

# Exhibit E - Electrical\_W408\_S&S

CONTROL/ELEMENTARY SYMBOLS	ELECTRICAL PLAN SYMBOLS	GENERAL NOTES	AGNOLI BARBER & DRINDAGLE INC.
<p><b>CONTROL/ELEMENTARY SYMBOLS</b></p> <p>  NORMALLY OPEN CONTACT   NORMALLY CLOSED CONTACT   LIMIT SWITCH, NORMALLY OPEN   LIMIT SWITCH, NORMALLY CLOSED   PRESSURE SWITCH, NORMALLY OPEN   PRESSURE SWITCH, NORMALLY CLOSED   FLOAT SWITCH, NORMALLY OPEN   FLOAT SWITCH, NORMALLY CLOSED   FLOW SWITCH, NORMALLY OPEN   FLOW SWITCH, NORMALLY CLOSED   TEMPERATURE SWITCH, NORMALLY OPEN   TEMPERATURE SWITCH, NORMALLY CLOSED   NORMALLY OPEN, TIMED TO CLOSE CONTACT   NORMALLY CLOSED, TIMED TO OPEN CONTACT   NORMALLY CLOSED, TIMED TO CLOSE CONTACT   NORMALLY OPEN, TIMED TO OPEN CONTACT   ANALYZER INDICATOR TRANSMITTER   ALARM RELAY   ALARM TIMER   CONTROL RELAY   FLOW INDICATOR TRANSMITTER (TOTALIZER)   FLOW SWITCH   FLOAT SWITCH HIGH/LOW   LEVEL SWITCH LOW/HIGH   LEVEL INDICATOR TRANSMITTER   PRESSURE INDICATOR TRANSMITTER   LIMIT SWITCH OR LEVEL SWITCH   MOTOR STARTER   MOTOR SWITCH MANUAL   PRESSURE GAUGE                 </p>	<p><b>ELECTRICAL PLAN SYMBOLS</b></p> <p>  FLOW ELEMENT   LEVEL ELEMENT   PROCESS FLOW TIMER   PRESSURE SWITCH   TAMPERS SWITCH (INTRUSION ALARM)   TIMING RELAY   SURGE SUPPRESSION DEVICE   SOLENOID VALVE   VIBRATION SWITCH   TORQUE SWITCH   ZERO SPEED SWITCH   ALARM INDICATING LIGHT   RUN INDICATING LIGHT   MOMENTARY CONTACT PUSHBUTTON   MOMENTARY BREAK PUSHBUTTON OR RESET   KEYED SWITCH   MAINTAINED CONTACT ON-OFF SWITCH   START/STOP (S/S) CONTROL SWITCH   MAINTAINED CONTACT   FUSE   MOLDED CASE CIRCUIT BREAKER   CONTROL POWER TRANSFORMER   REMOTE TERMINAL BLOCK POINT   COPPERWELD GRD. ROD   HAND OFF REMOTE CONTROL STATION   HAND OFF AUTO CONTROL STATION   MOTOR STRIP HEATER   TSP TWISTED SHIELDED PAIRS   WALL OUTLET BOX AND 20 AMP SINGLE POLE SWITCH ('o' INDICATES SWITCHES) 48" TO CENTERLINE   WALL OUTLET BOX AND 20 AMP 3-WAY SWITCH ('o' INDICATES SWITCHES) 48" TO CENTERLINE.   WALL OUTLET BOX AND EXHAUST FAN SPEED CONTROLLER/SWITCH CONNECTIONS.   MANUAL MOTOR STARTING SWITCH WITH OVERLOADS AND PILOT LIGHT, NEMA 4X TYPICAL   WALL OUTLET BOX AND 20 AMP SWITCH WITH PILOT LIGHT.   WALL OUTLET BOX AND 20 AMP SWITCH WITH WEATHERPROOF COVER OR ENCLOSURE.   WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE 18" TO CENTERLINE   WALL OUTLET BOX AND 20 AMP DUPLEX RECEPTACLE MOUNTED 48" AFF OR AS NOTED.   WALL OUTLET BOX AND 20 AMP GFCI DUPLEX RECEPTACLE AT 18" TO CENTERLINE. WP INDICATES WEATHERPROOF COVER PLATE.   WALL OUTLET BOX AND 20 AMP GFCI RECEPTACLE MOUNTED 48" AFF OR AS NOTED.   WALL OUTLET BOX AND DOUBLE 20 AMP DUPLEX RECEPTACLES 18" TO CENTERLINE   WALL OUTLET BOX AND SPECIAL PURPOSE RECEPTACLE AS NOTED OR COORDINATE.   PHOTOCELL ON ROOF   FLUSH MOUNTED JUNCTION BOX ( SURFACE IN MECH/ELEC SPACES OR ABOVE CEILING).   BRANCH CIRCUIT CONDUIT AND WIRE GENERALLY SURFACE MOUNTED, CONCEALED ABOVE CEILINGS SLASH MARKS INDICATE NUMBER OF CONDUCTORS; (MARKS SHOWN TO AID CONTRACTOR IN BIDDING, THE CONTRACTOR SHALL PROVIDE THE REQUIRED CONDUCTORS UNDER THE CONTRACT SUM WHETHER OR NOT SHOWN). SHORT SLASHES INDICATE PHASE CONDUCTOR OR SWITCH LEG, LONG INDICATE NEUTRAL CONDUCTOR, GREEN GROUND CONDUCTOR NOT SHOWN; ALL CONDUITS REQUIRE COPPER GROUND CONDUCTOR. TWO CONDUCTORS PLUS GROUND REQUIRED, MINIMUM.   CONDUIT AND WIRE CONCEALED IN FLOOR SLAB OR UNDERGROUND.   BRANCH CIRCUIT PANELBOARD AS NOTED; SEE PANEL SCHEDULES   TRANSFORMER, SIZE AS INDICATED   DISCONNECT SWITCH SIZE PER EQUIPMENT NAME PLATE OR AS NOTED; FOR DISCONNECTS SERVING MOTOR LOADS OF 10HP OR GREATER AND FOR ALL MOTOR LOADS SERVED THROUGH VARIABLE FREQUENCY DRIVES; PROVIDE SURGE SUPPRESSION DEVICE EQUAL TO SQ.-D. SDSA4040D OR EQUAL AT DISCONNECT.   COMBINATION MAGNETIC MOTOR STARTER PROVIDED BY ELECTRICAL U.N.O.   MOTOR CONNECTION   MOTOR OPERATED VALVE CONNECTION   AIR HANDLING UNIT CONNECTION; PROVIDE FUSED DISCONNECT AS REQUIRED BY EQUIPMENT NAMEPLATE; MAKE CONNECTIONS.   ELECTRIC DUCT HEATER CONNECTION; PROVIDE FUSED DISCONNECT AS REQUIRED BY EQUIPMENT NAMEPLATE; MAKE CONNECTIONS.   MANUAL TRANSFER SWITCH OR REVERSING SWITCH   UNDERGROUND FIBER OPTIC DUCTBANK   LED FIXTURE AND CEILING OUTLET BOX   EXIT LIGHT FIXTURE AND WALL OR CEILING OUTLET BOX (SHADED QUADRANT INDICATES FACE(S) OF FIXTURE)                 </p>	<p><b>GENERAL NOTES</b></p> <ol style="list-style-type: none"> <li>ALL WORK SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE, NATIONAL ELECTRICAL SAFETY CODE, UTILITY REQUIREMENTS AND LOCAL CODES.</li> <li>PROVIDE SCHEDULE 80 PVC CONDUIT BELOW GRADE.</li> <li>CONDUCTORS SHALL NOT BE SPLICED WITHOUT WRITTEN PERMISSION FROM THE ENGINEER.</li> <li>ALL DISCONNECTS, J-BOXES, TERMINAL CABINETS, ETC. &amp; MOUNTING HARDWARE SHALL BE NEMA 4X STAINLESS STEEL UNLESS NOTED OTHERWISE.</li> <li>ALL CONDUITS (POWER, CONTROL, INSTRUMENTATION, ETC.) SHALL HAVE EQUIPMENT GROUNDING CONDUCTOR SIZED PER TABLE 250.122 OF THE N.E.C.</li> <li>DO NOT ABANDON ELECTRICAL IN PLACE. REMOVE CONDUCTORS BACK TO PANEL/MCC. REMOVE CONDUIT BACK TO FIRST MANHOLE, HANDHOLE OR REUSE FOR NEW WORK. REMOVE COMPLETE DUCT BANK AND MANHOLES IF NOT BEING REUSED.</li> <li>ALL CONTROL PANELS SHALL BE CONSTRUCTED BY A UL508A APPROVED PANEL VENDOR AND SHALL BEAR A UL508A LABEL ON THE PANEL.</li> <li>DRAWINGS DO NOT SHOW EXACT ROUTING OF CONDUIT. COORDINATE CONDUIT LOCATIONS WITH OTHER TRADES SO THAT CONFLICTS ARE AVOIDED.</li> <li>PROVIDE A #2 BOND FROM ALL FIELD INSTRUMENTS, MOTORS, CONTROL PANELS, TERMINATION CABINETS, ETC TO THE GROUND GRID.</li> <li>PROVIDE 2' MINIMUM DISTANCE BETWEEN PARALLEL RUNS OF LOW VOLTAGE 480V/120V POWER CONDUITS AND I&amp;C CONDUITS. POWER CONDUIT SHALL CROSS INSTRUMENTATION CONDUIT PERPENDICULARLY AT RIGHT ANGLES WITH 6" SEPARATION FOR 480V/120V.</li> <li>CONDUCTOR PULLING TENSIONS SHALL NOT EXCEED MANUFACTURER'S RECOMMENDATION. CONTRACTOR SHALL INSTALL PULL BOXES TO MEET MANUFACTURER'S REQUIREMENTS.</li> <li>PLAN DRAWINGS DO NOT SHOW ALL CONDUITS REQUIRED. PROVIDE ADDITIONAL CONDUIT FOR CONDUCTORS AS SHOWN ON RISER, ONE-LINE DIAGRAMS, DETAILS AND NOTES.</li> <li>ALL CIRCUITS SHALL BE IDENTIFIED IN JUNCTION BOXES, PULL BOXES, CONTROL PANELS, PANELBOARDS, LIGHTING POLES, CONTROLLERS AND SERVICE POINTS. IDENTIFICATION SHALL MATCH PANELBOARD SCHEDULES, MCC SECTION, I&amp;C SHOP DRAWINGS &amp; SCHEDULES &amp; TAG LISTS, ETC.</li> <li>EXPOSED RUNS OF CONDUITS SHALL BE INSTALLED WITH RUNS PARALLEL OR PERPENDICULAR TO WALLS, STRUCTURAL MEMBERS OR INTERSECTIONS OF VERTICAL PLANES AND CEILINGS, WITH RIGHT ANGLE TURNS CONSISTING OF SYMMETRICAL BENDS OR PULL BOXES AS INDICATED ON THE DRAWINGS. BENDS AND OFFSETS SHALL BE AVOIDED WHERE POSSIBLE.</li> <li>ALL EXCAVATIONS FOR CONDUITS, HANDHOLES, MANHOLES AND PULLBOXES NEAR EXISTING PIPING, CONDUIT AND EQUIPMENT SHALL BE HAND EXCAVATED AND COORDINATED WITH ENGINEER.</li> <li>MINIMUM DEPTH FROM TOP OF DUCTBANKS OR CONDUITS TO FINISHED GRADE SHALL BE 30" UNLESS OTHERWISE NOTED.</li> <li>PROVIDE COLORED WARNING TAPE 6" WIDE SHALL BE INSTALLED 12" BELOW FINISHED GRADE DIRECTLY ABOVE ALL UNDERGROUND CONDUITS.</li> <li>GROUNDING CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC UNLESS SPECIFICALLY INDICATED OTHERWISE.</li> <li>ALL ENCLOSURES, TERMINAL CABINETS, WIREWAYS, PULL BOXES ETC SHALL CONTAIN A GROUNDING BUS BAR. CONNECT ALL RACEWAY BONDS TO BUS BAR VIA GROUNDING BUSHING AND EXTEND BONDING JUMPER FROM BUS BAR TO ENCLOSURE.</li> <li>CONTRACTOR SHALL CORE DRILL EXISTING CONCRETE WALLS, FLOORS, MANHOLES, HANDHOLES AND PULL BOXES FOR CONDUIT PENETRATIONS. SEAL PENETRATIONS WITH NON-SHRINK GROUT OR APPROPRIATE FIRE RATED DEVICES WHERE APPLICABLE.</li> <li>PROVIDE CONDUIT DUCT SEAL AT ALL CONDUIT ENDS.</li> <li>FLEXIBLE CONDUITS SHALL BE USED TO TERMINATE ALL MOTORS AND OTHER VIBRATING EQUIPMENT AND SHALL BE BETWEEN 18" AND 2' IN LENGTH.</li> <li>PROVIDE TYPEWRITTEN PANEL SCHEDULES IN PANELBOARD &amp; TYPEWRITTEN TERMINAL BLOCK SCHEDULES IN TERMINAL CABINETS; PROPOSED &amp; MODIFIED.</li> </ol>	<p>AGNOLI BARBER &amp; DRINDAGLE INC.                  Professional Engineers, Planners, Surveyors &amp; Landscape Architects for Utah, All Authorized Jurisdictions                  1000 W. 1000th Street, Suite 200                  Provo, UT 84604-1111                  Phone: (801) 791-1111                  Fax: (801) 791-1111</p> <p>CLIENT NAME:  <b>CITY OF NAPLES UTILITIES</b>  <b>380 RIVERSIDE CIR</b>  <b>NAPLES FL, 34102</b></p> <p>PROJECT NAME:  <b>CITY OF NAPLES WELL 408</b></p> <p>DRAWING TITLE:  <b>ELECTRICAL SYMBOLS</b>  <b>LEGEND; DRAWING INDEX &amp; GENERAL NOTES</b></p> <p>DESIGNED BY: REFR                  DRAWN BY: REFR                  CHECKED BY: TWP                  REVIEWED BY: TWP                  HOR SCALE: 1" = 300'                  VERT SCALE: 1" = 300'                  DATE: OCTOBER 2023</p> <p>E01</p> <p>21-0176</p> <p>LAYOUT</p> <p>SHEET OF E01</p> <p>13004</p> <p>AGNOLI BARBER &amp; DRINDAGLE INC.                  CONSULTING ENGINEERS                  1000 W. 1000th Street, Suite 200                  Provo, UT 84604-1111                  Phone: (801) 791-1111                  Fax: (801) 791-1111</p>
<p><b>SINGLE LINE DIAGRAM SYMBOLS</b></p> <p>  VOLTMETER   POWER FACTOR METER   KILOWATT METER   AMMETER   THREE PHASE VOLT SWITCH   THREE PHASE AMP SWITCH   CURRENT TRANSMITTER   KILOWATT TRANSMITTER   POWER FACTOR TRANSMITTER   LOCAL CONTROL PANEL   GROUND FAULT INTERRUPTER   WATT HOUR METER   FUSE   CAPACITOR   DRAW-OUT CIRCUIT BREAKER   ELECTRIC A.C. MOTOR, NO. INDICATES HORSEPOWER.   ELECTRIC D.C. MOTOR, NO. INDICATES HORSEPOWER.   SERVICE OR EQUIPMENT GROUND.   NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED.   NON-FUSIBLE DISCONNECT SWITCH, 30A, 3P UNLESS OTHERWISE INDICATED, WITH REMOTE CONTROL STATION AS REQUIRED BY ELEMENTARY DIAGRAMS OR SPECS.   LIGHTING PANELBOARD   POWER PANELBOARD   KIRK KEY INTERLOCK   CURRENT TRANSFORMERS   POTENTIAL TRANSFORMERS   MANUAL OR AUTOMATIC TRANSFER SWITCH   MOLDED CASE CIRCUIT BREAKER   TYPICAL STARTER CONTROL. SEE SWITCHGEAR CONTROL DIAGRAMS FOR EXACT TYPE.                 </p>	<p><b>DRAWING INDEX</b></p> <p>                     E01 ELECTRICAL SYMBOLS LEGEND, DRAWING INDEX &amp; GENERAL NOTES                      E02 WELL 408 ELECTRICAL SITE PLAN                      E03 WELL 408 POWER, INSTRUMENTATION AND LIGHTING PLAN                      E04 WELL 408 LIGHTNING PROTECTION, BONDING &amp; GROUNDING PLAN                      ED01 WELL 408 ELECTRICAL SINGLE LINE DRAWING                      ED02 CONTROL PANEL ELEVATION                      ED03 CONTROL PANEL ELEMENTARY DRAWING                      ED04 ELECTRICAL DETAILS                      ED05 ELECTRICAL DETAILS                      ED06 GENERATOR DETAILS                 </p> <p><b>SYSTEM SYMBOL LEGEND</b></p> <p>  SYSTEMS BACKBOARD AS NOTED   SYSTEMS CABINET AS NOTED OR MARKED.   WALL OR CEILING MOUNTED VIDEO CAMERA   POLE MOUNTED VIDEO CAMERA                 </p>		

