/1	2	
3			1.7		2.7	1.0 *RECEPTACLE	20/1	4	
5	20/1	SPARE	0.0	0.0	0.0	SPARE	20/1	6	
7			0.0		0.0	0.0			8
9			0.0	0.0	0.0				10
11			0.0		0.0	0.0			12
				2.3	2.7		Total kVA =	4.9 kVA	
* = GFCI Circuit Breaker									
							Total Amps @ 240V =	20.5 A	

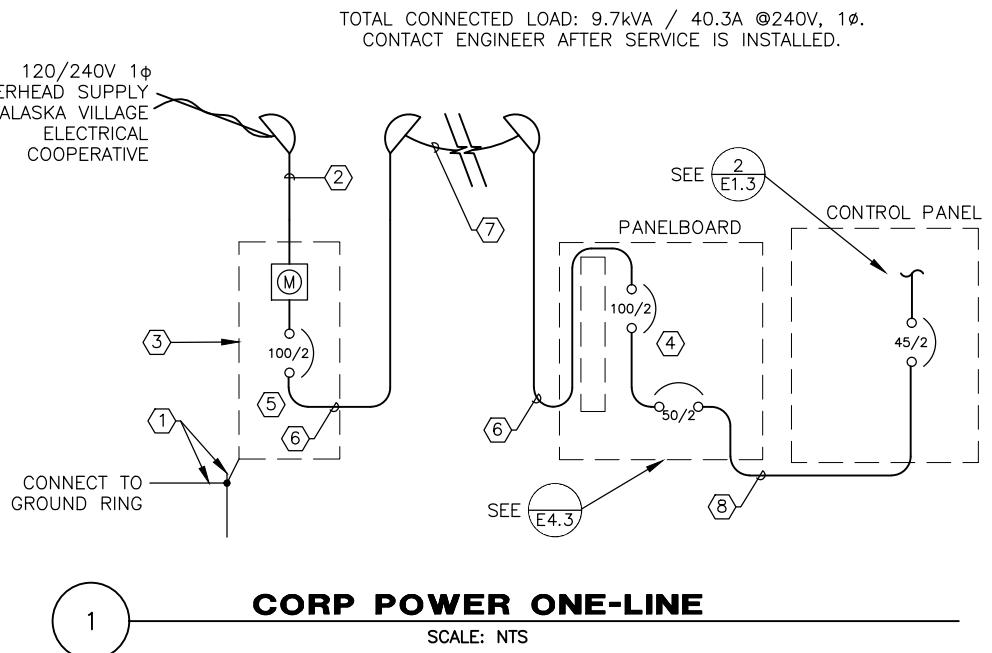
④ SHEET NOTES:

1. SEE GROUNDING PLAN
2. 1-1/2" C, (3) #2 (2H, N) XHHW-2 CU SERVICE RISER.
3. MILBANK METER MAIN, 120/240V, 100A. SINGLE-PHASE, SUPPLY AND INSTALL IN COMPLIANCE WITH AVEC SPECIFICATIONS.
4. 100A, 120/240V, 1φ, 3 WIRE, 12 SPACE, NEMA 4X LOAD CENTER.
5. PROVIDE SHORT CIRCUIT AND ARC FLASH WARNING PLACARD TO READ "AIC RATING OF X,XXX A CALCULATED ON X/X/2025" PROVIDE PPE LABEL FOR LEVEL 1 PER NFPA 70E. CONTACT ENGINEER WITH SERVICE TRANSFORMER FOR SHORT CIRCUIT CALCULATION.
6. 2" C, (3) #2 (2H, N), (1) #4 (G)
7. #2 TRIPLEX- BOND GROUND TO MESSENGER CABLE
8. 3/4" C, (4) #8 (2H, N, G)



COMPONENT SCHEDULE	
#	
1	PILOT LIGHT, 120V, LED, NEMA 4X, LENS TINT AS SHOWN, ALLEN BRADLEY 800H SERIES
2	120V TERMINAL BLOCK RELAY, SPDT, ALLEN BRADLEY 700HLF
3	PILOT LIGHT, PUSH TO TEST, 120V, LED, NEMA 4X, LENS TINT AS SHOWN ALLEN BRADLEY 800H SERIES
4	DIN RAIL MOUNTED UPS. HARDWIRED DIN RAIL AC UPS, 850kVA, 120V. P/N SPU 850.
5	3-POSITION SELECTOR SWITCH, 120V, NEMA 4X, HAND-OFF-AUTO, WITH SPRING RETURN FROM HAND TO OFF POSITION, ALLEN BRADLEY 800H SERIES
6	2-POLE, SINGLE PHASE, 600V, COMBINATION MOTOR CONTROLLER WITH NEMA SIZE 00 FVNR CONTACTOR SUITABLE FOR GROUP MOTOR PROTECTION. PROVIDE WITH O/L AND AUX CONTACT SETS AS REQUIRED. CUTLER-HAMMER N307UNSA3N OR EQUAL W C320TR11 TRIP AND C332OSA20 AUX
7	MULTI-POLE CONTACTOR, 120V COIL, 20A RATED CONTACTS. # OF CONTACTS AS REQUIRED.
8	ALARM STROBE, NEMA 4X, 120V, FEDERAL FIREBALL W/ RED DOME.
9	INTEGRAL POWER DISTRIBUTION.
10	120V, PANEL HEATER W/ INTEGRAL THERMOSTAT WATTAGE AS REQUIRED, HOFFMAN SERIES #D-AH.
11	NORMALLY OPEN PUSHBUTTON, 120V, 10A, NEMA 4X, ALLEN BRADLEY 800H SERIES – CONTACT BLOCKS AS REQUIRED.
12	NORMALLY CLOSED PUSHBUTTON, 120V, 10A, NEMA 4X, ALLEN BRADLEY 800H SERIES – CONTACT BLOCKS AS REQUIRED.
13	2-POSITION SELECTOR SWITCH, 120V, NEMA 4X, ON-OFF, 10A RATED CONTACTS, ALLEN BRADLEY 800H SERIES.
14	2-POLE, SINGLE PHASE, 600V, COMBINATION MOTOR CONTROLLER WITH NEMA SIZE 0 FVNR CONTACTOR SUITABLE FOR GROUP MOTOR PROTECTION. PROVIDE WITH AUX CONTACT SETS AS REQUIRED. CUTLER-HAMMER N307XNSO3XN OR EQUAL W C320TR11 TRIP AND C332OSA20 AUX
15	MULTI-POLE CONTACTOR, 120V COIL, 10A RATED CONTACTS. # OF CONTACTS AS REQUIRED.
16	36"X48" NEMA 4 RATED ENCLOSURE, LOCKABLE DEADFRONT PANEL WITH INNER OPERATOR DOOR AND 19"X29" WINDOW KIT. HOFFMAN OR EQUAL. SIZE AS DRAWN.
17	TERMINAL BLOCK RELAY, 2PDT, 120V COIL 10A RATED ALLEN BRADLEY 700 HLT.
18	ADJUSTABLE TIME DELAY RELAY, MODULE FOR ITEM 3 ABOVE, ALLEN BRADLEY 700-AT3A1.
#	SEE E1.1 FOR FIELD MOUNTED ELECTRICAL EQUIPMENT SCHEDULE.



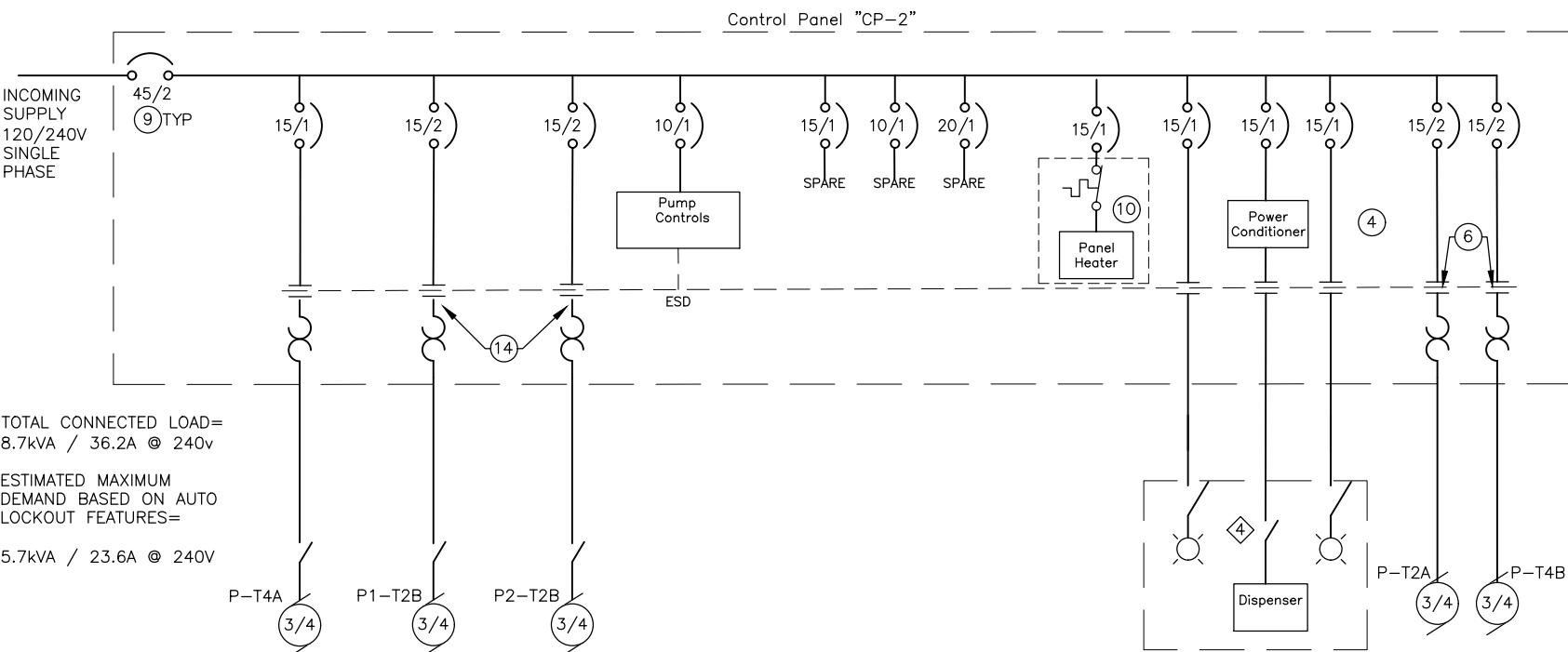
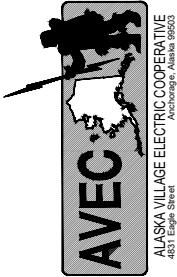


PANEL "B" SCHEDULE					
Location: FRONT GATE			240/120V		1φ, 3 Wire
Served from: AVEC Transformer			100A MAINS		NEMA 4X
POLE #	AMP TRIP	LOAD DESCRIPTION	POLE Kva	MLI L1 L2	POLE Kva
1	40/2	CP-2	4.5	4.5 0.0	SPARE
3			4.1	5.1 1.0	*RECEPTACLE
5	20/1	SPARE	0.0	0.0 0.0	SPARE
7			0.0	0.0 0.0	
9			0.0	0.0 0.0	
11			0.0	0.0 0.0	
			4.5	5.1	Total kVA = 9.7 kVA
			Total Amps @ 240V = 40.3 A		

* = GFCI Circuit Breaker

SHEET NOTES:

- SEE GROUNDING PLAN
- 1-1/2" C, (3) #2 (2H, N) XHHW-2 CU SERVICE RISER.
- MILBANK METER MAIN, 120/240V, 100A. SINGLE-PHASE, SUPPLY AND INSTALL IN COMPLIANCE WITH AVEC SPECIFICATIONS.
- 100A, 120/240V, 1φ, 3 WIRE, 12 SPACE, NEMA 4X LOAD CENTER.
- PROVIDE SHORT CIRCUIT AND ARC FLASH WARNING PLACARD TO READ "AIC RATING OF X,XXX A CALCULATED ON X/X/2025". PROVIDE PPE LABEL FOR LEVEL 1 PER NFPA 70E. CONTACT ENGINEER WITH SERVICE TRANSFORMER FOR SHORT CIRCUIT CALCULATION.
- 2" C, (3) #2 (2H, N), (1) #4 (G)
- #2 TRIPLEX- BOND GROUND TO MESSENGER CABLE
- 3/4" C, (4) #8 (2H, N, G)

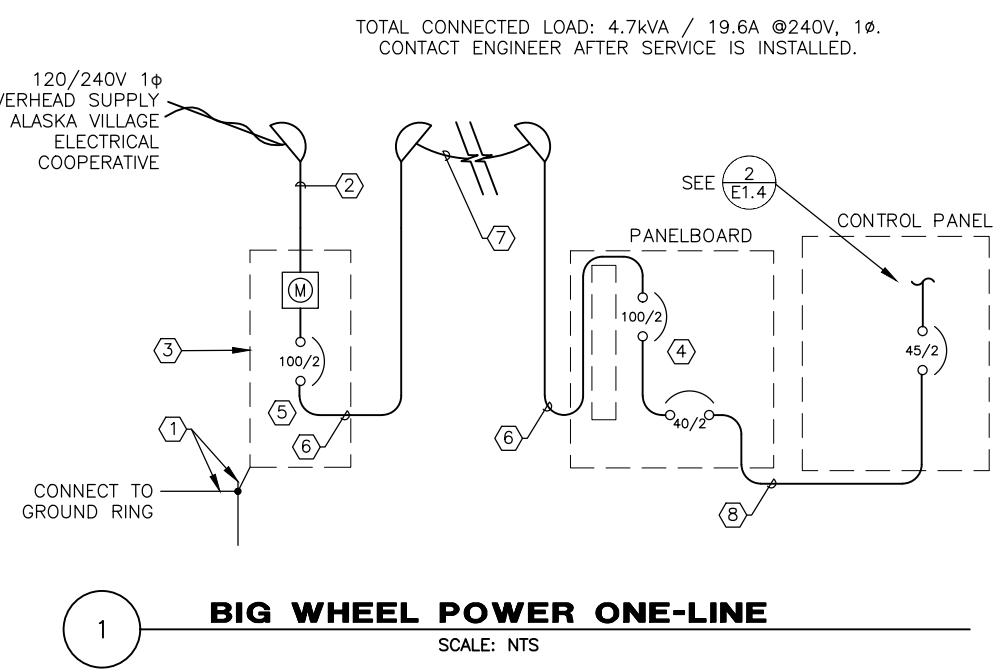
2 **CP-2 AND FIELD EQUIPMENT POWER ONE-LINE**
SCALE: NTS

COMPONENT SCHEDULE			
#			
1	PILOT LIGHT, 120V, LED, NEMA 4X, LENS TINT AS SHOWN, ALLEN BRADLEY 800H SERIES		
2	120V TERMINAL BLOCK RELAY, SPDT, ALLEN BRADLEY 700HLF		
3	PILOT LIGHT, PUSH TO TEST, 120V, LED, NEMA 4X, LENS TINT AS SHOWN ALLEN BRADLEY 800H SERIES		
4	DIN RAIL MOUNTED UPS. HARDWIRED DIN RAIL AC UPS, 850kVA, 120V. P/N SPU 850.		
5	3-POSITION SELECTOR SWITCH, 120V, NEMA 4X, HAND-OFF-AUTO, WITH SPRING RETURN FROM HAND TO OFF POSITION, ALLEN BRADLEY 800H SERIES		
6	2-POLE, SINGLE PHASE, 600V, COMBINATION MOTOR CONTROLLER WITH NEMA SIZE 0 FVNR CONTACTOR SUITABLE FOR GROUP MOTOR PROTECTION. PROVIDE WITH O/L AND AUX CONTACT SETS AS REQUIRED. CUTLER-HAMMER N307UNSA3N OR EQUAL W C320TR11 TRIP AND C3320SA20 AUX		
7	MULTI-POLE CONTACTOR, 120V COIL, 20A RATED CONTACTS. # OF CONTACTS AS REQUIRED.		
8	ALARM STROBE, NEMA 4X, 120V, FEDERAL FIREBALL W/ RED DOME.		
9	INTEGRAL POWER DISTRIBUTION.		
10	120V, PANEL HEATER W/ INTEGRAL THERMOSTAT WATTAGE AS REQUIRED, HOFFMAN SERIES #D-AH.		
11	NORMALLY OPEN PUSHBUTTON, 120V, 10A, NEMA 4X, ALLEN BRADLEY 800H SERIES - CONTACT BLOCKS AS REQUIRED.		
12	NORMALLY CLOSED PUSHBUTTON, 120V, 10A, NEMA 4X, ALLEN BRADLEY 800H SERIES - CONTACT BLOCKS AS REQUIRED.		
13	2-POSITION SELECTOR SWITCH, 120V, NEMA 4X, ON-OFF, 10A RATED CONTACTS, ALLEN BRADLEY 800H SERIES.		
14	2-POLE, SINGLE PHASE, 600V, COMBINATION MOTOR CONTROLLER WITH NEMA SIZE 0 FVNR CONTACTOR SUITABLE FOR GROUP MOTOR PROTECTION. PROVIDE WITH AUX CONTACT SETS AS REQUIRED. CUTLER-HAMMER N307XNSO3N OR EQUAL W C320TR11 TRIP AND C3320SA20 AUX		
15	MULTI-POLE CONTACTOR, 120V COIL, 10A RATED CONTACTS. # OF CONTACTS AS REQUIRED.		
16	36"X48" NEMA 4 RATED ENCLOSURE, LOCKABLE DEADFRONT PANEL WITH INNER OPERATOR DOOR AND 19"X29" WINDOW KIT. HOFFMAN OR EQUAL. SIZE AS DRAWN.		
17	TERMINAL BLOCK RELAY, 2PDT, 120V COIL 10A RATED ALLEN BRADLEY 700-HTL.		
18	ADJUSTABLE TIME DELAY RELAY, MODULE FOR ITEM 3 ABOVE, ALLEN BRADLEY 700-AT3A1.		
#	SEE E1.1 FOR FIELD MOUNTED ELECTRICAL EQUIPMENT SCHEDULE.		

ELECTRICAL ONE-LINE
SHAGELUK, ALASKA

NO.	REVISION	ISSUED FOR BIDDING	BY	DATE
A			BC	3/31/25
Plot 4/1/25				
Date				
Designed				
Drawn				
Approved				

Sheet No. E1.3

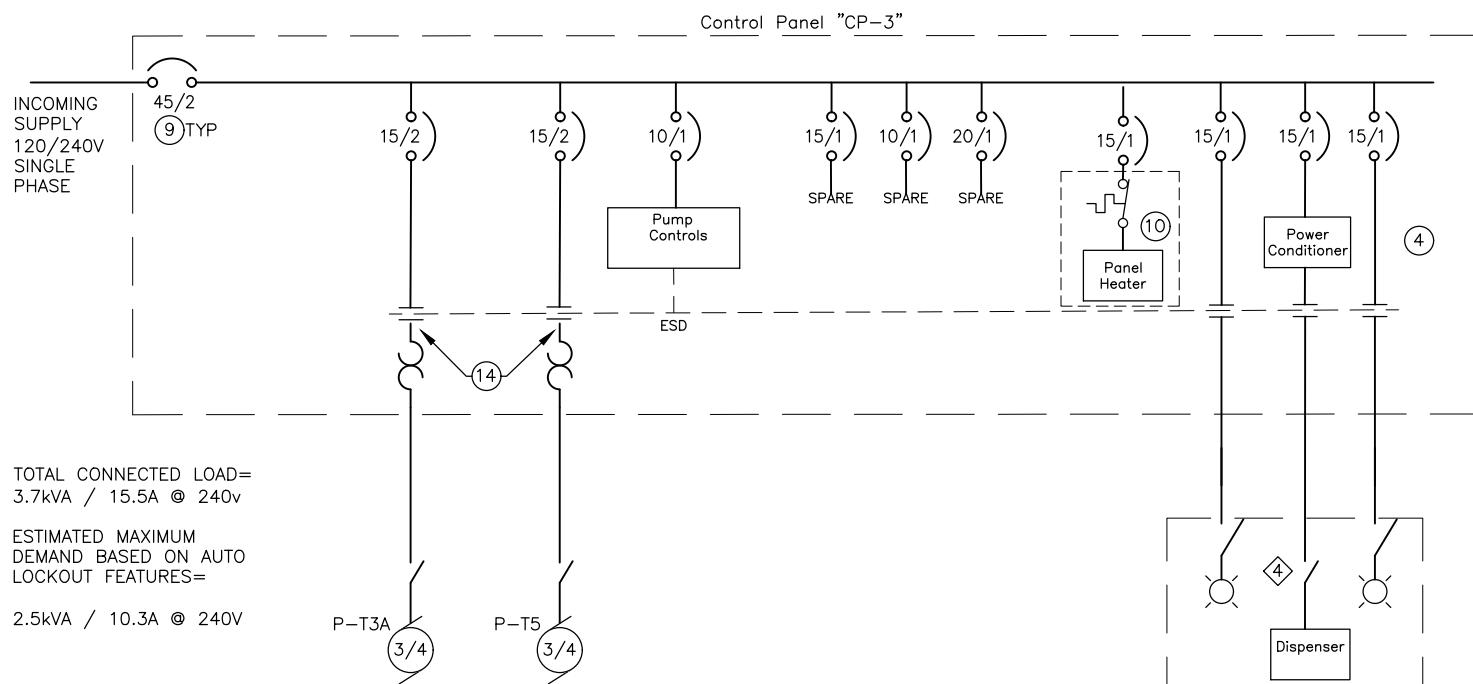
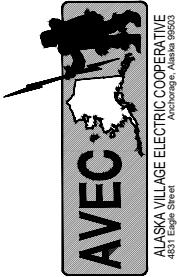


PANEL "C" SCHEDULE						
Location: TANK FARM STAIRS			240/120V		1φ, 3 Wire	
POLE #	AMP TRIP	LOAD DESCRIPTION	POLE		LOAD DESCRIPTION	AMP TRIP #
			Kva	L1 L2	Kva	
1	40/2	CP-3	2.1	2.1	0.0	SPARE
3			1.7		2.7	1.0 *RECEPTACLE
5	20/1	SPARE	0.0	0.0	0.0	SPARE
7			0.0		0.0	
9			0.0		0.0	
11			0.0		0.0	
					2.1	2.7
						Total kVA = 4.7 kVA
						Total Amps @ 240V = 19.6 A

* = GFCI Circuit Breaker

⑥ SHEET NOTES:

- SEE GROUNDING PLAN
- 1-1/2" C, (3) #2 (2H, N) XHHW-2 CU SERVICE RISER.
- MILBANK METER MAIN, 120/240V, 100A. SINGLE-PHASE, SUPPLY AND INSTALL IN COMPLIANCE WITH AVEC SPECIFICATIONS.
- 100A, 120/240V, 1φ, 3 WIRE, 12 SPACE, NEMA 4X LOAD CENTER.
- PROVIDE SHORT CIRCUIT AND ARC FLASH WARNING PLACARD TO READ "AIC RATING OF X,XXX A CALCULATED ON X/X/2025". PROVIDE PPE LABEL FOR LEVEL 1 PER NFPA 70E. CONTACT ENGINEER WITH SERVICE TRANSFORMER FOR SHORT CIRCUIT CALCULATION.
- 2" C, (3) #2 (2H, N), (1) #4 (G)
- #2 TRIPLEX- BOND GROUND TO MESSENGER CABLE
- 3/4" C, (4) #8 (2H, N, G)



2 CP-3 AND FIELD EQUIPMENT POWER ONE-LINE

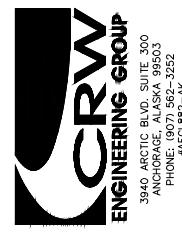
SCALE: NTS

COMPONENT SCHEDULE			
NO.	REVISION	ISSUED FOR BIDDING	DATE
1	A	BC	3/31/25
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
# SEE E1.1 FOR FIELD MOUNTED ELECTRICAL EQUIPMENT SCHEDULE.			

ELECTRICAL ONE-LINE
SHAGELUK, ALASKA

Sheet No. E1.4

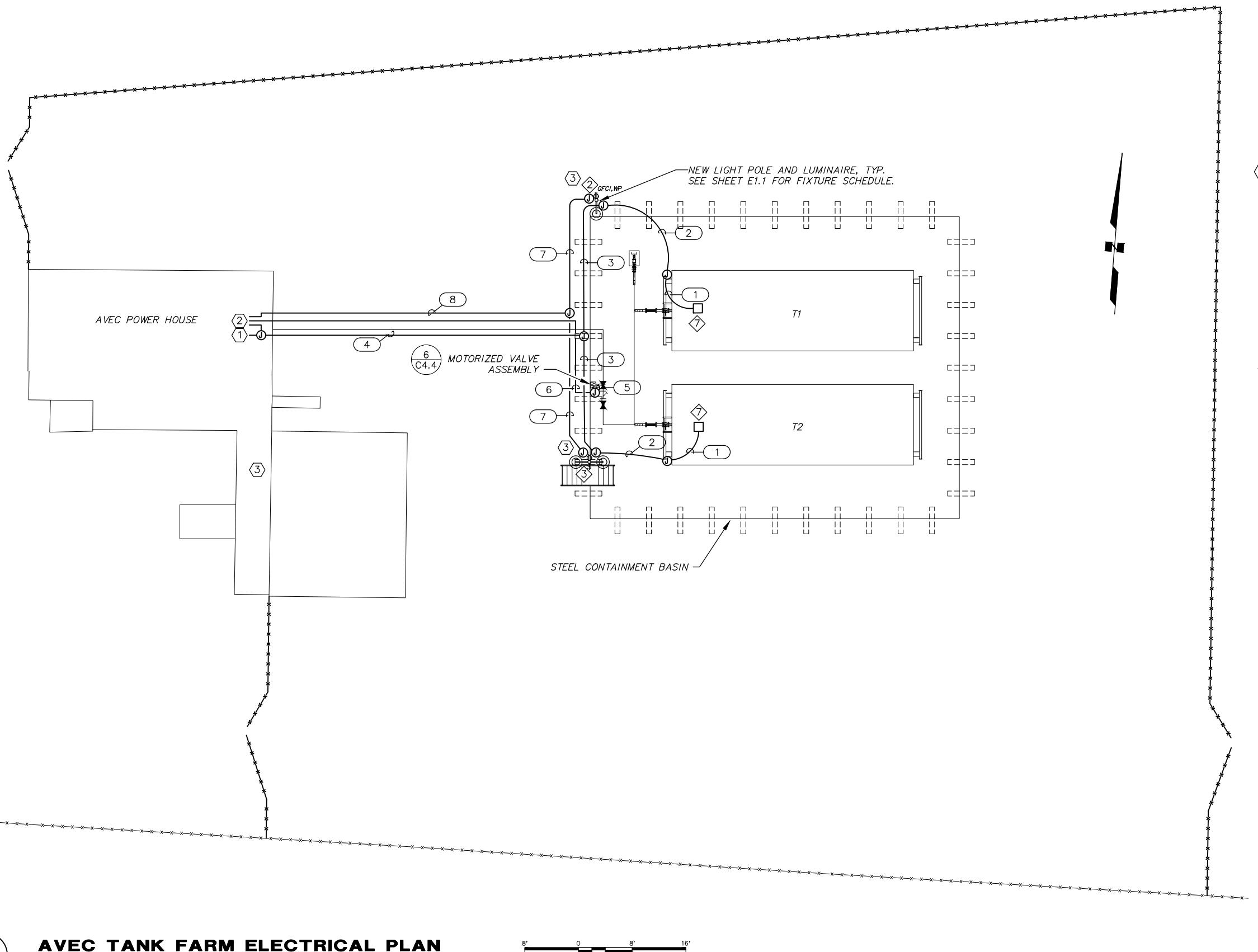
Conductors													
Conduit		Control		Signal		Power		Ground		From	To	Insulation	Remarks
NO.	Size (In.)	#	AWG/MCM	#	AWG/MCM	#	AWG/MCM	#	AWG/MCM				
1	3/4			1	1Pr#18TWS			1	14	Probe	JBox	PE	Liquid tight flexible conduit; splice pigtail to 1Pr#18TWS
2	3/4			2	1Pr#18TWS			1	14	JBox	Pole	PE	Use aerial drop from pole to pole.
3	3/4			2	1Pr#18TWS			1	14	Pole	JBox	PE	
4	1			2	1Pr#18TWS			1	14	JBox	Building	PE	
5	3/4					4	12	1	12	MV	JBox	XHHW-2	
6	3/4					4	12	1	12	JBox	Building	XHHW-2	
7	3/4					4	12	1	14	Pole	JBox	XHHW-2	
8	3/4					4	12	1	14	JBox	Building	XHHW-2	
9	1/2			4	14			1	14	Float	Jbox	XHHW-2	Liquid tight flexible conduit
10	1/2			4	14			1	14	Jbox	Jbox	XHHW-2	Follow pipelines
11	1/2			8	14			1	14	Jbox	Jbox	XHHW-2	Follow pipelines
12	1/2			8	14			1	14	Jbox	CP-1	XHHW-2	Follow pipelines
13	1/2			8	14			1	14	Jbox	CP-3	XHHW-2	Follow pipelines
14	1			16	14			2	14	Jbox	CP-2	XHHW-2	Follow pipelines
15	1/2			2	14			1	14	Jbox	FS	XHHW-2	
16	1/2			6	14			1	14	Jbox	MV	XHHW-2	
17	1			16	14			2	14	Jbox	Jbox	XHHW-2	
18	1			24	14			1	14	Jbox	CP-1	XHHW-2	
19	1/2					2	12	1	12	Pump	Jbox	XHHW-2	Liquid tight flexible conduit
20	1/2					2	12	1	12	Jbox	Jbox	XHHW-2	Follow pipelines
21	1/2					4	12	1	12	Jbox	Jbox	XHHW-2	Follow pipelines
22	3/4					6	12	1	12	Jbox	Jbox	XHHW-2	Follow pipelines
23	1/2					4	12	1	12	Jbox	CP-1	XHHW-2	Follow pipelines
24	1					10	12	1	12	Jbox	CP-2	XHHW-2	Follow pipelines
25	1/2					4	12	1	12	Jbox	CP-3	XHHW-2	Follow pipelines
26	1/2					2	12	1	12	Pump	Disc	XHHW-2	In enclosure
27	1/2					4	12	1	12	Pole	Panel	XHHW-2	Follow pipelines
28	1/2					2	12	1	12	Light	Switch	XHHW-2	In enclosure
29	1/2					2	12	1	12	ESD-4	CP-2	XHHW-2	Follow pipelines
30	1/2					2	12	1	12	Switch	Jbox	XHHW-2	In enclosure
31	1/2					4	12	1	12	Jbox	Panel C	XHHW-2	In enclosure
32	1/2					2	12			Button	Disc	XHHW-2	In enclosure
33	1/2					4	12	1	12	Disp	Disc	XHHW-2	
34	1/2					2	12	1	12	Disc	CP-2	XHHW-2	Follow pipelines
35	1/2					2	12	1	12	Light	Jbox	XHHW-2	
36	1/2					3	12			Switch	Jbox	XHHW-2	
37	1/2					2	12	1	12	Light	Jbox	XHHW-2	
38	1/2					5	12	1	12	Jbox	Jbox	XHHW-2	
39	3/4					7	12	1	12	Jbox	Jbox	XHHW-2	Follow pipelines
40	1/2					2	12	1	12	Light	Jbox	XHHW-2	
41	3/4					4	12	1	12	Jbox	Panel A	XHHW-2	In enclosure
42	1/2					2	12			ESD-1	CP-3	XHHW-2	Follow pipelines
43	1					4	12	1	12	Jbox	Panel B	XHHW-2	Follow pipelines
44	1/2					2	12			ESD-2	CP-2	XHHW-2	
45	1/2					4	12			Disc	CP-3	XHHW-2	Follow pipelines
46	1/2					2	12	1	12	Jbox	CP-1	XHHW-2	Follow pipelines
47	1/2					2	12	1	12	ESD-3	CP-1	XHHW-2	Follow pipelines



**SHAGELUK BULK FUEL UPGRADES
CONDUIT SCHEDULE**

NO.	A	ISSUED FOR BIDDING	REVISION	BY	DATE
Plot Date	4/1/25			BC	3/31/25
Designed	BC				
Drawn	ESCC.JB				
Approved	BC				

Sheet No. E1.5



AVEC TANK FARM ELECTRICAL PLANS

A horizontal scale bar representing 16 feet. It features a thick black line with a total length of 16'. At the 8' mark, there is a vertical tick mark and the label '8''. At the 0 mark, there is a vertical tick mark and the label '0'. At the 16' mark, there is a vertical tick mark and the label '16''. The scale bar is marked with a grid of small vertical lines every 1' unit.

