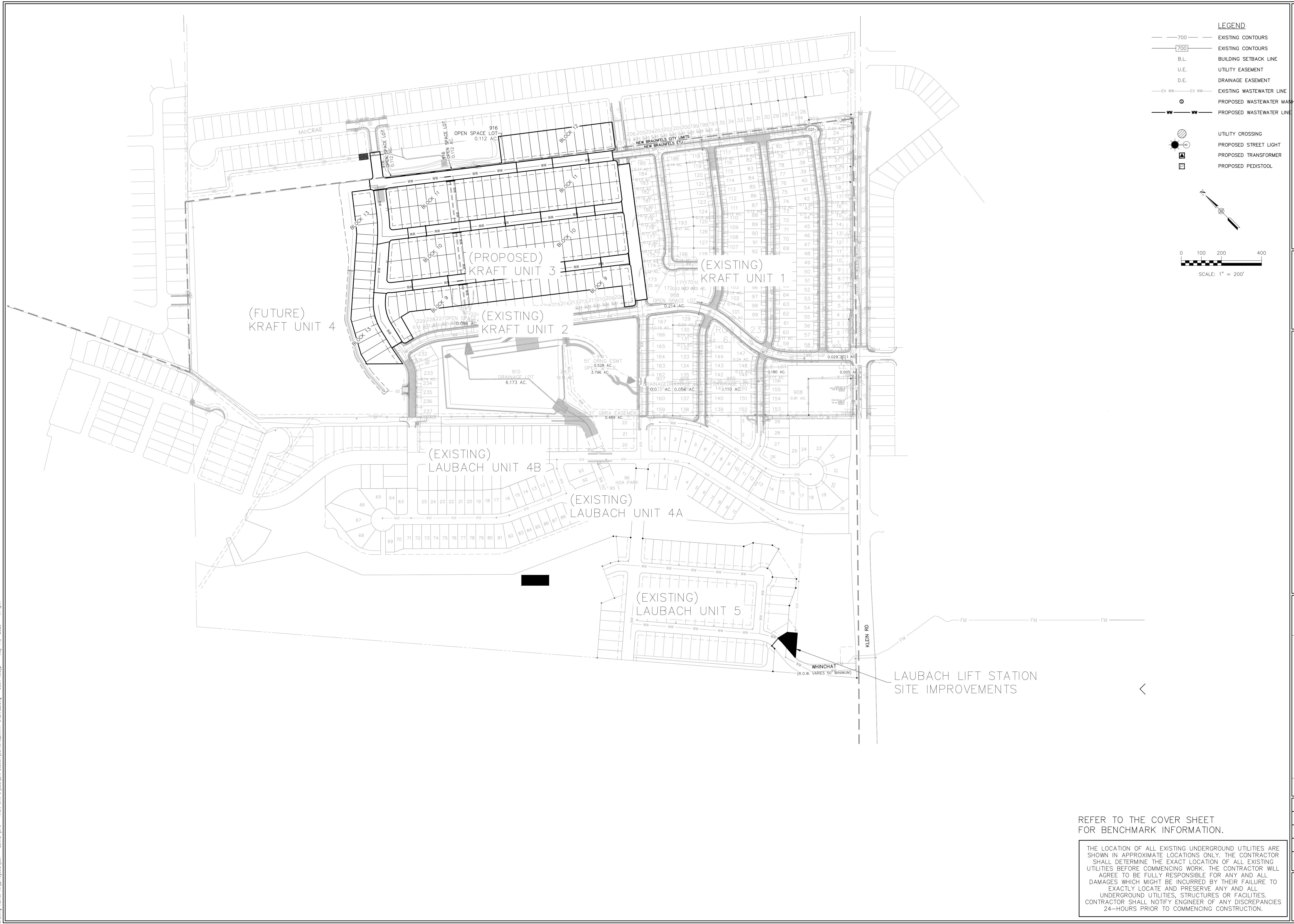
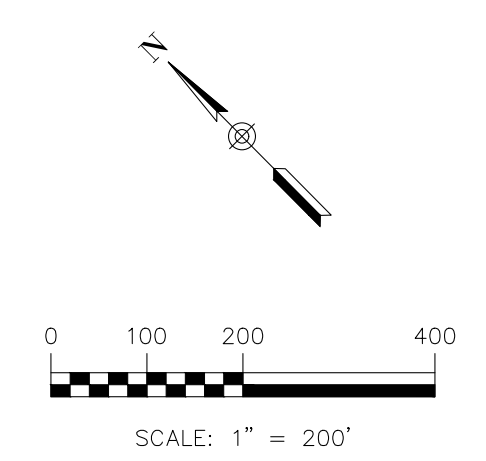


Drawing Name: N:_Projects\337 - Lennar\OTD - Kraft Unit 3\CDs\LR Station\337.070_WWRF-OVERALL.dwg User: kobyp May 17, 2025 - 1:44pm



- LEGEND**
- 700 — EXISTING CONTOURS
 - 700 — EXISTING CONTOURS
 - B.L. BUILDING SETBACK LINE
 - U.E. UTILITY EASEMENT
 - D.E. DRAINAGE EASEMENT
 - EX WW — EX WW — EXISTING WASTEWATER LINE
 - WW — WW — PROPOSED WASTEWATER LINE
 - PROPOSED WASTEWATER MANHOLE
 - UTILITY CROSSING
 - PROPOSED STREET LIGHT
 - PROPOSED TRANSFORMER
 - PROPOSED PEDISTOOL



290 S. CASTELL AVE., STE. 100
 NEW BRAUNFELS, TX 78130
 TBPELS FIRM F-10961
 TBPELS FIRM 10153600

HMT
 ENGINEERING & SURVEYING



5/16/2025

**OVERALL LIFT STATION
 PLAN**

KRAFT SUBDIVISION, UNIT 3
 NEW BRAUNFELS, TEXAS

FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	REVISION DATE

DATE: **MAY 2025**
 DRAWN BY: **KWP**
 DESIGNED BY: **ROB**
 REVIEWED BY: **CVH**

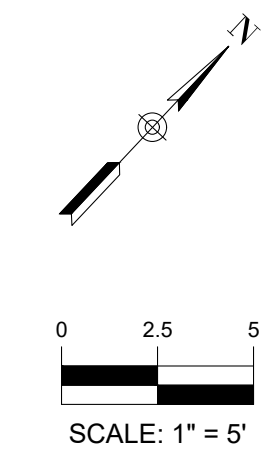
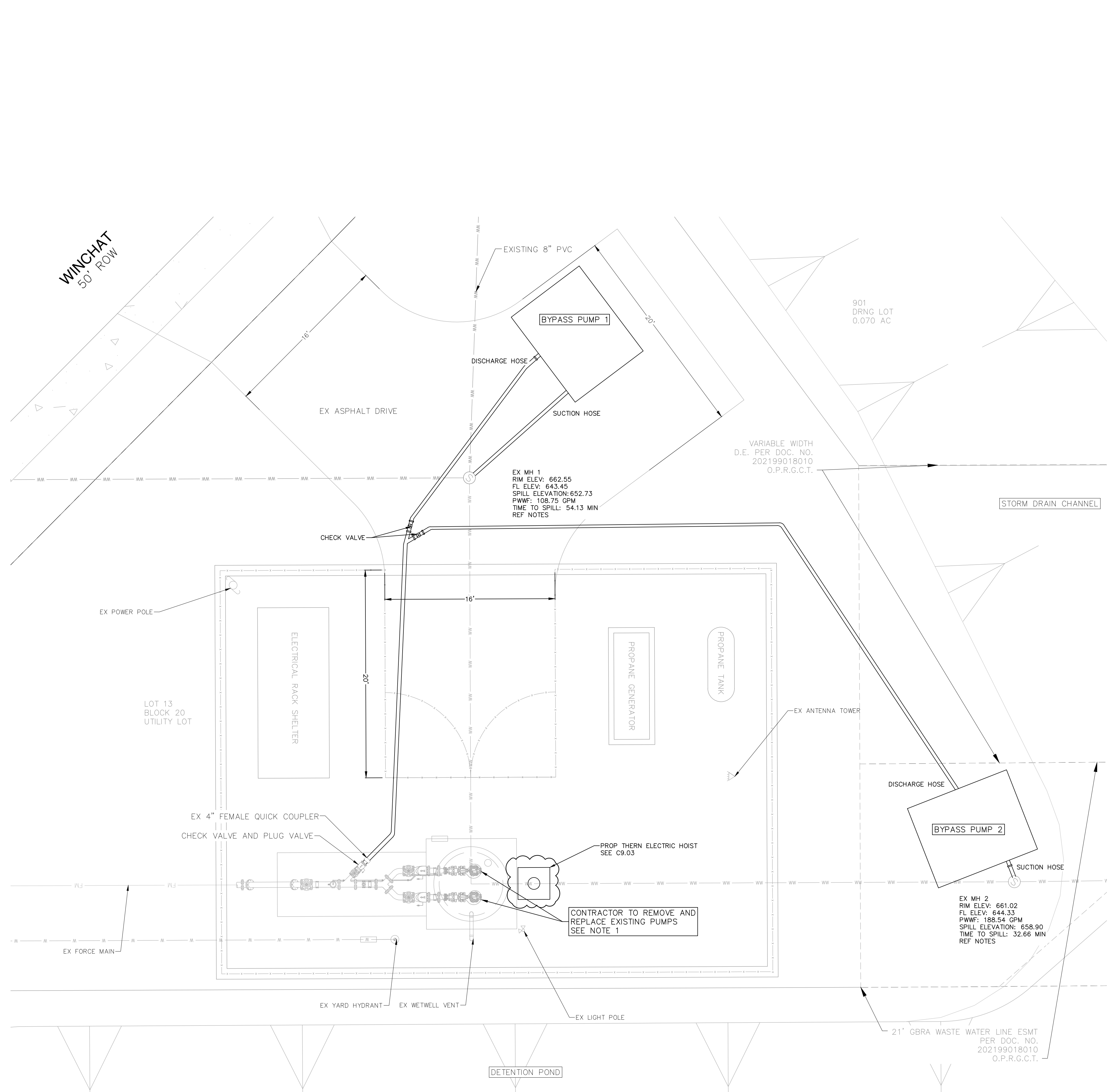
HMT PROJECT NO.:
337.070

SHEET
C9.01

REFER TO THE COVER SHEET
 FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

Drawing Name: N:\Projects\337 - Lenny\070 - Kraft Unit 3\CD\LIFT Station\337.070_LIFT STATION UPGRADES.dwg User: labyp May 17, 2025 - 1:38pm



LEGEND

---	EXISTING CONTOURS
---	PROPOSED CONTOURS
B.L.	BUILDING SETBACK LINE
U.E.	UTILITY EASEMENT
D.E.	DRAINAGE EASEMENT
---	EXISTING WATER LINE
---	PROPOSED WATER LINE
---	EXISTING WATER SERVICE
---	PROPOSED WATER SERVICE
⊗	PROPOSED FIRE HYDRANT
⊗	PROPOSED WATER VALVE
⊕	PROPOSED WATER FITTING
⊕	UTILITY CROSSING
---	EXISTING SEWER LINE
---	PROPOSED SEWER LINE
---	EXISTING SEWER SERVICE
---	PROPOSED SEWER SERVICE
⊙	PROPOSED SEWER MANHOLE
---	PROPOSED OVERHEAD ELECTRIC
---	PROPOSED UNDERGROUND ELECTRIC
⊞	PROPOSED SWITCHGEAR
⊞	PROPOSED TRANSFORMER
⊞	PROPOSED PEDESTAL
⊞	PROPOSED STREETLIGHT
⊞	EXISTING POWER POLE

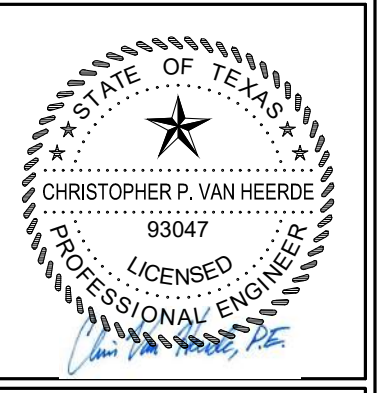
NOTES:

1. POSITION OF BYPASS PUMP AND PIPING SHALL BE TO THE DISCRETION OF THE CONTRACTOR. CONTRACTOR TO SUBMIT BYPASS PUMPING PLAN TO ENGINEER AND GBRA FOR REVIEW AND APPROVAL. PUMPS SHALL OPERATE SEPARATELY BASED ON THE WATER SURFACE ELEVATION ON EACH MANHOLE. CONTRACTOR SHALL HAVE 2 SPARE PUMPS ONSITE IN CASE OF PUMP OUTAGE.
2. THE CONTRACTOR SHALL PROVIDE A BYPASS PUMPING PLAN FOR GBRA AND ENGINEER FOR REVIEW, COMMENT, AND APPROVAL. GBRA AND ENGINEER MAY REQUIRE MINIMUM CAPACITY REQUIREMENTS FOR BYPASS PUMPING SYSTEMS, HOWEVER THE USE OF THIS INFORMATION IS AT THE SOLE RISK OF THE CONTRACTOR. THE CONTRACTOR SHALL FURNISH, INSTALL, OPERATE, AND MAINTAIN ALL NECESSARY BYPASS PUMPING, PLUGS, AND ASSOCIATED APPURTENANCES INCLUDING 24-HOUR ONSITE PUMP WATCH PERSONNEL TO ENSURE THAT NO OVERFLOWS OR SPILLS OCCUR. CONTRACTOR MAY SUBMIT PLAN TO ENGINEER/GBRA DETAILING REMOTE MONITORING SYSTEM IN LIEU OF 24-HOUR ONSITE PUMP WATCH. APPROVAL OF REMOTE MONITORING WILL BE CONTINGENT ON REACTION TIME AND PERSONNEL DISTANCE FROM SITE. PUMPING SYSTEMS MUST BE RATED FOR PEAK FLOW WITH THE LARGEST PUMP OUT OF SERVICE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL NECESSARY CLEANUP AND REPORTING EFFORTS DUE TO FAILURE OF EQUIPMENT OR ACTIVITIES ASSOCIATED WITH THE BYPASS PUMPING OPERATIONS CONTRIBUTING TO EITHER A SURCHARGE OR SANITARY SEWER OVERFLOW (SSO). THE COST OF ANY RELATED FINES, PENALTIES, OR DAMAGES AND THE COST OF ANY EFFORT BY GBRA OR OTHER THIRD PARTIES TO MITIGATE DAMAGES RESULTING FROM ANY SURCHARGING OR SSO'S SHALL BE THE DIRECT AND SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR TO CONSULT ENGINEER ON BYPASS PUMP SIZING. SYSTEM CURVES WILL BE PROVIDED BY ENGINEER UPON REQUEST.
3. CONTRACTOR TO COORDINATE WITH GBRA ON DISPOSAL OF EXISTING PUMPS
4. REFERENCE REPORT TITLED "KRAFT SUBDIVISION UNIT 3 - LAUBACH LIFT STATION UPGRADES ENGINEERING DESIGN REPORT", DATED APRIL 2024, FOR INFORMATION REGARDING TIME TO SPILL CALCULATIONS
5. CONTRACTOR SHALL COORDINATE WITH GBRA INSPECTOR TO ADD SUFFICIENT PROTECTION AGAINST STORM RUNOFF AND FALLING HAZARDS

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600



5/16/2025

LIFT STATION SITE PLAN AND BYPASS PLAN
KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

NO.	REVISION DESCRIPTION	REVISION DATE
1	LIFT STATION CRANE REVISION	4/07/25

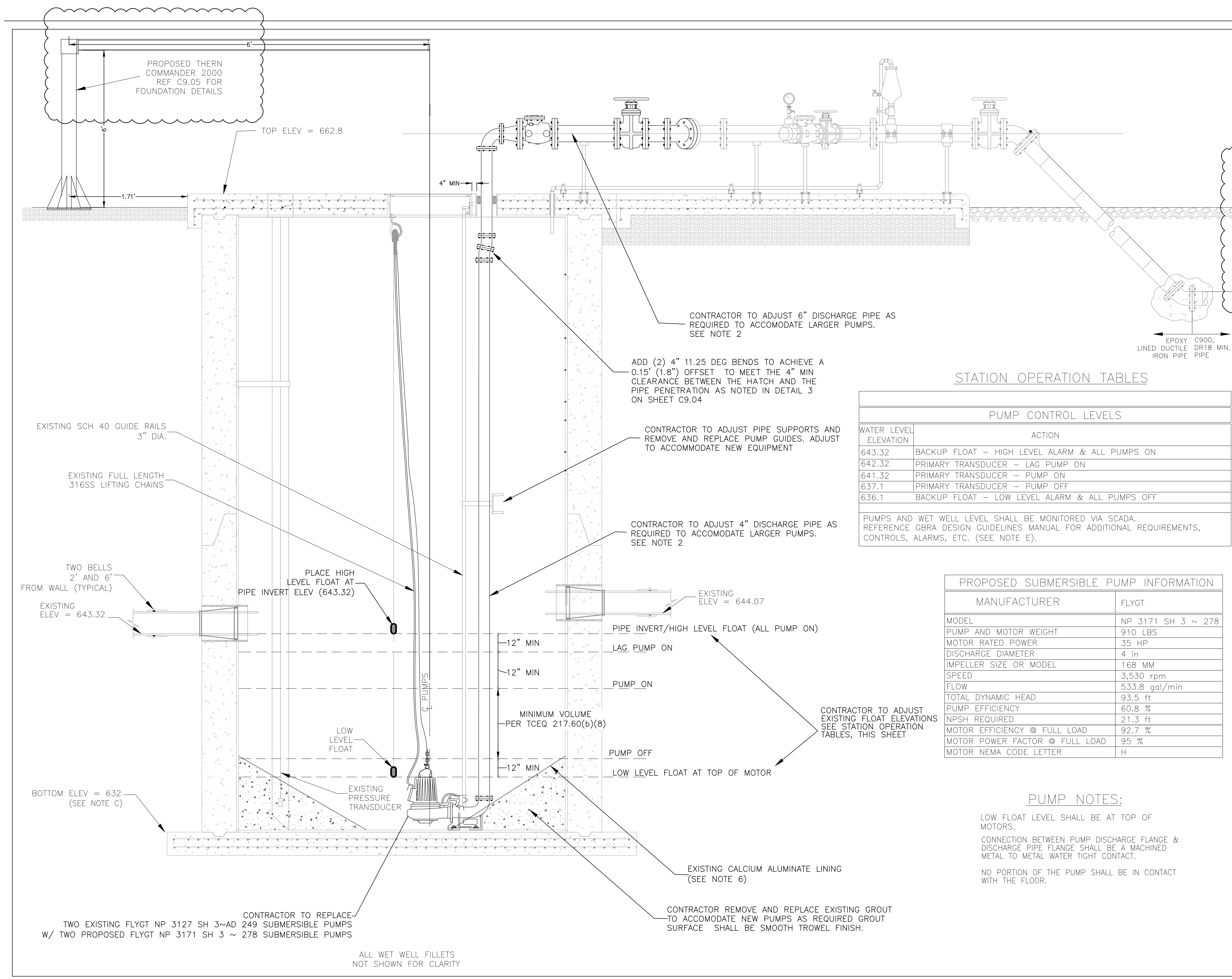
DATE: MAY 2025
DRAWN BY: KWP
DESIGNED BY: RDB
REVIEWED BY: CVH

HMT PROJECT NO.: 337.070

SHEET C9.02

FOR CONSTRUCTION

Drawing Name: N:_Projects\337 - Kraft Unit 3\CAD\LIFT STATION\337_070_LIFT STATION (UPGRADES).dwg User: hobyp May 17, 2025 - 14:23pm



STATIONARY CRANE NOTES:

- CONTRACTOR TO COORDINATE WITH GBRA ON DISPOSAL OF EXISTING CRANE
- ELECTRIC HOIST TO BE THERN COMMANDER 2000 WITH HOT DIP GALVANIZED CRANE AND BASE, EPOXY COATED WINCH, 316SS HARDWARE AND FASTENERS, 316SS WIRE ROPE AND CHAIN GRIP EYE. SEE APPROVED ASSEMBLY BELOW:
 - a. GALVANIZED CRANE ITEM NO. SPT20G
 - b. GALVANIZED PEDESTAL ITEM NO. 5BP20G
 - c. EPOXY COATED ELECTRIC WINCH ITEM NO. E4X
 - d. SPECIAL ORDER 316SS WIRE ROPE ASSEMBLY

STATION OPERATION TABLES

PUMP CONTROL LEVELS	
WATER LEVEL ELEVATION	ACTION
643.32	BACKUP FLOAT - HIGH LEVEL ALARM & ALL PUMPS ON
642.32	PRIMARY TRANSDUCER - LAG PUMP ON
641.32	PRIMARY TRANSDUCER - PUMP ON
637.1	PRIMARY TRANSDUCER - PUMP OFF
636.1	BACKUP FLOAT - LOW LEVEL ALARM & ALL PUMPS OFF

PUMPS AND WET WELL LEVEL SHALL BE MONITORED VIA SCADA. REFERENCE GBRA DESIGN GUIDELINES MANUAL FOR ADDITIONAL REQUIREMENTS, CONTROLS, ALARMS, ETC. (SEE NOTE E).

PROPOSED SUBMERSIBLE PUMP INFORMATION

MANUFACTURER	FLYGT
MODEL	NP 3171 SH 3 ~ 278
PUMP AND MOTOR WEIGHT	910 LBS
MOTOR RATED POWER	35 HP
DISCHARGE DIAMETER	4 in
IMPELLER SIZE OR MODEL	168 MM
SPEED	3,530 rpm
FLOW	533.8 gal/min
TOTAL DYNAMIC HEAD	93.5 ft
PUMP EFFICIENCY	60.8 %
NPSH REQUIRED	21.3 ft
MOTOR EFFICIENCY @ FULL LOAD	92.7 %
MOTOR POWER FACTOR @ FULL LOAD	95 %
MOTOR NEMA CODE LETTER	H

- NOTES:**
- CONTRACTOR SHALL REPLACE EXISTING PUMPS
 - ALL PUMP DISCHARGE PIPE AND FITTINGS WITHIN WET WELL SHALL BE FLANGED AND SHALL RECEIVE AFTER INSTALLATION A COAL TAR EPOXY COATING SYSTEM IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS.
 - ALL PUMP DISCHARGE PIPE, VALVES AND FITTINGS OUTSIDE THE WET WELL, EXCEPT 316SS AND PVC, SHALL RECEIVE AFTER INSTALLATION A WHITE COLOR HIGH BUILD EPOXY COATING SYSTEM WITH A GREY PANTONE #431-U COLOR TOP COAT OF POLYURETHANE IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
 - ALL FASTENERS AND ANCHOR BOLTS SHALL BE 316SS WITH FIELD APPLIED NICKEL ANTI-SEIZE COMPOUND. ANCHOR BOLTS INSIDE WET WELL SHALL BE EPOXY TYPE. DO NOT PAINT NUTS AND BOLTS.
 - CONTRACTOR TO VERIFY THE SIZE AND LOCATION OF THE WET WELL HATCHES ACCORDING TO THE SELECTED PUMP AND HATCH MANUFACTURERS' REQUIREMENTS (37'X58' MIN.).
 - IF DEMO OF GROUT IS REQUIRED TO PLACE PUMP, SAND BLAST AND LINE INTERIOR OF WET WELL WITH SEWPERCOAT, REFRATTA HAC 100, OR APPROVED EQUAL MINIMUM 1" THICKNESS. SMOOTH TROWEL FINISH. SPRAY CURING COMPOUND.
 - CONTRACTOR SHALL CONFIRM THE SIZE AND LOCATION OF WET WELL HATCHES PER SELECTED PUMP, MIXER, AND VALVE MANUFACTURERS' REQUIREMENTS. PROVIDE 4" MIN CLEARANCE IN ALL DIRECTIONS FROM PUMPS AND MIXERS TO HATCH CLEAR OPENING. PRIOR TO ORDERING HATCHES AND PIPING CONTRACTOR SHALL SUBMIT DIMENSIONED LAYOUT, DRAWINGS OF WET WELL TOP SLAB AND VALVE PAD, INCLUDING PIPE/VALVE LAY LENGTHS AND CONDUIT ROUTING, DEMONSTRATING ALL REQUIRED CLEARANCES BETWEEN PUMPS, MIXERS, PIPING, VALVES, HATCHES, TOP SLAB PENETRATIONS, ETC.
 - THE PUMP MOTOR SHALL BE PREMIUM EFFICIENCY RATED WITH A 1.15 SERVICE FACTOR.