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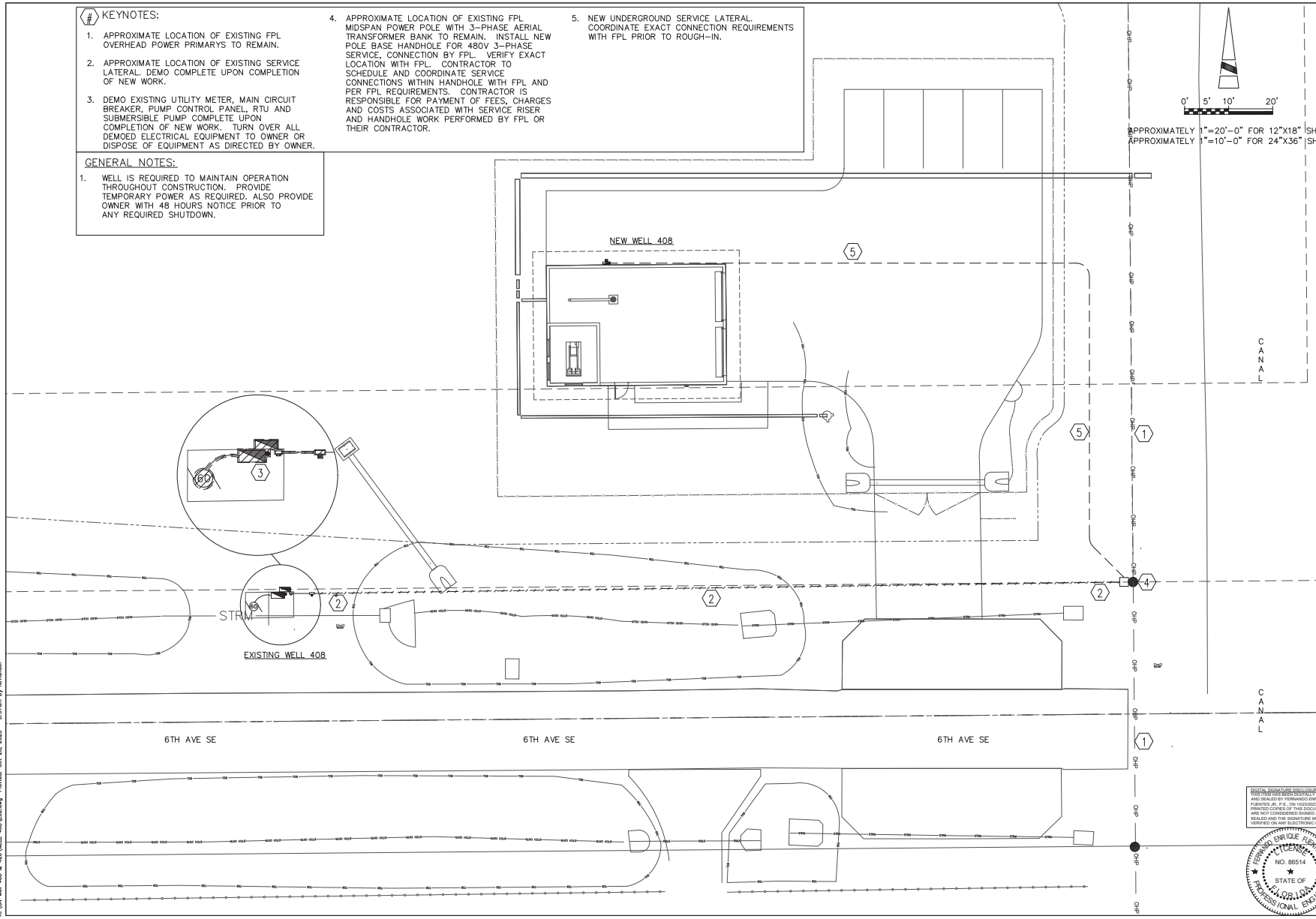
# Exhibit E - Electrical\_W408\_S&S

