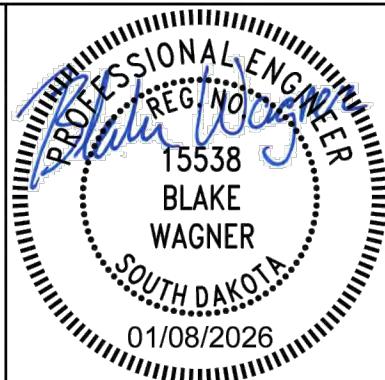


233700 - LOUVER SCHEDULE

SCHEDULE NOTES:

1. CUSTOM COLOR SELECTED BY ARCHITECT AT SHOP DRAWING REVIEW
2. BPWP = BEGINNING POINT OF WATER PENETRATION IN FPM
3. FURNISH WITH 1/2" SQUARE MESH, 16 GAUGE ALUMINUM BIRDS SCREEN ON LOUVER INTERIOR

| TAG | MANUFACTURER | MODEL | DIMENSIONS | | | FUNCTION | FREE AREA | NOTES |
|------|--------------|---------|------------|--------|-------|----------|-----------|-------|
| | | | WIDTH | HEIGHT | DEPTH | | | |
| IL-1 | GREENHECK | ESD-635 | 48 | 48 | 6 | INTAKE | 9.4 SQFT | ALL |
| | | | | | | | | |



233400 - FAN SCHEDULE

SCHEDULE NOTES:

1. PROVIDE FAN FOR SIDEWALL MOUNTING, SIDEWALL MOUNTING BRACKET, STAINLESS STEEL FASTENERS, STAINLESS STEEL BIRDS SCREEN.
2. PROVIDE MOUNTING HARDWARE, ISOLATION DEVICES, FRAME WORK FOR SUSPENDED INSTALLATION
3. PROVIDE WITH GRAVITY BACKDRAFT DAMPER.
4. PROVIDE FACTORY DISCONNECT
5. PROVIDE ECM TYPE MOTOR AND SPEED CONTROL DIAL.

| MARK | SERVES | MANUFACTURER | MODEL | FAN TYPE | SYSTEM | CFM | ESP | TSP | FAN RPM | SONES | SPEED CONTROL | FEI | MOTOR | | | ELECTRICAL | | | | NOTES |
|------|-----------------|--------------|------------|------------------|---------|-------|------|-------|---------|-------|---------------|------|-------|----|-------|------------|----|----|------|-------|
| | | | | | | | | | | | | | BHP | HP | WATTS | VOLT | Ph | Hz | SCCR | |
| EF-1 | ENTIRE BUILDING | GREENHECK | CUE-160-VG | SIDEWALL UPBLAST | EXHAUST | 2,400 | 0.75 | 0.854 | 1191 | 14.3 | YES | 1.58 | 0.61 | 1 | N/A | 115 | 1 | 60 | 5kA | ALL |
| | | | | | | | | | | | | | | | | | | | | |

238000 - UNIT HEATER - GAS

NOTES:

1. SEPARATED COMBUSTION
2. PROVIDE WALL VENT TERMINATION

| MARK | MANUFACTURER | MODEL | AIR FLOW | | | FUEL | | HEATING | | MOTOR HP | ELECTRICAL | | | NOTES |
|------|--------------|-------|----------|-----|-----|---------|----------|---------|-----------|----------|------------|----|----|-------|
| | | | FLOW | EAT | LAT | TYPE | PRESSURE | INPUT | OUTPUT | | VOLT | Ph | Hz | |
| UH-1 | REZNOR | UDXC | 600 | 55 | 115 | PROPANE | 11" W.C. | 60 MBH | 49.8 MBH | 1/6 | 115 | 1 | 60 | ALL |
| UH-2 | REZNOR | UDXC | 1921 | 55 | 115 | PROPANE | 11" W.C. | 150 MBH | 124.5 MBH | 1/6 | 115 | 1 | 60 | ALL |

MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - MECHANICAL SCHEDULES

DATE: 1/08/2026

REV DATE: ---

REV NUM: ---

RECORD: ---

PROJECT No. 25547

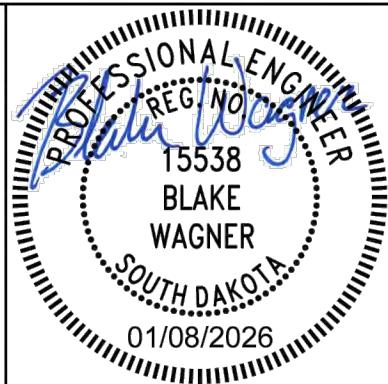
MANAGER: BAW

DESIGNER: MJF

DRAFTER: MJF

REVIEWER: BAW

M78-603



MECHANICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
STRUCTURE 78 - MECHANICAL SCHEDULES

237200 - MAKE-UP AIR UNIT - GAS

SCHEDULE NOTES

- 1. PROVIDE REMOTE TOUCHSCREEN CONTROL PANEL, MOUNTED ON WALL AS SHOWN ON DRAWINGS.
- 2. CONSTANT VOLUME AIRFLOW, 100% OUTDOOR AIR
- 3. PROVIDE WITH MERV 13 FILTER SECTION.
- 4. DUCTED INLET
- 5. PROVIDE W/DIRECT DRIVE, MIXED FLOW PLENUM FAN, W/VIBRATION ISOLATION
- 6. DISCHARGE TEMPERATURE CONTROL
- 7. PROVIDE WITH 3-WAY DISCHARGE DIFFUSER FOR FIELD INSTALLATION.
- 8. PROVIDE W/FACTORY ELECTRICAL DISCONNECT

| MARK | MANUFACTURER | MODEL | ARRANGEMENT | AIR SIDE | | | FURNACE | | | | | ELECTRICAL | | | | | NOTES | | | |
|-------|--------------|-----------------|-------------|----------|------|-------|---------|---------|------------------------|-------|-------|------------|------|-----|-----|------|-------|----|----|-----|
| | | | | FLOW | ESP | MOTOR | FUEL | | HEATING CAPACITY (MBH) | | EAT | LAT | SCCR | MCA | MOP | VOLT | Ph | Hz | | |
| MAU-1 | GREENHECK | DGX-P116-H12-MF | HORIZONTAL | 2400 | 0.25 | 0.99 | 1.5 | PROPANE | 11" W.C. | 253.6 | 233.3 | -25 | 65 | 5kA | 4.1 | 15 | 460 | 3 | 60 | ALL |
| | | | | | | | | | | | | | | | | | | | | |

| | |
|-------------|-----------|
| DATE: | 1/08/2026 |
| REV DATE: | --- |
| REV NUM.: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | BAW |
| DESIGNER: | MJF |
| DRAFTER: | MJF |
| REVIEWER: | BAW |

M78-604

STANDARD ELECTRICAL SYMBOLS

BASED ON ANSI Y32.9-1972, ANSI A117.1-1986, AND FEDERAL REGISTER 56-144(ADA)
MOUNTING HEIGHT MEASUREMENTS SHALL BE MADE FROM FINISH
FLOOR TO CENTER LINE OF OUTLET

| SYMBOL | DESCRIPTION | MTG. HT. |
|---|---|-----------|
| <u>LIGHTING OUTLETS</u> | | |
| PLH | EXTERIOR SITE LUMINAIRE | SCHEDULED |
| | EXTERIOR FLOOD LIGHT | |
| | FLUORESCENT, SLASH INDICATES INBOARD LAMP UNSWITCHED. | |
| | BARE LAMP FLUORESCENT STRIP WITH WIRE GUARD. | |
| | CEILING MOUNTED EXIT SIGN, SHADING INDICATES LIGHTED FACE. | |
| | WALL MOUNTED EXIT SIGN. | |
| | EMERGENCY BATTERY UNIT | |
| | REMOTE SEALED BEAM | SCHEDULED |
| | PORCELAIN LAMPHOLDER. 100A LAMP | |
| | JUNCTION BOX | |
| <u>RECEPTACLE OUTLETS</u> | | |
| | SINGLE. CKT 1 | 18" |
| | DUPLEX | 18" |
| | DUPLEX - SPLIT WIRED | 18" |
| | DUPLEX - GROUND FAULT CIRCUIT INTERRUPTER | 18" |
| | DUPLEX - EMERGENCY | 18" |
| | DOUBLE DUPLEX | 18" |
| | SPECIAL CONFIGURATION. DESIGNATION REFERS TO SCHEDULE | SCHEDULED |
| | MULTI-OUTLET ASSEMBLY. ARROWS EXTEND TO LIMIT OF INSTALLATION. SUBSCRIPT INDICATES SPACING OF OUTLETS | |
| | CLOCK RECEPTACLE | 82" |
| | DUPLEX RECEPTACLE - FLOOR BOX | |
| <u>SWITCH OUTLETS</u> | | |
| | SINGLE POLE | 46" |
| | DOUBLE POLE | 46" |
| | THREE-WAY | 46" |
| | FOUR-WAY | 46" |
| | KEY OPERATED | |
| | MOTOR - PROVIDE OVERLOAD UNIT AS REQ'D. TOGGLE ACCEPTABLE IF INTERNAL THERMAL PROTECTION INCLUDED. SWITCH NOT REQUIRED IF MOTOR ASSEMBLY HAS INTEGRAL DISCONNECTING MEANS. | |
| | PILOT HANDLE | 46" |
| | TIME DELAY | 46" |
| | DIMMER - 1000W UNLESS OTHERWISE INDICATED | 46" |
| | GANGED SWITCHES - ARROW INDICATES MULTI-LEVEL SWITCHING | 46" |
| | WALL MOUNTED OCCUPANCY SENSOR | 46" |
| | CEILING MOUNTED OCCUPANCY SENSOR. TYPE a, SW b. REFER TO SCHEDULE FOR TYPE. | |
| <u>COMMUNICATION/DATA SYSTEM OUTLETS</u> | | |
| | VOICE OUTLET | 18" |
| | VOICE OUTLET OR DATA OUTLET - FLOOR BOX | |
| | DATA OUTLET | 18" |
| | BELL | |
| | BUZZER | |
| | INTERCOM STATION | 52" |
| | MICROPHONE OUTLET | 18" |
| | TELEVISION OUTLET | 18" |
| | VOLUME CONTROL | 52" |
| | PUSH BUTTON | |
| | SPEAKER/BAFFLE/BACKBOX COMBINATION | |
| | CLOCK | CEILING |
| <u>MISCELLANEOUS</u> | | |
| | PLAN OR DETAIL NOTE | |
| | SPECIAL PURPOSE CONNECTION - AS REQUIRED BY EQUIPMENT MANUFACTURER. CO-ORDINATE ROUGH-IN WITH SHOP DWG. | |
| | BRANCH CIRCUIT PANELBOARD, SHADING INDICATES NEW PANEL | |
| | CONTROL PANEL | |
| | EXTERNALLY OPERATED DISCONNECT SWITCH | |
| | CONTROLLER OR RELAY | |
| | COMBINATION CONTROLLER AND DISCONNECTION MEANS | |
| | MOTOR. DESIGNATION REFERS TO SCHEDULE. | |
| | EQUIPMENT DESIGNATION. SEE SCHEDULE. | |
| | ELECTRIC HEAT TO SCALE. DESIGNATION REFERS TO SCHEDULE. "T" INDICATES INTEGRAL THERMOSTAT. | TOP 75" |
| | THERMOSTAT-PROVIDED BY DIV. 26 | 52" |
| | THERMOSTAT-FURNISHED BY DIV. 23, INSTALLED BY DIV. 26 | 52" |
| | HUMIDISTAT-FURNISHED BY DIV. 23, INSTALLED BY DIV. 26 | 52" |
| | POTENTIOMETER-FURNISHED BY DIV. 23, INSTALLED BY DIV. 26 | 52" |
| | TIME SWITCH | |
| | PHOTOELECTRIC SWITCH | |

STANDARD ELECTRICAL SYMBOLS

BASED ON ANSI Y32.9-1972, ANSI A117.1-1986, AND FEDERAL REGISTER 56-144(ADA)
MOUNTING HEIGHT MEASUREMENTS SHALL BE MADE FROM FINISH
FLOOR TO CENTER LINE OF OUTLET

| SYMBOL | DESCRIPTION | MTG. HT. |
|--------------------------|--|----------|
| <u>CIRCUITING</u> | | |
| | HOME RUN. MIN 3/4" C. ARROWS AND SUBSCRIPTS INDICATE NUMBER AND IDENTIFICATION OF CIRCUITS. | |
| | EMERGENCY. MIN 1/2" C-#10 AWG. | |
| | TELEPHONE. MIN 3/4"C, HOME RUN TO TERMINAL BOARD | |
| | TELEPHONE. MIN 3/4"C, STUB INTO CEILING SPACE | |
| | LOW VOLTAGE. MIN 1/2"C#14 AWG AS REQ'D. | |
| | SPECIAL SYSTEMS. MIN 3/4"C. PROVIDE CONDUCTORS AS REQ'D BY MANUFACTURER. SUBSCRIPT INDICATES SYSTEM. SEE STANDARD ABBREVIATIONS. | |

STRUCTURE SCHEDULE

| # | NAME |
|------|------------------------------------|
| 10 | INFLUENT AND PRETREATMENT BUILDING |
| 15.1 | PRIMARY CLARIFIERS #1 |
| 15.2 | PRIMARY CLARIFIERS #2 |
| 20 | PUMP STATION CONTROL BUILDING |
| 35 | SELECTOR/AERATION BASINS |
| 40 | BLOWER BUILDING |
| 50 | FINAL CLARIFIER #1 |
| 52 | FINAL CLARIFIER #2 |
| 55 | DISINFECTION STRUCTURE |
| 60 | EFFLUENT PARSHALL FLUME |
| 65 | SLUDGE DIGESTION COMPLEX |
| 78 | BIOSOLIDS DEWATERING BUILDING |
| 80 | LABORATORY / OFFICE BUILDING |

STANDARD ABBREVIATIONS

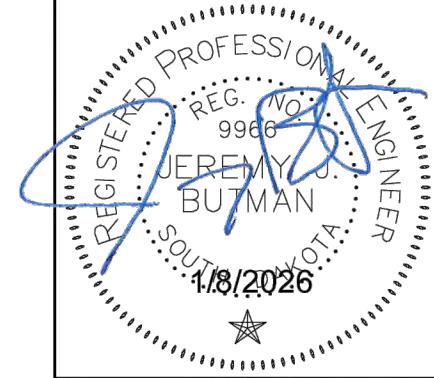
| | | | |
|------|---|------|--------------------------------|
| AC | ABOVE COUNTER (MIN 4" ABOVE BACKSPLASH) | LV | LOW VOLTAGE |
| AFF | ABOVE FINISH FLOOR | MC | MECHANICAL CONTRACTOR |
| AFG | ABOVE FINISH GRADE | MCA | MINIMUM CIRCUIT AMPACITY |
| AHU | AIR HANDLING UNIT | MCB | MAIN CIRCUIT BREAKER |
| ATC | AUTOMATIC TEMPERATURE CONTROL | MLO | MAIN LUMINAIRE |
| BOF | BOTTOM OF FIXTURE | NFDS | NON-FUSIBLE DISCONNECT SWITCH |
| CKT | CIRCUIT | NR | NOT REQUIRED |
| CM | CEILING MOUNT | OPD | OVERCURRENT PROTECTIVE DEVICE |
| CUH | CABINET UNIT HEATER | PA | PAGING/BACKGROUND MUSIC |
| DT | DUST TIGHT | PNL | PANELBOARD |
| DTR | DATA RACK | PRV | POWER ROOF VENTILATOR |
| EC | ELECTRICAL CONTRACTOR | RF | RELIEF FAN |
| EF | EXHAUST FAN | RGSC | RIGID GALVANIZED STEEL CONDUIT |
| EGC | EQUIPMENT GROUNDING CONDUCTOR | RT | RAIN-TIGHT |
| EM | EMERGENCY | RTU | ROOFTOP UNIT |
| EP | EXPLOSION PROOF | S | SECURITY |
| EWC | ELECTRIC WATER COOLER | SD | SEE DETAIL |
| EWH | ELECTRIC WATER HEATER | SS | SURGE SUPPRESSION |
| F | FUSED | SW | SWITCH |
| FACP | FIRE ALARM CONTROL PANEL | TOP | TOP OF PANEL |
| FARA | FIRE ALARM REMOTE ANNUNCIATOR | TSSW | TWO SPEED SEPARATE WINDING |
| FDS | FUSING & DISCONNECT SWITCH | TTB | TELEPHONE TERMINAL BOARD |
| FLA | FULL LOAD AMPERES | UG | UNDERGROUND |
| FRA | FRACTIONAL | VT | VAPOR TIGHT |
| FVR | FULL VOLTAGE NON REVERSING | WT | WALL MTG. (46" AFF) |
| GC | FULL VOLTAGE REVERSING | WP | WEATHERPROOF |
| IC | GENERAL CONTRACTOR | WT | WATER TIGHT |
| IC | INTERCOM | WM | WIREMOLD |
| IG | ISOLATED GROUND | | |
| IL | INTERLOCK | | |

SPECIAL SYMBOLS PEULIAR TO THIS PROJECT

SPECIAL ABBREVIATIONS PEULIAR TO THIS PROJECT

GENERAL NOTES

- FIELD VERIFY ALL PERTINENT EXISTING CONDITIONS AND INSTALLATION REQUIREMENTS IN CONNECTION WITH REMODEL. MAKE ALLOWANCES IN BID THERETO.
- DEVICES WITH SLASH THROUGH INDICATE SPECIFIC EXISTING DEVICES TO REMOVED. REMOVE OR RELOCATE ANY ELECTRICAL DEVICE AS REQUIRED BY REMODEL OPERATIONS. EXTEND EXISTING CIRCUITRY AS REQUIRED TO MAINTAIN DOWNSTREAM DEVICES OR FIXTURES. DISCONNECT AND REMOVE ANY EXISTING CIRCUITRY NOT BEING REUSED. RE-IDENTIFY EXISTING PANEL DIRECTORIES AS REQUIRED.
- SEE SPECIFICATION 260510 FOR REMODEL.
- ELECTRICAL CONTRACTOR SHALL LOCATE ALL PRIVATE (CITY OWNED) ELECTRICAL AND COMMUNICATIONS UTILITIES ON SITE PRIOR TO START OF CONSTRUCTION.



ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIE, SOUTH DAKOTA

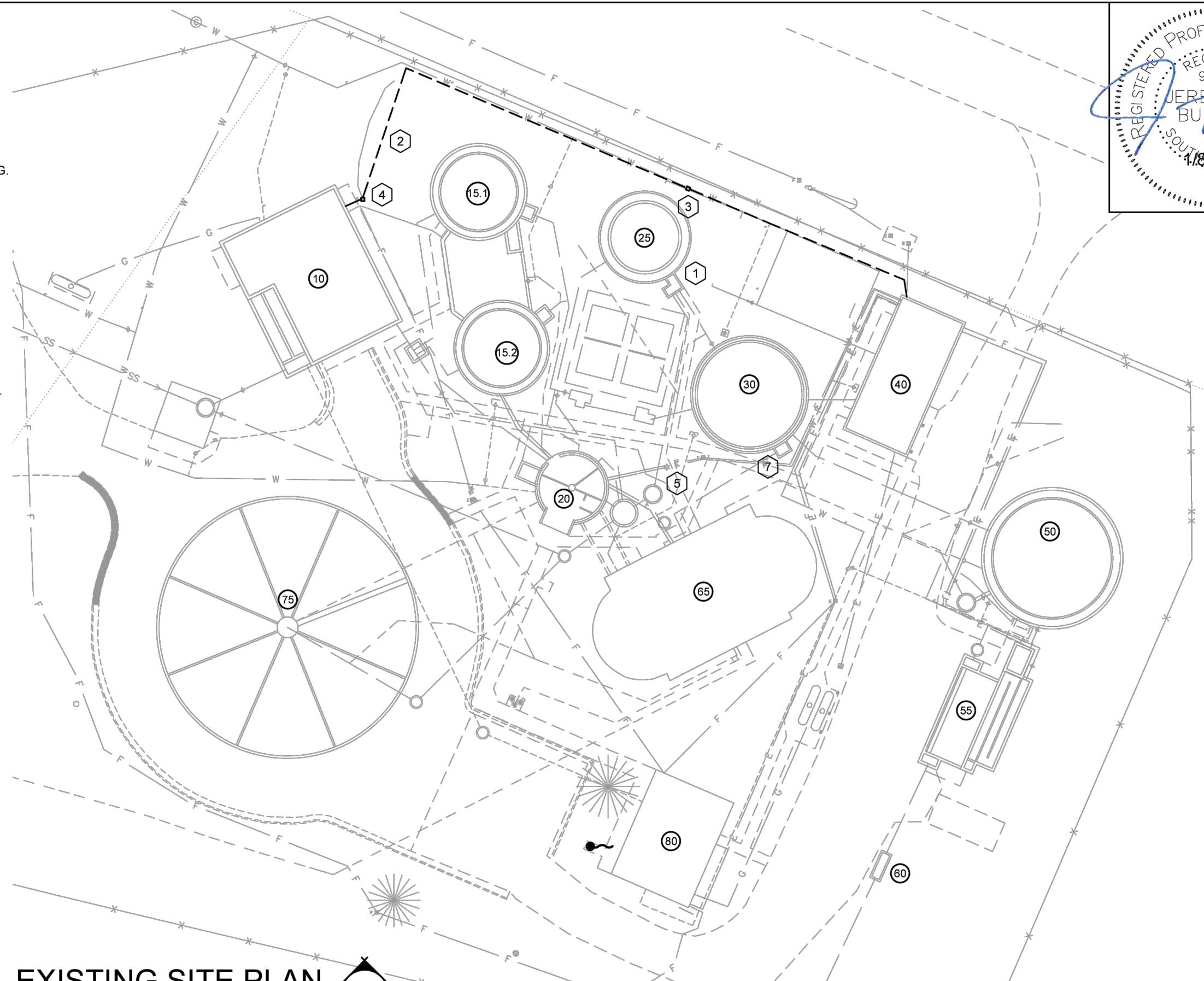
ELECTRICAL SYMBOL LEGEND

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

NOTES: THIS SHEET



1. DISCONNECT POWER AND REMOVE ALL CIRCUITRY, LUMINAIRE AND CONTROL SWITCH FOR LUMINAIRE FROM TANK FOR DEMOLITION OF TANK STRUCTURE. REMOVE EXISTING CONTROL WIRING BETWEEN STRUCTURE AND BUILDING 20.
2. EXISTING POWER FEED TO EXISTING INTAKE BUILDING. SEE DETAIL 1/E-102 FOR NEW POWER FEED REQUIREMENTS. EXISTING POWER FEED TO BE ABANDONED IN PLACE AFTER NEW FEEDER IS INSTALLED.
3. AFTER NEW FEEDER IS IN PLACE, REMOVE EXISTING JUNCTION BOX COMPLETE.
4. EXISTING JUNCTION BOX MAY BE REUSED FOR NEW FEEDER.
5. REMOVE EXISTING SITE LIGHTING POLE, LUMINAIRE AND ASSOCIATED CIRCUITRY.
6. SEE DETAIL 1/E-103 FOR REMOVALS IN THIS BUILDING.
7. REMOVE EXISTING DISSOLVE OXYGEN INSTRUMENT AND TURN OVER TO OWNER. REMOVE ALL ASSOCIATED CABLING.