GENERAL NOTES:

ALL ELECTRICAL CONDUIT AND CONDUCTORS
WITHIN DIKED SECONDARY CONTAINMENT SHALL
BE ELEVATED TO MATCH THE TOP OF DIKE
HEIGHT UNLESS NOTED OTHERWISE.

SHEET NOTES:

1. FIELD LOCATE DAY TANK CONTROL PANEL AND EXTEND CIRCUIT.
2. PROVIDE (1)15/1 AND (1)20/1 CIRCUIT BREAKER IN EXISTING PANELBOARD. CIRCUIT BREAKERS SHALL BE COMPATIBLE AND LISTED FOR USE WITH EXISTING PANELBOARD.
3. PROVIDE CONNECTION TO LIGHT FIXTURE AND CONVENIENCE RECEPTACLE FROM EXISTING PANELBOARD. CONNECT LIGHTING TO NEW 15/1 CIRCUIT BREAKER AND RECEPTACLES TO NEW 20/1 CIRCUIT BREAKER. SEE SHEET NOTE 2.

 ELECTRICAL EQUIPMENT TAG, SEE SCHEDULE
ON E1.1.

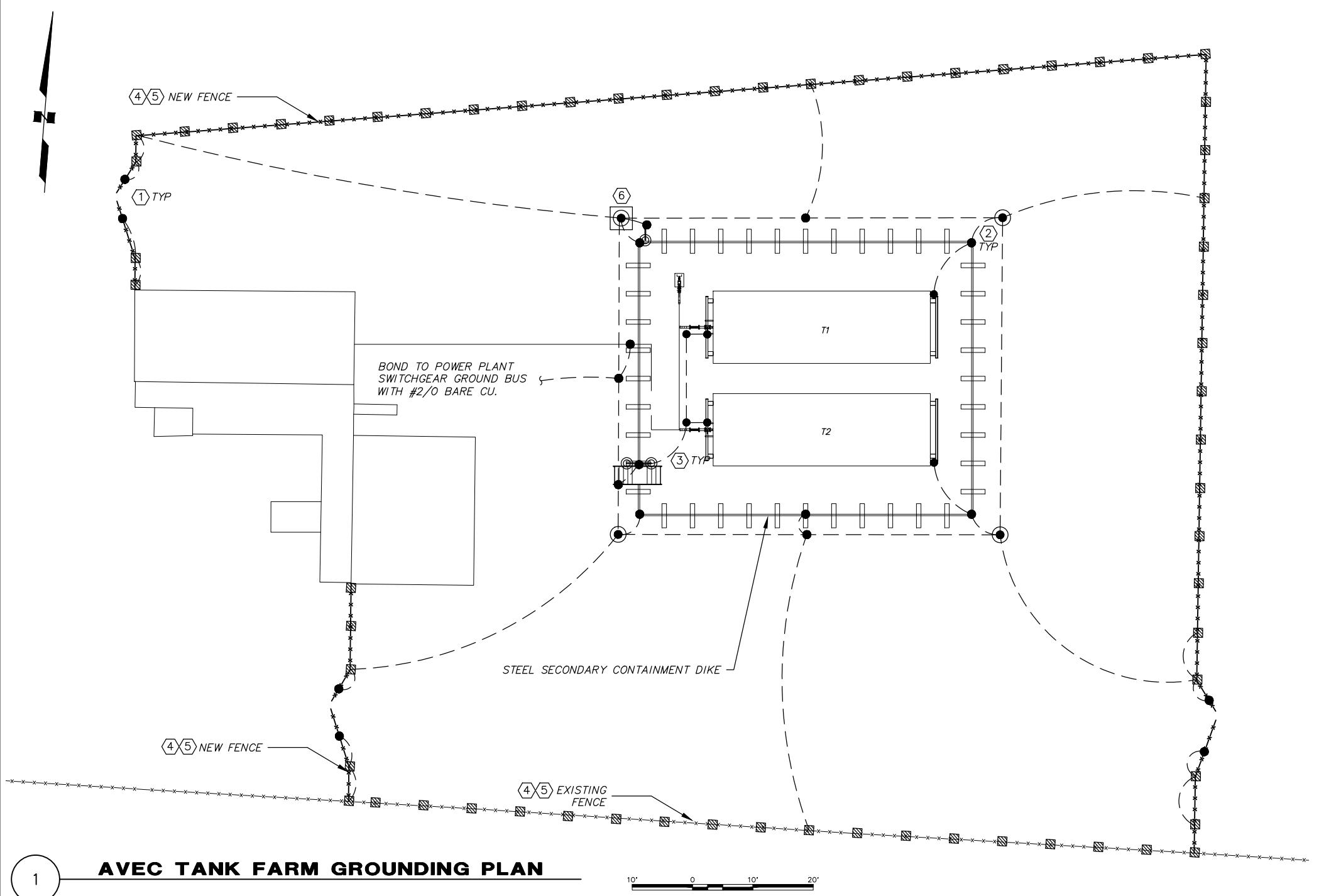
SHAGELUK BULK FUEL UPGRADES
SHAGELUK, ALASKA
AVEC TANK FARM ELECTRICAL PLAN

The seal is circular with a double-lined outer border. The top half of the border contains the words "STATE OF ALASKA" and the bottom half contains "NOTARY PUBLIC". Inside the border, there is a five-pointed star in the upper left and a stylized "Be" monogram in the lower right. The center of the seal contains the text "49 TH" above "BIBIA S.J. COUNTS" and "EE-19877" below it, all enclosed within a decorative scroll.

The logo for CRW Engineering Group. It features the letters 'CRW' in a large, bold, black sans-serif font. To the right of 'CRW', the words 'ENGINEERING GROUP' are stacked vertically in a smaller, black, all-caps sans-serif font. Below the main logo, the address '3940 ARCTIC BLVD. SUITE 300' and the city 'ANCHORAGE, ALASKA 99503' are printed in a smaller, black, all-caps sans-serif font.

NO.	REVISION	BY	DATE
Plot 4/1/25			
Date			
Designed	BC		
Drawn	ESCB		
Approved	BC		

Sheet No. **E2.1**



GENERAL NOTES:

- POWER PLANT SITE GROUND GRID SYSTEM CONSISTS OF ROD ELECTRODES, BURIED COPPER GROUNDING ELECTRODE CONDUCTORS, AND BONDING CONNECTIONS TO DRIVEN STEEL FENCE POST ELECTRODES. EARTH RESISTANCE OF THE GROUND ELECTRODE SYSTEM AS DESIGNED IS WITHIN THE RANGE OF 5 TO 25 OHMS, NOT TO EXCEED 25 OHMS AT FROZEN GROUND DESIGN CONDITION WITH ASSUMED SOIL RESISTIVITY OF $250\text{K CM} - \Omega$.
- ALL GROUND GRID CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC WELDMENTS OR IRREVERSIBLE COMPRESSION TYPE, LISTED FOR DIRECT EARTH BURIAL. ABOVE GRADE CONNECTIONS SHALL BE BOLTED OR COMPRESSION TYPE AS INDICATED BY DETAILS OR IN ACCORDANCE WITH AVEC STANDARD DETAILS.
- BOND GROUND GRID TO THE FOLLOWING:
 - #2/0 BCU TO SWITCHGEAR GROUND BUS
 - #4 BCU TO SERVICES
 - #6 BCU TO FENCE POSTS.
- WHERE BONDING REQUIRED BUT EQUIPMENT NOT IN PLACE, PROVIDE 15 FT PIGTAIL.
- PROVIDE BONDING JUMPERS AS FOLLOWS, UNLESS OTHERWISE INDICATED:
 - #6 BCU FLEXIBLE STRAP AT ALL GATES IN FENCING.
 - #6 BCU FOR BONDING FENCE FABRIC AND BARBED WIRE TABS.
 - #4 BCU FOR MODULE SERVICES, TRANSFORMERS, AND PIPELINES.
- BOND PIPELINES AS THEY CROSS FENCE LINE AND AT MODULE ENTRANCE. #4 BCU.
- FIELD LOCATE AND BOND EXISTING TANK FARM GROUNDING TO THE 2/0 BCU GRID IN TWO PLACES. IF 2 SEPARATE LOCATIONS ARE NOT FEASIBLE, PROVIDE INDEPENDENT PAIRS FROM ADJACENT LOCATIONS. INTENT IS TO PROVIDE DUAL CONNECTIONS.
- SHALLOW BURY GROUND AND JUMPERS WITHIN THE DIKED AREA. DO NOT DAMAGE OR EXPOSE LINER.

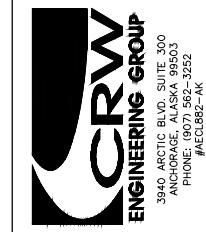
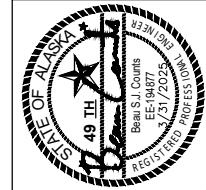
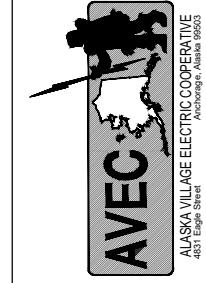
④ SHEET NOTES:

- SEE SHEET E4.1 DETAILS FOR FENCE GROUNDING / BONDING CONNECTIONS AT GATES.
- #2 BARE CU GROUNDING ELECTRODE CONDUCTOR (GEC) AT 30" BURY.
- #4 BCU GROUND TO TANKS.
- PROVIDE #6 BARE CU FENCE GROUNDING CONDUCTOR RUN THROUGH FENCE FABRIC AT 6 INCHES ABOVE GRADE, IN CONTINUOUS RUN BETWEEN SPECIFIED TERMINAL POSTS AROUND PERIMETER OF SITE, WITH BONDING CONNECTION TO PIPE CLAMP AT TERMINAL FENCE POST (#6 NOT SHOWN). REGARDLESS OF SEPARATION DISTANCE ALL CORNERS AND TERMINAL POLES AT GATES AND MANDOORS MUST BE BONDED.
- PROVIDE #6 BCU BONDING CONNECTION TO BARBED WIRE AT TOP OF FENCE AT CORNERS, GATE, AND MANWAY POSTS.
- GROUND TEST POINT, SEE 4/E4.1 FOR DETAIL.

SHAGELUK, ALASKA
AEC TANK FARM GROUNDING PLAN

NO.	REVISION	BY	DATE
Plot 4-1/25	A	ISSUED FOR BIDDING	BC 3/31/25
Date			
Designed	BC		
Drawn	ESCJB		
Approved	BC		

Sheet No. E2.2

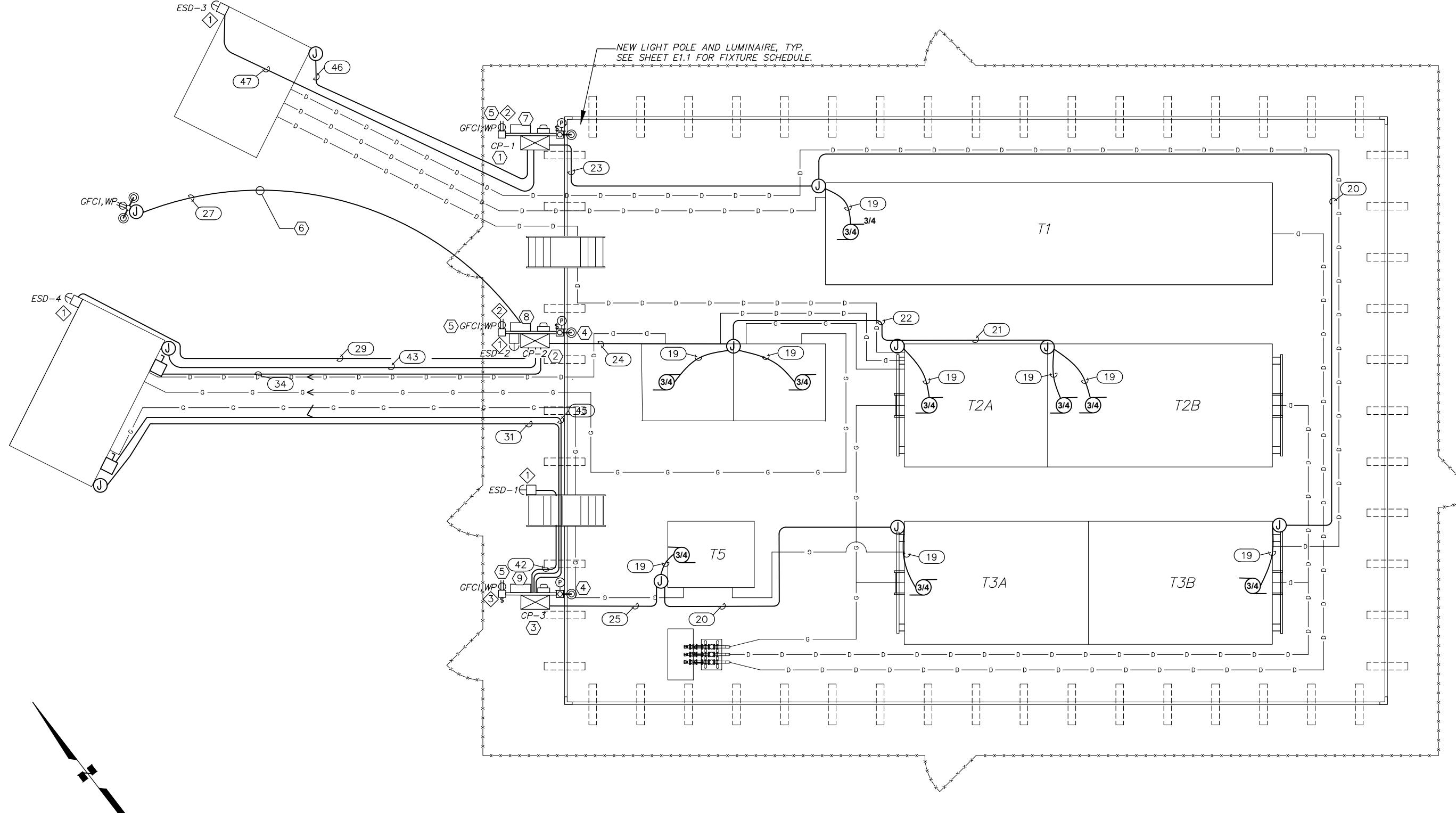


GENERAL NOTES:

1. ALL ELECTRICAL CONDUIT AND CONDUCTORS WITHIN DIKED SECONDARY CONTAINMENT SHALL CONFORM TO THE REQUIREMENTS OF THE NEC FOR CLASSIFIED HAZARDOUS LOCATIONS AND SHALL BE ELEVATED TO MATCH THE TOP OF DIKE HEIGHT UNLESS NOTED OTHERWISE.

SHEET NOTES:

1. LOCATION OF BACKBOARD MOUNTED CITY ELECTRICAL SERVICE AND PANEL 'A': CP-1 MOUNTED TO OPPOSITE SIDE.
2. LOCATION OF BACKBOARD MOUNTED CORP ELECTRICAL SERVICE AND PANEL 'B': CP-2 MOUNTED TO OPPOSITE SIDE.
3. LOCATION OF BACKBOARD MOUNTED BIG WHEEL ELECTRICAL SERVICE AND PANEL 'C': CP-3 MOUNTED TO OPPOSITE SIDE.
4. PROVIDE CONNECTION TO LUMINAIRE FROM NEARBY PANELBOARD. PROVIDE CONNECTION TO PHOTO CELL AND LIGHT SWITCH FOR CONTROL.
5. PROVIDE CONNECTION TO CONVENIENCE RECEPTACLE FROM SERVICE/PANELBOARD INDICATED.
6. PROVIDE AERIAL POWER RUN FROM 35' POLE TO 35" POLE FOR CONNECTION TO LIGHTING AND CONVENIENCE RECEPTACLE.
7. PANEL 'A', SEE E1.2.
8. PANEL 'B', SEE E1.3.
9. PANEL 'C', SEE E1.4.

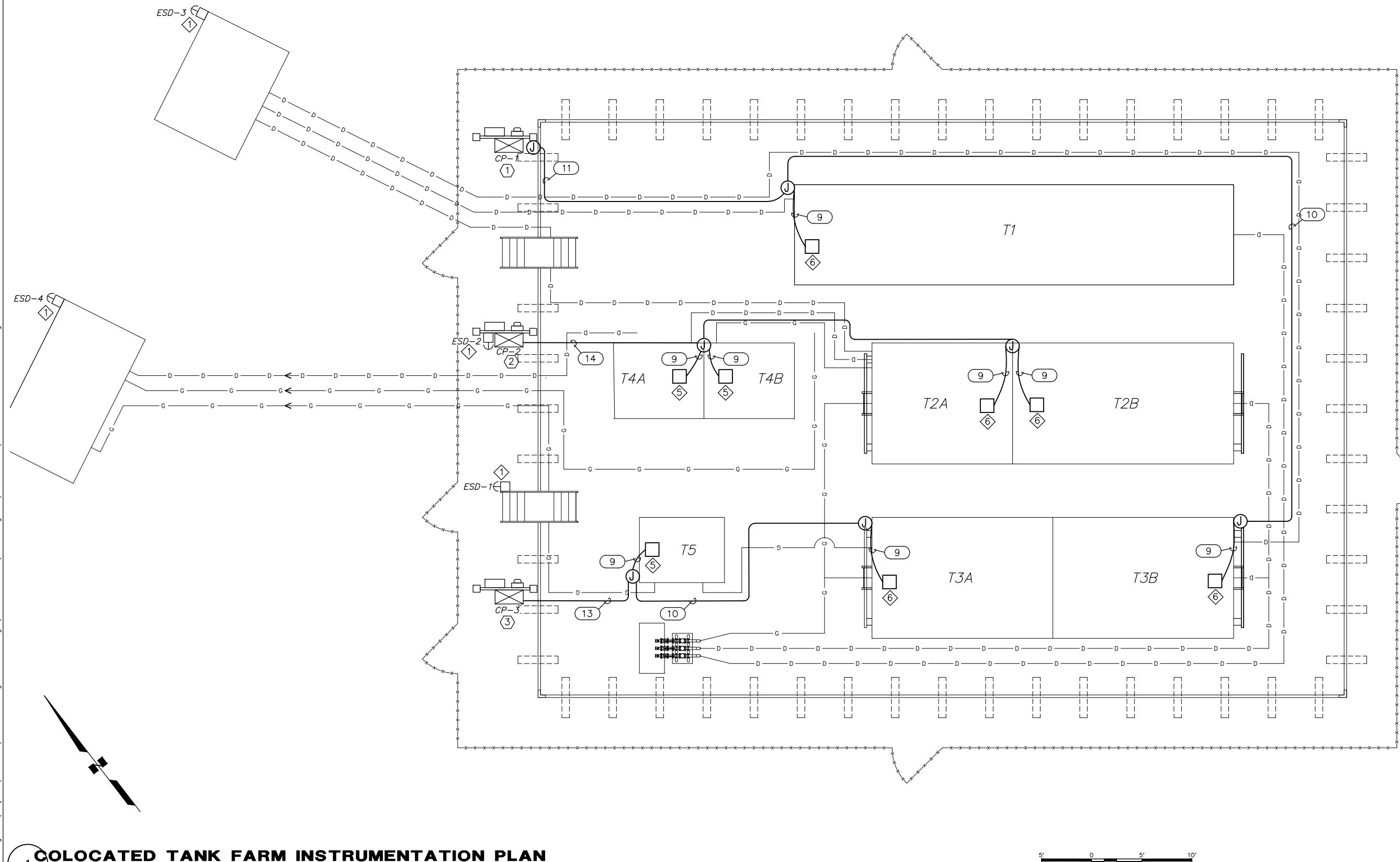


GENERAL NOTES:

1. SEE GENERAL NOTES ON SHEET E2.3.

SHEET NOTES:

1. LOCATION OF BACKBOARD MOUNTED CITY ELECTRICAL SERVICE AND PANEL 'A': CP-1 MOUNTED TO OPPOSITE SIDE.
2. LOCATION OF BACKBOARD MOUNTED CORP ELECTRICAL SERVICE AND PANEL 'B': CP-2 MOUNTED TO OPPOSITE SIDE.
3. LOCATION OF BACKBOARD MOUNTED BIG WHEEL ELECTRICAL SERVICE AND PANEL 'C': CP-3 MOUNTED TO OPPOSITE SIDE.



1 COLOCATED TANK FARM INSTRUMENTATION PLAN

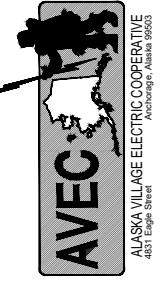
5' 0' 5' 10'

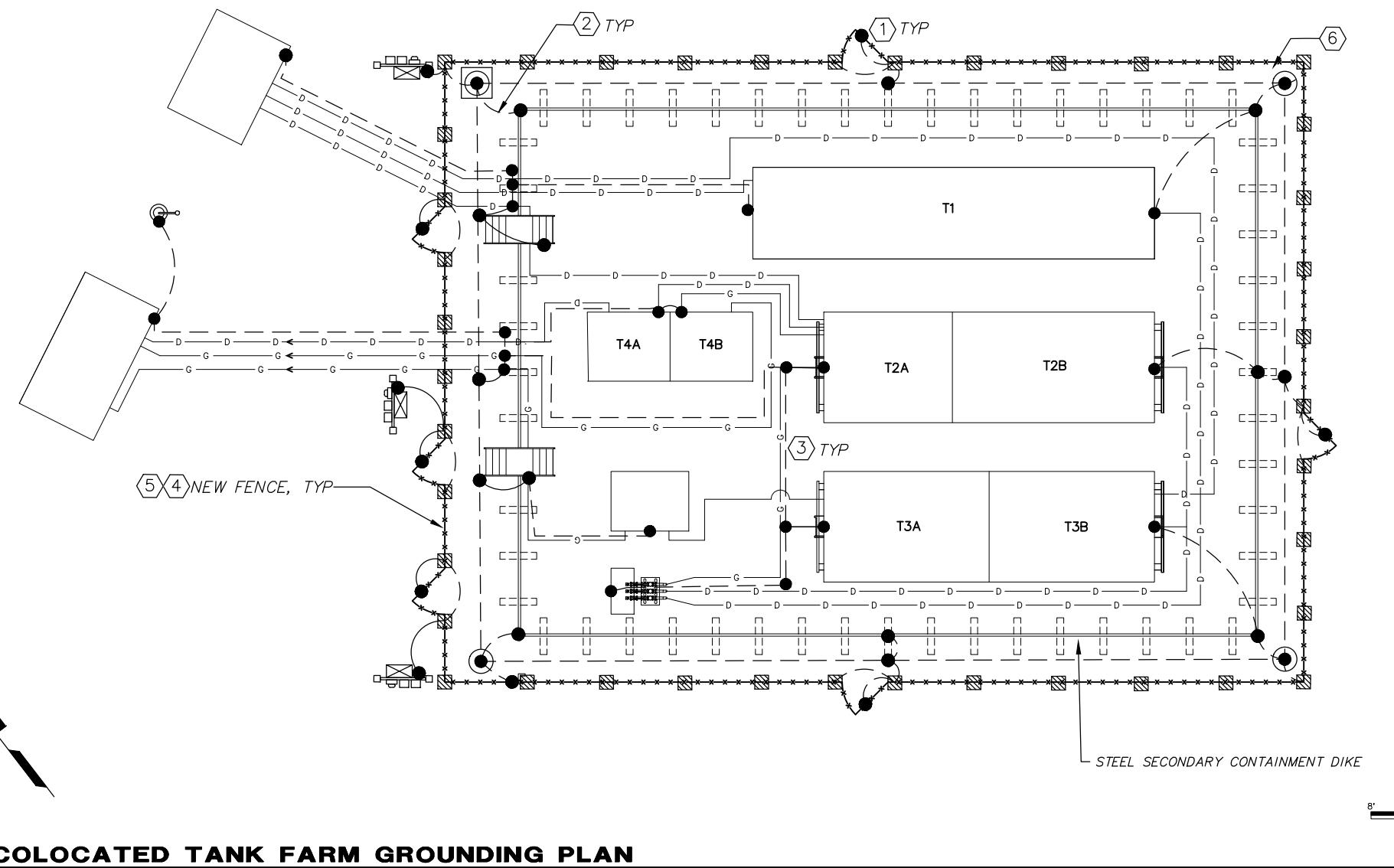
SHAGELUK BULK FUEL UPGRADES
COLOCATED TANK FARM
INSTRUMENTATION PLAN
SHAGELUK, ALASKA

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

Plot	Date	Designed	Drawn	Approved
4-1/25	EE/19877 3/31/25	BC	ESCB	BC

Sheet No. E2.4



**GENERAL NOTES:**

- POWER PLANT SITE GROUND GRID SYSTEM CONSISTS OF ROD ELECTRODES, BURIED COPPER GROUNDING ELECTRODE CONDUCTORS, AND BONDING CONNECTIONS TO DRIVEN STEEL FENCE POST ELECTRODES. EARTH RESISTANCE OF THE GROUND ELECTRODE SYSTEM AS DESIGNED IS WITHIN THE RANGE OF 5 TO 25 OHMS, NOT TO EXCEED 25 OHMS AT FROZEN GROUND DESIGN CONDITION WITH ASSUMED SOIL RESISTIVITY OF $250\text{K} < P \leq 400\text{K} \text{ CM-}\Omega$.
- ALL GROUND GRID CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC WELDMENTS OR IRREVERSIBLE COMPRESSION TYPE, LISTED FOR DIRECT EARTH BURIAL. ABOVE GRADE CONNECTIONS SHALL BE BOLTED OR COMPRESSION TYPE AS INDICATED BY DETAILS OR IN ACCORDANCE WITH AVEC STANDARD DETAILS.
- BOND GROUND GRID TO THE FOLLOWING:
 - #4 BCU TO SERVICES
 - #6 BCU TO FENCE POSTS.
- WHERE BONDING REQUIRED BUT EQUIPMENT NOT IN PLACE, PROVIDE 15 FT PIGTAIL.
- PROVIDE BONDING JUMPERS AS FOLLOWS, UNLESS OTHERWISE INDICATED:
 - #6 BCU FLEXIBLE STRAP AT ALL GATES IN FENCING.
 - #6 BCU FOR BONDING FENCE FABRIC AND BARBED WIRE TABS.
 - #4 BCU FOR MODULE SERVICES, TRANSFORMERS, AND PIPELINES.
- BOND PIPELINES AS THEY CROSS FENCE LINE AND AT MODULE ENTRANCE. #4 BCU.
- SHALLOW BURY GROUND AND JUMPERS WITHIN THE DIKED AREA. DO NOT DAMAGE OR EXPOSE LINER.