**KEYNOTES:**

- APPROXIMATE LOCATION OF EXISTING FPL OVERHEAD POWER PRIMARYS TO REMAIN.
- APPROXIMATE LOCATION OF EXISTING SERVICE LATERAL DEMO COMPLETE UPON COMPLETION OF NEW WORK.
- DEMO EXISTING UTILITY METER, MAIN CIRCUIT BREAKER, PUMP CONTROL PANEL, RTU AND SUBMERSIBLE PUMP COMPLETE UPON COMPLETION OF NEW WORK. TURN OVER ALL DEMOED ELECTRICAL EQUIPMENT TO OWNER OR DISPOSE OF EQUIPMENT AS DIRECTED BY OWNER.
- APPROXIMATE LOCATION OF EXISTING FPL MIDSPAN POWER POLE WITH 3-PHASE AERIAL TRANSFORMER BANK TO REMAIN. INSTALL NEW POLE BASE HANDHOLE FOR 480V 3-PHASE SERVICE, CONNECTION BY FPL. VERIFY EXACT LOCATION WITH FPL. CONTRACTOR TO SCHEDULE AND COORDINATE SERVICE CONNECTIONS WITHIN HANDHOLE WITH FPL AND PER FPL REQUIREMENTS. CONTRACTOR IS RESPONSIBLE FOR PAYMENT OF FEES, CHARGES AND COSTS ASSOCIATED WITH SERVICE RISER AND HANDHOLE WORK PERFORMED BY FPL OR THEIR CONTRACTOR.
- NEW UNDERGROUND SERVICE LATERAL. COORDINATE EXACT CONNECTION REQUIREMENTS WITH FPL PRIOR TO ROUGH-IN.

**GENERAL NOTES:**

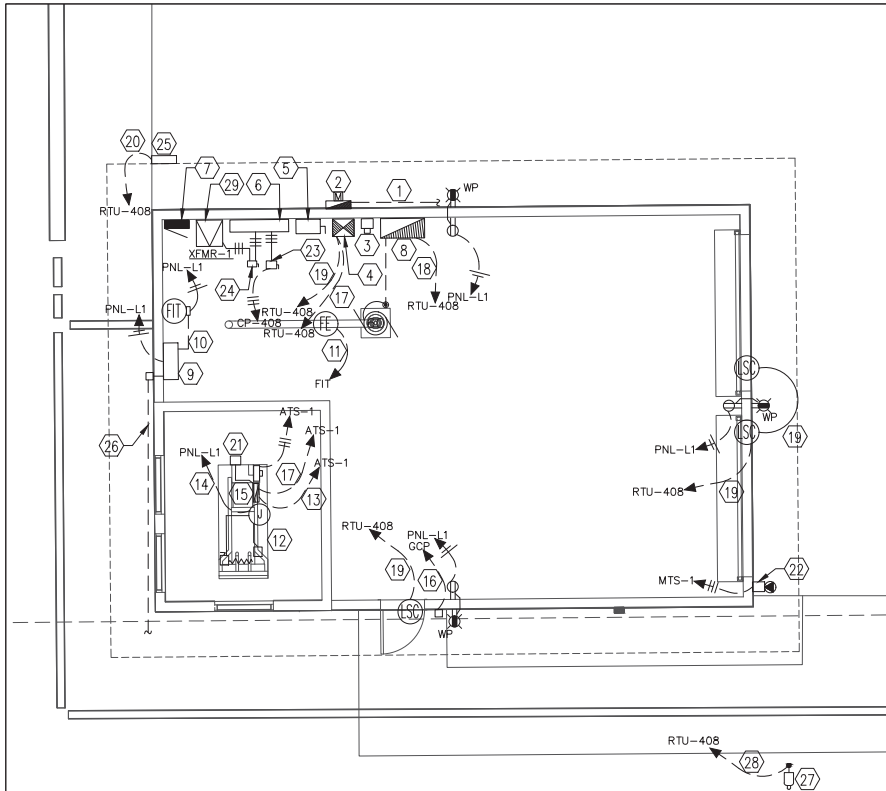
- WELL IS REQUIRED TO MAINTAIN OPERATION THROUGHOUT CONSTRUCTION. PROVIDE TEMPORARY POWER AS REQUIRED. ALSO PROVIDE OWNER WITH 48 HOURS NOTICE PRIOR TO ANY REQUIRED SHUTDOWN.



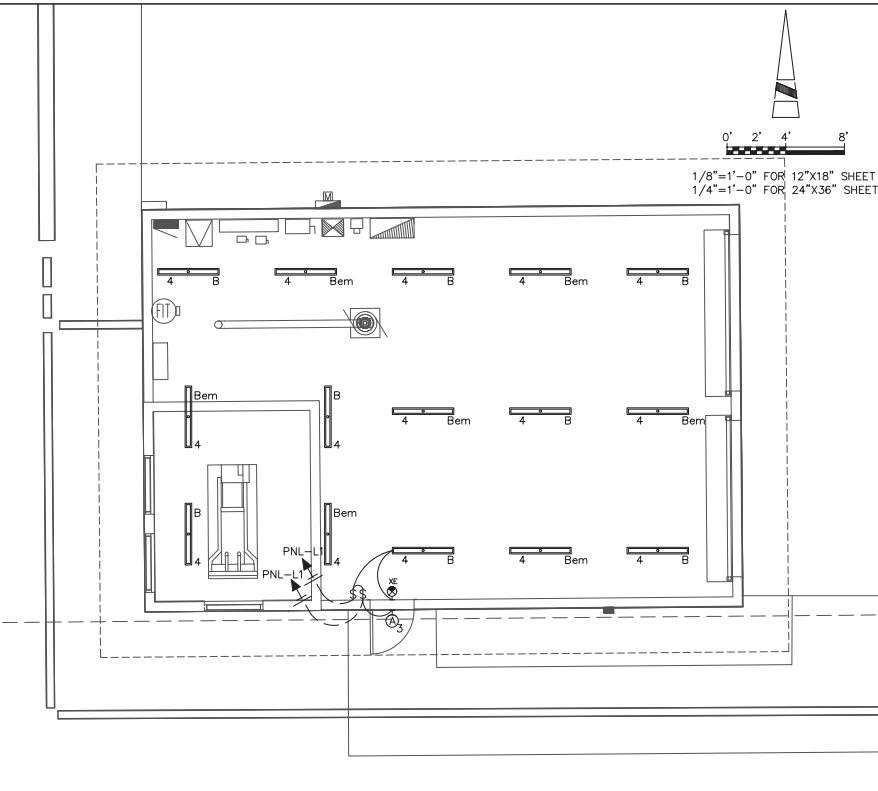
<b>AGNOLI BARBER &amp; DRINDAGLE INC.</b> Professional Engineers, Planners, Surveyors & Landscape Architects 1000 W. Broadway, Suite 200 Naples, FL 34102 Phone: (239) 417-1111 Fax: (239) 417-1212	
CLIENT NAME: <b>CITY OF NAPLES UTILITIES</b> <b>380 RIVERSIDE CIR</b> <b>NAPLES FL, 34102</b>	
PROJECT NAME: <b>CITY OF NAPLES WELL 408</b>	DRAWING TITLE: <b>WELL 408 ELECTRICAL SITE PLAN</b>
DESIGNED BY: REF:R DRAWN BY: REF:R CHECKED BY: TWP REVIEWED BY: TWP HORIZ. SCALE: 1" = 300' VERT. SCALE: 1" = 300' DATE: OCTOBER 2023	
ACAD FILE #: <b>E02</b>	
ABB PROJECT #: <b>21-0176</b>	
PLOT VIEW / LAYOUT: <b>LAYOUT</b>	
SHEET: <b>E02</b> OF: <b>-</b>	
13004	
<b>RE CONSULTING ENGINEERS</b> 2300 McGregor Blvd. Ste. 4402 Fort Myers, FL 33901 (239) 487-7777	
REGISTERED PROFESSIONAL ENGINEER NO. 86514 STATE OF FLORIDA PROFESSIONAL ENGINEER	