EXISTING SITE PLAN

1" = 40'-0"



0 20' 40'
Scale in Feet

ELECTRICAL PLANS

WASTEWATER TREATMENT FACILITY UPGRADES

MOBRIE, SOUTH DAKOTA

ELECTRICAL EXISTING SITE PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | — |
| REV NUM: | — |
| RECORD: | — |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

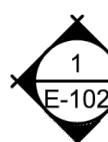
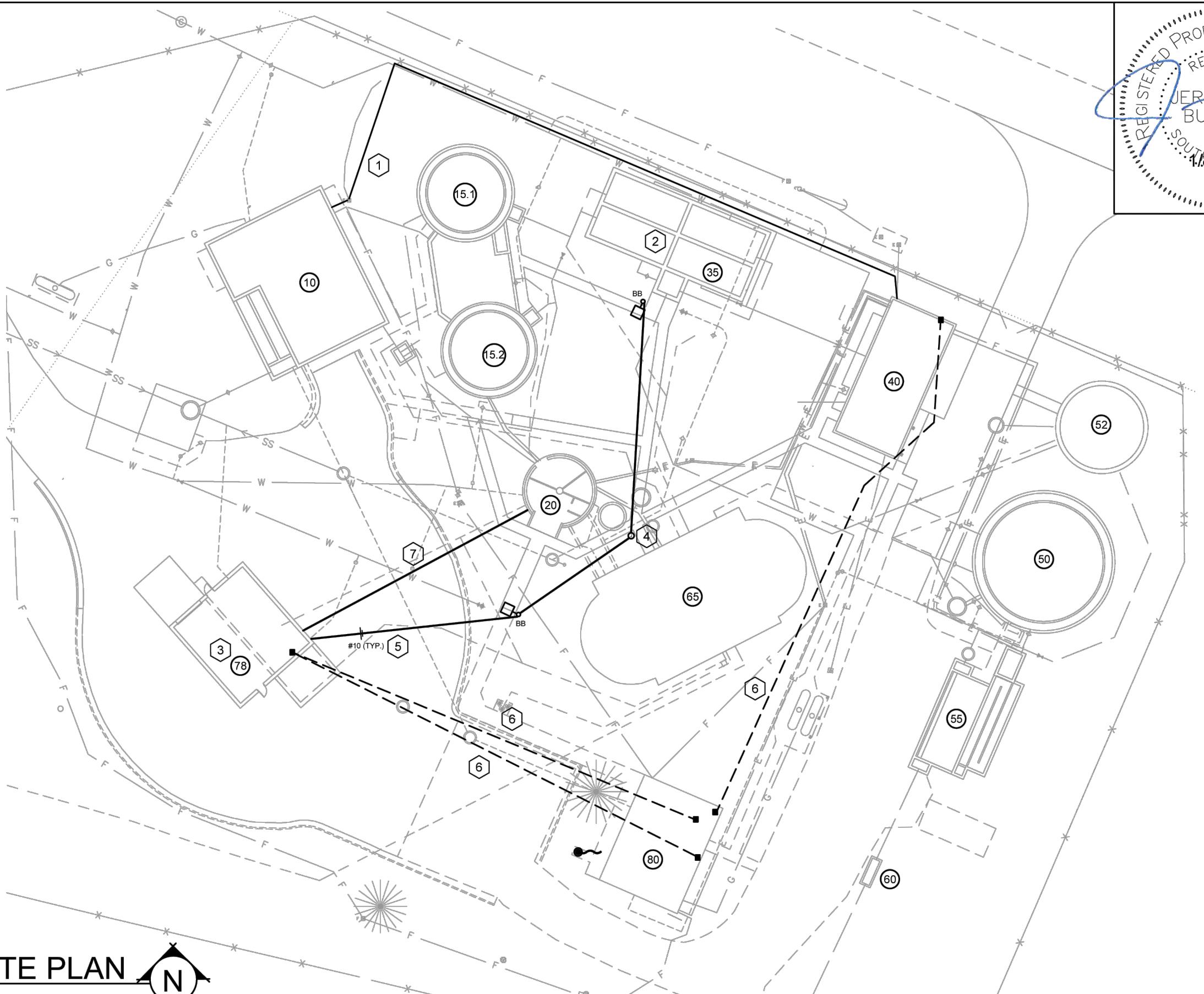
E-101



NOTES: THIS SHEET



1. NEW FEEDER ROUTING TO EXISTING BUILDING. ROUTE FEEDER WITHIN EXISTING FENCE. THIS FEEDER TO BE IN PLACE PRIOR TO REMOVAL AND CONSTRUCTION OF NEW AERATION BASINS. THIS WORK TO BE COMPLETED AFTER AERATION BASIN UNDERGROUND WORK COMPLETION.
2. NEW AERATION BASINS. DURING CONSTRUCTION OF NEW AERATION BASINS, PROVIDE TEMPORARY POWER FEED AROUND CONSTRUCTION AREA TO EXISTING INTAKE BUILDING. NOTE 1 FEEDER TO BE INSTALLED AFTER COMPLETION OF UNDERGROUND AERATION BASINS.
3. NEW SLUDGE DEWATERING BUILDING. SEE E78 SERIES DRAWINGS.
4. IN-GRADE JUNCTION BOX. SEE DETAIL 1/E-103.
5. EXTEND SITE LIGHTING CIRCUIT TO LP1-19 IN BUILDING 78.
6. APPROXIMATE ROUTING FOR NEW FIBER. FIELD VERIFY EXACT ROUTING REQUIRED TO COORDINATE WITH ALL EXISTING AND NEW UNDERGROUND UTILITIES. SEE DETAIL 1/E-105 FOR FIBER REQUIREMENTS.
7. APPROXIMATE ROUTING FOR NEW BUILDING 78 POWER FEED FROM EXISTING BUILDING 20 MCC. SEE BUILDING 78 PLAN SHEETS.



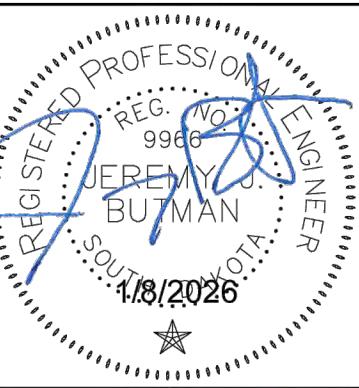
REVISED SITE PLAN



1" = 40'-0"

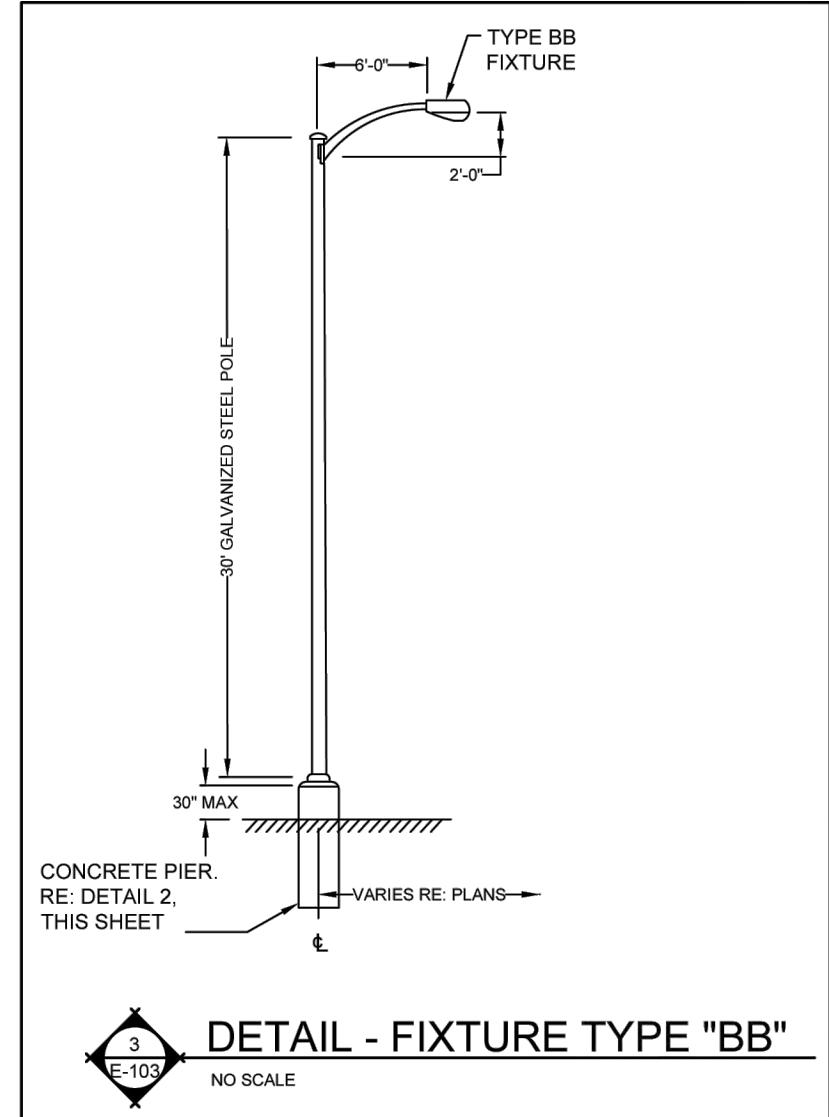
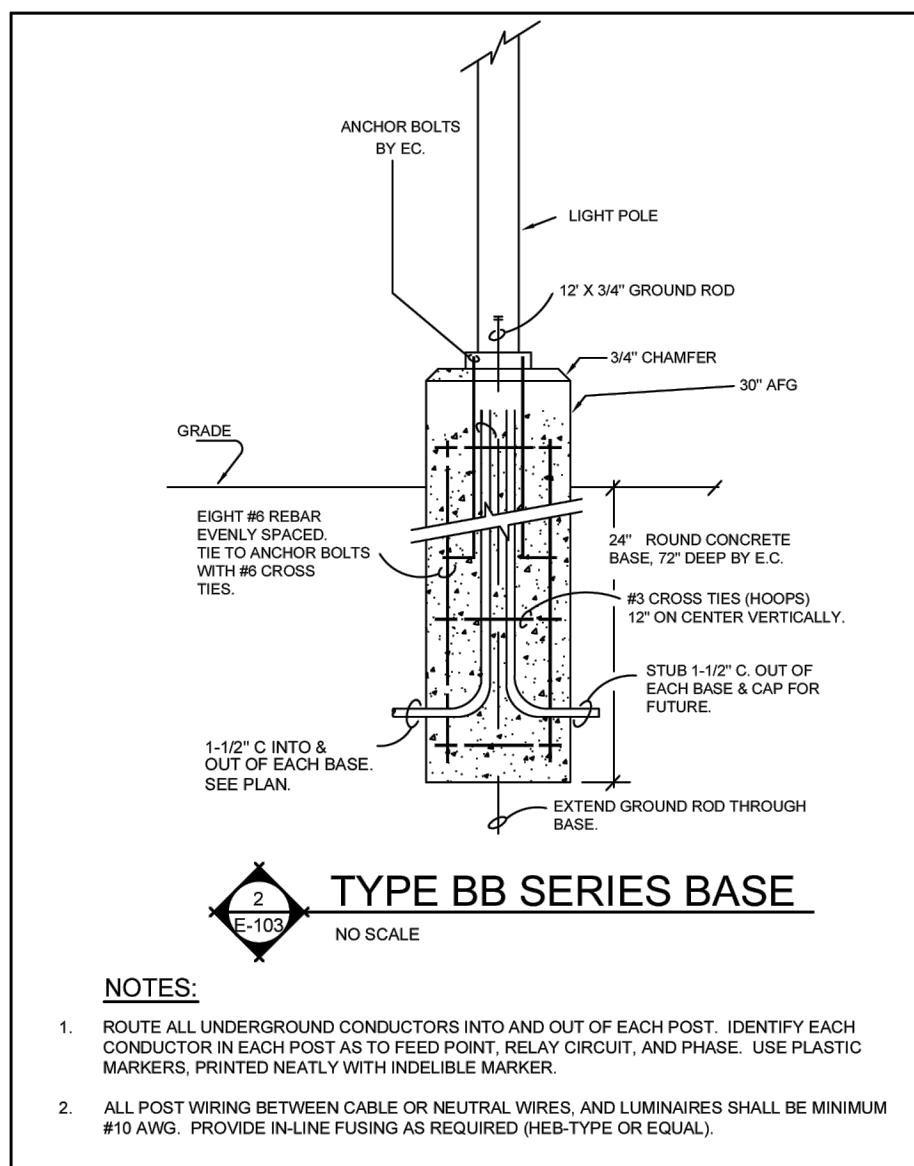
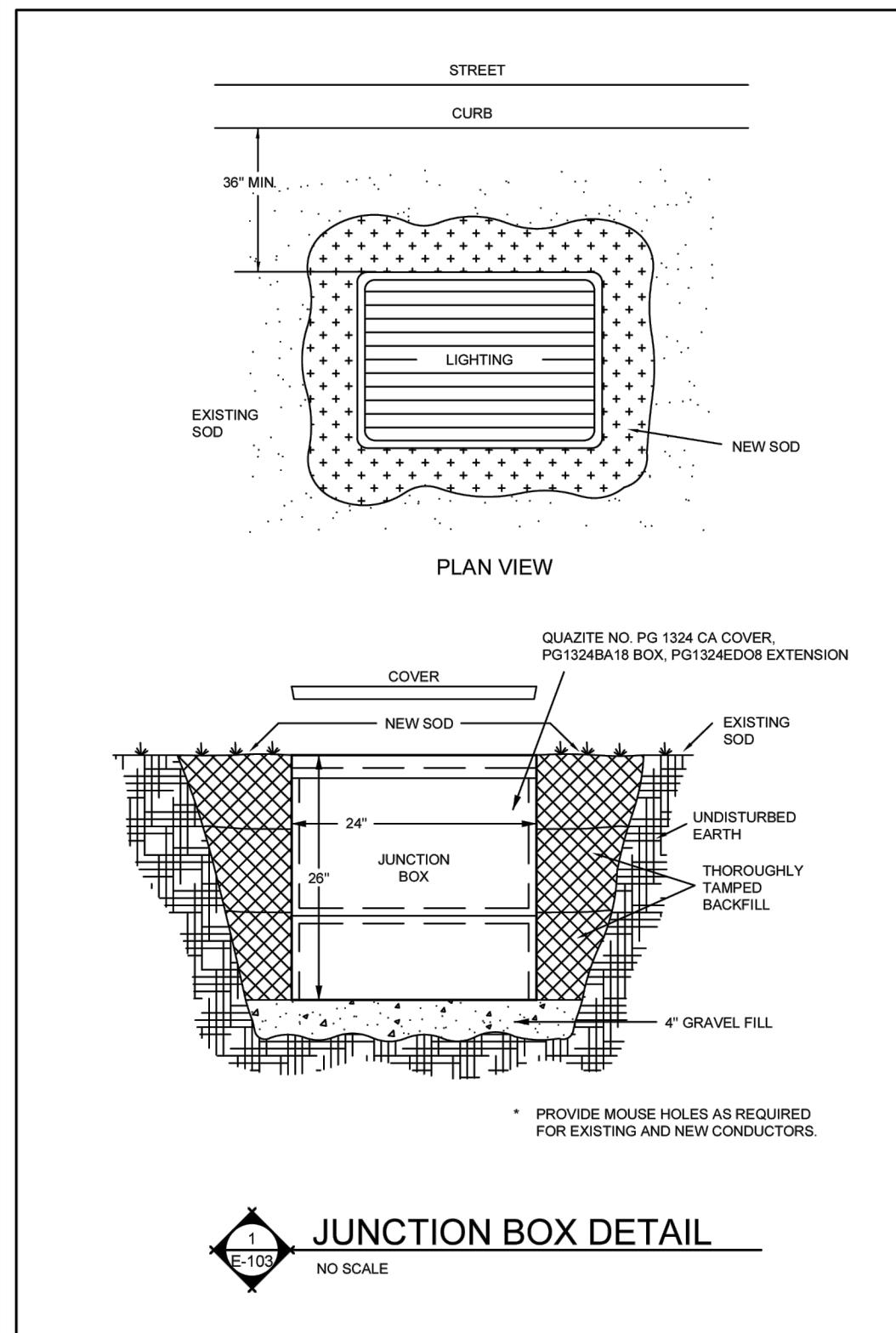
0 20' 40'
Scale in Feet

E-102



ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIIDGE, SOUTH DAKOTA
ELECTRICAL REVISED SITE PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | — |
| REV NUM: | — |
| RECORD: | — |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |



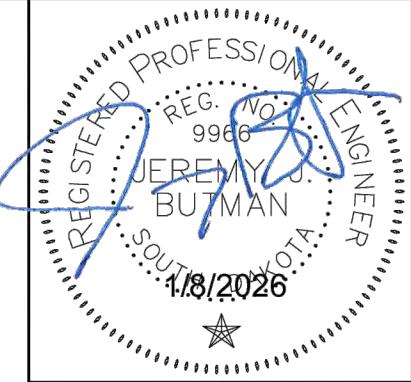
ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA

| | |
|-------------|----------|
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| REV DATE: | --- |
| REV NUM: | --- |
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| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E-103

REGISTERED PROFESSIONAL
ENGINEER
REG. NO.
9966
JEREMY
BUTMAN
SOUTH DAKOTA
1/8/2026

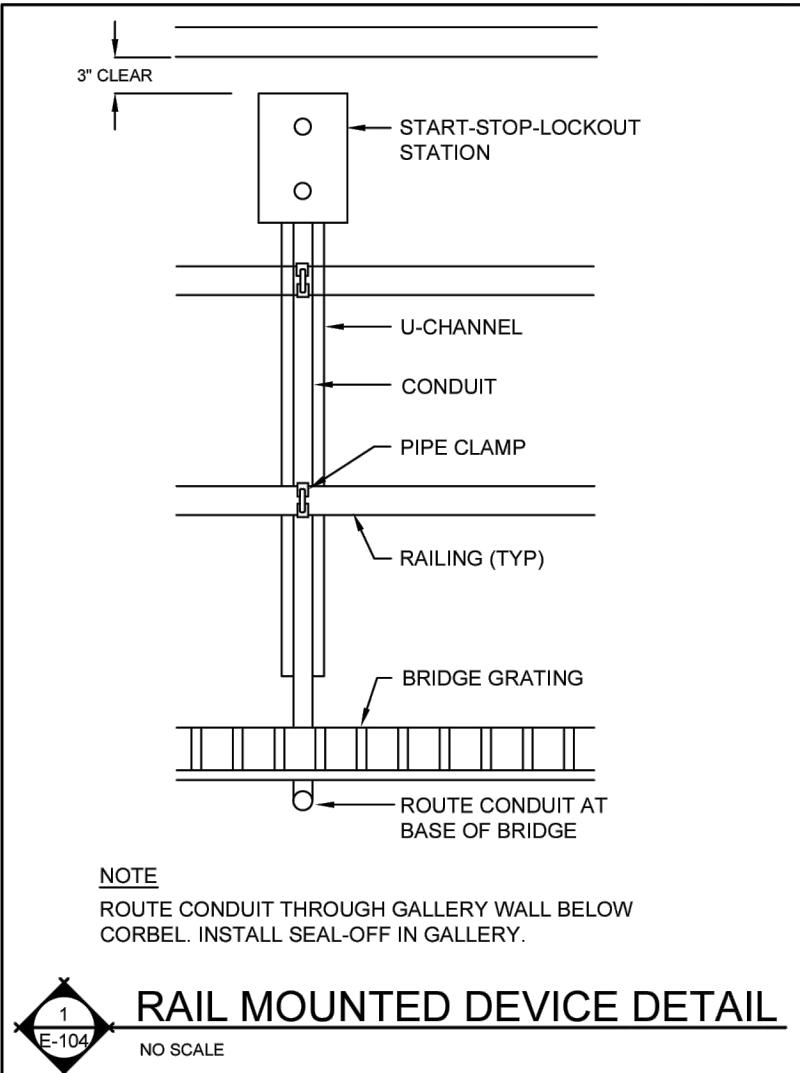
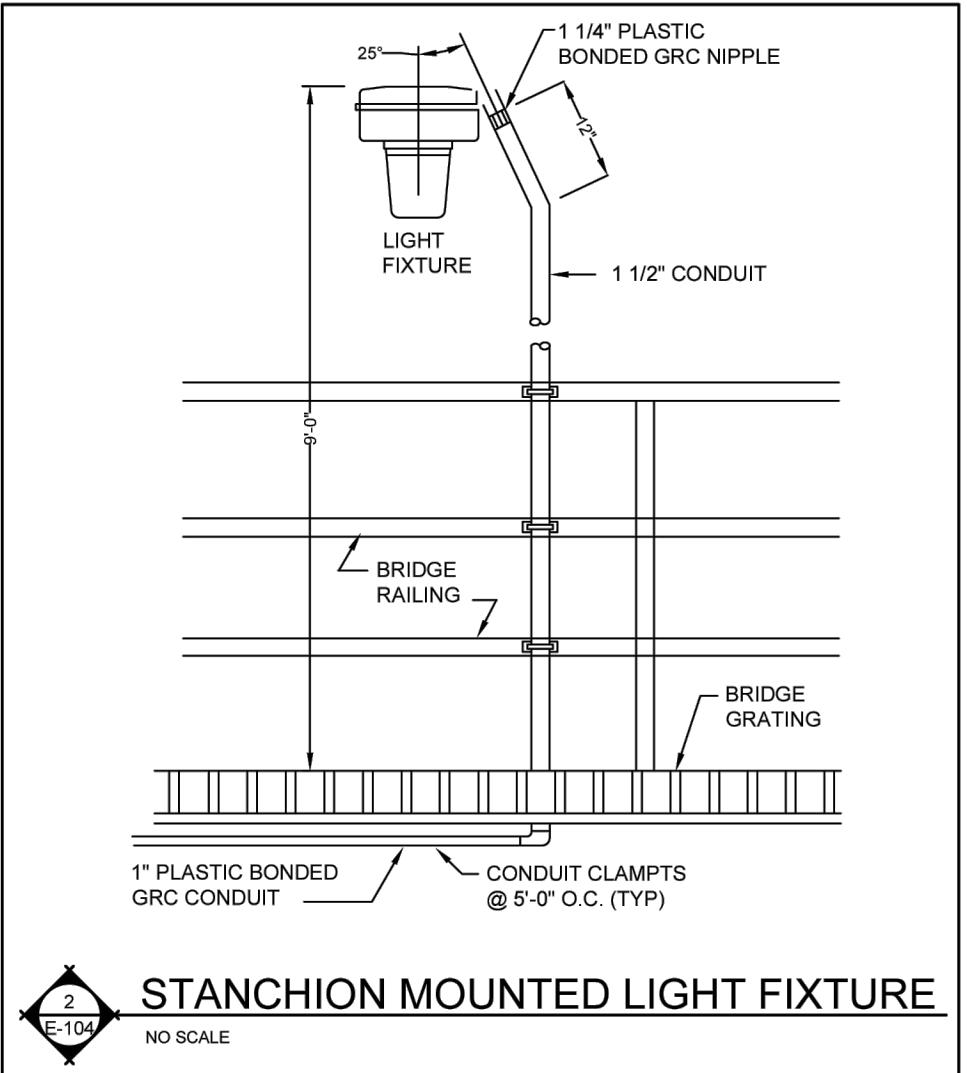
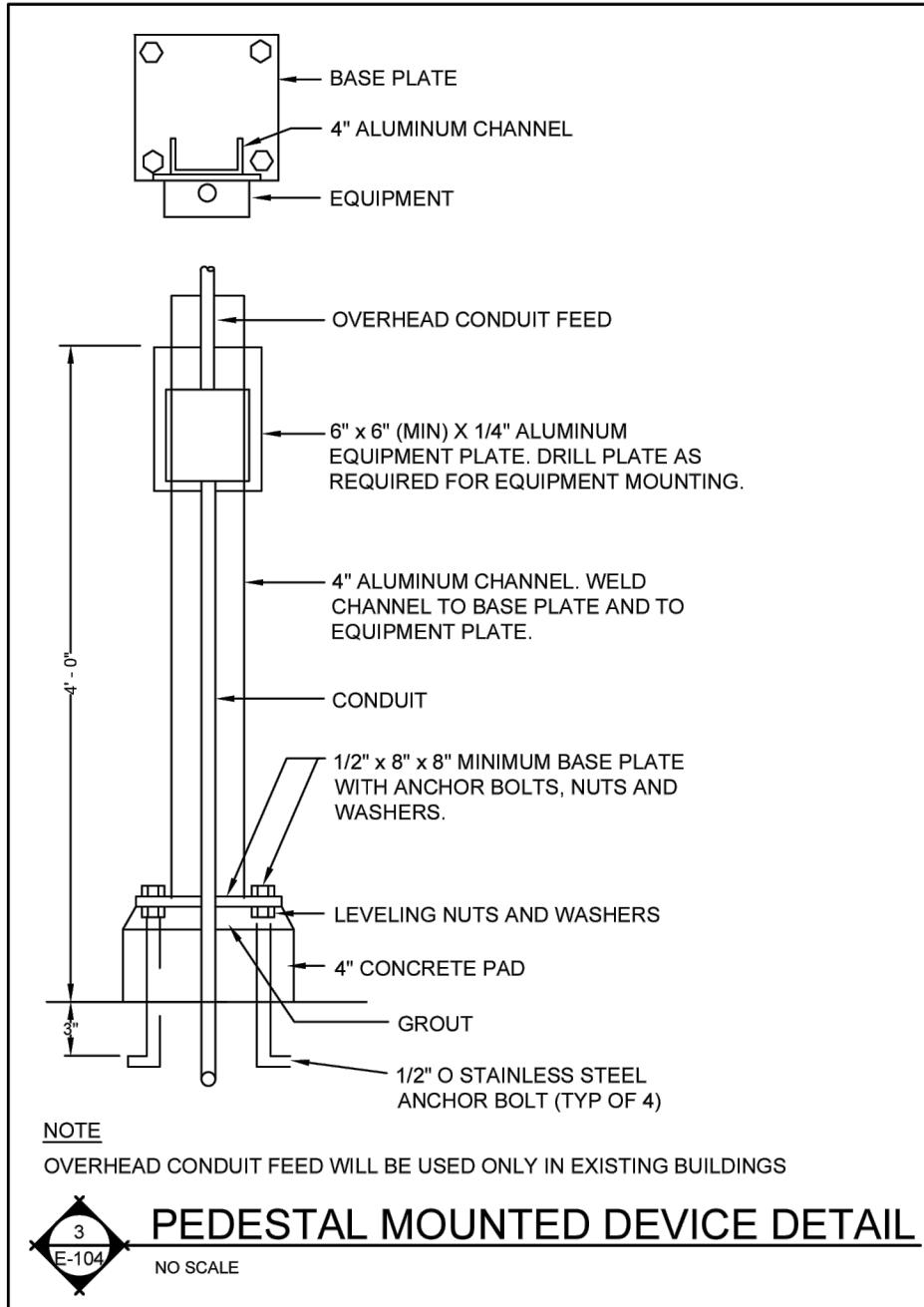
M
moore
engineering, inc.

