THE CITY OF BARBERTON **RETURN SLUDGE PUMP STATION IMPROVEMENTS PROJECT** BARBERTON, OHIO SUMMIT COUNTY

ADMINISTRATION

William B. Judge,	Mayor
Jeremy Flaker, Jr	Finance Director
Lisa Okolish Miller	Law Director
Todd Shreve	Service Director
Jaime Iceman 🔟	Director of Public Safety
Dennis Weaver	Utilities Director
Rob Burkhard	Utilities Manager, WWTP

COUNCIL

Justin Greer	President
Thomas Heitic	At-Large
Taylor Marie Thompson	At-Large
Jennifer Hager	1st Ward
Kenneth Cheatham	2nd Ward
Shorter Griffin	3rd Ward
Emily Beck	4th Ward
Rebecca Gearhart	5th Ward
Monte Harris	6th Ward
Laura Ries-Price	Clerk of Council

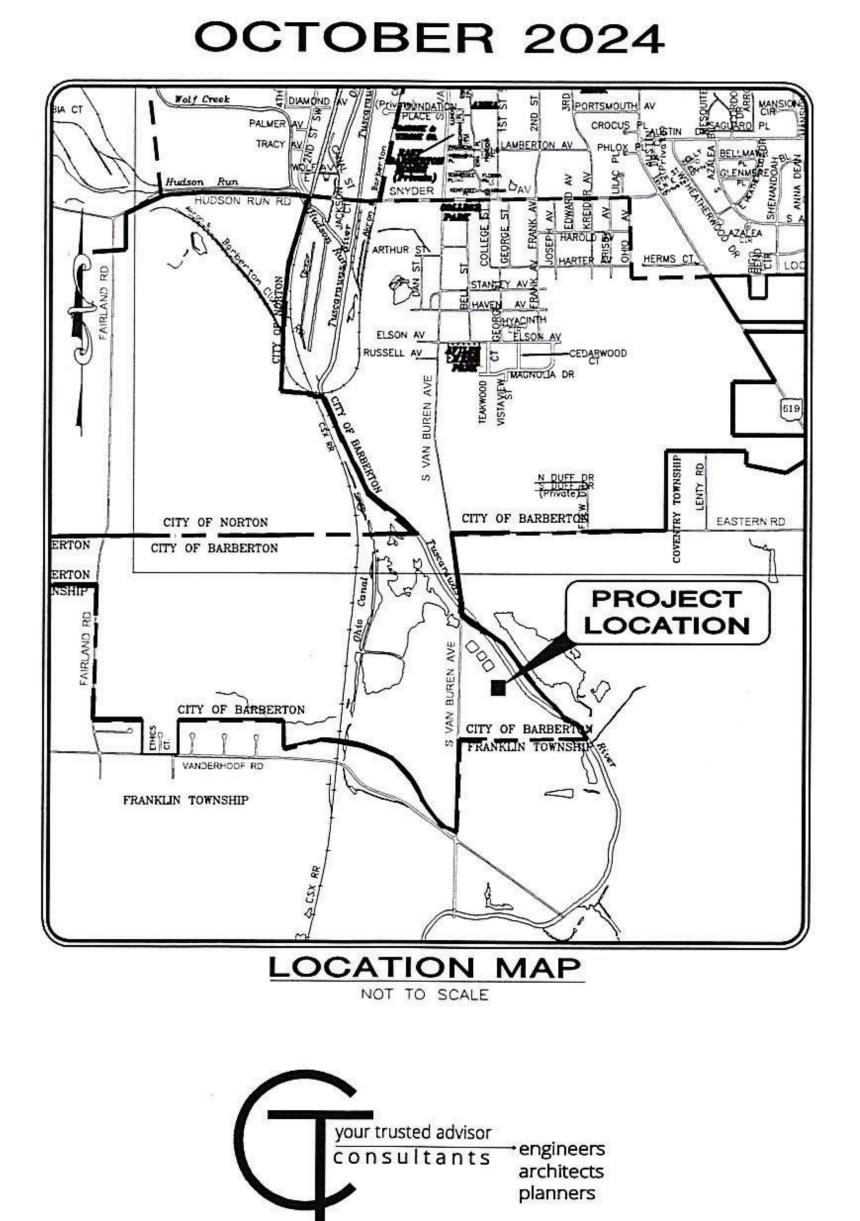


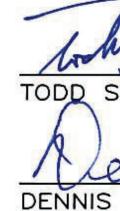
OUPS DESIGN SERIAL NUMBERS:

A628701350-00A - WWTP SITE

1. UNDERGROUND BUILDING SERVICE UTILITY LINES ARE NOT SHOWN ON THE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING, MAINTAINING AND REPLACING AS NECESSARY TO ENSURE CONTINUAL SERVICE TO BUILDINGS.

2. THE CONTRACTOR IS RESPONSIBLE TO CALL OHIO UTILITIES PROTECTION SERVICE @ 1-800-362-2764. THREE WORKING DAYS PRIOR TO CONSTRUCTION.

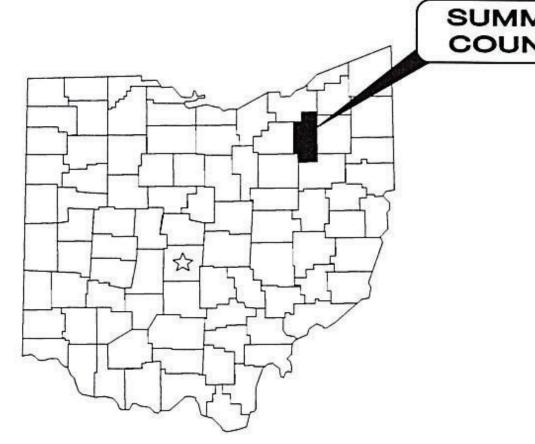




ENGINEER:



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APPROVALS 10-2-2024 TODD SHREVE, SERVICE DIRECTOR DATE DENNIS WEAVER, UTILITIES DIRECTOR

CT CONSULTANTS, INC. 3875 EMBASSY PKWY. SUITE 200 AKRON, OHIO 44333 (330) 375-0800 PHONE (300) 665-0620 FAX G. Fah 10/01/2024 DATE P.E. No. 67551 ERIC M. FALLON

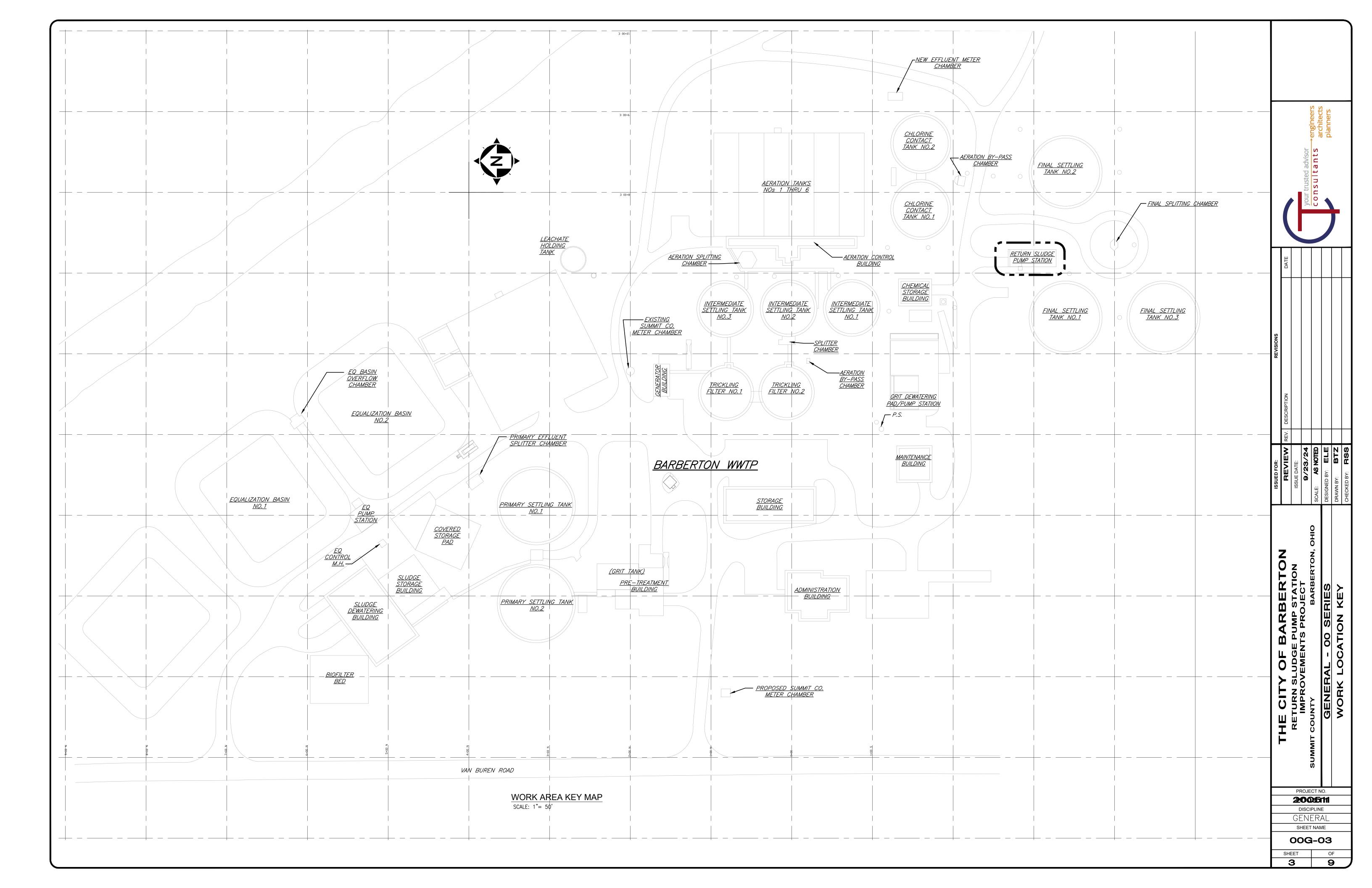
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H:2020/200511/DWG\SHEETS\2023-08-04 200511 SLUDGE PUMP STATION\G_200511 - GENERAL NOTES & SHEET INDEX.DWG - 00G-02 - 9/24/2024 2:33:04 PM - LEE ELEY