PUMP NOTES:

LOW FLOAT LEVEL SHALL BE AT TOP OF MOTORS.

CONNECTION BETWEEN PUMP DISCHARGE FLANGE & DISCHARGE PIPE FLANGE SHALL BE A MACHINED METAL TO METAL WATER TIGHT CONTACT.

NO PORTION OF THE PUMP SHALL BE IN CONTACT WITH THE FLOOR.

SUBMERSIBLE LIFT STATION CONFIGURATION PROFILE VIEW

REVISION	OPERATIONS & MAINTENANCE ENGINEERING
JAN 2018	
PROPERTY OF GUADALUPE-BLANCO RIVER AUTHORITY SEGUIN, TEXAS	
LS-02	

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600



5/16/2025

LIFT STATION EXISTING WETWELL
KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

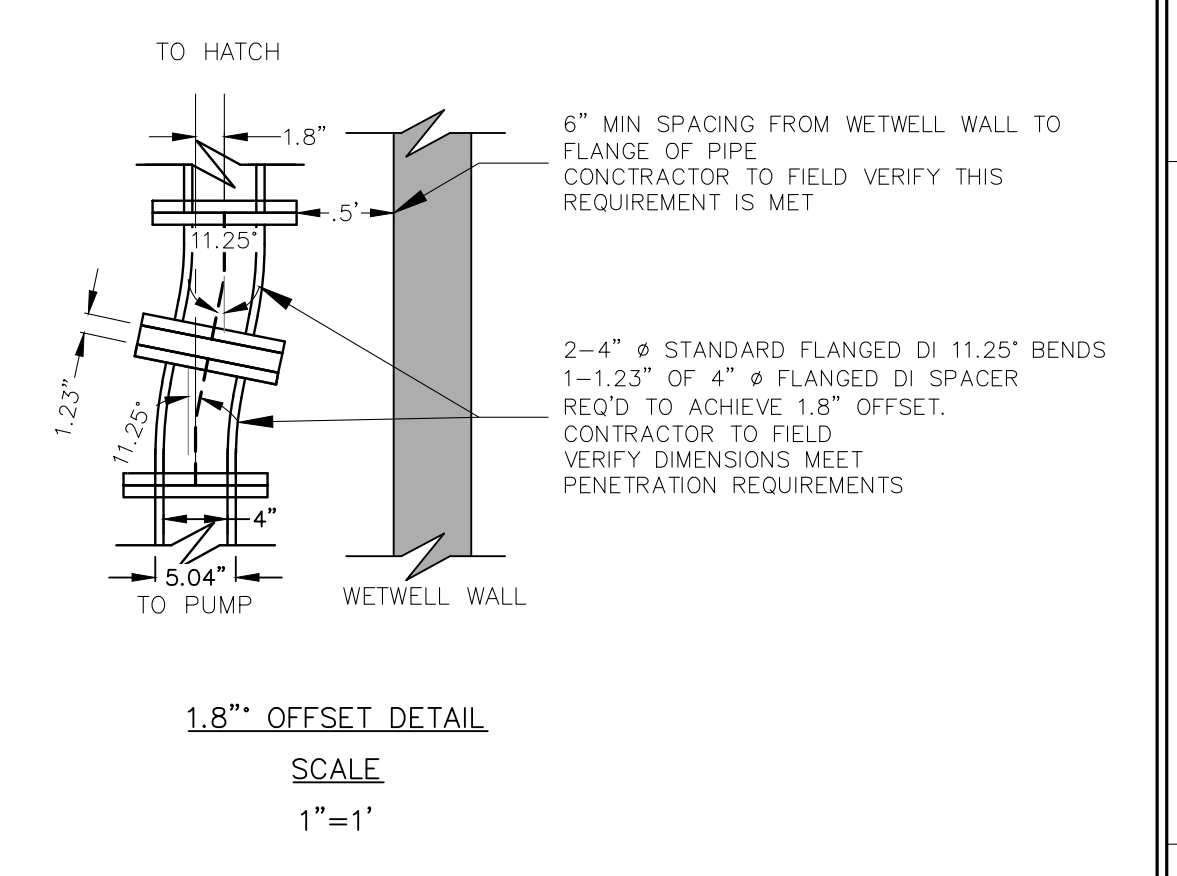
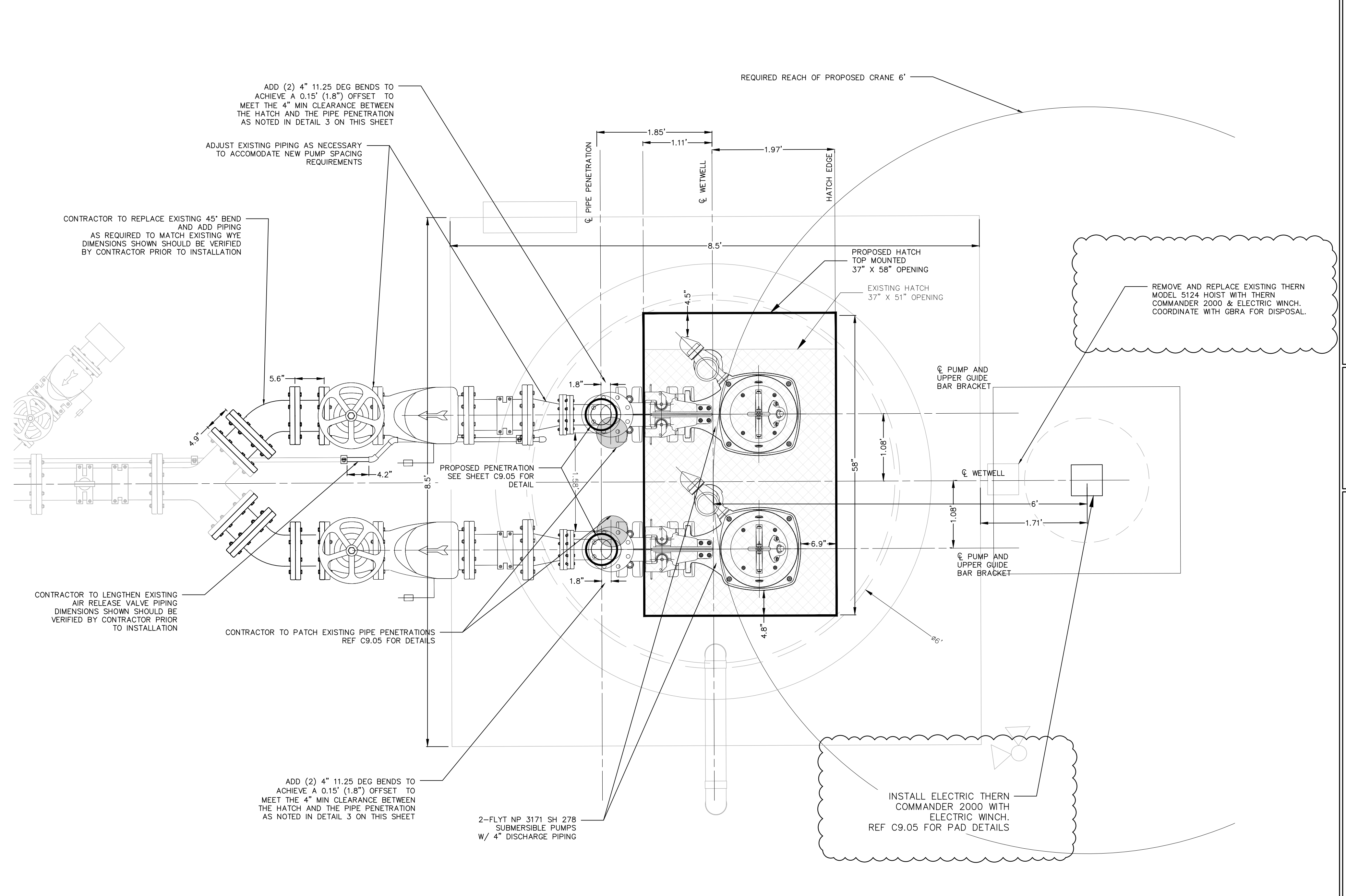
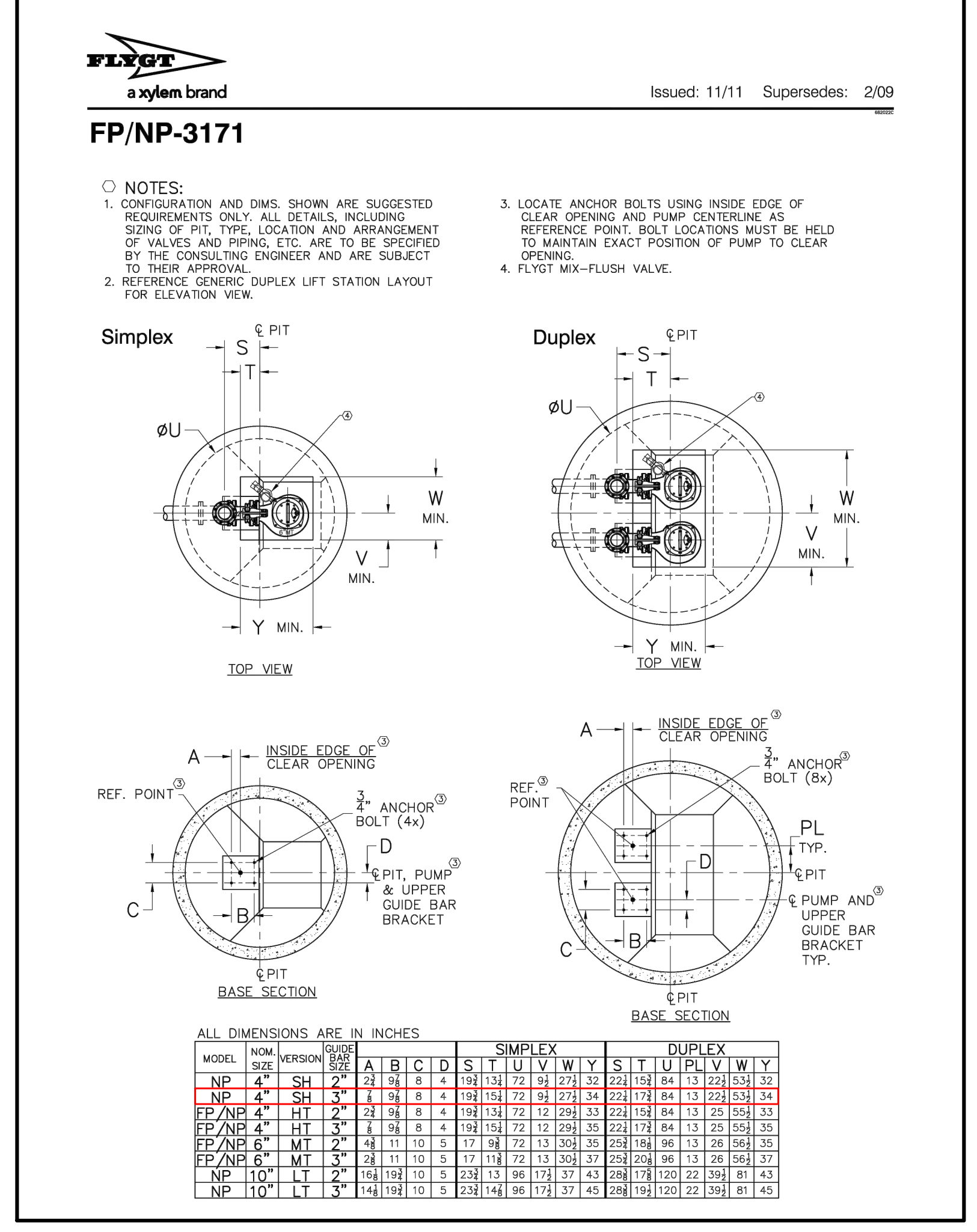
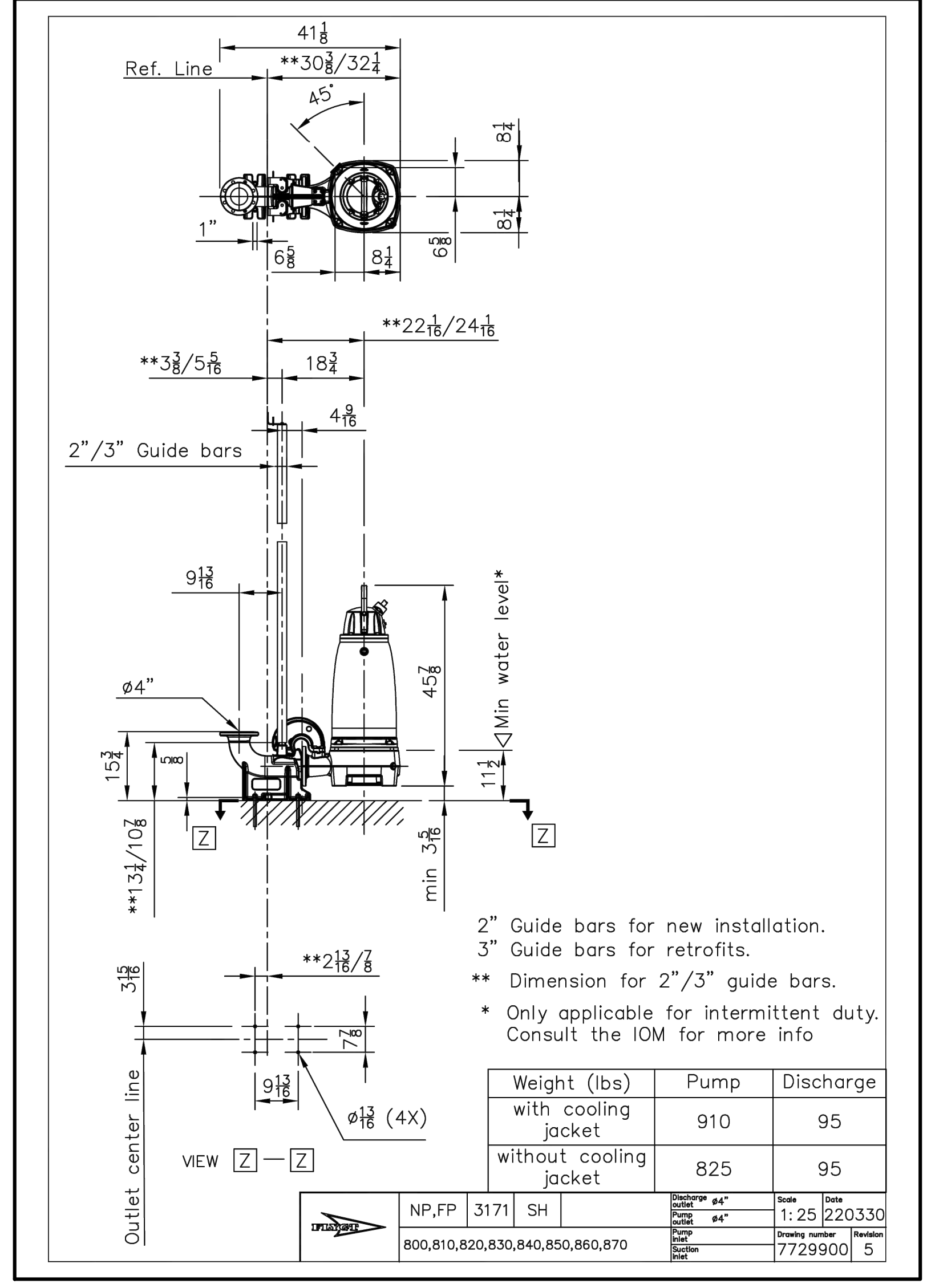
FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	REVISION DATE
1	LIFT STATION CRANE REVISION	4/07/25