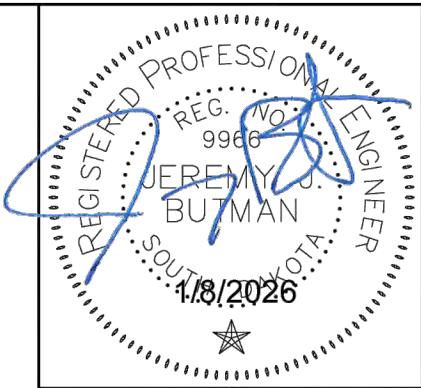
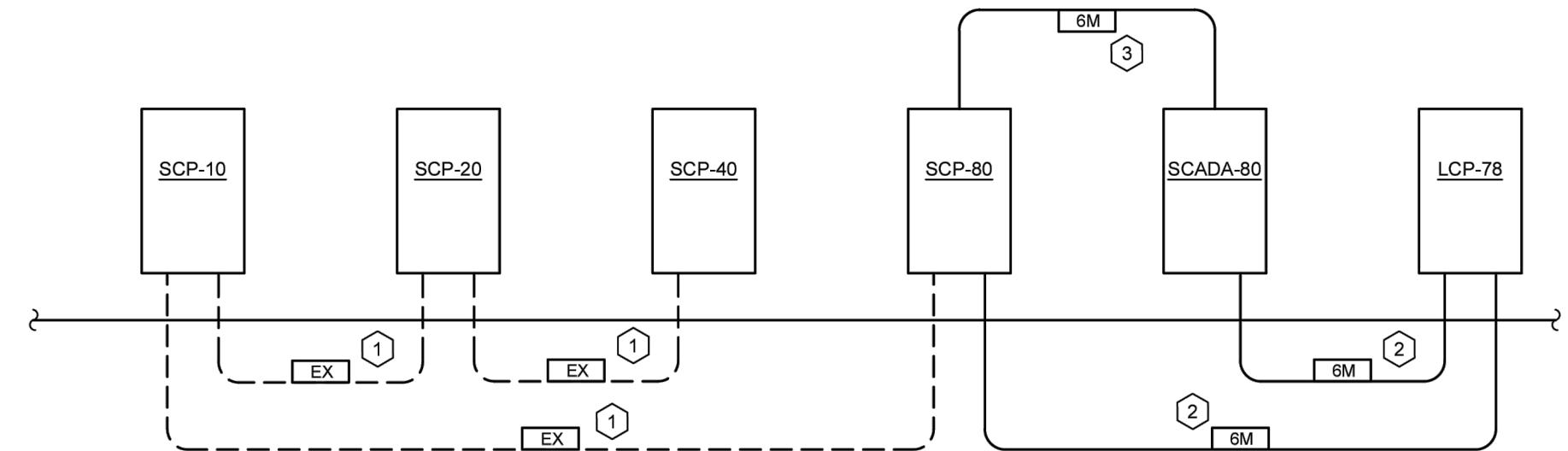


ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
ELECTRICAL DETAILS

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E-104





SCADA FIBER RISER

1
E-105
NO SCALE

FIBER SCHEDULE

| DESIGN-NATION | CONFIGU-RATION | STRANDS REQ'D | CONDUIT |
|------------------------|-----------------------|---------------|---------|
| 6M EX | 50 MICRON MM EXISTING | 6 | 2" |

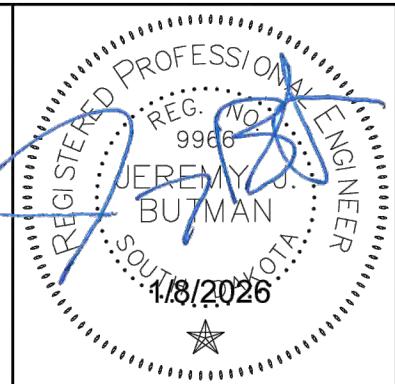
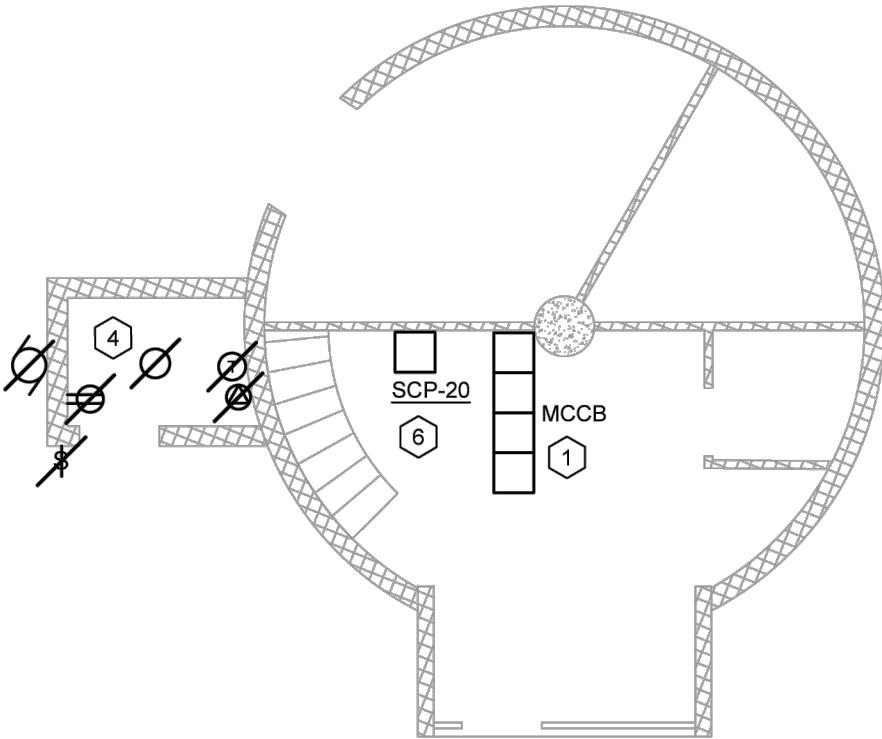
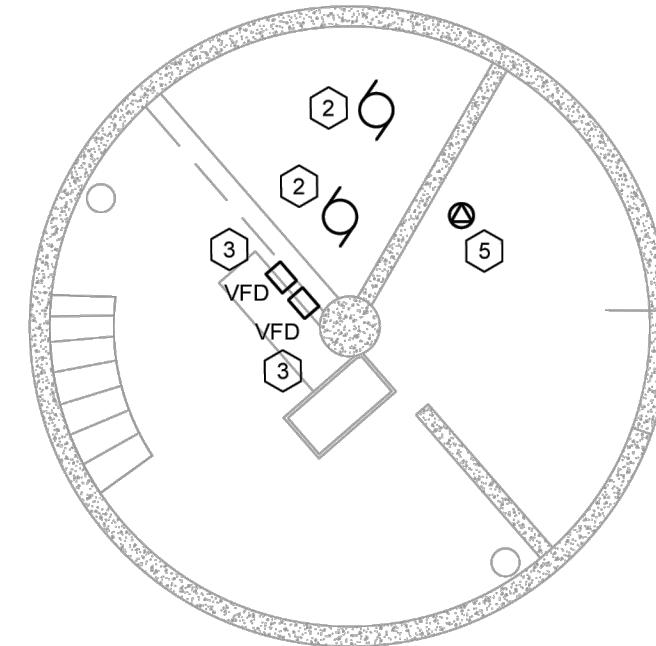
NOTES:

1. EXISTING FIBER TO REMAIN IN PLACE.
2. PROVIDE NEW FIBER INDICATED. SEE DETAIL 1/E-102 FOR APPROXIMATE ROUTING. FIELD VERIFY EXACT ROUTING REQUIRED TO COORDINATE WITH ALL EXISTING AND NEW UNDERGROUND UTILITIES.
3. PROVIDE NEW FIBER BETWEEN EXISTING SYSTEM CONTROL PANEL AND SCADA COMPUTER IN BUILDING AS REQUIRED.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
SCADA SYSTEM FIBER RISER

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM.: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E-105



LOWER LEVEL PLAN

1/8" = 1'-0"

UPPER LEVEL PLAN

1/8" = 1'-0"

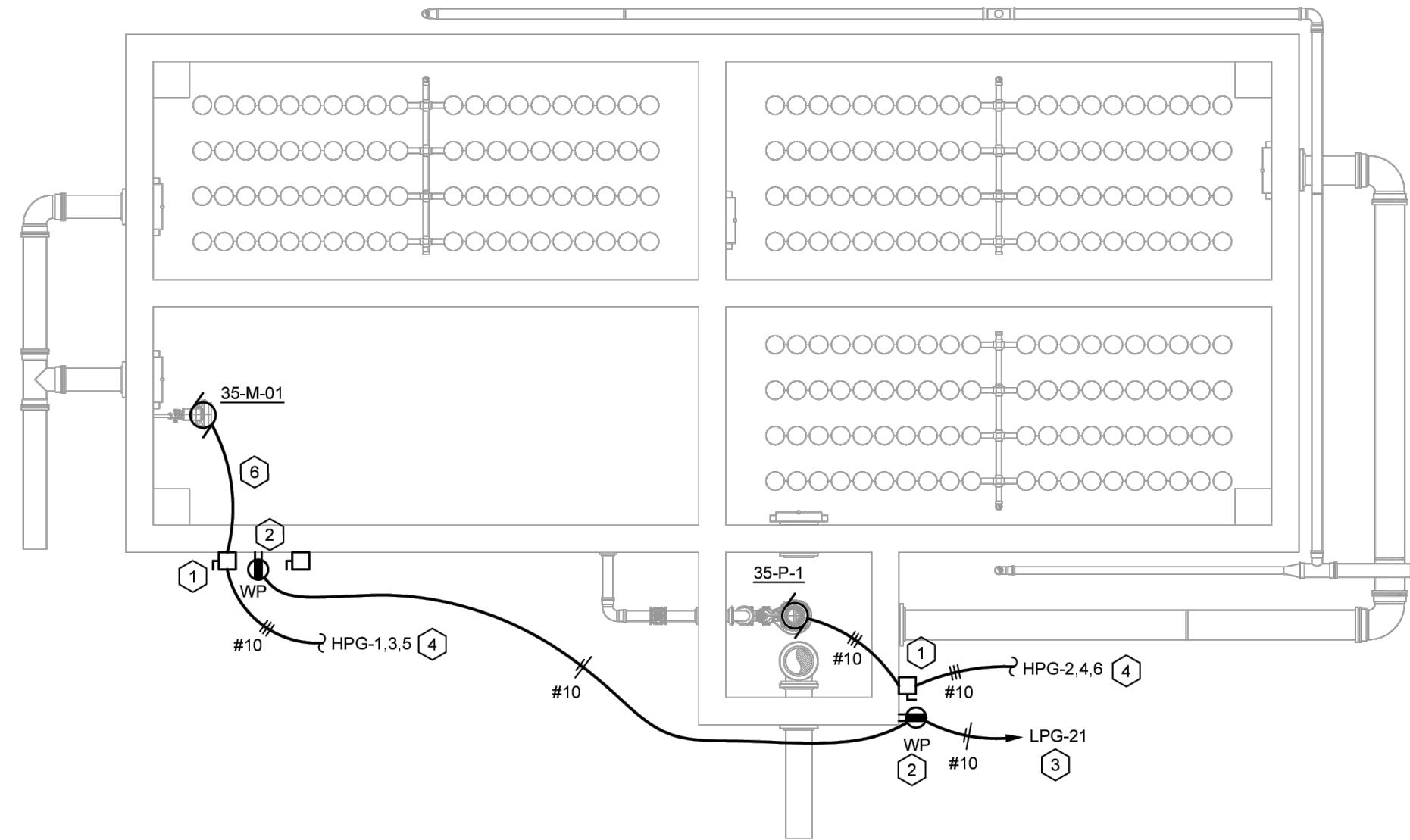
NOTES: THIS SHEET

1. EXISTING GENERAL ELECTRIC 8000 SERIES MCCB AND CONTROL PANEL SCP-20 TO REMAIN IN PLACE. OVERCURRENT PROTECTIVE DEVICES THAT SERVE EQUIPMENT TO BE REMOVED TO BECOME SPARE. PROVIDE NEW 100/3 BREAKER IN MCCB TO SERVE NEW PANEL HP1. SEE BUILDING 78 SERIES SHEETS.
2. DISCONNECT EXISTING PUMP FOR REMOVAL. REMOVE ALL ASSOCIATED CONDUIT AND CIRCUITRY COMPLETE.
3. DISCONNECT AND REMOVE EXISTING VFD. VFD TO BE RELOCATED TO BUILDING 65 FOR NEW BLOWER. SEE SERIES E65 SHEETS.
4. DISCONNECT AND REMOVE THE FOLLOWING EQUIPMENT AND ASSOCIATED CIRCUITRY COMPLETE FOR REMOVAL OF THIS PORTION OF THE BUILDING: EXTERIOR SWITCH, INTERIOR LIGHT, INTERIOR HEATER WITH ASSOCIATED THERMOSTAT AND DISCONNECT, INTERIOR RECEPTACLE, AND EXTERIOR EXHAUST FAN.
5. DISCONNECT EXISTING AIR COMPRESSOR TO BE RELOCATED TO NEW BUILDING 78.
6. EXISTING SYSTEM CONTROL PANEL SCP-20 TO BE REPLACED. SEE SECTION 275100.

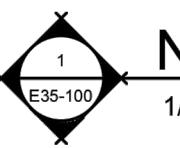
ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BUILDING 20 EXISTING PLANS

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E20-101



NEW AERATION BASIN POWER PLAN



1/8" = 1'-0"

NOTES: THIS SHEET

1. PROVIDE NEMA 4X RATED 30/3 NFDS FOR EQUIPMENT DISCONNECT. LOCATE ABOVE GRADE AND PROVIDE UNI-STRUT STAND FOR MOUNTING OF EQUIPMENT. DISCONNECT TO BE 48" AFG.
2. PROVIDE RECEPTACLE ON UNI-STRUT STAND WITH DISCONNECT. RECEPTACLE TO BE 48" AFG.
3. PROVIDE NEW 20/1 IN EXISTING GE #PN3Q TYPE PANEL IN BUILDING 40. HOMERUN CIRCUITRY MAY BE ROUTED IN SAME CONDUIT AS 35-RP-1 CIRCUITRY.
4. EXTEND HOMERUN CIRCUITRY THROUGH ASSOCIATED COMBINATION STARTER MOUNTED IN BUILDING 40.
5. PROVIDE POWER TO DISSOLVE OXYGEN SENSOR 35-DOS LOCAL TRANSMITTER AS REQUIRED.
6. EXTEND MANUFACTURER'S CABLE TO JUNCTION BOX SHOWN ON DETAIL 1/E35-101. FROM JUNCTION BOX EXTEND POWER CONDUCTORS TO DISCONNECT SWITCH AND CONTROL CONDUCTORS TO CONTROL PANEL AS INDICATED ON DETAIL 1/E35-101.

| BUILDING 78 MOTOR & EQUIPMENT SCHEDULE | | | | | | | | | | |
|--|------------------|-----------------|------|-------|-----------------------------|--------------------|---------------------------|------|-----|------|
| DESIG. | EQUIPMENT SERVED | CHARACTERISTICS | | | DISCONNECT (BY EC) | CONTROLLER (BY EC) | CONTROL INITIATING DEVICE | | | NOTE |
| | | HP | VOLT | PHASE | | | DEVICE | FURN | MTD | |
| 35-M-01 | MIXER | 2.4 | 480 | 3 | WP 30/3 NFDS, NEMA 4X RATED | FVNR, COMB 0 | CONTROL PANEL SCP-40 | EC | EC | 1,2 |
| 35-P-1 | RECYCLE PUMP | 3 | 480 | 3 | WP 30/3 NFDS, NEMA 4X RATED | VFD | CONTROL PANEL SCP-40 | EC | EC | 1,2 |

NOTES:

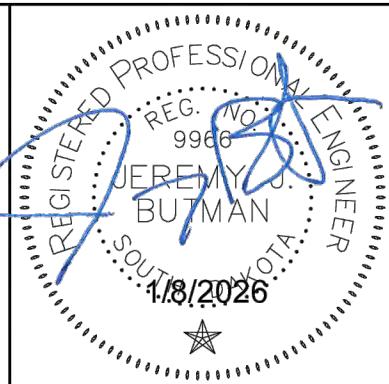
1. SEE DETAIL 2/E78-300 FOR VFD CABLING REQUIREMENTS.
2. STARTERS LOCATED IN BUILDING 40. SEE SERIES E40 SHEET.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
AERATION BASIN 35 POWER PLAN

DATE: 1/8/2026
REV DATE: ---
REV NUM: ---
RECORD: ---

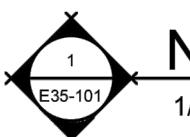
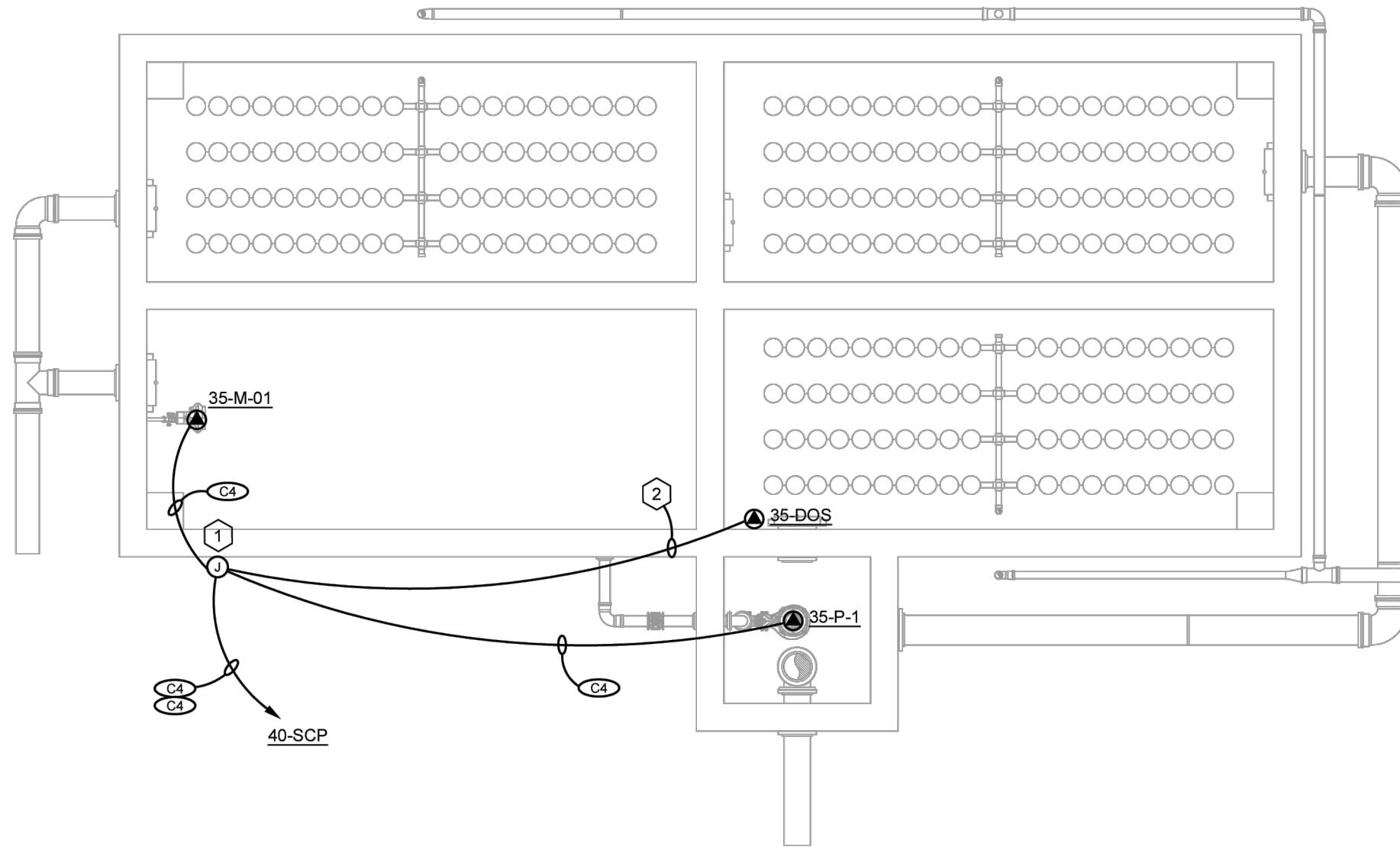
PROJECT No. 25547
MANAGER: JJB
DESIGNER: JJB
DRAFTER: JJB
REVIEWER: JJB

