NOTE	SPACE (1.5")	MAIN C/B: 400A MCB NOTE 1 FRAME: 400A — EXIST PANEL: 'HN1' – 35KAIC VOLTAGE: 480/277–3ø–4W — CB SPACE: 81 IN MOUNTING: WALL–32"W										SPACE (1.5")	NOTE
		EQUIPMENT	BREAKER	FEEDER	øA AMPS		øB AMPS		øC AMPS		FEEDER	BREAKER	EQUIPMENT		
	1				25	54								2	
2	3	PANEL 'LN1' VIA 'XFN1'	175A–3P	RISER			25	54			RISER	200A–3P	PANEL 'HN2'	4	3
	5								25	54				6	
	7				0	32								8	
2	9	SPARE	200A–3P				0	32			RISER	100A–3P	PANEL 'HN3'	10	3
	11								0	32				12	
	13	BUSSED SPACE			0	24								14	
	15	BUSSED SPACE					0	24			RISER	100A–3P	PANEL 'HN4'	16	4
	17	BUSSED SPACE							0	24				18	
	19	BUSSED SPACE			0	16								20	
	21	BUSSED SPACE					0	16			RISER	45A–3P	PANEL 'LN4' VIA 'XFN2'	22	4
	23	BUSSED SPACE							0	16				24	
	25	BUSSED SPACE			0	0							BUSSED SPACE	26	
	27	BUSSED SPACE					0	0					BUSSED SPACE	28	
	29	BUSSED SPACE							0	0			BUSSED SPACE	30	
	31	BUSSED SPACE			0	0							BUSSED SPACE	32	
	33	BUSSED SPACE					0	0					BUSSED SPACE	34	
	35	BUSSED SPACE							0	0			BUSSED SPACE	36	
	37	BUSSED SPACE			0	0							BUSSED SPACE	38	
	39	BUSSED SPACE					0	0					BUSSED SPACE	40	
	41	BUSSED SPACE							0	0			BUSSED SPACE	42	
	43	BUSSED SPACE			0	0							BUSSED SPACE	44	
	45	BUSSED SPACE					0	0					BUSSED SPACE	46	
	47	BUSSED SPACE							0	0			BUSSED SPACE	48	
	49	BUSSED SPACE			0	0							BUSSED SPACE	50	
	51	BUSSED SPACE					0	0					BUSSED SPACE	52	
	53	BUSSED SPACE							0	0			BUSSED SPACE	54	
NOTES:		TOTAL CONNECTED AMPS/LEG			151		151		151						

1. EXISTING ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER, 100% RATED
2. EXISTING ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER
3. PROVIDE NEW BRANCH CIRCUIT USING EXISTING ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER
4. PROVIDE NEW ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER TO MATCH EXISTING STYLE CB

NOTE	CIRCUIT	MAIN C/B: 400A MCB NOTE 1 FRAME: 400A NOMINAL — EXIST PANEL: 'LN1' – 22KAIC VOLTAGE: 208/120–3ø–4W — POLES: 42 MOUNTING: SURFACE										CIRCUIT	NOTE
		EQUIPMENT	BREAKER	FEEDER	øA AMPS		øB AMPS		øC AMPS		FEEDER	BREAKER	EQUIPMENT		
	1				20.0	0						20A–1P	SPARE	2	
	3	CU–A	30A–2P	2#10 W/G			20.0	0				20A–1P	SPARE	4	
	5								20.0	1.5	2#12 W/G	20A–1P	REC – MAINT. OUTLET	6	
	7	CU–A	30A–2P	2#10 W/G	20.0	0						20A–1P	SPARE	8	
	9						20.0	0				20A–1P	SPARE	10	
	11	CU–A	30A–2P	2#10 W/G					20.0	1.5	2#12 W/G	20A–1P	REC – MAINT. OUTLET	12	
	13	CU–B	15A–2P	2#12 W/G	8.0	0						20A–1P	SPARE	14	
	15						8.0	0				20A–1P	SPARE	16	
	17	REC – MAINT. OUTLET	20A–1P	2#12 W/G					1.5	1.5	2#12 W/G	20A–1P	REC – MAINT. OUTLET	18	
	19	SPARE	20A–1P		0	0						20A–1P	SPARE	20	
	21	SPARE	20A–1P				0	0				20A–1P	SPARE	22	
	23	SPARE	20A–1P						0	0		20A–1P	SPARE	24	
	25	SPARE	20A–1P		0	0						20A–1P	SPARE	26	
	27	SPARE	20A–1P				0	0				20A–1P	SPARE	28	
	29	SPARE	20A–1P						0	0		20A–1P	SPARE	30	
	31	BUSSED SPACE			0	0							BUSSED SPACE	32	
	33	BUSSED SPACE					0	0					BUSSED SPACE	34	
	35	BUSSED SPACE							0	0			BUSSED SPACE	36	
	37				50	54								38	
2	39	PANEL 'LN2'	100A–3P	RISER			58	48			RISER	100A–3P	PANEL 'LN3'	40	2
	41								76	36				42	
NOTES:		TOTAL CONNECTED AMPS/LEG			152		154		158						