⑥ SHEET NOTES:

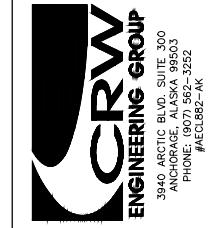
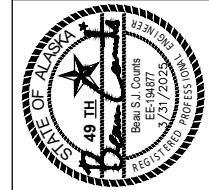
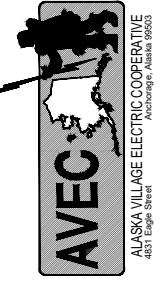
- SEE SHEET E4.1 DETAILS FOR FENCE GROUNDING / BONDING CONNECTIONS AT GATES.
- #2 BARE CU GROUNDING ELECTRODE CONDUCTOR (GEC) AT 30" BURY.
- #4 BCU GROUND TO TANKS.
- PROVIDE #6 BARE CU FENCE GROUNDING CONDUCTOR RUN THROUGH FENCE FABRIC AT 6 INCHES ABOVE GRADE, IN CONTINUOUS RUN BETWEEN SPECIFIED TERMINAL POSTS AROUND PERIMETER OF SITE, WITH BONDING CONNECTION TO PIPE CLAMP AT TERMINAL FENCE POST (#6 NOT SHOWN). REGARDLESS OF SEPARATION DISTANCE ALL CORNERS AND TERMINAL POLES AT GATES AND MANDOORS MUST BE BONDED.
- PROVIDE #6 BCU BONDING CONNECTION TO BARBED WIRE AT TOP OF FENCE AT CORNERS, GATE, AND MANWAY POSTS.
- GROUND TEST POINT, SEE 4/E4.1 FOR DETAIL.

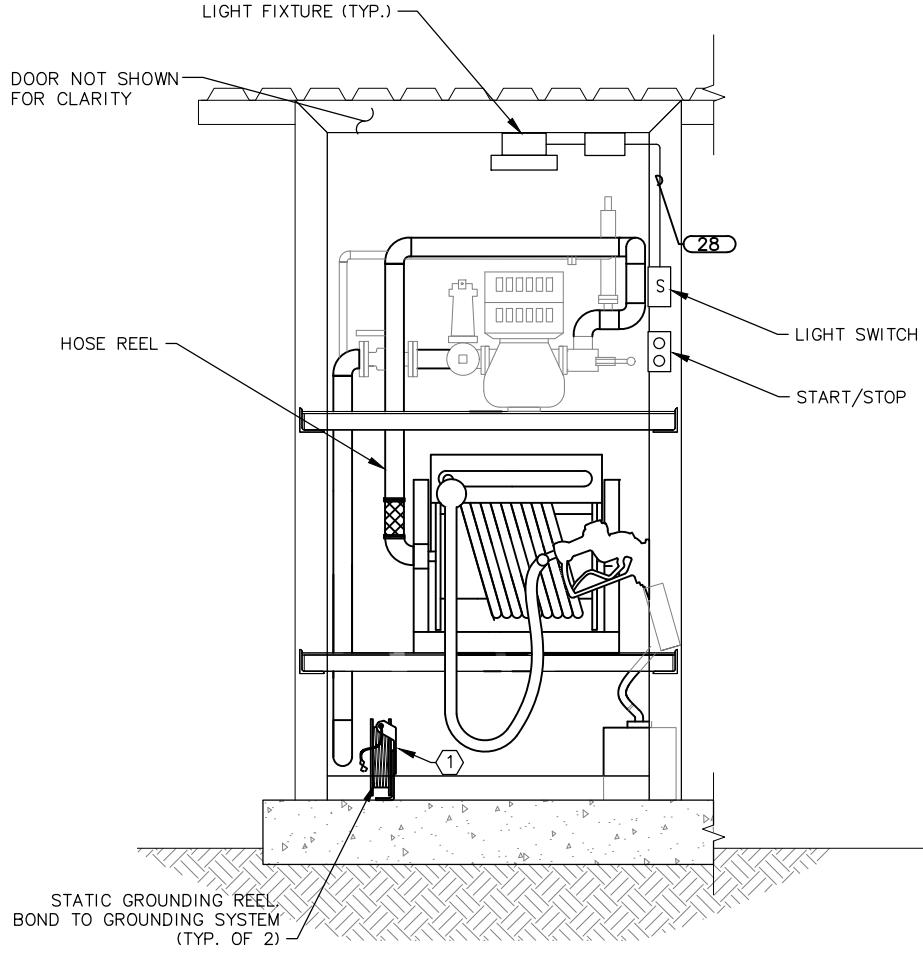
SHAGELUK, ALASKA
COLOCATED TANK FARM GROUNDING PLAN

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

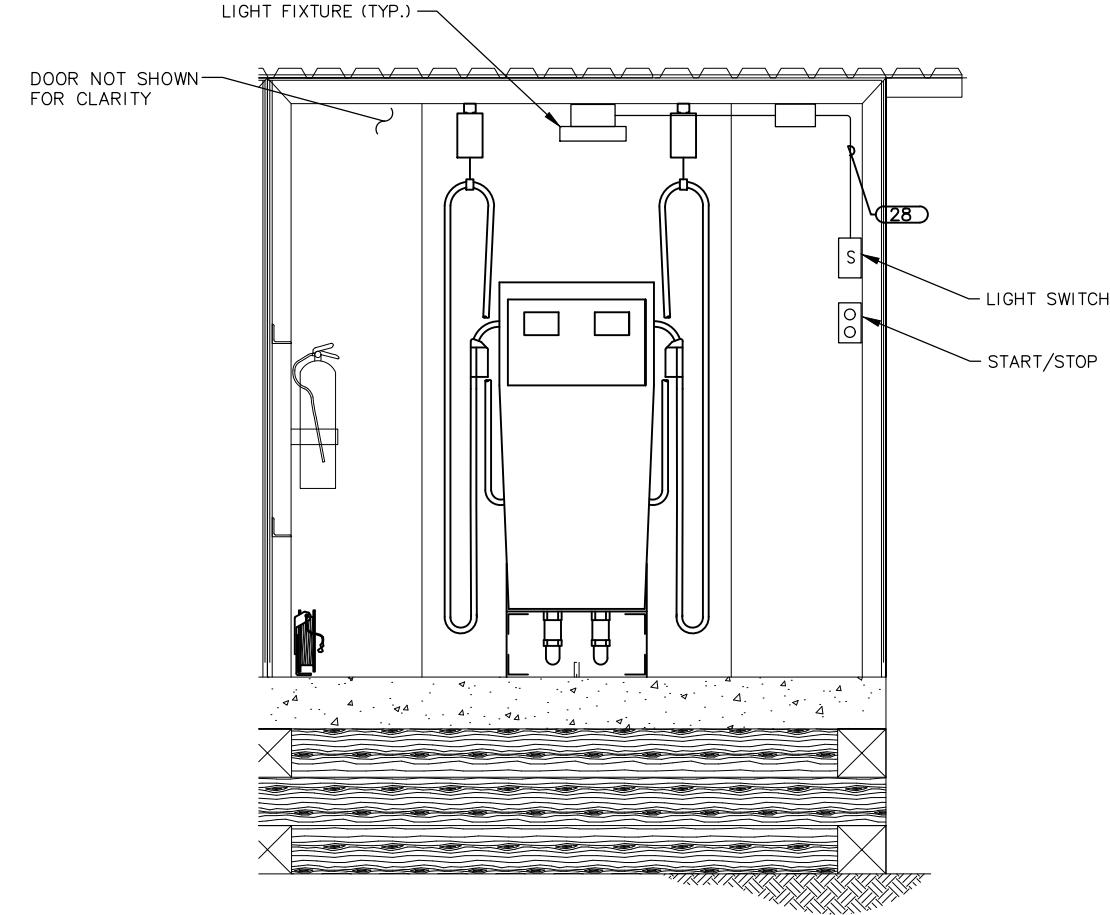
Plot 4-1/25
Date 4/1/25
Designed BC
Drawn ESCJB
Approved BC

Sheet No. E2.5

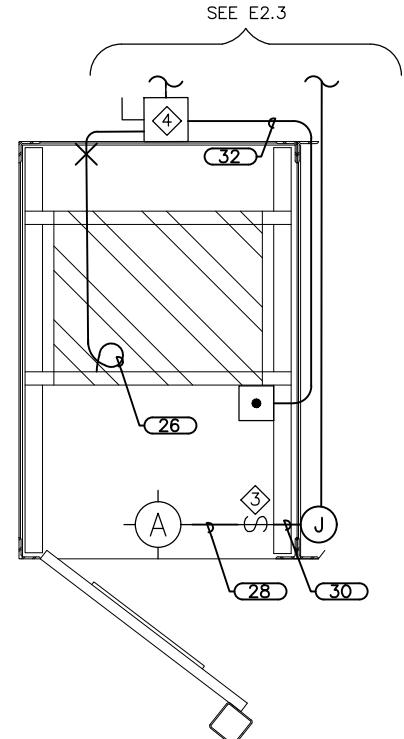




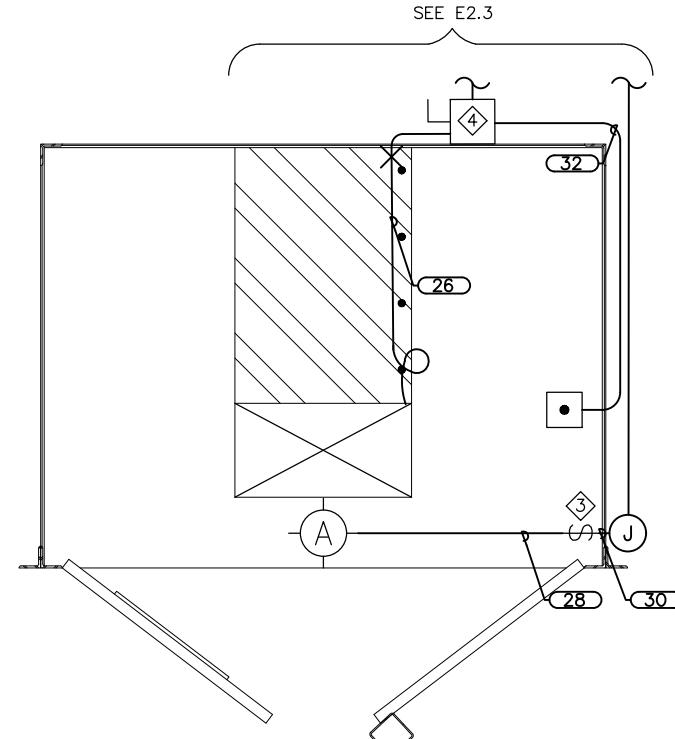
HOSE REEL ELEVATION
NOT TO SCALE



DISPENSER ELEVATION
NOT TO SCALE



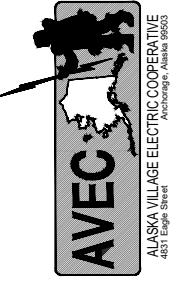
HOSE REEL PLAN
NOT TO SCALE



DISPENSER PLAN
NOT TO SCALE

NOTES

- ① PROVIDE ATTACHMENT POINT FOR GROUND REEL AT DISPENSER. COORDINATE LOCATION AND CONNECTION MEANS WITH GROUND REEL SUPPLIER.
- ☒ CONDUIT/CONDUCTOR SCHEDULE ON E1.5
- ☒ EQUIPMENT SCHEDULE ON E1.1

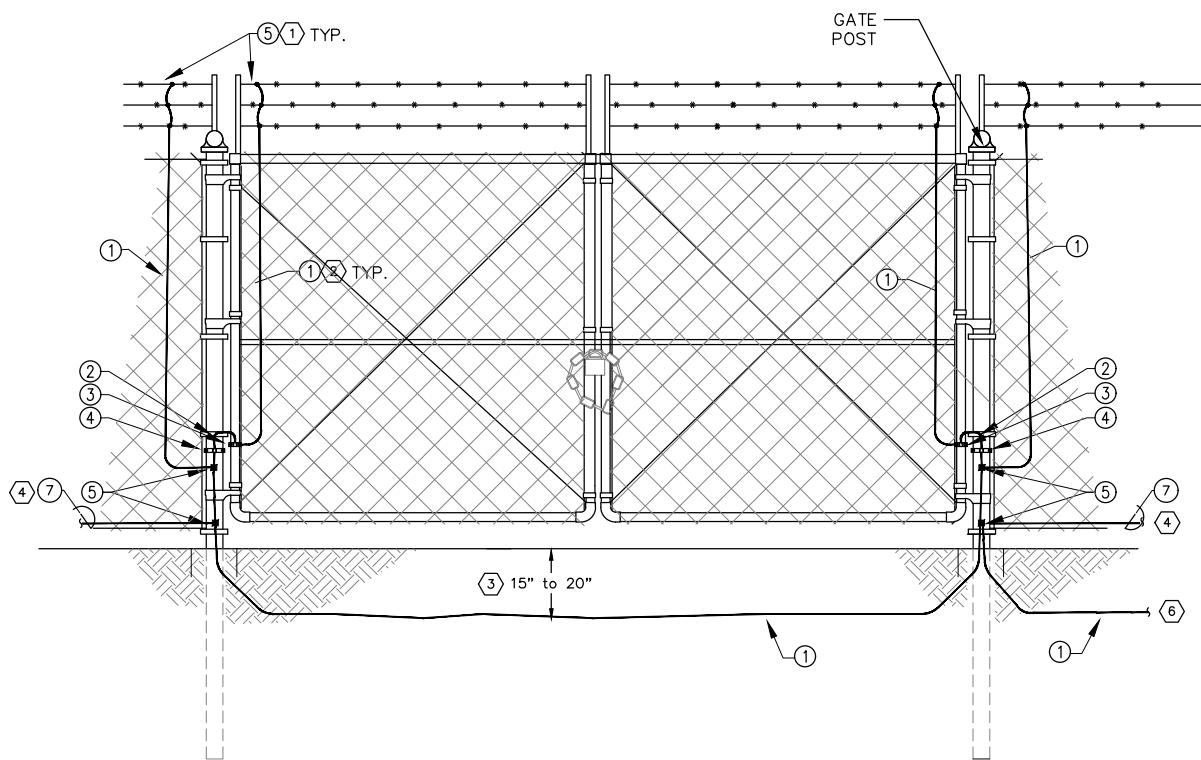


SHAGELUK BULK FUEL UPGRADES
DISPENSER & PUMP CABINET
ELECTRICAL PLAN
SHAGELUK, ALASKA

NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

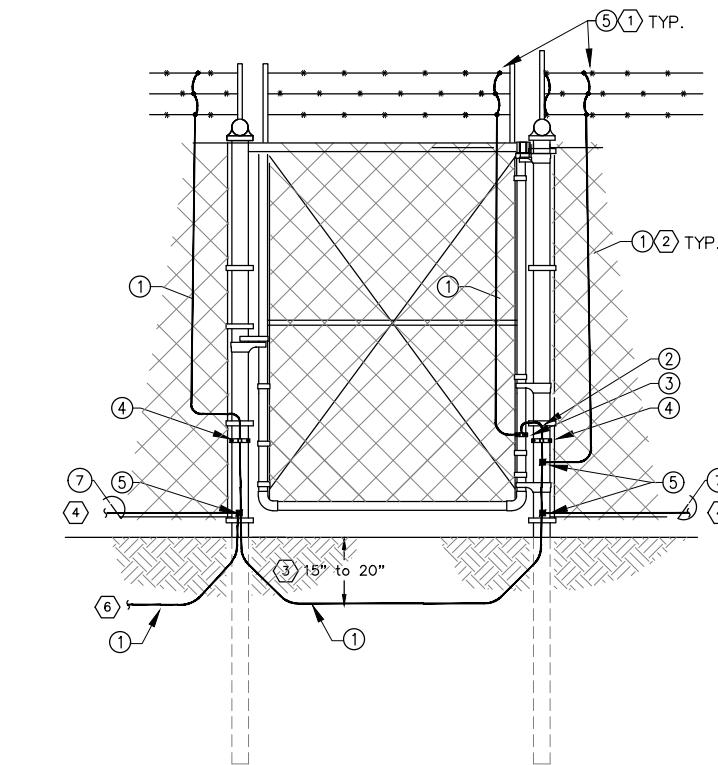
Plot 4-1/25
Date 4-1/25
Designed
Drawn
Approved BC AMH

E3.1



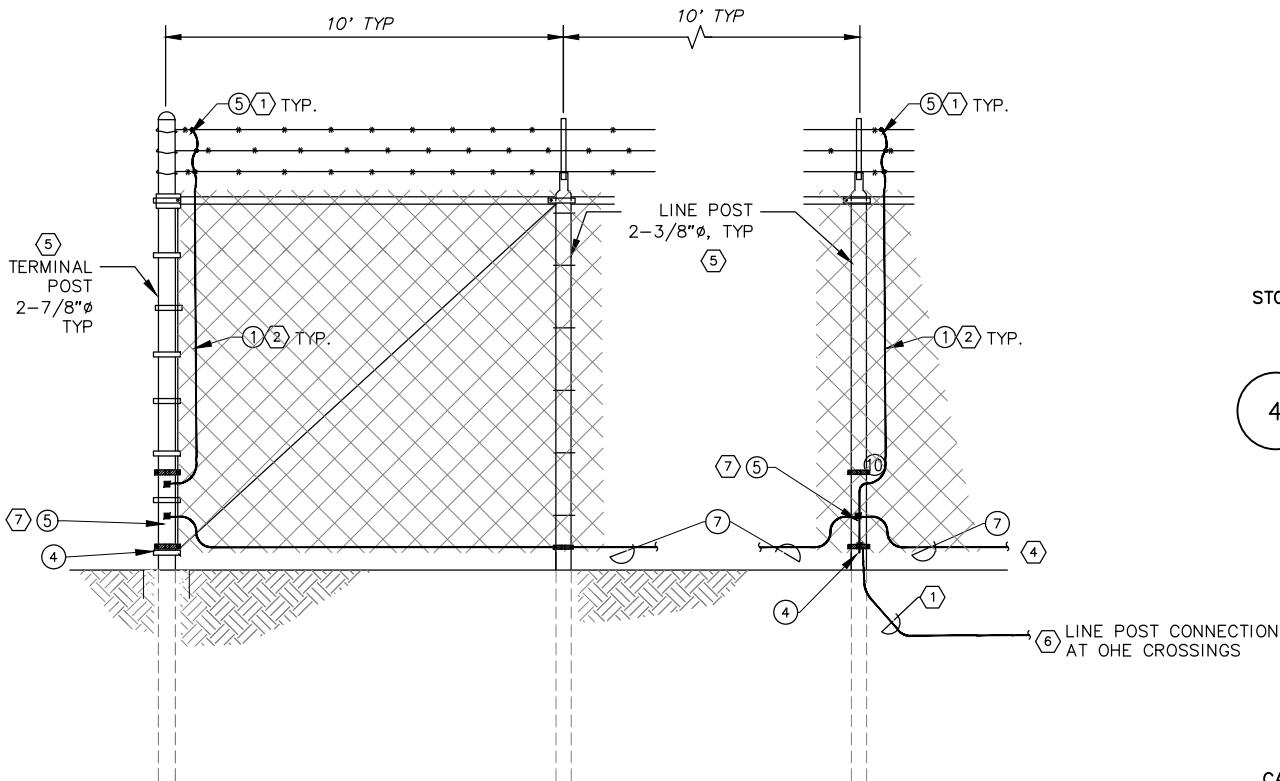
DOUBLE LEAF GATE GROUNDING DETAIL

SCALE: NTS



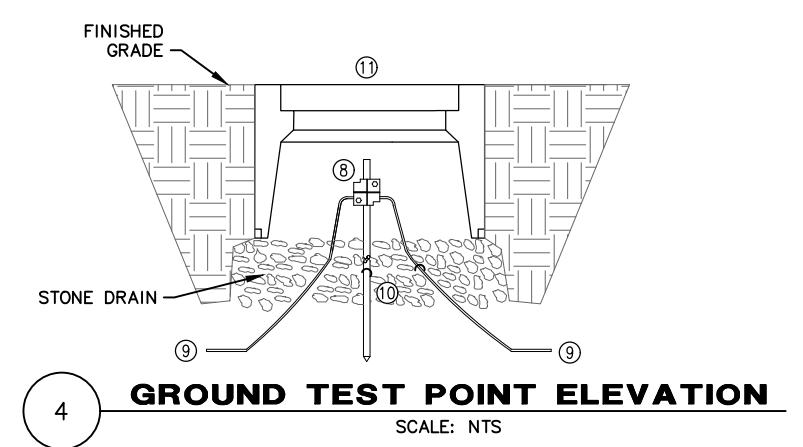
SINGLE LEAF MAN GATE GROUNDING DETAIL

SCALE: NTS



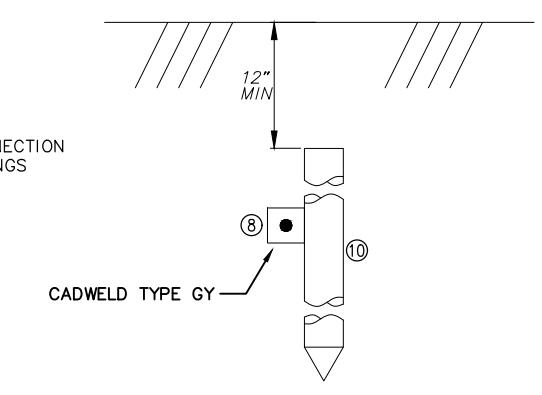
SECURITY FENCE SECTION GROUNDING DETAILS

SCALE: NTS



GROUND TEST POINT ELEVATION

SCALE: NTS



GROUND ROD CONNECTION

SCALE: NTS

GENERAL NOTES:

1. REFERENCE GROUNDING PLANS.

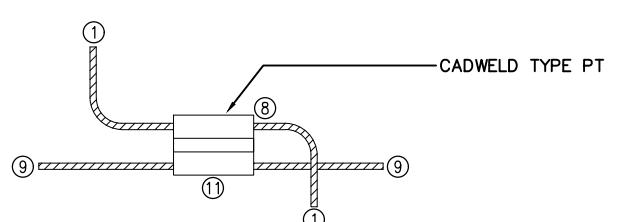
SHEET NOTES:

1. BOND BARBED WIRE STRANDS ABOVE WIRE FABRIC FENCE SECTIONS AND GATES AT 20 FT MAXIMUM INTERVALS IN AREAS WITHIN 20 FT MEASURED HORIZONTALLY FROM OVERHEAD CONDUCTORS AND WHERE SHOWN ON PLANS AND WHERE REQUIRED, CONNECT ALL BARBED WIRE STRANDS ABOVE FENCE TO THE BONDING CONDUCTOR WITH COMPRESSION CONNECTORS.
2. WEAVE BONDING CONDUCTOR THROUGH FENCE WIRE MESH WHERE BARBED WIRE BONDING IS REQUIRED.
3. PROVIDE BURIED GROUNDING ELECTRODE CONDUCTOR (GEC) UNDER ALL GATES WITH PIPE CLAMP BONDING CONNECTION TO FENCE POSTS AS INDICATED. PROVIDE RED WARNING TAPE 6 INCHES ABOVE THE BURIED CONDUCTOR.
4. WEAVE BONDING CONDUCTOR THROUGH FENCE WIRE MESH WITHIN 6 INCHES OF GRADE WITH A PIPE CLAMP BONDING CONNECTION AT EVERY OTHER FENCE POST, TERMINAL POSTS AND WHERE SHOWN ON PLANS.
5. BOND TERMINAL AND LINE POSTS TO GEC / BONDING CONDUCTORS WITH HARDWARE AS INDICATED, AT LOCATIONS INDICATED ON PLANS.
6. PROVIDE BURIED GEC CONNECTION AT 30 1/2" BURY (MIN. COVER) TO TANK FARM GROUND GRID AS INDICATED ON PLANS.
7. WHERE #2 GEC / BONDING CONDUCTOR AT FENCE POST IS NOT PRESENT, BOND #6 BONDING CONDUCTOR TO A PIPE CLAMP CONNECTION AT EACH FENCE POST.

MATERIAL LIST:

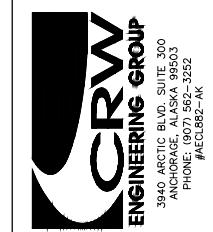
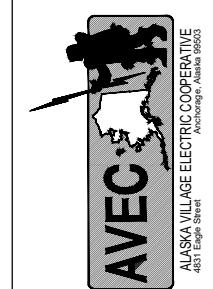
- ① #2 BARE STRANDED COPPER WIRE
- ② #2 COPPER FLEXIBLE WELDING CABLE (LENGTH AS REQUIRED BY GATE SWING TO FULL OPEN)
- ③ PIPE GROUNDING CLAMP, 1-5/8" TO 2-3/8" OD, #6 TO #2 WIRE
- ④ PIPE GROUNDING CLAMP, 2-7/8" TO 4.0" OD, #6 TO #2 WIRE
- ⑤ COPPER COMPRESSION TAP CONNECTOR AS REQUIRED; APPLY COPPER-BASED INHIBITOR BEFORE CRIMPING.
- ⑥ GROUND ROD CONNECTOR AS REQUIRED, IRREVERSIBLE (COMPRESSION OR EXOTHERMIC) TYPE.
- ⑦ *#6 BARE SOFT COPPER WIRE
- ⑧ EXOTHERMIC WELDMENT
- ⑨ 2/0 BCU GROUND GRID
- ⑩ 3/4" 10' COPPER CLAD STEEL GROUND ROD
- ⑪ 14"X14"X18"D UNDERGROUND JUNCTION BOX WITH CAST COVER.

NOTE: PROVIDE QUANTITIES AS REQUIRED BY PLANS.