GENERAL NOTES

- 1. THESE DRAWINGS AND THE PROJECT MANUAL COMPRISE THE CONTRACT DOCUMENTS FOR BARBERTON WASTEWATER TREATMENT PLANT IMPROVEMENTS AT SOUTH VAN BUREN AVENUE.
- 2. IT IS THE RESPONSIBILITY OF THE CONTRACTORS TO VISIT THE SITE AND VERIFY THE EXTENT OF THE WORK TO BE PERFORMED PRIOR TO SUBMITTING HIS BID. THIS IS ESPECIALLY TRUE WITH REGARD TO ANY REMOVAL ITEMS.
- 3. THE CONTRACTORS SHALL FIELD VERIFY DIMENSIONS AND ELEVATIONS PRIOR TO PLACING PURCHASE ORDERS FOR EQUIPMENT/CONSTRUCTION AND SUBMIT ANY NECESSARY MODIFICATIONS TO THE CITY OF BARBERTON FOR APPROVAL.
- 4. NO WORK MAY COMMENCE WITHOUT AN EXECUTED NOTICE TO PROCEED.
- 5. THE CONTRACTORS SHALL NOTIFY THE CITY OF BARBERTON AT LEAST THREE WORKING DAYS PRIOR TO ANY CONSTRUCTION ACTIVITY. THE CONTRACTORS AND ALL SUBCONTRACTORS SHALL BE SOLELY RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL SAFETY REQUIREMENTS, TOGETHER WITH EXERCISING PRECAUTIONS AT ALL TIMES FOR THE PROTECTION OF PERSONS (INCLUDING EMPLOYEES) AND PROPERTY. IT IS ALSO THE SOLE RESPONSIBILITY OF THE CONTRACTORS AND SUBCONTRACTORS TO INITIATE, MAINTAIN AND SUPERVISE ALL SAFETY REQUIREMENTS, PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK.
- 6. ANY DAMAGE TO EXISTING UTILITIES DURING THIS WORK BY THE CONTRACTORS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE.
- 7. THE CONTRACTORS SHALL REPAIR OR REPLACE ANY AND ALL EXISTING WORK DAMAGED DURING OR DUE TO THE EXECUTION OF THIS CONTRACT AT HIS OWN EXPENSE. ALL SAID WORK TO BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE CITY OF BARBERTON.
- 8. THE CONTRACTOR MUST COORDINATE HIS WORK WITH THE W.W.T.P. SUPERINTENDENT. THE CONTRACTOR MUST MAINTAIN ADEQUATE ACCESS FOR ALL VEHICLES WHICH UTILIZE THE FACILITY. THE SITE AT WHICH THE WORK WILL BE PERFORMED IS AN ACTIVE WASTEWATER TREATMENT PLANT AND WILL BE MAINTAINED DURING THE PERFORMANCE OF THESE CONTRACTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO BE AWARE OF, AND AVOID INTERFERENCE TO TREATMENT OPERATIONS.
- 9. CONTRACTOR SHALL FURNISH ALL TEMPORARY PIPING, BLIND FLANGES, AND FITTINGS, AS REQUIRED TO MAINTAIN OPERATION OF THE WASTEWATER PLANT DURING THE COURSE OF HIS WORK.
- 10. THE INFORMATION PROVIDED WITHIN THESE PLANS IS SPECIFIC TO THE ANTICIPATED WORK AREAS AND IS NOT INCLUSIVE OF ALL TOPOGRAPHIC AND UTILITY FEATURES OUTSIDE OF THE AREA.
- 11. CONTRACTOR SHALL CLEAR ALL DEBRIS, DIRT, VEHICLES AND EQUIPMENT FROM WALKWAY AND TRAFFIC ROUTES AT THE CONCLUSION OF WORK EACH DAY.
- 12. OSHA PROHIBITS CRANE AND BACKHOE OPERATIONS WITHIN 10 FEET OF ENERGIZED PRIMARY CONDUCTORS. TEMPORARY RELOCATION OF ELECTRICAL UTILITIES, INCLUDING RESTRAINT OF POLES, RELOCATION OF POLES, AND RUBBER COVERING OF ENERGIZED CONDUCTORS MAY BE REQUIRED. THE COORDINATION AND COST OF THESE SERVICES IS THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR MAY RESTRAIN POLES IF THE METHOD OF SUPPORT HAS BEEN SUBMITTED TO AND APPROVED BY THE CITY OF BARBERTON.
- 13. THE CONTRACTOR SHALL MAINTAIN TWO (2) SCREW PUMPS AT ALL TIMES FOR THE DURATION OF THE WORK.
- 14. ANY EXISTING UTILITY (GAS, ELECTRIC, CABLE TELEVISION, TELEPHONE, WATER LINE, STORM OR SANITARY APPURTENANCE, ETC.) IN OR OUTSIDE THE CONSTRUCTION LIMITS DAMAGED DURING THE CONSTRUCTION OF THE PROPOSED PROJECT, WILL BE REPLACED AT THE CONTRACTOR'S EXPENSE.
- 15. THE CONTRACTOR SHALL CAREFULLY PRESERVE BENCH MARKS, PROPERTY CORNERS, REFERENCE POINTS AND STAKES AND IN CASE OF WILLFUL OR CARELESS DESTRUCTION, HE SHALL BE CHARGED WITH THE RESULTING EXPENSE OF REPLACEMENT AND SHALL BE RESPONSIBLE FOR ANY MISTAKES THAT MAY BE CAUSED BY THEIR UNNECESSARY LOSS OR DISTURBANCE. ANY EXISTING PROPERTY CORNER PINS OR MONUMENTS DAMAGED OR DESTROYED BY CONSTRUCTION SHALL BE RESET BY THE CONTRACTOR AT THE CONTRACTOR'S EXPENSE UPON COMPLETION OF THE PROJECT PRIOR TO FINAL PAYMENT. A CERTIFICATION SHALL BE FURNISHED BY A REGISTERED SURVEYOR, STATING THAT SAID DAMAGES HAVE BEEN RESTORED.
- 16. ADDRESS: BARBERTON WWTP 5087 SOUTH VAN BUREN AVE. BARBERTON, OHIO 44203

		ISSUED FOR: REVISIONS		
		REVIEW REV. DESCRIPTION	DATE	
20 GE SH	RE	ISSUE DATE:		
OC DISCI ENE		9/23/24	your trusted advisor	
D 5 Plin ER/		SCALE: AS NOTED	consultants engineers	terts
11 E	GENERAL - 00 SERIES		planners	hers
	GENERAL NOTES & SHEET INDEX	DRAWN BY: BTZ		
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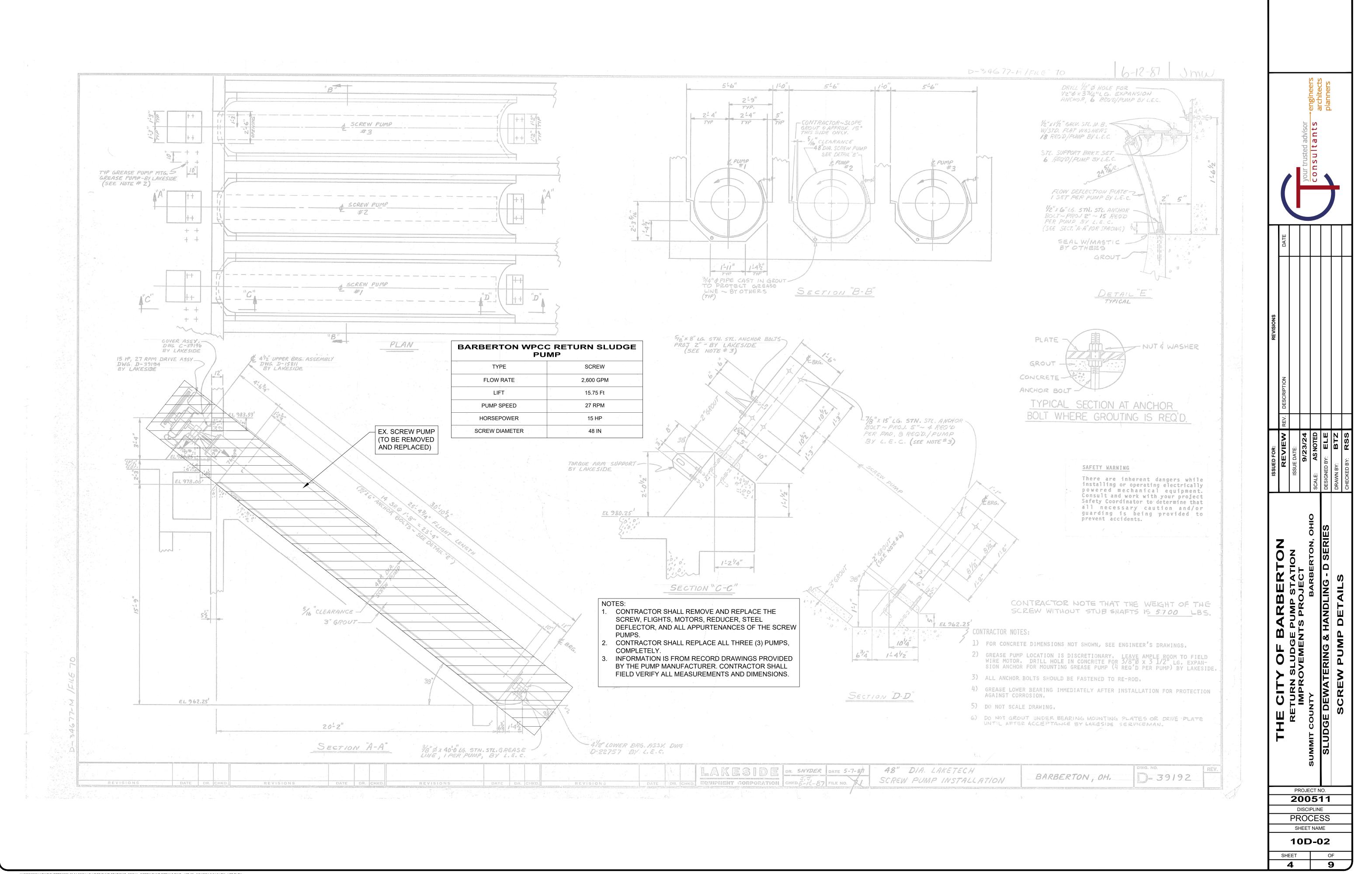