1. EXISTING ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER, 100% RATED
2. PROVIDE NEW ELECTRONIC TRIP, FULLY ADJUSTABLE CIRCUIT BREAKER, 100% RATED AND BRANCH CIRCUIT

ABBREVIATIONS
WITH OR WITHOUT PERIODS

A	AMPERE
AB	ABOVE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
ATS	AUTOMATIC TRANSFER SWITCH
BOB	BOTTOM OF BOX
C	CONDUIT
CKT	CIRCUIT
COB	CENTER OF BOX
CPT	CONTROL POWER TRAMSFORMER
CT	CURRENT TRANSFORMER
CU	COPPER
C/B	CIRCUIT BREAKER
DISC	DISCONNECT
DN	DOWN
DS	DISCONNECT SWITCH
DWG	DRAWING
EBB	ELECTRICAL BASEBOARD
EC	ELECTRICAL CONTRACTOR
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FACP	FIRE ALARM CONTROL PANEL
FAAP	FIRE ALARM ANNUNCIATOR PANEL (KEYPAD)
FACS	FIRE ALARM COMMAND SYSTEM/VOICE EVAC
FU	FUSED
FDR	FEEDER
FDS	FUSED DISCONNECT SWITCH
FT	FEET
GC	GENERAL CONTRACTOR
GFI	GROUND FAULT INTERRUPTING
GND	GROUND
HC	HEATING CONTRACTOR
H–O–A	HAND–OFF–AUTO
HP	HORSEPOWER
HTR	HEATER
HUH	HORIZONTAL UNIT HEATER
IG	ISOLATED GROUND
JB	JUNCTION BOX
KW	KILOWATT
LTG	LIGHTING
MC	MECHANICAL CONTRACTOR
MCB	MAIN CIRCUIT BREAKER
MTD	MOUNTED
MTR	MOTOR
MLO	MAIN LUG ONLY
ø	PHASE
P	POLE
PC	PLUMBING CONTRACTOR
PNL	PANELBOARD
PWR	POWER
PH	PHASE
RGS	RIGID GALVANIZED STEEL CONDUIT
SW	SWITCH
TBB	TELEPHONE BACKBOARD
TOB	TOP OF BOX
TV	TELEVISION
UNO	UNLESS NOTED OTHERWISE
V	VOLT
W	WATT OR WIRE
W/	WITH
W/G	WITH GROUND
W/O	WITH OUT
WP	WEATHER–PROOF
WPIU	WEATHER–PROOF WHILE IN USE
XFMR	TRANSFORMER

