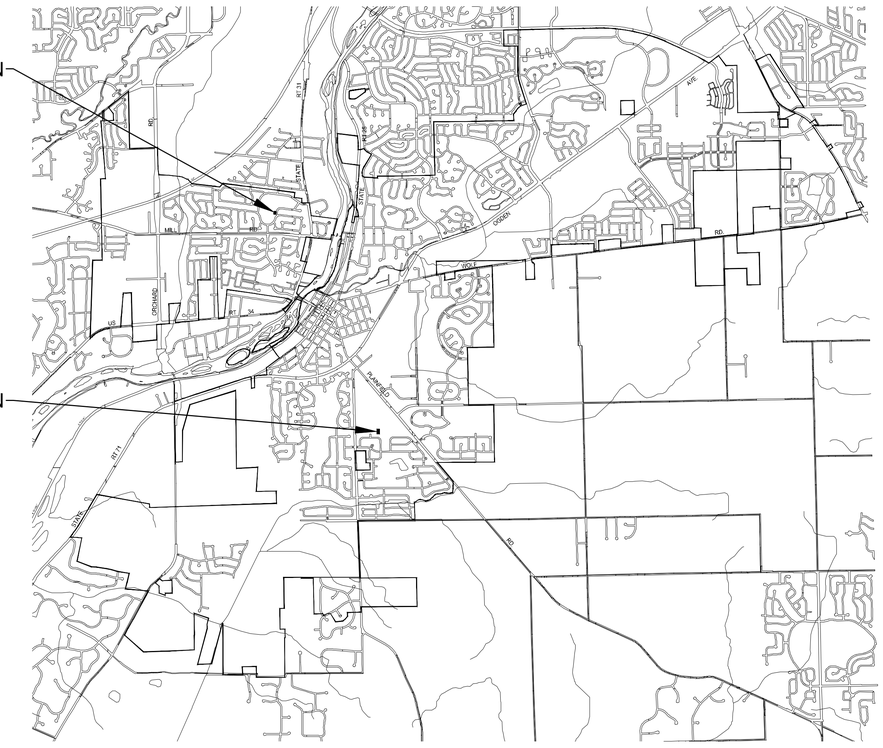
FOR BIDDING

VILLAGE OF OSWEGO, ILLINOIS
WATER SYSTEM IMPROVEMENTS
WELLS NOS. 6 AND 8 ELECTRICAL REMODELING

PROJECT LOCATION
WELL NO 6
245 LENNOX DRIVE
OSWEGO, IL 60543

PROJECT LOCATION
WELL NO 8
3700 GROVE ROAD
OSWEGO, IL 60543



VICINITY MAP

INDEX					
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	GENERAL	CIVIL	STRUCT.	MECH.	ELEC.
COVER SHEET					
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EXISTING UTILITIES:

WHERE THE DRAWINGS INCLUDE INFORMATION PERTAINING TO THE LOCATION OF UNDERGROUND UTILITY FACILITIES, SUCH INFORMATION REPRESENTS ONLY THE OPINION OF THE ENGINEER AS TO THE LOCATION OF SUCH UTILITIES. THE INFORMATION IS INCLUDED ONLY FOR THE CONVENIENCE OF THE CONTRACTOR. THE UTILITY LOCATIONS WERE DETERMINED FROM THE BEST AVAILABLE RECORDS. THE ENGINEER AND OWNER ASSUME NO RESPONSIBILITY WHATEVER WITH RESPECT TO THE SUFFICIENCY OR ACCURACY OF THE INFORMATION SHOWN ON THE DRAWINGS REGARDING THE LOCATION OF UNDERGROUND UTILITY FACILITIES OR THE MANNER IN WHICH THEY ARE TO BE REMOVED OR ADJUSTED. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE THE ACTUAL LOCATION OF ALL SUCH FACILITIES. THE CONTRACTOR SHALL OBTAIN FROM THE RESPECTIVE UTILITY COMPANIES DETAILED INFORMATION REGARDING THE LOCATION OF THE UTILITY FACILITIES AND THE WORKING SCHEDULES OF THE UTILITY COMPANIES FOR REMOVING OR ADJUSTING THE FACILITIES.

JULIE ILLINOIS ONE-CALL SYSTEM
Simply Call 811

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1" .5" 0 1" 2" 3"

12/17/19
HARRY D. HARMAN
62-42599
LICENSED PROFESSIONAL ENGINEER OF
STATE OF ILLINOIS
PROJECT MANAGER
"LICENSE EXPIRES 11-30-2021"

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"LICENSE EXPIRES 11-30-2021"

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PROJECT NO.: 181040 DATE: 12-17-19

\\CORP.BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\COVER SHEET.DWG COVER
Plotted: 12/17/2019 11:38 AM By: 078MSB

SITE, BUILDING & STRUCTURE PLAN SYMBOLS

- POWER POLE
- DB — UNDERGROUND DUCT BANK
- UD — UNIT DUCT
- OH — OVERHEAD CABLE
- CF — CONDUIT CONCEALED IN BACKFILLED AREA
- UC — DIRECT BURIAL CABLE
- U — UNDERGROUND CONDUIT
- F — CONDUIT CONCEALED IN FLOOR SLAB
- C — CONDUIT CONCEALED IN CEILING SLAB
- W — CONDUIT CONCEALED IN WALL
- AC — CONDUIT CONCEALED ABOVE SUSPENDED CEILING
- CS — CONDUIT CONCEALED BELOW FLOOR SLAB
- CC — CONDUIT CONCEALED ABOVE ROOF/CEILING SLAB
- AG — CONDUIT CONCEALED ABOVE GYPSUM BOARD CEILING
- ES — EXPOSED SUPPORTED CONDUIT
- EW — EXPOSED CONDUIT ON WALL
- EC — EXPOSED CONDUIT ON CEILING
- EP — EXPOSED CONDUIT BELOW PLATFORM
- ER — EXPOSED CONDUIT ON RAILING
- FLEXIBLE CONDUIT
- FLEXIBLE CABLE OR CORD
- DOT INDICATES CHANGE IN CONDUIT ELEVATION OR CONNECTION TO FLEXIBLE CONDUIT
- ¾"C-4 #12 — INDICATES CONDUIT SIZE AND NO. & SIZE OF CONDUCTORS
- C1-12 — INDICATES CONDUIT TYPE & NO. SEE CONDUIT SCHEDULE
- EXISTING CONDUITS (* SAME DESIGNATIONS AS PROPOSED)
- EXISTING CONDUITS TO BE REMOVED (* SAME DESIGNATIONS AS PROPOSED)

NOTE: UNDESIGNATED CONDUITS = 1/2"C – 2#12

- (14) — LIGHT FIXTURE – ( )= CKT. NO. SEE LIGHTING FIXTURE SCHEDULE
- (14) — FLOOD LIGHT FIXTURE – ( )= CKT. NO. SEE LIGHTING FIXTURE SCHEDULE
- (2) — LINEAR LIGHT FIXTURE – ( )= CKT. NO. SEE LIGHTING FIXTURE SCHEDULE
- EX- ( ) — EXIT LIGHT – ( )= CKT. NO. SEE LIGHTING FIXTURE SCHEDULE
- EM- ( ) — EMERGENCY LIGHT – ( )= CKT. NO. SEE LIGHTING FIXTURE SCHEDULE
- EMERGENCY LIGHT REMOTE LIGHT HEAD SEE LIGHTING FIXTURE SCHEDULE
- S (6) — MOTOR – APPROXIMATE HORSE POWER INDICATED ( ) = CIRCUIT NO. WHEN INDICATED
- MV — MOTORIZED VALVE OPERATOR
- EX — EXISTING LIGHT FIXTURE
- EX — EXISTING LINEAR LIGHT FIXTURE
- EX — EXISTING MOTOR
- EX — EXISTING LIGHT FIXTURE TO BE REMOVED
- EX — EXISTING LINEAR LIGHT FIXTURE TO BE REMOVED
- EX — EXISTING MOTOR TO BE REMOVED

