PENELEC
12.47KV
GLENWOOD SWITCHYARD
FEEDER "B"

PENELEC
12.47KV
FRENCH RD SWITCHYARD
FEEDER "A"

2-5" SCHEDULED 40 PVC CONDUITS AND 1-3.5" SCHEDULED 40 PVC CONDUIT (ONE 5" CONDUIT SHALL BE A SPARE AND THE 3.5" CONDUIT SHALL BE FOR COMMUNICATIONS)

2-5" SCHEDULED 40 PVC CONDUITS AND 1-3.5" SCHEDULED 40 PVC CONDUIT (ONE 5" CONDUIT SHALL BE A SPARE AND THE 3.5" CONDUIT SHALL BE FOR COMMUNICATIONS)

UTILITY COMPANY SHALL PULL, TERMINATE, AND INSTALL 12.47KV CONDUCTORS TO METERING CABINET. CONTRACTOR SHALL BE RESPONSIBLE FOR CONDUIT AND TRENCHING, IN ADDITION TO ALL WORK INDICATED ON DRAWINGS.

NEW PRIMARY SERVICE SWITCHGEAR "SWGR-1"

NEW FIRST FLOOR ELECTRICAL ROOM

BATTERY CABINET

120V-DC
2-STEP/2-TIER RACK
BATTERY CABINET
FOR ELECTRONIC
DRAWOUT BREAKERS

TO PENELEC TOTALIZING METER

(3) PT
PENELEC METERING
(3) CT

(3) LA
9KV
(1) CPT
12,470-120/240V

CONTROL POWER

(3) PT
7,200-120V

(3) MRCT
600/5A
SET 400/5A

DIGITAL METER

UTILITY METERING TO BE INSTALLED ON LINE SIDE OF OVERCURRENT PROTECTION DEVICES, PER PENELEC'S REQUIREMENTS. COORDINATE WITH UTILITY PRIOR TO INSTALLING METERING CABINET. TYPICAL FOR TWO.

ANSI DEVICE NUMBERS AND FUNCTIONS

DEVICE	DESCRIPTION
25	SYNCHROCHECK
27	BUS/LINE UNDER VOLTAGE
32	REVERSE POWER
46/50	NEGATIVE SEQUENCE INSTANTANEOUS OVERCURRENT
46/51	NEGATIVE SEQUENCE TIME OVERCURRENT
47	NEGATIVE SEQUENCE VOLTAGE
50	BF BREAKER FAILURE
50P	PHASE TIME OVERCURRENT
50N	NEUTRAL INSTANTANEOUS OVERCURRENT
50G	GROUND TIME OVERCURRENT
50SG	SENSITIVE GROUND INSTANTANEOUS OVERCURRENT
51G	GROUND TIME OVERCURRENT
51SG	SENSITIVE GROUND TIME OVERCURRENT
55	POWER FACTOR
59	OVERVOLTAGE
59N	NEUTRAL OVERVOLTAGE
67P	PHASE DIRECTIONAL OVERCURRENT
67N	NEUTRAL DIRECTIONAL OVERCURRENT
67G	GROUND DIRECTIONAL OVERCURRENT
67SG	SENSITIVE GROUND DIRECTIONAL OVERCURRENT
81U/O	UNDER/OVER FREQUENCY
81	DECAY FREQUENCY DECAY
86	LOCKOUT RELAY

"1B" 1200A NO — ELECTRONIC INTERLOCK E — "1A" 1200A NC

SERVICE DISCONNECT NO. 1

SERVICE DISCONNECT NO. 2

(3) "TB1AB" NC
1200A
TIE BREAKER

600A 12,470 BUS — 500MVA IC — 500MVA IC — 600A 12,470 BUS

115A — 600A — 600A — 115A

SPARE — SPARE

2-[3-350 KCMIL & #1/0G., IN 3"C.] (15KV RATING)

2-[3-350 KCMIL & #1/0G., IN 3"C.] (15KV RATING)

NEW SWITCHBOARD "SWBD-1"

NEW FIRST FLOOR ELECTRICAL ROOM

XFMR "T1A" 2500KVA 12.47KV-480/277V

XFMR "T1A" 2500KVA 12.47KV-480/277V

DIGITAL METER — DIGITAL METER

ELECTRONIC INTERLOCK

"2B" 3000A-GFCI NC — E — "2A" 3000A-GFCI NC

"TB2AB" NO
3000A
TIE BREAKER

NC 3000A-GFCI

65KA IC — 3000A 480/277V BUS — 3000A 480/277V BUS — 65KA IC

2500A 100% RATED — 400A — 400A — 400A — 400A — 400A — 2500A 100% RATED

TO DISTRIBUTION PANEL "DPG1" — SPARE — SPARE

TO DISTRIBUTION PANEL "DPG2" — SPARE — SPARE

NO 1200A — G — FUTURE 1MW GENERATOR 480/277V-3ø-4W DIESEL 1st FLOOR EMERGENCY GENERATOR ROOM

7-[4-500 KCMIL & 350 KCMILG., IN 3-1/2"C.]

NEW MANHOLE "A"

7-[4-500 KCMIL & 350 KCMILG., IN 3-1/2"C.]

NEW MANHOLE "B"

TO "SWBD-2"

TO "SWBD-2"

5-[3-500 KCMIL & 250 KCMILG., IN 3-1/2"C.]