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# Exhibit E - Electrical\_W408\_S&S



POWER & INSTRUMENTATION PLAN



LIGHTING PLAN

**AGNOLI BARBER & DRINDAG, INC.**  
 Professional Engineers, Planners,  
 Surveyors & Landscape Architects  
 in the State of Florida  
 License No. 10487  
 1300 W. Broadway, Suite 200  
 Naples, FL 34102  
 Phone: (239) 431-1111  
 Fax: (239) 431-1111

0' 2' 4' 8'  
 1/8"=1'-0" FOR 12"x18" SHEET  
 1/4"=1'-0" FOR 24"x36" SHEET

CLIENT NAME:  
**CITY OF NAPLES UTILITIES**  
 380 RIVERSIDE CIR  
 NAPLES FL, 34102

PROJECT NAME:  
**CITY OF NAPLES WELL 408**

DRAWING TITLE:  
**WELL 408 POWER,  
 INSTRUMENTATION AND  
 LIGHTING PLAN**

DESIGNED BY: REF JR  
 DRAWN BY: REF JR  
 CHECKED BY: TWP  
 REVIEWED BY: TWP  
 HORIZ. SCALE: 1" = 300'  
 VERT. SCALE: 1" = 300'

DATE: OCTOBER 2023

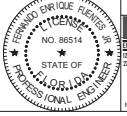
**KEYNOTES**

1. UNDERGROUND SERVICE LATERAL. COORDINATE EXACT CONNECTION REQUIREMENTS WITH FPL PRIOR TO ROUGH-IN.
2. DIRECT READING ALUMINUM UTILITY METER.
3. SE RATED ENCLOSED BREAKER IN NEMA 4XSS ENCLOSURE.
4. NEMA 3R PAINTED STEEL AUTOMATIC TRANSFER SWITCH (ATS-1).
5. NEMA 4XSS MANUAL TRANSFER SWITCH (MTS-1).
6. NEW NEMA 1 PAINTED STEEL, 10"x10"x48" TROUGH.
7. NEW WALL MOUNTED PANELBOARD L1 (PNL-L1) IN NEMA 3R PAINTED STEEL ENCLOSURE. SEE SINGLE LINE SCHEDULE AND PANELBOARD SCHEDULE.
8. WELL 408 CONTROL PANEL (CP-408) IN WALL MOUNT NEMA 4X SS ENCLOSURE.
9. OWNER FURNISHED, CONTRACTOR INSTALLED RTU-408 PANEL.
10. (2) PAIR #16 TSP INSTRUMENT CABLE IN 1" C.
11. MANUFACTURERS CABLES IN (2)1" C.
12. STAND-BY GENSET WITH SUB-BASE FUEL TANK. CONDUIT AND WIRE CONNECTIONS SHOWN FOR BASIS OF DESIGN. CONTRACTOR TO COORDINATE EXACT CONDUIT AND FIELD WIRING REQUIREMENTS WITH APPROVED MANUFACTURER SUBMITTALS PRIOR TO COMMENCING CONSTRUCTION.
13. (2)1.25" C., (1) WITH 13 CONDUCTOR #14 CONTROL CABLE AND (1) SPARE + (1)1" C. WITH (2) CAT6 INDUSTRIAL ETHERNET CABLE.
14. (9) #10 IN 1.25" C. TO HIGH VOLTAGE CONNECTION BOX FOR BATTERY CHARGER, GENSET STRIP HEATER AND JACKET WATER HEATER. FIELD COORDINATE EXACT LOCATION OF HIGH VOLTAGE CONNECTION BOX.
15. GENERATOR CONTROL PANEL; (GCP). COORDINATE EXACT LOCATION WITH APPROVED SUBMITTALS PRIOR TO ROUGH-IN.
16. (4) #14 IN 0.75" C. FOR NEW GEN E-STOP.
17. DEDICATED (5) CONDUCTOR #14 CONTROL CABLE FOR REMOTE GEN-START COMMAND IN 1" C.
18. (15) CONDUCTOR #14 CONTROL CABLE IN 1.5" C. + (5) CONDUCTOR #14 CONTROL CABLE IN 1" C. + (4) PAIR #16 TSP INSTRUMENTATION CABLE IN 1.25" C.
19. (5) CONDUCTOR #14 CONTROL CABLE IN 1" C.
20. 1" C. WITH ANTENNA CABLES.
21. FUEL ALARM CONTROL PANEL. FIELD COORDINATE EXACT LOCATION.
22. PIN & SLEEVE FEMALE GENERATOR RECEPTACLE WITH ANGLE ADAPTOR AND BACKBOX. HUBBLE C4100R7W.
23. N4XSS 100A-3P DISCONNECT (SS-1).
24. N4XSS 30A-3P DISCONNECT (SS-2).
25. OWNER FURNISHED AND INSTALLED RADIO ANTENNA WITH MOUNT.
26. PROPOSED ROUTING OF COMCAST COAXIAL CABLE. CONTRACTOR TO COORDINATE EXACT ROUTING AND SCHEDULE CONNECTION WITH COMCAST. CONTRACTOR TO STUB OUT 1" CONDUIT TO ROUTE COMCAST CABLE TO RTU.
27. STAND ALONE POLE MOUNTED PTZ CAMERA.
28. (2) CAT6 INDUSTRIAL ETHERNET CABLE IN 1" C.
29. WALL MOUNTED STEP-DOWN TRANSFORMER.

**GENERAL NOTES:**

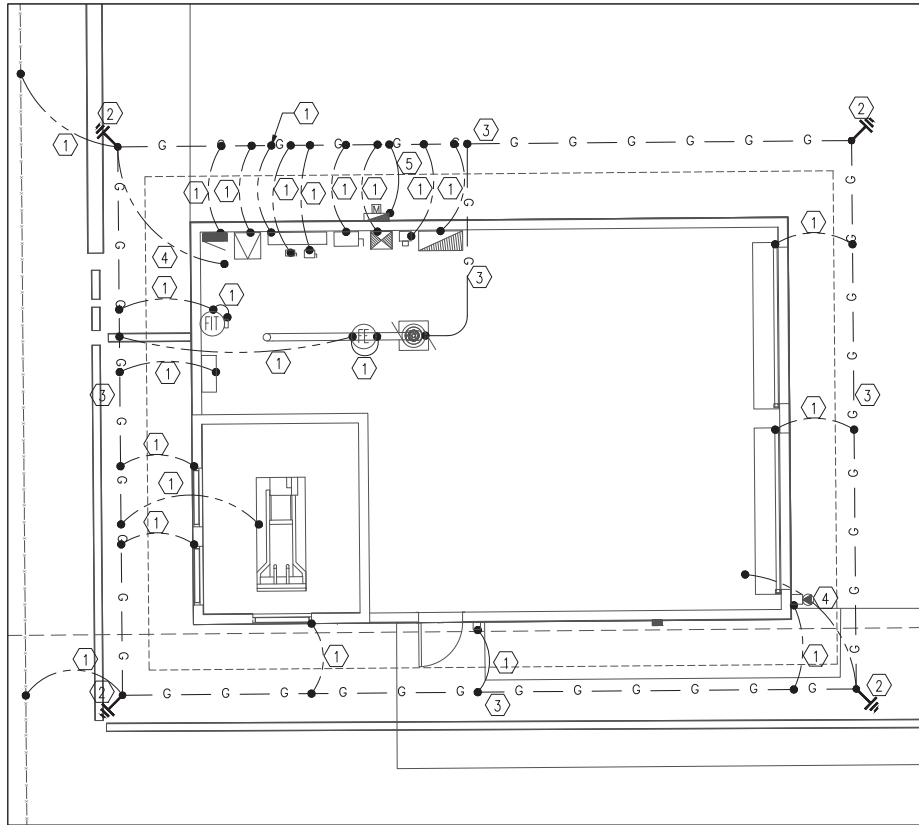
1. THIS PLAN DOES NOT INDICATE ALL CONDUIT & WIRE REQUIRED; SEE ADDITIONAL REQUIREMENTS ON SINGLE LINE & ELEMENTARY DRAWINGS.
2. ALL EQUIPMENT & DEVICE LOCATIONS ARE APPROXIMATE.

DIGITAL SIGNATURE REQUIREMENTS:  
 THIS PLAN HAS BEEN ELECTRONICALLY  
 SIGNED AND SEALED BY FERNANDO EMPERIO  
 ENGINEER (P.E.) OR REGISTERED  
 PROFESSIONAL ENGINEER (R.P.E.)  
 ARE NOT CONSIDERED SIGNED AND  
 SEALED AND THE SIGNATURE MUST BE  
 VERIFIED ON ANY ELECTRONIC COPIES.