E35-100



| CONTROL & INSTRUMENTATION ABBREVIATIONS | | |
|---|------------------------|------|
| ABR. | DEVICE | NOTE |
| 35-DOS | DISSOLVE OXYGEN SENSOR | 1 |
| 35-HLF | POLYMER FLOWMETER | - |
| 35-LLF | SLUDGE FLOWMETER | - |
| 35-M-01 | AERATION BASIN MIXER | - |

| CONTROL & INSTRUMENTATION WIRING SCHEDULE | | | |
|---|---|--------------|--------------|
| DESIG. | CONDUCTORS/CABLES | QTY | CONDUIT |
| C1A | BELDEN #29528 (#1) VFD CABLE | 1 | 2-1/2" |
| C1B | BELDEN #29527 (#2) VFD CABLE | 1 | 2" |
| C1C | BELDEN #29526 (#4) VFD CABLE | 1 | 2" |
| C1D | BELDEN #29522 (#12) VFD CABLE | 1 | 3/4" |
| C2 | BELDEN #8760 CABLE | 1 | 1/2" |
| C2A | BELDEN #8760 CABLE | 2 | 1/2" |
| C3 | #16 AWG TFFN | 5 | 1/2" |
| C4 | BELDEN #8760 CABLE #16 AWG TFFN | 1 6 | 3/4" |
| C5 | (2) BELDEN #8760 CABLE #16 AWG TFFN | 1 4 | 3/4" |
| C6 | BELDEN #8720 BELDEN #8762 | 1 1 | 1/2" |
| C7 | BELDEN #8760 CABLE #14 AWG THHN | 1 3 | 1/2" |
| C8 | CAT 6 | 1 | 1/2" |
| C9 | CAT 6 | 2 | 3/4" |
| C10 | #12 AWG THHN | 4 | 1/2" |
| C11 | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 1 1 8 | 3/4" |
| C11A | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 2 2 16 | 1-1/2" |
| C12 | BELDEN #8760 CABLE #14 AWG THHN | 2 8 | 1/2" |
| C13 | #12 AWG THHN | 5 | 1/2" |
| C14 | BELDEN #8760 CABLE #16 AWG THHN | 2 12 | 3/4" |
| C15 | BELDEN #1032A CABLE #14 AWG THHN | 1 3 | 3/4" |
| C16 | BELDEN #8760 CABLE #16 AWG TFFN | 1 4 | 1/2" 1/2" |

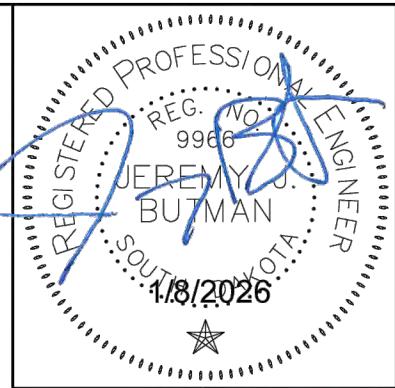


NEW AERATION BASIN SYSTEM PLAN

1/8" = 1'-0"

NOTES: THIS SHEET

1. PROVIDE NEMA 4X JUNCTION BOX ON UNI-STRUT RACK WITH DISCONNECT AND RECEPTACLE, MINIMUM 24" AFG. EXTEND CONTROL CIRCUITRY INDICATED FROM 35-MX TO BUILDING 40 CONTROL PANEL AS INDICATED. CONDUIT FROM JUNCTION BOX TO BUILDING 40 CONTROL PANEL TO BE MINIMUM 1".
2. EXTEND MANUFACTURER'S CABLE TO JUNCTION BOX. EXTEND CIRCUITRY TO NEW TRANSMITTER LOCATION IN BUILDING 40. SEE DETAIL E40-102. VERIFY CABLING REQUIREMENTS WITH MANUFACTURER AND PROVIDE APPROPRIATE CONDUCTORS.



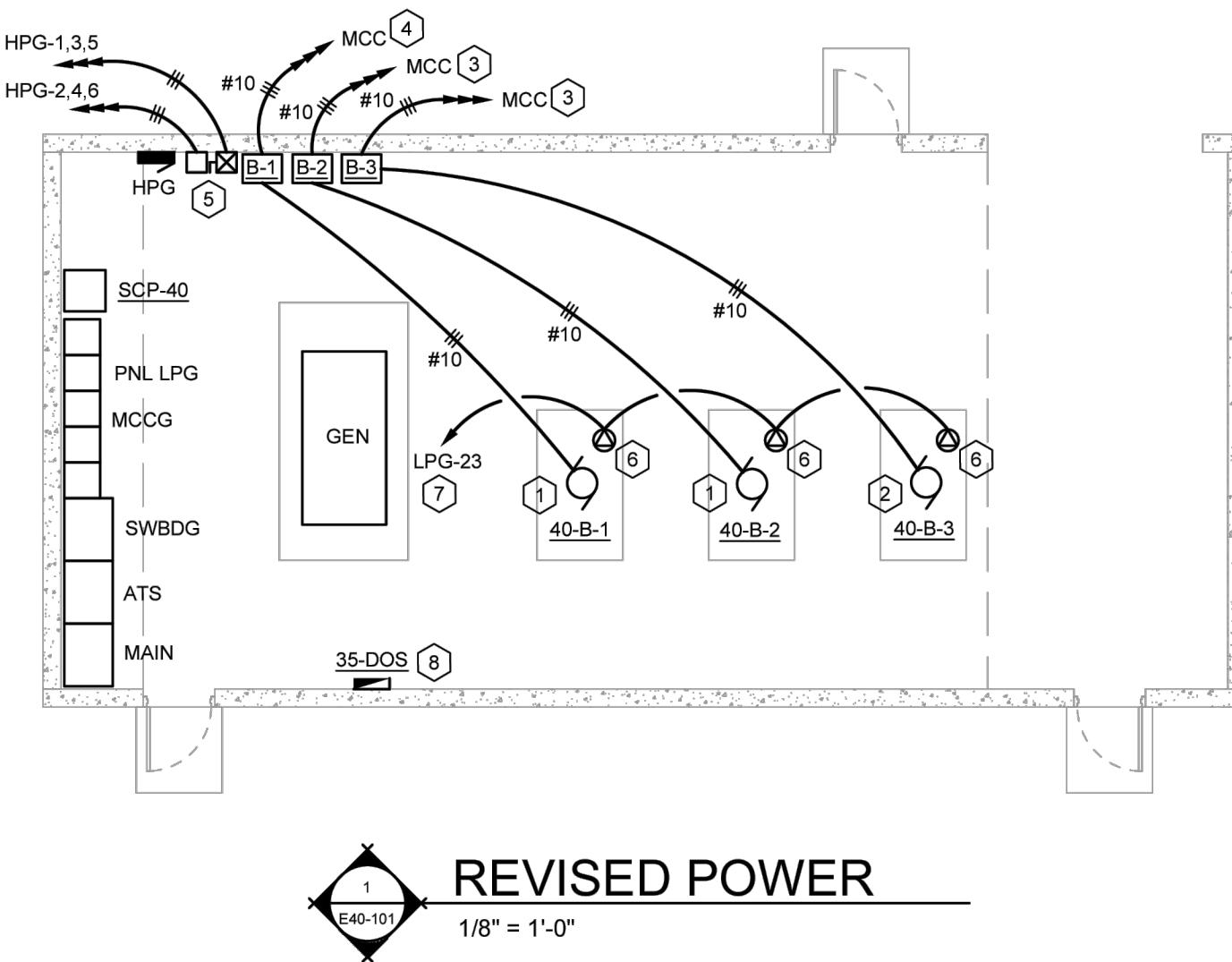
M
moore
engineering, inc.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIIDGE, SOUTH DAKOTA
AERATION BASIN 35 SYSTEM PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E35-101

| PANEL HPG SCHEDULE | | | | | | | | | |
|--|-------|------|-----|---|-----|------|-------|---------------------|--|
| 277/480 VOLTS 3Ø 4W 225 AMP MLO SURFACE MOUNTED EATON POW-R-LINE SERIES OR EQUIVALENT | | | | | | | | | |
| CIRCUIT DESCRIPTION | POLES | AMPS | CKT | Ø | CKT | AMPS | POLES | CIRCUIT DESCRIPTION | |
| 35-M-01 | 3 | 20 | 1 | A | 2 | 20 | 3 | 35-RP-1 | |
| | - | - | 3 | B | 4 | - | - | | |
| SPARE | 3 | 40 | 7 | A | 8 | 20 | 3 | SPARE | |
| | - | - | 5 | C | 6 | - | - | | |
| SPARE | 3 | 40 | 9 | B | 10 | - | - | SPARE | |
| | - | - | 11 | C | 12 | - | - | | |
| SPARE | 3 | 40 | 13 | A | 14 | 20 | 3 | SPARE | |
| | - | - | 15 | B | 16 | - | - | | |
| SPARE | 3 | 40 | 17 | C | 18 | - | - | SPARE | |
| | - | - | 19 | A | 20 | 20 | 3 | SPARE | |
| SPARE | 3 | 40 | 21 | B | 22 | - | - | SPARE | |
| | - | - | 23 | C | 24 | - | - | | |
| SPARE | 3 | 30 | 25 | A | 26 | 70 | 3 | SPARE | |
| | - | - | 27 | B | 28 | - | - | | |
| SPARE | 3 | 20 | 29 | C | 30 | - | - | SPARE | |
| SPARE | 3 | 20 | 19 | A | 20 | 20 | 3 | SPARE | |
| | - | - | 21 | B | 22 | - | - | | |
| SPARE | 3 | 20 | 23 | C | 24 | - | - | SPARE | |
| SPARE | 1 | 20 | 25 | A | 26 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 27 | B | 28 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 29 | C | 30 | 20 | 1 | SPARE | |



NOTES: THIS SHEET



1. DISCONNECT EXISTING 25 HP BLOWER IN THIS LOCATION FOR REMOVAL. PROVIDE CIRCUITRY TO NEW 20 HP BLOWER FROM NEW VFD AS SHOWN.
2. PROVIDE CIRCUITRY TO NEW 20 HP BLOWER FROM NEW VFD AS SHOWN.
3. PROVIDE NEW CIRCUITRY TO EXISTING MCC. REMOVE EXISTING BLOWER BUCKET AND PROVIDE NEW 30/3 BREAKER BUCKET TO SERVE NEW BLOWER.
4. REMOVE EXISTING SPACE IN EXISTING MCC FOR FUTURE BLOWER AND PROVIDE NEW 30/3 BREAKER BUCKET TO SERVE NEW BLOWER.
5. STARTERS FOR AERATION BASIN EQUIPMENT. SEE SHEET E35-100.
6. PROVIDE POWER CONNECTION FOR BLOWER HOUSING FAN. COORDINATE EXACT REQUIREMENTS FOR CONNECTION ON SITE.
7. PROVIDE NEW 20/1 IN EXISTING GE #PN3Q TYPE PANEL FOR NEW LOAD.
8. REPLACE EXISTING DISSOLVE OXYGEN TRANSMITTER WITH NEW. FIELD VERIFY EXACT LOCATION OF EXISTING EQUIPMENT AND MOUNT NEW EQUIPMENT ADJACENT TO EXISTING. EXTEND EXISTING 120-VOLT POWER FROM EXISTING TRANSMITTER TO NEW.

| BUILDING 78 MOTOR & EQUIPMENT SCHEDULE | | | | | | | | | | |
|--|------------------|-----------------|------|-------|-----------------------|--------------------|---------------------------|------|-----|------|
| DESIG. | EQUIPMENT SERVED | CHARACTERISTICS | | | DISCONNECT (BY EC) | CONTROLLER (BY EC) | CONTROL INITIATING DEVICE | | | NOTE |
| | | HP | VOLT | PHASE | | | DEVICE | FURN | MTD | |
| 40-B-1 | BLOWER #1 | 20 | 480 | 3 | INCLUDED WITH STARTER | VFD | CONTROL PANEL SCP-40 | EC | EC | 1 |
| 40-B-2 | BLOWER #2 | 20 | 480 | 3 | INCLUDED WITH STARTER | VFD | CONTROL PANEL SCP-40 | EC | EC | 1 |
| 40-B-3 | BLOWER #3 | 20 | 480 | 3 | INCLUDED WITH STARTER | VFD | CONTROL PANEL SCP-40 | EC | EC | 1 |

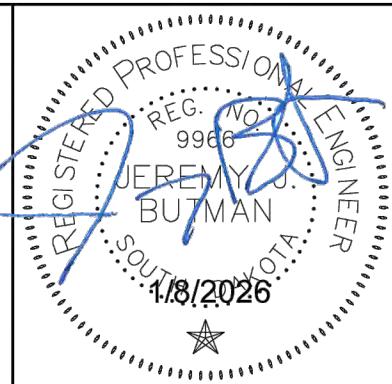
NOTES:

1. SEE DETAIL 2/E78-300 FOR VFD CABLING REQUIREMENTS.

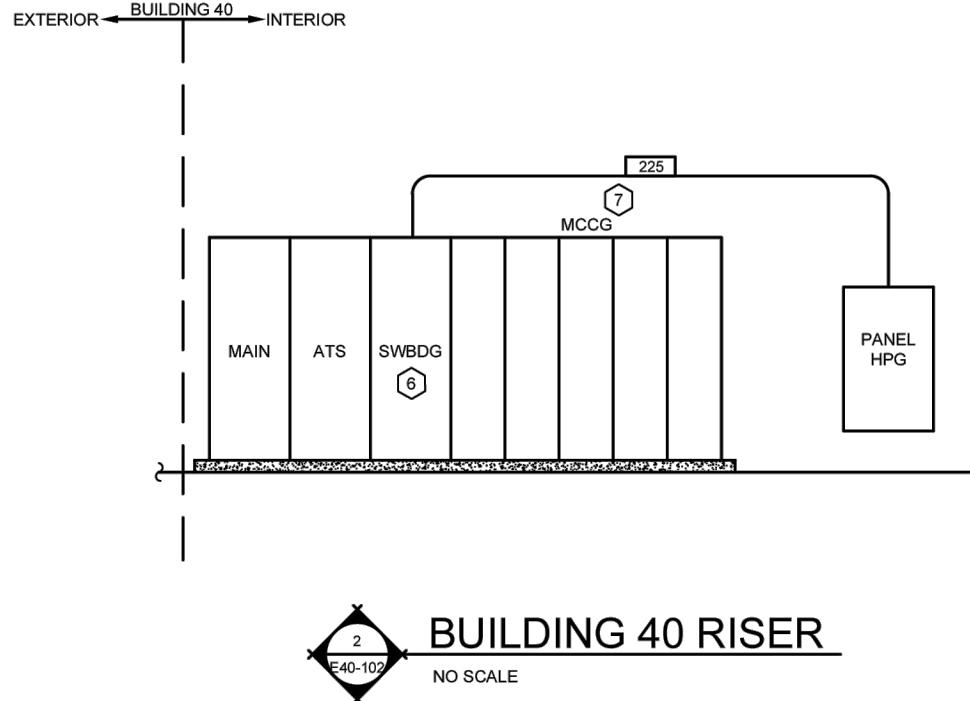
ELECTRICAL PLANS
 WASTEWATER TREATMENT FACILITY UPGRADES
 MOBRIDGE, SOUTH DAKOTA
 BUILDING 40 REVISED POWER PLAN

DATE: 1/8/2026
 REV DATE: ---
 REV NUM: ---
 RECORD: ---
 PROJECT No. 25547
 MANAGER: JJB
 DESIGNER: JJB
 DRAFTER: JJB
 REVIEWER: JJB

E40-101




 moore
 engineering, inc.

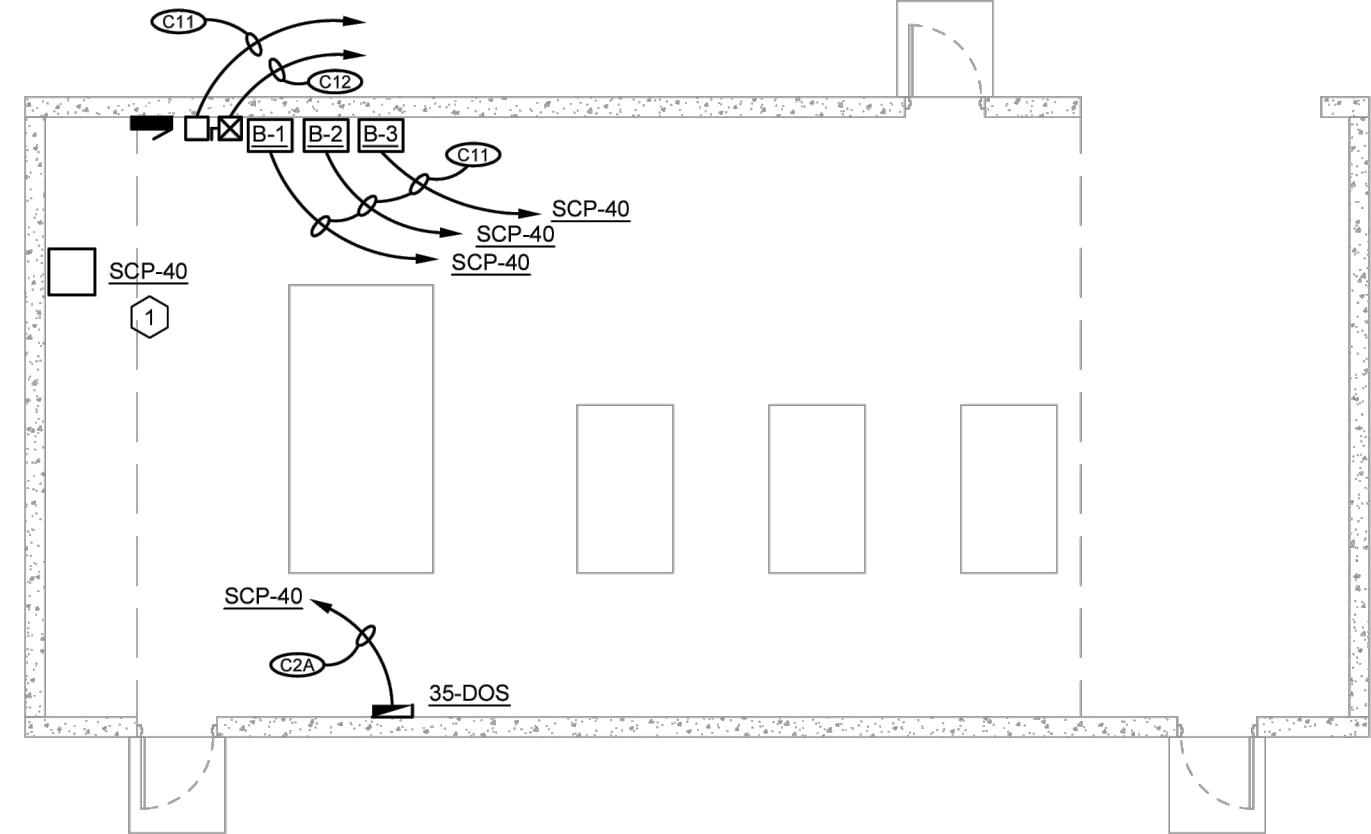


FEEDER SCHEDULE

| DESIGN-NATION | CONFIGURATION | REQUIRED AMPACITY | CONDUCTOR SIZE (NOTE 3) | | | CONDUIT |
|---------------|---------------|-------------------|-------------------------|---------|--------------|---------|
| | | | PHASE | NEUTRAL | EGC (NOTE 4) | |
| 225 | 3Ø 4W | 225 | #4/0 | #4/0 | #4 | 2" |

NOTES:

1. FEEDER RISERS ARE SCHEMATIC ONLY, AND NOT INTENDED TO INFER LUG ARRANGEMENTS.
2. SEE SPECIFICATION FOR GROUNDING REQUIREMENTS, ALLOWABLE PVC USAGE, AND ALLOWABLE EXPOSED EXTERIOR STUB-UPS.
3. CONDUCTORS SIZING BASED UPON 60 DEGREE TERMINATION'S FOR OVERCURRENT PROTECTIVE DEVICES RATED 100 AMPERES OR LESS, AND 75 DEGREE TERMINATION'S FOR RATINGS GREATER THAN 100 AMPERES, AS PER NEC TABLE 310.16, 240.4, 310.15(B2), AND 310.15(B4). IN NO CASE SHALL INDICATED SIZING BE DECREASED.
4. EQUIPMENT GROUNDING CONDUCTOR.
5. NEW PANEL HPG SHALL HAVE AN AIC RATING OF 35,000 AMPERES. SERIES RATINGS FOR ELECTRICAL GEAR DOWNSTREAM OF PANEL HPG MAY BE SERIES RATED.
6. EXISTING GENERAL ELECTRIC GEAR SWBDG. PROVIDE ONE 225/3 GE TJJ-LINE CIRCUIT BREAKER IN EXISTING SWBDG TO SERVE NEW PANEL HPG.