DATE: MAY 2025
DRAWN BY: KWP
DESIGNED BY: RDB
REVIEWED BY: CVH
HMT PROJECT NO.: 337.070

SHEET C9.03

Drawing Name: N:_Projects\337 - Lennet\070 - Lennet\070 - Lift Unit_3\CAD\LIF Station\337_070_LIFT STATION UPGRADES.dwg User: hobyp May 17, 2025 - 14:23pm



REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600

HMT
ENGINEERING & SURVEYING

STATE OF TEXAS
CHRISTOPHER P. VAN HEERDEN
93047
LICENSED PROFESSIONAL ENGINEER

5/16/2025

WETWELL PLAN VIEW

KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

FOR CONSTRUCTION

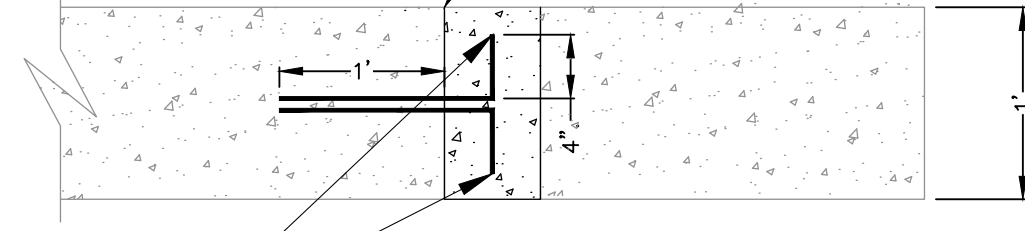
NO.	REVISION DESCRIPTION	DATE
1	LIFT STATION CRANE REVISION	4/07/25

DATE: MAY 2025
DRAWN BY: KWP
DESIGNED BY: RDB
REVIEWED BY: CVH

HMT PROJECT NO.: 337.070

SHEET C9.04

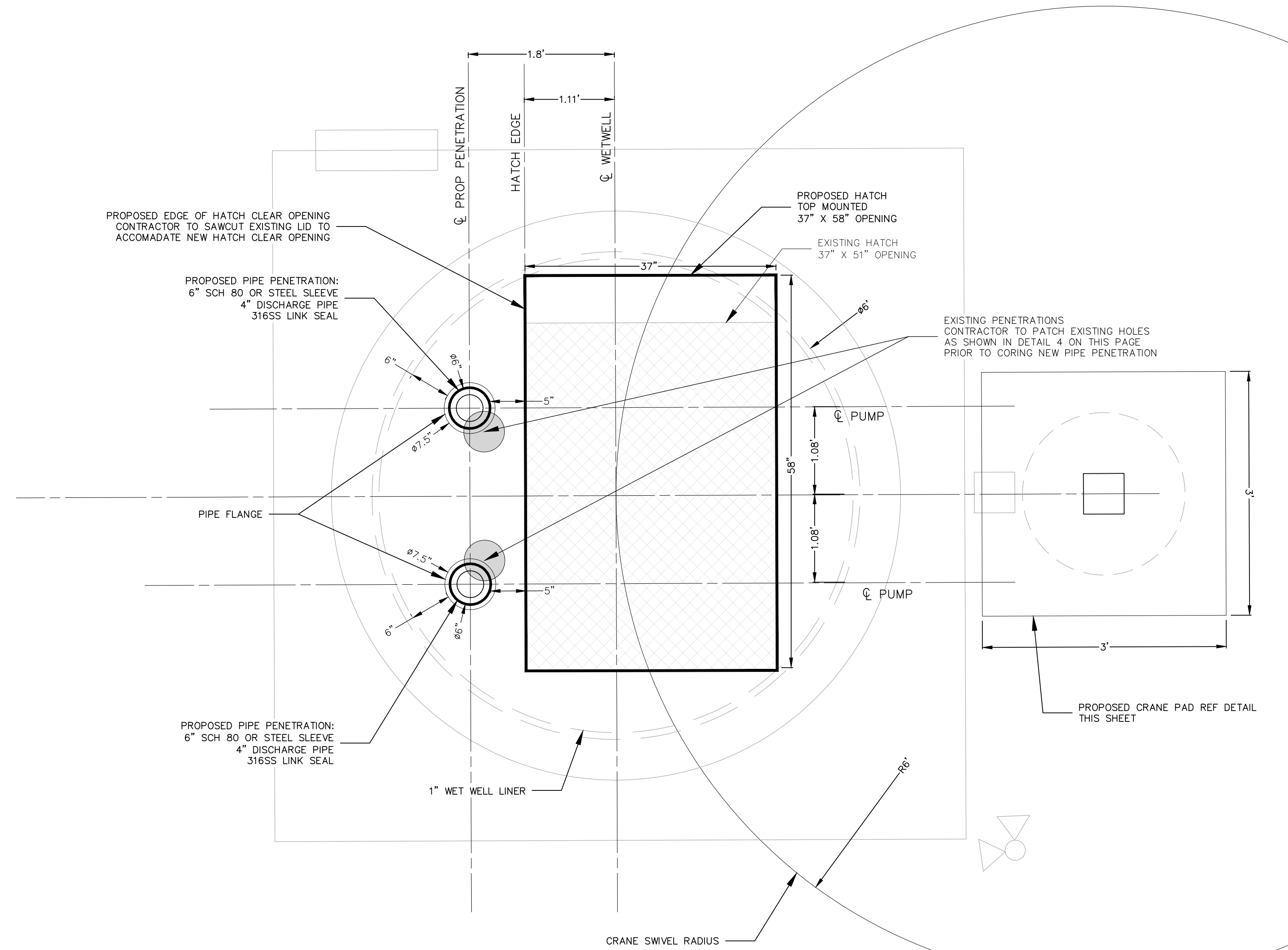
CONTRACTOR TO SCARIFY AND APPLY BONDING AGENT PRIOR TO POURING CONCRETE. CONCRETE SHALL BE MIN 3,000 PSI. CONTRACTOR TO SEAL EXPOSED JOINTS TO BE WATER TIGHT



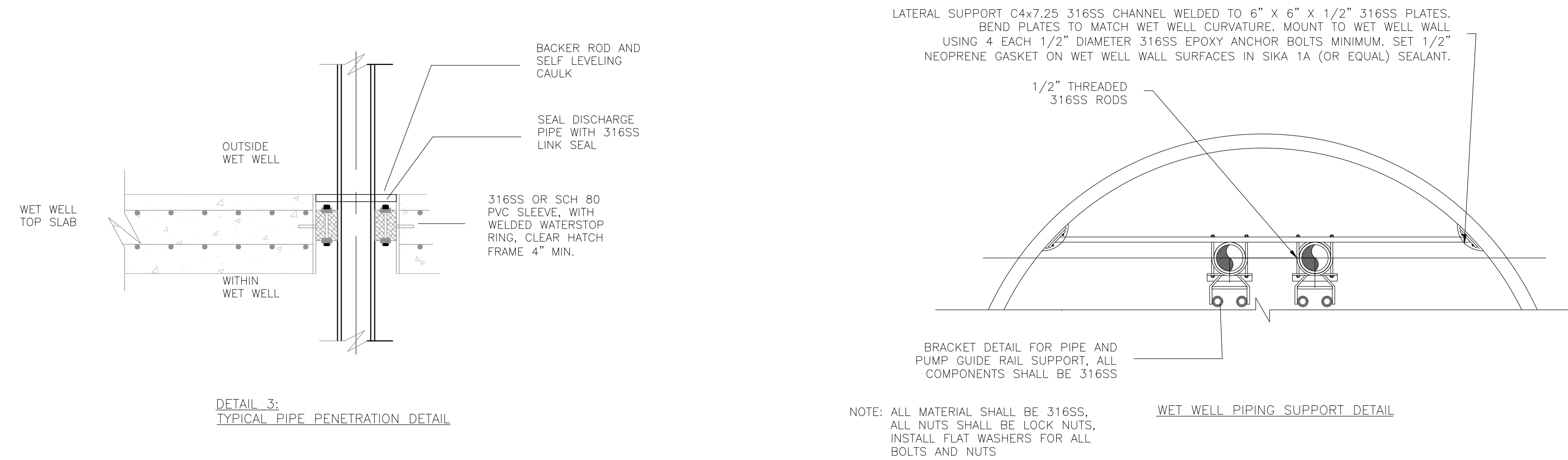
DRILL AND EPOXY 2-#7 J BARS INTO EXISNG FLOOR SLAB

DETAIL 4: PATCHING OF EXISTING PIPE PENETRATIONS

NOTE: CONTRACTOR MAY CHOOSE TO SUBMIT ALTERNATE PLAN FOR THE PATCHING OF EXISTING PIPE PENETRATIONS FOR REVIEW/APPROVAL BY THE ENGINEER AND GBRA.