GROUND GRID BOND DETAIL

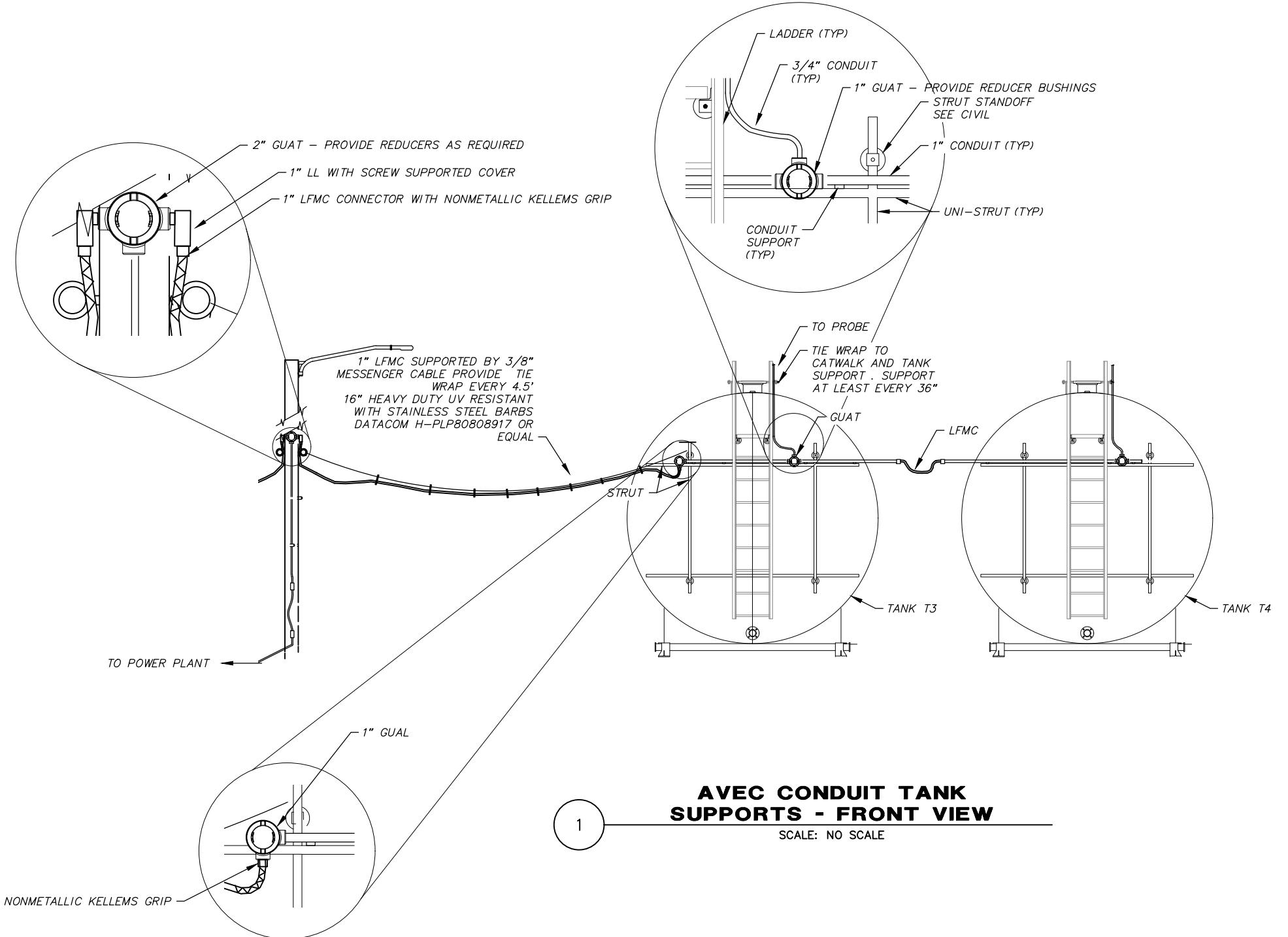
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NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

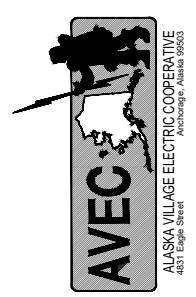
Plot 4-1/25
Designed BC
Drawn ESCJB
Approved BC

Sheet No.



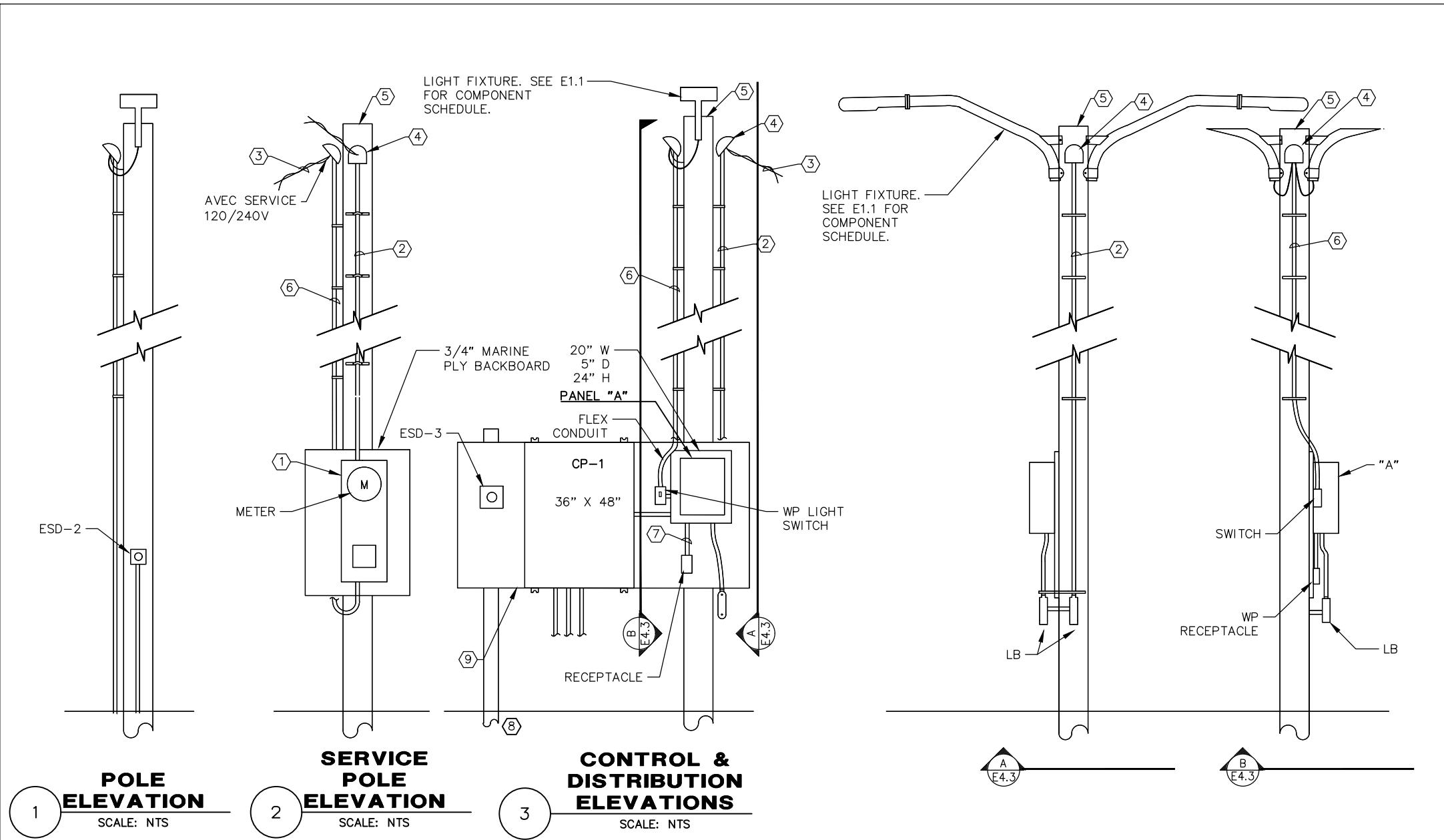
AVEC CONDUIT TANK SUPPORTS - FRONT VIEW

SCALE: NO SCALE



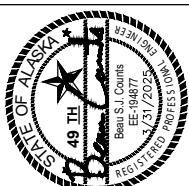
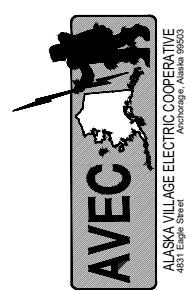
SHAGELUK BULK FUEL UPGRADES CONDUIT SUPPORT DETAIL

Sheet No. **F4.2**



⑥ SHEET NOTES:

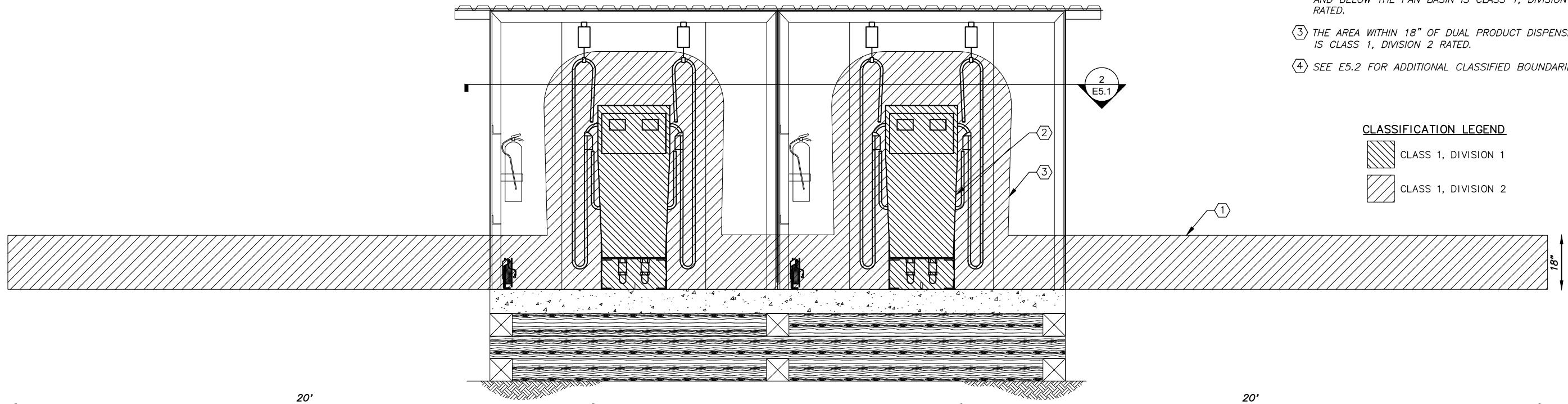
1. MILBANK METER MAIN, 120/240V, 100A, SINGLE-PHASE, SUPPLY AND INSTALL IN COMPLIANCE WITH AVEC SPECIFICATIONS.
2. 2"C, (3) #2 (2H, N), (1) #4 (G)
3. #2 TRIPLEX- BOND GROUND TO MESSENGER CABLE
4. WEATHERHEAD (TYP.)
5. CLASS 5, 35' STUB POLE. BURIAL DEPTH 7' MINIMUM.
6. 1"C, (5) #12 (2H, 2N, 2G)
7. 1/2"C, (2) #10, (1) #10 G
8. PROVIDE 12'X8"X8" PRESSURE TREATED POST. SEE CIVIL FOR POST FOUNDATION & COVER.
9. PROVIDE A 4'X8'X3/4" MARINE DUTY RATED PLY BACKBOARD WITH 2 COATS EPOXY BASED PAINT (GRAY). SECURE BACKBOARD TO SUPPORTS WITH GALVANIZED HARDWARE. MOUNT CONTROL PANEL TO BACKBOARD USING (2) VERTICAL STAINLESS STEEL UNISTRUT SECTIONS EXTENDING ABOVE AND BELOW THE BACKBOARD SUFFICIENT TO ALLOW SECURING THE PANEL MOUNTING TABS TO THE STRUT WITH STAINLESS STEEL SPRING NUTS AND BOLTS.
10. PROVIDE ATTACHMENT POINT FOR GROUND REEL AT FLEET DISPENSER. COORDINATE LOCATION AND CONNECTION MEANS WITH GROUND REEL SUPPLIER.



SHAGELUK BULK FUEL UPGRADES
ELEVATIONS
SHAGELUK, ALASKA

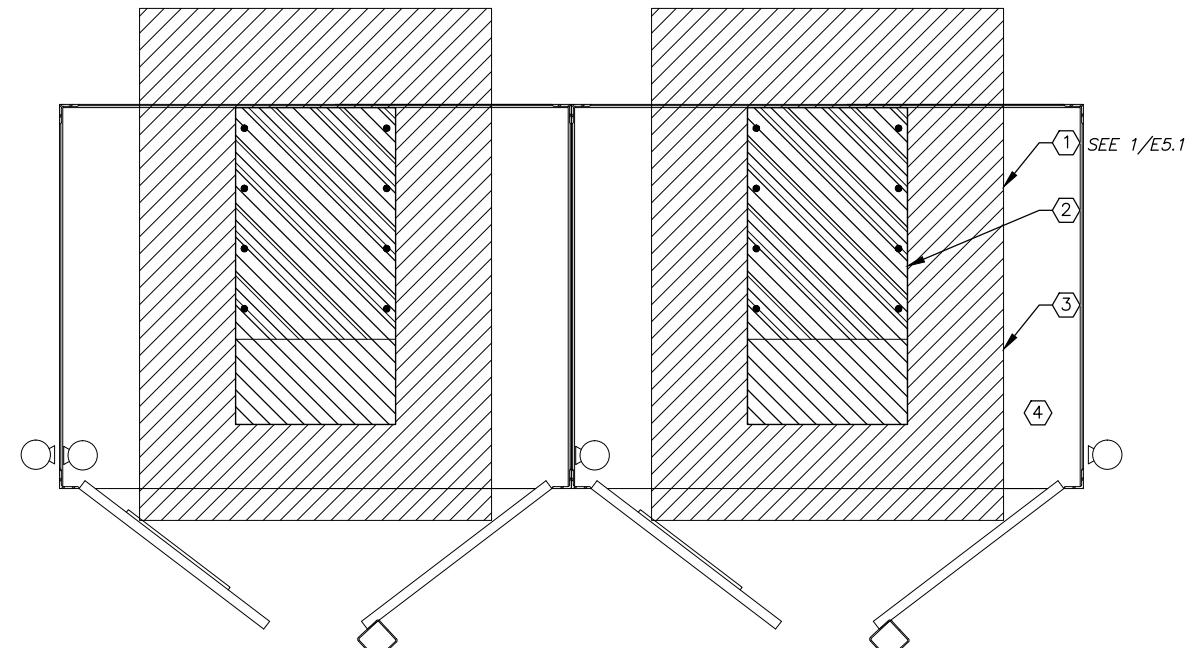
NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

Plot 4-1/25
Date 4/1/25
Designed BC
Drawn ESCJB
Approved BC
Sheet No. E4.3



DUAL PRODUCT DISPENSER AREA CLASSIFICATION ELEVATION

NOT TO SCALE



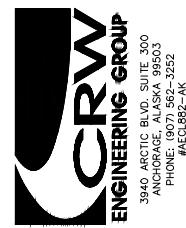
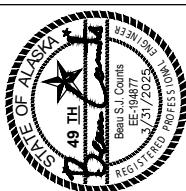
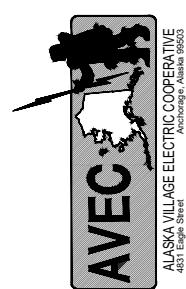
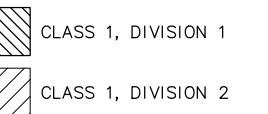
DUAL PRODUCT DISPENSER AREA CLASSIFICATION PLAN

NOT TO SCALE

NOTES

- ▷ THE AREA 18" ABOVE GRADE WITHIN 20' OF DUAL DISPENSER IS CLASS 1, DIVISION 2 RATED.
- ▷ THE AREA INSIDE THE DUAL DISPENSER AND INSIDE AND BELOW THE PAN BASIN IS CLASS 1, DIVISION 1 RATED.
- ▷ THE AREA WITHIN 18" OF DUAL PRODUCT DISPENSER IS CLASS 1, DIVISION 2 RATED.
- ▷ SEE E5.2 FOR ADDITIONAL CLASSIFIED BOUNDARIES.

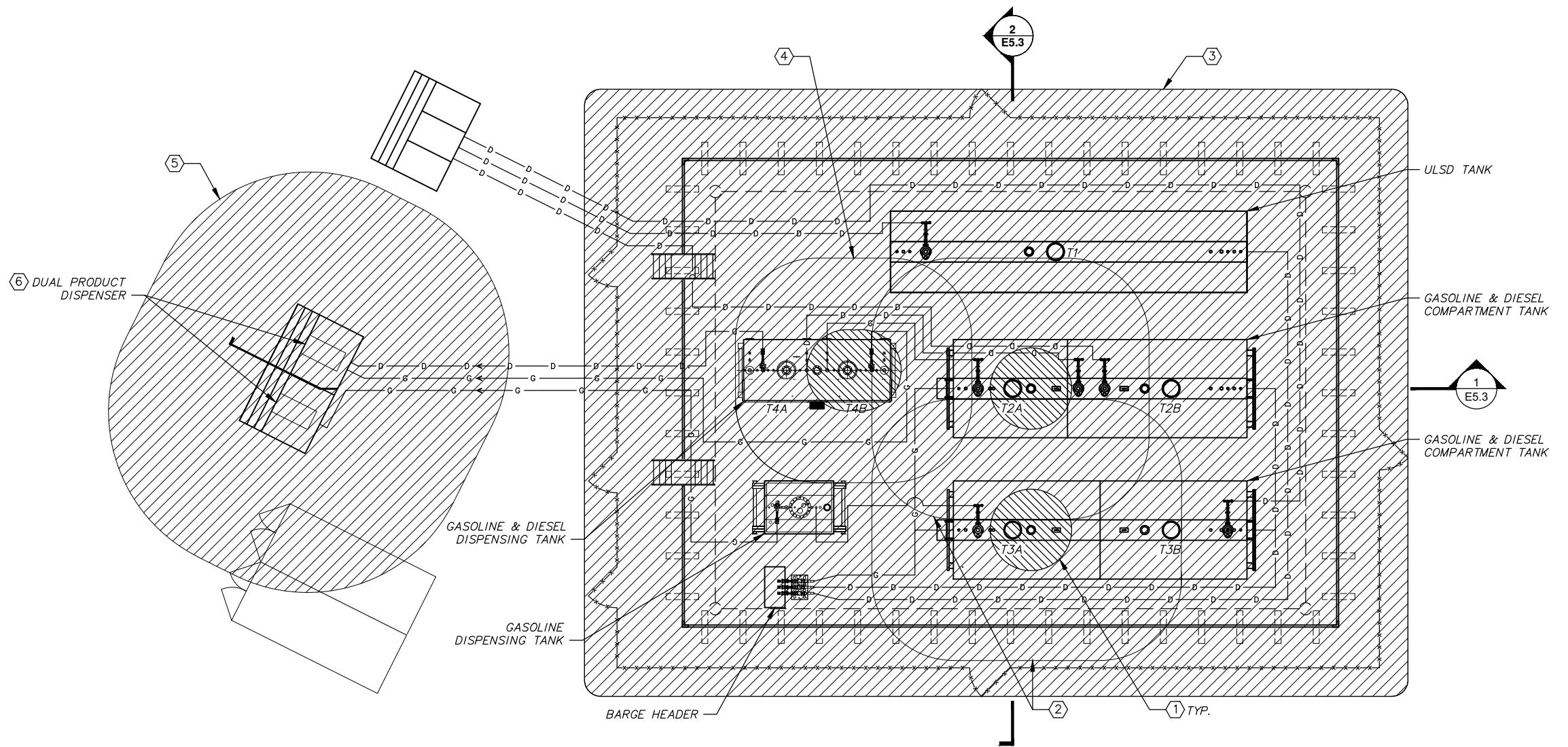
ASSIFICATION LEGEND



HAGELUK BULK FUEL UPGRADES DISPENSER & PUMP CABINET CLASSIFICATION PLAN

Plot No.	4/1/25	REVISION A	ISSUED FOR BIDDING	By BC	DATE 3/31/25
Designed					
Drawn					
Approved	BC, AMH				
Sheet No. E5.1					

E5.1



COLOCATED TANK FARM AREA CLASSIFICATION PLAN

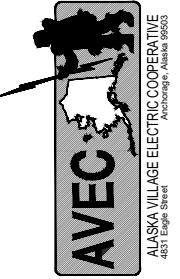
SCALE: GRAPHIC

CLASSIFICATION LEGEND

	CLASS 1, DIVISION 1
	CLASS 1, DIVISION 2

NOTES

- ① CLASS 1, DIVISION 1 RATING EXTENDS 5' IN ALL DIRECTIONS AROUND GASOLINE TANK VENTS.
- ② CLASS 1, DIVISION 2 RATING EXTENDS 10' IN ALL DIRECTIONS OF GASOLINE TANKS.
- ③ SPACE INSIDE DIKE LEVEL TO THE TOP OF THE DIKE IS RATED CLASS 1, DIVISION 2.
- ④ THE AREA WITHIN 10' OF THE GASOLINE SIDE OF THE DUAL PRODUCT DISPENSER TANK (T4B) IS A CLASS 1, DIVISION 2 LOCATION.
- ⑤ THE AREA 18" ABOVE GRADE WITHIN 20' OF DUAL DISPENSER IS CLASS 1, DIVISION 2 RATED.
- ⑥ THE AREA WITHIN 18" OF THE DUAL PRODUCT DISPENSER IS CLASS 1 DIVISION 2 LOCATION. THE AREA WITHIN AND THE PIPE GALLERY BELOW THE DISPENSER IS A CLASS 1 DIVISION 1 LOCATION.

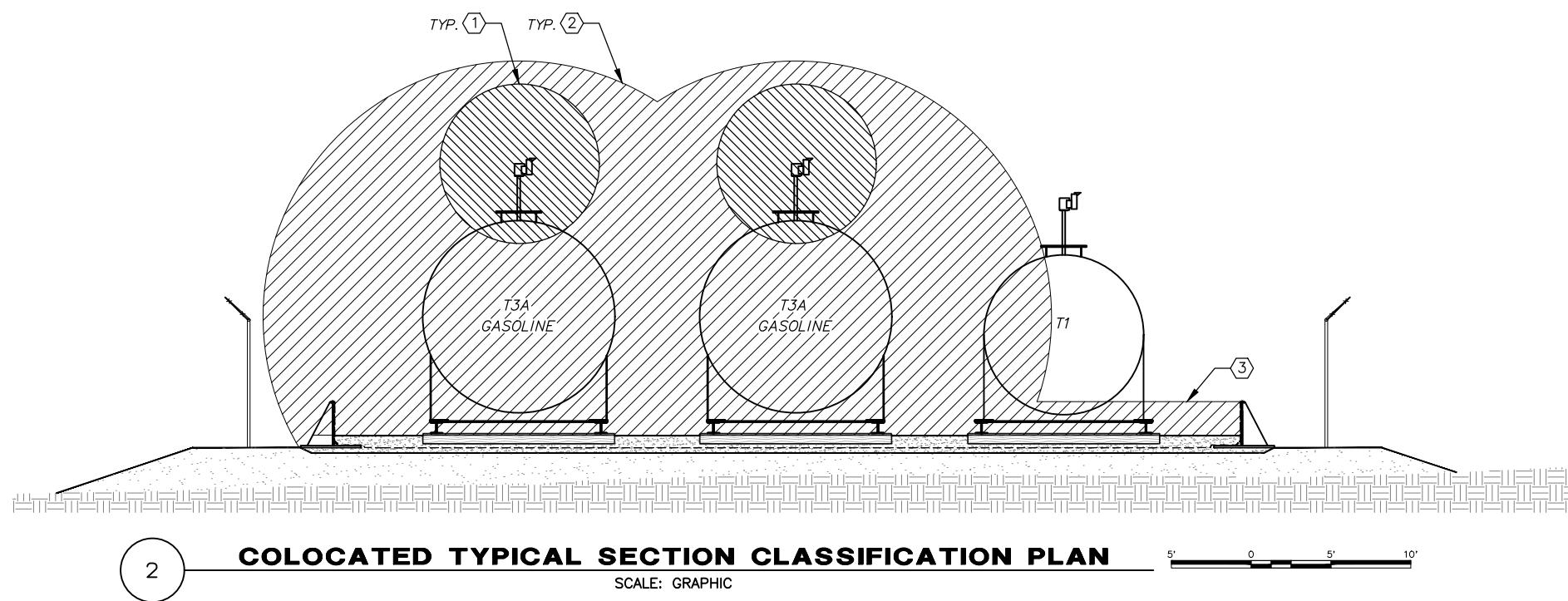
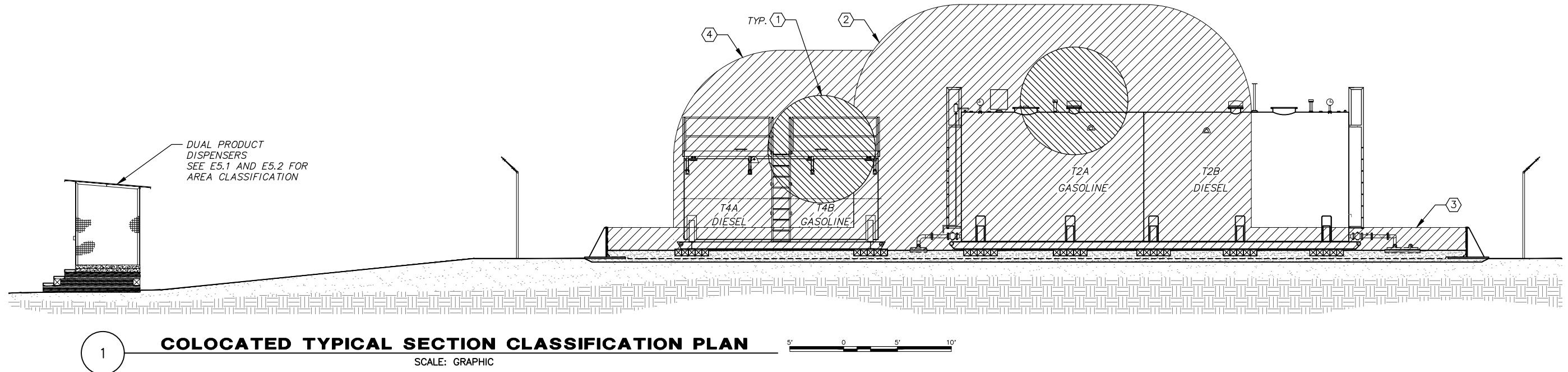


SHAGELUK BULK FUEL UPGRADES
COLOCATED TANK FARM CLASSIFICATION PLAN
SHAGELUK, ALASKA

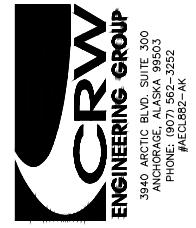
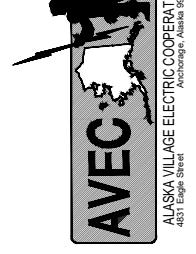
NO.	REVISION	BY	DATE
A	ISSUED FOR BIDDING	BC	3/31/25

Plot Date: 4/1/25
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Approved BC AMH

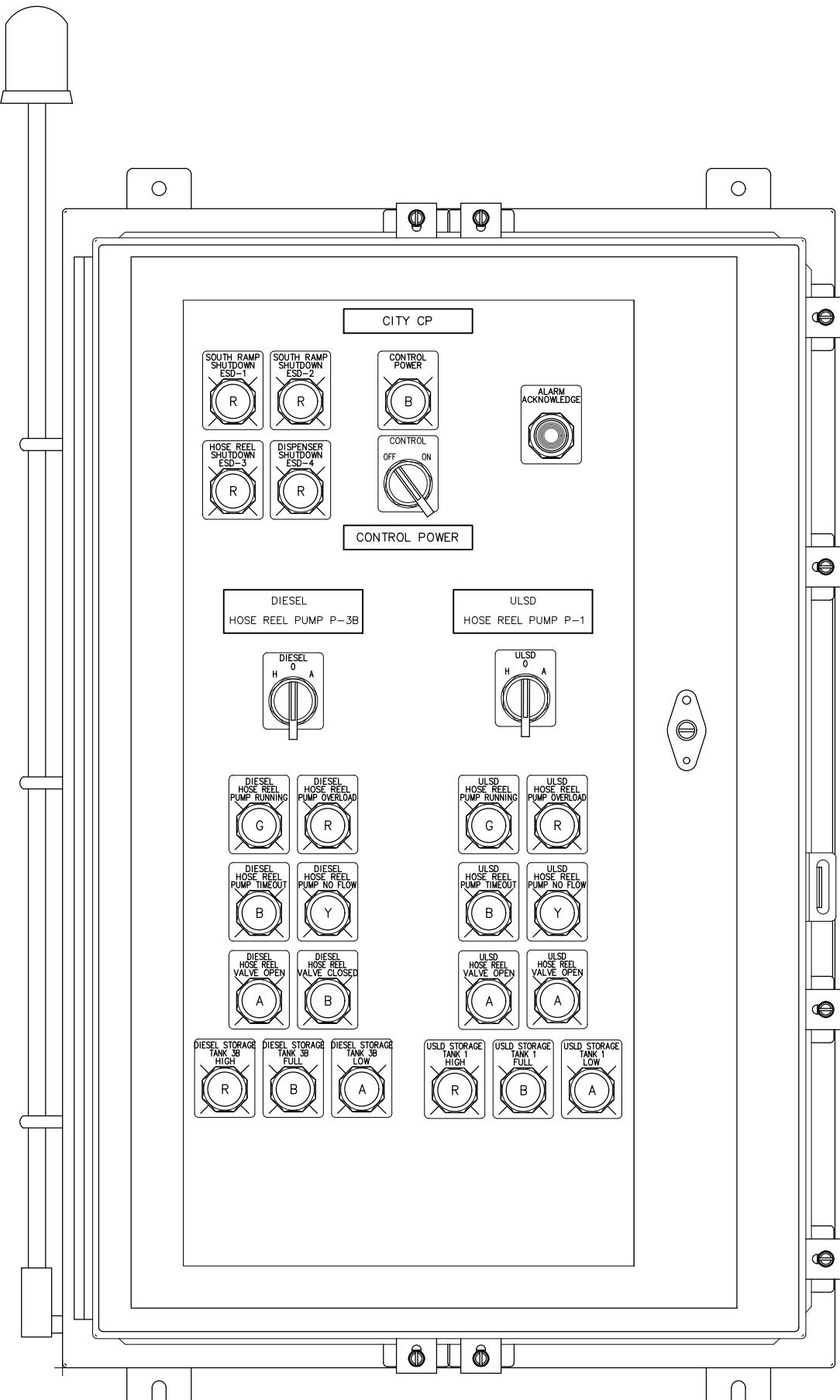
Sheet No. E5.2



SHAGELUK, ALASKA
COLOCATED TYPICAL SECTION
CLASSIFICATION PLAN



NO.	REVISION	BY	DATE
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CITY CONTROL PANEL LAYOUT

SCALE: NT

HOSE REEL CONTROL LAYOUT

SCALE: NTS

PUMP CONTROL NARRATIVE

The control panel operates the gasoline and diesel pumps supplying the hose reels, controls, and area lighting in addition to providing emergency shutdown for the entire fuel system.