**REVISED CONTROLS**

1/8" = 1'-0"

NOTES: THIS SHEET

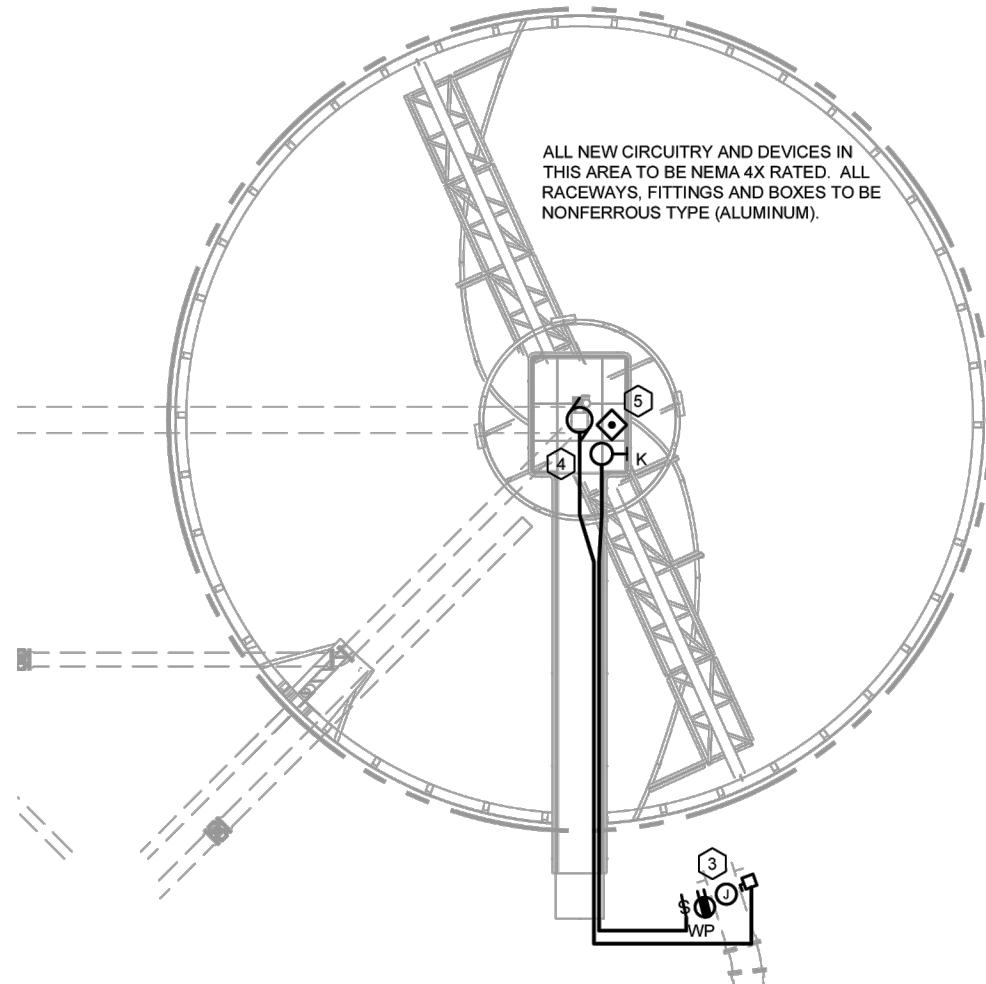
1. EXISTING LOCAL SYSTEM CONTROL PANEL SCP-40 IN EXISTING BUILDING. PANEL TO REMAIN IN PLACE AND BE MODIFIED FOR CONTROL OF NEW EQUIPMENT AS SHOWN.

| CONTROL & INSTRUMENTATION WIRING SCHEDULE | | | |
|---|---|--------------|--------------|
| DESIG. | CONDUCTORS/CABLES | QTY | CONDUIT |
| C1A | BELDEN #29528 (#1) VFD CABLE | 1 | 2-1/2" |
| C1B | BELDEN #29527 (#2) VFD CABLE | 1 | 2" |
| C1C | BELDEN #29526 (#4) VFD CABLE | 1 | 2" |
| C1D | BELDEN #29522 (#12) VFD CABLE | 1 | 3/4" |
| C2 | BELDEN #8760 CABLE | 1 | 1/2" |
| C2A | BELDEN #8760 CABLE | 2 | 1/2" |
| C2B | BELDEN #8760 CABLE | 3 | 1/2" |
| C3 | #16 AWG TFFN | 5 | 3/4" |
| C4 | BELDEN #8760 CABLE #16 AWG TFFN | 1 6 | 3/4" |
| C5 | (2) BELDEN #8760 CABLE #16 AWG TFFN | 1 4 | 3/4" |
| C6 | BELDEN #8720 BELDEN #8762 | 1 1 | 1/2" |
| C7 | BELDEN #8760 CABLE #14 AWG THHN | 2 3 | 1/2" |
| C8 | CAT 6 | 1 | 1/2" |
| C9 | CAT 6 | 2 | 3/4" |
| C10 | #12 AWG THHN | 4 | 1/2" |
| C11 | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 1 1 8 | 3/4" |
| C11A | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 2 2 16 | 2" |
| C12 | BELDEN #8760 CABLE #14 AWG THHN | 2 8 | 1/2" |
| C13 | #12 AWG THHN | 5 | 1/2" |
| C14 | BELDEN #8760 CABLE #16 AWG THHN | 2 12 | 3/4" |
| C15 | BELDEN #1032A CABLE #14 AWG THHN | 1 3 | 3/4" |
| C16 | BELDEN #8760 CABLE #16 AWG TFFN | 1 4 | 1/2" 1/2" |

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BUILDING 40 REVISED CONTROLS PLAN

DATE: 1/8/2026
REV DATE: ---
REV NUM: ---
RECORD: ---
PROJECT No. 25547
MANAGER: JJB
DESIGNER: JJB
DRAFTER: JJB
REVIEWER: JJB

E40-102

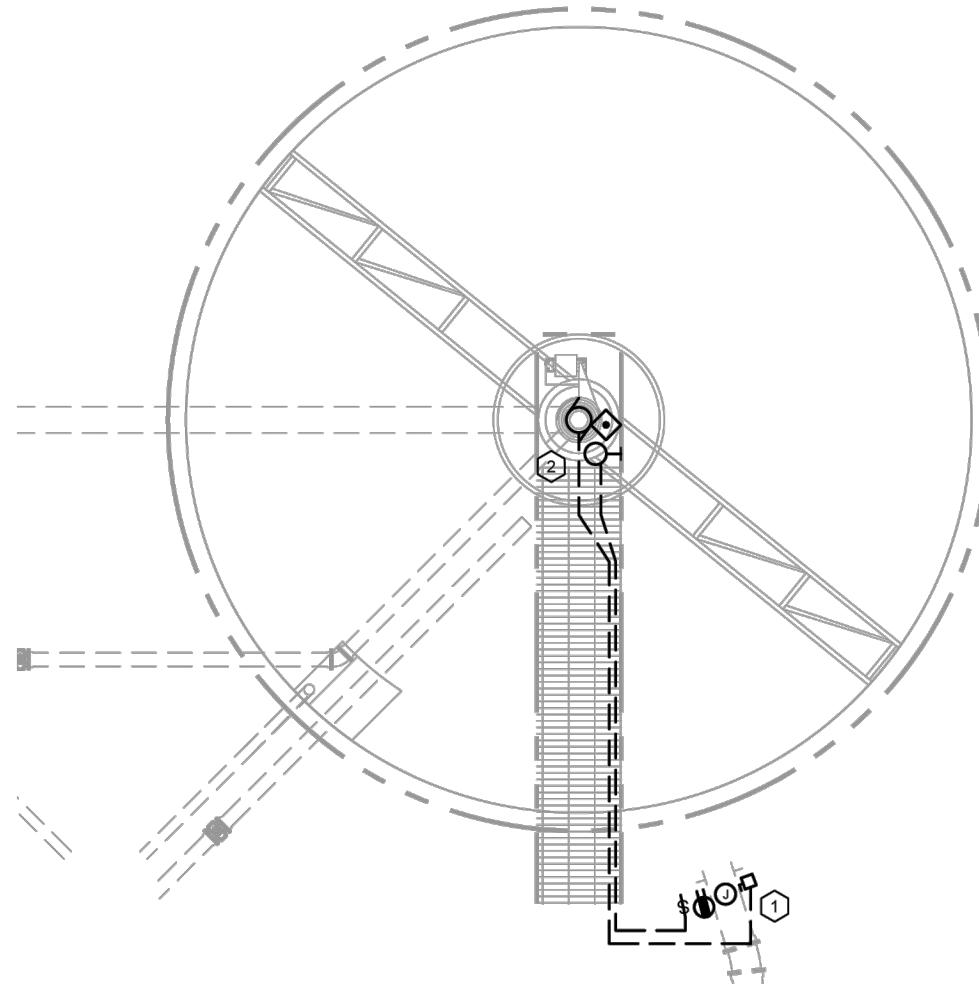


REVISED PLAN

3/32" = 1'-0"

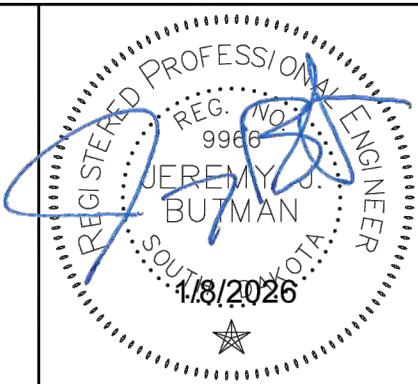
NOTES: THIS SHEET

1. REMOVE EXISTING JUNCTION BOX, DISCONNECT SWITCH, RECEPTACLE, LIGHTING CONTROL SWITCH AND ALL ASSOCIATED CIRCUITRY INTO CLARIFIER. EXISTING POWER FEED TO CLARIFIER TO REMAIN. COORDINATE REMOVALS WITH TANK COVER REMOVAL.
2. DISCONNECT EXISTING MOTOR FOR REMOVAL. REMOVE EXISTING LUMINAIRE AND CONTROL STATION FOR REPLACEMENT.
3. PROVIDE NEW JUNCTION BOX FOR EXISTING POWER FEED. EXTEND NEW CIRCUITRY TO NEW WP 30/3 NFDS. EXTEND POWER CIRCUITRY DISCONNECT TO NEW MOTOR, AND FROM DISCONNECT TO NEW RECEPTACLE AND NEW LUMINAIRE CONTROL SWITCH. ALL NEW CIRCUITRY SHALL BE #10 AWG CONDUCTORS IN MINIMUM 3/4" CONDUIT. ROUTE CIRCUITRY AT BASE OF BRIDGE RAILING TO CENTER PIVOT AREA. SEE DETAILS ON SHEET E-104.
4. PROVIDE NEW CONTROL STATION AND LUMINAIRE. RAIL MOUNT DEVICES SIMILAR TO EXISTING. EXTEND CIRCUITRY TO MOTOR FROM NEW DISCONNECT AS REQUIRED. EXTEND (3) #14 AWG CONDUCTORS IN SEPARATE 3/4" CONDUIT TO NEW NOTE 3 JUNCTION BOX FOR CONTROLS AND RECONNECT. SEE DETAILS ON SHEET E-104.
5. CONTROL STATION TO BE ALLEN 800H-2HXX SERIES STAINLESS STEEL 2-BUTTON CONTROL STATION WITH ONE MAINTAINED CONTACT BUTTON FOR MOTOR CONTROL DISCONNECT AND ONE ROTARY SWITCH WITH LOCKING MEANS, SIMILAR TO EXISTING, OR EQUIVALENT.



EXISTING PLAN

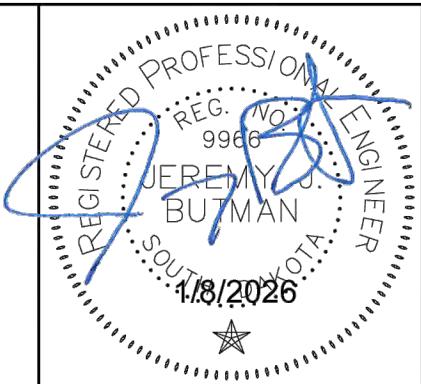
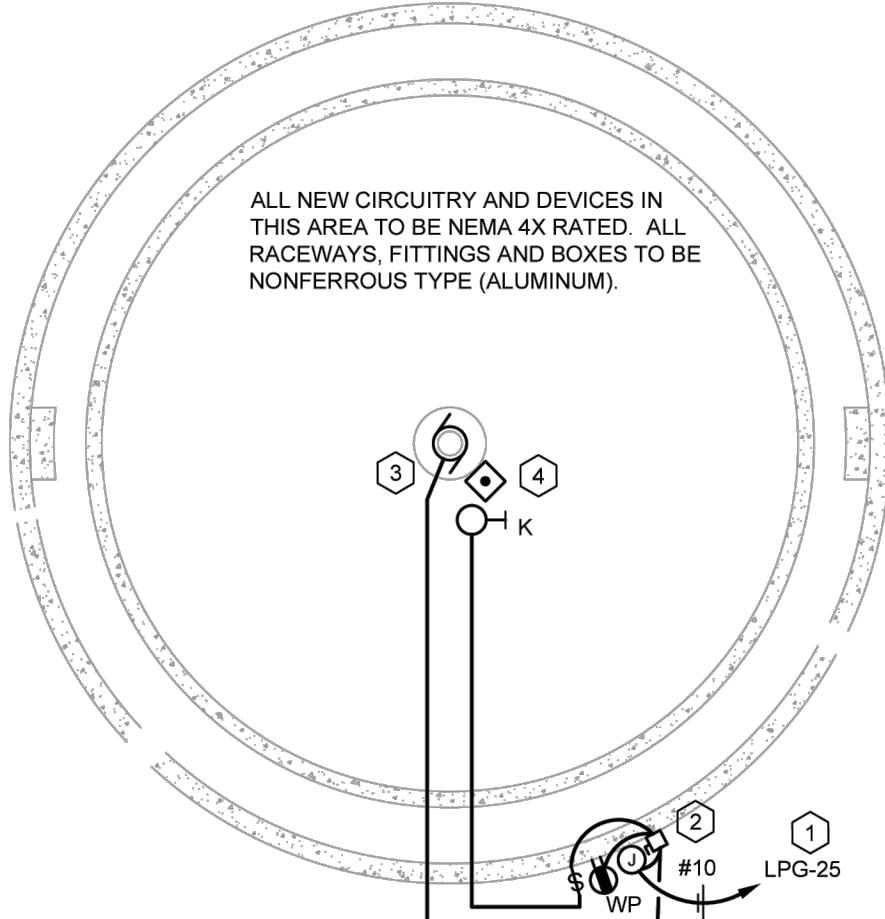
3/32" = 1'-0"



ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BUILDING 50 EXISTING CLARIFIER PLANS

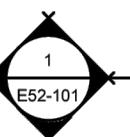
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|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E50-101



ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BUILDING 52 NEW CLARIFIER PLAN

NEW CLARIFIER



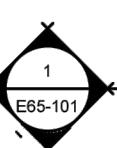
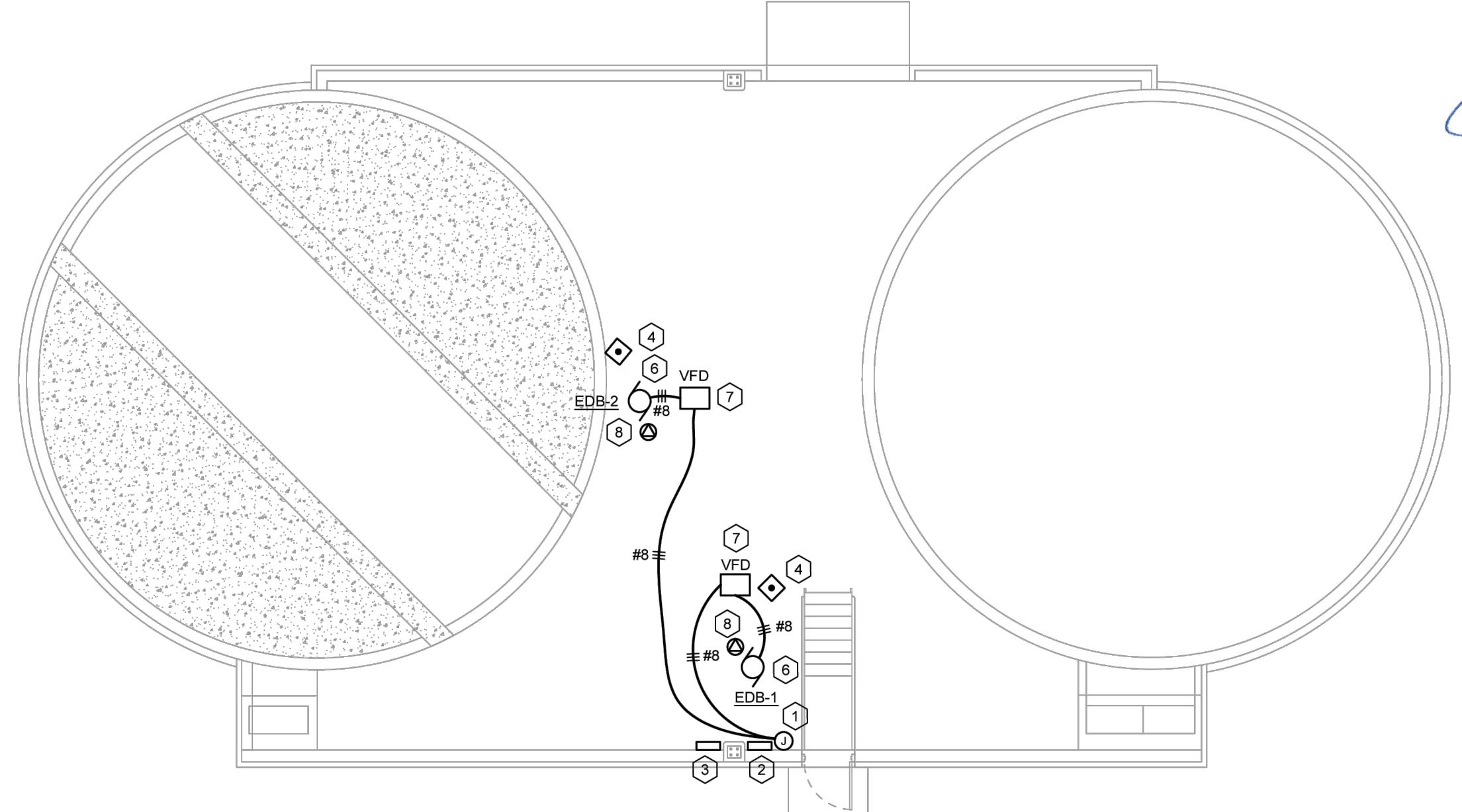
NOTES: THIS SHEET



1. PROVIDE NEW 20/1 IN EXISTING PANEL LPG (GE #PN3Q TYPE PANEL) IN BUILDING 40 FOR NEW LOAD.
2. PROVIDE NEW JUNCTION BOX TO EXTEND NEW POWER FEED FROM PANEL LPG. EXTEND POWER CIRCUITRY FROM DISCONNECT TO NEW MOTOR, AND FROM DISCONNECT TO NEW RECEPTACLE AND NEW LUMINAIRE CONTROL SWITCH. ALL NEW CIRCUITRY SHALL BE #10 AWG CONDUCTORS IN MINIMUM 3/4" CONDUIT. ROUTE CIRCUITRY AT BASE OF BRIDGE RAILING TO CENTER PIVOT AREA, SIMILAR TO EXISTING CLARIFIER.
3. PROVIDE CONTROL STATION AND LUMINAIRE AS INDICATED. RAIL MOUNT DEVICES SIMILAR TO EXISTING CLARIFIER. EXTEND (3) #14 AWG CONDUCTORS IN SEPARATE 3/4" CONDUIT TO NOTE 2 JUNCTION BOX FOR CONTROLS. EXTEND (3) #14 CONDUCTORS FROM NOTE 2 JUNCTION BOX TO SCP IN BUILDING 40 TO MONITOR TORQUE SWITCHES.
4. CONTROL STATION TO BE ALLEN 800H-2HXX SERIES STAINLESS STEEL 2-BUTTON CONTROL STATION WITH ONE MAINTAINED CONTACT BUTTON FOR MOTOR CONTROL DISCONNECT AND ONE ROTARY SWITCH WITH LOCKING MEANS, SIMILAR TO EXISTING, OR EQUIVALENT.

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E52-101



SLUDGE DIGESTER COMPLEX POWER

1/8" = 1'-0"

NOTES: THIS SHEET



- EXISTING JUNCTION BOX WITH POWER CIRCUITRY FROM BUILDING 20 MCCB TO EXISTING BLOWERS. VERIFY EXACT LOCATION WITHIN BUILDING. INTERCEPT EXISTING CONDUCTORS TO BLOWERS AND EXTEND TO NEW VFD'S AS INDICATED.
- EXISTING WIREWAY WITH CONTROL/POWER CABLING TO MCCB IN BUILDING 20 TO REMAIN IN PLACE.
- EXISTING WIREWAY WITH POWER CONDUCTORS TO PANEL LPB IN BUILDING 20 TO REMAIN IN PLACE.
- REMOVE EXISTING CONTROL STATION FOR BLOWER. CAP CIRCUITRY AND LABEL AS SPARE. LABEL CONDUCTORS IN MCCB IN BUILDING 20 SPARE.
- PROVIDE VFD CABLE BETWEEN DRIVE AND BLOWER. SEE DETAIL 2/E78-300 AND SPECIFICATION.
- DISCONNECT POWER TO EXISTING 50 HP BLOWER FOR REMOVAL. PROVIDE POWER CONNECTION TO NEW 20 HP BLOWER AS INDICATED.
- EXISTING RELOCATED VFD FROM BUILDING 20. PROVIDE UNI-STRUT RACK ADJACENT TO NEW BLOWER ENCLOSURE FOR RELOCATED VFD.
- PROVIDE 120-VOLT POWER CONNECTION TO NEW BLOWER HOUSING FAN. EXTEND FROM EXISTING BUILDING RECEPTACLE CIRCUIT.

| BUILDING 65 MOTOR & EQUIPMENT SCHEDULE | | | | | | | | | | |
|--|------------------|-----------------|------|-------|-----------------------|-----------------------|------------------------------|------|-----|------|
| DESIG. | EQUIPMENT SERVED | CHARACTERISTICS | | | DISCONNECT (BY EC) | CONTROLLER (BY EC) | CONTROL INITIATING DEVICE | | | NOTE |
| | | HP | VOLT | PHASE | | | DEVICE | FURN | MTD | |
| 65-DB-1 | DIGESTER BLOWER | 20 HP | 480 | 3 | INCLUDED WITH STARTER | EXISTING VFD. NOTE 2. | CONTROL PANEL SCP IN BLDG 20 | EC | EC | 1 |
| 65-DB-2 | DIGESTER BLOWER | 20 HP | 460 | 3 | INCLUDED WITH STARTER | EXISTING VFD. NOTE 2. | CONTROL PANEL SCP IN BLDG 20 | EC | EC | 1 |

NOTES:

- EXISTING BLOWER FED FROM MCCB IN BUILDING 20. EXISTING STARTER TO BE TURNED TO "HAND" AND BLOWER TO BE FED FROM NEW VFD MOUNTED IN BUILDING 65. SEE DETAIL 1/E78-501 AND SPECIFICATION FOR VFD CABLE AND TERMINATION REQUIREMENTS.
- RELOCATE EXISTING VFD REMOVED FROM BUILDING 20 TO LOCATIONS INDICATED ON DRAWINGS FOR CONTROL OF NEW BLOWERS.