WET WELL PENETRATIONS AND HATCH DETAIL
SCALE
1"=1'



DETAIL 3: TYPICAL PIPE PENETRATION DETAIL

NOTE: ALL MATERIAL SHALL BE 316SS. ALL NUTS SHALL BE LOCK NUTS. INSTALL FLAT WASHERS FOR ALL BOLTS AND NUTS

REFER TO THE COVER SHEET FOR BENCHMARK INFORMATION.

THE LOCATION OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN IN APPROXIMATE LOCATIONS ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK. THE CONTRACTOR WILL AGREE TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE INCURRED BY THEIR FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES, STRUCTURES OR FACILITIES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY DISCREPANCIES 24-HOURS PRIOR TO COMMENCING CONSTRUCTION.

Keynotes

2.3 24" diameter shaft reinforcing shall be 8-#6 vertical bars continuous. Extend vertical bars from 3" from the bottom of the shaft to 3" from the top of the shaft. Wrap vertical reinforcing with 3/8" diameter spiral at 6" pitch for the full length of the pier extending from 12" from the bottom of the shaft to 3" from the top of the shaft. Wrap spiral 2 additional turns at top and bottom.

2.5 Provide 3 precast concrete seat blocks at bottom and 3 precast concrete spacer blocks at mid depth of pier shaft such that steel cage will be held centered in shaft.

3.4 3'-0" x 3'-0" square pier cap shall be cast monolithically with the pier shaft and reinforced with #6 bars spaced at 8" on center each way at top and bottom of pier cap with standard 90 degree bends at each end.

3.6 Thern Commander 2000 crane base plate pedestal anchored to foundation with 4-5/8" diameter A36 steel threaded rods x 16" long with 12" minimum embedment. Epoxy with HILTI HIT-HY 200 V3 adhesive. Install per manufacturer recommendations. Hole cleaning procedure shall be 2x2x2 procedure as specified in HILTI technical literature.

9.1 Thern Commander 2000 series stationary davit crane by others. Maximum load shall be 2,000 lbs. in boom position 1. Refer to manufacturer specs for load capacities with arm at extended positions.

104-CENTRAL PARKWAY, SUITE 101
NEW BRAUNFELS, TX 78130
PHONE (710) 842-2008
FAX (710) 842-2008
HMT ENGINEERING & SURVEYING
FIRM NO. E-17115
AUSTINSTRUCTURAL.COM

AXIS
STRUCTURAL

Copyright © 2024
Axis Structural, LLC

HMT Engineering & Surveying
290 S. Castell Avenue, Ste 100
New Braunfels, Texas 78130

SCALE AS INDICATED
PROJECT NO. 24227-4
DATE: April 29, 2025
SHEET NO.

S-2.1

General Notes

1) Rock Engineering & Testing Laboratories Geotechnical Report: G218116

2) Structural design is based on the following:
Thern Commander 2000 Crane - Boom Position 1 Load Rating = 2,000 lb

3) Reinforcing steel shall be grade 60. Stirrups and ties may be grade 40 for bars #3 and smaller.

4) Concrete shall develop a 28-day compressive stress (f_c) of at least 4,000 psi.

Items Requiring Structural Engineer's Site Visit for IBC Chapter 1 compliance:
- Pier and pier cap reinforcing prior to concrete placement

STATE OF TEXAS
MIKE BRATTEN
121512
LICENSED PROFESSIONAL ENGINEER
4/29/25

SS1-1: Revised Crane Parameters

Crane Foundation
1/2" = 1'-0"

EXISTING LIFT STATION WETWELL

Crane Foundation
1/2" = 1'-0"

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPELS FIRM F-10961
TBPELS FIRM 10153600



5/16/2025

LIFT STATION DETAILS

KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	REVISION DATE
1	LIFT STATION CRANE REVISION	4/29/25

DATE: MAY 2025

DRAWN BY: KWP

DESIGNED BY: RDB

REVIEWED BY: CVH

HMT PROJECT NO.:

337.070

SHEET

C9.05

PLAN LEGEND	
	EQUIPMENT CONNECTION
	CONNECT TO EXISTING
	JUNCTION OR CONNECTION BOX
	STARTER OR LIGHTING CONTACTOR
	DISCONNECT SWITCH
	MANHOLE
	HANDHOLE
	KEYED NOTE. NUMBER MATCHES NOTE NUMBER
	TOGGLE SWITCH, WALL MOUNTED, SINGLE POLE SINGLE THROW. MOUNTED 54 IN. AFF. UNLESS OTHERWISE NOTED.
	TOGGLE SWITCH, WALL MOUNTED, FOUR WAY. MOUNTED 54 IN. AFF. UNLESS OTHERWISE NOTED.
	SWITCH MOTOR RATED WITH TERMINAL OVERLOADS
	OCCUPANCY SENSOR
	TERMINAL BOARD
	TELEPHONE OUTLET, PRIVATE. MOUNTED 12 IN. AFF.
	DATA OUTLET, SURFACED MOUNTED
	MOTOR LOAD, NUMBER INDICATES HORSEPOWER
	POLE
	TRANSFORMER, DRY TYPE, KVA RATING MAY BE DISPLAYED NEXT TO SYMBOL
	ANTENNA
	HOMERUN. LETTERS INDICATE PANELBOARD, NUMBERS INDICATE CIRCUIT NUMBER IN PANELBOARD
	CONDUIT CAPPED FOR FUTURE USE
	CONDUIT GOING DOWN
	CONDUIT GOING UP
	CONDUIT ABOVE GROUND
	CONDUIT RUN UNDERGROUND OR CONCEALED
	CONDUIT RUN BELOW CONCRETE
	LIQUID TIGHT FLEXIBLE CONDUIT
	SURFACE MOUNT
	120V RECEPTACLE FLUSH MOUNTED
	120V RECEPTACLE SURFACE MOUNTED
	120V QUAD RECEPTACLE FLUSH MOUNTED
	120V QUAD RECEPTACLE SURFACE MOUNTED
	208V RECEPTACLE FLUSH MOUNTED
	208V RECEPTACLE SURFACE MOUNTED
	WELDING OUTLET
	THERMOSTAT
	PANELBOARD FLUSH MOUNTED
	PANELBOARD SURFACE MOUNTED
	NORTH ARROW
	TORQUE SWITCH
	SOLENOID SWITCH
	LIMIT SWITCH
	AMMETER SWITCH
	VOLTMETER SWITCH
	PRESSURE SWITCH
	LIGHTING CONTACTOR
	PHOTOCELL

ONE-LINE AND CONTROL SCHEMATIC LEGEND	
	GROUND CONNECTION
	NORMALLY OPEN RELAY OR CONTACTOR CONTACTS
	NORMALLY CLOSED RELAY OR CONTACTOR CONTACTS
	CONDUCTOR CONNECTION
	CIRCUIT BREAKER, MOLDED CASE, TRIP CURRENT AND QUANTITY OF POLES (P) SHOWN NEXT TO SYMBOL
	DISCONNECT SWITCH NON-FUSED, LOAD BREAK. CONTINUOUS CURRENT RATING, QUANTITY OF POLES (P) SHOWN NEXT TO SYMBOL
	DISCONNECT SWITCH FUSED, LOAD BREAK. CONTINUOUS CURRENT RATING, QUANTITY OF POLES (P), AND FUSE RATING SHOWN NEXT TO SYMBOL
	FUSE. RATING SHOWN NEXT TO SYMBOL
	MOTOR STARTER THERMAL OVERLOAD PROTECTOR
	CONTACTOR OR RELAY COIL. LETTERS AND NUMBERS MATCH CONTACTS CONTROLLED
	LIMIT SWITCH NORMALLY CLOSED
	LIMIT SWITCH NORMALLY OPEN
	MOTOR OPERATED VALVE GEARED LIMIT SWITCH
	PRESSURE SWITCH NORMALLY CLOSED OPENS ON INCREASING PRESSURE
	PRESSURE SWITCH NORMALLY OPEN CLOSSES ON INCREASING PRESSURE
	LEVEL SWITCH NORMALLY CLOSED OPENS ON INCREASING LEVEL
	LEVEL SWITCH NORMALLY OPEN CLOSSES ON INCREASING LEVEL
	FLOW SWITCH NORMALLY CLOSED OPENS WITH FLOW
	FLOW SWITCH NORMALLY OPEN CLOSSES ON PRESENCE OF FLOW
	SPACEHEATER
	PHASE FAILURE RELAY
	MAINTAINED CONTACT START/STOP PUSHBUTTON
	MAINTAINED CONTACT HAND-OFF-AUTO SELECTOR SWITCH
	NORMALLY CLOSED MOMENTARY CONTACT PUSHBUTTON
	NORMALLY OPEN MOMENTARY CONTACT PUSHBUTTON
	WYE
	DELTA
	CURRENT TRANSFORMER WITH RATIO SHOWN
	ANALYTICAL TRANSMITTER
	FLOW OR FLOAT SWITCH
	LEVEL TRANSMITTER
	PRESSURE TRANSMITTER
	SOLENOID VALVE
	MOTOR OPERATED VALVE
	ELAPSED TIME METER
	TIME DELAY RELAY. TIMES OUT AFTER ENERGIZATION. ADJUSTABLE TIME DELAY TIME INDICATED NEXT TO SYMBOL.
	TIME DELAY RELAY. TIMES OUT AFTER DE-ENERGIZATION. ADJUSTABLE TIME DELAY TIME INDICATED NEXT TO SYMBOL.
	CONDUIT TAG
	PILOT LIGHT. R=RED, B=BLUE, G=GREEN, A=AMBER, Y=YELLOW
	CONTROL POWER TRANSFORMER. PRIMARY AND SECONDARY VOLTAGE INDICATED
	CPT = CONTROLS POWER/INSTRUMENT TRANSFORMER
	PT = POWER TRANSFORMER. VOLTAGE AND KVA RATING AS SHOWN
	TELEVISION CAMERA
	TORQUE SWITCH
	AMMETER
	VOLTMETER
	LIGHTING ARRESTOR
	SURGE CAPACITOR
	MOTOR STARTER FVNR = FULL VOLTAGE NON-REVERSING FVR = FULL VOLTAGE REVERSING MCP = MOTOR CIRCUIT PROTECTOR RVNR = REDUCED VOLTAGE NON-REVERSING RVSS = REDUCED VOLTAGE SOFT START SIZE = NEMA STARTER SIZE

LIGHTING FIXTURE LEGEND	
	LED STRIP LIGHT; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE
	LED STRIP LIGHT WITH BATTERY BACKUP; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE
	LED FIXTURE, SURFACE OR SUSPENDED, CEILING MOUNTED
	LED FIXTURE, STANCHION MOUNTED
	LED FIXTURE, WALL MOUNTED
	LED LIGHTED EXIT SIGN; LETTER IN OR BESIDE FIXTURE IDENTIFIES IN FIXTURE SCHEDULE
	REMOTE EMERGENCY LIGHTS
	POLE MOUNTED LED LUMINAIRE. SEE SCHEDULE OR NOTES FOR FIXTURE TYPE. ORIENT FIXTURE FOR CUT-OFF TOWARDS AREA TO BE LIT. ORIENT HOUSE SHIELD TOWARDS BUILDING. SEE DETAILS FOR POLE BASE. PROVIDE POLE CASE GROUND ROD.
	EMERGENCY LED LIGHT FIXTURE, SELF CONTAINED, BATTERY OPERATED
	PAR LAMP HOLDER. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES.
	POLE MOUNTED FLOOR LIGHT. NUMBER OF TRIANGLES INDICATE NUMBER OF FIXTURES. ARROW DENOTES FLOODING AND DIRECTION POLE FOLDS DOWN.