PHOTO 1 - EX. FLIGHT AND DEFLECTOR PLATE

NOTES: 1. CONTRACTOR TO REMOVE AND REPLACE THE EXISTING FLIGHT AND DEFLECTOR PLATE



PHOTO 4 - EX. SCREW PUMP MOTORS

NOTES: 1. CONTRACTOR TO REMOVE AND REPLACE THE EXISTING SCREW PUMP MOTORS.

2. EX. GREASE PUMPS TO REMAIN.

H:\2020\200511\DWG\SHEETS\2023-08-04 200511 SLUDGE PUMP STATION\D_200511_MODIFICATION SECTIONS.DWG - 10D-02 - 9/24/2024 2:35:10 PM - LEE ELEY





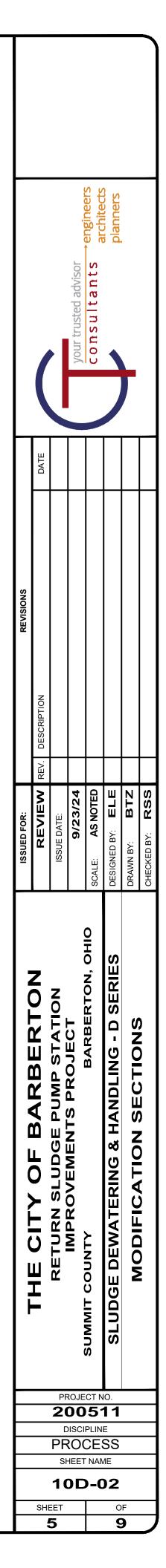
PHOTO 2 - EX. SCREW PUMPS AND ELECTRICAL BUILDING SITE (EAST ELEVATION)

SITE (NORTH ELEVATION)



PHOTO 5 - EX. SCREW PUMPS MOTOR CONTROL CENTER "MCC -2"

NOTES: 1. EXISTING MCC TO BE REMOVED AND REPLACED PHOTO 3 - EX. SCREW PUMPS AND ELECTRICAL BUILDING

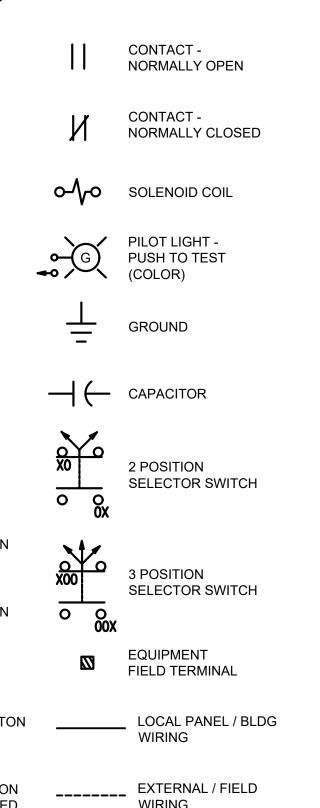


<u>ELEC</u>	TRIC	AL SYMBOLS - PL	<u>AN:</u>		<u>GLE LINE, ELEN</u> GRAMS (ONLY)			
\frown	HOME F	RUN TO PANEL		DIAG	BRANIS (UNLT)	5 1 11	BOLOGI	<u>r :</u>
\mathcal{O}	MOTOR				DISCONNECT SWITCH - AMP RATING	0_0	N.O. LIMIT	
	MOTOR	CONTROLLER		^{3P} 6 ′	AMP RATING		SWITCH	
Ľ	FUSIBLI	E SAFETY SWITCH		30A 3P	FUSE - AMP RATING			
C	NON-FL	ISIBLE DISCONNECT SWITCH		0.			SWITCH N.O.	
φ	SIMPLE	X RECEPTACLE, EXPLOSION PROC)F	30A)S]	\sim	LEVEL SWITCH	
Ϋ́		(RECEPTACLE		۰ ۵۰۰ ^۲	CIRCUIT BREAKER - AMP RATING	0	N.O.	
ф				^{30A} 3P o		$\sum_{i=1}^{n}$	PRESSURE SWITCH	
¥ ▽		ORT, RJ45			MOTOR W /	0 0	N.O.	_
\mathbf{A}		L RECEPTACLE, NEMA TYPE NOTE	D	40	HORSEPOWER INDICATED	<u>گ</u> رار	TEMPERATURE SWITCH	-
		-POLE SWITCH, "3" INDICATES 3-W/			AMMETER	<u>~</u> 0	N.O. TIME DELAY AFTER	
\$ ₃		DICATES OCCUPANCY SENSING		VM	VOLT METER	\mathbf{k}	ENERGIZATION	l
				PF	POWER FACTOR	010	N.C. TIME DELAY AFTER	
		JTTON STATION		\sim	METER GROUND	\wedge	ENERGIZATION	I
Ц Ц		ROPERATOR		GF	FAULT RELAY	To	DELAY AFTER DE-ENERGIZAT	ION
JB		ON BOX			TRANSFORMER	•	N.O. TIME	
(sv)		DID VALVE		CR	RELAY COIL	\sim	DELAY AFTER DE-ENERGIZAT	ION
(zs)	LIMIT S'				TIMING RELAY	0-0	N.O. SWITCH	
(FS)(FE)(FIT)		SWITCH, SENSOR, TRANSMITTER V		\bigcirc	COIL		(GENERAL)	
		SWITCH, SENSOR, TRANSMITTER \		MS	STARTER COIL		START PUSHBU	
(PS)(PE)(PIT)		JRE: SWITCH, SENSOR, TRANSMIT		ETM	ELAPSED TIME TOTALIZER			
		RATURE: SWITCH, SENSOR, TRANS		G	GROUNDING BUS	<u>o o</u>	STOP PUSHBUT	
		SENSOR / INDICATING TRANSMITT	ER AS NOTED	SPD	TRANSIENT VOLTAGE			
A		DOUS AREA LIGHT FIXTURE			SURGE SUPPRESSOR			
с ^Щ		OR WALL-PACK LIGHT FIXTURE		ABB	REVIATIONS :			
$_{D}^{O}$	HIGH B/	AY LIGHT FIXTURE			x-CONDUCTOR SHIELDED (CABLE		IAW
E		LED LIGHT FIXTURE		A AF	AMPS AMPERE FRAME			ICP IPP
\otimes	EXIT SI	GN		AI	ANALOG INPUT (PLC)			JB JBC
	EMERG	ENCY REMOTE HEAD		AL AM	ALUMINUM AMMETER			JBM
	EMERG	ENCY WALL-PACK		AO AP	ANALOG OUTPUT (PLC) ALARM PANEL			JBP kCM
ĒĒĔ	FIRE AL	ARM PULL STATION, STROBE, HOP	RN-STROBE	AT AWG	AMPERE TRIP AMERICAN WIRE GAUGE			kVA kVAF
(SD)	FIRE AL	ARM AREA SMOKE DETECTOR		C CAP	CONDUIT CAPACITOR			kW LA
ELEC	TRIC	SYMBOLS - UTILI	TIES:	СВ	CIRCUIT BREAKER			LGT LOR
EX:	PR:			-	CONTROL JUNCTION BOX CONTROL PANEL			LP
AC	AC	AIR CONDITIONING UNIT		CPT CR	CONTROL POWER TRANSF CORROSION RESISTANT	ORMER		LS MCC
СВ	СВ	ELECTRIC CONTROL BOX		CS CT	CONTROL STATION CURRENT TRANSFORMER			MCP MDP
JB	JB	ELECTRIC JUNCTION BOX			COPPER DUCT BANK			MJB NEC
PB	PB	ELECTRIC PULL BOX		DI	DIGITAL INPUT (PLC)			NEM.
RI	RI	ELECTRIC RISER BOX			DIGITAL OUTPUT (PLC) ELECTRICALLY ACTIVATED	GATE		NFD
VLT	VLT	ELECTRIC VAULT BOX			ELECTRICALLY ACTIVATED EXHAUST FAN	VALVE		OCS: OL
Č:	œ L	ELECTRIC LIGHT - GROUND			EMERGENCY STOP PUSHB ELAPSED TIME TOTALIZER	```	AINTAINED)	OOS OS
-` <u>-</u> - - E	- <u>`</u> E	ELECTRIC LIGHT - POST		EWD	ELEMENTARY WIRING DIAG	GRAM		OT P
EM	ē ēm	ELECTRIC MARKER POST		FLA	FUSED DISCONNECT SWITC			PB
	Ø	ELECTRIC MANHOLE - 48"			FLOW SWITCH FULL VOLTAGE CONTACTO	R		PBC PBM
Ø	Ś	ELECTRIC MANHOLE - 48" - ADJU	IST		FULL VOLTAGE NON-REVER		ARTER SIZE 1	PBP PC
Ē	©	ELECTRIC MANHOLE - LID			GROUND GROUND FAULT RELAY			PF PH
×		ELECTRIC PAINT MARK		HOA	HAND/OFF/AUTO SELECTO	R SWITCH		PLC PJB
EP	EP	ELECTRIC PEDESTAL		HT	HORSEPOWER HIGH TORQUE SWITCH			PP
TR	TR	ELECTRIC TRANSFORMER			HEATER HERTZ			PRI PS
								ΡT