ELECTRICAL PLANS
 WASTEWATER TREATMENT FACILITY UPGRADES
 WASTEWATER TREATMENT PLANT IMPROVEMENTS
 MOBRIDGE, SOUTH DAKOTA
 BUILDING 65 ELECTRICAL POWER PLAN

DATE: 1/8/2026

REV DATE: ---

REV NUM: ---

RECORD: ---

PROJECT No. 25547

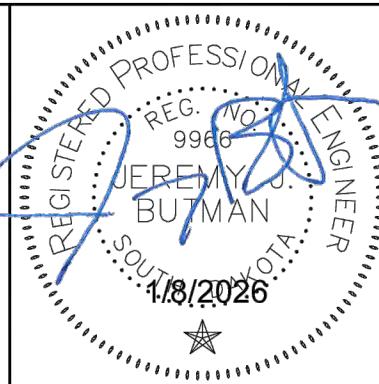
MANAGER: JJB

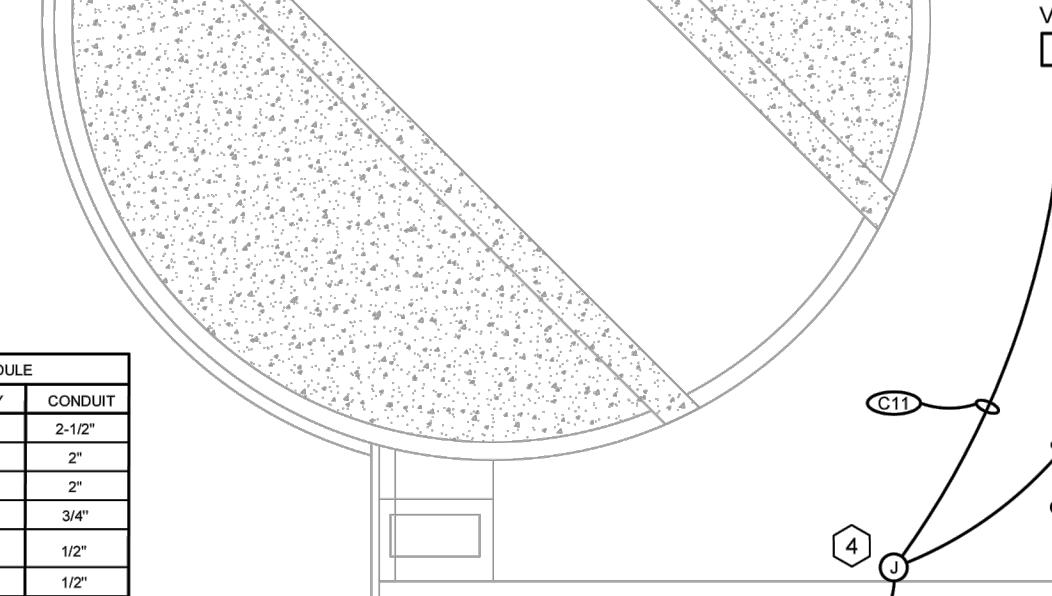
DESIGNER: JJB

DRAFTER: JJB

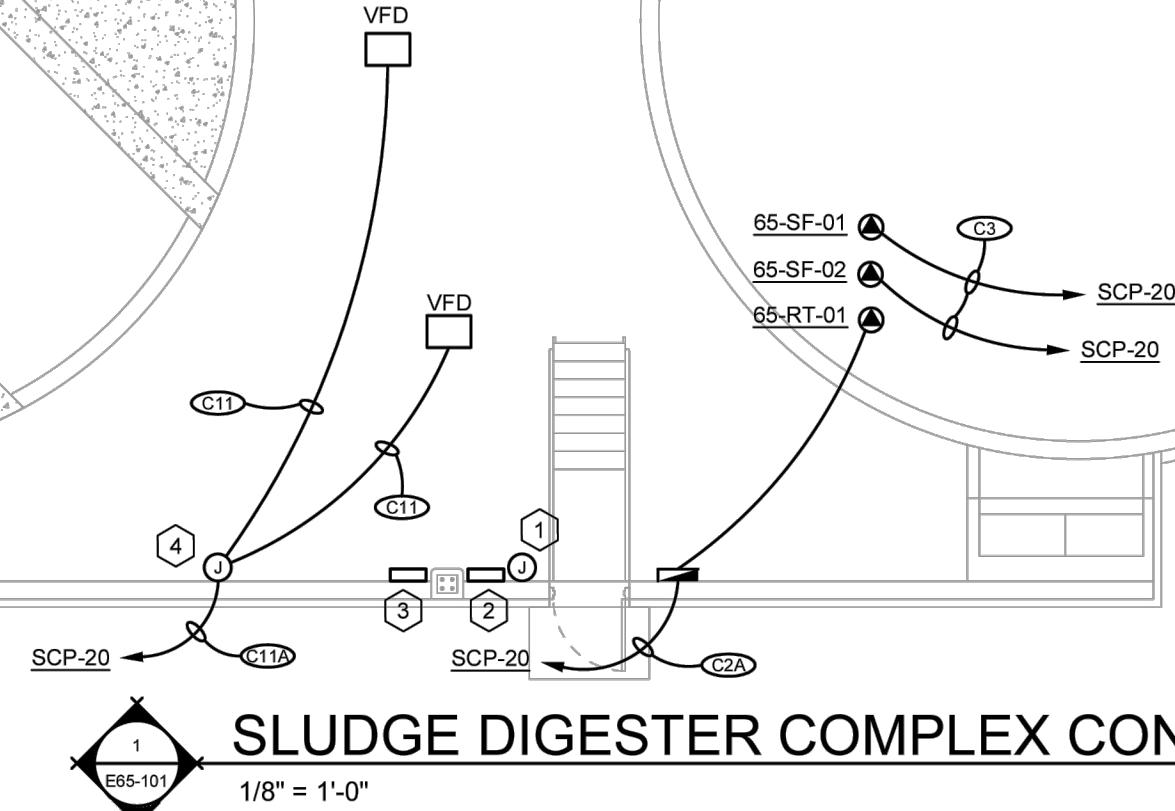
REVIEWER: JJB

E65-101





| CONTROL & INSTRUMENTATION WIRING SCHEDULE | | | |
|---|---|-----|---------|
| DESIG. | CONDUCTORS/CABLES | QTY | CONDUIT |
| C1A | BELDEN #29528 (#1) VFD CABLE | 1 | 2-1/2" |
| C1B | BELDEN #29527 (#2) VFD CABLE | 1 | 2" |
| C1C | BELDEN #29526 (#4) VFD CABLE | 1 | 2" |
| C1D | BELDEN #29522 (#12) VFD CABLE | 1 | 3/4" |
| C2 | BELDEN #8760 CABLE | 1 | 1/2" |
| C2A | BELDEN #8760 CABLE | 2 | 1/2" |
| C2B | BELDEN #8760 CABLE | 3 | 1/2" |
| C3 | #16 AWG TFFN | 5 | 3/4" |
| C4 | BELDEN #8760 CABLE #16 AWG TFFN | 1 | 3/4" |
| C5 | (2) BELDEN #8760 CABLE #16 AWG TFFN | 4 | 3/4" |
| C6 | BELDEN #8720 BELDEN #8762 | 1 | 1/2" |
| C7 | BELDEN #8760 CABLE #14 AWG THHN | 2 | 1/2" |
| C8 | CAT 6 | 1 | 1/2" |
| C9 | CAT 6 | 2 | 3/4" |
| C10 | #12 AWG THHN | 4 | 1/2" |
| C11 | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 1 | 3/4" |
| C11A | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 2 | 2" |
| C12 | BELDEN #8760 CABLE #14 AWG THHN | 8 | 1/2" |
| C13 | #12 AWG THHN | 5 | 1/2" |
| C14 | BELDEN #8760 CABLE #16 AWG THHN | 12 | 3/4" |
| C15 | BELDEN #1032A CABLE #14 AWG THHN | 3 | 3/4" |
| C16 | BELDEN #8760 CABLE #16 AWG TFFN | 4 | 1/2" |



SLUDGE DIGESTER COMPLEX CONTROLS

NOTES: THIS SHEET

- EXISTING JUNCTION BOX WITH POWER CIRCUITRY FROM BUILDING 20 MCCB.
- EXISTING WIREWAY WITH CONTROL/POWER CABLING TO MCCB IN BUILDING 20 TO REMAIN IN PLACE. EXTEND NEW CONTROL WIRING TO EXISTING GUTTER. PROVIDE ONE NEW 2" CONDUIT TO BUILDING 20 CONTROL PANEL AND EXTEND ALL NEW CONTROL CONDUCTORS TO BUILDING IN NEW CONDUIT.
- EXISTING WIREWAY WITH POWER CONDUCTORS TO PANEL LPB IN BUILDING 20 TO REMAIN IN PLACE.
- PROVIDE NEW 4"X4"X1" WIREWAY 3' AFF TO ROUTE NEW CONTROL CABLING FROM BUILDING 20 SCP-20 TO NEW VFD'S AS INDICATED.

| CONTROL & INSTRUMENTATION ABBREVIATIONS | | |
|---|-------------------|------|
| ABR. | DEVICE | NOTE |
| 65-SF-01 | HIGH LEVEL FLOAT | 1 |
| 65-SF-02 | LOW LEVEL FLOAT | 1 |
| 65-RT-01 | RADAR TRANSMITTER | 1 |

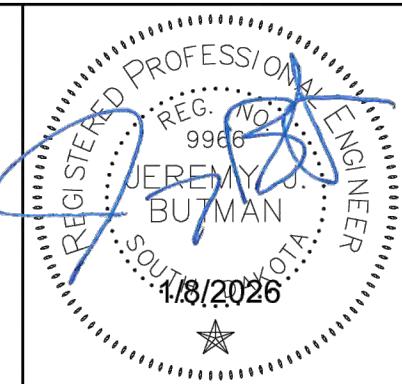
NOTES:

- COORDINATE EXACT INSTALLATION LOCATION AND MOUNTING REQUIREMENTS ON SITE.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
BUILDING 65 ELECTRICAL CONTROLS PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E65-102

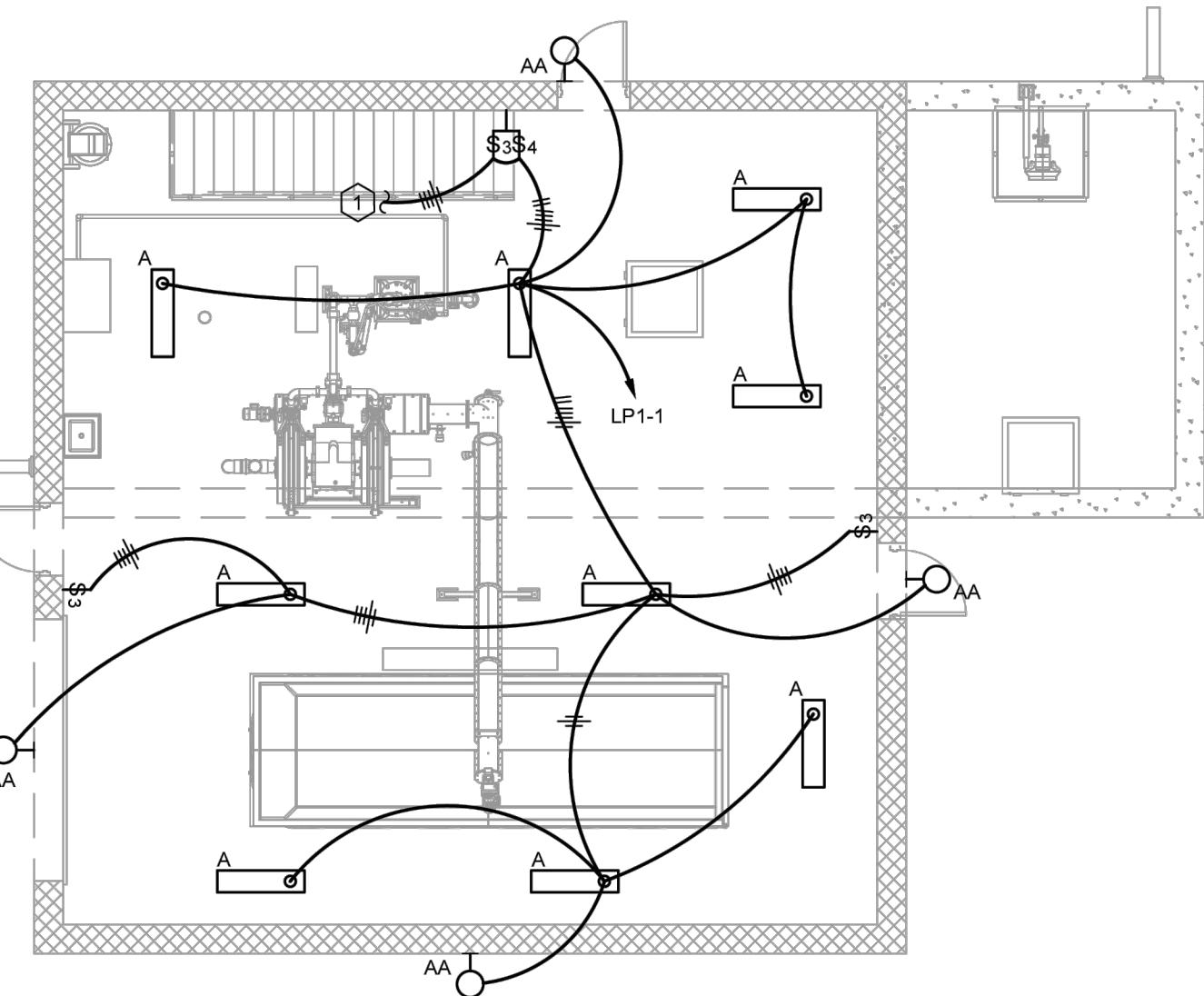


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| LUMINAIRE SCHEDULE | | | | | | | |
|--------------------|---------------|---|-------|---------------------------|-------------|------------------------------------|---|
| TYPE | MANUFACTURER | CATALOG NO. | LAMPS | | FINISH | MOUNTING | REMARKS |
| | | | NO. | TYPE | | | |
| A | LITHONIA | CSS-48-AL03-MVOLT-MIN10-SWW3-80CRI SERIES | LED | 6,000 LUMEN, 4000K LED'S | WHITE | CEILING SURFACE | 4' LINEAR SURFACE MOUNTED LED LUMINAIRE WITH INTEGRAL 0-10V DIMMING, MULTI-VOLT DRIVER. |
| K | METALUX | 4SLSTPSC-UNV SERIES | LED | 7,000 LUMEN, 5000K LED'S | WHITE | STANCHION, NOTE 2. | CLASS 1, DIVISION 2 RATED ENCLOSED AND GASKETED LUMINAIRE WITH ALUMINUM CONSTRUCTION, WHITE POLYCARBONATE REFLECTOR, GUARD, AND 3/4" CONDUIT ENTRIES. |
| AA | LITHONIA | TWR1-LED-AL0-SWW2-UVOLT-PE-DDBTXD SERIES | LED | 6,200 LUMEN, 4000K LED'S | DARK BRONZE | WALL, HIGH AS POSSIBLE | LED WALL PACK WITH MULTI-VOLT DRIVER, SELECTABLE OUTPUT AND COLOR TEMP, AND INTEGRAL PHOTO CONTROL. |
| BB | LUMARK | WPSLED15S SERIES | LED | 22,000 LUMEN, 4000K LED'S | DARK BRONZE | POLE, NOTE 4. SD 2 AND 3 OF E-103. | LED AREA LUMINAIRE WITH TYPE 5 WIDE DISTRIBUTION AND SLIPFITTER MOUNTING FOR 6' MAST ARM. |
| BB | MCGRAW EDISON | GALN-SA3C-740-U-5WQ-SPX-XX-PRX SERIES | LED | 22,000 LUMEN, 4000K LED'S | DARK BRONZE | POLE, NOTE 4. SD 2 AND 3 OF E-103. | LED AREA LUMINAIRE WITH TYPE 5 WIDE DISTRIBUTION AND SLIPFITTER MOUNTING FOR 6' MAST ARM. |

NOTES:

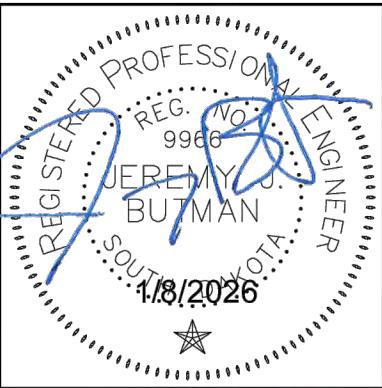
1. UNLESS OTHERWISE INDICATED ALL LUMINAIRES TO INCLUDE MULTI-VOLT DRIVERS, POWERED AT 120-VOLTS.
2. LUMINAIRE TO BE STANCHION MOUNTED FROM RAILING, 9'-0" ABOVE BRIDGE, SIMILAR TO EXISTING. VERIFY EXISTING MOUNTING ANGLE AND MATCH.
3. LUMINAIRE TO BE MOUNTED PRIOR TO CEILING INSTALLATION. COORDINATE ENTIRE INSTALLATION AND FRAMING AROUND LUMINAIRE WITH GC.
4. PROVIDE 30' ROUND GALVANIZED STEEL POLE WITH INTEGRAL VIBRATION DAMPER AND 6' ARM, SIMILAR TO EXISTING SITE POLE. SEE DETAILS 2 AND 3 OF SHEET E-103.



UPPER LEVEL LIGHTING PLAN

NO SCALE
NOTES: THIS SHEET

1. DOWN TO LOWER LEVEL 3-WAY SWITCH.

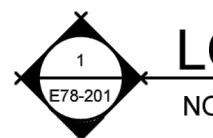
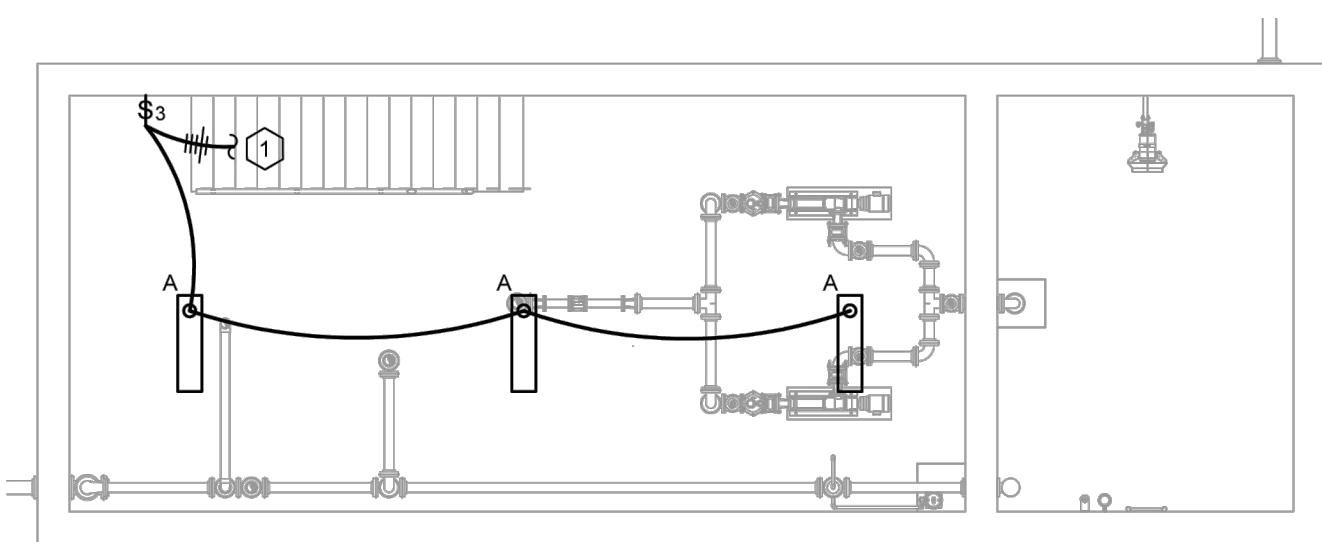


ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIIDGE, SOUTH DAKOTA
PROCESS BUILDING 78 UPPER LEVEL LIGHTING PLAN

| | |
|-----------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM.: | --- |
| RECORD: | --- |

| | |
|-------------|-------|
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E78-200



LOWER LEVEL LIGHTING PLAN

NO SCALE

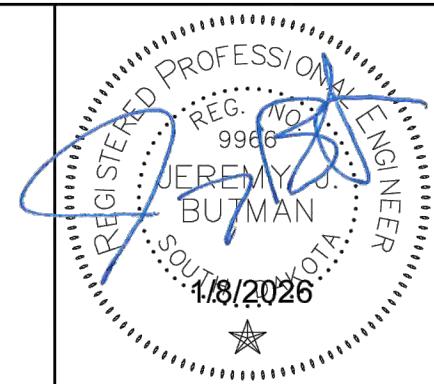
NOTES: THIS SHEET 

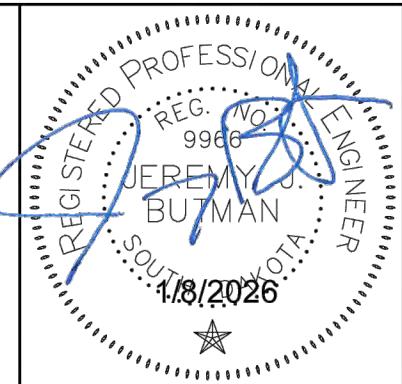
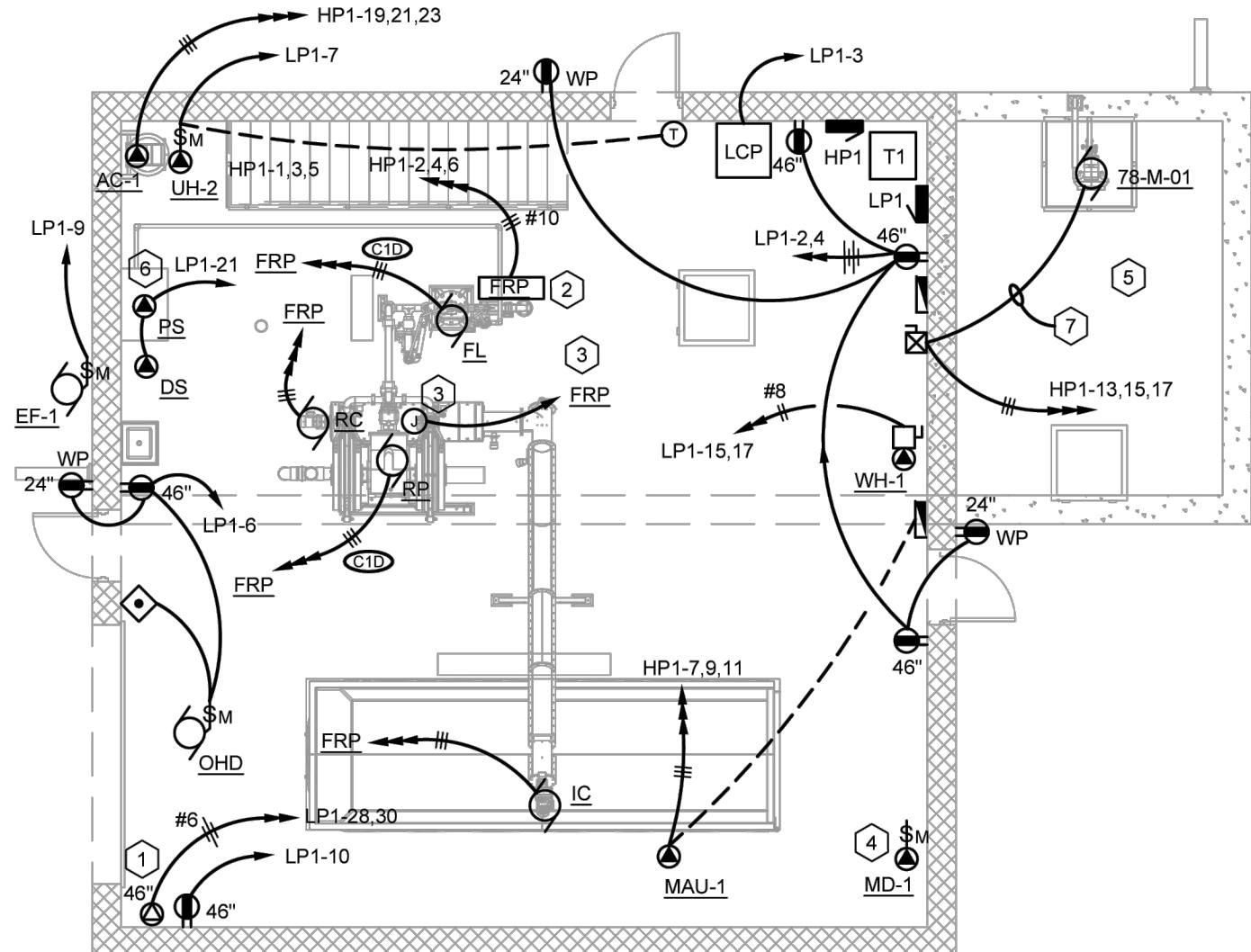
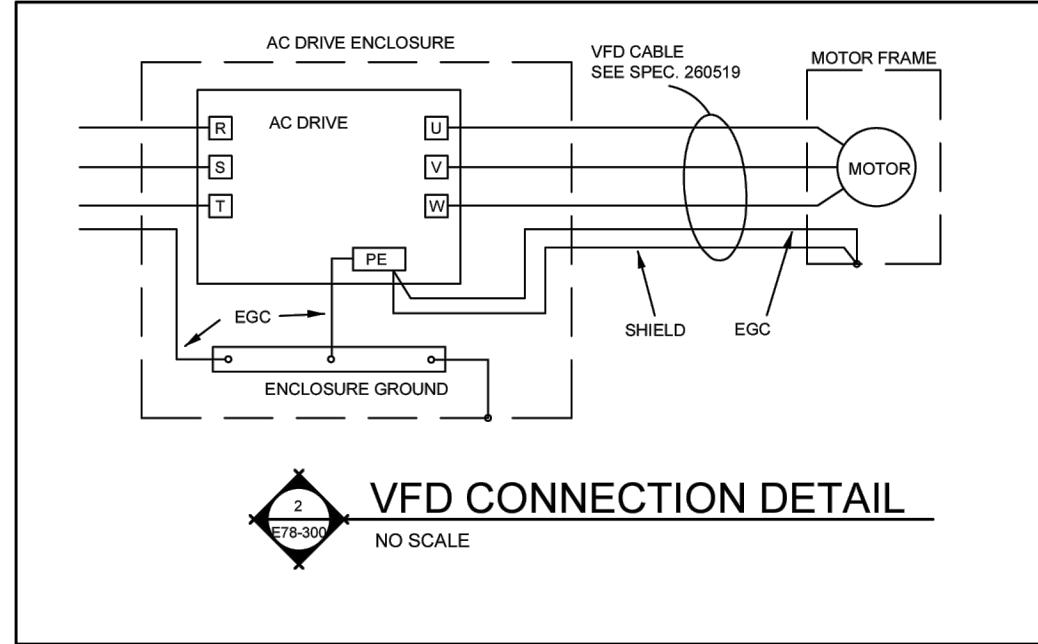
1. TO UPPER LEVEL 3-WAY SWITCH.