ABBREVIATIONS			
1/C	ONE CONDUCTOR	MCC	MOTOR CONTROL CENTER
3/C	THREE CONDUCTOR	MFR	MANUFACTURER
A	AMPERES OR TRIP AMPERES	MIN.	MINIMUM
AC	ALTERNATING CURRENT	MPR	MOTOR PROTECTION RELAY
A/C	AIR CONDITIONING	MTD	MOUNTED
AFF	ABOVE FINISHED FLOOR	MTG	MOUNTING
AFG	ABOVE FINISHED GRADE	MRCT	MULTI-RATIO CURRENT TRANSFORMER
AIC	SYMMETRICAL AMPERES INTERRUPTING CAPACITY	MV	MERCURY VAPOR
		N.C.	NORMALLY CLOSED
BLDG	BUILDING	NEC	NATIONAL ELECTRICAL CODE
BKR	BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
C	CONDUIT		
CAP	CAPACITOR	NEUT.	NEUTRAL
CKT	CIRCUIT	N.O.	NORMALLY OPEN
CONT'D	CONTINUED	N.T.S.	NOT TO SCALE
CPT	CONTROL POWER TRANSFORMER	OC	ON CENTER
CT	CURRENT TRNSFORMER	OH	OVERHEAD
CU	COPPER	P	POLE
DBL	DOUBLE	PC	PHOTOCELL
DISC SW.	DISCONNECT SWITCH	PH	PHASE
DC	DIRECT CURRENT	PNL	PANEL
EMER.	EMERGENCY	PRI	PRIMARY
EMT	ELECTRICAL METALLIC TUBING	PVC	POLYVINYL CHLORIDE
ENCL.	ENCLOSURE	REQ'D	REQUIRED
EP	EXPLOSION PROOF	SCH	SCHEDULE
EQUIP.	EQUIPMENT	SEC	SECONDARY
FS	FLOAT SWITCH	S/N	SOLID NEUTRAL
G	GROUND WIRE	SPACE	SPACE(S) ONLY - NO BREAKER OR DEVICE
GALV.	GALVANIZED	SPARE	SPARE BREAKER OR DEVICE
GEN	GENERATOR	SPECS	SPECIFICATIONS
GFI	GROUND FAULT INTERRUPTER CIRCUIT	S.D. BARE	SOFT DRAWN BARE
GND	GROUND	SS HDWE	STAINLESS STEEL HARDWARE
HDG	HOT DIPPED GALVANIZED	SWBD	SWITCHBOARD
HPS	HIGH PRESSURE SODIUM	SWGR	SWITCHGEAR
HT	HEIGHT	TB	TERMINAL BLOCK
HZ	HERTZ	TYP.	TYPICAL
INST.	INSTRUMENT	UL	UNDERWRITERS LABORATORIES
KV	KILOVOLTS	V	VOLTS
KVA	KILOVOLTS AMPERES	VA	VOLT AMPERES
KWH	KILOWATT HOURS	W	WATTS
LA	LIGHTNING ARRESTOR	W/	WITH
LPR	LIGHTING PROTECTION RELAY	W/O	WITHOUT
L-L	LINE TO LINE	WP	WEATHERPROOF
L-N	LINE TO NEUTRAL	XFMR	TRANSFORMER

LEGEND & GENERAL NOTES:

- BRANCH CIRCUIT NUMBERS MAY BE SHOWN NEXT TO SYMBOLS IN MULTIWIRED CIRCUITS.
- SYMBOL SIZE DOES NOT IMPLY EQUIPMENT SIZE UNLESS OTHERWISE NOTED.
- LOWER CASE LETTERS NEXT TO SYMBOLS INDICATE FIXTURE(S) CONTROLLED BY THE SWITCH DISPLAYING THE SAME LETTER.
- THIS IS A STANDARD LEGEND LIST ALL SYMBOLS MAY NOT BE USED.
- INSTALLATION SHALL BE PER LATEST VERSION OF NATIONAL ELECTRICAL CODE, SAWS, STANDARDS, AND ALL APPLICABLE LOCAL CODES, ORDINANCES. NOT ALL CODE AND STANDARD REQUIREMENTS MAY BE SHOWN ON PLANS. CONTRACTOR SHALL ADHERE TO CODES AND STANDARDS REGARDLESS OF BEING SHOWN ON PLANS OR SPECIFICATIONS IN DETAILED FASHION.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 1053600



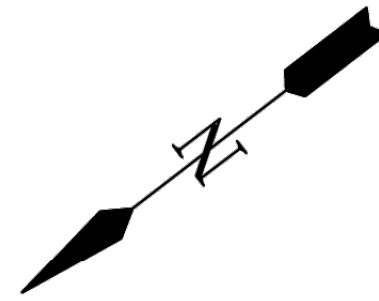
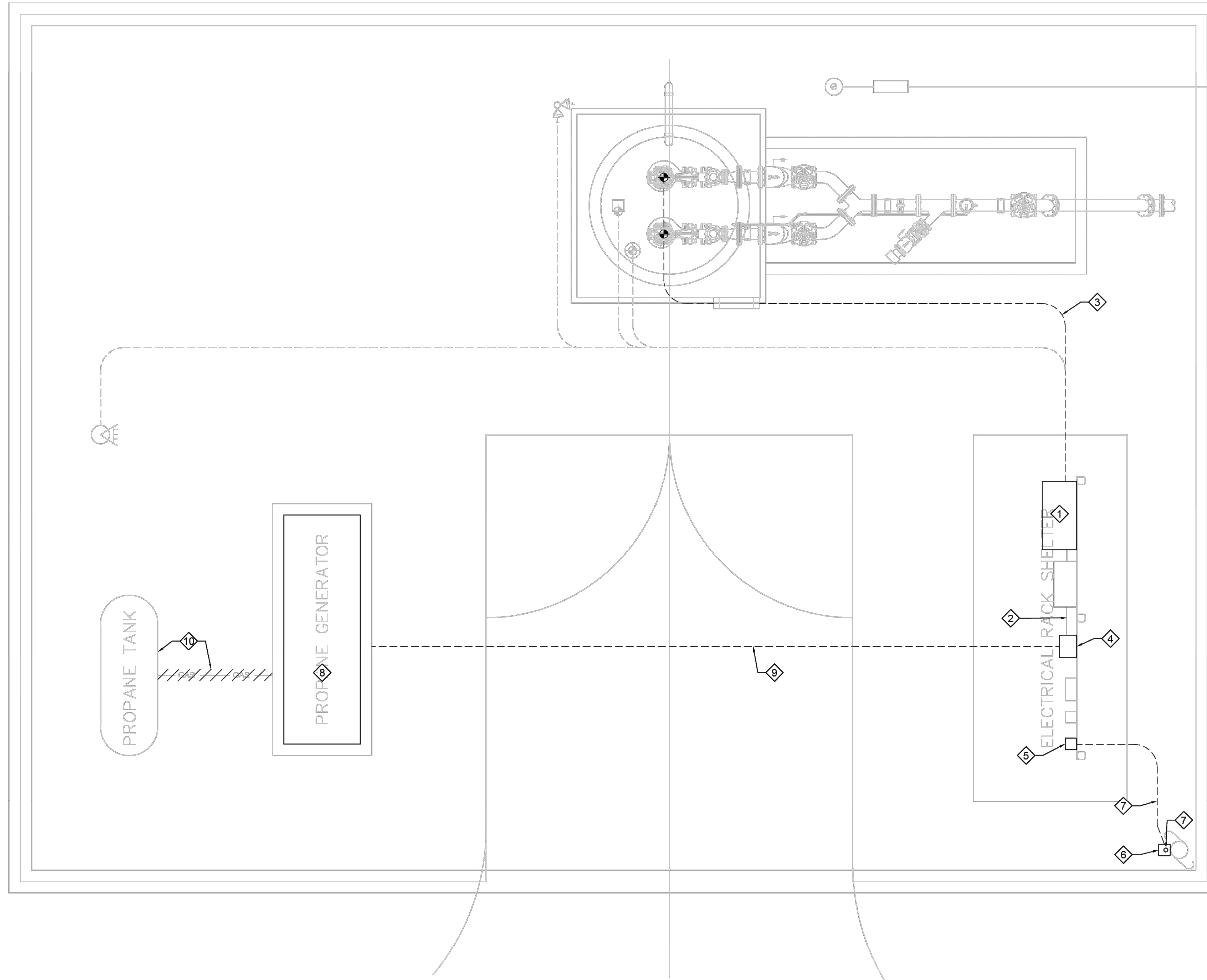
ELECTRICAL SYMBOLS AND ABBREVIATIONS
KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS
FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	DATE

DATE: August 2024
DRAWN BY: CS
DESIGNED BY: CS
REVIEWED BY: JC
HMT PROJECT NO.: 337.070

SHEET
E-01

Drawing Name: S:\2025\A\Elec\202574 E-02 ESP.dwg User: Conners Aug 23, 2024 - 9:27am



ELECTRICAL SITE PLAN

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

KEYED NOTES:

- 1 REPLACE EXISTING LIFT PUMPS CONTROL PANEL IN ITS ENTIRETY. RE: ELECTRICAL SHEET E-03, E-04 AND E-05.
- 2 REPLACE EXISTING LIFT PUMPS CONTROL PANEL FEEDER. RE: ELECTRICAL SHEET E-03 AND E-05.
- 3 REPLACE EXISTING PUMP FEEDER CONDUCTORS TO LIFT PUMPS.
- 4 REPLACE EXISTING ATS WITH 480V, 200A, 3P, OPEN-TRANSITION AUTOMATIC TRANSFER SWITCH IN NEMA 4X 316 STAINLESS STEEL ENCL. RE: SPECIFICATIONS FOR DETAILS.
- 5 REPLACE SERVICE ENTRANCE DISCONNECT SWITCH WITH 600V, 200A, 3P SERVICE ENTRANCE RATED ENCLOSED CIRCUIT BREAKER IN NEMA 4X 316 STAINLESS STEEL ENCL. WITH PAD LOCKING PROVISIONS. REPLACE EXISTING CONDUCTORS THRU WIREWAY AS INDICATED ON ELECTRICAL SHEET E-03.
- 6 REPLACE UTILITY METER DISCONNECT SWITCH WITH 600V, 200A, 3P ENCLOSED CIRCUIT BREAKER IN NEMA 4X 316 STAINLESS STEEL ENCL. WITH PAD LOCKING PROVISIONS.
- 7 REPLACE EXISTING SERVICE ENTRANCE CONDUCTORS IN EXISTING CONDUIT WITH CONDUCTORS AS INDICATED ON ELECTRICAL SHEETS E-03 AND E-05.
- 8 REPLACE EXISTING PROPANE GENERATOR WITH 125kW, 480/277V, 3PH. STANDBY DIESEL GENERATOR IN LEVEL 2 SOUND-ATTENUATING ENCL. RECONNECT TO EXISTING GROUND CONNECTIONS. MODIFY EXISTING GENERATOR PAD TO ACCOMMODATE PROPOSED GENERATOR DIMENSIONS, IF REQUIRED. RECONNECT EXISTING GENERATOR START/ STOP, ALARM AND POWER CIRCUITS TO PROPOSED GENERATOR. GAS DETECTOR CONDUCTORS SHALL BE REDESIGNATED AS SPARES.
- 9 REPLACE EXISTING GENERATOR EMERGENCY CIRCUIT CONDUCTORS IN EXISTING CONDUIT TO ATS PER ELECTRICAL SHEETS E-03 AND E-05.
- 10 REMOVE EXISTING PROPANE TANK. DEMOLISH EXISTING PROPANE FUEL GAS LINE IN ITS ENTIRETY.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 1053600