EMERGENCY SHUTDOWN

The Emergency shutdown system, when engaged, will cause the alarm horn/strobe to be energized. There is one ESD, located on the edge of the connex in the truck fill area. The alarm is enabled by pushing the ESD button and is extinguished by pulling the ESD button "out", clearing the signal. When an ESD button is pushed, all powered conductors to the hose reel enclosure are disconnected and all pumps are shut down. The motorized valves are all sent a CLOSE signal and after a brief time delay to allow them to close they too will be disconnected from all current carrying conductors. Lighting and alarms are NOT de-energized and will remain active.

HOSE REEL PUMPS

The hose reel pumps can be either manual or automatic. The following applies to both the gasoline and Diesel systems.

Normal operation is for the pumps to operate in AUTO mode. The hose reels are each equipped with an automatic volume control valve that is set with amount of fuel in gallons that is desired. A local controller offers START and STOP pushbuttons that will cause the pump to start and stop when pressed. Pressing the START pushbutton will cause the related pump to begin pumping and will continue to pump until the STOP pushbutton is pressed or the pump has timed out. If the pump timeout caused the shutdown, the control HOA switch should be turned OFF then back to AUTO and then when the START button is pressed the pump will continue to pump until the valve limit is reached.

Manual operation

By placing (and holding) the HOA switch in the HAND position, the hose reel pump will start and run. Its RUN light will turn on and the pump will continue running until either it experiences an overload condition or the operator releases the HOA switch. An overload condition occurs when either the panel mounted motor starter control is opened internally or an internal temperature sensor in the motor detects an overheating condition. If a panel-based overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping). A RESET pushbutton on the pump motor starter located inside the panel must be pressed to clear the overload relay in order to allow the pump to restart. The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to operate the bulk transfer system in the event of control failure.

ALARMS

Each storage tank is equipped with a CRITICAL HIGH (LSHA - XX) Level Float switch that, when fuel reaches its level, opens a circuit (fails safe) and causes an alarm horn/strobe to signal a CRITICAL HIGH Level has been reached. The CRITICAL HIGH Level condition is indicated on the front of the panel as well, identifying the tank(s) with high level(s).

The operator can acknowledge the alarm by pressing the ALARM ACKNOWLEDGE button on the control panel. This extinguishes the strobe and silences the horn, but the front panel light will remain illuminated until sufficient fuel is drained from the tank to drop its fuel level below the CRITICAL HIGH float's sensing point. At that time the front panel light will extinguish.

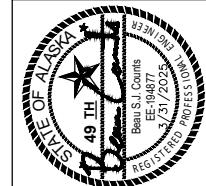
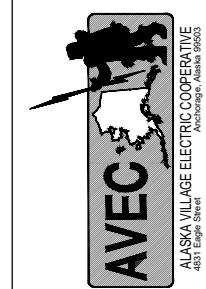
The control logic for alarms is set up so that each new alarm condition will cause the audible and visual alarms to annunciate, regardless of any existing (acknowledged) alarm conditions.

The Emergency shutdown system, when engaged, will cause the alarm horn/strobe to be energized.

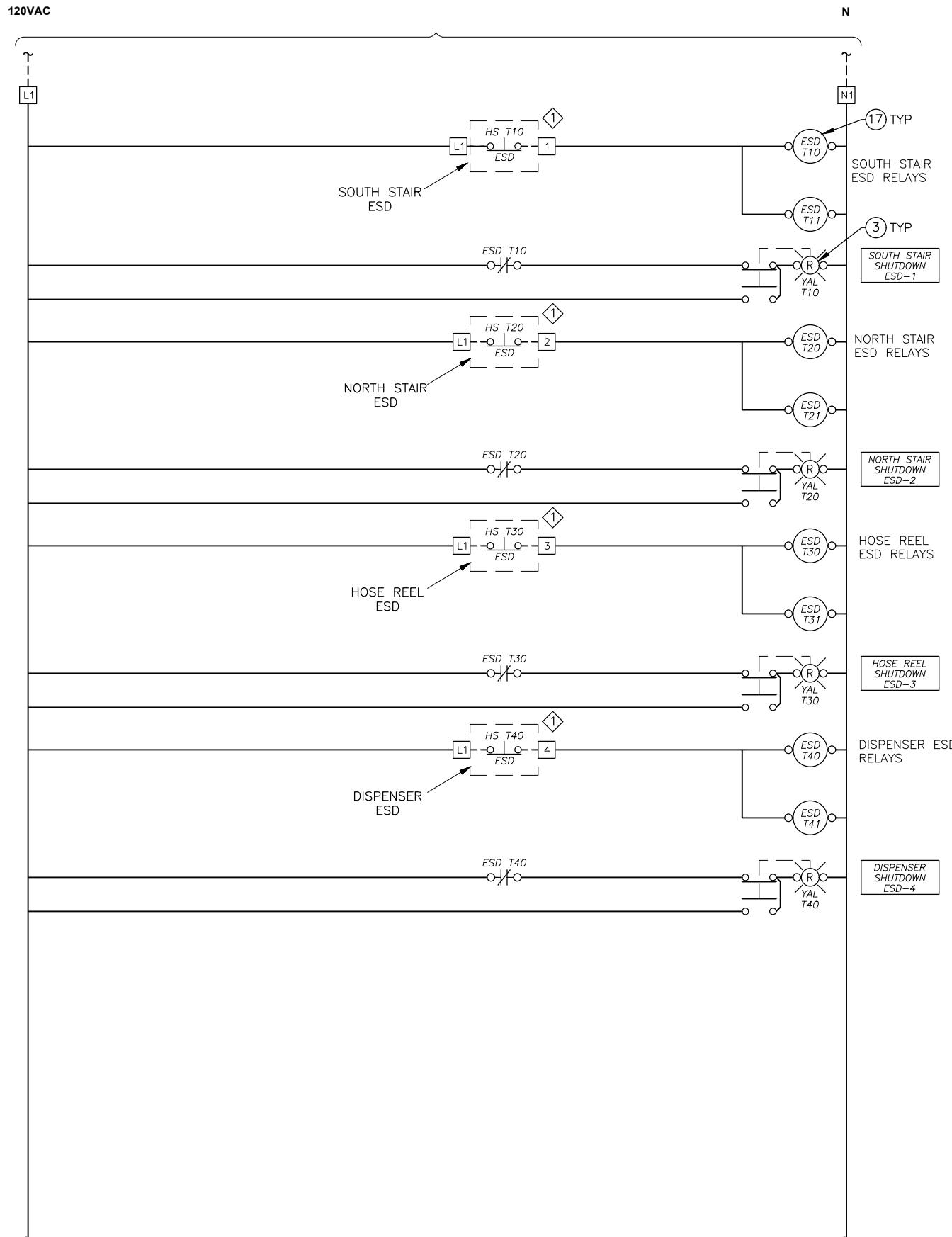
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SHAGELUK BULK FUEL UPGRADES
CITY CONTROL PANEL LAYOUT AND

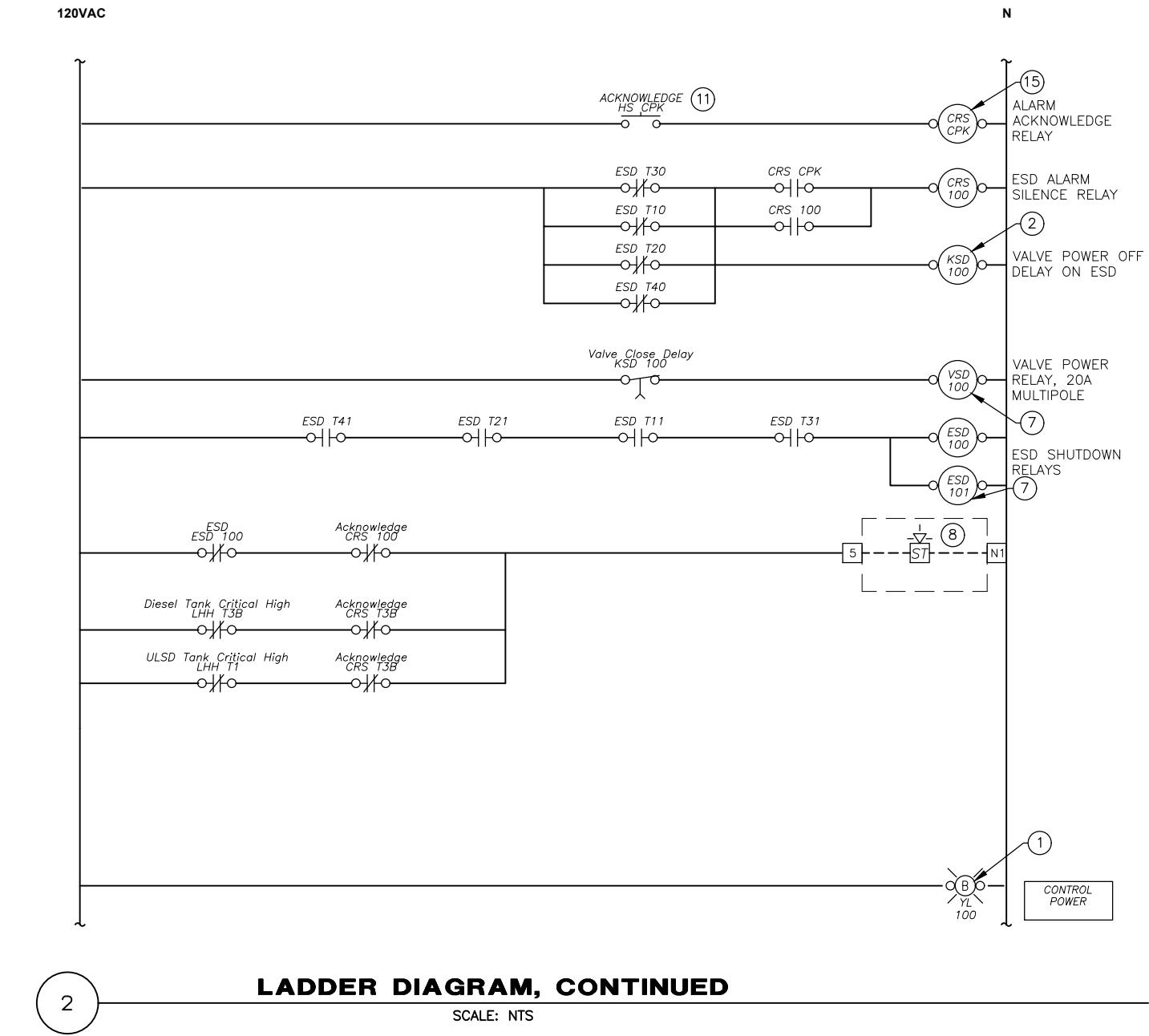


三6.1



LADDER DIAGRAM

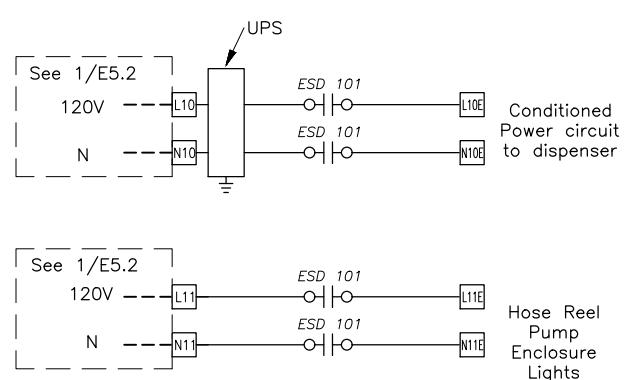
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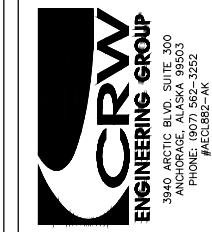
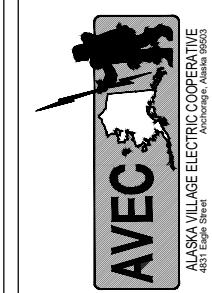
ESD CONTACTS TO DISPENSER AND PUMP ENCLOSURE LIGHTS

SCALE: NTS



ESD CONTACTS TO DISPENSER AND PUMP ENCLOSURE LIGHTS

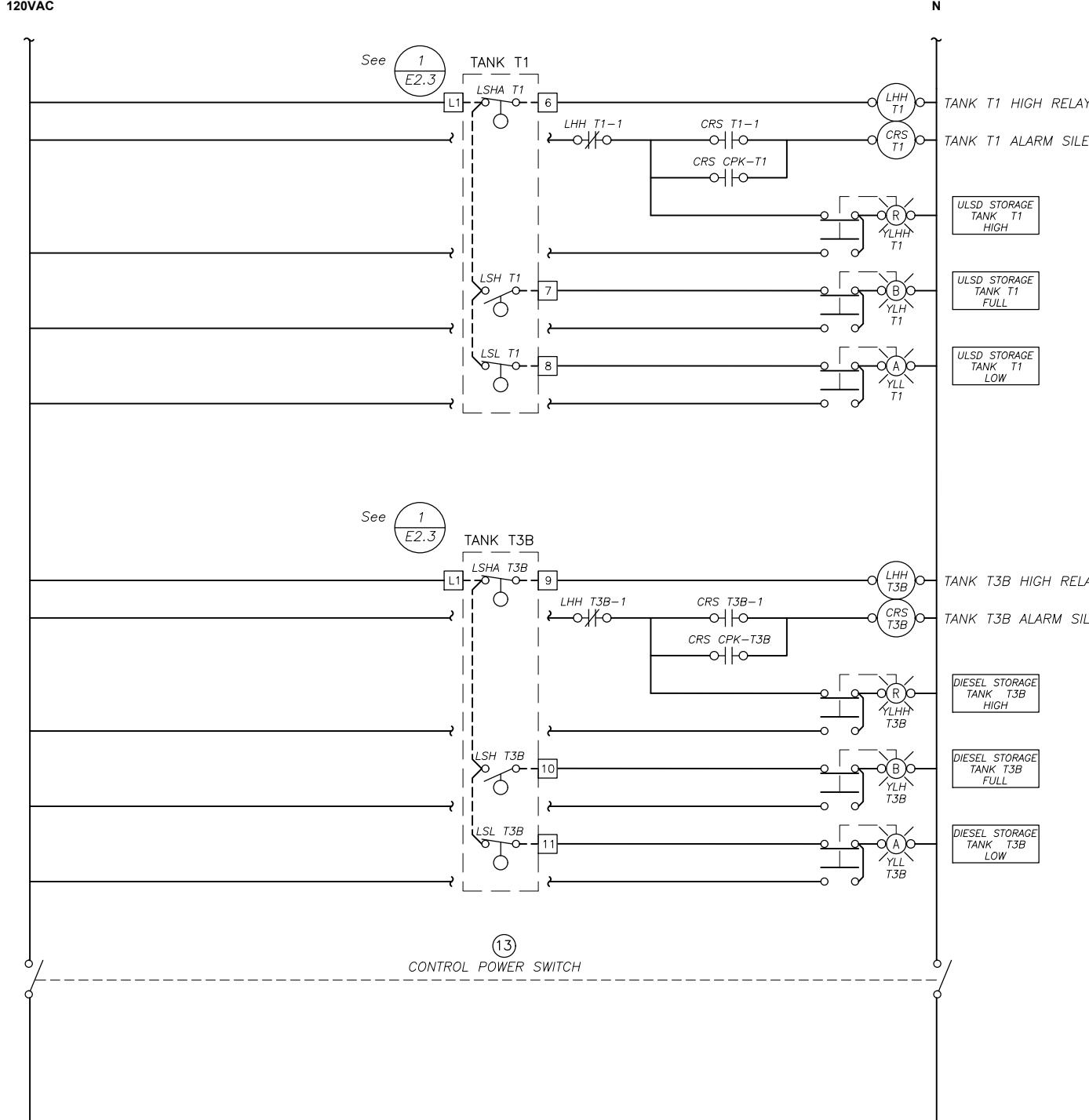
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CP-1 LADDER
SHAGELUK, ALASKA

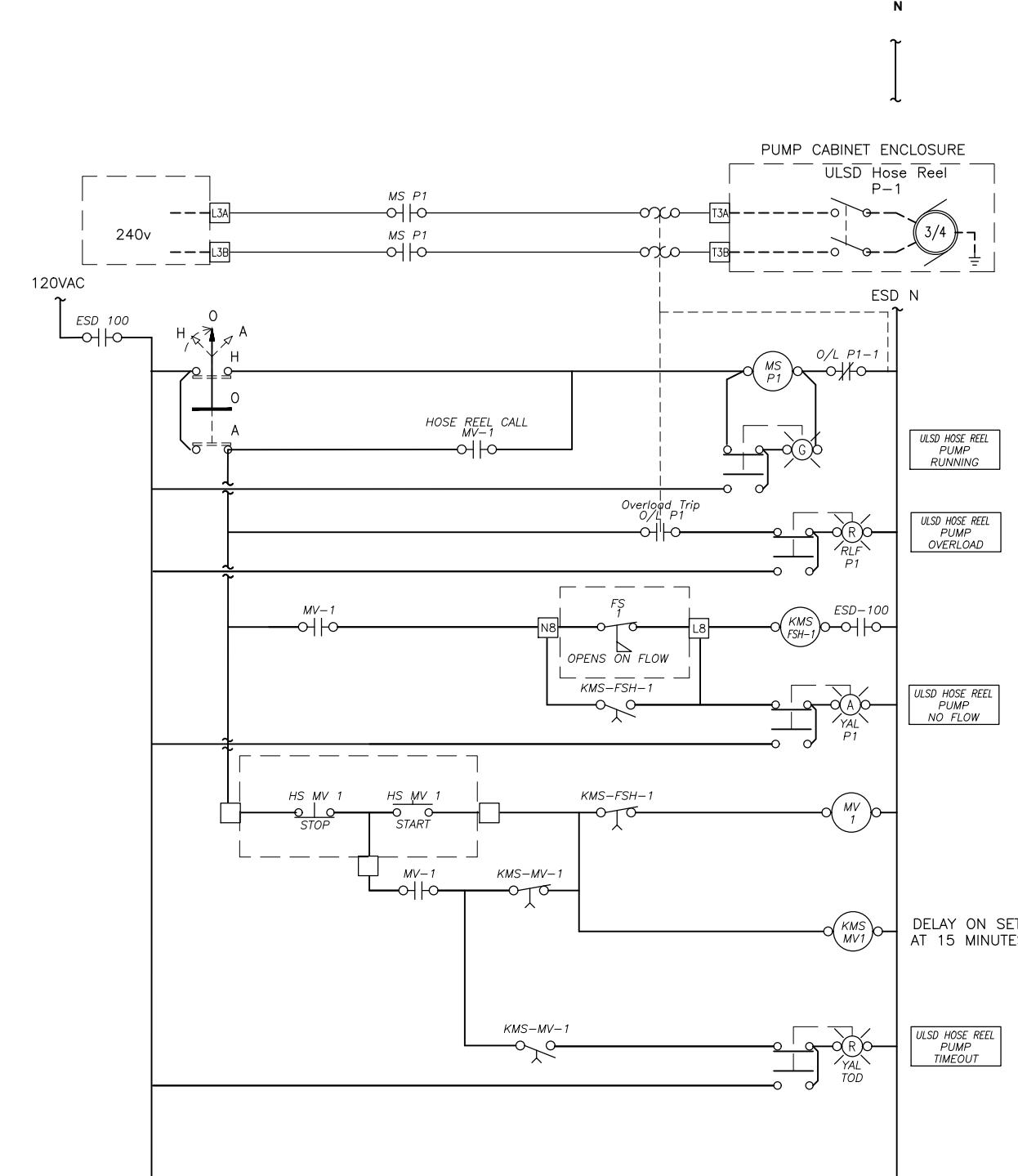
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LADDER DIAGRAM, CONTINUED

SCALE: NTS

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LADDER DIAGRAM, CONTINUED

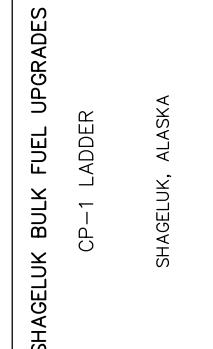
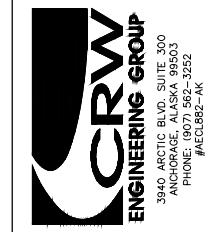
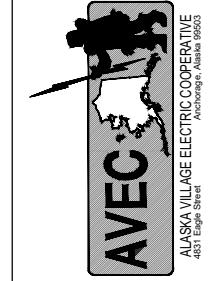
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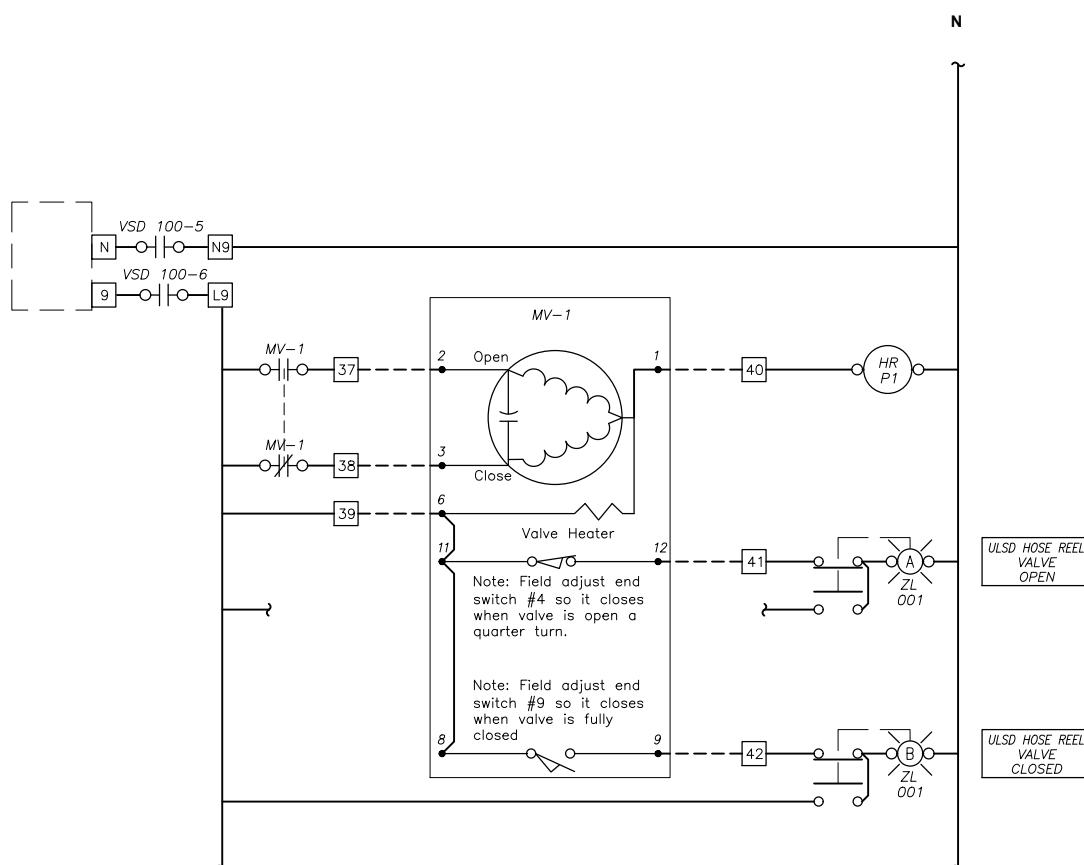
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NO.	REVISION	BY	DATE
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Plot 4-1/25
Date 3/31/25
Designed BC
Drawn ESC
Approved BC AMH

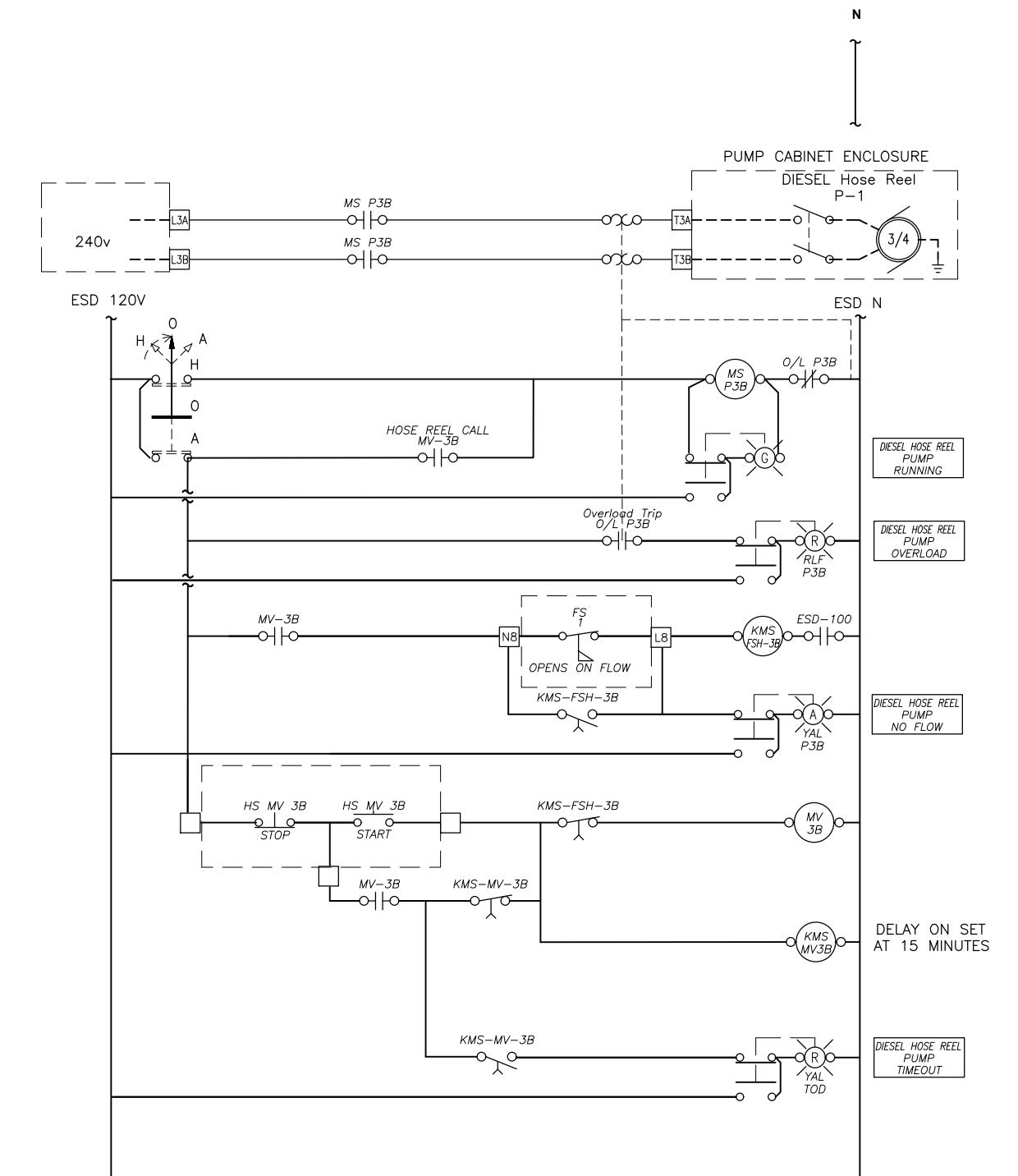
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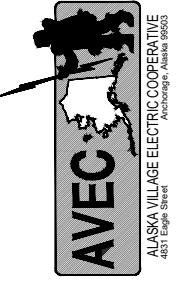
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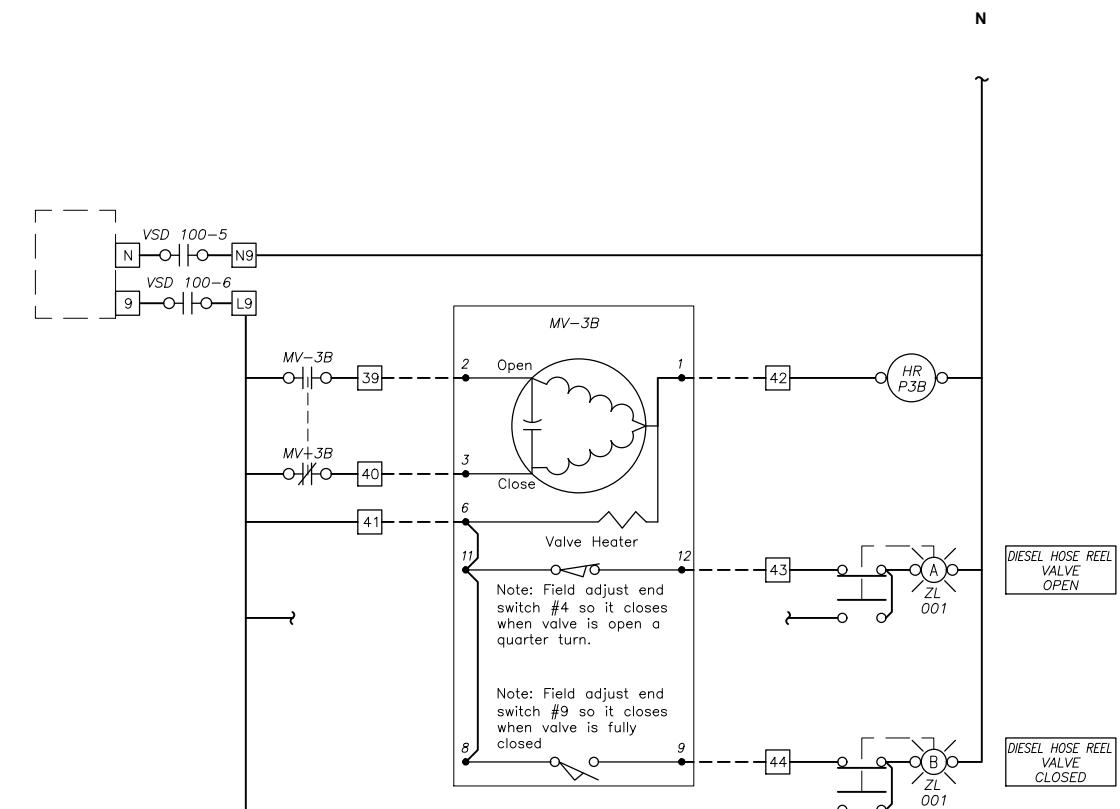
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approved	BC, AMH				