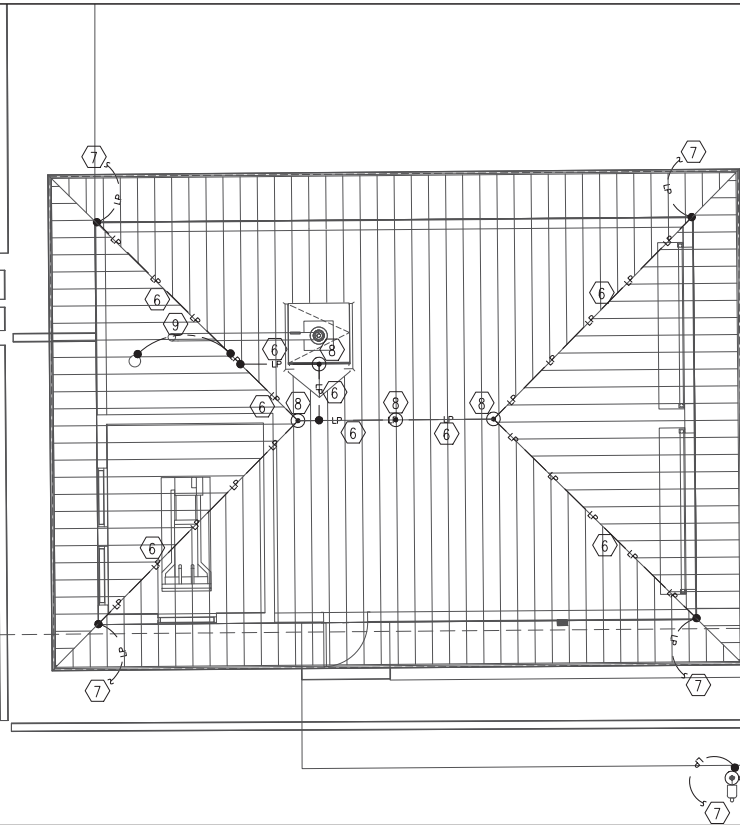


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# Exhibit E - Electrical\_W408\_S&S



GROUNDING & BONDING PLAN



LIGHTNING PROTECTION PLAN

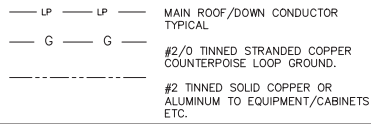
**GENERAL NOTES:**

1. ALL U.G CONNECTIONS TO BE VIA EXOTHERMIC WELD (CADWELD) UNLESS INDICATED OTHERWISE.
2. ALL WORK INDICATED ON THIS DRAWING, IS TO BE PERFORMED IN COMPLIANCE WITH THE LIGHTNING PROTECTION DETAILS AND SPECIFICATIONS.
3. PROVIDE CONCEALED SLEEVES OR FLAT STRAP CONDUCTOR ON ALL WALKWAYS FOR LIGHTNING PROTECTION CONDUCTOR.
4. ALL REQUIRED BONDS MAY NOT BE SHOWN; PROVIDE ADDITIONAL BONDS TO ALL DEVICES, INSTRUMENTS, CABINETS, CONTROL VALVES, ETC. AS REQUIRED TO COMPLY WITH UL AND NEC.
5. BONDS DIRECTLY TO GROUNDING SYSTEM ARE TO BE #2 TINNED SOLID COPPER. BONDS TO ALUMINUM LIGHTNING PROTECTION SYSTEM ARE TO BE #2 SOLID ALUMINUM.

**KEYNOTES**

1. #2 TINNED SOLID COPPER BOND TO GROUND GRID. TYPICAL.
2. 20' DRIVEN GROUND ROD WITH INSPECTION TEST WELL (SEE DETAIL). TYPICAL
3. #2/0 TINNED STRANDED COPPER COUNTERPOISE LOOP GROUND. TYPICAL
4. #2 TINNED SOLID COPPER BOND TO FOUNDATION REBAR AND WIRE MESH IN FLOOR SLAB. BOND TO NEAREST GROUND ROD.
5. #2 TINNED STRANDED COPPER ELECTRIC SERVICE MAIN GROUNDING ELECTRODE CONDUCTOR.
6. MAIN ROOF CONDUCTOR. TYPICAL
7. ROOF DOWN CONDUCTOR TO GROUND GRID.
8. ROOF MOUNTED AIR TERMINAL. TYPICAL
9. #2 SOLID ALUMINUM BOND TO MAIN ROOF CONDUCTOR. TYPICAL
10. AIR TERMINAL MOUNTED TO TOP OF LIGHT POLE.

**LIGHTNING PROTECTION LEGEND:**



1/8"=1'-0" FOR 12"x18" SHEET  
 1/4"=1'-0" FOR 24"x36" SHEET

**AGNOLI BARBER & DRINDAGE, INC.**  
 Professionals Engineers, Planners, Surveyors & Landscape Architects  
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 Fax: (239) 431-1021

CLIENT NAME:  
**CITY OF NAPLES UTILITIES**  
**380 RIVERSIDE CIR**  
**NAPLES FL, 34102**

PROJECT NAME:  
**CITY OF NAPLES WELL 408**

DRAWING TITLE:  
**WELL 408 LIGHTNING PROTECTION, BONDING & GROUNDING PLAN**

DESIGNED BY: REFR  
 DRAWN BY: TWP  
 CHECKED BY: TWP  
 REVIEWED BY: TWP  
 HORIZ. SCALE: 1" = 300"  
 VERT. SCALE: 1" = 300"  
 DATE: OCTOBER 2023

ACAD FILE #:  
**E04**

ABB PROJECT #:  
**21-0176**

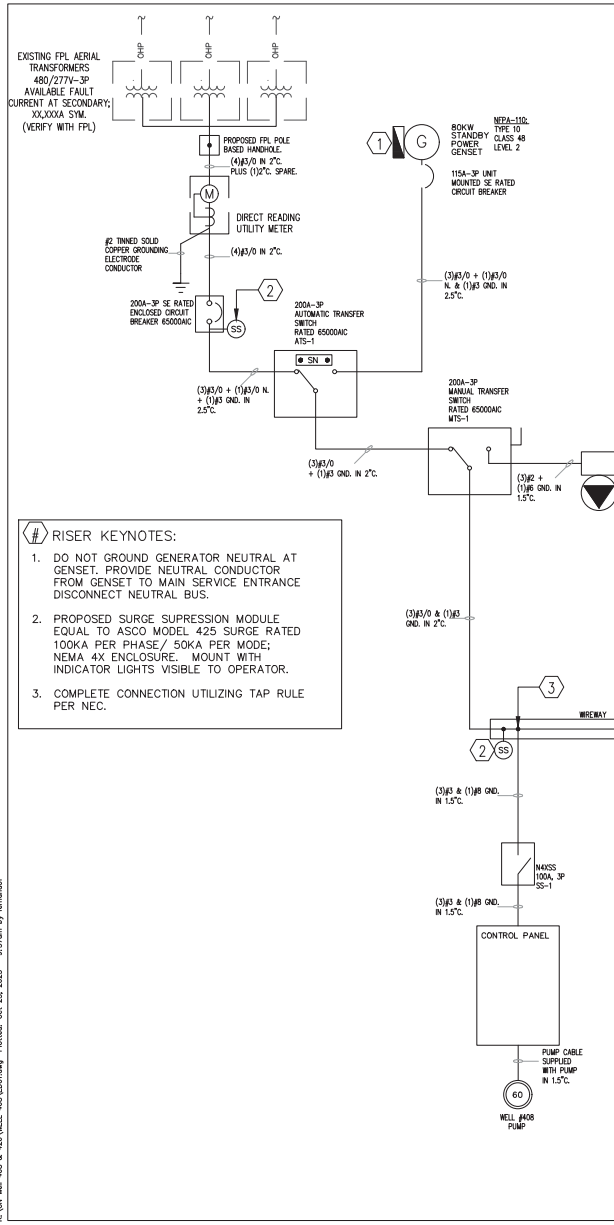
PLANT VIEW / LAYOUT:  
**LAYOUT**

SHEET:  
**E04**  
**OF**  
**-**

13004

**RE CONSULTING ENGINEERS**  
 REGISTERED PROFESSIONAL ENGINEERS  
 STATE OF FLORIDA  
 NO. 86514  
 200 N. Orange Blvd. Ste. 4400 Fort Myers, FL 33901  
 TEL: 813-777-1111 Fax: 813-777-1112  
 www.re-engineers.com

# Exhibit E - Electrical\_W408\_S&S



PANEL:	L1	XXX	BUS:	100A	MCB:	50A	VOLTAGE:	120/208V, 3P, 4W
MOUNTING:	SURFACE		POLES:	18		AIC RATED:	35000A	
LOCATION:	EQUIPMENT RACK		NEMA 3R ENCLOSURE					
CIR. NO.	DESCRIPTION	TRIP	POLES	REMARKS				
1	GENERATOR ACCESSORIES	20	1P	3.45KVA				
2	SPARE	20	1P	-				
3	EXTERIOR LIGHTING	20	1P	0.11KVA				
4	INTERIOR LIGHTING	20	1P	0.7KVA				
5	RECEPTACLES	20	1P	1.08KVA				
6	SPARE	20	1P	-				
7	FLOWMETER	10	1P	0.01KVA				
8	COMMUNICATIONS PANEL	20	1P	1.8KVA				
9-17	SPACE	-	1P	-				
10-12	SPACE	-	1P	-				
14, 16, 18	SPD	30	3P	-				
				TOTAL=	7.15KVA			

PANEL BOARD SCHEDULE  
N.T.S.

PROJECTED UTILITY SERVICE LOAD CALCULATION  
 (1)60HP AT 77A = 64.02KVA  
 TOTAL MISC LOAD = 9.15KVA  
 CONNECTED LOAD 73.17KVA = 88A AT 480V-3PHASE  
 DEMAND LOAD 73.17KVA = 88A AT 480V-3PHASE

- # RISER KEYNOTES:
- DO NOT GROUND GENERATOR NEUTRAL AT GENSET. PROVIDE NEUTRAL CONDUCTOR FROM GENSET TO MAIN SERVICE ENTRANCE DISCONNECT NEUTRAL BUS.
  - PROPOSED SURGE SUPPRESSION MODULE EQUAL TO ASCO MODEL 425 SURGE RATED 100KA PER PHASE / 50KA PER MODE; NEMA 4X ENCLOSURE. MOUNT WITH INDICATOR LIGHTS VISIBLE TO OPERATOR.
  - COMPLETE CONNECTION UTILIZING TAP RULE PER NEC.