TERCONNECTION

ELECTRICAL LINE SYMBOLOGY:

PROPOSED



					CONDUIT AND WIRE RUN EXPOSED
				· — — —	CONDUIT AND WIRE BELOW GRADE
●ELEC	ELEC	ELEC	E		ELECTRIC LINE
ELEC-OH	ELEC-OH	ELEC-OH	ELE	C-OH	ELECTRIC LINE - OVERHEAD
ELEC-UG	ELEC-UG	ELEC-UG	ELE	C-UG	ELECTRIC LINE - UNDERGROUND
ELEC	ELEC	ELEC	ELEC	ELEC	ELEC SERVICE
ELEC-OH ELEC-OH	ELEC-OH ELEC-OH	ELEC-OH	ELEC-OH	ELEC-OH	ELEC SERVICE - OVERHEAD
ELEC-UG ELEC-UG	ELEC-UG ELEC-UG	ELEC-UG	ELEC-UG	ELEC-UG	ELEC SERVICE - UNDERGROUND
LIGHT-OH LIGHT-OH	LIGHT-OH LIGHT-OH	LIGHT-OH	LIGHT-OH	LIGHT-OH	ELEC LIGHTING - OVERHEAD
LIGHT-UG	LIGHT-UG	LIGHT-UG	LIGHT-UG	LIGHT-UG	ELEC LIGHTING - UNDERGROUND
ELEC	ELEC	ELEC -		ELEC	ELECTRIC LINE
XISTING:					
— ELEC-ABAN — — ELEC-AB	AN — ELEC-ABAN — —	— ELEC-ABAN —— —	- ELEC-ABAN	- ELEC-ABAN	ELECTRIC LINE - ABANDONED
ELEC-OH	ELEC-OH	ELEC-OH		ELEC-OH	ELECTRIC LINE - OVERHEAD
ELEC-UG	ELEC-UG	ELEC-UG		ELEC-UG	ELECTRIC LINE - UNDERGROUND
	EC ELEC	ELEC	ELEC	ELEC	ELECTRIC SERVICE
ELEC-OH ELEC-	0H	ELEC-OH	ELEC-OH	ELEC-OH	ELECTRIC SERVICE - OVERHEAD
ELEC-UG ELEC-	UG — ELEC-UG — –	ELEC-UG	ELEC-UG	ELEC-UG	ELECTRIC SERVICE - UNDERGROUND
— LIGHT-OH — LIGHT-C	рн —— LIGHT-OH —— —	LIGHT-OH — –	LIGHT-OH	LIGHT-OH	ELECTRIC LIGHTING - OVERHEAD
— LIGHT-UG — LIGHT-U	IG LIGHT-UG —	— LIGHT-UG —— –	LIGHT-UG	LIGHT-UG	ELECTRIC LIGHTING - UNDERGROUND
					ELECTRIC DUCT

ELECTRICAL CODED NOTES:

1 NEW WORK - NOTE 1	DEMOLITION - NOTE 1	\bigwedge REVISION - NOTE 1
2 NEW WORK - NOTE 1	DEMOLITION - NOTE 2	2 REVISION - NOTE 2
3 NEW WORK - NOTE 1	3 DEMOLITION - NOTE 3	3 REVISION - NOTE 3

ELECTRICAL DETAIL REFERENCE:

DETAIL IDENTIFICATION LETTER OR TAG NUMBER -

RELAY

RUN LIGHT

LIMIT SWITCH

-SEE

R

RCP

RL

-SEE ΎΑ DETAIL 27 -DETAIL IDENTIFICATION LETTER OR NUMBER FOR GENERAL DETAILS

REINFORCED CONCRETE PIPE



ELECTRICAL GENERAL NOTES:

- CODES.

- OF ALL SYSTEMS.
- FIXTURE DESCRIPTION.
- OF INSTALLATION.
- OTHERWISE DIRECTED.

ALL ENCLOSURES ARE TO BE RATED AS FOLLOWS (UON):

- OUTDOORS: NEMA 4X (STAINLESS STEEL)
- CLASSIFIED AREAS: NEMA 7
- INDOORS (CONTROLLED ENVIRONMENT) NEMA 12

- CHAMFER AROUND UPPER EDGE.

- OTHERWISE NOTED.
- NORMAL LIGHTING DISTRIBUTION.
- BE IN CONDUIT.
- 18. SIZE PULL BOXES (PB) AS REQUIRED PER NEC.
- 19. PROVIDE SEPARATE PB'S FOR CONTROL AND POWER.
- ACCORDINGLY.
- EQUIPMENT 10 FEET).

•	No moment i overt Aitee	
3	JUNCTION BOX	SCP
BC	JUNCTION BOX-CONTROL	SCR
BM	JUNCTION BOX-METERING	SEC
ЗP	JUNCTION BOX-POWER	SF
CM	KILO (1000) CIRCULAR MILL	SHLD
/A	KILOVOLT AMPERES	SP
/AR	KILOVOLT AMPERES-REACTIVE	SPK
V	KILOWATT	SS
4	LIGHTING ARRESTOR	SSOF
ЭT	LIGHT	SSPB
DR	LOCAL/OFF/REMOTE SELECTOR SWITCH	SSS
C	LIGHTING PANEL	STD
5	LEVEL SWITCH	STP
СС	MOTOR CONTROL CENTER	STR
CP	MOTOR CIRCUIT PROTECTOR	SV
DP	MAIN DISTRIBUTION PANEL	SW
JB	METERING JUNCTION BOX	Т
EC	NATIONAL ELECTRICAL CODE	ТВ
EMA	NATIONAL ELECTRICAL MFR ASSOC.	тс
EU	NEUTRAL	TD
FDS	NON-FUSED DISCONNECT SWITCH	TEB
CSS	OPEN/CLOSE SELECTOR SWITCH	TEMF
L	OVERLOAD	TOR
oss	ON/OFF SELECTOR SWITCH	TR
S	OCCUPANCY SENSING	TSP
Т	OVER TORQUE SWITCH	TSTA
	POLE	TVSS
В	PUSHBUTTON	UH
BC	PULLBOX-CONTROL	UNO
BM	PULLBOX-METERING	UPS
BP	PULLBOX-POWER	UTP
С	PHOTO CONTROL	V
F	POWER FACTOR	VC
Н	PHASE	VFD
_C	PROGRAMMABLE LOGIC CONTROLLER	VM
JB	POWER JUNCTION BOX	XP
Þ	POWER PANEL	XFMF
RI	PRIMARY	WP
S	PRESSURE SWITCH	ZS

POTENTIAL TRANSFORMER

IN ACCORDANCE WITH

INSTRUMENT POWER PANEL

INSTRUMENTATION & CONTROL PANEL

	NUN LIGITI
SCP	SURGE CONTROL PANEL
SCR	SILICON-CONTROLLED RECTIFIER
SEC	SECONDARY
SF	SUPPLY FAN
SHLD	SHIELDED
SP	SHEAR PIN SWITCH
SPK	SPEAKER
SS	SELECTOR SWITCH OR STAINLESS STEEL
SSOR	SOLID STATE OVERLOAD RELAY
SSPB	START/STOP PUSHBUTTON
SSS	SOLID STATE STARTER
STD	STANDARD
STP	SHIELDED TWISTED PAIR
STR	STARTER
SV	SOLENOID VALVE
SW	SWITCH
Т	TELEPHONE
ТВ	TERMINAL BOARD
тС	TIME CLOCK
TD	TRENCH DUCT
TEB	TELEPHONE EQUIPMENT BACKBOARD
TEMP	TEMPERATURE
TOR	THERMAL OVERLOAD RELAY
TR	TIMING RELAY
TSP	TWISTED SHIELDED PAIR
	THERMOSTAT
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
V	VOLTS
VC	VOLUME CONTROL
VFD	
VM	
XP	EXPLOSION PROOF
XFMR	TRANSFORMER
WP	WATERPROOF

1. ALL ELECTRICAL EQUIPMENT AND MATERIALS WILL BE SELECTED AND INSTALLED IN COMPLIANCE WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL FIRE CODES, INCLUDING BUT NOT LIMITED TO ALL PERTINENT NFPA REGULATIONS. IT IS THE ELECTRICAL CONTRACTOR'S RESPONSIBILITY TO ENSURE COMPLIANCE WITH THESE

2. DO NOT INSTALL DEVICES SCALED FROM THESE DRAWINGS. ALL DEVICES SHALL BE INSTALLED AT LOCATIONS SHOWN IN THE APPROVED CONDUIT/DEVICE LAYOUT DRAWINGS AND WITH DIMENSIONS TAKEN IN THE FIELD.