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LADDER DIAGRAM, CONTINUED

SCALE: NTS

SHAGELUK BULK FUEL UPGRADES

CP-1 LADDER

SHAGELUK, ALASKA

NO. REVISION BY DATE

A ISSUED FOR BIDDING BC 3/31/25

3/31/2025

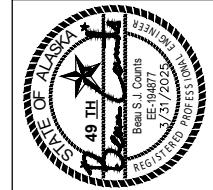
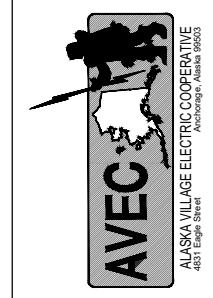
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Drawn ESC

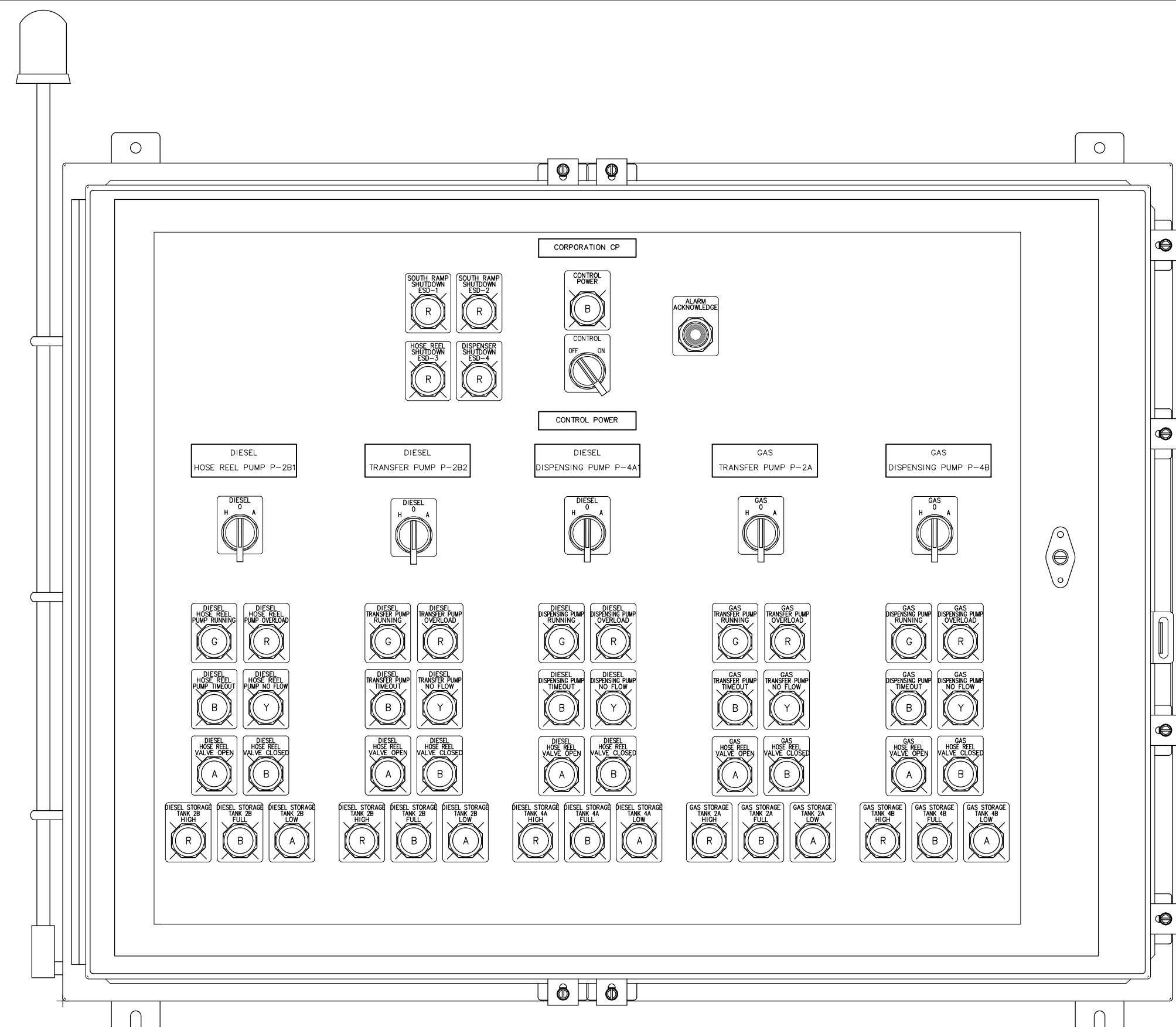
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3900 ARCTIC BLVD, SUITE 300
ALASKA 99503
PHONE: (907) 562-3552
FAX: (907) 562-3552
#ACC 862-AK

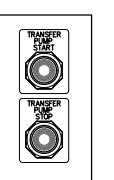


CORPORATION CONTROL PANEL LAYOUT

SCALE: M

HOSE REEL CONTROL LAYOUT

SCALE: NTS



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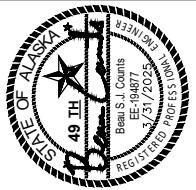
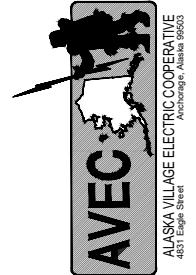
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Page 1 of 1



SHAGELUK BULK FUEL UPGRADES

CORPORATION CONTROL PANEL LAYOUT

SHAGELUK, ALASKA

CORPORATION PUMP CONTROL NARRATIVE

The control panel operates the gasoline and diesel pumps supplying the hose reels, controls, and area lighting in addition to providing emergency shutdown for the entire fuel system.

ALARMS

Each tank is equipped with a CRITICAL HIGH (LSHA - XX) Level Float switch that, when fuel reaches its level, opens a circuit (fails safe) and causes an alarm horn/strobe to signal a CRITICAL HIGH Level has been reached. The CRITICAL HIGH Level condition is indicated on the front of the panel as well, identifying the tank(s) with high level(s).

The operator can acknowledge the alarm by pressing the ALARM ACKNOWLEDGE button on the control panel. This extinguishes the strobe and silences the horn, but the front panel light will remain illuminated until sufficient fuel is drained from the tank to drop its fuel level below the CRITICAL HIGH float's sensing point. At that time the front panel light will extinguish.

The control logic for alarms is set up so that each new alarm condition will cause the audible and visual alarms to annunciate, regardless of any existing (acknowledged) alarm conditions.

The Emergency shutdown system, when engaged, will cause the alarm horn/strobe to be energized. Refer to sheet E.### for emergency shutdown narrative.

FUEL TRANSFER

The fuel transfer between the bulk and dispensing tanks can be either manual or semi-automatic.

Manual operation

By placing (and holding) the HOA switch in the HAND position, the transfer pump will start and run. Its RUN light will be illuminated confirming the pump is powered. The pump will continue running until either it experiences an overload condition where the motor starter control is opened internally, the CRITICAL HIGH level float is reached or the operator releases the HOA switch. If an overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping). The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to fill the dispensing tank should automatic controls fail. The manual fill operation would require two people to perform safely.

Whenever a transfer pump is started, an "Open" signal is also sent to its associated motorized valve which opens. When the pump is shut down, the motorized valve receives a "Close" signal and it closes. OPEN and CLOSED status is displayed on the panel.

SEMI-Automatic operation

AUTO mode is the intended continuous mode for these controls. In AUTO, the operation of the transfer pump is controlled by a pushbutton on the control panel and the LSH and LSHA floats in the dispensing tank. When fuel level drops to below the LSL float's level a panel mounted pilot light, GAS/DIESEL DISPENSING TANK LOW is energized. The operator must press the PUMP START pushbutton to begin transfer. If pumping is successful, the low level light will extinguish after a few minutes. Internal controls linked to the LSH float keep the pump running until the LSH float level is attained or pumping lasts for more than 15 minutes. (NOTE: There is a timer that starts when the pump starts and is set for 15 minute timeout. A pilot light on the front panel will be energized, indicating PUMP TIMEOUT has occurred. If timeout is the cause of shutdown, the HOA switch must be turned OFF then back to AUTO for the transfer operation to resume.)

Should pumping be completed before timeout, a pilot light on the front panel will be energized once the LSH float level is reached (GAS/DIESEL DISPENSING TANK FULL). When no tank level pilot lights are on, the tank level lies somewhere between low level and full. Should the pump continue to run after the HIGH float was reached, and fuel levels increase the LSHA float will also attempt to shut the pump down as well as sounding the alarm and enabling its pilot light on the front panel (GAS/DIESEL DISPENSING TANK HIGH).

DISPENSING PUMPS

The dispenser pumps can be either manual or automatic. The following applies to both the Gas and Diesel systems.

Normal operation is for the pumps to operate in AUTO mode. The dispensing tanks are equipped with Low Level Floats (LSL). If tank fuel level drops below the float, the associated pump will stop until transfer is completed.

Manual operation

By placing (and holding) the HOA switch in the HAND position, the dispenser pump will start and run. Its RUN light will turn on and the pump will continue running until either it experiences an overload condition where either the panel mounted motor starter control is opened internally, or an internal temperature sensor in the motor detects an overheat condition or the operator releases the HOA switch. If a panel-based overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping). A RESET pushbutton on the pump motor starter located inside the panel must be pressed to clear the overload relay in order to allow the pump to restart. The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to operate the Fleet Dispensing system in the event of control failure.

Automatic operation

AUTO mode is the intended continuous mode for these controls. In AUTO, the operation of the gas and diesel dispenser pumps is controlled by the dispenser. Other operating parameters are identical to the manual mode.

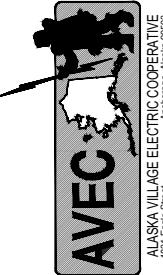
HOSE REEL PUMPS

The hose reel pumps can be either manual or automatic. The following applies to both the gasoline and Diesel systems.

Normal operation is for the pumps to operate in AUTO mode. The hose reels are each equipped with an automatic volume control valve that is set with amount of fuel in gallons that is desired. A local controller offers START and STOP pushbuttons that will cause the pump to start and stop when pressed. Pressing the START pushbutton will cause the related pump to begin pumping and will continue to pump until the STOP pushbutton is pressed or the pump has timed out. If the pump timeout caused the shutdown, the control HOA switch should be turned OFF then back to AUTO and then when the START button is pressed the pump will continue to pump until the valve limit is reached.

Manual operation

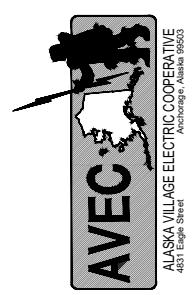
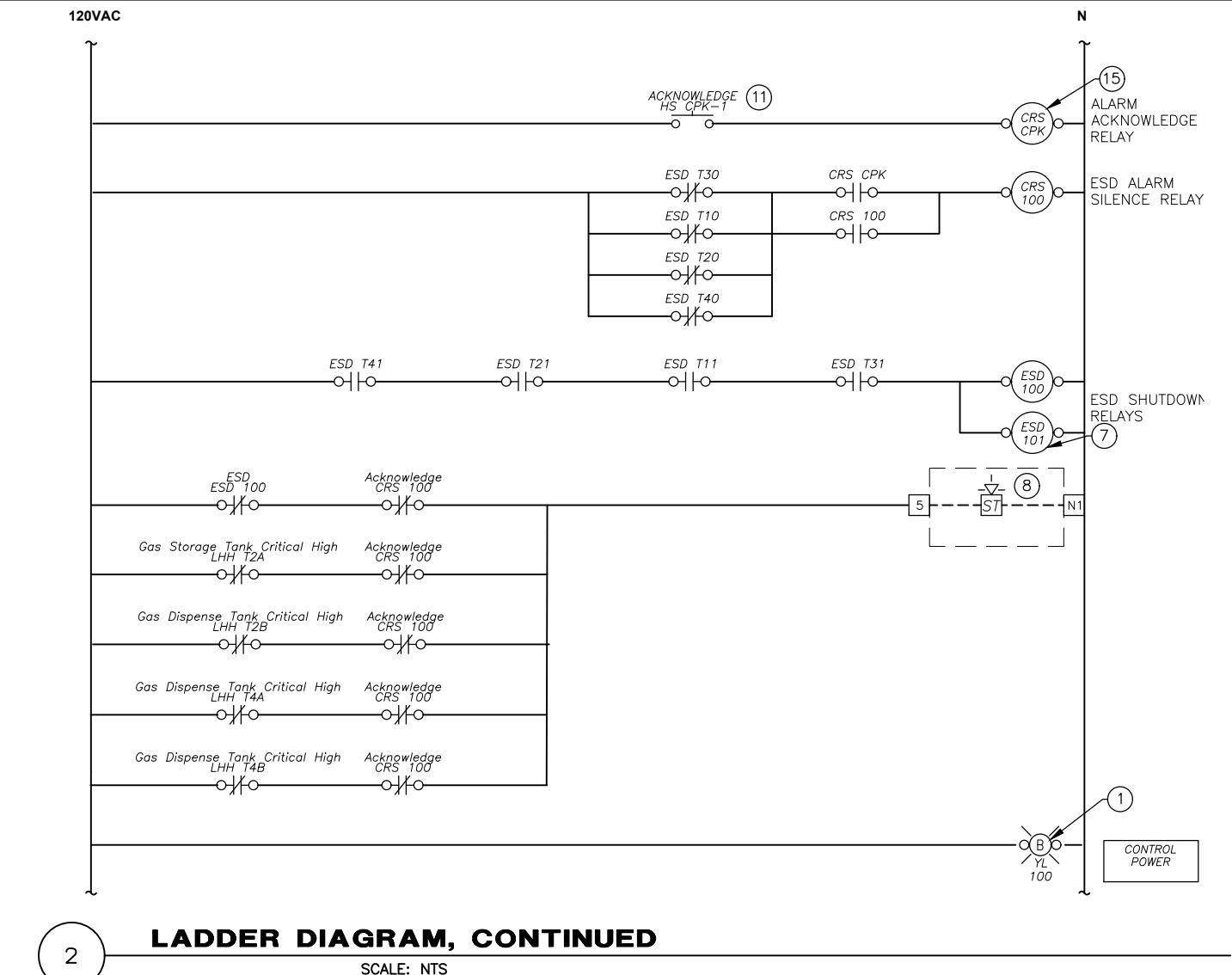
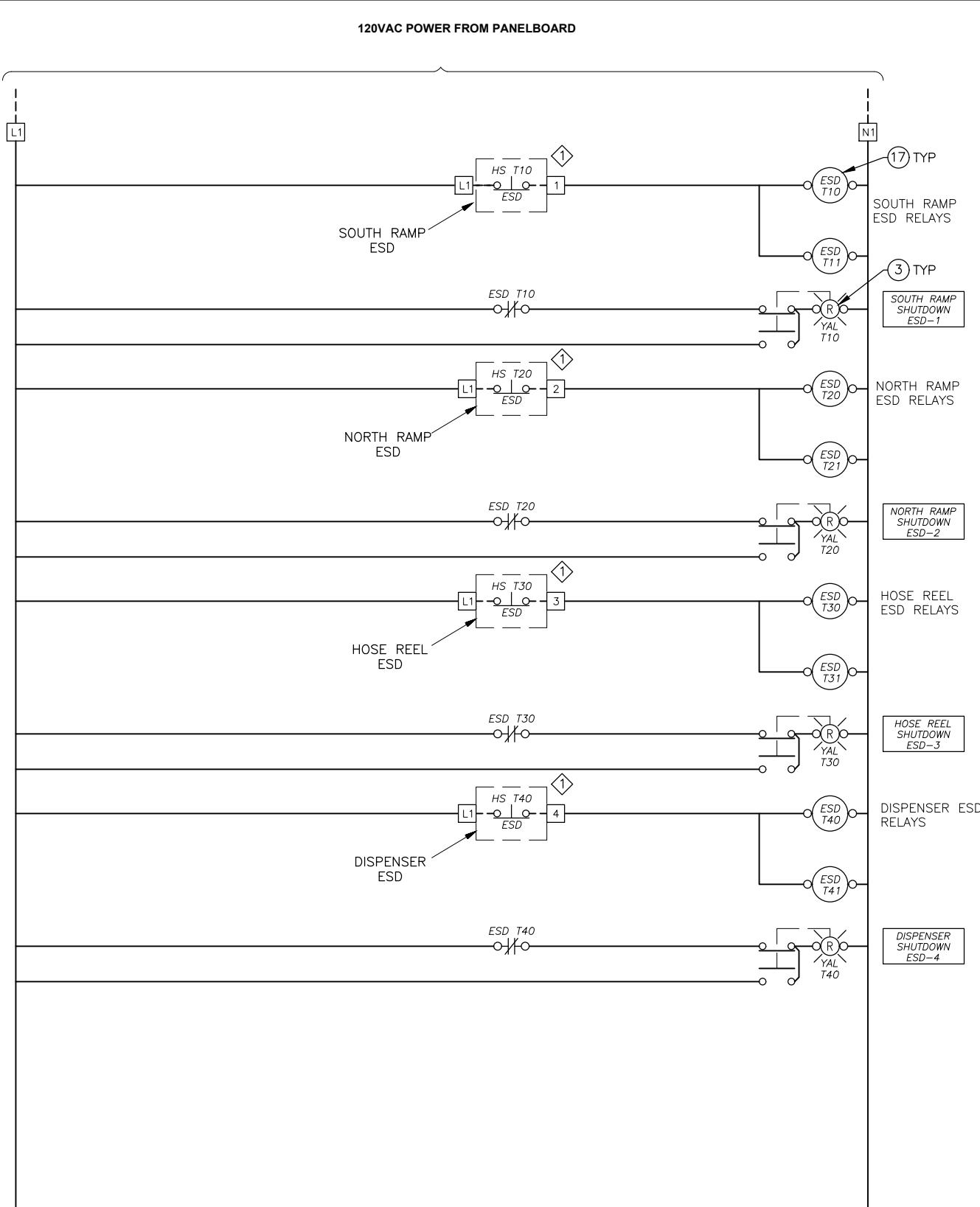
By placing (and holding) the HOA switch in the HAND position, the hose reel pump will start and run. Its RUN light will turn on and the pump will continue running until either it experiences an overload condition where either the panel mounted motor starter control is opened internally, or an internal temperature sensor in the motor detects an overheat condition or the operator releases the HOA switch. If a panel-based overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping). A RESET pushbutton on the pump motor starter located inside the panel must be pressed to clear the overload relay in order to allow the pump to restart. The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to operate the bulk transfer system in the event of control failure.



SHAGELUK, ALASKA
CORPORATION CONTROL PANEL
NARRATIVE

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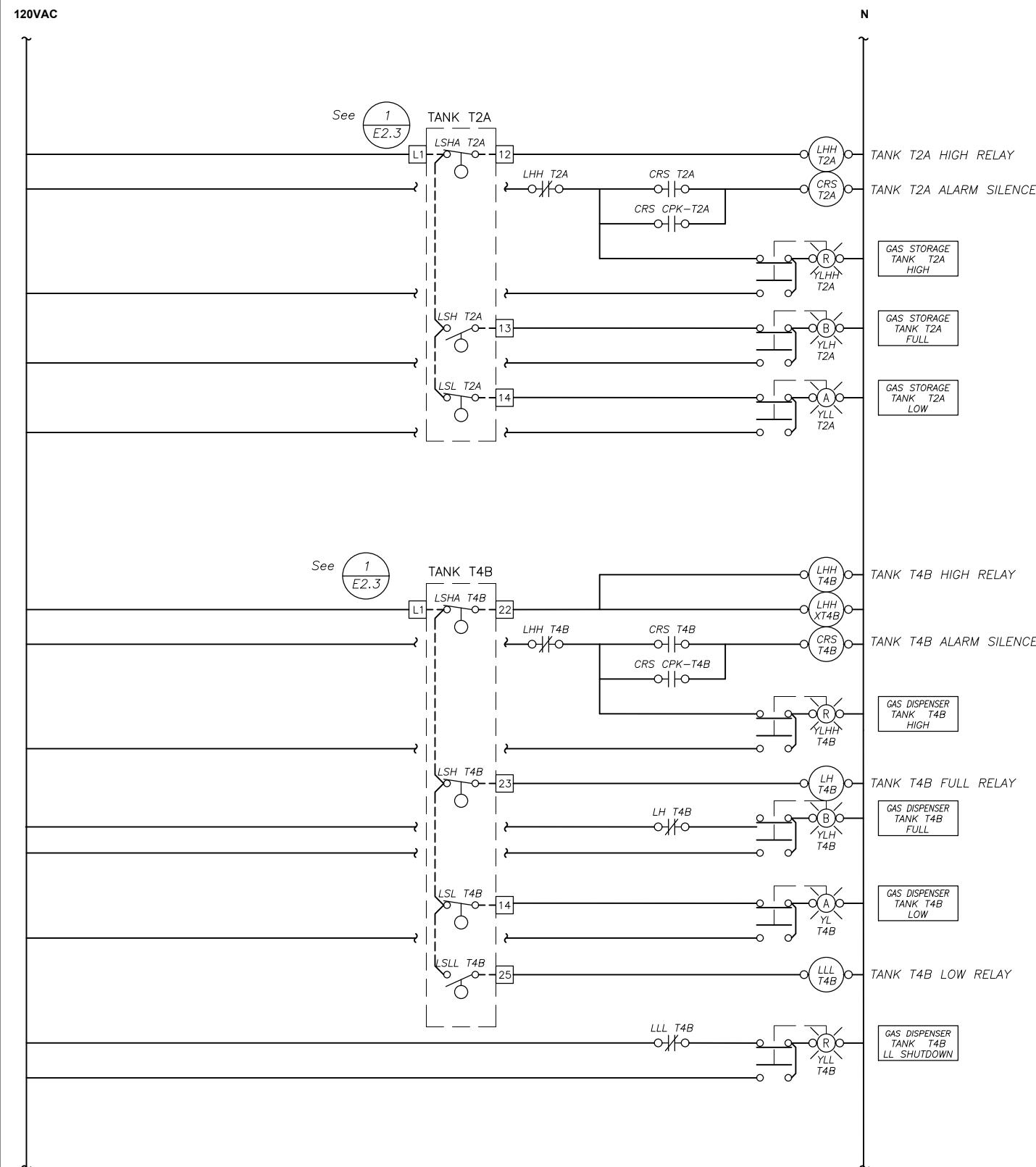
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SHAGELUK BULK FUEL UPGRADES
CP-3 LADDER
SHAGELUK, ALASKA