- DS — SAFETY DISCONNECT SWITCH
- M — MANUAL MOTOR STARTER
- DRUM REVERSING SWITCH
- OUTLET BOX OR JUNCTION BOX
- 5.0 KW OR 5.0 KW — ELECTRIC UNIT HEATER APPROX. SIZE INDICATED
- EWH — ELECTRIC WATER HEATER
- EWC — ELECTRIC WATER COOLER
- PC — PHOTOCELL
- T — THERMOSTAT
- H — HUMIDISTAT
- A — AQUASTAT
- FS — FLOAT SWITCH
- LT — LEVEL TRANSDUCER
- PT — PRESSURE TRANSMITTER
- LS — LIMIT SWITCH
- S — SOLENOID
- DO — DISSOLVED OXYGEN PROBE
- ORP — OXIDATION REDUCTION POTENTIAL PROBE
- pH — pH PROBE
- VS — VACUUM SWITCH
- M — FLOW METER
- EMH — ELECTRIC MANHOLE
- EHH — ELECTRIC HANDHOLE
- XXXX 201 — INSTRUMENTATION/CONTROL DEVICE (XXXX – SEE TABLE BELOW)

X X X X

- F = FLOW
- L = LEVEL
- P = PRESSURE
- T = TEMPERATURE
- K = TIME
- Z = POSITION

- E = PRIMARY ELEMENT
- S = SWITCH
- V = VALVE

- C = CONTROLLER
- I = INDICATOR
- R = RECORDER
- T = TRANSMITTER
- Q = QUANTITY (TOTALIZE)
- V = VALVE

- 24" (1) — 120V DUPLEX RECEPTACLE – ( )= CKT. NO. 24" = MOUNTING HEIGHT ABOVE FLOOR
- 120V SINGLE RECEPTACLE
- 20A — 240V, 20A, SINGLE RECEPTACLE
- 480V, 3 PHASE RECEPTACLE
- S1 — SINGLE POLE TOGGLE SWITCH
- S2 — DOUBLE POLE TOGGLE SWITCH
- S3 — THREE-WAY TOGGLE SWITCH
- S4 — FOUR-WAY TOGGLE SWITCH
- S1/OS — SINGLE POLE TOGGLE SWITCH WITH OCCUPANCY/VACANCY SENSOR
- S3/OS — THREE-WAY TOGGLE SWITCH WITH OCCUPANCY/VACANCY SENSOR
- JB — JUNCTION BOX
- WP — INDICATES WEATHERPROOF DEVICE
- XP — INDICATES EXPLOSIONPROOF DEVICE
- EX — INDICATES EXISTING DEVICE
- H/S — FIRE ALARM HORN/STROBE
- SD — SMOKE DETECTOR (HD = HEAT DETECTOR)
- FB — FIRE ALARM BELL
- ALARM HORN
- COMMUNICATIONS SPEAKER
- T — TELEPHONE JACK
- DATA JACK
- "UP-STOP-DOWN" PUSHBUTTON STATION
- "ON-OFF" SELECTOR SWITCH W/ SPRING RETURN TO CENTER POSITION
- MOMENTARY CONTACT "START-STOP" PUSHBUTTON STATION
- MAINTAINED CONTACT "START-STOP" PUSHBUTTON STATION
- MOMENTARY CONTACT "START-STOP" PUSHBUTTON STATION W/ HASP HOLD ON STOP
- "STOP-HOLD" PUSHBUTTON STATION W/ HASP HOLD

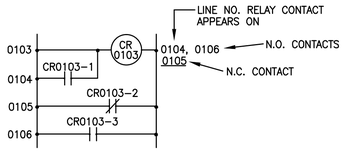
CONTROL SCHEMATIC SYMBOLS

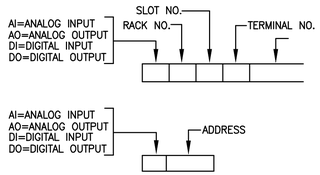
- TRANSFORMER
- FUSE
- MS — OVRLDS — MOTOR STARTER COIL W/ OVERLOADS
- RTM — RUNNING TIME METER
- G — INDICATING LIGHT
- R — PUSH TO TEST TYPE INDICATING LIGHT

INDICATING LIGHT COLOR DESIGNATIONS:

A – AMBER	O – ORANGE	Y – YELLOW
B – BLUE	P – PURPLE	FL – FLUORESENT
C – CLEAR	R – RED	NE – NEON
G – GREEN	W – WHITE	OP – OPALESCENT

- CR — CONTROL RELAY
- PR — POWER RELAY
- TDR — TIME DELAY RELAY
- AR — ALTERNATING RELAY
- LR — LATCHING RELAY
- FLOW ACTUATED SWITCH – NORMALLY OPEN
- FLOW ACTUATED SWITCH – NORMALLY CLOSED
- NORMALLY OPEN TIMER CONTACT – DELAY CLOSE WHEN COIL IS ENERGIZED
- PUSHBUTTON – NORMALLY OPEN MOMENTARY CONTACT
- PUSHBUTTON – NORMALLY CLOSED MOMENTARY CONTACT
- MAINTAINED CONTACT TYPE PUSHBUTTON
- MULTI-POSITION SELECTOR SWITCH
- LIMIT SWITCH – NORMALLY OPEN
- LIMIT SWITCH – NORMALLY CLOSED
- SINGLE POLE DOUBLE THROW LIMIT SWITCH
- LIQUID LEVEL – NORMALLY OPEN
- LIQUID LEVEL – NORMALLY CLOSED
- PRESSURE SWITCH – NORMALLY OPEN
- PRESSURE SWITCH – NORMALLY CLOSED
- TEMPERATURE ACTUATED SWITCH – NORMALLY OPEN
- TEMPERATURE ACTUATED SWITCH – NORMALLY CLOSED
- NORMALLY CLOSED TIMER CONTACT – DELAY OPEN WHEN COIL IS ENERGIZED
- NORMALLY OPEN TIMER CONTACT – INSTANT CLOSE WHEN COIL IS ENERGIZED – DELAY OPEN WHEN COIL IS DE-ENERGIZED
- NORMALLY CLOSED TIMER CONTACT – INSTANT OPEN WHEN COIL IS ENERGIZED – DELAY CLOSE WHEN COIL IS DE-ENERGIZED
- NORMALLY OPEN CONTACT (RELAY, MOTOR STARTER, OVERLOAD, ETC.)
- NORMALLY CLOSED CONTACT (RELAY, MOTOR STARTER, OVERLOAD, ETC.)