**AGNOLI BARBER & BRINDAGING, INC.**  
 Professional Engineers, Planners, Surveyors & Landscape Architects  
 Certified of Authorization  
 State of Florida, License No. CE00002020  
 Office: 1200 W. Broadway, Suite 200  
 Naples, FL 34102  
 Phone: (239) 437-3111  
 Fax: (239) 437-3101

CLIENT NAME:  
**CITY OF NAPLES UTILITIES**  
**380 RIVERSIDE CIR**  
**NAPLES FL, 34102**

PROJECT NAME:  
**CITY OF NAPLES WELL 408**

DRAWING TITLE:  
**WELL 408 ELECTRICAL**  
**SINGLE LINE DRAWING**

DESIGNED BY: REFR  
 DRAWN BY: REFR  
 CHECKED BY: TWP  
 REVIEWED BY: TWP  
 HORIZ. SCALE: 1" = 300'  
 VERT. SCALE: 1" = 300'  
 DATE: OCTOBER 2023

ACAD FILE NAME:  
**ED01**

ABB PROJECT #:  
**21-0176**

PILOT VIEW / LAYOUT:  
**LAYOUT**

SHEET **ED01**  
OF  
**-**

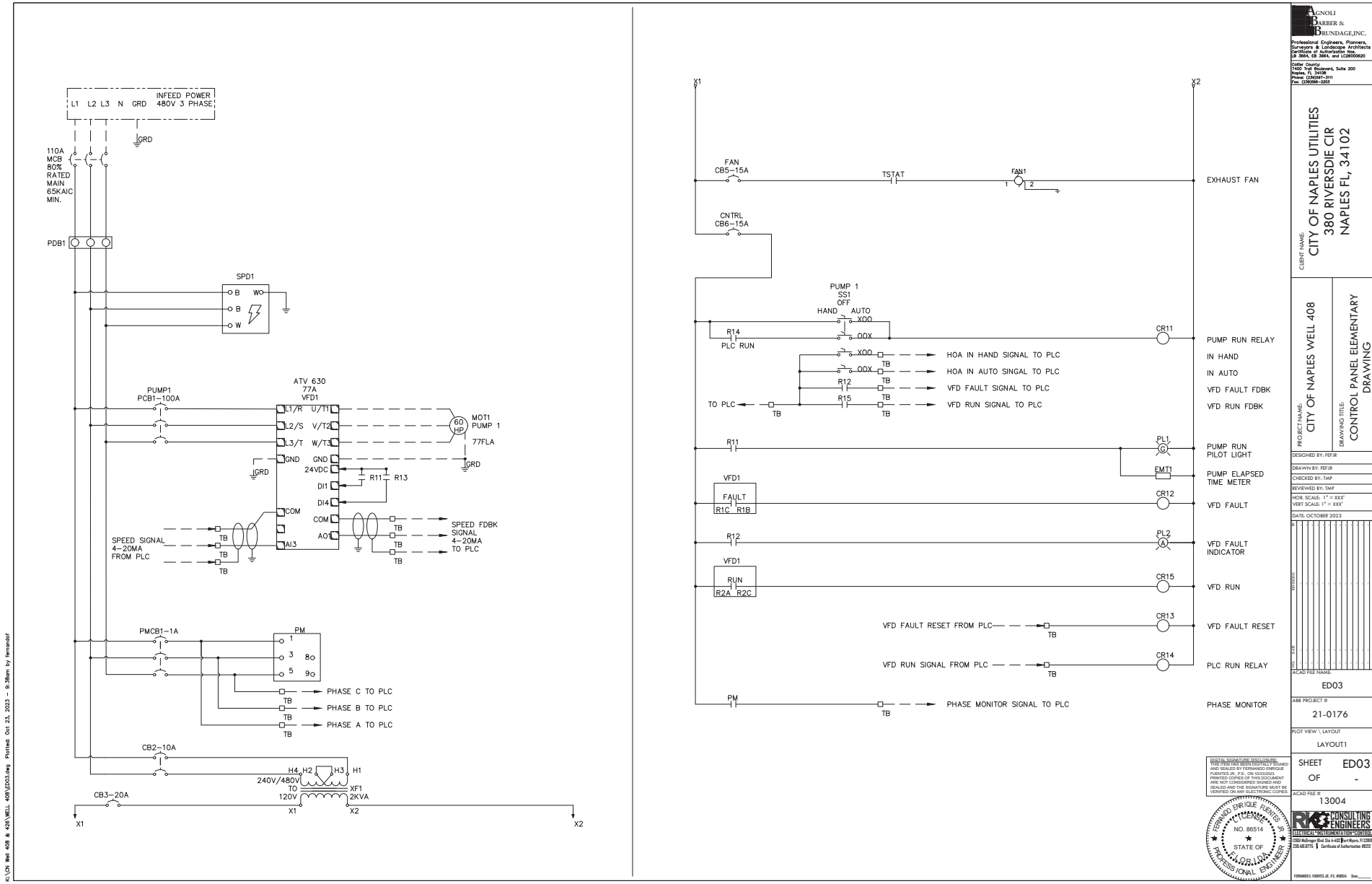
13004  
**RE CONSULTING ENGINEERS**  
 2300 Redinger Blvd. Ste. 4102 Bonita Beach, FL 33485  
 239.486.8775 | Certificate of Authorization #0202

REGISTERED PROFESSIONAL ENGINEER  
 STATE OF FLORIDA  
 NO. 86514  
 FERNANDO ENRIQUEZ, P.E.  
 FERNANDO ENRIQUEZ, P.E. #86514

E:\CD\Well 408 - 425\Well 408\ED01.dwg Printed: Oct 23, 2023 - 9:37am by fernando



# Exhibit E - Electrical\_W408\_S&S



**AGNOLI BARBER & DRINDAGE, INC.**  
Professional Engineers, Planners, Surveyors & Landscape Architects  
of the State of Florida, License No. 12802  
1200 W. Bayshore, Suite 200  
Naples, FL 34102  
Phone: (239) 431-1111  
Fax: (239) 431-1021

**CITY OF NAPLES UTILITIES**  
380 RIVERSIDE CIR  
NAPLES FL, 34102

**PROJECT NAME:**  
CITY OF NAPLES WELL 408

**DRAWING TITLE:**  
CONTROL PANEL ELEMENTARY DRAWING

**DESIGNED BY:** REFJR

**DRAWN BY:** REFJR

**CHECKED BY:** TWP

**REVIEWED BY:** TWP

**HORIZ. SCALE:** 1" = 300"

**VERT. SCALE:** 1" = 300"

**DATE:** OCTOBER 2023

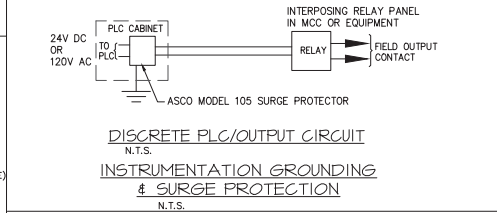
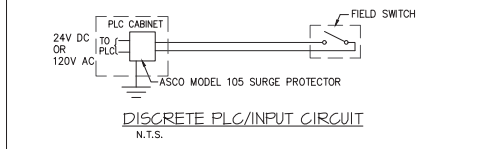
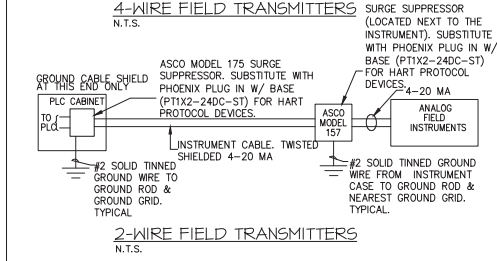
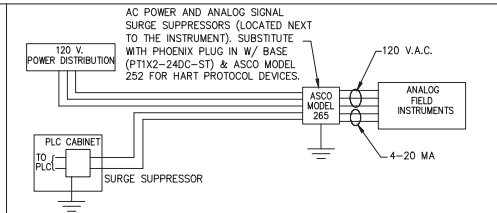
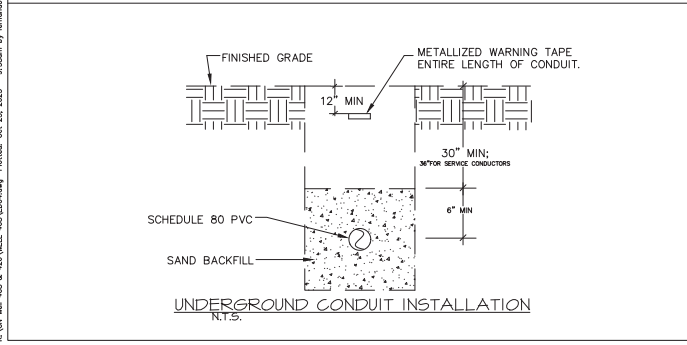
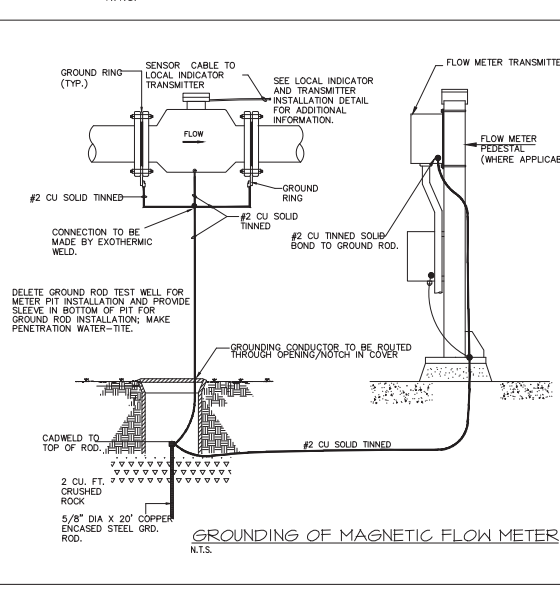
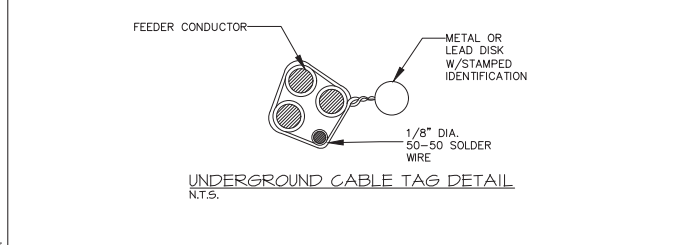
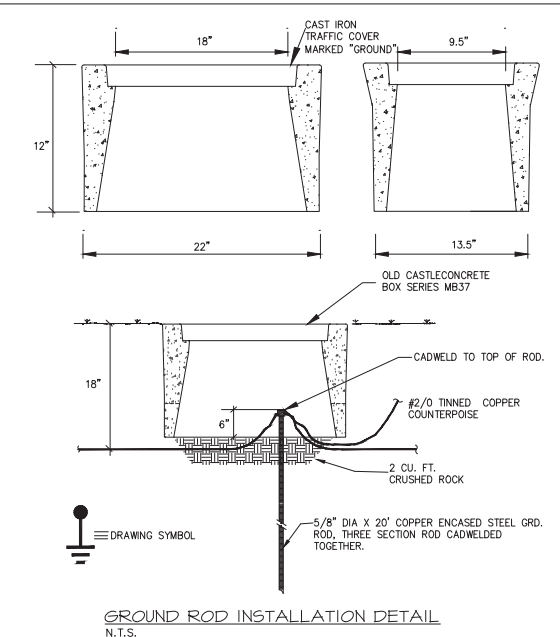
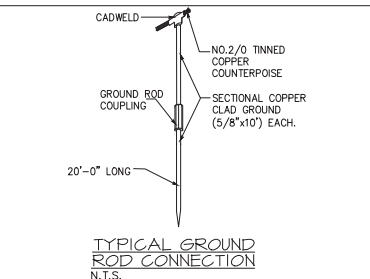
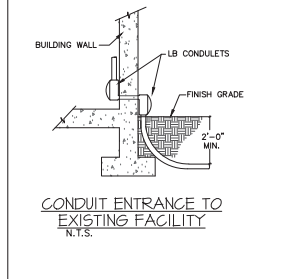
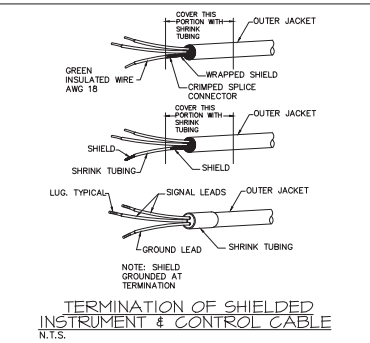
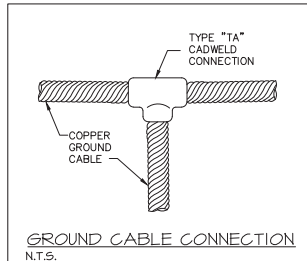
ED03
21-0176
LAYOUT
SHEET OF
ED03
13004