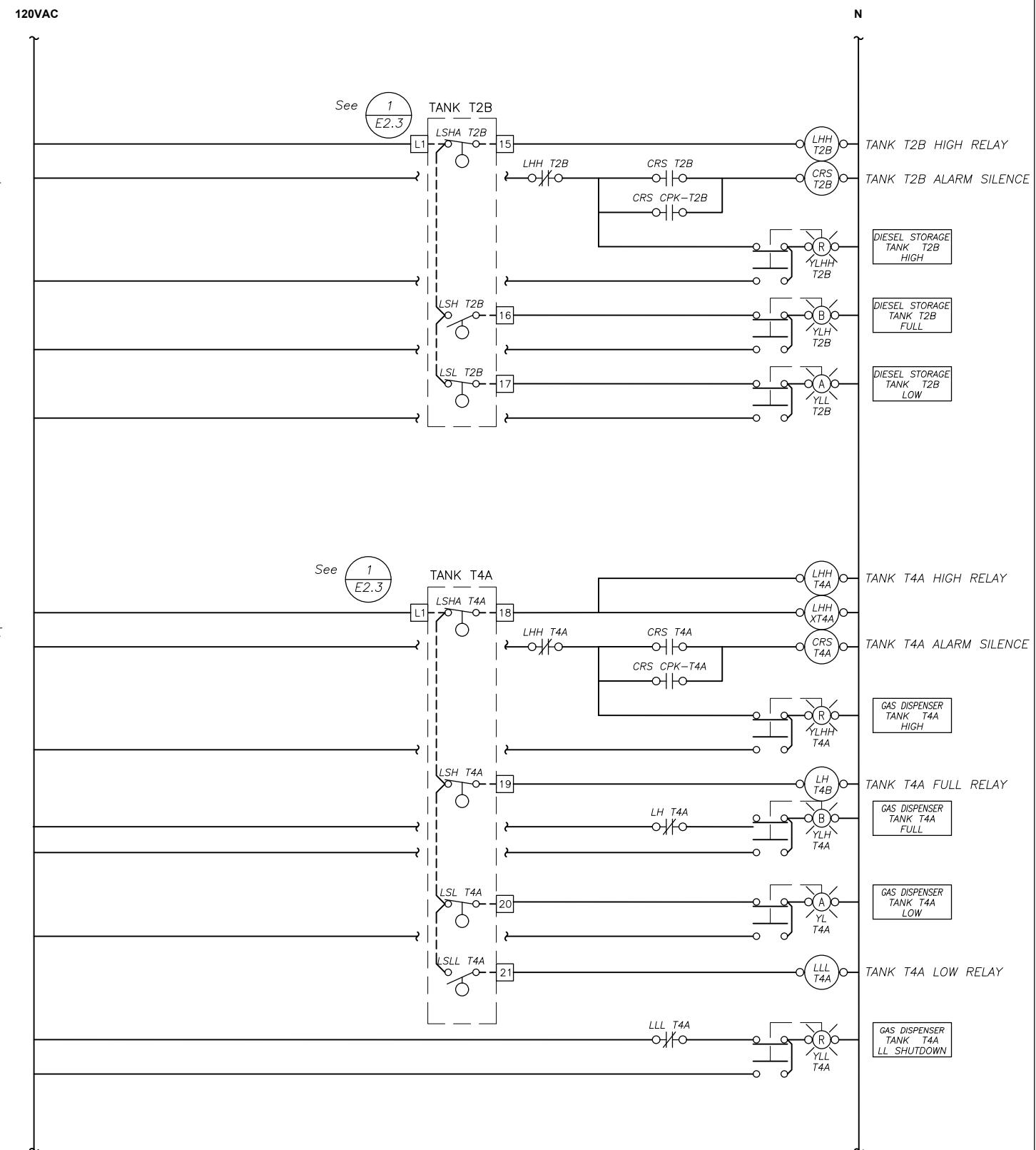
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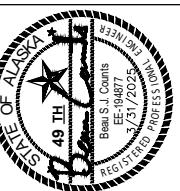
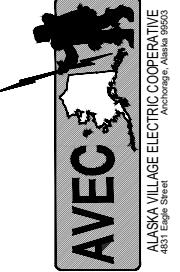
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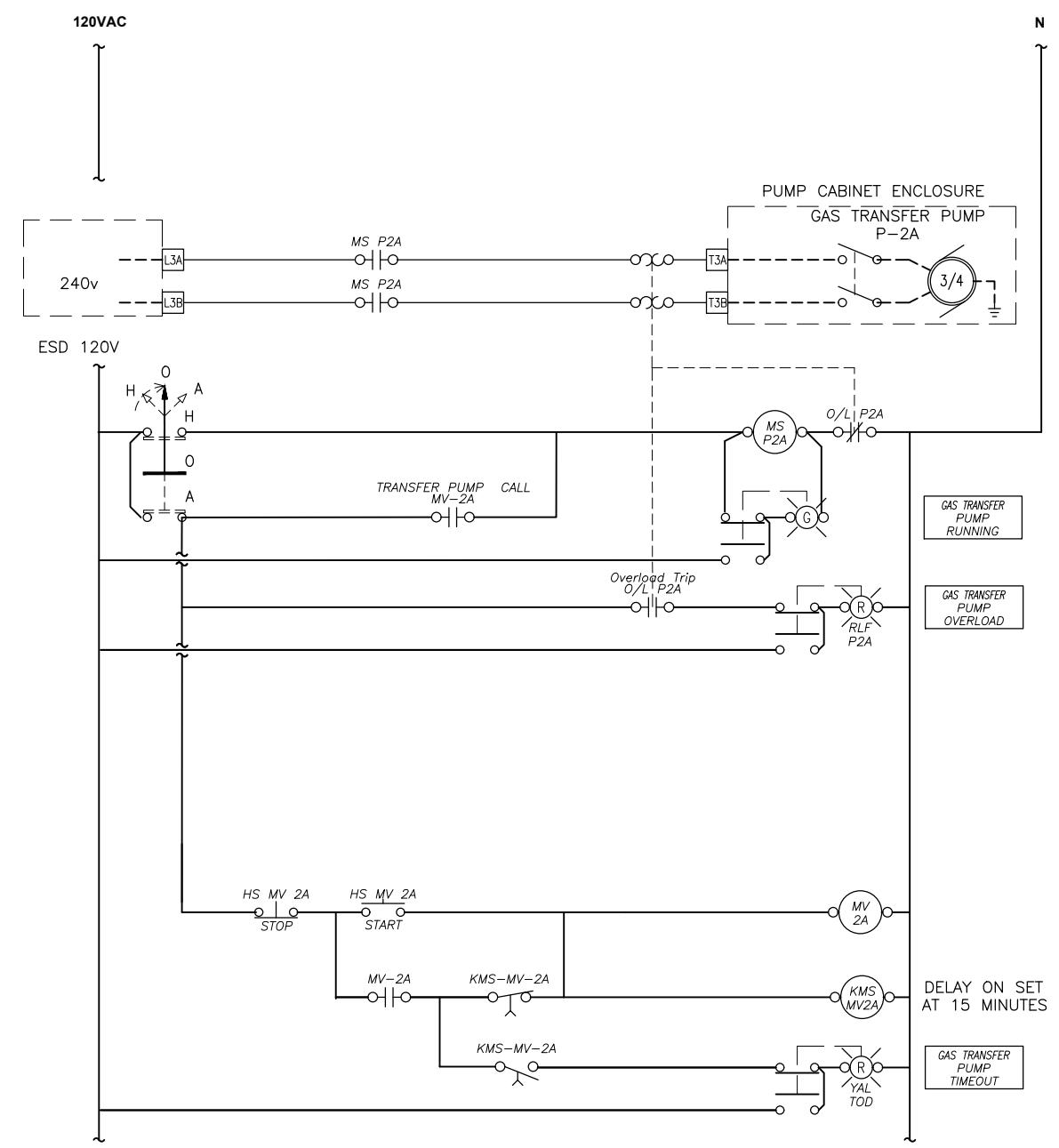
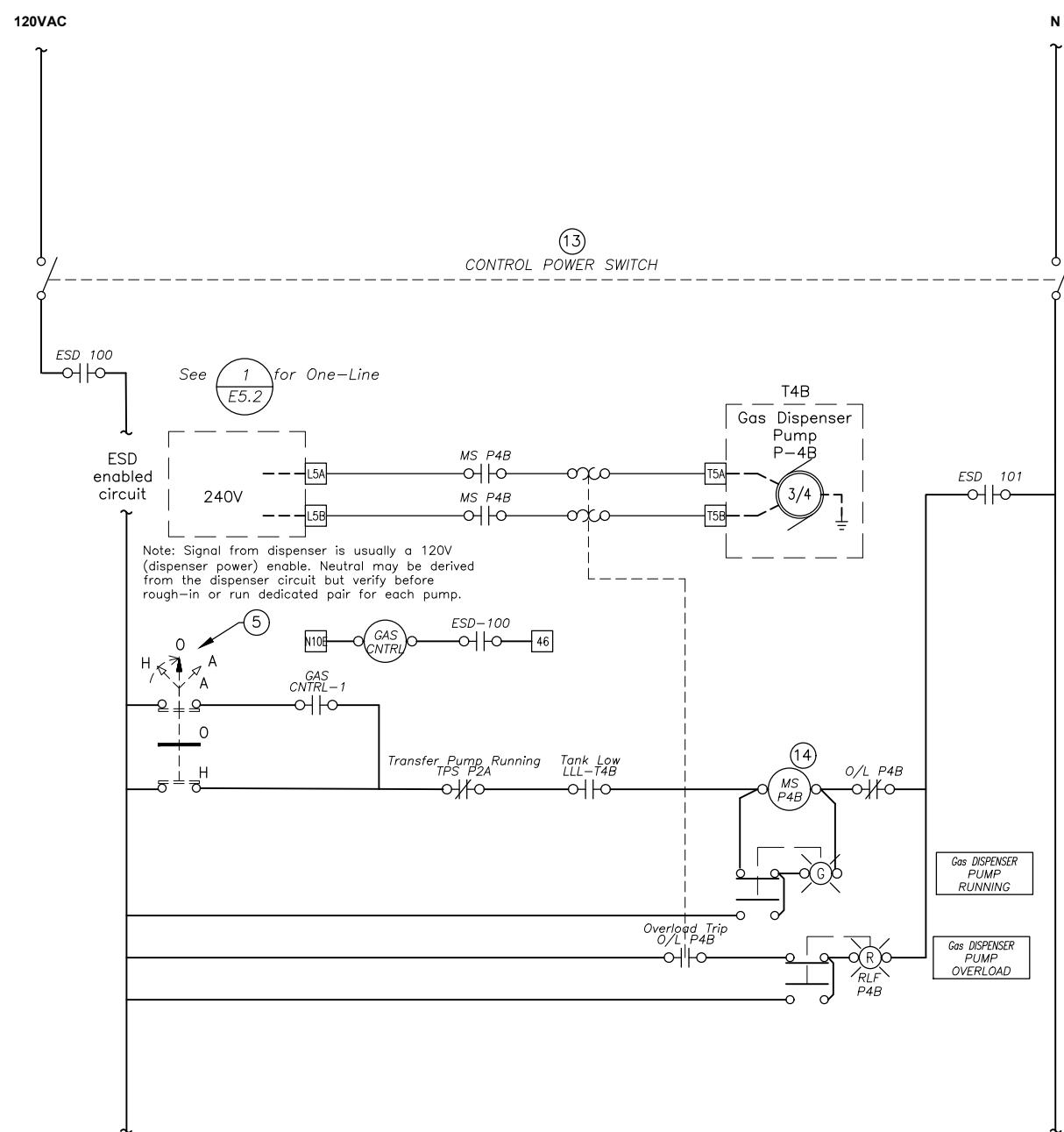


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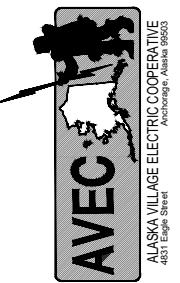


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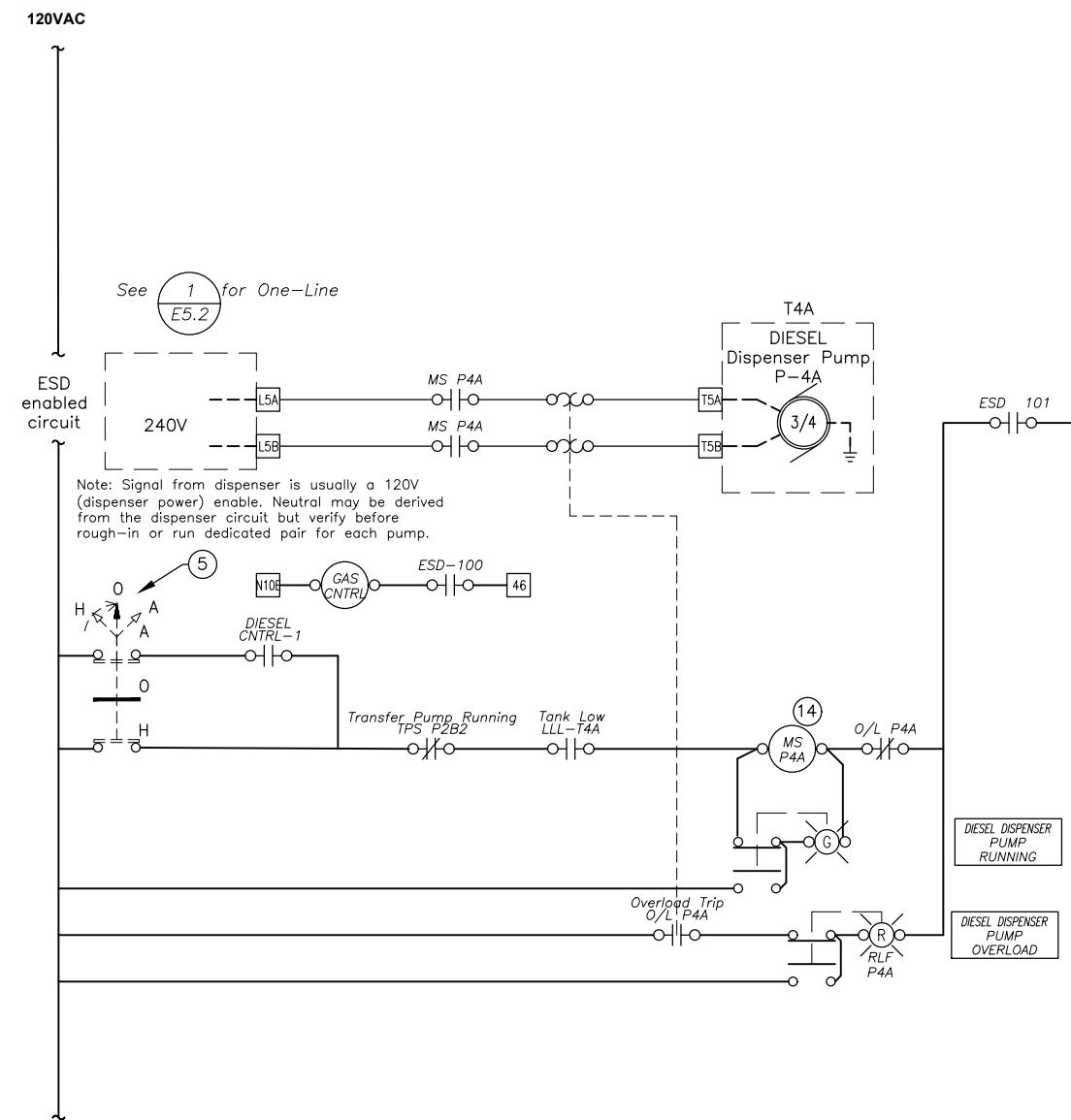
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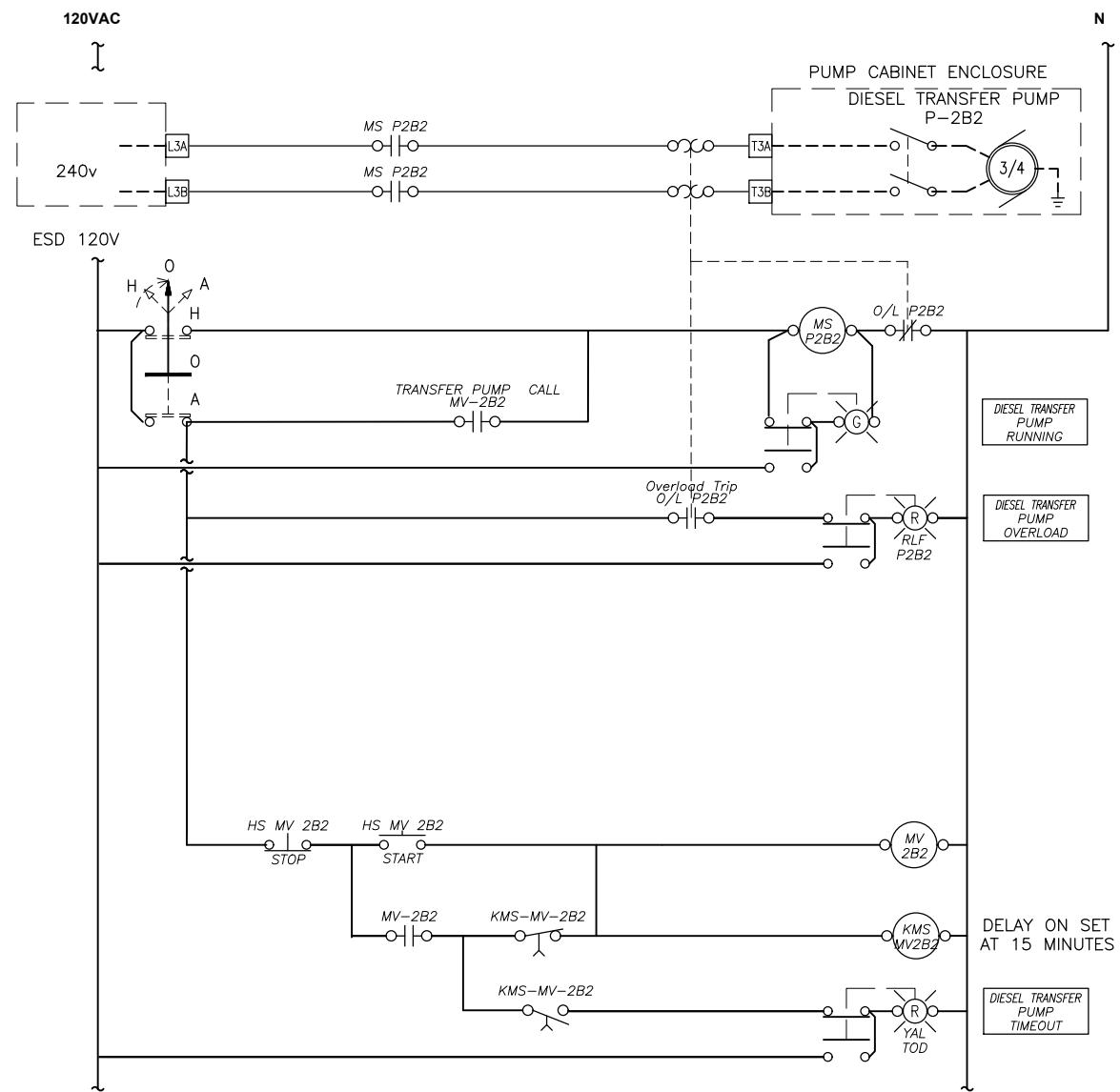
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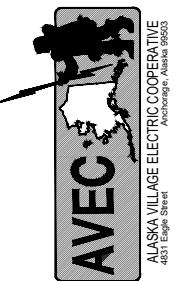
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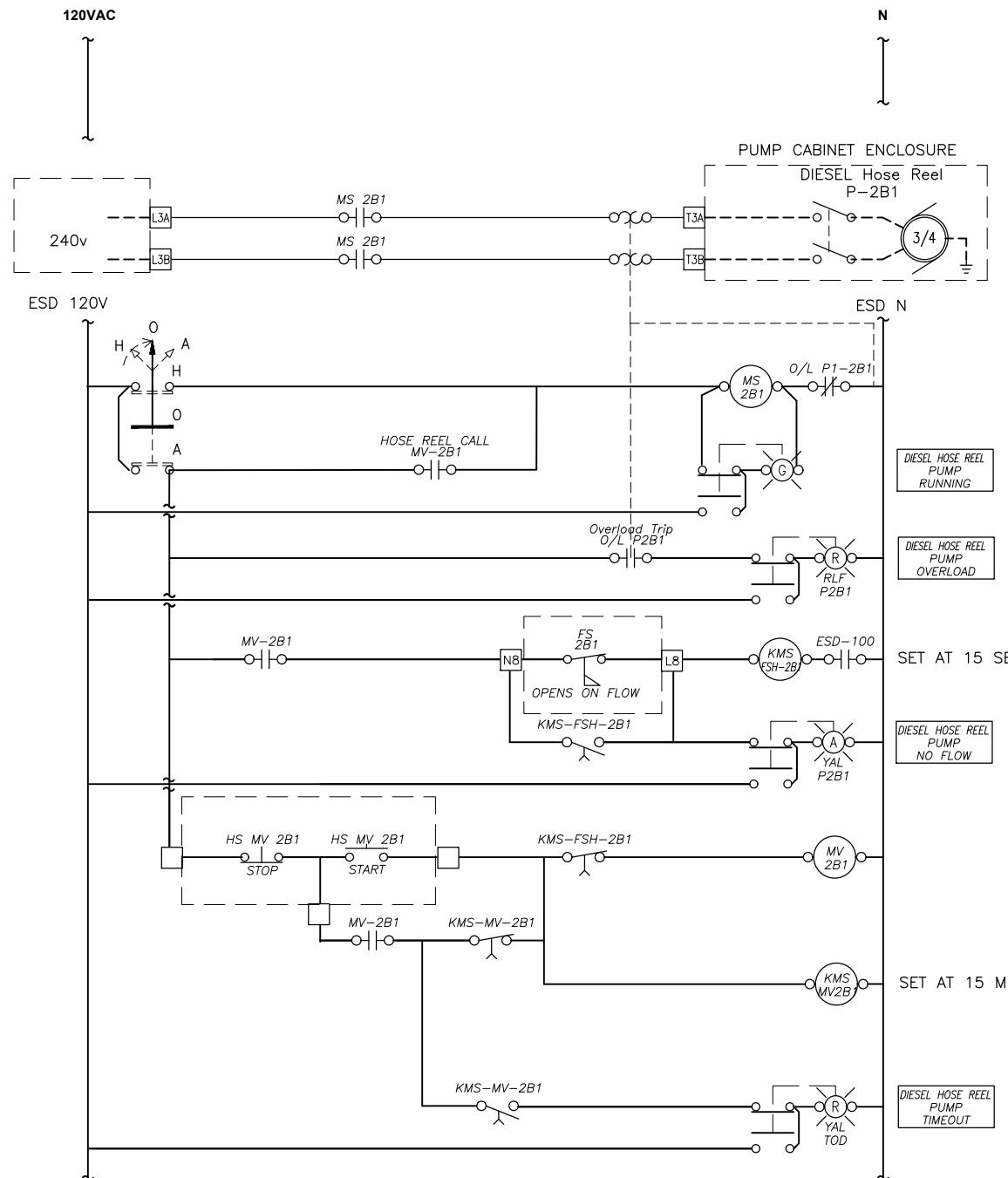


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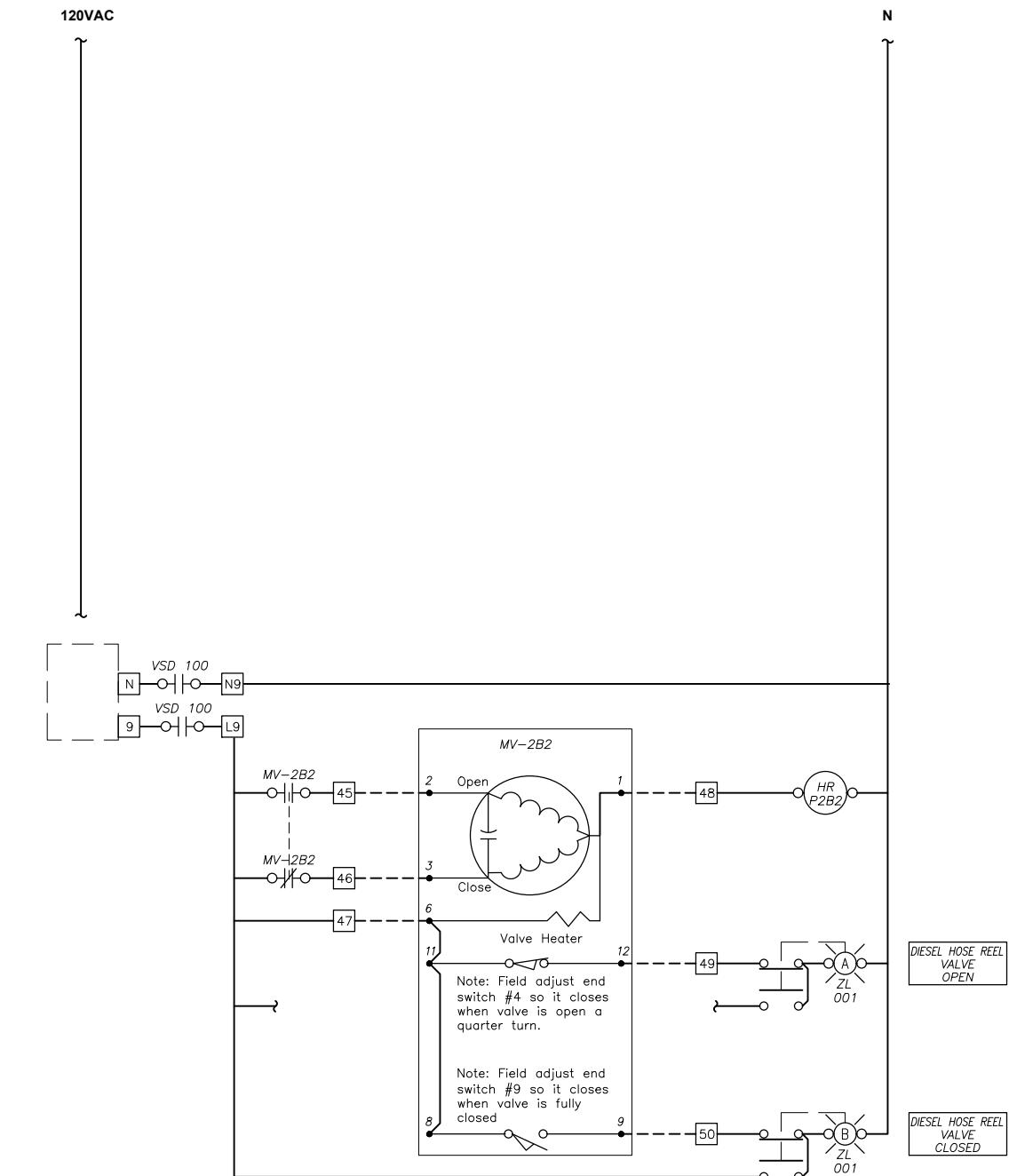


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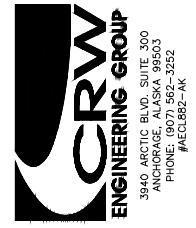
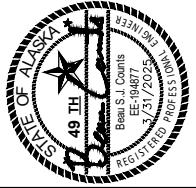
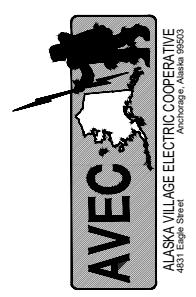
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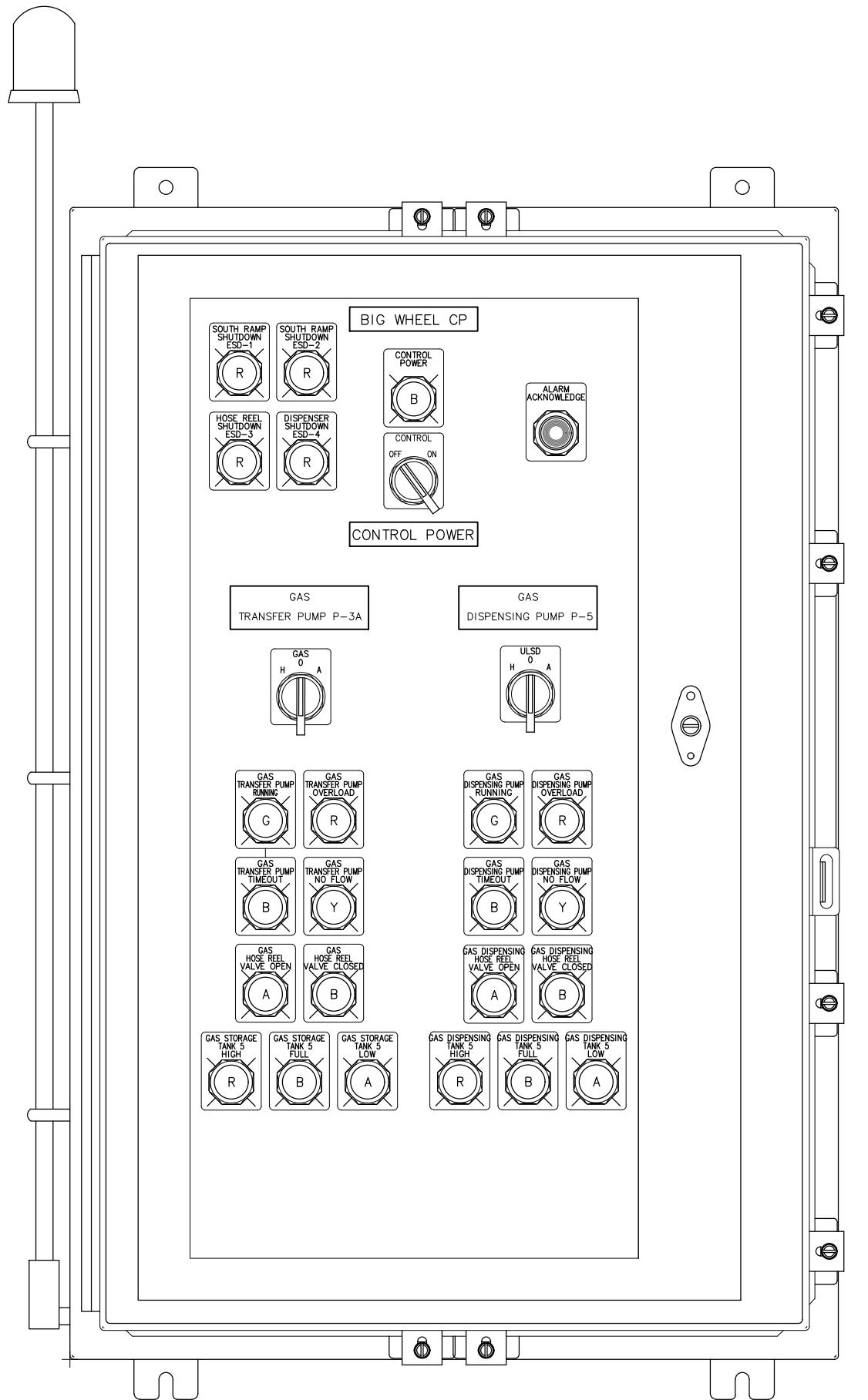
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Plot 4-1/25
Date 4-1/25
Designed _____
Drawn _____
Approved BC AMH



BIG WHEEL CONTROL PANEL LAYOUT

SCALE: NTS

1

PUMP CONTROL NARRATIVE

The control panel operates the gasoline and diesel pumps supplying the hose reels, controls, and area lighting in addition to providing emergency shutdown for the entire fuel system.