ABBREVIATIONS & ACRONYMS

A OR AMP.	AMPERE
ACK.	ACKNOWLEDGE
A.F.F.	ABOVE FINISHED FLOOR
ANN	ANNUNCIATOR
ANT.	ANTENNA
AUTO	AUTOMATIC
AUX	AUXILIARY
BAT.	BATTERY
BLDG.	BUILDING
BKR.	BREAKER
C	CONDUIT
CA	CABLE
CAP	CAPACITOR
CCT.	CIRCUIT
CH	CHANNEL
COM.	COMMON
COND.	CONDUCTOR
CONT.	CONTROL
CPU	CENTRAL PROCESSING UNIT
CSR	CURRENT SENSING RELAY
CT	CURRENT TRANSFORMER
D.E.	DUAL ELEMENT
DET	DETECTOR
DSACW	DISCONNECT SWITCH AUXILIARY CONTACT WIRES
DISC.	DISCONNECT
D.O.	DISSOLVED OXYGEN
DPDT	DOUBLE POLE DOUBLE THROW
EGC	EQUIPMENT GROUND CONDUCTOR
ENCL.	ENCLOSURE
EX. or EXIST.	EXISTING
F.O.	FIBER OPTIC
FU	FUSE
FSBL	FUSIBLE
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GND	GROUND
H.O.A.	HAND-OFF-AUTO SELECTOR SWITCH
HD	HEAVY DUTY
HP	HORSE POWER
HWL or H.W.L.	HIGH WATER LEVEL
ISR	INTRINSICALLY SAFE RELAY
JB or J. BOX	JUNCTION BOX
KW	KILOWATT
KWH	KILOWATT HOUR
KVA	KILOVOLT-AMPERE
LGT	LIGHT
LP	LIGHTING PANEL
LTG	LIGHTING
LTS	LIGHTS
LV	LOW VOLTAGE
LWL or L.W.L.	LOW WATER LEVEL
MA	MILIAMPERE
MAN	MANUAL
MCC	MOTOR CONTROL CENTER
MFR	MANUFACTURER
MGD	MILLION GALLONS PER DAY
MMSW	MOTOR MOISTURE SENSOR WIRES
MOSW	MOTOR OVERTEMPERATURE SENSOR WIRES
N	NEUTRAL
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
N.F.	NON-FUSIBLE
NO.	NUMBER
N.O.	NORMALLY OPEN
O	OPEN
OLS	OVERLOADS
ORP	OXIDATION-REDUCTION POTENTIAL
PB	PUSHBUTTON
PLC	PROGRAMMABLE LOGIC CONTROLLER
PNL	PANEL
PPM	PARTS PER MILLION
PR	PROBE
PS	PRESSURE SWITCH
PSI	POUNDS PER SQUARE INCH
PT	PRESSURE TRANSDUCER
PVC	POLYVINYL CHLORIDE
R.A.S.	RETURN ACTIVATED SLUDGE
RM	ROOM
RTM	RUNNING TIME METER
SH.	SHEET
SHD	SHIELDED
SIL	SILENCE
SOL	SOLENOID
SPDT	SINGLE POLE DOUBLE THROW
SW	SWITCH
SWGR	SWITCHGEAR
TDR	TIME DELAY RELAY
TM	TIMER
TYP.	TYPICAL
V	VOLT
VAC	VOLTS ALTERNATING CURRENT
W.A.S.	WASTE ACTIVATED SLUDGE
WHM	WATT-HOUR METER
WM	WATT METER
WP	WEATHERPROOF
X	CLOSE
XFMR	TRANSFORMER
XMTR	TRANSMITTER
2P	TWO POLE
3P	THREE POLE

MOTOR CONTROL CENTER SYMBOLS

- OR — CIRCUIT BREAKER
- MULTI-POSITION SELECTOR SWITCH
- L-O-R — "LOCAL-OFF-REMOTE"
- H – A — "HAND-AUTO"
- H-O-A — "HAND-OFF-AUTO"
- ON-O-R — "ON-OFF-REMOTE"
- ON-O-I — "ON-OFF-INTERMITTENT"
- F-R — "FORWARD-REVERSE"
- PUSHBUTTON
- HAND RESET
- INDICATING (PILOT) LIGHT
- GND DET — GROUND DETECTOR SYSTEM
- RTM — RUNNING TIME METER
- TIMER
- V — VOLTMETER
- AM — AMMETER
- ALARM HORN
- 100 KW — EMERGENCY GENERATOR 100KW DESIGNATES SIZE
- LP — LIGHTING PANEL
- DS — DISCONNECT SWITCH (30A. UNLESS OTHERWISE NOTED)
- ? — MOTOR – APPROX. H.P. INDICATED
- NON-FUSIBLE DISCONNECT
- FUSIBLE DISCONNECT
- CIRCUIT BREAKER WITH SHUNT TRIP
- THERMAL OVERLOAD RELAY
- 1 — MAGNETIC STARTER (1=NEMA SIZE)
- TRANSFORMER
- POTENTIAL TRANSFORMER
- CURRENT TRANSFORMER
- FUSE

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REVISIONS

NO.	DATE	DESCRIPTION

* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING

1" 0 .5" 1" 2" 3"

PLAN SHEET DESIGNATION

COVER
- G - GENERAL
- H - HAZARDOUS MATERIALS
- C - CIVIL
- L - LANDSCAPE
- S - STRUCTURAL
- A - ARCHITECTURAL
- I - INSTRUMENTATION
- Q - EQUIPMENT
- F - FIRE PROTECTION
- P - PLUMBING
- M - MECHANICAL
- E - ELECTRICAL
- T - TELECOMMUNICATIONS
- R - RESOURCE

PROJECT NO:	181040
SCALE:	AS NOTED
DATE:	12-17-19
DESIGNED BY:	PVT
DRAWN BY:	PVT
CHECKED BY:	HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

WATER SYSTEM IMPROVEMENTS WELLS NOS. 6 AND 8 ELECTRICAL REMODELING

SHEET TITLE

ELECTRICAL SYMBOL LIST AND ABBREVIATIONS

ELECTRICAL DETAILS

E-1

\\CORP-BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\ELEC SYMBOL SHEET.DWG E-1 ELECTRICAL SYMBOL LIST
Plotted: 12/17/19 By: 078MSB
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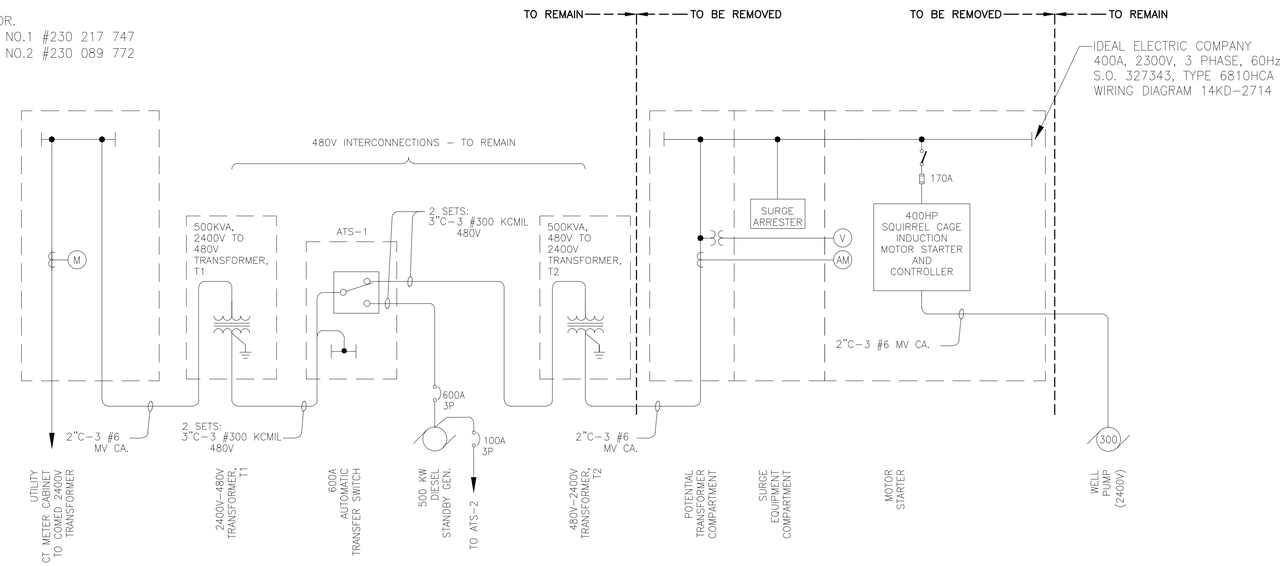
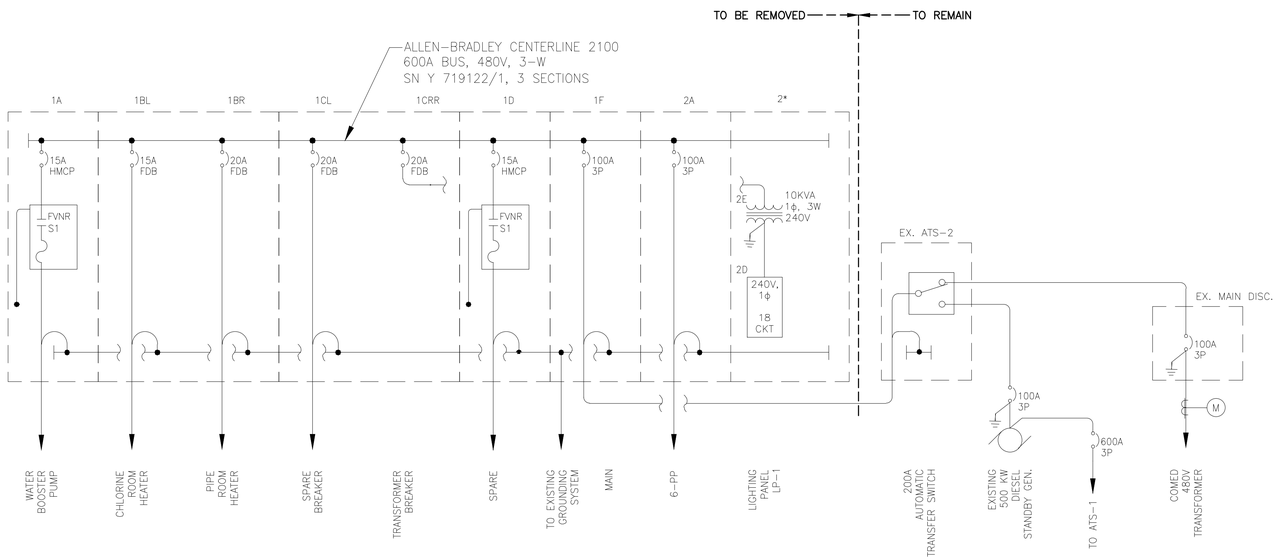
WELL NO. 6
245 LENNOX DR.
COMED METER NO.1 #230 217 747
COMED METER NO.2 #230 089 772