SYMBOLS
NOTE 1

	LIGHT FIXTURE, CEILING
	LIGHT FIXTURE, CEILING EMERGENCY
	SPLIT–WIRED LIGHT FIXTURE
	LIGHT FIXTURE, WALL
S	SINGLE POLE SWITCH, 48" AFF TO TOB, TYPICAL UNO
S_B	SINGLE GANG BOX W/BLANK COVER PLATE
S_2	DOUBLE POLE SWITCH
S_3	THREE–WAY SWITCH
S_4	FOUR–WAY SWITCH
S_D	DIMMER SWITCH
S_{OS}	OCCUPANCY SENSOR, DUAL TECH.
S_{2OS}	OCCUPANCY SENSOR, DUAL TECH., 2 CIRCUIT
S_{2OSP}	OCCUPANCY SENSOR, DUAL TECH., 2 CIRCUIT, PHOTOCELL
S_{WBT}	ELECTRONIC IN WALL TIMER, 5 PRESETS, NON–ADJUSTABLE
	DUPLEX RECEPTACLE, MOUNT 18" AFF TO COB, TYPICAL UNO. C – MOUNTED ABOVE COUNTER CL – CLOCK HANGER RECEPTACLE
	SPECIAL PURPOSE RECEPTACLE
	QUADRUPLEX RECEPTACLE
	GROUND FAULT INTERRUPTING RECEPTACLE WP OR WPIU – WEATHERPROOF WHILE IN USE
	ISOLATED GROUND RECEPTACLE
	TELEPHONE OUTLET – ANALOG, 18" AFF TO COB, TYPICAL UNO W – WALL PHONE OUTLET
	DATA OUTLET, 4 PORT, 2 ACTIVE, 2 BLANK
	DATA OUTLET, 4 PORT, 4 ACTIVE
S_{TP}	MANUAL STARTER WITH THERMAL OVERLOAD & PILOT LIGHT
S_M	MANUAL STARTER WITHOUT THERMAL OVERLOAD
	DISCONNECT SWITCH
DC	DOOR CONTROLLER, COORDINATE W/G.C.
TV	CABLE TV OUTLET
	CEILING OCCUPANCY SENSOR, DUAL TECH., 2 CIRCUIT
	CEILING OCCUPANCY SENSOR, DUAL TECH., 2 CIRCUIT, LONG RANGE
	CONTACTOR
	AC MAGNETIC STARTER
	COMBINATION STARTER/DISCONNECT
	MOTOR
JB G	JUNCTION BOX
P	PHOTOCELL
F	FIRE ALARM PULL STATION
FL	FIRE ALARM FLOW SENSOR
TP	FIRE ALARM TAMPER SWITCH
SD	SMOKE DAMPER
S/D	SMOKE / FIRE DAMPER COMBINATION
F	FIRE ALARM SPEAKER/STROBE
	FIRE ALARM STROBE
S	SMOKE DETECTOR
H	HEAT DETECTOR
D	DUCT DETECTOR, COORDINATE LOCATION W/H.C.
SH	FIRE ALARM EXTERNAL SPEAKER(MNS), WP, 12'–0" AFF
	BOSCH D–9370 SENSOR
	POSITION SENSOR
DP	ADEMCO VISTA 128
	SEISMIC SENSOR, WALL MOUNT 12" BELOW DECK
	OUTSIDE SIREN
VSA	VAULT SOUND ALARM
MIC	MICROPHONE
KP	KEYPAD, WALL MOUNT 55" AFF.
	CELLULAR ANTENNA
BU	CELLULAR BACK–UP SYSTEM
TC	TIME CLOCK
T	LINE VOLTAGE THERMOSTAT
JB	JUNCTION BOX
	DEDICATED HOMERUN TO PANEL INDICATED
	UNSWITCHED HOT LEG TRAVELING
	SWITCHED HOT LEG TRAVELING
	EMERGENCY LIGHTING CIRCUIT
	CIRCUIT UNDERGROUND OR UNDERFLOOR
	PANELBOARD
	EMERGENCY BATTERY PACK
	REMOTE EMERGENCY HEAD
	EXIT SIGN
~	APPROXIMATE, FIELD VERIFY.
	BREAK IN LINE FOR CLARITY AND/OR TO INDICATE SPACE

NOTE:
1. THIS SYMBOL SCHEDULE IS TYPICAL. NOT ALL SYMBOLS MAY BE USED. SYMBOLS MAY BE SHOWN IN MULTIPLE ORIENTATIONS.