ELECTRICAL SITE PLAN

**KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS**

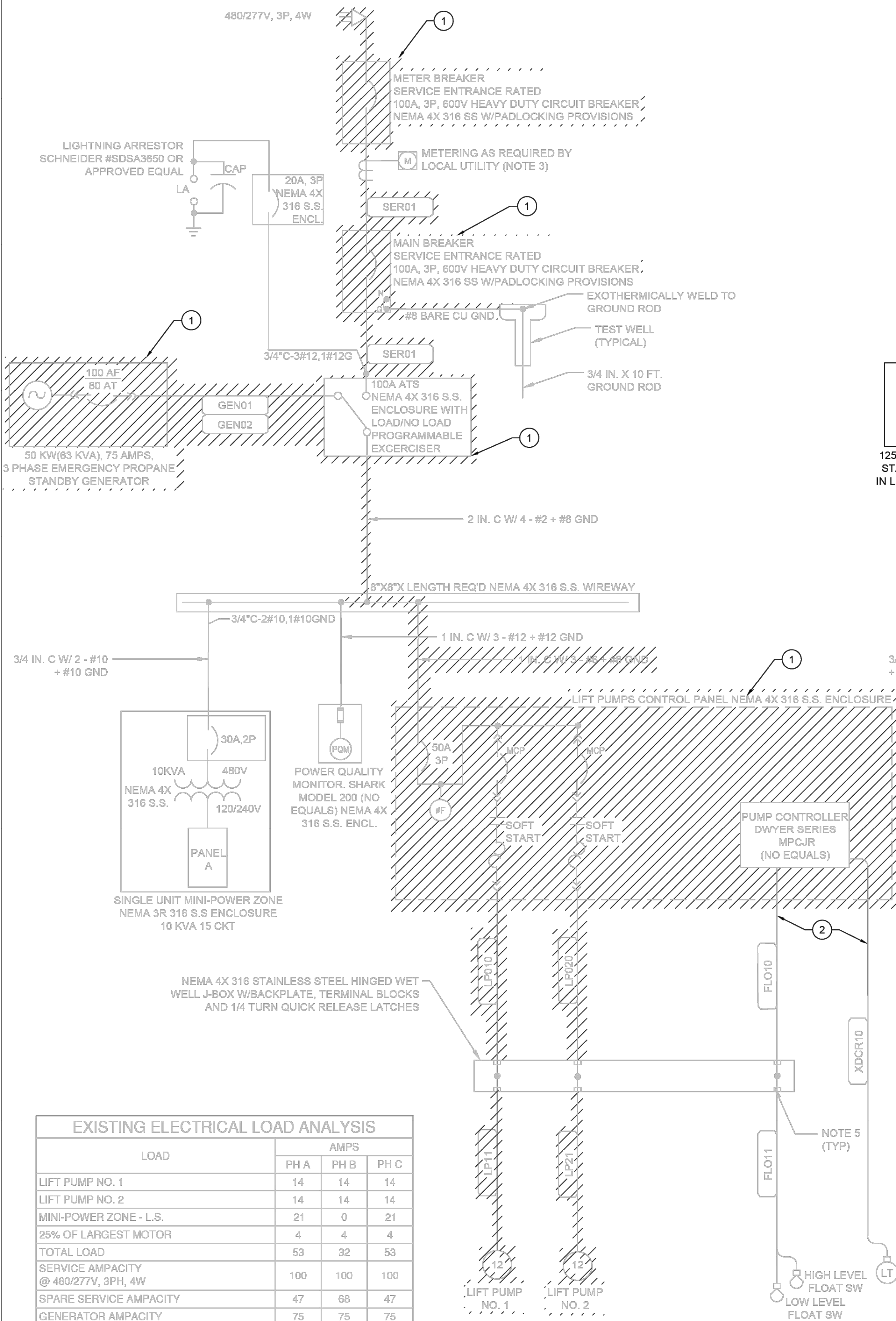
FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	REVISION DATE

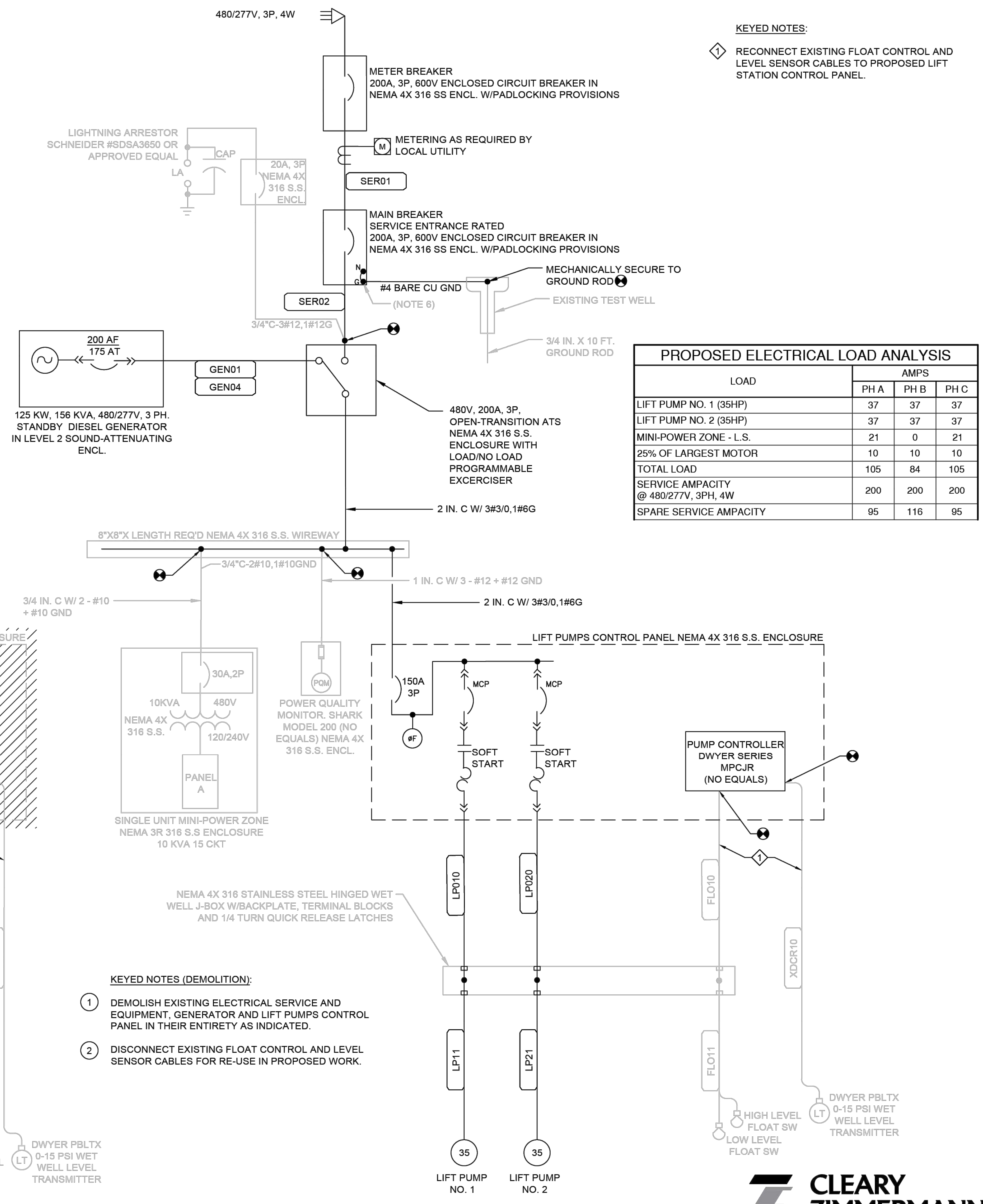
DATE: August 2024
 DRAWN BY: CS
 DESIGNED BY: CS
 REVIEWED BY: JC
 HMT PROJECT NO.: 337.070

SHEET
E-02

Drawing Name: S:\220574\Elec\220574 E-03 ELO.dwg User: cconnors Aug 23, 2024 - 9:27am



EXISTING ELECTRICAL ONE-LINE DIAGRAM
SCALE: NTS



PROPOSED ELECTRICAL ONE-LINE DIAGRAM
SCALE: NTS

KEYED NOTES:

- 1 RECONNECT EXISTING FLOAT CONTROL AND LEVEL SENSOR CABLES TO PROPOSED LIFT STATION CONTROL PANEL.

PROPOSED ELECTRICAL LOAD ANALYSIS

LOAD	AMPS		
	PH A	PH B	PH C
LIFT PUMP NO. 1 (35HP)	37	37	37
LIFT PUMP NO. 2 (35HP)	37	37	37
MINI-POWER ZONE - L.S.	21	0	21
25% OF LARGEST MOTOR	10	10	10
TOTAL LOAD	105	84	105
SERVICE AMPACITY @ 480/277V, 3PH, 4W	200	200	200
SPARE SERVICE AMPACITY	95	116	95

KEYED NOTES (DEMOLITION):

- 1 DEMOLISH EXISTING ELECTRICAL SERVICE AND EQUIPMENT, GENERATOR AND LIFT PUMPS CONTROL PANEL IN THEIR ENTIRETY AS INDICATED.
- 2 DISCONNECT EXISTING FLOAT CONTROL AND LEVEL SENSOR CABLES FOR RE-USE IN PROPOSED WORK.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 1053600



ELECTRICAL ONE-LINE DIAGRAM
KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	DATE