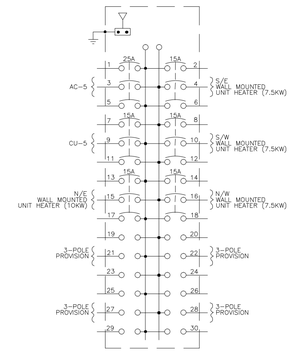
EXISTING WELL NO.6 MEDIUM VOLTAGE ONE LINE DIAGRAM

NO SCALE



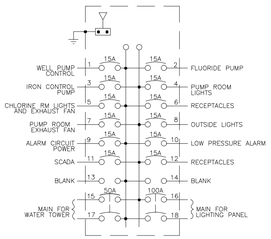
EXISTING WELL NO.6 MCC ONE LINE DIAGRAM

NO SCALE



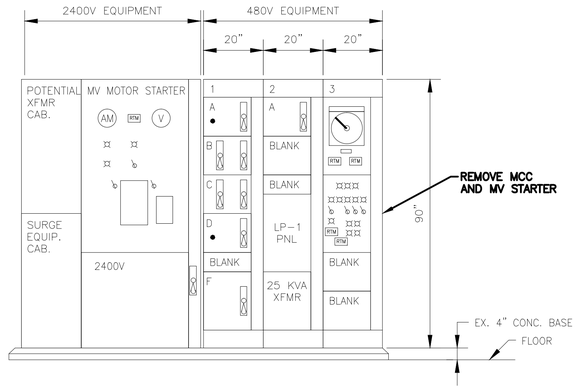
EXISTING DISTRIBUTION PANEL, PP-8

100 AMP BUS W/MAIN CIRCUIT BREAKER
480 VOLT, 3ϕ, 3-WIRE
(LOCATED IN WRT ROOM)



EXISTING LIGHTING PANEL

100 AMP BUS MLO
120/240 VOLT, 1ϕ, 3-WIRE
(LOCATED IN MCC)



EXISTING WELL NO. 6 MCC LINE-UP

NO SCALE
(TO BE REMOVED)

EXISTING MCC UNIT &/OR SECTION IDENTIFICATION

1A. "WATER BOOSTER PUMP" MOTOR STARTER DISC BREAKER.
1BL. "CHLORINE ROOM HEATER" FEEDER DISC BREAKER.
1BR. "PUMP ROOM HEATER" FEEDER DISC BREAKER.
1CL. "SPARE BREAKER" DISC BREAKER.
1CR. "TRANSFORMER BREAKER" FEEDER DISC BREAKER.
1D. "SPARE" MOTOR STARTER DISC BREAKER.

2A. "6-PP" FEEDER DISC BREAKER.
2B. BLANK
2C. BLANK
2D. "LIGHTING PANEL"
2E. BLANK COVER FOR LIGHTING TRANSFORMER

3A. "WELL FLOW" & "WELL PRESSURE" INSTRUMENTATION
3B. WELL CONTROL PANEL
3C. BLANK
3D. BLANK

NOTES:

1. **EXISTING MOTOR CONTROL CENTER ONE-LINE WAS DOCUMENT AS-IS ON JULY 30, 2019. CONTRACTOR TO TAG ALL WIRING FOR RECONNECTION TO NEW MCC UNLESS NOTED OTHERWISE.**
2. **REMOVE EXISTING 2400V PT CABINET, SURGE EQUIPMENT DEVICE, AND MEDIUM VOLTAGE MOTOR STARTER CABINET. RETAIN EXISTING 2400V FEEDERS FOR NEW MEDIUM VOLTAGE SOFT STARTER REPLACEMENT.**
3. **REMOVE EXISTING 480V MCC AND PUMP CONTROLS. RETAIN EXISTING LOW VOLTAGE POWER UP TO 480V AND CONTROLS CONDUITS AND CABLES FOR RECONNECTION TO NEW MCC.**

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REVISIONS

NO.	DATE	DESCRIPTION

* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING

PLAN SHEET DESIGNATION
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PROJECT NO: 181040

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DATE: 12-17-19
DESIGNED BY: PVT
DRAWN BY: PVT
CHECKED BY: HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

WATER SYSTEM IMPROVEMENTS WELLS NOS. 6 AND 8 ELECTRICAL REMODELING

SHEET TITLE

WELL NO 6 DEMOLITION ONE-LINE DIAGRAM AND ELECTRICAL DETAILS

E-2

\\CORP.BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\WELL NO 6 ONE LINES.DWG E-2 WELL NO 6 DEMOLITION
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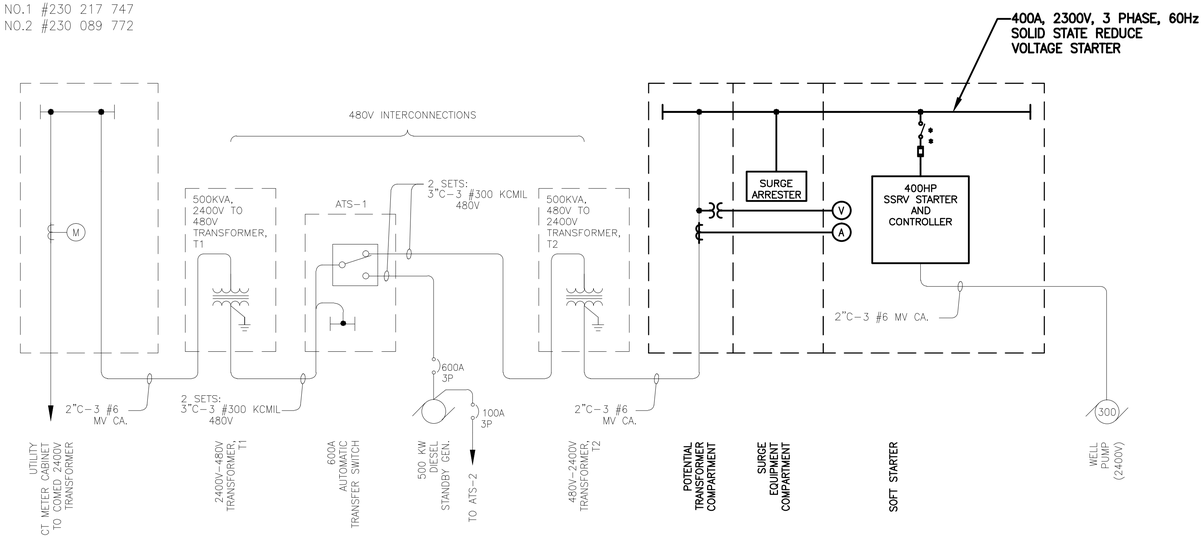
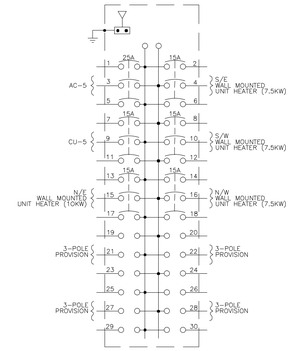
WELL NO. 6
245 LENNOX DR.
COMED METER NO.1 #230 217 747
COMED METER NO.2 #230 089 772