3. ELECTRICIAN TO VISIT SITE AND VERIFY ALL EXISTING CONDITIONS PRIOR TO BID.

4. NO DUCTWORK OR PIPING TO BE RUN ABOVE ELECTRICAL PANELS OR THROUGH ELECTRICAL EQUIPMENT ROOMS. ELECTRICIAN SHALL COORDINATE WITH ALL TRADES FOR EQUIPMENT LAYOUTS PRIOR TO ROUGH-IN

5. MANUFACTURERS AND CATALOG NUMBERS SHOWN IN THE LIGHT FIXTURE SCHEDULE ARE PROVIDED TO INDICATE DESIRED LIGHT FIXTURE CHARACTERISTICS. IT IS THE INTENT OF THE DOCUMENTS TO ALLOW ALTERNATE MANUFACTURERS TO PROVIDE LIGHTING PRODUCTS FOR THE PROJECT, AS LONG AS PROPOSED ALTERNATES PROVIDE THE SAME GENERAL DESIGN AND LIGHTING CHARACTERISTICS AS NOTED IN THE LIGHT

6. ELECTRICIAN TO CONFIRM LOCATIONS OF ALL ELECTRICAL EQUIPMENT AND ELECTRICAL CHARACTERISTICS OF PROCESS EQUIPMENT PROVIDED BY OTHER TRADES PRIOR TO INSTALLING ROUGH-INS AS SHOWN ON THE ELECTRICAL PLANS. ALL SHOP DRAWING REQUIREMENTS WILL BE CONSIDERED AS THE MEANS AND METHODS

7. THIS PROJECT INVOLVES WORK AT AN INDUSTRIAL FACILITY AND THE CONTRACTOR IS EXPECTED TO PROVIDE CRAFTSMANSHIP REFLECTING THE NATURE OF THE FACILITY. CONDUITS IN PROCESS AREAS ARE TO BE SURFACE MOUNTED RIGID GALVANIZED STEEL (RGS). IN CLASSIFIED AREAS SEAL ALL CONDUITS TO RESTRICT THE PASSAGE OF GASSES AND VAPORS, AND ARRANGE SEALING FITTING DRAINS IN CONDUIT SYSTEMS TO PREVENT ACCUMULATION OF CONDENSATE ABOVE SEALS. ALL CONDUITS ENTERING OR LEAVING A MOTOR CONTROL CENTER, CONTROL PANEL, VALVE ACTUATOR, INSTRUMENT, A BUILDING, OR A PANELBOARD SHALL BE MADE WATERTIGHT USING AN INFLATABLE SEALED BLADDER DUCT SEALING SYSTEM, RAYCHEM 'RAYFLATE' DUCT SEALING SYSTEM RDSS OR APPROVED EQUAL. ALL HARDWARE IS TO BE STAINLESS STEEL UNLESS

- INDOORS (CORROSIVE AREAS): NEMA 4X (STAINLESS STEEL)

8. ELECTRICIAN SHALL REVIEW ALL OTHER TRADES' CONSTRUCTION DOCUMENTS AND/OR COORDINATE WITH OTHER TRADES AND VERIFY IF THERE ARE ANY ADDITIONAL ELECTRICAL REQUIREMENTS NOT SHOWN ON ELECTRICAL DRAWINGS. COST FOR WORK SHOWN ON OTHER TRADES' DRAWINGS SHALL BE INCLUDED IN BASE BID. ALL FIELD WIRING AND TERMINATIONS OF PROCESS EQUIPMENT AND INSTRUMENTATION AND CONTROLS SHALL BE THE RESPONSIBILITY OF THE ELECTRICIAN. ALL CABLES AND WIRES PROVIDED BY VENDORS SHALL BE INSTALLED AND TERMINATED BY THE ELECTRICIAN. WIRE ALL MISCELLANEOUS POWER AND CONTROLS AS REQUIRED TO PROVIDE A COMPLETE FUNCTIONING SYSTEM.

9. A 4-20mA SIGNAL IS AN ANALOG SIGNAL USED TO TRANSMIT DATA (LEVEL, FLOW, ETC.) FOR PROCESS CONTROLS. THE ELECTRICIAN SHALL PROVIDE, INSTALL, AND TERMINATE SHIELDED TWISTED PAIRS (STP) WIRING IN RIGID GALVANIZED STEEL CONDUIT (RGS). RGS IS USED IN AN ATTEMPT TO REDUCE THE DISTORTION AFFECT FROM EMI AND RFI. BELOW GRADE CONDUITS SHALL BE PVC SCHED-40. PARALLEL RUNS OF DATA CONDUITS AND POWER CONDUITS SHALL BE SEPARATED BY 2 FEET. THE STP SHIELD SHALL BE GROUNDED AT THE CONTROL PANEL ONLY (DO NOT GROUND AT BOTH ENDS).

10. THE ELECTRICIAN SHALL BE RESPONSIBLE FOR LAYOUT AND COORDINATION OF OPENINGS AND CHASES AND SHALL PERFORM ALL CUTTING AND PATCHING AS REQUIRED TO INSTALL THEIR WORK. ALL CONCRETE HOUSE KEEPING PADS SHALL BE FRAMED AND POURED BY THE ELECTRICIAN. PADS SHALL HAVE A 45 DEGREE, 1"

11. THE ELECTRICIAN SHALL INSTALL & DISTRIBUTE TEMPORARY POWER SERVICE FOR THE DURATION OF THIS PROJECT AS DEFINED IN DIVISION 1 SPECIFICATIONS. ALL COSTS ASSOCIATED WITH THE INSTALLATION, DISTRIBUTION AND MAINTENANCE OF THE TEMPORARY POWER IS THE RESPONSIBILITY OF THE ELECTRICIAN. THERE SHALL BE 480/277V, 3PH, 4W; 208/120V, 3PH, 4W; AND 120/240V, 1PH, 3W POWER AVAILABLE AT ALL LOCATIONS OF CONSTRUCTION AS DIRECTED IN FIELD AND AS SPECIFIED. ALL TEMPORARY EQUIPMENT. CONDUITS & CONDUCTORS SHALL BE COMPLETELY REMOVED AT COMPLETION OF PROJECT.

12. ALL ELECTRICAL EQUIPMENT, DEVICES, LIGHTING FIXTURES, CONDUIT, AND WIRING SHOWN ON THE ELECTRICAL DRAWINGS IS NEW UNLESS CLEARLY CALLED OUT AS EXISTING. ALL EXISTING ELECTRICAL EQUIPMENT THAT IS CALLED OUT TO BE REUSED SHALL BE INSPECTED IN THE FIELD BY THE ELECTRICIAN AND THE CONSTRUCTION MANAGER TO DETERMINE ITS CONDITION PRIOR TO STARTING ANY WORK. PROVIDE DOCUMENTATION TO OWNER INDICATING CONDITION OF THE EXISTING EQUIPMENT, AND REUSE EXISTING EQUIPMENT ONLY IF ALL PARTIES AGREE THE CONDITION IS ACCEPTABLE. ALL EXISTING EQUIPMENT DETERMINED TO BE UNUSABLE SHALL BE REPLACED WITH LIKE KIND AS DIRECTED BY THE OWNER. ANY OF THE OWNERS EQUIPMENT DETERMINED TO BE REUSED THAT IS DAMAGED BY ANY CONTRACTOR DURING SWITCHOVER SHALL BE REPLACED BY THAT CONTRACTOR. ALL EXISTING EQUIPMENT IS THE PROPERTY OF THE OWNER (NOT THE CONTRACTOR) AND SHALL BE TREATED ACCORDINGLY.

13. THE ELECTRICIAN SHALL BE HELD RESPONSIBLE TO ENSURE ALL CONTROLLERS TO BE INSTALLED ARE CAPABLE OF LOCKOUT / TAGOUT PRIOR TO INSTALLATION.

14. CONFORM TO THE NEC, OSHA, FIRE MARSHAL, BUILDING DEPARTMENT AND OTHER APPLICABLE CODES AND REGULATIONS. OBTAIN PERMITS, PAY ALL FEES, AND ARRANGE FOR REQUIRED INSPECTIONS.