TO SWITCHBOARD "SWBD-1"

TO SWITCHBOARD "SWBD-1"

7-[4-500 KCMIL & 350 KCMIL G., IN 3-1/2"C.] (PROVIDE ADDITIONAL EIGHT, 3-1/2" CONDUITS, PER TRENCHING DETAIL ON DRAWING E-4.1.)

NEW SWITCHBOARD "SWBD-2"

BUILDING 1 SECOND FLOOR ELECTRICAL ROOM EE-200

TVSS PROTECTION

65KA IC — 2500A 480/277V BUS — FUTURE EXPANSION — FUTURE EXPANSION — 2500A 480/277V BUS — 65KA IC

1800A-GFCI — 250A — 800AF 600AT — 250A — 250A — 1800A-GFCI

SPARE — TO DISTRIBUTION PANEL "DP-BP-1" REFER TO DRAWING E-2.3 — SPARE — SPARE

5-[3-500 KCMIL & 250 KCMIL G., IN 3-1/2"C.]

XFMR "T2" 1500KVA 480/277V-208/120V — DIGITAL METER — 4000A NC

FIRE PUMP FEED TIED TO BUSS.

KEY INTERLOCK K — NO 4000A TIE BREAKER

XFMR "T2" 1500KVA 480/277V-208/120V — DIGITAL METER — 4000A NC

65KA IC — 4000A 208/120V BUS — FUTURE EXPANSION — FUTURE EXPANSION — 4000A 208/120V BUS — 65KA IC

4000A — 250A — 250A — 4000A

TO MAIN DISTRIBUTION PANEL "MDP-1" SEE DRAWING E-2.2 — SPARE — SPARE — TO MAIN DISTRIBUTION PANEL "MDP-2" SEE DRAWING E-2.3

TO SWITCHBOARD "SWBD-1" B

4-500 KCMIL & #2 G., IN 3-1/2"C.

NEW DISTRIBUTION PANEL "DPG-1"

NEW FIRST FLOOR ELECTRICAL ROOM

400A 277/480V-3ø-4W 65KAIC

1 125AF 125AT — 2 100AF 100AT — 3 60AF 60AT — 4 — 5 — 6 — 7

SPARE — SPARE — SPACE — SPACE — SPACE — SPACE

4-#1/0 & #6 G., IN 2"C.

XFMR "T3" 75KVA 480/277V-208/120V

4-#4/0 & #4 G., IN 2-1/2"C.

PP1

TO SWITCHBOARD "SWBD-1"A

4-500 KCMIL & #2 G., IN 3-1/2"C.

NEW DISTRIBUTION PANEL "DPG-2"

NEW FIRST FLOOR ELECTRICAL ROOM

400A 277/480V-3ø-4W 65KAIC

1 300AF 300AT — 2 100AF 100AT — 3 60AF 60AT — 4 — 5 — 6 — 7

SPARE — SPARE — SPACE — SPACE — SPACE — SPACE

4-350KCMIL & #4 G., IN 3"C.

MP1

NOTES:

1. FOR SYMBOLS AND ABBREVIATIONS, REFER TO DRAWING E0.0.
2. EACH OVER-CURRENT PROTECTION DEVICE INDICATED IS BASED SOLELY ON DATA ACCUMULATED DURING SURVEY. CONNECTED LOADS HAVE NOT BEEN CONFIRMED DUE TO SCOPE OF WORK LIMITATIONS. TYPICAL FOR EACH.
3. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A LIGHT LINE IS EXISTING TO REMAIN.
4. ALL ELECTRICAL EQUIPMENT AND WIRING SHOWN IN A DARK, SOLID LINE IS NEW WORK
5. JUNCTION AND PULL BOXES ARE NOT NECESSARILY SHOWN ON THIS DRAWING AND SHALL BE PROVIDED WHERE NECESSARY AND SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE UNDER THIS CONTRACT.
6. UNLESS OTHERWISE NOTED ALL DEVICES ARE THREE (3) PHASE. AND INSTALLED WHERE REQUIRED.
7. ALL SWITCHGEAR DESIGN DRAWINGS AND ASSOCIATED DOCUMENTATION HAVE BEEN SENT TO PENELEC ELECTRIC UTILITY FOR THEIR APPROVAL ONE MONTH PRIOR TO PROJECT DEADLINE. IT SHALL BE KNOWN THAT NO COMMENTS WERE RECEIVED.

AS-BUILT SET

Revisions	Date

COMMONWEALTH OF PENNSYLVANIA — REGISTERED PROFESSIONAL — HERMAN A. HANEMANN,JR. — ENGINEER No.10692-E

Professional Seal

ENGINEER:

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Drawing Title: SLD - NEW ELEC DISTRIBUTION	Project Title: REPLACE ELECTRICAL SWITCHGEAR	Date: 01-28-11	
		Project No.: 562-07-101	
Approved: Project Manager: EMILY McDONALD	Building Number: AS NOTED	Checked: D.A.O.	Drawn: D.A.O.
Approved: Service Chief: SUSAN LANG	Location: VAMC, ERIE PENNSYLVANIA	Drawing No.: E-2.1	Dwg. _ of _

VAMC, ERIE

VA Department of Veterans Affairs