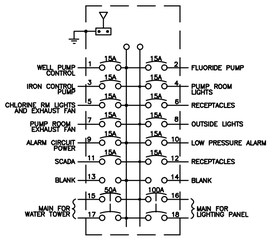
PROPOSED WELL NO.6 MEDIUM VOLTAGE ONE LINE DIAGRAM

NO SCALE



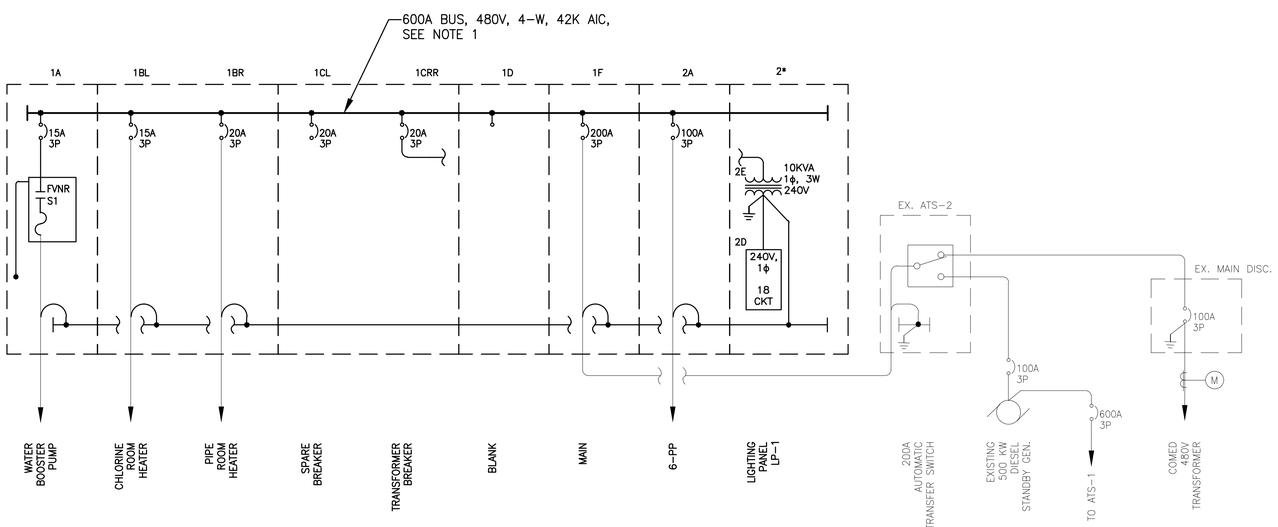
EXISTING DISTRIBUTION PANEL, PP-8

100 AMP BUS W/MAIN CIRCUIT BREAKER
480 VOLT, 3ϕ, 3-WIRE
(LOCATED IN WRT ROOM)



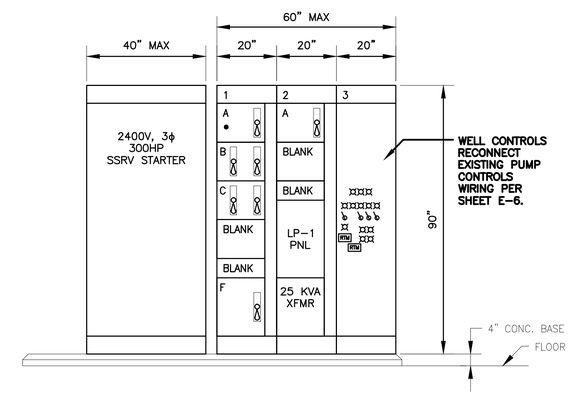
LIGHTING PANEL

100 AMP BUS MLO
120/240 VOLT, 1ϕ, 3-WIRE
(LOCATED IN MCC)



PROPOSED WELL NO.6 MCC ONE LINE DIAGRAM

NO SCALE



PROPOSED WELL NO. 6 MCC LINE-UP

NO SCALE

MCC UNIT &/OR SECTION IDENTIFICATION

1A. "WATER BOOSTER PUMP" MOTOR STARTER DISC BREAKER.
1BL. "CHLORINE ROOM HEATER" FEEDER DISC BREAKER.
1BR. "PUMP ROOM HEATER" FEEDER DISC BREAKER.
1CL. "SPARE BREAKER" DISC BREAKER.
1CR. "TRANSFORMER BREAKER" FEEDER DISC BREAKER.
1D. BLANK.

2A. "6-PP" FEEDER DISC BREAKER.
2B. BLANK
2C. BLANK
2D. "LIGHTING PANEL."
2E. BLANK COVER FOR LIGHTING TRANSFORMER

3A. "WELL CONTROL PANEL" – SEE NOTE 2

NOTES:

1. PROVIDE 200A MAIN BREAKER, 480V, 3-PHASE, 4-WIRE MCC TO REPLACE EXISTING MCC LAYOUT. NEW MCC MUST NOT EXCEED EXISTING DIMENSIONS.
2. CONTRACTOR TO RECONNECT EXISTING POWER AND CONTROLS FROM EXISTING EQUIPMENT UNLESS NOTED OTHERWISE.
   A. COORDINATE WITH VILLAGE INTEGRATOR TO UPGRADE EXISTING SCADA PANEL OIT.
3. PROVIDE NEW 2400V SOFT STARTER WITH SURGE PROTECTION, CT/PT, H-O-A, AND MOTOR PROTECTION TO REPLACE EXISTING MV MOTOR STARTER.
4. PROVIDE 3/4"C-(1) E-NET CA. FROM NEW SOFT STARTER TO EXISTING SCADA PANEL.

BAXTER & WOODMAN
Consulting Engineers

CONSULTANTS

MILESTONE

FOR BIDDING

REVISIONS

NO.	DATE	DESCRIPTION

* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING

PLAN SHEET DESIGNATION
COVER
G - GENERAL
H - HAZARDOUS MATERIALS
C - CIVIL
L - LANDSCAPE
S - STRUCTURAL
A - ARCHITECTURAL
I - INSTRUMENTATION
Q - EQUIPMENT
F - FIRE PROTECTION
P - PLUMBING
M - MECHANICAL
E - ELECTRICAL
T - TELECOMMUNICATIONS
R - RESOURCE

PROJECT NO:	181040
SCALE:	AS NOTED
DATE:	12-17-19
DESIGNED BY:	PVT
DRAWN BY:	PVT
CHECKED BY:	HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