ELECTRICAL PLANS
 WASTEWATER TREATMENT FACILITY UPGRADES
 WASTEWATER TREATMENT PLANT IMPROVEMENTS
 MOBRIDGE, SOUTH DAKOTA
 PROCESS BUILDING 78 LOWER LEVEL LIGHTING PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM.: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E78-201





NOTES: THIS SHEET

1. PROVIDE 50 AMPERE RECEPTACLE. FIELD VERIFY CONFIGURATION WITH OWNER. COORDINATE MOUNTING HEIGHT WITH OWNER.
2. FOURNIER ROTARY PRESS (FRP) CONTROL PANEL. COORDINATE EXACT MOUNTING LOCATION BASED ON EQUIPMENT SKID INSTALLATION LOCATIONS.
3. JUNCTION BOX AT BASE OF ROTARY PRESS. COORDINATE EXACT LOCATION WITH EQUIPMENT SUPPLIER. EXTEND (4) #12 AWG CONDUCTORS FOR POWER AND GROUND TO FRP FROM RP JUNCTION BOX. EXTEND (11) #14 AWG CONDUCTORS FOR SAFETY SIGNALS BETWEEN FRP AND RP JUNCTION BOX. TERMINATE ALL CONDUCTORS PER SUPPLIER REQUIREMENTS.
4. EXTEND POWER TO CIRCUIT LP1-9 WITH EF-1. HOMERUN CIRCUITRY TO BE ROUTED THROUGH LCP FOR CONTROL.
5. ALL NEW CIRCUITRY AND DEVICES IN THIS AREA TO BE NEMA 4X RATED AND CLASS 1 DIVISION 1. PROVIDE SEAL-OFFS FOR ALL RACEWAYS LEAVING AREA. ALL RACEWAYS, FITTINGS AND BOXES TO BE NONFERROUS TYPE (ALUMINUM).
6. COORDINATE EXACT POLYMER SYSTEM POWER AND CONNECTION REQUIREMENTS WITH EQUIPMENT SUPPLIER.
7. EXTEND MANUFACTURER'S CABLE TO JUNCTION BOX BELOW STARTER. PROVIDE POWER CIRCUITRY FROM STARTER TO JUNCTION BOX. SEE DETAIL 1/E78-400 FOR CONTROL CIRCUITRY REQUIREMENTS FROM JUNCTION BOX TO CONTROL PANEL.

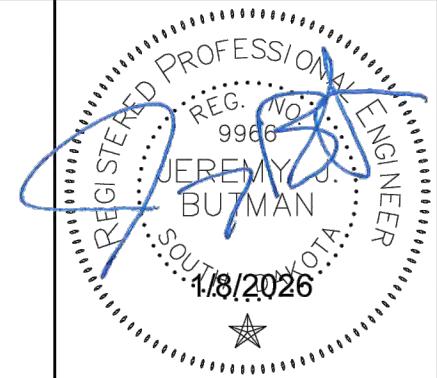
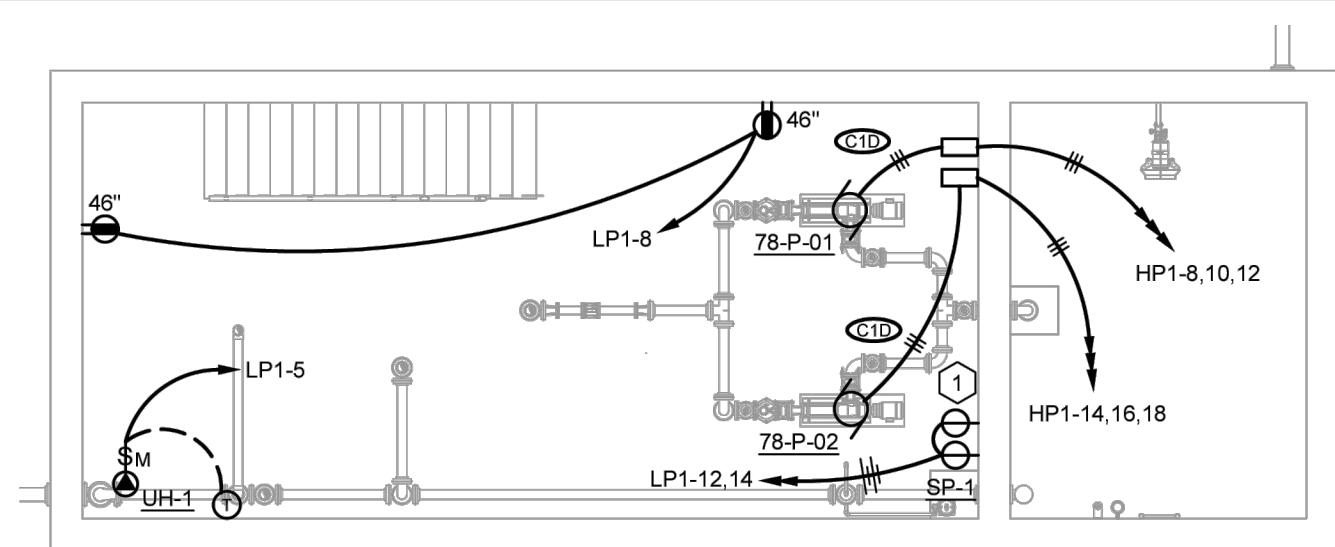


ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
PROCESS BUILDING 78 UPPER LEVEL POWER PLAN
MOBRIE, SOUTH DAKOTA

| | |
|-----------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |

PROJECT No. 25547
MANAGER: JJB
DESIGNER: JJB
DRAFTER: JJB
REVIEWER: JJB

E78-300



LOWER LEVEL POWER PLAN

NO SCALE

NOTES: THIS SHEET

1. PROVIDE TWO SINGLE RECEPTACLES 30" AFF, EACH ON AN INDIVIDUAL CIRCUIT. ONE FOR SUMP PUMP SP-1 AND ONE FOR SUMP PUMP ALARM.

WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
PROCESS BUILDING 78 LOWER LEVEL POWER PLAN

| | |
|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | ---- |
| REV NUM: | ---- |
| RECORD: | ---- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |

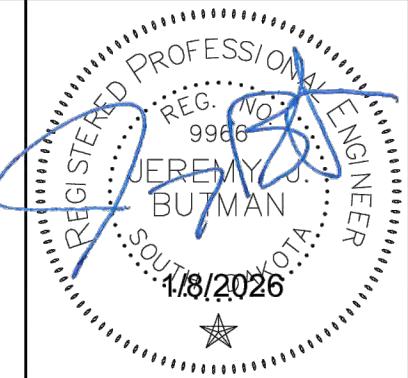
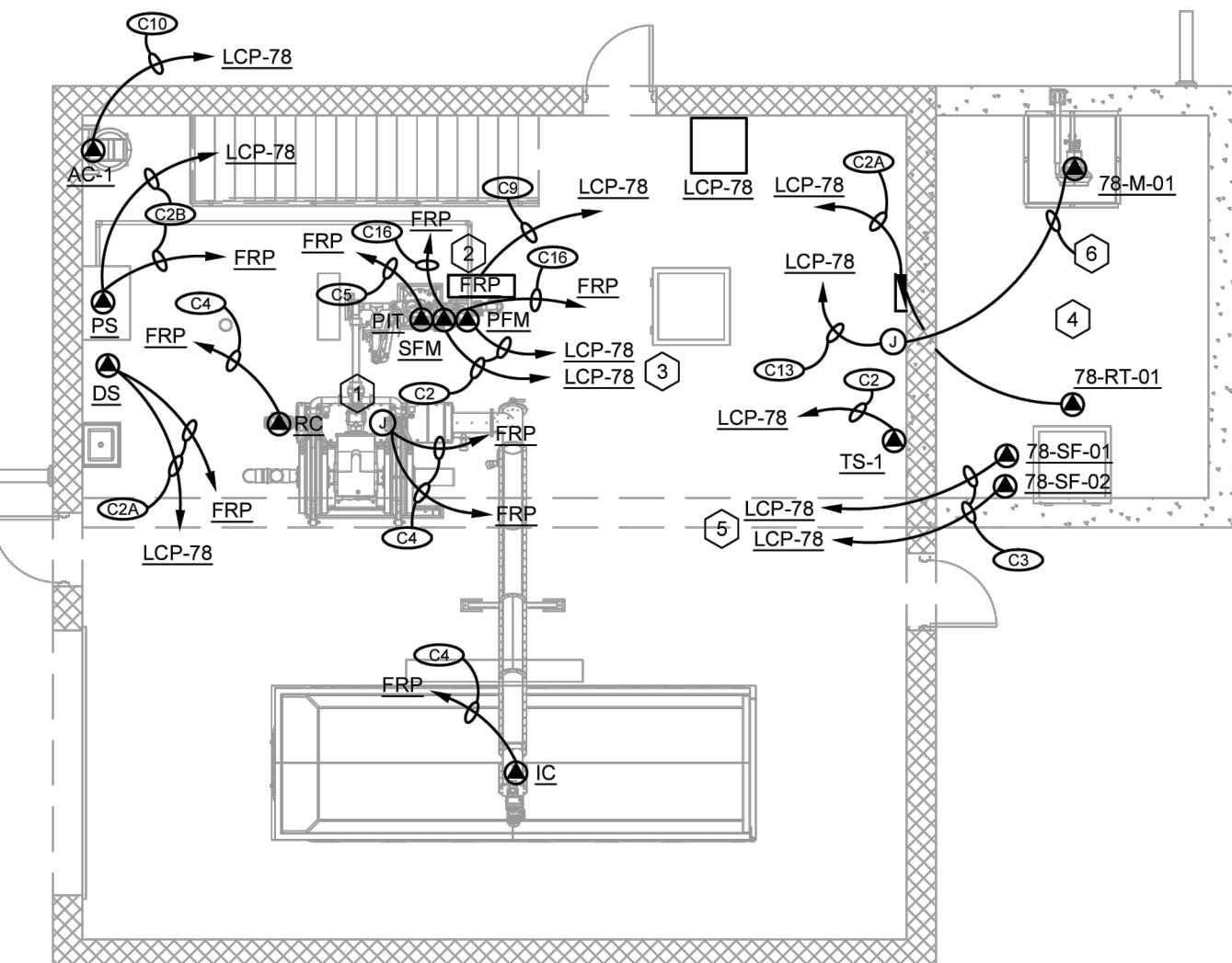
E78-301

| CONTROL & INSTRUMENTATION ABBREVIATIONS | | |
|---|---|------|
| ABR. | DEVICE | NOTE |
| MCP | WWTP MAIN CONTROL PANEL | 2 |
| LCP | WWTP LOCAL CONTROL PANEL | 3 |
| FRP | FOURNIER ROTARY PRESS CONTROL PANEL | 1 |
| IC | INCLINED CONVEYOR - ROTATION DETECTION | 1 |
| RC | RECEIVING CONVEYOR - ROTATION DETECTION | 1 |
| PIT | FLOCCULATOR INLET PRESSURE | 1 |
| PFM | POLYMER FLOWMETER | 1 |
| SFM | SLUDGE FLOWMETER | 1 |
| PS | POLYMER SYSTEM | 1 |
| SPA | SUMP PUMP ALARM | - |
| TS-1 | TEMPERATURE SENSOR - UPPER LEVEL | - |
| TS-2 | TEMPERATURE SENSOR - LOWER LEVEL | - |
| 78-FM-01 | FLOW METER | - |
| 78-MX | SLUDGE TANK MIXER | - |
| 78-RT-01 | RADAR LEVEL SENSOR | - |
| 78-SF-01 | HIGH LEVEL FLOAT | - |
| 78-SF-02 | LOW LEVEL FLOAT | - |

NOTES:

1. FURNISHED AS PART OF DEWATERING SYSTEM EQUIPMENT, UNDER SEPARATE CONTRACT. ALL CONTROLS EQUIPMENT MOUNTED AND WIRED BY ELECTRICAL CONTRACTOR. PROVIDE POWER AND CONTROLS CIRCUITRY AS SHOWN ON DRAWINGS.
2. EXISTING CONTROL PANEL TO REMAIN. SEE SPECIFICATION FOR MODIFICATION/UPGRADE REQUIREMENTS.
3. NEW CONTROL PANEL TO BE PROVIDED UNDER ELECTRICAL CONTRACT. SEE SPECIFICATION.
4. SYSTEM EQUIPMENT PROVIDED BY GENERAL CONTRACTOR. VFD PROVIDED AND PROGRAMMED BY DIVISION 26, WIRED BY DIVISION 26. SEE DETAIL SPECIFICATION.

| CONTROL & INSTRUMENTATION WIRING SCHEDULE | | | |
|---|---------------------------------------|-----|---------|
| DESIG. | CONDUCTORS/CABLES | QTY | CONDUIT |
| C1A | BELDEN #29526 (#1) VFD CABLE | 1 | 2-1/2" |
| C1B | BELDEN #29527 (#2) VFD CABLE | 1 | 2" |
| C1C | BELDEN #29526 (#4) VFD CABLE | 1 | 2" |
| C1D | BELDEN #29522 (#12) VFD CABLE | 1 | 3/4" |
| C2 | BELDEN #8760 CABLE | 1 | 1/2" |
| C2A | BELDEN #8760 CABLE | 2 | 1/2" |
| C2B | BELDEN #8760 CABLE | 3 | 1/2" |
| C3 | #16 AWG TFFN | 5 | 3/4" |
| C4 | BELDEN #8760 CABLE #16 AWG TFFN | 1 | 3/4" |
| C5 | (2) BELDEN #8760 CABLE #16 AWG TFFN | 1 | 3/4" |
| C6 | BELDEN #8720 BELDEN #8762 | 1 | 1/2" |
| C7 | BELDEN #8760 CABLE #14 AWG THHN | 2 | 1/2" |
| C8 | CAT 6 | 1 | 1/2" |
| C9 | CAT 6 | 2 | 3/4" |
| C10 | #12 AWG THHN | 4 | 1/2" |
| C11 | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 1 | 3/4" |
| C11A | BELDEN #8760 CABLE CAT 6 #16 AWG TFFN | 2 | 2" |
| C12 | BELDEN #8760 CABLE #14 AWG THHN | 2 | 1/2" |
| C13 | #12 AWG THHN | 5 | 1/2" |
| C14 | BELDEN #8760 CABLE #16 AWG THHN | 2 | 3/4" |
| C15 | BELDEN #1032A CABLE #14 AWG THHN | 1 | 3/4" |
| C16 | BELDEN #8760 CABLE #16 AWG TFFN | 1 | 1/2" |



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UPPER LEVEL CONTROLS PLAN



NO SCALE

NOTES: THIS SHEET

1. JUNCTION BOX ON FLOCCULATOR. FIELD VERIFY EXACT LOCATION ON EQUIPMENT. CONTROL CABLING SHOWN TO THIS DEVICE FOR RECIRCULATION VALVE STATUS AND FEED VALVE STATUS. CONTROL CIRCUITRY TO THIS LOCATION MAY BE COMBINED INTO A SINGLE CONDUIT. INCREASE CONDUIT TRADE SIZE AS REQUIRED IF COMBINED.
2. FOURNIER ROTARY PRESS (FRP) CONTROL PANEL. ALL CONTROL CIRCUITRY SHOWN TO BE EXTENDED TO THIS PANEL SHALL BE TERMINATED BY ELECTRICAL CONTRACTOR PER MANUFACTURER REQUIREMENTS.
3. CONTROL CIRCUITRY TO THESE DEVICES FROM LCP MAY BE COMBINED INTO A SINGLE CONDUIT. INCREASE CONDUIT TRADE SIZE AS REQUIRED IF COMBINED.
4. EXTEND MANUFACTURERS CABLE BETWEEN RADAR SENSOR AND CONTROLLER AS REQUIRED. ALL NEW CIRCUITRY AND DEVICES IN THIS AREA TO BE NEMA 4X RATED AND CLASS 1 DIVISION 1. PROVIDE SEAL-OFFS FOR ALL RACEWAYS LEAVING AREA. ALL RACEWAYS, FITTINGS AND BOXES TO BE NONFERROUS TYPE (ALUMINUM).
5. FLOAT CONDUCTORS MAY BE COMBINED INTO A SINGLE CONDUIT OUT OF BASIN. SHOWN SEPARATE FOR REFERENCE. SEE DETAIL 2/E78-401 FOR INSTALLATION REQUIREMENTS.
6. EXTEND MANUFACTURER'S CABLE BETWEEN EQUIPMENT AND JUNCTION BOX.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
PROCESS BUILDING 78 UPPER LEVEL CONTROLS PLAN
MOBRIE, SOUTH DAKOTA

DATE: 1/8/2026

REV DATE: ---

REV NUM: ---

RECORD: ---

PROJECT No. 25547

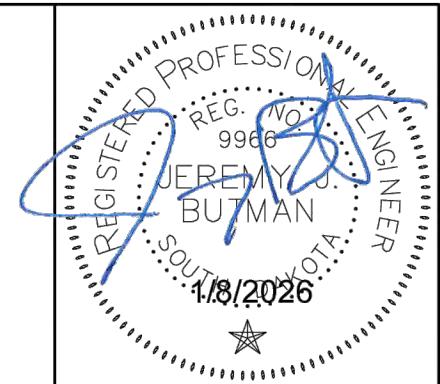
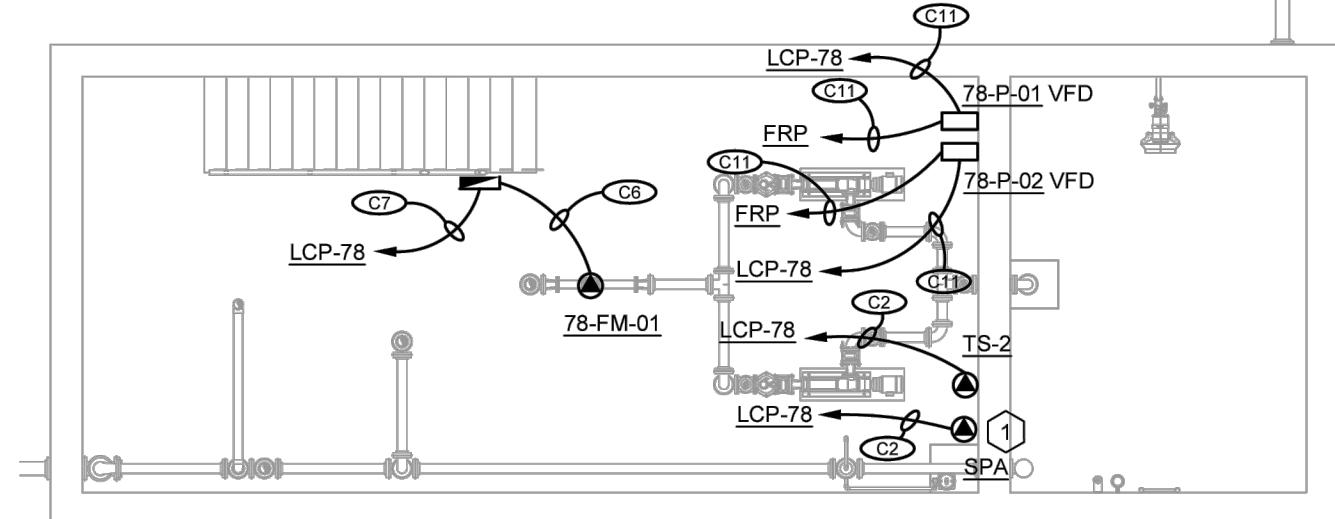
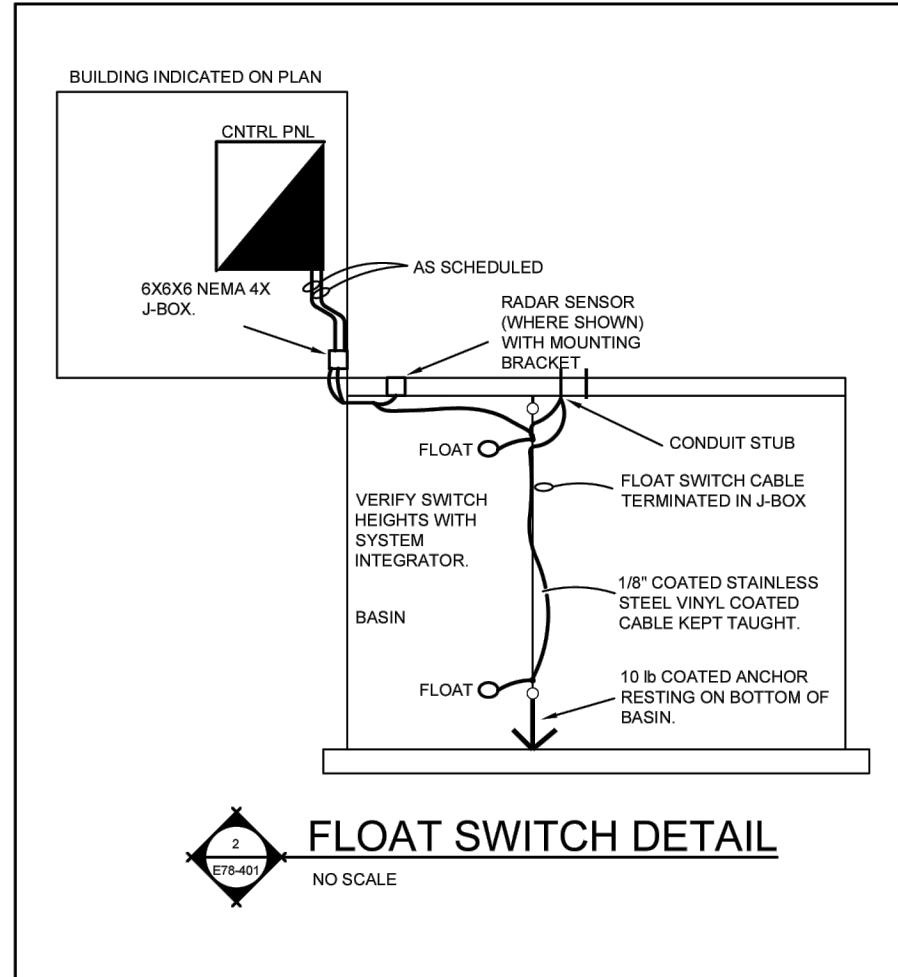
MANAGER: JJB

DESIGNER: JJB

DRAFTER: JJB

REVIEWER: JJB

E78-400



LOWER LEVEL CONTROLS PLAN



NO SCALE

NOTES: THIS SHEET 

1. EXTEND ALARM CIRCUITRY FROM SUMP ALARM DEVICE TO LCP. WHEN SUMP ALARM IS ACTIVE, LCP SHALL COMMUNICATE ALARM THROUGH SCADA SYSTEM.