15. ALL LIGHTING AND RECEPTACLE WIRING TO BE #12 XHHW WITH EQUIPMENT GROUND IN 3/4" C UNLESS

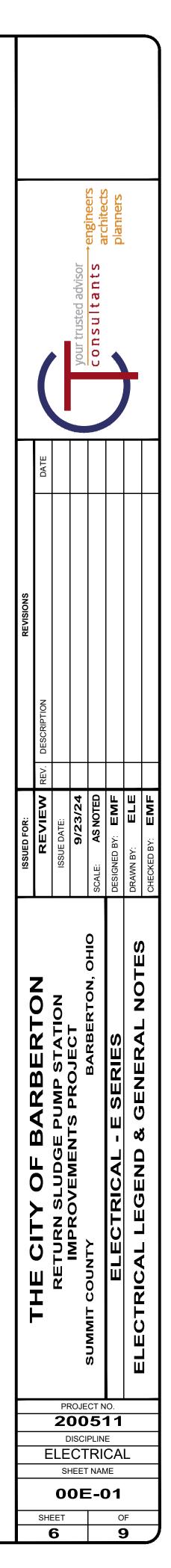
16. DO NOT MOUNT ANY LIGHT FIXTURE DIRECTLY OVER PIPING OR EQUIPMENT THAT WILL INTERFERE WITH

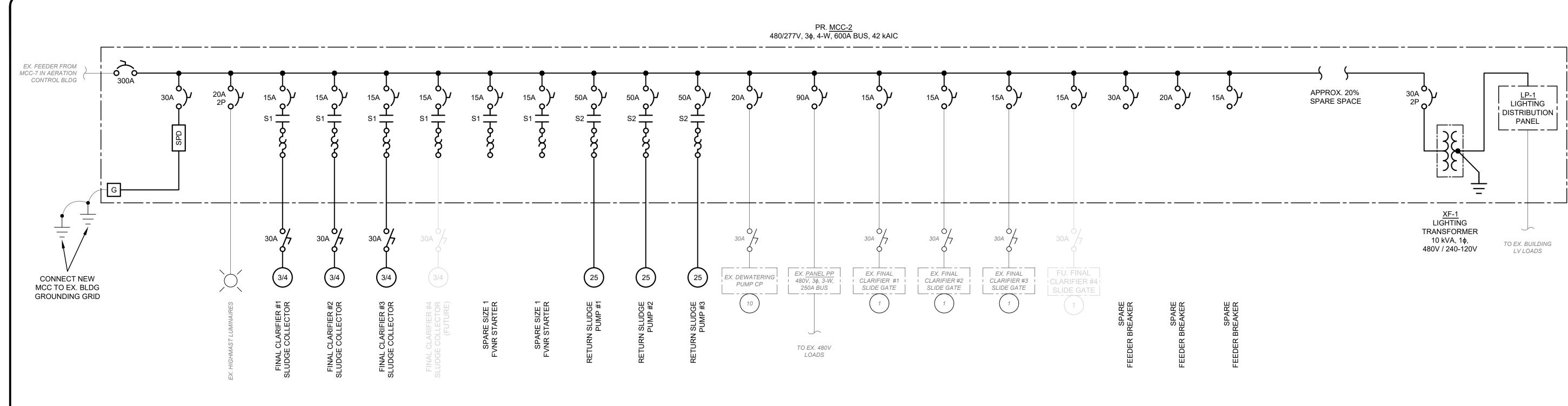
17. SIZE JUNCTION BOXES AS REQUIRED PER NEC. PROVIDE BARRIER TYPE TERMINAL STRIPS, AND ALL WIRING TO

20. MOTOR OVERLOAD SETTING SHALL BE FIELD SELECTED PER MOTOR NAME PLATE CURRENT AND INSTALLED

21. MOUNT LOCAL CONTROLS AND SERVICE DISCONNECTS ON WALL NEAREST EQUIPMENT WHERE POSSIBLE. (MAXIMUM 60" ABOVE FINISHED FLOOR OR FINAL GRADE, MAXIMUM LATERAL DISTANCE FROM WALL TO

22. ALL FEEDERS RUN BELOW GRADE SHALL BE RUN IN PVC CONDUIT AT MINIMUM 3'-0" BELOW FINISHED GRADE, TRANSITION TO ABOVE GRADE SHALL BE MADE USING FACTORY PVC COATED RIGID STEEL CONDUIT SWEEPS.





INCOMING FEEDER LUGS (600A)	FINAL CLARIFIER #3 SLUDGE COLLECTOR FVNR SIZE 1, 15A	FINAL CLARIFIER #3 SLIDE GATE FEEDER 15A CB (100AF) (FUTURE) FINAL CLARIFIER #4 SLIDE GATE FEEDER 15A CB (100AF)	SPARE SPACE	SPARE SPACE	
MAIN CIRCUIT BREAKER 300A CB (400AF)	(FUTURE) FINAL CLARIFIER #4 SLUDGE COLLECTOR FVNR SIZE 1, 15A	SPARE SPACE	SPARE SPACE	<u>LP-1</u> LIGHTING PANEL	
	SPARE SPACE	RETURN SLUDGE PUMP #3	SPARE SPACE	MLO, 100A BUS 240/120V, 1¢, 3-W (18 - 24 SPACES)	
SURGE PROTECTION DEVICE	SPARE FEEDER 30A CB (100AF)				
HIGH MAST LUMINAIRES FEEDER 20A CB (100AF)	SPARE FEEDER 20A CB (100AF)	RETURN SLUDGE PUMP #1	PANEL PP FEEDER 90A CB (100AF)		
SPARE SPACE	SPARE FEEDER 15A CB (100AF)	FVNR SIZE 2, 50A	SPARE SPACE	<u>XF-1</u>	
FINAL CLARIFIER #1 SLUDGE COLLECTOR FVNR SIZE 1, 15A	SPARE MOTOR STARTER FVNR SIZE 1, 15A	RETURN SLUDGE PUMP #2 FVNR SIZE 2, 50A	SPARE SPACE	LIGHTING TRANSFORMER 10 kVA 480-240/120V, 1φ, 3-W (30A CB PRIMARY)	
FINAL CLARIFIER #2 SLUDGE COLLECTOR	FINAL CLARIFIER #1 SLIDE GATE FEEDER 15A CB (100AF)	DEWATERING PUMP CP FEEDER 20A CB (100AF)	SPARE MOTOR STARTER		
FVNR SIZE 1, 15A	FINAL CLARIFIER #2 SLIDE GATE FEEDER 15A CB (100AF)	SPARE SPACE	FVNR SIZE 1, 15A	SPARE SPACE	