**RECONSULTING ENGINEERS**  
13004  
NO. 86514  
STATE OF FLORIDA  
PROFESSIONAL ENGINEER

DIGITAL SIGNATURE VERIFICATION AND SEALING BY FERNANDO EMPINCE ENGINEER, P.E. OR REGISTERED ELECTRICAL ENGINEER, P.E. ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

K:\DW Well 408 - 425\WELL 408\ED03.dwg Plotted: Oct 23, 2023 - 9:38am by fernandof

# Exhibit E - Electrical\_W408\_S&S



- INSTRUMENTATION GROUNDING & SURGE PROTECTION**  
N.T.S.
- LIGHT FIXTURE SCHEDULE**
- 14.25"X17.5"X9.25" WALL MOUNTED TRADITIONAL LED WALL PACK. DIE CAST ALUMINUM BODY WITH STAINLESS STEEL HARDWARE. BRONZE FINISH. POLYCARBONATE LENS WITH UV STABILIZER. 45W. 120 VOLTS. MOUNT AT 14' AFF.
  - 3"x2.5"x48" LED STRIP LIGHT. CONTOURED FROSTED ACRYLIC LENS. HEAVY GAUGE COLD ROLLED STEEL HOUSING ; SUSPENDED AT 14' AFF WITH CHAIN HANGER OR BRACKET MOUNTED TO TRUSS. 120VOLTS. 31W. DAY-BRITE FSS440L840-UNV-DIM APPROVED EQUAL.
  - 3"x2.5"x48" LED STRIP LIGHT. CONTOURED FROSTED ACRYLIC LENS. HEAVY GAUGE COLD ROLLED STEEL HOUSING ; SUSPENDED AT 14' AFF WITH CHAIN HANGER OR BRACKET MOUNTED TO TRUSS. 120VOLTS. 45W. DAY-BRITE FSS455L840-UNV-DIM APPROVED EQUAL.
  - LED EXIT SIGN. THERMOPLASTIC HOUSING AND FACEPLATE. NICAD BATTERY. MOUNTING AS INDICATED. 120 VOLTS. SURELITE APX6-1-00-R APPROVED EQUAL.
- FIXTURE SCHEDULE NOTES**
- MANUFACTURER AND CATALOG NUMBERS LISTED ARE FOR PURPOSES OF ESTABLISHING FUNCTION, APPEARANCE AND QUALITY OF FIXTURES.
  - MOUNT FIXTURES TO BOTTOM CORD OF BEAM/TRUSS: SEE FIXTURE SCHEDULE DETAIL.

**AGNOLI BARBER & DRINDAGLE INC.**  
Professional Engineers, Planners, Surveyors & Landscape Architects  
1200 W. Riverside, Suite 200  
Naples, FL 34102  
Phone: (239) 431-1111  
Fax: (239) 431-0201

**CITY OF NAPLES UTILITIES**  
380 RIVERSIDE CIR  
NAPLES FL, 34102

**CITY OF NAPLES WELL 408**  
ELECTRICAL DETAILS

DESIGNED BY: REF:R  
DRAWN BY: REF:R  
CHECKED BY: TWP  
REVIEWED BY: TWP  
JOB SCALE: 1" = 300'  
VERT SCALE: 1" = 300'  
DATE: OCTOBER 2023

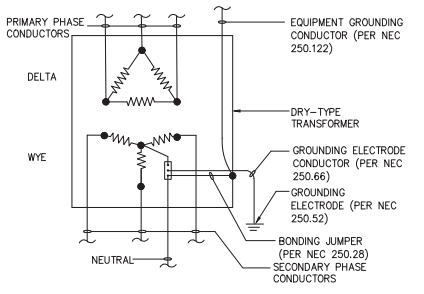
ACAD FILE # 13004

**REF:R CONSULTING ENGINEERS**  
1200 W. Riverside, Suite 200  
Naples, FL 34102  
Phone: (239) 431-1111  
Fax: (239) 431-0201

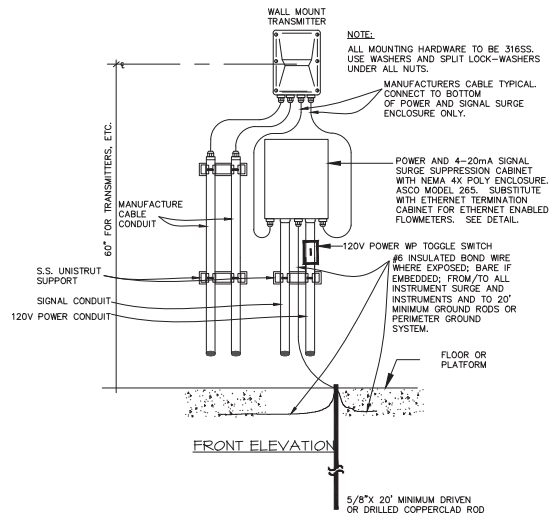
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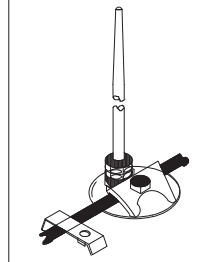
# Exhibit E - Electrical\_W408\_S&S



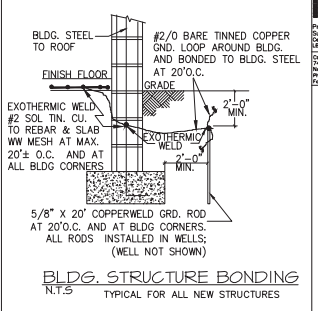
**STEP DOWN TRANSFORMER GROUNDING DIAGRAM FOR 3 PHASE 3 WIRE DELTA PRIMARY, 3 PHASE 4 WIRE WYE SECONDARY**  
N.T.S.