**WATER SYSTEM IMPROVEMENTS
WELLS NOS. 6 AND 8
ELECTRICAL REMODELING**

SHEET TITLE

**WELL NO 6 PROPOSED
ONE-LINE DIAGRAM
AND ELECTRICAL DETAILS**

E-3

\\CORP-BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\WELL NO 6 ONE LINE NEW.DWG E-3 WELL NO 6 PROPOSED
Plotted: 12/17/19 By: 078MSB
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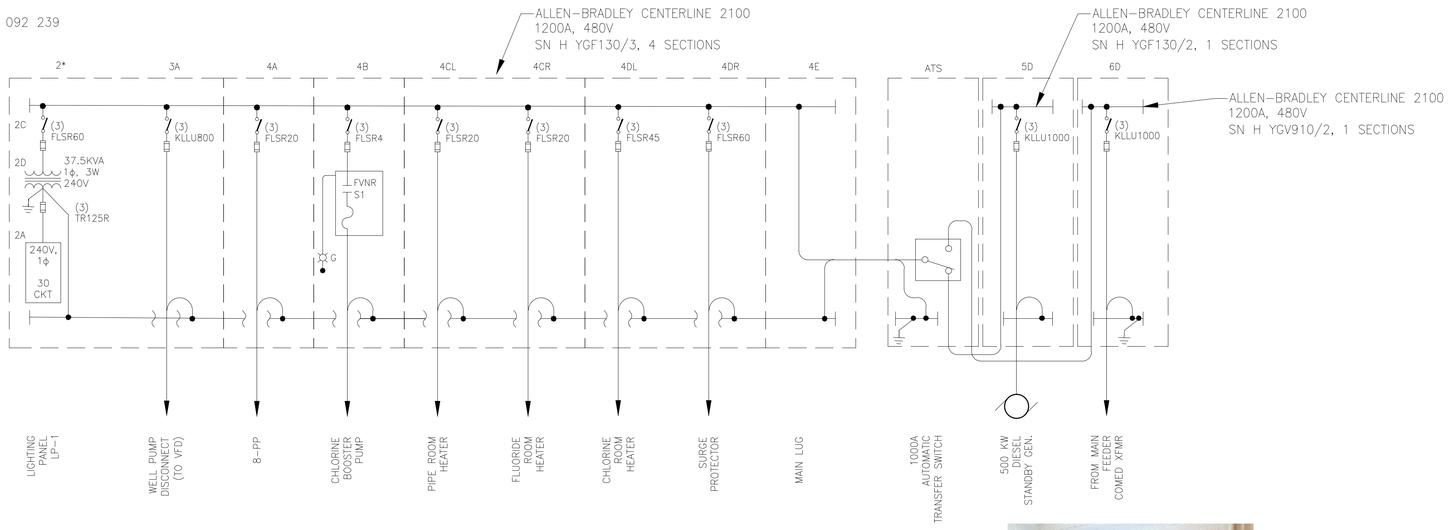
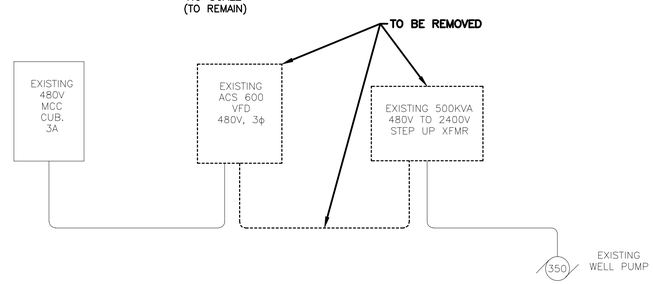
WELL NO. 8
3700 GROVE RD
COMED METER #230 092 239



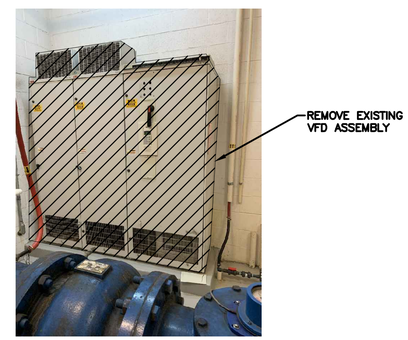
EXISTING WELL NO.8 ONE LINE DIAGRAM

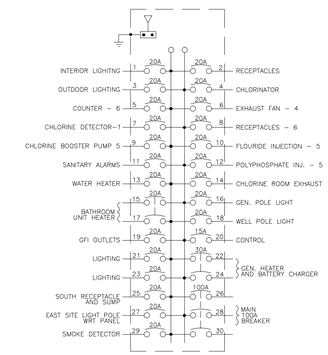
NO SCALE
(TO REMAIN)



EXISTING WELL NO.8 CONNECTION DIAGRAM

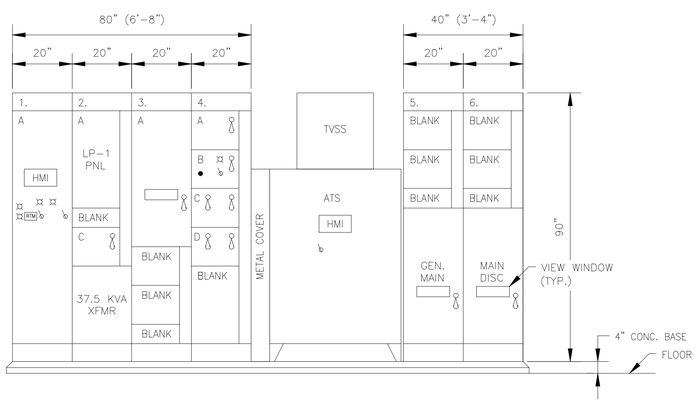
NO SCALE





EXISTING LIGHTING PANEL

100 AMP BUS W/MAIN CIRCUIT BREAKER
120/240 VOLT, 1ϕ, 3-WIRE
(LOCATED IN MCC)



EXISTING WELL NO. 8 MCC LINE-UP

NO SCALE
(TO REMAIN)

EXISTING MCC UNIT &/OR SECTION IDENTIFICATION

1A. "CONTROL AND INSTRUMENTATION"

2A. "LIGHTING PANEL"
2B. BLANK
2C. "CONTROL AND LIGHTING TRANSFORMER" FUSE DISC.
2D. BLANK COVER FOR LIGHTING TRANSFORMER

3A. "WELL PUMP DISCONNECT" FUSED DISC.
3B. BLANK
3C. BLANK
3D. BLANK

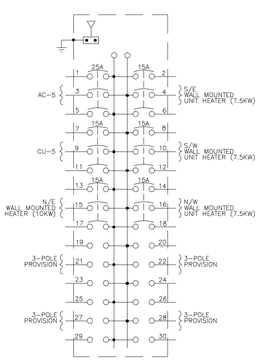
4A. "8-PP" FUSED DISC.
4B. "CHLORINE BOOSTER PUMP" FUSED DISC. WITH MOTOR STARTER.
4CL. "PIPE ROOM HEATER" FUSE DISC.
4CR. "FLUORIDE ROOM HEATER" FUSE DISC.
4DL. "CHLORINE ROOM HEATER" FUSE DISC.
4DR. "SURGE PROTECTION" FUSE DISC.
4E. BLANK COVER FOR INCOMING FEEDERS.

5A. BLANK COVER
5B. BLANK COVER
5C. BLANK COVER
5D. "GENERATOR MAIN DISCONNECT" FUSED DISC.

6A. BLANK COVER
6B. BLANK COVER
6C. BLANK COVER.
6D. "MAIN DISCONNECT" FUSE DISC.

NOTES:

1. EXISTING MOTOR CONTROL CENTER ONE-LINE WAS DOCUMENT AS-IS ON JULY 30, 2019.
2. REMOVE AND REPLACE EXISTING 480V VFD ASSEMBLY AND STEP-UP TRANSFORMER. PROTECT EXISTING FEEDERS AND CONTROLS WIRING FOR RECONNECTION TO NEW VFD ASSEMBLY AND NEW STEP-UP TRANSFORMER. REMOVE ANY ABANDONED CONDUITS AND WIRING.
3. COORDINATE WITH COMED UTILITY TO CHANGE 480V, 4-WIRE SERVICE TO 480V, 3-SERVICE.