ⓧFEEDER SIZE SCHEDULE

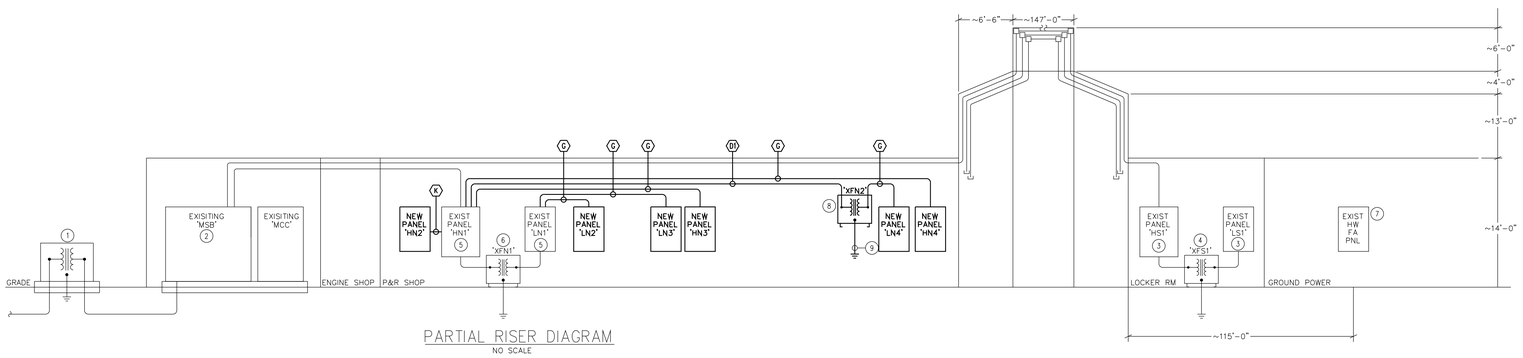
4 WIRE FEEDERS WITH GROUND		AMP	WIRE SIZE AWG. OR MCM		AMP	3 WIRE FEEDERS WITH GROUND	
IDENT.	CONDUIT		PHASE/NTRL.	–GND.		CONDUIT	IDENT.
A	3/4"	20	12	12	20	3/4"	A1
B	3/4"	30	10	10	30	3/4"	B1
C	1"	40	8	10	40	3/4"	C1
D	1 1/4"	55	6	10	55	1"	D1
E	1 1/4"	70	4	8	70	1 1/4"	E1
F	1 1/4"	95	2	8	95	1 1/4"	F1
G	1 1/2"	110	1	8	100	1 1/2"	G1
H	2"	150	1/0	6	150	1 1/2"	H1
J	2"	175	2/0	6	175	2"	J1
K	2"	200	3/0	6	200	2"	K1
L	2–1/2"	225	4/0	4	225	2"	L1
M	2–1/2"	250	250	4	250	2 1/2"	M1
N	3"	300	350	4	300	2 1/2"	N1
O	3 1/2"	350	500	2	350	3"	O1
P	4"	400	600	2	400	3 1/2"	P1
Q	(2) 2 1/2"	450	2–4/0	* 2	450	(2) 2"	Q1
R	(2) 2 1/2"	500	2–250	* 2	500	(2) 2 1/2"	R1
S	(2) 3"	550	2–300	* 1	550	(2) 2 1/2"	S1
T	(2) 3"	600	2–350	* 1	600	(2) 3"	T1
U	(2) 4"	800	2–600	* 1/0	800	(2) 3 1/2"	U1
V	(3) 3"	1000	3–400	* 2/0	1000	(3) 3"	V1
W	(3) 4"	1200	3–600	* 3/0	1200	(3) 3 1/2"	W1

NOTES:
1. CONDUIT SIZES ARE BASED, IN GENERAL, ON TYPE TW OR THW INSULATED WIRE.
2. INDICATES SIZE AND NUMBER OF CONDUCTORS PER PHASE (AND NEUTRAL WHERE APPLICABLE) IN FEEDERS.
3. WHERE MULTIPLE SETS OF CONDUCTORS ARE SPECIFIED FOR A FEEDER, EACH SET SHALL BE INSTALLED IN A CONDUIT AND ONE CONDUCTOR IN EACH SET SHALL BE CONNECTED TO EACH PHASE TERMINAL (AND NEUTRAL TERMINAL WHERE APPLICABLE).
4. WHERE MULTIPLE SETS OF CONDUCTORS ARE SPECIFIED FOR A FEEDER, ALL CONDUCTORS SHALL BE OF IDENTICAL LENGTH AND OF SAME MANUFACTURER. CONDUIT RUNS SHALL BE IDENTICAL (WITHIN PRACTICAL LIMITS).

• INDICATED GROUND FOR EACH CONDUIT.