**INSTRUMENT ELECTRICAL INSTALLATION DETAIL**  
N.T.S.

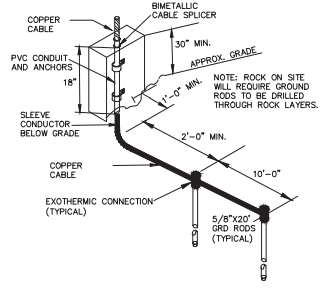


**FLAT ROOF AIR TERMINAL**  
N.T.S.

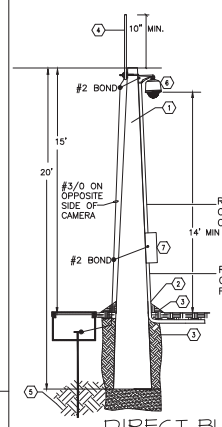


**AGNOLI BARBER & DRINDAGELINC.**  
Professional Engineers, Planners, Surveyors & Landscape Architects  
of FLORIDA, License No. CA20002020  
Color Copy  
1400 W. 15th Street, Suite 200  
Naples, FL 34102-1111  
Phone: (239) 431-1111  
Fax: (239) 431-1111

**CLIENT NAME:**  
CITY OF NAPLES UTILITIES  
380 RIVERSIDE CIR  
NAPLES FL, 34102



**DOWN CONDUCTOR TO GROUND ROD DETAIL**  
N.T.S.

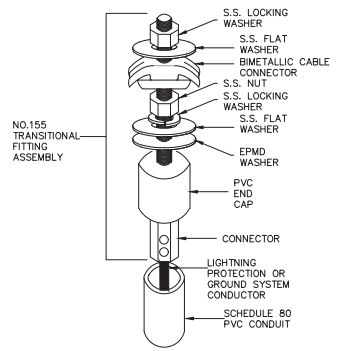


**DIRECT BURIAL CONCRETE POLE SECURITY CAMERA INSTALLATION DETAIL**  
N.T.S.

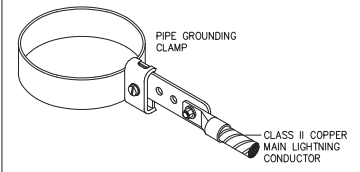
- CONCRETE POLE NOTES:**
- SQUARE TAPERED CONCRETE POLE; HUGHES OR APPROVED EQUAL; TYPE II LOCATE POLES A MINIMUM OF 5' FROM PAVED AREAS
  - SLOPE TO SURROUNDING FINISHED GRADE.
  - BACKFILL EQUAL TO EXISTING SURROUNDING AREA.
  - THOMPSON LIGHTNING PROTECTION MODEL A66(#BT SOLID ALUMINUM AIR TERMINAL 5/8" DIA.
  - UNDISTURBED EARTH.
  - AXIS P-3719-PL SECURITY CAMERA OR APPROVED EQUAL.
  - SECURITY CAMERA TERMINATION PANEL.

**PROJECT NAME:**  
CITY OF NAPLES WELL 408  
**DRAWING TITLE:**  
ELECTRICAL DETAILS

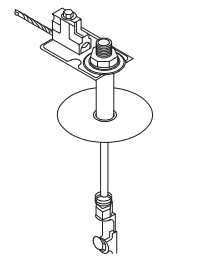
DESIGNED BY: REFR  
DRAWN BY: REFR  
CHECKED BY: TWP  
REVIEWED BY: TWP  
POLE SCALE: 1" = 300"  
VERT SCALE: 1" = 300"  
DATE: OCTOBER 2023



**SEALED CONDUCTOR CONDUIT END DETAIL**  
N.T.S.



**LIGHTNING PROTECTION PIPE GROUNDING DETAIL**  
N.T.S.



**DETAIL-THRU ROOF CONNECTION**  
N.T.S.

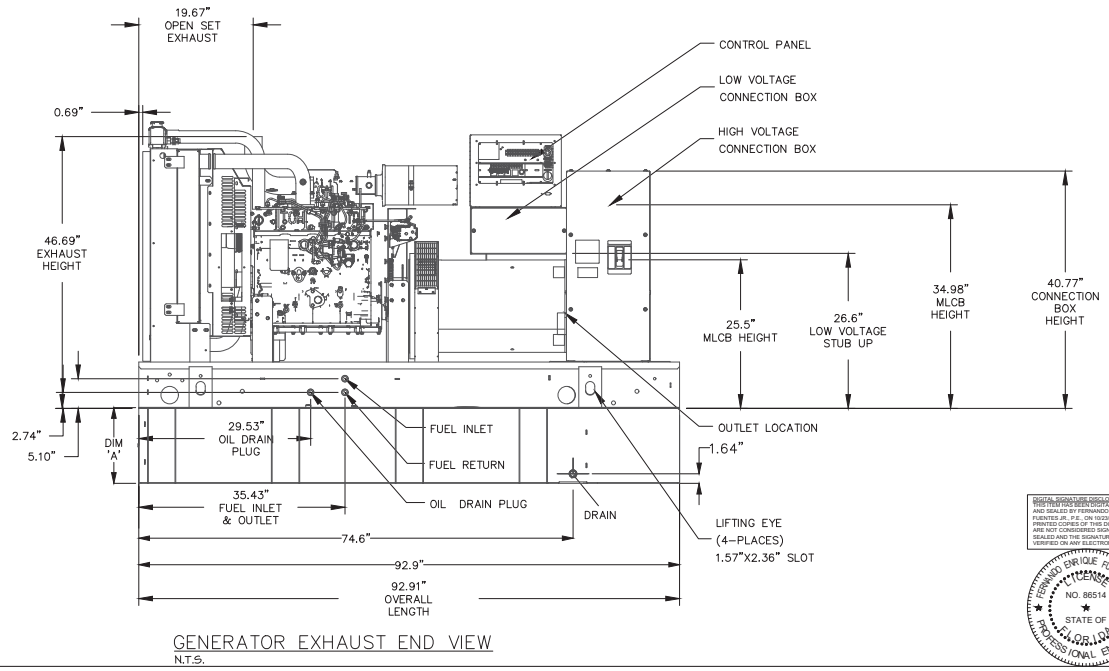
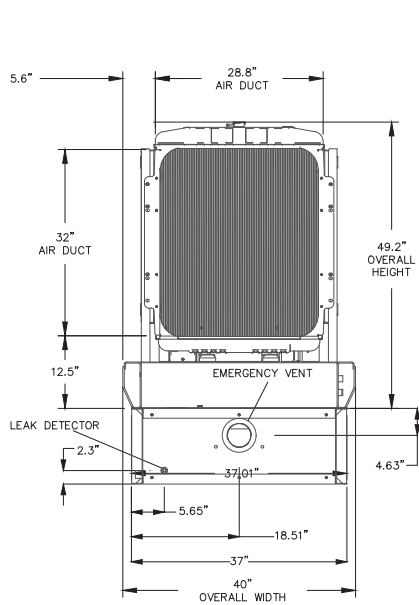
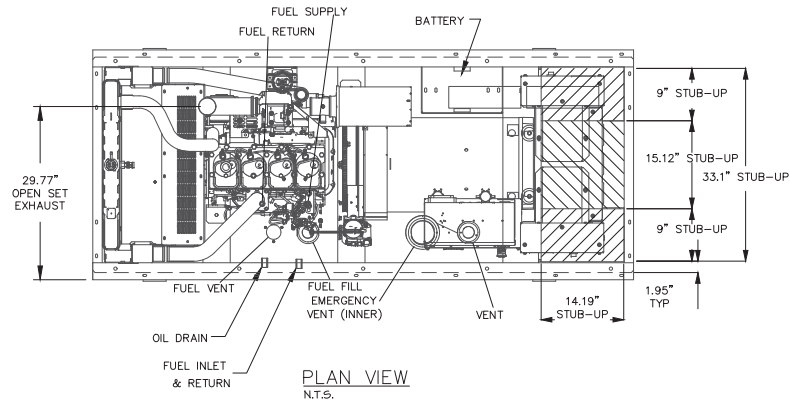
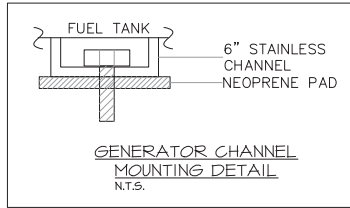
DIGITAL SIGNATURE TECHNOLOGY  
AND SEALED BY FERNANDO EMPERIE  
DATE: 10/23/2023 10:58 AM  
PRINTED COPY OF THIS DOCUMENT  
ARE NOT CONSIDERED SIGNED AND  
SEALED AND THE SIGNATURE MUST BE  
VERIFIED ON ANY ELECTRONIC COPIES.

**REGISTERED PROFESSIONAL ENGINEER**  
NO. 86514  
STATE OF FLORIDA  
FERNANDO EMPERIE

**RE CONSULTING ENGINEERS**  
13004  
2300 Redgum Blvd. Ste 4102 Fort Myers, FL 33908  
239.486.7575 | Certified of Administration 2022

R:\CVI Well 408 - 420\WELL 408\ED05.dwg Plotted: Oct 23, 2023 - 9:30am by fernandof

# Exhibit E - Electrical\_W408\_S&S



**AGNOLI BARBER & DRINDAGE, INC.**  
Professional Engineers, Planners, Surveyors & Landscape Architects  
of the State of Florida, License No. 12000  
1200 W. Broadway, Suite 200  
Naples, FL 34102  
Phone: (239) 431-1111  
Fax: (239) 431-1112

CLIENT NAME: CITY OF NAPLES UTILITIES  
380 RIVERSIDE CIR  
NAPLES FL, 34102

PROJECT NAME: CITY OF NAPLES WELL 408  
DRAWING TITLE: GENERATOR DETAILS

DESIGNED BY: REFR  
DRAWN BY: REFR  
CHECKED BY: TWP  
REVIEWED BY: TWP  
NOTE SCALE: 1" = 300"  
VERT SCALE: 1" = 300"  
DATE: OCTOBER 2023

ACAD FILE NAME	ED06
ABB PROJECT #	21-0176
PILOT VIEW / LAYOUT	LAYOUT
SHEET	ED06
OF	-
13004	

**RE CONSULTING ENGINEERS**  
1200 W. BROADWAY, SUITE 200  
NAPLES, FL 34102  
PHONE: (239) 431-1111  
FAX: (239) 431-1112

REGISTERED PROFESSIONAL ENGINEER  
STATE OF FLORIDA  
NO. 86514

FORMERLY: ENGINEER, P.E. #2024 Date: \_\_\_\_\_

C:\DW Well 408 - 425\WELL 408\ED06.dwg Plotted: Oct 23, 2023 - 9:38am by fernandof