EXISTING DISTRIBUTION PANEL, PP-8

100 AMP BUS W/MAIN CIRCUIT BREAKER
480 VOLT, 3ϕ, 3-WIRE
(LOCATED IN WRT ROOM)

BAXTER & WOODMAN
Consulting Engineers

CONSULTANTS

MILESTONE

FOR BIDDING

REVISIONS

NO.	DATE	DESCRIPTION

* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING
** -

1" 0 1" 2" 3"
.5"

PLAN SHEET DESIGNATION

COVER
G - GENERAL
H - HAZARDOUS MATERIALS
C - CIVIL
L - LANDSCAPE
S - STRUCTURAL
A - ARCHITECTURAL
I - INSTRUMENTATION
Q - EQUIPMENT
F - FIRE PROTECTION
P - PLUMBING
M - MECHANICAL
E - ELECTRICAL
T - TELECOMMUNICATIONS
R - RESOURCE

PROJECT NO:	181040
SCALE:	AS NOTED
DATE:	12-17-19
DESIGNED BY:	PVT
DRAWN BY:	PVT
CHECKED BY:	HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

**WATER SYSTEM IMPROVEMENTS
WELLS NOS. 6 AND 8
ELECTRICAL REMODELING**

SHEET TITLE

**WELL NO 8 DEMOLITION
ONE-LINE DIAGRAM
AND ELECTRICAL DETAILS**

E-4

\\CORP.BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\WELL NO 8 ONE LINES.DWG E-4 WELL NO 8 DEMOLITION
Plotted: 12/17/19 By: 078MSB
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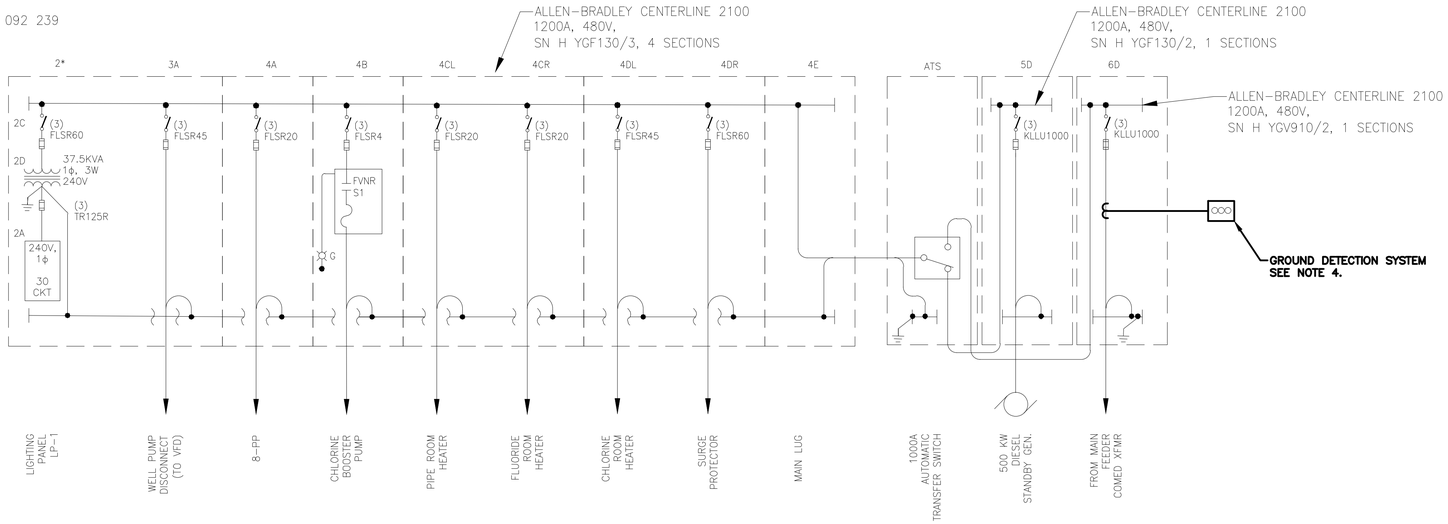
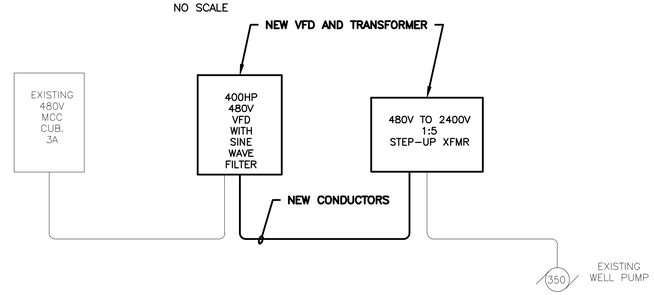
WELL NO. 8
3700 GROVE RD
COMED METER #230 092 239



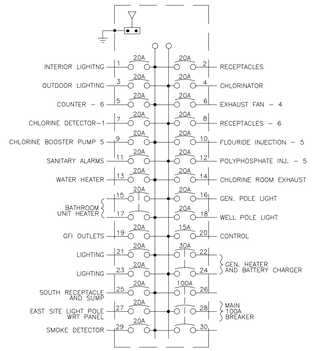
PROPOSED WELL NO.8 ONE LINE DIAGRAM

NO SCALE



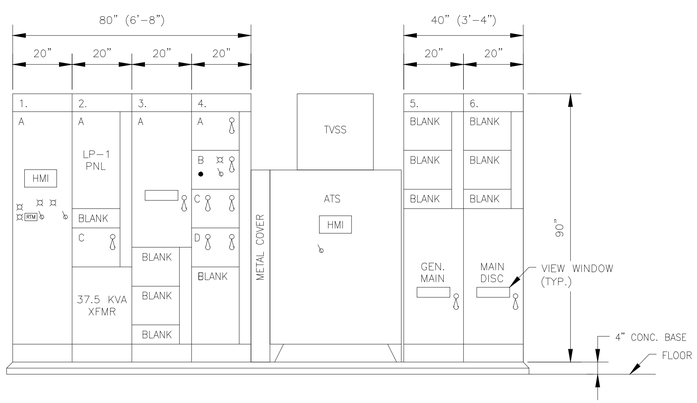
EXISTING WELL NO.8 CONNECTION DIAGRAM

NO SCALE



EXISTING LIGHTING PANEL

100 AMP BUS W/MAIN CIRCUIT BREAKER
120/240 VOLT, 1ϕ, 3-WIRE
(LOCATED IN MCC)



PROPOSED WELL NO. 8 MCC LINE-UP

NO SCALE

EXISTING MCC UNIT &/OR SECTION IDENTIFICATION

1A. "CONTROL AND INSTRUMENTATION"

2A. "LIGHTING PANEL"
2B. BLANK
2C. "CONTROL AND LIGHTING TRANSFORMER" FUSE DISC.
2D. BLANK COVER FOR LIGHTING TRANSFORMER

3A. "WELL PUMP DISCONNECT" FUSED DISC.
3B. BLANK
3C. BLANK
3D. BLANK

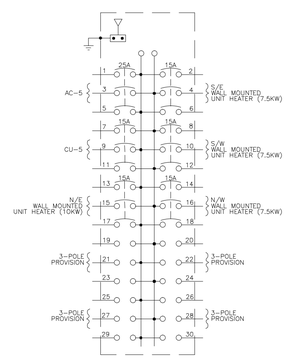
4A. "8-PP" FUSED DISC.
4B. "CHLORINE BOOSTER PUMP" FUSED DISC. WITH MOTOR STARTER.
4CL. "PIPE ROOM HEATER" FUSE DISC.
4CR. "FLUORIDE ROOM HEATER" FUSE DISC.
4DL. "CHLORINE ROOM HEATER" FUSE DISC.
4DR. "SURGE PROTECTION" FUSE DISC.
4E. BLANK COVER FOR INCOMING FEEDERS.