GENERAL NOTES

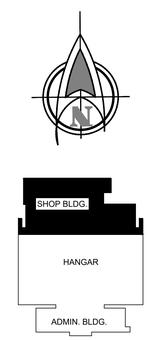
1. ALL CONDUCTORS SHALL BE COPPER (CU) AMERICAN WIRE GAUGE (AWG), THHN/THWN INSULATION UNLESS NOTED OTHERWISE (UNO).
2. THE CONTRACTOR SHALL PROVIDE A NEW SHORT CIRCUIT/COORDINATION STUDY/ARC FAULT STUDY, TO INCLUDE ALL RATINGS OF NEW PANELBOARDS AND CIRCUIT BREAKERS. THE CIRCUIT BREAKERS, PANELS, AND EQUIPMENT SHALL BE COORDINATED WITH THE STUDY AND REFLECT THOSE RATINGS IN THE SHOP DRAWING SUBMITTALS. THE CONTRACTOR SHALL INCLUDE ALL EXISTING PANELS SHOWN ON THE POWER PLAN IN THE STUDIES AND PROVIDE ARC FAULT LABELS FOR ALL EQUIPMENT.
3. SERVICE DOWNTIME SHALL BE KEPT TO A MINIMUM AND MUST BE COORDINATED WITH AASF PRIOR TO ANY SUCH DOWNTIME. THE CONTRACTOR SHALL PROVIDE TEMPORARY GENERATION AND/OR WEEKEND OR OVERTIME WORK SATISFACTORY TO THE AASF.
4. ALL CIRCUITS SHALL HAVE A DEDICATED GROUND AND NEUTRAL. THE SHARING OF NEUTRALS IS NOT PERMITTED.
5. THE CONTRACTOR SHALL REMOVE ALL MATERIALS TO BE DEMOLISHED IN A LEGAL MANNER. CONTRACTOR SHALL SAFEGUARD ANY MATERIALS TO BE TURNED OVER TO SRM.



PARTIAL RISER DIAGRAM
NO SCALE

RISER DIAGRAM PLAN NOTES

1. EXISTING 1000 KVA UTILITY TRANSFORMER TO REMAIN.
2. EXISTING 1600A, 480/277V–3ø–4W MAIN SWITCHBOARD ('MSB') TO REMAIN.
3. EXISTING PANEL TO REMAIN.
4. EXISTING TRANSFORMER TO REMAIN.
5. EXISTING PANEL TO BE RE–MOUNTED IN ELEVATION. SEE POWER PLAN.
6. EXISTING TRANSFORMER TO BE RE–MOUNTED IN ELEVATION. SEE POWER PLAN.
7. APPROX LOCATION OF EXISTING HONEYWELL FIRE ALARM PANEL, SHOWN FOR REFERENCE.
8. PROVIDE NEW 30 KVA TRANSFORMER, PREMIUM EFFICIENCY, 480V DELTA PRIMARY, 208/120 WYE SECONDARY, COPPER WOUND, 80°C RISE, 220°C INSULATION SYSTEM.
9. 1/0 SYSTEM GROUND.



NO.	DESCRIPTION	DATE
	REVISIONS	

Professional's Signature Date

COMMONWEALTH OF PENNSYLVANIA
DEPT. OF MILITARY & VETERAN'S AFFAIRS
ANNVILLE, PENNSYLVANIA 17003

DESIGN PROFESSIONALS:
OFFICE OF FACILITIES AND ENGINEERING
BUREAU OF DESIGN AND PROJECT MANAGEMENT
BLDG. 0-10, FORT INDIANTOWN GAP
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

PROJECT NO.: 42190080

19-101 HVAC/LED UPGRADES "NORTH"
AREA 19 - FORT INDIANTOWN GAP
ANNVILLE, LEBANON COUNTY, PENNSYLVANIA

BB1 RISER DIAGRAM

VERIFY SCALE
BAR IS ONE (1) INCH LONG ON ORIGINAL DRAWING: 0 — 1
IF BAR IS NOT ONE (1) INCH LONG, ADJUST SCALE ACCORDINGLY

CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS. VARIANCE FROM CONTRACT DOCUMENTS NOT PERMITTED WITHOUT BUREAU OF ENGINEERING AND ARCHITECTURE APPROVAL.

DRAWN BY	DATE	DRAWING NO.
B. BARGER	14 OCT 2022	E.1.4
CHECKED BY	SCALE	
D. HEALEY	AS NOTED	