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIDGE, SOUTH DAKOTA
PROCESS BUILDING 78 LOWER LEVEL CONTROLS PLAN

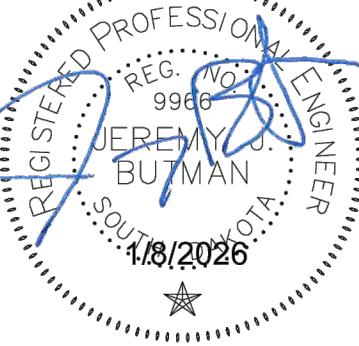
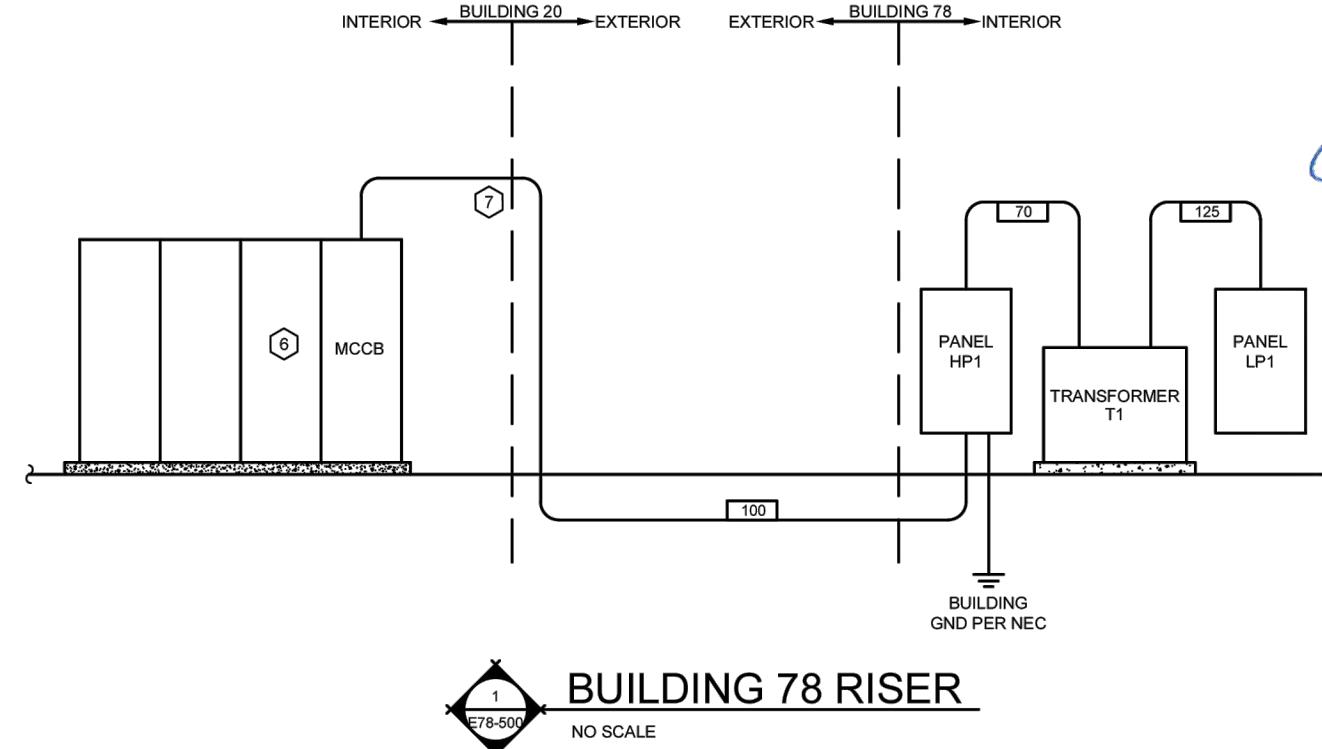
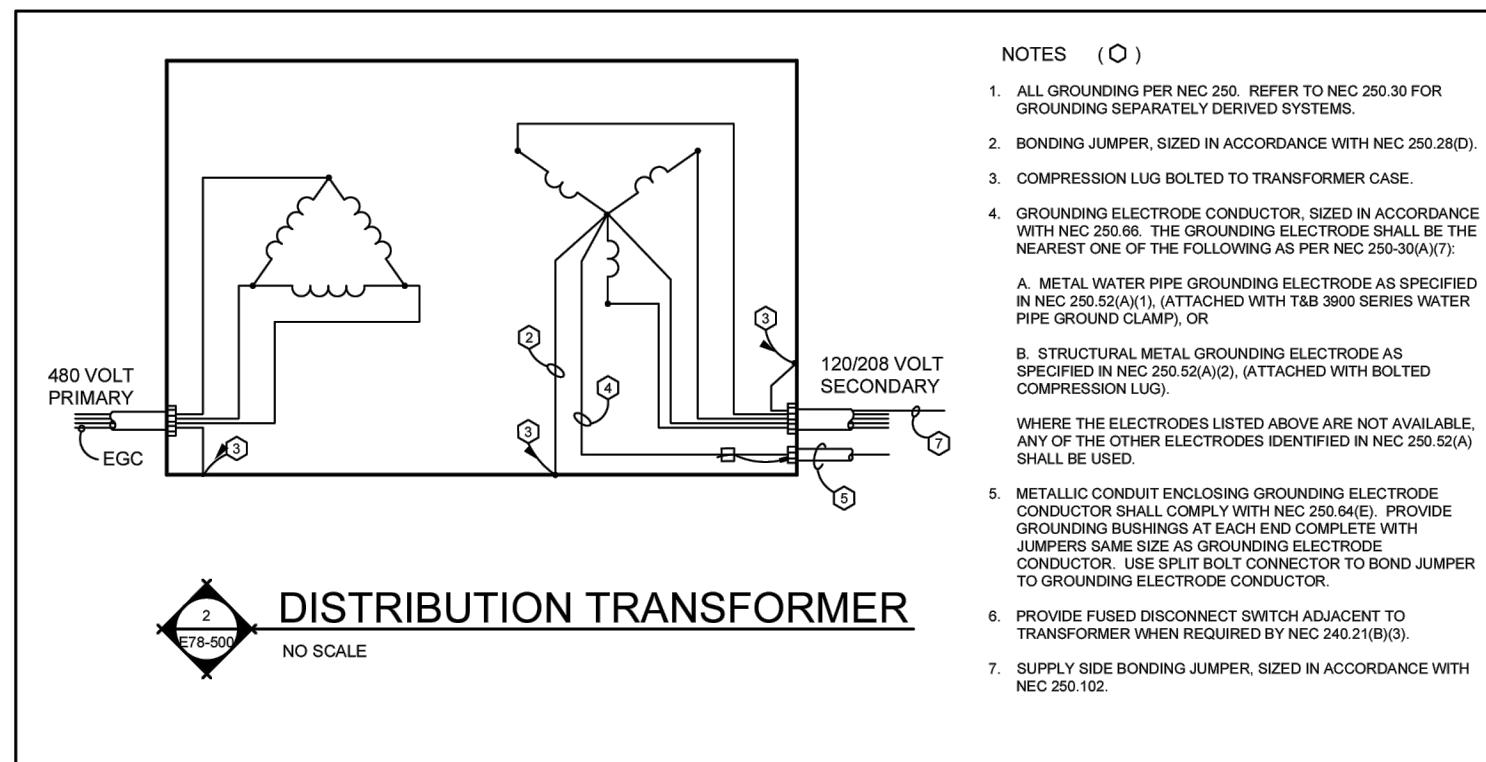
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|-------------|----------|
| DATE: | 1/8/2026 |
| REV DATE: | --- |
| REV NUM: | --- |
| RECORD: | --- |
| PROJECT No. | 25547 |
| MANAGER: | JJB |
| DESIGNER: | JJB |
| DRAFTER: | JJB |
| REVIEWER: | JJB |

E78-401

| BUILDING 78 MOTOR & EQUIPMENT SCHEDULE | | | | | | | | | | |
|--|------------------|-------------------|------|-------|-----------------------|------------------------------|---------------------------|------|-----|------|
| DESIG. | EQUIPMENT SERVED | CHARACTERISTICS | | | DISCONNECT (BY EC) | CONTROLLER (BY EC) | CONTROL INITIATING DEVICE | | | NOTE |
| | | HP | VOLT | PHASE | | | DEVICE | FURN | MTD | |
| EF-1 | EXHAUST FAN | 1 HP | 120 | 1 | INCLUDED WITH STARTER | TOGGLE OR MANUAL AS REQUIRED | CONTROL PANEL LCP | EC | EC | 1 |
| MAU-1 | MAKE-UP AIR UNIT | 4.1 MCA, MOCP 15A | 460 | 3 | INTEGRAL | INTEGRAL | CONTROL PANEL LCP | EC | EC | 2 |
| MD | MOTORIZED DAMPER | FRAC. | 120 | 1 | INCLUDED WITH STARTER | TOGGLE OR MANUAL AS REQUIRED | CONTROL PANEL LCP | EC | EC | 1 |
| UH-1 | UNIT HEATER #1 | FRAC. | 120 | 1 | INCLUDED WITH STARTER | TOGGLE OR MANUAL AS REQUIRED | T-STAT | MC | EC | 3 |
| UH-2 | UNIT HEATER #2 | FRAC. | 120 | 1 | INCLUDED WITH STARTER | TOGGLE OR MANUAL AS REQUIRED | T-STAT | MC | EC | 3 |
| WH-1 | WATER HEATER | 28.8 A | 208 | 1 | 60/2 FDS, FUSE AT 40A | INTEGRAL | INTEGRAL | MC | EC | -- |

NOTES:

- EF-1 AND MD TO BE POWERED FROM THE SAME CIRCUIT. ROUTE HOMERUN CIRCUITRY THROUGH LCP RELAY FOR EQUIPMENT CONTROL.
- EXTEND CONTROL CIRCUITRY FROM LCP TO MAU-1 AS REQUIRED FOR UNIT CONTROL. EXTEND LOW VOLTAGE CONTROL CIRCUITRY BETWEEN MAU-1 AND REMOTE TOUCHSCREEN AS REQUIRED BY MANUFACTURER.
- LOW-VOLTAGE THERMOSTAT TO BE FURNISHED BY MECHANICAL CONTRACTOR, MOUNTED AND WIRED BY DIVISION 26 ELECTRICAL CONTRACTOR.



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| DESIGN-NATION | CONFIGURATION | REQUIRED AMPACITY | CONDUCTOR SIZE (NOTE 3) | | | CONDUIT |
|---------------|---------------|-------------------|-------------------------|---------|--------------|---------|
| | | | PHASE | NEUTRAL | EGC (NOTE 4) | |
| 125 | 3Ø 4W | 125 | #1 | #1 | #6 | 2" |
| 100 | 3Ø 4W | 100 | #2 | #2 | #8 | 1-1/2" |
| 70 | 3Ø 3W | 70 | #4 | NR | #8 | 1" |

NOTES:

- FEEDER RISERS ARE SCHEMATIC ONLY, AND NOT INTENDED TO INFER LUG ARRANGEMENTS.
- SEE SPECIFICATION FOR GROUNDING REQUIREMENTS, ALLOWABLE PVC USAGE, AND ALLOWABLE EXPOSED EXTERIOR STUB-UPS.
- CONDUCTORS SIZING BASED UPON 60 DEGREE TERMINATION'S FOR OVERCURRENT PROTECTIVE DEVICES RATED 100 AMPERES OR LESS, AND 75 DEGREE TERMINATION'S FOR RATINGS GREATER THAN 100 AMPERES, AS PER NEC TABLE 310.16, 240.4, 310.15(B2), AND 310.15(B4). IN NO CASE SHALL INDICATED SIZING BE DECREASED.
- EQUIPMENT GROUNDING CONDUCTOR.
- NEW PANEL HP1 SHALL HAVE AN AIC RATING OF 35,000 AMPERES. SERIES RATINGS FOR ELECTRICAL GEAR DOWNSTREAM OF PANEL HP1 MAY BE SERIES RATED.
- EXISTING GENERAL ELECTRIC 8000 SERIES MCC IN BUILDING 20. PROVIDE ONE 100/3 CIRCUIT BREAKER IN ONE EMPTY BUCKET SPACE, OR REPLACE ONE UNUSED STARTER BUCKET FROM REMOVE EQUIPMENT WITH NEW 100/3 BREAKER, TO SERVE NEW PANEL HP1.
- ROUTE FEEDER THROUGH BUILDING, DOWN EXTERIOR WALL, AND TO NEW BUILDING 78. FIELD VERIFY EXACT INTERIOR AND EXTERIOR ROUTING REQUIRED.

| DRY TYPE TRANSFORMER SCHEDULE | | | | | | | | |
|-------------------------------|-----|-------|-----------------|-------------------|------------------------|--------------------------|----------|-----------------------|
| DESIG. | KVA | PHASE | PRIMARY VOLTAGE | SECONDARY VOLTAGE | PRIMARY O/C PROTECTION | SECONDARY O/C PROTECTION | MOUNTING | REMARKS |
| T1 | 45 | 3 | 480 DELTA | 208Y/120 | HD1 CB | LP1 MCB | FLOOR | SEE DETAIL 2/E78-500. |

ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
MOBRIE, SOUTH DAKOTA
PROCESS BUILDING 78 ELECTRICAL RISER

DATE: 1/8/2026
REV DATE: ---
REV NUM: ---
RECORD: ---

PROJECT No. 25547
MANAGER: JJB
DESIGNER: JJB
DRAFTER: JJB
REVIEWER: JJB

E78-500

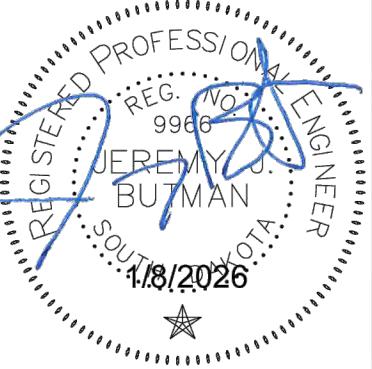
| DESIG. | EQUIPMENT SERVED | CHARACTERISTICS | | | DISCONNECT (BY EC) | CONTROLLER (BY EC) | CONTROL INITIATING DEVICE | | | NOTE |
|---------|-----------------------|-----------------|------|-------|-----------------------|--------------------|---------------------------|------|-----|------|
| | | HP | VOLT | PHASE | | | DEVICE | FURN | MTD | |
| AC-1 | AIR COMPRESSOR | 5 | 460 | 3 | CB IN HP1 | INTEGRAL | LOCAL CONTROL PANEL | — | — | 5 |
| DS | DRUM SCALE | FRAC. | 120 | 1 | NR | NR | FRP CONTROL PANEL | — | — | 6 |
| FRP | FOURNIER ROTARY PRESS | 30 AMP | 460 | 3 | INTEGRAL | INTEGRAL | FRP CONTROL PANEL | — | — | 1 |
| FL | FLOCULATOR | 1 HP | 460 | 3 | CONTROL PANEL | CONTROL PANEL | FRP CONTROL PANEL | — | — | 1 |
| RP | ROTARY PRESS | 5 HP | 460 | 3 | CONTROL PANEL | CONTROL PANEL | FRP CONTROL PANEL | — | — | 1 |
| RC | RECEIVING CONVEYOR | 1 HP | 460 | 3 | CONTROL PANEL | CONTROL PANEL | FRP CONTROL PANEL | — | — | 1 |
| IC | INCLINE CONVEYOR | 5 HP | 460 | 3 | CONTROL PANEL | CONTROL PANEL | FRP CONTROL PANEL | — | — | 1 |
| PS | POLYMER SYSTEM | FRAC. | 120 | 1 | INTEGRAL | INTEGRAL | FRP CONTROL PANEL | — | — | 2 |
| SP-1 | SUMP PUMP | FRAC. | 120 | 1 | CORD AND PLUG | INTEGRAL | INTEGRAL | MC | MC | — |
| 78-M-01 | SLUDGE TANK MIXER | 2-1/2 HP | 460 | 3 | INCLUDED WITH STARTER | FVNR, COMB 0 | LOCAL CONTROL PANEL | — | — | 4 |
| 78-P-01 | SLUDGE PUMP #1 | 5 HP | 460 | 3 | INCLUDED WITH STARTER | VFD | LOCAL CONTROL PANEL | — | — | 3 |
| 78-P-02 | SLUDGE PUMP #2 | 5 HP | 460 | 3 | INCLUDED WITH STARTER | VFD | LOCAL CONTROL PANEL | — | — | 3 |

NOTES:

1. EQUIPMENT FURNISHED UNDER SEPARATE BID PACKAGE. ALL POWER AND CONTROLS EQUIPMENT TO BE MOUNTED AND WIRED BY DIVISION 26 ELECTRICAL CONTRACTOR. SEE ELECTRICAL DRAWINGS FOR CIRCUITRY REQUIREMENTS.
2. SYSTEM EQUIPMENT PROVIDED BY GENERAL CONTRACTOR, VFD FURNISHED AND WIRED BY DIVISION 26 CONTRACTOR. SEE SPECIFICATION.
3. VFD FOR EQUIPMENT FURNISHED AND WIRED BY DIVISION 26 CONTRACTOR. SEE SPECIFICATION AND DETAIL 2/E78-300.
4. COORDINATE INSTALLATION WITH ALL OTHER TRADES.
5. EXISTING AIR COMPRESSOR TO BE RELOCATED TO NEW BUILDING AND INSTALLED. EXTEND CONTROL CIRCUITRY SIMILAR TO EXISTING BETWEEN AIR COMPRESSOR AND LOCAL CONTROL PANEL.
6. PROVIDE POWER CONNECTION TO EQUIPMENT PER MANUFACTURER INSTRUCTIONS.

| PANEL HP1 SCHEDULE | | | | | | | | | |
|---|-------|------|-----|---|-----|------|-------|---------------------|--|
| 277/480 VOLTS 3Ø 4W 100 AMP MCB SURFACE MOUNTED | | | | | | | | | |
| EATON POW-R-LINE SERIES OR EQUIVALENT | | | | | | | | | |
| CIRCUIT DESCRIPTION | POLES | AMPS | CKT | Ø | CKT | AMPS | POLES | CIRCUIT DESCRIPTION | |
| SPARE | 3 | 30 | 1 | A | 2 | 30 | 3 | FRP | |
| MAU-1 | — | — | 3 | B | 4 | — | — | — | |
| — | — | — | 5 | C | 6 | — | — | — | |
| MX | 3 | 15 | 7 | A | 8 | 20 | 3 | SP-1 | |
| — | — | — | 9 | B | 10 | — | — | — | |
| — | — | — | 11 | C | 12 | — | — | — | |
| AC-1 | 3 | 20 | 13 | A | 14 | 20 | 3 | SP-2 | |
| — | — | — | 15 | B | 16 | — | — | — | |
| — | — | — | 17 | C | 18 | — | — | — | |
| SPARE | 3 | 20 | 19 | A | 20 | 20 | 3 | SPARE | |
| — | — | — | 21 | B | 22 | — | — | — | |
| — | — | — | 23 | C | 24 | — | — | — | |
| SPARE | 3 | 40 | 25 | A | 26 | 70 | 3 | TRANSFORMER T1 | |
| — | — | — | 27 | B | 28 | — | — | — | |
| — | — | — | 29 | C | 30 | — | — | — | |
| SPARE | 3 | 20 | 31 | A | 32 | 20 | 3 | SPARE | |
| — | — | — | 33 | B | 34 | — | — | — | |
| — | — | — | 35 | C | 36 | — | — | — | |
| SPARE | 1 | 20 | 37 | A | 38 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 39 | B | 40 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 41 | C | 42 | 20 | 1 | SPARE | |

| PANEL LP1 SCHEDULE | | | | | | | | | |
|---|-------|------|-----|---|-----|------|-------|---------------------|--|
| 120/208 VOLTS 3Ø 4W 125 AMP MCB SURFACE MOUNTED | | | | | | | | | |
| EATON POW-R-LINE SERIES OR EQUIVALENT | | | | | | | | | |
| CIRCUIT DESCRIPTION | POLES | AMPS | CKT | Ø | CKT | AMPS | POLES | CIRCUIT DESCRIPTION | |
| LIGHTING | 1 | 20 | 1 | A | 2 | 20 | 1 | RECEPTACLES | |
| LCP | 1 | 20 | 3 | B | 4 | 20 | 1 | RECEPTACLES | |
| UH-1 | 1 | 20 | 5 | C | 6 | 20 | 1 | OHD, RECEPTACLES | |
| UH-2 | 1 | 20 | 7 | A | 8 | 20 | 1 | RECEPTACLES | |
| EF-1 | 1 | 20 | 9 | B | 10 | 20 | 1 | RECEPTACLES | |
| SPARE | 1 | 20 | 11 | C | 12 | 20 | 1 | SP-1 | |
| SPARE | 1 | 20 | 13 | A | 14 | 20 | 1 | SUMP PUMP ALARM | |
| WH-1 | 2 | 40 | 15 | B | 16 | 20 | 1 | SPARE | |
| — | — | — | 17 | C | 18 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 19 | A | 20 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 21 | B | 22 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 23 | C | 24 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 25 | A | 26 | 20 | 1 | SPARE | |
| SPARE | 1 | 20 | 27 | B | 28 | 50 | 2 | WELDING RECEPT. | |
| SPARE | 1 | 20 | 29 | C | 30 | — | — | — | |



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ELECTRICAL PLANS
WASTEWATER TREATMENT FACILITY UPGRADES
WASTEWATER TREATMENT PLANT IMPROVEMENTS
MOBRIE, SOUTH DAKOTA
PROCESS BUILDING 78 SCHEDULES

DATE: 1/8/2026
REV DATE: ---
REV NUM: ---
RECORD: ---
PROJECT No. 25547
MANAGER: JJB
DESIGNER: JJB
DRAFTER: JJB
REVIEWER: JJB

E78-501