5A. BLANK COVER
5B. BLANK COVER
5C. BLANK COVER
5D. "GENERATOR MAIN DISCONNECT" FUSED DISC.

6A. BLANK COVER
6B. BLANK COVER
6C. BLANK COVER.
6D. "MAIN DISCONNECT" FUSE DISC.

NOTES:

1. EXISTING MOTOR CONTROL CENTER ONE-LINE WAS DOCUMENT AS-IS ON JULY 30, 2019.
2. PROVIDE VFD ASSEMBLY TO REPLACE EXISTING VFD ASSEMBLY FOR 350HP DEEP WELL PUMP. NEW ASSEMBLY MUST NOT EXCEED ORIGINAL WIDTH.
   A. VFD WITH FILTER, LINE REACTOR, ETC. TO MEET IEEE-519 REQUIREMENTS.
   B. SINE WAVE FILTER OUTPUT TO BE SIZE WITH STEP-UP TRANSFORMER.
3. PROVIDE A 480V TO 2400V, 3-PHASE DRIVE ISOLATION STEP-UP TRANSFORMER TO FEED EXISTING 350 HP DEEP WELL PUMP. MODIFY OR REPLACE EXISTING EQUIPMENT PAD IF REQUIRED.
4. COORDINATE WITH COMED UTILITY TO CHANGE 4-WIRE SERVICE TO A 3-WIRE SERVICE. PROVIDE GROUND DETECTION SYSTEM TO EXISTING MCC. ADD CONDUITS AND WIRING AS NEEDED FOR PROPERLY FUNCTIONAL SYSTERM.



EXISTING DISTRIBUTION PANEL, PP-8

100 AMP BUS W/MAIN CIRCUIT BREAKER
480 VOLT, 3ϕ, 3-WIRE
(LOCATED IN WRT ROOM)

BAXTER & WOODMAN Consulting Engineers

CONSULTANTS

MILESTONE

FOR BIDDING

REVISIONS		
NO.	DATE	DESCRIPTION

* - REFER TO EQUIPMENT MANUFACTURER'S SHOP DRAWING

1" .5" 0 1" 2" 3"

PLAN SHEET DESIGNATION

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R - RESOURCE

PROJECT NO: 181040

SCALE: AS NOTED
DATE: 12-17-19
DESIGNED BY: PVT
DRAWN BY: PVT
CHECKED BY: HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

WATER SYSTEM IMPROVEMENTS WELLS NOS. 6 AND 8 ELECTRICAL REMODELING

SHEET TITLE

WELL NO 8 PROPOSED ONE-LINE DIAGRAM AND ELECTRICAL DETAILS

E-5

\\CORP.BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\WELL NO 8 ONE LINES.DWG E-5 WELL NO 8 PROPOSED
Plotted: 12/17/19 By: DTMSB
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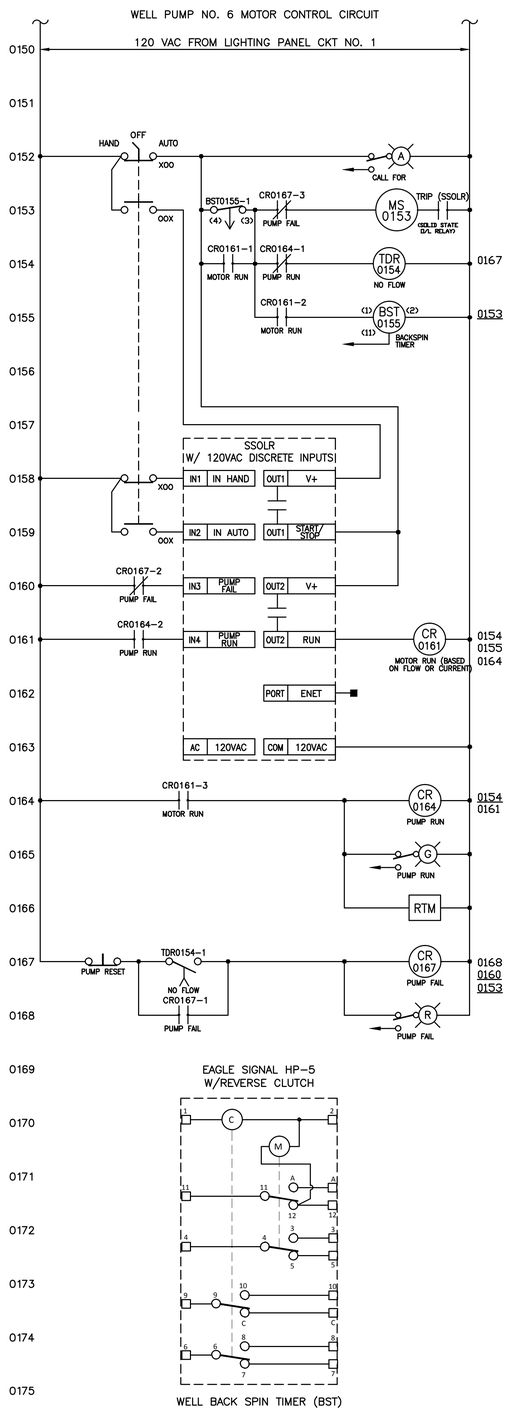

NOTES:

1. VFD/SSOLR WIRING SCHEMATIC IS ONLY GENERAL, TO SHOW REQUIRED FUNCTIONS. ACTUAL VFD/SSOLR WIRING MAY VARY DEPENDING ON MANUFACTURER SUPPLIED. VFD/SSOLR TO BE WIRED PER MANUFACTURER'S SPECIFICATIONS.
2. MONITOR THE "START" AND "SPEED SELECT 1" VFD INPUTS VIA ETHERNET TO DETERMINE IF THE H/O/A SWITCH IS IN THE "HAND" OR "AUTO" POSITION. "HAND" & "AUTO" POSITIONS CAN BE DIRECT INPUTS TO ENET I/O MODULE (NOT SHOWN), IF REQUIRED.
3. MONITOR RUN BIT IN SSOLR OR VFD TO INDICATE MOTOR RUN STATUS. MONITOR FAIL INPUT/FAULT BIT TO/IN SSOLR OR VFD TO DETERMINE MOTOR FAIL STATUS.
4. PROVIDE SSOLR WITH REMOTE OR MECHANICAL PUSH BUTTON RESET MOUNTED ON MCC.
5. MONITOR THE AUXILLIARY FAULT VFD INPUT TO INDICATE OVERTEMP ALARM THROUGH VFD OR ENET I/O MODULE.
6. SSOLR – SOLID STATE OVERLOAD RELAY

WIRE TERMINATION SYMBOL:

- ■ MOTOR CONTROL CENTER
- ▲ WTP CONTROL PANEL (SCP-1)
- ♦ MISCELLANEOUS PANELS/ENCLOSURES/MOTOR TERMINATION BOX

BAXTER & WOODMAN Consulting Engineers

CONSULTANTS

MILESTONE

FOR BIDDING

REVISIONS

NO.	DATE	DESCRIPTION

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1" .5" 0 1" 2" 3"

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PROJECT NO: 181040

SCALE: AS NOTED
DATE: 12-17-19
DESIGNED BY: PVT
DRAWN BY: PVT
CHECKED BY: HDH

CLIENT

VILLAGE OF OSWEGO, ILLINOIS

WATER SYSTEM IMPROVEMENTS
WELLS NOS. 6 AND 8
ELECTRICAL REMODELING

SHEET TITLE

MOTOR CONTROL CIRCUIT SCHEMATIC DIAGRAMS

E-6

\\CORP.BAXWOOD.COM\PROJECTS\CRYSTAL LAKE\OSWEGO\181040-WELL NOS. 6 AND 8 EL\CADD\DWGS\CURRENT\WELL NO 6 MCC WIRING DIAGRAM\WIRING DIAGRAM.DWG E-6 MCC WIRING SCHEMATIC DIAGRAM
Plotted: 12/17/19 By: 078MSB
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