DATE: August 2024
DRAWN BY: CS
DESIGNED BY: CS
REVIEWED BY: JC
HMT PROJECT NO.: 337.070

SHEET

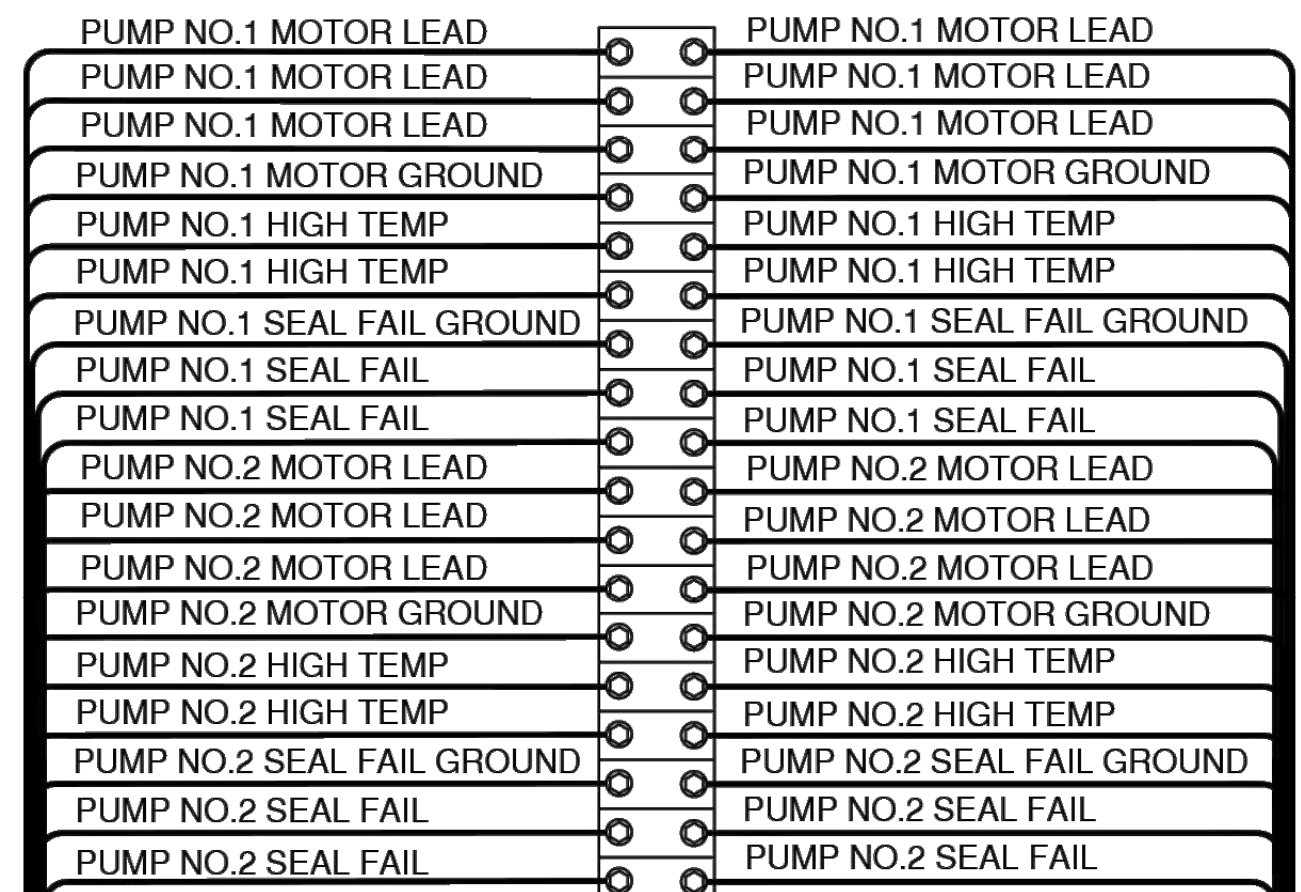
E-03



CABLE AND CONDUIT SCHEDULE							
CABLE/CONDUIT TAG	CONDUIT QUANTITY	CONDUIT SIZE	FROM	TO	CONDUCTOR (EACH CONDUIT)	CABLE TYPE	DESCRIPTION
ANT01	1	2 IN.	SCADA PANEL	ANTENNA TOWER	COAX CABLE	UV RATED	RADIO COMMUNICATIONS
FLO10	1	1 1/2 IN.	PUMP PANEL	WET WELL J-BOX	4-#12 + #12 GND	XHHW-2	FLOAT CABLES
FLO11	1	1 1/2 IN.	WET WELL J-BOX	FLOATS	MANUFACTURERS CABLES	-	SIZE CONDUIT AS RECOMMENDED BY MANUFACTURER
GAS01	1	2 IN.	EMERGENCY GENERATOR	PROPANE TANK	STEEL PIPE	-	REFER TO CIVIL DRAWINGS
GEN01	1	2 IN.	AUTOMATIC TRANSFER SWITCH	EMERGENCY GENERATOR	3 - #3/0 + #6 GND	XHHW-2	EMERGENCY POWER
GEN02	1	2 IN.	MINI POWER ZONE	EMERGENCY GENERATOR	8 - #12 + #12 GND	XHHW-2	GENERATOR HEATER, LIGHTS, GAS DETECTOR, BATT CHARGER
GEN03	1	1 IN.	EMERGENCY GENERATOR	SCADA PANEL	4-#12 + #12 GND	XHHW-2	COMMON FAULT ALARM, GENERATOR RUNNING
GEN04	1	1 IN.	AUTOMATIC TRANSFER SWITCH	EMERGENCY GENERATOR	2 - #12 + #12 GND	XHHW-2	AUTO START/STOP
LP010	1	2 IN.	LIFT STATION CONTROL PANEL	WET WELL J-BOX	3#8, 6-#10 + #10 GND	XHHW-2	PUMP POWER, TEMP, SEAL FAIL
LP011	1	2 IN.	WET WELL J-BOX	LIFT STATION PUMP	MANUFACTURERS CABLES	-	PUMP CABLES
LP020	1	2 IN.	LIFT STATION CONTROL PANEL	WET WELL J-BOX	3#8, 6-#10 + #10 GND	XHHW-2	PUMP POWER, TEMP, SEAL FAIL
LP021	1	2 IN.	WET WELL J-BOX	LIFT STATION PUMP	MANUFACTURERS CABLES	-	PUMP CABLES
LTG01	1	1 IN.	MINI POWER ZONE	SITE LIGHT	4-#12 + #12 GND	XHHW-2	SITE LIGHT AND RECEPT
SER01	1	2 IN.	UTILITY SERVICE	SERVICE ENTRANCE DISCONNECT BREAKER	4 - #3/0	XHHW-2	ELECTRICAL SERVICE
SER02	1	2 IN.	SERVICE ENTRANCE DISCONNECT BREAKER	ATS	3 - #3/0 + #6 GND	XHHW-2	ELECTRICAL SERVICE
WIN010	1	1 IN.	MINI-POWER ZONE	LIFT STATION WINCH RECP	4-#12 + #12 GND	XHHW-2	HOIST POWER W/ ON/OFF CONTROL IN WEATHER RATED ENCLOSURE
XDCR01	1	1 1/2 IN.	PUMP PANEL	STILLING WELL	MANUFACTURERS CABLES	-	TRANSMITTER (PROVIDE ADEQUATE LENGTH CABLE)

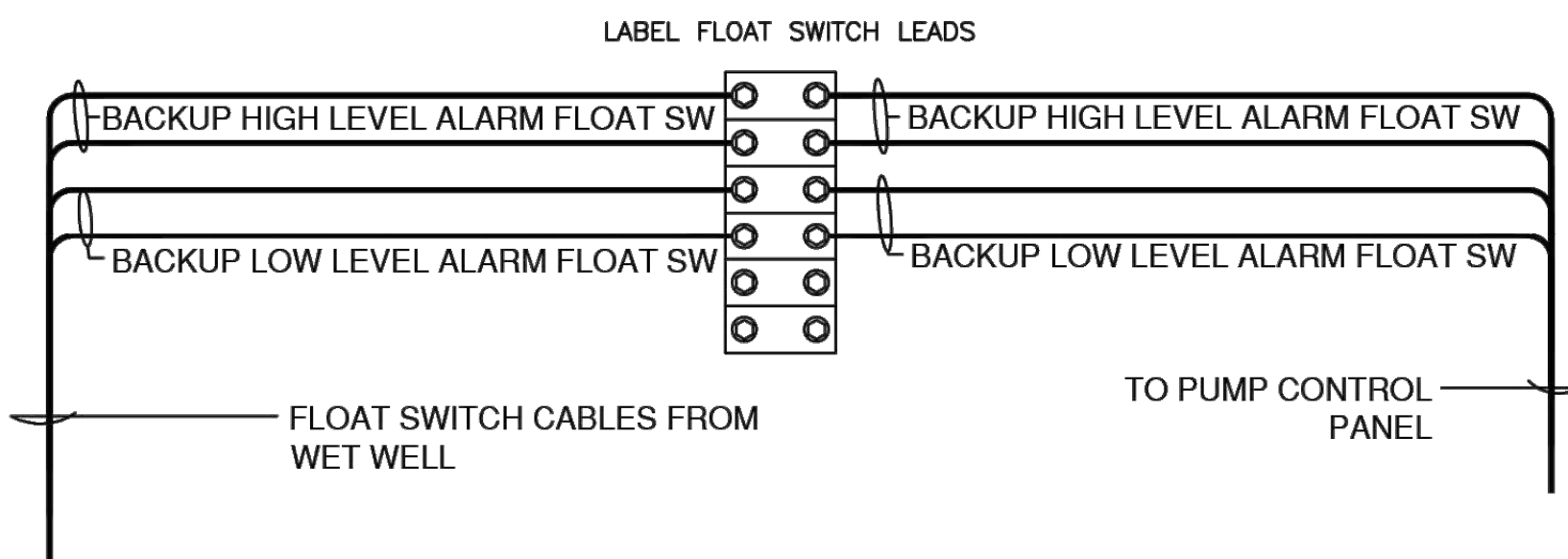
BOLD INDICATES CHANGES TO CONDUCTORS/CONDUITS

LABEL PUMP FEEDER CABLES PHASE A, B AND C.
APPLY PHASE TAPE AS REQUIRED.

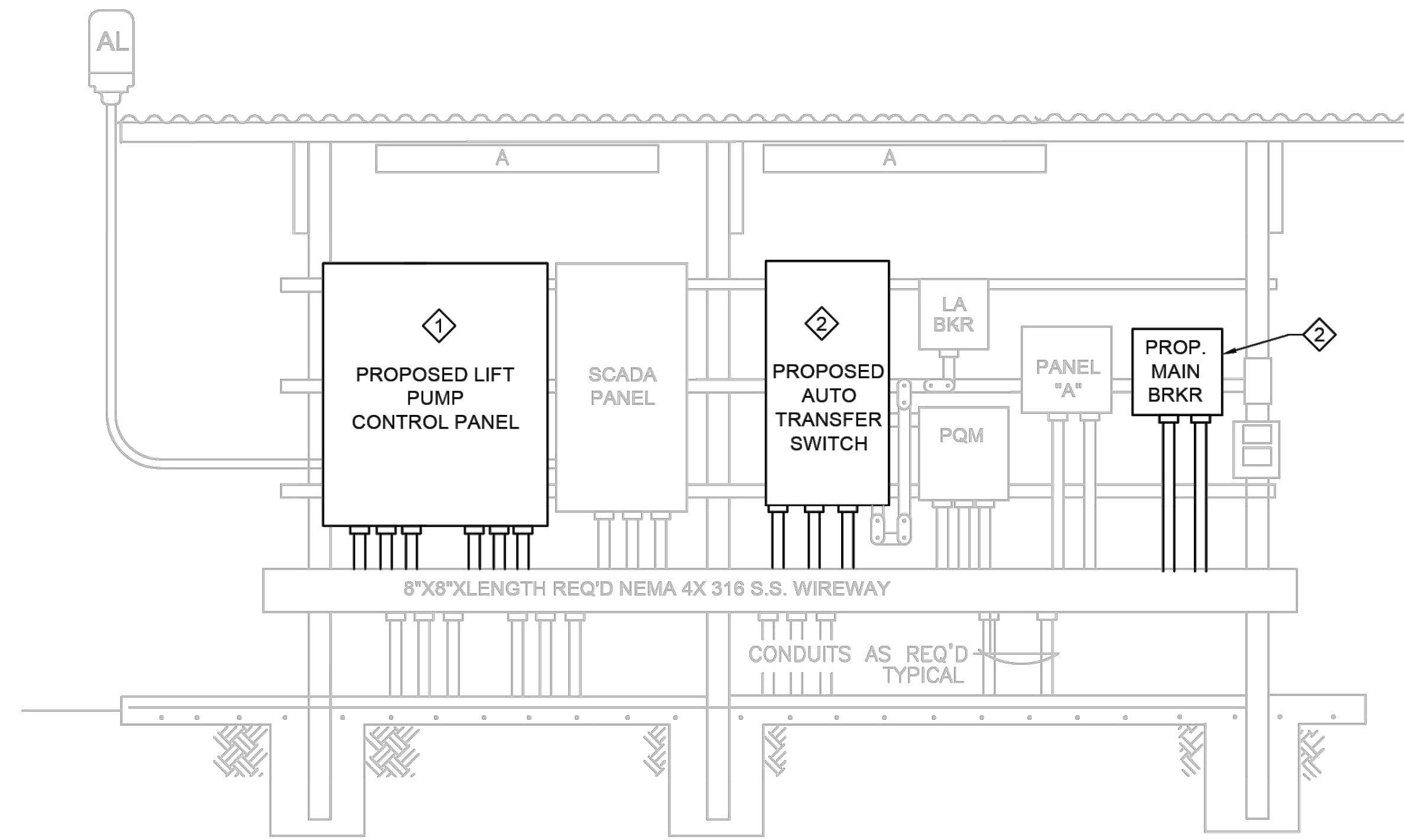


- NOTES:
- COORDINATE WITH PUMP VENDOR AND INSTALL ALL PUMP VENDOR REQ'D CABLE CONNECTIONS. ALL CABLES AND TERMINALS MAY NOT BE INDICATED
 - MOUNT TERMINAL BLOCK VERTICALLY AND CENTERED IN BOX

WET WELL J-BOX TERMINAL BLOCK INSTALLATION DETAIL
SCALE: NTS



WET WELL J-BOX TERMINAL BLOCK INSTALLATION DETAIL
SCALE: NTS



FRONT VIEW
ELECTRICAL EQUIPMENT RACK INSTALLATION DETAIL
SCALE: NTS

- KEYED NOTES:
- REPLACE EXISTING LIFT PUMPS CONTROL PANEL. PANEL WIDTH SHALL BE LIMITED TO 36" MAXIMUM.
 - REPLACE EXISTING ATS AND ENCLOSED CIRCUIT BREAKER.

290 S. CASTELL AVE., STE. 100
NEW BRAUNFELS, TX 78130
TBPE FIRM F-10961
TBPLS FIRM 1053600



ELECTRICAL CONDUIT/CABLE SCHEDULES
& DETAILS
KRAFT SUBDIVISION, UNIT 3
NEW BRAUNFELS, TEXAS

FOR CONSTRUCTION

NO.	REVISION DESCRIPTION	DATE

DATE: August 2024
DRAWN BY: CS
DESIGNED BY: CS
REVIEWED BY: JC
HMT PROJECT NO.: 337.070

SHEET

E-05



Firm No. F-9357 | ClearyZimmermann.com