ALARMS

Each tank is equipped with a CRITICAL HIGH (LSHA - XX) Level Float switch that, when fuel reaches its level, opens a circuit (fails safe) and causes an alarm horn/strobe to signal a CRITICAL HIGH Level has been reached. The CRITICAL HIGH Level condition is indicated on the front of the panel as well, identifying the tank(s) with high level(s).

The operator can acknowledge the alarm by pressing the ALARM ACKNOWLEDGE button on the control panel. This extinguishes the strobe and silences the horn, but the front panel light will remain illuminated until sufficient fuel is drained from the tank to drop its fuel level below the CRITICAL HIGH float's sensing point. At that time the front panel light will extinguish.

The control logic for alarms is set up so that each new alarm condition will cause the audible and visual alarms to annunciate, regardless of any existing (acknowledged) alarm conditions.

The Emergency shutdown system, when engaged, will cause the alarm horn/strobe to be energized. Refer to sheet E.### for emergency shutdown narrative.

FUEL TRANSFER

The fuel transfer between the bulk and dispensing tanks can be either manual or semi-automatic.

Manual operation

By placing (and holding) the HOA switch in the HAND position, the transfer pump will start and run. Its RUN light will be illuminated confirming the pump is powered. The pump will continue running until either it experiences an overload condition where the motor starter control is opened internally, the CRITICAL HIGH level float is reached or the operator releases the HOA switch. If an overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping) The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to fill the dispensing tank should automatic controls fail. The manual fill operation would require two people to perform safely.

Whenever a transfer pump is started, an "Open" signal is also sent to its associated motorized valve which opens. When the pump is shut down, the motorized valve receives a "Close" signal and it closes. OPEN and CLOSED status is displayed on the panel.

SEMI-AUTOMATIC operation

AUTO mode is the intended continuous mode for these controls. In AUTO, the operation of the transfer pump is controlled by a pushbutton on the control panel and the LSH and LSHA floats in the dispensing tank. When fuel level drops to below the LSL float's level a panel mounted pilot light, GAS/DIESEL DISPENSING TANK LOW is energized. The operator must press the PUMP START pushbutton to begin transfer. If pumping is successful, the low level light will extinguish after a few minutes. Internal controls linked to the LSH float keep the pump running until the LSH float level is attained or pumping lasts for more than 15 minutes. (NOTE: There is a timer that starts when the pump starts and is set for 15 minute timeout. A pilot light on the front panel will be energized, indicating PUMP TIMEOUT has occurred. If timeout is the cause of shutdown, the HOA switch must be turned OFF then back to AUTO for the transfer operation to resume.)

Should pumping be completed before timeout, a pilot light on the front panel will be energized once the LSH float level is reached (GAS/DIESEL DISPENSING TANK FULL). When no tank level pilot lights are on, the tank level lies somewhere between low level and full. Should the pump continue to run after the HIGH float was reached, and fuel levels increase the LSHA float will also attempt to shut the pump down as well as sounding the alarm and enabling its pilot light on the front panel (GAS/DIESEL DISPENSING TANK HIGH).

DISPENSING PUMPS

The dispenser pumps can be either manual or automatic. The following applies to both the Gas and Diesel systems.

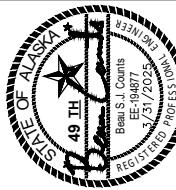
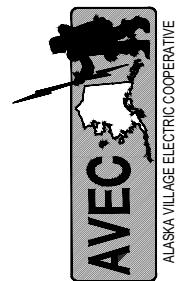
Normal operation is for the pumps to operate in AUTO mode. The dispensing tanks are equipped with Low Level Floats (LSL). If tank fuel level drops below the float, the associated pump will stop until transfer is completed.

Manual operation

By placing (and holding) the HOA switch in the HAND position, the dispenser pump will start and run. Its RUN light will turn on and the pump will continue running until either it experiences an overload condition where either the panel mounted motor starter control is opened internally, or an internal temperature sensor in the motor detects an overheat condition or the operator releases the HOA switch. If a panel-based overload causes the shutdown, a pilot light on the panel front will be energized (no other indication will be given, other than the pump stopping). A RESET pushbutton on the pump motor starter located inside the panel must be pressed to clear the overload relay in order to allow the pump to restart. The HOA switch is spring loaded so that upon release it will return to OFF from the HAND position. The HAND or manual mode is provided for maintenance and testing however it could be used to operate the Fleet Dispensing system in the event of control failure.

Automatic operation

AUTO mode is the intended continuous mode for these controls. In AUTO, the operation of the gas and diesel dispenser pumps is controlled by the dispenser. Other operating parameters are identical to the manual mode.

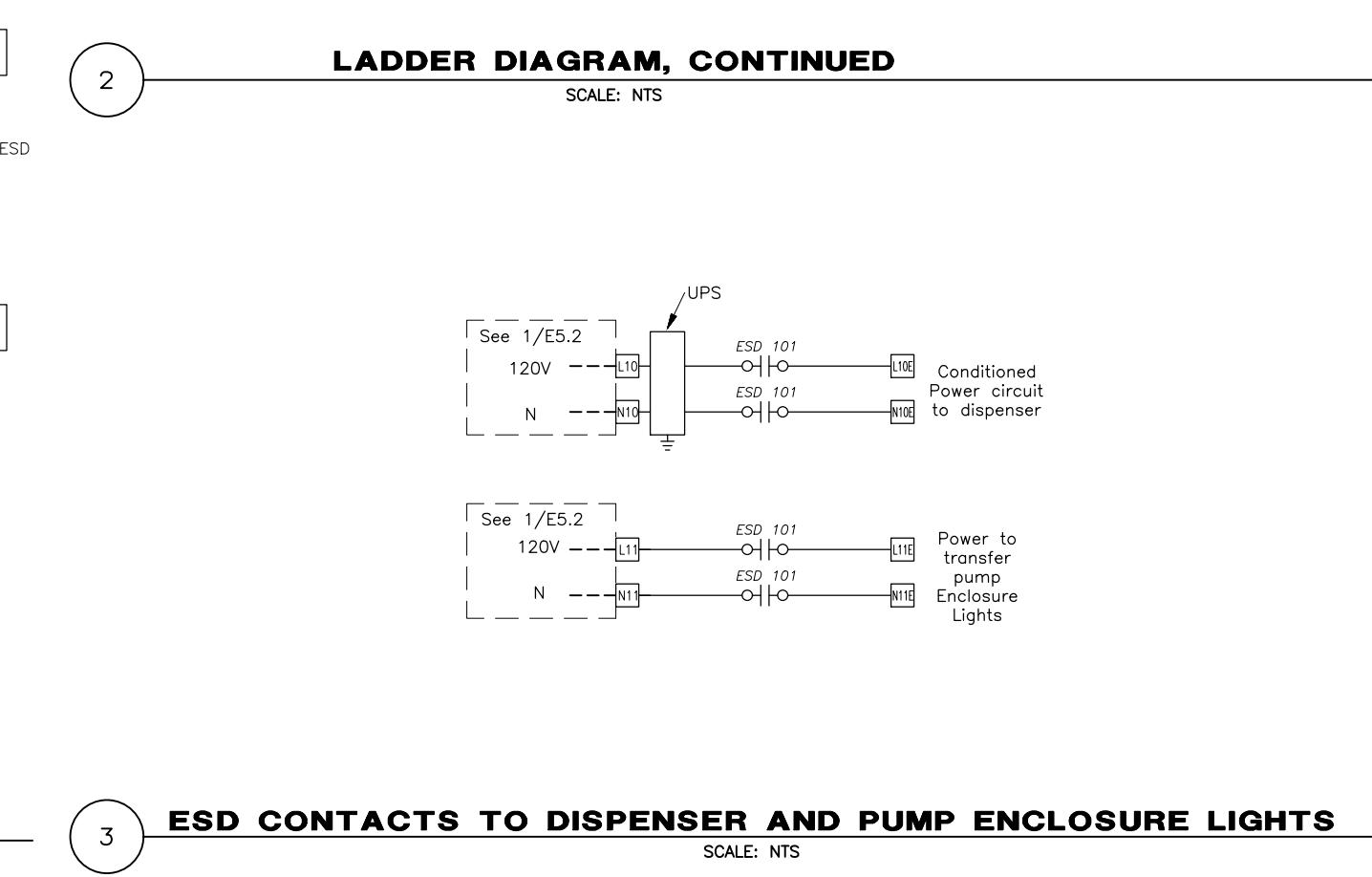
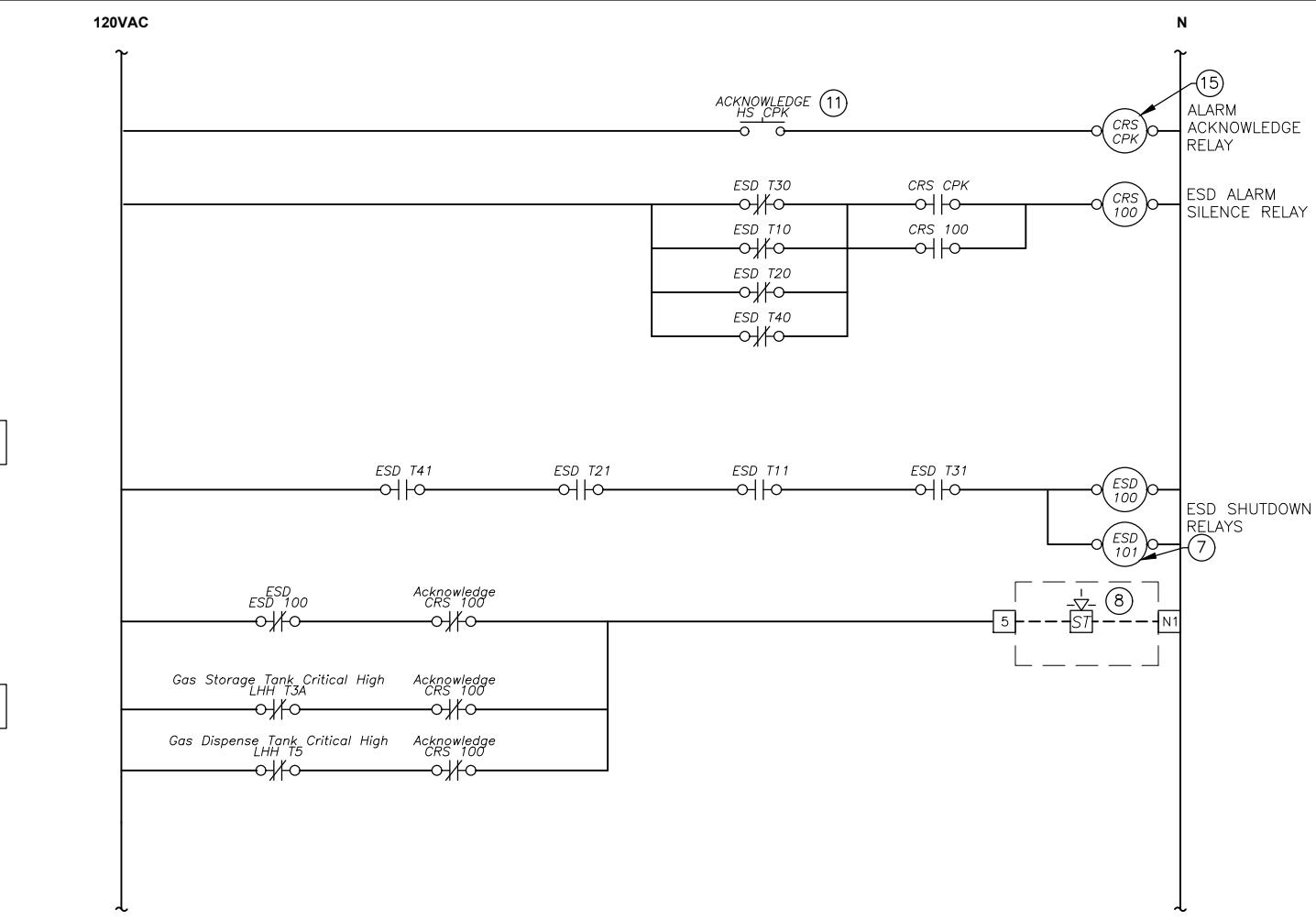
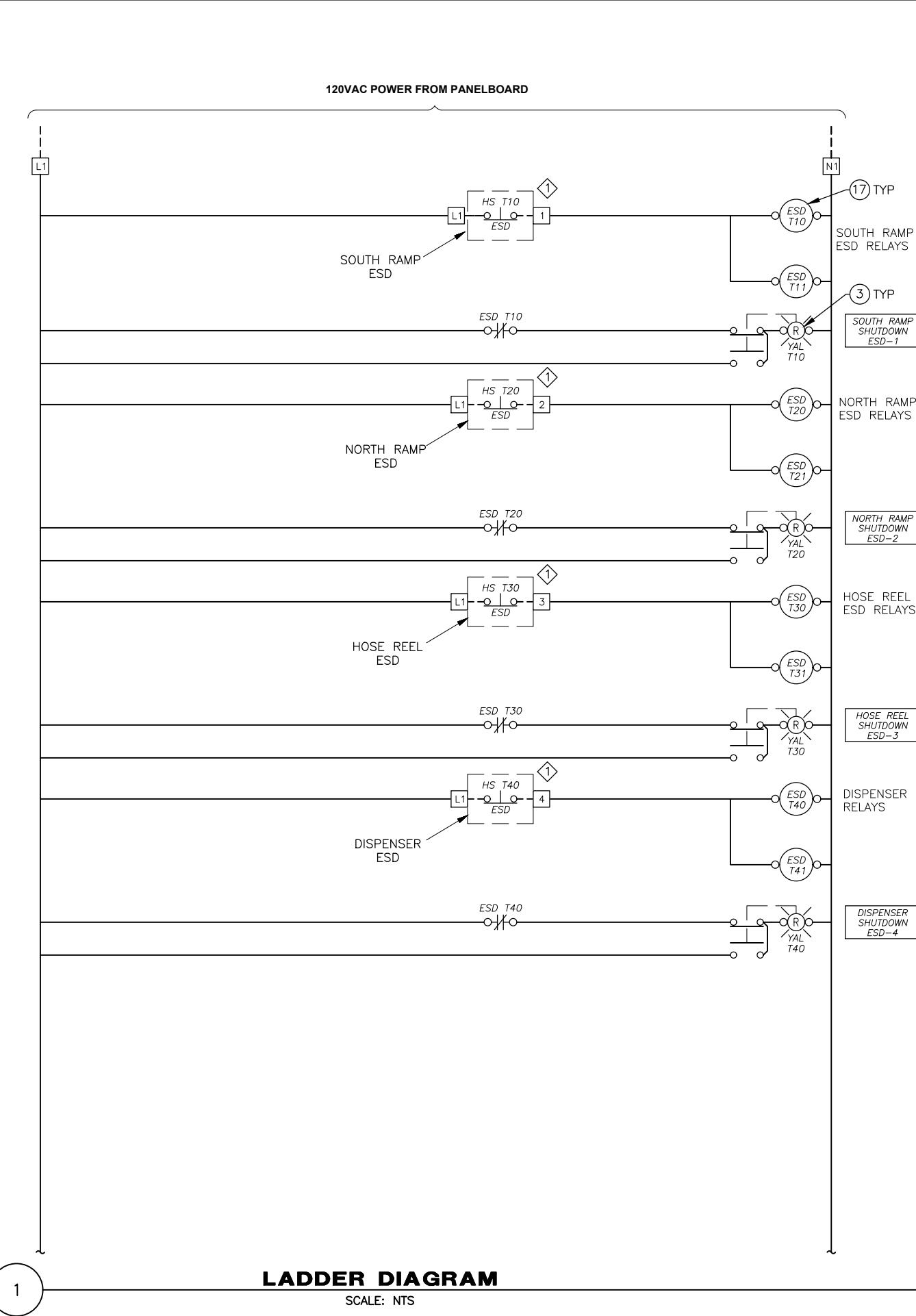


SHAGELUK BULK FUEL UPGRADES
BIG WHEEL CONTROL PANEL LAYOUT AND NARRATIVE
SHAGELUK, ALASKA

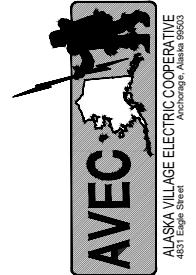
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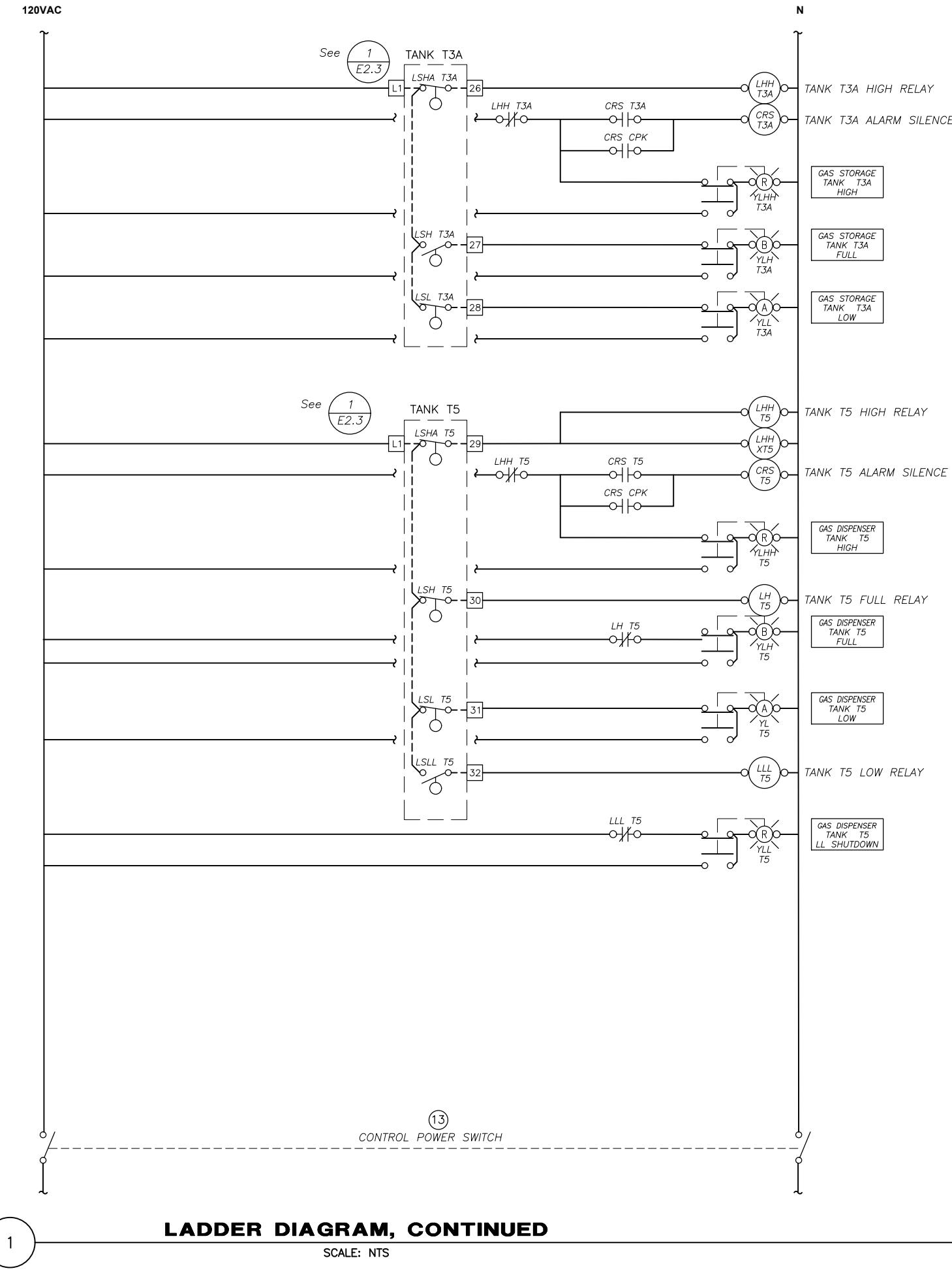
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Date 4-1-25
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Drawn _____
Approved BC AMH
BRP

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SHAGELUK, ALASKA			
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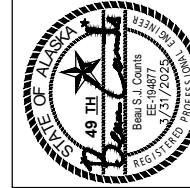
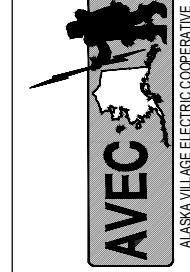


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SHAGELUK, ALASKA

CP-2 LADDER

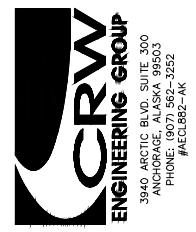
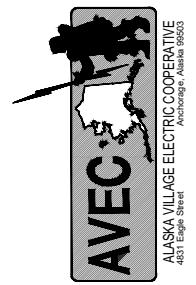
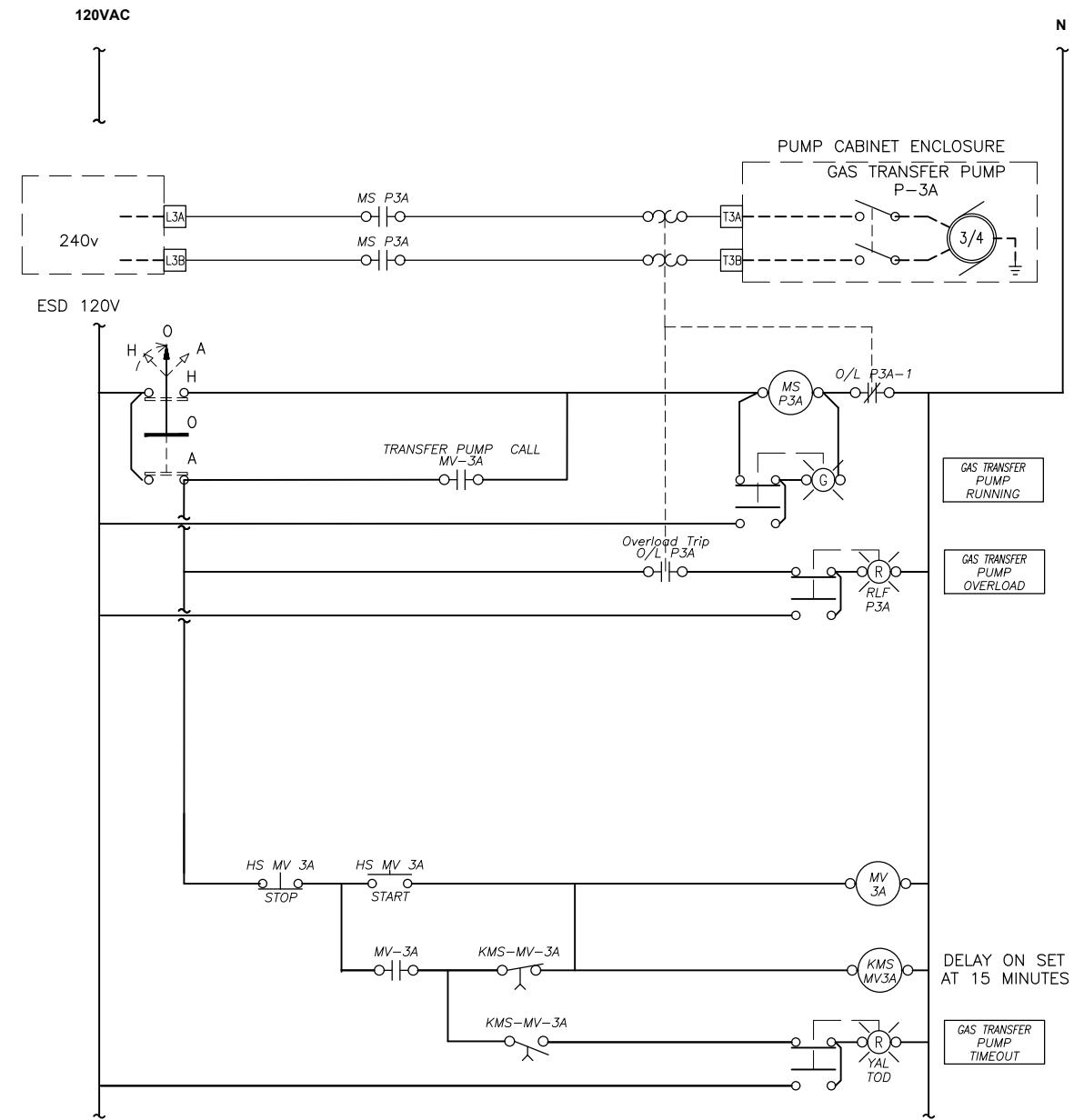
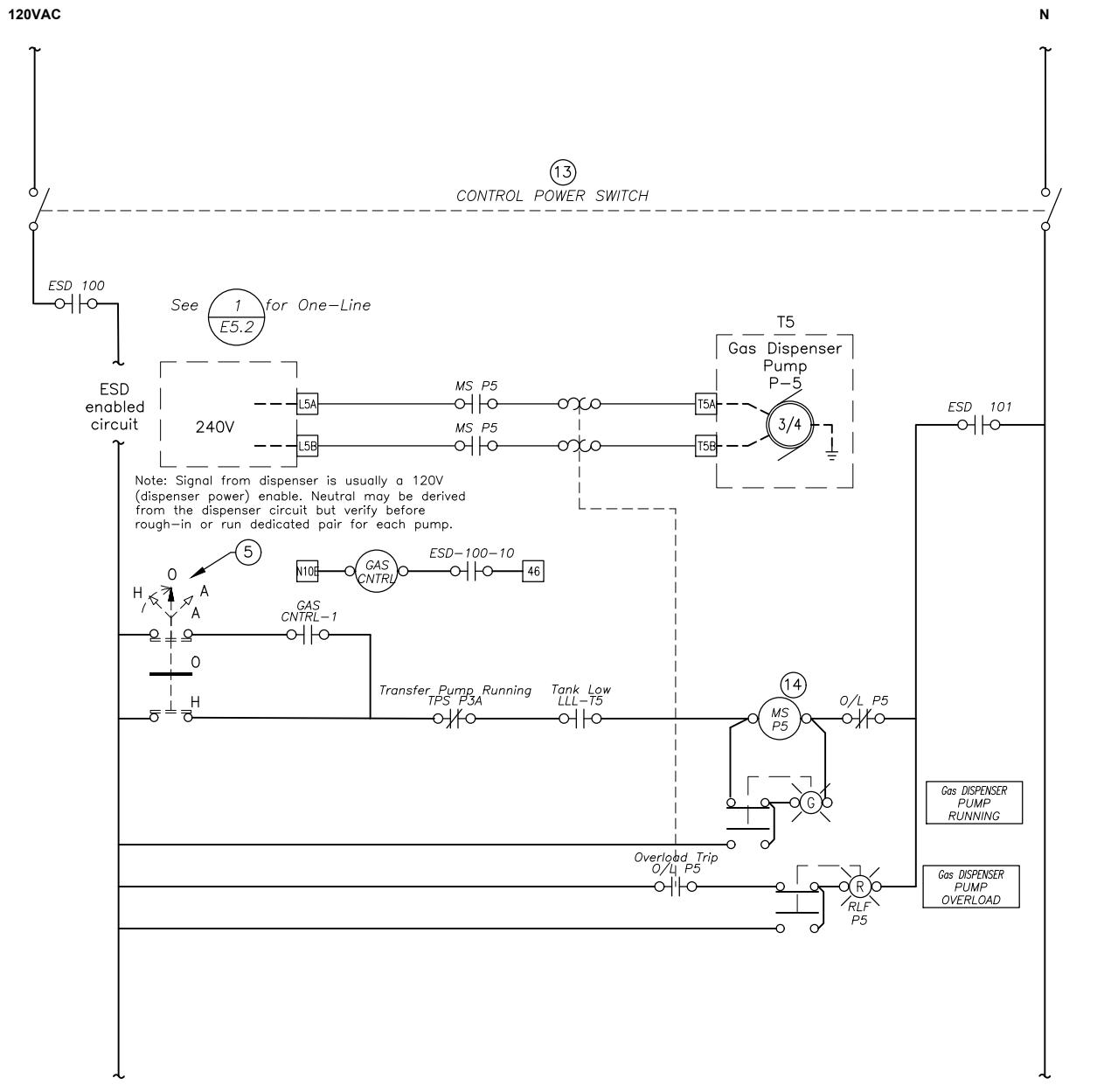
SHAGELUK BULK FUEL UPGRADES



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Beau S.J. Conis
EE-19877
3/31/2005
REGISTERED PROFESSIONAL ENGINEER



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