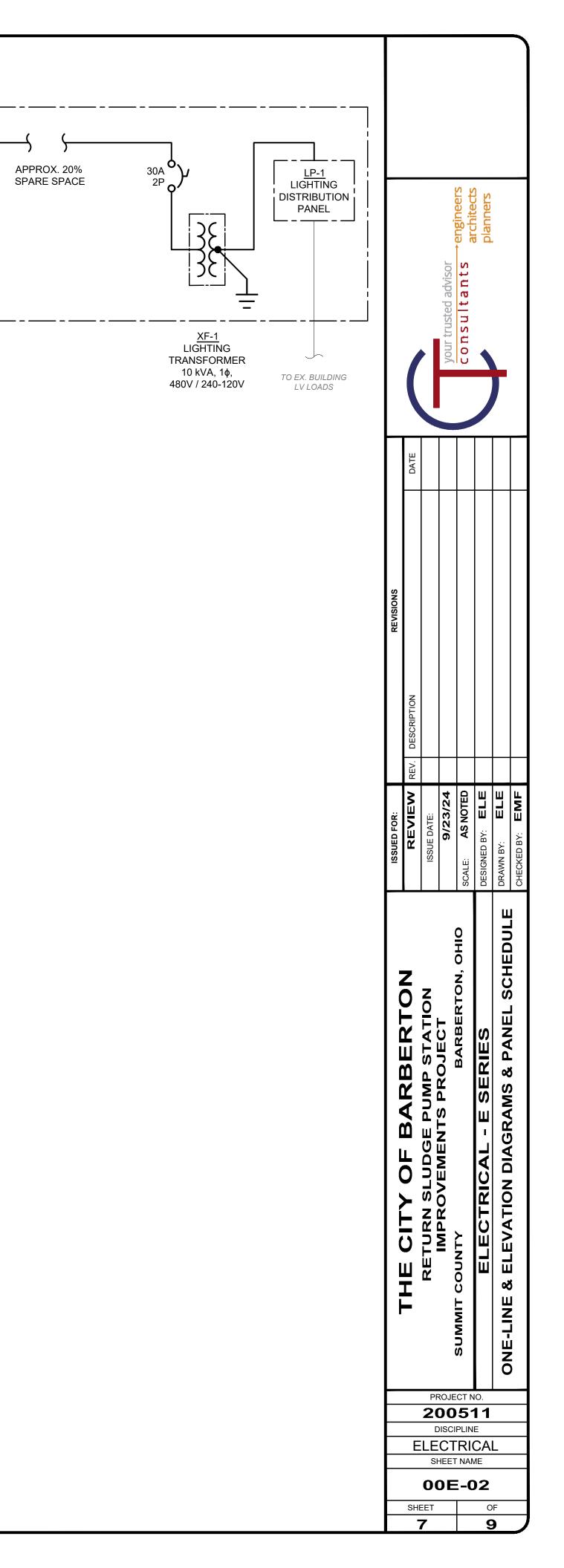
PROPOSED MCC-2 ELEVATION DIAGRAM

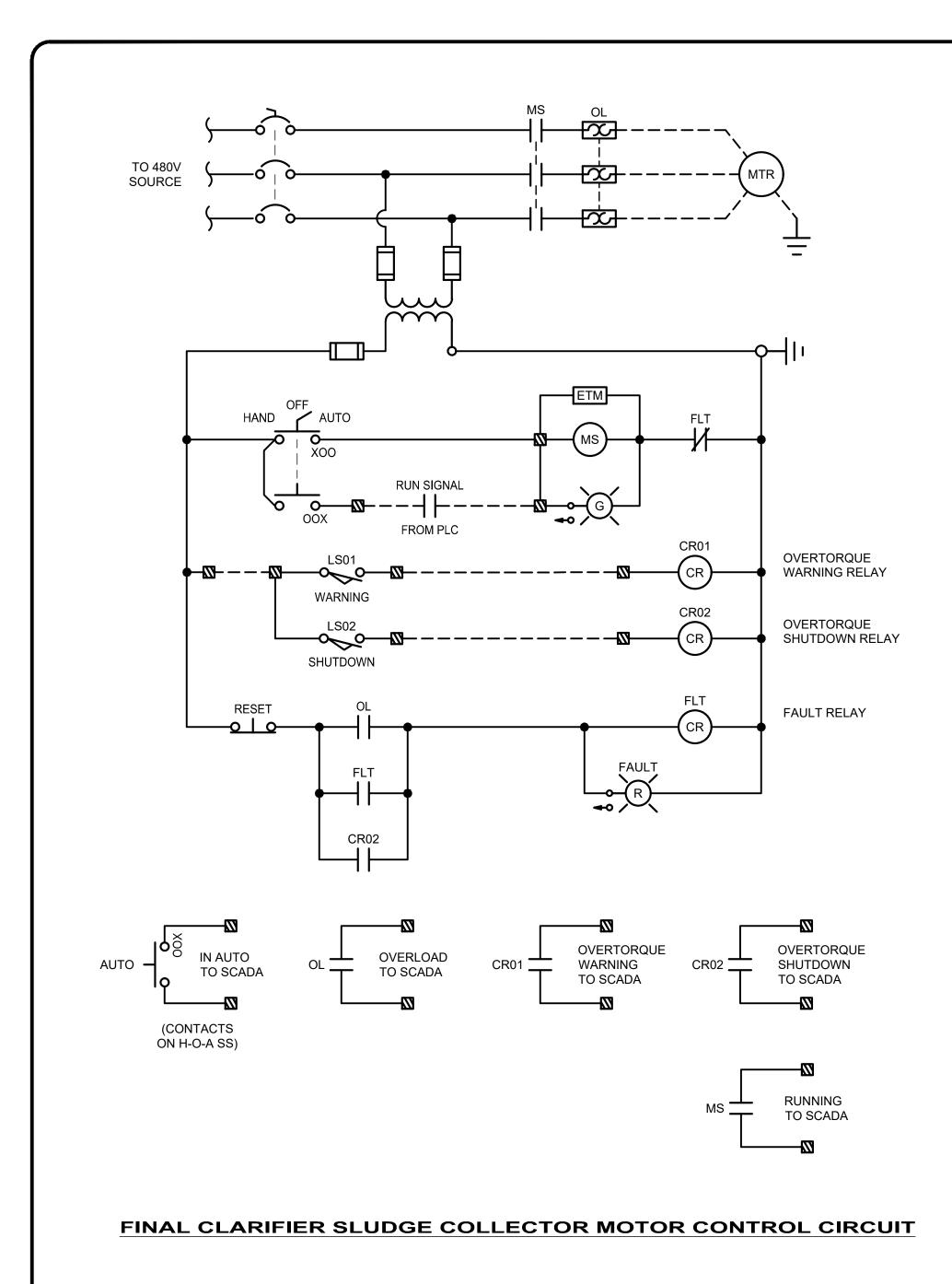
H:2020/200511/DWG\SHEETS\2023-08-04 200511 SLUDGE PUMP STATION\E_200511 - MCC-2 REPLACMENT - ELECTRICAL SET.DWG - 00E-02 - 9/24/2024 2:39:04 PM - LEE ELEY

PROPOSED MCC-2 ONE-LINE DIAGRAM

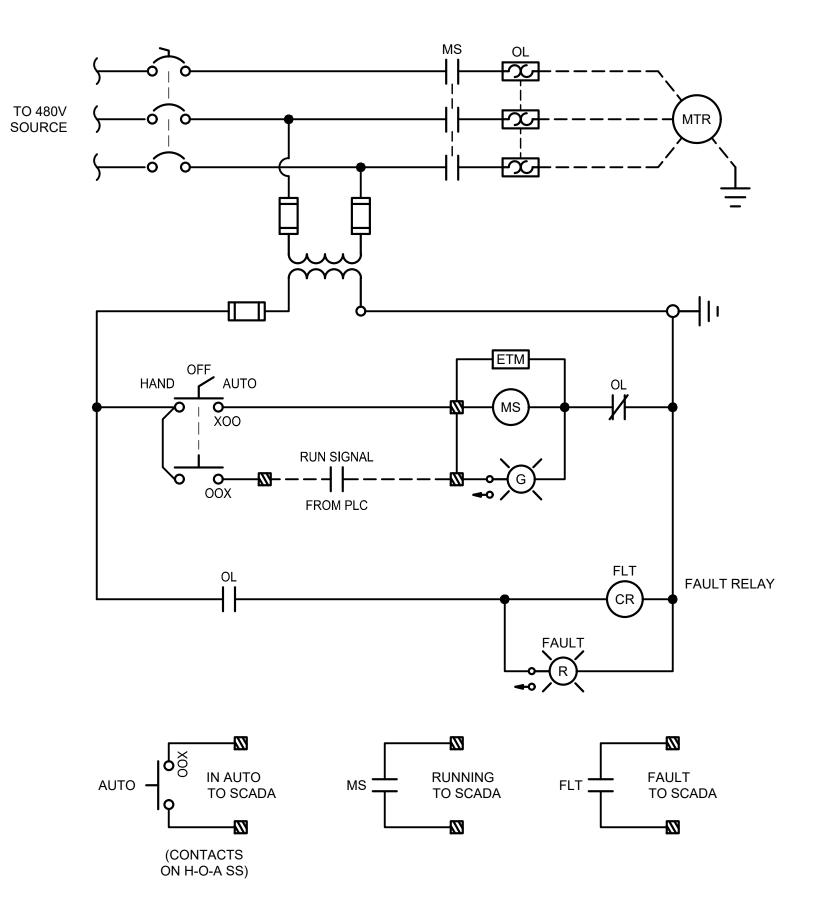
PANELBOARD		LP-1								
PANEL TYPE	NQ	OD OR EQ	UAL							
NEMA TYPE		NEMA 1			1					
VOLTAGE		240V/120V	/		PHASE				1	
OCPD		MLO			WIRE				3	
MOUNTING	INTEG	RATED INT	О МСС		BUSS				100A	
LOAD DES	SCRIPTION	LOAD	BKR.	CKT. NO.	PHASE	CKT. NO.	BKR.	LOAD	LOAD DESCRIPTION	
EXTERIOR LIGH	HTS & SLUDGE PIT	984	20/1	1	A	2	20/1	120	UNIT HEATER <u>HU-UI</u>	
	CEILING LIGHTS	360	20/1	3	В	4	20/1G	540	RECEPTACLES (GFCI)	
EXH. FAN <u>EXF-UI</u>	& LOUVER <u>FAL-UI</u>	240	20/1	5	A	6	20/1	670	LUBRICATION PUMP #1	
INS	TRUMENT POWER	100	20/1	7	В	8	20/1	670	LUBRICATION PUMP #2	
	SPARE		20/1	9	А	10	20/1	670	LUBRICATION PUMP #3	
	SPARE		20/1	11	В	12	20/1		SPARE	
	SPARE		20/1	13	А	14	20/1		SPARE	
	SPARE		20/1	15	В	16	20/1		SPARE	
	SPARE		20/1	17	А	18	20/1		SPARE	
	SPARE		20/1	19	В	20	20/1		SPARE	
	SPARE		20/1	21	А	22	20/1		SPARE	
	SPARE		20/1	23	В	24	20/1		SPARE	
							4354	VA	CONNECTED	
							4521.5	VA	DEMAND	
							18.84	A @ 240/1	I20V, 1P, 3W	

PROPOSED LIGHTING PANEL LP-1 SCHEDULE (INSIDE MCC-2)

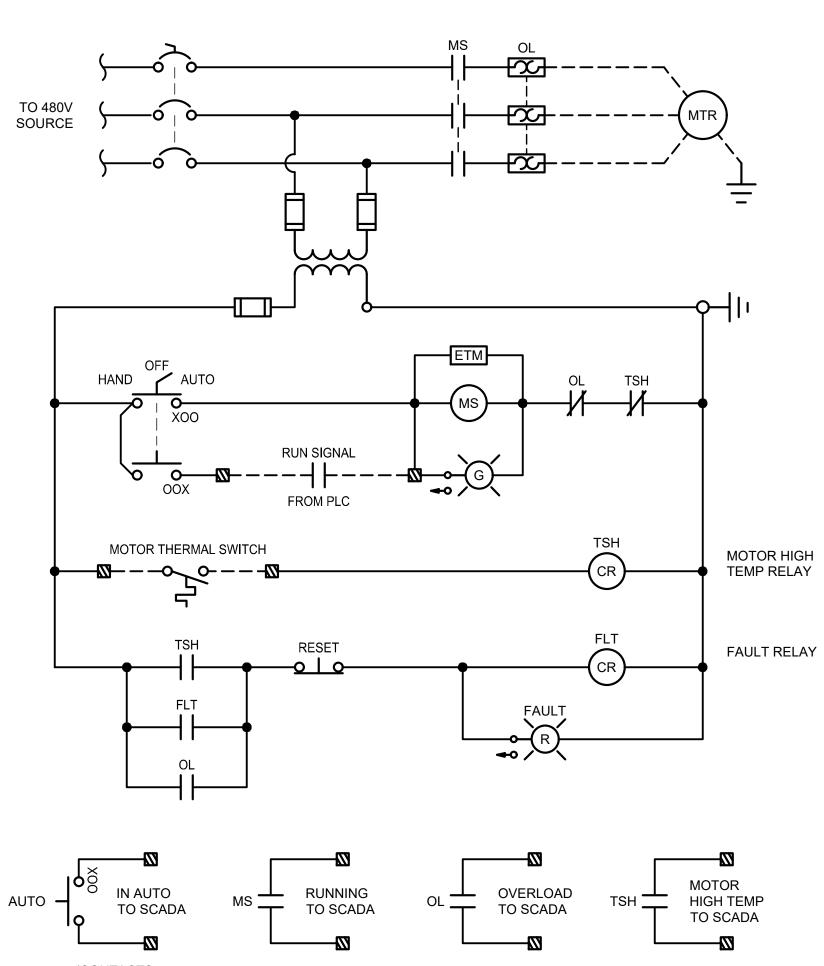




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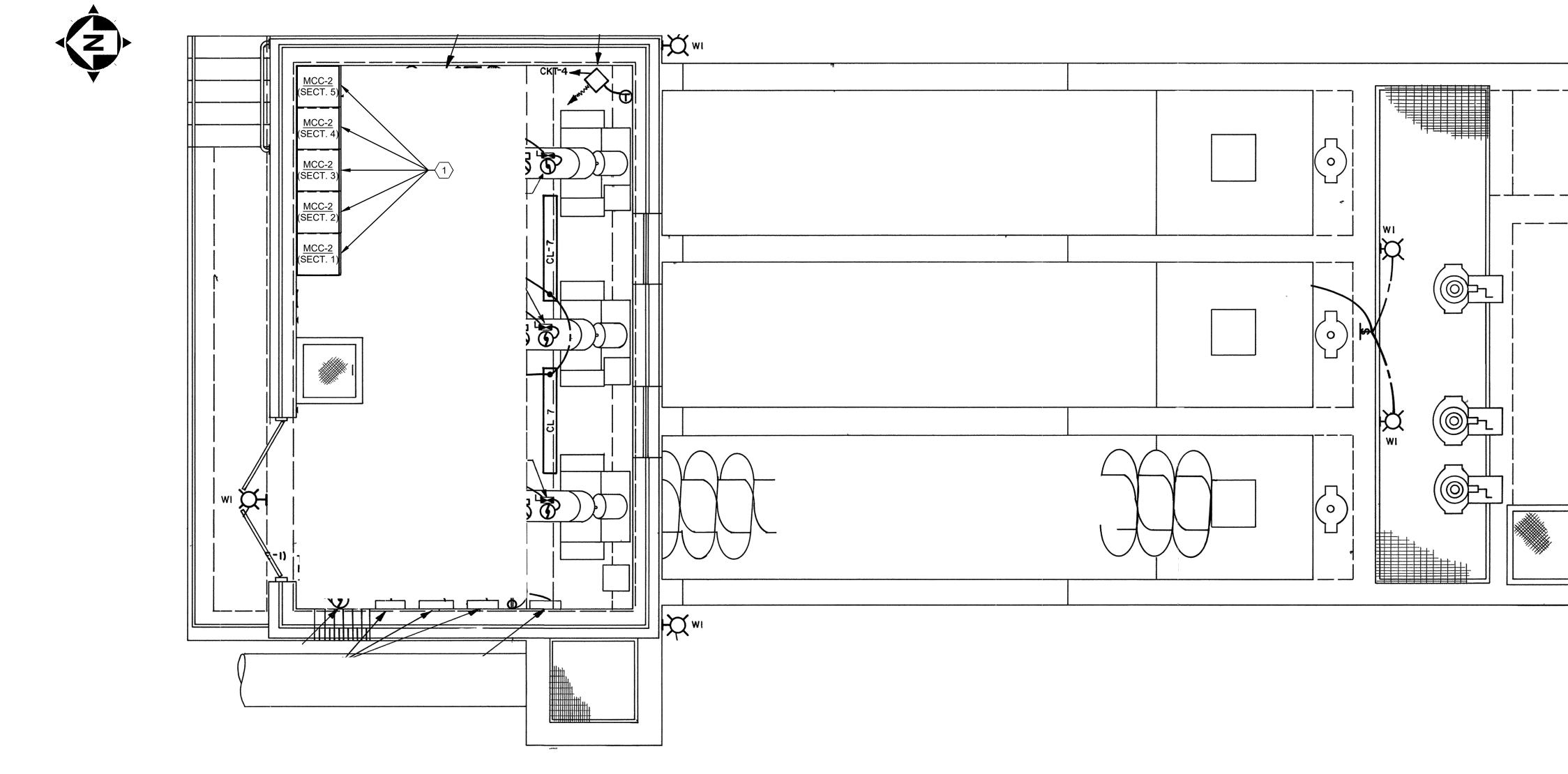
RETURN SLUDGE PUMP MOTOR CONTROL CIRCUIT



(CONTACTS ON H-O-A SS)

SPARE FVNR MOTOR CONTROL CIRCUIT

THE CITY OF BARBERTON RETURN SLUDGE PUMP STATION	ISSUEDATE: REVISIONS REVIEW REV. DESCRIPTION ISSUEDATE: D	DATE
IMPROVEMENTS PROJECT	9/23/24	your trusted advisor
BARBERTON, OHIO	SCALE: AS NOTED	consultants engineers
ELECTRICAL - E SERIES	DESIGNED BY: ELE	planers
MCC 2 MOTOB CONTROL DIACE AMS		
	CHECKED BY: EMF	



GENERAL NOTES:

- 1. EXISTING EQUIPMENT BASED ON DRAWING SET BY BURGESS & NIPLE, LTD. DATED JUNE, 1986, AS WELL AS CHANGES NOTED DURING SITE VISITS.
- 2. CAP AND ABANDON IN PLACE ALL UNDERGROUND CONDUIT CONTAINING EXISTING FEEDERS TO BE REMOVED UNLESS OTHERWISE NOTED.
- 3. ALL PROPOSED UNDERGROUND DUCT BANKS TO UTILIZE 48" SWEEPS, MINIMUM.
- 4. ALL CONDUIT IS EXISTING AS PART OF PREVIOUS PHASE.

$\langle x \rangle$ <u>CODED NOTES:</u>

- CONDUCTORS.
- 1.1.
 CONSTRUCTION PARAMETERS:

 1.1.1.
 FULL CONSTRUCTION PERIOD TO BE ONE WORKWEEK (5 DAYS).
- RAIN IN THE FORECAST.
- CONSTRUCTION TO THE FOLLOWING EQUIPMENT:
 - 1.1.3.2. (1) OF THE (3) RETURN SLUDGE PUMPS
- PANEL PP]
- PRIOR TO ANY DEMOLITION.

<u>RETURN SLUDGE BUILDING - MCC-2 REPLACEMENT - ELECTRICAL PLAN</u>

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

1. DEMOLISH EXISTING KLOCKNER-MOELLER MOTOR CONTROL CENTER "MCC-2" AND REPLACE IN KIND PER SPECIFICATION 262419 AND DIAGRAMS ON SHEETS E-02 & E-03. RECONNECT ALL EXISTING CONDUCTORS TO NEW CONTROL/DISTRIBUTION EQUIPMENT. ENSURE THAT NEW MCC UNITS DO NOT DEVIATE FROM THEIR ASSIGNED SECTIONS OTHERWISE CONTRACTOR WILL BE RESPONSIBLE FOR RUNNING NEW

1.1.2. CONSTRUCTION TO TAKE PLACE DURING NORMAL PLANT FLOWS, I.E. DRY WEATHER WITH NO

1.1.3. CONTRACTOR TO PROVIDE MEANS OF SUPPLYING TEMPORARY POWER DURING

1.1.3.1. (2) OF THE (3) FINAL CLARIFIER SLUDGE COLLECTORS

1.1.3.3. BOTH OF THE (2) WASTE ACTIVATED SLUDGE (WAS) PUMPS [REQUIRES POWER TO

1.2. CONTRACTOR TO COORDINATE TIMING AND EXACT SEQUENCE OF REPLACEMENT WITH OWNER

your trusted advisor consultants architects planners							
ISSUED FOR: REVISIONS	REVIEW REV. DESCRIPTION DATE	ISSUE DATE:	9/23/24	AS NOTED	EDBY: ELE		
					ELECTRICAL - E SERIES	MCC-2 REPLACEMENT FLECTRICAL PLAN	
	E	20 D	ROJE DISCII CT		11 E CA ME)4	L)F	